



# Licence

## *Environmental Protection Act 1986, Part V*

**Licensee:** IB Operations Pty Ltd

**Licence:** L8845/2014/1

**Registered office:** Level 2  
Hyatt Centre  
87 Adelaide Terrace  
EAST PERTH WA 6004

**ACN:** 165 513 557

**Premises address:** North Star Project  
Mining Tenements M45/1226, L45/293, L45/294, L45/359, L45/360,  
L45/361, L45/364 and L45/367  
MARBLE BAR WA 6760  
As depicted in Schedule 1

**Issue date:** Thursday, 4 June 2015

**Commencement date:** Monday, 8 June 2015

**Expiry date:** Saturday, 7 June 2036

**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	50,000 tonnes or more per year	50,000 tonnes per annual period
52	Electric power generation	≥ 20 MWe in aggregate (using natural gas) or ≥ 10 MWe in aggregate (using a fuel other than natural gas)	14 MWe per annual period
54	Sewage facility	100 cubic metres or more per day	160 cubic metres per day

**Conditions**

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

Date signed: 2 June 2016

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



## Contents

Introduction	2
Licence conditions	5
1 General	5
2 Emissions	8
3 Monitoring	9
4 Information	11
Schedule 1: Maps	13
Schedule 2: Reporting & notification forms	20

## 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**

IB Operations Pty Ltd (IBO) operate the North Star Project, located approximately 110 kilometres (km) south of Port Hedland in the Pilbara region of Western Australia. IBO is a joint venture between FMG Iron Bridge (Aust) Pty Ltd and Formosa Steel IB Pty Ltd and is currently developing the North Star Project, which will mine approximately 22 million tonnes per annum (Mtpa) of waste and ore to produce approximately 2 Mtpa of product, to be trucked to Port Hedland for export. The North Star Project has been assessed as a prescribed premise as it meets the requirements of categories 5 and 52 under Schedule 1 of the *Environmental Protection Regulations 1987*.

Category 5 – The North Star ore processing facility (OPF) crushes, screens and processes magnetite ore by dry and wet magnetic separation. The OPF produces a wet tailings waste stream, which is stored in the tailings storage facility (TSF) and a dry tailings (dry rejects) waste stream, which is stored in the Dry Rejects Landform (DRL). Magnetite slurry is conveyed from the OPF to the concentrate handling facility (CHF) and processed through a belt filtration plant to remove excess water. The magnetite concentrate product is then discharged from a conveyor to an open conical stockpile from where it is stored for transport to Port Hedland.

Category 52 – The North Star Project power station comprises 6 x 1 megawatt (MW) diesel generators and 5 x 1.6 MW diesel generators (total 14 MW), contained with sea containers. Fuel is stored in 4 x 150 kL fuel tanks and waste oil is stored in a 20 foot sea container.

Category 54 – The North Star Wastewater Treatment Plant (WWTP) has a treatment capacity of up to 160 m<sup>3</sup> per day and has been constructed to treat wastewater produced by the kitchen, laundry and bathroom facilities associated with the 440 person capacity North Star accommodation camp. The WWTP comprises two membrane bioreactor (MBR) treatment trains and treated effluent is discharged to a designated 4 hectare (ha) irrigation area.

The significant emissions associated with the operation of the North Star Project are:

- Deposition of wet tailings to the TSF;
- Air emissions from the diesel powered power station; and
- Discharge of treated wastewater to land.

The significant risks associated with the North Star Project are:

- Potential impacts to groundwater quality and levels due to seepage from the TSF;
- Deterioration of local air quality due to air emissions from the power station;
- Potential impacts to surface water from the discharge of potentially contaminated and/or sediment laden stormwater to creek lines; and
- Potential impacts to groundwater and surface water quality from discharge of treated wastewater from the WWTP.

This Licence is the result of an amendment sought by the Licensee to include category 54 and increase the approved production capacity of category 52 from 13 MW to 14 MW.



The North Star WWTP previously operated under Licence L8825/2014/1, issued 4 September 2014. IBO sought this amendment as it is their preference to have one premise licence to capture the prescribed activities at the North Star Project. Therefore, operating Licence L8825/2014/1 has been surrendered, and Licence L8845/2014/1 amended to include the operation of the WWTP.

The category 5 approved production capacity is also being reduced from 10,000,000 tonnes per annum to no more than 50,000 tonnes per annum, to reflect the site is entering care and maintenance.

The licences and works approvals issued for the Premises since 16/04/2014 are:

Instrument log		
Instrument	Issued	Description
W5607/2014/1	16/04/2014	New works approval application for construction of the North Star Ore Processing Facility
W5623/2014/1	28/07/2014	New works approval application for construction of a category 52 power station (20MWe)
W5607/2014/1	30/10/2014	Amendment to change components of the ore processing circuit and include a tailings storage facility
W5607/2014/1	21/05/2015	Amendment to extend commissioning period
L8845/2014/1	04/06/2015	New licence application for operation of a category 52 power station (13MWe)
W5607/2014/1	6/08/2015	Amendment to extend commissioning period
L8845/2014/1	07/01/2016	Amendment to include category 5
L8845/2014/1	02/06/2016	Amendment to include category 54, decrease category 5 approved production capacity, increase category 52 approved production capacity and include conditions for care and maintenance

### 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*;

**'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 5667.6'** means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams*;

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

**'AS/NZS 5667.11'** means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*;

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

**'CEO'** means 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;

**'controlled waste'** has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

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

**'HDPE'** means high density polyethylene;

**'Licence'** means this Licence numbered L8845/2014/1 and issued under the Act;

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

**'mbgl'** means metres below ground level;

**'mg/L'** means milligrams per litre;

**'µS/cm'** means microSiemens per centimetre;

**'MWe'** means power output (electricity generated) in megawatts;



**'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;

**'NTU'** means Nephelometric Turbidity Units;

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

**'process equipment'** means any wastewater or sludge containment infrastructure or wastewater treatment vessel;

**'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;

**'usual working day'** means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

**'WWTP'** means wastewater treatment plant.

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 current version of the 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.

## 1.2 General conditions

1.2.1 The Licensee shall ensure that all pipelines or sections of pipelines containing tailings materials are either:

- (a) equipped with telemetry; or
- (b) equipped with automatic cut-outs in the event of a pipe failure; or
- (c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

1.2.2 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds listed in Table 1.2.1 and identified on the map of containment infrastructure in Schedule 1 in accordance with the requirements specified within Table 1.2.1.

**Table 1.2.1: Containment infrastructure**

Storage vessel or compound	Material	Requirements
Process water dam	Process water from the Concentrate and Tailings Thickener Tanks	Minimum freeboard of 300 mm; HDPE lined to achieve a permeability of at least $<10^{-9}$ metres per second
Tailings storage facility	Tailings	Maintain a minimum freeboard of 1000 mm
Return water holding tank	Water produced from the dewatering of magnetite slurry	Maintain a minimum freeboard of 300 mm





1.2.3 The Licensee shall:

- (a) undertake inspections as detailed in Table 1.2.2;
- (b) 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
- (c) maintain a record of all inspections undertaken.

**Table 1.2.2: Inspection of infrastructure**

Scope of inspection	Type of inspection	Frequency of inspection
Tailings delivery pipelines	Visual integrity	Daily whilst operational
Tailings storage facility return water pipelines	Visual integrity	Daily whilst operational
Tailings storage facility embankment freeboard	Visual to confirm required freeboard capacity is available	Daily

1.2.4 The Licensee shall ensure the limits specified in Table 1.2.4 are not exceeded.

**Table 1.2.4 Production or design capacity limits**

Category <sup>1</sup>	Category description <sup>1</sup>	Premises production or design capacity limit
5	Processing or beneficiation of metallic or non-metallic ore	50,000 tonnes of ore per annual period
52	Electric power generation	14 MWe per annual period

Note 1: *Environmental Protection Regulations 1987*, Schedule 1.

**1.3 Premises operation**

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:

- (a) it is of a type listed in Table 1.3.1; and
- (b) the quantity accepted is below any limit listed in Table 1.3.1; and
- (c) it meets any specification listed in Table 1.3.1.

**Table 1.3.1: Waste acceptance**

Waste	Quantity Limit	Specification <sup>1</sup>
Sewage	160 m <sup>3</sup> /day	Accepted through sewer inflow(s) only

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

1.3.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the processes set out in Table 1.3.2 and in accordance with any process requirements described in that table.

**Table 1.3.2: Waste processing**

Waste type	Process	Process requirements
Sewage	Physical, biological and chemical treatment	Treatment of sewage waste shall be at or below the treatment capacity of 160m <sup>3</sup> /day

1.3.4 The Licensee shall manage the irrigation of treated wastewater such that:

- (a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the defined irrigation area);



- (b) treated wastewater is evenly distributed over the irrigation area;
- (c) no soil erosion occurs;
- (d) irrigation does not occur on land that is waterlogged; and
- (e) vegetation cover is maintained over the irrigation area.

- 1.3.5 The Licensee shall manage the wastewater treatment vessels such that:
- (a) overtopping of the vessels does not occur;
  - (b) stormwater runoff is prevented from entering the vessels; and
  - (c) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the vessels.
- 1.3.6 The Licensee shall:
- (a) implement security measures at the site to prevent as far as is practical unauthorised access to the site; and
  - (b) undertake regular inspections of all security measures and repair damage as soon as practicable.

## 2 Emissions

### 2.1 Point source emissions to air

- 2.1.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.1.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

**Table 2.1.1: Emission points to air**

Emission point reference and location on Map of emission points	Emission Point	Emission point height (m)	Source, including any abatement
A1	Diesel Generator 1	5m	1.6MW diesel generator
A2	Diesel Generator 2	5m	1.6MW diesel generator
A3	Diesel Generator 3	5m	1.6MW diesel generator
A4	Diesel Generator 4	5m	1.6MW diesel generator
A5	Diesel Generator 5	5m	1.6MW diesel generator
A6	Diesel Generator 6	5m	1MW diesel generator
A7	Diesel Generator 7	5m	1MW diesel generator
A8	Diesel Generator 8	5m	1MW diesel generator
A9	Diesel Generator 9	5m	1MW diesel generator
A10	Diesel Generator 10	5m	1MW diesel generator
A11	Diesel Generator 11	5m	1MW diesel generator

### 2.2 Emissions to land

- 2.2.1 The Licensee shall ensure that where waste is emitted to land 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 land**

Emission point reference	Emission point reference on Map of emission points	Description	Source including abatement
L1	Irrigation area	Discharge from final tank to irrigation area	Treated wastewater pumped from final storage tank





## 3 Monitoring

### 3.1 General monitoring

3.1.1 The Licensee shall ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all surface water sampling is conducted in accordance with AS/NZS 5667.6;
- (c) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
- (d) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
- (e) 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) six monthly monitoring is undertaken at least 5 months 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 emissions to land

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 emissions to land					
Emission point reference	Monitoring point reference	Parameter	Units	Averaging Period	Frequency
L1	Flow meter to irrigation area	Volumetric flow rate (cumulative)	m <sup>3</sup> /day	Monthly	Continuous
	Outfall pipe to irrigation area	pH <sup>1</sup>	pH units	Spot Sample	Monthly
		Biochemical Oxygen Demand	mg/L		
		Total Suspended Solids			
		Total Dissolved Solids			
		Total Nitrogen			
		Total Phosphorus			
		<i>E.coli</i>	cfu/100 mL		
		Load of Total Nitrogen	kg/ha/day	Annually	Annually
		Load of Total Phosphorus	kg/ha/day	Annually	Annually

Note 1: In-field non-NATA accredited analysis permitted.



### 3.3 Ambient environmental quality monitoring

3.3.1 The Licensee shall undertake the monitoring in Tables 3.3.1 and 3.3.2 according to the specifications in those tables and record the results.

Table 3.3.1: Monitoring of ambient surface water quality				
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
NS_ST_SW_S01 NS_ST_SW_S02 NS_ST_SW_S03	pH <sup>1</sup>	-	Spot sample	Monthly when flowing
	Electrical conductivity <sup>1</sup>	µS/cm		
	Temperature <sup>1</sup>	°C		
	Turbidity <sup>1</sup>	NTU		
	Total Dissolved Solids	mg/L		
	Total Nitrogen			
	Total Phosphorus			
	Sulfate			
	Aluminium			
	Iron			
	Manganese			

Note 1: In-field non-NATA accredited analysis permitted.

Table 3.3.2: Monitoring of ambient groundwater quality				
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
NS-0624 NS-0663	Standing water level	mbgl	Spot sample	Monthly
	pH <sup>1</sup>	-		
	Electrical conductivity	µS/cm	Spot sample	Six monthly
	Total Dissolved Solids	mg/L		
	Aluminium			
	Arsenic			
	Beryllium			
	Boron			
	Cadmium			
	Chromium			
	Cobalt			
	Copper			
	Fluoride			
	Iron			
	Lead			
	Manganese			
	Mercury			
	Molybdenum			
	Nickel			
	Selenium			
	Uranium			
	Vanadium			
	Zinc			

Note 1: In-field non-NATA accredited analysis permitted.



## 4 Information

### 4.1 Records

- 4.1.1 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 4.1.1(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.
- 4.1.2 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.
- 4.1.3 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.

### 4.2 Reporting

- 4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 31 March each year. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form <sup>1</sup>
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
Table 1.2.4	Limit exceedances	N1
Table 1.3.1	Summary of any treatment capacity limit exceedances and any action taken	None specified
Table 3.2.1	Emissions to land monitoring results and an assessment of results against previous monitoring results and licence limits	None specified
Table 3.3.1	Surface water monitoring results and a comparison of results against the trigger values specified in the document 'Surface Water Monitoring Guidelines' (FMG, December 2014, 100-GU-EN-0037).  Details of investigations conducted, including outcomes, environmental impacts and remedial actions, in relation to trigger exceedances.	None specified
Table 3.3.2	Groundwater monitoring results and a comparison of results against the trigger values specified in the document 'North Star Groundwater Operating Strategy' (FMG, 20 February 2015, 661MI-0000-PL-HY-0001).	None specified



	Details of investigations conducted, including outcomes, environmental impacts and remedial actions, in relation to trigger exceedances.	
4.1.2	Compliance	Annual Audit Compliance Report (AACR)
4.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

- 4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains information to demonstrate conformance with the manufacturer's environmental emission specifications, including, but not limited to, any emissions testing results and a description of generator servicing regime(s).

#### 4.3 Notification

- 4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement <sup>1</sup>	Format or form <sup>2</sup>
-	Recommencing normal operations after a period of care and maintenance	At least 60 days prior to recommencing production	None specified
3.1.4	Calibration report	As soon as practicable.	None specified

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

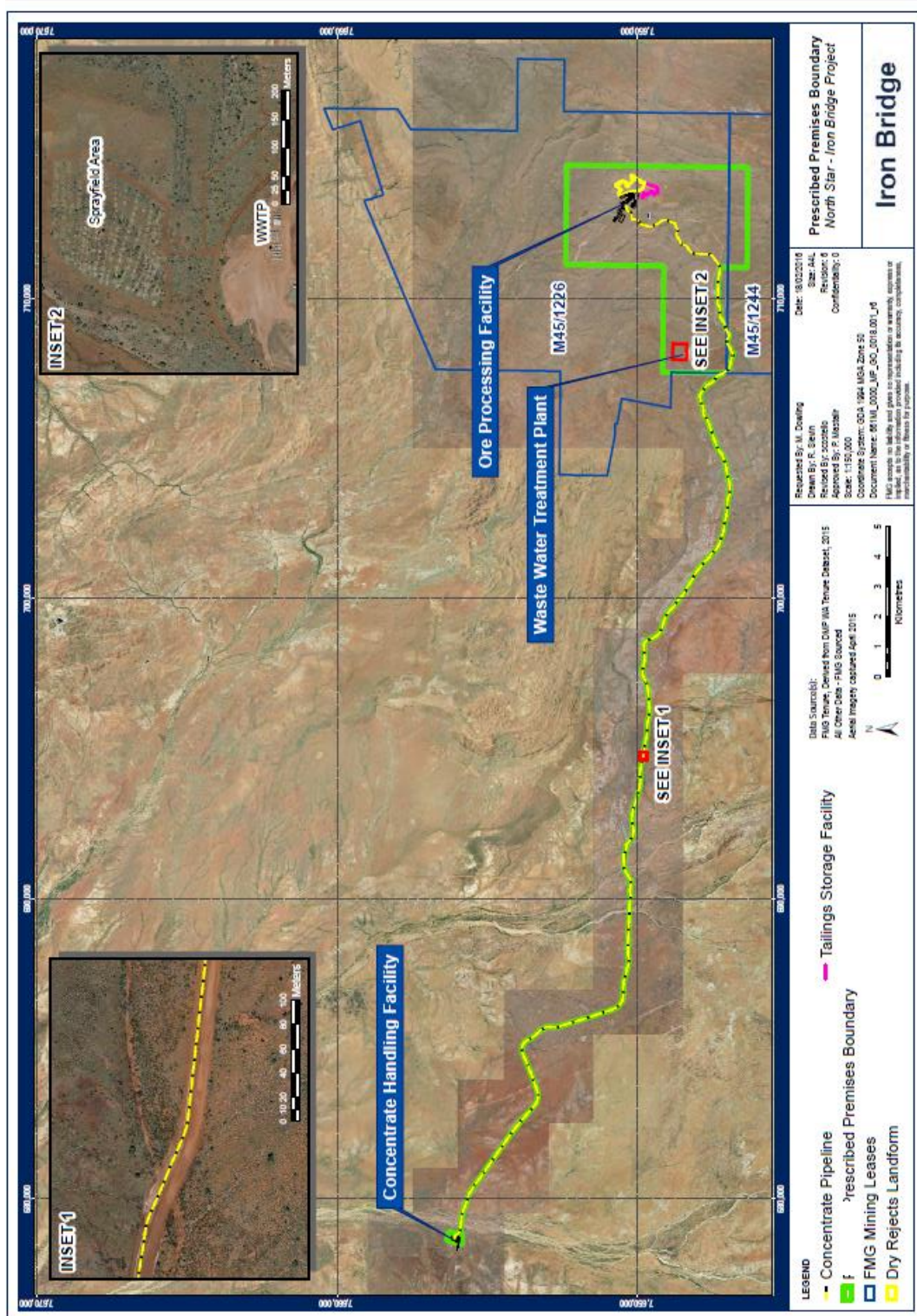




## Schedule 1: Maps

### Premises map

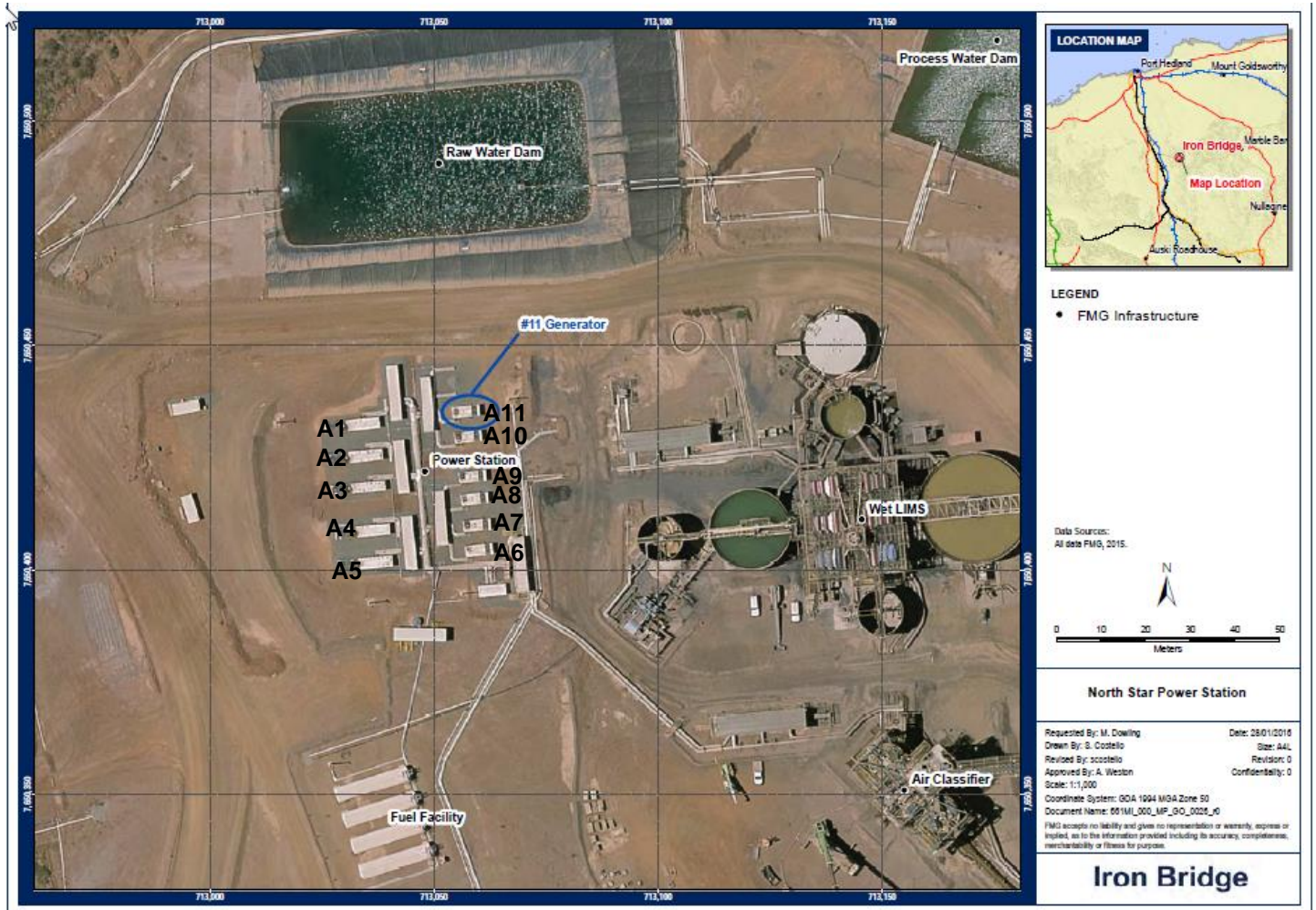
The Premises is shown in the map below. The green line depicts the Premises boundary.





## Map of emission points

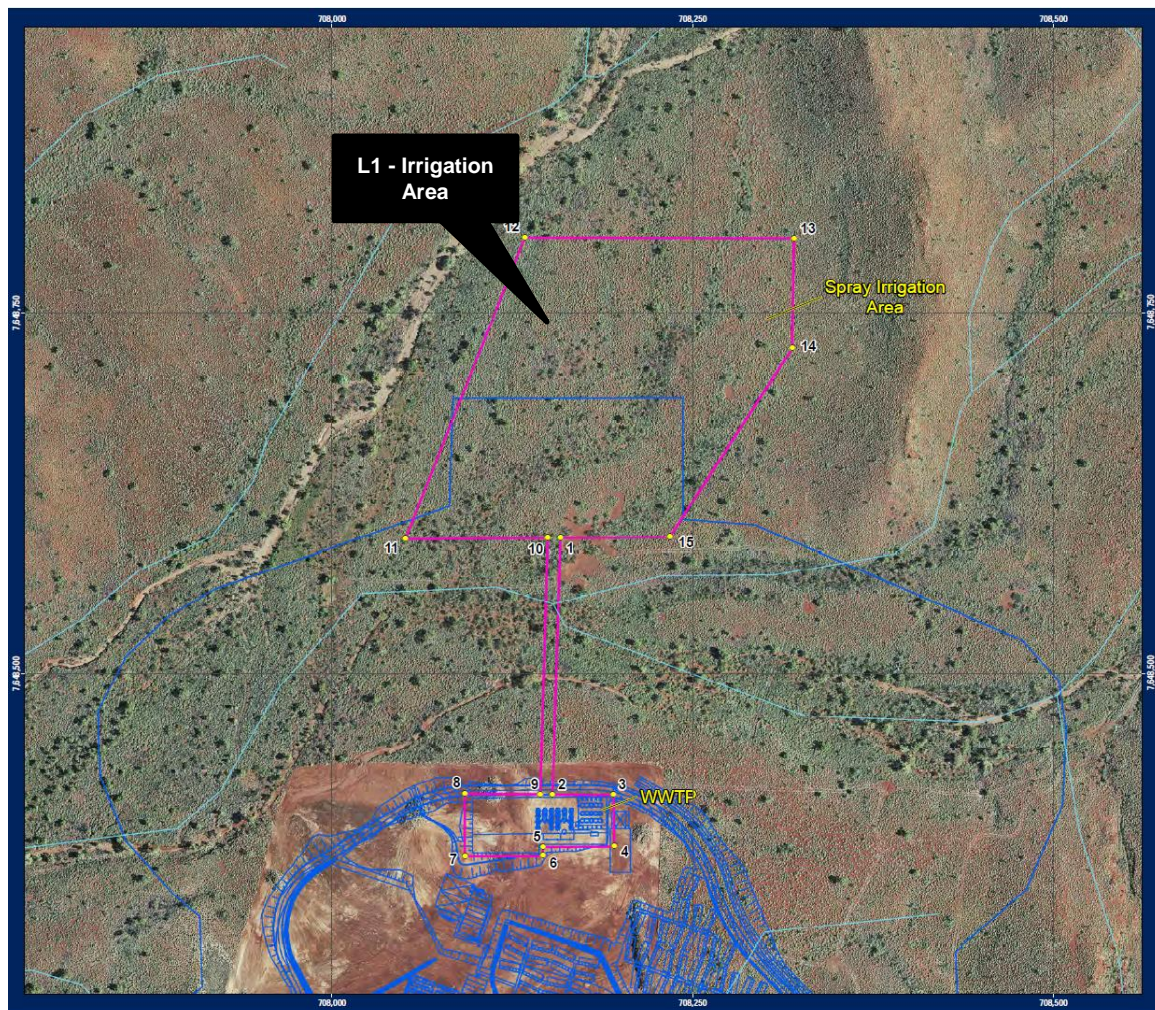
The locations of the emission points defined in Table 2.1.1 are shown below.







The locations of the emission point defined in Table 2.2.2 is shown below.







## Map of monitoring points and containment infrastructure

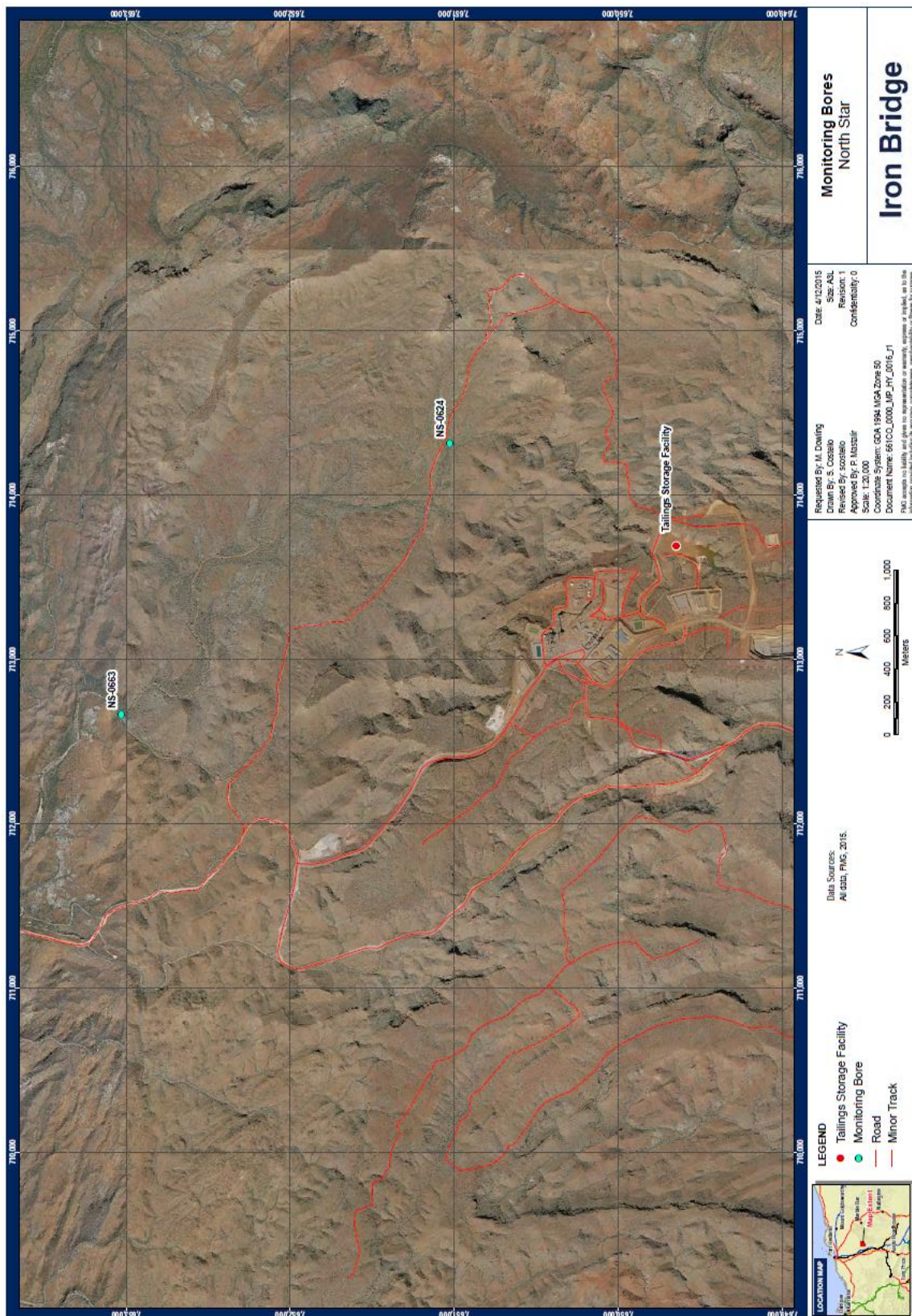
The locations of the monitoring points defined in Table 3.3.1 are shown in the Figure below.







The location of the monitoring point defined in Tables 3.3.2 is shown below.



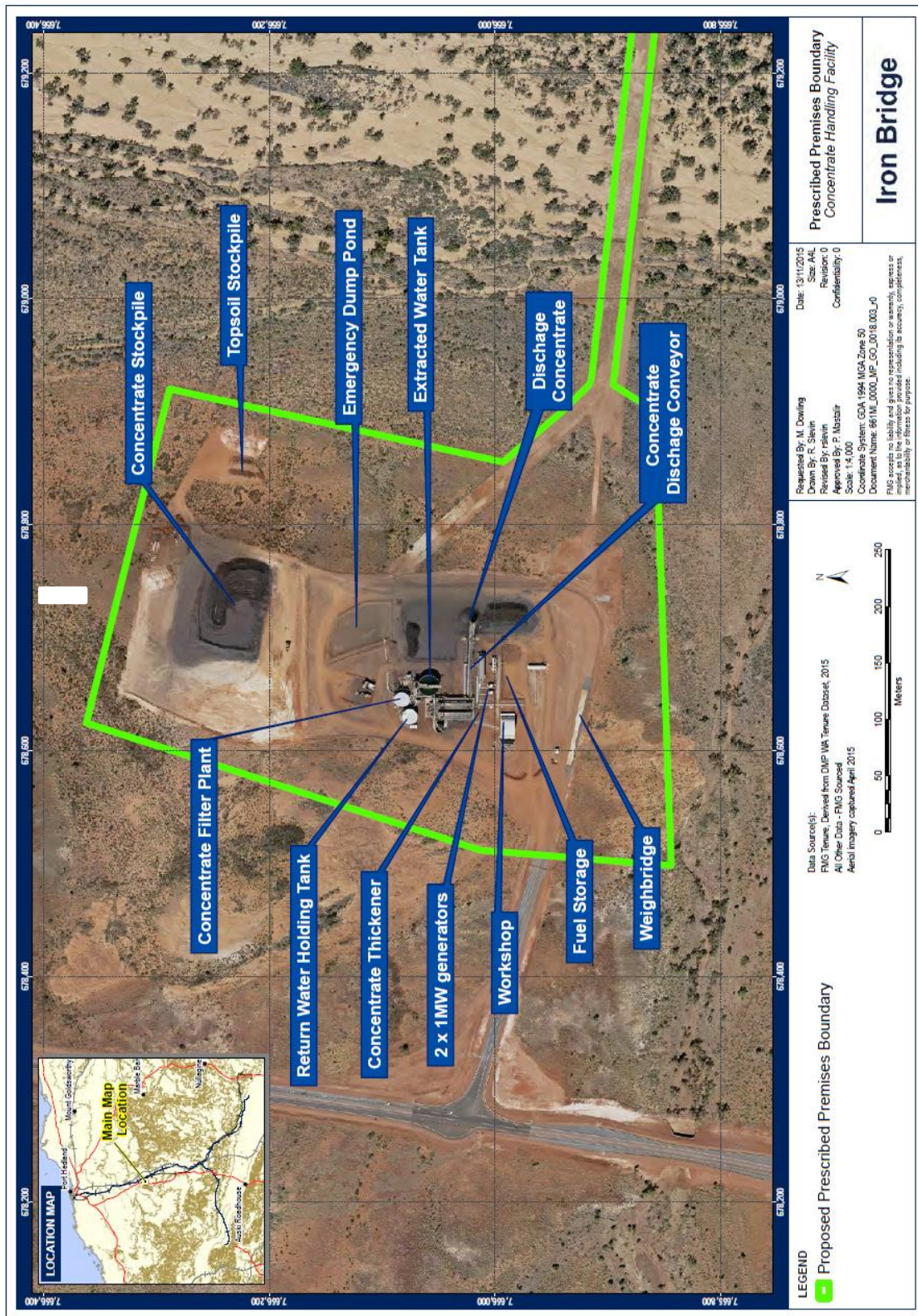




The location of the containment infrastructure defined in Table 1.2.1 are shown in the figures below.









## 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

1. 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: \_\_\_\_\_

NAME:  
(printed) \_\_\_\_\_

POSITION: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_

SEAL (if signing under seal)

SIGNATURE: \_\_\_\_\_

NAME:  
(printed) \_\_\_\_\_

POSITION: \_\_\_\_\_

DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_



Licence: L8845/2014/1  
Form: N1

Licensee: IB Operations Pty Ltd  
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 IB Operations Pty Ltd	
Date	



# Decision Document

## *Environmental Protection Act 1986, Part V*

---

**Proponent:**      **IB Operations Pty Ltd**

**Licence:**        **L8845/2014/1**

---

**Registered office:**      Level 2  
Hyatt Centre  
87 Adelaide Terrace  
EAST PERTH WA 6004

**ACN:**                165 513 557

**Premises address:**      North Star Project  
Mining Tenements M45/1226, L45/293, L45/294, L45/359, L45/360,  
L45/361, L45/364 and L45/367  
MARBLE BAR WA 6760

**Issue date:**            Thursday, 4 June 2015

**Commencement date:**   Monday, 8 June 2015

**Expiry date:**           Saturday, 7 June 2036

### **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 and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by:                      Haley Brunel  
Licensing Officer

Decision Document authorised by:                    Alana Kidd  
Manager Licensing (Resource Industries)



## Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	2
3 Executive summary of proposal and assessment	3
4 Decision table	5
5 Advertisement and consultation table	8
6 Risk Assessment	9
Appendix A	10

## 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 type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	5	50,000 tonnes per annual period
	52	14 MWe per annual period
	54	160 cubic metres per day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	N/A	
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"/>		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

### 3 Executive summary of proposal and assessment

IB Operations Pty Ltd (IBO) operate the North Star Project, located approximately 110 kilometres (km) south of Port Hedland in the Pilbara region of Western Australia. IBO is a joint venture between FMG Iron Bridge (Aust) Pty Ltd and Formosa Steel IB Pty Ltd and is currently developing the North Star Project, which will mine approximately 22 million tonnes per annum (Mtpa) of waste and ore to produce approximately 2 Mtpa of product, to be trucked to Port Hedland for export.

The North Star Project has been assessed as a prescribed premise as it meets the requirements of categories 5, 52 and 54 under Schedule 1 of the *Environmental Protection Regulations 1987*.

This Licence is the result of an amendment sought by the Licensee to include Category 54 and increase the approved production capacity of the power station from 13 MW to 14 MW. The category 5 throughput has also been reduced to no more than 50,000 tonnes per annual period to reflect the site entering care and maintenance.

IBO have been operating the North Star Wastewater Treatment Plant (WWTP) under Licence L8825/2014/1, issued 4 September 2014. It is the company's preference to have one premises to capture the prescribed activities at the North Star Project, therefore Licence L8825/2014/1 has been surrendered and Licence L8845/2014/1 amended to include the category 54 WWTP.

#### WWTP

To support the construction of the Project, a camp has been established to accommodate the construction workforce of up to 440 persons. A WWTP with the capacity to treat up to 160 m<sup>3</sup>/day has been constructed to treat wastewater produced by the kitchen, laundry and bathroom facilities associated with the camp.

The WWTP comprises of two membrane bioreactor (MBR) treatment trains each designed to treat 80 m<sup>3</sup>/day of wastewater. Raw wastewater is collected and transferred to the WWTP via a sewer system and a set of sewer boxes and transfer tanks. Raw wastewater collected from the kitchen is passed through a grease trap prior to being transferred to the WWTP.

Five balance tanks have been installed, each with a 22.5 m<sup>3</sup> capacity. The balance tanks provide storage of raw wastewater and are designed to hold the peak flow influent whilst delivering a steady flow to the sewerage system. Solids settle in the conical shaped bases of the balance tanks. The wastewater is then pumped to the anoxic tanks in which bacteria consume nutrients and reduce biochemical oxygen demand (BOD) in the wastewater.

The wastewater is then piped to the aeration tanks via gravity flow. Phosphorus removal, ammonium oxidation and carbonaceous removal takes place within this treatment stage. The tanks are equipped





with an aeration system to provide biological process with the required oxygen to keep the bio media in suspension.

Each treatment train includes two MBR systems, which consist of microclean filters with a pore size of 0.04 µm to ensure removal all particles and bacteria. Effluent is then transferred into the final holding tanks, which have two days storage capacity. The final tanks have a circulation pump and control measurement devices installed to ensure accurate chemical distribution, mixing and accurate measurement of control parameters.

A 50% hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) solution is used to clean the MBR every one to two months. Waste solution for the MBR cleaning process is sent to the sludge tanks. Surplus sludge from the aeration tanks is manually pumped out of the aeration tanks to the sludge stabilisation tanks, where it is periodically removed from site by a licence contractor for disposal to a licence facility.

The WWTP treats wastewater to meet Australian Guidelines for Sewerage Systems. The treated effluent is discharged to a designated, 4 hectare (ha) irrigation area. The irrigation area contains native vegetation and is fenced and appropriately signed to restrict access.



## 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			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	Table 1.2.4	The category 5 premises production limit specified in Table 1.2.4 has been reduced from 10,000,000 tonnes per annual period to 50,000 tonnes per annual period, reflecting the site is in care and maintenance.	N/A
Premises operation	L1.3.1-L1.3.6	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Chemical spill, runoff of irrigated treated wastewater outside of the designated irrigation area, stormwater contaminated with effluent or an effluent spill.</p> <p><i>Impact:</i> Contamination of surrounding land, surface water drainage systems.</p> <p><i>Controls:</i> Liquid chlorine is stored within a lined and bunded storage area adjacent to the WWTP. Surface water is diverted around the WWTP using diversion bunding.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>  Conditions relating to the storage of chemicals have not been included on the Licence as it is the Licensee's responsibility to ensure they comply with relevant legislative requirements for the storage and handling of</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Chemical and Hydrocarbon Management Plan (45-PL-EN-0011)</i></p> <p><i>Chemical and Hydrocarbon Spills Procedure (45-PR-EN-0014)</i></p> <p><i>Chemical and Hydrocarbon Storage Procedure (45-PR-EN-015)</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>environmentally hazardous materials. The general provisions of the <i>Environmental Protection Act 1986</i> with respect to the causing of pollution and environmental harm will apply, as will subsidiary legislation including the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>. The Licensee also has in place procedures relating to the storage and management of chemicals and hydrocarbons.</p> <p>Conditions 1.3.1-1.3.3 have been included in the Licence to ensure the waste accepted and processed at the WWTP is consistent with those assessed for the site.</p> <p>Conditions 1.3.4-1.3.6 have been included in the Licence requiring appropriate management of the WWTP and the irrigation area.</p> <p><u>Residual Risk</u> <i>Consequence</i>: Minor <i>Likelihood</i>: Rare <i>Risk Rating</i>: Low</p>	
Point source emissions to air including monitoring	L2.1.1	<p>Condition 2.1.1 specifies the emission points to air associated with the North Star Power Station. The North Star Power Station was assessed under Works Approval W5623/2014/1, issued 28 July 2014.</p> <p>Condition 2.1.1 has been updated to include the emission point 'A11', being the additional diesel generator relocated from the Concentrate Handling Facility to the power station location. The approved production capacity on the Licence has been increased from 13 MW to 14 MW, which is still within the 20 MW production capacity approved under Works Approval W5623/2014/1.</p> <p>DER's assessment of the point source air emissions associated with the operation of the power station are detailed in the Decision Document for</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p>Works Approval W5623/2014/1</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		L8845/2014/1, issued 4 June 2015. The risk of emissions to air has not been reassessed at the time of this amendment.	
Emissions to land including monitoring	L2.2.1 and L3.2.1	DER's assessment and decision making with respect to emissions to land and monitoring of such emission are provided in Appendix A.	General provision of the <i>Environmental Protection Act 1986</i>  <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>
Monitoring general	L3.1.1	Condition 3.1.1 has been updated to ensure that waste water from the WWTP is sampled in accordance with the relevant Australian Standard.	Australian Standard AS/NZS 5667.10 – Water Quality – Sampling – Guidance on the sampling of waste waters
Information	L4.2.1	Condition 4.2.1 has been updated to include the requirement to report treatment capacity limit exceedances and emission to land monitoring results in the Annual Environmental Report.  Table 4.3.1 has been updated and now also requires the Licensee to notify DER at least 60 days prior to normal operations recommencing after a period of care and maintenance.	N/A
Licence Duration	N/A	In accordance with the Guidance Statement <i>Licence Duration</i> the expiry date of the Licence has been extended for 20 years.	Guidance Statement <i>Licence Duration</i> (DER, November 2014)



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
07/04/2016 and 05/05/2016	Proponent sent a copy of draft instrument	No comments received	N/A



## 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

The WWTP has the capacity to treat up to 160 m<sup>3</sup>/day with the treated effluent discharged to a designated irrigation area. The WWTP is designed to treat wastewater to meet the low exposure risk level detailed in the Department of Health's "Guidelines for the non-potable uses of recycled water in Western Australia", 2011. Table 1 presents the quality of the wastewater being discharged to the irrigation area. Monthly monitoring is undertaken during operation of the facility.

**Table 1. Expected performance standards and monitoring requirements**

Parameter	Water quality
pH	6.5-8.5
Total Nitrogen	30 mg/L
Total Phosphorus	8 mg/L
Total Suspended Solids	<30 mg/L
Biochemical oxygen demand	<20 mg/L
<i>E.coli</i>	<1000 cfu/100 mL
Total Residual Chlorine	0.2-2.0 mg/L

The irrigation area contains native vegetation and is fenced and appropriately signed to restrict access. Soils in the irrigation area are predominantly red and shallow with stony mantles and are moderate to high permeable due to the relatively high amount of rock in the profile.

#### Emission description

*Emission:* Treated effluent to irrigation area and spills from the WWTP.

*Impact:* Contamination of surface water and groundwater, ecosystem disruption.

*Controls:* Monthly monitoring of the treated wastewater prior to being discharged to the irrigation area. Audits and inspections of the WWTP are conducted in accordance with the Department of Health requirements. The inspection and servicing regime includes:

- Daily and weekly inspections and reporting in the log sheet;
- Initiating repairs as and when required; and
- Testing and reporting of treated effluent quality and volumes.

High level alarm systems have been installed in the balance and irrigation tanks. The alarm system incorporates warning beacons, audible alarms as well as visual alarms on the control board. The final tanks have the capacity to store up to two days of effluent, in the event that irrigation cannot occur.

#### Risk Assessment

*Consequence:* Insignificant

*Likelihood:* Unlikely

*Risk rating:* Low

#### Regulatory Controls

Condition 2.2.1 has been included in the Licence to ensure that discharge only occurs to the designated irrigation area. Condition 3.2.1 has also been included on the Licence and requires monthly monitoring of wastewater during operation of the WWTP. Monitoring results will be reported in the Annual Environmental Report, submitted annually to DER for assessment.

#### Residual Risk

*Consequence:* Insignificant

*Likelihood:* Unlikely

*Risk rating:* Low