



Licence Number	L8041/1990/5
Licence Holder	Western Areas Limited
ACN	091 049 357
File Number:	DER2015/000458-1~1
Premises	Forrestania Nickel Operations Forrestania – Southern Cross Road FORRESTANIA WA 6359
	Legal description – Mining Lease M74/57, M74/58, M74/90, M74/91, M77/335, M77/399, M77/545, M77/568, M77/574, M77/582, M77/583, M77/584, M77/586, M77/587, M77/588, M77/589, M77/912, L74/44, L70/111, L77/104, L77/141, G70/226 and G70/231
Date of Amendment	26 January 2019

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.

Tim Gentle

Manager - Resource Industries (South)

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
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
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 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</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	Western Areas Limited
Minister	the Minister responsible for the EP Act and associated regulations
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 Decision Report applies, as specified at the front of this Decision Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (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 only to amendment of activities in relation to Category 6. The Licence Holder has not requested any other changes in relation to other categories on the licence.

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)*
- *Guidance Statement: Environmental Siting (November 2016)*

Amendment history

Table 2 provides a summary of the amendment history for the licence since 14 December 2017.

Table 2 : Licence amendments

Issued	Amendment
14 December 2017	Amendment Notice 1 Amendment made to update conditions in relation to dewater discharge to the Mossco Farm evaporation pond and associated groundwater management.
24 January 2019	Amendment Notice 2 – this amendment.

Amendment description

The Licence Holder submitted an application to amend the Licence, proposing discharge of hypersaline dewater from the Spotted Quoll Mine (SQM).

The Licence Holder opened the Spotted Quoll open pit mine in late 2009 and commenced development of the Spotted Quoll underground mine

in 2011.

The Spotted Quoll underground mine incorporates a ventilation shaft to provide primary ventilation for the mine. The Licence Holder has reported groundwater flows into the ventilation shaft and requires dewatering of the ventilation shaft.

The Licence Holder will construct two new groundwater abstraction bores adjacent to the ventilation shaft to enable dewatering. Additionally, approximately 380 lineal meters of new 100mm pipeline will be installed. The new pipeline will convey dewater to an existing dewater pipeline and the Spotted Quoll staging pond within the Premises.

The Licence Holder estimates 63,072 kL/year of hypersaline dewater will be discharged to the Spotted Quoll staging pond over the estimated 8 year life of mine.

The abovementioned activities will be undertaken within mining tenement M77/583. Figure 1 below illustrates the location of the abovementioned infrastructure and activity.

The Licence currently authorises the discharge of 6,400,000 tonnes of mine dewater at the premises per annual period. This Licence amendment does not require any change to the authorised rate of mine dewater discharge.

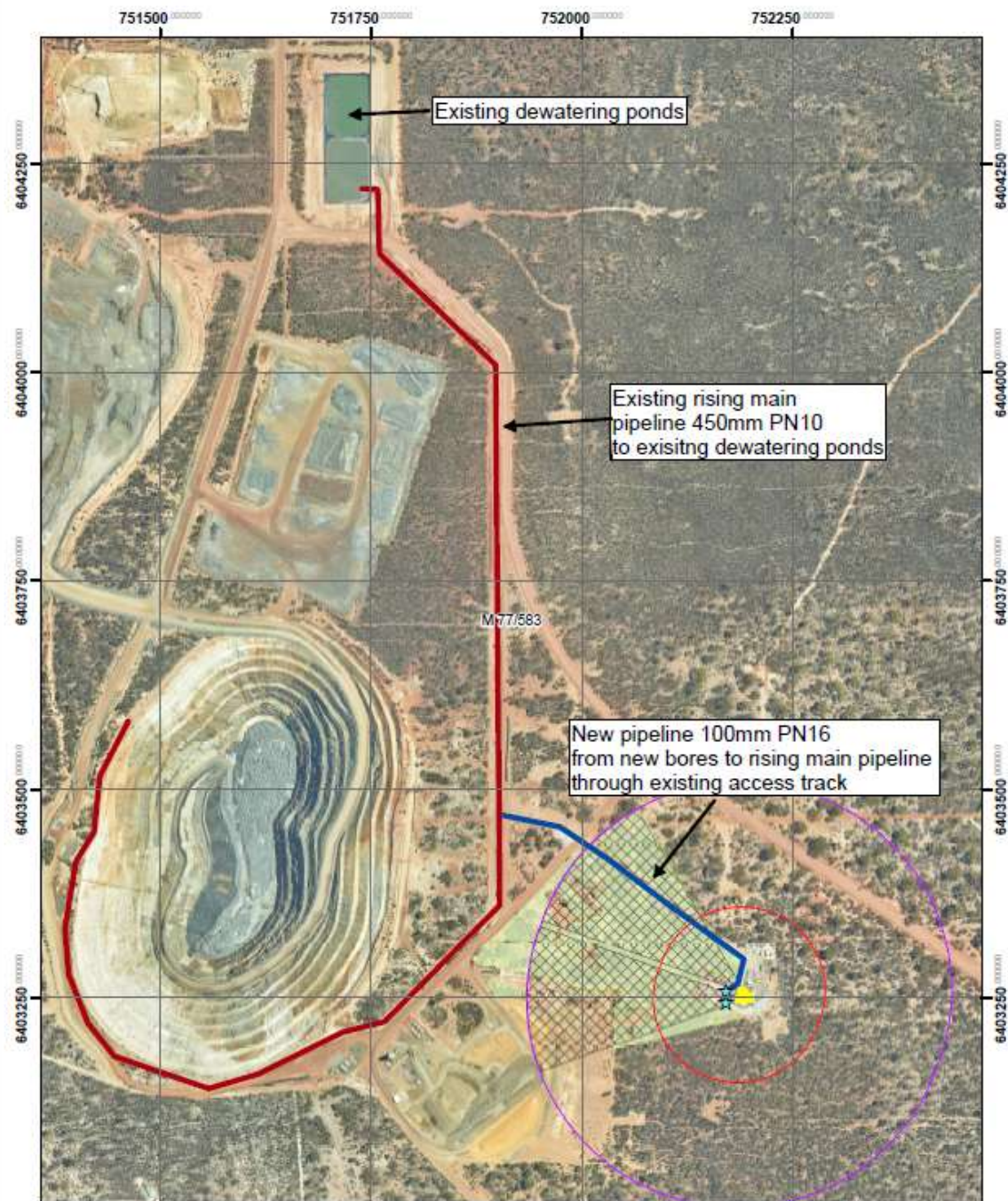


Figure 1: Infrastructure and activity plan – discharge of dewater from the Spotted Quoll Mine ventilation shaft

Other approvals

The Licence Holder has provided the following information relating to other approvals as outlined in Table 3.

Table 3: Relevant approvals

Legislation	Number	Approval
<i>Mining Act 1978</i>	Registration ID 76230	Approval of Mining Proposal – Spotted Quoll Vent Shaft groundwater bores M77/583, dated 17 October 2018.
<i>RIWI Act 1914</i>	CAW202208 (1)	Licence to construct 2 non-artesian wells within M77/583, dated 30 November 2018
<i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i>	N/A	The Licence Holder reported that under the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004 - Schedule 1, Clause 2, subclause 2</i> , a clearing permit was deemed not required in relation to the licence amendment activity.

Location and receptors

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

Environmental receptors	Distance from activity
Priority Ecological Community (PEC) buffer area– i.e. Ironcap Hills vegetation complexes (Mt Holland, Middle, North and South Ironcap Hills, Digger Rock and Hatter Hill) (banded ironstone formation)	The proposed activity will take place within the PEC Ironcap Hills vegetation complexes buffer area.
Threatened fauna - <i>Leipoa ocellata</i> (Malleefowl)	The proposed activity will occur in the vicinity of potential Malleefowl habitat – DWER's GIS indicates

	Malleefowl habitat has been recorded within 1km of the proposed activity.
Threatened flora – <i>Eucalyptus steedmanii</i>	DWER's GIS indicates <i>Eucalyptus steedmanii</i> may occur within approximately 500m to 1km of the proposed activity.
Soils, remnant native vegetation.	In vicinity of proposed activity
Local groundwater	The applicant notes natural groundwater levels in the Forrestania region are between 20 to 60m below ground level.

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 proposed amendments during construction

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Construction / installation works	Installation of new 100mm dewater pipeline	Noise	Nil	Air	Not applicable	Not applicable	Not applicable	Not applicable	Installation of 380 lineal metres of 100mm pipeline is considered to be small scale short-term works that are not expected to generate significant additional noise emissions. Additionally, there are no residential receptors in the vicinity of the activity.
		Dust	Nil	Air	Not applicable	Not applicable	Not applicable	Not applicable	Installation of 380 lineal metres of 100mm pipeline is considered to be small scale short-term works that are not

									expected to generate significant additional dust emissions. Additionally there are no residential receptors in the vicinity of the activity.
	Fuel/oil spills	Soils	Direct discharge	Soil contamination	Slight	Rare	Low	<p>Fuel/oils spills from the construction activity are expected to be rare and cause minimal on-site impact.</p> <p>In addition, the general provisions of the EP Act and <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply, as does the <i>Dangerous Goods Safety Act 2004</i> and associated Regulations.</p>	

Table 6: Risk assessment for proposed amendments during operation

Risk Event						Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Mine dewater from 2 new bores at Spotted Quoll Mine	Dewatering pipeline leaks	Dewater effluent – hypersaline groundwater	Soils Native vegetation PEC – Ironcap Hills vegetation complexes Threatened flora – <i>Eucalyptus steedmanii</i>	Direct contact. Uptake from soil pore water.	Soil salinisation. Decline in vegetation health or death. Adverse impact on potential Mallee fowl nesting sites and food sources – due to soil salinisation and loss of vegetation.	Moderate	Unlikely	Medium	It is expected a dewater effluent pipeline leak should not occur in most circumstances. Licence conditions 1.2.1 and 1.2.4 require the Licence Holder to detect and manage pipeline leaks as summarised below: <ul style="list-style-type: none"> Inspect mine dewater pipelines daily when operating; Equip dewater pipelines with leak detection, automatic cut off systems or secondary containment; Take corrective action to mitigate adverse environmental consequences as soon as practical.
	Discharge of dewater effluent to existing Spotted Quoll staging pond	Dewater effluent – hypersaline groundwater	Local groundwater Native vegetation	Seepage from dewatering ponds Seepage from dewatering ponds causing groundwater mounding and	Adverse change in groundwater quality. Decline in vegetation health or death.	Slight Slight	Rare Rare	Low Low	Approximately 63,072 kL/year of hypersaline dewater will be discharged to the Spotted Quoll staging pond (SQSP). Given that the SQSP is lined with a HDPE liner and depth to groundwater is expected to be greater than 20mbgl it is unlikely significant volumes of seepage from the SQSP would migrate through to groundwater. The activity is therefore not expected to generate groundwater mounding and adverse changes to groundwater quality. Additionally, a like for like discharge is expected whereby dewater effluent is expected to be of similar

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
			subjecting vegetation root systems to atypical conditions					quality to groundwater beneath the SQSP.
Exceedance of Spotted Quoll staging pond capacity (overtopping)	Dewater effluent – hypersaline groundwater	Soils Native vegetation PEC – Ironcap Hills vegetation complexes Threatened flora – <i>Eucalyptus steedmanii</i>	Direct contact. Uptake from soil pore water	Soil salinisation. Decline in vegetation health or death. Adverse impact on potential Mallee fowl nesting sites and food sources – due to soil salinisation and loss of vegetation.	Moderate	Unlikely	Medium	<p>Approximately 63,072 kL/year will be abstracted from the two bores adjacent to the underground mine ventilation shaft. The Licence Holder considers the SQSP will have sufficient capacity to contain mine dewater. Capacity is also expected to be maintained due to evaporation losses and the use of dewater for dust suppression.</p> <p>In addition, Conditions 1.2.4 and 1.2.3 on the Licence require the Licence Holder to:</p> <ul style="list-style-type: none"> ▪ Inspect the SQSP daily when operating (monthly when not operating); ▪ To maintain a minimum top of embankment freeboard of 300mm; and, ▪ To take corrective action to mitigate adverse environmental consequences as soon as practical. <p>A pond overtopping event is not expected to impact <i>Eucalyptus steedmanii</i> as such overland dewater flow is generally expected to flow down gradient to the north and north-west, away from potential areas of this vegetation.</p>

Decision

DWER has considered the proposed construction and operational activities and identified risk events detailed in Tables 5 and 6. In summary, the conveyance and discharge of dewater effluent (abstracted in the vicinity of the SQM ventilation shaft) is considered to be a low to medium risk activity and is managed with existing conditions on the Licence.

The Licence amendment is granted subject to compliance with existing Licence conditions.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 15 January 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Appendix 1: Key documents

	Document title	In text ref	Availability
1	<p>Application for Licence amendment including:</p> <ul style="list-style-type: none"> - Application form dated 20/9/2018 - Location map - Report titled – “Modelling to assess capture of groundwater inflows to the spotted quoll vent shaft using two recovery bores”, July 2018 - Copy of Mining Proposal – Spotted Quoll Vent Shaft Groundwater bores M77/583, dated September 2018. 	Application	DWER records numbers A1722073, A1722075
2	<p>Additional information regarding other approvals including:</p> <ul style="list-style-type: none"> - Copy of Mining Proposal approval - Spotted Quoll Vent Shaft Groundwater bores M77/583, dated 17 October 2018 - Copy of licence to construct wells, dated 30 November 2018 	Application	DWER records number – A1747274
3.	<p>Supplementary information submitted by the Applicant including:</p> <ul style="list-style-type: none"> - Updated site plan with minor correction - Comment in relation to requirement for a clearing permit 	Application	DWER records number – A1756417

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 15 January 2019 for review and comment. The Licence Holder responded on 17 January 2019 with the following comment noted below.

Condition	Summary of Licence Holder comment	DWER response
N/A	There is no existing clearing permit covering the relevant area; as the type of vegetation clearing undertaken, is defined in the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> under Schedule 1, Clause 2, subclause 2, and therefore a clearing permit was not required.	Comment noted