



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **Doray Minerals Limited**

Licence: **L8698/2012/1**

Registered office: Level 3, 41-43 Ord Street
WEST PERTH WA 6005

ACN: 138 978 631

Premises address: Andy Well Gold Project
Mining Tenement M51/870
MEEKATHARRA WA 6642

Issue date: Thursday, 20 December 2012

Commencement date: Monday, 24 December 2012

Expiry date: Wednesday, 23 December 2017

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: Sonya Poor
Licensing Officer

Decision Document authorised by: Alana Kidd
Delegated Officer



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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 <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	5	365,000 tonnes per annual period
	6	600,000 tonnes per annual period
	64	500 tonnes per annual period
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/> Referral decision No: Managed under Part V <input type="checkbox"/>



		Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	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 <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

3 Executive summary of proposal and assessment

Doray Minerals Limited (the Licensee) was issued *Environmental Protection Act 1986* licence L8698/2012/1 in December 2012 for the Andy Well Gold Project (Project).

The Project was assessed as a prescribed premises under categories:

- 5 – Processing or beneficiation of metallic or non-metallic ore;
- 6 – Mine dewatering; and
- 64 – Class II putrescible landfill site.

The Project is located approximately 45 kilometres (km) north of Meekatharra in the Murchison region of Western Australia. The Project is located on mining tenement M51/870.

The following changes have been made to the licence during this amendment:

- Administrative updates to reflect version 2.9 (v2.9) of the licence template;
- Updated to reflect Departmental reform as published on DER’s website under “Administrative changes implemented within the Department of Environment Regulation” www.der.wa.gov.au;
- Inclusion of definitions;
- Removal of reference to Class III for the putrescible landfill site;
- Removal of previous condition L1.2.3;
- Inclusion of condition L1.3.1;
- Inclusion of condition L1.3.14;
- Inclusion of condition L2.2.2;
- Removal of monitoring bores TSFMB1-6 from previous Table 3.8.1 and inclusion of monitoring bores TSFMB08-13 to Table 3.4.1;
- Removal of Total Dissolved Solid (TDS) and Standing Water Level (SWL) targets for Table 3.4.1;
- Inclusion of condition L4.2.3 for non-annual reporting requirements;
- Map of monitoring locations in Schedule 1 has been updated; and
- Schedule 2 forms have been updated and Form ET1 has been removed.

Where conditions have been added or removed to the existing licence these have been justified in Section 4.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.1 – L1.2.3.	Previous condition L1.2.3 has been removed. The storage of environmentally hazardous materials is adequately regulated by the <i>Dangerous Goods Safety Act 2004</i> and associated Regulations.	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>Code of Practice for the storage and handling of dangerous goods.</p> <p>Australian Standard 1940-2004 The Storage and Handling of Flammable and Combustible Liquids.</p>
Premises operation	L1.3.1 – 1.3.14.	Removal of reference to Class III putrescible landfill site. In accordance with the former Department of Environment and Conservation <i>Landfill Waste Classification and Waste Definitions 1996</i> (As amended December 2009) a Class III landfill is a lined landfill, which may include leachate collection, designed to accept putrescible and inert wastes. The landfill at the Project is a Class II un-lined landfill designed to accept putrescible and inert wastes.	General provisions of the <i>Environmental Protection Act 1986</i> .



DECISION TABLE			
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		<p>Condition L1.3.1 has been added to the licence to ensure any limit exceedances in this section are investigated.</p> <p>The recording and establishment of limits for process throughputs has been included in the licence through condition L1.3.14 – Production or design capacity limits. This has been included in the licence to ensure the Licensee does not exceed the approved throughput for each category of the licence.</p>	
Emissions to land including monitoring	L2.2.1 – L2.2.3 and L3.2.1.	DER's assessment and decision making are detailed in Appendix A.	
Fugitive emissions	N/A.	<p>Fugitive emissions of dust are considered a low risk given the location of the Project (approximately 40 km north of the town of Meekatharra) and the nearest sensitive premises is the Killara Homestead, approximately 25 km to the south-east, and the Karalundi Aboriginal Education Community, approximately 10 km to the north.</p> <p>Previous condition 2.6.1 has been removed as fugitive emissions can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i>.</p>	General provisions of the <i>Environmental Protection Act 1986</i> .
Ambient quality monitoring	L3.4.1.	<p>The targets in Table 3.4.1 for TDS and SWL have been removed.</p> <p>Recent groundwater monitoring has indicated seepage from the tailings storage facility (TSF) has elevated TDS in the groundwater downstream of the TSF. Increasing tailings discharge rates into the TSF could increase groundwater TDS levels. Studies suggest impacts will be short term with the TDS expected to reduce over time in the nearby downstream groundwater monitoring bores. Most recent sampling from nearby downstream groundwater monitoring bores indicates a declining trend in the TDS levels.</p> <p>The Licensee is required to report the results of the ambient groundwater quality monitoring in the Annual Environmental Report along with a comparison against</p>	Email titled "Andy Well Minesite": Prescribed Premises licence L8968/2012 amendments (P4 attached) authored by Kevin McCormick, Doray Minerals Limited, 29 October 2015.



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>previous years' data (conditions L4.2.1 and L4.2.2), which will allow DER to review the SWL and see any trends in TDS over time.</p> <p>The targets for Weak Acid Dissociable Cyanide (WAD cyanide), which are cyanide species liberated at moderate pH of 4.5 and pH in Table 3.4.1 are now limits. According to recent monitoring data all TSF groundwater monitoring bores are recording levels below these limits (WAD cyanide 0.5 mg/L and pH ≥ 6 to ≤ 9).</p>	
Information	L4.1.1 – L4.1.4, L4.2.1 –L4.2.3 and L4.3.1.	<p>Table 4.2.1 has been updated to align with licence conditions.</p> <p>Condition L4.2.3 and L4.3.1 have been updated in line with v2.9 of the licence template for non-annual reporting and notification requirements.</p>	N/A.

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
7/01/2016	Proponent sent a copy of draft instrument	Signed waiver form received 14/01/2016. No comments were received	N/A



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Emissions to land including monitoring

Emission Description

Emission: Dewatering of the open pit and underground operations with mine dewatering discharged onto land via 20 surface spigots.

Impact: Potential contamination of the local groundwater, localised groundwater mounding, scouring of the landscape and vegetation stress due to inundation.

The dewatering discharge results from the 2014 Annual Environmental Report indicate a slight upward trend for TDS. This parallels the slight upward TDS readings also recorded at the Project's monitoring bores located within M51/870 and is indicative of the Project's dewatering activities. High TDS levels in soils may result in reduced plant productivity or, in extreme cases, death of native vegetation. The expected rise in TDS is considered localised with no impacts to regional users as indicated by the monitoring results from pastoral bore field samples taken off premises. The Licensee has stated that TDS readings have ranged from 1,200 mg/L (quarter 2, 2013) to 1,900 mg/L (quarter 2, 2015) with an average of 1,500 mg/L over the 12 sampling events. The TDS average for the 2015 four sampling events is 1,700 mg/L compared to the 2013 four sample average of 1,300 mg/L.

Controls:

- Excess water is managed utilising water settling ponds prior to controlled discharge via 20 surface spigots located along a banded iron ridgeline running north – south and approximately 1.2 km east of the Project;
- Due to the number of spigots discharging the water over a relatively wide area, the main dissipation mechanisms are infiltration and evaporation. The active discharge spigots are varied at regular intervals to assist in reducing potential water-logging impacts at any one location;
- The pipeline and dewatering structure is inspected on a daily basis for leaks, and the discharge points and downstream environment are inspected on a weekly basis to monitor the extent of any erosion, inundation (pooling) and wildlife response (e.g. promoted vegetation growth and fauna attraction);
- Depth to groundwater is greater than 12 metres in the discharge area;
- There are variable discharge areas to limit saturation and a contingency discharge area; and
- Monitoring is in place to assess vegetation health and water quality and quantity.

Risk Assessment

Consequence: Moderate

Likelihood: Possible

Risk Rating: Moderate

Regulatory Controls

Table 2.2.1 stipulates the emission points to land for the discharge spigots and discharge spigots (contingency).

Conditions on the previous licence (L2.2.3 – L2.2.4) pertaining to monitoring on the dewatering discharge line have been removed as they duplicate the requirements of condition L3.2.1. Previous condition L2.2.5 requires that dewatering effluent is discharged in a manner which minimises erosion and scouring impacts, and reduces surface ponding, and has been renumbered to condition L2.2.3.



The dewatering discharge sampling point targets for TDS and pH previously in Table 3.5.1 have been removed and are now in Table 2.2.2 as limits. The limit for TDS has been increased from 1,500 mg/L to 3,000 mg/L, which is within the *National Water Quality Management Strategy, Australian and New Zealand Guidelines for Fresh and Marine Water Quality, The Guidelines*, Agriculture and Resource Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, 2000 (ANZECC 2000) for tolerances of livestock to TDS in drinking water.

The Licensee is required to report the results of the emissions to land monitoring in the Annual Environmental Report along with a comparison against previous years' data (conditions L4.2.1 and L4.2.2), which will allow DER to see trends in TDS over time. The Licensee is also required to investigate and report the breach of any limit specified in the licence (conditions L2.1.1 and L4.3.1), which will bring any exceedances of these limits (pH and TDS) to DER's immediate attention.

Residual Risk

Consequence: Moderate

Likelihood: Unlikely

Residual Risk Rating: Moderate

References:

Email titled "Andy Well Minesite": Prescribed Premises licence L8968/2012 amendments (P4 attached) authored by Kevin McCormick, Doray Minerals Limited, 29 October 2015.

Andy Well Minesite 2014 Annual Environmental Report, Doray Minerals Limited, March 2015.

Andy Well Minesite 2012-14 Groundwater Monitoring Review, Doray Minerals Limited, 29 January 2015.