



Amendment Notice 2

Licence Number	L6868/1989/12
Licensee	Billabong Gold Pty Ltd
ACN	613 900 922
File Number:	DER2014/001259
Premises	Plutonic Gold Mine Mining tenements M52/171, M52/170, M52/148, M52/149, M52/150, M52/295, M52/296, M52/301 and M52/300 MEEKATHARRA WA 6642
Date of Amendment	31/01/2018

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Date signed: 31 January 2018

Alana Kidd

Manager Licensing, Industry Regulation (Resource Industries)

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Amendment
kL	kilolitres
Licensee	Billabong Gold Pty Ltd
Occupier	has the same meaning given to that term under the EP Act
Prescribed Premises	has the same meaning given to that term under the EP Act
Premises	refers to the premises to which this Amendment Notice applies, as specified at the front of this Amendment Notice
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
TSFs	Tailing Storage Facilities

Amendment Notice

This amendment is made pursuant to section 59 of the EP Act to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited to an amendment to authorise an emission point to surface water (W2) and update the ambient groundwater monitoring program. No other changes to the aspects of the Existing Licence or Amendment Notice 1 relating to Category 5, 6, 52, 54, 57 and 89 have been requested by Billabong Gold Pty Ltd (Licensee).

The following guidance statements have informed the decision made on this amendment.

- *Guidance Statement: Regulatory Principles (July 2015);*
- *Guidance Statement: Setting Conditions (October 2015);*
- *Guidance Statement: Decision Making (February 2017);*
- *Guidance Statement: Risk Assessment (February 2017);* and
- *Guidance Statement: Environmental Siting (November 2016).*

Amendment description

On 24 October 2017 and 11 December 2017, the Licensee submitted an application (BG, 2017a) and request (BG, 2017c) to DWER for an amendment to the Plutonic Gold Mine (Premises) licence L6868/1989/12. The Licensee has applied to make the following changes:

1. Disposal of water from the Salmon Pit Lake to an ephemeral creek-line.
2. Removal of ambient groundwater monitoring bores associated with the inactive in-pit Tailing Storage Facilities (TSFs) of Callop, Dogfish, Perch, Catfish, Piranha and Trout.

1. Disposal of water from the Salmon Pit Lake to an ephemeral creek-line

The Salmon Pit Lake currently holds approximately 5,300,000 kilolitres (kL) of water, predominately from rainfall events, with an underlying spring also thought to contribute to the pit lake (BG, 2017b). The Licensee is proposing to discharge 50 to 110 litres per second, equating to up to 9,500 kL per day and 3,467,500 kL per year of water from the Salmon Pit Lake to an ephemeral creek-line over a 12 to 18 month period.

The disposal of the pit water will be a controlled discharge into a nearby creek-line at a downstream point located approximately 2.3 kilometres (km) to the west of the Salmon Pit. The purpose of the removal of the pit water from Salmon Pit is to enable the feasibility of re-opening the Salmon Pit area for mining to be assessed, while ensuring the upcoming wet season rainfall events during summer (peak period January to March) do not fill the Salmon Pit further.

The Laterite Pit Lake water storage reservoir receives all the Premises return water (e.g. Main Pit underground dewatering, processing / TSF return water, etc.) and Salmon Pit Lake water as required. The main pipeline from Salmon Pit Lake to the mine water circuit (Laterite Pit) already exists as Salmon Pit Lake is used as a supplementary water source at the Premises if required (currently used for dust suppression on the Hermes Project haul road). In order to cater for the discharge of pit water from the Salmon Pit Lake to the proposed discharge point the main pipeline requires the installation of a discharge pipeline (150 m in length) off the main pipeline (i.e. T-valve). The discharge pipeline will have a valve connection at entry point into the creek-line. Figure 1 shows the location of the Salmon Pit Lake and pipework route to the proposed discharge point.

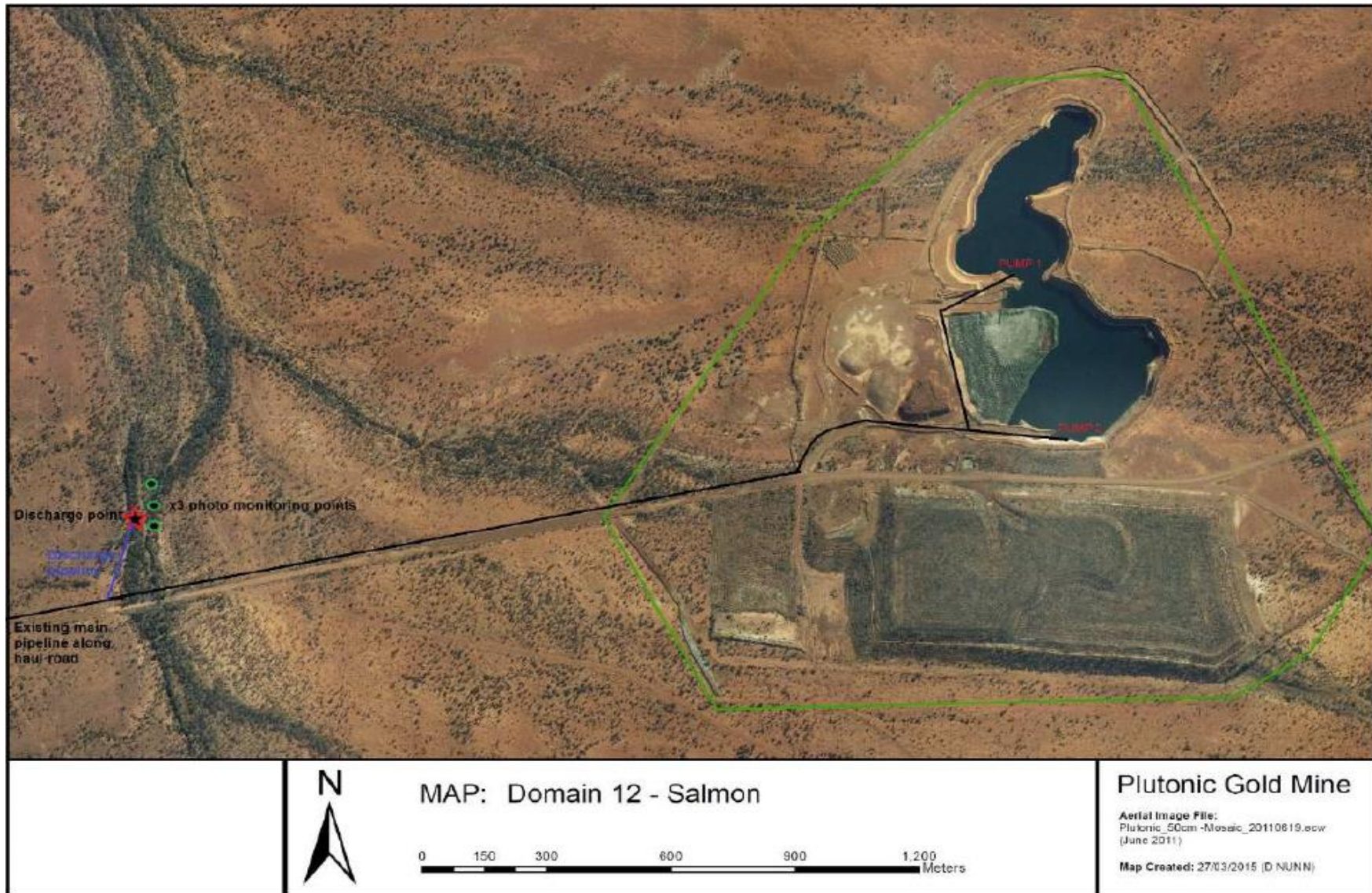


Figure 1: Salmon Pit Lake pipeline and proposed discharge point

2. Removal of ambient groundwater monitoring bores associated with inactive in-pit TSFs

The Licensee has requested that all water monitoring bores for historic in-pit TSFs (Callop, Dogfish, Perch, Catfish, Piranha and Trout as shown in Figure 2) be removed from Table 3.5.1 of the Existing Licence and Amendment Notice 1.

The Licensee has stated (BG, 2017c) that they have “*completed the capping and rehabilitation of the in-pit TSF’s in 2017 and thus the bores and access tracks to them require removal to completely rehabilitate these areas under the Plutonic Mine Closure Plan*”.

IR1, 2017 states that the Perch and Catfish TSFs were capped on 23 March 2017 and the Annual Environmental Report (AER) for the 2017 reporting period (AER 2017) also states that monitoring bores for the Piranha in-pit TSF and Trout in-pit TSF (PIRMB5, PIRMB6, TRTMB1 and TRTMB2) have been removed following capping of in-pit TSF and rehabilitation on entire areas.

The Licensee has stated that the only active TSFs are above-ground TSF cells 2 and 3.

Decision

DWER has reviewed the tabulated groundwater data for the following bores covering the period March 2015 to November 2017 (AER 2015, AER 2016 and AER 2017):

- CMB1, CMB2, and CMB3 (Catfish);
- PMB56, PMB64, PMB67 and PMB72 (Perch);
- DMB2 and DMB3 (Dogfish);
- CLMB1, CLMB2, CLMB3, CLMB4 (Callop);
- PIRMB5 and PIRMB6 (Piranha); and
- TRMB3, TRMB4, TRMB5, TRTMB6, TRMB7, TRTMB1 TRMB8 and TRMB2 (Trout).

The monitoring data indicates that key water quality parameters and metals concentrations in these bores appear to be stable and the analyte concentrations do not indicate any cause for concern. The Delegated Officer has determined that the above bores can be removed from the ambient groundwater monitoring program (condition 3.5.1).

The Licensee will be required to continue monitoring the bores relating to the above-ground TSF cells 2 and 3 (TD1-2, TD1-5, TD2-1, TD2-3, TD3-2 and TD3-7).

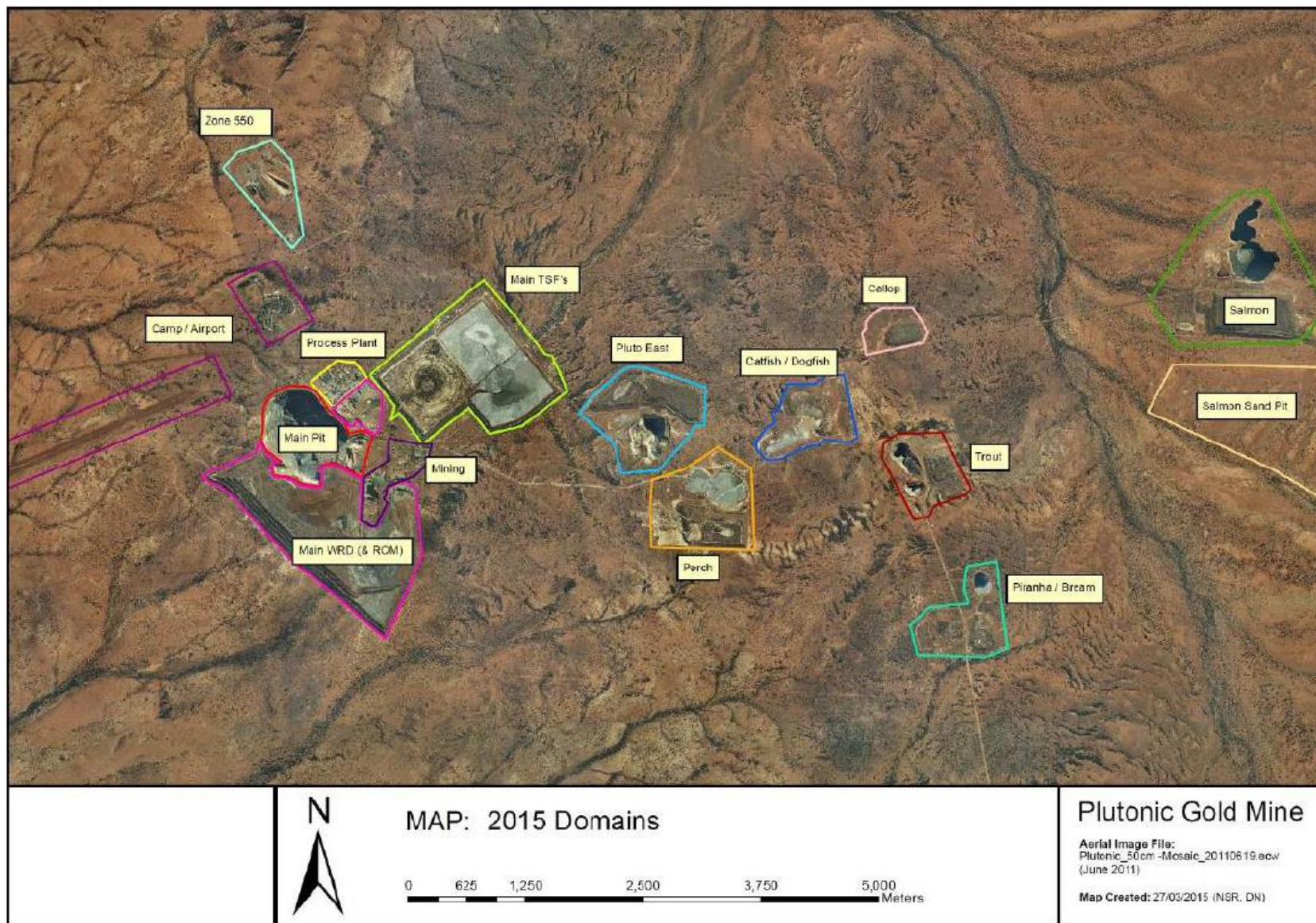


Figure 2: Site layout including location of historic in-pit TSFs

Other approvals

The Licensee has provided the following information relating to other approvals as outlined in Table 2.

Table 2: Relevant approvals

Legislation	Number	Approval
<i>Rights in Water and Irrigation Act 1914</i>	GWL151450	The main pipeline from Salmon Pit to the mine water circuit already exists, as Salmon Pit Lake water is licensed to be used as a supplementary water source at the Premises if required
<i>Mining Act 1978</i>	Reg ID 54714	Plutonic Gold Mine – Mine Closure Plan

Amendment history

Table 3 provides the amendment history for L6868/1989/12.

Table 3: Licence amendments

Instrument	Issued	Amendment
L6868/1989/12	10/12/2015	Amendment to authorise discharge of water from Laterite Pit. Addition of the wastewater treatment ponds and irrigation area. Category 52 – Electrical Power generation added to replace Category 84.
L6868/1989/12	10/03/2016	Licence amendment to add category 57 tyre storage.
L6868/1989/12	29/09/2016	Licence amendment for TSF2 and TSF3 lifts. Licence was also transferred from Northern Star Resources Ltd to Billabong Gold Pty Ltd.
L6868/1989/12	21/04/2017	Amendment Notice 1 Licence amendment to remove the Standing Water Level (SWL) limit for the TSF bores and to remove the requirement to monitoring Piranha in-pit TSF bores PIRMB1, PIRMB2, PIRMB3 and PIRMB4. The Improvement Program IR1 condition 4.1.1, Table 4.1.1 was also replaced as the management recommendations and commitments were received from the Licensee and have been included as the new IR1.
L6868/1989/12	31/01/2018	Amendment Notice 2 Licence amendment to allow the disposal of pit water from Salmon Pit Lake to be discharged to an ephemeral creek-line and removal of ambient groundwater monitoring for historic in-pit TSFs (Callop, Dogfish, Perch, Catfish, Piranha and Trout).

Location and receptors

The Premises is located on Three Rivers Station, approximately 180 km north of Meekatharra in the East Gascoyne region of Western Australia. There are no relevant sensitive land uses in the vicinity of the Prescribed Premises with Neds Creek Pastoral Station located approximately 20 km south-east of the Premises.

The workforce is accommodated on the Premises, but as this accommodation is operated by the Licensee, it is not considered a sensitive land use or receptor.

Table 4 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Ephemeral creek-line, which is one of the many tributaries located at the headwaters of the Gascoyne River (Middle Branch)	Discharge point for the Salmon Pit Lake pit water This creek-line flows north-west for approximately 20 km and then surface water drainage trends west for approximately 30 km to where the Gascoyne River starts defining itself.

Risk assessment

Tables 5 and 6 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 5: Risk assessment for the discharge pipeline during construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Construction, mobilisation and positioning of discharge pipeline	Construction of discharge pipeline off main pipeline	Dust associated with construction activities for the discharge pipeline	Neds Creek Pastoral Station located approximately 20 km south-east of the Premises	Air / wind dispersion	Health and amenity impacts	Slight	Rare	Low	The main pipeline will require the installation of a discharge pipeline (150 m in length) off the main pipeline (i.e. T-valve) to the proposed discharge point The distance to the nearest sensitive receptor is sufficient to ensure that there are minimal impacts to public health and amenity on a local scale.
		Noise associated with construction activities for the discharge pipeline		Air / wind dispersion	Amenity impacts	Slight	Rare		

Decision – Construction

The key emissions associated with the construction of the discharge pipeline off the main pipeline to the proposed discharge point are fugitive dust and noise emissions. The Delegated Officer considers there is no credible risk associated with these emissions due to the distance away from the nearest sensitive receptor.

The Licensee controls for the construction of the discharge pipeline off the main pipeline have been conditioned on the Licence through condition 1.3.11 and were derived from the Licensee’s obligations within BG, 2018.

Condition 1.3.12 from the Existing Licence has been updated via this Amendment Notice to allow the operation of the discharge pipeline following submission of a compliance document required under condition 4.3.1.

Table 6: Risk assessment for the discharge of pit water from Salmon Pit Lake to a creek-line (operation)

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Pit water discharge to creek-line	Discharge of pit water from Salmon Pit Lake to a creek-line	Pit water discharges to surface water	Riparian ecosystems and water quality of the ephemeral creek-line	Direct discharges to surface water	Water quality and vegetation (inundation) of the receiving environment Erosion of creek banks	Minor	Unlikely	Medium	Refer to detailed risk assessment below – Discharge from Salmon Pit Lake to creek-line.
Transfer of pit water from Salmon Pit Lake to discharge point	Discharge pipeline	Pit water discharged through pipeline leaks or ruptures	Vegetation adjacent to pipeline	Direct discharges to land	Waterlogged soils, impacts to vegetation health depending on the quality of the water and volume discharged	Slight	Unlikely	Low	<p>Given the following:</p> <ul style="list-style-type: none"> No specified ecosystems identified as per <i>Guidance Statement: Environmental Siting</i> within the Premises; No Threatened Ecological Communities or Declared Rare Flora within the Premises; and The water quality of Salmon Pit Lake (Table 7). <p>It is expected that there would be slight if any, consequence of a release to land.</p> <p>The impact to vegetation as a result of a pipeline rupture/leak will probably not occur in most</p>

									<p>circumstances. Therefore, the likelihood of the consequence occurring is unlikely.</p> <p>The overall rating for the rupture/leaks of the discharge pipeline is low.</p>
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Risk Assessment – Discharge from Salmon Pit Lake to creek-line

The Licensee is proposing to discharge 50 to 110 litres per second, equating to up to 9,500 kL per day and 3,467,500 kL per year of pit water from the Salmon Pit Lake to a creek-line over a 12 to 18 month period.

The water quality of the Salmon Pit Lake pit water is shown in Table 7. The salinity is approximately 400 mg/L Total Dissolved Solids and slightly alkaline with a pH of 8.5. “Concentrations of analytes including heavy metals are either below the level of detection or at very low concentrations, and well below Livestock Drinking Water Guidelines (ANZECC 2000)” (BG, 2018).

BG, 2018 states that the disposal of the Salmon Pit Lake water to the creek-line will be a controlled discharge. The discharge point will be a single point within the creek bed. The creek bed has a low gradient, whereby water from rainfall events naturally pools up to a depth of 0.5 m before it commences flowing downstream in a north-west direction. “The pooling nature at this point is due to the bed of the creek being hardpan material, which has a low seepage rate and is physically stable in functioning as defence mechanism against erosion or sedimentation”.

Given the following:

- No specified ecosystems identified as per *Guidance Statement: Environmental Siting* within the Premises;
- No Threatened Ecological Communities or Declared Rare Flora within the Premises; and
- The water quality of Salmon Pit Lake (Table 7).

It has been determined that the discharge of pit water from the Salmon Pit Lake to an ephemeral creek-line will have minimal off-site impacts on a local scale. Therefore, the consequence is considered to be **minor**.

The likelihood of an environmental impact from the discharge of pit water from the Salmon Pit Lake to an ephemeral creek-line will probably not occur in most circumstances. Therefore, the likelihood of the consequence occurring is **unlikely**.

The overall rating for the discharge of pit water from the Salmon Pit Lake to an ephemeral creek-line is **medium**.

Decision

The key emission associated with the discharge of pit water from the Salmon Pit Lake to the creek-line is discharges to surface water. The Delegated Officer considers the risk associated with this emission to be *medium*.

Via this Amendment Notice the following changes have been made to the Existing Licence:

- Inclusion of the discharge point (W2) in condition 2.2.1 for the discharge of pit water from Salmon Pit Lake to the creek-line;
- Condition 3.2.1 has been updated to include the requirement for the Licensee to undertake water quality monitoring of the discharge water through W2 (when discharging) and record the volume of water discharged to the creek-line; and
- Condition 3.5.1, Table 3.5.2 has been updated. The Licensee is required to undertake quarterly photographic vegetation monitoring across the zone of influence of the discharge from W2 at three monitoring points (V4, V5 and V6). The Licensee has also committed to undertaking visual monitoring of the riparian vegetation on a weekly basis to ensure soil saturation and water logging does not occur (BG, 2018).

Table 7: Salmon Pit Lake water quality results

Analyte	Units	LOR	ADWG Values		ANZECC Freshwater	ANZECC Livestock	Lab Analysis Results	
			Health	Aesthetic	Guideline Values	Guideline Values	Dec'15	Nov'16
pH	pH Unit	0.01		6.5-8.5	6.5-9.0	6.0-9.0	8.96	8.78
Electrical Conductivity (EC)	µS/cm	1			5000		505	522
Total Dissolved Solids (TDS)	mg/L	10		500	3000	4000	376	395
Total Hardness (as CaCO ₃)	mg/L	1		200			124	126
Hydroxide Alkalinity (as CaCO ₃)	mg/L	1						<1
Carbonate Alkalinity (as CaCO ₃)	mg/L	1						26
Bicarbonate Alkalinity (as CaCO ₃)	mg/L	1						71
Total Alkalinity (as CaCO ₃)	mg/L	1					76	97
Sulfate (SO₄)	mg/L	1	500	250		1000	57	63
Chloride (Cl)	mg/L	1		250			66	83
Calcium (Ca)	mg/L	1				1000	25	24
Magnesium (Mg)	mg/L	1					15	16
Sodium (Na)	mg/L	1		180			51	52
Potassium (K)	mg/L	1					7	7
Silica (SiO ₂)							26.7	25.9
Aluminium (Al)	mg/L	0.01		0.2	0.055	5	<0.01	<0.01
Arsenic (As)	mg/L	0.001	0.007		0.024	0.5	0.002	0.001
Barium (Ba)	mg/L	0.001	0.7				0.018	0.025
Cadmium (Cd)	mg/L	0.0001	0.002		0.0002	0.01	<0.0001	<0.0001
Chromium (Cr)	mg/L	0.001	0.05		0.001	1		<0.001
Copper (Cu)	mg/L	0.001	2	1	0.0014	0.4	<0.001	<0.001
Cobalt (Co)	mg/L	0.001				1	<0.001	<0.001
Lead (Pb)	mg/L	0.001	0.01		0.0034	0.1	<0.001	<0.001
Manganese (Mn)	mg/L	0.001	0.5	0.1	1.9		0.001	0.002
Mercury (Hg)	mg/L	0.0001	0.001		0.0006	0.002	<0.0001	<0.0001
Nickel (Ni)	mg/L	0.001	0.02		0.011	1	<0.001	<0.001
Selenium (Se)	mg/L	0.01	0.01		0.011	0.02	<0.01	<0.01
Zinc (Zn)	mg/L	0.005		3	0.008	20	<0.005	<0.005
Boron (B)	mg/L	0.05	4		0.37	5	0.3	0.24
Iron (Fe)	mg/L	0.05		0.3			<0.05	<0.05
Nitrite (NO₂) as N	mg/L	0.01	3			30	0.01	0.02
Nitrate (NO₃) as N	mg/L	0.01	50		0.7	400	1.14	0.99
Nitrite + Nitrate as N	mg/L	0.01						1.01

Other amendments

During this amendment the following changes have also been made to the Licence:

- All references to DER changed to DWER.
- The registered office address has been updated.
- The Premises address has been updated to include tenement M52/300 for the discharge point. The Premises map in Schedule 1 has been deleted and replaced with the map in Attachment 1 of this Amendment Notice.
- Definitions for 'Special Waste Type 1', 'Special Waste Type 2' and 'SWL' have been included. Definitions for 'CEO', 'CEO for the purposes of notification' and 'Department' have been updated and definitions for 'CLMB', 'dangerous goods', 'Emergency Response Training', 'PIRMB' and 'TRTMB' removed.
- Previous condition 2.1.1 has been removed. Section 2 of the Existing Licence does not contain any limits.
- Previous condition 4.1.1 has been removed. The Licensee provided the Improvement Program IR1 reports for Perch and Catfish TSFs to the former Department of Environment Regulation (IR1, 2017) on 10 May 2017. The reports confirm that both TSFs were capped by 23 March 2017.
- Previous condition 5.2.2 (now condition 4.2.2) has been updated to remove reference to "*any relevant process, production or operation data recorded under Condition 3.1.2*". Condition 3.1.2 relates to calibration of monitoring equipment so the reference is not relevant.
- Previous condition 5.3.1 (now condition 4.3.1) for condition 4.1.1 has been removed. The Licensee provided the Improvement Program IR1 reports for Perch and Catfish TSFs to the former Department of Environment Regulation (IR1, 2017) on 10 May 2017.
- An additional emission points and monitoring locations map in Schedule 1 for Tables 2.2.1 (W2) and 3.5.2 (V4, V5 and V6) has been added via this Amendment Notice.
- The maps of monitoring locations in Schedule 1 for the Callop groundwater monitoring bores, Callop groundwater monitoring bores with coordinates, Perch groundwater monitoring bores, Catfish/Dogfish groundwater monitoring bores, Piranha groundwater monitoring bores and Trout groundwater monitoring bores have been removed via this Amendment Notice.
- Forms WR1 and GR1 in Schedule 2 have been updated via this Amendment Notice.

Licensee's comments

The Licensee was provided with the draft Amendment Notice on 31 January 2018 for review and comment. The Licensee responded on the same day waiving the remaining comment period.

Amendment

1. The Registered office address of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

*Level ~~13~~, ~~8 Colin~~ **30 Richardson** Street
WEST PERTH WA 6005*

2. Premises address of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

Plutonic Gold Mine

Mining Tenements: M52/171, M52/170, M52/148, M52/149, M52/150, M52/295, M52/296, and M52/301 **and M52/300**

MEEKATHARRA WA 6642

As depicted in Schedule 1

3. Definitions of the Licence are amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

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

'CEO' for the purposes of notification means:

~~Chief Executive Officer~~ **Director General**

~~Department Div.3 Pt.V~~ **Administering the** EP Act

~~Locked Bag 33 Cloisters Square~~

~~PERTH WA 6850~~

~~info@der.wa.gov.au~~ **info@dwer.wa.gov.au;**

~~'CLMB' means Callop Monitoring Bore;~~

~~'dangerous goods' has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;~~

'Department' means the department established under ~~s.~~ **section** 35 of the Public Sector Management Act **1994** and designated as responsible for the administration of **Part V**, Division 3 Part V of the Environmental Protection Act 1986;

~~'Emergency Response Training' means for the purposes of an exercise to train staff to manage emergency responses and that each member of the training team is authorised by the premises Mine Manager to undertake the exercise and supervised at all times by an accredited instructor. Waste types permitted for burning in the emergency response training exercise include liquid fuel, car bodies and timber (not treated timber);~~

~~'PIRMB' means Piranha Monitoring Bore;~~

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

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

'SWL' means Standing Water Level;

~~'TRTMB' means Trout Monitoring Bore;~~

4. Condition 1.3.11 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

1.3.11 The Licensee **shall construct the TSF2 and 3 lifts and discharge pipeline in accordance with the requirements specified in Table 1.3.6. The Licensee must not depart from the design and construction requirements specifications in Column 1 and 2 for the infrastructure in each row of specified in Table 1.3.6 except:**

- a) where such departure is minor in nature and does not materially change or affect the infrastructure; or
- b) where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment;
- c) and all other conditions in this Licence **are still satisfied**.

Table 1.3.6: Works specifications-Infrastructure requirements	
Column-1	Column-2
Infrastructure	Specifications Requirements (design and construction)
TSF2 and 3 lifts	The TSF2 and 3 lifts must: <ul style="list-style-type: none"> (a) be constructed at the current TSF2 and 3 as depicted in Schedule 1; (b) be no more than 2.5m raises in stages from RL522.9m up to RL532.0m; (c) utilize the existing piezometer and groundwater monitoring program associated with TSF2 and 3; and (d) be designed to accommodate a 1 in 100 year 72 hour rainfall event.
<u>Discharge pipeline</u>	<u>Installation off main pipeline</u> <u>Discharge pipeline to include:</u> <ul style="list-style-type: none"> - <u>valve connection at entry point into the creek-line;</u> - <u>single point within the creek bed; and</u> - <u>flow meter to record volume discharged.</u>

5. Condition 1.3.12 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

1.3.12 The Licensee shall operate the TSF2 and TSF3 lifts **and discharge pipeline** in accordance with the conditions of this Licence, following submission of the compliance document required under condition ~~54~~.3.1.
6. The Licence is amended by the deletion of the following Condition 2.1.1:

~~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.~~
7. Previous Condition 2.3.1 (now Condition 2.2.1) of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

~~2.3.1~~ **2.2.1** The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table ~~2.23~~.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.23.1: Emission points to surface water

Emission point reference	Description	Source including abatement
W1	Discharge to ponding area at base of Main Waste Rock Dump	Water from Laterite Pit only. Only to occur when rainfall has caused overtopping risk and no other water-holding structures on site have capacity to take water. Rock armour mound at discharge point to reduce erosion risk.
<u>W2</u>	<u>Discharge from Salmon Pit Lake to creek-line</u>	<u>Single discharge point within the creek bed to receive pit water from Salmon Pit Lake only.</u>

8. Condition 3.2.1 of the Licence is amended by the insertion of the bold text shown in underline below:

Table 3.2.1: Monitoring of point source emissions to surface water

Emission point reference	Parameter	Units	Frequency
W1	Volumetric flow rate	m ³ /day	Cumulative (when discharge occurring)
<u>W2</u>	<u>pH¹</u>	<u>pH units</u>	<u>Spot-sample (when discharge occurring)</u>
	TDS	mg/L	
	TRH		
	Aluminium		
	Antimony		
	Arsenic		
	Boron		
	Cadmium		
	Chromium		
	Cobalt		
	Copper		
	Fluoride		
	Iron		
	Lead		
	Manganese		
	Mercury		
	Molybdenum		
	Nickel		
	Selenium		
	Sulphate		
	Thallium		
	Total Nitrogen		
	Total Phosphorus		
	Uranium		
	Zinc		
	WAD Cyanide		

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

9. Condition 3.5.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

3.5.1 The Licensee shall undertake the monitoring specified in Tables 3.5.1 and 3.5.2 and record and investigate the exceedance of any limit specified.

Table 3.5.1: Monitoring of ambient groundwater quality					
Monitoring point reference	Parameter	Units	Limit (including units)	Averaging period	Frequency
TD1-2, TD1-5, TD2-1, TD2-3, TD3-2, TD3-7, CMB1, CMB2 and CMB3 PMB56, PMB64, PMB67 and PMB72 DMB2 and DMB3 CLMB1 CLMB2, CLMB3 and CLMB4 PIRMB5 and PIRMB6 TRMB3, TRMB4, TRMB5, TRTMB6 and TRMB7 TRTMB1 and TRMB8 TRMB2	<u>pH¹</u>	<u>pH units</u>	-	Spot sample	Quarterly
	TDS	<u>mg/L</u>	-		
	Aluminium		-		
	Antimony		-		
	Arsenic		<0.5 mg/L		
	Boron		-		
	Cadmium		-		
	Chromium		-		
	Cobalt		-		
	Copper		<1.0 mg/L		
	Fluoride		-		
	Iron		-		
	Lead		-		
	Manganese		-		
	Mercury		-		
	Molybdenum		-		
	Nickel		<1.0 mg/L		
	Selenium		-		
	Sulphate		-		
	Thallium		-		
Total Nitrogen	-				
Total Phosphorus	-				
Uranium	-				
Zinc	-				
WAD Cyanide	<0.8 mg/L				
TD1-2, TD1-5, CMB1, CMB2 and CMB3 PMB56, PMB64, PMB67 and PMB72 DMB2 and DMB3 CLMB1 CLMB2, CLMB3 and CLMB4 PIRMB5 and	SWL	<u>mbgl</u>	>7 mbgl	<u>Spot sample</u>	<u>Quarterly</u>

PIRMB6					
TRMB3, TRMB4, TRMB5, TRMB6 and TRMB7					
TRMB1 and TRMB8					
TRMB2					

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

Table 3.5.2: Monitoring of vegetation			
Purpose	Monitoring point reference	Parameter	Frequency
Monitor the vegetation in the zone of influence of discharge from point W1	V1 V2 V3	Photographs of vegetation taken from monitoring points in a fixed direction towards discharge point.	Quarterly
<u>Monitor the vegetation in the zone of influence of discharge from point W2</u>	<u>V4</u> <u>V5</u> <u>V6</u>		

10. Amendment Notice 1 is amended by the deletion of the following Condition 4.1.1:

~~4.1.1—The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.~~

Table 4.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR1	The Licensee shall conduct capping of the Perch In-Pit TSF and complete site works to reduce surface water inflow to the Catfish In-Pit TSF.	30 April 2017

11. Previous Condition 5.2.2 (now Condition 4.2.2) of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

~~5.2.2~~ **4.2.2** The Licensee shall ensure that the Annual Environmental Report also contains:

- ~~(a) — any relevant process, production or operational data recorded under Condition 3.1.2;~~
- (a) (b)** an assessment of the information contained within the report against previous monitoring results and Licence limits; and
- (b) (c)** a list of any original monitoring reports submitted to the Licensee from third parties in the reporting period and make these reports available on request.

12. Previous Condition 5.3.1 (now Condition 4.3.1) of Amendment Notice 1 is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

~~5.3.1~~ **4.3.1** The Licensee shall ensure that the parameters listed in Table ~~4~~**5**.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 45.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
-	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
-	Production ceasing for an unspecified period of time	As soon as practicable after the decision has been made	None Specified
-	Production recommencing	At least 28 days prior to production recommencing	None specified
1.3.12	The Licensee shall submit a compliance document to the CEO, following construction of the TSF2 and TSF3 lifts <u>and discharge pipeline</u> . The compliance document shall: <ul style="list-style-type: none"> a) <u>be certified by a suitably qualified engineer (TSF2 and TSF 3 lifts) and</u> certify that the works were constructed in accordance with the <u>construction requirements specified</u> specifications in Table 1.3.6; and b) <u>provide a list of departures from the specified works; and</u> c) be signed by a person authorised to represent the Licensee and contain the printed name and position of that person within the company. 	Within 7 days of the completion of construction	None specified
4.1.1	The Licensee shall submit a completion report to the CEO, following the Perch In-Pit TSF and Catfish In-Pit TSF diversion works	Within 7 days of the completion	None specified

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

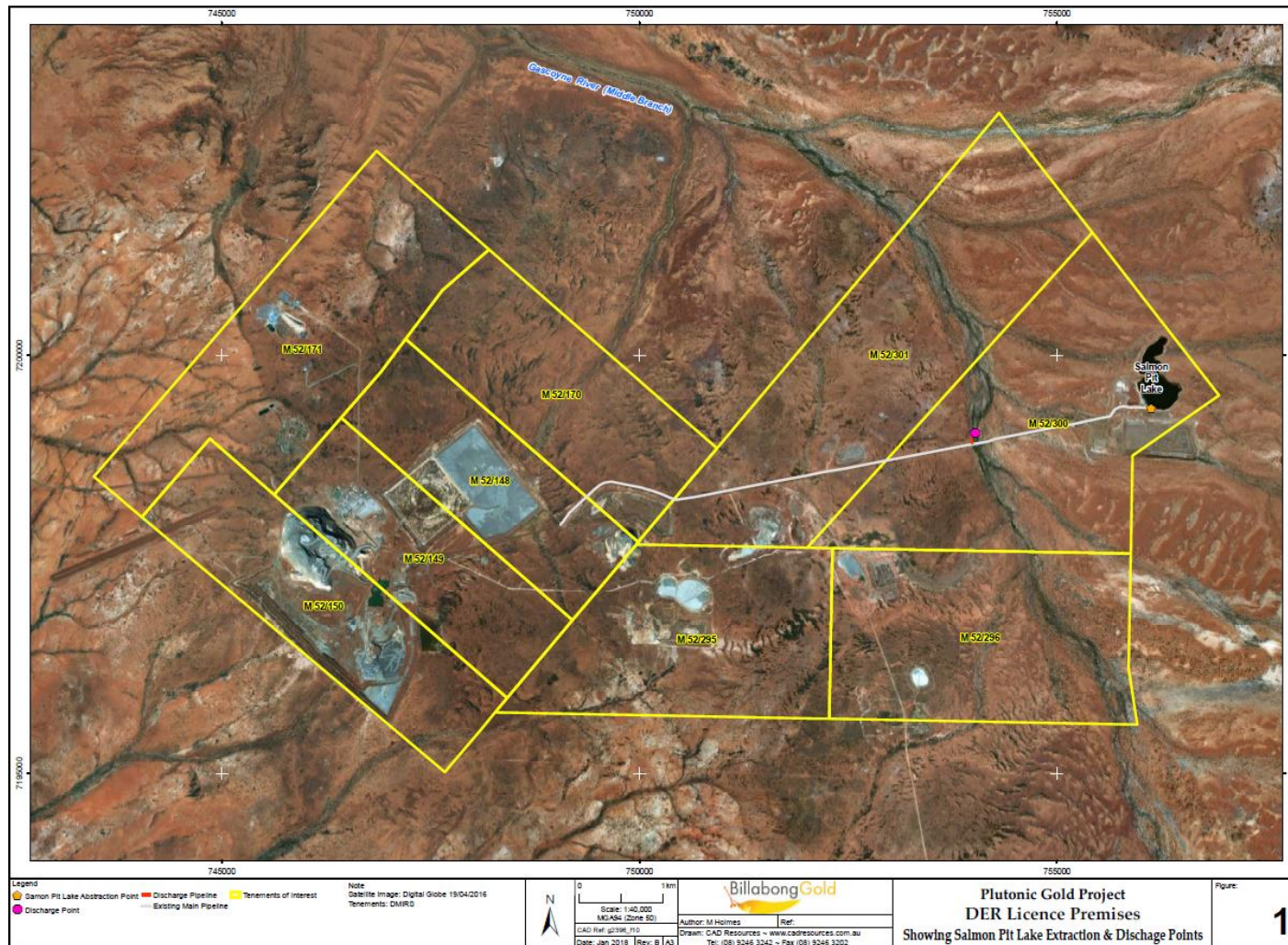
Note 2: Forms are in Schedule 2

13. The Premises map in Schedule 1 is deleted and replaced with the map in Attachment 1 of this Amendment Notice.
14. The second map in Attachment 2 has been inserted via this Amendment Notice.
15. The maps of monitoring locations in Schedule 1 for the “Callop groundwater monitoring bores”, “Callop groundwater monitoring bores with coordinates”, “Perch groundwater monitoring bores”, “Catfish/Dogfish groundwater monitoring bores”, “Piranha groundwater monitoring bores” and “Trout groundwater monitoring bores” are deleted via this Amendment Notice.
16. The WR1 Form in Schedule 2 is deleted and replaced with the form in Attachment 3 of this Amendment Notice.
17. The GR1 Form in Schedule 2 is deleted and replaced with the form in Attachment 4 of this Amendment Notice.

Attachment 1

Premises map

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

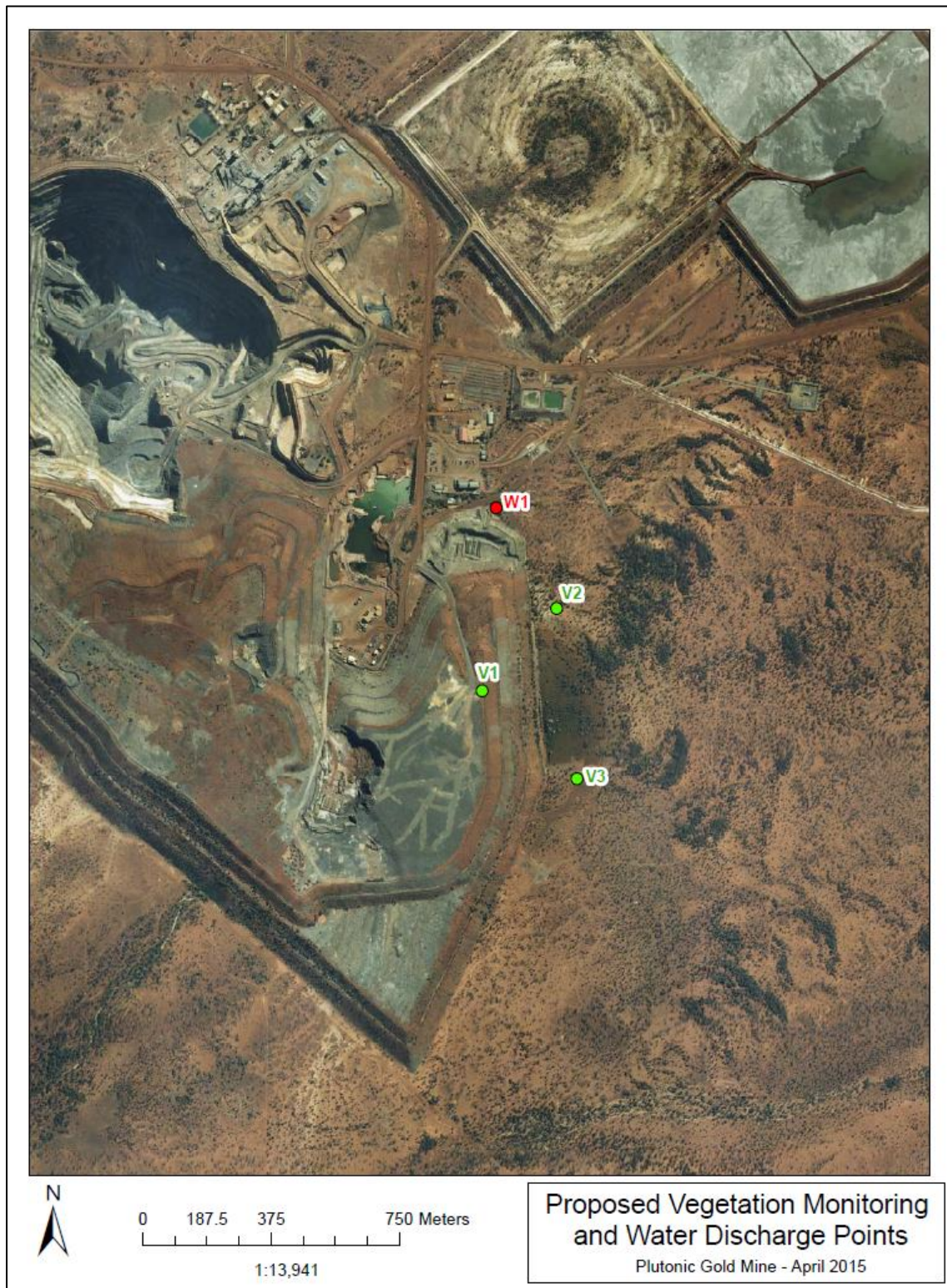


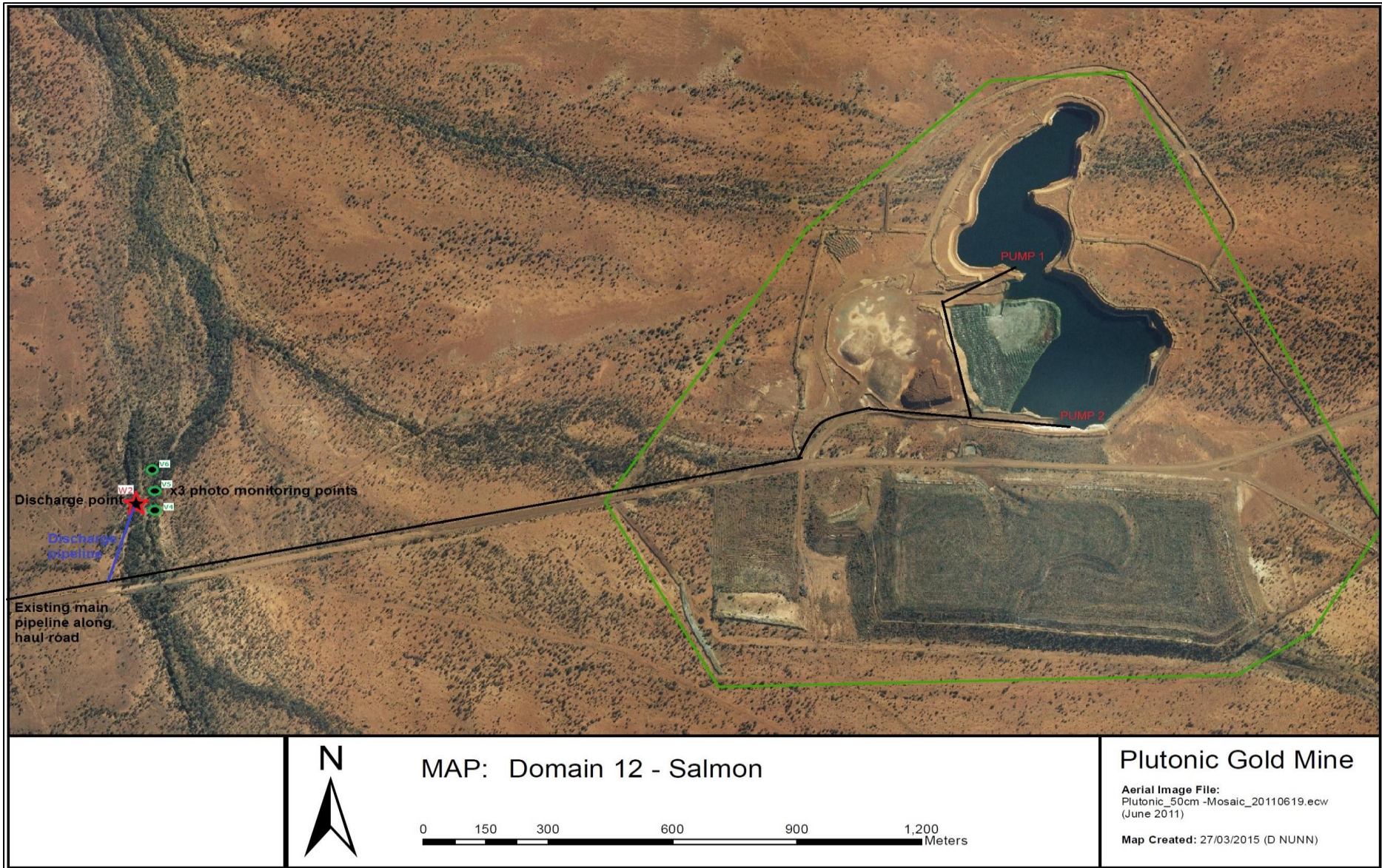
Licence: L6868/1989/12

IR-T08 Amendment Notice (Major) template v2.0 (July 2017)

Attachment 2

The location of the emission points defined in Table 2.2.1 and location of the monitoring points defined in Table 3.5.2 are shown in the two maps below.





Attachment 3

Licence: L6868/1989/12

Licensee: Billabong Gold Pty Ltd

Form: WR1

Period:

Name: Monitoring of point source emissions to surface water

Form WR1: Monitoring of point source emissions to surface water						
Emission point	Parameter	Unit	Result	Averaging period	Method	Sample date & times
W1	Volumetric flow rate	m ³ /day		Cumulative (when discharging)		
	pH	pH units		Spot sample		
	Total Dissolved Solids	mg/L				
	Total Recoverable Hydrocarbons					
	Aluminium					
	Antimony					
	Arsenic					
	Boron					
	Cadmium					
	Chromium					
	Cobalt					
	Copper					
	Fluoride					
	Iron					
	Lead					
Manganese						

	Mercury					
	Molybdenum					
	Nickel					
	Selenium					
	Sulphate					
	Thallium					
	Total Nitrogen					
	Total Phosphorus					
	Uranium					
	Zinc					
	WAD Cyanide					
W2	Volumetric flow rate	m ³ /day		Cumulative (when discharging)		
	pH	pH units		Spot sample		
	Total Dissolved Solids	mg/L				
	Aluminium					
	Antimony					
	Arsenic					
	Boron					
	Cadmium					
	Chromium					
	Cobalt					
	Copper					
	Fluoride					

	Iron				
	Lead				
	Manganese				
	Mercury				
	Molybdenum				
	Nickel				
	Selenium				
	Sulphate				
	Thallium				
	Total Nitrogen				
	Total Phosphorus				
	Uranium				
	Zinc				
	WAD Cyanide				

Signed on behalf of Billabong Gold Pty Ltd: Date:

Attachment 4

Licence: L6868/1989/12
 Form: GR1
 Name: Monitoring of ambient groundwater quality

Licensee: Billabong Gold Pty Ltd
 Period :

Form GR1: Monitoring of ambient groundwater					
Emission point	Parameter	Unit	Limit	Result	Sample date & times
TD1-2, TD1-5, TD2-1, TD2-3, TD3-2, TD3-7	pH	pH units		-	
	TDS	mg/L			
	Aluminium				
	Antimony				
	Arsenic		<0.5 mg/L		
	Boron				
	Cadmium				
	Chromium				
	Cobalt				
	Copper		<1.0 mg/L		
	Iron				
	Lead				
	Manganese				
	Mercury				
	Molybdenum				
	Nickel		<1.0 mg/L		
Selenium					

	Sulphate				
	Thallium				
	Total Nitrogen				
	Total Phosphorus				
	Uranium				
	Zinc				
	WAD Cyanide		<0.8 mg/L		
TD1-2, TD1-5	SWL	mbgl	>7 mbgl		

Signed on behalf of Billabong Gold Pty Ltd: Date:

Appendix 1: Key documents

	Document title	In text ref	Availability
1	BG – Plutonic Mine – Licence Amendment – Salmon Pit Lake Dewatering Discharge, received from Matt Holmes (Significant Environmental), dated 24 October 2017 including Licence Amendment Application Form and Attachment 1A	BG, 2017a	DWER records (A1547903)
2	FW: Applicant Notification – L6868/1989/12 – Application for an Amendment to Licence – Invoice Issued, received from Matt Holmes (Billabong Gold), dated 13 November 2017	BG, 2017b	DWER records (A1560896)
3	<i>Guidance Statement: Decision Making</i> , Department of Environment Regulation, February 2017	<i>Guidance Statement: Decision Making</i>	accessed at www.dwer.wa.gov.au
4	<i>Guidance Statement: Environmental Siting</i> , Department of Environment Regulation, November 2016	<i>Guidance Statement: Environmental Siting</i>	
5	<i>Guidance Statement: Regulatory Principles</i> , Department of Environment Regulation, July 2015	<i>Guidance Statement: Regulatory Principles</i>	
6	<i>Guidance Statement: Risk Assessments</i> , Department of Environment Regulation, February 2017	<i>Guidance Statement: Risk Assessments</i>	
7	<i>Guidance Statement: Setting Conditions</i> , Department of Environment Regulation, October 2015	<i>Guidance Statement: Setting conditions</i>	
8	L6868/1989/12 – Plutonic Gold Mine, dated 29 September 2016	Existing Licence	accessed at www.dwer.wa.gov.au
9	L6868/1989/12 – Amendment Notice 1, dated 21 April 2017	Amendment Notice 1	
10	L6868/1989/12 Annual Environmental Report, 1 January to 31 December 2016, Plutonic Gold Mine, Billabong Gold Pty Ltd, 23 February 2017	AER 2016	DWER records (A1382712)
11	L6868/1989/12 Annual Environmental Report, 1 January to 31 December	AER 2017	DWER records (A1590257)

	Document title	In text ref	Availability
	2017, Plutonic Gold Mine, Billabong Gold Pty Ltd, 8 January 2018		
12	National Water Quality Management Strategy, Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian and New Zealand and Conservation Council and Agriculture and Resources Management Council of Australia and New Zealand, 2000	ANZECC 2000	accessed at http://www.environment.gov.au
13	Plutonic Gold Mine Annual Environmental Report January – December 2015, Northern Star Resources Limited, March 2016	AER 2015	DWER records (A1073370)
14	Plutonic Licence Amendment Supporting Document Salmon Pit Lake – Mine Dewatering, received from Matt Holmes (Billabong Gold), dated 10 January 2018	BG, 2018	DWER records (A1592306)
15	RE: Applicant Notification – L6868/1989/12 – Application for an Amendment to Licence – Invoice Issued, received from Matt Holmes (Billabong Gold), dated 11 December 2017	BG, 2017c	DWER records (A1577353)
16	RE: Plutonic Mine – DER Licence Improvement Program, received from Matt Holmes (Significant Environmental), dated 10 May 2017	IR1, 2017	DWER records (A1428595)