



Licence

Environmental Protection Act 1986, Part V

Licensee: Top Iron Pty Ltd

Licence: L8783/2013/1

Registered office: Level 1, 10 Kings Park Road
 WEST PERTH WA 6005

ACN: 146 947 060

Premises address: Mummaloo Iron Ore Project
 Mining Tenement M59/744
 PAYNES FIND WA 6612
 As depicted in Schedule 1

Issue date: Friday, 15 August 2014

Commencement date: Monday, 18 August 2014

Expiry date: Saturday, 17 August 2019

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
05	Processing or beneficiation of metallic or non-metallic ore: premises on which – <ul style="list-style-type: none"> (a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) Tailings from metallic or non-metallic ore are reprocessed; or (c) Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam. 	50 000 tonnes or more per year	4 370 000 tonnes per annual period

Conditions

Subject to this Licence and the conditions set out in the attached pages.

.....
Alana Kidd
 Officer delegated under section 20
 of the *Environmental Protection Act 1986*



Contents

Contents	2
Introduction	2
Licence conditions	4
1 General	4
2 Improvements	7
3 Information	8
Schedule 1: Maps	10
Schedule 2: Reporting & notification forms	14

Introduction

This Introduction is not part of the Licence conditions.

Department of Environment Regulation'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 monitor and audit compliance with works approvals and licence conditions, take enforcement action as appropriate and develop and implement 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

Top Iron Pty Ltd’s Mummaloo Iron Ore Project is located approximately halfway between Wubin and Paynes Find in the Midwest Region of Western Australia on the Mount Gibson Pastoral lease. The nearest sensitive receptor is the Mount Gibson Homestead which is 17.4 kilometres to the north-west of the premises.

The process at the site involves the extraction of ore which is then crushed and screened prior to undergoing magnetic separation. Inert tailings are trucked to backfill the mine void. The end materials are loaded onto trucks and delivered to the Geraldton Port for export.

Slightly saline bore water is used for dust suppression.

The Mummaloo premises includes a small putrescible landfill (less than 14 tonnes per annum), and a small wastewater treatment plant (WWTP) with a design flow of 13 cubic metres per day. Treated wastewater is stored in an evaporation pond which is lined with high-density polyethylene (HDPE).

This amendment includes conditions to manage the addition of a small reverse osmosis plant with a capacity of 80 cubic metres per day. Up to 250 litres of brine is discharged per day to the same evaporation pond which stores treated wastewater from the WWTP. The amendment has also been updated to the latest licence format version. As part of the update, general conditions for fugitive dust have been removed and an improvement condition requiring submission of a dust management plan has been included.

The licences and works approvals issued for the Premises since 23/08/2013 are:

Instrument log		
Instrument	Issued	Description
W5459/2013/1	23/08/2013	New works approval application
W5459/2013/1	27/03/2014	Works approval amendment – increase in capacity of plant due to a miscalculation in original application.
L8783/2013/1	15/08/2014	Licence issue
L8783/2013/1	22/01/2015	Licence amendment
L8783/2013/1	27/08/2015	Licence amendment to include small reverse osmosis plant

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 April until 31 March in the following year;

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

'CEO' means CEO of the Department of Environment Regulation for and on behalf of the Chief Executive Officer as delegated under section 20 of the Act;

'CEO' for the purpose of correspondence means;

Manager - Licensing (Resources Industries)

At the following address:

Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: 9333 7510
Facsimile: 9333 7550
Email: industry.regulation@der.wa.gov.au;

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

'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 as amended from time to time;

'Licence' means this Licence numbered L8783/2013/1 and issued under the Act;

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

'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 Waste' has the meaning defined in Landfill Definitions;

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



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

- 1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.
- 1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.
- 1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
 - (a) pollution;
 - (b) unreasonable emission;
 - (c) discharge of waste in circumstances likely to cause pollution; or
 - (d) being contrary to any written law.

1.2 General conditions

- 1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.
- 1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.
- 1.2.3 The Licensee shall:
 - (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
 - (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

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

1.3 Premises operation

- 1.3.1 The Licensee shall only accept waste on to the landfill if:
 - a) it is of a type listed in Table 1.3.1;
 - b) the quantity accepted is below any quantity limit listed in Table 1.3.1;
 - c) it meets any specification listed in Table 1.3.1; and
 - d) it conforms to the description in the documentation supplied by the producer and holder.

Table 1.3.1: Waste acceptance		
Waste	Quantity Limit	Specification
Clean fill	None specified	None specified
Inert Waste Type 1	None specified	None specified
Inert Waste Type 2	None specified	None specified
Putrescible Waste	Less than 20 tonnes per annual period	None specified

- 1.3.2 The Licensee shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1.3.1, it is removed from the Premises, or where that is not possible, stored in a segregated storage area or container and removed to an appropriate authorised facility as soon as practicable.



- 1.3.3 The Licensee shall manage the landfilling activities to ensure:
- a) the size of the tipping face is kept to a minimum and not larger than 30m in length and 2m above ground level in height; and
 - b) waste is placed and compacted to ensure all faces are stable and capable of retaining cover material.

- 1.3.4 The Licensee shall ensure that cover is applied to waste in the tipping area in accordance with Table 1.3.2 and that sufficient stockpiles of cover are maintained on site at all times for the tipping area of the site to be covered, in accordance with this condition, at least twice.

Table 1.3.2: Cover requirements			
Waste type	Material	Depth	Timescale
Putrescible Waste	Inert and incombustible material	A minimum of 200 mm. No waste is to be left exposed after covering	Cover shall be applied at least monthly

- 1.3.5 The Licensee shall ensure that the materials listed in Table 1.3.3 are only discharged with the relevant infrastructure requirements and at the containment point reference locations specified in Table 1.3.3 and identified in Schedule 1.

Table 1.3.3: Containment infrastructure		
Containment point reference	Material	Infrastructure requirements
Temporary Waste Storage 1 (TWS1); and Temporary Waste Storage 2 (TWS2)	Tailings	Temporary storage only prior to final disposal in mine voids or borrow pit
Stage 1 -5 (mine voids) and borrow pit	Tailings	-
Evaporation pond (E1)	Treated wastewater from the wastewater treatment plant	Lined with high-density polyethylene (HDPE)
	Brine from the on-site reverse osmosis plant	

- 1.3.6 The Licensee shall ensure that a freeboard equal to or greater than that specified in Table 1.3.4 is maintained for each containment infrastructure specified in Table 1.3.4 and identified in Schedule 1.

Table 1.3.4: Freeboard		
Containment infrastructure	Reference location on maps of containment structures (Schedule 1)	Freeboard
Evaporation pond	E1	300 mm

- 1.3.7 The Licensee shall ensure that any saline bore water used for dust suppression is used in a manner that minimises damage to surrounding vegetation.



2 Improvements

2.1.1 The Licensee shall complete the improvements in Table 2.1.1 by the date of completion in Table 2.1.1.

Table 2.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	The Licensee shall prepare and submit to the CEO a Dust Management Plan for the Premises. As a minimum, the Dust Management Plan shall include, but not be limited to: <ul style="list-style-type: none">• potential sources of dust, generated from activities on the Premises;• potential dust impacts;• Dust control equipment located on the Premises;• dust management measures and protocols to be implemented to minimise dust emissions;• details on a dust monitoring program (where relevant); and• contingency plans.	Within 60 days from the date of this Licence
IR2	The Dust Management Plan required by Condition 2.1.1 shall be implemented upon submission to the CEO.	



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 5.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 3.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
- 3.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
- 3.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

3.2 Reporting

- 3.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the 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 form¹
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the annual period and any action taken	None specified
3.1.3	Compliance	Annual Audit Compliance Report (AACR)
3.1.4	Complaints summary	None specified

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 requirement¹	Format or form²
1.3.1	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
-	Intention for the site to recommence normal operations from a care and maintenance status	At least 30 calendar days prior to site recommencing operations	None specified

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

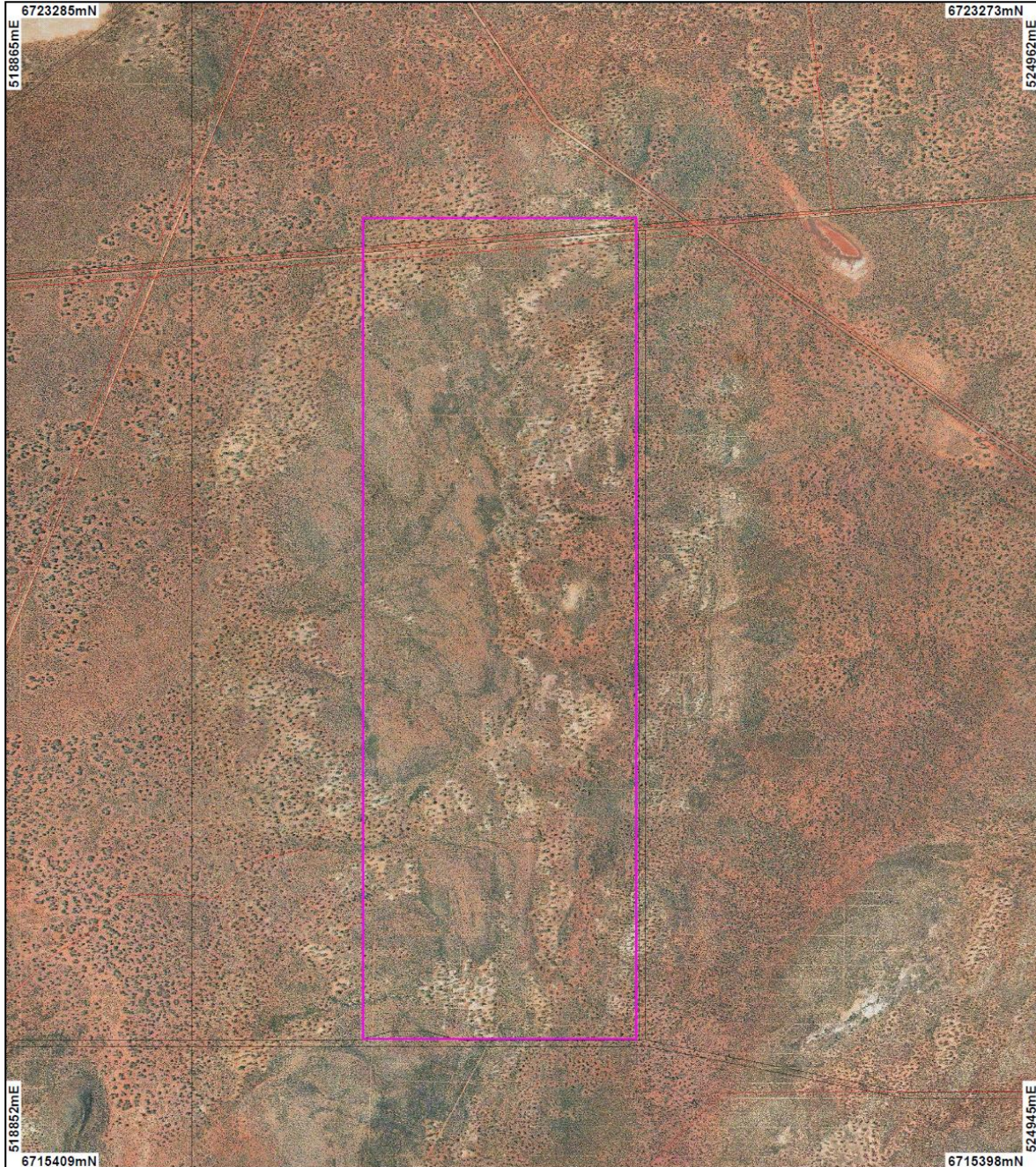
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

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





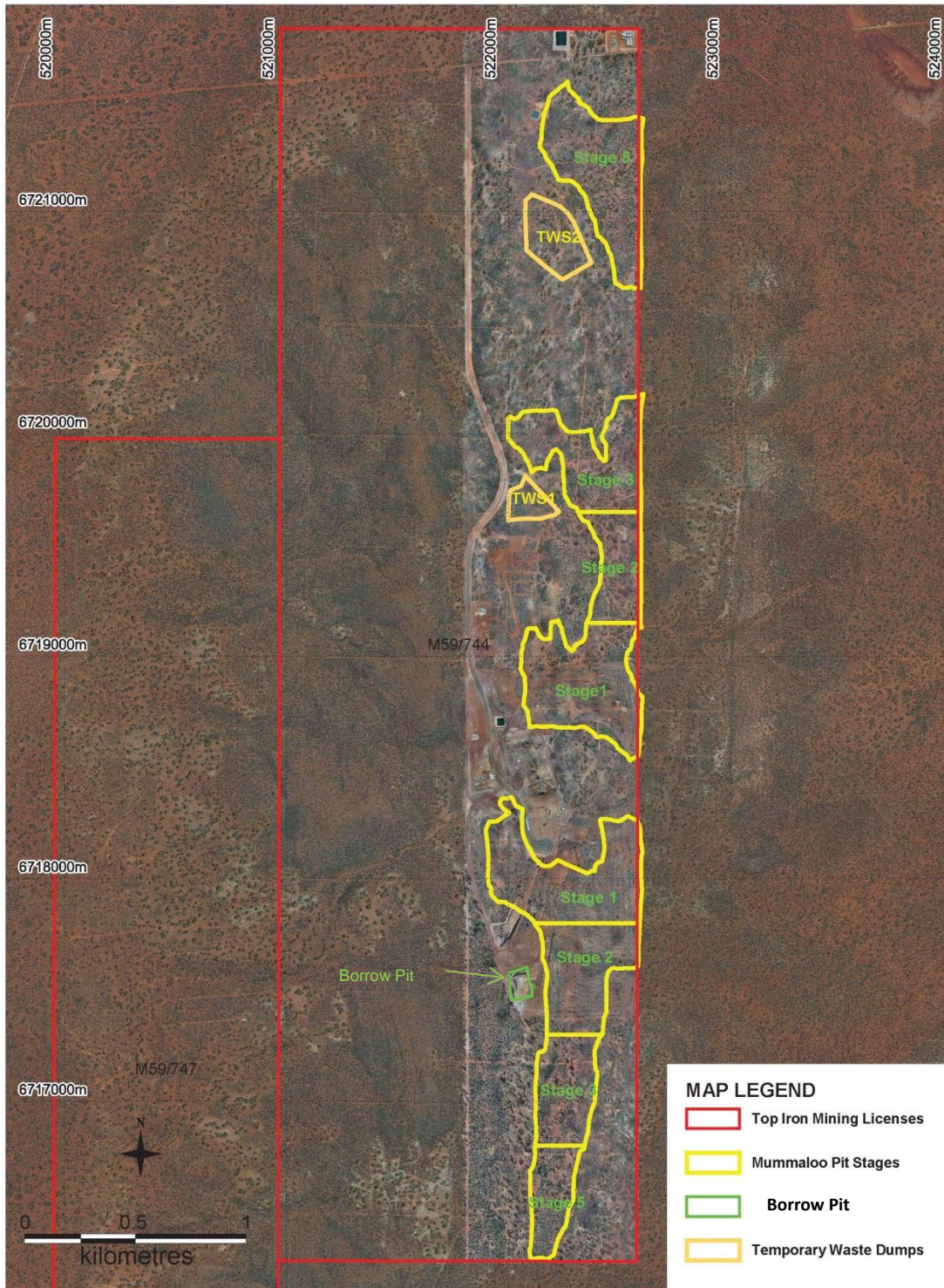
Map of landfill area

The landfill will be contained within the yellow line shown in the map below





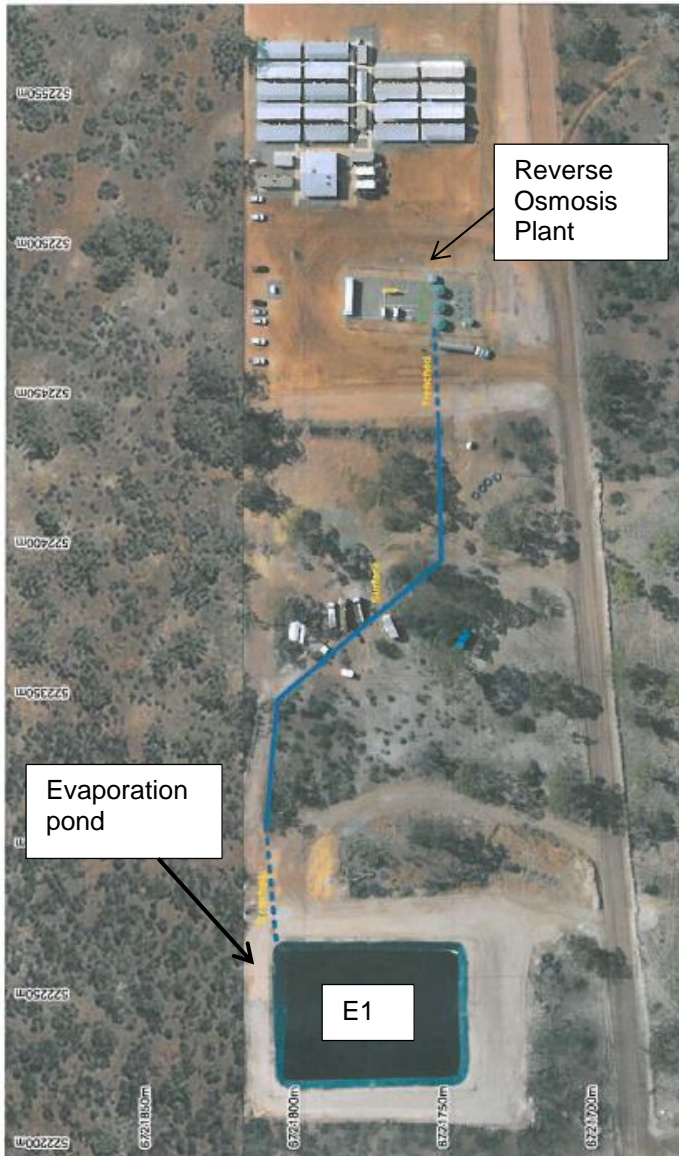
Map of tailings disposal locations





Map of evaporation pond location

The location of the evaporation pond and the Reverse Osmosis Plant discharge pipe is drawn in blue in the map 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:	ABN:
Trading as:	
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 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)	<input type="checkbox"/> <input type="checkbox"/>	by the principal executive officer of the licensee; or by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	<input type="checkbox"/> <input type="checkbox"/>	by the chief executive officer of the licensee; or by affixing the seal of the local government.

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____



Licence: L8783/2013/1
 Form: N1

Licensee: Top Iron Pty Ltd
 Date of breach:

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

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 Top Iron Pty Ltd	
Date	



Partial Decision Document

Environmental Protection Act 1986, Part V

Proponent: Top Iron Pty Ltd

Licence: L8783/2013/1

Registered office: 1/10 Kings Park Road
WEST PERTH WA 6005

ACN: 146 947 060

Premises address: Mummaloo Iron Ore Project
Mining Tenement M59/744
PAYNES FIND WA 6612

Issue date: Friday, 15 August 2014

Commencement date: Monday, 18 August 2014

Expiry date: Saturday, 17 August 2019

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
Manager - Licensing (Resource Industries)



Contents

Contents	2
1 Purpose of this Document	2
2 Administrative Summary	3
3 Summary of proposal	4
4 Decision Table	5
5 Advertisement and Consultation Table	9
6 Risk Assessment	10

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application for a works approval or licence, 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)	Design Capacity
	05	4 370 000 tonnes per annual period
Application Verified	Date: N/A	
Application Fee Paid	Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome	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 type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial Statement No: 943
		EPA Report No: 1485
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, e.g. Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Summary of proposal

The Mummaloo Iron Ore Project (Mummaloo) is located approximately halfway between Wubin and Paynes Find in the Midwest of Western Australia. The nearest sensitive receptor to Mummaloo is the Mount Gibson Pastoral Lease homestead which is 17.4 kilometres (km) to the north-west.

Ministerial Statement 943 was issued on 15 August 2013 for the Mummaloo Iron Ore Project. The Statement includes conditions relating to the extent of vegetation clearing and impacts on fauna.

The Mummaloo project involves shallow open pit strip mining of iron ore using conventional mining equipment and the magnetic separation of ore. The plant processes up to 4.37 million tonnes of ore per annum with a life of mine expected to be up to 15 years. The processing produces chemically benign, damp (9-10% moisture) tailings which are stored temporarily on site and then reclaimed into the mine pits.

Groundwater is approximately 40 metres (m) below ground level at the project area and dewatering is not required.

The site includes a small putrescible landfill on site (less than 14 tonnes per annum), and a small wastewater treatment plant (design flow of 13 cubic metres per day (m³/day)). The wastewater treatment plant discharges up to 2,000 litres per day (L/day) of treated wastewater to a high density polyethylene (HDPE) lined evaporation pond.

The proponent has applied for an amendment to include operation of a small reverse osmosis (RO) plant with capacity of 80 m³/day or 0.0292 gigalitres per annum, which is below the threshold for prescribed category 85B. The RO plant will discharge approximately 250 L/day of brine (Total Dissolved Solids (TDS) 11,000 milligram per litre (mg/L) and pH 7.4) to the HDPE lined evaporation pond.

Dust from the crushing plant, earthworks, vehicle movements and stockpiles are considered to be the most significant emission risk. Slightly saline bore water with TDS approximately 4400 (mg/L) is used for dust suppression.

As part of this amendment, conditions have been included for management of brine discharge from the small reverse osmosis plant, dust conditions have been reassessed and the licence has been updated to the latest licence version format. DER has not re-assessed the acceptability or impacts of any other emissions and discharges from the Premises or re-visited any other existing emission control levels.



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
Premises Operation	L1.3.5 L1.3.6	<p><u>Emission Description</u> <i>Emission:</i> Brine (TDS 11,000 mg/L and pH 7.4) from the reverse osmosis plant, and treated wastewater from the wastewater treatment plant.</p> <p><i>Impact:</i> High levels of salinity and nutrients in water and soil may cause native vegetation to become unhealthy or die.</p> <p><i>Controls:</i> The closest surface water features are saline basins, the closest is 1km to the east.</p> <p>The RO discharge pipeline will be trenched and where above ground it will be visually monitored for leaks and damage.</p> <p>Brine discharged from the RO plant will be stored in the same HDPE lined evaporation pond that stores treated water from the wastewater treatment plant water. A water balance for each month of the year calculated that the pond is adequately sized to accept the addition of the RO discharge. The pond will have a storm depth of 168 millimetres (mm) based on a 1:100 year ARI, 72 hour rainfall amount. In the event of heavy rainfall Top Iron will have a contractor come on site to reduce the water level in the evaporation pond as a contingency measure.</p>	Application supporting documentation



DECISION TABLE			
Works Approval/ Licence Section	Condition Number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
		<p><u>Risk Assessment</u> <i>Consequences:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> L1.3.5 specifies containment of the brine and treated wastewater. L1.3.6 specifies that a discharge containment freeboard of 300 mm will be maintained.</p> <p><u>Residual Risk</u> <i>Consequences:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	
Fugitive emissions	N/A	<p><u>Emission Description</u> <i>Emission:</i> Dust is likely to be generated from the crushing plant, earthworks, vehicle movements and stockpiles. <i>Impact:</i> Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) can impact the ambient environmental quality and can smother vegetation. Some large populations of priority flora exist with the project area. <i>Controls:</i> Closest human receptor is 17 km distant (Mt Gibson homestead). Dust suppression measures listed to be implemented include:</p> <ul style="list-style-type: none"> • A dedicated water truck used for all on site dust suppression; • All vehicles confined to routes with speed controls; • Watering of haul roads with water trucks; • Sprinkler systems on ore stockpiles; 	<p>Email received 01/07/2015 9:53, Subject: Mummaloo Iron Ore Mine, from Damien Montague, Department of Mines and Petroleum</p> <p>Beneficiation (Processing) Plant Licence Supporting Document, Top Iron Pty Ltd, T05-J14, 3 September 2013.</p>



DECISION TABLE			
Works Approval/ Licence Section	Condition Number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
		<ul style="list-style-type: none"> • Dust extraction via collectors in the processing plant; • Dust curtains around the Run of Mine (ROM) hopper; • Water sprays and stackers and conveyor transfer points; and • Stockpiles will be built to limit the height and slope. <p><u>Risk Assessment</u> Consequences: Minor Likelihood: Unlikely Risk Rating: Moderate</p> <p><u>Regulatory Controls</u> Dust conditions L2.6.1 and L2.6.2 have been removed with update to licence format version v2.9. Department of Mines and Petroleum (DMP) notified DER on 1 July 2015 of concerns of dust emissions observed during a DMP inspection on 9 June 2015. An Improvement condition requiring submission of a dust management plan and implementation upon submission has been included in the licence.</p> <p><u>Residual Risk</u> Consequences: Minor Likelihood: Rare Risk Rating: Low</p>	
Improvements	L2.1.1	An Improvement condition requiring submission of a Dust Management Plan within a set timeframe and to then implement the Plan once submitted to the CEO is added to the licence (see Fugitive emissions section above).	
Licence	N/A	The licence duration has not been changed as part of this	



DECISION TABLE			
Works Approval/ Licence Section	Condition Number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference Documents
duration	N/A	amendment.	



5 Advertisement and Consultation Table

Date	Event	Comments received/Notes	How comments were taken into consideration
06/08/2015	Proponent sent a copy of draft instrument	No comments	Not applicable
31/08/2015	Amendment advertised in West Australian (or other relevant newspaper)	Not yet applicable	Not yet applicable



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