Government of Western Australia
Department of Environment Regulation

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

LICENSEE
Pilbara Iron Company (Services) Pty Ltd
Level 22, Central Park
152-158 St Georges Terrace
PERTH WA 6000
ACN: 107 210 248

PREMISES
Greater Tom Price Iron Ore Mine
Mining tenement AML70/4 sections 1-7, 10, 13, 232 – 235, 258, L47/136, L47/209, L47/210, L47/342, L47/645, AG70/3, and G47/1258 within coordinates: E542850 N7491490; E548350 N7488660; E580100 N7475190; E584500 N7483800
MOUNT SHEILA WA 6751
(as depicted in Attachment 1)

PRESCRIBED PREMISES CATEGORY
Schedule 1 of the *Environmental Protection Regulations 1987.*

CATEGORY NUMBER	CATEGORY DESCRIPTION	CATEGORY	PREMISES PRODUCTION OR DESIGN CAPACITY
5	Processing or beneficiation of metallic or non-metallic ore	50,000 tonnes per year	40,000,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	11,000,000 tonnes per annual period (Western Turner Syncline Stage 2-B1 and Section 17 Deposits) 3,000,000 tonnes per annual period (South East Prongs Deposit)
12	Screening, etc. of material	50,000 tonnes or more per year	10,000,000 tonnes per annual period
54	Sewage facility	100 cubic metres or more per day	320 cubic metres per day
64	Class II putrescible landfill site	20 tonnes or more per year	6,000 tonnes per annual period
73	Bulk storage of chemicals, etc	1,000 cubic metres in aggregate	4,532 cubic metres in aggregate

Government of Western Australia
Department of Environment Regulation

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

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

Date signed: 21 April 2016

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

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

DEFINITIONS

In these conditions of licence, unless inconsistent with the text or subject matter:

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

'annual period' means the inclusive period from 1 January until 31 December in the same 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);

'Australian Standard 5667' means the most recent version and the relevant parts of the Australian and New Zealand series of guidance standards on Water Quality Sampling;

'CEO' means the Chief Executive Officer 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;

'cfu/100mL' means colony forming units per 100 millilitres;

'Clean Fill' has the meaning defined in Landfill Definitions;

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

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Inert Waste Type 2' has the meaning defined in Landfill Definitions;

'kg/ha/year' means kilograms per hectare per year;

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

'Licence' means this Licence numbered L4762/1972/14 and issued under the Act;

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

'µS/cm' means microSiemens per centimetre;

'mg/L' means milligrams per litre;

'MOC' means Mine Operations Centre;

'NATA' means 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;

'Putrescible' has the meaning defined in Landfill Definitions;

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

'Special Waste Type 1' has the meaning defined in Landfill Definitions;

'Standard Methods for Examination of Water and Wastewater' means the most recent edition of the Standard Methods for Examination of Water and Wastewater as published by the American Public Health Association (APHA), the American Water Works Association (AWWA) and the Water Environment Federation (WEF), generally abbreviated to APHA-AWWA-WEF;

'TSF' means Tailings Storage Facility;

'Western Australian guidelines for biosolids management' means the document titled "Western Australian guidelines for biosolids management, December 2012" published by the Department of Environment Regulation as amended from time to time;

'Western Turner Syncline Stage 2 Water Quality Management Plan' means the document titled "Western Turner Syncline Stage 2 Interim Dewatering Discharge Water Quality Management Strategy";

'Tipping area' means the area of the landfill where waste is currently being disposed;

'WDL' means waste dump landfill; and

'WWTPs' means Wastewater Treatment Plants.

GENERAL CONDITIONS

1 The Licensee shall only operate the Mobile Crushing and Screening Plant(s) in accordance with the Iron Ore (WA) Mobile Crushing and Screening Management Plan (RTIO-HSE-0235877).

WWTP DISCHARGES

2 The Licensee shall ensure that effluent from the Mine Camp WWTPs is only discharged to the Sprayfields depicted in Attachment 3.

3 The Licensee shall record the monthly cumulative volume of all effluent discharges from the Mine Camp WWTPs for the purpose of irrigation and the MOC and Beneficiation Plant WWTPs treated effluent discharge pipes. This data should be reported in the Annual Environmental Report in tabular form.

4 The Licensee shall for each of the WWTPs collect and have analysed, representative effluent discharge samples at the locations listed in column 1 of Table 1 for the parameters listed in column 2 of Table 1 at the frequency stated in column 3 of Table 1 and present this information in the Annual Environmental Report, including an assessment and comparison against the NWQMS 1997 and all recorded monitoring data.

Table 1: WWTPs effluent discharge monitoring requirements

Column 1	Column 2	Column 3
Sampling location	**Parameter**	**Frequency**
• MOC • Beneficiation Plant • Mine Camp WWTP1 • Mine Camp WWTP2	Biochemical Oxygen Demand (mg/L)	Quarterly
	Total Suspended Solids (mg/L)	
	pH (pH units)	
	Total Nitrogen (mg/L)	
	Total Phosphorus (mg/L)	
	E.coli (cfu/100mL)	

STORMWATER MANAGEMENT

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

(a) Process plants;
(b) Washdown bays;
(c) Refuelling areas; and
(d) Mechanical workshops.

SURFACE WATER - DISCHARGE OUTFALL

6 The Licensee shall ensure that the concentration of Total Recoverable Hydrocarbons in waters discharged from the premises does not exceed 30 mg/L.

WATER MONITORING

7 The Licensee shall, on a **monthly** basis, measure and record in cubic metres, the cumulative volumes of waters discharged from the:

(i) Reclaim Dam discharge point (Attachment 2);
(ii) TSF Seepage Main Embankment discharge point (Attachment 2);
(iii) Section 6 Pit discharge point (approved to discharge a maximum 3,000,000 tonnes per annum) (Attachment 2 and 5); and
(iv) WTS S2 Mine dewatering discharge point (DP14B1001) (approved to discharge a maximum 11,000,000 tonnes per annum) (Attachment 6)

and shall publish the results in the Annual Environmental Report.

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

8 The Licensee shall take representative water samples from the monitoring sites listed in column 1 of Table 2, at the frequencies stated in column 2 of Table 2, and have analysed for the parameters listed in column 3 of Table 2 and present this information in the Annual Environmental Report.

Table 2: Water monitoring schedule

Column 1	Column 2	Column 3
Monitoring site(s)	**Sampling Frequency**	**Parameters to be measured**
Surface Water Monitoring Sites		
• Reclaim Dam Discharge Point (Attachment 2) • TSF Seepage Main Embankment Discharge Point (Attachment 2)	Quarterly Flow is measured monthly	pH (pH units) Electrical Conductivity (µS/cm) Total Dissolved Solids (mg/L) Total Suspended Solids (mg/L) Total Recoverable Hydrocarbons (mg/L) Chemical Oxygen Demand (mg/L) Biochemical Oxygen Demand (mg/L) *E.coli* (cfu/100mL) Surfactants (mg/L) Major ions (mg/L) – Sodium, Potassium, Calcium, Magnesium, Sulfate Metals (mg/L) – Lead, Copper, Iron, Manganese, Molybdenum, Zinc, Arsenic, Mercury, Cadmium, Chromium
Section 6 Pit Discharge Point (Attachment 2 and 5)	Quarterly Flow is measured monthly	pH (pH units) Electrical Conductivity (µS/cm) Total Dissolved Solids (mg/L) Total Suspended Solids (mg/L) Major ions (mg/L) – Sodium, Potassium, Calcium, Magnesium, Sulfate Metals (mg/L) - Lead, Copper, Iron, Manganese, Molybdenum, Zinc, Arsenic, Mercury, Cadmium, Chromium
Ground Water Monitoring Sites		
<u>Section 6 Pit</u> MB13SSIX001, MB13SSX002, MB13SSIX003 (Attachment 2 and 5) <u>Tailings Dam</u> BH5, MB04TD0001, MB04TD0002 (Attachment 7) <u>Landfill Observation Bore</u> TPL02, MB12TPL01 (Attachment 8)	Quarterly	pH (pH units) Electrical Conductivity (µS/cm) Total Dissolved Solids (mg/L) Total Recoverable Hydrocarbons (mg/L) Major ions (mg/L) – Potassium, Calcium Metals (mg/L) – Lead, Copper, Iron, Manganese, Molybdenum, Zinc, Arsenic, Mercury, Cadmium, Chromium, Magnesium

Dewatering Water Monitoring Sites		
• DP14B1001. WTS S2 Mine dewatering discharge point • SW15B1001. Primary dewatering discharge sample point (Beasley River) • SW15B1002. Secondary dewatering discharge sampling point (Only sampled if no flow at primary sample point). As depicted in Attachment 6.	Monthly Flow is measured monthly	Electrical Conductivity (µS/cm) pH (pH units) Total Dissolved Solids (mg/L) Dissolved Oxygen (% sat) Turbidity (NTU) Total Suspended Solids (mg/L) Hardness ($CaCO_3$ mg/L) Ions and Metals (mg/L) – Aluminium, Arsenic, Boron, Barium, Cadmium, Carbon trioxide, Calcium, Chlorine, Cobalt, Copper, Chromium, Iron, Bicarbonate, Mercury, Potassium Magnesium, Manganese, Molybdenum, Ammoniacal Nitrogen, Nitrate, Nitrogen Oxide, Ammonium, Nitrate as nitrogen, Total Nitrogen, Sodium, Nickel, Total Phosphorus, Lead, Sulphur, Silicon, Sulphate-S, Selenium, Uranium, Vanadium, Zinc

9 The Licensee shall compare the results from the quality monitoring of discharge water required by condition 8 for the Surface Water Monitoring Sites against the appropriate ANZECC 2000 water quality trigger values and present this information in the Annual Environmental Report, including a comparison of these results against previous years' monitoring data.

10 The Licensee shall ensure that all dewatering discharge flows through a gabion outlet at the dewatering discharge point depicted in Attachment 6.

DISPOSAL OF BIOSOLID AND OTHER RESIDUALS

11 The Licensee shall dispose of sludge and biosolids in accordance with the *Western Australian guidelines for biosolids management* or to a licensed or registered landfill facility.

12 The Licensee shall ensure that sludge is immediately removed offsite or stored onsite within a hardstand area or drying bed with a hydraulic conductivity of equal to or less than 1×10^{-9} metres per second.

13 The Licensee shall ensure that the storage area referred to in condition 12 is bunded to enable the containment and recovery of any liquid matter.

WASTE MANAGEMENT FROM ANCILLARY OPERATIONS

14 The Licensee shall as soon as practicable recover, or remove and dispose of, any liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, from inside or outside the low permeability compound(s).

15 The Licensee shall utilise and maintain protective bunding, skimmers, silt traps, neutralisation pits, fuel and oil traps, drains and sealed collection sumps around the

process plant, maintenance workshops, laboratory and power generation areas to enable recovery of spillages and protection of surrounding soils and groundwater, as practicable.

TAILINGS STORAGE FACILITY (ATTACHMENT 2 and 7)

16 The Licensee shall maintain the interception drain immediately downstream of the main storage dam embankment, which shall be used to collect and recover liquid matter resulting from seepage of the main embankments.

17 The Licensee shall ensure that at least 1 metre of freeboard is maintained at the main embankment at all times.

MANAGEMENT OF PUTRESCIBLE LANDFILL (ATTACHMENT 8)

18 The Licensee shall bury only the following types of waste within the putrescible landfill facility:
(i) Clean Fill;
(ii) Inert Waste Type 1; and
(iii) Putrescible Waste;
as defined in the Landfill Definitions.

19 The Licensee shall ensure that the tipping area of the putrescible landfill is not greater than:
(i) 30 metres in length; and
(ii) 2 metres above ground level in height.

20 The Licensee shall ensure that waste in the tipping area of the putrescible landfill is covered:
(i) at least weekly;
(ii) with a dense (at least 200 millimetres), inert and incombustible material; and
(iii) totally, so that no waste is left exposed.

21 The Licensee shall ensure that there is no waste within:
(i) 100 metres of any surface water body at the site; and
(ii) 3 metres of the highest level of the water table aquifer at the putrescible landfill site.

22 The Licensee shall manage stormwater on the putrescible landfill site so that:
(i) it is diverted from areas of the site where there is waste; and
(ii) water that has come into contact with waste is to be diverted into a sump on the site, or otherwise retained on the site.

MANAGEMENT OF WASTE DUMP LANDFILLS (ATTACHMENT 9)

23 The Licensee shall bury only the following types of waste within the waste dump landfill facilities:
(i) Inert Waste Type 1 & 2;
(ii) Special Waste Type 1; and
(iii) wooden pallets;
as defined in the Landfill Definitions.

24 The Licensee shall ensure that waste in the tipping area of the waste dump landfills is covered with a dense (at least 200 millimetres), inert and incombustible material at final landform design.

25 The Licensee shall ensure that there is no waste within:
(i) 100 metres of any surface water body at the site; and
(ii) 3 metres of the highest level of the water table aquifer at ~~the~~ waste dump landfill sites.

26 The Licensee shall manage stormwater on the waste dump landfills ~~site~~ so that water that has come into contact with waste is to be retained on the site.

IMPROVEMENT PROGRAM

27 The Licensee shall complete the improvements listed in column 1 of Table 3 by the date of completion listed in column 2 of Table 3.

Table 3: Improvement program

Column 1	Column 2
Improvement	**Date of completion**
IR1 - The Licensee shall update site specific target values (SSTVs) for the dewatering discharge parameters in the *Western Turner Syncline Stage 2 Water Quality Management Plan.* The SSTVs will be updated following ANZECC (2000) protocols for the protection of aquatic ecosystems. These SSTVs will apply to the primary dewatering discharge sample point SW15B1001, or if not flowing, secondary sample point SW15B1002. An updated *Western Turner Syncline Stage 2 Water Quality Management Plan* will be provided to the CEO by the date of completion in Column 2 of this table, along with an evaluation of these SSTVs against background data, and identification of the likelihood and potential risks of target exceedances.	Friday, 27 May 2016
IR2 - The Licensee shall submit to the CEO a report on the Tom Price TSF Seepage. The report will evaluate the seepage extent, water quality parameters and potential environmental risks of identified concentrations and extent, including proposed corrective measures and timeframes. The report should reference the investigation compiled by Bruce Brown, RTIO, tilted '*Tom Price TSF Seepage Investigation'* (10 September 2015) and corrective actions undertaken in line with the recommendation(s) of that report.	Friday, 27 May 2016
IR3 - The Licensee shall submit to the CEO a report on the MOC and Beneficiation Plant WWTPs including information on, but not limited to, the following: - a review of treatment performance against manufacturers specifications and appropriate guidelines (e.g. ANZECC 1997 and ANZECC 2000); - a review of the nutrient loading rates discharged to the discharge points depicted in Attachment 4 and potential (or identified) environmental impacts; - a risk analysis of the discharge locations (e.g. soil type, vegetation type, depth to groundwater and neighbouring sensitive receptors); and	Thursday, 30 June 2016

- a statement of environmental risk of current operations and, if deemed unacceptable, proposed actions to mitigate environmental impacts identified.	

REPORTING CONDITIONS

28 The Licensee shall collect all water samples required by conditions 4 and 8, in accordance with the relevant parts of Australian Standard 5667.

29 The Licensee shall ensure that all parameters requiring laboratory analyses pursuant to condition 4 and 8 are conducted by an organisation with NATA accreditation for the specified parameters in accordance with the current Standard Methods for Examination of Water and Wastewater – APHA-AWWA-WEF.

30 The Licensee shall provide to the CEO, by **30 April** each year, a copy of an Annual Environmental Report containing the monitoring results and data collected as a requirement of any condition of this licence during the period beginning **1 January** the previous year and ending on **31 December** in that year.

31 The Licensee shall by **30 April** in each year, provide to the CEO an Annual Audit Compliance Report in the form in Attachment 10 to this licence, signed and certified in the manner required by Section C of the form, indicating the extent to which the Licensee has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the premises, during the period beginning **1 January** the previous year and ending on **31 December** in that year.

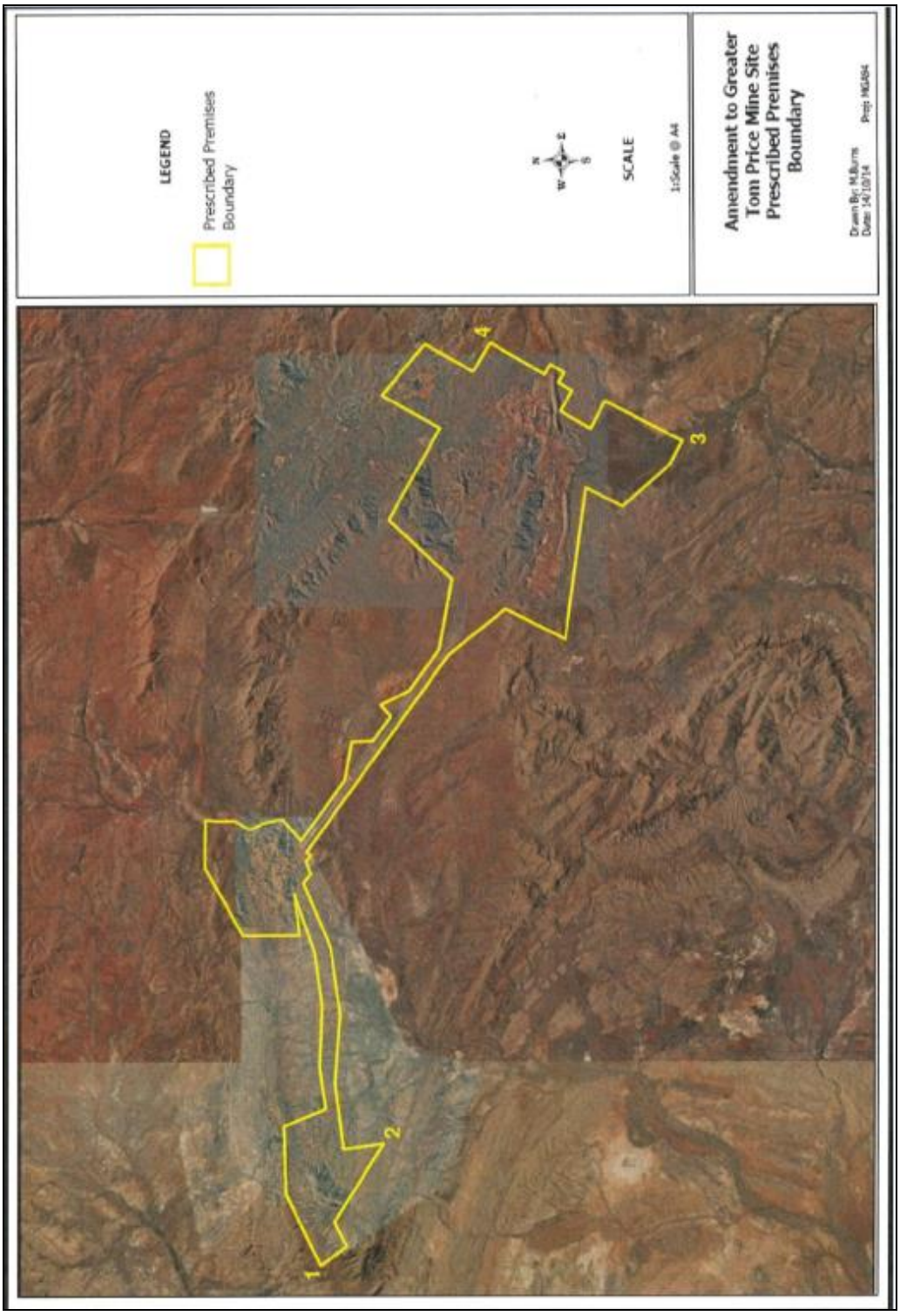
LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

ATTACHMENT 1 – PREMISES MAP

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



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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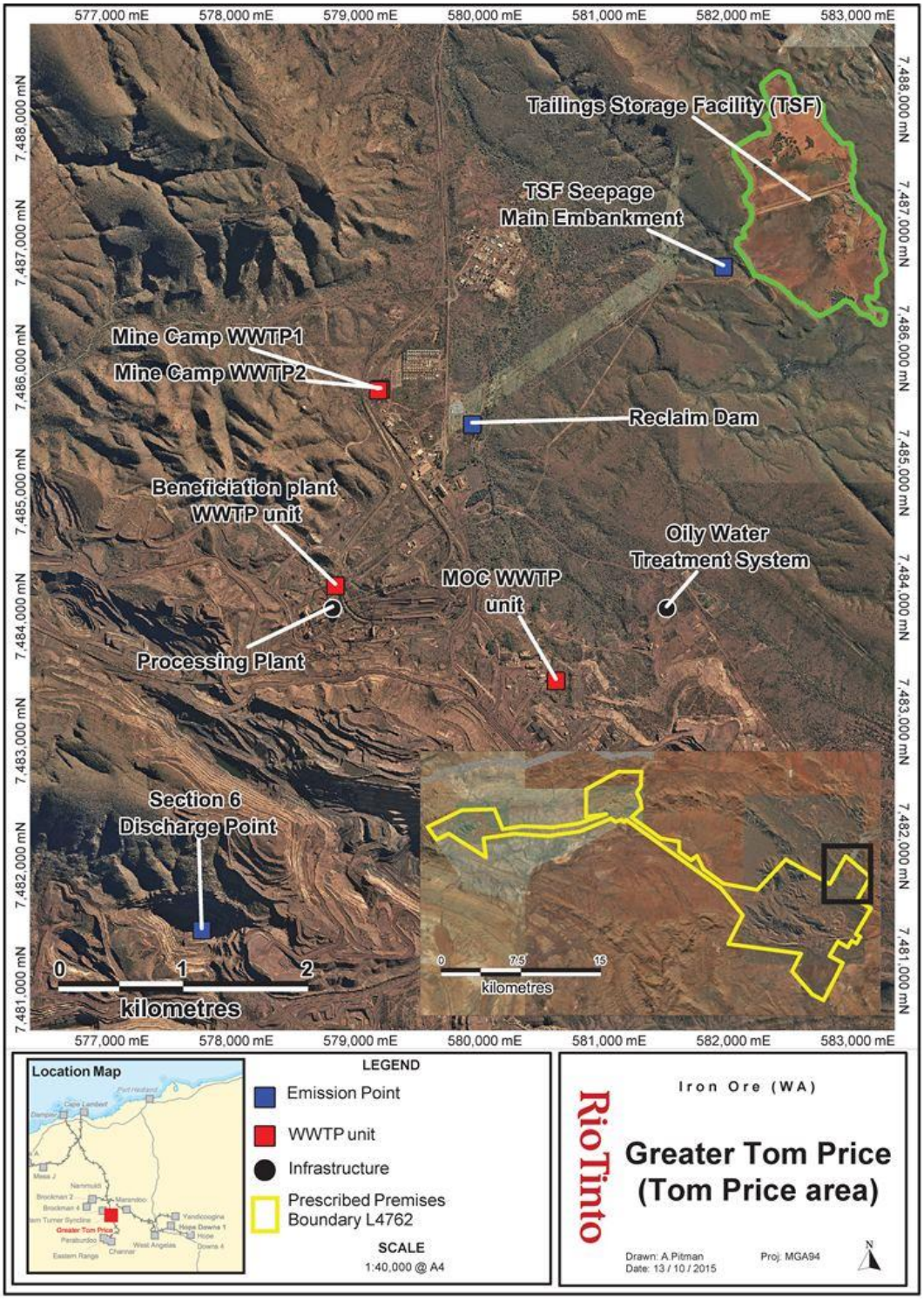
ATTACHMENT 2 – TOM PRICE CONTAINMENT INFRASTRUCTURE AND DISCHARGE POINTS



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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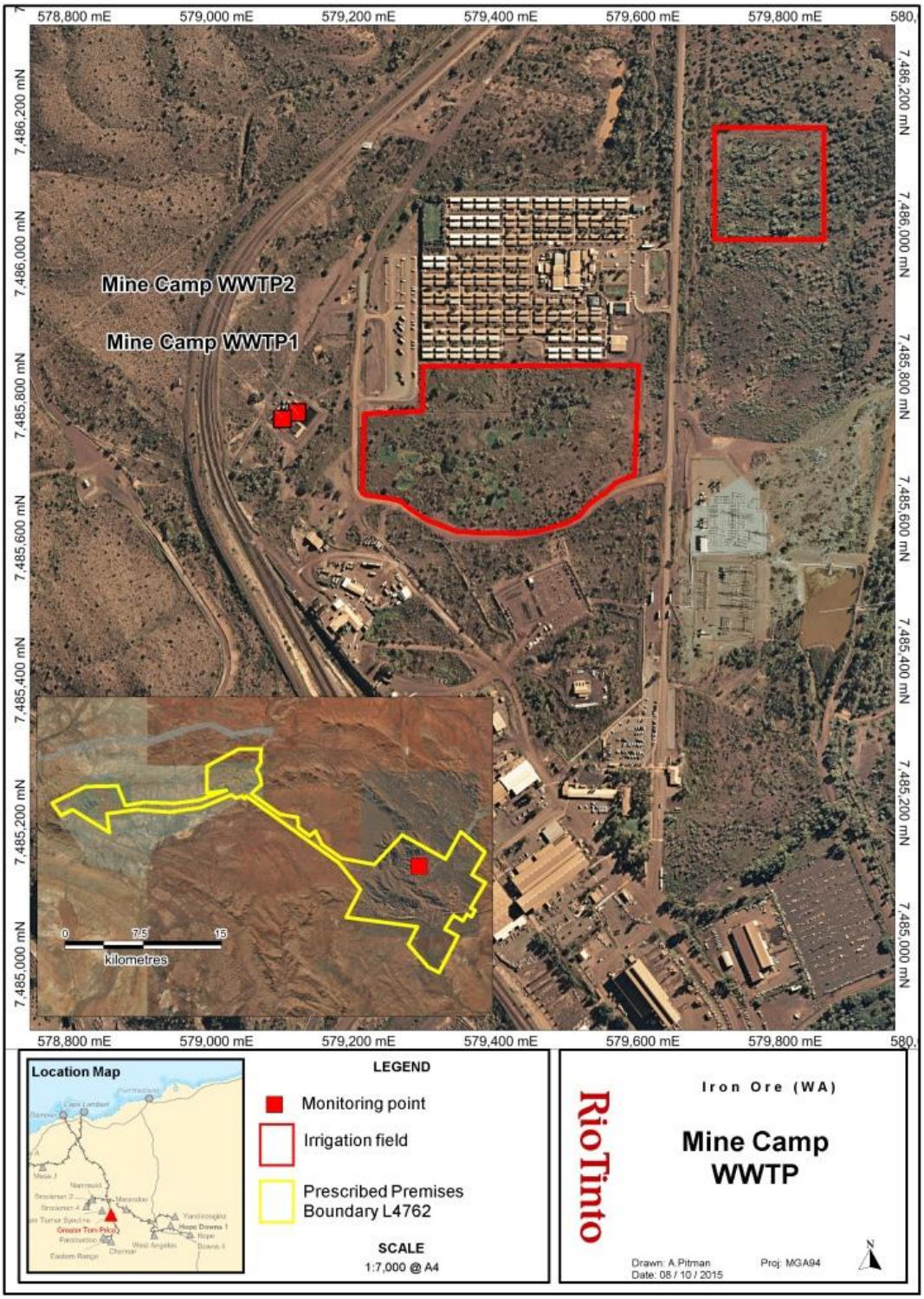
ATTACHMENT 3 - MINE CAMP WWTPS AND SPRAYFIELD AREAS



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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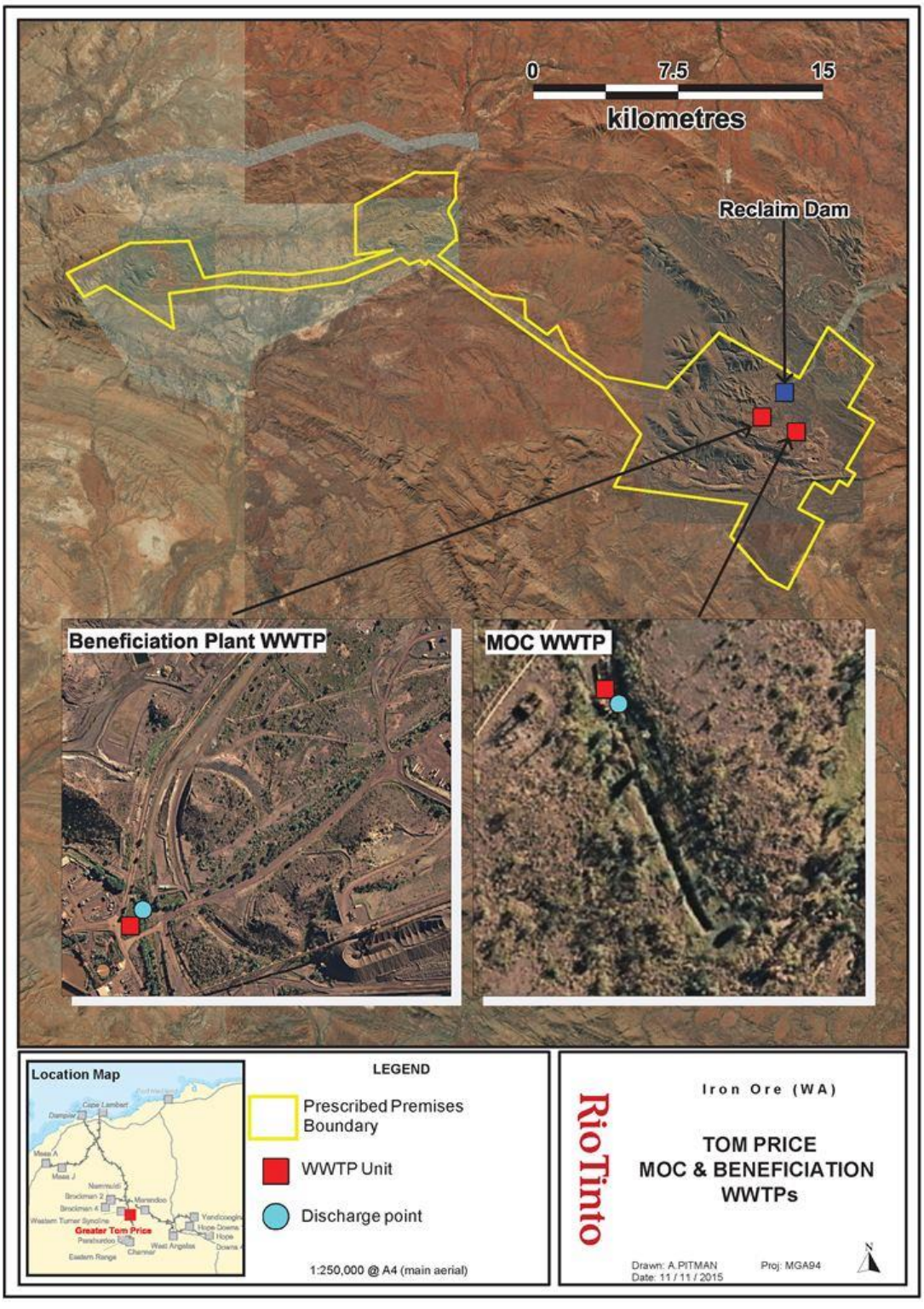
ATTACHMENT 4 – MOC AND BENIFICIATION PLANT WWTPS AND DISCHARGE POINTS

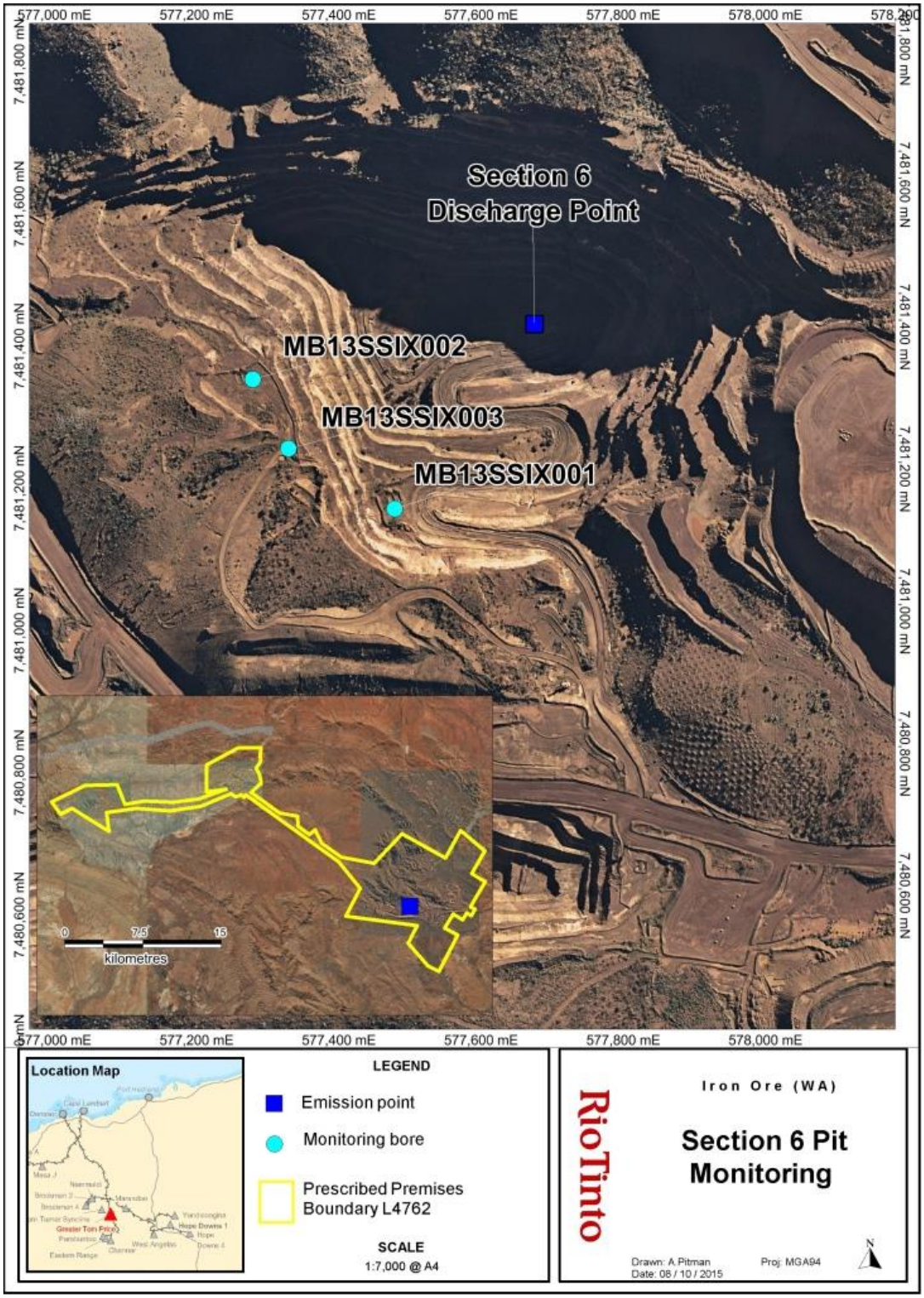


LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

ATTACHMENT 5 – SECTION 6 PIT DISCHARGE POINT AND MONITORING LOCATIONS

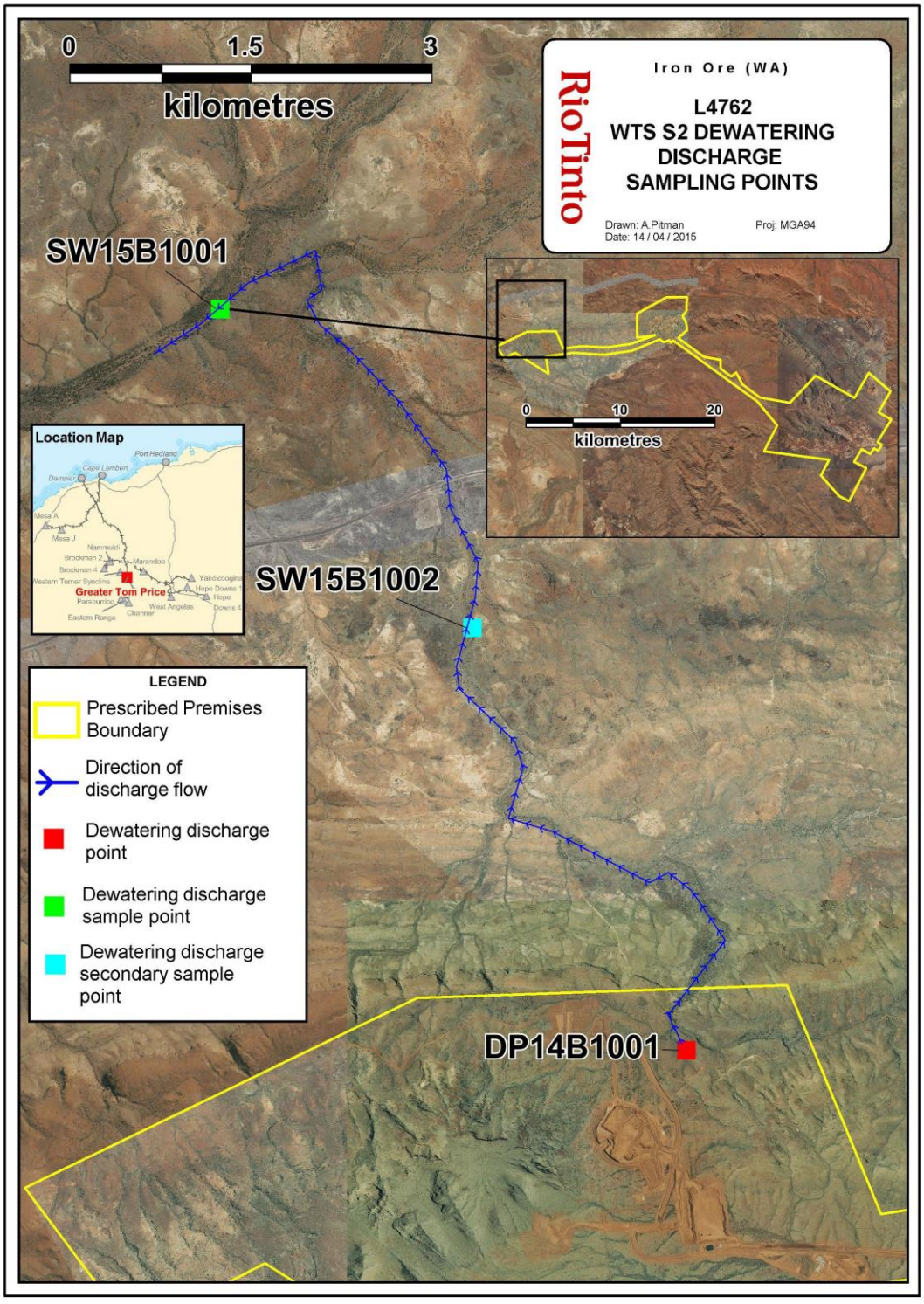


LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

ATTACHMENT 6 – WTS2 DEWATERING DISCHARGE POINT AND MONITORING LOCATIONS

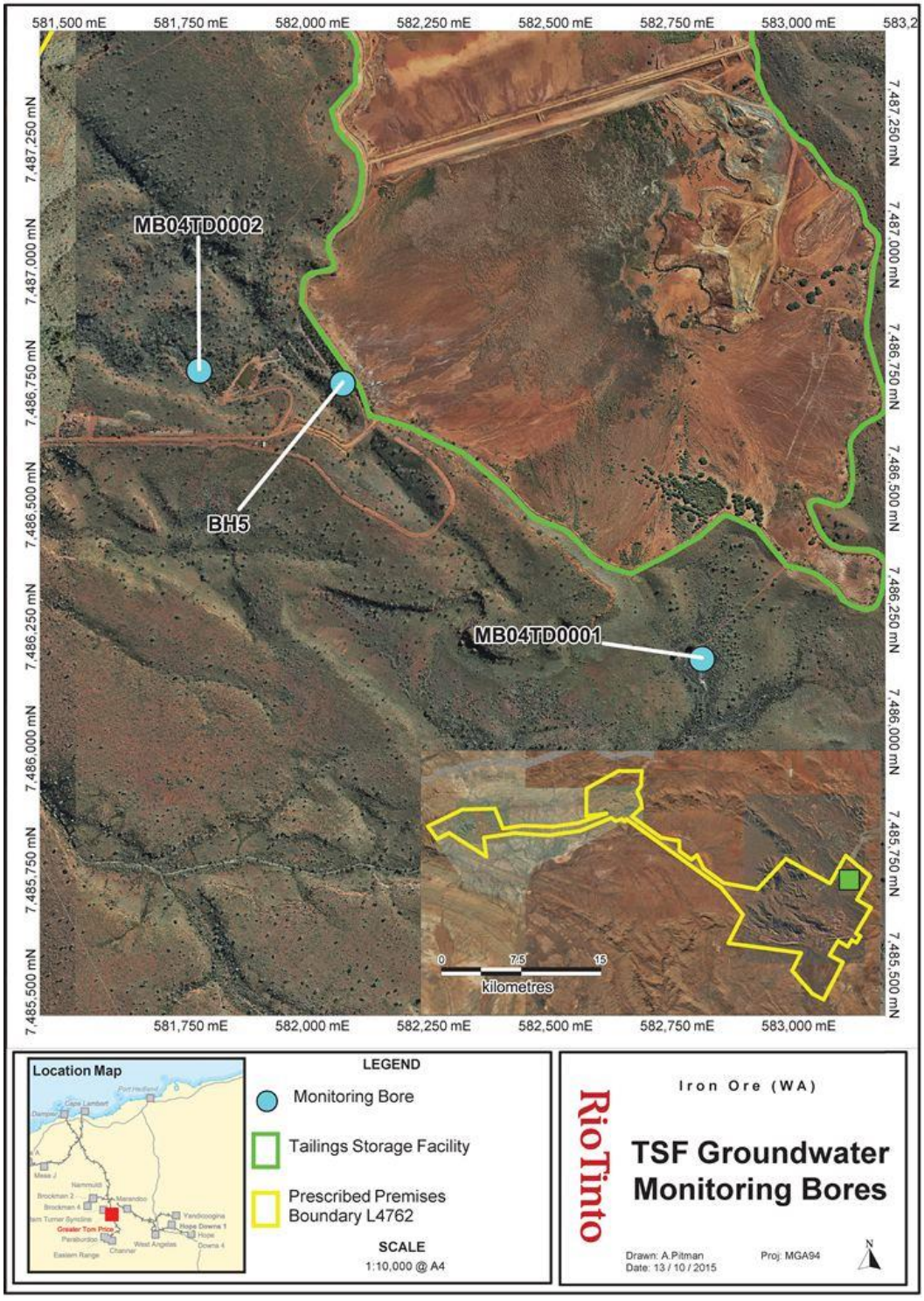


LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

ATTACHMENT 7 – TAILING STORAGE FACILITY (TSF) AND GROUNDWATER MONITORING POINTS

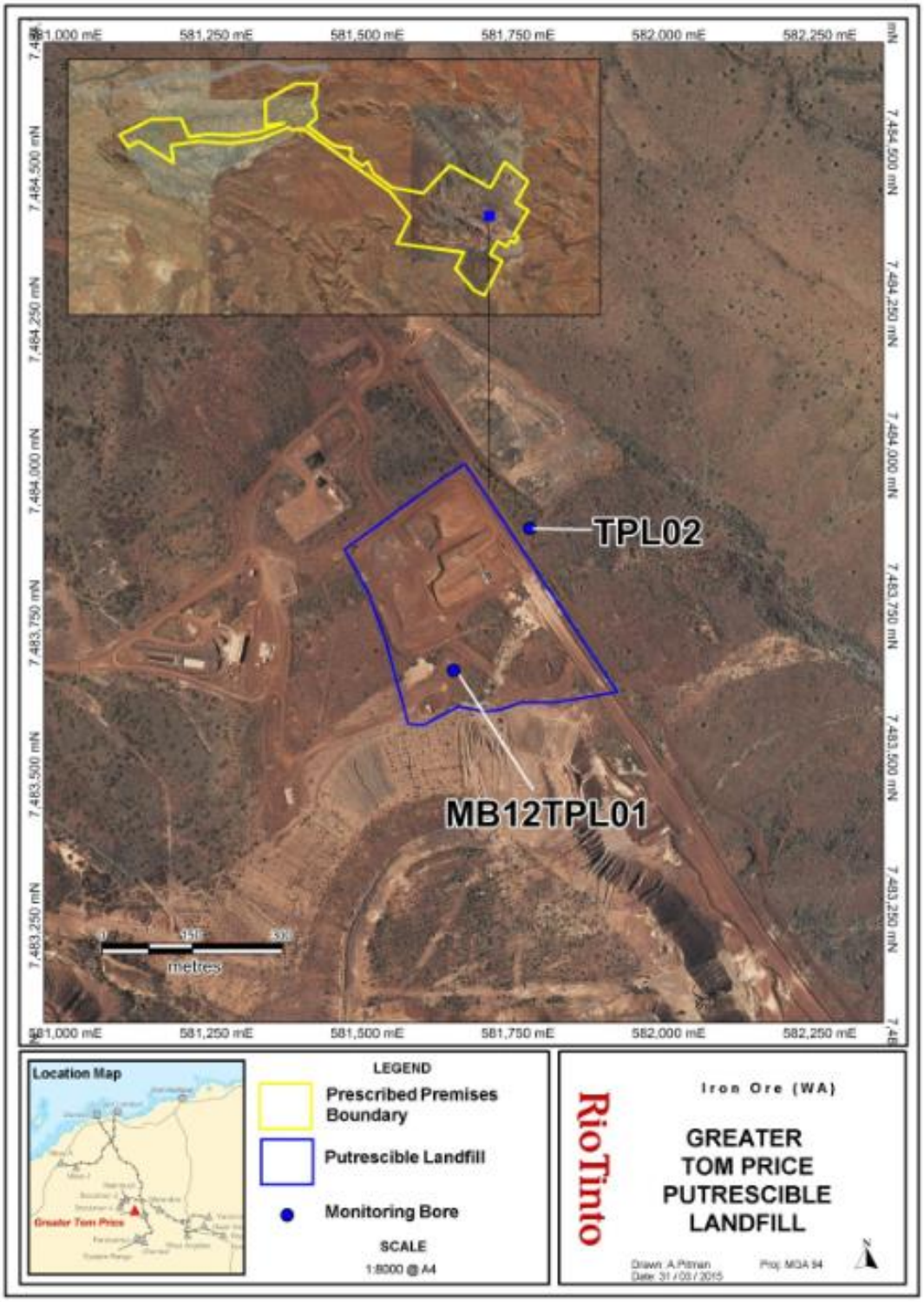


LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

ATTACHMENT 8 - TOM PRICE PUTRESCIBLE LANDFILL AND GROUNDWATER MONITORING LOCATIONS



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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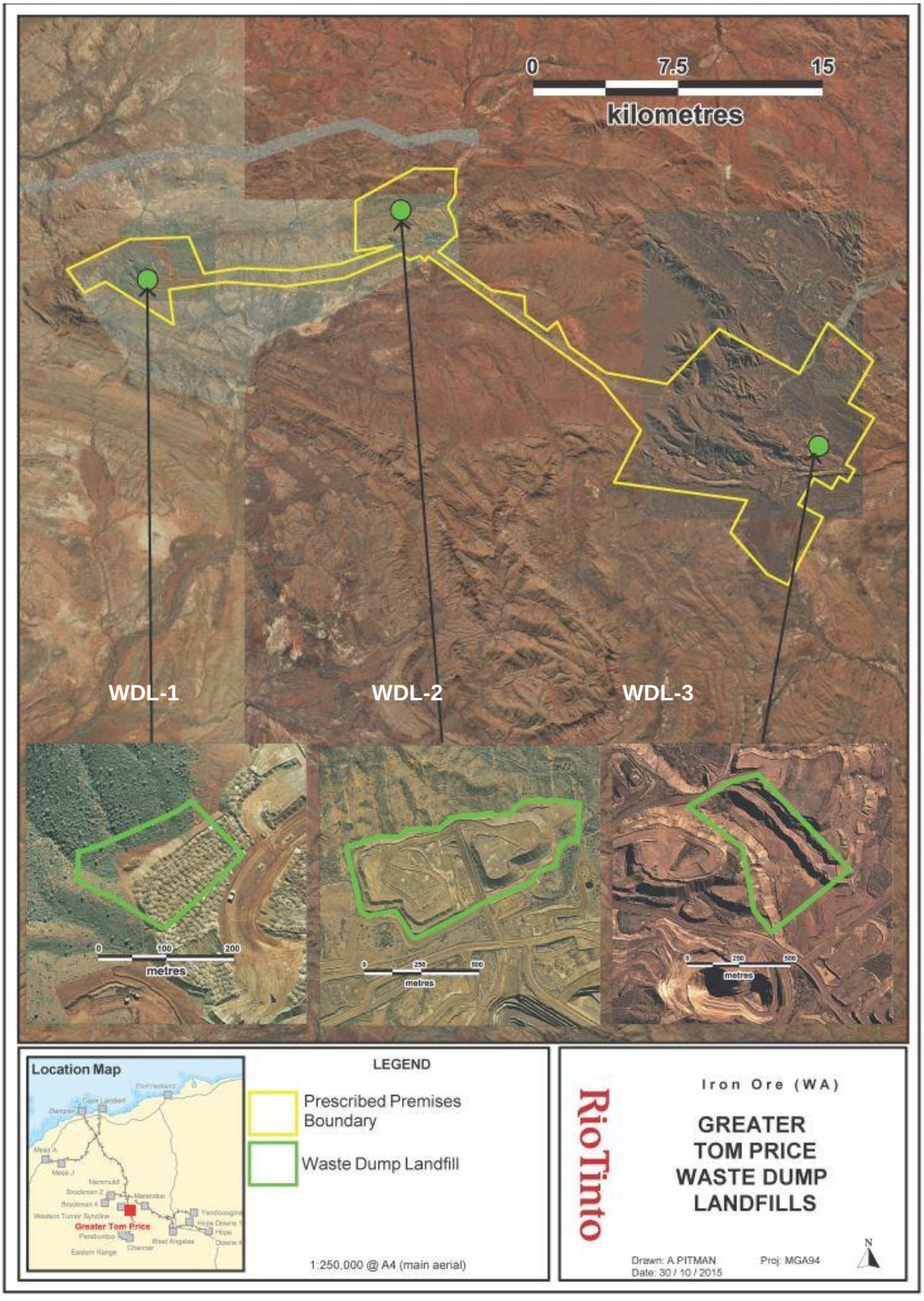
ATTACHMENT 9 – GREATER TOM PRICE WASTE DUMP LANDFILLS (WDL)



LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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ATTACHMENT 10 – ANNUAL AUDIT COMPLIANCE REPORT

SECTION A

LICENCE DETAILS

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

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of 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 initialed by the person(s) who signs Section C of this Annual Audit Compliance Report

INITIAL:_____

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

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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?	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?	
e) Summary of particulars of 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 initialed by the person(s) who signs Section C of this Annual Audit Compliance Report

INITIAL:_____

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER: L4762/1972/14 **FILE NUMBER:** DER2013/001057

SECTION C - SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report must only be signed by a person(s) with legal authority to sign it. The ways in which the Annual Audit Compliance Report 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 Annual Audit Compliance Report 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	□	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	□	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	□	by affixing the common seal of the licensee in accordance with the Corporations Act 2001; 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)	□	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	□	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)

Government of Western Australia
Department of Environment Regulation

Partial Decision Document

Environmental Protection Act 1986, Part V

Proponent: Pilbara Iron Company (Services) Pty Ltd

Licence: L4762/1972/14

Registered office: Level 22, Central Park
152-158 St Georges Terrace
PERTH WA 6000

ACN: 107 210 248

Premises address: Greater Tom Price Iron Ore Mine
Mining tenement AML70/4 sections 1-7, 10, 13, 232 – 235, 258, L47/136, L47/209, L47/210, L47/342, L47/645, AG70/3, and G47/1258 within coordinates: E542850 N7491490; E548350 N7488660; E580100 N7475190; E584500 N7483800
MOUNT SHEILA WA 6751

Issue date: Thursday, 21 May 2015

Commencement date: Thursday, 28 May 2015

Expiry date: Wednesday, 27 May 2020

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

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Licensing Officer

Decision Document authorised by: Alana Kidd
Manager Licensing – Resource Industries

Contents

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 ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	5	40,000,000 tonnes per year
	6	11,000,000 tonnes per annual period (Western Turner Syncline Stage 2-B1 and Section 17 Deposits) 3,000,000 tonnes per annual period (South East Prongs Deposit)
	12	10,000,000 tonnes per year
	54	320 cubic metres per day
	64	6,000 tonnes per year
	73	4,532 cubic metres in aggregate
Application verified Application fee paid	Date: 06/07/2015 Date: NA	
Works Approval has been complied with Compliance Certificate received	Yes☒ No☐ N/A☐ Yes☒ No☐ N/A☐	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes☒ No☐	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☒ No☐	Referral decision No: Managed under Part V ☐ Assessed under Part IV ☒
Is the proposal subject to Ministerial Conditions?	Yes☒ No☐	Ministerial statement No: 807 and 946 (Western Turner Syncline) EPA Report No: 1325 and 1477
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Pilbara Iron Company (Services) Pty Ltd (the Licensee) operates the Greater Tom Price Iron Ore Mine (Greater Tom Price) under Part V operating Licence L4762/1972/14 for Category 5, 6, 54, 64 and 73 activities within Schedule 1 of the *Environmental Protection Regulations 1987*. Greater Tom Price is located on mining tenement AML70/4 within the east Pilbara region of Western Australia, approximately 5 kilometres (km) from the townsite of Tom Price.

The Licensee has requested a number of amendments to L4762/1972/14 relating to the design capacity for Category 5, the inclusion of Category 12, and the operation of two Category 64 waste dump landfills. As a part of this amendment, existing Licence conditions were also reassessed in accordance with Departmental reform as published on the Department of Environment Regulation's (DER) website under "*Administrative changes implemented within the Department of Environment Regulation*".

Category 5
The Licensee has requested that the design capacity for Category 5 be increased from 32,000,000 tpa to 40,000,000 tpa. Due to efficiencies achieved in mining and processing activities it is expected that the Greater Tom Price operations will have a future capacity of up to 40,000,000 tpa. The State Agreement limit for Greater Tom Price is 60,000,000 tpa.

Category 12
The Licensee has requested that Category 12 be included onto the Licence to account for new crushing and screening infrastructure constructed under Works Approval W5368/2013/1. A nominal design capacity of 10,000,000 tonnes per annum (tpa) was requested in case multiple plants are required onsite simultaneously in the future to process materials other than ore. The plants will be managed in accordance with the *Iron Ore (WA) Mobile Crushing and Screening Management Plan*, Rio Tinto, 2015 (RTIO-HSE-0235877) and Licence conditions.

Waste dump landfills
The Licensee has requested the addition of two Category 64 Class II putrescible landfills on the Licence, classified as 'waste dump landfills' by the Licensee. Both waste dump landfills, labeled WDL1 and WDL2 in Attachment 9 of L4762/1972/14, are operational on the Premises but were not on the Licence due to being under capacity (< 500 tpa). However, due to expansion of the Greater Tom Price mining area, the Licensee wishes to increase the design capacity for each of these waste dump landfills to 1,000 tpa and include them in the overall design capacity for Category 64 (currently 4,000 tpa). The waste dump landfills will accept Inert Type I and II wastes, Special Waste Type 1 and Putrescible waste (wooden pallets only) and will comply with existing conditions on the Licence.

Amendment summary
Changes to the Licence during this amendment include:
- Increased design capacity for Category 5 to 40,000,000 tpa;
- Inclusion of Category 12 (design capacity 10,000,000 tpa) and Licence condition L1;
- Inclusion of WDL1 and WDL2 and a capacity increase for existing Category 64 to 6,000 tpa (from 4,000 tpa);
- Amendment to condition L27 (previously L16) to include improvement requirements IR1 – IR3 relating to the Greater Tom Price Tailings Storage Facility (TSF), the Section 6 Pit and the MOC and Beneficiation Plant WWTPs;
- Removal of previous conditions 1, 2, 4, 7, 8, 9, 10, 16 – 20, 25, 37 and 38;
- Updated premises maps; and
- Administrative changes.

Where conditions have been added or removed from the existing licence these have been justified in Section 4. DER is currently undertaking a reform process. All Pilbara Iron licences will be systematically reviewed and updated in the near future, in consultation with the Licensee.

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	NA.	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.	NA.
Premises operation	L1	**Category 12** Category 12 with a design capacity of 10,000,000 tpa has been included onto the Licence to allow for multiple plants to operate onsite simultaneously in the future. The Licensee must ensure that the combined design capacity of all Category 12 mobile plants onsite at the same time is restricted to 10,000,000 tpa. Condition L1 has been added to the Licence. The mobile plants are to be managed in accordance with the *Iron Ore (WA) Mobile Crushing and Screening Management Plan*, Rio Tinto, 2015 (RTIO-HSE-0235877) and Licence conditions.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004.* *Iron Ore (WA) Mobile Crushing and Screening Management Plan*, Rio Tinto, 2015 (RTIO-HSE-0235877). DER public website at: www.der.wa.gov.au.
	L5 and L14	**Removal / Restructuring of previous conditions** Previous conditions L9 and L10 were removed in accordance with Departmental reform. Condition L5 was included on the Licence to ensure appropriate management of infrastructure which has the potential to contaminate stormwaters on the Premises. Previous conditions L18 and L19 were 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 maybe subject to the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. Previous condition L20 relating to recovery, removal and disposal of contaminated materials resulting from spills or leaks is now condition L14. Previous condition L25 relating to the use of measures or agents such to prevent oil-water emulsions was removed as this is secondary activities, which does not contribute to the nature and type of emissions from the primary activity. This is in accordance with the DER guidance statement *Licencing and works approvals process* (September 2015).	

DECISION TABLE			
Licence section	**Condition number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Point source emissions to surface water including monitoring	L8 – L10	The Licence has condition L8 (previously L13) relating to the monitoring of surface waters and dewatering discharge points at Greater Tom Price. There will be no changes to the frequency of monitoring or monitoring locations due to the inclusion of WDL1 and WDL2 and increased capacity for Category 64. The waste dump landfills (WDL1 and WDL2) are predominately for disposal of inert wastes, with the exception of wooden packaging and broken wooden pallets which are classed as putrescible. No hazardous waste will be placed in the waste dump landfills. The nearest surface water feature to WDL1 is the B1 dewatering discharge point which is approximately 1.9 km north-east, and to WDL 2 the Hardy River located approximately 2.45 km west. Stormwater at the waste dump landfills will be managed so that water that has come into contact with the waste is retained onsite. As such, the risk of contamination to surface water bodies from the operation of these waste dump landfills is considered to be low. Condition L9 (previously L14) has been updated to remove the targets from the Licence. The removal of reference to targets is 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 Licensee will be required to still compare the surface water monitoring results to the appropriate ANZECC 2000 water quality values in the Annual Environmental Report, including a comparison against previous years monitoring data. Condition L10 (previously L15) has been amended to reference infrastructure constructed to minimise erosion and scouring impacts at the discharge point.	General provisions of the *Environmental Protection Act 1986*. DER public website at: www.der.wa.gov.au.
Emissions to land including monitoring	L2 – L4 and L18 – L26	Details of DER's assessment and decision making are included in Appendix A.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004.* DER public website at: www.der.wa.gov.au.

DECISION TABLE			
Licence section	**Condition number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Fugitive emissions	N/A	Details of DER's assessment and decision making are included in Appendix B.	General provisions of the *Environmental Protection Act 1986.* *Environmental Protection (Unauthorised Discharges) Regulations 2004.* DER public website at: www.der.wa.gov.au.
Ambient quality monitoring	N/A.	Previous condition L17 has been removed. The Licensee is required under Ministerial Statements 807 and 946 (Western Turner Syncline) to monitor and manage vegetation health at Greater Tom Price. Vegetation health can be adequately regulated by these Ministerial Statements.	Ministerial statements 807 and 946.
Improvements	L27	Details of DER's assessment and decision making are included in Appendix C.	General provisions of the *Environmental Protection Act 1986*. *Environmental Protection (Unauthorised Discharges) Regulations 2004.* *Western Turner Syncline Stage 2 Water Quality Management Plan.* *Tom Price TSF Seepage Investigation* (10 September 2015). *National Environment Protection (Assessment of Site Contamination) Measure 1999.*

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
19/03/2016	Proponent sent a copy of draft instrument (21 day amendment)	The following comments were received on 10/03/2016: • In relation to condition L9, the Licensee requested that "*appropriate ANZECC 2000 water quality trigger values*" be replaced by "ANZECC 2000 livestock drinking water quality trigger values". The text "*appropriate ANZECC 2000 water quality trigger values*" was retained to maintain consistency with other Licences held by the Licensee. • In relation to condition L27, IR2 and IR4, the Licensee believes information requests such as these do not warrant inclusion as specific Licence conditions. The Licensee states that other mechanisms exist to request information (e.g. email or letter) and that the Licensee is more than happy to provide this information following such a request. The Licensee further believes that inclusion of improvement conditions such as this does not align with recent discussions held with the DER Reform & Strategy team during recent industry consultation. Whilst the DER acknowledges the Licensees preference to receive such requests though an alternate medium (e.g. email or letter), improvement conditions are the preferred method to request further information where an activity on the Premises has the potential to cause pollution or environmental harm. This allows for the Licence to be amended and issued irrespective of receiving this information, but in doing so acknowledges present knowledge deficiencies that must be addressed by the Licensee to maintain compliance and negate potential environmental harm. Requesting information though Licence conditions is consistent with Section 62A of the EP Act, and provides DER with the regulatory power to take enforcement action(s) should the improvement requirement, or information request(s), not	The following changes were made: • The completion date for IR2 has been extended to 27 May 2016; • DER has determined to remove IR3 from the Part V operating Licence given that investigations are being undertaken under the CS Act. The Licensee will continue to provide DER with progress reports in line with the Identification, Reporting and Classification of Contaminated Sites guideline; and • The completion date for IR4 (now IR3) was extended for 3 months until Thursday, 30 June 2016.

		be met. • In relation to condition L27, IR3, the Licensee requested this item be removed given that the *Contaminated Sites Act 2003* (CS Act) is the principal legislation for the identification, recording, management and remediation of contaminated sites. The Tom Price mining area was reported under the CS Act in June 2015 and has subsequently been classified as 'possibly contaminated – investigation required'. Since receipt of the site classification the Licensee has commissioned an independent and appropriately qualified consultancy, ERM Australia to undertake an Acid and Metalliferous Drainage (AMD) Review and Integrated Hydrogeological Risk Assessment for the Tom Price Iron Ore mine site to bridge the requirements of the CS Act. The Licensee believes that inclusion of IR3 is duplication between Part V and the CS Act. The Licensee states that they will continue to provide the DER progress reports in line with the Identification, Reporting and Classification of Contaminated Sites guideline (draft, September 2015).	

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

Emissions to land including monitoring

(a) WWTPs

Greater Tom Price has four on-site packaged WWTPs:

- MOC WWTP – design capacity of 36m^3/day;
- Beneficiation plant WWTP – design capacity of 36m^3/day; and
- Mine camp WWTP1 and WWTP2 – combined design capacity of 248m^3/day.

The Mine Camp WWTPs discharge treated effluent to two irrigation fields with a combined area of 7.7 hectares (ha).

Both the MOC and Beneficiation Plant WWTPs discharge via overflow pipes.

Three concreted sludge drying beds are installed adjacent to the Mine camp WWTPs to accept the sludge discharge. The sludge drying beds have inbuilt drainage to recirculate liquid draining from the sludge back into the process. Once dried, the inert dried sludge will be disposed of at an approved landfill site.

The expected water quality performance standards for all four WWTPs are outlined in Table 2 and the nutrient loading rates for the Mine camp WWTPs in Table 3.

Table 2: WWTPs performance standards for water quality.

Parameter	Expected performance standard	Australian Guidelines*
Biochemical Oxygen Demand (mg/L)	<20	20-30
Total Suspended Solids (mg/L)	<30	25-40
Total Nitrogen (mg/L)	<30	20-50
Total Phosphorus (mg/L)	<8	6-12
Residual free Chlorine (mg/L)	0.5	N/A
pH (pH units)	6.5-8.5	6-9
E.coli (cfu/100mL)	<1000	10^5-10^6

*Australian Guidelines for Sewerage Systems – Effluent Management (Secondary Treatment).

Table 3: Mine Camp WWTPs - Expected nutrient loadings for the 7.7 ha irrigation field.

Parameter	Nitrogen	Phosphorus
Maximum Throughput	248 m^3/day	
Irrigation area	7.7 ha	
Effluent Quality	30 mg/L	8 mg/L
Nutrient Loading	**352 kg/ha/yr**	**94 kg/ha/yr**
Guideline*	**480 kg/ha/yr**	**120 kg/ha/yr**

*Water Quality Protection Note 22 – Irrigation with nutrient-rich wastewater (Department of Water 2008). These guidelines refer to Risk Category D.

Emission Description

Emission: Discharge of treated effluent to land via the irrigation sprayfields or overflow pipes.

Impact: Effluent discharged to land has the potential to result in degraded or waterlogged land, with soil or groundwater contamination arising where the effluent is either saline, turbid, nutrient enriched, and/or contaminated with metals.

Controls: With regard to the Mine Camp WWTPs, the irrigation sprayfields are fenced and signed to restrict personnel from accessing these areas. Site management is carried out as per a site Environmental Management Plan and includes regular inspections, weed management and servicing. Pooling of irrigated treated wastewater and surface runoff is unlikely due to sprayfield design (low drift fan-spray nozzles), vegetation uptake and the high evaporation rate experienced in the region. The irrigation sprayfields are located approximately 10 – 20 m above groundwater

level and there is no major drainage channels present in the irrigation sprayfields, mitigating any risk associated with high rainfall. The nearest sensitive receptor is the town of Tom Price 5 km north-east.

The MOC and Beneficiation Plant WWTPs discharge to land via separate overflow pipes.

The expected water quality performance standard for all four WWTPs is consistent with National Water Quality Management Strategy *Australian Guidelines for Sewerage Systems – Effluent Management* (Agriculture and Resource Management Council of Australia and New Zealand Australian and New Zealand Environment and Conservation Council, 1997).

Risk Assessment

The Licensee's Annual Environmental Report for the 2014 reporting period noted that there were numerous exceedances of the effluent quality targets for the MOC and Beneficiation Plant WWTPs. Monitoring results demonstrate that the target for Total Suspended Solids of 40 mg/L was exceeded on two occasions for the Beneficiation Plant WWTP (quarter 1 and 4) and once from the MOC WWTP (quarter 4). For the MOC WWTP, the Total Nitrogen target of 50 mg/L was exceeded twice (quarter 3 and 4), as was the Total Phosphorus target of 12 mg/L (quarter 3 and 4). An explanation for these exceedances was not provided in the AER or AACR.

A review of the Licence as a part of this amendment also identified that the MOC and Beneficiation Plant WWTPs *do not* discharge to the Reclaim Dam as previously advised by the Licensee. Consequently, DER requested further information on these WWTPs. The Licensee advised DER that the MOC WWTP discharges treated effluent to a confined earthen sump which is located to the immediate south of the WWTP. Effluent evaporates from the sump and is not connected to the Reclaim Dam. The Beneficiation Plant WWTP discharges treated effluent to an earthen drain which runs north-east from the plant, leading towards the Reclaim Dam approximately 2 km away. Under normal operating conditions it is unlikely that treated effluent reaches the Reclaim Dam and therefore the primary disposal method is evaporation via the drain with seepage also likely. Consequently, the Licensee has been non-compliant with condition L3, which required effluent from the MOC and Beneficiation Plant WWTPs to be discharged to the Reclaim Dam only.

Consequence: Minor
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls

The Greater Tom Price WWTPs, specifically the MOC and Beneficiation Plant WWTPs, have been assessed as posing a moderate environmental risk. Risk was determined based on the following criteria:

- Poor treatment performance (i.e. target exceedances) and a lack of information to determine whether sufficient controls were applied to improve the quality of the effluent discharged; and
- Misinformation on the environmental siting of the MOC and Beneficiation Plant WWTPs which were thought to discharge to the Reclaim dam.

Previous conditions L7 and L8 relating to effluent water quality were removed 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. However, due to the moderate risk rating, improvement condition L27 (IR4) has been included on the Licence requiring the Licensee to provide further information on the MOC and Beneficiation Plant WWTPs including as assessment of their environmental risk. Licence conditions relevant to these WWTPs will be re-assessed following an assessment of this information.

Condition L2 (previously L3) was amended to accurately reflect WWTP discharge locations on the Premises (i.e. the MOC and Beneficiation Plant WWTPs do not discharge to the Reclaim Dam).

Condition L3 (previously L5) requires the Licensee to record the monthly cumulative volume of treated wastewater being discharged from each WWTP. Previous condition L4 was removed as an operational device for measuring the cumulative volume of all treated wastewater is required to ensure compliance with re-classified condition L3.

Condition L4 (previously L6) requires the Licensee to monitor the WWTPs water quality on a quarterly basis and report these results in the Annual Environmental Report for assessment. This condition has been updated to ensure the Licensee provides an assessment and comparison against the *National Water Quality Management Strategy, Australian Guidelines for Sewerage Systems - Effluent Management*, Agriculture and Resource Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, 1997 (NWQMS 1997) and all recorded monitoring data. A definition for NWQMS 1997 has been added to the Licence.

Residual Risk
Consequence: Minor
Likelihood: Possible
Risk Rating: Moderate

(b) Waste dump landfills

Emission Description
Emission: Waste disposal to the waste dump landfills (WDL1 and WDL2).

Impact: Windblown waste and potential for contamination of surrounding environment.

Controls: The Licensee states that there will be no hazardous waste placed in the waste dump landfills and that the waste material being disposed of is not expected to generate wind-blown rubbish or leachate. The waste dump landfills will accept rubber (conveyor belts including those on low grade steel spools, screen mats and tyres), wooden packaging, broken wooden pallets, inert plastic, concrete rubble and steel products that are unable to be recycled or otherwise disposed of. Signage installed will indicate acceptable, approved waste that can be disposed of at the waste dump landfills.

WDL1 was constructed to accept waste from the B1 mining area. The nearest sensitive receptor is the B1 dewatering discharge point which is approximately 1.9 km to the north-east. The depth to the water table at this location is greater than 50 metres (m).

WDL2 was constructed in 2011 to accept waste from the Western Turner Sycline mining area. The nearest sensitive receptor to WDL 2 are the Hardy River and Tom Price town, located approximately 2.45 km west and 19 km east of WDL-2, respectively. Depth to groundwater at the landfill is greater than 65 m from the surface

No environmental monitoring occurs at WDL1 or WDL2. The Licensee considers that the risk associated with the waste types disposed at these waste dump landfills does not warrant specific monitoring. No issues have been identified at these sites to date. Some groundwater monitoring does occurs in the vicinity of the waste dump landfills (as per the Groundwater Operating Strategy associated with RiWI Act Licences GWL107418 and GWL167297), but this is to manage the potential impacts of dewatering. Potential impacts to groundwater from the operation of these waste dump landfills should be detected through this monitoring.

Stormwater will be managed at the waste dump landfills so that water that has come into contact with the waste is retained onsite.

Risk Assessment
Consequence: Insignificant
Likelihood: Rare
Risk Rating: Low

Regulatory Controls
The existing Licence has conditions relating to the management of the waste dump landfills (now L23 – L26). Condition 23 specifies the types of waste that may be accepted at a *waste dump landfill*, while conditions 24 - 26 are operational conditions ensuring appropriate covering and positioning of waste so as to minimise environmental risks. No additional conditions are required on the Licence for management of WDL1 or WDL2.

Residual Risk
Consequence: Insignificant

Likelihood: Rare
Risk Rating: Low

(c) Soil Bioremediation Facilities (Landfarm)

Emission Description
Emission: Discharges of hydrocarbon contaminated soils beyond the landfarm area into the environment.

Impact: Hydrocarbons in high concentrations can have toxic effects on aquatic organisms if allowed to enter surface waters near to the facility.

Controls: Soil bioremediation facilities are bunded to prevent the ingress and egress of stormwater during heavy rain events. In the rare event that a significant rainfall causes the release of hydrocarbon contaminated stormwater runoff beyond the landfarm area it is likely that concentrations would be very low.

Risk Assessment
Consequence: Minor
Likelihood: Rare
Risk Rating: Low

Regulatory Controls
Previous conditions L37 and L38 for the soil bioremediation facility have been removed as the risk associated with this activity has been assessed as low. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* adequately regulate the discharge of hydrocarbon contaminated materials. The general provisions of the *Environmental Protection Act 1986* with respect to the causing of pollution and environmental harm also apply. As contaminated soils are effectively separated from the environment through bunding and hardstanding, the regulation of how soils are remediated is not required. The Licensee will still be required to effectively treat contaminated soils prior to disposal or have contaminated soils removed by a licensed contractor.

Risk Assessment
Consequence: Minor
Likelihood: Rare
Risk Rating: Low

Appendix B

Fugitive Emissions

Emission Description

Emission: Fugitive dust may result from the daily operation of Greater Tom Price where sources of dust can be attributed to stockpiles, materials handling and crushing, and vehicle movements on dirt roads.

Impact: Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) can impact ambient environmental quality resulting in amenity impacts and can smother vegetation. The nearest sensitive receptor is the town of Tom Price approximately 5 km north-east providing a sufficient buffer distance to minimise impacts.

Controls: The increased capacity for Category 5 has the potential to cause further dust emissions from the Premises. However the Licensee has stipulated that no change to dust emissions will occur onsite to what has been previously assessed through the Part V approval processes.

Existing dust controls which will continue to be implemented include:

- Spraying working surfaces with water using water carts;
- Stockpile water sprays;
- Water sprays on crushing plants;
- Dust collection systems such as baghouses, coverings on conveyors / transfer points and dust filters;
- Sealing of working surfaces where practicable; and
- Rehabilitation of disturbed areas where possible.

Risk Assessment

Consequence: Insignificant
Likelihood: Possible
Risk Rating: Low

Regulatory Controls

Given the Licensee's regulatory controls, the siting of the Premises (5 km from Tom Price) and excess of water onsite (dewatering water), the risk of fugitive dust emissions was assessed as low. Consequently, previous conditions L1 and L2 were removed 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. Dust emissions can be sufficiently regulated under Section 49 of the *Environmental Protection Act 1986*.

Risk Assessment

Consequence: Insignificant
Likelihood: Possible
Risk Rating: Low

Appendix C

Improvements

Condition L27 (previously L16) was amended to remove reference to completed tasks and include three additional Improvement Requirements (IR).

IR1 - Dewatering and site-specific trigger values (SSTVs)

An improvement program was added to the Licence in May 2015 to allow the Licensee to develop and evaluate site-specific trigger values (SSTVs) for dewatering at Western Turner Syncline 2 (WTS2) B1 deposit to a local watercourse to the north of B1 and the Beasley River. The intent was to develop these SSTVs over a 12 month period, with a progress report to be provided to DER by 30 October 2015. The progress report required for this condition was provided, and hence this component of the improvement program was completed as required. The Licensee will continue their hazard analysis of the dewatering discharge for an additional 6 months.

Upon completion of the hazard analysis, as per IR1, the Licensee will provide the CEO with a revised version of the '*Western Turner Syncline Stage 2 Water Quality Management Plan'* specifying applicable SSTVs. Licence conditions will be reviewed upon receiving the updated management plant.

IR2 - Seepage issues with the tailings storage facility (TSF)

IR2 has been added to condition L27, Table 3, in relation to the Greater Tom Price TSF. On 15 July 2015 the Licensee notified DER of seepage linked to the TSF. Water associated with this seepage had extended beyond the Premises for L4762/1972/14. On 10 September the Licensee provided DER with an investigation report compiled by Bruce Brown (Rio Tinto) tilted '*Tom Price TSF Seepage Investigation'* (10 September 2015) which identified that the seepage was due to the supernatant pond being in contact with natural ground.

DER requires further information relating to the potential environmental risk of this seepage to ensure appropriate actions are being undertaken to rectify this issue. Consequently, IR2 has been included on the Licence requiring a future report on the Greater Tom Price TSF seepage. The report will evaluate the seepage extent, water quality parameters and potential environmental risks of identified concentrations and extent, including proposed corrective measures and timeframes. The report should reference the '*Tom Price TSF Seepage Investigation'* report and corrective actions undertaken in line with the recommendation(s) of that report.

The report is required to be submitted to the CEO of DER by Friday, 27 May 2016.

IR3 – MOC and Beneficiation Plant WWTPs

As discussed in Appendix B, a review of the Licence has identified that the MOC and Beneficiation Plant WWTPs do not discharge to the Reclaim Dam as specified by condition L3.

These WWTPs have been assessed as posing a moderate environmental risk due to:

- poor treatment performance (i.e. target exceedances) and a lack of information to determine whether sufficient controls were applied to improve the quality of the effluent discharged; and
- misinformation on the discharge point environmental siting and therefore the discharge locations have not been assessed and are not correctly represented in the Licence.

Consequently, IR4 has been included in condition L27 requiring the Licensee to submit a report on the MOC and Beneficiation Plant WWTPs including information on, but not limited to, the following:

- a review of treatment performance against the manufacturers specifications and appropriate guidelines (e.g. NWQMS 1997);
- a review of nutrient loading rates to the discharge points depicted in Attachment 4;
- a risk analysis of the discharge locations (e.g. soil type and permeability, vegetation type, depth to groundwater and neighbouring sensitive receptors); and
- a statement of environmental risk of current operations and, where found to be unacceptable, actions proposed to mitigate environmental risk (with set timeframes).