



Licence

Environmental Protection Act 1986, Part V

Licensee: Doral Mineral Sands Pty Ltd

Licence: L7789/2001/9

Registered office: 1 Alumina Road
EAST ROCKINGHAM WA 6168

ACN: 096 342 451

Premises address: Dardanup Mineral Sands Mine
Offer Road
HENTY WA 6236
Being part of mining tenements M70/643, M70/652, M70/675, M70/720, M70/748 and M70/893, including all of Lots 107 –112 on Plan 2842, and Lots 301 – 302 on Plan 63847, as depicted in Schedule 1.

Issue date: Thursday, 21 May 2015

Commencement date: Saturday, 13 June 2015

Expiry date: Monday, 12 June 2028

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
8	Mineral sands mining or processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.	5,000 tonnes or more per year	5,000 tonnes per annual period

Conditions

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

Date signed: 7 July 2016

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Tim Gentle

Manager Licensing – Industry Regulation (Resource Industries)

Officer delegated under section 20

of the *Environmental Protection Act 1986*



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER 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

The premises is a former heavy mineral sands mine located near Bunbury on the southern Swan Coastal Plain, approximately 180 km south of Perth. It was active during the period 2002 – 2015 producing heavy mineral concentrate as feed for the company’s mineral separation plant at Picton. Active mining ceased on 23 December 2015 and the mine has moved into the rehabilitation and closure phase. Ore reserves have been exhausted and no further mining will take place at the site.

The licence will remain active throughout the rehabilitation phase and will continue to authorise discharges of harvested stormwater, including emergency discharge locations. Environmental quality monitoring of surface and groundwater and fugitive emissions will be ongoing.

This Licence is the result of an amendment sought by Doral following mine closure, to update and reflect the non-operational status of the mine.

The licences and works approvals issued for the Premises since its establishment in 2001 are:

Instrument log		
Instrument	Issued	Description
W3521/1	14/11/2001	Works approval for establishment of the Dardanup Project.
L7789/1	10/06/2002	New licence issued.
L7789/1	16/09/2002	Licence amendment to correct administrative error.
L7789/2	26/05/2003	Licence reissued. Nominal rate of throughput increased to 2,500,000 tonnes of ore to produce 200,000 t/yr HMC.
W3890/1	27/01/2004	Works approval for the southern mine extension.
L7789/2	09/02/2004	Licence amendment to include mining of the southern extension.
L7889/3	08/06/2004	Licence reissued. Nominal rate of throughput increased to 3,250,000 tonnes of ore to produce 220,000 t/yr HMC.
L7789/3	04/04/2005	Licence amendment to incorporate minor changes to surface water monitoring requirements and monitoring sites.
L7789/4	09/06/2005	Licence reissued. Monitoring of the northern extension sump included.
L7789/5	13/06/2006	Licence reissued.
L7789/6	14/06/2007	Licence reissued.
L7789/2001/6	04/06/2008	Licence amended to rectify licence period.
L7789/2001/6	27/03/2009	Licence amended to transfer mining operations to the western extension. AACR condition added.
L7789/2001/7	11/06/2009	Licence reissued for 3 years.
L7789/2001/7	24/06/2010	Licence amended to include an additional emergency mine water discharge point for the Burekup western extension.
L7789/2001/7	06/10/2011	Licence amendment to update the locations of emergency discharge points as strip mining progresses south.
L7789/2001/8	07/06/2012	Licence reissued for 3 years. Targets for emergency water discharge removed.
W5310/2012/1	13/12/2012	Works approval for the Southern Extension.
L7789/2001/8	01/02/2013	Licence amendment to include mining of the Southern Extension.
W5570/2013/1	16/01/2014	Works approval for the Waterloo western mine extension.
L7789/2001/8	23/01/2014	Licence amendment to include mining of the Waterloo western mine extension. Converted to REFIRE format. Production capacity increased to 4,600,000 tonnes of ore to produce 252,000 t/yr HMC.



L7789/2001/9	04/06/2015	Licence reissued for 2 years, as mining operations are projected to cease by the end of 2015. Category 6 mine dewatering added.
L7789/2001/9	18/06/2015	Licence amendment to correct administrative errors.
L7789/2001/9	29/04/2016	Licence amendment – expiry extended to 2028 via administrative notice.
L7789/2001/9	07/07/2016	Licence amendment following mine closure in December 2015. Conditions updated to reflect the closure and rehabilitation phase.

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 January until 31 December in the same year;

'AS 3580.1.1' means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment*;

'AS 3580.9.3' means the Australian Standard AS 3580.9.3 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method*;

'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 5667.6' means the Australian Standard AS/NZS 5667.6 *Water Quality – Sampling – Guidance on sampling of rivers and streams*;

'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;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;
Chief Executive Officer
Department administering the *Environmental Protection Act 1986*
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Licence' means this Licence numbered L7789/2001/9 and issued under the Act;

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

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

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

'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 in each year,

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

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

'significant rainfall event' means a 1 in 10 year, 24 hour rainfall event (or greater);

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

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

'Surface Water Emergency Discharge Plan' means the surface water emergency discharge plan documented in the most recent Annual Environmental Report and for the relevant annual period;

'TSP' means total suspended particles each having an equivalent aerodynamic diameter of less than 50 micrometres;

'µg/m³' means micrograms per cubic metre; 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 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 materials listed in Table 1.2.1 are only discharged into the corresponding infrastructure detailed in Table 1.2.1.

Table 1.2.1: Containment infrastructure

Infrastructure	Material	Infrastructure requirements
Emergency discharge sumps	Harvested stormwater	Flow metering device, as described in the Surface Water Emergency Discharge Plan
Process water pond		V-notch weir discharge point
Drop out dam		Sedimentation basin

1.2.2 The Licensee shall submit to the CEO a Surface Water Emergency Discharge Plan by 1 March in each year. The plan shall include, but not be limited to the following:

- (a) a description of the proposed surface water emergency discharge point(s) to be constructed and operational for the following winter season;
- (b) the location and capacity of the emergency discharge sump(s);
- (c) water quality targets to be applied to any discharge through the surface water emergency discharge point(s); and
- (d) management actions that will apply to the emergency discharge point(s) in the event that water quality targets are not met.



2 Emissions

2.1 General

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

2.2 Point source emissions to surface water

2.2.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Emission point reference	Description	Source including abatement
W1	Overflow from the process water pond v-notch weir into Willoughby Creek	Harvested stormwater, treated via settling with sufficient residence time to reduce suspended solids

2.2.2 The Licensee shall take the relevant management action in the case of an event in Table 2.2.2.

Emission point reference	Event/ action reference	Event	Management action
Not specified	EW1	Significant rainfall event requiring short term excess surface water management	Discharge and monitoring in accordance with the Surface Water Emergency Discharge Plan

2.3 Emissions to land

2.3.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.2.3 it is done so in accordance with the conditions of this Licence.

Emission point reference	Description	Source including abatement
L1 – L13	Mine voids	Dried clay slimes from solar evaporation ponds, blended with overburden for backfill

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 surface water sampling is conducted in accordance with AS/NZS 5667.6;
- (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
- (d) all ambient air monitoring is conducted in accordance with AS 3580; and
- (e) 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) weekly monitoring is undertaken at least 4 days apart;
- (b) monthly monitoring is undertaken at least 15 days apart;
- (c) six-monthly monitoring is undertaken at least 5 months apart; and
- (d) annual monitoring is undertaken at least 9 months apart.



- 3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.
- 3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to surface water

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

Table 3.2.1: Monitoring of point source emissions to surface water			
Emission point reference	Parameter	Units	Frequency
W1	Volumetric flow rate	m ³ /d	Weekly, when discharging
	pH ¹	-	
	Electrical conductivity ^{1,2}	µS/cm	
	Total suspended solids	mg/L	
	Total dissolved solids		
	Total titratable acidity		
	Sulfate		Annual
Aluminium, arsenic, chromium, copper, lead, manganese, nickel, zinc, total petroleum hydrocarbons, ammonium			

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

Note 2: Referenced to 25°C.

3.3 Ambient environmental quality monitoring

- 3.3.1 The Licensee shall undertake the monitoring in Tables 3.3.1, 3.3.3 and 3.3.4 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

Table 3.3.1: Monitoring of ambient air quality						
Monitoring point reference	Parameter	Limit	Units	Averaging period	Frequency	Method
AQ1 – AQ4	TSP	260	µg/m ³	24 hours	Monthly ¹	AS 3580.9.3

Note 1: Commencing 1 October and ending 31 May the following year.

- 3.3.2 The Licensee shall ensure that the siting of ambient air monitoring equipment is in accordance with AS 3580.1.1.



- 3.3.3 The Licensee is exempt from compliance with the limit specified in Table 3.3.1 if in the case of an event in Table 3.3.2:
- (a) the corresponding management action is taken; and
 - (b) there is sufficient evidence to demonstrate that the exceedance is not attributed to operations on the Premises.

Table 3.3.2: Management actions			
Monitoring point reference	Event/action reference	Event	Management action
AQ1 – AQ4	EA1	Exceedance of the limit specified in Table 3.3.1	Undertake an investigation of the exceedance, including but not limited to: <ul style="list-style-type: none"> (a) the root cause analysis for the exceedance; and (b) any common or contributory factors for the exceedance.

Table 3.3.3: Monitoring of ambient surface water quality				
Monitoring point reference	Parameter	Units	Averaging period	Frequency
WQ1 – WQ17	pH ¹	-	Spot sample	Monthly, when flowing
	Electrical conductivity ^{1,2}	µS/cm		
	Total suspended solids	mg/L		
	Total dissolved solids			

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Referenced to 25°C.

Table 3.3.4: Monitoring of ambient groundwater quality				
Monitoring point reference	Parameter	Units	Averaging period	Frequency
GQ1 – GQ32	Standing water level	m AHD	Spot sample	6-monthly
	pH ¹	-		
	Electrical conductivity ^{1,2}	µS/cm		
	Total dissolved solids	mg/L		
	Total titratable acidity (TAA)			
	Total alkalinity (TA)			
	Major ions: bicarbonate, calcium, carbonate, chloride, magnesium, nitrate, potassium, sodium, sulfate			
Metals: aluminium, antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, iron (total), lead, manganese, mercury (total), molybdenum, nickel, selenium, silver, uranium, vanadium, zinc		Annual		

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: Referenced to 25°C.



4 Information

4.1 Records

- 4.1.1 All information and records required by the Licence shall:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 4.1.2 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
- 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

- 4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 March in each year. 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	Parameter	Format or form¹
-	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
1.3.2	Surface Water Emergency Discharge Plan	
Table 3.2.1	Monitoring of point source emissions to surface water	
Table 3.3.1	Monitoring of ambient air quality	
Table 3.3.3	Monitoring of ambient surface water quality	
Table 3.3.4	Monitoring of ambient groundwater quality, including an appraisal with respect to potential groundwater contamination from metals and acidity	
4.1.2	Compliance	
4.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2.

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



4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements				
Condition or table	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form¹
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEO's request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2.

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	Parameter	Notification requirement¹	Format or form²
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable.	N1
Table 2.3.3	Emergency discharge of excess surface water	As soon as practicable but no later than 5pm of the next usual working day. Notification shall be supported by information on the discharge location and the reasons for emergency discharge.	None specified
3.1.4	Calibration report	As soon as practicable.	
Table 3.3.4	Groundwater monitoring results indicating a pH of less than 4.5 or a total alkalinity of less than 30 mg/L		

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

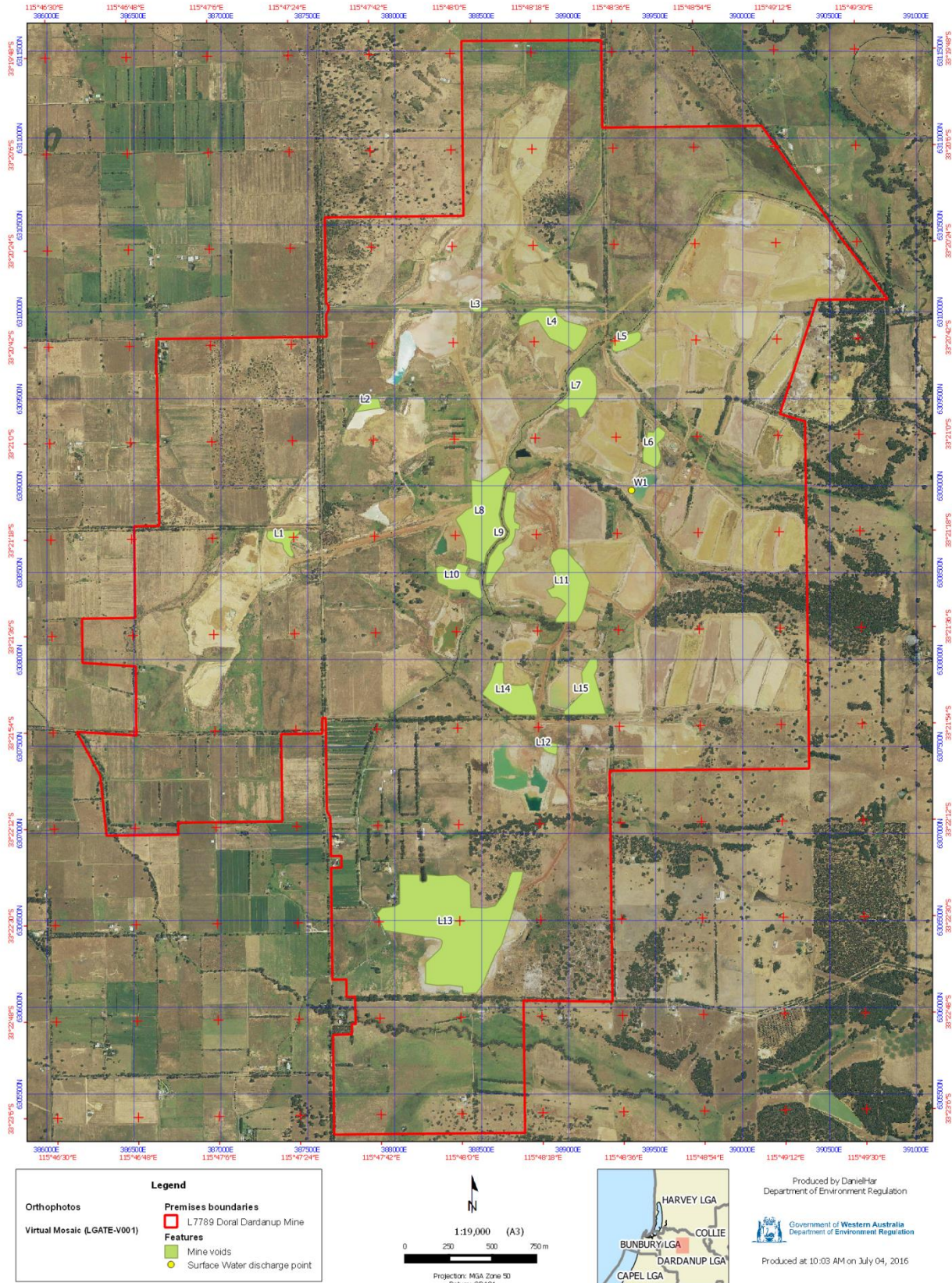
Note 2: Forms are in Schedule 2.



Schedule 1: Maps

Premises map and map of emission points

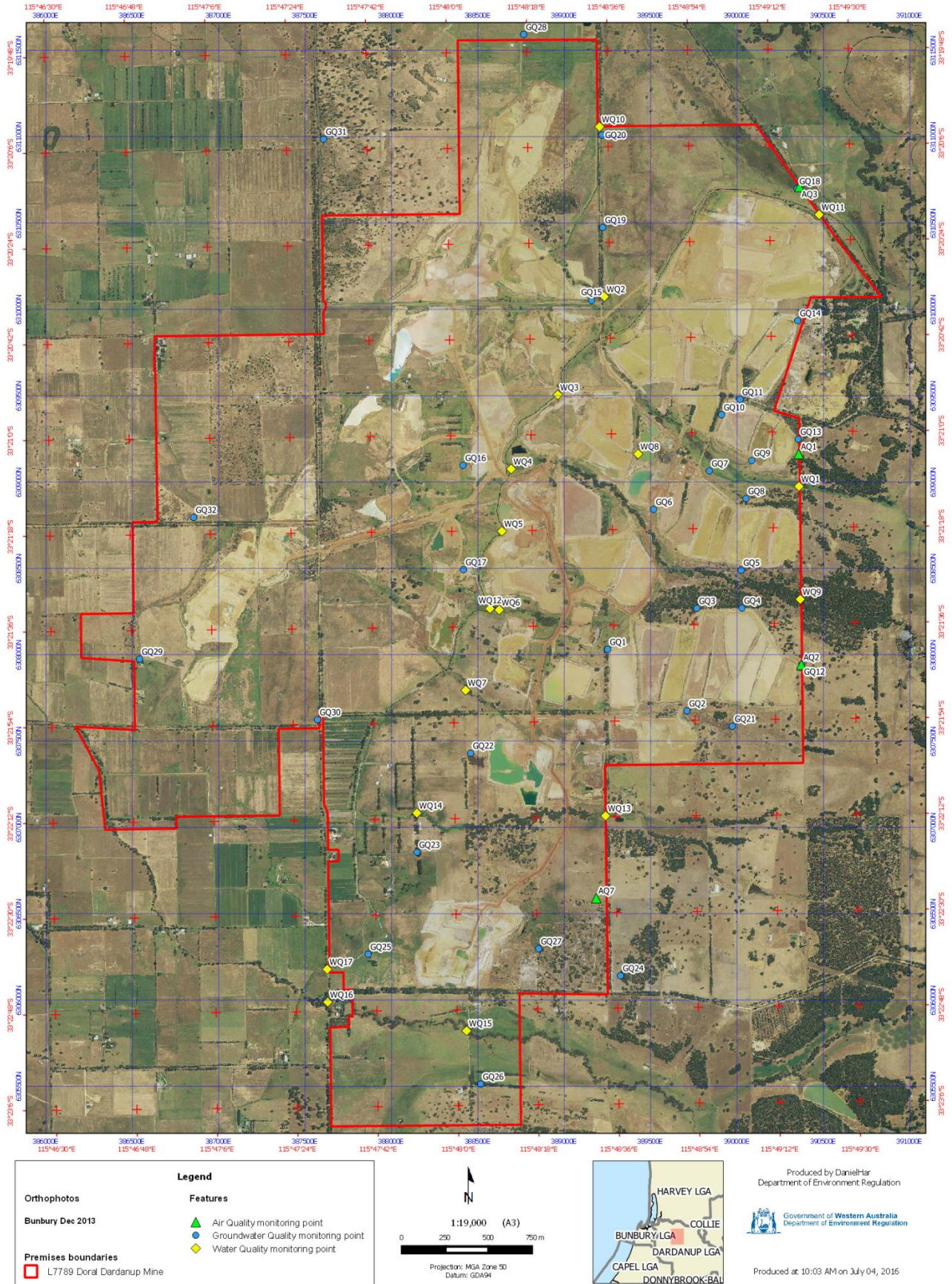
The Premises, and the location of the emission points defined in Tables 2.2.1 and 2.2.3, are shown in the map below. The red line depicts the Premises boundary.





Map of monitoring locations

The location of the monitoring points defined in Tables 3.2.1, 3.3.1, 3.3.3 and 3.3.4 are shown below.





Schedule 2: Reporting & notification forms

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

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: 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?:	
<input type="checkbox"/> Yes	<input type="checkbox"/> Reported to DER verbally Date _____ <input type="checkbox"/> Reported to DER in writing Date _____
<input type="checkbox"/> No	
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

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

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L7789/2001/9
Form: N1

Licensee: Doral Mineral Sands Pty Ltd
Date of breach:

Notification of detection of the breach of a limit.

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

Part A

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

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

Part B

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

Name	
Position	
Signature on behalf of Doral Mineral Sands Pty Ltd	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Licensee: **Doral Mineral Sands Pty Ltd**

Licence: **L7789/2001/9**

Registered office: 1 Alumina Road
EAST ROCKINGHAM WA 6168

ACN: 096 342 451

Premises address: Dardanup Mineral Sands Mine
Offer Road
HENTY WA 6236
Being part of mining tenements M70/643, M70/652, M70/675, M70/720,
M70/748 and M70/893, and all of Lots 107 –112 on Plan 2842, and
Lots 301 – 302 on Plan 63847

Issue date: Thursday, 21 May 2015

Commencement date: Saturday, 13 June 2015

Expiry date: Monday, 12 June 2028

Decision

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

Decision Document prepared by: Daniel Hartnup
Licensing Officer

Decision Document authorised by: Tim Gentle
Delegated Officer



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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	Category number(s)	Assessed design capacity
	8: Mineral sands mining or processing	5,000 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"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	N/A <input checked="" type="checkbox"/>	
	N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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 checked="" type="checkbox"/>	No <input type="checkbox"/>
	Ministerial statement No: 484	
	EPA Report No: 1310	
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>



3 Executive summary of proposal and assessment

This assessment sets out DER's decision making in relation to an amendment to Licence L7789/2001/9, issued to Doral Mineral Sands Pty Ltd (Doral) for the Dardanup Mineral Sands Mine. The amendment relates to changes to reflect the non-operational status of the mine.

The premises is a former heavy mineral sands mine located near Dardanup on the southern Swan Coastal Plain, approximately 180 km south of Perth. The mine was active during the period 2002 – 2015, producing heavy mineral concentrate for the company's mineral separation plant at Picton. Ore reserves have now been exhausted and no further mining will take place at the site.

The mine has now entered into the closure and rehabilitation phase, which involves deconstructing fixed plant and infrastructure, decommissioning the solar evaporation ponds and backfilling open mine voids with overburden, to allow re-contouring back to the pre-mining land usage. Management of stormwater from mine areas that are yet to be rehabilitated will be ongoing, including the controlled discharge from existing authorised points into the Harvey irrigation channel. Ambient environmental quality monitoring will also continue, including monitoring of surface and groundwater quality and fugitive dust emissions during rehabilitation works.

Licence conditions relating to the former mining operation have been removed as part of this amendment, including mine dewatering and tailings disposal. Other conditions deemed redundant by DER have also been removed. The licence expiry has also been updated to reflect the extended expiry issued through an administrative notice in April 2016.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Prescribed premises category	N/A	Category 6 (mine dewatering) has been removed from the licence as it is no longer valid. The mine is no longer dewatering and DoW has advised the licence for dewatering has expired and has not been renewed. The approved production capacity for category 8 (mineral sands mining or processing) has been reduced to 5,000 tonnes per annum, as the mine no longer has the capacity to mine or process mineral.	
General conditions	Old L1.2.1 – L1.2.5	L1.2.1 from the previous licence has been removed as it is not valid, enforceable or risk based. L1.2.2 – L1.2.5 from the previous licence have been removed as they are not enforceable, sufficiently clear or certain.	
Premises operation	Old L1.3.1	L1.3.1 from the previous licence has been removed as all pipelines for containing environmentally hazardous materials (e.g. tailings, reagents, etc.) have been decommissioned and removed following the cessation of operations in December 2015.	
Emissions general	L1.3.1 (Old L1.3.2) Old L1.3.3 – L1.3.4 Old L1.3.6	Table 1.3.1 (containment infrastructure) has been updated to remove reference to solar evaporation ponds, as they are no longer in use. L1.3.3 and L1.3.4 from the previous licence have been removed as clay fines are no longer being produced or used for dust suppression, and inspection of containment infrastructure is no longer required as these structures have been decommissioned. L1.3.6 from the previous licence has been removed as mining has ceased and the risk of disturbing acid sulfate soils is therefore negligible.	
Point source emissions to surface water including monitoring	L2.2.1 – L2.2.2 Old L2.3.2 L3.2.1 (Old L3.3.1)	Conditions relating to point source discharges to surface water have remained unchanged, with the exception of the removal of discharge criteria (targets) from the previous licence (in accordance with recent administrative changes implemented within DER). With the only discharges to occur resulting from harvested stormwater from open and rehabilitated areas, the risk of controlled discharges does not warrant the imposition of discharge criteria (limits) on the amended licence. Monitoring requirements have remained unchanged.	



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Emissions to land including monitoring	L2.3.1 (Old L2.5.1)	Table 2.3.1 has been updated to remove reference to sand tails from the wet concentrator plant and process tailings from the Picton mineral separation plant, for disposal into mine voids. Once dried, clay slimes will be blended with overburden and backfilled into the remaining open mine voids; therefore this condition has been retained in the amended licence to permit this activity throughout rehabilitation.	
Fugitive emissions	Old L2.6.1 – L2.6.2	In accordance with recent administrative changes implemented within DER, the TSP target specified in the previous licence has been superseded by a new limit, and has been included within the new Table L3.3.1 in the amended licence. L2.6.2 from the previous licence has been removed as it is not enforceable as the requirements for compliance are not clear.	
Noise	Old L2.8.1	Implementation of the noise management plan only applied during the operational phase of the mine. Rehabilitation works are considered to constitute “construction works” in accordance with the Noise Regulations, and therefore compliance with the assigned levels is not required, providing certain requirements are being met.	<i>Environmental Protection (Noise) Regulations 1997 (Noise Regulations)</i>
Monitoring general	L3.1.1 – 3.1.4	General monitoring conditions have remained unchanged in the amended licence, with the exception of a minimum monitoring interval for 6-monthly monitoring being added.	
Ambient quality monitoring	L3.3.1 – L3.3.3 (Old L3.8.1)	Table 3.3.1 (old Table 3.8.1 – monitoring of ambient air quality) has been restructured by the requirements have remained unchanged; with the exception of the target being superseded by a new limit (refer Fugitive Emissions section). A new table 3.3.2 has been added, to provide for an exemption with complying with the specified limit, in the event of an exceedance an investigation is undertaken to demonstrate the exceedance is not attributed to activities on the premises. Sulfate has been removed from Table 3.3.3 (old Table 3.8.2 – monitoring of ambient surface water quality) as process water is no longer being discharged from the premises. Table 3.3.4 (old Table 3.8.3 – monitoring of ambient groundwater quality) has been updated, with additional parameters added including total titratable acidity, total alkalinity, major ions and metals. These suites have been added consistent with DER Contaminated Sites guidelines ¹ and will allow the earliest possible detection of potential impacts to groundwater from deposited mine wastes as it consolidates and the local groundwater table returns to pre-mining levels. The frequency of monitoring for all parameters has been reduced from monthly to 6-monthly (excluding metals, which is annual).	¹ DER Contaminated Sites guidelines: <i>Assessment and management of contaminated sites</i> (December 2014)



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Information	L4.1.1 – L4.1.3 L4.2.1 – L4.2.3 L4.3.1 Old L5.1.2	Records, reporting and notification requirements have remained relatively unchanged. Old L5.1.2 has been removed in accordance with recent administrative changes implemented within DER as it is not valid, enforceable or risk based. A copy of the noise monitoring results in the AER has been removed.	
Licence Duration	N/A	The licence expiry was extended to 2028 by way of administrative notice in April 2016. The expiry has been updated on the amended licence.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
16/06/2016	Proponent sent a copy of draft amended instrument and decision document	The proposed amendment to require notification of pH <4.5 and TA <30 mg/L may cause a few issues as current data indicates several bores with a history under these specifications.	Noted, however DER considers the proposed triggers to be appropriate to enable anticipation and identification of future impacts on water quality that could take place if shallow groundwater were to acidify further.
		Clarification sought on notification requirements for pH/TAA triggers “as soon as practical”.	Monitoring is required biannually; therefore notification is expected shortly after the results become available from the laboratory.
		Request removal of dust monitoring sites relating to the Burekup and Southern extension, as these areas have been rehabilitated.	Noted and accepted. Sites AQ4, AQ5, AQ6, AQ8, AQ9 have been removed from relevant tables and the Schedule 1 map.
		Groundwater analytes are quite different and complex.	Groundwater analytes have been updated consistent with DER’s <i>Assessment and Management of Contaminated Sites</i> guideline.
		Clarification sought on analytes marked ‘total’ and whether this means total/filtered/dissolved for those not marked total.	Those analytes marked ‘total’ means unfiltered samples, or unspicated.
		Clarification sought on notification requirements for emergency discharge of excess surface water.	Notification is required upon discharge from an emergency discharge point as nominated in the Surface Water Emergency Discharge Plan. Excess surface water is water requiring discharge exceeds the volume that can safely be managed via the authorised discharge point.



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