



**Centennial Coal**



**Environment Protection Licence 3607**

**October 2017**

**Environmental Monitoring Data**

**Springvale Colliery**



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## 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 $\mu$ S	microsiemens

## 1 Introduction

This report summarises the environmental monitoring results for Springvale Colliery for October 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 to align 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 26<sup>th</sup> of February 2016 to align with SSD5594 commitments. The EPL was varied again on the 28<sup>th</sup> of June 2017 to align with MOD2 to SSD5594.

The EPL for Springvale is available on the NSW Environment Protection Authority web site [www.environment.nsw.gov.au](http://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](http://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
October 2016	57.0	1.49	16.08
November 2016	61.0	0.47	29.05
December 2016	72.2	3.65	32.2
January 2017	25.8	10.4	37.27
February 2017	15.6	2.07	39.81
March 2017	141.8	6.19	28.68
April 2017	20.0	- 1.48	21.07
May 2017	23.6	- 4.63	17.98
June 2017	28.2	- 6.64	15.35
July 2017	12.6	- 9.73	19.13
August 2017	37.0	- 5.77	19.13
September 2017	2.0	- 6.26	28.51
October 2017	81.2	- 1.95	27.03

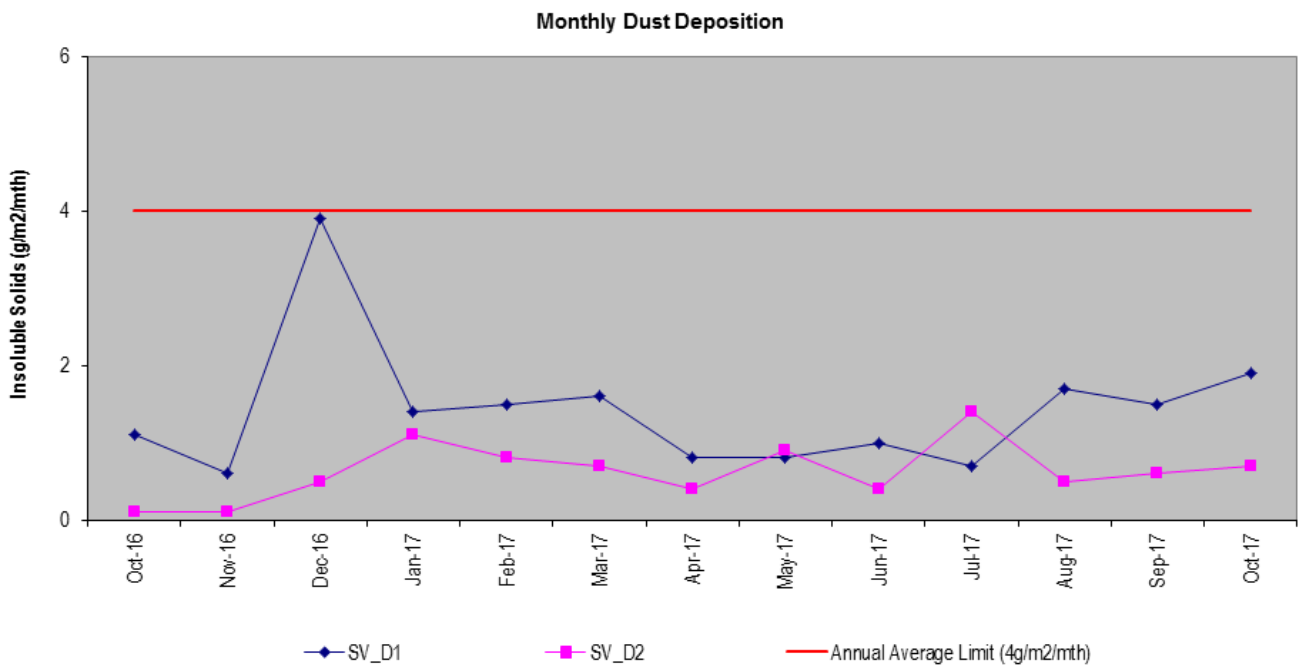
### 3 Air Quality Monitoring

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**

<b>Data Published:</b>	11/11/2017		<b>Licensee:</b>		Springvale Coal Pty Limited	
<b>Data Sampled:</b>	Exposure period 02/08/2017 to 01/09/2017		<b>Address:</b>		Castlereagh Hwy, Lidsdale	
<b>Data Obtained:</b>	09/11/2017		<b>EPL No.</b>		3607	
<b>Sampling Point</b>	<b>Monitoring frequency</b>	<b>Pollutant</b>	<b>Measurement</b>	<b>Limit</b>	<b>Units</b>	<b>Exceedence (yes/no)</b>
SV_D1	Monthly	Insoluble Solids	1.9	NA	g/m <sup>2</sup>	no
SV_D2	Monthly	Insoluble Solids	0.7	NA	g/m <sup>2</sup>	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 - October 2017**

Date Published:	10/11/2017	Licensee:	Springvale Coal Pty Ltd					
Data Sampled:	October 2017	Address:	Castlereagh Highway, Lidsdale					
Date Obtained:	9/11/2017	EPL No:	3607					
<b>LDP001</b>								
	Frequency required	100th Percentile Limit	Unit of Measure	3/10/2017	10/10/2017	17/10/2017	24/10/2017	31/10/2017
<b>Oil and Grease</b>	monthly	10	mg/L		<5			
<b>pH</b>	weekly	6.5-9.0	pH	8.8	8.5	8.5	8.5	8.8
<b>Total Suspended Solids</b>	monthly	30	mg/L	<5	<5			
<b>EC</b>	weekly	Monitoring requirement only	uS/cm	1010	1048	1091	995	959
<b>Manganese Filterable</b>	monthly	Monitoring requirement only	mg/L		0.002			
<b>Iron Filterable</b>	monthly	Monitoring requirement only	mg/L		<0.05			
<b>LDP009</b>								
	Frequency required	100th Percentile Limit	Unit of Measure	3/10/2017	10/10/2017	17/10/2017	24/10/2017	31/10/2017
<b>pH</b>	weekly	6.5-9.0	pH	8.00	8.0	7.9	7.9	8.00
<b>EC</b>	weekly	1200	uS/cm	1195	1211	1254	1153	1136
<b>Turbidity</b>	weekly	50	NTU	1.9	1.8	2.0	2.9	1.6
<b>TSS</b>	weekly	50	mg/L	<5	<5	<5	6	<5
<b>Aluminium (filt)</b>	weekly	0.45	mg/L	0.01	0.03	0.01	0.02	0.02
<b>Arsenic (filt)</b>	weekly	0.024	mg/L	0.015	0.014	0.012	0.012	0.012
<b>Copper (filt)</b>	weekly	0.007	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
<b>Manganese (filt)</b>	weekly	1.7	mg/L	0.004	0.005	0.004	0.005	0.004
<b>Nickel (filt)</b>	weekly	0.047	mg/L	0.002	0.001	0.002	0.002	0.002
<b>Zinc (filt)</b>	weekly	0.05	mg/L	0.007	<0.005	<0.005	0.006	0.007
<b>Boron (filt)</b>	weekly	0.37	mg/L	0.08	0.06	0.07	0.07	0.06
<b>Iron (filt)</b>	weekly	0.40	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
<b>Fluoride</b>	weekly	1.80	mg/L	1.0	1.2	1.3	1.2	1.2
<b>Oil and Grease</b>	weekly	10.00	mg/L	<5	<5	<5	<5	<5

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

During the reporting period two EC exceedances were recorded at LDP009. The recorded results were 1211uS/cm and 1254uS/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.

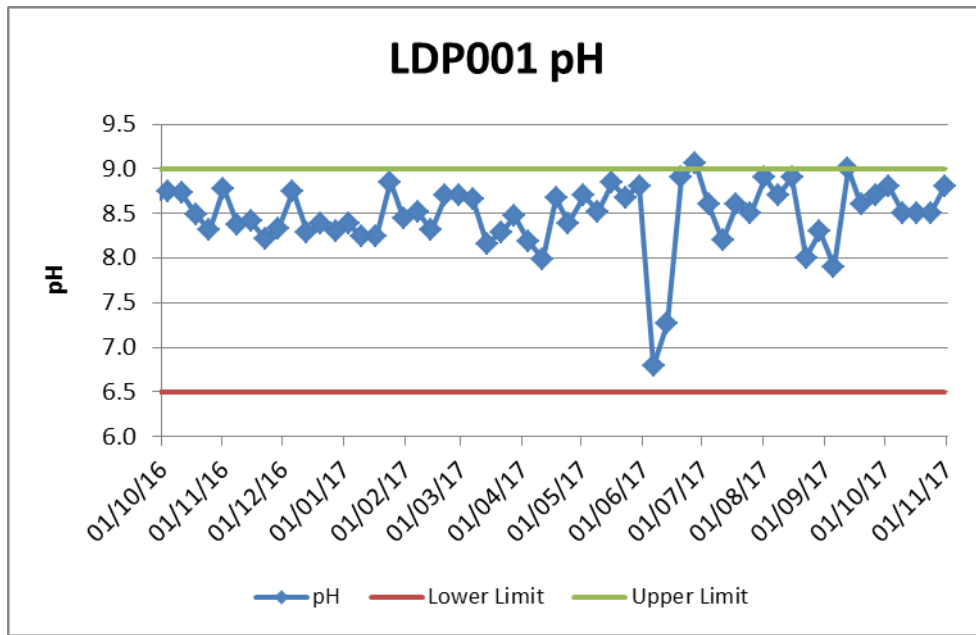


Figure 2: LDP001 pH 12 month summary

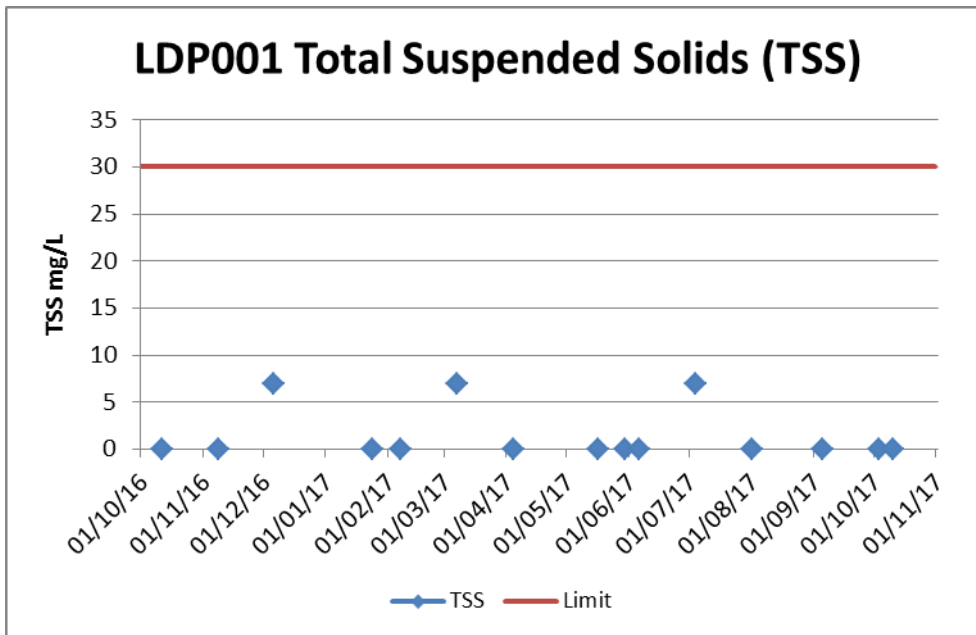


Figure 3: LDP001 TSS 12 month summary



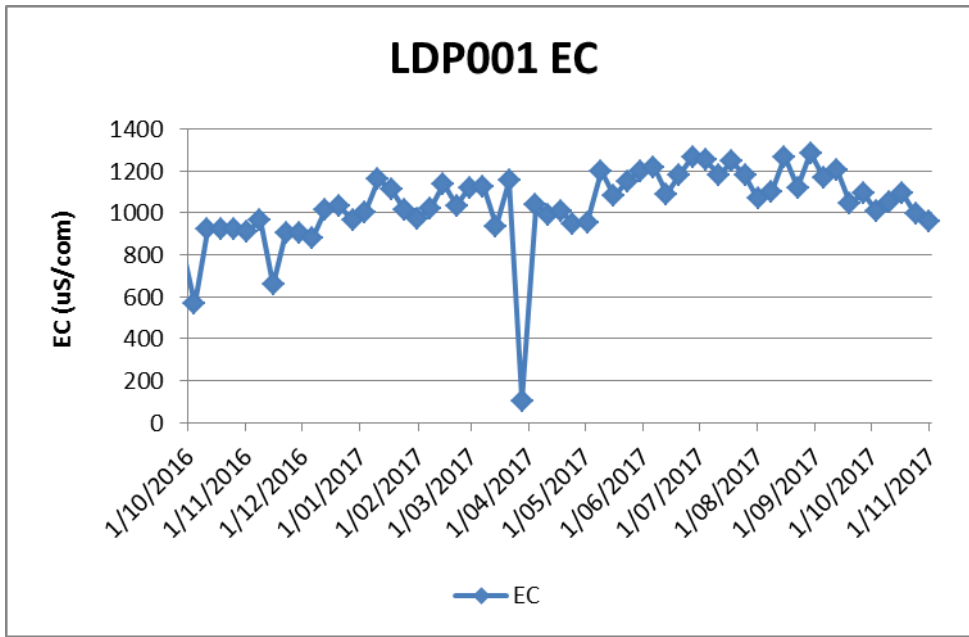


Figure 4: LDP001 EC 12 month summary

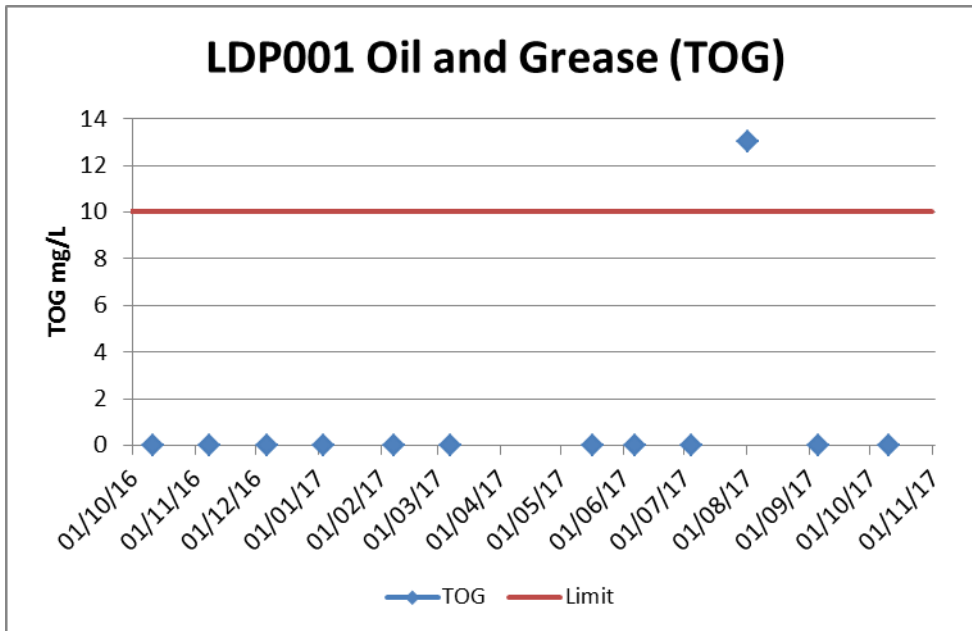


Figure 5: LDP001 TOG 12 month summary

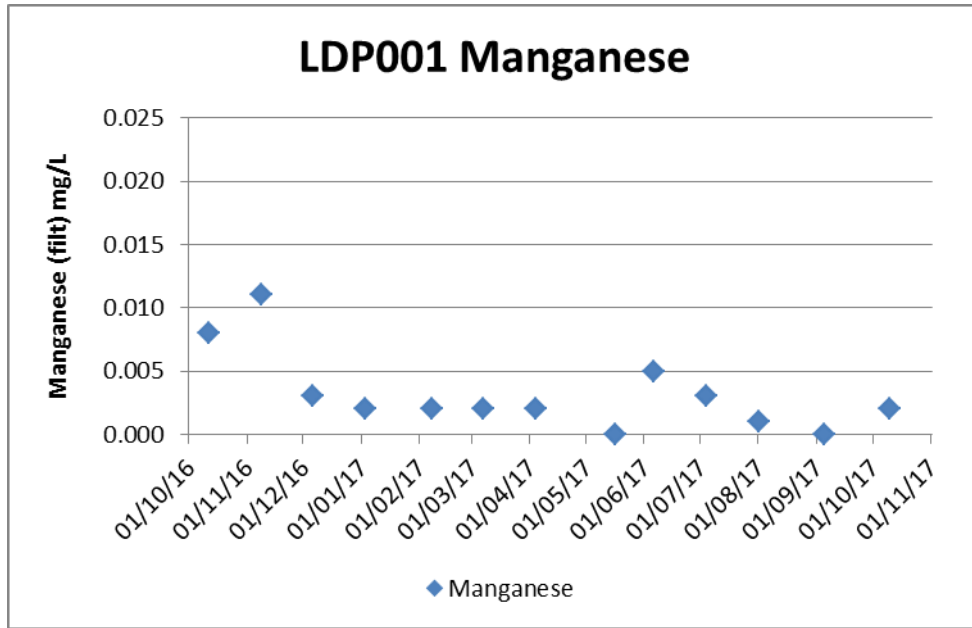


Figure 6: LDP001 Manganese 12 month summary

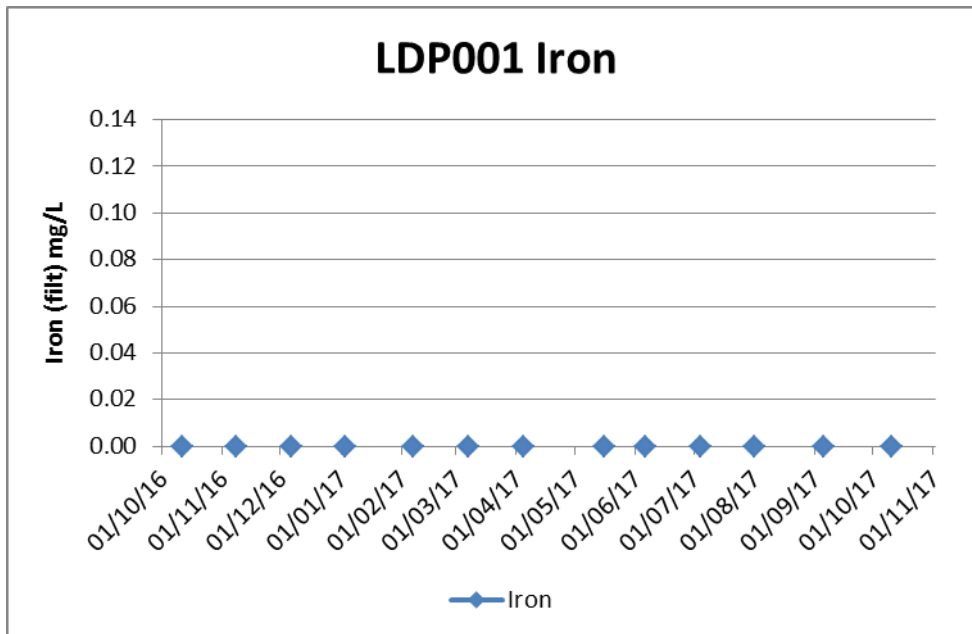


Figure 7: LDP001 Iron 12 month summary

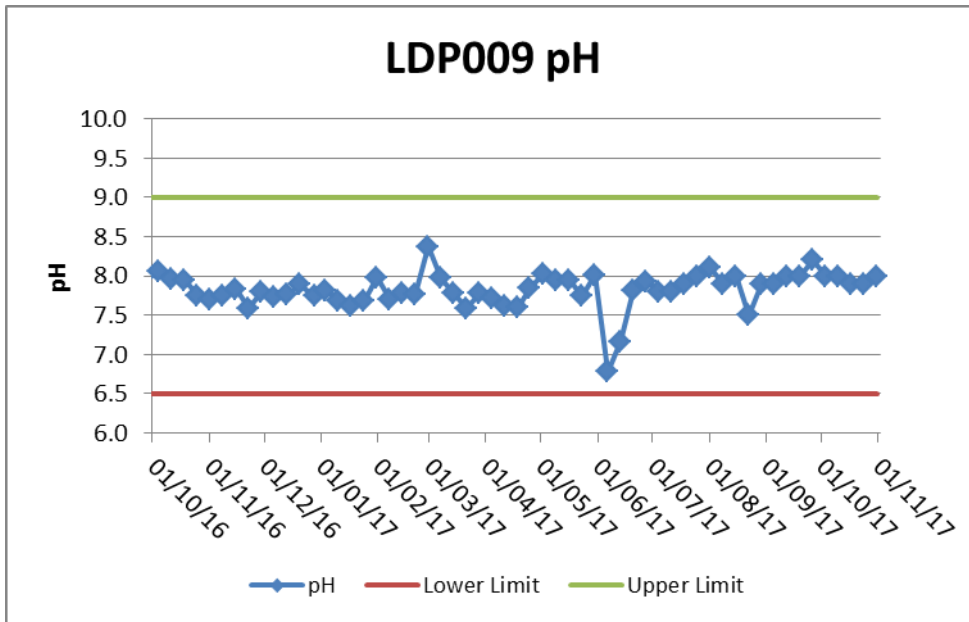


Figure 8: LDP009 pH 12 month summary

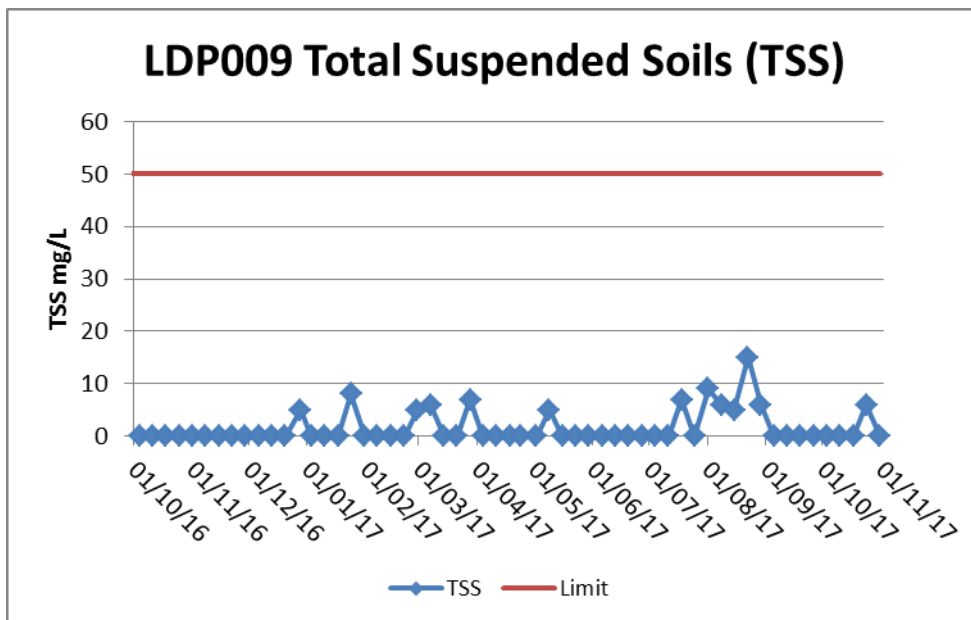


Figure 9: LDP009 TSS 12 month summary

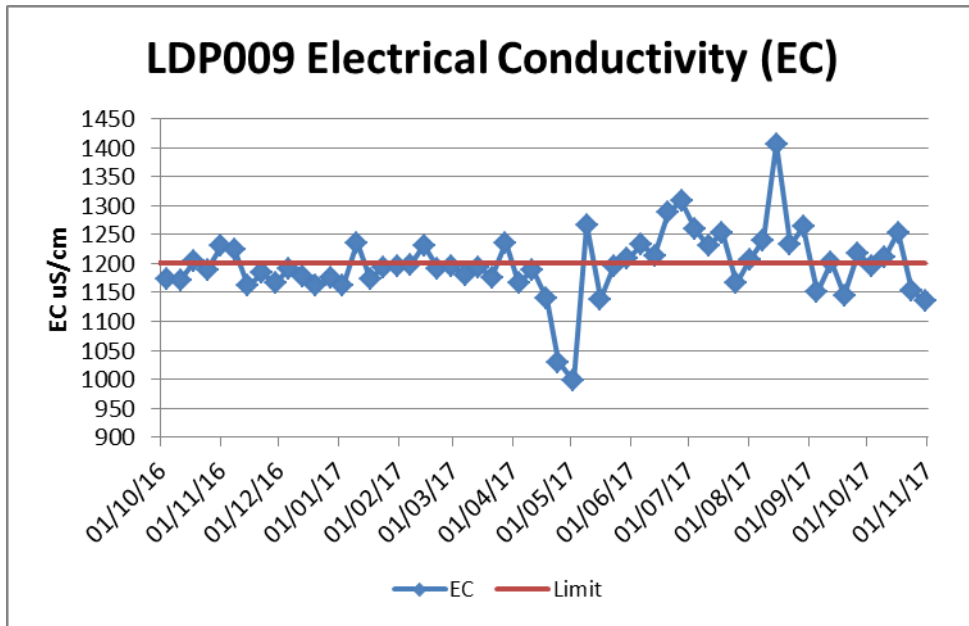


Figure 10: LDP009 EC 12 month summary

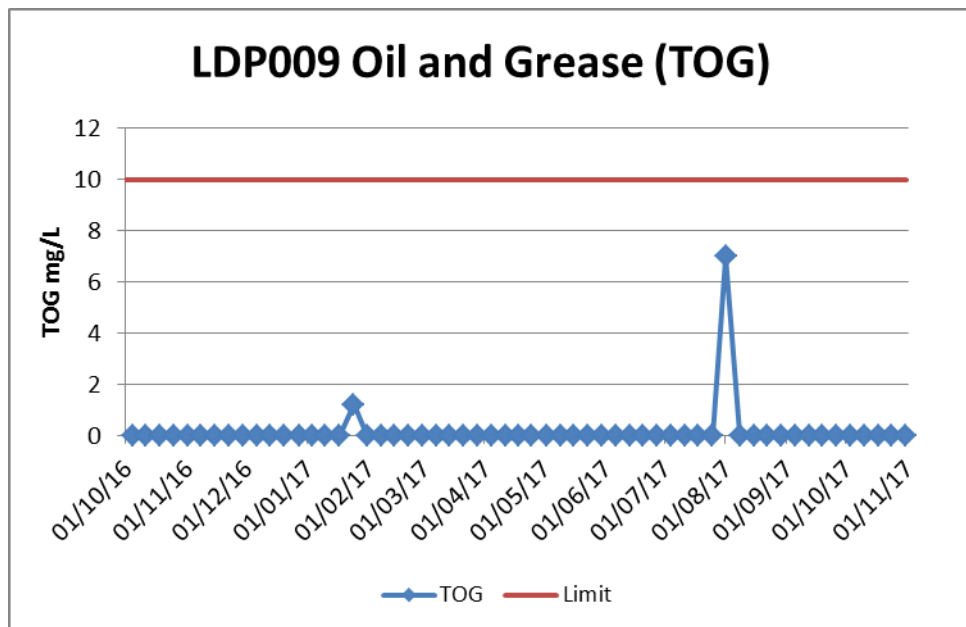


Figure 11: LDP009 TOG 12 month summary

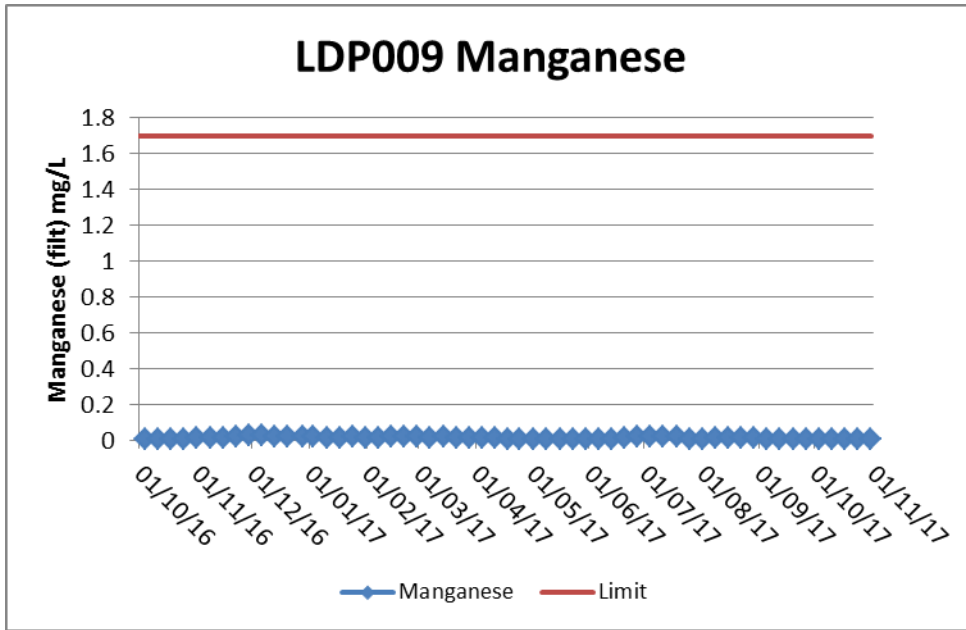


Figure 12: LDP009 Manganese 12 month summary

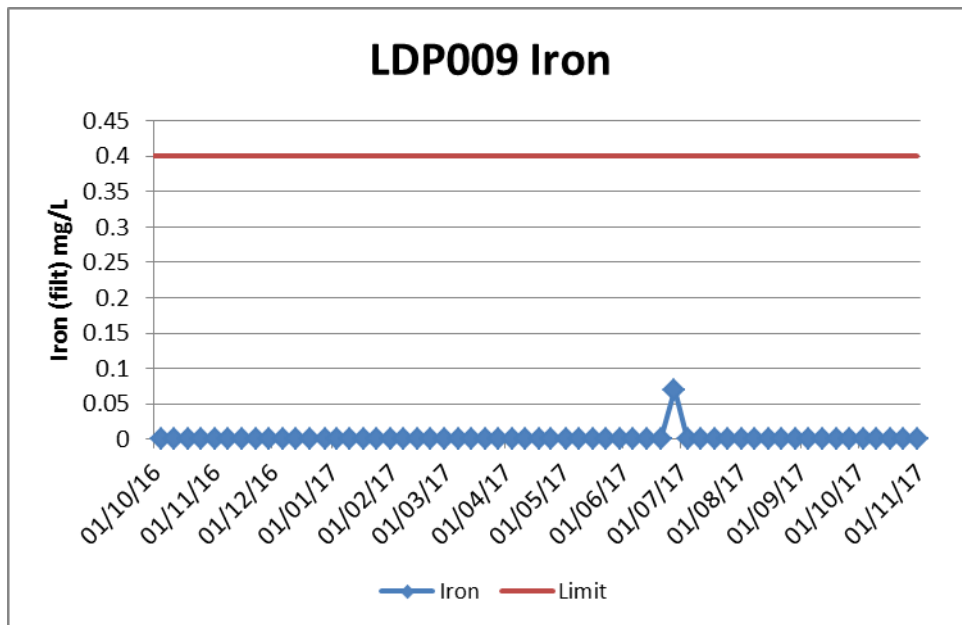


Figure 13: LDP009 Iron 12 month summary

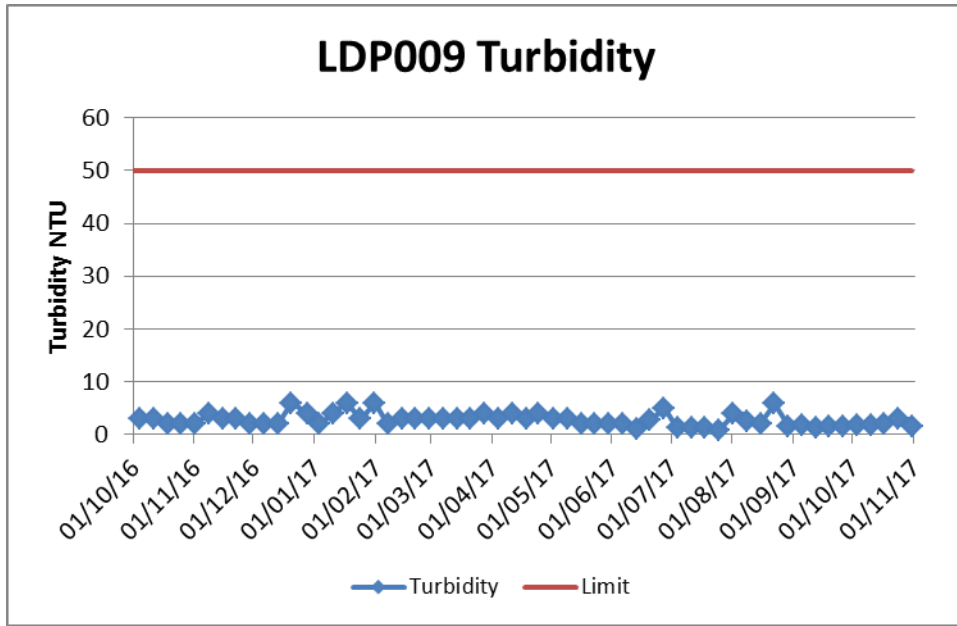


Figure 14: LDP009 Turbidity 12 month summary

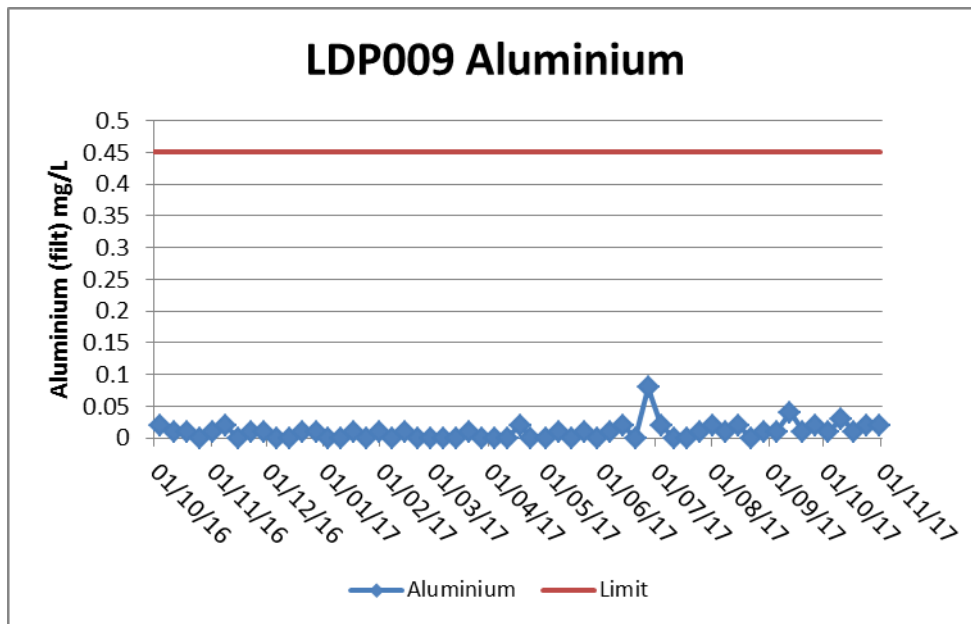


Figure 15: LDP009 Aluminium 12 month summary

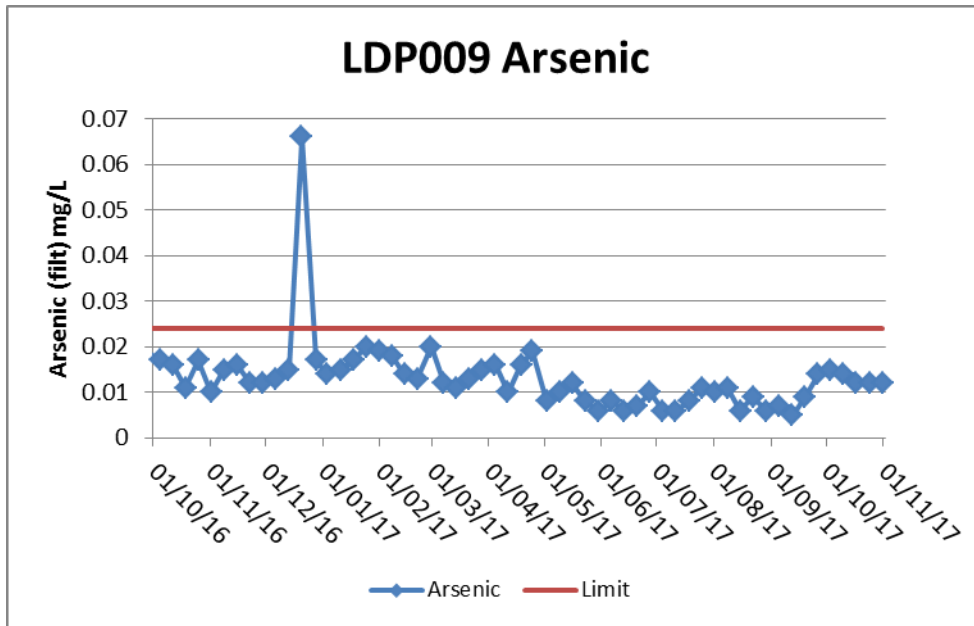


Figure 16: LDP009 Arsenic 12 month summary

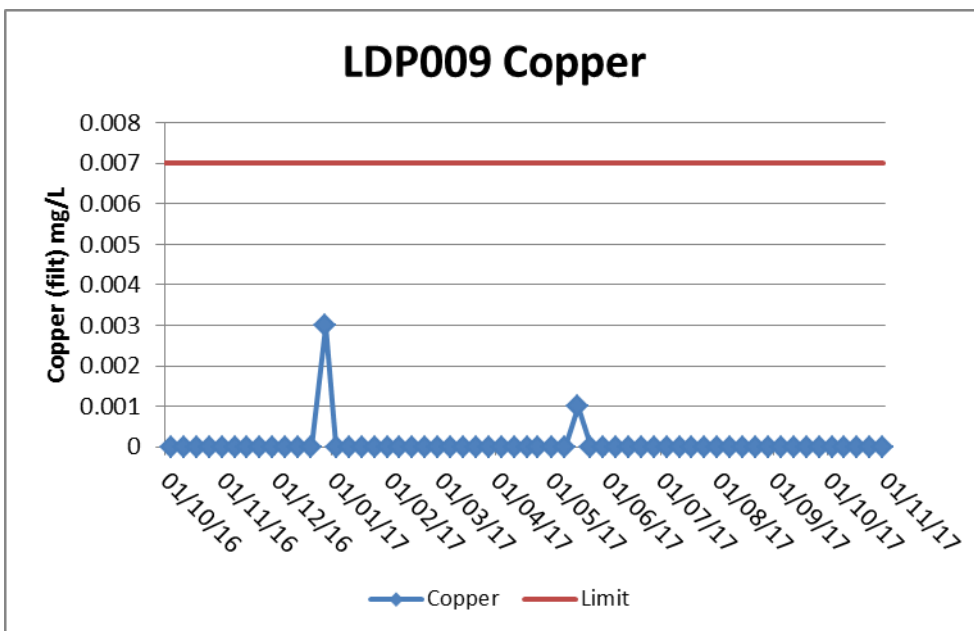


Figure 17: LDP009 Copper 12 month summary

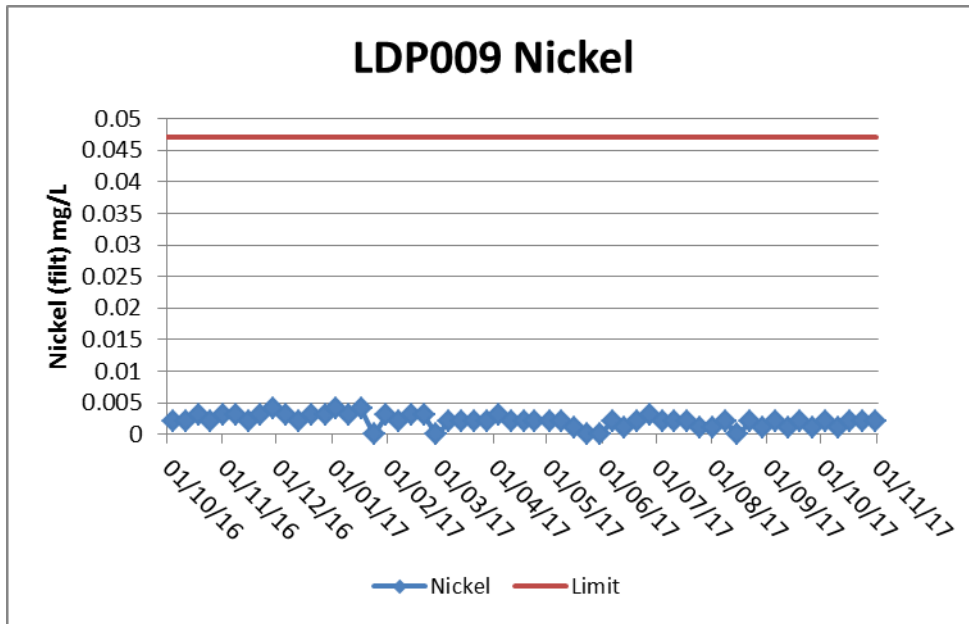


Figure 18: LDP009 Nickel 12 month summary

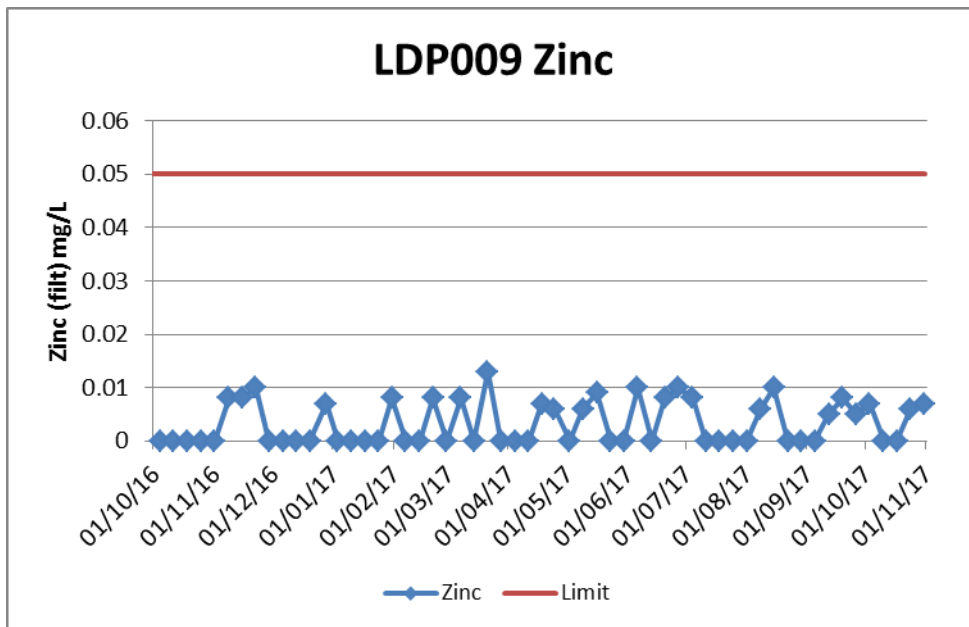


Figure 19: LDP009 Zinc 12 month summary



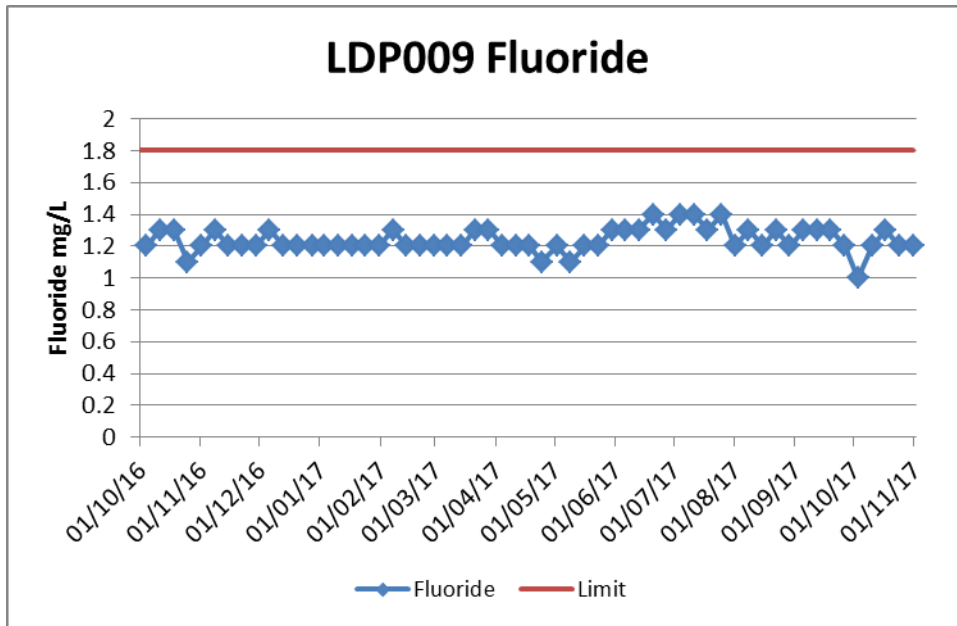


Figure 20: LDP009 Fluoride 12 month summary

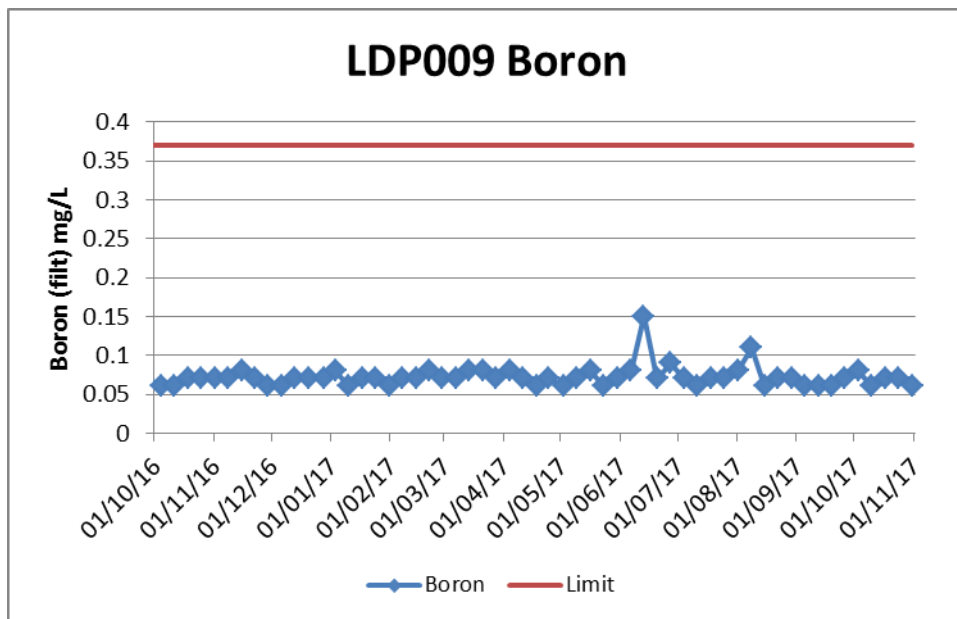


Figure 21: LDP009 Boron 12 month summary

## 5 Water Volume

**Table 4. Licensed Discharge Points - Water Volume**

<b>Data Published:</b>		11/11/2017		<b>Licensee:</b>		Springvale Coal Pty Limited	
<b>Data Sampled:</b>		Oct-17		<b>Address:</b>		Castlereagh Hwy, Lidsdale	
<b>Data Obtained:</b>		11/11/2017		<b>EPL No.</b>		3607	
<b>Discharge Point</b>	<b>Unit</b>	<b>Licence Monitoring Frequency</b>	<b>Frequency Measured</b>	<b>Min. Value (kL)</b>	<b>Max. Value (kL)</b>	<b>Volume Limit (kL)</b>	<b>Exceedence (yes/no)</b>
LDP001	kL	Daily	Daily	1188	3722	10000	no
LDP002	kL	Daily	Daily	0	0	#	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	20896	24453	30000	no
LDP010	kL	Daily during discharge	Daily	No discharge	No discharge	#	n/a

# No volume discharge limits apply.

## **6 Noise Monitoring**

Quarterly attended noise monitoring was undertaken over the 27<sup>th</sup> and 28<sup>th</sup> of September 2017. Results from the report are presented in Table 5 below.

A noise exceedance was recorded at S1 during nighttime monitoring. The result is currently being investigated.

**Table 5: September Noise Monitoring Results**

<b>Data Published:</b>		11/11/2017			<b>Licensee:</b>		Springvale Coal Pty Ltd	
<b>Data Sampled:</b>		Sep-17			<b>Address:</b>		Castlereagh Hwy, Lidsdale	
<b>Data Obtained:</b>		20/10/2017			<b>EPL No.:</b>		3607	
Measured Noise Levels dB(A)								
Location Receiver Number	LA <sub>max</sub>	LA <sub>1</sub>	LA <sub>10</sub>	LA <sub>90</sub>	LA <sub>eq</sub>	Estimated Mine Contribution LA <sub>eq</sub> (15 minute)	LA <sub>eq</sub> (15 minute) Limit	Date/Start Time/Weather
<b>Day</b>								
S1	59	53	50	46	48	36	44	28/9/2017 11:35 14°C 3 m/s W 8/8 Cloud Cover
S2	72	61	54	47	53	40	43	28/9/2017 11:57 12°C 5 m/s WNW 8/8 Cloud Cover
S3	81	70	59	47	58	Inaudible	35	28/9/2017 13:00 14°C 6 m/s W 6/8 Cloud Cover
S4	73	60	50	43	49	34	35	28/9/2017 12:20 13°C 4 m/s WNW 7/8 Cloud Cover
S5	61	58	54	45	51	<33	35	28/9/2017 12:39 13°C 5 m/s W 7/8 Cloud Cover
<b>Evening</b>								
S1	58	51	48	44	46	37	44	27/9/2017 21:25 16°C 1-2 m/s WNW 7/8 Cloud Cover
S2	53	48	44	40	42	38	43	27/9/2017 21:06 17°C 1 m/s ESE 8/8 Cloud Cover
S3	78	65	50	44	53	Inaudible	35	27/9/2017 21:45 16°C 1 m/s ESE 8/8 Cloud Cover
S4	50	41	37	30	34	30	35	27/9/2017 20:46 16°C 1 m/s ESE 8/8 Cloud Cover
S5	56	47	36	28	35	26	35	27/9/2017 20:26 17°C 1 m/s E 7/8 Cloud Cover

Location Receiver Number	LA <sub>max</sub>	LA <sub>1</sub>	LA <sub>10</sub>	LA <sub>90</sub>	LA <sub>eq</sub>	Estimated Mine Contribution LA <sub>eq</sub> (15 minute)	LA <sub>eq</sub> (15 minute) Limit	Estimated Mine Contribution LA 1 (1 minute)	LA 1 (1 minute) Limit	Date/Start Time/Weather
<b>Night</b>										
S1	58	54	51	46	49	45	42	55	52	27/9/2017 22:22 16°C 1 m/s NW 8/8 Cloud Cover
S2	55	51	49	44	47	43	43	51	53	27/9/2017 22:47 15°C 2 m/s NW 8/8 Cloud Cover
S3	85	69	51	43	58	Inaudible	35	Inaudible	60	27/9/2017 22:00 17°C 1 m/s NW 8/8 Cloud Cover
S4	63	53	40	35	41	34	35	43	45	27/9/2017 23:10 15°C 1 m/s SW 8/8 Cloud Cover
S5	52	50	47	32	41	31	35	34	45	27/9/2017 23:30 17°C 1 m/s SW 6/8 Cloud Cover

## 7 Complaints

No complaints were received during the reporting period. A 12 month summary of complaints is presented in Figure 22.

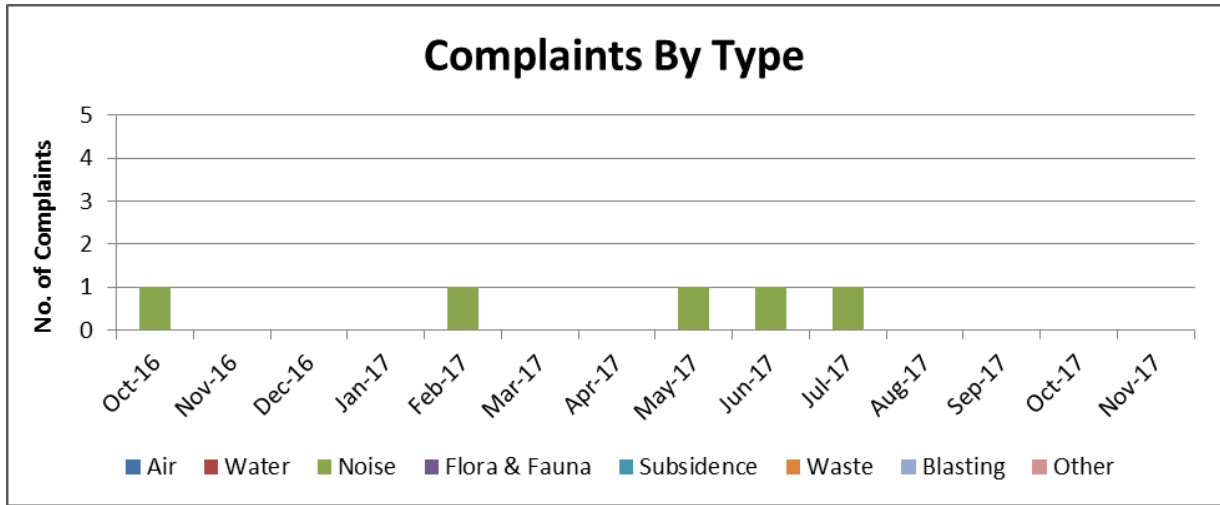


Figure 22: 12 month Complaints Summary

## 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
BY	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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