



Licence

Environmental Protection Act 1986, Part V

Licensee: Mincor Operations Pty Ltd

Licence: L8577/2011/2

Registered office: 56 Ord Street
WEST PERTH WA 6005
ACN: 094 977 321

Premises address: Miitel & Mariners Mines
Mining Tenements M15/83, M15/85, M15/91, M15/92, M15/93, M15/543,
M15/667, M15/668 and L15/243, Norseman-Coolgardie Highway
WIDGIEMOOLTHA WA 6443
As depicted in Schedule 1.

Issue Date: Friday 15 July 2011

Commencement Date: Friday 15 July 2011

Expiry Date: Sunday, 14 July 2024

Prescribed Premises Category

Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	Premises production or design capacity
85	Sewage facility	More than 20 but less than 100 m ³ per day	50 m ³ per day
89	Putrescible landfill site	More than 20 tonnes but less than 5 000 tonnes per year	200 tonnes per year

Conditions of Licence

Subject to the conditions of the licence set out in the attached pages.

Date signed: 12 May 2016

.....
Tim Gentle

Officer delegated under Section 20
of the *Environmental Protection Act 1986*



Contents

Licence	1
Contents	2
Introduction	2
Licence conditions	4
1 General	4
2 Emissions	7
3 Monitoring	8
4 Information	9
Schedule 1: Maps	11
Schedule 2: Reporting & notification forms	16

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

Mincor Resources NL (Mincor) is owner of the Miitel and Mariners mines located in the Coolgardie Mineral Field. Miitel and Mariner Mine sites are located within the Shire of Coolgardie approximately 12 km south-east of the Widgiemooltha town site and 65 km south of Kambalda. The primary ore mined from Miitel and Mariners mines is nickel bearing ore which is transported to BHP Billiton's Kambalda Nickel Concentrator for processing.

Mine dewatering is required at the Miitel and Mariners underground mines to allow extraction of ore with dewater transferred to lined ponds for settlement of suspended solids. The excess water is then transported via buried pipelines to Dordie Pit, Lake Fore and Lake Lefroy for discharge. However, Miitel and Mariner Mine sites have entered a period of care and maintenance and in February 2016, ceased dewatering. This licence amendment removes category 6 to reflect the status of dewatering. Mincor will still be permitted to utilise abstracted groundwater for dust suppression purposes and will be required to inspect dewatering pipelines when in use to prevent a significant discharge of hypersaline water in the event of pipeline failure.

Landfill and wastewater treatment activities will remain active at the mine sites although at a reduced capacity. Therefore Mincor have opted to retain categories 85 (wastewater treatment) and 89 (landfill) on the Licence. Conditions relating to the environmental management of the landfill will continue to align with the *Environmental Protection (Rural Landfill) Regulations 2002*. Wastewater volumes may not be sufficient to require discharge during care and maintenance although should the workforce increase, treated effluent is still authorised to be discharged via irrigation to a 2.0 ha fenced area.

The licences and works approvals issued for the Premises since 18/07/2013 are:

Instrument log		
Instrument	Issued	Description
L8577/2011/1	18/07/2013	Proponent amendment and DER conversion to REFIRE format
L8577/2011/2	12/05/2016	Licence amendment to remove category 6 (dewatering)

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:

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

'AHD' means the Australian height datum;

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

'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 5667.4' means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made*;

'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;

Manager - Licensing (Resource Industries)

At the following address:

Department Administering the *Environmental Protection Act 1986*
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: info@der.wa.gov.au

'Licence' means this Licence numbered L8577/2011/1 and issued under the *Environmental Protection Act 1986*;

'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;

'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 April to 30 June, 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March; and

'waste' has the meaning defined in the *Environmental Protection Act 1986*;

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the current version of that standard.

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 saline dewater effluent are either:

- a) equipped with telemetry systems and pressure sensors along pipelines to allow for the detection of leaks and failures; or
- b) equipped with automatic cut-outs in the event of a pipe failure; or
- c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

1.2.2 The Licensee shall ensure that any saline dewater effluent shall only be used for dust suppression.

1.2.3 The licensee shall;

- a) undertake inspections as detailed in Table 1.2.1;
- b) where any inspection identified that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
- c) maintain a record of all inspections undertaken.

Table 1.2.1 Inspection of infrastructure¹

Scope of inspection	Type of inspection	Frequency of inspection
Dewatering pipeline	Visual integrity	Daily

Note 1: Infrastructure only to be inspected when in use



- 1.2.4 The Licensee shall undertake the assessment of vegetation health as detailed in Table 1.2.2. The assessments shall:
- photograph and record the presence and condition of vegetation at the locations defined in Table 1.2.2; and
 - compare the results of the assessment against previous years assessments and identify whether any deterioration in the presence and/or quality of vegetation has taken place.

Table 1.2.2: Vegetation health monitoring	
Monitoring point reference and location	Frequency
Lake Lefroy shoreline vegetation: Photographic Monitoring Points: LPM1 and LPM2 Lake Fore shoreline vegetation: Photographic Monitoring Points: FPM1, FPM2 and FPM3	Annually between the months June to August

- 1.2.5 The Licensee shall only accept and bury waste in the landfill if it is of a type listed in Table 1.2.3. All other wastes shall be removed from the Premises by the delivery vehicle or, where that is not possible, the Licensee shall contact the CEO to agree a course of action in relation to the waste.

Table 1.2.3 Waste acceptance		
Waste type	Quantity limit tonnes/ year	Specification ¹
Clean fill	200	None specified
Inert Waste Type 1		None specified
Putrescible Wastes		None specified
Other wastes that comply with Class II criteria in the document titled Landfill Waste Classification and Waste Definitions 1996 (as amended).		None specified

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

- 1.2.6 The Licensee shall ensure that wastes accepted onto the landfill are only subjected to the process 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(es)	Process limits ^{1,2}
Putrescible Waste	Receipt, handling and disposal of waste by landfilling	All waste types Disposal of waste by landfill shall only take place within the landfill area shown on the Landfill Area Map in Schedule 1. The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2 m.
Inert Waste Type 1		

Note 1: Requirements for landfilling tyres are set out in Part 6 of the Environmental Protection Regulations 1987.

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



- 1.2.7 The Licensee shall manage the landfilling activities to ensure:
- a) waste is levelled and compacted as soon as practicable after it is discharged;
 - b) waste is placed and compacted to ensure all faces are stable and capable of retaining restoration material; and,
 - c) restoration of a cell or phase takes place within 6 months after disposal in that cell or phase has been completed.
- 1.2.8 The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 1.2.5 and that sufficient stockpiles of cover are maintained on site at all times.

Table 1.2.5 Cover requirements			
Waste type	Material	Depth	Timescales
Putrescible Waste	Inert and combustible material	Sufficient to ensure the waste is completely covered and that no waste is exposed	Cover shall be applied monthly
Inert Waste Type 1	No cover required		

- 1.2.9 The Licensee shall:
- a) implement security measures at the site to prevent as far as is practical unauthorised access to the site;
 - b) undertake regular inspections of all security measured and repair damage as soon as practicable.
- 1.2.10 The Licensee shall ensure that wind-blown waste is contained within the boundary of the Premises and that wind-blown waste is returned to the tipping area on at least a weekly basis.

2 Emissions

2.1 General

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

2.2 Emissions to land

- 2.2.1 The Licensee is permitted, subject to conditions in the Licence, to emit waste to land through the emission points listed in Table 2.3.1 and identified in the Map of emission points in Schedule 1.

Table 2.3.1: Emissions to land			
Emission point reference	Emission point reference on Map of emission points	Description	Source including abatement
L2	Irrigation field	Sewage facility irrigation field	Sewage facility



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

Table 2.3.2: Emission limits to land				
Emission point reference	Emission point reference on map of emissions	Parameter	Limit (including units)	Averaging period
L2	Irrigation Field	Maximum inorganic nitrogen addition	480 kg/hectare/year ¹	Spot sample
		Maximum inorganic phosphorus addition	120 kg/hectare/year ¹	

Note 1: Water Quality Protection Note- Irrigation with nutrient-rich wastewater, WQPN 22, July 2008

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 samples are collected in accordance with AS/NZS 5667.10;
 - (c) all surface water sampling is conducted in accordance with AS/NZS 5667.4, AS/NZS 5667.6 or AS/NZS 5667.9 as relevant; and
 - (d) all samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured.
- 3.1.2 The Licensee shall ensure that:
- (a) monthly monitoring is undertaken at least 15 days apart; and,
 - (b) six monthly monitoring is undertaken at least 5 months apart.

3.2 Monitoring of point source emissions to surface water

- 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 surface water			
Emission point reference	Parameter	Units	Frequency
Lake Lefroy monitoring site 2; and Lake Fore monitoring sites 3 and 6	Salt crust thickness	mm	Six monthly (June and December)
Lake Lefroy tide gauge location LTG1; and Lake Fore tide gauge location FTG2	Water levels in lakes	mm	Monthly



3.3 Monitoring of emissions to land

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: Monitoring of emissions to land

Emission point reference	Parameter	Units	Frequency
L2	Biochemical Oxygen Demand (BOD)	mg/L	Annually ¹
	Total Suspended Solids (TSS)	mg/L	
	Total Nitrogen (TN)	mg/L	
	Total Phosphorus (TP)	mg/L	
	Turbidity	NTU	
	Chlorine Residual	mg/L	
	pH	pH units	
	E. Coli	cfu/100ml	
	Volume discharged	m ³	Each discharge

Note 1: Annual monitoring to be conducted annually where there is at least one discharge greater than 20 m³ in one day.

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:

- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or groundwater.

4.1.2 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.

4.1.3 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 year.

4.1.4 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.



4.2 Reporting

4.2.1 The Licensee shall submit to the CEO at the Contact Address an annual environmental report within 90 calendar days after of the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual environmental report		
Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken	None specified
4.1.3	Compliance	AACR
4.1.4	Complaints summary	None specified
Table 1.2.2	Shoreline vegetation monitoring	None specified
Table 3.3.1	Salt crust thickness, water levels, inundation and assessment of discharge points	None specified
Table 3.2.1	pH, Total Dissolved Solids, Total Suspended Solids, Cadmium, Selenium, Iron, Cobalt, Lead, Copper, Nickel, Zinc, Arsenic, Sodium, Potassium, Calcium, Magnesium, Chlorine, Carbonate, Bicarbonate, Sulphate, Nitrate, Biochemical Oxygen Demand (BOD), Total Nitrogen (TN), Total Phosphorus (TP), Turbidity, Chlorine Residual, pH, E. Coli	None specified

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall ensure that the annual environmental report also contains:

- any relevant process, production or operational data;
- an assessment of the information contained within the report against previous monitoring results and Licence limits; and
- a list of any original monitoring reports submitted to the Licensee from third parties in the reporting period and make these reports available on request.

4.3 Notification

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

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement ¹	Format or form ²
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. Part B: As soon as practicable	N1

Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.

Note 2: Forms are in Schedule 2

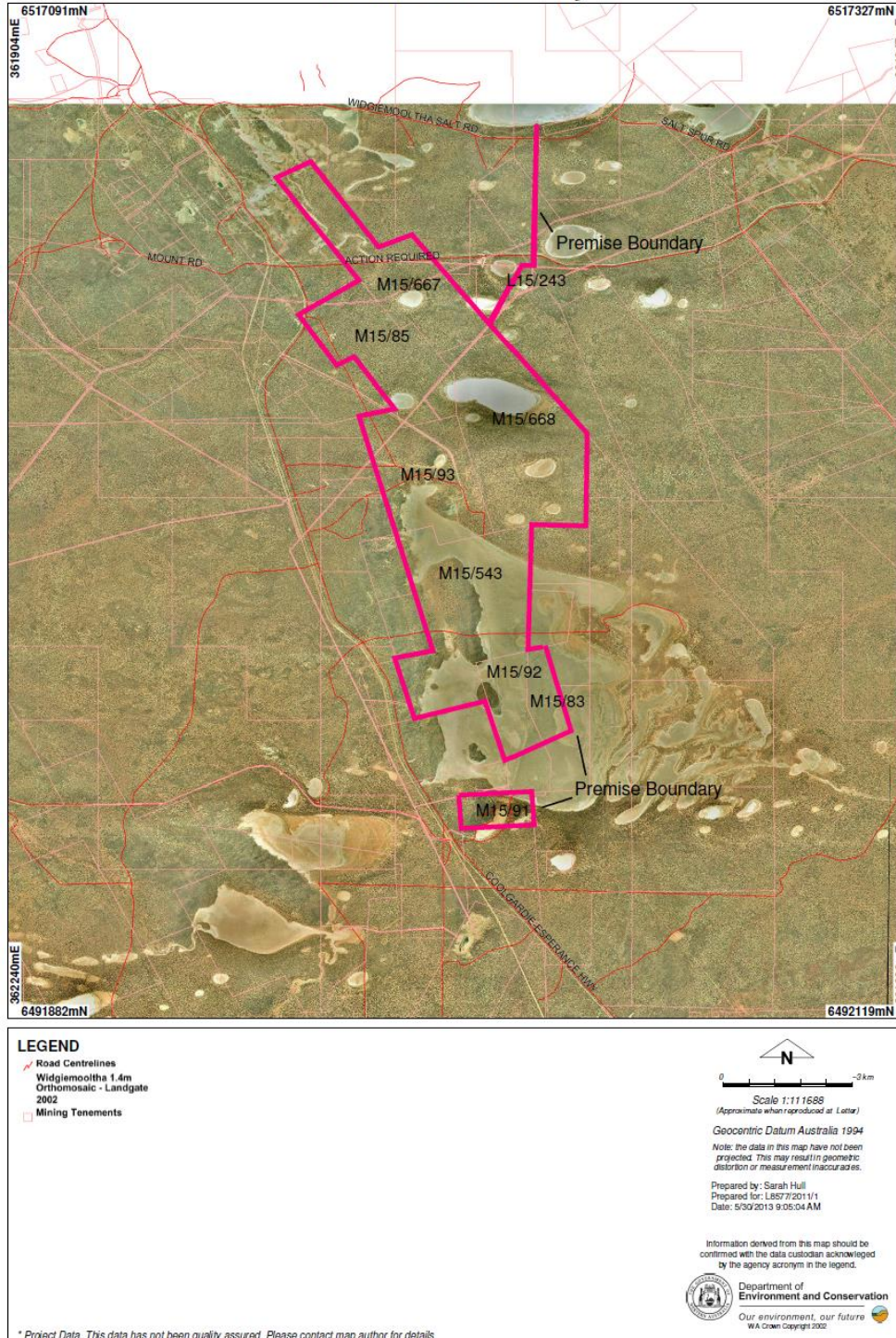


Schedule 1: Maps

Premises map

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

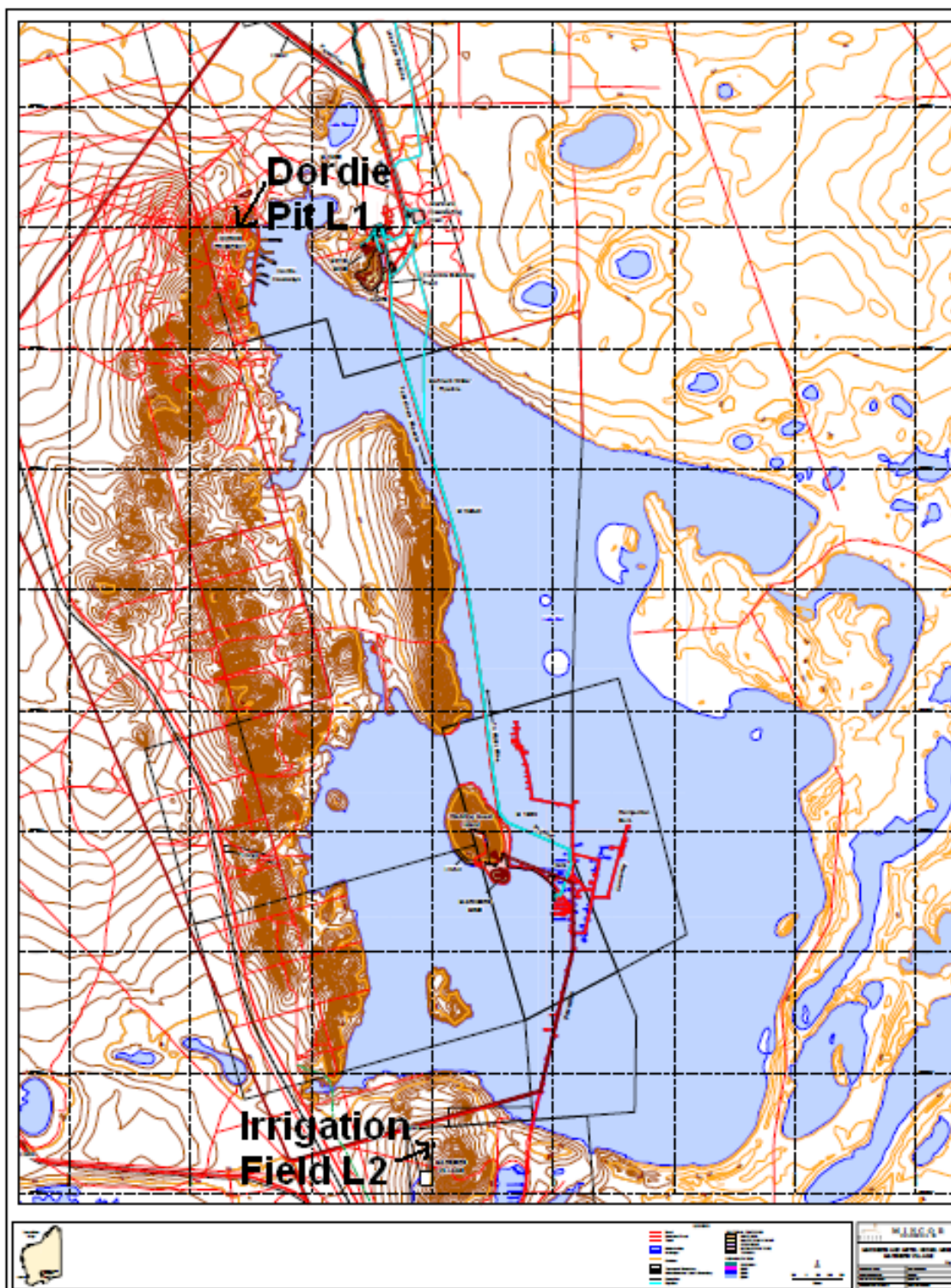
Premise Boundary





Map of emission points

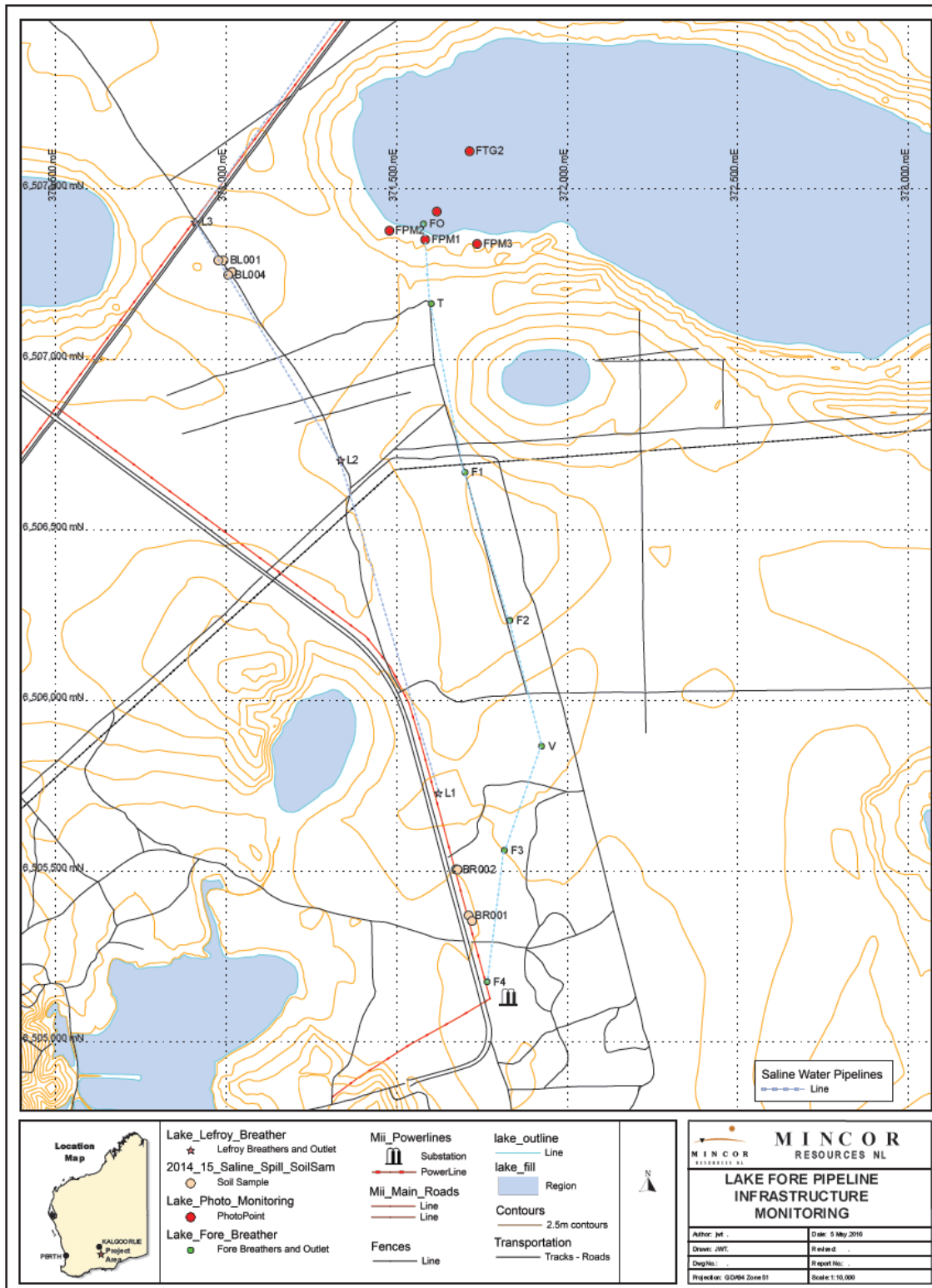
The location of the emission point defined in Table 2.3.1 is shown below.

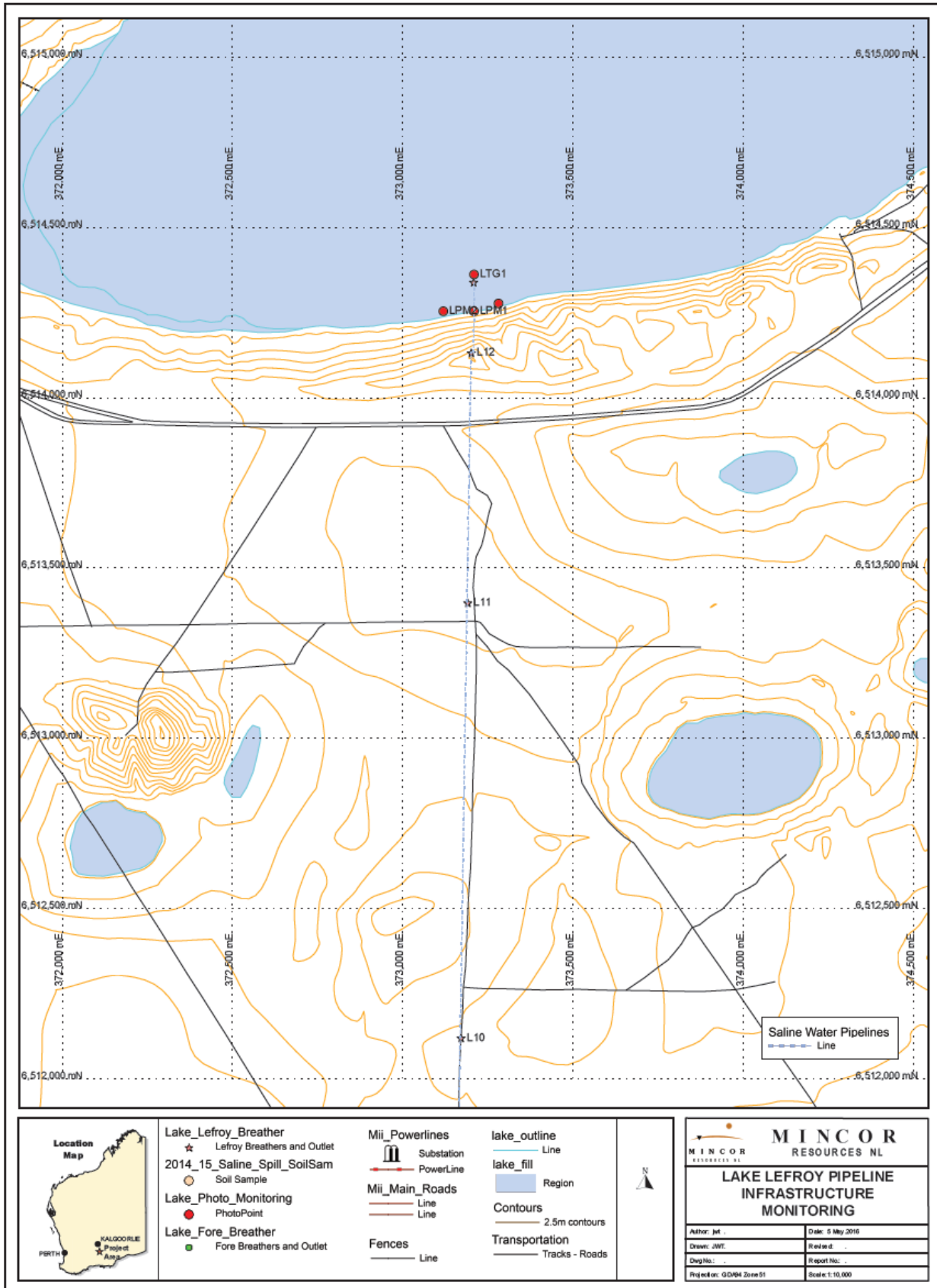


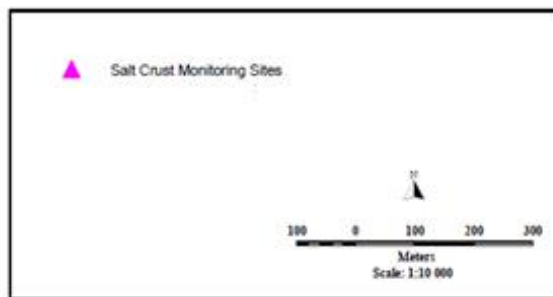
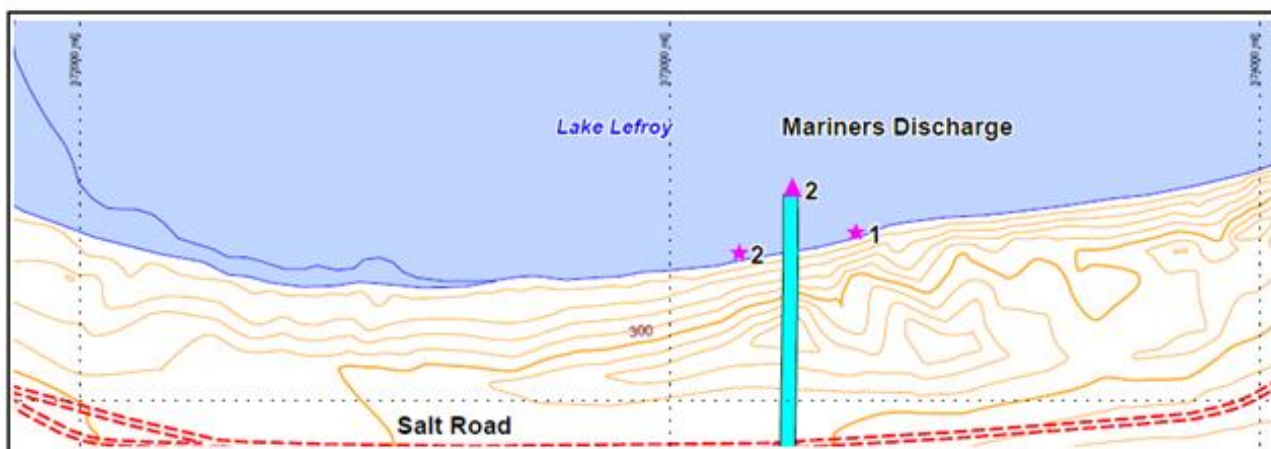


Map of monitoring locations

The locations of the monitoring points defined in Tables 1.2.2 and 3.3.1 are shown below.







 MINCOR RESOURCES NL	
MARINERS AND MIITEL MINES SALINE PIPELINE LAYOUT	
Fig 2	
Author: Rob Hartley	Date: 15/05/2004
Drawn: Meridian GIS	Revised:
Drawn No.: MCR 04023	Report No.:
Projection: GDA 94 Zone 51	Scale: 1 : 10 000



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.

Copies of the original monitoring reports must also be submitted.

Licence:	L8577/2011/1	Licensee: Mincor Operations Pty Ltd
Form:	AACR	Period :
Name:	Annual audit compliance report	

Annual audit compliance report

Section A: Statement of compliance with Licence conditions

Were all conditions of licence complied with within the reporting period?		
Yes	<input type="checkbox"/>	Initial Sections A & B, then proceed to Section C
No	<input type="checkbox"/>	Initial Section A, then 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

a) Licence condition not complied with?	
b) Date(s) b) Date(s) and time(s) the non compliance occurred, if applicable?	
c) Was this non compliance reported to DER?	
<input type="checkbox"/> Yes, and <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 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	

Please use a separate page for each Licence condition that was not complied with. Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:



Section C: Signature and certification

This AACR may only be signed by a person(s) with legal authority to sign it as defined 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 AACR must be signed and certified:
an individual	<input type="checkbox"/>	by the individual Licence holder, or
	<input type="checkbox"/>	by a person approved in writing by the Chief Executive Officer (CEO) of DER to sign on the Licensee's behalf.
a corporation	<input type="checkbox"/>	by affixing the common seal of the Licensee in accordance with the Corporations Act 2001; or
	<input type="checkbox"/>	by two directors of the Licensee; or
	<input type="checkbox"/>	by a director and a company secretary of the Licensee, or
	<input type="checkbox"/>	if the Licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	<input type="checkbox"/>	by the principal executive officer of the Licensee; or
	<input type="checkbox"/>	by a person with authority to sign on the Licensee's behalf who is approved in writing by the CEO of DER.
A public authority (other than a local government)	<input type="checkbox"/>	by the principal executive officer of the Licensee; or
	<input type="checkbox"/>	by a person with authority to sign on the Licensee's behalf who is approved in writing by the CEO of DER.
a local government	<input type="checkbox"/>	by the CEO of the Licensee; or
	<input type="checkbox"/>	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 AACR 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: L8577/2011/1
Form: N1

Licensee: Mincor Operations 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

To be notified as soon as practicable and no later than 5PM of the next working day

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 - to be submitted as soon as practicable

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 unauthorised emissions from the installation in the preceding 24 months.	



Name*	
Post	
Signature on behalf of Mincor Operations Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Mincor Operations Pty Ltd

Licence: L8577/2011/2

Registered office: 56 Ord Street
WEST PERTH WA 6005

ACN: 094 977 321

Premises address: Mitel & Mariners Mines
Mining Tenements M15/83, M15/85, M15/91, M15/92, M15/93, M15/543,
M15/667, M15/668 and L15/243, Norseman-Coolgardie Highway
WIDGIEMOOLTHA WA 6443
As depicted in Schedule 1.

Issue Date: Friday 15 July 2011

Commencement Date: Friday 15 July 2011

Expiry Date: Sunday, 14 July 2024

Decision

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

Decision Document prepared by: Clarrie Green
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
Appendix A	9

1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	85	Sewage facility
	89	Putrescible landfill site
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 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, eg Site is subject to SO ₂ requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Mincor Resources NL (Mincor) is owner of the Miitel and Mariners mines located in the Coolgardie Mineral Field. Miitel and Mariner Mine sites are located within the Shire of Coolgardie approximately 12 km south-east of the Widgiemooltha town site and 65 km south of Kambalda. The primary ore mined from Miitel and Mariners mines is nickel bearing ore which is transported to BHP Billiton's Kambalda Nickel Concentrator for processing.

Miitel and Mariner Mine sites have entered a period of care and maintenance and in February 2016, ceased dewatering. This licence amendment removes category 6 to reflect the status of dewatering although some conditions relating to dewatering and dewatering impact monitoring have been retained. Justification is provided in the decision table below.

Landfill and wastewater treatment activities will remain active at the mine sites although at a reduced capacity with Mincor opting to retain categories 85 (wastewater treatment) and 89 (landfill) on the Licence. Conditions relating to the environmental management of the landfill will continue to align with the *Environmental Protection (Rural Landfill) Regulations 2002*. Wastewater volumes may not be sufficient to require discharge during care and maintenance although should the workforce increase, treated effluent is still authorised to be discharged via irrigation to a 2.0 ha fenced area.



4 Decision table

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

DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	Former conditions 1.2.1 to 1.2.5	Generic conditions L1.2.1 to 1.2.5 have been removed from the Licence as they are unclear in their intent and are therefore unenforceable. General provisions of the <i>Environmental Protection Act 1986</i> adequately regulate the release of environmentally hazardous materials to the environment.	General provisions of the <i>Environmental Protection Act 1986</i> .
Premises operation	L1.2.1 L1.2.2 – 1.2.3 L1.2.4	<p>The transport of hydrocarbons is regulated by the Department of Mines and Petroleum (DMP) and is not intended for inclusion in any reference to “environmentally hazardous materials” at DMP-regulated mine sites. Therefore condition L1.2.1 has been amended to specify the limitations of environmental protection requirements to saline dewater effluent only. In amending the condition, an option to implement telemetry systems over bunding or automatic cut-outs has also been included to L1.2.1.</p> <p>Operation – care and maintenance Although dewatering for the purposes of extracting mineral ore has ceased while the site is in care and maintenance there may remain a need for groundwater abstraction for the purposes of dust suppression. Condition 1.2.2 has been amended to restrict the discharge of abstracted groundwater to being for dust suppression purposes only. As pipelines may still be utilised during care and maintenance on an as needed basis, inspection requirements have reduced to daily when dewatering infrastructure is in use.</p> <p>Condition L1.2.4 has been applied to the Licence to ensure the continuation of shoreline vegetation monitoring. Already a requirement of annual reporting, shoreline vegetation monitoring during care and maintenance will assist in measuring the real impacts of dewatering from the Miitel and Mariners Mines. Further assessment and decision making is detailed in Appendix A.</p>	N/A



DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to surface water including monitoring	L3.2.1 L1.2.4	DER's assessment and decision making are detailed in Appendix A.	N/A
Emissions to land including monitoring		DER's assessment and decision making are detailed in Appendix B.	Australian Standard AS/NZS 5667.1 – Water Quality – Sampling – Guidance on the Design of sampling programs, sampling techniques and the preservation and handling of samples
Fugitive emissions	Former condition L2.6.1	<u>Emission Description</u> Emission: The risk of dust emissions remains from vehicle movements and unsealed cleared areas. Impact: Miitel and Mariners Mines are located approximately 17km south of Widgiemooltha and dust is extremely unlikely to impact amenity to the nearest residential receptor. Controls: Fugitive dust emissions are likely to reduce with decreased vehicle movements during care and maintenance. <u>Risk Assessment</u> Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low <u>Regulatory Controls</u> The former generic fugitive condition has been removed from the Licence as it is no	N/A



DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		longer considered enforceable or clear in its intent. As there is an already low environmental and human health risk from dust emissions at Miitel and Mariners Mines, this condition has not been replaced.	
Odour	Former condition L2.7.1	Former condition 2.7.1 has been removed as it is no longer considered enforceable. No replacement condition has been added to the Licence as odours from mining activities at Miitel and Mariners Mines are not anticipated to impact the nearest human receptors at Widgiemooltha approximately 17 km to the north.	N/A
Information	4.2.2	Following a review of an Annual Environmental Report, DER's Compliance and Enforcement Branch referred an amendment to Licence L8577/2011/1 to remove condition 5.2.2(a) as this condition refers to 3.1.3, which no longer exists. Reference to condition 3.1.3 has been removed although Mincor will still be required to provide throughput information on each prescribed activity in annual reports.	N/A
Licence Duration	N/A	The Licence has been extended until 14 July 2024 to more closely align with Mincor's mining lease M15/243, which is the tenement within the premises boundary that is soonest to expire.	DER Guidance Statement: Licence Duration, May 2015



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/04/2016	Proponent sent a copy of draft instrument	<ol style="list-style-type: none">1) Update on vegetation monitoring locations.2) Request not to require botanist to conduct vegetation monitoring.3) Remove the requirement to conduct spot sampling at the WWTP where there is no discharge.	<ol style="list-style-type: none">1) Maps added to Licence to indicate vegetation monitoring locations.2) Accepted due to low risk and no declared rare flora or threatened ecological communities in potential impact area.3) Note added to only require annual sampling where a discharge greater than 20 m³ per day occurs.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Point source emissions to surface water including monitoring – care and maintenance

Emission Description

Emission: Discharge of hypersaline mine dewater to Lake Fore and Lake Lefroy.

Impact: Discharging mine dewater to Lake Fore and Lake Lefroy increases the risk of hypersaline water coming into contact with shoreline vegetation. A review of the 2014/15 Annual Environmental Report identified that water levels at Lake Fore were close to shoreline vegetation, which may cause stress or even death if contact were to be made. Hypersaline dewater discharges can also increase the salt crust thickness on the lake surface. Increasing the thickness of the salt crust can limit the ability of aquatic invertebrates to become active, reducing the opportunity for adults to replace eggs that are also in resting stages where surface salt content is high.

Controls: No further mine dewater discharges to surface water will occur while the site is in care and maintenance, reducing the likelihood to rare.

Risk Assessment

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

Surface water on both lakes is dependent on a number of factors including wind, rainfall and mine dewater discharges. Mincor's real impacts on the salt crust thickness and proximity of water to vegetation are unknown as other mine sites also discharge dewater to the lakes. Given that dewatering is likely to be required when the Miitel and Mariners Mines are taken out of care and maintenance, continuation of salt crust thickness monitoring and water levels will assist DER in better understanding the risk of discharging mine dewater from Miitel and Mariners Mine to the two salt lakes.

Therefore existing surface water monitoring conditions shall remain on the licence. The addition of vegetation health monitoring condition L1.2.4 does not increase the level of monitoring as this is already conducted in accordance with previous and current licence reporting conditions.



Appendix B

Emissions to land including monitoring – dewatering discharges to Dordie Pit

Emission Description

Emission: Abstracted groundwater from the Miitel Dam discharged to Dordie Pit seeping through to groundwater.

Impact: Discharges to Dordie Pit may raise surrounding groundwater levels to within the root zone of native vegetation, which has the potential to cause vegetation stress or even death. Table 2 shows the groundwater chemistry of both Miitel dam and Dordie Pit. Due to the similarities, mine dewater is expected to form the same aquifer as Dordie Pit.

Table 2. Groundwater chemistry of Miitel Dam and Dordie Pit

Parameter	Unit	Miitel Dam	Dordie Pit
TDS	mg/L	210,000	209,000
pH	ph units	7.2	7.4
CO ₃	mg/L	<1.0	<1.0
Cl	mg/L	130,000	110,000
SO ₄	mg/L	9,300	10,000
Na	mg/L	61,000	57,000
K	mg/L	1,000	940
Ca	mg/L	890	790
Mg	mg/L	6,700	8,000
NO ₃	mg/L	11	14
Co	mg/L	<1.0	<0.26
Cu	mg/L	<0.5	0.15
Pb	mg/L	<0.5	<0.4
Ni	mg/L	1.4	11
Se	mg/L	<2.0	<1.0
As	mg/L	<2.0	0.40

As the mine moves into care and maintenance the requirement to dewater is removed and with it, the likelihood of rising standing water levels. Although the risk of groundwater contamination is also expected to decline as dewatering discharges cease, there may be a small increase in the salinity of water within the Dordie Pit due to evaporation. There are no known incidence of stygofauna in groundwater within the vicinity of Dordie Pit.

Controls: No controls are proposed other than to cease dewatering during care and maintenance.

Risk Assessment

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

As the risk of groundwater contamination is low, monitoring associated with the discharge of dewatering effluent to the Dordie Pit is not required. The removal of monitoring conditions does not change the risk of environmental impact.



Emissions to land including monitoring – treated wastewater irrigation

Emission Description

Emission: Treated effluent from the wastewater treatment plant (WWTP) irrigated to land increasing the nutrient content of soil and potentially nearby watercourses such as Lake Zot.

Impact: High concentrations of nutrients within soils may result in the promotion of weed growth over less competitive native species. Eutrophication of localised areas of Lake Zot may also occur near to the irrigation area in the event of highly elevated nutrients within discharges although this is very unlikely. Although nutrient loading rates have not consistently achieved compliance with targets on the previous Licence, total throughput at the WWTP in the 2014/15 reporting period averaged 0.28 m³/day. This volume is not expected to increase during care and maintenance as the number of workers present on site is significantly reduced. Therefore it is highly unlikely that nutrient loading will exceed existing limits on the Licence meaning that the risk of weed growth and water/soil contamination is low.

Controls: With a declining workforce throughputs will also be reduced.

Risk Assessment

Consequence: Insignificant

Likelihood: Unlikely

Risk Rating: Low

Regulatory Controls

As the risk of eutrophication and significant weed growth is low no targets or limits are considered necessary. There remains a risk that once the workforce increases, treatment of effluent may be poor until suitable levels of bacteria are developed in the system. Therefore existing conditions that require monitoring of discharge quality and volume will provide confidence that discharges to land from the WWTP are not resulting in unacceptable levels of nutrient loading. However, should discharges be insignificant (less than 20 m³/day on every day throughout the annual period) then no monitoring will be required as it would be highly unlikely that eutrophication of Lake Zot would occur.