



## Application for Licence Amendment

### Division 3, Part V *Environmental Protection Act 1986*

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**Licence Number** L8327/2008/2

**Applicant** Paddington Gold Pty Ltd

**ACN** 008 585 886

**File Number** 2012/002661

**Premises** Rose Pit

Parts of mining tenements M24/81, M24/82, M24/182, M24/266  
M24/227, M24/234, M24/236, M24/265, M24/302, M24/393,  
M24/165, M24/390, M24/451 and M24/838  
MOUNT PLEASANT WA 6431

M24/182, M24/451 and M24/838 to be included in the Premises  
with this amendment.

**Date of Report** 8 May 2020

# 1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

**Table 1: Definitions**

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
AS 4156.6 – 2000	Australian Standard AS 4156.6 – 2000: Determination of Dust/moisture Relationship for Coal.
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Decision Report	refers to this document.
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  As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
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 Review
Licence Holder	Paddington Gold Pty Ltd

m <sup>3</sup>	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
mtpa	million tonnes per annum
NEPM	National Environmental Protection Measure
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
PM	Particulate Matter
PM <sub>10</sub>	used to describe particulate matter that is smaller than 10 microns (µm) in diameter
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report
Primary Activities	as defined in Schedule 2 of the Revised Licence
Review	this Licence review
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act following the finalisation of this Review.
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>
µg/m <sup>3</sup>	micrograms per cubic metre
µg/L	micrograms per litre

## 2. Purpose and scope of assessment

### 2.1 Application details

This application is for the purpose of amending the Existing Licence, L8327/2008/1, for Rose Pit to add two dewatering draw points and three mining tenements (M24/182, M24/451 and M24/838) to the Prescribed Premises.

Table 2 lists the documents submitted during the assessment process.

**Table 2: Documents and information submitted during the assessment process**

Document/information description	Date received
Rose Dam South: Dewatering license amendment Paddington Gold Pty Ltd, November 2019 Application form, supporting document and appendices/attachments.	12/11/2019
E-mail confirming addition of tenement M24/451 to the Premises and updated site and pipeline plans.	20/04/2020

## 3. Background

Paddington Gold Pty Ltd (Paddington) is owned by Norton Gold Fields Ltd. Paddington's operations include Mt Pleasant operation which is comprised of the satellite pits Quarters, Golden Flag, Violet and Rose East. The Mount Pleasant operation is located 28km north-west of Kalgoorlie Boulder. Paddington has been assessed as "prescribed premises" category numbers 6 and 12 under Schedule 1 of the Environmental Protection Regulations 1987.

Dewatering to Rose Pit, also known as Rose East open pit, is approved by License 8327/2008/2 issued 24 February 2014 and due to expire on 1 March 2024. L8327/2008/2 is held by Norton Gold Fields and was originally issued on 27 February 2009 enabling dewatering from Quarters open pit and associated Homestead underground decline into Rose East open pit (also referred to as Rose pit).

This amendment includes the addition of tenements extending the premises area of L8327/2008/2 by 58.46 ha to include the abstraction point(s) on these tenements.

Table 3 lists the prescribed premises categories that have been applied for.

**Table 3: Prescribed Premises Categories in the Existing Licence**

Classification of Premises	Description	Approved Premises production or design capacity or throughput
Category 6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore.	1,400,000 tonnes per year
Category 12	Screening, etc. of material: premises on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.	1 000 000 tonnes or more per year

## 4. Overview of Premises

### 4.1 Operational aspects

A new pit, Rose Dam South is to be developed on mining tenement M24/182 which will eventually become merged with Rose Dam RTM Pit to its north. The Rose Dam RTM Pit is to be mined by Paddington under an agreement with the owners of the mining tenement Rose Dam Resources. When mining has finished in Rose Dam RTM then mining of Rose Dam South Pit will commence. Rose Dam South will dewater to Rose East Pit with Violet Pit to be used as a contingency, the Rose East and Violet pits are already identified as dewatering discharge points on Licence L8327/2008/2. Dewatering of the pits is to be through pumping from sumps.

The capacity of Rose East and Violet Pits combined is 1,870,987kL allowing for a 4m freeboard. Modelling of the dewatering over the life of mine estimates a total dewatering volume of 1,800,000kL and an average pumping rate of 44L/s. The capacity available in the Rose Pit East and Violet pit should be sufficient to contain the dewatering.

Rose Dam RTM Pit was being dewatered at the rate of 32L/s to remove 16L/s from the pit lake storage so there is an estimated 16L/s inflow. The water provided processing water at Paddington Mill and so was not discharging to the environment. The inflow is predicted to increase to 30L/s as the pit is dried and 35 – 40L/s when the cutback at the mine commences. Final inflows when the two pits dewatering are combined is expected to be 33-55L/s.

Standing water levels and discharge volumes will be measured in Rose East, Violet and Rose Dam South pits monthly to monitor abstraction and dewatering volumes. These figures are currently, and will continue, to be reviewed regularly by Norton’s Environmental Department to ensure adequacy.

The pipelines and pumps may be moved to optimal positions within the pits as mining commences and progresses.

The following general principles will be followed to ensure compliance to license conditions and to ensure Paddington maintain a high standard of environmental practices during dewatering activities:

- Service and maintenance of pumps, breathers, isolation valves and flow meters;
- Bund & sump maintenance and upgrades when required;
- 12 hourly pipeline inspections;
- Site training and induction of all personnel working in the area; and
- Dust suppression used on haul roads and as applicable access tracks.

## 4.2 Infrastructure

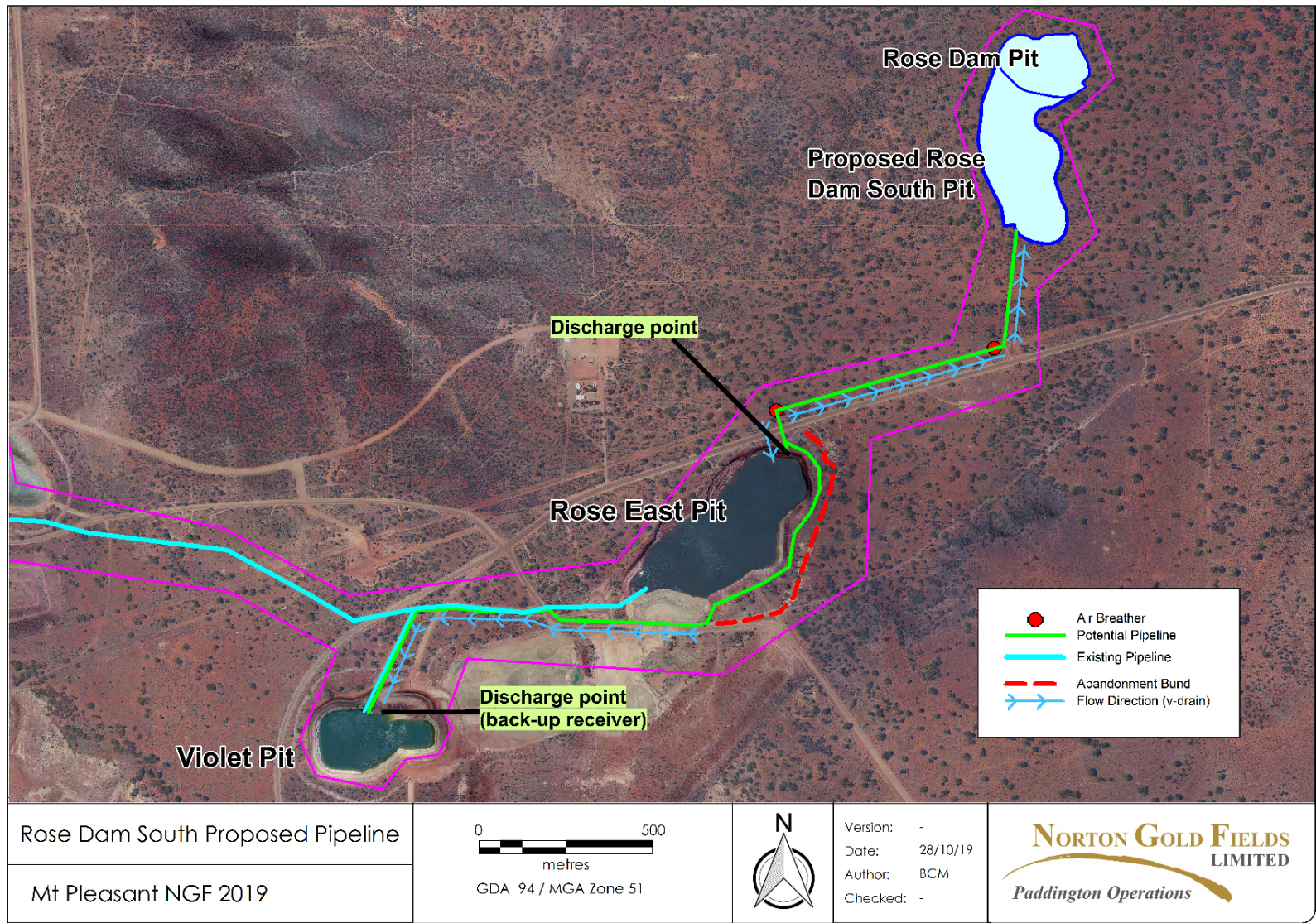
The Rose Dam South dewatering facility infrastructure, as it relates to Category 6 activities, is detailed in Table 4 and with reference to the Site Plan (attached in the Revised Licence).

Table 4 lists infrastructure associated with each prescribed premises category.

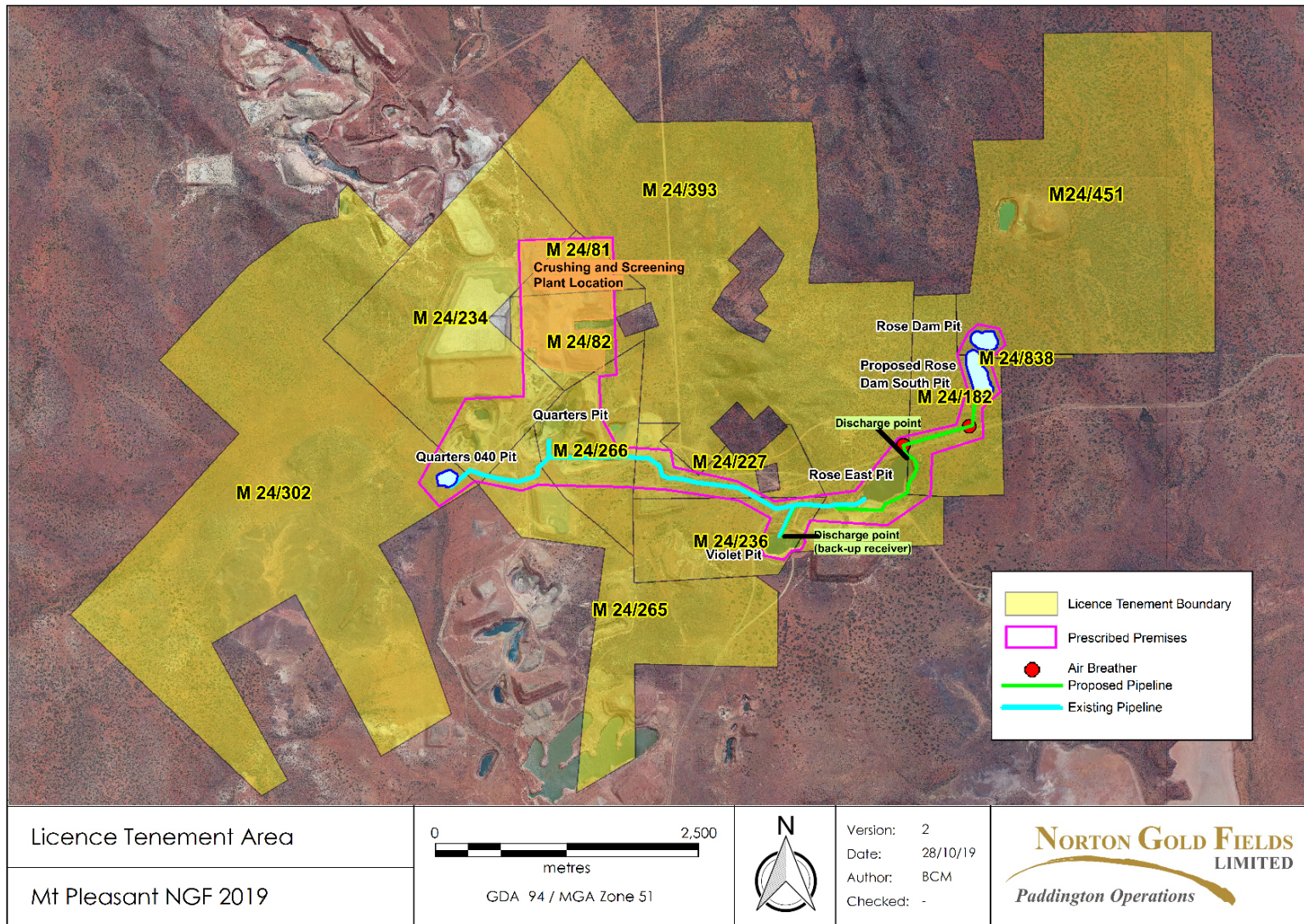
**Table 4: Rose Dam South dewatering facility Category 6 infrastructure**

	Infrastructure	Site Plan Reference
	<b>Prescribed Activity Category 6</b>	
Mine dewater is to be collected using a pumped sump within the Rose Dam South open pit mine and carried by pipeline to be discharged into Rose East Pit or Violet Pit. The Rose Dam RTM pit will be connected to the dewatering of Rose Dam South pit.		
1	Pipeline: 110 and 315 NB single weld pipeline placed in an earthen v-drain bund with sufficient capacity to contain spillage in the event of a pipeline failure and will free-drain back towards the pits and air release	Figure 1

	Infrastructure	Site Plan Reference
	<p>valves will be positioned at relevant high points. It will meet the following standards:</p> <ul style="list-style-type: none"> <li>● AS/NZS 2033:2008: Installation of polyethylene pipe systems;</li> <li>● AS/NZS 4129:2008 Fittings for polyethylene (PE) pipes for pressure applications;</li> <li>● AS/NZS 4130:2009 Polyethylene (PE) pipes for pressure applications; and</li> <li>● AS/NZS 4131:2010 Polyethylene (PE) compounds for pressure pipes and fittings.</li> </ul>	



**Figure 1: Site plan of dewatering of Rose Dam South and Rose Dam RTM pits (Note – direction of flow in the event of a leak from the pipe is shown in the blue arrowed line)**



**Figure 2: Tenements included in Licence L8327/2008/2 with premises boundary**



### 4.3 Exclusions to the Premises

The piping of dewatering to the Paddington Mill for use in processing is not assessed within this application as it is not a discharge to the environment. Licence L8327/2008/2 contains Condition 1.2.1 to manage all pipelines containing saline or hypersaline dewatering effluent.

## 5. Legislative context

Table 5 summarises approvals relevant to the assessment.

**Table 5: Relevant approvals and tenure**

Legislation	Number	Subsidiary	Approval
<i>Rights in Water and Irrigation Act 1914</i>	GWL151865(10)	Paddington Gold Pty Limited	Contains annual water entitlement of 6,200,000kL. Application has been made to amend licence to include the two tenements M24/182 and M24/838.  Current expiry date is 10 October 2026
<i>Mining Act</i>	MP 84741	Paddington Gold Pty Ltd	Mining proposal approved 6 February 2020.  Tenement M24/182 expiry is 13/03/2030  Tenement M24/838 expiry is 22/04/2031  Tenement M24/451 expiry is 29/09/2024
<i>Environmental Protection Act 1986</i>	CPS8756/1	Paddington Gold Pty Limited	Clearing of not more than 143 hectares. Granted 20/02/2020  Valid from 14 March 2020 to 13 March 2025

### 5.1 Contaminated sites

Although the tenements to be added to the Licence with this amendment are not assessed under the *Contaminated Sites Act 2006*, tenement M24/393 on the Licence is included in a parcel of tenements assessed as ‘Possibly contaminated- investigation required’. This tenement covers part of Rose East Pit that is the main discharge point for the dewatering.

From the DWER contaminated sites assessment of the tenement: ‘Available information indicates that hydrocarbon-impacted soil may be present associated with the mine site fuel storage and handling infrastructure, and hydrocarbons have been observed on water discharged to a surface water body within the mine site. Landfills are present at the site which have received wastes of unknown composition. Areas of the site have been used for historical processing and storage of mineral ores which have been treated with cyanide. Tailings storage facilities and waste rock dumps are present at the site which contain sulfidic mineral ores, concentrates and tailings (which have the potential to release acidity and/or metals into the environment).’

### 5.2 Other relevant approvals

## 5.3 Part V of the EP Act

### 5.3.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations.

The guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (June 2019)*
- *Guidance Statement: Risk Assessments (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

### 5.3.2 Works approval and licence history

Table 6 summarises the licence history for the premises. There was no initial works approval as the pipeline from Quarters Pit to Rose East Pit was already in place prior to licencing application in December 2008.

**Table 6: Works approval and licence history**

Instrument	Issued	Nature and extent of works approval, licence or amendment
L8327/2008/1	26/02/2009	Initial licence to dewater Quarters Pit to Rose East Pit (known as Rose Pit)
L8327/2008/1	September 2011	Licence amendment to add Category 12: crushing and screening to the licence
L8327/2008/1	7/11/2012	Licence amendment to allow dewatering of Violet Pit to Rose East pit
L8327/2008/1	26/04/2013	Licence amendment to allow for dewater to Rose East Pit from Golden Flag Pit and DER conversion to REFIRE.
L8327/2008/1	1/08/2013	Licence amendment to allow for Violet Pit to be used as a back-up discharge point.
L8327/2008/2	2/3/2014	Licence re-issue
L8327/2008/2	10/12/2015	Licence amendment to include Quarters 040 and Tuart Underground in the dewatering scheme, and the increase of crushing and screening within the Quarters waste rock dump to 1,000,000tonnes per annual period.
L8327/2008/2	DRAFT	Licence amendment to include Rose Dam RMT Pit and Rose Dam South Pit in the dewatering scheme.

### 5.3.3 Compliance inspections and compliance history

A compliance inspection of the Premises was carried out in 2017 and the Premises was found to be compliant with the licence conditions.

### 5.3.4 Clearing

CPS 8756/1 was granted on 20 February 2020 and is active from 14 March 2020 to 13 March 2025. It authorises the clearing of not more than 143 hectares of native vegetation on the mining tenements M24/182, M24/223, M24/393 and M24/838.

## **6. Modelling and monitoring data**

### **6.1 Flora fauna and surveys**

#### *Flora*

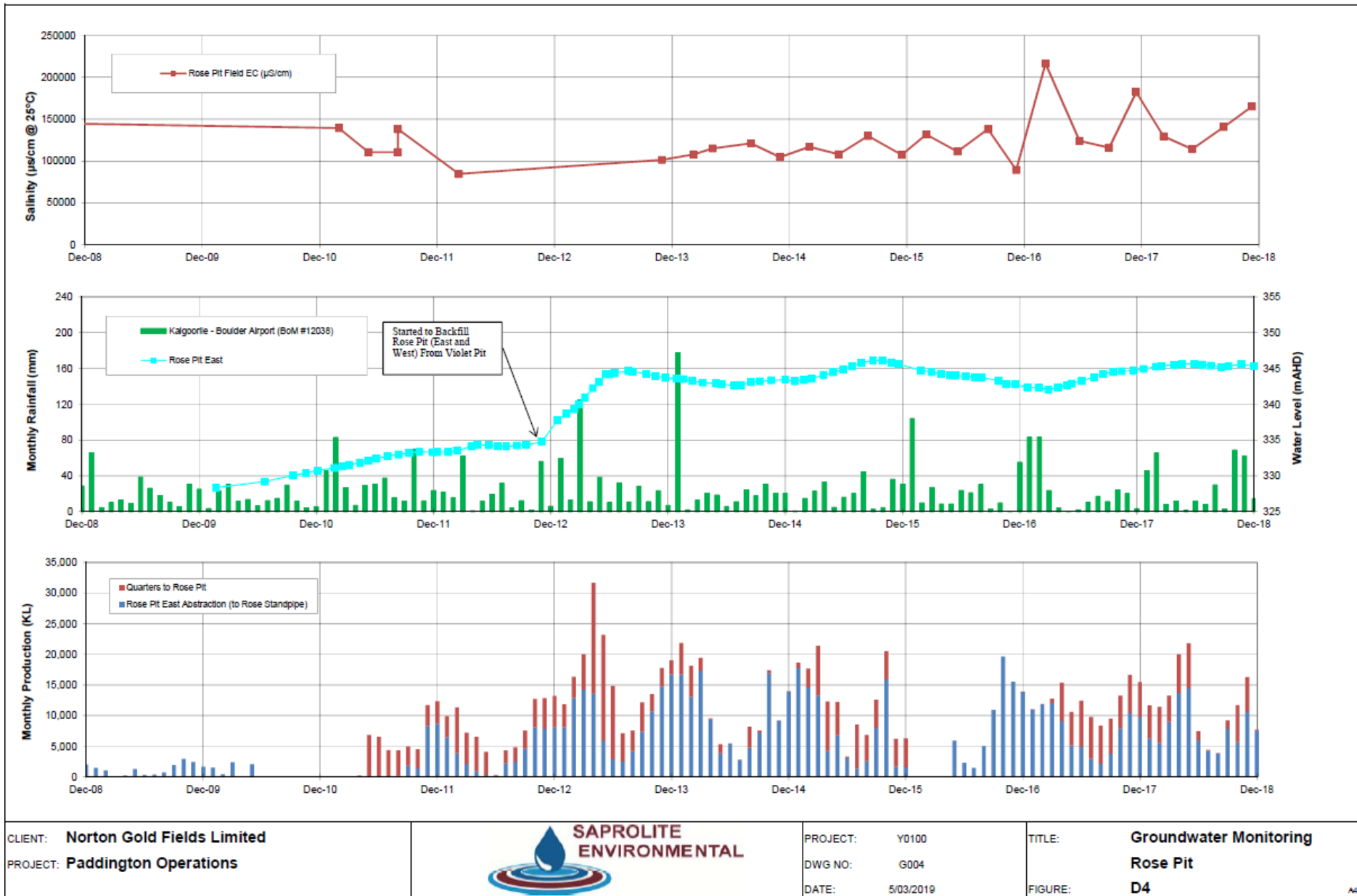
Native Vegetation Solutions carried out a reconnaissance flora and vegetation survey of the Rose Dam South project area in 2019 for Norton Gold Fields Ltd. It consisted of a desktop study of the area and field reconnaissance to verify the desktop study. The desktop study showed a potential for 2 threatened and 49 priority species from the DBCA databases to be present within the survey area but there were no known locations closer than 2.3km to the south. There were no PEC/TECs in the survey area

### **6.2 Monitoring of discharges to groundwater**

The discharge to groundwater has been monitored through the operating strategy of the groundwater licence GWL151865 and condition 3.2.1 of Licence L8327/2008/2.

From groundwater licence monitoring (Figure 1) it can be seen that the water level in Rose East Pit has been stable at approximately 345mAHD. The inflow from the Quarters Pit and rainfall has been balanced by the use of the water from the Rose East Pit standpipe for dust suppression. Salinity in Rose East Pit has been variable between approximately 55,000mg/l TDS and 82,500mg/L TDS over the years 2008 – 2018 (AER 2018) with current measurements at 64,000mg/L.

The salinity of water within the Rose Dam RTM pit is 60,000mg/L TDS which is expected to be the level of salinity in the Rose Dam South pit as the two pits are so closely located that they will eventually be one pit. Groundwater modelling carried out for the development of the project shows the Rose Dam pits as they lie along the tributary paleochannel of the Roe Paleodrainage System (Figure 2). The flow of water is roughly southwest to northeast.



**Figure 3: Rose East Pit water salinity, water level, inflow from Quarters Pit and outputs for dust suppression. 2008-2018**

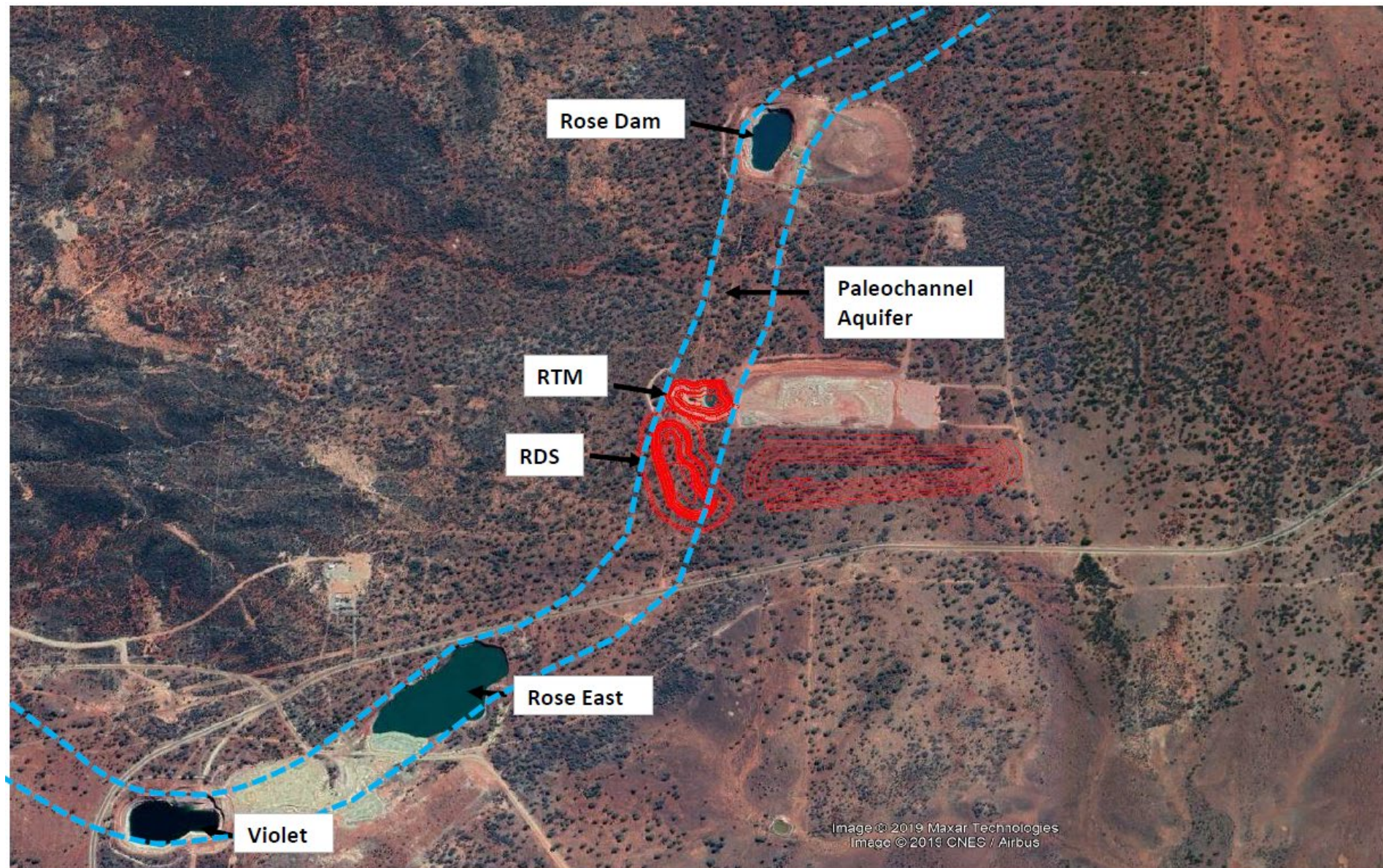


Figure 4: The position of Rose Dam RTM (RTM) and Rose Dam South (RDS) pits along the paleochannel aquifer

## 7. Consultation

The application for a licence amendment was advertised on the DWER website on 10 February 2020. No submissions were received during the advertising period.

## 8. Location and siting

### 8.1 Siting context

The Rose Dam South pit is located in the Mount Pleasant region which is approximately 30km north-west of Kalgoorlie. This area is within a heavily impacted historical mining with several open pits within a 6km radius of the site.

### 8.2 Residential and sensitive Premises

The distances to residential and sensitive receptors are detailed in Table 7.

**Table 7: Receptors and distance from activity boundary**

Sensitive Land Uses	Distance from Prescribed Activity
Residential Premises	The nearest residential community is Ora Banda, located 26km north-east. The city of Kalgoorlie Boulder, a large city community is 30km to the south-east.

### 8.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 8. Table 8 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the *Guidance Statement: Environmental Siting*.

**Table 8: Environmental values**

Specified ecosystems	Distance from the Premises
Important wetlands – Western Australia Rowles Lagoon system – Nature conservation and recreation (on nature reserve), pastoral grazing of sheep and water supply	Approximately 35km to the north-west of the project.
Parks and Wildlife Managed Lands and Waters Rowles Lagoon	
Biological component	Distance from the Premises
Threatened/Priority Flora <i>Ptilotus chortophytus</i> - Priority 1 <i>Angianthus prostrates</i> – Priority 3	Located within a desktop search by 10km radius but not found in the flora survey of the area covered by the dewatering project.
Threatened/Priority Fauna	Past sightings of birds recorded within a desktop search by 10km radius but no nesting mounds were found in the

<i>Leipoa ocellata</i> – Mallee fowl - Rare	fauna survey of the area covered by the dewatering project with the exception of one extinct mound.
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## 8.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 9.

**Table 9: Groundwater and water sources**

Groundwater and water sources	Distance from Premises	Environmental value
Public drinking water source areas Broad Arrow Dam Catchment	Approximately 9km	The dam catchment is the remains of a water catchment system for running steam trains. It is of heritage rather than environmental value. The PDWSA is no longer the water source for the community.
Groundwater Paleochannel – Fractured rock aquifer	Pits will intersect the surficial aquifer associated with the paleochannel	The water is hypersaline and has limited value other than dust suppression and mineral processing.

## 9. Risk assessment

### 9.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 13.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Tables 12 and 13 below.

**Table 10. Identification of emissions, pathway and receptors *during construction***

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
Construction, mobilisation and positioning of infrastructure	Vehicle movements on unsealed access roads	Noise	No residences or other sensitive receptors in proximity	Air / wind dispersion	None	No	No receptor present
		Dust			None	No	No receptor present
	Construction of new pipeline and v-drains	Noise	No residences or other sensitive receptors in proximity	Air / wind dispersion	None	No	No receptor present
		Dust			None	No	No receptor present



**Table 11: Identification of emissions, pathway and receptors during operation**

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts			
<b>Dewatering</b>	<i>Abstraction resulting in drawdown of groundwater levels</i>	<i>None</i>	<i>Groundwater dependent ecosystems</i>	<i>Abstraction of groundwater</i>	<i>Reduction in groundwater availability for dependent vegetation</i>	<i>No</i>	<i>Not within scope of Part V of the EP Act. Regulated under the RiWI Act and Part IV of the EP Act.</i>
	<i>Discharge to Rose East Pit and Violet Pit</i>	<i>Dewater of hypersaline water to groundwater</i>	<i>Root zones of native vegetation</i>	<i>Groundwater mounding</i>	<i>Vegetation health impacts.</i>	<i>No</i>	<i>There will be a freeboard of at least 4m within the pits and any mounding will be lower than that. It is unlikely that the mounding will be high enough to impact the vegetation root zones.</i>  <i>The vegetation in the area of Rose East and Violet pits is disturbed by historic mining and current infrastructure such as roads and waste rock dumps.</i>  <i>The pits have been used to receive dewatering for several years without obvious impacts on the vegetation from mounding of groundwater.</i>
	<i>Piping of dewater between pits</i>	<i>Hypersaline water discharged from leaks and ruptured pipeline</i>	<i>Native vegetation</i>	<i>Direct discharge</i>	<i>Reduction in groundwater quality impacting upon dependent vegetation</i>	<i>No</i>	<i>The pipeline will be situated in a v-drain with the slope of the ground allowing for water to be drained toward Rose East Pit.</i>

## 10. Applicant's comments

The Licence Holder was provided with the draft Decision Report and draft issued Licence on 4 May 2020. The Licence Holder did not provide comments on the draft documents.

## 11. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 1).

The conditions of the Existing Licence will be appropriate to manage the additional dewatering sources when amended to include the extended premises boundary by:

- Amending the Premises details on the front page to include tenements M24/182, M24/451, and M24/838;
- amending licence condition 2.2.1 and table 2.2.1 to include Rose Dam South pit and Rose Dam RTM pit; and
- replacing the site plans in Schedule 1 with an updated plan.

Additional DWER administrative amendments are:

- updated the format and appearance of the Licence;
- deleted the redundant AACR form set out in Schedule 2 of the Existing Licence and advised the Licence Holder to obtain the form from the Department's website;
- replaced the previous N1 form in Schedule 2 with an updated format; and
- corrected clerical mistakes and unintentional errors.

Based on this assessment, it has been determined that the Revised Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Tim Gentle  
Manager – Resource Industries  
Delegated Officer

under section 20 of the *Environmental Protection Act 1986*

## Appendix 1: Key documents

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	Document title	In text ref	Availability
1.	Norton Gold Fields Limited – Paddington Operations, 31 March 2019, <i>Annual environmental report January – December 2018</i>	2018 AER	DWER records (DWERDT158843)

## Attachment 1: Issued Licence LXXXX

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