Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Edna May Operations Pty Ltd

Licence: L8422/2010/2

Registered office: 22 Wolfram Street
WESTONIA WA 6423

ACN: 136 365 001

Premises address: Edna May Gold Project
M77/88, M77/110, M77/124, G77/122 and L77/18
Warrachuppin Road
WESTONIA WA 6423

Issue date: Thursday, 2 May 2013

Commencement date: Thursday, 2 May 2013

Expiry date: Monday, 1 May 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
5	Processing or beneficiation of metallic or non-metallic ore	50 000 tonnes or more per year	3 200 000 tonnes per annual period
6	Mine dewatering	50 000 tonnes or more per year	1 900 000 tonnes per annual period
61	Liquid waste facility	100 tonnes or more per annual period	Up to 100 000 KL per annual period
64	Class II or III putrescible landfill site	20 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: 9 March 2016
.....
Tim Gentle
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

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

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER 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 Edna May Gold Project (the Project) is operated by Edna May Operations Pty Ltd and owned by Evolution Mining, who acquired the mine in November 2011. The premises is located 300 kilometres east of Perth.

The Project is in an area with a long history of mining and exploration activity. The operations consists of an open cut mine, mine dewatering, a Carbon-in-Leach plant for gold (comprising a crushing circuit, milling circuit and leach and adsorption circuit) two waste rock landforms and one integrated waste landform which includes the tailings storage facility and noise bunds. There is also a trial tungsten plant using a gravity forced configuration to separate concentrate from tailings.

The Project area is located in the northern extremity of the Westonia Greenstone Belt, and lies less than 1 kilometre north of the Westonia town site, in the Shire of Westonia. Tenements total approx 770 ha and are located on Crown Reserve 14983 and a freehold lot owned by Edna May Operations Pty Ltd. The tenements border other freehold farmland lots used for cereal cropping.

The Westonia area is dominated by a gently undulating landscape averaging about 340 m above sea level. It is predominantly covered by highly weathered rocks, laterite, drift sand soils, and in the salt lake areas, by calcrete and thin evaporite deposits. Soils in the area are moderately to strongly alkaline and variable in salinity.

The geological stratigraphy is dominated by an extensive high magnesium mafic-ultramafic volcanic sequence, intruded by the locally termed Edna May Gneiss (EMG) within the Project area. The EMG is an irregular, but broadly conformable body, which has been traced over 1 400 m and averages 100 m in thickness. The EMG is composed of quartzo-feldspathic gneiss and holds most of the gold mineralisation.

The climate at Westonia is characterised by low to moderate winter rainfall and hot dry summers. Average annual rainfall is 327 mm. Winds are moderate and follow a seasonal pattern.

Groundwater in the Westonia area occurs in weathered and fractured bedrock aquifers, with depth to groundwater varying between 28 – 40 m below ground level (mbgl). Salinity averages around TDS 25 000 mg/L. All groundwater extracted from production and dewatering bores is used in processing and dust suppression.

There are no permanent surface water bodies or seasonal wetlands near the Project area. Ephemeral creeks in the general area drain into a number of salt lakes; the nearest of which is Lake Mount Brown, located approximately 50 km north of the Project area.

A small ephemeral drainage line, which carries surface water, is located to the north of the pit and runs in a north-westerly direction. This area is gazetted under the Public Plan for Warralakin and Westonia (Drainage Reserve 18796), and was created in the 1930s for the purpose of disposing

of pit water from the then Westonia mine. The drain terminates over a low yield unconfined aquifer, and is estimated to be active for a 1:20 year rainfall event. Most surface water flows are expected to occur as broad, shallow sheet flows as a result of rainfall.

This Licence is the result of an amendment sought by the Licensee to include category 61 and to convert the licence into the new format.

The licences and works approvals issued for the Premises since 02/07/2009 are:

Instrument log		
Instrument	**Issued**	**Description**
W4546/2009/1	02/07/2009	Works Approval to construct category 5 and 6
W4546/2009/1	24/12/2009	Amendment to Works Approval to include additional conditions relating to the Operational Management Plan
L8422/2010/1	30/04/2010	Licence issued for category 5 and 6
W4718/2010/1	17/09/2010	Works Approval for category 64.
W4718/2010/1	22/10/2010	Amendment to Works Approval – change of address
L8422/2010/1	10/03/2011	Amendment to Licence to include category 64 (landfill) and associated conditions
L8422/2010/1	17/04/2011	Amendment to increase production or design capacity of mine dewatering from 1 900 000 to 3 200 000 tonnes per year
W4898/2011/1	17/04/2011	Works Approval for category 70 (Screening, etc. of material)
W5015/2011/1	03/11/2011	Works Approval for category 5 – changes to original proposal.
W5015/2011/1	02/02/2012	Amendment to Works Approval – update Licensee name
L8422/2010/2	02/05/2013	Licence re-issue
L8422/2010/2	10/03/2016	Amendment relating to liquid waste acceptance and format conversion.

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 July until 30 June 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;*

'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;

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

'hardstand' means a surface with a permeability of 10^{-9} metres/second or less;

'Licence' means this Licence numbered L8422/2010/2 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;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'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;

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

'µS/cm' means microsiemens per centimetre.

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

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

1.2 Premises operation

1.2.1 The Licensee shall ensure that all pipelines containing tailings slurry, decant water, dewatering water or effluent are either:
(a) equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures;
(b) equipped with automatic cut-outs in the event of a pipe failure; or
(c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.

1.2.2 The Licensee shall ensure that any saline dewatering effluent used for dust suppression is applied in a manner that avoids damage to surrounding vegetation.

1.2.3 The Licensee shall ensure that tailings, decant water, dewatering water and effluent are only discharged into containment cells, dams and ponds with the relevant infrastructure requirements and at the locations specified in Table 1.2.1.

Table 1.2.1: Containment Infrastructure

Containment point reference	Containment identification	Infrastructure requirements
E1	Tailings Storage Facility (TSF)	Compacted in-situ clay material
E2	Landfill and bioremediation facility	
E3	Liquid waste ponds	
E4	Evaporation ponds	

1.2.4 The Licensee shall manage containment cells and ponds in Table 1.2.1 such that: a minimum top of embankment freeboard of 300mm or a 1 in 100 year / 72 hour storm event (whichever is greater) is maintained.

1.2.5 The Licensee shall only accept waste onto the Premises if:
(a) it is of a type listed in Table 1.2.2;
(b) the quantity accepted is below any quantity limit listed in Table 1.2.2; and
(c) it meets any specification listed in Table 1.2.2.

Table 1.2.2: Waste acceptance			
Waste	**Quantity Limit**	**Disposal Reference Point**	**Specification**[1]
Clean fill Inert Waste Type 1 Inert Waste Type 2 Putrescible Waste (including green waste) Special Waste Type 1 (Asbestos Waste) Special Waste Type 2 (Biomedical Waste) Scrap Metal Other recyclables	Combined total of up to 5,000 tonnes per annual period	E2 (Landfill and bioremediation facility)	None specified
Septage wastes (Sewage) – domestic wastes from apparatus for the treatment of sewage	200,000L per annual period	E3 (Liquid waste ponds)	
Waste from grease traps	15,000L per annual period		

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

1.2.6 The Licensee shall, at the Landfill and bioremediation facility (E2):
- (a) ensure that no waste is placed closer than 35 metres to the landfill boundary;
- (b) place waste within a defined trench;
- (c) restrict the tipping area to a maximum linear length of 30 metres;
- (d) cover waste with at least 150 mm of cover material every week the site is open;
- (e) cover waste within one week of delivery;
- (f) stockpile sufficient cover material to allow waste to be covered in accordance with part (d) and (e) of this condition and to cover waste in the event of a fire;
- (g) shall manage the active landfill area such that at no time does landfilling result in an exposed face exceeding two (2) metres in vertical height; and
- (h) shall cover waste with a final soil cover of at least one (1) metre.

1.2.7 The Licensee shall implement the following security measures at the Landfill and bioremediation facility (E2):
- (a) maintain a wire stock fence, at least 1.2 metres high, around the perimeter of the landfill; and
- (b) securely lock any entrance to the landfill when the landfill is unattended.

1.2.8 The Licensee shall take all reasonable and practical measures to ensure that no wind-blown waste escapes Landfill and bioremediation facility (E2).

1.2.9 The Licensee shall manage the Tailings Storage Facility (E1) such that:
- (a) a seepage collection and recovery system is provided and used to capture seepage from the TSF; and
- (b) seepage is returned to the TSF or the process.

2 Emissions

2.1 General

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

2.2 Emissions to land

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

Table 2.2.1: Emission points to land

Emission point reference	Description	Source, including any abatement
E1	Tailings storage facility	Process tailings
E2	Landfill and bioremediation facility	General mining operations
E3	Liquid waste ponds	Septage waste from the Licensee's village Waste Water Treatement Plant and Grease waste from the Licensee's village kitchen grease trap.
E4	Evaporation ponds	Mine dewater

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 wastewater sampling is conducted in accordance with AS/NZS 5667.10;
(c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11; and
(d) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured [unless indicated otherwise in the relevant table].

3.1.2 The Licensee shall ensure that:
(a) monthly monitoring is undertaken at least 15 days apart; and
(b) quarterly monitoring is undertaken at least 45 days apart.

3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.4 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of emissions to land

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 emissions to land			
Emission point reference	**Parameter**	**Units**	**Frequency**
E1 (TSF)	Water balance (site rainfall, site evaporation, decant water recovery volumes, seepage recovery volume and deposited tailings)	kL	Annually
E2 (Landfill and bioremediation facility)	Solid waste to landfill	tonnes	
	Contaminated soil		
E3 (Liquid waste ponds)	Septage waste		
	Grease trap waste		
E4 (Evaporation ponds)	Mine dewater discharged to the Evaporation ponds.	kL	

3.3 Ambient environmental quality monitoring

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

Table 3.3.1: Monitoring of ambient groundwater quality				
Emission point reference	**Parameter**	**Units**	**Frequency**	**Limit**
MB01, MB02	Standing Water Level (SWL)*	cm	Monthly	None specified
MB01- MB02 MB7-8 MB11-16 MB 18	Total dissolved Solids (TCS)	mg/L	Quarterly	
MB01- MB02 MB7-8 MB11-16 MB 18	Electrical Conductivity (EC)	uS/cm		
MB01,MB12, MB13, MM16	pH	-		
MB2, MB07-MB11, MB14-MB15, MB 18				
MB01- MB02 MB7-8 MB11-16, MB 18	WAD cyanide	mg/L		0.5 mg/L
MB01- MB02 MB7-8 MB11-16, MB 18	Total cyanide			None specified
MB01- MB02 MB7-8 MB11-16, MB 18	Arsenic			
MB01- MB02 MB7-8 MB11-16, MB 18	Lead			
MB01- MB02 MB7-8 MB11-16, MB 18	Mercury			
MB01- MB02 MB7-8 MB11-16, MB 18	Molybdenum			
MB01- MB02 MB7-8 MB11-16, MB 18	Silver			
MB01- MB02 MB7-8 MB11-16, MB 18	Aluminium, Barium, Boron, Cadmium and Calcium			

Note: *SWL shall be determined prior to collection of water samples

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 within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
4.1.2	Compliance	Annual Audit Compliance Report (AACR)
4.1.3	Complaints summary	None specified
Table 3.2.1	Water balance and annual recording of waste	LR1
Table 3.3.1	Groundwater monitoring results	GR1

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

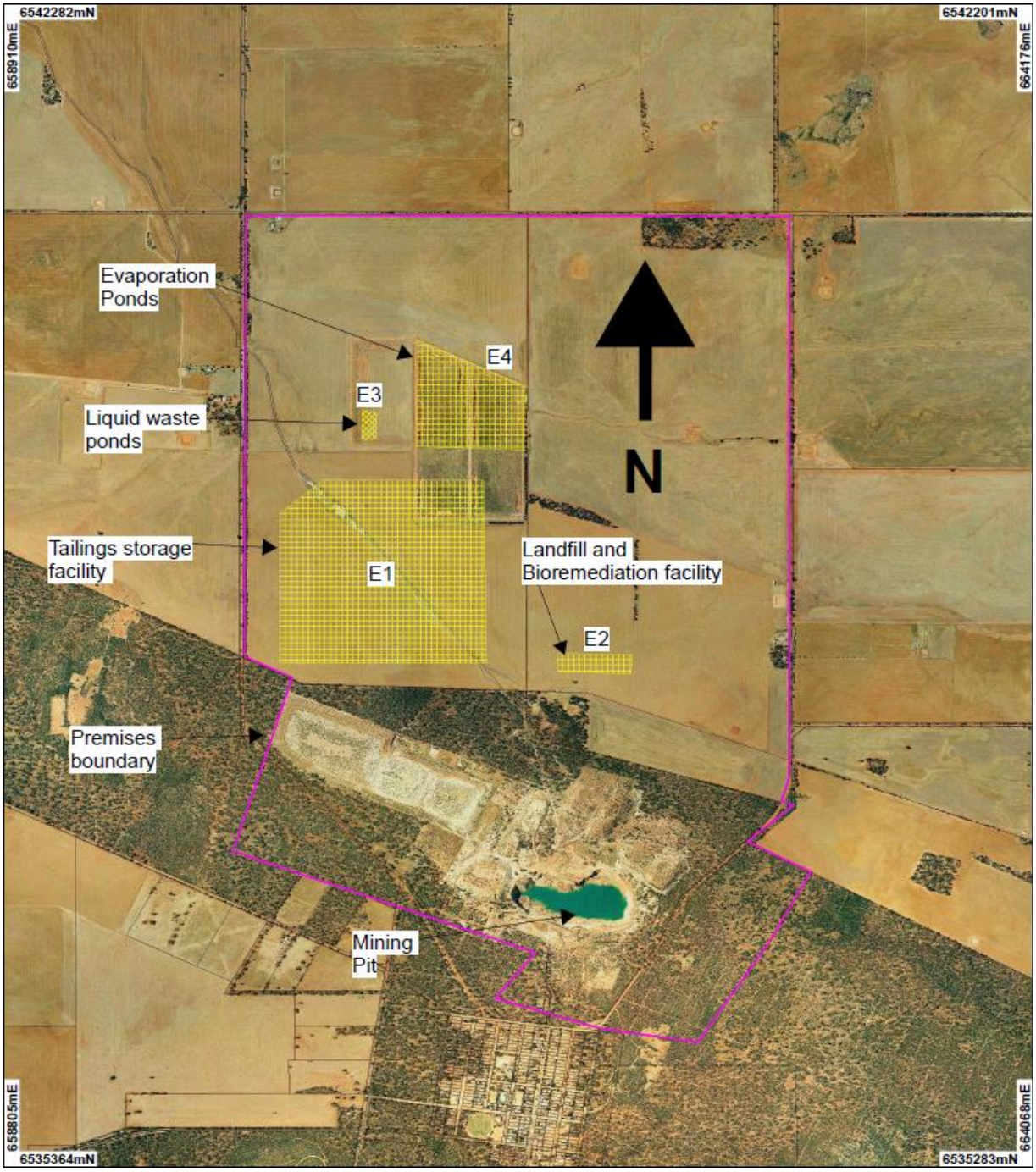
Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
2.3.1	Any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution		

Note 1: No notification requirement in the Licence shall 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 maps below. The pink line depicts the Premises boundary.



Map of monitoring locations

The locations of the groundwater monitoring points defined in Table 3.8.1 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: **Edna May Operations Pty Ltd** Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

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

Initial:

SECTION B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

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

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

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

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L8422/2010/2
Form: GR1
Name: Monitoring of ambient emissions to groundwater

Licensee: Edna May Operations Pty Ltd
Period :

Form GR1: Monitoring of ambient emissions to groundwater							
Sample point[2]	**Parameter**	**Limit**	**Result**[1]	**Result**[1]	**Averaging period**	**Method**	**Sample date & times**
	Standing water level	N/A	m (AHD)				
	pH	N/A					
	Electrical Conductivity (EC)	N/A	µS/cm				
	Total Dissolved Solids (TDS)	N/A	mg/L	g/day			
	WAD cyanide	0.5 mg/L	mg/L	g/day			
	Total cyanide	N/A	mg/L	g/day			
	Arsenic	N/A	mg/L	g/day			
	Lead	N/A	mg/L	g/day			
	Mercury	N/A	mg/L	g/day			
	Molybdenum	N/A	mg/L	g/day			
	Silver	N/A	mg/L	g/day			
	Aluminium	N/A	mg/L	g/day			
	Barium	N/A	mg/L	g/day			
	Boron	N/A	mg/L	g/day			
	Cadmium	N/A	mg/L	g/day			
	Calcium	N/A	mg/L	g/day			

Note 1: All units are referenced to STP dry
Note 2: Use a separate sheet for each Sample point (monitoring bore).

Signed on behalf of Edna May Operations Pty Ltd: …….. Date: …….

Licence: L8422/2010/2
Form: LR1
Name: Monitoring of emissions to land

Licensee: Edna May Operations Pty Ltd
Period :

Form LR1: Monitoring of emissions to land					
Emission point	**Parameter**	**Result**[1]	**Averaging period**	**Method**	**Sample date & times**
E1	Water Balance	kL	Annual		
E2	Solid waste to landfill	tonnes	Annual		
	Contaminated soil	tonnes			
E3	Septage waste	tonnes	Annual		
	Grease trap waste	tonnes			
E4	Mining dewater	kL	Annual		

Note 1: All units are referenced to STP dry

Signed on behalf of Edna May Operations Pty Ltd …….. Date: …….

Licence: L8422/2010/2 Licensee: Edna May Operations Pty Ltd
Form: N1 Date of breach:

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

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

Part A

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

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

Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken , or intended to be taken, to stop any emission	
Description of the failure or accident	

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 Edna May Operations Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Licensee: Edna May Operations Pty Ltd

Licence: L8422/2010/2

Registered office:	22 Wolfram Street WESTONIA WA 6423
ACN:	136 365 001
Premises address:	Edna May Gold Project M77/88, M77/110, M77/124, G77/122 and L77/18 Warrachuppin Road WESTONIA WA 6423
Issue date:	Thursday, 2 May 2013
Commencement date:	Thursday, 2 May 2013
Expiry date:	Monday, 1 May 2028

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.

Decision Document prepared by:	Jamie Piotrowski Licensing Officer
Decision Document authorised by:	Tim Gentle Manager Licensing

Contents

1 Purpose of this Document

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

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	5	3 200 000 tonnes per annual period
	6	1 900 000 tonnes per annual period
	61	Up to 100 000 KL per annual period
	64	5 000 tonnes per annual period
Application verified Application fee paid	Date: N/A Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes☒ No☐	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☒ No☐	Referral decision No: Managed under Part V ☒ Assessed under Part IV ☐
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

The Edna May Gold Project (the Project) is operated by Edna May Operations Pty Ltd and owned by Evolution Mining, who acquired the mine in November 2011. The premises is located 300 kilometres east of Perth.

The Project is in an area with a long history of mining and exploration activity. The operations consists of an open cut mine, mine dewatering, a Carbon-in-Leach plant for gold (comprising a crushing circuit, milling circuit and leach and adsorption circuit) two waste rock landforms and one integrated waste landform which includes the tailings storage facility and noise bunds. There is also a trial tungsten plant using a gravity forced configuration to separate concentrate from tailings.

The Project area is located in the northern extremity of the Westonia Greenstone Belt, and lies less than 1 kilometre north of the Westonia town site, in the Shire of Westonia. Tenements total approx 770 ha and are located on Crown Reserve 14983 and a freehold lot owned by Edna May Operations Pty Ltd. The tenements border other freehold farmland lots used for cereal cropping.

The Westonia area is dominated by a gently undulating landscape averaging about 340 m above sea level. It is predominantly covered by highly weathered rocks, laterite, drift sand soils, and in the salt lake areas, by calcrete and thin evaporite deposits. Soils in the area are moderately to strongly alkaline and variable in salinity.

The geological stratigraphy is dominated by an extensive high magnesium mafic-ultramafic volcanic sequence, intruded by the locally termed Edna May Gneiss (EMG) within the Project area. The EMG is an irregular, but broadly conformable body, which has been traced over 1 400 m and averages 100 m in thickness. The EMG is composed of quartzo-feldspathic gneiss and holds most of the gold mineralisation.

The climate at Westonia is characterised by low to moderate winter rainfall and hot dry summers. Average annual rainfall is 327 mm. Winds are moderate and follow a seasonal pattern.

Groundwater in the Westonia area occurs in weathered and fractured bedrock aquifers, with depth to groundwater varying between 28 – 40 m below ground level (mbgl). Salinity averages around TDS 25,000 mg/L. All groundwater extracted from production and dewatering bores is used in processing and dust suppression.

There are no permanent surface water bodies or seasonal wetlands near the Project area. Ephemeral creeks in the general area drain into a number of salt lakes; the nearest of which is Lake Mount Brown, located approximately 50 km north of the Project area.

A small ephemeral drainage line, which carries surface water, is located to the north of the pit and runs in a north-westerly direction. This area is gazetted under the Public Plan for Warralakin and Westonia (Drainage Reserve 18796), and was created in the 1930s for the purpose of disposing of pit water from the then Westonia mine. The drain terminates over a low yield unconfined aquifer, and is estimated to be active for a 1:20 year rainfall event. Most surface water flows are expected to occur as broad, shallow sheet flows as a result of rainfall.

The licensee has submitted a request to amend their licence to relocate the landfill facility and to include category 61 on their licence to allow a septage waste disposal facility. The requested changes have been included in the amended licence. The licence has also been updated in line with the current licence format. This decision document includes the assessment for the amendment as well as for the global changes pertaining to the new format.

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			
Licence section	**Condition number**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	N/A	No additional conditions are deemed necessary under General conditions.	
Premises operations	L1.2.1 – 1.2.2 L1.2.3 Table 1.2.1 L1.2.5 Table 1.2.2 L1.2.6 – 1.2.8 L1.2.9	L1.2.1 and 1.2.2 have been added to the licence to ensure pipelines are managed appropriately and that saline water used for dust supression is applied so as to avoid damage to surrounding vegetation. L1.2.3 and Table 1.2.1 have been included to ensure the licensee manages containment infrastructure to limit impacts to the environment. L1.2.5 and Table 1.2.2 have been included to allow the licensee to operate a class II putrescible landfill and three liquid waste ponds. The landfill is limited to 5000 tonnes per annual period and the liquid waste facility is limited to 215,000 litres per annual period. Both facilities will only be accepting waste generated at the Edna May premises and the attached workers' village. Licence conditions 1.2.5 to 1.2.7 have been included in the licence to ensure the licensee manages the landfill and bioremediation facility (emission point reference E2) to limit the possible effects of dust, odour and windblown waste. Licence condition 1.2.9 has been included to ensure the licensee manages the tailings storage facility (emission point reference E1) to limit the possible effects of stormwater contamination and groundwater contamination.	Application supporting documentation Edna May Operations; *Landfill Management Plan,* October 2014 Edna May Operations; *Groundwater Monitoring Contingency Plan*, October 2014 General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Licence section	**Condition number**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Emissions general	L2.1.1	Descriptive limits will be set through condition 2.2.1 and Table 3.8.1 of the licence and therefore a condition regarding recording and investigation of exceedances of limits or targets has been included.	N/A
Point source emissions to air including monitoring	N/A	As no conditions were applied to the licence for Point source emissions to air, the section has been removed.	General provisions of the *Environmental Protection Act 1986*
Point source emissions to surface water including monitoring	N/A	As no conditions were applied to the licence for Point source emissions to surface water, the section has been removed.	General provisions of the *Environmental Protection Act 1986*
Point source emissions to groundwater including monitoring	N/A	As no conditions were applied to the licence for Point source emissions to groundwater, the section has been removed.	General provisions of the *Environmental Protection Act 1986*
Emissions to land including monitoring	L2.1.1, L3.2.1 Table 2.2.1 Table 3.2.1	DER's assessment and decision making are detailed in Appendix A.	Application supporting documentation *Edna May Gold Project Integrated Waste Landform-Tailings Storage facility Mining Proposal* (Coffey Mining, 2009).
Odour	N/A	As no conditions were applied to the licence for odour, the section has been removed.	General provisions of the *Environmental*

DECISION TABLE			
Licence section	**Condition number**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
			Protection Act 1986
Noise	N/A	As no conditions were applied to the licence for noise, the section has been removed.	General provisions of the *Environmental Protection Act 1986*
Monitoring general	L3.1.1 to 3.1.4	Generic conditions designed to ensure all sampling done by the licensee meets NATA and manufacturers' standards.	General provisions of the *Environmental Protection Act 1986*
Monitoring of inputs and outputs	N/A	As no conditions were applied to the licence for Monitoring of inputs and outputs, the section has been removed.	N/A
Process monitoring	N/A	As no conditions were applied to the licence for Process monitoring, the section has been removed.	N/A
Ambient quality monitoring	L3.3.1 Table 3.3.1	Groundwater monitoring condition and table have been added to the licence to ensure management activities outlined in Appendix A are effective.	General provisions of the *Environmental Protection Act 1986*
Meteorological monitoring	N/A	As no conditions were applied to the licence for Meteorological monitoring, the section has been removed.	N/A
Improvements	N/A	As no conditions were applied to the licence for Improvements, the section has been removed.	N/A
Information	L4.1 to 4.3	Generic conditions designed to ensure the licensee records all monitoring information and reports to the DER in the form of an AER and an AACR.	General provisions of the *Environmental Protection Act 1986*

DECISION TABLE			
Licence section	**Condition number**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Licence Duration	N/A	The licence expiry date will be amended to May 2028, which alignes with the mining tenement expiry dates.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
07/01/2016	Proponent sent a copy of draft instrument	Proponent replied with a number of updates to the groundwater monitoring scheme due to inactive bores and new bores being drilled.	All comments were implemented into the licence changes.

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

Emissions to land including monitoring

Tailings from the project are deposited into a Tailings Storage Facility (TSF), consisting of one large cell constructed from waste rock. The final TSF footprint will be approximately 152 ha, comprising 77 ha of land under tailings with the remainder consisting of the embankments constructed from waste rock. At final design height, tailings will have a surface area of approximately 96 ha. The final depth of tailings will range from 23 m to 29 m and the final embankment crest level will be RL362m. The final design storage life of the TSF is 9 years, estimated on a peak production rate of 3.2 Mtpa and a tailings in situ density of 1.3 t/m^3. The maximum tailings storage is estimated at 22 $x10^6$ m^3.

Base and Embankment Construction

The TSF has been constructed on a natural clay substrate of relatively low permeability, without engineered floor liners, in accordance with design parameters provided in the works approval application and subsequent correspondence. Permeability of the substrate within the TSF was approximately $1x10^{-8}$ m/s prior to construction. No near-surface gravels or sand layers were encountered during construction. The TSF has been constructed with a compacted clay cut-off wall and a compacted clay zone within the perimeter embankment. Appropriate soil compliance testing was conducted during construction and results submitted to DER in the works approval compliance certificate.

Starter embankments were constructed from mine waste obtained from the pit during the pit cut-back. The initial Works Approval W4546/2009/1 authorised the construction of embankments to RL342 m. Works Approval W5015/2011/1 approved a raising of the TSF as a staged embankment construction has been designed to utilise the downstream construction method as defined in the *Edna May Gold Project Integrated Waste Landform - Tailings Storage facility Mining Proposal* (Coffey Mining, 2009). The staged construction aims to provide additional capacity on an “as required” basis, generally aimed at providing an additional 1.5 to 2 years storage capacity with each lift.

The TSF is located within a surface drainage diversion berm adequate to contain at least 1:100 ARI flood event. Drainage within the berm passes through settlement ponds before it is diverted to an existing drainage line west of Warrachoppin Rd.

Underdrainage and Decant System

The TSF has been constructed with two seepage control systems in place. A continuous upstream perimeter drain in the form of a cut-off trench has been constructed under the main embankment adjacent to the upstream toe drain to intercept horizontal seepage through the near surface foundation. The cut-off trench was excavated to 1 m and is founded in suitable clay.

A decant underdrainage system has been installed, designed to recover water and assist with the consolidation of the tailings. The decant system comprises a decant accessway constructed from mine waste, and central decant structure constructed from slotted concrete well sections (1.8 m in diameter) stacked vertically and surrounded by filter rock material. Reclaim water collecting within the decant structure is pumped back to the process plant directly from the decant tower by submersible pump located within the decant tower structure. Underdrainage consisting of slotted pipe, geotextile and aggregate was constructed to cover an area in the base of the TSF equivalent to that of a normal expected operating decant pond (nominal radius 90 m). The underdrainage pipe system conveys seepage water through the outfall pipe in the embankment via cement-bentonite collar to a seepage collection pond at the northwest corner of the TSF. Water is pumped from the seepage collection pond back to the process plant by pump located at the seepage collection pond.

The seepage collection pond is lined with 1.5 mm HDPE liner. The underdrainage system was inspected by DER inspectors and by appropriately qualified engineers prior to commissioning and the results submitted to DER as part of the compliance certificate for W4546/2009/1.

An additional downstream (outside) perimeter seepage interception ditch has been constructed around the TSF. This ditch returns seepage flow to the seepage collection pond.

Tailings Discharge and Management
Tailings produced in the processing circuit are collected in the tailings hopper located at the processing plant. Tailings discharged into the TSF will typically contain 33 000 mg/L TDS, 50 mg/L WADCN (Weak Acid Dissociable Cyanide) and have a pH of 8.5-9. The tailings also contain low levels of molybdenum, lead, bismuth, mercury and silver. The pH of decant water within the TSF is approximately 5.

Tailings are pumped through polyethylene pipe to the TSF for permanent disposal. The pipeline is located within bunded works of compacted clay, designed to contain spillage from a failure in the pipeline. The discharge of tailings into the TSF are conducted in accordance with the operating manuals produced by Coffey Mining Pty Ltd and submitted to DER as required by W4546/2009/1. The manuals describe the design and operation of the TSF with a focus on maximising consolidation of tailings through removal of water from the tailings.

Tailings are deposited sub aerially and spirally around the TSF, through active discharge points located at manually controlled spigots on a perimeter discharge line. Tailings are deposited in discrete layers at approx 45% solids to promote low velocity discharge. Discharge points are moved regularly to ensure an even tailings beach is developed and maintained and the length of time between tailings deposition cycles will be maximised to allow for drying time. Sloped beaches ensure that a surface water pond is maintained around the central decant structure. The supernatant pond is kept away from the containment embankments at all times.

The TSF is able to contain a considerable body of water during a rainstorm. The compliance documentation states that a minimum operational (wall) freeboard is 300 mm and the minimum total (beach + wall) freeboard is 500 mm, and that a minimum freeboard of 663 mm above normal decant pond operating level will be adequate to contain a 1 in 100 year Annual Exceedance Probability 72-hour rainfall event.

Groundwater Monitoring
Currently Groundwater monitoring is undertaken in accordance with conditions of the groundwater well licence issued by the Department of Water and the DER licence. Initial results indicated that groundwater has historically been impacted by mining activity at the site.

Dewatering Operations
In 1987, ACM Gold Ltd constructed two of three existing evaporation ponds that were last used during the period 1987 – 1990. In 2005, Catalpa were issued approval (W51/04) to discharge mine dewater to these ponds to enable intensive drilling from the base of the pit, subsequent to confirmation of integrity. To facilitate the temporary dewatering, Catalpa constructed an additional 36 ha of temporary evaporation ponds in 2005.

Ancillary Operations
Associated facilities constructed at the premises include the plant workshop (with washdown slab), warehouse, offices, laboratory, plant amenities, fuel and lubricant storage, power supply, explosives storage, water supplies, landfill, and bioremediation.

Workshop Washdown
Waste water from the workshop washdown slab is collected in a sump fitted with an oil-water separator. Waste water from the laboratory and plant amenities is treated in septic tanks with effluent disposed to the TSF.

Hydrocarbon Storage

Fuels and lubricants are stored within a bunded area in accordance with relevant Dangerous Goods Legislation and licences, Australian Standards, and manufacturer's safety data sheets. Two x 65 000 litre fuel tanks and oil storage capacity of 15 000 litres on site with appropriate pumping infrastructure and bunding. Bulk fuel, oil and waste material tanks are fitted with excess flow valves and located above ground in impermeable bund enclosures. These bunds shall retain a minimum of 110% of the total capacity of the tanks in the bund. Waste tanks for hydrocarbons, coolants are located in separate bunded compartments to prevent cross contamination of materials. Sumps are installed at low points of each bund to facilitate evacuation of spilled material or water. All re-fuelling stations are constructed of impermeable materials and capable of containing and controlling potential spills. All pipe work and pumps are above ground and within bunded enclosures. Pipes and tanks are labelled as to contents and direction of flow noted on pipes. Appropriate isolation valves are installed to minimise spills and provide protection of systems. All hydrocarbon storage drums are stored in impermeable bunded enclosures. New and in-use products in drums are stored separately from waste drums. All drums containing waste materials will be labelled with contents and dates and stored within bunded areas.

Emission Description

*Emission: S*oil and surface water contaminated with hyper saline water and sedimentation through uncontrolled discharges from storage facilities or pipelines. Soil and surface water contaminated with hydrocarbons from ancillary operations.

Impact: Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water and vegetation from hypersaline waters, discharged hydrocarbons and sedimentation.

Controls: The site is designed to capture all areas of contamination and direct uncontaminated stormwater away from areas of contamination. Surface water is managed under the proponents documents 'Edna May Operations; *Landfill Management Plan,* October 2014' and 'Edna May Operations; *Groundwater Monitoring Contingency Plan*, October 2014'.

Risk Assessment

Consequence: Minor
Likelihood: Rare
Risk Rating: Low

Regulatory Controls

Condition 2.2.1 and Table 2.2.1 have been added to the licence to ensure emissions are discharged into defined areas.

Condition 3.2.1 and Table 3.2.1 have been added to the licence to record the amounts of tailings discharged into the TSF, solid waste to landfill, contaminated soils to bioremediation and liquid waste to the liquid waste ponds.

Residual Risk

Consequence: Minor
Likelihood: Rare
Risk Rating: Low