



Licence

Environmental Protection Act 1986, Part V

Licensee: **Western Areas Limited**

Licence: **L8041/1990/5**

Registered office: Level 2, 2 Kings Road
WEST PERTH WA 6005

ACN: 091 049 357

Premises address: Forrestania Nickel Operations
Forrestania – Southern Cross Road
FORRESTANIA WA 6359
Being tenements M74/57, M74/58, M74/90, M74/91, M77/335, M77/399,
M77/545, M77/568, M77/574, M77/582, M77/583, M77/584, M77/586,
M77/587, M77/588, M77/589, M77/912, L74/44, L70/111, L77/104,
L77/141, G70/226 and G70/231, as depicted in Schedule 1.

Issue date: Thursday, 17 October 2013

Commencement date: Thursday, 17 October 2013

Expiry date: Sunday, 18 July 2027

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
5	Processing or beneficiation of metallic or non-metallic ore	50,000 tonnes or more per year	680,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes or more per year	6,400,000 tonnes per annual period
12	Screening, etc. of material	50,000 tonnes or more per year	150,000 tonnes per annual period
54	Sewage facility	100 cubic metres or more per day	110 cubic metres per day
89	Putrescible landfill site	More than 20 but less than 5,000 tonnes per year	1,500 tonnes per annual period

Conditions

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

Date signed: 14 April 2016

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Tim Gentle
Manager Licensing – Industry Regulation (Resource Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

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

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

Licence requirements

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

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

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

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

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

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



Licence fees

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

Ministerial conditions

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

Premises description and Licence summary

The premises is a nickel mining and processing operation located near Hyden, approximately 400 km east of Perth. The operations consist of two underground mines, Flying Fox and Spotted Quoll, an ore processing plant and tailings storage facility (TSF), Cosmic Boy, and a significant water management network. The Flying Fox mine and Cosmic Boy concentrator were recommissioned in 2005, with Spotted Quoll becoming operational in 2009 as a new mine.

The licence principally regulates emissions and discharges from mining and dewatering operations and the processing of mined ore to nickel concentrate. Up to 6.4 million tonnes per year of hypersaline dewatering effluent from the active mines is discharged into a network of aquifer reinjection bore fields, evaporation ponds and abandoned underground mine workings, to allow the mining of ore. Process tailings from the Cosmic Boy concentrator are discharged into an adjacent TSF. Additional conditions address ancillary activities associated with a 450 bed accommodation village.

Previously, each mine associated with the operations was regulated under a separate licence, primarily due to the distance between sites (the operations span over 40 km from Flying Fox in the north to the Mossco Farm evaporation ponds in the south). In 2013, all activities associated with the operations were combined into the one licence.

This Licence is the result of an amendment sought by DER to update the licence and incorporate changes following recent compliance inspections. The licences and works approvals issued for the Premises since the Licensee recommenced mining and dewatering operations in 2004 are:

Instrument log		
Instrument	Issued	Description
W4019/1990/1	17/11/2004	Works Approval for construction of dewatering operational and monitoring infrastructure at Flying Fox, to enable commencement of mining and subsequent disposal of mine dewater into the abandoned Flying Fox underground mine (stage 1), and the abandoned McMahon and Lounge Lizard open mine pits (stages 2 & 3).
L8041/1990/1	17/10/2005	New licence issued to authorise commencement of mining and dewatering operations (2,000,000 tpa) at Flying Fox.
W4244/1990/1	09/10/2006	Works Approval for expansion of dewatering operations at Flying Fox to allow mining of the T5 zone (2,900,000 tpa). This included constructing a 22 km transfer pipeline from Flying Fox to Cosmic Boy, re-establishment of the Seagull and Liquid Acrobat reinjection borefields, and development of a new reinjection borefield (Sibelius).
L8041/1990/2	16/10/2006	Licence reissued for the Flying Fox mine.
W4243/1990/1	09/11/2006	Works Approval for construction of the Cosmic Boy concentrator (350,000 tpa capacity) and TSF.
L8041/1990/2	31/08/2007	Amendment to Flying Fox licence to authorise discharge of dewatering effluent to the 3 reinjection borefields and to formalise commitments regarding groundwater and native vegetation monitoring.
L8041/1990/3	11/10/2007	Licence reissued for the Flying Fox mine.
W4465/2008/1	19/12/2008	Works Approval for construction of the Mossco Farm evaporation ponds, including 32 km of dewatering pipeline from the Cosmic Boy site.
L8233/2008/1	01/01/2009	New licence issued for dewatering operations at Digger Rocks (Diggers Rock South – stage 1).
W4465/2008/1	19/02/2009	Amendment to works approval for construction of the Mossco Farm



		evaporation ponds, to include an additional tenement that was erroneously omitted from the original approval.
L8831/2009/1	26/02/2009	New licence issued for the Cosmic Boy concentrator & TSF.
L8041/1990/3	27/08/2009	Amendment to Flying Fox licence following complete review of operations and issue in new format. Conditions added requiring groundwater monitoring, groundwater discharge criteria (limits and targets) and exceedance reporting, native vegetation monitoring and annual audit compliance reporting (AACR). Additional tenements added to the premises description.
W4558/2009/1	03/09/2009	Works Approval for stage 2 upgrade of the Cosmic Boy concentrator to 600,000 tpa capacity.
W4499/2008/1	28/09/2009	Works Approval for construction of the Spotted Quoll mine and associated dewatering infrastructure.
W4499/2008/1	19/10/2009	Amendment to Spotted Quoll works approval for a temporary mobile screening operation.
L8041/1990/3	05/11/2009	Amendment to Flying Fox licence to include category 12 for a temporary mobile screening operation.
L8041/1990/3	04/02/2010	Amendment to Flying Fox licence to authorise dewatering at the new Spotted Quoll mine.
W4604/2009/1	11/02/2010	Works Approval for the McMahon clearwater pond expansion, to separate dewatering effluent from Flying Fox and the new Spotted Quoll mine, the latter of which contains higher salinity.
L8041/1990/4	15/10/2010	Licence reissued for the Flying Fox mine.
W4771/2010/1	11/11/2010	Works Approval for construction of a paste fill plant at the Spotted Quoll mine.
L8041/1990/4	02/12/2010	Administrative amendment to the Flying Fox licence following a compliance inspection in November 2010.
L8041/1990/4	03/11/2011	Amendment to Flying Fox licence to add the Mossco Farm evaporation ponds as an authorised discharge point for mine dewater.
L8233/2008/2	01/01/2012	Licence reissued for the Digger Rocks dewatering operation.
L8831/2009/2	25/01/2012	Licence reissued for the Cosmic Boy concentrator & TSF.
L8041/1990/5	04/10/2013	Licence reissued for the Flying Fox mine, including the amalgamation of all other instruments issued to Western Areas Limited for the FNO, being Cosmic Boy Concentrator and TSF (L8331), Diggers Rock South mine (L8233), Cosmic Boy Sewage Facility (R1996), Flying Fox landfill (R2311).
W5665/2014/1	21/08/2014	Works Approval for construction of a septic sludge drying pond in an old gravel pit east of Spotted Quoll.
W5750/2014/1	15/01/2015	Works Approval for construction of a paste fill plant at the Flying Fox mine.
W5767/2014/1	26/02/2015	Works Approval for construction of an additional septage evaporation pond at the Cosmic Boy accommodation camp.
W5839/2015/1	20/08/2015	Works Approval for construction of a bioleach plant at the Cosmic Boy Concentrator to improve nickel recovery during the ore processing phase.
W5859/2015/1	08/10/2015	Works Approval for TSF embankment lift and expansion.
L8041/1990/5	14/04/2016	Licence amended following full review. Changes made where necessary to update conditions and remove superfluous conditions. Category 12 added to authorise various on-site crushing and screening operations. Category 5 design capacity increased to 680,000 tpa.

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*;

'AHD' means the Australian height datum;

'annual period' means the inclusive period from 1 July until 31 June in the following year;

'area of influence' means the extent of groundwater drawdown/mounding impacts on the standing water table;

'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*;

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

'averaging period' means the time over which a limit 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

'CT2 criteria' means the contaminate threshold (CT) value for a Class II landfill, as per Table 3 of the Landfill Definitions;

'environmentally hazardous material' means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

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

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



'Inert Waste Type 1' has the same meaning given to that term in the Landfill Definitions and means a non-hazardous, non-biodegradable (half-life greater than 2 years) waste containing contaminant concentrations less than Class 1 landfill acceptance criteria but excluding paper and cardboard and materials that require treatment to render them inert (e.g. peat, acid sulfate soils);

'HDPE' means high-density polyethelene;

'hypersaline' means water containing sodium chloride levels ≥ 35.0 g/L;

'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 L8041/1990/5 and issued under the Act;

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

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

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'Putrescible waste' has the meaning given to that term in the Landfill Definisitons and means the component of a waste stream likely to become putrid;

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

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

'significant rainfall event' means $\geq 1:10$ year, 24 hour rainfall event;

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

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

'SWL' means standing water level;

'TSF' means an engineered containment pond or dam used to store tailings;

'Vegetation Monitoring Plan' means the document titled *Revised Vegetation Monitoring Program – Forrestania Nickel Project*, prepared by Western Areas and dated 14 May 2014; and

' μ S/cm' means microsiemens per centimetre.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the 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 Premises operation

- 1.2.1 The Licensee shall ensure that all pipelines containing environmentally hazardous materials are either:
- equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures;
 - equipped with automatic cut-outs in the event of a pipe failure; or
 - provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.
- 1.2.2 The Licensee shall ensure that any dewatering effluent used for dust suppression on the Premises is used in a manner that minimises damage to surrounding vegetation.
- 1.2.3 The Licensee shall ensure that materials listed in Table 1.2.1 are only discharged into the corresponding infrastructure detailed in Table 1.2.1.

Table 1.2.1: Containment infrastructure		
Infrastructure	Material	Infrastructure requirements
Cosmic Boy TSF	Tailings	<ul style="list-style-type: none"> Clay lined to achieve a permeability of at least 1×10^{-9} m/s or equivalent; A minimum freeboard (total) of 500 mm is maintained; A seepage collection and recovery system is provided and used to capture seepage from the TSF; Seepage is returned to the TSF or re-used in the process, or to a discharge facility
McMahon open mine pit	Dewatering effluent	<ul style="list-style-type: none"> None specified
Lounge Lizard open mine pit		
Digger Rocks open mine pit		
Spotted Quoll staging pond		<ul style="list-style-type: none"> HDPE lined to achieve a permeability of at least 1×10^{-9} m/s or equivalent; A minimum top of embankment freeboard of 300 mm is maintained
McMahon staging pond		
Cosmic Boy staging pond		
Digger Rocks staging pond		
Digger Rocks evaporation pond		
Mossco Farm evaporation ponds		<ul style="list-style-type: none"> Clay lined to achieve a permeability of at least 1×10^{-9} m/s or equivalent; A minimum top of embankment freeboard of 300 mm is maintained
Cosmic Boy accommodation camp wastewater treatment ponds		
Flying Fox septic system evaporation pond		
Spotted Quoll septic system evaporation pond	Sewage effluent/ treated sewage	<ul style="list-style-type: none"> Clay lined to achieve a permeability of at least 1×10^{-9} m/s or equivalent
Spotted Quoll septage sludge drying pond		
Flying Fox bioremediation cell	Hydrocarbon contaminated soil	<ul style="list-style-type: none"> Clay lined to achieve a permeability of at least 1×10^{-9} m/s or equivalent; Leachate and stormwater runoff that has come into contact with the soil is directed to a suitably lined collection sump which is capable of storing runoff from a significant rainfall even
Cosmic Boy bioremediation cell		
Spotted Quoll bioremediation cell		



- 1.2.4 The Licensee shall:
- undertake inspections as detailed in Table 1.2.2;
 - where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - maintain a record of all inspections undertaken.

Table 1.2.2: Inspection of infrastructure		
Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity and leak assessment	Daily when operating, Monthly when not operating
Mine dewater pipelines		
Containment infrastructure listed in Table 1.2.1		
TSF embankment freeboard	Visual to confirm required freeboard capacity is available	
Reinjection bores	Visual integrity and leak assessment	Daily, when in use

- 1.2.5 The Licensee shall ensure that, prior to dispatch for transport from the Premises, all nickel concentrate product containers:
- are free of leaks and are fit for purpose;
 - contain no visible concentrate product on the external face, or adhering to the outside of the container(s); and
 - contain nickel concentrate product in a dampened state.
- 1.2.6 The Licensee shall only dispose waste on the Premises if:
- it is of a type listed in Table 1.2.3;
 - the quantity is below any quantity limit listed in Table 1.2.3;
 - it meets any specification listed in Table 1.2.3; and
 - it originates only from activities on the Premises.

Table 1.2.3: Authorised waste types		
Waste type	Quantity limit tonnes/year	Specification
Inert Waste Type 1	1,500 (combined total)	<ul style="list-style-type: none"> Industrial, non-recyclable waste, including maintenance, construction and demolition wastes such as building materials, non-recyclable packaging, etc; Solid waste only; Contaminants must comply with CT2 criteria
Used tyres		<ul style="list-style-type: none"> Light vehicle tyres only
Putrescible waste		<ul style="list-style-type: none"> General refuse, light industrial rubbish and bioremediated soils from site operations only; Solid waste only; Contaminants must comply with CT2 criteria

- 1.2.7 The Licensee shall ensure that wastes disposed on the Premises are only subjected to the process(es) set out in Table 1.2.4 and in accordance with any process limits described in that Table.

Table 1.2.4: Waste processing		
Waste type	Process	Process limits
All, except used tyres	Disposal of waste by burial	<ul style="list-style-type: none"> Shall only take place within the approved disposal area, as depicted on the Waste Disposal Map in Schedule 1; No waste shall be burnt
Used tyres	Storage of tyres by burial	<ul style="list-style-type: none"> To be stored in piles of up to 100 units with a 6 m separation distance between piles



- 1.2.8 The Licensee shall ensure that sufficient cover is applied and maintained on landfilled wastes in accordance with Table 1.2.5.

Table 1.2.5: Cover requirements		
Waste type	Material	Timescale
All	Clean fill or soil	<ul style="list-style-type: none"> Monthly; Waste with the potential to become windblown shall be covered as soon as practicable after deposit

2 Emissions

2.1 General

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

2.2 Point source emissions to air

- 2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 it is done so in accordance with the conditions of this Licence.

Table 2.2.1: Emission points to air			
Emission point reference	Emission Point	Emission point height (m)	Source, including any abatement
A1	Cosmic Boy lime silos (2) (vents)	12	Lime silo via bag filters
A2	Spotted Quoll paste plant binder silo (1) (vent)	22	Binder silo via bag filter
A3	Flying Fox paste plant binder silos (2) (vents)	22	Binder silo via bag filters

2.3 Point source emissions to groundwater

- 2.3.1 The Licensee shall ensure that where waste is emitted to groundwater from the emission points in Table 2.3.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.3.1: Emission points to groundwater		
Emission point reference	Description	Source including abatement
G1 – G2	Discharge into abandoned open mine pits: McMahon Pit (G1) and Lounge Lizard Pit (G2)	Saline/hypersaline groundwater from mine dewatering, treated via settling pond(s) with sufficient residence time to reduce suspended solids
G3 – G5	Direct injection below ground (Sibelius borefield)	
G6 – G7	Direct injection below ground (Liquid Acrobat borefield)	
G8 – G9	Direct injection below ground (Seagull borefield)	
G10	Discharge into abandoned underground workings (Cosmic Boy)	
G11	Discharge into abandoned open mine pit (Diggers Rock)	



- 2.3.2 The Licensee shall not cause or allow emissions to groundwater greater than the limits listed in Table 2.3.2.

Table 2.3.2: Emissions limits to groundwater			
Emission point reference	Parameter	Limit (including units)	Averaging period
G1	Electrical conductivity @ 25°C	90,000 µS/cm	Spot sample
G2		130,000 µS/cm	
G3 – G5		115,000 µS/cm	
G6 – G7			
G8 – G11			

3 Monitoring

3.1 General monitoring

- 3.1.1 The licensee shall ensure that:
- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
 - (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
 - (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
 - (d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.
- 3.1.2 The Licensee shall ensure that:
- (a) monthly monitoring is undertaken at least 15 days apart;
 - (b) quarterly monitoring is undertaken at least 45 days apart;
 - (c) six monthly monitoring is undertaken at least 5 months apart; and
 - (d) annual monitoring is undertaken at least 9 months apart.
- 3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.
- 3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.



3.2 Monitoring of point source emissions to groundwater

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

Table 3.2.1: Monitoring of point source emissions to groundwater					
Emission point reference	Monitoring point reference	Parameter	Units	Averaging Period²	Frequency
G1 – G11	MG1 – MG11 (discharge point into pit/borefield)	Volumetric flow rate (cumulative)	L/s m ³ /d	Continuous	Monthly, when discharging
		pH ¹	-	Spot sample	Annual, when discharging
		Electrical conductivity @ 25°C ¹	µS/cm		
		Total dissolved solids ¹	mg/L		
		Aluminium, antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, iron (total), lead, manganese, mercury (total), molybdenum, nickel, selenium, silver, uranium, vanadium, zinc			
		Alkalinity, ammonium, bicarbonate, carbonate, hardness, nitrate, phosphorus, silica, sulfate			

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

3.3 Process monitoring

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

Table 3.3.1: Process monitoring					
Monitoring point reference	Process description	Parameter	Units	Frequency	Method
-	Processing of ore	Amount of ore processed	tonnes	Annual	None specified
-	Tailings disposal	Amount of tailings disposed into the TSF and sent to paste plants	m ³	Continuous	
-	TSF water recovery	Amount of water recovered from the TSF			
-	TSF water management	Phreatic surface levels within TSF embankments	m AHD	Monthly	
-	Mine dewatering	Cumulative amount of mine dewater abstracted from the Flying Fox and Spotted Quoll mining operations	m ³	Continuous	



3.4 Ambient environmental quality monitoring

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

Table 3.4.1: Monitoring of ambient groundwater quality						
Monitoring point reference and location	Parameter	Limit	Units	Averaging period	Frequency	
GQ1 – GQ10 ¹	SWL	-	mAHD mbgl	Spot sample	Quarterly	
	pH	-	-			
	Electrical conductivity	-	µS/cm			
	Total dissolved solids	-	mg/L			
GQ11 – GQ15 ² GQ16 – GQ23 ³ GQ24 – GQ26 ⁴ GQ28 ⁵ GQ29 – GQ34 ⁶ GQ35 – GQ38 ⁷ GQ39 – GQ43 ⁸	SWL	≥8	mbgl			
		GQ27 ⁹				≥5
		GQ44 – GQ48 ¹⁰ GQ49 – GQ51 ¹¹ GQ53 – GQ56 ¹²				≥4
		GQ52 ¹³				≥3
		GQ11 – GQ56 WQ1 – WQ3 ¹⁴				pH
Electrical conductivity	-		µS/cm			
Total dissolved solids	-		mg/L			
Aluminium, antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, iron (total), lead, manganese, mercury (total), molybdenum, nickel, selenium, silver, uranium, vanadium, zinc	-					
Alkalinity, ammonium, bicarbonate, carbonate, hardness, nitrate, phosphorus, silica, sulfate	-					

Note 1: Cosmic Boy TSF monitoring bores (WAL reference: MB01 – MB06, MB08 – MB11);

Note 2: Flying Fox Mine monitoring bores (FFMB21 – FFMB25);

Note 3: Sibelius direct injection monitoring bores (SB06, SB08, SB14, SB18, SB19, SB21, SB22, SB25);

Note 4: Liquid Acrobat direct injection monitoring bores (LA01, LA04, LA06);

Note 5: Liquid Acrobat direct injection monitoring bore (LAX2);

Note 6: Cosmic Boy old underground workings monitoring bores (CBP2, CBP 3, CBX7, CBX9);

Note 7: Digger Rocks South mine pit monitoring bores (DRW10, DRX13, DRX14, DRX18, DRMB14);

Note 8: Digger Rocks South evaporation pond monitoring bores (DRMB02, DRMB03A, DRMB15, DRMB18, DRMB19);

Note 9: Liquid Acrobat direct injection monitoring bore (LA07);

Note 10: Seagull direct injection monitoring bores (SG01 – SG03, SG05, SEX3, SEX4);

Note 11: Mossco Farm evaporation pond monitoring bores (MFE01, MFE02, MFE04);

Note 12: Mossco Farm evaporation pond monitoring bores (MFE18 - MFE21);

Note 13: Mossco Farm evaporation pond monitoring bore (MFE08);

Note 14: Mossco Farm evaporation pond monitoring locations (MFEP1 – MFEP3).



- 3.4.2 The Licensee shall undertake a six-monthly assessment of vegetation within the area of influence of any mine dewater re-injection bores and evaporation ponds, in accordance with the Vegetation Monitoring Plan.
- 3.4.3 The assessment required by condition 3.4.2 shall include:
- (a) photographs and records of the presence and condition of key vegetation features within the area of influence;
 - (b) an appraisal of the species representation, species diversity, vegetation density, % foliage cover, and health of the vegetation communities at each quadrant established for the purpose of vegetation monitoring;
 - (c) compare the results of the assessment against previous years assessments and similar vegetation communities in the local area and identify whether any deterioration in the presence and/or quality of vegetation has taken place;
 - (d) be undertaken by a person suitably qualified in vegetation identification and sampling; and
 - (e) be undertaken in autumn and spring.

4 Improvements

4.1 Improvement program

- 4.1.1 The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.
- 4.1.2 The Licensee, for improvements not specifically requiring a written submission, shall write to the CEO stating whether and how the Licensee is compliant with the improvement within one week of the completion date specified in Table 4.1.1.

Table 4.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	The Licensee shall prepare and implement a plan for the effective, long term management of groundwater mounding in the vicinity of the Mossco Farm evaporation ponds.	1 July 2016

5 Information

5.1 Records

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



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

5.1.3 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.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 October in each year. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual Environmental Report		
Condition or table	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
-	Amount of waste disposed at each landfill site, including a break down of amounts per waste type	
-	A copy of the annual Groundwater Monitoring Summary required by Licence to Take Water GWL156459(4)	
-	A copy of the relevant triennial groundwater report required by Licence to Take Water GWL156459(4)	
-	An annual water balance for the TSF, including site rainfall, evaporation, decant water recovery volumes, seepage recovery volumes, volumes of tailings deposited	
Table 3.2.1	Monitoring of point source emissions to groundwater	
Table 3.3.1	Process monitoring	
Table 3.4.1	Monitoring of ambient groundwater quality, including a summary of the monitoring program undertaken at each site. Annual monitoring results shall be reported for the annual period of the relevant Annual Environmental Report	
3.4.2	Vegetation monitoring assessment	
5.1.2	Compliance	
5.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

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

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

Table 5.2.2: Non-annual reporting requirements				
Condition or table	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
-	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



5.3 Notification

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

Table 5.3.1: Notification requirements			
Condition or table	Parameter	Notification requirement¹	Format or form²
2.1.1	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.	N1
		Part B: As soon as practicable	
3.1.4	Calibration report	As soon as practicable.	None specified

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

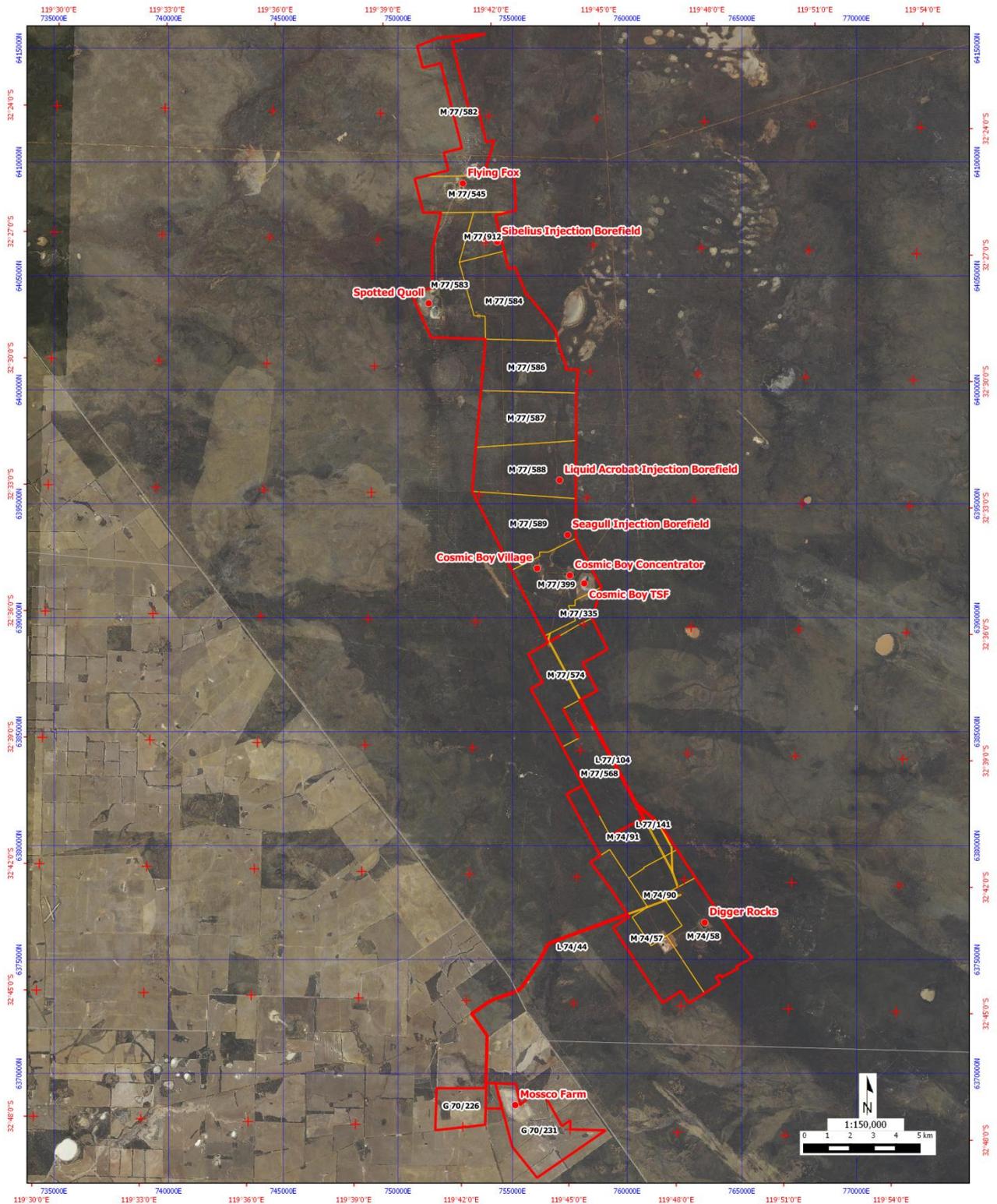
Note 2: Forms are in Schedule 2.



Schedule 1: Maps

Premises map

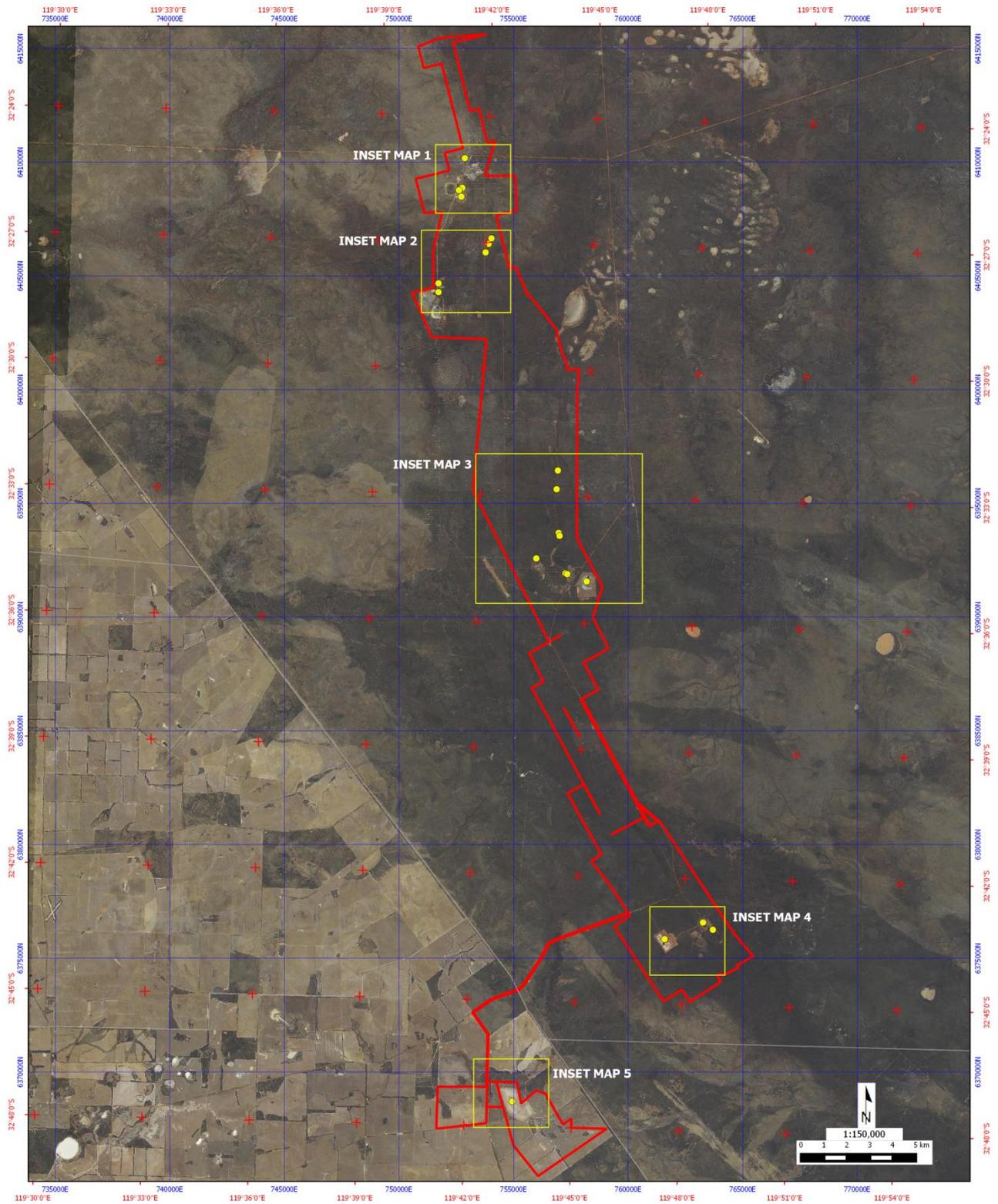
The Premises is shown in the map below. The red line depicts the Premises boundary. The orange lines depict the tenement boundaries.



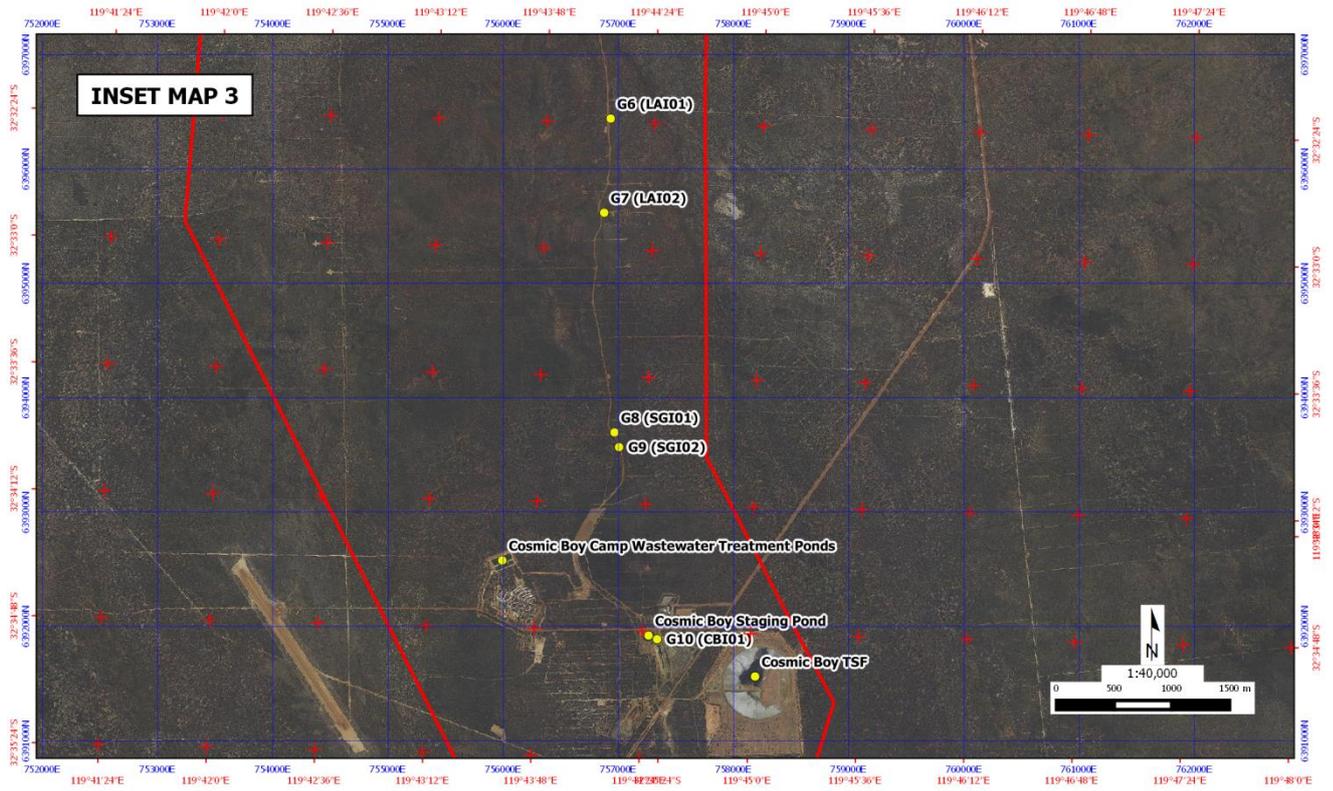


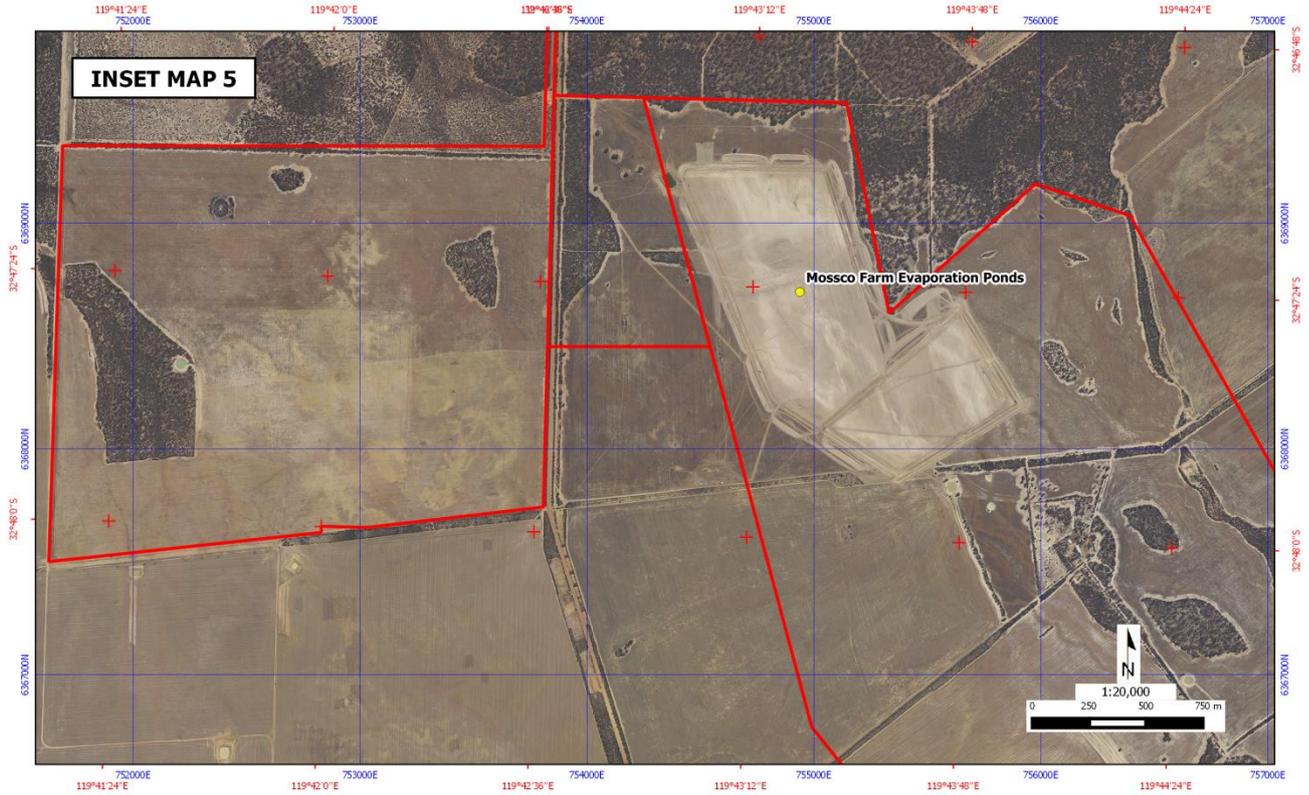
Map of containment infrastructure locations and emission points

The location of the containment infrastructure defined in Table 1.3.1 and the emission points defined in Table 2.3.1 are shown below (detailed sections for each area shown in inset maps).





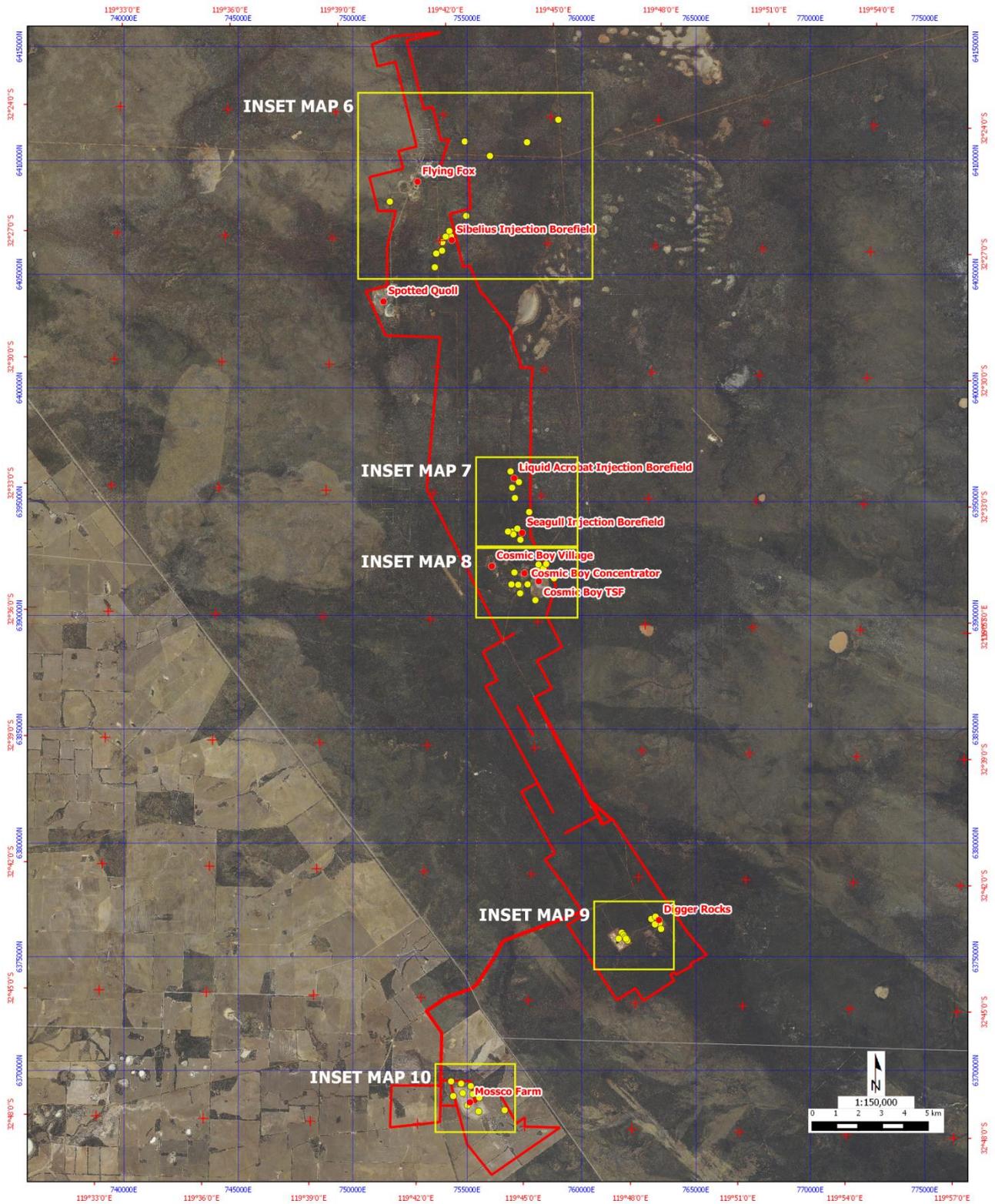


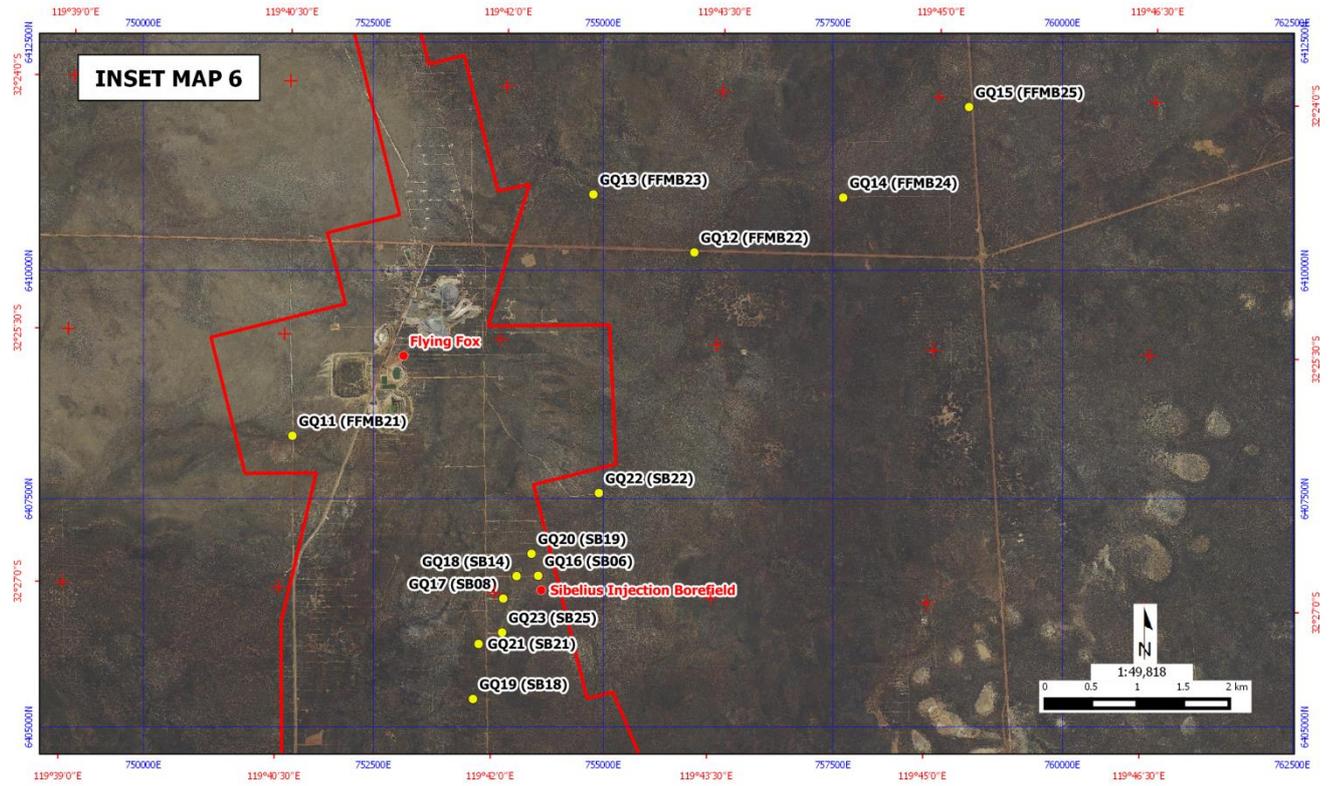


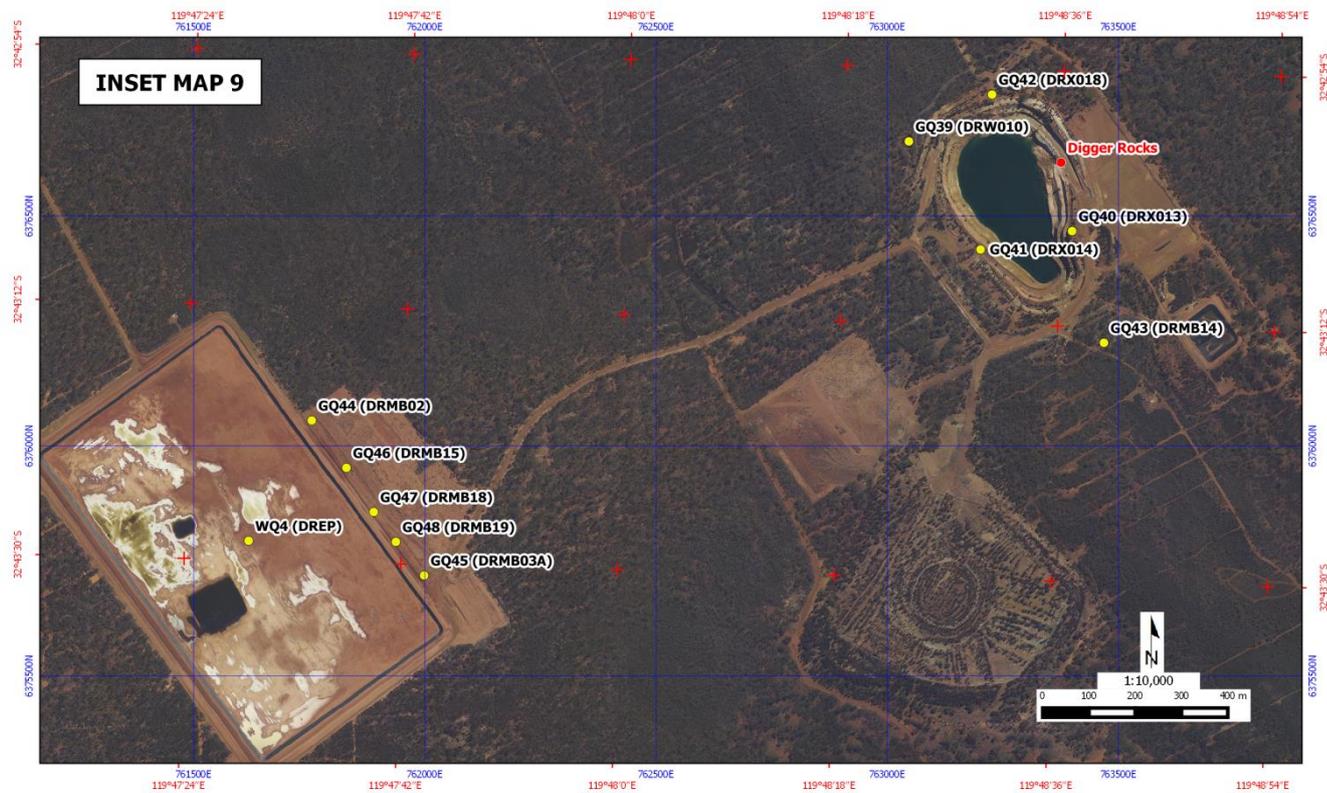


Map of monitoring locations

The locations of the monitoring points defined in Table 3.8.1 are shown below (detailed sections for each area shown in inset maps).











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 C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L8041/1995/5
Form: N1

Licensee: Western Areas Ltd
Date of breach:

Notification of detection of the breach of a limit.

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

Part A

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

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

Part B

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

Name	
Position	
Signature on behalf of Western Areas Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Licensee: **Western Areas Limited**

Licence: **L8041/1990/5**

Registered office: Level 2, 2 Kings Road
WEST PERTH WA 6005

ACN: 091 049 357

Premises address: Forrestania Nickel Operations
Forrestania – Southern Cross Road
FORRESTANIA WA 6359
Being tenements M74/57, M74/58, M74/90, M74/91, M77/335, M77/399,
M77/545, M77/568, M77/574, M77/582, M77/583, M77/584, M77/586,
M77/587, M77/588, M77/589, M77/912, L74/44, L70/111, L77/104, L77/141,
G70/226 and G70/231

Issue date: Thursday, 17 October 2013

Commencement date: Thursday, 17 October 2013

Expiry date: Sunday, 18 July 2027

Decision

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

Decision Document prepared by: Daniel Hartnup
Licensing Officer

Decision Document authorised by: Tim Gentle
Delegated Officer



Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	2
3 Executive summary of proposal and assessment	3
4 Decision table	4
5 Advertisement and consultation table	7
6 Risk Assessment	8

1 Purpose of this Document

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

2 Administrative summary

Administrative details													
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>												
Activities that cause the premises to become prescribed premises	<table border="1"> <thead> <tr> <th>Category number(s)</th> <th>Assessed design capacity</th> </tr> </thead> <tbody> <tr> <td>5: Processing or beneficiation of metallic or non-metallic ore</td> <td>600,000 tpa</td> </tr> <tr> <td>6: Mine dewatering</td> <td>6,400,000 tpa</td> </tr> <tr> <td>12: Screening, etc. of material</td> <td>150,000 tpa</td> </tr> <tr> <td>54: Sewage facility</td> <td>110 m³/d</td> </tr> <tr> <td>89: Putrescible landfill site</td> <td>1,500 tpa</td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	5: Processing or beneficiation of metallic or non-metallic ore	600,000 tpa	6: Mine dewatering	6,400,000 tpa	12: Screening, etc. of material	150,000 tpa	54: Sewage facility	110 m ³ /d	89: Putrescible landfill site	1,500 tpa
	Category number(s)	Assessed design capacity											
	5: Processing or beneficiation of metallic or non-metallic ore	600,000 tpa											
	6: Mine dewatering	6,400,000 tpa											
	12: Screening, etc. of material	150,000 tpa											
54: Sewage facility	110 m ³ /d												
89: Putrescible landfill site	1,500 tpa												
Application verified	Date: N/A												
Application fee paid	Date: N/A												
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>												
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>												
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>												
Commercial-in-confidence claim outcome													
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												



Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

3 Executive summary of proposal and assessment

This assessment sets out DER’s decision making in relation to an amendment to Licence L8041/1990/5, issued to Western Areas Limited (WAL) under Part V of the *Environmental Protection Act 1986* for the Forrestania Nickel Operations. The amendment follows a DER investigation into nickel dust being tracked through towns from damaged containers, on route from the mine to the Esperance Port. Additional changes have been made to update the licence to the current licence format, and to more accurately reflect on ground activities.

The premises is an active nickel sulfide mining operation located near Hyden on the Forrestania greenstone belt, approximately 400 km east of Perth. The operations consist of two high-grade underground nickel sulfide mines, a nickel sulfide concentration plant and associated tailings storage facility (TSF); a significant water management network including several aquifer reinjection borefields and evaporation ponds; and a 450 bed accommodation village. Nickel-bearing ore is processed at the Cosmic Boy Concentrator to produce a nickel concentrate product, which is transported in bulk to the BHP nickel smelter in Kambalda or shipped through the Esperance Port for export. Current capacity allows for the treatment of 680,000 tonnes per annum (tpa) of ore, to produce around 25,000 tonnes of nickel in ore.

In February 2016, DER undertook an investigation into the storage of WAL’s nickel concentrate containers at the Esperance Port. A number of containers were identified as being damaged, with cracks that were leading to spills of nickel concentrate on the ground and nickel dust to reside on the outside of the containers. Further investigations identified the presence of nickel dust on internal roads within the Esperance Port. Recommendations from the investigation have resulted in conditions being imposed on the mine site licence to ensure that all nickel concentrate containers are fit for purpose and pose no risk of leaking nickel dust into the environment prior to leaving the mine site.

Additional changes of significance include: an increase in the design capacity of the Cosmic Boy Concentrator to 680,000 tpa, following recent plant upgrades and modifications that has improved the processing performance; the imposition of discharge quality criteria (i.e. limits) for dewatering effluent discharge; the removal of management targets/triggers for ambient groundwater quality around discharge points; and the requirement to develop a plan for the effective, long term management of groundwater mounding in the vicinity of the Mossco Farm evaporation ponds. The licence has also been updated to the current licence format (v2.9).

DER has considered whether the risk profile of other emissions and discharges from the premises has significantly changed since the licence was renewed in 2013. No significant changes have occurred and therefore DER has not amended conditions relating to other emissions and discharges that were not within the scope of discussions with WAL.



4 Decision table

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

DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Cover page	Premises design capacity	The premises design capacity has been increased from 600,000 to 680,000 tpa following minor modifications and upgrades that have increased plant efficiency from 68 to 86 tonnes per hour.	
General conditions	Old L1.2.1 – L1.2.5	Old L1.2.2 – L1.2.5 – these conditions have been removed as they are not enforceable (not sufficiently clear or certain).	
Premises operation	Old L1.3.2 New L1.2.2	L1.3.2 has been superseded by new L1.2.2, which permits the use of dewatering effluent for dust suppression on the premises, providing it is done so in a manner that minimises damage to surrounding vegetation. Authorisation for the other uses of dewatering effluent listed in L1.3.2 are included in other conditions throughout the licence.	
	Old L1.3.3, L1.3.7, L1.3.9 New L1.2.3	L1.3.3 (Table 1.3.1) has been updated by new L1.2.3 (Table 1.2.1) to include all authorised containment infrastructure and minimum infrastructure requirements. Decant water ponds have been renamed 'staging ponds'. Freeboard requirements listed in old L1.3.7 for the TSF have been added into Table 1.2.3, in addition to the bioremediation cells from the old L1.3.9.	
	Old L1.3.4 New L1.2.4	The inspection timeframes for tailings and dewater pipelines and containment infrastructure have been revised to allow for daily inspections whilst operating, and monthly inspections if not operating.	
	Old L1.3.5 – L1.3.6	These conditions have been removed as they are not valid, enforceable or risk based.	
	Old L1.3.8 New L5.2.1	The requirement to undertake a water balance of the TSF has been included as a reporting condition in new L5.2.1.	
	Old L1.3.10 – L1.3.12 New L3.4.2 – L3.4.3	The requirement to undertake a 6-monthly assessment of vegetation within the area of influence of mine dewatering bores and evaporation ponds has been moved to Ambient Environmental Monitoring (L3.4.2 – L3.4.3).	
	Old L1.3.17 – L1.3.25	The previous landfill and wastewater treatment plant conditions have been superseded by new conditions L1.2.6 – L1.2.8. The previous conditions were more suited to operation of a municipal landfill, as such the stringent waste acceptance and covering type conditions have been reduced to reflect that of a mine site landfill.	



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
	New L1.2.6	A new condition L1.2.6 has been added to the licence to ensure all product containers leaving the premises are fit for purpose, contain no visible nickel concentrate on the external face, and the concentrate is in a dampened state. This follows an investigation into damaged containers being used for concentrate transport, which indicated there was a risk of concentrate product leaking to the environment on route to the Esperance Port from the mine site.	
Point source emissions to air including monitoring	New L2.2.1	A new condition L2.2.1 has been added to the licence to specify the authorised point source air emissions, being the lime silo vents at Cosmic Boy and the past plant binder silos at Spotted Quoll and Flying Fox.	
Point source emissions to groundwater including monitoring	Old L2.4.1 New L2.3.1 – L2.3.2 L3.2.1	There has only been minor changes to better define the authorised point source emissions to groundwater in a new Table 2.3.1. A new condition 2.3.2 has been added to impose emission limits on groundwater discharge to the reinjection borefields. These limits represent the upper concentrations based on recent groundwater discharge quality monitoring. The existing groundwater monitoring program has remained unchanged, with the exception of only requiring monitoring to be undertaken whilst discharging.	
Fugitive emissions	Old L2.6.1 – L2.6.2	These conditions have been removed as they are not valid, enforceable or risk based.	
Monitoring of inputs and outputs	Old L3.6.1	The previous L3.6.1 requiring monitoring of waste inputs has been removed, as this condition is more suited to monitoring the different waste types being accepted for disposal at a municipal landfill. This level of monitoring has been deemed unnecessary for a mine site landfill, where the only waste being disposed is from the accommodation village. Monitoring of other inputs and outputs are not required to adequately manage emissions from the Premises during operations. No specified conditions relating to the monitoring of inputs and outputs have been added to the licence.	
Process monitoring	Old L3.7.1 New L3.3.1	The old Table 3.7.1 which specifies process monitoring has been updated by the new Table 3.3.1. Monitoring of mine dewatering discharge volumes has been removed from this table and instead included in the new Table 3.2.1 Monitoring of point source emissions to groundwater.	
Ambient quality monitoring	Old L3.8.1 New L3.4.1	The old Table 3.8.1 which specifies the ambient groundwater monitoring program, has been restructured in a new Table 3.4.1 to make it more reader friendly. The management targets specified in the old Table 3.8.1 have been removed; however the limits have been retained. The previous target exceedance reporting has been replaced with an improvement condition, to require the submission of a long term plan to manage groundwater mounding in the vicinity of the Mossco Farm	



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
		evaporation ponds.	
Improvements	L4.1.1 – L4.1.2	IR1 – submission of a plan for the effective, long term management of groundwater mounding in the vicinity of the Mossco Farm evaporation ponds. (Refer Ambient quality monitoring).	
Information	L5.1.1 – L5.1.3 L5.2.1 – L5.2.3 L5.3.1	Conditions relating to minimum record keeping requirements have been included in the licence. Submission of an annual environmental report including a description of activities undertaken during the reporting period and a summary of all monitoring undertaken, including an appraisal against previous monitoring data, has been included. A notification condition for breaches of licence limits has also been included.	
Licence Duration	N/A	The licence is due to expire in October 2018. In accordance with DER Guidance Statement: <i>Licence Duration</i> (May 2015), the expiry of the amended licence has been extended to align with the first of the relevant mining tenements to expire, being tenement M77/912 (18 July 2027).	DER Guidance Statement: <i>Licence duration</i> (May 2015)



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/05/2015	Proponent sent a copy of draft instrument (v1)	WAL queried the basis of the proposed discharge limits on the aquifer reinjection borefields, as the limit proposed for Sibelius would not be achievable. Suggestions made on increasing the limits in line with current discharge water quality.	The proposed limits have been revised to reflect the upper concentrations of current discharges. This may require review at a later date.
		The septic discharge to the evaporation ponds cannot be measured with a flow meter, and will need to be estimated.	This requirement has been removed from Table 3.3.1.
23/03/2016	Proponent sent a copy of draft instrument (v2)	A number of monitoring bores listed in the ambient groundwater quality monitoring suite are dry.	Where a bore exists for the purposes of monitoring plumes of contamination resulting from seepage, a dry bore is a compliant monitoring result and it is not a non-compliance (breach) to report 'no standing water' or 'dry bore'.
		The GWL's in the table have been superseded.	Table 5.2.1 has been updated to the correct GWL.
29/03/2016	Proponent sent a copy of draft instrument (final)	Request for Digger Rocks evaporation pond to be reinstated as an authorised discharge point.	Pond has been reinstated in Table 1.2.1 as an authorised containment infrastructure.
		Request to increase the design capacity of the processing facility to 680,000 tpa.	Design capacity has been increased to 680,000 tpa.



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