

Monthly Environmental Data January 2014

Contents

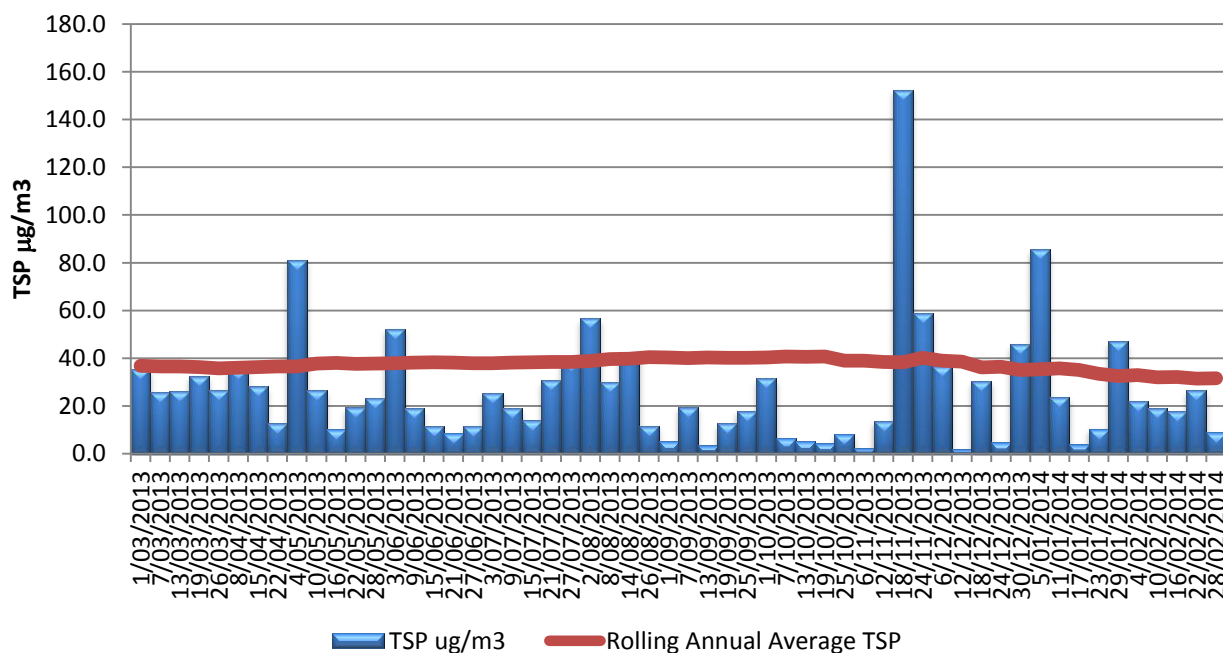
Monthly Environmental Data January 2014	0
Air Quality	0
Tapered Element Oscillating Microbalance Sampling	3
Dust Deposition Sampling.....	5
Blasting	6
Ground & Surface Water	7
Weather Data.....	8
Average Maximum Wind Speed / Average Wind Direction	8

Air Quality

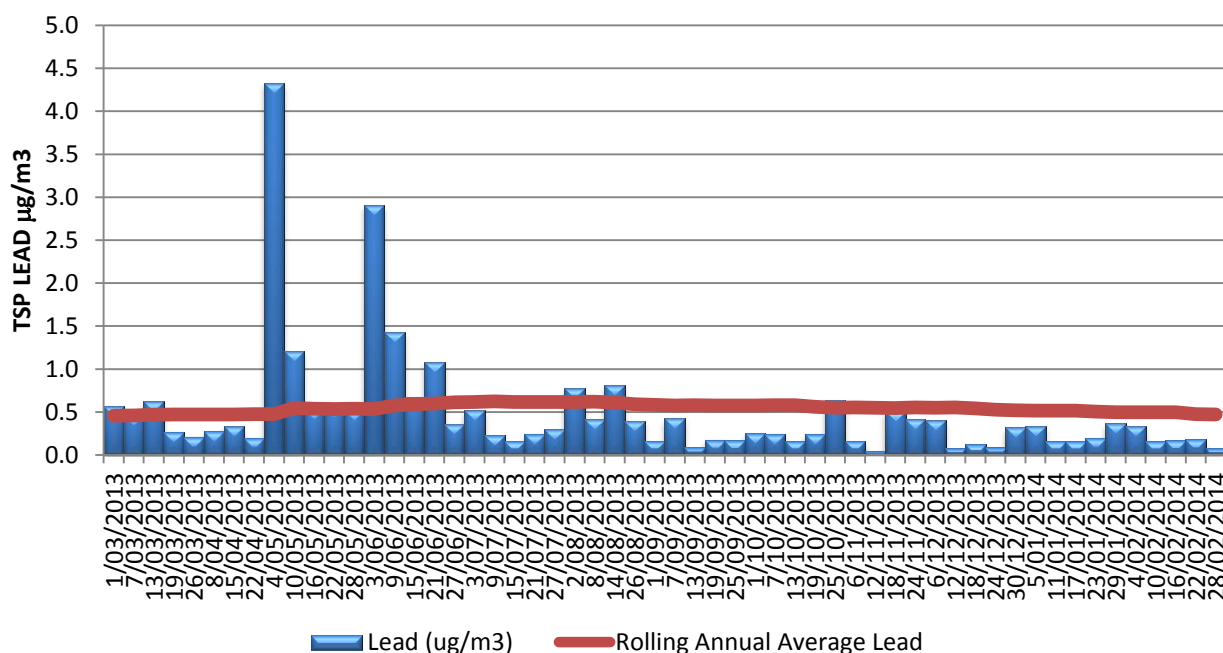
EPL10

Date	TSP ug/m3	Lead (ug/m3)
4/02/2014	22	0.34
10/02/2014	19	0.15
16/02/2014	18	0.17
22/02/2014	26	0.18
28/02/2014	9	0.08

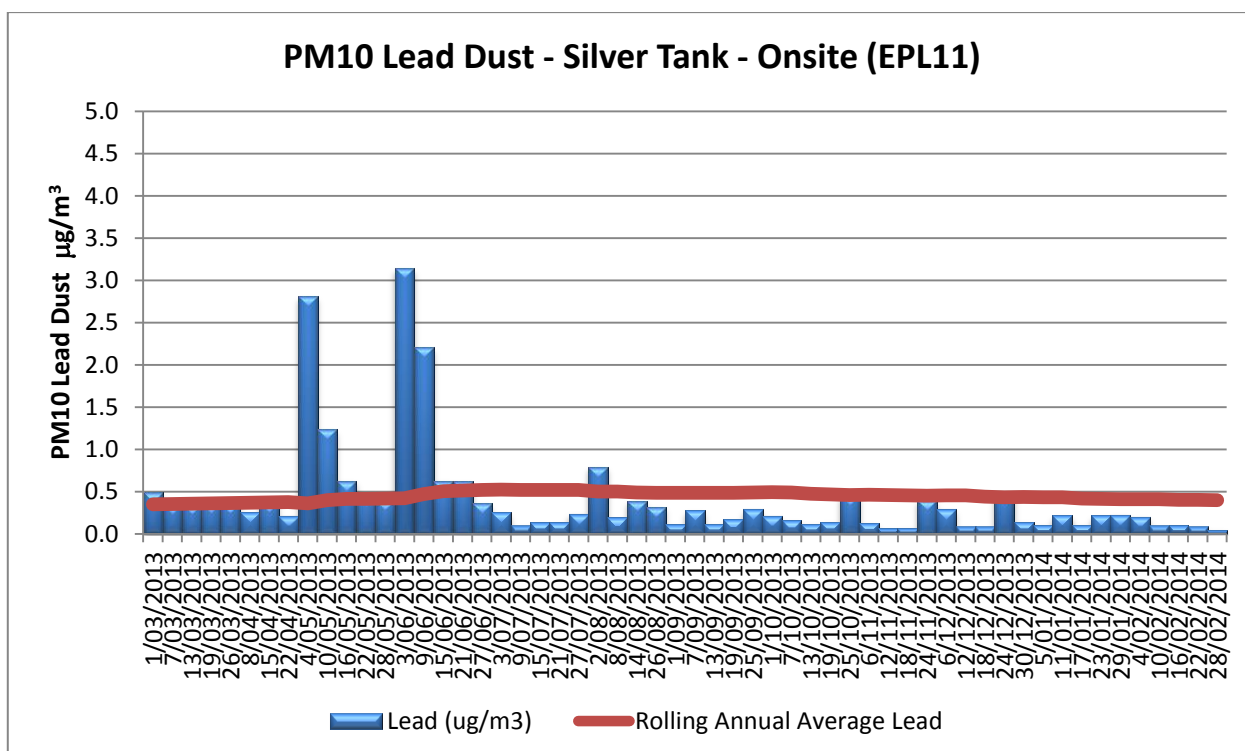
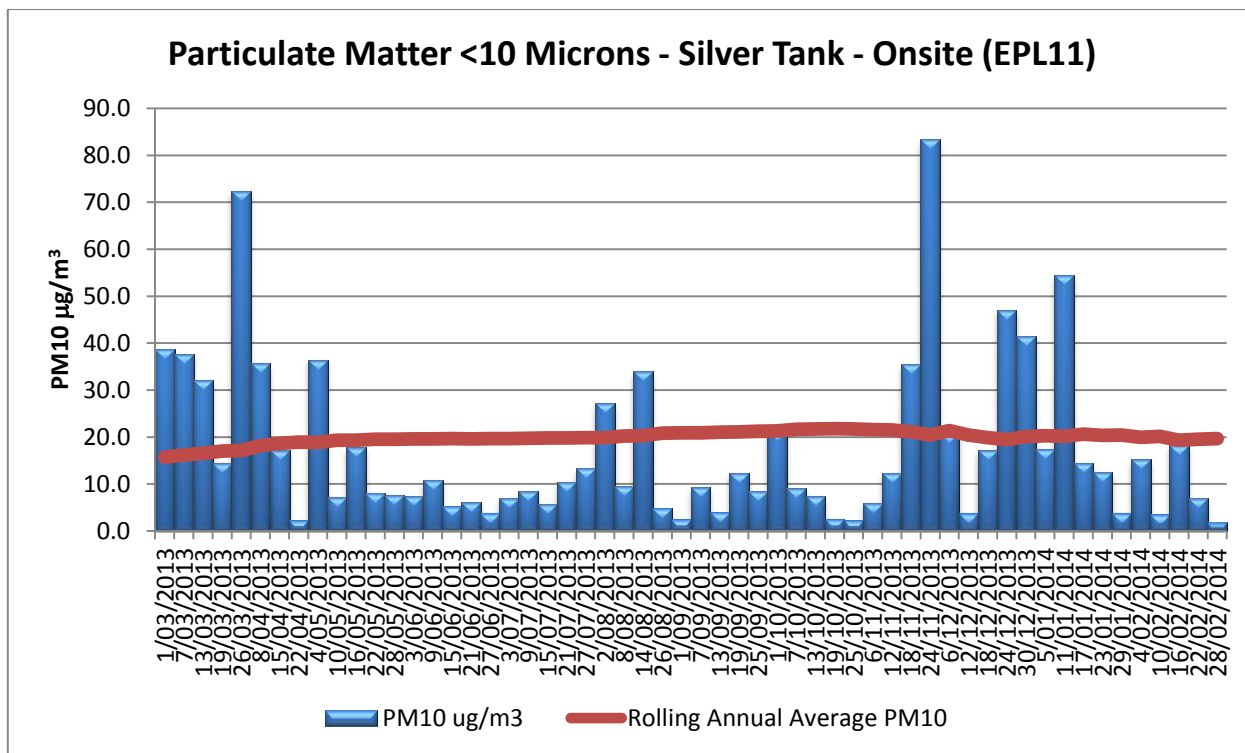
Total Suspended Particles - Silver Tank - On Site (EPL10)



TSP Lead - Silver Tank - On Site (EPL10)

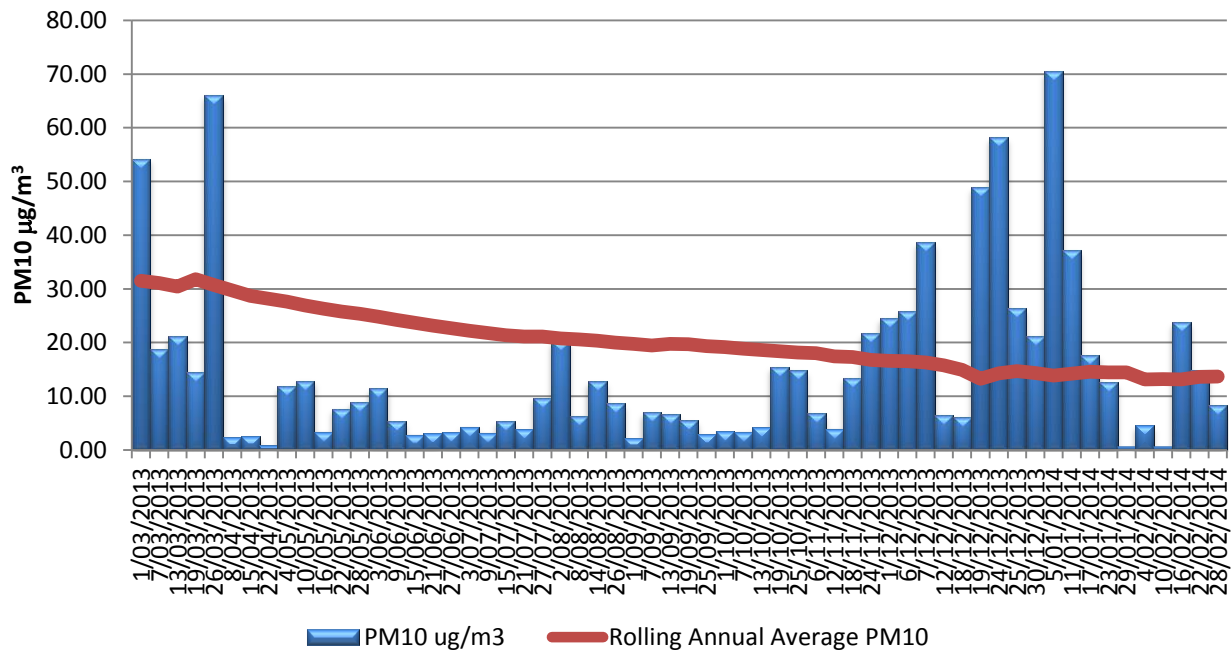


Date	PM10 ug/m3	Lead (ug/m3)
4/02/2014	15.2	0.2
10/02/2014	3.5	0.1
16/02/2014	18.2	0.1
22/02/2014	7.0	0.1
28/02/2014	1.7	0.0

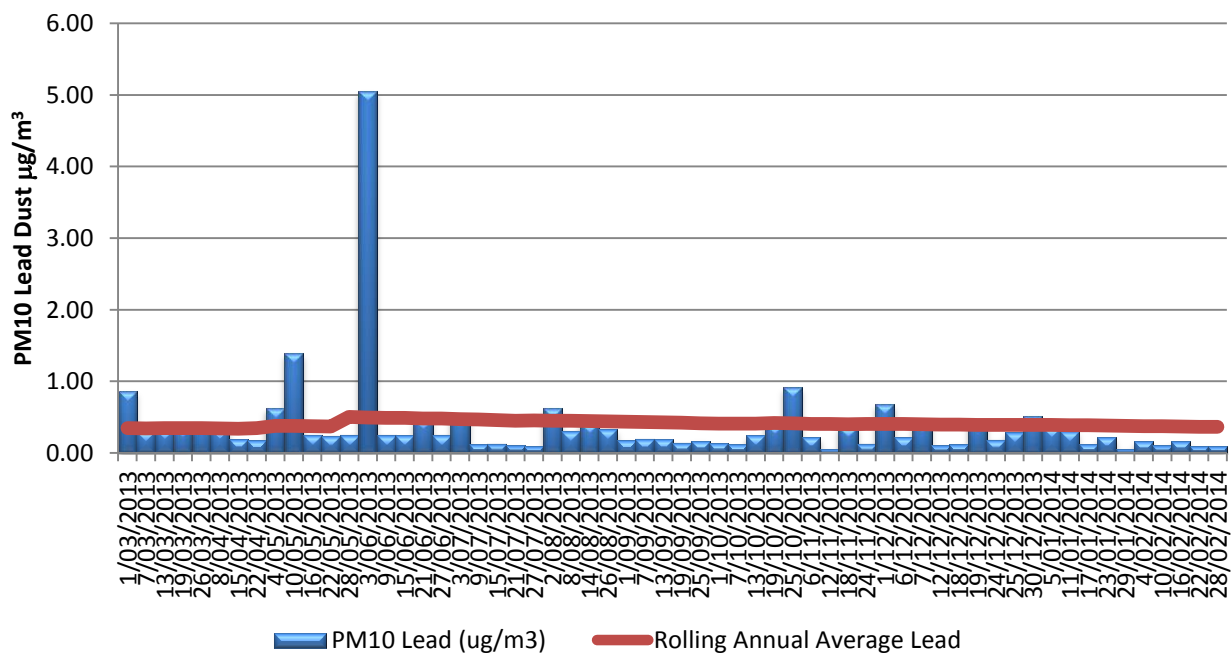


Date	PM10 ug/m3	PM10 Lead (ug/m3)
4/02/2014	4.58	0.16
10/02/2014	0.60	0.11
16/02/2014	23.81	0.16
22/02/2014	14.82	0.10
28/02/2014	8.27	0.10

Particulate Matter <10 Microns - Blackwoods Pit - On Site (EPL12)



PM10 Lead Dust - Blackwoods Pit - On Site (EPL12)

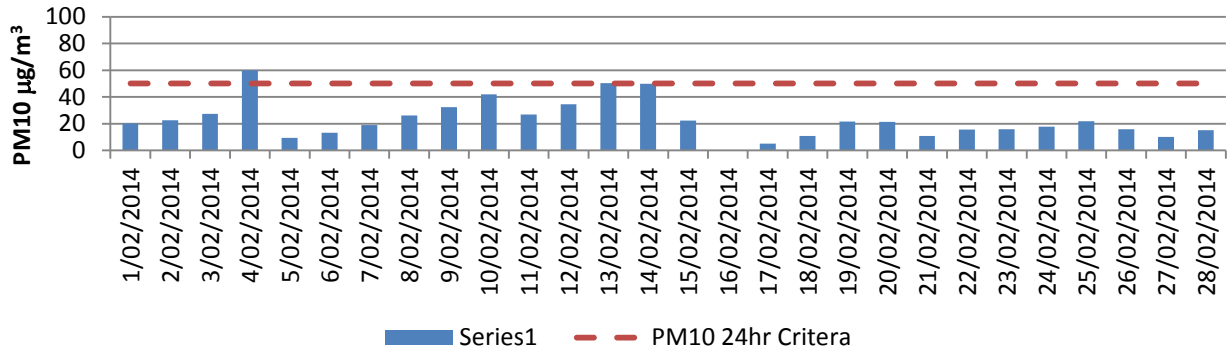


Tapered Element Oscillating Microbalance Sampling

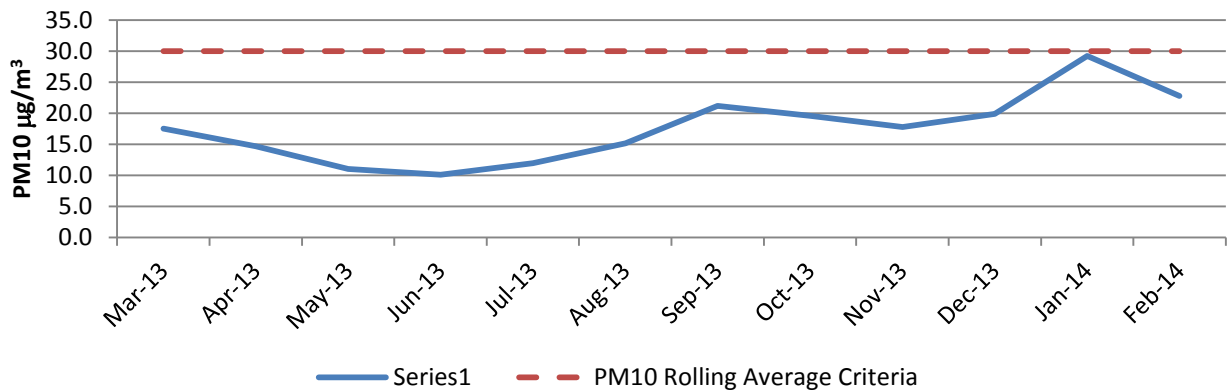
Particulate Matter <10 Microns 24Hr Average		
	TEOM 1 (EPL13) µg/m ³	TEOM 2 (EPL14) µg/m ³
1st	20.04	21.14
2nd	22.5	22.25
3rd	27.27	21.33
4th	59.8	97.26
5th	9.44	27.2
6th	13.18	9.59
7th	18.87	17.68
8th	26.1	20.35
9th	32.44	25.11
10th	42.04	60.51
11th	26.95	32.36
12th	34.6	32.65
13th	50.3	11.94
14th	49.72	9.56
15th	22.19	21.86
16th	0.29	7.47
17th	5.09	11.34
18th	10.82	3.39
19th	21.51	20.25
20th	21.27	34.05
21st	10.76	21.09
22nd	15.5	23.18
23rd	15.88	19.65
24th	17.66	17.14
25th	21.84	7.36
26th	15.91	12.49
27th	10.01	28.23
28th	14.99	28.05

PM10µg /m ³ 12 Month Rolling Average												
EPL ID	MONTH											
	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14
PM10 ROLLING AVERAGE TEOM1 (EPL13)	17.5	14.7	11.0	10.1	12.0	15.1	21.2	19.6	17.8	19.9	29.2	22.7
PM10 ROLLING AVERAGE TEOM 2 (EPL14)	19.4	16.2	11.7	7.8	12.0	15.2	23.4	32.6	22.5	22.0	32.0	23.7

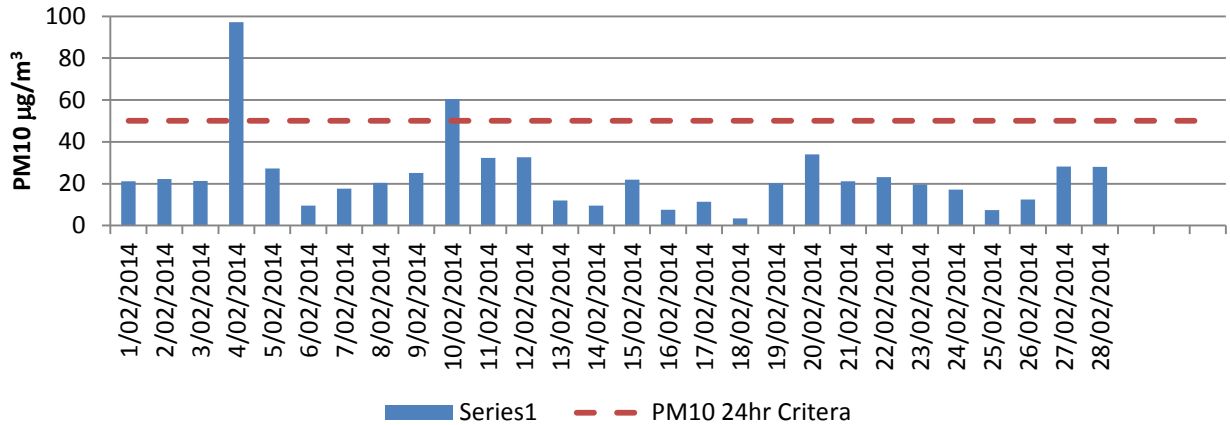
Particulate Matter <10 Microns 24hr Average - TEOM 1 (EPL13)



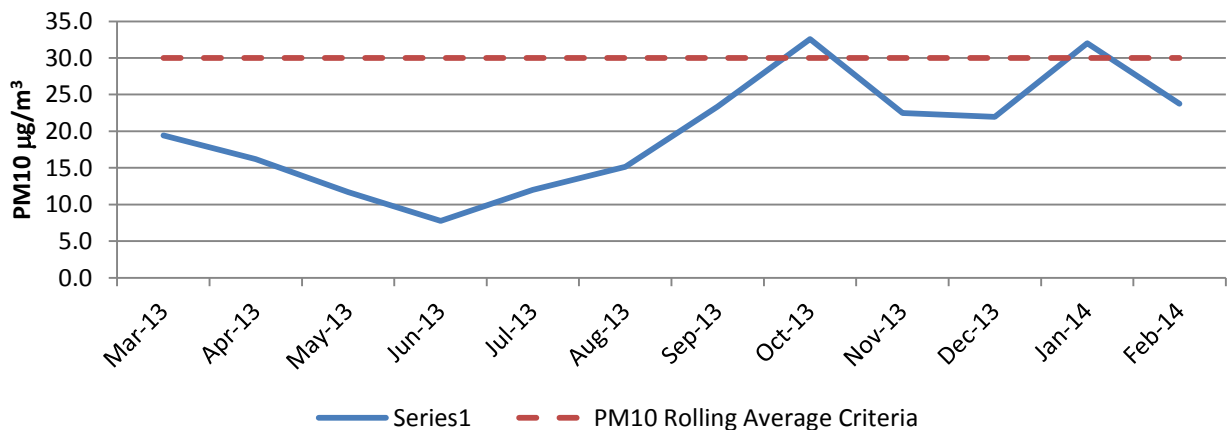
Particulate Matter <10 Microns - 12 Month Rolling Average - TEOM 1 (EPL13)



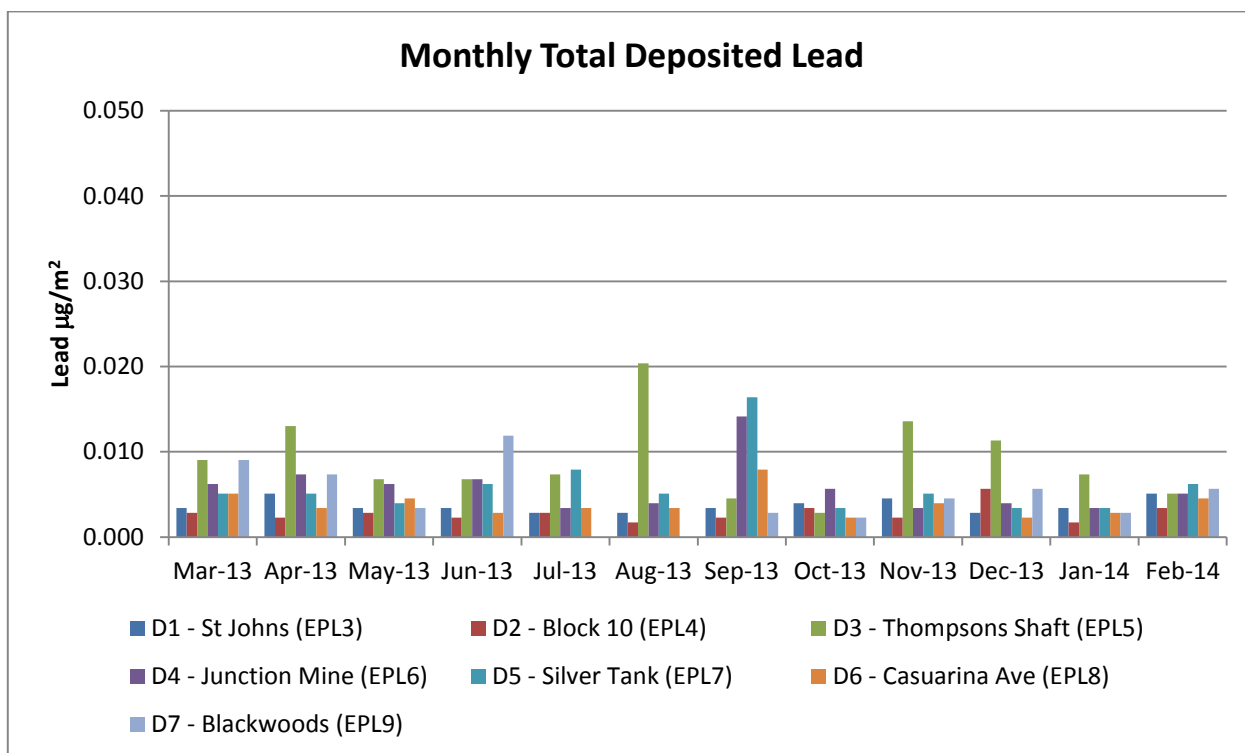
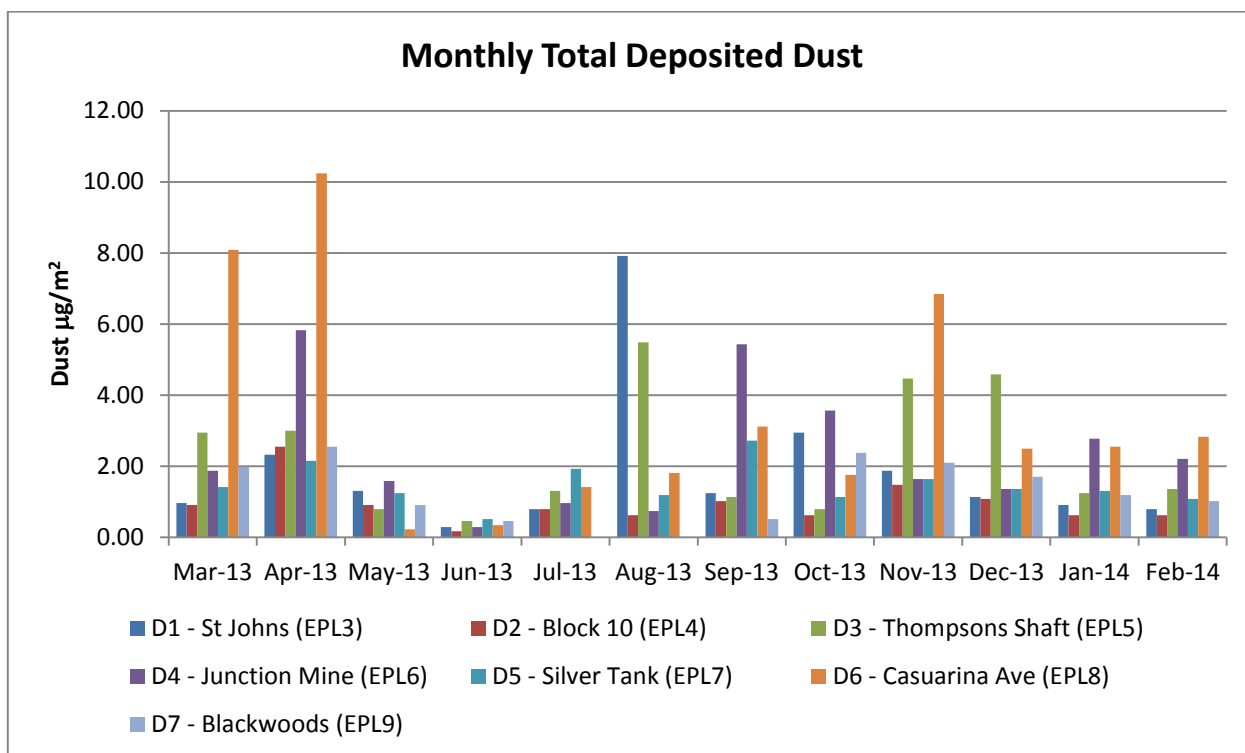
Particulate Matter <10 Microns 24hr Average - TEOM 2 (EPL14)



Particulate Matter <10 Microns 12 Month Rolling Average - TEOM 2 (EPL14)



Dust Deposition Sampling



Total Deposited Dust

Date	D1	D2	D3	D4	D5	D6	D7
Mar-13	0.96	0.91	2.94	1.87	1.41	8.09	1.98

Total Deposited Lead

Date	D1	D2	D3	D4	D5	D6	D7
Mar-13	0.003	0.003	0.009	0.006	0.005	0.005	0.009

Blasting

- During the month of February blasting occurred daily there was a total number of 65 blasts 9 of which were production firings all inside licensing criteria.
- 62 blasts were below a ppv of .75mm/s and did not trigger an event
- 3 Blasts recorded a ppv of >5mm/s
- 0 blasts recorded a ppv of >10mm/s
- All overpressure readings were inside limits.

Date / Location	Peak O/Press (dBL)	Peak Vibration (mm/s)
2/02/2014	109.9	5.15
V2 Hire Yard	109.9	2.69
V3 Air Express Yard	102.8	5.15
3/02/2014	100	6.87
V2 Hire Yard	100	2.07
V3 Air Express Yard	100	6.87
5/02/2014	97.5	2.56
V2 Hire Yard	97.5	2.56
V3 Air Express Yard	94	2.11
9/02/2014	101	3.36
V3 Air Express Yard	101	3.36
13/02/2014	98.8	5.9
V3 Air Express Yard	98.8	5.9
17/02/2014	97.5	4.83
V3 Air Express Yard	97.5	4.83
22/02/2014	114.8	6.77
V2 Hire Yard	114.8	2.44
V3 Air Express Yard	101	6.77
25/02/2014	98.8	0.886
V2 Hire Yard	98.8	0.886
V3 Air Express Yard	91.5	0.778
27/02/2014	102.8	4.99
V2 Hire Yard	101	4.99
V3 Air Express Yard	102.8	3.07

Ground & Surface Water

Date of sample	11/2/2014	11/2/2014	11/2/2014
Sample ID	HORWOODS	Shaft #7	U/G Supply
pH Value (pH)	6.88	6.25	6.25
Electrical conductivity (uS/cm)	17600	12800	12600
Total Dissolved Solids (mg/L)	16300	15400	14700
Hydroxide Alkalinity as CaCO3 (mg/L)	0	0	0
Carbonate Alkalinity CaCO3 (mg/L)	0	0	0
Bicarbonate Alkalinity as CaCO3 (mg/L)	34	6	5
Total Alkalinity (mg/L)	34	6	5
Sulphate as SO4 (mg/L)	5820	7400	5760
Chloride (mg/L)	3340	1180	1180
Calcium (mg/L)	670	519	525
Magnesium (mg/L)	631	284	270
Sodium (mg/L)	3110	1460	1430
Cadmium (mg/L)	1.67	3.39	3.28
Manganese (mg/L)	480	784	707
Lead (mg/L)	0.021	1.15	1.09
Zinc (mg/L)	309	2110	1960
Iron (mg/L)	0	0	0

Weather Data

Average Maximum Wind Speed / Average Wind Direction

