Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: BC Iron Nullagine Pty Ltd

Licence: L8544/2011/1

Registered office: 1/15 Rheola Street
WEST PERTH WA 6005

ACN: 137 224 849

Premises address: Nullagine Iron Ore Project
Mining Lease M46/515, M46/522 and M46/523
NULLAGINE WA 6758
as depicted in Schedule 1

Issue date: Thursday, 7 July 2011

Commencement date: Monday, 11 July 2011

Expiry date: Monday, 30 June 2031

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 no-metallic ore	50,000 tonnes or more per year	6,000,000 tonnes per annual period
89	Putrescible landfill site	More than 20 but less than 5,000 tonnes per year	500 tonnes per annual period

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

Date signed: 9 June 2016
.....
Alana Kidd
Manager Licensing – Resource Industries
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

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
BC Iron Nullagine Pty Ltd (the Licensee) has developed an iron ore mining and processing facility on the Bonny Plains pastoral lease, approximately 10 kilometres (km) south-west of the town of Nullagine in the Pilbara region of Western Australia. Bonny Downs Station is approximately 17 km south of the premises. The Nullagine Iron Ore Project (the Project) is a 75% joint venture with Fortescues Metals Group Limited (FMG) and utilises FMG's infrastructure at Christmas Creek.

The Licensee operates two crushing and screening plants and a putrescible landfill on the premises. The crushing and screening plants have a combined design capacity of 6 million tonnes per annum (Mtpa), while the putrescible landfill has a design capacity of 500 tpa.

Other components of the Project include:
- waste water treatment plant (3.6 cubic metres (m) per day capacity);
- bioremediation land farm, lined with 2 mm High Density Polyethylene (HDPE) ;
- reverse osmosis plant (< 5000 Litres (L) per day);
- vehicle washdown bay including oily water separator;
- turkey's nest (Approximately 1,000,000 L);
- 13 generators with a total capacity of 3.4 megawatts; and
- three workshops.

This Licence is the result of an amendment sought by the Licensee to correct category 12 to category 5, extend the premises boundary with the addition of Mining Tenements M46/522 and M46/523, and to provide for the relocation of the crushing and screening plant within the premises boundary. The Licence is also updated to the licence format version 2.9.

The licences and works approvals issued for the Premises since 14/02/2011 are:

Instrument log		
Instrument	**Issued**	**Description**
W4823/2010/1	14/02/2011	Works approval for crushing and screening facility (category 12)
L8544/2011/1	11/07/2011	Licence for category 12
W5074/2011/1	9/01/2012	Works approval for Class II landfill (category 89)
W5154/2012/1	18/06/2012	Works approval for upgrade to the crushing and screening facility
L8544/2011/1	12/07/2012	Licence amendment to include category 89
L8544/2011/1	24/09/2012	Licence amendment to increase the capacity of category 12
W5522/2013/1	18/11/2013	Works approval for a crushing and screening plant for a 3 month low grade beneficiation crushing trial
W5869/2015/1	10/09/2015	Works approval for a crushing and screening plant for Warrigal Well
L8544/2011/1	16/06/2016	Licence amendment to include category 5, remove category 12, extend the premises boundary, include ambient

		groundwater monitoring, extend the duration and conversion to v2.9 format licence.

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

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

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

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

'annual period' means the inclusive period from 1 July until 30 June in the following year;

'ARI' means average recurrence interval;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

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

'averaging period' means the time over which a limit 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;

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

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

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

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

'Licence' means this Licence numbered L8544/2011/1 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;

'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;

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

'Putrescible' has the meaning defined in Landfill Definitions;

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

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

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

'six monthly' means the 2 inclusive periods from 1 July to 31 December and in the following year 1 January to 30 June; and

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

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

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

1.2 General conditions

1.2.1 The Licensee shall relocate mobile crushing and screening plant on the Premises in accordance with the document "Mobile Crusher Relocation Environmental Management Plant", BC Iron Nullagine Pty Ltd, March 2016 (ENV-SH0082.10-IRG).

1.2.2 The Licensee shall immediately remove and dispose of any liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability compound(s).

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 ensure that stormwater is discharged into ponds with the relevant infrastructure requirements identified in Table 1.3.1.

Table 1.3.1: Containment infrastructure		
Storage vessel or compound	**Material**	**Requirements**
Sedimentation basin	Stormwater	Maintained to ensure that there is sufficient retention time within the basin to reduce suspended solids prior to discharge of the waters offsite.

1.3.3 The Licensee shall ensure that water from dust suppression is retained on the premises.

1.3.4 The Licensee shall ensure stormwater drains on the premises are kept clear of waste to ensure that they operate effectively.

1.3.5 The Licensee shall ensure that wastes accepted onto the landfill are only of the waste types listed in Table 1.3.2 and subjected to the requirements in Table 1.3.2.

Table 1.3.2: Management of Waste			
Facility as depicted in Schedule 1	**Waste type**	**Management Strategy**	**Requirements[1,2]**
Putrescible Landfill	Inert Waste Type 1, Inert Waste Type 2, Putrescible Waste and Clean Fill	Receipt, handling and disposal of waste by landfilling	<u>All waste types</u> • Disposal of waste by landfilling shall only take place within the putrescible landfill area shown in Schedule 1. • Waste shall be placed in a defined trench or within an area enclosed by earthen bunds. • The separation distance between the base of the landfill and the highest groundwater level shall not be less than 3 m. • The active tipping area shall be restricted to a maximum linear length of 30 m. • The tipping area shall be no greater than 2 m above ground level in height. • A fire break of at least 3 m shall be maintained around the boundary of the landfill site. • Wind-blown waste shall be contained within the boundary of the landfill and wind-blown waste shall be returned to the tipping area at least once in each month.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations1987*.

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

1.3.6 The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.3.3 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.3.3: Cover requirements [1]			
Waste Type	**Material**	**Depth**	**Timescales**
Putrescible wastes	Inert and incombustible material	Sufficient cover to ensure that the waste is completely covered and that no waste is exposed	As soon as practicable, but at least monthly
Inert Waste Type 2	Tyres	A minimum depth of 500mm of clean fill is maintained over the buried tyres following disposal	As soon as practicable

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

1.3.7 The Licensee shall ensure the limits specified in Table 1.3.4 are not exceeded.

Table 1.3.4 Production or design capacity limits		
Category[1]	**Category description[1]**	**Premises production or design capacity limit**
5	Processing or beneficiation of metallic or non-metallic ore	6,000,000 tonnes per annual period
89	Putrescible landfill site	500 tonnes per annual period

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

2 Monitoring

2.1 General monitoring

2.1.1 The Licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
(c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

2.1.2 The Licensee shall ensure that:
(a) quarterly monitoring is undertaken at least 45 days apart;
(b) six monthly monitoring is undertaken at least 5 months apart; and
(c) annual monitoring is undertaken at least 9 months apart.

2.1.3 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.

2.1.4 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.

2.2 Process monitoring

2.2.1 The Licensee shall undertake the monitoring in Table 2.2.1 according to the specifications in that table and record and investigate results that do not meet any limit specified.

Table 2.2.1: Process monitoring

Monitoring point reference	Process description	Parameter	Limit (including units)	Averaging Period	Frequency
Treated water from the Oily water separator	Waste water from the vehicle washdown area treated by oily water separation.	Total recoverable hydrocarbons	15 mg/L	Spot sample	Quarterly

2.3 Ambient environmental quality monitoring

2.3.1 The Licensee shall undertake the monitoring in Table 2.3.1 according to the specifications in that table.

Table 2.3.1: Monitoring of ambient groundwater quality

Monitoring point reference and location on Map in Schedule 1	Parameter	Units	Averaging period	Frequency
IMW2, IMW3, IMW4 and IMW6	Standing water level	mbgl	Spot sample	Six monthly
	pH[1]	-		
	Total Dissolved Solids	mg/L		
	Nitrite			
	Nitrate			
	Total N			
	Phosphorus			
	Calcium			
	Sodium			
	Chloride			
	Sulphate			
	Benzene			
	Toluene			
	Ethylbenzene			
	Xylene			
	Total Recoverable Hydrocarbons			

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

3 Information

3.1 Records

3.1.1 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 3.1.1(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.

3.1.2 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.

3.1.3 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.

3.2 Reporting

3.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by the 31 October after the end of each annual period. The report shall contain the information listed in Table 3.2.1 in the format or form specified in that table.

Table 3.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	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
-	Comparison of the approved production and design capacities and actual production/throughput for the Annual period.	None specified
L1.2.1	Plant relocation date and location map, and any associated incidents.	None specified
Table 2.3.1	Process monitoring	None specified
Table 2.4.1	Monitoring of ambient groundwater quality	None specified
L3.1.2	Compliance	Annual Audit Compliance Report (AACR)
L3.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

3.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits.

3.2.3 The Licensee shall submit the information in Table 3.2.2 to the CEO according to the specifications in that table.

Table 3.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

3.3 Notification

3.3.1 The Licensee shall ensure that the parameters listed in Table 3.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 3.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
1.3.7 2.2.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1

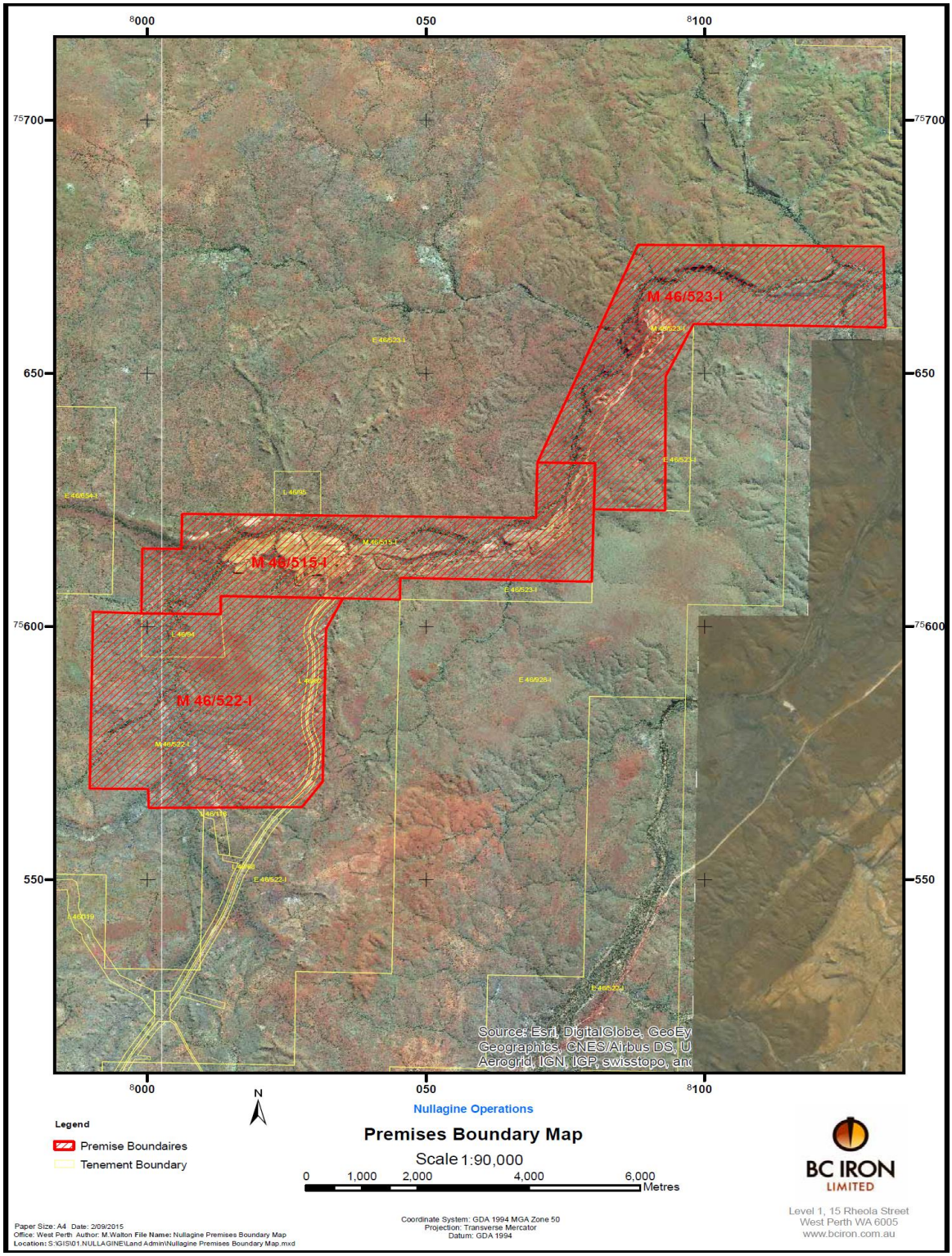
Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

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



Map of landfill and groundwater monitoring locations

The location of the landfill defined in Table 1.3.2 and the monitoring points defined in Table 2.3.1 are shown below.

Map of Landfill location

The location of the Landfill defined in Table 1.3.2 is shown 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?:	
☐ 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 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	□	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: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal

Licence: L8544/2011/1 Licensee: BC Iron Nullagine Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

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

Part A

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

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

Part B

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

Name	
Post	
Signature on behalf of BC Iron Nullagine Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: BC Iron Nullagine Pty Ltd

Licence: L8544/2011/1

Registered office:	1/15 Rheola Street WEST PERTH WA 6005
ACN:	137 224 849
Premises address:	Nullagine Iron Ore Project Mining Lease M46/515, M46/522 and M46/523 NULLAGINE WA 6758
Issue date:	Thursday, 7 July 2011
Commencement date:	Monday, 11 July 2011
Expiry date:	Monday, 30 June 2031

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.

Decision Document prepared by:	Lindy Twycross Licensing Officer
Decision Document authorised by:	Alana Kidd Delegated Officer

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	6,000,000 tonnes per annual period
	89	500 tonnes per annual period
Application verified Application fee paid	Date: N/A Date: N/A	
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:

		EPA Report No:
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

BC Iron Nullagine Pty Ltd (the Licensee) has developed an iron ore mining and processing facility on the Bonny Plains pastoral lease approximately 10 kilometres (km) south-west of the town of Nullagine in the Pilbara region of Western Australia. Bonny Downs Station is approximately 17 km south of the premises.

The Licensee operates two crushing and screening plants and a putrescible landfill on the premises. The crushing and screening plants have a combined design capacity of 6,000,000 tonnes per annum (tpa), while the putrescible landfill has a design capacity of 500 tpa.

Other components of the operation include:

- a bioremediation Landfarm, lined with 2 mm High Density Polyethylene (HDPE);
- a wastewater treatment plant (3.6 cubic metres (m^3) per day capacity), treated effluent discharged to the Landfarm;
- a reverse osmosis plant (< 5000 Litres (L) per day);
- a vehicle washdown bay with oily water separator;
- a turkey's nest (approximately 1,000,000 L);
- 13 generators (total capacity of 3.4 megawatts); and
- three workshops.

Treated wastewater from the oily water separator is reused for dust suppression and as process water.

Stormwater is discharged via sedimentation ponds.

Surface water drainages in the area are ephemeral and flow in a north easterly direction to the Nullagine River. Bonny Creek is a tributary of the Nullagine River and is the main watercourse running through the locality. The Nullagine Water Reserve, a P1 and P3 Public Drinking Water Source Area within the Bonnie Creek Catchment, is located more than 10 km from the premises' northern boundary.

The Licensee has a Licence to take Water GWL171278 and is subject to monitoring bores across the premises for depth to groundwater and water quality (physicals, anions/cations, dissolved metals and free cyanide).

Groundwater quality is fresh to slightly brackish and is suitable for potable water use with only minor treatment. Aquifers are sourced for use at the site village and for pastoral use.

Eight investigation wells were installed in 2012 to determine groundwater levels immediately below the landfill and bioremediation facility. Depth to groundwater in the wells ranged from 7.40

mBGL to 12.76 mBGL. The soil profiles encountered were weathered basalt bedrock sediments (mafic saprolite sand and gravels) overlaying bedrock of basalt to depth.

An amendment is sought by the Licensee to correct category 12 to category 5, extend the premises boundary with the addition of Mining Tenements M 46/522 and M 46/523 and to provide for the relocation of the crushing and screening plant within the extended premises boundary. The Licence has also been updated to format version 2.9.

Where conditions have been removed, amended or added to the existing Licence, these have been justified in Section 4.

4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	**Condition number** **W = Works Approval** **L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Prescribed premises category	N/A	Category 12 for approved Premises production capacity has been removed and corrected to category 5, because ore is being processed. The production or design capacity of 6,000,000 tonnes per annual period remains unchanged.	Application documents.
Definitions	N/A	Various definitions have been removed where no longer relevant to the current Licence, or added where necessary.	N/A.
General conditions	L1.2.1 L1.2.2	L1.2.1 has been added to require relocation of crushing equipment in accordance with the *Mobile Crusher Relocation Environmental Management Plan*, BC Iron Nullagine March 2016. (MCEMP). The premises, including mobile crusher sites is subject to DER inspections. DER's assessment and decision making in relation to relocation of the crusher is detailed in Appendix A. L1.2.2 is transferred from previous condition 24 for removal and disposal of spills of chemicals including hydrocarbons. Condition 6 has been removed as the condition is not considered clear or enforceable. The condition required uncontaminated stormwater to be diverted from areas of potential contamination, and water in contact with waste diverted to a sump or otherwise retained for treatment. Unauthorised discharges of certain materials including sediment and hydrocarbons may be subject to the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.	Application documents. *Mobile Crusher Relocation Environmental Management Plan*, BC Iron Nullagine March 2016 *Environmental Protection (Unauthorised Discharges) Regulations 2004.*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Previous conditions 22 and 23 for storage of environmentally hazardous materials have been removed as storage of these substances is considered adequately regulated by the *Dangerous Goods Safety Act 2004* and associated regulations. Unauthorised discharges of certain materials including hydrocarbons may be subject to the provisions of the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.	*Dangerous Goods Safety Act 2004.* *Environmental Protection Act 1986.*
Premises operation	L1.3.1 to 1.3.7	L1.3.1 is included for investigation and reporting of limits. **Stormwater** L1.3.2 is transferred from previous condition 5 to ensure sediment basins are maintained so that retention times are sufficient to reduce suspended solids. L1.3.3 is transferred from previous condition 3 to ensure stormwater from dust suppression is retained on the premises. L1.3.4 transferred from previous condition 4 to ensure stormwater drains are kept clear of waste to ensure efficient operation. **Landfill** L1.3.5 is transferred from previous conditions 10, 11, 12(ii), (iii), (vii), (viii), and 13 for waste types accepted and management of the landfill. In addition, L1.3.5 also includes: • location of the landfill on a map; and • requirement for the base of the landfill to be at least 3 m from groundwater to ensure adequate separation distance is maintained. L1.3.6 for cover of waste is transferred from previous conditions 12 (iv), (v) and (vi), with the addition of cover for tyres. Previous condition 12(i) to ensure waste is placed less than 35 m from the premises	*Environmental Protection Regulations 1987* *Environmental Protection (Unauthorised Discharges) Regulations 2004.* *Dangerous Goods Safety Act 2004.* *Environmental Protection Act 1986*. Landfill Waste Classification and Waste Definitions 1996 (as amended).

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		boundary has been removed as the landfill is located more than 35 m the premises boundary. Previous condition 14 for landfill signage which included opening times has been removed as the landfill is not a public facility. **Production capacity** L1.3.7 is included to limit production throughput to the amounts assessed.	
Emissions to land including monitoring	N/A	**Soil Bioremediation Facilities (Landfarm)** Emission Description *Emission:* Discharges from contaminated soils containing hydrocarbons and treated WWTP effluent. *Impact:* Contaminated ground and groundwater from Landfarm runoff. Hydrocarbons in high concentrations can have toxic effects on organisms. The landfarm accepts treated wastewater from a small WWTP (3.6 m^3 per day design capacity). The WWTP has been operated at over capacity in previous years and has been exceeding design criteria. Surface water drainages in the area are ephemeral and flow in a north easterly direction to the Nullagine River. The main watercourse running through the locality is Bonny Creek which is a tributary of the Nullagine River. *Controls:* Soil bioremediation facilities are bunded to prevent the ingress and egress of stormwater during heavy rain events. Old landfarm cells have been decommissioned with baseline sampling, and new landfarm cells lined with 2mm HDPE were constructed in December 2014. The landfarm is located greater than 100 m from minor drainage lines and greater than 500 m from surface water bodies. The Nullagine Water Reserve, a P1 and P3 Public	*Guidance Statement: Licencing and works approvals process*, September 2015. *Environmental Protection (Unauthorised Discharges) Regulations 2004*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Drinking Water Source Area within the Bonnie Creek Catchment, is located more than 10 km from the premises' northern boundary. Risk Assessment *Consequence*: Minor *Likelihood:* Rare *Risk Rating:* Low Regulatory Controls Soil bioremediation is not a prescribed activity and does not contribute to the nature and type of emissions from the primary activity. The previous condition 15 to prevent stormwater from entering the bioremediation area, and conditions 16 and 17 for landfarm management and reporting have been removed in accordance with the DER *Guidance Statement: Licencing and works approvals process*, September 2015. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* regulates the discharge of hydrocarbon contaminated materials. The Licensee will still be required to effectively treat contaminated soils prior to disposal or have contaminated soils removed by a licensed contractor. L2.3.1 requires groundwater monitoring to detect impacts to potable groundwater from the landfill and the landfarm. DER's assessment and decision making are detailed in Appendix B.	
Fugitive emissions	N/A	Previous dust conditions 1 and 2 have been removed. DER's assessment and decision making are detailed in Appendix A.	Reference documents are listed in Appendix A.
Monitoring	L2.1.1 to L2.1.4	L2.1.1 conditions are included on the licence to ensure the Licensee complies with the	N/A

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
general		Australian Standards when performing monitoring activities and samples are submitted to a NATA accredited laboratory. These conditions are transferred from previous conditions 25 and 26. L2.1.3 and L2.1.4 ensures that monitoring equipment is calibrated to ensure accurate results.	
Monitoring of inputs and outputs	N/A	The WWTP has a capacity of 3.6 m^3 per day, which is below the threshold of a prescribed activity in Schedule 1 of the *Environmental Protection Regulations 1987* and is a secondary activity. Treated WWTP effluent is discharged to the Soil Bioremediation Facilities Landfarm (discussed in 'Emissions to land' section and Appendix B). Previous conditions 18, 19 and 20 for WWTP monitoring with targets have been removed in accordance with DER's *Guidance Statement: Licensing and works approvals process.*	*Environmental Protection Regulations 1987* *Guidance Statement: Licensing and works approvals process*, DER, September 2015
Process monitoring	L2.2.1	L2.2.1 is transferred from previous condition 7(ii). The condition limits wastewater treated by the oily water separator to 15 mg/L.	N/A
Ambient quality monitoring	L2.3.1	Previous condition 9 has been removed as the Licensee has provided a Groundwater Monitoring Program to the CEO. L2.3.1 requires ambient groundwater monitoring in order to detect potential impacts from the Landfill and the Landfarm to groundwater. DER's assessment and decision making are detailed in Appendix B.	Reference documents are listed in Appendix A.
Information	L3.1.1 to L3.1.3 L3.2.1 to L3.2.5	L3.1.1 is added with requirements for record keeping. L3.1.2. replaces previous condition 28 for completion of an Annual Audit Compliance Report. L3.1.3 requires the Licensee to implement a complaints management system. L3.2.1 replaces previous condition 27 for submission of an AER to include production amounts, monitoring results, AACR and a complaints summary.	N/A

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		L3.2.1 includes reporting of crusher/screener relocation dates, locations and incidences. L3.2.2 requires an assessment of the information in the AER against previous monitoring results and Licence limits. L3.3.1 requires reporting of exceedences of limits.	
Licence Duration	N/A	The Licence duration has been extended to Monday, 30 June 2031, for duration of 20 year in accordance with *Guidance Statement: Licence Duration*, and for expiry date to coincide with the annual period.	*Guidance Statement: Licence Duration*, DER, Revised May 2015.

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
2/06/2016	Proponent sent a copy of draft instrument	No changes requested	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 - Premises boundary expansion and relocation of crushers.

Stormwater
Emission Risk Assessment – Relocation and operation of crushers

Emission Description
*Emission: S*tormwater potentially contaminated with sediment and hydrocarbons. Treated hydrocarbon contaminated water from the oily waster separator is reused at the process plant and for dust suppression.

Impact: Contamination of surrounding land and surface water drainage systems. Possible impacts to the ecology of surface water from the addition of sediment and hydrocarbons.

Controls: The Licensee has submitted the - *Mobile Crusher Relocation Environmental Management Plan*, BC Iron Nullagine, March 2016 which includes the following controls:

Stormwater
- All crushing processing plant areas will be constructed with bunds to contain all surface water and potential hydrocarbon spills.
- All surface water will be contained and flow through a constructed sediment basin at the watershed prior to leaving the site to reduce the potential for suspended solids to mobilise from the site.

Controls: Liquid chemical storage
- Plant consists of track mounted crushers and screens, which have separate fuel and oil tanks. The main bulk fuel tank of the crushing plant is double-skinned and self-bunded.
- All hydrocarbons are to be stored within bunding that complies with the applicable requirements of the *Australian Standard 1940-2001: The Storage and Handling of Flammable and Combustible Liquids* and the *Dangerous Goods and Safety Act 2004*.

The premises boundary has been extended and crushers may be relocated within Mining Leases M46/515, M46/522 and M46/523. Surface water drainages in the area are ephemeral, and flow in a north easterly direction to the Nullagine River. Bonny Creek is a tributary of the Nullagine River and is the main watercourse running through the local area. The Nullagine Water Reserve, a P1 and P3 Public Drinking Water Source Area within the Bonnie Creek Catchment, is located more than 10 km from the premises northern boundary.

Risk Assessment
Consequence: Low
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls
L1.2.1 is included to insure mobile crushers are relocated in accordance with the *Mobile Crusher Relocation Environmental Management Plan*, BC Iron Nullagine, March 2016.

L1.2.2 is transferred from condition 24 for removal and disposal of spills or leaks of chemicals including fuel, oil or other hydrocarbons.
L1.3.2 is transferred from previous condition 5 to ensure stormwater directed to the sediment basin is maintained so that sufficient retention times are maintained to reduce suspended solids.
L1.3.3 is transferred from previous condition 3 to ensure stormwater from dust suppression is retained on the premises.

L1.3.4 is transferred from previous condition 4 to ensure stormwater drains are kept clear of waste to ensure efficient operation.
L2.2.1 is transferred from previous condition 7 to ensure oily water from the washdown bay is treated through the oily water separator to a limit of 15 mg/L.

The storage of hydrocarbons and chemicals can be adequately regulated by the *Dangerous Goods Safety Act 2004* and associated regulations, and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Reference documents
Application documents.
Mobile Crusher Relocation Environmental Management Plan, BC Iron Nullagine, March 2016.
Dangerous Goods Safety Act 2004.
Environmental Protection (Unauthorised Discharges) Regulations, 2004.

Fugitive Dust
Emission Risk Assessment - Relocation and operation of crushers
Emission Description
Emission: Fugitive dust may result from the daily operation of the Nullagine Iron Ore Project 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

Controls: Dust controls during relocation and operation of the crushers include:
- water carts to wet down dust prone unsealed surfaces;
- onsite speed limits to reduce dust lift off; and
- processing plant is fitted with water sprays, coverings on conveyors and dust extraction equipment (bag-houses).

The premises boundary has been extended and crushers will be located within Mining Leases M 46/515, M 46/522 and M 46/523. The nearest sensitive land uses from the extended premises boundaries are located at the town of Nullagine 10 km away and Bonny Downs Station which is approximately 17 km south of the premises. There is no Threatened Ecological Communities or priority flora in the local vicinity.

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

Regulatory Controls
L1.2.1 is included to ensure mobile crushers are relocated in accordance with the *Mobile Crusher Relocation Environmental Management Plan*, BC Iron Nullagine, March 2016.

Given the Licensee's controls and the distance to sensitive land users, the risk of fugitive dust emissions is assessed as Low. Dust emissions can be sufficiently regulated under Section 49 of the *Environmental Protection Act 1986.* Previous dust conditions 1 and 2 have been removed.

Reference documents
Application documents.
Mobile Crusher Relocation Environmental Management Plan, BC Iron Nullagine, March 2016.
Environmental Protection Act 1986.
Environmental Protection (Unauthorised Discharges) Regulations 2004.

Noise

Emission Risk Assessment - Relocation and operation of crushers

Emission Description
Emission: Noise from the daily operation of the Nullagine Iron Ore within expanded premises boundaries.

Impact: Noise can impact health and amenity.

Controls: The premises boundary has been extended and crushers will be located within Mining Leases M 46/515, M 46/522 and M 46/523. The nearest sensitive land uses from the extended premises boundaries are located at the town of Nullagine 10 km away and Bonny Downs Station which is approximately 17 km south of the premises. Low noise equipment will be used where practicable. Machinery and equipment will be maintained in accordance with manufacturer's specifications.

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

Regulatory Controls
The risk of noise remains Low with potential relocation of crushers within the extended boundary. Noise is regulated by *Environmental Protection (Noise) Regulations 1997*.

Reference documents
Application documents.
Mobile Crusher Relocation Environmental Management Plan, BC Iron Nullagine, March 2016.
Environmental Protection (Noise) Regulations 1997.

Appendix B - Ambient quality monitoring – groundwater

Background
BC Iron Nullagine Pty Ltd (the Licensee) operates a Category 89 putrescible landfill and an adjacent bioremediation facility landfarm on the premises.

The putrescible landfill accepts up to 500 tonnes per year of clean fill, Inert Wastes Type 1 and 2, and putrescible wastes.

In December 2014 a new landfarm was constructed with three cells lined with 2 mm HDPE with sufficient capacity for the life of the mine. The previous clay lined landfarm had reached capacity and was considered poorly constructed. Hydrocarbon contaminated soil and treated effluent from the site's WWTP (3.6 m^3 per day capacity) is discharged to the Landfarm. WWTP effluent water quality has for several years exceeded design specifications, due to a larger workforce on site and the WWTP accepting hydrocarbon contaminated water from the vehicle wash bay facility and workshops.

Treated water from the oily water separator has exceeded the Licence limit of 15 mg/L Total Recoverable Hydrocarbons for several years and has been directed to the WWTP. The Licensee has recently upgraded and improved the oily water separator and the two most recent monitoring events indicated oily water had been treated to less than the Licence limit.

The site is located approximately 20 km upstream of the Nullagine Water Reserve which is a P1 and P3 Public Drinking Water Source Area within the Bonnie Creek Catchment.

Groundwater in the Nullagine Iron Ore Project production bores ranges between 6 m below ground level (mBGL) and 24 mBGL. Groundwater quality is fresh to slightly brackish and is suitable for potable water use with only minor treatment. Aquifers in the area are likely to be low yielding, small disjointed fractured rock systems that are unlikely to be connected to major creeks. Aquifers are sourced for water use at the site village and for stock watering.

The Licensee has a Department of Water Licence to take Water GWL171278 and is subject to monitoring bores across the premises for depth to groundwater and water quality (physicals, anions/cations, dissolved metals and free cyanide).

Eight investigation wells were installed in 2012 to determine groundwater levels immediately below the landfill and bioremediation facility. Depth to groundwater in the wells ranged from 7.40 mBGL to 12.76 mBGL. The soil profiles encountered were weathered basalt bedrock sediments (mafic saprolite sand and gravels) overlaying bedrock of basalt to depth.

Condition 9 of the previous Licence required the Licensee to provide, by 31 December 2012, a Groundwater Monitoring Program to provide early detection of groundwater contamination. BCI submitted the *Groundwater Monitoring Program Nullagine Landfill and Bioremediation Facility Project* on 22 July 2015.

Groundwater
Emission Risk Assessment – Operations
Emission Description
Emission: Contaminants leaching to groundwater from putrescible waste, hydrocarbon contaminated soils and treated sewage effluent.

Impact: Contamination of potable groundwater. Potential for contamination from the unlined landfill accepting putrescible wastes, the landfarm accepting soils contaminated with hydrocarbons and

treated sewage effluent from a small WWTP (which has a history of being required to process hydrocarbon contaminated wastewater and operating over design capacity).

Groundwater quality in the area is suitable for potable water use with only minor treatment. Aquifers are sourced for use at the site village and for pastoral use. Depth to groundwater at the landfill area ranges from 7.40 mBGL to 12.76 mBGL. The soils are mafic saprolite sand and gravels overlaying bedrock of basalt to depth.

Controls: The landfill is small - accepting up to 500 tonnes combined putrescible and inert wastes per year. A new landfarm consisting of three cells lined with 2mm HDPE was constructed in December 2014 to replace the clay lined landfarm that had reached capacity and was considered poorly designed.

Risk Assessment
Consequence: Minor
Likelihood: Unlikely
Risk Rating: Moderate

Regulatory Controls
L1.3.5 requires at least 3 m separation from the base of the landfill to groundwater.
L1.3.7 limits waste to the landfill to 500 tonnes per year.
L2.3.1 is included for six monthly monitoring of 4 bores for a basic set of analytes (pH, hydrocarbons, nutrients and major cations) to enable early detection of contamination of potable groundwater. The Licensee is not required to monitor all eight bores nor the full suite of analytes as detailed in the Groundwater Monitoring Program submitted to DER because it is considered that impacts to potable water would be localised and unlikely. In the event that impacts are detected in groundwater, the full scope of the Groundwater Monitoring Program may be implemented to characterise the nature and extent of those impacts.

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

Reference Documents
Annual Environmental Report L8544/2011/1 June 2014 – July 2015, BC Iron Nullagine.
Groundwater Monitoring Program Nullagine Landfill and Bioremediation Facility Project EP12-044(06), Emerge Associates, December 2015.
2015 Groundwater Operating Strategy, BC Iron Bore Field – GW171278(3), Aurora Environmental, V3, 6 August 2015.