



Centennial Coal



Environment Protection Licence 3607

January 2017

Environmental Monitoring Data

Springvale Colliery



Table of Contents

1 Introduction 2

2 Weather 3

3 Air Quality Monitoring 4

 3.1 Depositional Dust 4

4 Surface Water Quality 5

5 Water Volume 16

6 Noise Monitoring 17

7 Complaints 18

8 Correction Log 18

Appendices

Appendix A Monitoring Locations

Abbreviations

Abbreviation	Description
DG	Dust Gauge
EC	Electrical Conductivity
EPL	Environment Protection Licence
kL	kilolitre
L	litre
LDP	Licensed Discharge Point
Mg	milligrams
ML	Megalitre
TSS	Total Suspended Solids
uS or μ S	microsiemens

1 Introduction

This report summarises the environmental monitoring results for Springvale Colliery for January 2017. The locations of the Licensed Discharge Points (LDPs) are shown in Appendix 1. Monitoring results for LDP006 and LDP007 are reported separately from this report.

A variation was made to EPL 3607 in December 2014. The variation aligned the mining scale with MOD 4 of the Development Consent which allows production of coal up to 4.5 million tonnes. The EPL was further varied on the 26th of February 2016 to align with SSD5594 commitments.

The EPL for Springvale is available on the NSW Environment Protection Authority web site www.environment.nsw.gov.au. The direct link is shown below.

<http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32604&SYSUID=1&LICID=3607>

Additional information about Springvale Colliery is available on the Centennial Coal Website www.centennialcoal.com.au.

2 Weather

A summary of rainfall data recorded at the Springvale meteorological monitoring station is shown in Table 1 below.

Table 1. Weather Summary

Month	Total Rainfall (mm)	Minimum Temperature (°C) @ 2m	Maximum Temperature (°C) @ 2m
January 2016	138.0	6.28	34.1
February 2016	31.2	6.86	33.89
March 2016	56.8	4.69	31.14
April 2016	6.0	5.56	15.28
May 2016	19.4	- 8.23	14.00
June 2016	155.8	- 6.4	15.02
July 2016	79.6	- 2.03	15.74
August 2016	59.0	- 1.38	10.24
September 2016	101.6	1.42	12.88
October 2016	57.0	1.49	16.08
November 2016	61	0.47	29.05
December 2016	72.2	3.65	32.2
January 2017	25.8	10.4	37.27

3 Air Quality Monitoring

The air quality monitoring results for the monthly reporting period are summarised in Table 2 and a 12 month comparison of dust results is displayed in Figure 1.

3.1 Depositional Dust

Table 2. Depositional Dust

Data Published:	15/02/2017		Licensee:	Springvale Coal Pty Limited		
Data Sampled:	Exposure period 09/12/2016 to 06/01/2017		Address:	Castlereagh Hwy, Lidsdale		
Data Obtained:	10/02/2017		EPL No.	3607		
Sampling Point	Monitoring frequency	Pollutant	Measurement	Limit	Units	Exceedence (yes/no)
SV_D1	Monthly	Insoluble Solids	1.4	NA	g/m ²	no
SV_D2	Monthly	Insoluble Solids	1.1	NA	g/m ²	no

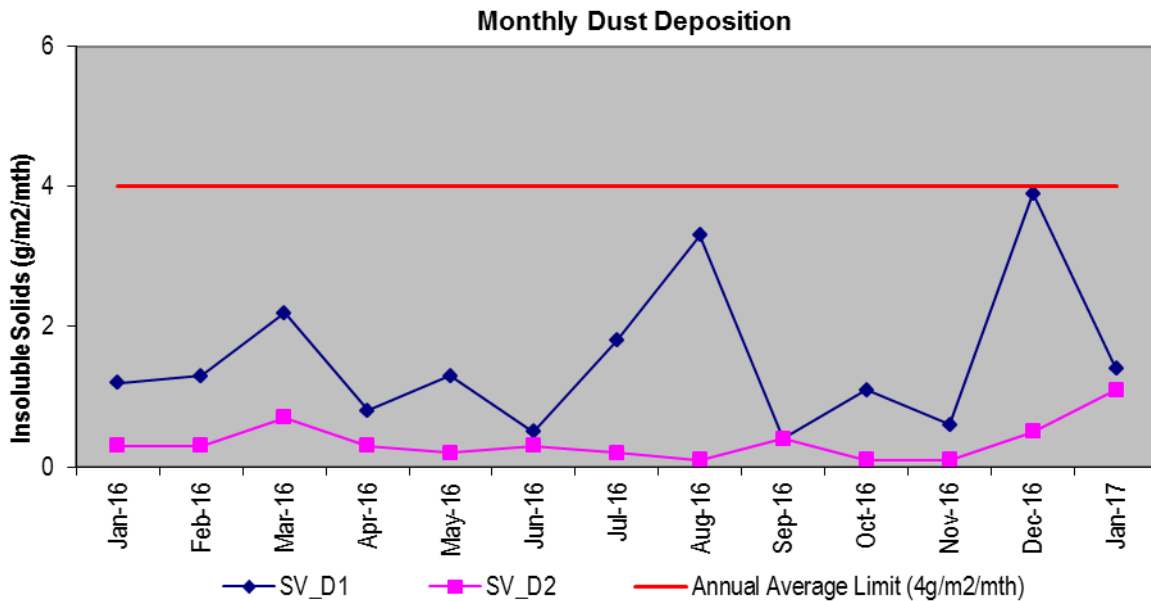


Figure 1: 12 Month Summary of Dust Results

4 Surface Water Quality

A summary of monitoring data for LDP001 and LDP009 is provided in Table 3 below.

There were no discharges from LDP004, LDP005, and LDP10 during the month.

Table 3. Surface Water Quality - January 2017

Date Published:	15/02/2017	Licensee:	Springvale Coal Pty Ltd					
Data Sampled:	January 2017	Address:	Castlereagh Highway, Lidsdale					
Date Obtained:	10/02/2017	EPL No:	3607					
LDP001								
	Frequency required	100th Percentile Limit	Unit of Measure	3/01/2017	10/01/2017	17/01/2017	24/01/2017	31/01/2017
Oil and Grease	monthly	10	mg/L	<5				
pH	weekly	6.5-9.0	pH	8.38	8.24	8.24	8.85	8.45
Total Suspended Solids	monthly	30	mg/L	<5				
EC	weekly	Monitoring requirement only	uS/cm	1005	1159	1115	1017	972
Manganese Filterable	monthly	Monitoring requirement only	mg/L	0.002				
Iron Filterable	monthly	Monitoring requirement only	mg/L	<0.05				
LDP009								
	Frequency required	100th Percentile Limit	Unit of Measure	3/01/2017	10/01/2017	17/01/2017	24/01/2017	31/01/2017
pH	weekly	6.5-9.0	pH	7.82	7.69	7.61	7.68	7.98
EC	weekly	1200	uS/cm	1162	1236	1174	1194	1195
Turbidity	weekly	50	NTU	2	4	6	3	6
TSS	weekly	50	mg/L	<5	<5	<5	8	<5
Aluminium (filt)	weekly	0.45	mg/L	<0.01	<0.01	0.01	<0.01	0.01
Arsenic (filt)	weekly	0.024	mg/L	0.014	0.015	0.017	0.02	0.019
Copper (filt)	weekly	0.007	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese (filt)	weekly	1.7	mg/L	0.022	0.016	0.016	0.02	0.015
Nickel (filt)	weekly	0.047	mg/L	0.004	0.003	0.004	0.003	0.003
Zinc (filt)	weekly	0.05	mg/L	<0.005	<0.005	<0.005	<0.005	0.008
Boron (filt)	weekly	0.37	mg/L	0.08	0.06	0.07	0.07	0.06
Iron (filt)	weekly	0.40	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoride	weekly	1.80	mg/L	1.2	1.2	1.2	1.2	1.2
Oil and Grease	weekly	10.00	mg/L	<5	<5	<5	1.2	<5

Results are presented graphically to show a comparison with historic data trends in the following pages.

During the reporting period one EC exceedance was recorded at LDP009. The recorded result was 1236uS/cm against the EPL limit of 1200uS/cm. Elevated EC is caused by increased exposure of mine water make with goaf material. Various specialist assessments have been undertaken as part of the Springvale Mine Extension Project which conclude that there are no adverse impacts from elevated EC levels. Centennial is currently undertaking a holistic review of water management activities within the Western Region with the objective of meeting the agreed requirements of the Springvale Mine Extension Project.

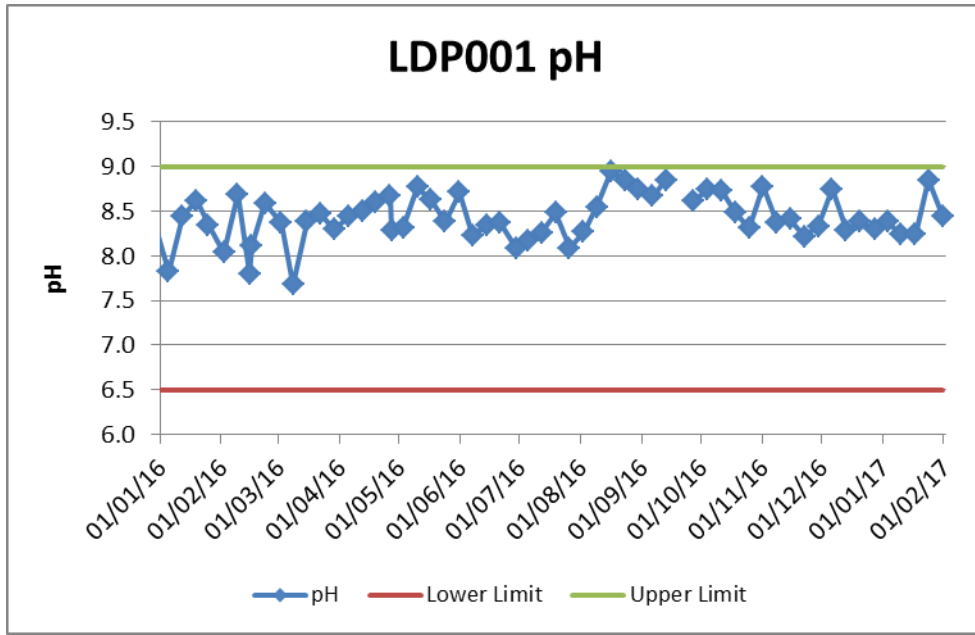


Figure 2: LDP001 pH 12 month summary

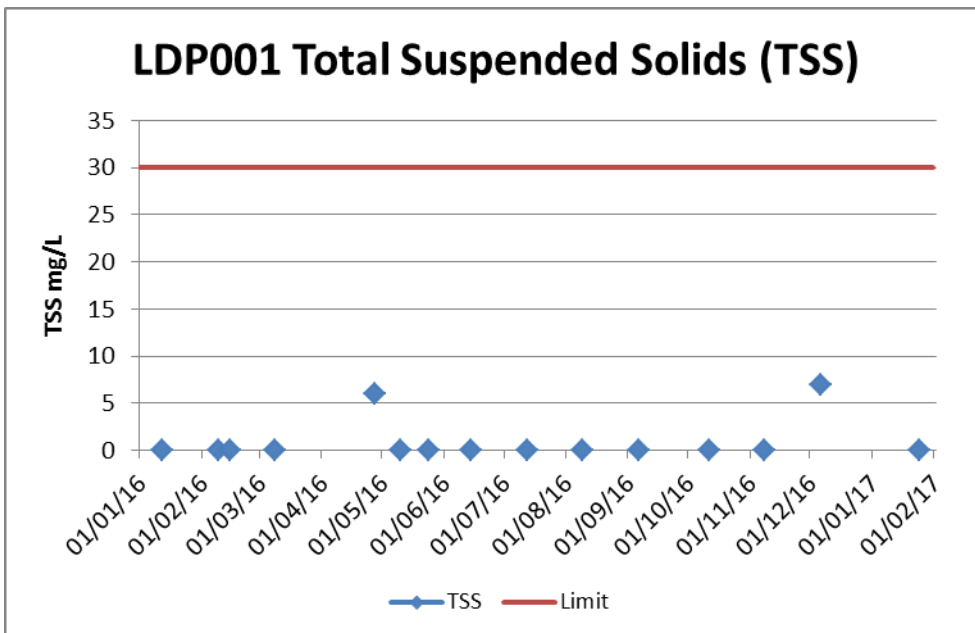


Figure 3: LDP001 TSS 12 month summary

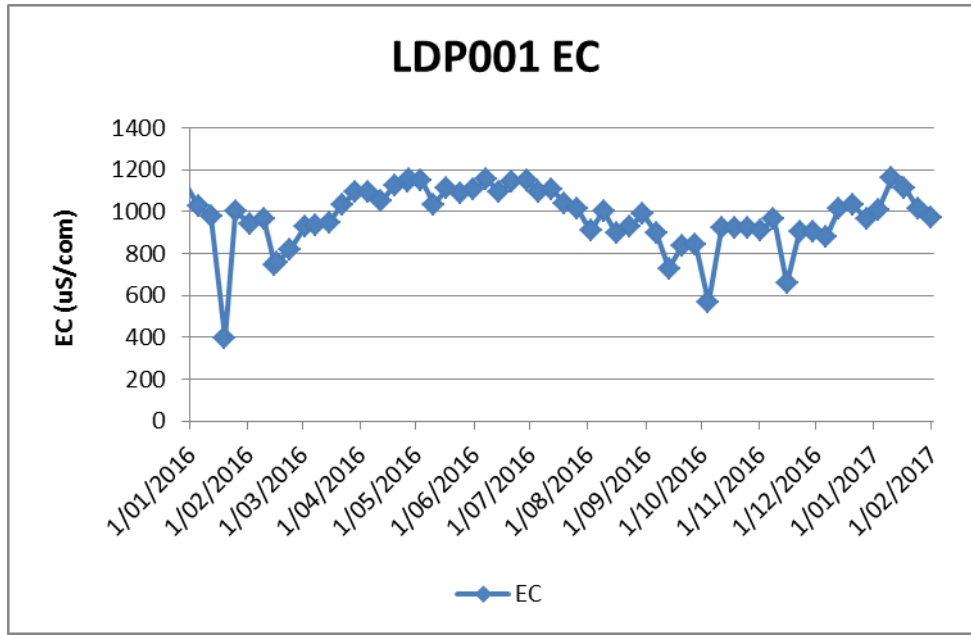


Figure 4: LDP001 EC 12 month summary

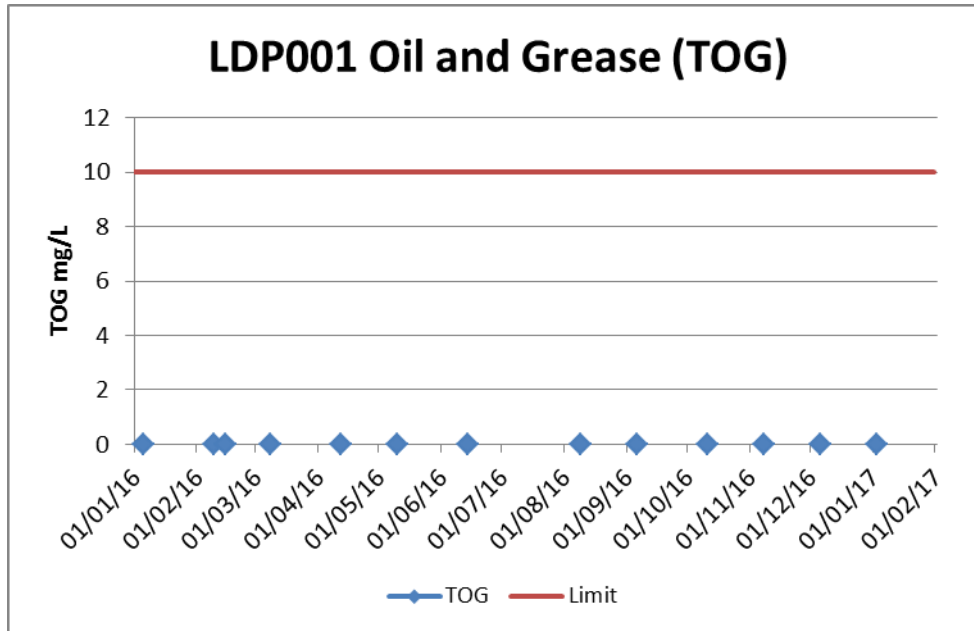


Figure 5: LDP001 TOG 12 month summary

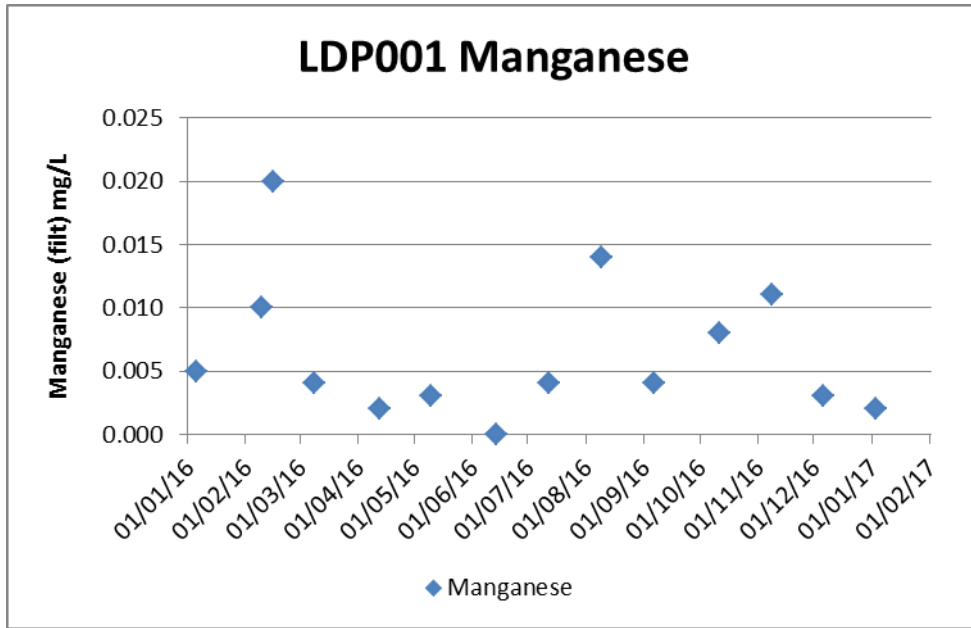


Figure 6: LDP001 Manganese 12 month summary

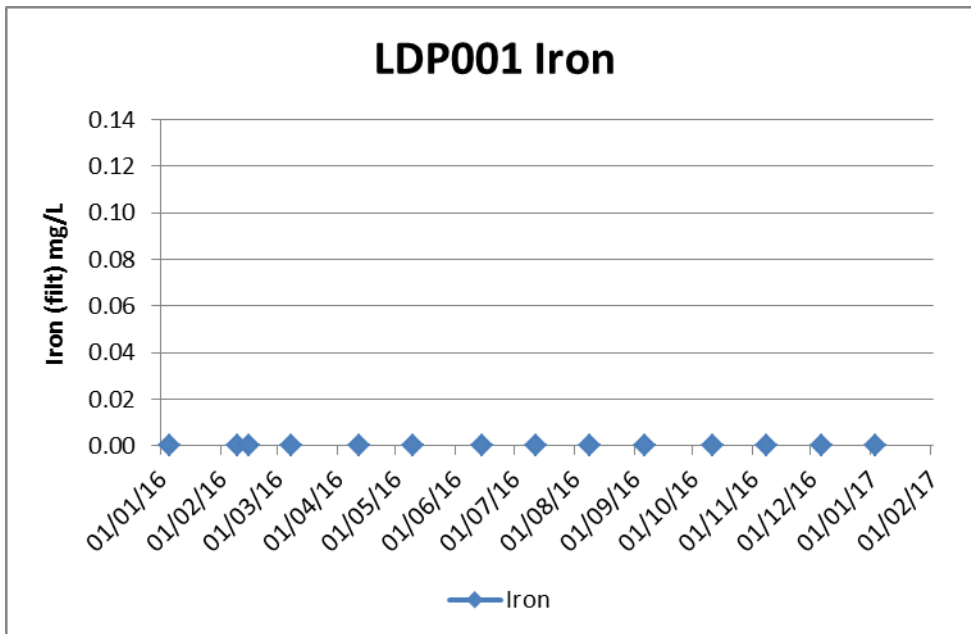


Figure 7: LDP001 Iron 12 month summary

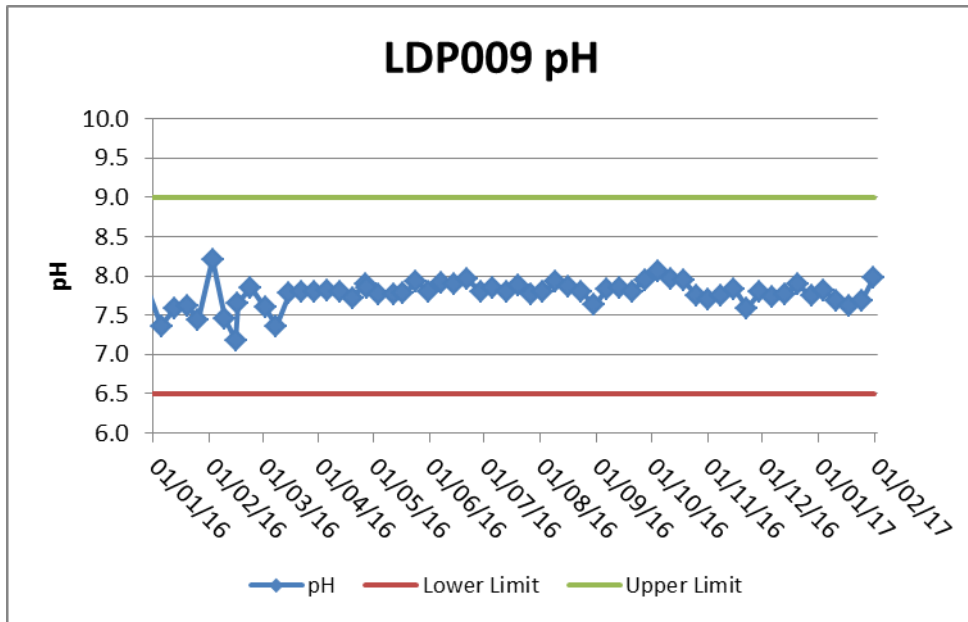


Figure 8: LDP009 pH 12 month summary

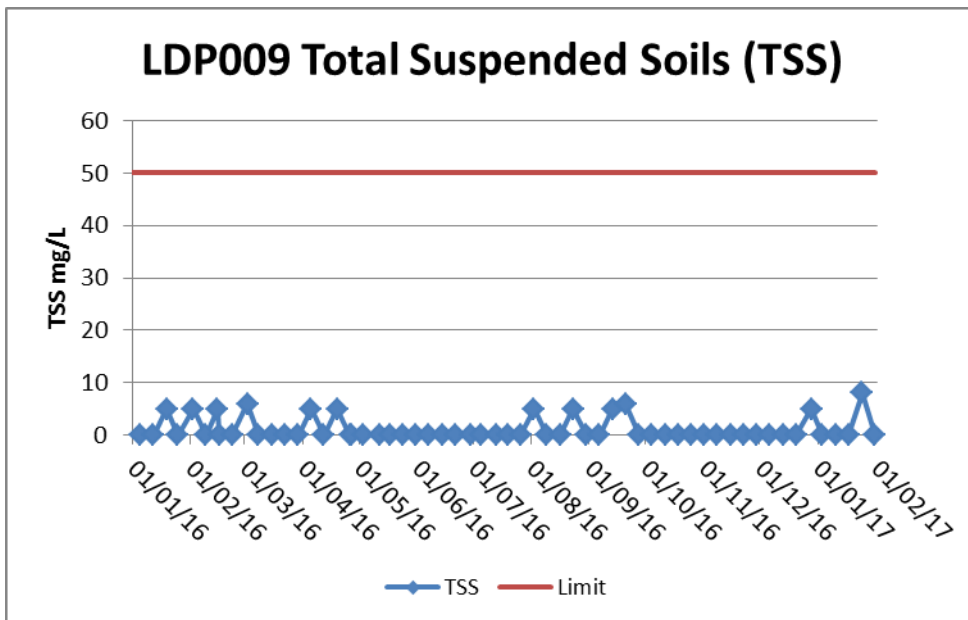


Figure 9: LDP009 TSS 12 month summary

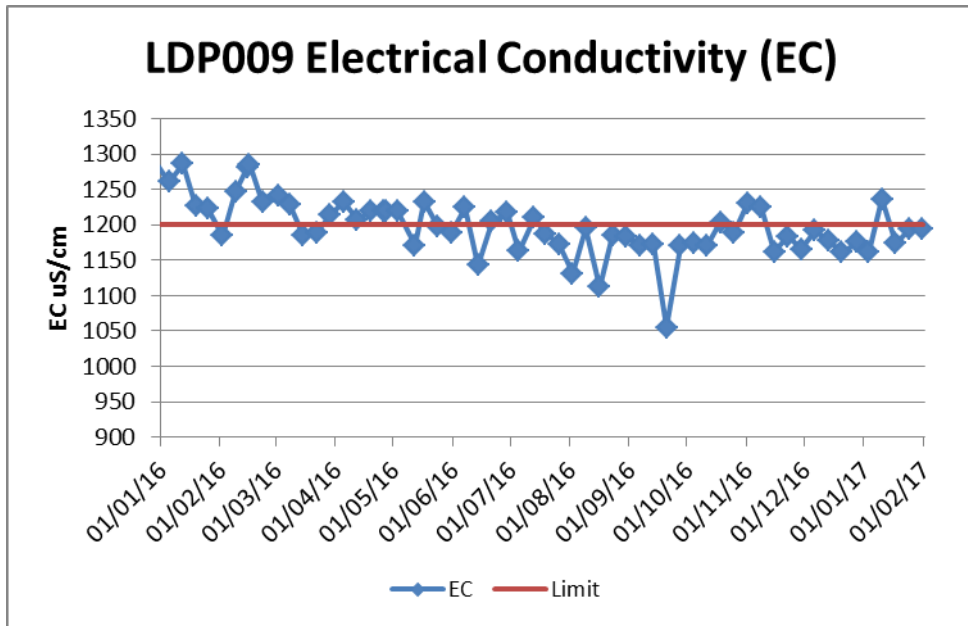


Figure 10: LDP009 EC 12 month summary

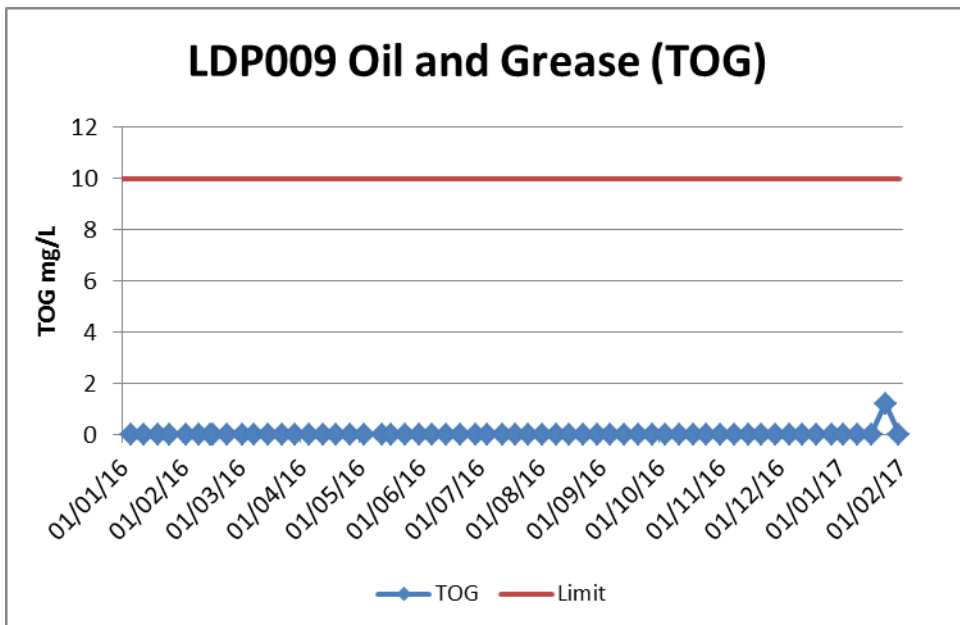


Figure 11: LDP009 TOG 12 month summary

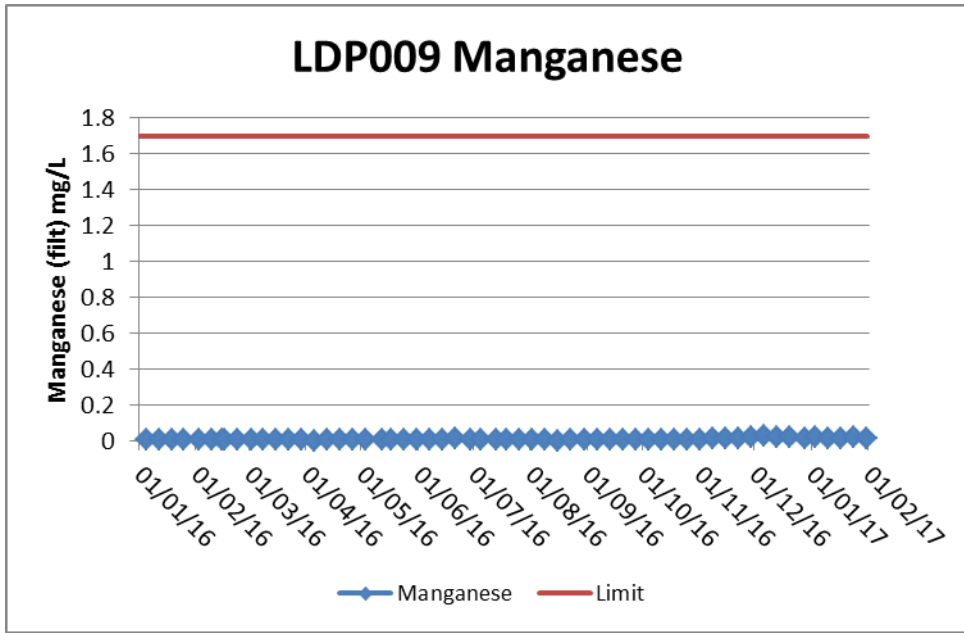


Figure 12: LDP009 Manganese 12 month summary

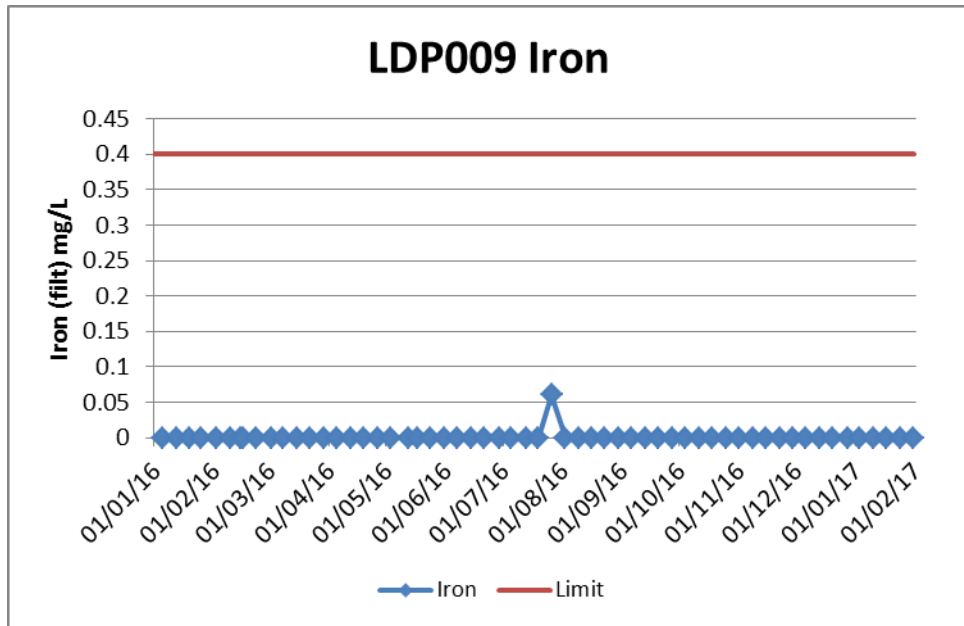


Figure 13: LDP009 Iron 12 month summary

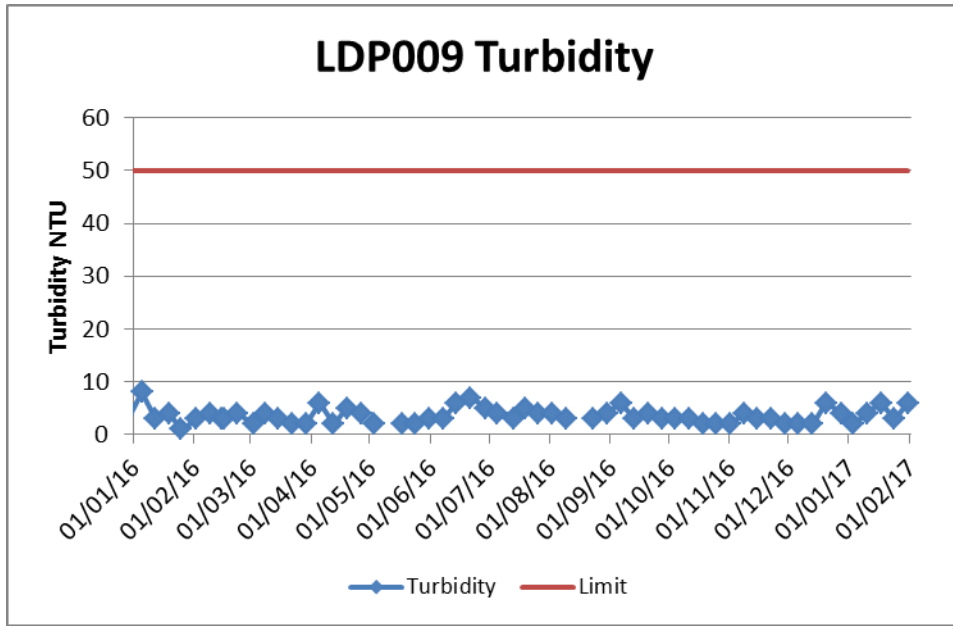


Figure 14: LDP009 Turbidity 12 month summary

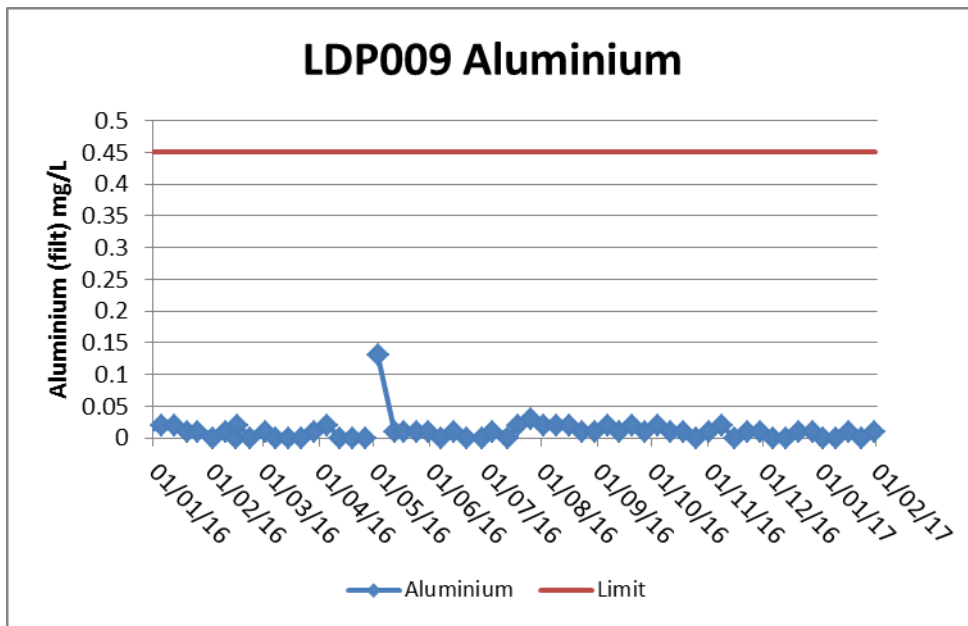


Figure 15: LDP009 Aluminium 12 month summary

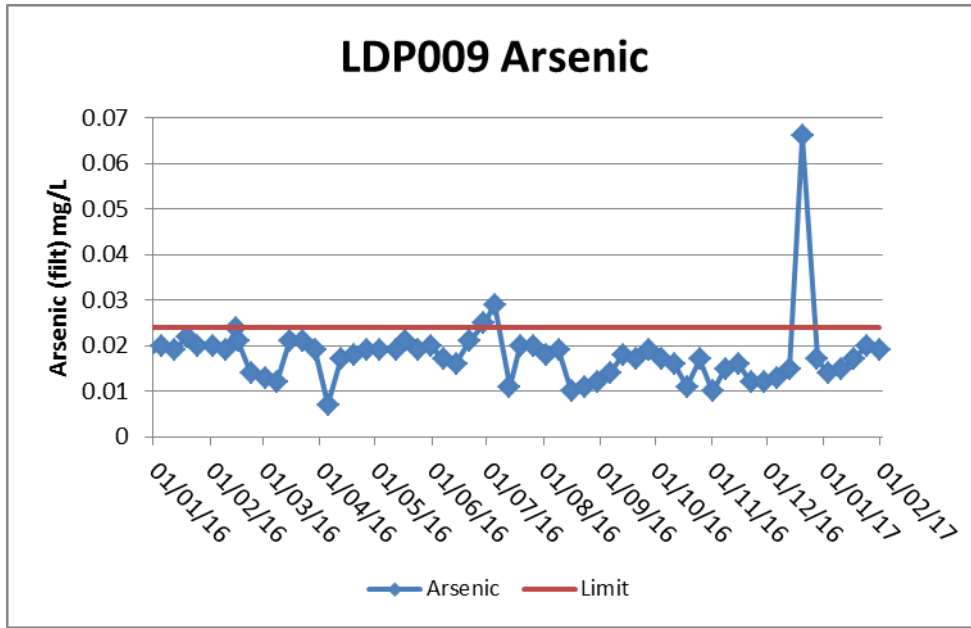


Figure 16: LDP009 Arsenic 12 month summary

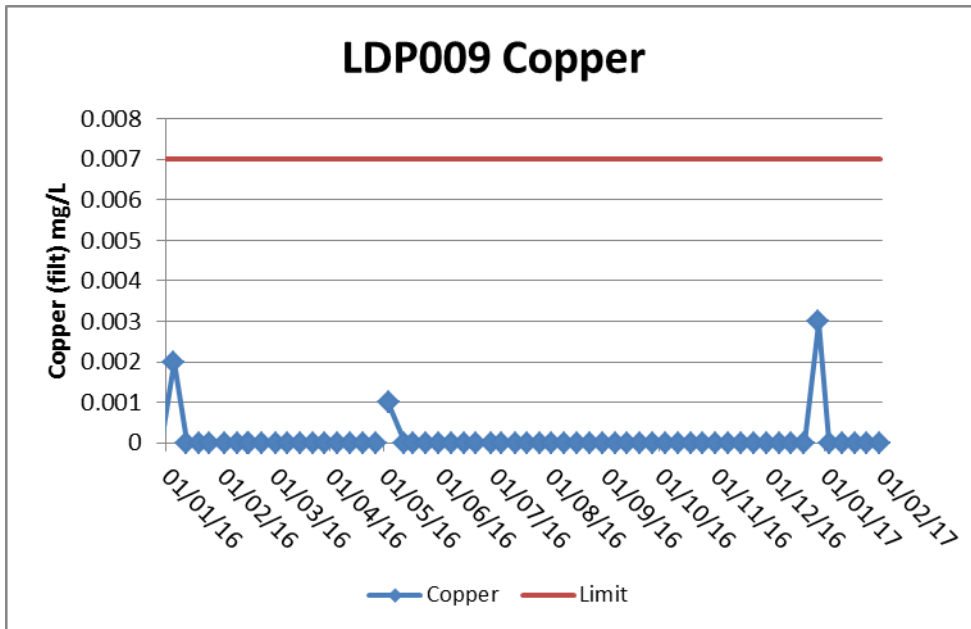


Figure 17: LDP009 Copper 12 month summary

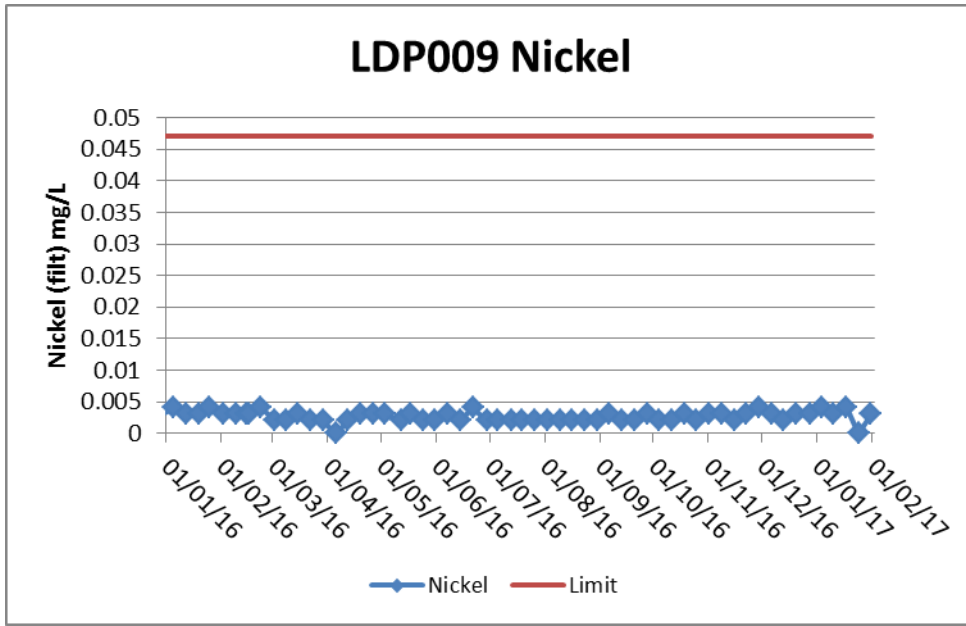


Figure 18: LDP009 Nickel 12 month summary

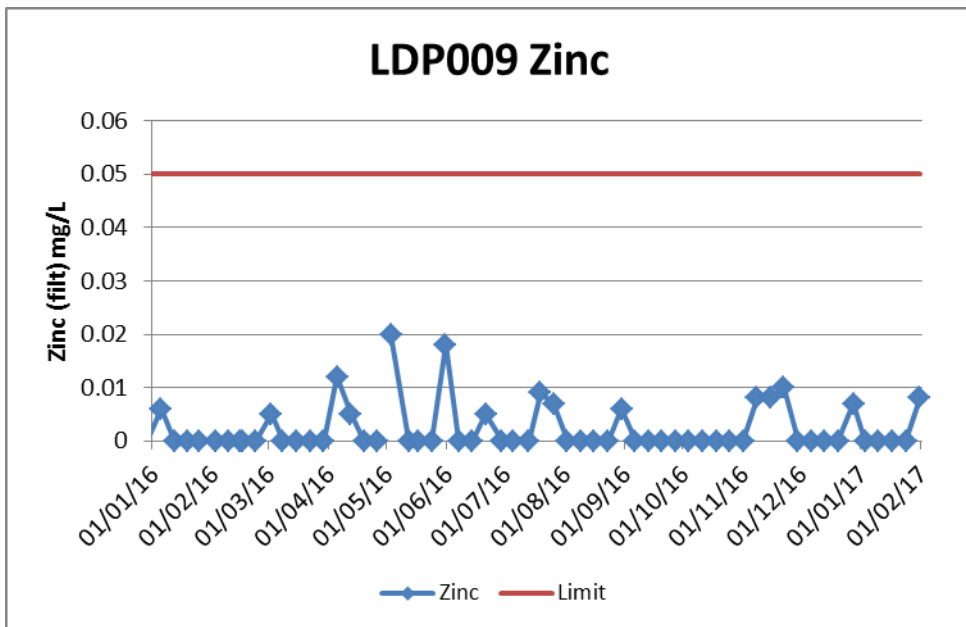


Figure 19: LDP009 Zinc 12 month summary

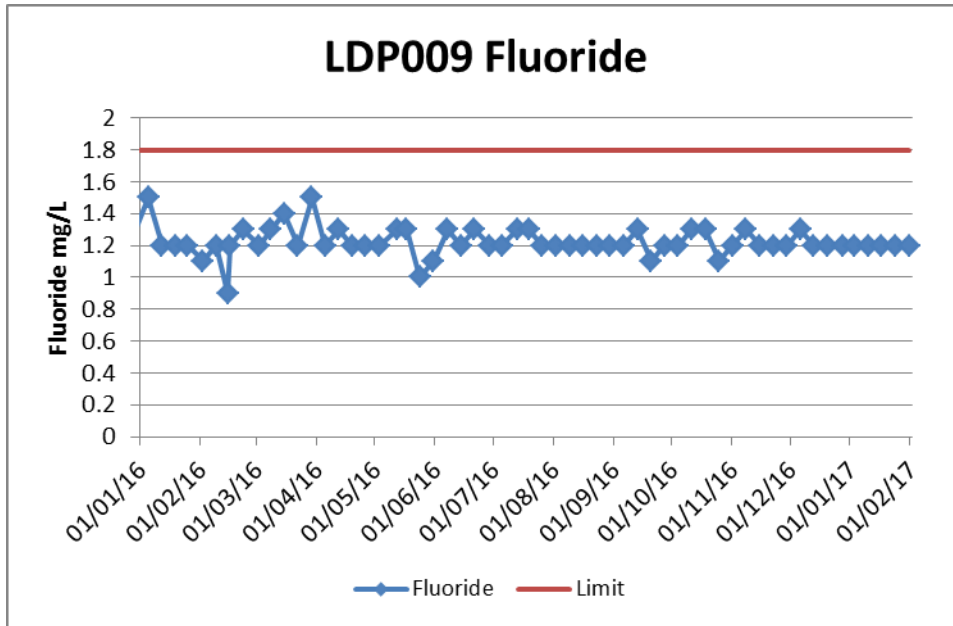


Figure 20: LDP009 Fluoride 12 month summary

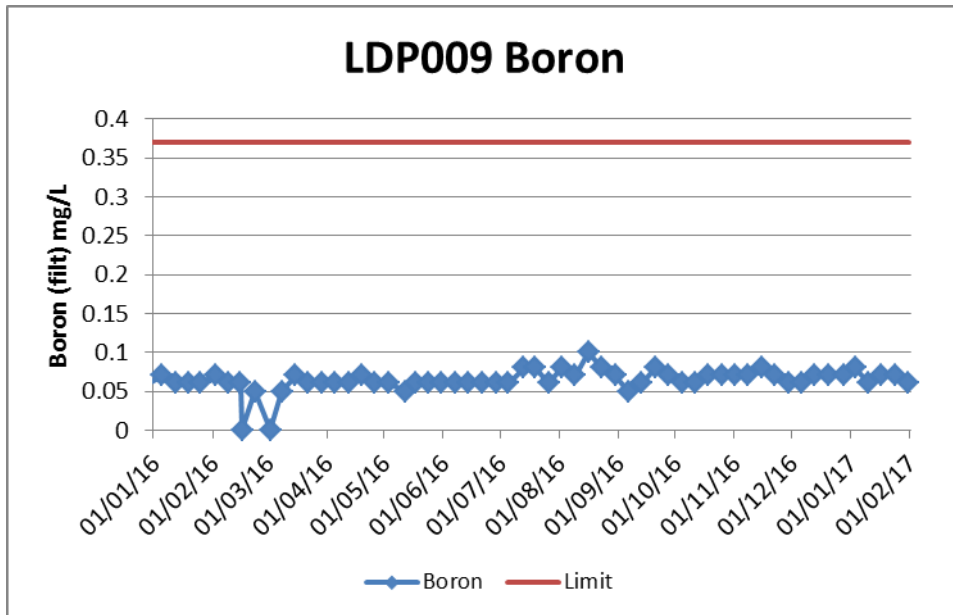


Figure 21: LDP009 Boron 12 month summary

5 Water Volume

Table 4. Licensed Discharge Points - Water Volume

Data Published:		15/02/2017		Licensee:		Springvale Coal Pty Limited	
Data Sampled:		Jan-17		Address:		Castlereagh Hwy, Lidsdale	
Data Obtained:		14/02/2017		EPL No.		3607	
Discharge Point	Unit	Licence Monitoring Frequency	Frequency Measured	Min. Value (kL)	Max. Value (kL)	Volume Limit (kL)	Exceedence (yes/no)
LDP001	kL	Daily	Daily	0	1453	10000	no
LDP002	kL	Daily	Daily	0	0.47	#	n/a
LDP004	kL	Daily during discharge	Daily	No discharge	No discharge	15000	no
LDP005	kL	Daily during discharge	Daily	No discharge	No discharge	15000	no
LDP009	kL	Daily during discharge	Daily	21529	24136	30000	no
LDP010	kL	Daily during discharge	Daily	No discharge	No discharge	#	n/a

No volume discharge limits apply.

6 Noise Monitoring

Quarterly noise monitoring was undertaken between the 21st and 22nd of December 2016. Results are presented in Table 5 below. All noise monitoring results were within criteria limits.

Table 5. Quarterly Noise Monitoring Results

Data Published:	15/02/2016	Licensee:	Springvale Coal Pty Ltd
Data Sampled:	Dec-16	Address:	Castlereagh Hwy, Lidsdale
Data Obtained:	15/02/2016	EPL No.	3607
Measured Noise Levels dB(A)			
Location Receiver Number	Estimated Mine Contribution LA _{eq} (15 minute)	LA _{eq} (15 minute) Limit	Exceedance (Yes/No)
Day			
S1	35	44	No
S2	36	43	No
S3	Inaudible	35	No
S4	Inaudible	35	No
S5	Inaudible	35	No
Evening			
S1	37	44	No
S2	36	43	No
S3	Inaudible	35	No
S4	<30	35	No
S5	Inaudible	35	No

Measured Noise Levels dB(A)					
Location Receiver Number	Estimated Mine Contribution LA _{eq} (15 minute)	LA _{eq} (15 minute) Limit	Estimated Mine Contribution LA ₁ (1 minute)	LA ₁ (1 minute) Limit	Exceedance (Yes/No)
Night					
S1	37	42	41	52	No
S2	39	43	48	53	No
S3	Inaudible	35	Inaudible	60	No
S4	Inaudible	35	Inaudible	45	No
S5	<30	35	<30	45	No

7 Complaints

No complaints were received during the reporting period in relation to Springvale Colliery. A 12 month summary is presented in Figure 22.

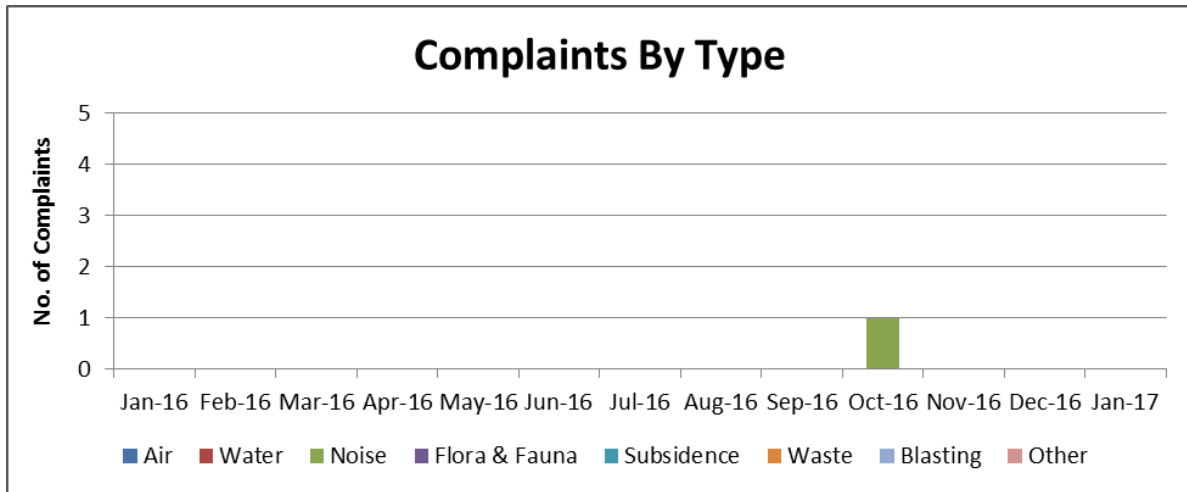


Figure 22: 12 month Complaints Summary

8 Correction Log

No corrections have been made to previous monthly reports.

Appendix A EPL Environmental Monitoring Location



licensed Discharge Point
 dust Deposition Gauge

NOTES:

DATE	10-05-2013
DRAWN	Jim Macpherson
PROJECT	SVY01587
DESCRIPTION	S:\Starvey\Z_Plans
APPROVED BY	Tony Nolan
SCALE	SCALE 1:30000
DATE	A3H Rev 1 of 1

SPRINGVALE MINE
Springvale
Licensed Discharge Points



Centennial Coal

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