



Licence

Environmental Protection Act 1986, Part V

Licensee: MacPhersons Resources Limited

Licence: L7910/2003/4

Registered office: 109 Maritana Street
KALGOORLIE WA 6430

ACN: 139 357 967

Premises address: Nimbus Silver-Zinc-Gold Project
Mining tenement M26/490 and M26/598
KALGOORLIE WA 6430
As depicted in Schedule 1

Issue date: Thursday, 7 February 2013

Commencement date: Friday, 22 February 2013

Expiry date: Sunday, 21 February 2016

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
05	Processing or beneficiation of metallic or non-metallic ore: premises on which – (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; 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	120,000 tonnes per annual period

Conditions

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

.....
Danielle Eyre

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



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

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

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

Licence requirements

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

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

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

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

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

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



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

Licence fees

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

Ministerial conditions

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

Premises description and Licence summary

The Nimbus Silver-Zinc-Gold Project (Nimbus), owned by MacPhersons Resources Limited (MacPhersons), is located approximately 17 km east of Kalgoorlie-Boulder in the Eastern Goldfields region of Western Australia. The nearest sensitive premises is Hampton Hill Station Homestead, located approximately 8 km east of Nimbus. Mining at Nimbus commenced in 2004 with the development of the Discovery Pit and East Pit respectively. Ore was treated at an onsite mill facility at a nominal rated throughput of 120,000 tonnes per annum using the Merrill Crowe Process which consisted of crushing, grinding, leaching and cementation circuits.

Up until 2006 when it was decommissioned, approximately 178,000 tonnes of tailings were deposited in the above ground paddock Tailings Storage Facility 1 (TSF1). Following decommissioning TSF1 was capped and rehabilitated in conjunction with the Waste Rock Landform .

The Nimbus site currently consists of Discovery Pit, East Pit in-pit TSF (TSF2), a waste rock landform and the remnants of the historic mill facility that has been semi-decommissioned and is no longer in use. Nimbus has been under care and maintenance since 2007. MacPhersons propose to recommence mining of the two existing open pits and processing operations in 2016.

Site history (ICMS 7119):

Up until 2007, the site was used as a facility for the open pit mining and mineral processing of gold and silver, including tailings and effluent ponds, processing plant, smelting works, tailings pipeline and in-pit tailings disposal facilities. Between late 2005 and mid-2006 the former owner of Nimbus unknowingly processed ore containing elemental mercury from the supergene silver ore at the base of the Discovery Pit. Tailings associated with the Discovery Pit cutback (132,000 tonnes) were deposited into TSF2. As a result, the processing of silver ores on site was suspended. This incident was recorded under DER's incident reporting system (ICMS7119).

Soil investigations carried out in July 2007 and February 2008 identified inorganic mercury, cyanide, lead and arsenic in near surface soils in a number of locations about the processing plant, tailings pipeline, ore stockpile and waste disposal area, exceeding Health Investigation Levels for commercial/Industrial use (HIL F), as published in 'Assessment Levels for Soil, Sediment and Water' (DoE, 2003).

In February 2008, limited sampling was undertaken within the water accumulated within the effluent ponds, tailings dam and the two open pit excavations. The analysis of this water identified arsenic, lead and mercury at concentrations exceeding Freshwater Guidelines and Australian Drinking Water Guidelines as published in 'Assessment Levels for Soil, Sediment and Water' (DoE, 2003).

The site has been the subject of three stages of remedial works undertaken between 2008 and 2011. These works were primarily focused on the clean-up of plant infrastructure and areas where elevated mercury had been previously identified. DER understands that plant infrastructure and some equipment was washed, dismantled and/or decommissioned and disposed within the



tailings storage facility. However, DER has not been provided with sufficient evidence to indicate that these works were appropriate or successful.

Landfill:

A putrescible landfill constructed under W5574/2013/1 is currently operational and receives general industrial inert and putrescible waste. Domestic putrescible waste is removed by a licensed contractor to the Kalgoorlie municipal waste facility.

Groundwater in the vicinity of Nimbus is unlikely to be impacted by the use of the landfill facility given the nominal depth to groundwater is 70 m below surface.

TSF and processing plant:

On 4 December 2014, MacPhersons were issued a works approval (W5726/2014/1) to construct a new processing facility and a Tailings Storage Facility (TSF) constructed as an Integrated Waste Landform. The infrastructure will be capable of processing 480,000 tonnes per annual period and replace the historic TSF and processing facility that were contaminated in 2005/06.

Amendment:

In August 2015, MacPhersons requested an amendment to the Nimbus Licence L7910/2003/4 to cease all groundwater monitoring requirements while the site remained in care and maintenance. DER has decided not to remove all monitoring requirements. As the TSF is not yet rehabilitated and is uncapped, seepage of stored contaminants remains a risk to the environment. However, in its assessment DER concluded that groundwater monitoring could be reduced to six-monthly. It was also noted that a number of parameters not previously being monitored were required to assess Nimbus’ potential impacts to groundwater.

This Licence is the result of an amendment sought by the Licensee to reduce groundwater monitoring requirements whilst the site is in care and maintenance. In assessing this request DER has completed a reassessment of the Licence and converted it into the new format.

The Licence is due for a reissue in early 2016 and a reassessment of the site’s environmental impacts was also undertaken during this amendment.

The licences and works approvals issued for the Premises since 01/01/2010 are:

Instrument log		
Instrument	Issued	Description
L7910/2003/3	18/02/2010	Licence reissue
L7910/2003/4	22/02/2013	Licence reissue
W5574/2013/1	13/02/2014	Construction of a category 89 landfill
W5726/2014/1	04/12/2014	Construction of a new processing mill and TSF3
L7910/2003/4	05/11/2015	Conversion to new format, changes to monitoring conditions and early reissue

Severance

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

END OF INTRODUCTION



Licence conditions

1 General

1.1 Interpretation

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

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

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

'annual period' means the inclusive period from 1 April until 31 March in the following year;

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*;

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

'averaging period' means the time over which a limit is measured or a monitoring result is obtained;

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

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

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

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

'Licence' means this Licence numbered L7910/2003/4 and issued under the Act;

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

'mbgl' means metres below ground level.

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

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

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

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

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



'**six monthly**' means the 2 inclusive periods from 1 April to 30 September and 1 October to 31 March in the following year;

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

'**WAD-CN**' means Weak Acid Dissociable Cyanide.

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

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

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:

- (a) pollution;
- (b) unreasonable emission;
- (c) discharge of waste in circumstances likely to cause pollution; or
- (d) being contrary to any written law.

1.2 General conditions

1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials outside an engineered containment system.

1.2.3 The Licensee shall:

- (a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
- (b) treat contaminated or potentially contaminated stormwater as necessary prior to being discharged from the Premises.¹

Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

1.3 Premises operation

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

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



- 1.3.2 The Licensee shall ensure that tailings are only discharged into the vessels or compounds with the relevant infrastructure requirements and at the locations specified in Table 1.3.1 and identified in the map of storages in Schedule 1.

Table 1.3.1: Containment infrastructure		
Storage vessel or compound	Material	Infrastructure requirements
TSF2	Tailings	Maintain a minimum vertical freeboard of 300 mm from the operational pond to lowest elevation of perimeter embankment. Operate to minimise erosion of embankments from wave action.
Eastern pond	Saline dewater	

- 1.3.3 The Licensee shall:
- (a) undertake inspections as detailed in Table 1.3.2;
 - (b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective action to mitigate adverse environmental consequences as soon as practicable; and
 - (c) maintain a record of all inspections undertaken.

Table 1.3.2: Inspection of infrastructure		
Scope of inspection	Type of inspection	Frequency of inspection ¹
Tailings pipelines	Visual integrity	Twice daily
Return water lines	Visual integrity	
Embankment freeboard	Visual to confirm required freeboard capacity is available	

Note 1: Inspections to be carried out twice daily when infrastructure is in use.

2 Emissions

2.1 Fugitive emissions

- 2.1.1 The Licensee must ensure fugitive emissions are managed in accordance with the documents, or parts of documents, specified in Table 2.1.1.

Table 2.1.1: Management Plans		
Management Plan Reference	Parts	Date of Document
Nimbus Silver-Zinc-Gold Project – Mercury Management Plan	Section 7.9 – Dust Suppression	January 2014

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.



- 3.1.2 The Licensee shall ensure that six monthly monitoring is undertaken at least 5 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 and the requirements of the Licence.
- 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 Ambient environmental quality monitoring

- 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 ambient groundwater quality				
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency
HYD001 HYD002 HYD003 HYD004	Standing water level	mbgl	Spot sample	Six monthly
	pH ¹	N/A		
	Total Dissolved Solids	mg/L		
	Arsenic			
	Cadmium			
	Calcium			
	Chloride			
	Chromium			
	Copper			
	Iron			
	Lead			
	Magnesium			
	Manganese			
	Mercury			
	Nickel			
	Potassium			
	Sodium			
	Strontium			
	Zinc			
	Bicarbonate			
	Carbonate			
Nitrate				
Sulphate				
WAD-CN				

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



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 ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
 - (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.
- 4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.
- 4.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

- 4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 31 May after the end of each annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or 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
Table 3.2.1	Ambient groundwater quality monitoring	
4.1.3	Compliance	Annual Audit Compliance Report (AACR)
4.1.4	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 any Licence limits.



4.3 Notification

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

Table 5.3.1: Notification requirements			
Condition or table (if relevant)	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
3.1.4	Calibration report	As soon as practicable.	None specified

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

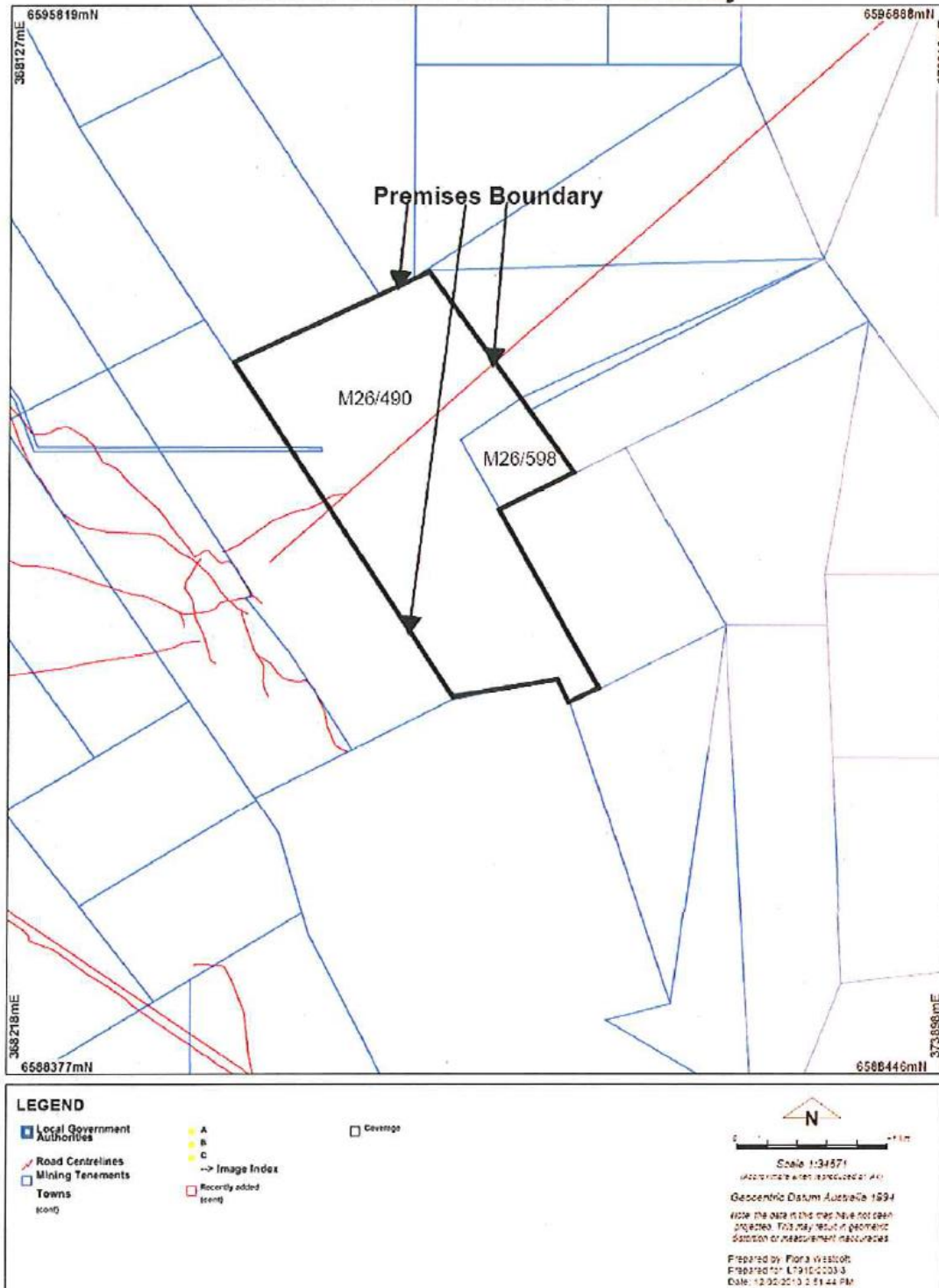
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

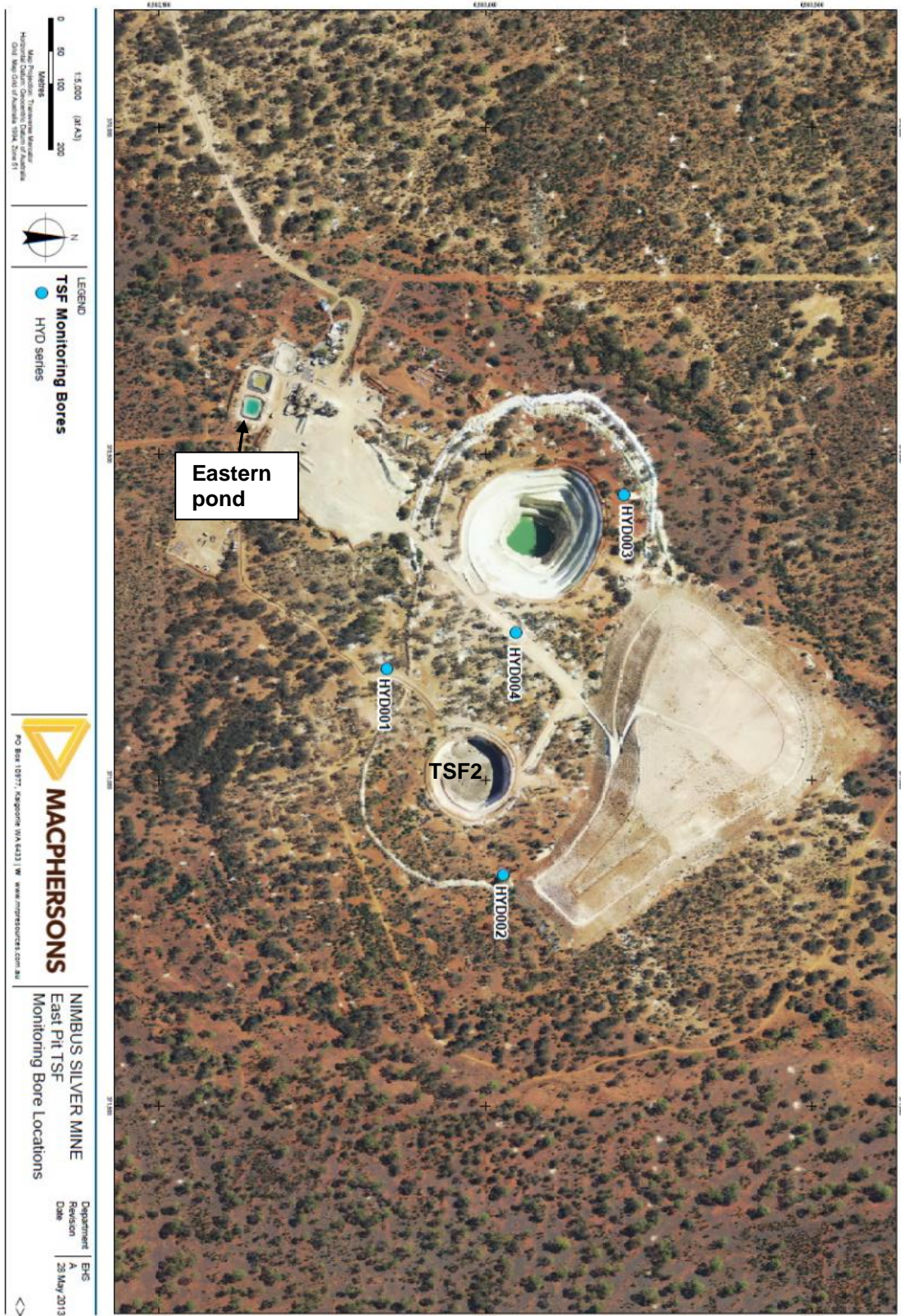
The Premises is shown in the map below. The black line depicts the Premises boundary.





Map of monitoring locations

The locations of the monitoring points defined in Table 3.2.1 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:	ABN:
Trading as:	
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes Please proceed to Section C

No Please proceed to Section B

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

Initial:



SECTION 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) must 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: L7910/2003/4
Form: N1

Licensee: MacPhersons Resources Limited
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 MacPhersons Resources Limited	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: MacPhersons Resources Limited

Licence: L7910/2003/4

Registered office: 109 Maritana Street
KALGOORLIE WA 6430

ACN: 139 357 967

Premises address: Nimbus Silver-Zinc-Gold Project
Mining tenement M26/490 and M26/598
KALGOORLIE WA 6430
As depicted in Schedule 1 of the licence.

Issue date: Thursday, 7 February 2013

Commencement date: Friday, 22 February 2013

Expiry date: Sunday, 21 February 2016

Decision

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

Decision Document prepared by: Clarrie Green
Licensing Officer

Decision Document authorised by: Danielle Eyre
Delegated Officer



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1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	05	120,000 tonnes per annual period
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No:



		EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

The Nimbus Silver-Zinc-Gold Project (Nimbus), owned by MacPhersons Resources Limited (MacPhersons), is located approximately 17 km east of Kalgoorlie-Boulder in the Eastern Goldfields region of Western Australia. The nearest sensitive premises is Hampton Hill Station Homestead, located approximately 8 km east of Nimbus.

The Nimbus site currently consists of Discovery Pit, East Pit in-pit TSF (TSF2), a waste rock landform and the remnants of the historic mill that has been semi-decommissioned and is no longer in use. Nimbus has been under care and maintenance since 2007. MacPhersons propose to recommence mining of the two existing open pits for processing operations in 2016.

Amendment:

In August 2015, MacPhersons requested an amendment to the Nimbus Licence L7910/2003/4 to cease all groundwater monitoring requirements while the site remains in care and maintenance. DER has decided not to remove all monitoring requirements. As the TSF is not yet rehabilitated and is uncapped, seepage of stored contaminants remains a risk to the environment. However, in its assessment DER concluded that groundwater monitoring could be reduced to six-monthly. It was also noted that a number of parameters not being monitored were required to assess Nimbus' potential impacts to groundwater. DER's assessment and decision making is provided in the Decision Table and Appendix A.

A reassessment of the site's environmental impacts was undertaken.



4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.1 L1.2.2 – L1.2.3	<p>General conditions of the old Licence (W5(a to e) and W4(b to f)) have not been transferred across to the Licence amendment as they relate to the management of chemicals and hydrocarbons managed by the Department of Mines and Petroleum's Code of Practice.</p> <p>General condition A2 has been replaced by L1.2.1, which requires the maintenance of all pollution control and monitoring equipment.</p> <p>Emission Description <i>Emission:</i> Contamination of stormwater with environmentally hazardous materials such as tailings, stored saline groundwater and mercury contaminated areas. <i>Impact:</i> Contaminated stormwater has the potential to run off into areas of native vegetation and areas accessible to fauna. Saline constituents coming into contact with vegetation may cause leaf drop, leaf burn, stunted growth, poor seed germination and/or tree death. Stormwaters containing metalloids such as arsenic or heavy metals such as mercury, cadmium, chromium, copper, manganese, nickel and zinc may impact on the fitness, reproductive health or cause cancer in fauna that comes into contact. As mining tenement M26/490 remains classified as contaminated; as a result of the 2007 mercury contamination incident, the consequence of stormwater contamination is assessed as major. <i>Controls:</i> MacPhersons have made efforts to remove mercury contaminated materials although the site remains under Contaminated Sites classification. Bunding is used to divert uncontaminated stormwater away from the decommissioned processing plant area while freeboards at containment infrastructure are maintained to prevent</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p>Code of Practice for the Storage and Handling of Dangerous Goods, Department of Mines and Petroleum, Government of Western Australia.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i></p> <p>Contaminated Sites Management Series - Assessment levels for Soil, Sediment and Water, 2010.</p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>stormwater contamination.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Major <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Condition 1.2.3 replaces conditions W2 and W7 of the old Licence to ensure that the licensee implements all practical measures to deal with potentially contaminated stormwater on the premises. Condition 1.2.2 will require MacPhersons to recover any spills of environmentally hazardous materials outside an engineered containment system to avoid contamination with stormwater.</p> <p><u>Residual Risk Assessment</u> <i>Consequence:</i> Major <i>Likelihood:</i> Rare <i>Risk Rating:</i> Moderate</p>	
Premises operation	L1.3.1 L1.3.2 L1.3.3	<p>Emission Description The Eastern Pond is lined with plastic and is used to store water from Chappel bore, which has a Total Dissolved Solids concentration of 40,000 mg/L and is classed as saline. This water is used for dust suppression and drilling activities, and is kept full to maintain the plastic lining. Tailings are also expected to be saline, slightly alkaline and contain cyanide and a number of metalloids.</p> <p><i>Emission:</i> Overflow or breach of containment infrastructure into areas of native vegetation. A breach may include leaks or rupturing of pipeline used to transport dewater, tailings or decant water. <i>Impact:</i> The high salinity of dewater and tailings would cause salt scarring of soil and native vegetation if it were to make contact. Although no priority species exist in the vicinity of Nimbus, vegetation death would be likely. Therefore a moderate</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i></p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>consequence rating has been applied. <i>Controls:</i> MacPhersons have been maintaining a 300 mm freeboard at containment infrastructure as well as bunding around pipelines carrying saline dewater, return water and tailings.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Condition W4(a) has been replaced by condition 1.3.1 on the Licence to ensure that all pipelines carrying environmentally hazardous materials are adequately safeguarded against ruptures or spills. Condition 1.3.2 replaces condition W1 of the previous licence and requires a 300 mm freeboard to be maintained at the TSF. Freeboard requirements are also necessary at the Eastern Pond adjacent to the old processing mill. The western pond is lined with plastic and has no contents due to the liner being damaged and no longer able to contain water.</p> <p>W3(a) was transferred across to the amended Licence as L1.3.3 addresses the risk. Although W3(b) and 3(c) were not transferred across to the amended Licence, MacPhersons will still be required to maintain visual inspection log books to prove compliance with condition 1.3.3 at the time of inspection.</p> <p><u>Residual Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Rare <i>Risk Rating:</i> Moderate</p>	
Emissions general	N/A	No descriptive or general limits relating to general emissions have been included in the amended Licence.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to air including monitoring	N/A	The Nimbus processing plant has been decommissioned and lies partially dismantled following the mercury contamination incident and therefore there are no point source air emissions taking place. No specified conditions relating to point source emissions to air or the monitoring of such emissions are included in the existing licence.	General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Point source emissions to surface water including monitoring	N/A	Point source emissions are not permitted at Nimbus.	General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Point source emissions to groundwater including monitoring	N/A	There will be no point source emissions to groundwater permitted during the operation of Nimbus.	General provisions of the <i>Environmental Protection Act 1986</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Emissions to land including monitoring	N/A	Emissions to land are not permitted at Nimbus.	General provisions of the <i>Environmental Protection Act 1986</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i>
Fugitive emissions	L2.1.1	<p>Emission Description <i>Emission:</i> Dust generated during blasting, excavation, crushing of ore and general vehicle movements over unsealed areas. <i>Impact:</i> Dust generated during construction is expected to be minor and very unlikely to reach the City of Kalgoorlie-Boulder located approximately 15 km to the east of Nimbus. There is the potential for dust to deposit on nearby native vegetation, restricting the plant's ability to photosynthesise. There are no known declared rare or priority flora located within 3 km of the premises boundary. However, given the history of contamination onsite there is a potential for dust emissions to contain mercury, raising the consequence of dust emissions to moderate. <i>Controls:</i> MacPhersons have developed a Mercury Management Plan that requires the use of water trucks and cannons in areas at risk of dust generation. Fogging units will also be used on the processing facility when in operation.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Condition 2.1.1 has been placed on the amended Licence to replace old condition A1 and ensure commitments set by MacPhersons to implement standard dust suppression techniques are used throughout the life of the operation.</p> <p><u>Residual Risk Assessment</u></p>	General provisions of the <i>Environmental Protection Act 1986</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<i>Consequence: Moderate Likelihood: Rare Risk Rating: Moderate</i>	
Odour	N/A	Significant odour emissions are not expected to be generated during the operation of the processing facility or TSF. No specified conditions relating to odour are required to be included in the existing licence.	N/A
Noise	N/A	No significant noise emissions are expected during operations. No specified conditions relating to noise are required to be included in the amended Licence.	General provisions of the <i>Environmental Protection Act 1986</i>
Monitoring general	L3.1.1 – 3.1.2	General monitoring conditions on the Licence replace conditions W6(b) and W6(c). L3.1.2 has also been added to the Licence to ensure that monitoring events are appropriately staged to ensure an accurate representation of seasonal fluctuations.	Australian Standard AS/NZS 5667.1 Australian Standard AS/NZS 5667.11
Monitoring of inputs and outputs	N/A	No specified conditions relating to the monitoring of inputs or outputs have been included in the amended Licence.	N/A
Process monitoring	N/A	No specified conditions relating to process monitoring are included in the amended Licence.	N/A
Ambient quality monitoring	L3.2.1	As the TSF is not capped there remains a potential for seepage to groundwater. DER's assessment and decision making are detailed in Appendix A.	Contaminated Sites Management Series - Assessment levels for Soil, Sediment and Water, 2010
Meteorological monitoring		No specified conditions relating to meteorological monitoring are included in the existing licence.	N/A
Improvements		No improvement conditions have been included in the amended Licence. At this stage no specific improvement actions are required. DER will continue to review the environmental performance of the premises to determine whether improvement conditions are warranted in the future.	N/A



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Information	L4.2.1 L4.3.1	Reporting condition 4.2.1 replaces G1 on the previous Licence with condition 4.1.3 replacing G2. MacPhersons will also be required to notify DER of any Licence limit breach or calibration issues.	
Licence Duration	N/A	No changes to the licence expiry date are proposed as a result of this amendment.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
09/10/2015	Proponent sent a copy of draft instrument	No comments received	N/A



6 Risk Assessment

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

Table 1: Emissions Risk Matrix

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



Appendix A

Ambient quality monitoring

Groundwater monitoring condition W6(a) has been replaced by monitoring condition 3.2.1 on the amended Licence.

A review of groundwater/surface water monitoring was conducted as part of this licence conversion and as a consequence of an amendment request to cease groundwater monitoring at the TSF until the site moves out of care and maintenance.

Groundwater quality continued to fluctuate beyond 2007 when production ceased. Approximately five years after the site moved into care and maintenance, between the period of February 2012 and February 2015, monitoring data has displayed a steady trend indicating that there are declining impacts on groundwater. In addition, groundwater is located approximately 70m below the ground surface meaning that the risk of groundwater impacts from seepage are reduced.

DER requires a minimum frequency of six-monthly monitoring to remain so that data can be used to accurately calculate trends in water quality and standing water levels against potential seasonal fluctuations. Additionally the TSF remains uncapped meaning that seepage of stored contaminants continues to be a risk to the environment. MacPhersons expect to continue the use of the TSF in 2016 and therefore six-monthly monitoring will be required to ensure reasonable response times to potential seepage issues can be achieved. Significant changes in water quality results may lead to a licence amendment that sees TSF monitoring revert back to quarterly frequencies.

In the process of reviewing MacPhersons request, 2014/15 Annual Environmental Report and the previous licence, DER has become aware that previous monitoring requirements were insufficient to measure for seepage contamination that could potentially arise from the discharge tailings from of gold, silver or zinc mines. In addition the Licence failed to measure for mercury despite mercury contaminated tailings being deposited in TSF2 during 2005 to 2007. Lead, mercury, arsenic, copper, chromium and nickel have been added to the list of groundwater parameters to be monitored on a six-monthly basis. Due to the recent plateau in parameters monitored and the low risk of seepage leaching into groundwater while tailings are not discharged to TSF2, no ambient groundwater quality limits have been applied to the Licence.