



# Licence

## *Environmental Protection Act 1986, Part V*

**Licensee:** Silver Lake (Integra) Pty Limited

**Licence:** L8457/2010/2

**Registered office:** Silver Lake (Integra) Pty Limited  
Suite 4, Level 3, South Shore Centre  
85 South Perth Esplanade  
SOUTH PERTH WA 6151

**ACN:** 093 278 436

**Premises address:** Salt Creek Processing Facility  
Mount Monger Road  
EMU FLAT WA 6431  
Being Tenements M25/307, M25/125, M25/133, M25/71, G25/02,  
L25/33, M25/347, L25/27 and L25/31 as depicted in Schedule 1.

**Issue date:** Thursday, 05 September 2013

**Commencement date:** Friday, 06 September 2013

**Expiry date:** Tuesday, 05 September 2023

**Prescribed premises category**

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
05	Processing or beneficiation of metallic or non-metallic ore: premises on which – (a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) Tailings from metallic or non-metallic ore are reprocessed; or (c) Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	50 000 tonnes or more per year	1 700 000 tonnes per annual period
06	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	50 000 tonnes ore more per year	200 000 tonnes per annual period

**Conditions**

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

Date signed: 7 October 2016

.....  
Danielle Eyre  
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**

Salt Creek Processing Facility is operated by Silver Lake (Integra) Pty Limited. Silver Lake Resources (SLR) took 100% ownership of Integra Mining Limited in January 2013. The Salt Creek Processing Facility is located approximately 60 kilometres (km) south east of Kalgoorlie, situated on tenements M25/347 and L25/31 (Schedule 1). Salt Creek Processing Facility is a gold mining and minerals processing operation which sources ore from three SLR owned pits (Lucky Bay, Salt Creek, Maxwell's and Cock-eyed Bob) and processes the ore by carbon-in-pulp (CIP) methods.

The project area contains an integrated waste landform (IWL), which is constructed adjacent to the Salt Creek ore body. The IWL has a footprint of 54.59 hectares (ha); a maximum height of 20 metres (m) (RL 323 m); and consists of a tailings storage facility (TSF) surrounded by a waste rock landform although this has since been replaced by the Salt Creek In-Pit TSF. Prior to the construction of the IWL, groundwater levels were recorded to be between 4.7 and 8.8 metres below ground level (mbgl). Eight groundwater monitoring bores were installed by SLR around the IWL perimeter and adjacent to the Salt Creek pit to monitor standing water levels. There are conditions on the licence for groundwater quality monitoring and for standing water level limits.

The Salt Creek In-Pit TSF was constructed in accordance with Works Approval W5678/2014/1 and is currently licensed to accept tailings from the Salt Creek Processing Facility, replacing the IWL TSF, which displays evidence of seepage. Groundwater standing water level levels in monitoring bore BH002 breached the prescribed licence limit of 4 mbgl while standing water levels at monitoring bore MB002 neared the limit and are less than 6 mbgl.

In May 2015, DER approved the implementation of a Groundwater Recovery Plan that aimed to reduce standing water levels around the IWL TSF by discharging approximately 100,000 kL per year of recovered groundwater from three production bores located in the vicinity of groundwater mounding to the Salt Creek In-pit TSF. However, all but one of the recovery bores have since been found to produce insufficient yields that would allow for a reduction in the water table. In addition, standing water levels appear to be naturally attenuating at a satisfactory rate. On 13 November 2015, DER notified SLR that allowing standing water levels around the IWL TSF to naturally attenuate was preferable to discharging recovered water to the active Salt Creek In-pit TSF. The Salt Creek In-pit TSF has a projected lifespan of eight years.

Lucky Bay Pit currently dewateres to the Salt Creek In-pit TSF although this is only anticipated to be carried out over approximately nine months to allow for six months of open pit mining at Lucky Bay Pit, which commenced in May 2015. Abstracted groundwater is utilised in processing and in lieu of current groundwater feedstocks. To ensure that Lucky Bay dewatering is not interrupted, groundwater is required to be dewatered to the Salt Creek In-pit TSF and then back to the processing facility via the process water pond.

This Licence amendment allows for an increase in throughput from 1.3 million tonnes per annum (mtpa) to 1.7 mtpa as SLR propose to utilise a mobile crusher and screener on M25/347 to assist processing and mining operations. This will allow for the crushing and screening of both metallic and non-metallic ore for mining infrastructure (roadbase/hardcore material for roads/laydowns etc) within the Mount Monger Operations. The plant may also be used to assist with campaign crushing for ore supply to the processing facility during times of main crusher maintenance and repairs.



SLR also propose to dewater Maxwell's open pit to support underground mining on M25/133. Dewatering of approximately 200 kL to either the neighbouring Rumbles open pit (M25/125) or Santa open pit (M25/71) is required.

The licences and works approvals issued for the premises since 03/12/2009 are:

Instrument log		
Instrument	Issued	Description
W4585/2009/1	03/12/2009	Works Approval for Randall's Gold Project – Salt Creek, Cat 5.
W4680/2010/1	27/05/2010	Works Approval for Randall's Gold Project – Final Gold Processing facility
L8457/2010/1	02/09/2010	Licence for Salt Creek Processing Facility
W4854/2010/1	17/03/2011	Works Approval for Randall's Gold Project Cat 6- Mine dewatering
W4854/2010/1	21/12/2011	Withdrawn Works Approval for Randall's Gold Project Cat 6- Mine dewatering
L8457/2010/2	4/9/2013	Licence reissue and transfer to REFIRE format
L8457/2010/2	23/01/2014	Licence amendment to construct and undertake the cyclonic tailings deposition trial
W4680/2010/1	27/05/2010	Works Approval for Randall's Gold Project –Final Gold Processing facility
L8457/2010/2	21/08/2014	Licence amendment to remove total cyanide monitoring and include an improvement condition for submission and implementation of a Groundwater Recovery Plan. Standard conditions 1.2.5 and 2.6.2 have also been added to the Licence
W5678/2014/1	21/08/2014	Works Approval for Randall's Gold Project Cat 5- Salt Creek In-Pit TSF
L8457/2010/2	08/01/2015	Licence amendment to include Salt Creek In-Pit TSF as a discharge point
L8457/2010/2	21/05/2015	Licence amendment to allow simultaneous dewatering and tailings deposition to Salt Creek In-Pit TSF.
L8457/2010/2	31/12/2015	Licence amendment to increase nominated throughput
L8457/2010/2	06/10/2016	Licence amendment to include mobile crusher and increase nominated throughput, to include two new dewatering discharge points and reduce dewatering throughput.

### Severance

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

### END OF INTRODUCTION



# Licence conditions

## 1 General

### 1.1 Interpretation

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

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

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

**'annual audit compliance report'** means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website.

**'anniversary date'** means 31 December of each year;

**'annual period'** means a 12 month period commencing from 1 January until 31 December in the same 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 5667.11'** 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 Div.3 Pt.V EP Act  
Locked Bag 33  
CLOISTERS SQUARE WA 6850  
Telephone: (08) 9333 7510  
Facsimile: (08) 9333 7550  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)

**'department'** means the department established under s.35 of the Public Sector Management Act and designed as responsible for the administration of Division 3 Part V of the *Environmental Protection Act 1986*.

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

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

**'Licence'** means this Licence numbered L8457/2010/2 and issued under the Act;

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

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

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



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

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

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

**'Salt Creek IPTSF'** means the Salt Creek In-Pit Tailings Storage Facility as depicted in Schedule 1;

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

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

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

**'SWL'** means standing water level;

**'TDS'** means total dissolved solids;

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

**'WAD CN'** means weak acid dissociable cyanide.

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

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

## **1.2 Premises operation**

1.2.1 The Licensee shall ensure that all pipelines containing saline water, tailings or return water are either:

- (a) equipped with telemetry systems and pressure senses along pipelines to allow the detection of leaks and failures;
- (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 tailings, process water and dewatering effluent are only discharged into containment cells with the relevant infrastructure requirements and at the locations specified in Table 1.2.1 and identified in Schedule 1.





**Table 1.2.1: Containment infrastructure**

Containment point reference	Material	Infrastructure requirements
Integrated Waste Landform Tailings Storage Facility	Tailings	Constructed in accordance with W4585/2009/1 to achieve a permeability of at least $<10^{-6}$ m/s.
Salt Creek IPTSF	Tailings and dewatering effluent from Lucky Bay Pit	The Licensee shall operate supernatant decant infrastructure to minimise the volume of supernatant water within the TSF.
Process ponds	Process water	Lined with 1.5mm HDPE liner with a minimum permeability of $<10^{-9}$ m/s.
Turkey's nest	Dewatering effluent from Lucky Bay Pit	

- 1.2.3 The Licensee shall manage the Salt Creek IPTSF such that a minimum freeboard of 500 mm below crest level is maintained.
- 1.2.4 The Licensee shall manage all other containment cells in Table 1.2.1 such that:
- (a) a minimum top of embankment freeboard of 300mm or a 1 in 100 year/72 hour storm event (whichever is greater) is maintained; and
  - (b) methods of operation minimise the likelihood of erosion of the embankments by wave action.
- 1.2.5 The licensee shall:
- (a) undertake inspections as detailed in Table 1.2.2;
  - (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
  - (c) maintain a record of all inspections undertaken.

**Table 1.2.2: Inspection of infrastructure**

Scope of inspection	Type of inspection	Frequency of inspection
Tailings pipelines	Visual integrity	Every 12 hours
Tailings return water lines	Visual integrity	Every 12 hours
Embankment freeboard of containment infrastructure described in Table 1.2.1	Visual to confirm required 300mm operational freeboard capacity is available	Daily
Dewatering pipeline	Visual integrity	Every 12 hours

- 1.2.6 The Licensee shall discharge no more than 800,000 kL of dewatering effluent from Lucky Bay Pit to the Salt Creek IPTSF.
- 1.2.7 The Licensee shall undertake a weekly water balance for the Salt Creek IPTSF until at least three months after the final discharge of dewater from Lucky Bay Pit. The water balance shall as a minimum consider the following:
- (a) site rainfall;
  - (b) evaporation using site-specific evaporation data and an appropriate pan factor that accounts for the TDS content of water in the pit;
  - (c) volume of tailings return water to Randall's Gold Processing Facility processing pond;
  - (d) groundwater inflow;
  - (e) volumes of tailings deposited;
  - (f) water fraction of tailings deposited to Salt Creek IPTSF;
  - (g) volume of dewater into Salt Creek IPTSF; and
  - (h) seepage.



## 2 Emissions

### 2.1 Point source emissions to groundwater

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

**Table 2.1.1: Emission points to groundwater**

Emission point reference	Description	Source
Rumbles open pit	Mine dewater from Maxwell's open pit via pipeline Mine dewater from Santa open pit via pipeline	Maxwell's open pit and Santa open pit
Santa open pit	Mine dewater from Maxwell's open pit via pipeline	Maxwell's open pit

## 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 groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
  - (c) all laboratory samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured.
- 3.1.2 The licensee shall ensure that quarterly monitoring is undertaken at least 45 days 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 3.1.1 according to the specifications in that table.

**Table 3.1.1: Monitoring of point source emissions to groundwater**

Emission point reference	Parameter	Units	Frequency
Rumbles open pit	Volumetric flow rate	kL	Monthly
Santa open pit	pH	-	Quarterly
	Total Dissolved Solids (TDS)	mg/L	

### 3.3 Ambient environmental quality monitoring

- 3.3.1 The licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table and record and investigate results that do not meet any limit specified.





**Table 3.3.1: Monitoring of ambient groundwater quality**

Monitoring point (bore reference)	Parameter	Units	Limit	Averaging period	Frequency
SC01 SC02 SC03 IGRSM006 IGRSM013 IGRH044 IGRH045 BH05 MB001 MB002 BH02	Arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, mercury, nickel, selenium, zinc, TDS <sup>1</sup> , bicarbonate (HCO <sub>3</sub> <sup>-</sup> ), carbonate (HCO <sub>3</sub> <sup>2-</sup> ), carbon trioxide (CO <sub>3</sub> ), sulfate (SO <sub>4</sub> ), chloride (Cl <sup>-</sup> ), SO <sub>4</sub> /Cl <sup>-</sup> ratio	mg/L		Spot sample	Quarterly
	pH <sup>1</sup>	-	-		
	Electrical Conductivity	mS/cm	-		
	WAD Cyanide	mg/L	0.5		
SC01 SC02 SC03 IGRSM006 IGRSM013 IGRH044 IGRH045 BH05 MB001 MB002 BH02	SWL <sup>2</sup>	mbgl	6	Spot sample	Quarterly
			5		
			4		

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

Note 2: SWL shall be determined prior to collection of other water samples.

## 4 Information

4.1.1 All information and records required by the Licence shall:

- be legible;
- if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- except for records listed in 3.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - off-site environmental effects; or
  - matters which affect the condition of the land or waters.

4.1.2 The Licensee must submit the the CEO within 90 days after the Anniversary Date, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence for the Annual Period.

4.1.3 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

### 4.2 Reporting

4.2.2 The Licensee shall submit to the CEO an Annual Environmental Report within 90 calendar days after 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 <sup>1</sup>
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the annual period and any action taken	None specified
1.2.7	Weekly water balances for Salt Creek IPTSF	None specified
4.1.3	Complaints summary	None specified
Table 3.2.1	Point source emissions to groundwater monitoring	
Table 3.3.1	Ambient groundwater quality monitoring	

Note 1: Forms are in Schedule 2

- 4.2.3 The licensee shall ensure that the AER also contains:
- (a) an assessment of the information contained within the report against previous monitoring results and licence limits; and
  - (b) a list of any original monitoring reports submitted to the licensee from third parties for the annual 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 in accordance with the notification requirements of the table.

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement <sup>1</sup>	Format or form <sup>2</sup>
-	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
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution		

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

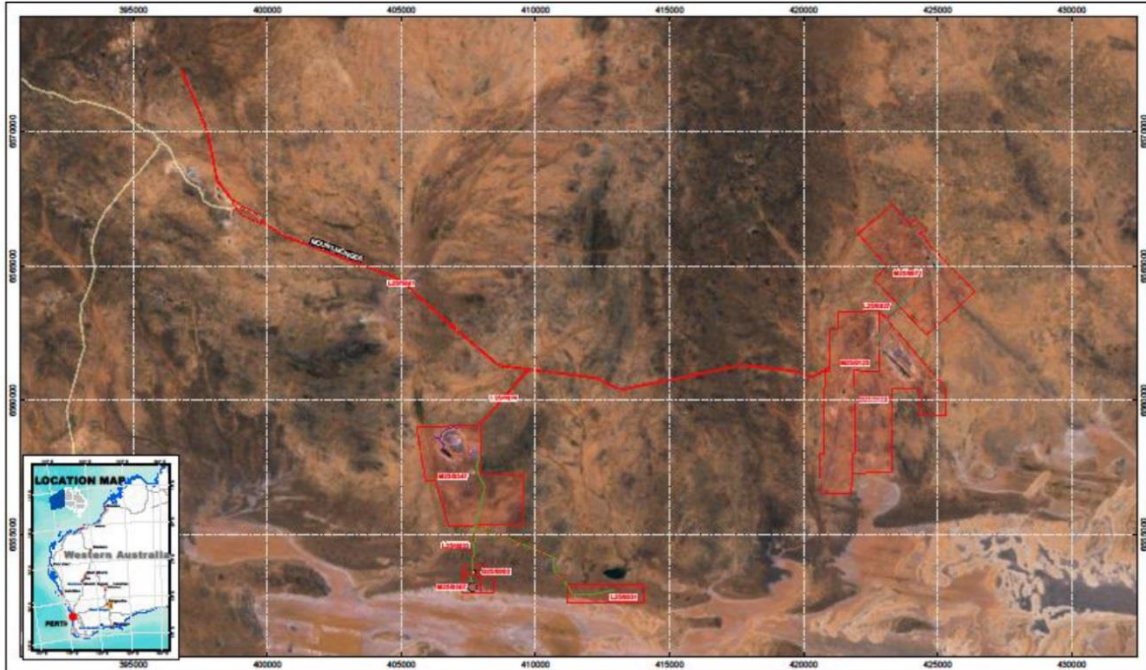
Note 2: Forms are in Schedule 2



## Schedule 1: Maps

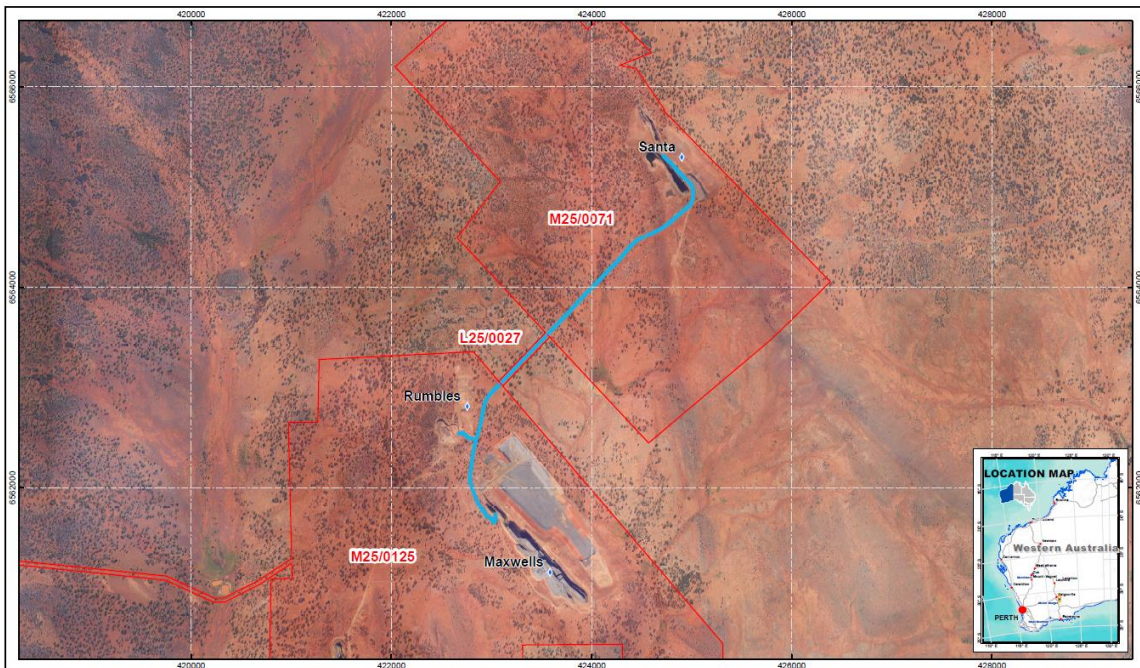
### Premises map

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



### Map of emissions to groundwater

The locations of the emissions to groundwater defined in Table 2.2.1 are shown below.

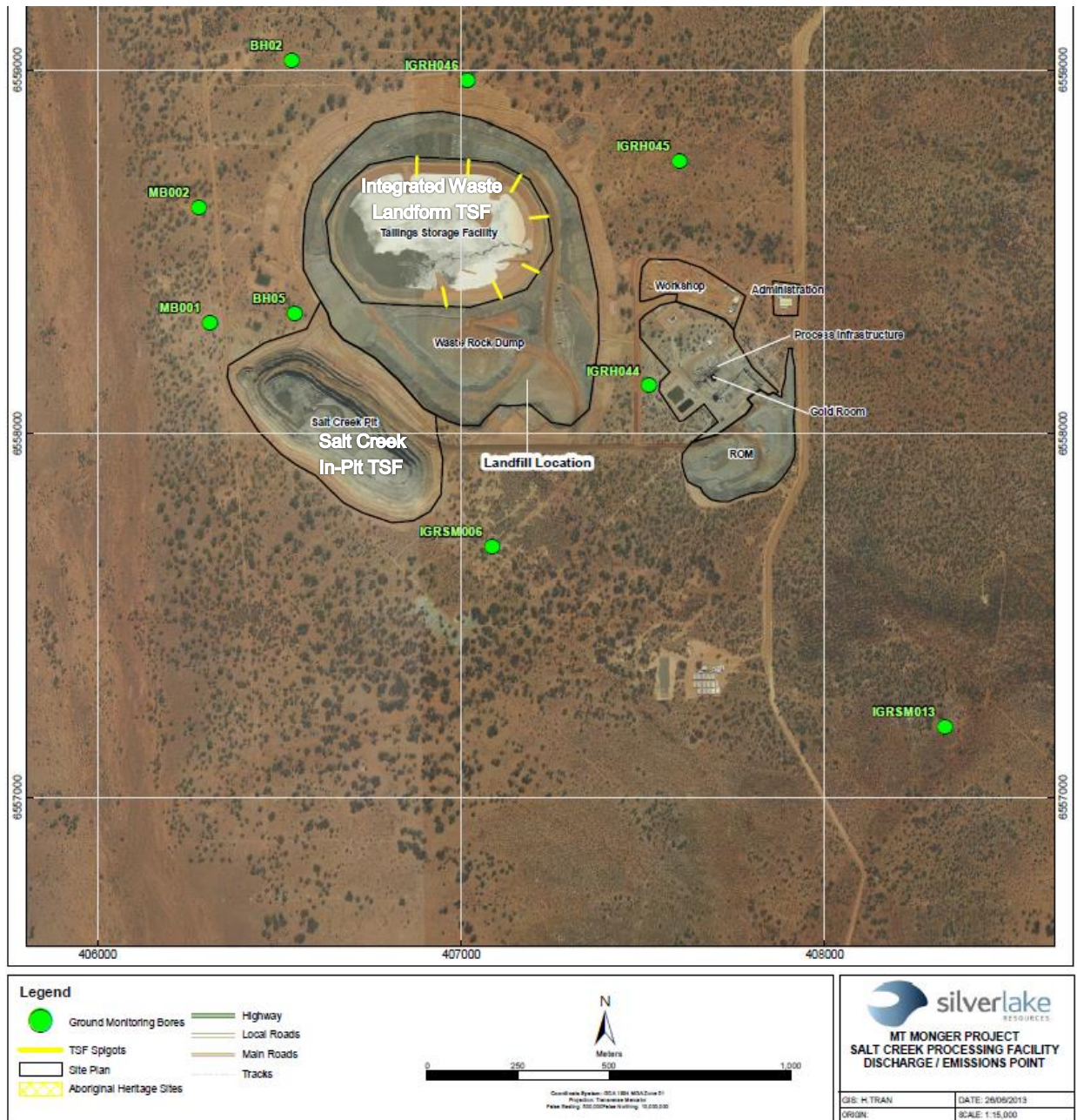






### Map of monitoring locations

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

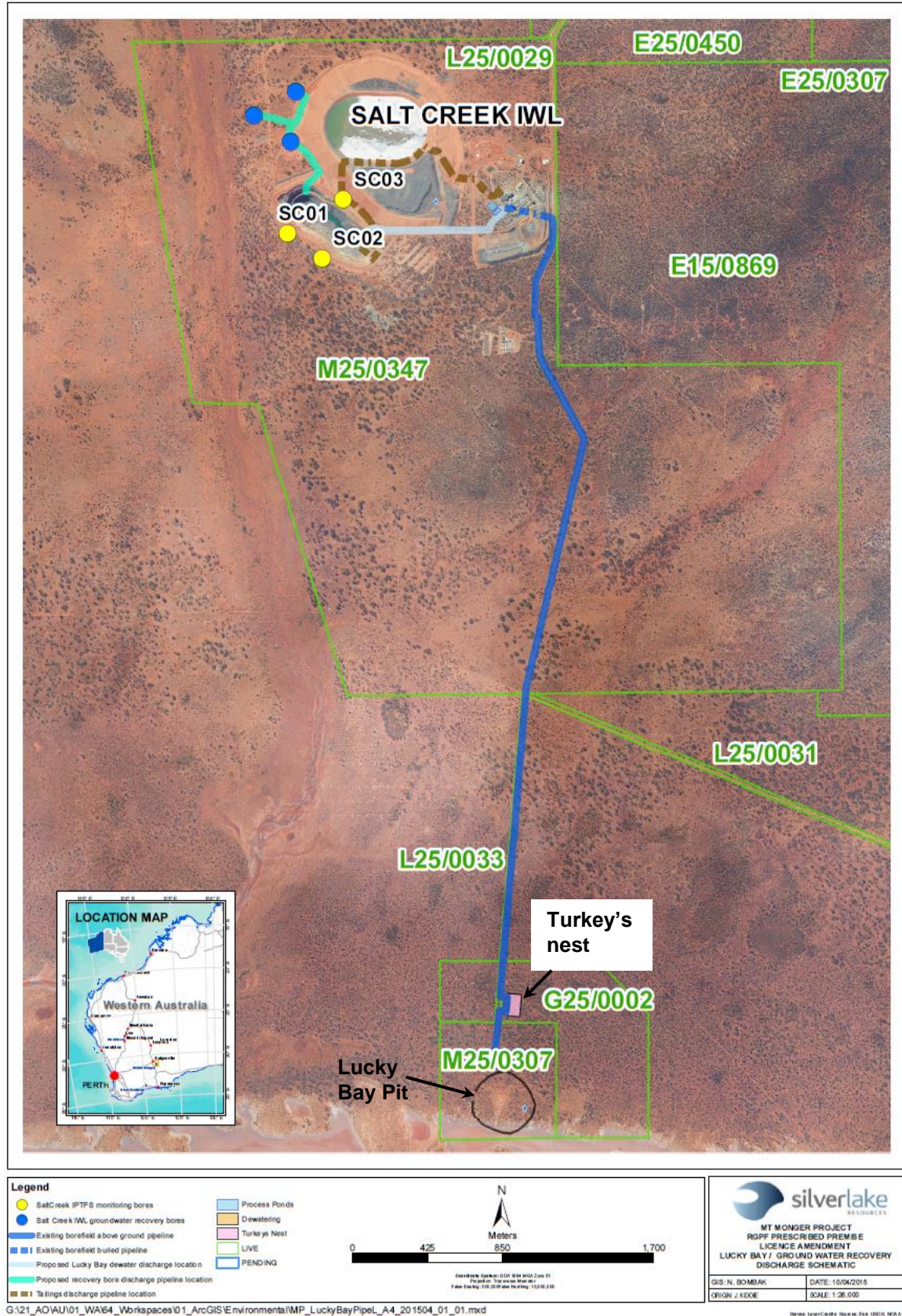






### Map of monitoring locations

The locations of the monitoring points defined in Table 3.3.1 are shown below. The blue dots represent Salt Creek IWL recovery bores that are not in use and the yellow dots represent monitoring bores for the Salt Creek In-pit TSF.

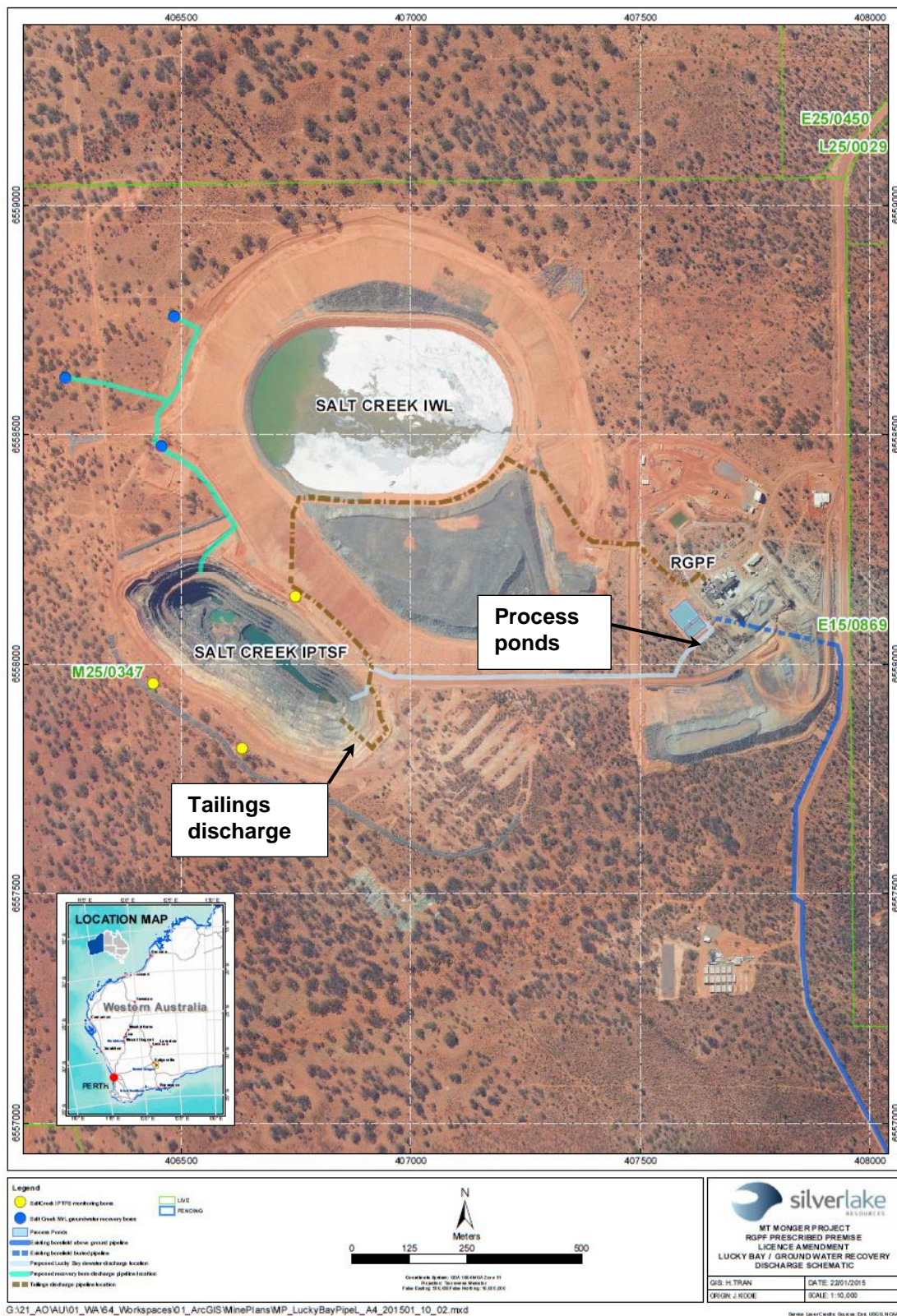






### Map of containment infrastructure

The locations of the containment infrastructure defined in Tables 1.2.1 are shown below.







Licence: L8457/2010/2  
Form: N1

Licensee: Silver Lake (Integra) Pty Limited  
Date of breach:

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

These pages outline the information that the operator must provide.

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

## Part A

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

### Notification requirements for the breach of a limit

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

## Part B

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

Name	
Post	
Signature on behalf of Silver Lake (Integra) Pty Limited	
Date	



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Silver Lake (Integra) Pty Limited

**Licence:** L8457/2010/2

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**Registered office:** Silver Lake (Integra) Pty Limited  
Suite 4, Level 3, South Shore Centre  
85 South Perth Esplanade  
SOUTH PERTH WA 6151

**ACN:** 093 278 436

**Premises address:** Salt Creek Processing Facility  
Mount Monger Road  
EMU FLAT WA 6431  
Being Tenements M25/307, M25/125, M25/133, M25/71, G25/02, L25/33,  
M25/347, L25/27 and L25/31

**Issue date:** Thursday, 05 September 2013

**Commencement date:** Friday, 06 September 2013

**Expiry date:** Tuesday, 05 September 2023

### 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: Fiona Sharpe  
Licensing Officer

Decision Document authorised by: Danielle Eyre  
Delegated Officer



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## 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	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	5	1 700 000 tpa
	6	200 000 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	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	



of the <i>Environmental Protection Act 1986</i> )?	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.	
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.	

### 3 Executive summary of proposal and assessment

Salt Creek Processing Facility is operated by Silver Lake (Integra) Pty Limited. Silver Lake Resources (SLR) took 100% ownership of Integra Mining Limited in January 2013. The Salt Creek Processing Facility is located approximately 60 kilometres (km) south east of Kalgoorlie, situated on tenements M25/347 and L25/31 (Schedule 1). Salt Creek Processing Facility is a gold mining and minerals processing operation which sources ore from three SLR owned pits (Lucky Bay, Salt Creek, Maxwell's and Cock-eyed Bob) and processes the ore by carbon-in-pulp (CIP) methods.

The project area contains an integrated waste landform (IWL), which is constructed adjacent to the Salt Creek ore body. The IWL has a footprint of 54.59 hectares (ha); a maximum height of 20 metres (m) (RL 323 m); and consists of a tailings storage facility (TSF) surrounded by a waste rock landform although this has since been replaced by the Salt Creek In-Pit TSF. Prior to the construction of the IWL, groundwater levels were recorded to be between 4.7 and 8.8 metres below ground level (mbgl). Eight groundwater monitoring bores were installed by SLR around the IWL perimeter and adjacent to the Salt Creek pit to monitor standing water levels. There are conditions on the licence for groundwater quality monitoring and for standing water level limits.

The Salt Creek In-Pit TSF was constructed in accordance with Works Approval W5678/2014/1 and is currently licensed to accept tailings from the Salt Creek Processing Facility, replacing the IWL TSF, which displays evidence of seepage. Groundwater standing water level levels in monitoring bore BH02 breached the prescribed licence limit of 4 mbgl while standing water levels at monitoring bore MB002 neared the limit and are less than 6 mbgl.

In May 2015, DER approved the implementation of a Groundwater Recovery Plan that aimed to reduce standing water levels around the IWL TSF by discharging approximately 100,000 kL per year of recovered groundwater from three production bores located in the vicinity of groundwater mounding to the Salt Creek In-pit TSF. However, all but one of the recovery bores have since been found to produce insufficient yields that would allow for a reduction in the water table. In addition, standing water levels appear to be naturally attenuating at a satisfactory rate. On 13 November 2015, DER notified SLR that allowing standing water levels around the IWL TSF to naturally attenuate was preferable to discharging recovered water to the active Salt Creek In-pit TSF. The Salt Creek In-pit TSF has a projected lifespan of eight years.

Lucky Bay Pit currently dewateres to the Salt Creek In-pit TSF although this is only anticipated to be carried out over approximately nine months to allow for six months of open pit mining at Lucky Bay Pit, which commenced in May 2015. Abstracted groundwater is utilised in processing and in lieu of current groundwater feedstocks. To ensure that Lucky Bay dewatering is not interrupted, groundwater is required to be dewatered to the Salt Creek In-pit TSF and then back to the processing facility via the process water pond.

This Licence amendment allows for an increase in throughput from 1.3 million tonnes per annum (mtpa) to 1.7 mtpa as SLR propose to utilise a mobile crusher and screener on M25/347 to assist processing and mining operations. This will allow for the crushing and screening of both metallic and non-metallic ore for mining infrastructure (roadbase/hardcore material for roads/laydowns etc) within



the Mount Monger Operations. The plant may also be used to assist with campaign crushing for ore supply to the processing facility during times of main crusher maintenance/repairs.

SLR also propose to dewater Maxwell's open pit to support underground mining on M25/133. Dewatering of approximately 200 000 kL to either the neighbouring Rumbles open pit (M25/125) or Santa open pit (M25/71) is required.



## 4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.2.5	<p><u>Construction</u> No construction is required as the dewatering pipelines are already in place. No construction is required for the mobile crusher and screener. The equipment will be moved from its current location to M25/347. No construction conditions are required for this amendment.</p> <p><u>Abnormal operation</u> <i>Emission:</i> Hypersaline water discharged to the surrounding environment due to rupture or leak of the pipeline. <i>Impact:</i> Contamination of surrounding soils with dissolved solids can affect groundwater quality and cause vegetation stress or even death if exposure is for a prolonged period. Controls: 200 mm HDPE poly pipes are utilised to dewater groundwater to Rumbles or Santa pits. The pipelines are located in either a 'v' drain or are banded in areas where excavation is restricted.</p> <p><u>Risk Assessment</u> Consequence: Minor Likelihood: Unlikely Risk Rating: Moderate</p> <p><u>Regulatory Control</u> Existing condition L1.2.5 states the dewatering pipeline is to be inspected every 12 hours for visual integrity. If a leak were to occur, SLR are obliged to report this to DER under section 72 of the Act.</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>





DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Minor	
Point source emissions to groundwater including monitoring	L2.1.1 and L3.2.1	<p>Normal Operation            Emission Discharge  <i>Emission:</i> Hypersaline water (approximately 25,000 mg/L TDS) is transported in pipelines from Maxwell's underground and discharged into either Rumbles open pit or Santa open pit. TDS of Rumbles pit is 24,900 mg/L and Santa pit is 25,000 mg/L. Volumetric capacity of Rumbles pit is 940,721 m<sup>3</sup> and Santa pit is 1,712,500 m<sup>3</sup>. Depth to groundwater in the vicinity is 40-50 metres below ground level (mbgl).  <i>Impact:</i> Potential contamination of groundwater and possible mounding of the water table in the vicinity of the receiving pit.  <i>Controls:</i> To ensure the pit volume is not exceeded, a flow meter will record dewatered volumes. The capacity of the pits far exceeds the estimated volume of 200 000 kL.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Moderate  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            Licence conditions will be included allow the discharge to occur and also to include pit level monitoring, along with volumetric flow, pH and TDS is undertaken. The approved production capacity has been reduced from 800 000 tonnes to 200 000 tonnes in this amendment.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	No conditions	<p><u>Operation</u> <i>Emission:</i> Dust may be generated during the operation of the additional mobile crushing and screening plant. <i>Impact:</i> Dust emissions are expected to be minor and unlikely to reach the nearest residential area located approximately 30 km to the west of the premises. There is the potential for dust to deposit on nearby native vegetation, restricting the plants' ability to photosynthesise. However, there are no Rare, Threatened or Priority flora near to the site. Further, vegetation in semi-arid environments of Western Australia typically display a high tolerance to ambient and deposited dust. <i>Controls:</i> Dewater from the Lucky Bay borefield will be used for dust suppression along haul roads and at the Salt Creek Processing Facility. Dust suppression of finer material is likely to be more effective as the product can be more evenly wet, preventing the handling of dry sections of product. SLR do not envisage additional dust emissions as industry standard water sprays are located on the plant. Therefore the consequence has been assessed as minor.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> The risk rating is low and does not justify the addition of alternative conditions to control fugitive emissions. The substantive offenses of the <i>Environmental Protection Act 1986</i> provide enforceable prohibitions for dust emissions that result in pollution or environmental harm.</p>	<p>Applicant Supporting Documentation</p> <p>General Provisions of the <i>Environmental Protection Act 1986</i>.</p>
Licence Duration	No conditions	The Licence duration was extended to 5 September 2023 as per Guidance Statement: Licence Duration 2016.	DER's Guidance Statement: Licence Duration August 2016



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/09/2016	Proponent sent a copy of draft instrument	Signed waiver form returned with no comments.	N/A



## 6 Risk Assessment

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

**Table 1: Emissions Risk Matrix**

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