Government of Western Australia
Department of Environment Regulation

LICENCE FOR PRESCRIBED PREMISES

Environmental Protection Act 1986

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

OCCUPIER OF PREMISES
Aragon Resources Pty Ltd
Level 3
18-32 Parliament Place
WEST PERTH WA 6005
ACN: 114 714 662

NAME AND LOCATION OF PREMISES
Fortnum Gold Mine
Mining Tenements M52/95, M52/96, M52/98, M52/99, M52/132 and M52/133.
MEEKATHARRA WA 6642
(as depicted in Attachment 3)

PRESCRIBED PREMISES CATEGORY
Schedule 1 of the *Environmental Protection Regulations 1987*

CATEGORY NUMBER	CATEGORY DESCRIPTION	CATEGORY PRODUCTION OR DESIGN CAPACITY	PREMISES PRODUCTION OR DESIGN CAPACITY
5	Processing or beneficiation of metallic or non-metallic ore	50,000 tonnes per year	1,000,000 tonnes per annual period
6	Mine dewatering	50,000 tonnes per year	2,500,000 tonnes per annual period
89	Putrescible landfill site	More than 20 but less than 5,000 tonnes per year	52 tonnes per annual period

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

Date signed: 19 May 2016

Alana Kidd
Manager Licensing – Resource Industries
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

ISSUE DATE 26 May 2011
COMMENCEMENT DATE 15 June 2011
AMENDMENT DATE 19 May 2016
EXPIRY DATE 14 June 2035

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

DEFINITIONS

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

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance3 of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'AS/NZS 5667.10' means the Australian Standard AS/NZS 5667.10 Water Quality – Sampling – Guidance on sampling of waste waters;

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

'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

'Clean Fill' has the meaning defined in Landfill Definitions;

'Inert Waste Type 1' has the meaning defined in Landfill Definitions;

'Inert Waste Type 2' has the meaning defined in Landfill Definitions;

'Landfill Definitions' means the document titled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive officer of the Department of Environment as amended from time to time;

'Licence' means this Licence numbered L8103/1989/3 and issued under the Act;

'mAHD' means metres above the Australian Height Datum;

'm^3/day' means cubic metres per day;

'NATA' means 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;

'Putrescible Waste' has the meaning defined in the Landfill Definitions;

'SWL' means standing water level;

'TDS' means total dissolved solids;

'TSF' means tailings storage facility; and

'WAD-CN' means weak acid dissociable cyanide.

MONITORING CONDITIONS

1(a) The Licensee shall take representative samples from the monitoring sites listed in Column 1 of Table 1, at the frequency stated in Column 2 of Table 1 for the analysis of the parameters listed in Column 3 of Table 1.

Table 1: Monitoring of Representative Water Samples.

Column 1	Column 2	Column 3	Column 4
Monitoring sites	**Frequency**	**Parameters**	**Units**
FTR246D Junction Bore, FTR266D Creek Bore, M1, M2, M3, M4 and M5 (as depicted in Attachment 1)	Quarterly (January, April, July, October)	Standing Water Level (SWL)[1]	mAHD
		pH[2]	pH units
		Arsenic (As)	mg/L
		Antimony (Sb)	
		Cadmium (Cd)	
		Cobalt (Co)	
		Copper (Cu)	
		Iron (Fe)	
		Lead (Pb)	
		Nickel (Ni)	
		Selenium (Se)	
		Thallium (Ti)	
		Total Dissolved Solids (TDS)	
		Weak Acid Dissociable Cyanide (WAD-CN)	
		Zinc (Zn)	
Mine dewatering discharge to Yarlarweelor Creek (as depicted in Attachment 4)	Quarterly (January, April, July, October)	pH[2]	pH units
		Total Dissolved Solids (TDS)	mg/L
		Total Recoverable Hydrocarbons (TRH)	
	Annually	Arsenic (As)	
		Cadmium (Cd)	
		Chromium (Cr)	
		Copper (Cu)	
		Lead (Pb)	
		Nitrate-nitrogen (NO_3-N)	
		Selenium (Se)	
		Sulphate (SO_4)	

Note 1: SWL shall be determined prior to collection of other water samples
Note 2: In-field non-NATA accredited analysis permitted.

1(b) The Licensee shall ensure that:
(i) all water samples are collected and preserved in accordance with AS/NZS 5667.1;

(ii) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(iii) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
(iv) all annual samples are collected at least 9 months apart; and
(v) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

1(c) The Licensee shall keep a record of all the analysis results obtained in accordance with condition 1(b), in the units specified in column 4 of Table 1 and provide a copy of these records with the Annual Environmental Report required to be submitted by condition 4.

1(d) The Licensee shall maintain a flow meter to ensure the continuous and accurate recording of the cumulative quantity of dewatering discharge to the Yarlarweelor Creek.

1(e) The Licensee shall record the cumulative discharge from the flow meter specified in condition 1(d) on a monthly basis. These cumulative volumes shall be provided in the Annual Environmental Report specified in condition 4.

1(f) The Licensee shall ensure that the flow meter specified in condition 1(d) is calibrated on an annual basis. A reference of this calibration shall be included in the Annual Environmental Report specified in condition 4.

DISCHARGES TO LAND

LANDFILL CONDITIONS

2(a) The Licensee shall ensure that where wastes produced on the premises are not taken offsite for lawful use or disposal, they are managed in accordance with the requirements of Table 2.

Table 2: Management of Waste

Facility	Waste type	Processes	Requirements[1,2]
Callies WRL Landfill	Clean Fill Putrescible Waste Inert Waste Type 1 and 2	Storage and disposal of waste by landfilling	<u>All waste types</u> No more than 52 tonnes per year of all waste types cumulatively shall be disposed of by landfilling. Disposal of waste by landfilling shall only take place within the Callies WRL landfill shown in Attachment 2. The separation distance between the base of the landfill and the highest groundwater level shall be not less than 3 metres.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.
Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

2(b) The Licensee shall manage the landfilling activities to ensure:
(i) waste is placed and compacted to ensure all faces are stable and capable of retaining rehabilitation material; and
(ii) rehabilitation of a cell or phase takes place within 6 months after disposal in that cell or phase has been completed.

2(c) The Licensee shall ensure that cover is applied and maintained on landfilled wastes in accordance with Table 3 and that sufficient stockpiles of cover are maintained on site at all times.

Table 3: Cover requirements[1]

Waste Type	Material	Depth	Timescales
Inert Waste Type 1	No cover required		
Putrescible Waste	Type 1 Inert waste or soil	300mm	Weekly or as soon as practicable after deposit.
Inert Waste Type 2		500mm	As soon as practical following the achievement of final waste levels in the area(s) in which tyres are deposited.

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987.*

2(d) The Licensee shall take all reasonable and practical measures to ensure that no wind-blown waste escapes from the premises and that wind-blown waste is collected on at least a weekly basis and returned to the tipping area.

REPORTING CONDITIONS

LIMIT EXCEEDANCE RESPONSE AND REPORTING

3(a) The Licensee shall, as soon as practicable but no later than 5pm of the next usual working day, on becoming aware that any limit stated in column 3 of Table 4 for the corresponding parameter stated in column 2 of Table 4 has been exceeded, advise the CEO in writing of the date, time and reason for the exceedance with a limit exceedance report.

3(b) The limit exceedance report required by Condition 3(a) shall include, but not be limited to:

(i) the date, time and reason for the exceedance(s);
(ii) the potential or known environmental consequences of the exceedance(s);
(iii) corrective action taken or planned to mitigate any related adverse environmental consequences if appropriate; and
(iv) corrective action taken or planned to prevent a recurrence of the exceedance(s), if appropriate, including a timeline for implementation.

Table 4: Groundwater Monitoring Parameters Limits

Column 1	Column 2	Column 3
Monitoring Bores	**Parameters**	**Limit**
FTR246D Junction Bore, FTR266D Creek Bore, M1, M2, M3, M4 and M5 (as depicted in Attachment 1)	pH	Range 6 to 9[1, 2]
	Total Dissolved Solids (TDS)	4,000 mg/L
	Weak Acid Dissociable Cyanide (WAD-CN)	0.5 mg/L
Mine dewatering discharge to Yarlarweelor Creek (as depicted in Attachment 4)	pH	Range 6 to 9[1, 2]
	Total Dissolved Solids (TDS)	2,000 mg/L

CONDITIONS OF LICENCE

Environmental Protection Act 1986

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

Column 1	Column 2	Column 3
Monitoring Bores	**Parameters**	**Limit**
	Total Recoverable Hydrocarbons (TRH)	0.15 mg/L

Note 1: In-field non-NATA accredited analysis permitted.
Note 2: pH to range to be greater than or equal to 6 and less than or equal to 9.

ANNUAL ENVIRONMENTAL REPORT

4 The Licensee shall provide to the CEO by **1 October** each year an Annual Environmental Report containing data collected during the period beginning **1 July** the previous year and ending on **30 June** in that year. The report shall contain, but not necessarily be limited to:

(i) the monitoring data and other collected data required by any condition of this licence, for the prescribed period (data should be provided in tables and in graphical format);

(ii) a discussion of the monitoring data and other collected data against historical data (trend analysis) and known standards and limits set in this licence;

(iii) a summary of incident and exceedance reports;

(iv) discussion of any significant responses taken to minimise the likelihood of recurrence of incidents and exceedances;

(v) a summary of activities undertaken at the bioremediation facility and a review of its performance; and

(vi) a record of any tailings, chemical or hydrocarbon spill.

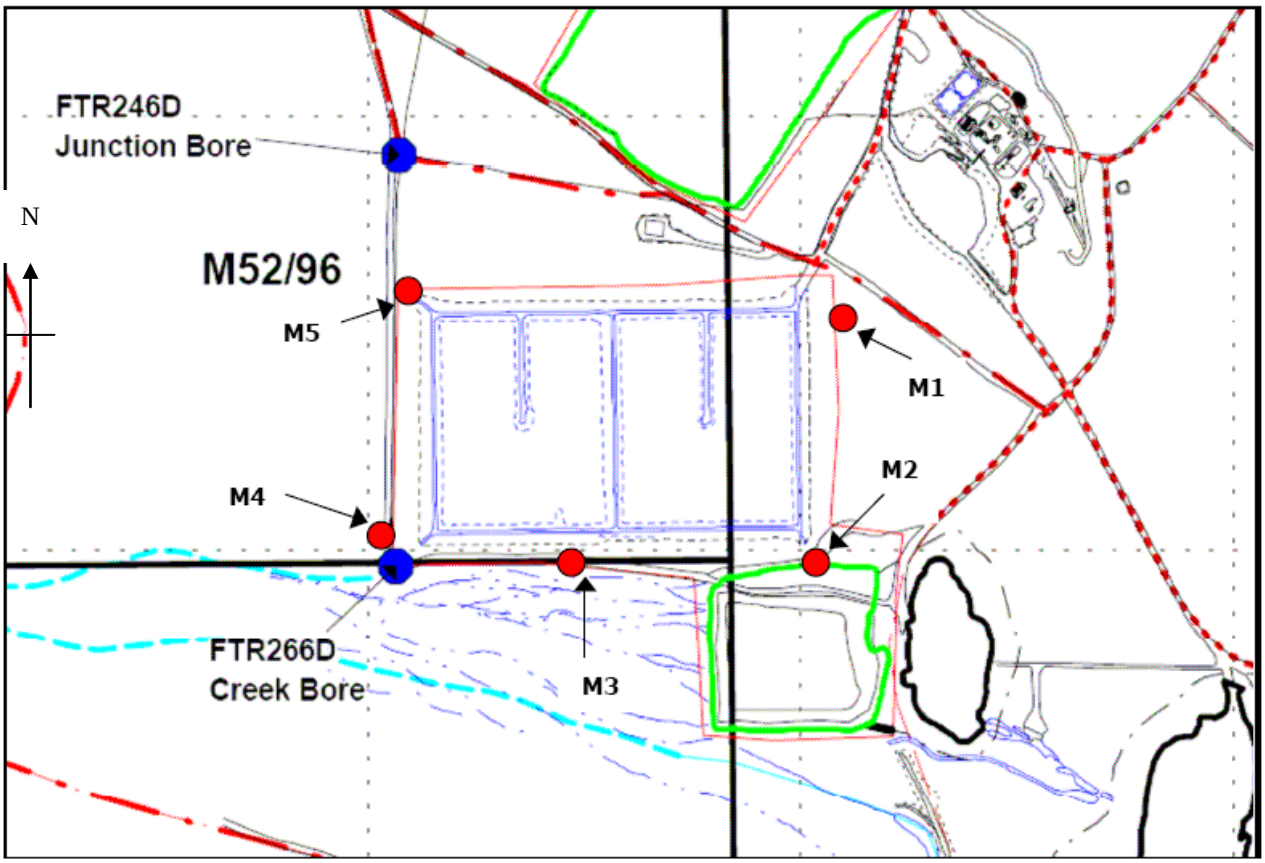
ANNUAL AUDIT COMPLIANCE REPORT

5 The Licensee shall by **1 October** in each year, provide to the CEO an Annual Audit Compliance report in the form in Attachment 5 to this licence, signed and certified in the manner required by Section C of the form, indicating the extent to which the licensee has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the premises, during the period beginning **1 July** the previous year and ending on **30 June** in that year.

ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

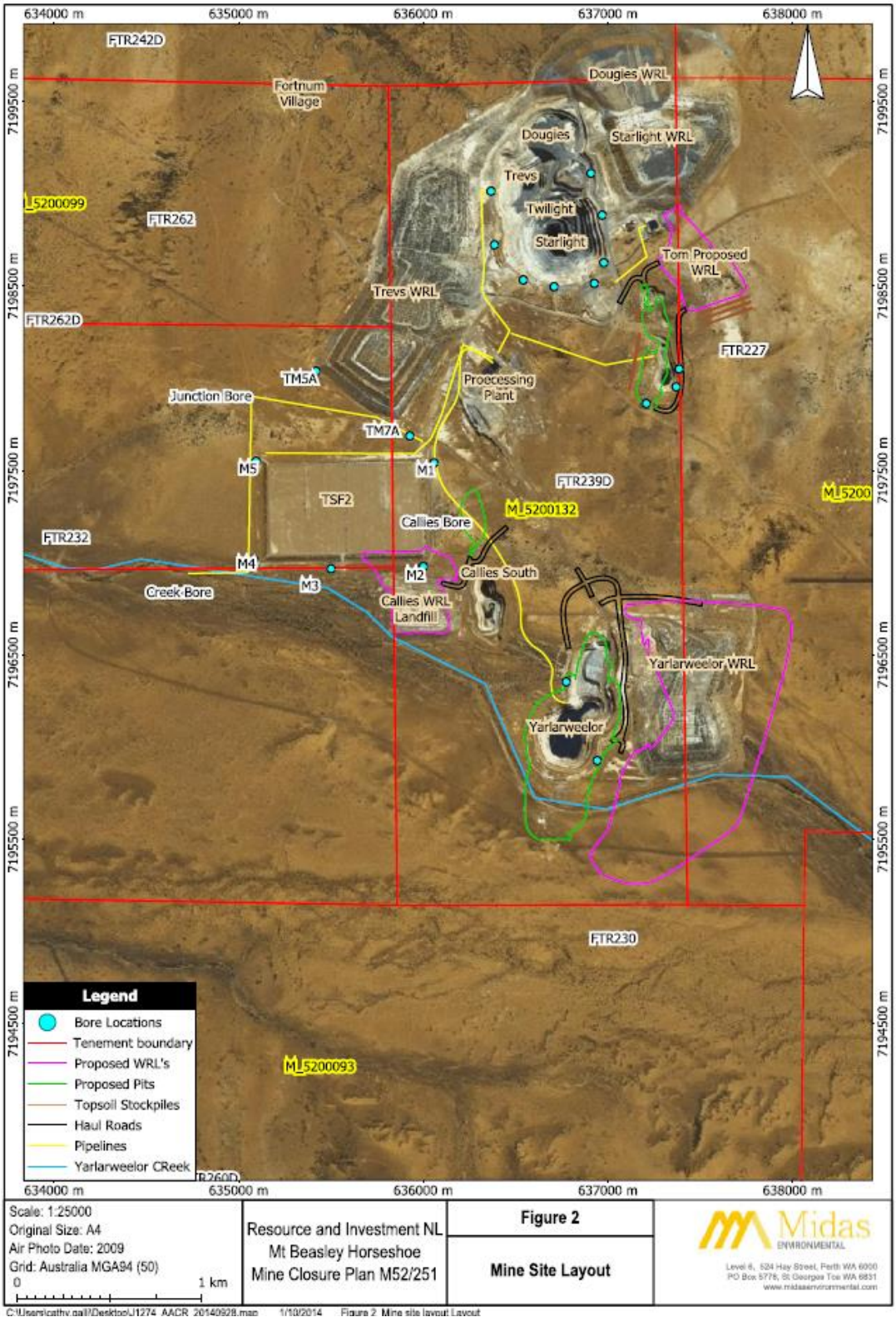
ATTACHMENT 1: TSF MONITORING BORE LOCATION MAP



ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

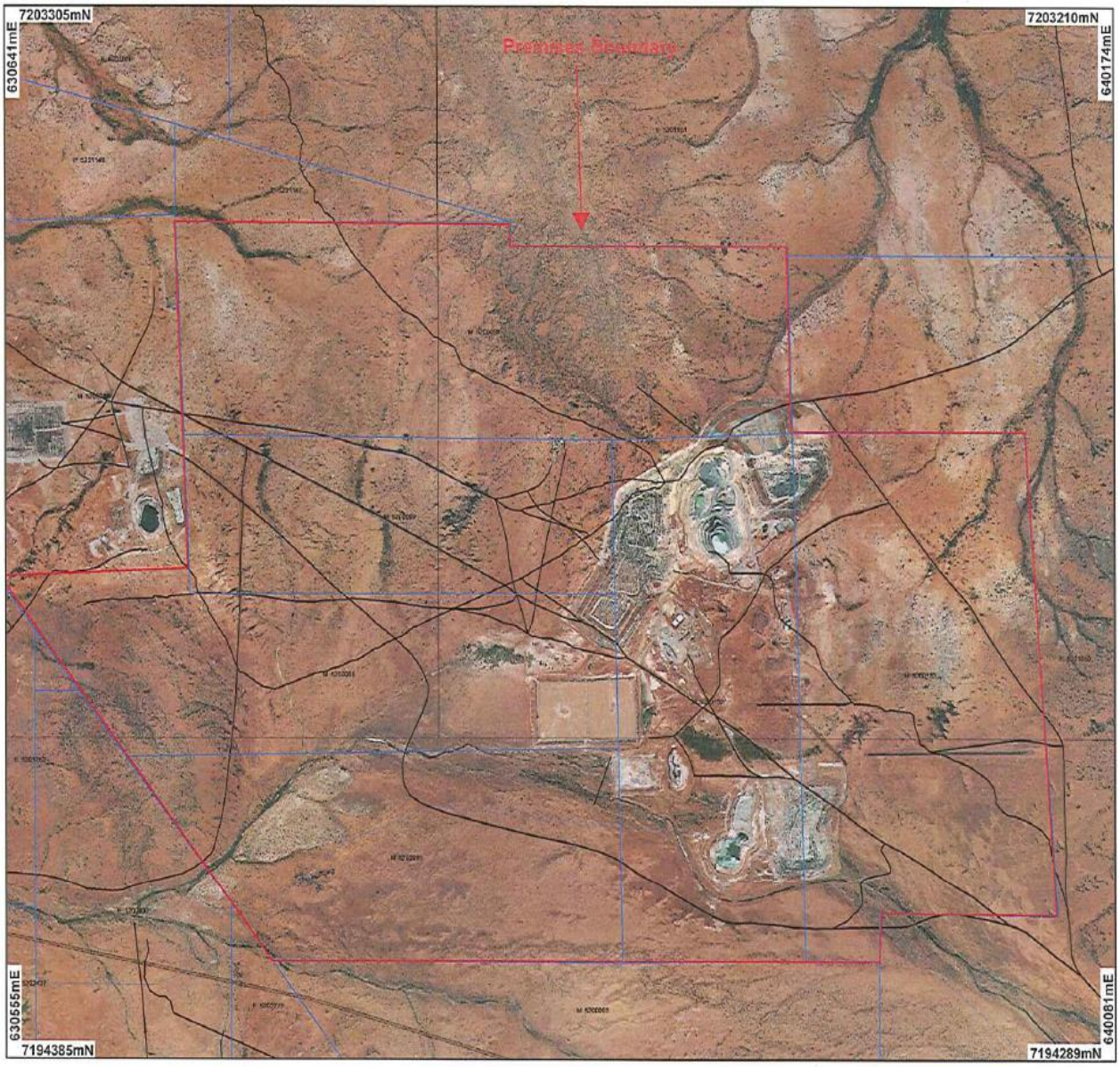
ATTACHMENT 2: LOCATION OF LANDFILL



ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

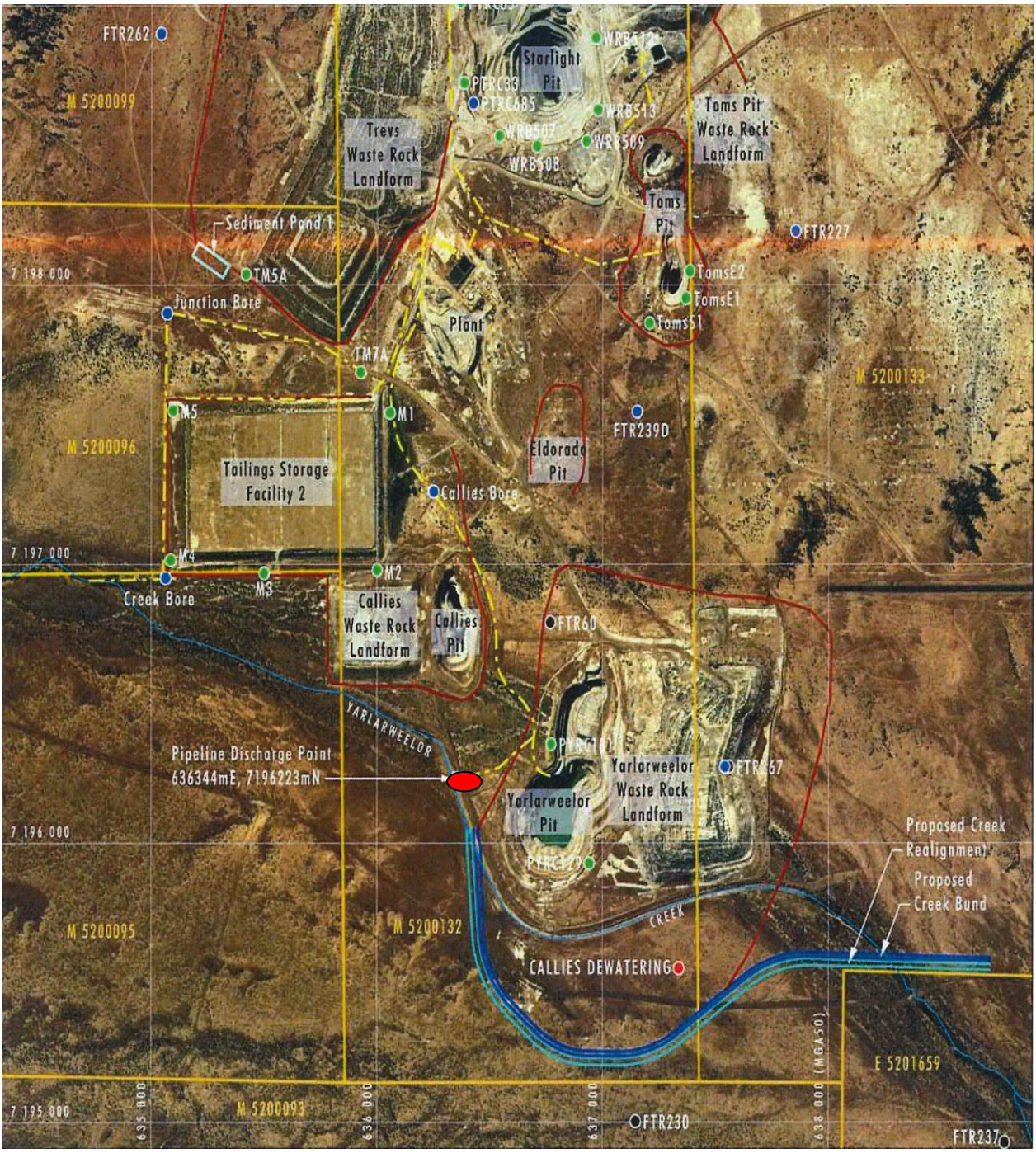
ATTACHMENT 3: PLAN OF PREMISES



ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

ATTACHMENT 4: DEWATERING DISCHARGE POINT INTO YARLARWEELOR CREEK



ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

ATTACHMENT 5: ANNUAL AUDIT COMPLIANCE REPORT

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:

ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

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

a) Licence condition not complied with:
b) Date(s) when the non compliance occurred, if applicable:
c) Was this non compliance reported to DER?:

☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No

d) Has DER taken, or finalised any action in relation to the non compliance?:
e) Summary of particulars of the non compliance, and what was the environmental impact:
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):
g) Cause of non compliance:
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:
i) Action taken or that will be taken to prevent recurrence of the non compliance:

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

Initial:

ATTACHMENTS

LICENCE NUMBER L8103/1989/3 **FILE NUMBER** 2013/001965

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

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

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

SIGNATURE: _____ SIGNATURE: _____

NAME:
(printed) _____ NAME:
(printed) _____

POSITION: _____ POSITION: _____

DATE: _____/_____/_____ DATE: _____/_____/_____

SEAL (if signing under seal)

Government of Western Australia
Department of Environment Regulation

Partial Decision Document

Environmental Protection Act 1986, Part V

Proponent: Aragon Resources Pty Ltd

Licence: L8103/1989/3

Registered office: Level 3
18-32 Parliament Place
WEST PERTH WA 6005

ACN: 114 714 662

Premises address: Fortnum Gold Mine
Mining Tenements M52/95, M52/96, M52/98, M52/99, M52/132 and M52/133
MEEKATHARRA WA 6642

Issue date: Thursday, 26 May 2011

Commencement date: Wednesday, 15 June 2011

Expiry date: Thursday, 14 June 2035

Decision:

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

Decision Document prepared by: Paul Anderson
Licensing Officer

Decision Document authorised by: Alana Kidd
Manager Licensing - Resources

Contents

1 Purpose of this Document

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

2 Administrative summary

<table>
<tr><th colspan="4">Administrative details</th></tr>
<tr><td>Application type</td><td colspan="3">Works Approval ☐
New Licence ☐
Licence amendment ☒
Works Approval amendment ☐</td></tr>
<tr><td rowspan="4">Activities that cause the premises to become prescribed premises</td><td colspan="2">Category number(s)</td><td>Assessed design capacity</td></tr>
<tr><td colspan="2">5</td><td>1,000,000 tonnes per annual period</td></tr>
<tr><td colspan="2">6</td><td>2,500,000 tonnes per annual period</td></tr>
<tr><td colspan="2">89</td><td>52 tonnes per annual period</td></tr>
<tr><td>Application verified
Application fee paid</td><td colspan="3">Date: 10 March 2016
Date: N/A</td></tr>
<tr><td>Works Approval has been complied with
Compliance Certificate received</td><td colspan="3">Yes☒ No☐ N/A☐
Yes☒ No☐ N/A☐</td></tr>
<tr><td>Commercial-in-confidence claim</td><td colspan="3">Yes☐ No☒</td></tr>
<tr><td>Commercial-in-confidence claim outcome</td><td colspan="3"></td></tr>
<tr><td>Is the proposal a Major Resource Project?</td><td colspan="3">Yes☒ No☐</td></tr>
<tr><td>Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the Environmental Protection Act 1986?</td><td>Yes☐ No☒</td><td colspan="2">Referral decision No:
Managed under Part V ☐
Assessed under Part IV ☐</td></tr>
</table>

Is the proposal subject to Ministerial Conditions?	Yes☐ No☒	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 *Environmental Protection Act 1986*)?	Yes☐ No☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes☐ No☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Fortnum Gold Mine (Fortnum) is located in the Peak Hill region of Western Australia, approximately 170 kilometres (km) north of Meekatharra, on Mining Tenements M52/96 and M52/132. The land within the project area has historically been used for grazing and is located on the Milgun Station.

Aragon Resources Pty Ltd (Aragon Resources) has recently bought Fortnum from Grosvenor Gold Pty Ltd. *Environmental Protection Act 1986* Licence L8103/1989/3 for Fortnum was transferred to Aragon Resources on the 24 March 2016. *Environmental Protection Act 1986* Works Approvals W5297/2012/1, W5367/2013/1 and W5491/2013/1 for Fortnum were also transferred to Aragon.

Aragon Resources applied to DER on the 3 March 2016 to have their Licence L8103/1989/3 amended to include recent works completed at Fortnum through Works Approval W5491/2013/1, and to increase the throughput for category 5.

Recent completed works at Fortnum includes the installation of infrastructure for dewatering of mine pit lakes and groundwater to allow mining of ore. Dewatering water will be discharged to the Yarlarweelor Creek. The assessment and approval for these works, including an assessment of the discharge of dewatering effluent to the environment, was assessed and approved through Works Approval W5491/2013/1. A compliance document has been submitted by Aragon for the completed works. Licence category 6 with an approved capacity of 2,500,000 tonnes per annum (tpa) has been included in the Licence.

The approved premises production capacity for category 5 in the Licence has been changed from 851,954 tpa to 1,000,000 tpa. The lower amount was mistakenly referred to in Works Approval W5297/2012/1. The original supporting document for that works approval indicated in several sections that the production capacity for category 5 is 1,000,000 tpa and that the expected tailings stored within the final designed TSF will be 851,954 tpa. Works Approval W5297/2012/1 was amended on the 17 December 2015 to include the correct production capacity of 1,000,000 tpa. Works Approval W5297/2012/1 gives approval for a lift at the existing tailings storage facility (TSF). These works have not started. The current process plant and TSF were already designed and approved to accept 1,000,000 tpa of tailings material.

Therefore the submission of compliance document for Works Approval W5297/2012/1, following the completion of the works, is not required as part of this Licence amendment to increase the capacity of category 5.

DER has not re-assessed the acceptability of impacts or emissions and discharges from the Premises or re-visited any existing emission controls, aside from the monitoring of dewatering discharge to the Yarlarweelor Creek and the setting of limits for the discharge. Where conditions have been amended in the existing Licence, these have been justified in Section 4.

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**
Monitoring conditions	L 1(a) – (f)	A management program for water quality monitoring of the dewatering discharge water was submitted as part of the works approval application for W5491/2013/1. The monitoring program identified that the discharge water will be monitored quarterly for pH, temperature and salinity, and annually for ions and metals. It also identified a flow meter will be installed to measure the monthly volumes of dewatering water being discharged to the Yarlarweelor Creek. Additionally, water quality monitoring of the pit lakes and groundwater will also occur as a part of the monitoring program. The commitments made in the works approval application for the monitoring of discharge waters only have been implemented as conditions in this Licence amendment. **Operation** Condition 1(a) has been amended by including into Table 1 the requirement to monitor the dewatering discharged to the Yarlarweelor Creek. A risk assessment of the discharge to the Yarlarweelor Creek was undertaken as part of the assessment for Works Approval W5491/2013/1. The risk assessment identified no significant impacts are expected from dewatering operations at Fortnum and the risk to the environment is considered low. The majority of the dewatering will occur within the first twelve months of operation with the dewatering of two pit lakes (a total of 2,188,800 kilolitres (kL)). After the initial 12 months, discharge to the Yarlarweelor Creek is expected to drop to 322,800 kL per year and only consists of groundwater. Water sampling results from the Toms and Yarlarweelor pit lakes indicate the water is fresh to brackish (i.e. Yarlarweelor less than120 mg/L TDS, Toms less than 1,600 mg/L TDS) with a pH range between 6.5 to	Licence amendment application for L8103/1989/3 Decision Document for W5491/2013/1 and supporting documentation submitted with works approval application. *Environmental Protection Act 1986* Works Approval W5491/2013/1.

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		8.3. Ongoing dewatering of groundwater to facilitate mining of the pits will require only small amounts of water to be discharged to the Yarlarweelor Creek. Groundwater quality at Fortnum is characterised as fresh on average, with TDS typically less than 1,000 mg/L. Previous annual environmental reports prepared for Fortnum indicate that the concentrations of metals (including arsenic, copper and lead), nitrates, sulfates and WAD cyanide have typically remained below guideline values when assessed against ANZECC (2000) and NHMRC (2004) livestock watering and drinking criteria. Monitoring requirements included into Table 1 are quarterly sampling for pH and TDS as was identified in the assessment for Works Approval W5491/2013/1(dewatering). Also included is sampling for Total Recoverable Hydrocarbons (TRH) as there are potential discharges of hydrocarbons to the pit lakes being dewatered through leaks and spills from dewatering pumps and service vehicles. Annual sampling for common ions and metals is also included as was identified in the assessment for Works Approval W5491/2013/1 and commitments made in the works approval application. Condition 1(a) has also been amended by including additional sampling parameters into Table 1 for all groundwater monitoring bores. The additional parameters include arsenic, antimony, cadmium, cobalt, iron, selenium and thallium. These additional parameters complete the list of elements which are commonly sampled and analysed for at gold mines. Condition 1(b) has been amended by including methods required for sampling of wastewater and groundwater, and the minimum time required between annual sampling. Conditions 1(d) has been included to ensure a flow meter is maintained to record cumulative volumes of dewatering water discharged to the Yarlarweelor Creek. The inclusion of this condition was identified in the the assessment for Works Approval W5491/2013/1 and was also a commitment made in the application.	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Condition 1(e) has been included in the Licence to ensure the Licensee records the cumulative discharge from the flow meter on a monthly basis and the results are to be presented in the annual environmental report. Condition 1(f) has been included to ensure the flow meter specified in condition 1(d) is calibrated on an annual basis.	
Reporting conditions	3(a) and 3(b), 4 and 5	**Operation** Condition 3(b) Table 4 has been amended by including limits for dewatering discharge to the Yarlarweelor Creek. The assessment for Works Approval W5491/2013/1 identified the establishment of targets for dewatering discharge however targets are no longer applied to licenses. Limits have been set for pH, TDS and TRH and are explained below. An exceedance of a limit in the Licence already requires reporting to DER through condition 3(a) and (b). There are no adopted standards for TRH values for dewatering discharge waters to surface waters. Other DER licensed dewatering operations discharging pit water to similar surface waters like the Yarlarweelor Creek have a TRH limit set at 15 mg/L. Therefore a limit of 15 mg/L for TRH has been included in condition 3(b). Historical sampling of the pit lakes and the groundwater since 2005 has shown the groundwater to be fresh (less than 1,000 mg/L TDS) and the pit lakes being dewatered fresh to slightly saline (less than 1,600 mg/L TDS). A limit of 2,000 mg/L has been established for TDS to ensure potential impacts to the Yarlarweelor Creek are minimised through Licence exceedance response and reporting requirements. A limit range for pH of equal or greater than 6 and less than or equal to 9 is already established in the Licence for groundwater monitoring bores. Groundwater sampling at Fortnum since 2005 has shown the pH to be neutral to slightly alkaline with a pH of between 7 to 8.3. Pit lake sampling indicates a pH range of between 8.5 to 9. Therefore limits in the Licence for pH at groundwater monitoring bores in Table 4 have also been adopted for the mine dewatering discharge.	Licence amendment application for L8103/1989/3 Decision Document for W5491/2013/1 and supporting documentation submitted with works approval application. *Environmental Protection Act 1986* Works Approval W5491/2013/1 *Environmental Protection Act 1986* Licence L8103/1989/3

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		DER considers the setting of limits for all other parameters in dewatering discharge quality monitoring is not necessary. Previous annual environmental reports prepared for Fortnum indicate that the concentrations of metals (including arsenic, copper and lead), nitrates, sulfates and WAD cyanide have typically remained below guideline values when assessed against ANZECC (2000) and NHMRC (2004) livestock watering and drinking criteria.	
Attachments	Attachment 4	Attachment 4 is included as a map to show the dewatering discharge location.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
21/4/2016	Proponent sent a copy of draft instrument	No comments received.	N/A
19/5/2016	Licence amended	N/A	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