Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Galaxy Resources Pty Ltd

Licence: L8469/2010/2

Registered office: Level 2, 16 Ord Street
WEST PERTH WA 6005

ACN: 071 976 442

Premises address: Ravensthorpe Spodumene Project
Newdegate-Ravensthorpe Rd
RAVENSTHORPE WA 6346
Being Lot 31 on Plan 224145 and Lot 127 on Plan 145763 (part of Mining Tenement M74/244) as depicted in Schedule 1.

Issue date: Thursday, 3 October 2013

Commencement date: Monday, 14 October 2013

Expiry date: Saturday, 13 October 2029

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 and beneficiation of metallic or non-metallic ore: premises on which — (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or (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	1 000 000 tonnes per annual period

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

Date signed: 2 June 2016
.....
Tim Gentle
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER works with the business owners, community, consultants, industry and other representatives 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
Galaxy Resources Limited (Galaxy) is licensed for a mining and processing facility for the production of spodumene a lithium aluminium silicate ($LiAl(Si_2O_6)$, comprising (Li_2O), and tantalum oxide (Ta_2O_5). The project is located at Mt Cattlin two kilometres northwest of the Ravensthorpe town site. The Ravensthorpe Spodumene Project has the capacity to extract 1,000,000 tonnes of ore per year to produce 150 kilotonnes per annum (ktpa) spodumene concentrate and 364 tonnes per annum (tpa) tantalite.

The premises commenced operation in October 2010, but has been in a state of care and maintenance since July 2012. Since July 2012 the company has retained their Part V licence to allow operations to recommence. At the time of this assessment, the process plant is being prepared to resume operations.

Dewatering occurs on site and the water extracted is pumped to a storage pond for use in the process when the premises is operating. Dewatering continues while the premises is in care and maintenance, and water is also abstracted from monitoring bore MB03 due to a rising water level in this bore.

Power supply is from a diesel-fired power station. As the capacity is less than 10MW (max 6MW of power generated) it does not trigger the threshold for Category 52 prescribed premises under Schedule 1 of the EP Regs.

The infrastructure on the premises includes:

- open pit;
- waste rock dump;
- primary/spodumene concentrator;
- tailings storage facility (TSF) and associated pipelines;
- dust suppression dam;
- reverse osmosis plant (waste will be directed to the Raw/Process Water Pond);
- production bores;
- associated pipelines and storage pond, power station (5 MW diesel-fired);
- offices;
- workshop;
- stores;
- laboratory; and
- access roads.

This Licence amendment is sought by the Licence Holder to include assessment of a temporary tailings stockpile area to store dry tailing, assessment of the process plant to include Reflux

Clarifiers and Lithium Belt Filter; and converting the licence into the most up to date DER licence format. Only those emissions associated with this amendment will be assessed the remaining emissions will not be reviewed and reassessed at this time.

The licences and works approvals issued for the Premises since 19/06/2009 are:

Instrument log		
Instrument	**Issued**	**Description**
W4533/2009/1	19/06/2009	New works approval for premises construction
W4533/2009/1	8/07/2010	Works approval amendment (removal of Phase 2)
W4533/2009/1	11/10/2010	Works approval amendment (removal of spill trays under conveyors)
L8469/2010/1	14/10/2010	New licence issued for premises operation
L8469/2010/1	7/07/2011	Licence amendment (noise management requirements)
L8469/2010/1	24/05/2012	Licence amendment (TSF manual revision)
W4533/2009/1	24/05/2012	Works approval amendment (extension to expiry for TSF lifts)
W4533/2009/1	17/01/2013	Works approval amendment (reflux classifier)
L8469/2010/2	3/10/2013	Licence reissue
L8469/2010/2	4/09/2014	Licence amendment (groundwater management and conversion to latest DER licence format).
L8469/2010/2	6/6/2016	Licence amendment application to include construction of temporary tailings stockpile area and inclusion of Reflux clarrifiers and Lithium Belt Filter into the process plant circuit.

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 September until 31 August in the following year;

'applicable standards and guidelines' means but is not limited to the following documents:
- Department of Environment and Conservation, Contaminated Sites Management Series guideline '*Assessment Levels for Soil, Sediment and Water'* (February 2010), as amened from time to time. If relevant assessment levels are not included in this guideline, alternative assessment levels should be adopted from appropriate Australian and/or International guidance documents to enable an adequate assessment of the data; and
- Australian and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand '*Australian and New Zealand Guidelines for Fresh and Marine Water Quality' (October, 2000)*, as amended from time to time.

'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 or target is measured or a monitoring result is obtained;

'BGL' means below ground level;

'broadband style reversing alarms' means reversing alarms that generate a warning signal consisting of a wide range of frequencies that automatically adjusts its output depending on local noise levels;

'**care and maintenance'** means the state of operating the premises when ore is not being crushed, processed or beneficiated through the Processing Plant; however infrastructure on site may still be maintained in suitable condition to enable processing to re-commence when required;

'catchment dam' means the dam receiving stormwater runoff from the processing plant area, as depicted and labelled 'catchment dam' on the Premises Map in Schedule 1;

'CEMS' means continuous emissions monitoring system;

'CEMS Code' means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department of Environment & Conservation, Government of Western Australia;

'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
Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: info@der.wa.gov.au ;

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

'dust suppression dam' means the dam storing water for the suppression of dust on site, as depicted and labelled 'Dust Suppression Dam' on the Premises Map in Schedule 1;

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

'**level ground'** means ground that is not inclined at a grade of more that 1 in 20;

'Licence' means this Licence numbered L8469/2010/2 and issued under the Act;

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

'monitoring bores' means the groundwater monitoring bores on the premises as depicted and labelled 'MB01', 'MB02', 'MB03', 'MB04', 'MB05' and 'MB06' on the Premises Map in Schedule 1;

'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;

'**night'** means between the hours of 2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours on Sunday's or Public holidays;

'**or equivalent'** means a model of machinery with equivalent or lower sound power levels than the model specified;

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

'processing plant' means the infrastructure related to the crushing, processing and/or beneficiation of the ore including the wet crushing circuit, wet plant and ROM pad as depicted and labelled in the Premises Map in Schedule 1;

'**raw water pond'** means the pond containing water for use in the processing plant, as depicted and labelled 'Raw water pond' on the Premises Map in Schedule 1;

'**ROM pad'** means the run of mine stockpile area, as depicted and labelled 'ROM pad' on the Premises Map 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;

'tailings storage facility' means the facility for the deposition of tailings waste from the processing plant, as defpicted and labelled 'TSF Cell 1' and 'TSF Cell 2' on the Premises Map in Schedule 1;

'**TSF Operating Manual'** means *Mt Cattlin Project Tailings Storage Facility Stage 1 Operating Manual* (Galaxy Resources August 2010, as amended 24 April 2012);

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

'**µg/L**' means micrograms per litre; and

'µS/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 record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 1 of this Licence.

1.2.2 The Licensee shall ensure that activities at night are restricted to the operation of the Processing Plant area only, with exception to the operation of the following which may occur outside the Processing Plant area:
(a) one grader (GR501 CAT 14G model, or equivalent);
(b) one water truck (WT105 MACK model, or equivalent); and
(c) one loader (IT03 KOMATSU WA500 model, or equivalent).

1.2.3 The Licensee shall ensure that all mobile mining equipment on site is fitted with only broadband style reversing alarms.

1.2.4 The Licensee shall maintain a minimum freeboard of 300 milimetres at all times in the catchment dam, the raw water pond, and the dust suppression dam.

1.2.5 The Licensee shall ensure that water in the Catchment Dam, the Raw Water Pond and the Dust Suppression Dam is reused for dust suppression, processing and/or is retained in the ponds to evaporate so discharges from these ponds to the environment do not occur.

1.2.6 The Licensee shall ensure tailings levels in the tailings storage facility are managed so that a minimum freeboard of 300 millimetres is maintained at all times.

1.2.7 The Licensee shall ensure that standing water levels in all monitoring bores remain greater than three metres below ground level.

1.2.8 The Licensee shall:

(a) ensure that tyres are not stored prior to burial in any location on the premises other than the Waste Dump area, as depicted in Attachment 2;
(b) ensure that no more than four tyres are stored at any one time before burial at the Waste Dump;
(c) ensure that tyres are only stacked on level ground; and
(d) ensure that all tyres are stacked on their side walls.

1.2.9 The Licensee shall:
(a) ensure that tyres are not buried in any location on the premises other than the Waste Dump area, as depicted in Attachment 2;
(b) place a final cover of at least 500 millimetres depth over tyres buried at the premises;
(c) bury tyres laid flat on their side walls, separated in all directions by a minimum of 30cm and with voids and surrounds filled with suitable competent material;
(d) ensure buried tyres are located a minimum of two metres from any final out slope of the final waste dump profile;
(e) not dispose of any burnt tyres (or that appear burnt) at the premises; and
(f) not ignite any tyres on the premises.

1.2.10 The Licensee shall complete construction of the Temporary Tailing stockpile area and the process plant improvements in accordance with the documentation listed in Table 1.3.10 and in the location depicted in Schedule 1:

Table 1.3.1: Construction requirements[1]

Document	Parts	Date of Document
Application to amend the Ravensthorpe Spodumene Project prescribed Premise Licence L8469/2010/2 plus supporting documentation.	All	10 May 2016
"Mt Cattlin Spodumene Project Mining Proposal Addendum – Amendment to Processing Circuit and Temporary Tailings Storage M74/244" dated 5 April 2016 reference GMM-MP-01	All	5 April 2016

Note 1: Where the details and commitments of the documents listed in condition 1.3.6 are inconsistent with any other condition of this licence, the conditions of this licence shall prevail.

2 Emissions

2.1 Fugitive emissions

2.1.1 The Licensee shall take the following measures with regards to dust emissions from all activities on site:
(a) maintain all dust suppression systems on conveyors, screens and crushers and ensure they are in working order at all times during operation;
(b) maintain water trucks on site so that they are available at all times to implement dust suppression on site roads, the ROM pad and the open pit; and
(c) restrict traffic speeds on the Premises to reduce the risk of dust generation.

2.2 Noise

2.2.1 The Licensee must ensure noise is managed in accordance with the Ravensthorpe Spodumene Project Operational Noise Management Plan (June 2011).

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 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; and
(b) annual monitoring is undertaken at least 9 months apart.

3.1.3 The Licensee shall record production or throughput data and any other process parameters relevant to any non-continuous or CEMS monitoring undertaken.

3.1.4 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.

3.1.5 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 inputs and outputs

3.2.1 The Licensee shall undertake the monitoring in Table 3.6.1 according to the specifications in that table.

Table 3.6.1: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Averaging period	Frequency
Tyres	Numbers of tyres stored and buried	Number of tyres	Annual period	Continuous
Waste rock	Volume produced and stockpiled	m^3		
Industrial waste	Volume produced (off-site disposal)			
Domestic waste	Volume produced (off-site disposal)			
Tailings	Volume discharged to the Tailings Storage Facility	m^3	Annual period	
			Daily	
Tailings decant	Inflows from the decant and underdrainage system		Annual period	
			Daily	

3.3 Process monitoring

3.3.1 The Licensee shall undertake the monitoring in Table 3.7.1 according to the specifications in that table.

Table 3.7.1: Process monitoring

Monitoring point reference	Process description	Parameter	Units	Frequency	Method
Catchment Dam Raw Water Pond Dust Suppression Dam	Water storage	Distance between the water level and the top of retaining banks or structures at their lowest point	mm	(i) Daily when ore is being crushed, processed or beneficiated through the Processing Plant; and (ii) Weekly when ore is not being crushed, processed or beneficiated through the Processing Plant.	Visual inspection
Tailings Storage Facility	Deposition and storage of tailings and water decant	tailings delivery lines; tailings free water recovery lines; the trafficability to access roads and ramps; embankment integrity (including checks for seepage); embankment stability; the operating condition of spigot points; the rotation of spigotting areas; the size of free water pond; the position of free water pond; the operational freeboard; and any deceased fauna in the vicinity of tailings storage areas.	-	(i) Daily when tailings deposition into the tailings storage facility is occurring; and (ii) Weekly when tailings deposition into the tailings storage facility is not occurring.	Visual inspection

3.4 Ambient environmental quality monitoring

3.4.1 The Licensee shall undertake the monitoring in Tables 3.8.1 according to the specifications in that table and record and investigate results that do not meet any target specified.

Table 3.8.1: Monitoring of ambient groundwater quality

Monitoring point reference and location as depicted in the Premises Map in Schedule 1	Parameter	~~Target~~ Limit	Units	Averaging period	Frequency
MB01, MB02, MB03, MB04, MB05 and MB06	Standing water level	> 3	m(BGL)	Spot sample	(i) Monthly; and (ii) Daily when levels are below the target.
		-	M(AHD)		
	pH[1]	-			(i) Six times per year (in October, December, February, April, June and August) when tailings deposition into the tailings storage facility is occurring; and (ii) Three times per year (in October, February and June) when tailings deposition into the tailings storage facility is not occurring
	Electrical conductivity[1]		µS/cm		
	Total Dissolved Solids (TDS)		mg/L		
	Sodium		µg/L		
	Calcium				
	Potassium				
	Magnesium				
	Sulphate				
	Chloride				
	Fluoride				
	Aluminium				
	Arsenic				
	Cadmium				
	Cobalt				
	Chromium				
	Copper				
	Iron				
	Manganese				
	Nickel				
	Lead				
	Zinc				
	Barium				
	Boron				
	Chromium VI				
	Mercury				
	Molybdenum				
	Antimony				
	Selenium				
	Tin				
	Vanadium				

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

3.4.2 Upon becoming aware of any exceedance of the standing water level target in Table 3.8.1, the Licensee must implement increased frequency of groundwater level monitoring and continual assessment as outlined in the TSF Operating Manual.

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.

Table 4.1.1: Improvement program

Improvement reference	Improvement	Date of completion
IR1	The Licensee shall prepare and submit to the Chief Executive Officer a Temporary Tailing Stockpile Area Management Plan for the tailings storage area. The Management Plan shall include (but not be limited to): (i) the immediate (short-term) monitoring proposed to manage any seepage and prevent environmental impacts, including operational procedures to reduce seepage generation; (ii) the long-term proposal that will ensure that Temporary Stockpile area is decommissioned and rehabilitated; and (i) Identify the final report format that clearly demonstrates that the temporary tailing stockpile seepage has not affect groundwater or groundwater levels in the future.	Within 4 months of the amendment date of this licence.

5 Information

5.1 Records

5.1.1 All information and records required by the Licence must:
- (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 must 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 must 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.

5.1.4 The Licensee must maintain inspection log book/s on site in which each inspection undertaken in accordance with Condition 2.7.1 is logged and comments made on observations at the time of inspection.

5.1.5 The Licensee must submit a compliance document to the CEO, following the completion of the works under condition 1.3.10.

5.1.6 The compliance document must:
- a) certify that the works were constructed in accordance with the conditions of the Licence;
- b) be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company.

5.2 Reporting

5.2.1 The Licensee must submit to the CEO an Annual Environmental Report within 60 calendar days after the end of the annual period. 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 (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
3.1.3	Production / throughput data	
3.6.1	Monitoring of inputs and outputs	
3.8.1	Monitoring of ambient groundwater quality	
5.1.3 & 5.1.7	Compliance	Annual Audit Compliance Report (AACR)

5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 The Licensee must ensure that the Annual Environmental Report also contains:

(a) any relevant process, production or operational data recorded under Condition 3.1.3;

(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets;

(c) an assessment of the information contained within the report in terms of environmental impact and performance, with reference to applicable standards and guidelines; and

(d) any changes to site boundaries, location of groundwater monitoring bores, discharges to surface drainage channels and on-site or off-site impacts or pollution.

5.3 Notification

5.3.1 The Licensee must 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 (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
1.3.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution		
3.1.5	Calibration report	As soon as practicable.	None specified
-	Cessation of any care and maintenance period and the intention to re-commence crushing, processing and/or beneficiation of ore through the Processing Plant	No less than 60 days prior.	Include proposed timeframes

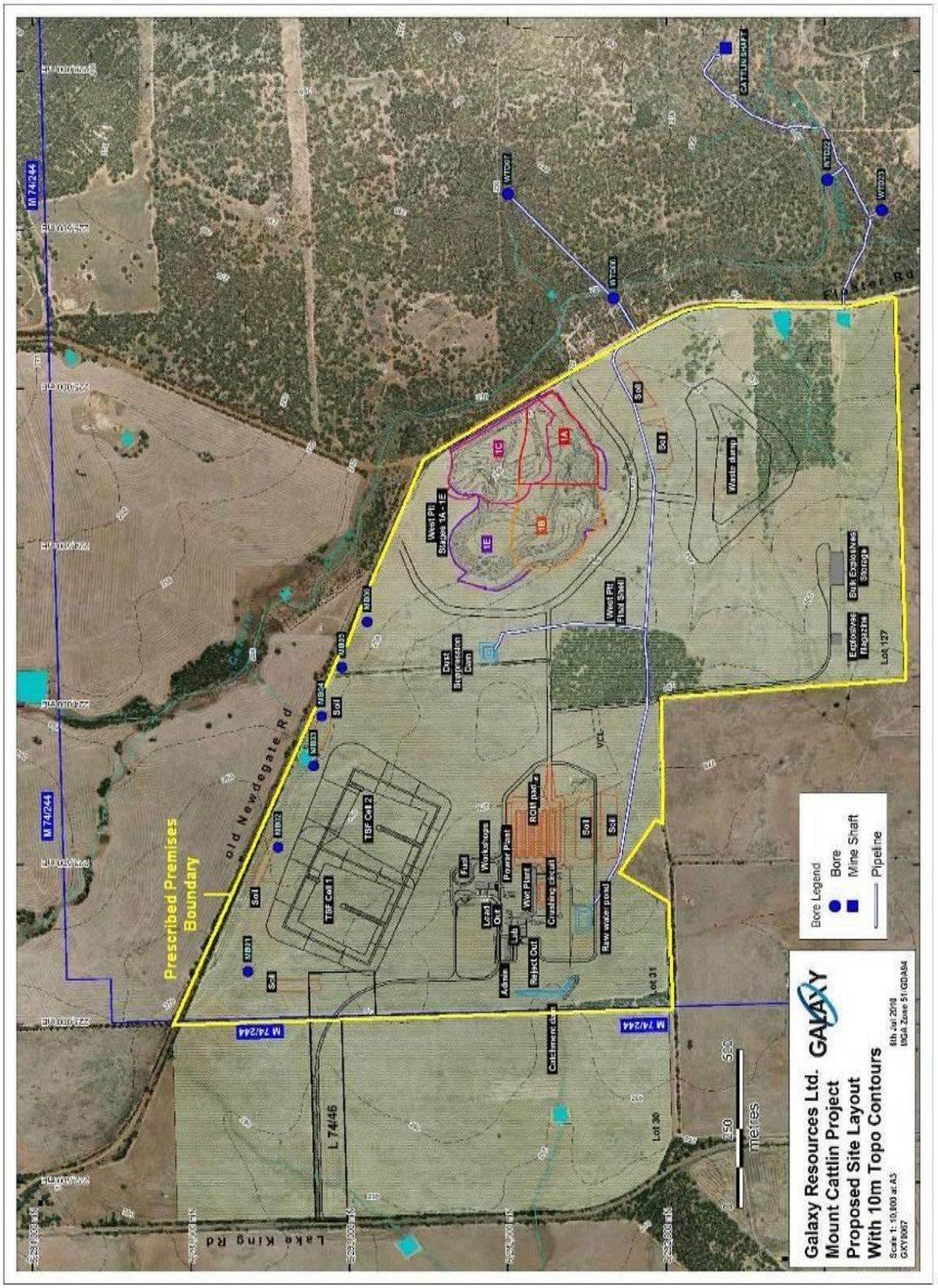
Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

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



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the Licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) 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	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the licensee in accordance with the *Corporations Act 2001*; or
	□	by two directors of the licensee; or
	□	by a director and a company secretary of the licensee, or
	□	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the licensee; or
	□	by affixing the seal of the local government.

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

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

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L8469/2010/2 Licensee: Galaxy Resources Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit

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

Part A

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

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

Part B

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

Name	
Post	
Signature on behalf of Galaxy Resources Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Galaxy Resources Ltd

Works Approval: L8469/2010/2

Registered office: Suite 8/18 Kearns Crescent
ARDROSS WA 6153

ACN: 071 976 442

Premises address: Mt Cattlin Ravensthorpe Spodumene Project
Part of Mining Lease M74/244
Being Lot 31 on Plan 224145 and Lot 127 on Plan 145763
RAVENSTHORPE WA 6346

Issue date: Thursday, 3 October 2013

Commencement date: Monday, 14 October 2013

Expiry date: Saturday, 13 October 2029

Decision

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

Decision Document prepared by: Neville Welsh
Senior Licensing Officer

Decision Document authorised by: Tim Gentle
Manager Licensing – (Resources Industries)
Delegated Officer

Contents

1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	5	1 000 000 tonnes per annual period
Application verified Application fee paid	Date: 10 April 2016 & 03 May 2016 Date: Not applicable	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome	Not applicable	
Is the proposal a Major Resource Project?	Yes☐ No☒	

Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☒ No☐	Decision date: 22/09/2008 Managed under Part V ☒ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	Ministerial statement No: N/A
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☒ No ☐	
Is the Premises within an Environmental Protection Policy (EPP) Area: Yes☐ No☒		
Is the Premises subject to any EPP requirements? Yes☐ No☒		

3 Executive summary of proposal and assessment

Prescribed Premise Summary

Galaxy Resources Ltd (Galaxy) is licensed for a mining and processing facility for the production of Spodumene a lithium aluminium silicate (LiAl (Si_2O_6), comprising 6.0% Li_2O), and tantalum oxide (Ta_2O_5). The project is located at Mt Cattlin two kilometres northwest of the Ravensthorpe town site on Mining Lease M74/244 and is 100% owned by Galaxy. The project is located on Lot 31 on Plan 224145 and Lot 127 on Plan 145763, Old Newdegate Road at Ravensthorpe.

The Ravensthorpe Spodumene Project has been assessed as a "prescribed premises" under category number 5, within Schedule 1 of the Environmental Protection Regulations 1987 (EP Regs) that includes the mining and processing of Spodumene and Tantalite on the agricultural land west of Floater Road and South of Old Newdegate Road. Any expansion of the operations outside the existing approved footprint will require additional works approvals or amendments to the licence.

Category 5 is described as: 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.

The Ravensthorpe Spodumene Project has the capacity to extract 1,000,000 tonnes of ore per year to produce 150 kilo tonnes per annum (ktpa) Spodumene concentrate and 364 tonnes per annum (tpa) tantalite.

During operation, dewatering occurs on site and the water extracted is pumped to a storage pond for use in the process. As this water is not discharged into the environment, the operation does not meet the threshold of a Category 6 prescribed Premises (Mine dewatering) under Schedule 1 of the EP Regs.

Power supply is from a diesel-fired power station. As the installed generating capacity is less than 10MW (max 6MW of power generated) it does not trigger the threshold for Category 52 prescribed premises under Schedule 1 of the EP Regs.

DER has completed an "amend to extend project" aimed at extending licence expiry dates of many part V licences in the state. As part of this project, the expiry date of licence L8469/2010/2 was extended from 13 October 2018 to 13 October 2029. This will be reflected in this amendment.

Prescribed activities

The Premises commenced operation in October 2010, but has been in care and maintenance since July 2012. Since July 2012 the company has retained their Part V licence to allow operations to recommence. At the time of this assessment, the process plant is being prepared to resume operations.

The infrastructure on the premises includes:

- open pit;
- waste rock dump;
- primary/Spodumene concentrator;
- tailings storage facility (TSF) and associated pipelines;
- dust suppression dam;
- reverse osmosis plant (waste will be directed to the Raw/Process Water Pond);
- production bores;
- associated pipelines and storage pond, power station (5 MW diesel-fired);
- offices;
- workshop;
- stores;
- laboratory; and
- access roads.

Dewatering occurs on site and the water extracted is pumped to a storage pond for use in the process when the Premises operate. Dewatering continues while the plant is in care and maintenance, and water is also abstracted from monitoring bore MB03 due to a rising water level in this bore.

No employee camp is based at the mine site as most personnel commute from the surrounding Ravensthorpe district.

Licence amendment summary

This Licence amendment is sought by the Licence Holder to include extension of the expiry date, assessment of a temporary tailings stockpile area (TTSA) to store dry tailing, assessment of the process plant to include Reflux Clarifiers and Lithium Belt Filter; and converting the licence into the most up to date DER licence format. Only those emissions associated with this amendment will be assessed the remaining emissions will not be reviewed and reassessed at this time.

This assessment includes a review of the associated works approval W4533/2009/1 issued to extend the TSF lift timeframe and include reflux classifiers into the process plant circuit. Works Approval W4533/2009/1 will remain active following this licence amendment as it contains conditions for staged construction of TSF lifts and monitoring during construction.

Other relevant approvals

Part IV Approvals
The Ravensthorpe Spodumene Project was referred to the Environmental Protection Authority (EPA) on 22 September 2008. The EPA determined in relation to the proposal; “Not assessed – Managed under Part V of the EP Act (Clearing)” The environmental factors considered were noise, dust and clearing. The Western Australian Appeals Convenor did not receive any public appeals against the EPA’s decision.

Part V Approvals:
Works Approval (W4533/2009/1) for construction of the processing plant and Tailings Storage Facility (TSF) was granted on 22 June 2009 and amended in July 2010 with partial compliance certificate submitted on 15th September 2010. Further amendment to the works approval was granted on 11th October 2010 to remove the requirement for spill trays and covers on all conveyors and further amendment to the works approval was granted on 24 May 2012 to extend its duration to 2018 to

facilitate the remaining lifts to Cell 1 of the TSF plus further amendment was granted 17 January 2013 to install an additional reflux classifier into the processing plant.

The operating licence L8469/2010/1 was issued on 14 May 2010 with an amendment to the licence granted 24 May 2012 to update the TSF Operating Manual version which had been updated. The mine officially went into care and maintenance in July 2012; however the operating licence was still reissued on 3 October 2013 (L8469/2010/2) to allow recommencement of operations when suitable. As at April 2016, the mine and process plant is being prepared for start-up and operations to recommence.

Operations must also comply with the following guidelines and regulations:
- Environmental Protection Act 1986 (EP Act);
- Contaminated Sites Act 2003;
- Environmental Protection (Controlled Waste) Regulations 2004 (Controlled Waste Regs);
- Environmental Protection (Unauthorised Discharges) Regulations 2004;
- Environmental Protection (Noise) Regulations 1997 (Noise Regulations);
- Environmental Protection Regulations 1987; and

Other DER activities:
As part of the National Pollution Inventory, quantities of air emissions will be estimated and reported annually to the DER. This will include emissions from various activities on-site including blasting, vehicle movements, processing and wind erosion (dust). GMM must ensure they undertake reporting in accordance with the National Greenhouse and Energy Reporting Regulations 2008.

Dewatering is occurring on site, however water is stored in a storage dam and re used in the processing and thus is not prescribed.

Emissions from the power station (black smoke) can be regulated under the Environmental Protection (Unauthorised Discharges) Regulations 2004 (UD Regs).

Clearing of native vegetation is managed under the clearing provisions of the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004. As it is a mining tenement, this is managed by DMP.

Cell 2 of the TSF will require an application to DER. The construction of Cell 2 will occur in the future, beyond the duration of the active works approval, and to ensure that appropriate management is occurring prior to the approval.

Department of Mines and Petroleum (DMP):
The Department of Mines and Petroleum (DMP) are the primary agency for managing the following statutory requirements of mining proposals in Western Australia;
- Mining Act 1978 and regulations (mining lease, mining proposals and programme of works);
- Mine Safety and Inspection Act 1994 and Mine Safety and Inspection Regulation 1995 (mine safety);
- Dangerous Goods Safety Act 2004;
- Dangerous Goods Safety (Explosives) Regulations 2007;
- Dangerous Goods Safety (General) Regulations 2007;
- Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;
- Health Act 1911; and,
- Land Administration Act 1997.

DMP are the primary agency for managing the landform aspects of tailings facilities in respect to geotechnical and structural integrity, safety and the long term rehabilitation of the site. Approval from the DMP for the Ravensthorpe Spodumene Project Mining Proposal (MP) (ID 22377) was received on 4 November 2009.

Galaxy has a current clearing permit (CPS 3045/1) for the project, issued by DMP.

The Mining Tenement was granted by DMP on 24th December 2009.

Department of Water

Three licences to construct bores or wells were obtained from the Department of Water (DoW) (numbered CAW167437(1), CAW169547(1) and CAW170586(1)).

A Groundwater Abstraction Licence (GWL167439(1) to abstract 1,095,000 kL/year was obtained from the Department of Water (DoW). This duration of this licence is 28 August 2009 to 28 August 2019.

Estimated water requirements for the project are 4.27 gigalitres per year GL/yr when operating. A reliable return water supply to the treatment plant's process water tanks will be supplemented by return (decant) water from the TSF.

Extraction of groundwater for the project water requirements near Cattlin Creek may impact the water levels of the catchment. These impacts are managed through the DoW and a groundwater abstraction operating strategy.

Emissions of significance

The main emissions associated with the Ravensthorpe Spodumene Project are considered to be point source air emissions from the diesel fired power plant, fugitive dust and noise emissions from caused during mining operations, blasting, ore haulage activities and at the crushing and screening plant, light emissions at night affecting neighbours and local fauna, discharges to land from TSF causing hydrological impacts to groundwater plus waste management and contaminated stormwater.

The operation is within 2 kilometres of residence and the town of Ravensthorpe and the previous licence and works approval decisions have been taken into consideration and DER has determined the Licence Premises Risk Assessment (LPRA) as Moderate risk.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act1986*, 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**
Interpretation	L1.1.2, 1.1.3 and 1.1.4	**Operation** Conditions 1.1.2, 1.1.3 and 1.1.4 have been reviewed to ensure that terminology used within the Licence is referenced to the appropriate definitions where applicable, that any reference to a standard or guideline is to the most current version of that standard or guideline. Definitions under Condition 1.1.2 that are not used within the Licence, including those definitions linked to conditions which have been removed (addressed in the sections below) have been deleted. Additional definitions have been inserted for the following: • To accurately define the DER's contacts. • To accurately define relevant operational areas within the Premises which are subject to specific regulatory controls. • To accurately define the Premises boundary.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*
General conditions	N/A	**Operation** Licence conditions 1.2.1, 1.2.2, 1.2.3, 1.2.4 and 1.2.5 in the previous version of the Licence have been deleted. No other conditions of relevance have been identified and the 'general conditions' section of the Licence has been removed. The conditions were removed for the following reasons: • Condition 1.2.1: is an explanatory statement and not a condition, the intent of the statement is covered by the general provisions of the Act. • Condition 1.2.2: there is no specified pollution control, monitoring equipment or maintenance schedule which the condition clearly relates to, where infrastructure is required to control or monitor emissions it is specified within conditions under the 'Premises operation' and section of the Licence.	General provisions of the *Environmental Protection Act 1986* *Environmental Protection (Unauthorised Discharges) Regulations 2004*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		• Condition 1.2.3: the provisions of the condition were not clear or enforceable. No substances requiring specific regulatory controls have been identified for the prescribed activities undertaken at the Premises. • Condition 1.2.4: the storage and remediation of spills of relevant materials can be effectively regulated by the general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*. No substances requiring specific regulatory controls have been identified for the prescribed activities undertaken at the Premises. • Condition 1.2.5 the prevention of stormwater is unclear as it does not specify what stormwater infrastructure is required to be constructed and maintained or what if any specific management actions are required.	*Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Premises operation	L1.3.1 - 1.3.9 L1.3.10	**Operation** Existing conditions L1.3.1 to L1.3.9 have not been reviewed or reassessed at this time but will be considered following Compliance Inspection and/or 24 months of operation at the Premises once the amended licence has been issued. New condition 1.3.10 has been included to the licence to reference the documentation submitted as part of the amendment being assessed. See Appendix A for more details.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*
Emissions (general)	L2.1 to L2.8	**Operations** Amendments to emissions conditions, and removal of the emissions section, are for: • Condition 2.1.1 in the previous licence version has been deleted; there are no descriptive or numerical limits or targets specified in the emissions section of the Licence. • Sections 2.2-2.5 & 2.7 in the previous licence version have been deleted; the sections contained no conditions. • Conditions 2.6.1 in the previous licence version remains in the amended licence but will be reviewed following Compliance Inspection or after 24 months of operation. • Condition 2.6.2 in the previous licence version has been deleted; see the fugitive emissions (dust) section of this Decision Document. • Conditions 2.6.3 and 2.6.4 in the previous version of the licence have been deleted; the conditions are replaced by condition 1.2.5 and are addressed in the fugitive emissions (dust) section of this Decision Document. • Condition 2.8.1 in the previous licence version remains as it references the most recent Noise Management Plan completed in June 2011.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Setting Conditions*

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 (Dust)	L2.6.1	**Construction** The construction of Reflux Classifiers and Lithium Filter belts occur within the plants closed production circuit then emissions will remain unchanged and are adequately addressed by the Premises conditions currently imposed on the licence. Construction dust for TTSA and process circuit improvements is short term and the emission is unlikely to occur with minor consequences providing an overall emission risk rating of moderate. Fugitive dust will be managed in accordance with latest version of Galaxy Airborne Material Management Plan with no additional licence conditions required. **Operation** The emission of dust may arise at the Premises from the following activities: • Activities of crushing, screening and conveying raw material to be processed; • Open areas and trafficable areas causing dust lift off; and, • Speed of vehicles traversing the mine site and process areas. This licence amendment is not assessing the fugitive emissions (dust) at this time and the previous licence conditions adequately address management of dust from the mines activities.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Noise	L2.8.1	**Construction** Construction of the TTSA and the reflux classifiers and Lithium filter belts will see noise emissions remain unchanged and are adequately addressed by the Premises operation conditions currently imposed on this licence. Noise emissions during construction must comply with the *Environmental Protection (Noise) Regulations 1997* and also managed using the Ravensthorpe Spodumene Project Operational Noise Management Plan version June 2011 as conditioned in the licence. The likelihood of these construction emissions is assessed as unlikely to occur and the consequences are minor and the emissions risk is therefore Moderate. **Operation** The emission of noise may arise at the Premises from the following activities: • Activities of crushing, screening and conveying raw material to process plant; • Process plant motors, pumps and machinery bearing; • Open areas and trafficable areas causing dust lift off; and, • Speed of vehicles traversing the mine site and process areas. This licence amendment is not assessing the noise emissions at this time and the previous licence conditions adequately address noise caused by the mine activities by ensuring an Noise Management Plan (June 2011) has been implemented which meets the requirements of the Noise Regulations.	General provisions of the *Environmental Protection Act 1986* *Environmental Protection (Noise) Regulations 1997*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Monitoring (general)	L3.1.1 to L3.1.5 L3.2 to L3.5 & L3.9 L3.6 & L3.7 L3.8	**Operation** Amendments to monitoring conditions are for: • Sections 3.1.1 and L3.1.5 in the previous licence version remain in the amended licence as adequate to address the standards of monitoring, the frequency of monitoring, the methods of monitoring, and the calibration requirements for the monitoring. • Conditions L3.2 to L3.5 and L3.9 in the previous licence have been deleted; the sections contained no conditions. • Conditions L3.6 & L3.7 in the previous licence shall remain in the amended licence as they adequately address the monitoring of inputs, outputs and process and have not been assessed at this time. • Conditions L3.8 has been amended to remove the target standing water level of greater than 5 metres BGL to a limit of 3 metres BGL. In line the Redundant condition operational procedure for describing targets.	General provisions of the *Environmental Protection Act 1986* *Operational Procedure IR-OP-02 Redundant Conditions.*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Improvement	L4.1.1	**Operation** Condition L4.1.2 from the previous licence has been deleted because it references the original IR2 requirement which was received by DER and is no longer required. Condition L4.1.1 from the previous licence will remains in this amended licence as there is a requirement for a new Improvement condition requiring "Temporary Tailing Stockpile Area Management Plan" to be created within 4 months of the licence being issued. See assessment below; Original Improvement program documents required by references IR1 and IR2 have been received and are being reviewed by DER. In the meantime, the licence holder has commenced a seepage recovery strategy following the detailed investigations. Therefore IR1 and IR2 document requirement has been removed from this amended licence. **TTSA emissions assessment – Construction and Operations** *Emissions:* Dry tailings stored in the TTSA become saturated by stormwater and release contaminants to land caused by stormwater infiltration mixing with local groundwater. *Impact:* Quality of water being reduced impacting beneficial users and the environmental receptors of local groundwater. Local groundwater will discharge to Cattlin Brook which is critical water resource to protect in this locality. *Controls:* The TTSA will be constructed with dimensions of 50m by 300m and shaped of compacted clay with a slope to the north and northwest. Stockpile area will be scarified; moisture conditioned and compacted to a depth of 200mm forming a low permeability base. An underdrainage system incorporating herring bone drains and carrier drain will collect water from the base of the TTSA. Water will be diverted to and collected from a sump located at the north end of the TTSA for recovery to the process water circuit. There will be no discharge to the environment from the TTSA. 6 groundwater bores will monitor water levels and groundwater quality 2 monthly during construction and operations and reported annually. The TTSA will operate for first 12 months when operations commence.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Risk assessment: *Consequence:* Minor *Likelihood:* Rare *Risk Rating:* Low Regulatory controls: A new improvement condition will be added to the licence requiring the preparation of a TTSA management plan confirming monitoring of seepage plus the proposed decommissioning and rehabilitation of the TTSA in a final report format. A new condition will be added to the licence amendment to ensure construction of the TTSA and process circuit changes are completed as represented in the application for licence amendment plus the Amendment to Processing Circuit and Temporary Tailings Storage mining proposal documents. A new condition requiring compliance certificate be submitted to DER confirming construction will also be included in the Information records of the licence amendment. Risk assessment: *Consequence:* Minor *Likelihood:* Rare *Risk Rating:* Low	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Information	L5.1 to L5.3	**Operation** Administrative amendments to renumber conditions chronologically and substitute the term 'shall' for 'must' have been made. Condition 5.1.2 in the previous version of the licence has been deleted. A lack of awareness of Licence conditions by a Licensee and their representatives is not a defence to offences under the *Environmental Protection Act 1986*. New Condition 5.1.6 and 5.1.7 have been included to receive a compliance document when the construction works for the reflux classifiers, Lithium belt filters and temporary tailings stockpile area walls have been constructed. See Appendix A for risk assessment of process circuit and Temporary stockpile storage area. Condition Table 5.2.1 in the previous licence version will be renumbered once the amendment has been finalised Condition Table 5.3.1 require any limit under the Licence being exceeded to be reported as soon as practicable. This will facilitate a prompt review of the risk posed by the limit being exceeded and any response required. The row seeking notification of target exceedance, plus form ET1 in Schedule 1 have been removed.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Regulatory Principles* *Guidance Statement: Setting Conditions*
Licence Duration	N/A	The previous version of the licence was granted until 13 October 2018. DER has completed an "amend to extend project" aimed at extending licence expiry dates of many licences throughout WA. As part of this project, the expiry date of this licence was extended from 13 October 2018 to 13 October 2029. All residual risk assessments have identified emission risks at the Premises being Low to Moderate.	General provisions of the *Environmental Protection Act 1986* *Guidance Statement: Licence Duration*

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
2/06/2016	Proponent sent a copy of draft instrument	Minor administrative amendments	Amendments made

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

Background

Galaxy Resources Pty Ltd (Galaxy) commenced mining activities at the Mt Cattlin Spodumene Project in March 2010.

The site operations ceased in July 2012 and went onto a care and maintenance phase. Since that time only essential care and maintenance work has been undertaken at Mt Cattlin.

In September 2015, Galaxy signed a Joint Venture (JV) agreement with General Mining Corporation Limited (GMM) with GMM managing the site and its operations. GMM intend to recommence operations at Mt Cattlin in 2016 and the licence will remain with Galaxy.

Proposed works

With the recommencement of operations, the licence holder proposes minor changes to the existing process circuit to improve plant efficiency and increase output of lithium and tantalum with reduced mica content. Two additional structures are proposed, both within the existing plant area and connected to the existing plant. These two structures are designed to house:

• Three (3) reflux classifiers, associated pumps hoppers and piping located adjacent to the existing thickener. Reflux Classifiers were previously approved in the current Works Approval (W4533/2009/1) but not built. The construction will only reconfigure the plant circuit.

• Two (2) filter belts located near the DMS and product loadout areas which will remove water from product and improve water usage efficiency

All process plant changes will be within the existing plant footprint and disturbed area and a process flow diagram is included in Diagram 1.

In addition, it has been identified that the dried tailings retained in the existing TSF contain significant grades of lithium which were not recovered for export by the original ineffective fines process circuit. A reclamation project has been designed to recover and retreat this high value product. To extract the lithium from the tailings, Galaxy propose to construct a temporary tailings stockpile area (TTSA) using the clay materials located on the site of the proposed TSF Cell 2 (immediately adjacent to and to the east of the existing TSF Cell 1). The stockpiled clays will be reshaped and compacted to form a pad to stockpile the tailings. The tailings will then be partially reclaimed from the TSF utilising a truck and excavator single pass mining method.

All tailings to be deposited in the TTSA will be well drained. Selective mining will identify tailings that are too soft (fine) or wet to reclaim, with these products ultimately left within the TSF. The material targeted for reclamation represents the coarse free draining component of the original tailings product. The reclamation procedure will be sufficiently flexible and as such the risk(s) saturated tailings may pose is largely eliminated.

A minimum of 500 mm of tailings will be left in place across the TSF basin and 300 mm on the upstream embankment face to ensure that the underlying low permeability layers and under drainage system are not compromised during the mining and subsequent re-filling of the TSF.

Issues relating to a block riser pipe which is a critical component for the correct functioning of the under drainage system of the TSF will be rectified post the extraction of the tailings product.

When the reclamation of tailings is completed a drainage slot will be excavated in the remaining TSF tailings, sloping towards the decant tower (to the maximum extent possible), to promote the flow of water to the decant tower when the facility is re-commissioned. In addition, the underdrainage system can also be used to reclaim water back to the plant until the decant system is fully operational.

Following completion of the work outlined, the stockpiled tailings will be fed into the process circuit and returned to the existing TSF. The only change in tailings product will be the removal of Spodumene (lithium).

It is anticipated that the TTSA will be built to stockpile 158,000bcm (205,400 tonnes) and utilised for a period of up to 12 months.

No additional changes are proposed to the existing infrastructure.

Assessment and Management

Surface water

There will be no material change to existing surface water patterns by the construction of the temporary tailings stockpile area (TTSA). At the north and south end of the temporary tailings stockpile and other places where the tailings will not be stockpiled against the mine waste, a low bund of approximately 1.5 m in height of compacted low permeability material will be constructed to contain storm water that may infiltrate the tailings along with the actual tailings product.

An underdrainage system will be provided to the stockpile to collect water from the base of the stockpile. This drainage system will comprise a carrier drain discharging northwards and located on one side of the stockpile and a series of herringbone drains at approximately 20 m centres draining to the carrier. Water will be collected in a sump at the north end of the stockpile for recovery.

In the northwest corner of the temporary tailings stockpile area, a rock-lined drain will be constructed to a lower level north of the pad which will act as a water retention structure to retain any tailings water that drains from the stockpiled tailings and rainfall that falls on the pad. This collected water will be pumped back to the process plant and used in the circuit or pumped into the water truck and used for dust suppression.

Groundwater

Prior to digging test pits in the TSF, the phreatic surface was unknown and a report was completed by Galaxy consultants by considering an event where a substantial quantity of water would need to be pumped to the pit. It estimated that potentially up to 25,000kL may need to be pumped.

As part of this analysis, the water that was perched within the blocked toe drain was laboratory tested and determined that the salinity was higher than that of the pit water, but that the salinity is lower than that of the local groundwater which is saline to hyper-saline.

Subsequent to the consultant's report, it was determined during the digging of test pits within the TSF that the phreatic surface was below the maximum planned tailings extraction depth and that no water would need to be extracted or pumped.

Given any water now emanating from the stockpile would be the result of a storm event, it is likely that this water will not be saline and hence present minimal concern. Regardless, the salinity of any recovered water will be lower than that of the local groundwater which is saline to hyper-saline.

Even under the worst case scenario pump volumes contained within the report, the water level within the pit will remain below the original pre-mining static water level of 229 m AHD. The pit will, therefore remain a groundwater sink and so the pit water will not flow back into the surrounding groundwater.

Assessment of previous seepage that occurred during the former operations has been investigated by company's consultants and further modelling undertaken showed that if the TSF is recommissioned, groundwater levels near MB03 could rise to the ground level two years after recommissioning but can be controlled by pumping from the bore. MB03 is actively pumped and this will be continued by GMM to ensure groundwater levels are >5m BGL. In addition, the refurbishment of the riser pipe and under drainage in the northeast corner of the TSF will reduce the potential for seepage.

In addition to the tailings reclamation, the underdrainage system of the existing TSF will be remediated and piezometers installed on the embankment crest to monitor the phreatic surface within the embankment in the area where downstream seepage was observed in 2014.

Dust

During tailings reclamation, dust suppression measures will be used where exposed tailings are found to be dry and desiccated. If required, the surface of the temporary tailings stockpile will be sprayed with a polymer emulsion to reduce dust generation.

Dust generation will be managed in accordance with Galaxy Airborne Material Management Plan.

Noise

Assessment of the proposed tailings stockpiling and transport to the processing plant with excavator and articulated trucks during the day period is predicted to comply with the daytime 'assigned levels'. The assessment concluded that the proposed night operation of the Mt Cattlin processing plant and tailings stockpiling and movement during the day period will comply with the requirements of the Environmental Protection (Noise) Regulations 1997 (as amended) at all times.

The use of 'broadband' alarms on mobile equipment remains a key aspect of noise management for the Mt Cattlin operation, reducing the potential for 'annoyance' at noise sensitive receptors.

Monitoring

Galaxy currently monitor the six TSF bores four-monthly while the project is in care and maintenance, and this will increase to bi-monthly when operations resume in accordance with the requirements of the DER and DoW licences.

Galaxy will continue four-monthly water quality sampling of both the pit and toe drain be while the project is in care and maintenance, and increased to bi-monthly when operations resume. Any water extraction from the TSF will be metered to enable the pit water balance to be updated if required. Regular surveys of the pit water level will occur to monitor the effect of pumping water from the TSF.

Water supply pipelines and the tailings discharge and return water pipelines will be inspected by site staff during operation as set down by licence or tenement conditions (minimum once daily).

Galaxy will continue to take photographs on a six monthly basis at the seven established vegetation photographic monitoring points, five downstream of the TSF, and two east of the project adjacent to Cattlin Creek (as required by the Groundwater Licence Operating Strategy).

Rehabilitation and Closure

The Project has an approved Mine Closure Plan (MCP) (Reg ID 47826). A revised MCP will be submitted to the DMP in conjunction with the AER in October 2016 and will include the additional infrastructure proposed in this MP.

Rehabilitation and closure works associated with the additions to the processing plant, pipelines and road will be consistent with that described in the approved MCP (Reg ID 47826).

As the temporary tailings stockpile pad will be constructed from stockpiled (heaped) clay overburden which ultimately will be utilised for TSF wall raises or embankments, little rehabilitation work will be undertaken except for removal of the rock-lined drain and reshaping the pads by pushing down the retaining bunds around the pad and the water retention pond. This will ensure that the stockpiled clay resource returns to a free draining heap for rainfall runoff.

In the event that the site is put on care and maintenance, or in the event of unforeseen mine closure within this time, the stockpile will be either sprayed with a dust suppressing agent (if the closure time is anticipated to be short); or the stockpile will be encapsulated with the stockpiles construction material current located on either side of the proposed stockpile.

Process Circuit emissions - Operation

As the Reflux Classifiers and Lithium Filter belts are within the plants closed production circuit then waste emissions will remain unchanged and are adequately addressed by the Premises operation conditions currently imposed on the licence. Noise emissions from newly installed plant equipment during operations shall be managed using the Ravensthorpe Spodumene Project Operational Noise Management Plan version June 2011. Fugitive dust will be managed in accordance with latest version of Galaxy Airborne Material Management Plan. The emission risk has been assessed as moderate where emissions are unlikely to occur and the consequences from these emissions are minor. The amended licence conditions therefore adequately address the operations of the Premises.

Diagram 1: Mt Cattlin Spodumene Process plant (green indicates proposed process plant changes).

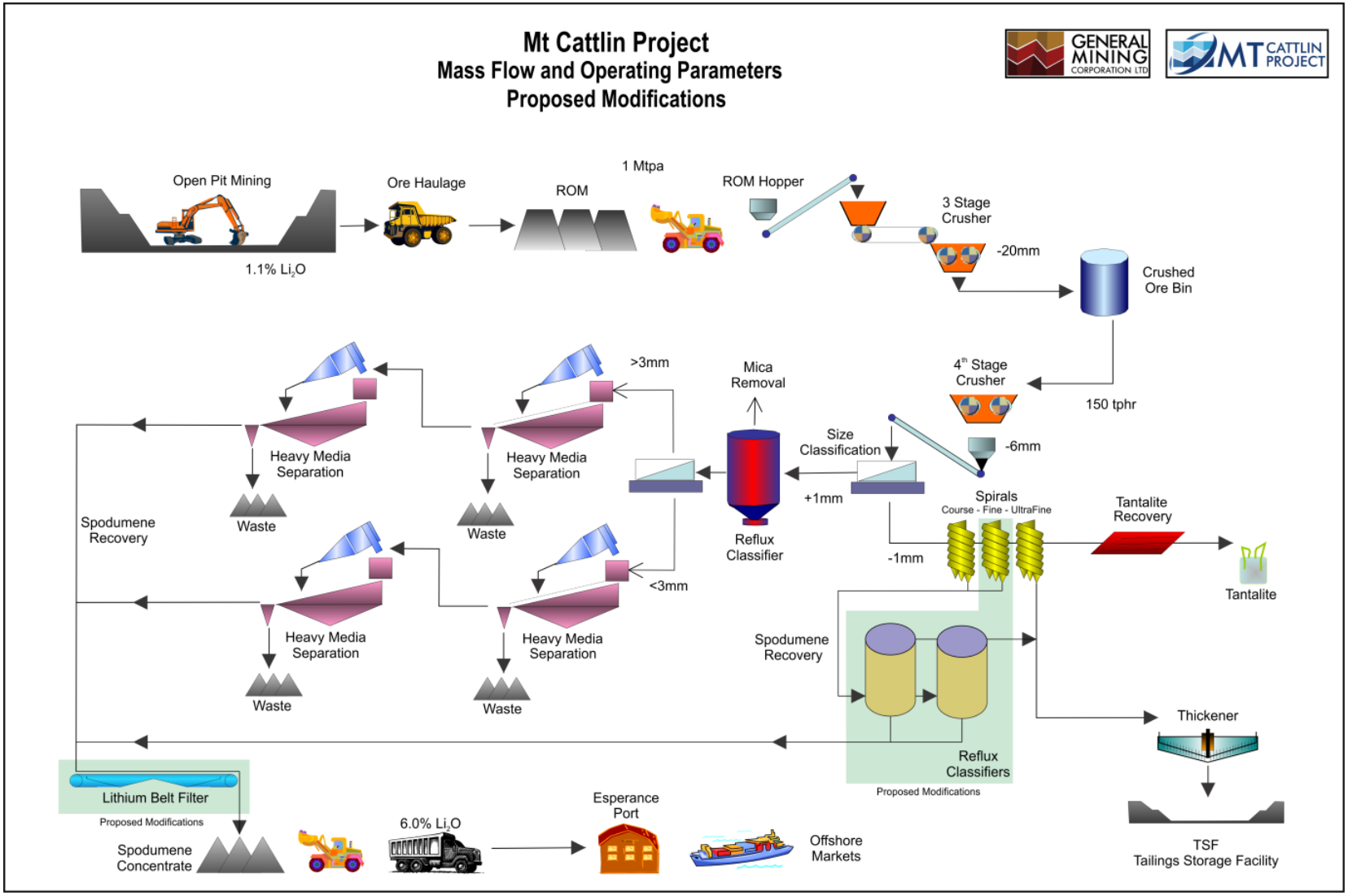
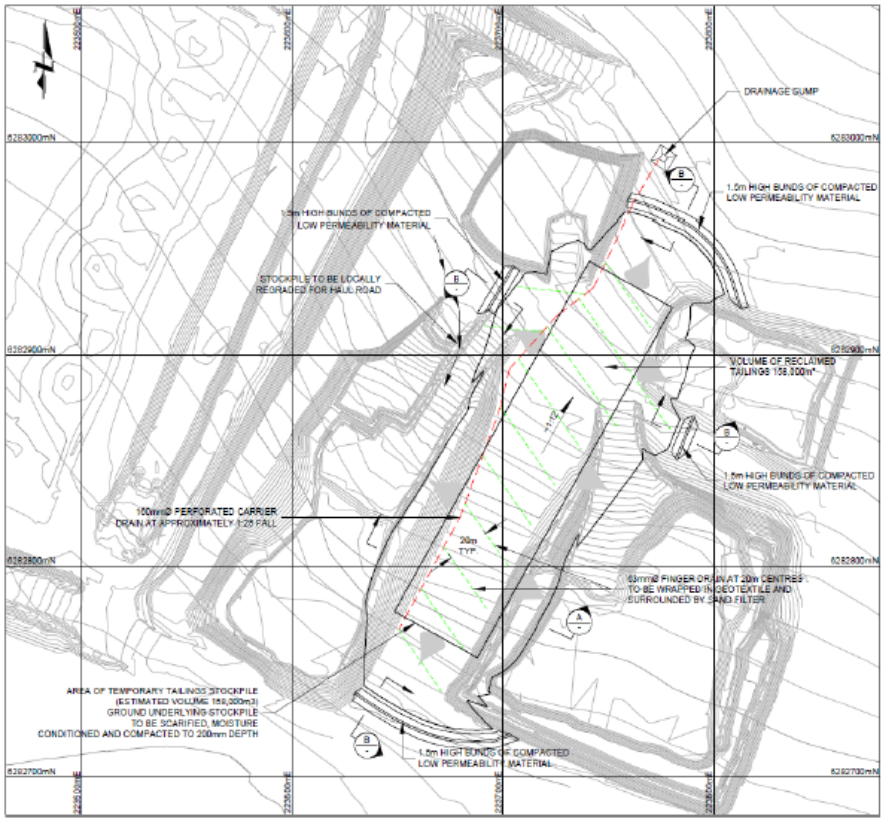
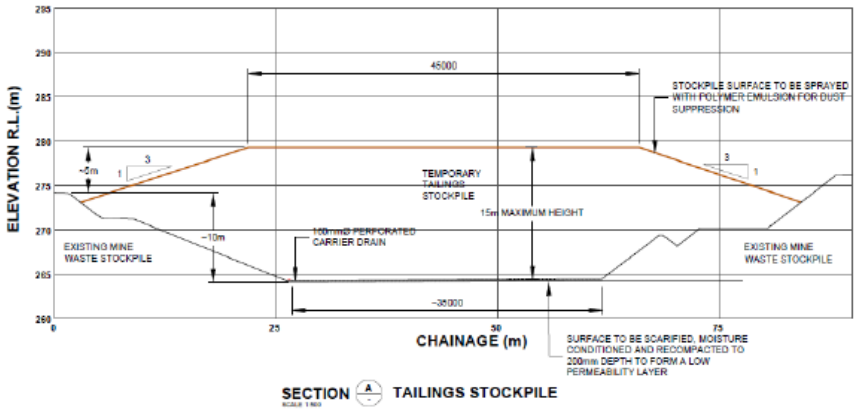
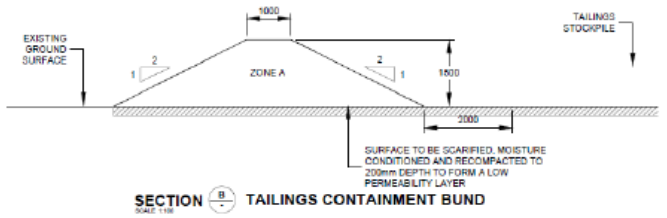


Diagram 2: Design of Mt Cattlin Temporary Tailings Storage Area (TTSA)





SECTION A TAILINGS STOCKPILE



SECTION B TAILINGS CONTAINMENT BUND

Diagram 3 – View of clay stockpile where the TTSA will be built.