

Challenger Mines Pty Ltd

**Environment Protection Licence 10265
Quarterly and Monthly Monitoring Data
Summary**

March 2017

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1. INTRODUCTION

Environmental Protection Licence (**EPL**) holders are required under the *Protection of the Environment Operations Act 1997* to make publicly available their monitoring results for those parameters specified in the EPL. This document has been prepared to satisfy this requirement.

Challenger Mines operations are conducted in accordance with EPL 10265. The licence details are as follows:

License Holder: Challenger Mines Pty Limited

Licence Number: 10265

Premises: Challenger Mines

33 Ryans Road

Adelong 2729

Access to Licence: <http://www.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=10265&id=10265&option=licence&searchrange=licence&range=POEO&licence&prp=no&status=Issued>

Monitoring Locations: See main text and **Appendix A**

This document provides a summary of environmental monitoring data sampled as prescribed by EPL 10265 for March 2017 (**Reporting Period**). Monitoring data provided is as follows:

- Air quality
- Surface water
- Ground water.

Monitoring Data Collected: 1 March 2017

2. AIR QUALITY

Under EPL 10265 CMPL is required to undertake dust monitoring at EPA Monitoring Points 11,12,13,14, and 15 (**Appendix A**)

2.1 Dust

Pollutant:	Total Solid Particles
Unit of measure:	Grams per square metre per month
Monitoring location:	See Table 1 and Appendix A .
Monitoring frequency required by licence:	Monthly

Table 1. Dust Monitoring Summary

		Monitoring Location	EPL11	EPL12	EPL13	EPL14	EPL15
		Sample Date	2/3/2017	2/3/2017	2/3/2017	2/3/2017	2/3/2017
		Matrix	Dust	Dust	Dust	Dust	Dust
Method Name	Analyte Name	Units	Result	Result	Result	Result	Result
Dust in Air (Deposited Matter)	Sampling Period in Days	days	48	48	48	48	48
Dust in Air (Deposited Matter)	Total Solids	mg	150	90	140	68	120
Dust in Air (Deposited Matter)	Total Solids Per Sampling Period	g/m ² /30 days	5.3	3.2	4.9	2.4	4.1

3. SURFACE WATER

Under EPL 10265 CMPL is required to undertake surface water monitoring at EPA Monitoring Points 3,4,5, and 6 (**Appendix A**).

Pollutant:	Various see Table 2
Unit of measure:	See Table 2
Monitoring location:	See Table2 and Appendix A .
Monitoring frequency required by licence:	Quarterly and weekly at EPL 3 during discharge

Table 2 Surface Water Monitoring Summary

		Location	EPL 6 Caledonia Ck Receiving Point	EPL3 Goodwin Dam Spillway	EPL4 Goodwin Dam Sample Point	EPL5 Challenger Dam
		Sample Date	01/03/17	01/03/17	01/03/17	01/03/17
Analyte Name	Units	EPL Limit	Result	Result	Result	Result
pH**	No unit	6-8.5	7.6	8.4	8.4	7.7
Conductivity @ 25 C	µS/cm	800	520	370	360	730
Fluoride	mg/L	2	0.36	0.47	0.47	0.69
Sulphate, SO ₄	mg/L	N/A	17	92	92	260
Biochemical Oxygen Demand (BOD ₅)	mg/L	30	<5	<5	<5	<5
Total Cyanide	mg/L		<0.004	<0.004	<0.004	<0.004
Oil and Grease	mg/L	10	<5	<5	<5	<5
Chemical Oxygen Demand	mg/L	N/A	15	34	33	26
Total Suspended Solids Dried at 103-105°C	mg/L	50	<5	5	<5	<5
Anionic Surfactants as MBAS (Calc. as LAS MW 288)	mg/L	N/A	<0.1	0.2	0.2	0.2
Total Aluminium	mg/L	5	0.037	0.013	0.074	0.18
Total Arsenic	mg/L	0.5	0.002	<0.001	0.001	0.002
Total Cadmium	mg/L	0.01	<0.0001	<0.0001	<0.0001	<0.0001
Total Chromium	mg/L	1	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L	1	<0.001	<0.001	<0.001	<0.001
Total Copper	mg/L	0.4	0.002	0.001	<0.001	0.001
Total Lead	mg/L	0.1	<0.001	<0.001	<0.001	<0.001
Total Manganese	mg/L	N/A	0.064	0.023	0.023	0.049
Total Molybdenum	mg/L	0.15	0.003	0.001	0.001	0.002
Total Nickel	mg/L	1	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.02	<0.001	<0.001	<0.001	<0.001
Total Zinc	mg/L	20	0.016	<0.005	0.005	<0.005
Total Mercury	mg/L	0.002	<0.0001	<0.0001	<0.0001	<0.0001

4. Ground Water

Under EPL 10265 CMPL is required to undertake ground water monitoring at EPA Monitoring Points 7,8,9 and 10 (**Appendix A**).

Pollutant:	Various see Table 3
Unit of measure:	See Table 3
Monitoring location:	See Table3 and Appendix A .
Monitoring frequency required by licence:	Quarterly

N.B. All groundwater bores in this quarter were dry at time of sampling .

Table 3 Ground Water Monitoring Requirements

Pollutant	Units of measure	Frequency	Sampling Method
Bicarbonate	milligrams per litre	Quarterly	Grab sample
Calcium	milligrams per litre	Quarterly	Grab sample
Chloride	milligrams per litre	Quarterly	Grab sample
Copper	milligrams per litre	Quarterly	Grab sample
Cyanide (total)	milligrams per litre	Quarterly	Total cyanide from water samples - CN-1 recovery by 20th Ed. APHA 4500-CN-1 method B3.j - Alternative method and analysis by 20th Ed. APHA 4500 - CN-1 method E, D or F
Magnesium	milligrams per litre	Quarterly	Grab sample
Methylene Blue Active Substances	milligrams per litre	Quarterly	Grab sample
pH	pH	Quarterly	Grab sample
Potassium	milligrams per litre	Quarterly	Grab sample
Sodium	milligrams per litre	Quarterly	Grab sample
Standing Water Level	metres	Quarterly	In situ
Sulfate	milligrams per litre	Quarterly	Grab sample
Total dissolved solids	milligrams per litre	Quarterly	Grab sample
Total petroleum hydrocarbons	milligrams per litre	Quarterly	Grab sample

Appendix A

EPL monitoring Locations for Dust, Groundwater and Surface Waters

EPL SAMPLING LOCATIONS FOR WATER AND DUST MONITORING

