



Licence

Environmental Protection Act 1986, Part V

Licensee: **Pluton Resources Limited**

Licence: **L6929/1990/16**

Registered office: Level 1, 5 Ord Street
WEST PERTH WA 6005

ACN: 114 561 732

Premises address: Cockatoo Island Iron Ore Mine and Processing Facility
Mining Tenements ML04/448, ML04/235, L04/49 and Lot 17 on Plan 93497
COCKATOO ISLAND WA 6731
As depicted in Schedule 1.

Issue date: Thursday, 17 March 2016

Commencement date: Sunday, 20 March 2016

Expiry date: Friday, 19 March 2027

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
5	Processing or beneficiation of metallic or non-metallic ore: premises on which (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam	50 000 tonnes or more per year	2,628,000 tonnes per annual period
6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	50,000 tonnes or more per year	38,000,000 tonnes per annual period
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.	100 tonnes or more per day	43,200 tonnes per day
64	Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year	5,500 tonnes per annual period
85	Sewage facility: premises – (a) On which sewage is treated (excluding septic tanks); or (b) From which treated sewage is discharged onto land or into waters.	More than 20 but less than 100 cubic metres per day	56 cubic metres per day



Conditions

This Licence is subject to the conditions set out in the attached pages.

Date signed: 17 March 2016

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Alana Kidd

Manager Licensing – Resource Industries
Officer delegated under section 20
of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: <http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

Pluton Resources Limited (Pluton) operates the Cockatoo Island Iron Ore Mine and Processing Facility (Cockatoo) for Category 5, 6, 58, 64 and 85 activities within Schedule 1 of the *Environmental Protection Regulations 1987*. Cockatoo is located on Cockatoo Island in the West Kimberley region of Western Australia, approximately 140 kilometres (km) north of Derby. The island is approximately 6 km long by 1 km wide and lies at 16°6'S, 123°37'E.

The Licence and associated Part V approvals were transferred from the original Licensee HWE Cockatoo Pty Ltd (HWE) to Pluton in October 2012. At the time of this reissue, Pluton was under receivership. Pitcher Partners were appointed the Receivers and Managers of Pluton effective as of 8th September 2015. Pluton has continued to trade under the control of Pitcher Partners since this date.

Since 2002, Cockatoo has been progressively developed and mined over four stages. Stage 1 and 2 saw the construction of a seawall and two pits (Stage 1 and 2) to gain access to approximately 5 million tonnes (Mt) of iron ore up to 45 metres (m) below sea level. The shipping of these premium fines commenced in October 2002. The Stage 2 pit mine waste was backfilled into the Stage 1 pit, and the Stage 2 pit was mined until 2008. In that same year, approval to construct the Stage 3 Seawall was obtained. Stage 3 mining commenced in December 2012. In 2012 and prior to the Pluton procurement of Cockatoo, HWE applied for and received approval to construct the Stage 4 Seawall. Pluton started mining on Cockatoo on 1 October 2012 and commenced construction of the Stage 4 Seawall in June of 2013.

At the time of this reissue, infrastructure on Cockatoo includes:

- Ore Handling Plant (OHR) consisting of a primary jaw crusher, secondary and tertiary cone crushers, and screening systems that deliver <8.7 millimetre (mm) iron ore fines to a stockpile area prior to being loaded onto ships for export;
- Stage 1, 2, 3 and 4 Seawalls;
- Stage 4 Settlement Pond for Category 6 dewatering operations with an operating capacity of 29,000 cubic metres (m³) and a total storage volume of 36,000m³. Two outlet pipes installed on the Settlement Pond beneath the Stage 1-2 Project embankment discharge (via gravity feed) settled dewatered pit water and stormwater from the OHP area into the ocean;
- Barge Wharf and Shiploader for Category 58 bulk loading operations with a production design capacity of around 1,800 tonnes per hour (tph);
- Two Category 64 landfills:
 - The Inert and Tyre Landfill which accepts tyres, construction / demolition waste, scrap metals, old drums and other Type I Wastes; and
 - The Putrescible Landfill which accommodates camp and site office wastes including food wastes, paper, cardboard general domestic wastes and other Type II Wastes;
- A Category 85 Wastewater Treatment Plant (WWTP) consisting of two Imhoff Treatment Tanks. Each tank has a capacity of 28 m³, giving a total volumetric capacity of 56 m³. Treated effluent is discharged into the marine environment via a pipe into the island's North Bay;
- Bulk fuel storage facility (not prescribed) consisting of three x 75 kilolitre (kL) self-bunded tanks and a fourth self-bunded 62 kL tank;
- Power station (not prescribed);
- Heavy vehicle workshop, chemical storage facilities and office buildings; and
- Accommodation village, restaurant, airstrip and other ancillary infrastructure.

This Licence is the successor to Licence L6929/1990/15 and includes a conversion to Licence template version 2.9. Conditions were also amended in accordance with Departmental reform as published on DER's website



under “*Administrative changes implemented within the Department of Environment Regulation*”
www.der.wa.gov.au.

The Licences and Works Approvals issued for the Premises since 2012 are:

Instrument log		
Instrument	Issued	Description
L6929/1990/14	11/10/2012	Licence transfer to Pluton Resources Limited
L6929/1990/14	14/03/2013	Licence re-issue
L6929/1990/15	05/03/2015	Licence amendment and conversion to REFIRE format
L6929/1990/16	10/03/2016	Licence re-issue

Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'annual period' means the inclusive period from 1 January to 31 December in that year;

'ANZECC 2000' means the most recent version and relevant parts of the *Australian and New Zealand Environment guidelines for fresh and marine water quality Volume 1 – 3* (Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand);

'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 5667.10' means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'CEO' means CEO of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;

Chief Executive Officer
Department Administering the *Environmental Protection Act 1986*
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Fortnightly' means once in every continuous fourteen days;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'Landfill Definitions' means the document titled *Landfill and Waste Classification and Waste Definitions 1996* published by the Chief Executive Officer of the Department of Environment as amended from time to time.

'Licence' means this Licence numbered L6929/1990/16 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' 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;



'NWQMS 1997' means the most recent version and relevant parts of the "National Water Quality Management Strategy, Australian Guidelines for Sewerage Systems - Effluent Management" as published by the Agriculture and Resource Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, 1997;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'quarterly' means the 4 inclusive periods from 1 April to 30 June, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'STP dry' means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

'tyre' means a tyre made whether wholly or partly of natural or synthetic rubber or similar material; and

'TRH' means total recoverable hydrocarbons.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:

- (a) pollution;
- (b) unreasonable emission;
- (c) discharge of waste in circumstances likely to cause pollution; or
- (d) being contrary to any written law.

1.2 General conditions

1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.3 The Licensee shall install and maintain mechanisms to ensure that stormwater from the following areas is diverted to facilities for treatment and disposal or reuse:

- (a) Ore Handling Plant;
- (b) Washdown bays;
- (c) Refuelling areas; and
- (d) Mechanical workshops.

1.3 Premises operation

1.3.1 The Licensee shall ensure that where wastes produced on the Premises are not taken off-site for lawful use or disposal, they are managed in accordance with the requirements of Table 1.3.1.



Table 1.3.1: Management of Waste		
Waste type	Management Strategy	Requirements ¹
Clean fill ³ Inert waste type 1 ³ Inert waste type 2 ³ Putrescible waste ³ Contaminated solid waste ³	Handling and disposal of waste by landfilling	The Licensee must: <ul style="list-style-type: none"> • Dispose only of waste within the landfill area shown on the map of Premises operation in Schedule 1; • Ensure disposal of Class I waste shall not exceed 5,000 tonnes per annual period; • Ensure disposal of Class II waste shall not exceed 500 tonnes per annual period; • Place waste within a defined trench or within an area enclosed by earthen or other bunds; • Cover waste on a weekly basis with at least 150 mm of cover material; • Ensure a stockpile of cover material is maintained at all times to allow the cover of waste; • Restrict the tipping area to a maximum linear length of 30 metres (m); • Ensure the separation distance between the base of the landfill and the highest groundwater level is not less than 3 m; and • Ensure wastes to be disposed of meet the acceptance criteria for a Class II landfill³.
Inert waste type 2 ³ Tyres only	Handling, Storage and disposal of waste by landfilling	Disposal of tyres by landfilling shall only take place within the Inert and Tyre Landfill shown on the map of Premises operation in Schedule 1.
Sewage	Biological and physical treatment	The Licensee must: <ul style="list-style-type: none"> • Treat sewage prior to discharge; and • Ensure the treatment of sewage waste is limited at or below the treatment capacity of 56 m³ per day.
Special Waste Type 1 (Asbestos) ³	Handling, storage prior to or disposal by landfilling	Special Waste Type 1 (Asbestos) must: <ul style="list-style-type: none"> • Only be disposed of into a designated asbestos disposal area within the landfill; • Not be deposited within 2 m of the final tipping surface of the landfill; and • No works shall be carried out on the landfill that could lead to a release of asbestos fibres.
Special Waste Type 2 (Biomedical and Clinical Waste) ³	Handling and disposal by landfilling	Special Waste Type 2 (Biomedical and Clinical Waste) must: <ul style="list-style-type: none"> • Only be disposed of into a designated biomedical waste disposal area within the landfill; • Not be deposited within 2 m of the final tipping surface of the landfill; and • Not be uncovered as a result of works carried out on the landfill.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

Note 3: Defined in the Landfill Definitions

1.3.2 The Licensee shall ensure that dewater effluent and process water are only discharged to the containment infrastructure specified in Table 1.3.2 and identified in Schedule 1.



Table 1.3.2: Containment infrastructure			
Containment point reference¹	Vessel or compound	Material	Requirements
S1	Dewatering Settlement Pond	Dewater from dewater operations	The Licensee must ensure: <ul style="list-style-type: none"> Dewater is directed to the Settlement Pond for treatment prior to disposal via the Dewatering Discharge Outlet; and A minimum top of embankment freeboard of 1 m is maintained.
A1	Lined evaporation pond	Treated water from the oil water separator	The Licensee shall manage the lined evaporation pond so that: <ul style="list-style-type: none"> All wash down and maintenance workshop wastewater is diverted to an oil water separator prior to discharge to the pond; overtopping of the pond does not occur; a freeboard equal to, or greater than, 300 millimetres (mm) is maintained; stormwater runoff is prevented from entering the pond; and there is no discernible seepage loss from the pond.

Note 1: Containment point reference as shown in the Map of premises operation and emission locations in Schedule 1.

- 1.3.3 The Licensee shall manage the wastewater treatment vessels such that:
- overtopping of the wastewater treatment vessels does not occur;
 - a freeboard equal to, or greater than, 300mm is targeted;
 - stormwater runoff is prevented from entering the wastewater treatment vessels; and
 - there is no discernible seepage loss from the wastewater treatment vessels.

- 1.3.4 The Licensee shall:
- undertake inspections as detailed in Table 1.3.3;
 - where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - maintain a record of all inspections undertaken.

Table 1.3.3: Inspection of infrastructure		
Scope of inspection	Type of inspection	Frequency of inspection
Mine dewater pipelines	Visual integrity	Weekly
Above ground hydrocarbon storage facilities	Visual integrity	

- 1.3.5 The Licensee shall ensure spillage of ore or concentrate during loading operations is collected and recovered so that this material does not enter the marine environment.

2 Emissions

2.1 General

- 2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of Section 2 of this Licence.

2.2 Point source emissions to surface water

- 2.2.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1, it is done so in accordance with the conditions of this licence.



Table 2.2.1: Emissions to surface water		
Emission point reference¹	Description	Source including abatement
E1	Tank Wastewater Treatment Plant	Discharge of treated wastewater to the ocean
E2	Dewatering Discharge Outlet	Discharge of dewater from the settlement pond
W1	Dewatering Discharge Point (Contingency Dewatering Only)	Mine pit dewater

Note 1: Emission point reference as shown in the Map of premises operation and emission locations in Schedule 1.

2.2.2 The Licensee shall only conduct contingency dewatering discharge in the event that reuse, in pit disposal and temporary storage are not available, or have been exhausted.

2.2.3 The Licensee shall not cause or allow point source emissions to surface water greater than the limits listed in Table 2.2.2.

Table 2.2.2: Point source emission limits to surface water			
Emission point reference¹	Parameter	Limit (including units)	Averaging period
E1 & E2	Total Recoverable Hydrocarbon (TRH)	5 mg/L	Spot sample

Note 1: Emission point reference as shown in the Map of premises operation and emission locations in Schedule 1.

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall ensure that:

- (a) all water sampling is conducted in accordance with AS/NZS 5667.1;
- (b) all wastewater sampling is conducted 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.

3.1.2 The Licensee shall ensure that:

- (a) monthly monitoring is undertaken at least 15 days apart; and
- (b) quarterly monitoring is undertaken at least 45 days apart.

3.1.3 The Licensee 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.

3.1.4 The Licensee 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.

3.2 Monitoring of point source emissions to surface water

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.



Table 3.2.1: Monitoring of point source emissions to surface water			
Emission point reference¹	Parameter	Units	Frequency
E1	Volumetric flow rate	m ³ /day	Continuous
	pH*	pH units	Quarterly
	<i>E. coli</i>	Organisms / 100mL	
	Biochemical Oxygen Demand Total Dissolved Solids Total Suspended Solids Total Nitrogen Total Phosphorus TRH	mg/L	
E2	Total Suspended Solids	mg/L	Fortnightly while discharging to the ocean
	TRH		
W1	Total Suspended Solids	mg/L	Within 24 hours of discharging and thereafter as safety allows

Note 1: Emission point reference as shown in the Map of premises operation and emission locations in Schedule 1.

* In field non-NATA accredited analysis permitted

3.3 Monitoring of inputs and outputs

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of inputs and outputs					
Input/output	Monitoring point reference¹	Parameter	Units	Averaging period	Frequency
Dewater directed to the Settlement Pond	F1 - Flow meter devices on in-coming pipeline	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Dewater directed to the Settlement Pond	F2 - Flow meter devices on in-coming pipeline	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Dewater directed to the Settlement Pond	F3 - Flow meter devices on in-coming pipeline	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous
Dewater directed to the Settlement Pond	F4 - Flow meter devices on in-coming pipeline	Volumetric flow rate (cumulative)	m ³ /day	Monthly	Continuous

Note 1: Monitoring point reference as shown in the Map of premises operation and emission locations in Schedule 1.

4 Improvements

4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.



Table 4.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	<p>The Licensee shall submit an Environmental Impact Assessment (EIA) to the CEO for the WWTP and levels of contaminants discharged to North Bay. The EIA should include information on the following:</p> <ul style="list-style-type: none">• Works proposed under W5095/2011/1 and whether they were completed;• Reasoning for elevated levels of Total Nitrogen (TN) reported in the 2014 Annual Environmental Report;• Potential (or observed) environment impacts associated with these elevated levels of TN;• Measures proposed to address these elevated levels of TN;• A review of WWTP performance and proposed improvements (if required), including consideration of alternate disposal options; and• A statement of compliance against the National Water Quality Management Strategy: <i>Australian Guidelines for Sewage Systems - Effluent Management</i> (NWQMS 1997) including whether:<ul style="list-style-type: none">- Adequate dilution is being achieved; and- Adequate treatment levels are being achieved.	30/09/2016

5 Information

5.1 Records

5.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.

5.1.2 The Licensee shall ensure that:

- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

5.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

5.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 90 calendar days after the end of the annual period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.



Table 5.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and action taken	None specified
-	Actual throughput for the annual period for Categories 5, 6, 58, 64 and 85	
Table 2.2.2	Limit exceedance	
Table 3.2.1	E1: pH, Total Dissolved Solids, Total Suspended Solids, Total Nitrogen, Total Phosphorus, TRH, Biochemical Oxygen Demand and <i>E.coli</i>	WR1
Table 3.2.1	E2: TRH and Total Suspended Solids	WR1
Table 3.2.1	W1: Total Suspended Solids	WR1
Table 3.2.1	E1: cumulative volumes	WR1
Table 3.3.1	F1 – F4: cumulative volumes	WR1
L5.1.3	Compliance	Annual Audit Compliance Report (AACR)
L5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:

- (a) any relevant process, production or operational data recorded under condition 3.1.3;
- (b) an assessment of the information contained within the report against previous monitoring results and Licence limits; and
- (c) a list of any original monitoring reports submitted to the Licensee from third parties for the annual period and make these reports available on request.

5.2.3 The Licensee shall submit the information in Table 5.2.2 to the CEO according to the specifications in that table.

Table 5.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.



Table 5.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
Table 2.2.2	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
L2.2.1 and L2.2.2	Contingency dewatering discharge	Within 24 hours of activation of a contingency dewatering discharge activity	CD1
L2.2.1 and L2.2.2	Contingency dewatering discharge	Within 7 days of cessation of a contingency dewatering discharge activity	CD1

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

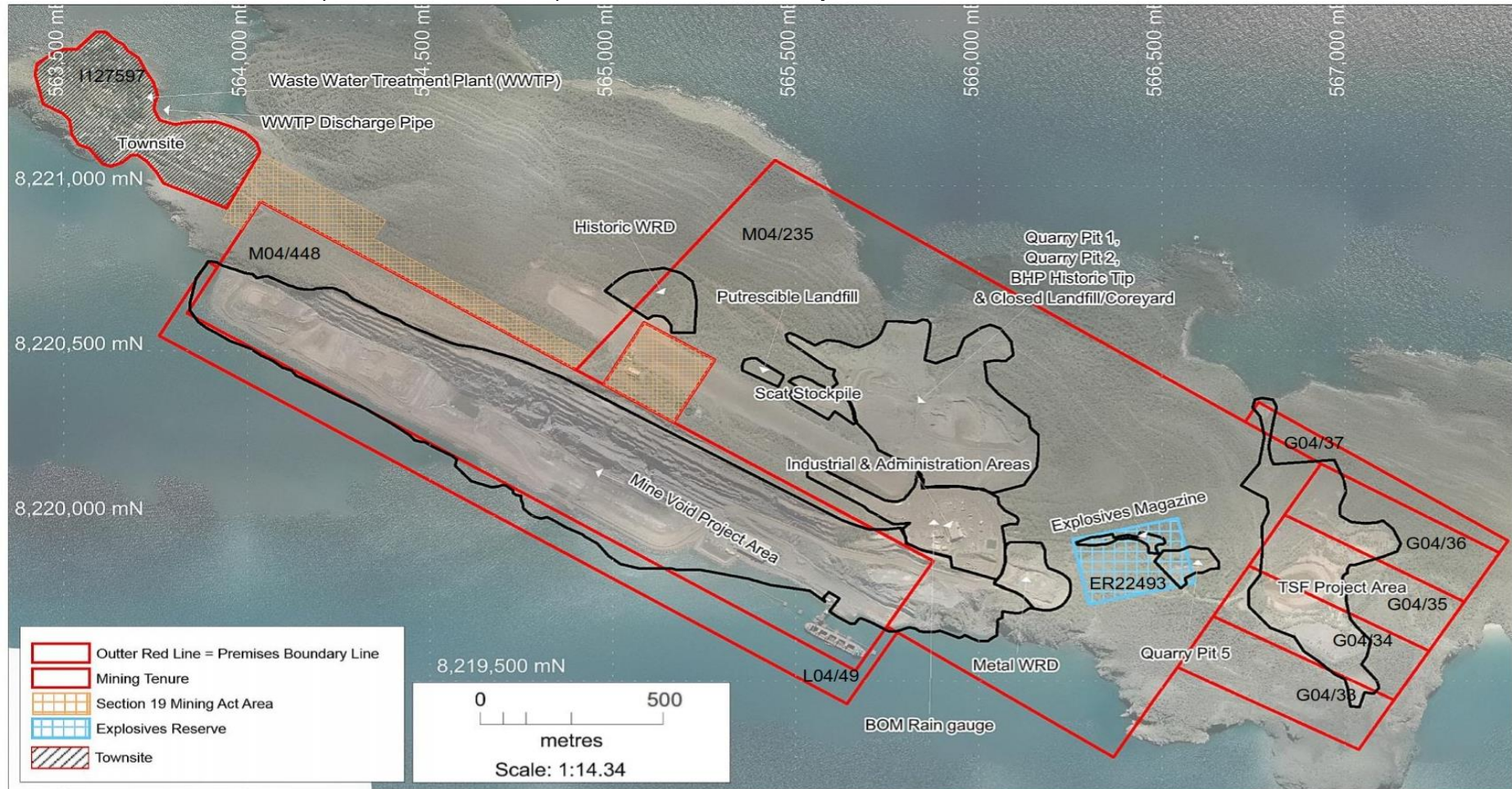
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

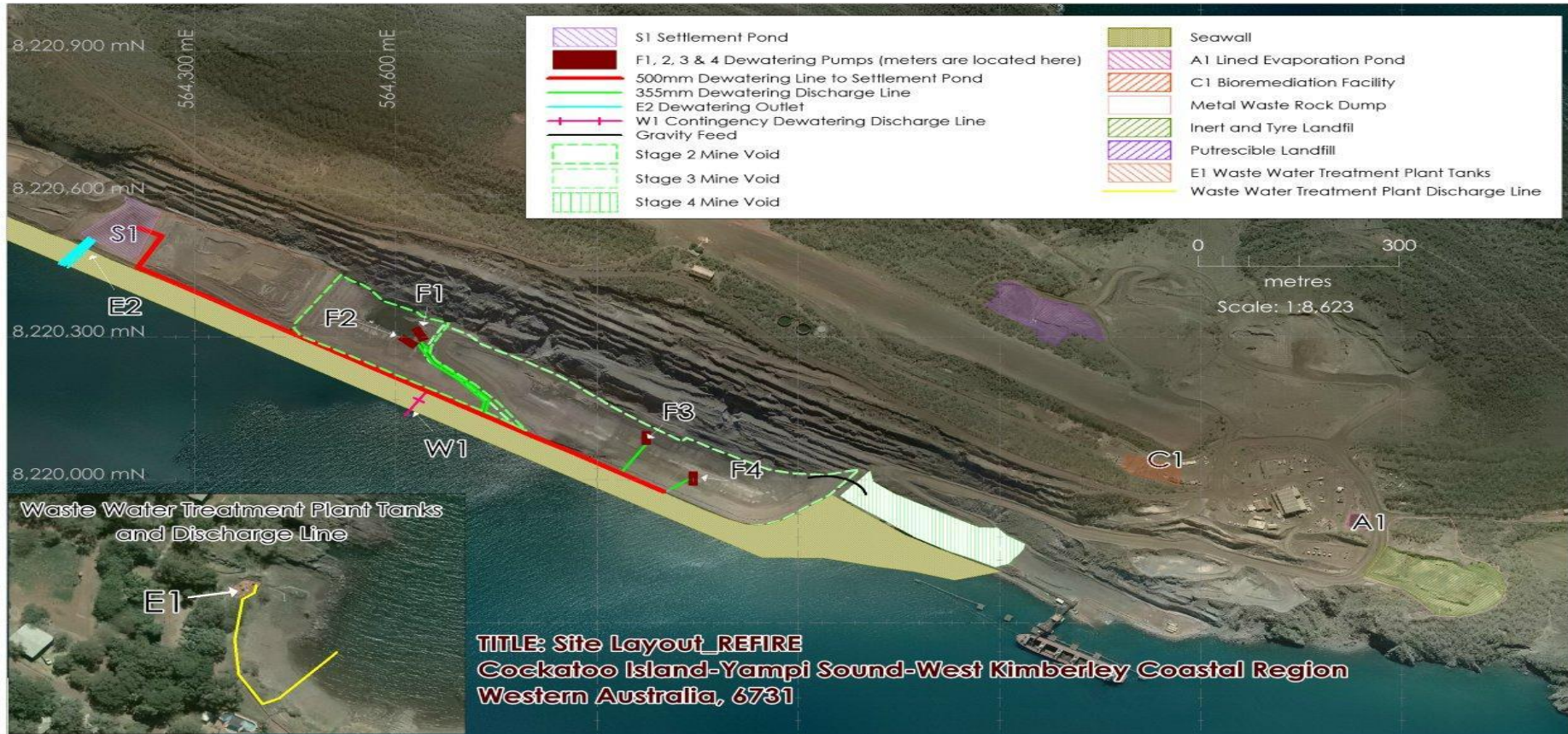
The Premises is shown in the map below. The red line depicts the Premises boundary.





Map of premises operation and emission locations

The location of the premises operation points defined in Table 1.3.1 and Table 1.3.2, emission points E1, E2 and W1 defined in Table 2.2.1, and emission points F1 - F4 defined in Table 3.3.1, is shown below.



Projection: MGA94 (Zone51)
Author: Dee Thompson | Date: 24/10/2014
File Location: 02.06.03.09 Workspaces





Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

- Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes Please proceed to Section C
 No Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:



SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
<input type="checkbox"/> Yes <input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____	<input type="checkbox"/> No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) must only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		The Annual Audit Compliance Report must be signed and certified:
An individual	<input type="checkbox"/> <input type="checkbox"/>	by the individual licence holder, or by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or by two directors of the licensee; or by a director and a company secretary of the licensee, or if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L6929/1990/16
Form: WR1
Name: Monitoring of point source emissions to surface water

Licensee: Pluton Resources Limited
Period :

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Result¹	Result¹	Averaging period	Method	Sample date & times
E1	pH					
	E. coli	Organisms / 100mL				
	Biochemical Oxygen Demand	mg/L	g/day	Spot sample		
	Total Dissolved Solids	mg/L	g/day	Spot sample		
	Total Nitrogen	mg/L	g/day	Spot sample		
	Total Phosphorus	mg/L	g/day	Spot sample		
	Total Suspended Solids	mg/L	g/day	Spot sample		
	TRH	mg/L	g/day	Spot sample		

Note 1: All units are referenced to STP dry

Signed on behalf of Pluton Resources Limited:

Date:



Licence: L6929/1990/16
Form: WR1
Name: Monitoring of point source emissions to surface water

Licensee: Pluton Resources Limited
Period :

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Result¹	Result¹	Averaging period	Method	Sample date & times
E1	Volumetric flow rate	L/s	m ³ /day			

Note 1: All units are referenced to STP dry

Signed on behalf of Pluton Resources Limited:

Date:



Licence: L6929/1990/16
 Form: WR1
 Name: Monitoring of point source emissions to surface water

Licensee: Pluton Resources Limited
 Period :

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Result¹	Result¹	Averaging period	Method	Sample date & times
E2	Total Suspended Solids	mg/L	g/day	Spot sample		
	Total Recoverable Hydrocarbons	mg/L	g/day	Spot sample		

Note 1: All units are referenced to STP dry

Signed on behalf of Pluton Resources Limited:

Date:



Licence: L6929/1990/16
 Form: WR1
 Name: Monitoring of point source emissions to surface water

Licensee: Pluton Resources Limited
 Period:

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Result¹	Result¹	Averaging period	Method	Sample date & times
W1	Total Suspended Solids	mg/L	g/day	Spot sample		

Note 1: All units are referenced to STP dry

Signed on behalf of Pluton Resources Limited:

Date:



Licence: L6929/1990/16
 Form: WR1
 Name: Monitoring of point source emissions to surface water

Licensee: Pluton Resources Limited
 Period :

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Result¹	Result¹	Averaging period	Method	Sample date & times
F1	Volumetric flow rate	L/s	m ³ /day			
F2	Volumetric flow rate	L/s	m ³ /day			
F3	Volumetric flow rate	L/s	m ³ /day			
F4	Volumetric flow rate	L/s	m ³ /day			

Note 1: All units are referenced to STP dry

Signed on behalf of Pluton Resources Limited:

Date:



Licence: L6929/1990/16
 Form: CD1
 Name: Contingency Discharge Form

Licensee: Pluton Resources Limited
 Date of discharge:

Form CD1: Contingency Discharge					
Emission point	Discharge Commencement Date & Time	Discharge Cessation Date & Time	Total Volume Discharged	Volumetric flow rate	Total Suspended Solids levels (average of daily analysis)
			m ³	m ³ /day	mg/L
			m ³	m ³ /day	mg/L
Please provide details of the contingency discharge, including but not limited to: (a) Copies of daily results of Total Suspended Solids monitoring during discharge; (b) Other monitoring data as relevant (eg. Visual / photographic monitoring) (c) Reason discharge required; and (d) Recorded rainfall (mm) onsite during discharge period.					

Signed on behalf of Pluton Resources Limited: Date:



Licence: L6929/1990/16
Form: N1

Licensee: Pluton Resources Limited
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 Pluton Resources Limited	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **Pluton Resources Limited**

Licence: **L6929/1990/16**

Registered office: Level 1, 5 Ord Street
WEST PERTH WA 6005

ACN: 114 561 732

Premises address: Cockatoo Island Iron Ore Mine and Processing Facility
Mining Tenements ML04/448, ML04/235, L04/49 and Lot 17 on Plan
93497
COCKATOO ISLAND WA 6731

Issue date: Thursday, 17 March 2016

Commencement date: Sunday, 20 March 2016

Expiry date: Friday, 19 March 2027

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a Licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Ty Hibberd
Licensing Officer

Decision Document authorised by: Alana Kidd
Delegated Officer



Contents

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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input checked="" type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	5	2,628,000 tonnes per annual period
	6	38,000,000 tonnes per annual period
	58	43,200 tonnes per day
	64	5,500 tonnes per annual period
85	56 cubic metres per day	
Application verified	Date: 20/01/2016	
Application fee paid	Date: 25/02/2016	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal

Pluton Resources Limited (Pluton) operates the Cockatoo Island Iron Ore Mine and Processing Facility (Cockatoo) for Category 5, 6, 58, 64 and 85 activities within Schedule 1 of the *Environmental Protection Regulations 1987*. Cockatoo is located on Cockatoo Island in the West Kimberley region of Western Australia, approximately 140 kilometres (km) north of Derby. The island is approximately 6 kilometres (km) long by 1 km wide and lies at 16°6'S, 123°37'E.

Since 2002, Cockatoo has been progressively developed and mined over four stages. Stage 1 and 2 saw the construction of a seawall and two pits (Stage 1 and 2) to gain access to approximately 5 million tonnes (Mt) of iron ore up to 45 metres (m) below sea level. The shipping of these premium fines commenced in October 2002. The Stage 2 pit mine waste was backfilled into the Stage 1 pit, and the Stage 2 pit was mined until 2008. In that same year, approval to construct the Stage 3 Seawall was obtained. Stage 3 mining commenced in December 2012. In 2012 and prior to the Pluton procurement of Cockatoo, HWE applied for and received approval to construct the Stage 4 Seawall. Pluton started mining on Cockatoo on 1 October 2012 and commenced construction of the Stage 4 Seawall in June of 2013.

The following activities and infrastructure are part of the current operations at Cockatoo:

- Ore Handling Plant (OHP) consisting of a primary jaw crusher, secondary and tertiary cone crushers, and screening systems that deliver minus 8.7 millimetre (mm) iron ore fines to a stockpile area, prior to being loaded onto ships for export;
- Stage 1, 2, 3 and 4 Seawalls;
- Stage 4 Settlement Pond for Category 6 dewatering operations with an operating capacity of 29,000 cubic metres (m³) and a total storage volume of 36,000m³. Two outlet pipes installed on the Settlement Pond beneath the Stage 1-2 Project embankment discharge (via gravity feed) settled dewatered pit water and stormwater from the OHP area into the ocean;
- Barge Wharf and Shiploader for Category 58 bulk loading operations with a production design capacity of around 1,800 tonnes per hour (tph);
- Two Category 64 landfills:
 - The Inert and Tyre Landfill which accept tyres, construction / demolition waste, scrap metals, old drums and other Type I Wastes; and
 - The Putrescible Landfill which accepts accommodation camp and site office wastes including food wastes, paper, cardboard, general domestic wastes and other Type II Wastes;
- A Category 85 Wastewater Treatment Plant (WWTP) consisting of two Imhoff Treatment Tanks. Each tank has a capacity of 28 m³, giving a total volumetric capacity of 56 m³. Treated effluent is discharge into the marine environment via pipe into the islands North Bay;
- Bulk fuel storage facility (not prescribed) consisting of three x 75 kilolitre (kL) self banded tanks and a fourth self-banded 62 kL tank;
- Power station (not prescribed);
- Heavy vehicle workshop, chemical storage facilities and office buildings; and
- Accommodation village, restaurant, airstrip and other ancillary infrastructure.

This Licence is the successor to Licence L6929/1990/15 and continues to authorise operations at Cockatoo. DER received an Application Form for Pluton on 14 January 2016 requesting that the operating Licence for Cockatoo be reissued.

The Licence was last amended on Thursday, 5 March 2015. Authorised operations at Cockatoo have not changed since this date. As part of this re-issue, the Licence was converted to template version 2.9 and conditions were reassessed in accordance with Departmental reform as published on DER's website under "*Administrative changes implemented within the Department of Environment Regulation*" www.der.wa.gov.au.

At the time of this reissue, Pluton was under receivership. Pitcher Partners were appointed the Receivers and Managers of Pluton effective as of 8th September 2015. Pluton has continued to trade under the control of Pitcher Partners since this date.

Where conditions have been added or removed from the existing licence these have been justified in Section 4.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Definitions	N/A.	Various definitions have been removed where no longer relevant to the current Licence, or added where necessary to account for current operations and Licence conditions.	N/A.
Interpretation	L1.1.5	Previous condition L1.2.1 was moved to the 'Interpretation' section and is now condition L1.1.5.	N/A.
General conditions	L1.2.3	<p>Removal / Restructuring of previous conditions Previous condition L1.2.3 was removed in accordance with Departmental reform. The conditions have been deleted as it is the occupier's responsibility to ensure they comply with relevant legislative requirements for the storage and handling of environmentally hazardous materials. Unauthorised discharges of environmentally hazardous materials may be subject to the provisions of the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>Condition L1.2.3 (previously L1.2.5) was amended to ensure appropriate management of infrastructure which has the potential to contaminate stormwaters on the Premises.</p> <p>'No specified conditions' conditions L2.2, 2.4, 2.5, 2.7, 2.8, 3.2, 3.3, 3.5, 3.7, 3.8, 3.9 and 4 were removed in accordance with Department reform and Licence template updates.</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>DER public website at: www.der.wa.gov.au.</p> <p>DER guidance statement <i>Licensing and works approvals process</i>.</p>
Premises operation	L1.3.2	<p>Removal / Restructuring of previous conditions Condition L1.3.2 and Table 1.3.2 were amended to removed reference to 'hydrocarbon contaminated soil' and the 'bioremediation pad'. Bioremediation of contaminated soils is a secondary activity, which does not contribute to the nature and type of emissions from the primary activity. Removal of conditions relating to secondary activities is in accordance with the DER guidance statement <i>Licensing and works approvals process</i> (September 2015). The <i>Environmental Protection (Unauthorised Discharges)</i></p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p>



DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Regulations 2004</i> adequately regulate the discharge of hydrocarbon contaminated materials. Pluton will still be required to effectively treat contaminated soils prior to disposal or have contaminated soils removed by a licensed contractor.</p> <p>Condition L1.3.4 relating to the bioremediation facility was removed for the reasons outlined above.</p> <p>Condition L1.3.5 relating to Emergency Response Training exercises was also removed as, like bioremediation, this is a secondary activity which does not contribute to the nature and type of emissions from a primary activity.</p>	<p>DER public website at: www.der.wa.gov.au.</p> <p>DER guidance statement <i>Licensing and works approvals process</i>.</p>
General Monitoring	L3.1.1	Condition L3.1.1 was amended to remove analytical requirements for groundwater and microbiological samples. Sampling and analysis of these parameters is not a requirement of the Licence. Definitions for 'AS/NZS 5667.11' and 'AS/NZS 2031' were also removed.	N/A.
Point source emissions to surface water including monitoring	N/A.	Details of DER's assessment and decision making are included in Appendix A.	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>DER public website at: www.der.wa.gov.au.</p> <p>Application supporting documentation for W5190/2012/1.</p> <p>Application supporting documentation for W5095/2011/1.</p> <p><i>Cockatoo Island Stage 4 Marine Environment</i></p>



DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<p><i>Monitoring and Management Plan.</i> Cockatoo Mining. May 2012.</p> <p>National Water Quality Management Strategy: <i>Australian Guidelines for Sewage Systems - Effluent Management</i></p>
Fugitive emissions	N/A	Details of DER's assessment and decision making are included in Appendix B.	<p>General provisions of the <i>Environmental Protection Act 1986.</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i></p> <p>DER public website at: www.der.wa.gov.au.</p>
Improvements	L4.1.1	Improvement condition L4.1.1 has been included on the Licence pertaining to the Cockatoo WWTP. Condition L4.1.1 requires the Licensee to submit an Environmental Impact Assessment (EIA) to the CEO regarding the WWTP and levels of contaminants discharged to North Bay by Friday, 30 September 2016. This EIA is necessary to evaluate the risk of the Cockatoo WWTP on the ecology of North Bay given the reported elevated levels of Total Nitrogen and uncertainty surrounding works proposed under W5095/2011/1.	<p>Application supporting documentation for W5095/2011/1.</p> <p>National Water Quality Management Strategy: <i>Australian Guidelines for Sewage Systems - Effluent Management</i></p>
Information	L5.2.1 – L5.2.3 and L5.3.1	<p>Condition L5.2.1, Table 5.2.1, was amended to:</p> <ul style="list-style-type: none"> • Ensure that Pluton reports the actual throughput for the annual period for Categories 5, 6, 58, 64 and 85; • To remove reference to targets and the bioremediation facility; and • To correct an administrative error and include reporting of cumulative volumes for 	<p>DER public website at: www.der.wa.gov.au.</p>



DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>emission points F1 – F4 in the AER.</p> <p>Condition L5.2.3, Table 5.2.2, was amended to:</p> <ul style="list-style-type: none">• Ensure that Pluton has the ability to provide DER with copies of original monitoring reports submitted by third parties if requested; and• To remove reference to target exceedances. <p>Condition L5.3.1, Table 5.3.1, was amended to remove the parameter 'Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution'. Removal of this parameter is in accordance with Departmental reform.</p> <p>All Tables and Conditions in the 'Information' section were amended as appropriate to reflect changes to condition numbers.</p> <p>Form ET1 was removed from Schedule 1 as the Licence longer contains targets.</p> <p>Form N1 was amended in line with changes above.</p>	
Licence Duration	N/A.	<p>The Cockatoo Licence L6929/1990/16 will be reissued for a period of 11 years expiring Saturday, 13 March 2027. This new expiry date is the anniversary date immediately prior to the expiry of tenement L04/49, the first expiring tenement for Cockatoo.</p> <p>The tenements and corresponding expiry dates for Cockatoo are:</p> <ul style="list-style-type: none">• L04/49 (Expiry: 25/09/2027);• ML04/448 (Expiry: 18/08/2032; and• ML04/235 (Expiry: 02/10/2033).	N/A.



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
29/02/2016	Application advertised in West Australian	None	N/A.
9/03/2016	Proponent sent a copy of draft instrument	Comments received 10/03/2016.	<p>Minor comments relating to;</p> <ul style="list-style-type: none"> • Receivership, being Pitcher Partners as the current receiver not Korda-Mentha. Korda-Mentha was the receivers between 4th November 2014 and 23rd March 2015. Pitcher Partners were appointed as the receiver from 8th September 2015 to current; and • Completion date for Improvement Conditions 4.1.1. Cockatoo is currently in Care and Maintenance with an average of 10 people on site during each swing. Due to minimal staffing, the Licensee believes that current discharges from the WWTP are expected to present a low environmental risk. As such, the Licensee requested that the completion date for 4.1.1 be extended to 30/09/2016 (from 10/06/2016). <p>Changes to the Licence as a result of these comments include:</p> <ul style="list-style-type: none"> • Details regarding receivership updated to reflect the current receiver, being Pitcher Partners; and • Date of completion for Improvement Condition 4.1.1 extended to 30/09/2016.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Point source emissions to surface water

(a) WWTP discharge – E1

The sewage facility on Cockatoo consists of two Imhoff Treatment Tanks. Each tank has a capacity of 28m³, giving a total volumetric capacity of 56m³. Discharge of outflow is into the marine environment via pipe (emission point reference E1) into North Bay of the Island.

The sewage facility recently had a Works Approval in place (W5095/2011/1) approving an upgrade to the facility that involved extending the ocean outfall by 325m to allow effluent to be discharged to a more suitable mixing zone. Pluton had identified the following issues in relations to the WWTP:

- The current pipe did not extend far enough offshore to allow effective dispersion and dilution of effluent;
- Sections of the discharge pipe were damaged resulting in discharge of treated effluent into the intertidal zone; and
- There were some intermittent nuisance odour emissions from the operation of the WWTP. At times, discharged wastewater would return to the beach on an incoming tide resulting in odour emissions impacting residents at the accommodation village.

Works Approval W5095/2011/1 has since expired, yet it is unclear whether the works proposed were completed as a compliance document was not received.

Emission Description

Emission: Sewage effluent discharged to the marine environment with elevated levels of nutrients and suspended solids.

Impact: Eutrophication of marine waters as a result of an increase in nutrients and suspended solids, which can have a negative impact on the marine and coastal environment. The negative effects of eutrophication on marine ecosystems includes: algal blooms, increased growth of macroalgae, increased sedimentation and oxygen consumption, oxygen depletion in the bottom water and sometimes the death of benthic animals and fish.

Controls: Effluent discharge from the WWTP to North Bay is treated so as to achieve the levels identified in Table 2.

Table 2: Cockatoo WWTP effluent quality target range.

Parameter	Unit	Target range ¹
Total Suspended Solids	mg/L	80-200
Total Nitrogen		30-55
Total Phosphorus		6-14
Oil and grease		30-70
Biochemical Oxygen Demand		120-250
<i>E. coli</i>	cfu/100 mL	10 ⁶ - 10 ⁷

Note 1: Target ranges derived from the National Water Quality Management Strategy: *Australian Guidelines for Sewage Systems - Effluent Management* (NWQMS 1997) based on 'Treatment Level B' which is the minimum treatment level required for 'coastal waters, high tidal range'.

Risk assessment

The 2015 AER is due 31 March 2016 and was not available for assessment at the time of this reissue.



Monitoring data provided in the AER for the 2014 reporting period (1 January to 31 December 2014) showed elevated levels of Total Nitrogen (TN) in samples collected in June (63.0 mg/L), September (68.0 mg/L) and December (62.0 mg/L). The target range for TN is 30 – 55 mg/L. No reasoning for these elevated levels was provided in the AER or AACR.

Effluent quality results for the 2013 reporting period (1 January to 31 December 2013) were within (or below) the target ranges specified in Table 2 for all parameters.

Consequence: Moderate

Likelihood: Possible

Risk Rating: Moderate

Regulatory Controls

Given the elevated levels of TN, and uncertainty surrounding works proposed under W5095/2011/1, the Cockatoo WWTP has been attributed a moderate risk rating. For these reasons, improvement condition L4.1.1 has been included on the Licence. Condition L4.1.1 requires the Licensee to submit an Environmental Impact Assessment (EIA) to the CEO regarding the WWTP and levels of contaminants discharged to North Bay by Friday, 30 September 2016. This EIA is necessary to evaluate the risk of the Cockatoo WWTP on the ecology of North Bay.

Condition L3.2.1 (previously L3.3.1) requires monitoring of the WWTP including effluent quality parameters and volumetric flow rate. This monitoring requirement has not been changed as a result of this reissue.

Residual Risk

Consequence: Moderate

Likelihood: Possible

Risk Rating: Moderate

(b) Dewatering discharge – E2

Dewatering pumps are employed to remove seawater from the bottom of the pits at Cockatoo. Dewater is directed to the Settlement Pond (S1) prior to discharge to the marine environment via emission point E2 (Figure 1). E2 consists of 4 outlet pipes which are inspected daily to ensure integrity is maintained.

The Settlement Pond and dewatering infrastructure were constructed under Works Approval W5190/2012/1.

There is the potential for this dewatering discharge from E2 to become contaminated with high Total Suspended Solids (TSS). Such contaminants could impact marine water quality and have a detrimental effect on sensitive marine receptors.

The Settlement Pond was designed to achieve a TSS discharge concentration of <20 milligrams per litre (mg/L). This target was deemed appropriate based on background data for the marine environment surrounding Cockatoo. To ensure adherence with this target, Pluton samples dewatering discharge waters from E2 fortnightly, whilst discharging, and reports this data in the Annual Environmental Report. An exceedance of this value triggers an investigation and response by Pluton.

DER included a requirement to monitor E2 for TSS, and report any exceedances of TSS >20 mg/L, on the Cockatoo operating Licence in March 2013.

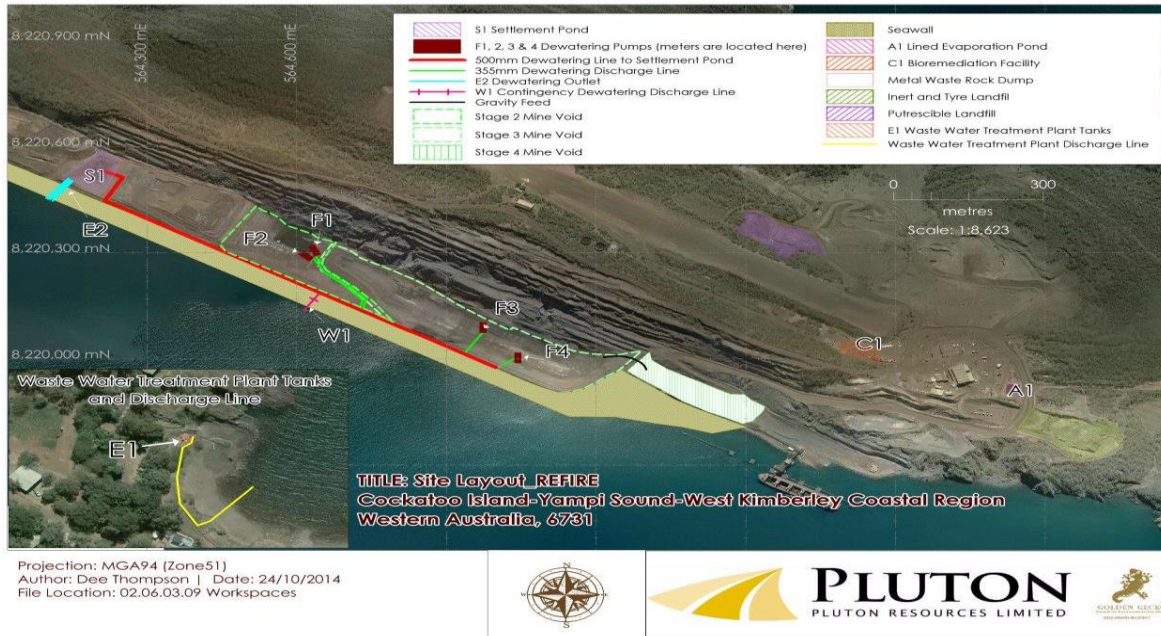


Figure 1. Emission points at Cockatoo Island including reference to the Settlement Pond (S1) and E2.

Emission Description

Emission: Dewater discharged to the marine environment with elevated levels of TSS.

Impact: Contamination of marine environment from increased turbidity owing to high levels of suspended sediment or ore. Increased turbidity can negatively impact marine communities, in particular sessile suspension-feeders like sponges and corals which rely on suspended food for survival. High sedimentation can cause these invertebrates to become smothered, impeding the feeding / survival success. Similarly, high turbidity can impact light transmission and thus photosynthesis and survival of marine algae. Overall, negative growth and mortality of marine species may result from such discharges.

Controls: To reduce TSS concentration in discharge waters, the Settlement Pond is operated according to the following design parameters:

- Minimum dewatering rate = 436 litres per second (L/sec);
- Maximum dewatering rate = 520 L/sec;
- Design minimum inflow sediment = 100 mg/L;
- Design maximum inflow sediment = 200 mg/L; and
- Minimum detention time = 15 hours.

Based on these parameters Pluton predicts a 98% reduction in TSS, such that TSS remains <20 mg/L. Pluton will ensure these design/operating parameters are adhered to.

Measures to reduce TSS concentration when elevated include:

- Reduction in volume of dewatering;
- Increasing residence time in pit and Settlement Pond for suspended solids to settle;
- Flocculation of dewatering water to increase rate of solids settling in the Settlement Pond; and
- Filtration at the Settlement Pond discharge.



Pluton has developed the 'Cockatoo Island Stage 4 Marine Environment Monitoring and Management Plan' which includes monitoring of TSS in dewatering discharge waters from E2. This monitoring is designed to minimise environmental risk.

Risk Assessment

Coffey Environments Australia Pty Ltd (Coffey) was engaged by Pluton to assess the design of the dewatering infrastructure and Settlement Pond, and potential impacts of dewatering discharge on the marine environment. Coffey reported the following with regard to the risk of increased turbidity and sedimentation:

- Extensive engineering measures were included in the design to improve the quality of inflows to the Settlement Pond and discharge quality to the marine environment;
- There are unlikely to be significant amounts of sensitive biota within 50 to 100 m of the E2 discharge point;
- Sediment from the Settlement Pond is likely to settle within an area which is already subject to increased sedimentation due to the hydrodynamics around the island embankment; and
- The area is more than 100 m from the nearest coral habitat.

Coffey concluded that increased turbidity and sedimentation associated with the Settlement Pond discharge is possible, but consequences would be minor, meaning that the overall risk of discharge dewatering water to the marine environment (after sufficient retention time) was low.

Monitoring of the dewatering discharge for TSS and TPH is conducted fortnightly.

The AER for the reporting period 1 January to 31 December 2014 reported one exceedance of the TSS target 20 mg/L. Pluton reported that the elevated TSS levels were due to works adjacent to the settlement pond, which introduced clay-based materials into the pond, and rainfall in the preceding 24-hour period. Pluton considered the impacts from the TSS-elevated discharge to be localised, minor and short-lived. TSS concentration was below target for the remainder of the reporting period.

The AER for the reporting period 1 January to 31 December 2013 reported three exceedances of the TSS target 20 mg/L; 8/7/2013 (23 mg/L), 30/10/2013 (28 mg/L) and 18/11/2013 (25 mg/L). No explanation was given toward the 8/7/2013 exceedance due to an administrative oversight by the Licensee. The later two exceedances were due to an isolated event triggered by a slip of material from the Highwall into the Stage 3 mine pit void, causing a high sediment load to initially mix with the dewatering operations. The event occurred on the 28/11/2013 and continued until 1/11/2013. The following corrective actions were undertaken to mitigate impact and prevent recurrences:

- A rock barrier was installed between the slip of material and the dewatering sump area to reduce the inflow of sediment; and
- The flow rate of pumping was reduced.

No adverse effects were noted as a result of these exceedances in 2013.

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

Given Pluton's management controls, and history of compliance with the TSS target (except isolated events), the risk rating for increased turbidity and sedimentation due to dewatering discharge from E2 was determined to be low if managed appropriately. Consequently, Condition L2.3.4 was removed in accordance with Departmental reform and the removal of 'target' conditions associated with low risk activities. Pluton will still be required to monitor TSS as per condition L3.2.1 (previously L3.3.1) and apply appropriate management actions as outlined in the application supporting information for W5190/2012/1 and the 'Cockatoo Island Stage 4 Marine Environment Monitoring and Management Plan'.



Residual Risk

Consequence: Minor

Likelihood: Rare

Risk Rating: Low



Appendix B

Fugitive Emissions

Emission Description

Emission: Fugitive dust may result from the daily operation of Cockatoo where sources of dust can be attributed to stockpiles, materials handling and crushing, vehicle movements and wind erosion of exposed surfaces.

Impact: Dust emissions can be harmful to human health and the environment. Dust particles smaller than 10 µm in size (PM₁₀) are considered 'inhalable' and can be deposited in the lungs. Dust particles smaller than 2.5 µm in size (PM_{2.5}) are considered 'respirable' in that they have the potential to enter the bloodstream through the respiratory system. Adverse health effects can result from the inhalation and/or respiration of both PM₁₀ and PM_{2.5}. Dust deposition to land can smother vegetation impairing photosynthesis. Whilst dust deposition into the marine environment has the potential to increase water turbidity and smother corals, algae, and other benthic organisms. The nearest potentially sensitive receptor is the Cockatoo accommodation camp, approximately 600 m north-west of the main mining area, followed by the town of Derby approximately 140 km north.

Controls: The AER for the 2014 reporting period states that dust generated from operations at Cockatoo is generally minor and localised. Furthermore seawater and groundwater inflows into the mining voids on Cockatoo keep the ore damp, minimising dust generation. Pluton reported no incidents of excessive dust during the 2014 reporting period.

Pluton implements the following controls to minimise dust generation:

- Monitoring of the nearshore marine environment for evidence of sediment impact to coral and algal communities;
- Disturbed areas are rehabilitated as soon as practicable;
- Vehicle speeds are restricted to minimise dust being suspended by traffic;
- Water trucks are used for dust suppression on haul roads and exposed areas and the timing, method and frequency of watering is modified in response to excessive nuisance dust;
- Vehicles are restricted to designated roads and tracks;
- Crushing and screening facilities are operated and maintained with suitable dust extraction systems, screens and/or sprays, where practicable to minimise dust;
- Haul roads are maintained by appropriate equipment;
- Stockpiles are kept to the lowest practicable heights to reduce wind erosion, and watered down where necessary;
- All mine drills are equipped with dust suppression capabilities; and
- The application of chemical crusting agents to further reduce windblown dust emissions from susceptible areas will be considered if the above dust management measures are insufficient.

Risk Assessment

Consequence: Insignificant

Likelihood: Possible

Risk Rating: Low

Regulatory Controls

Given Pluton's regulatory controls, the siting of the Cockatoo (approximately 600 m from the accommodation camp and 140 km from Derby) and excess of water onsite (dewatering water), the risk of fugitive dust emissions was assessed as low. Consequently, previous conditions L2.6.1 and L2.6.2 were removed in accordance with Departmental reform. Dust emissions can be sufficiently regulated under Section 49 of the *Environmental Protection Act 1986*.



Risk Assessment

Consequence: Insignificant

Likelihood: Possible

Risk Rating: Low