

Rasp Mine
Monthly Environmental Monitoring Report
March 2019



INTRODUCTION

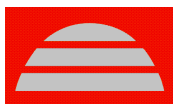
Broken Hill Operations Pty Ltd (BHOP) [a wholly owned subsidiary of CBH Resources Limited (CBH)] owns and operates the Rasp Mine (the Mine), which is located centrally within the City of Broken Hill on Consolidated Mine Lease 7 (CML7).

Mining has been undertaken within CML7 since 1885. The existing operations at the Rasp Mine include underground mining operations, a processing plant producing zinc and lead concentrates and a rail siding for concentrate dispatch. These operations are undertaken in accordance with Project Approval 07_0018 granted 31 January 2011, under Part3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).

As the holder of an Environmental Protection Licence, 12559, BHOP is required, under Section 66(6) of the NSW *Protection of the Environment Operations Act 1997*, to publish pollution monitoring data. In addition BHOP is required to publish data in accordance with its Project Approval 07_0018 Schedule 4 Condition 9. These documents can be found on the Rasp Mine web site.

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1 Air Quality

The following criteria as listed in the Project Approval (MOD4 6 September 2017) apply to air quality monitoring:

Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	Criterion
Total solid particles (TSP)	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	25 µg/m ³

Short Term Criterion for Particulate Matter

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³

Long Term Criteria for Deposited Dust

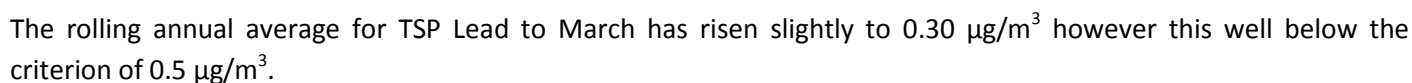
Pollutant	Averaging Period	Maximum Project Contribution	Maximum Total Deposited Dust Level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

1.1 High Volume Air Samplers

There are three high volume air samplers used to measure ambient air quality at the Rasp Mine – HVAS (EPL10) and HVAS1 (EPL11) are located at the Silver Tank, central and to the south of the mine lease, and HVAS2 (EPL12) is located adjacent to and north of Blackwood Pit. A map indicating these locations can be found on the Rasp Mine web site. HVAS samples for total suspended particulates (TSP) and lead dust, and HVAS1 and HVAS2 sample for particulate matter less than 10 microns (PM₁₀) and lead dust.

HVAS (EPL10) - Silver Tank (On Site) Results for March

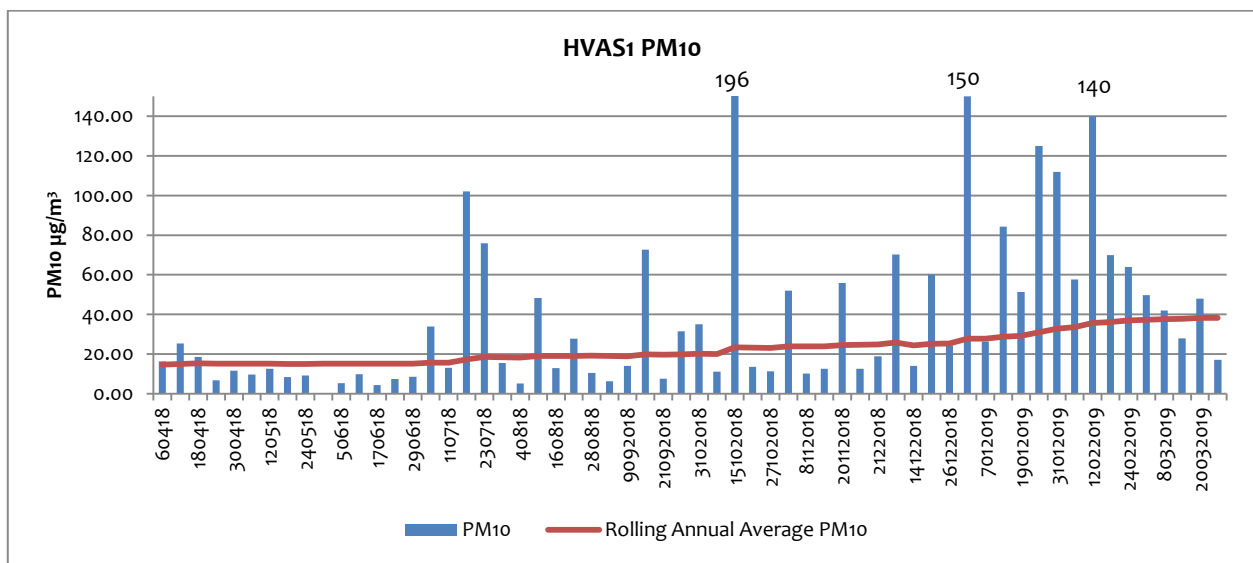
DATE	TSP (µg/m ³)	Lead (µg/m ³)
2-03-2019	131.00	0.90
8-03-2019	78.20	0.39
14-03-2019	62.10	0.23
20-03-2019	107.00	0.61
26-03-2019	30.60	0.06



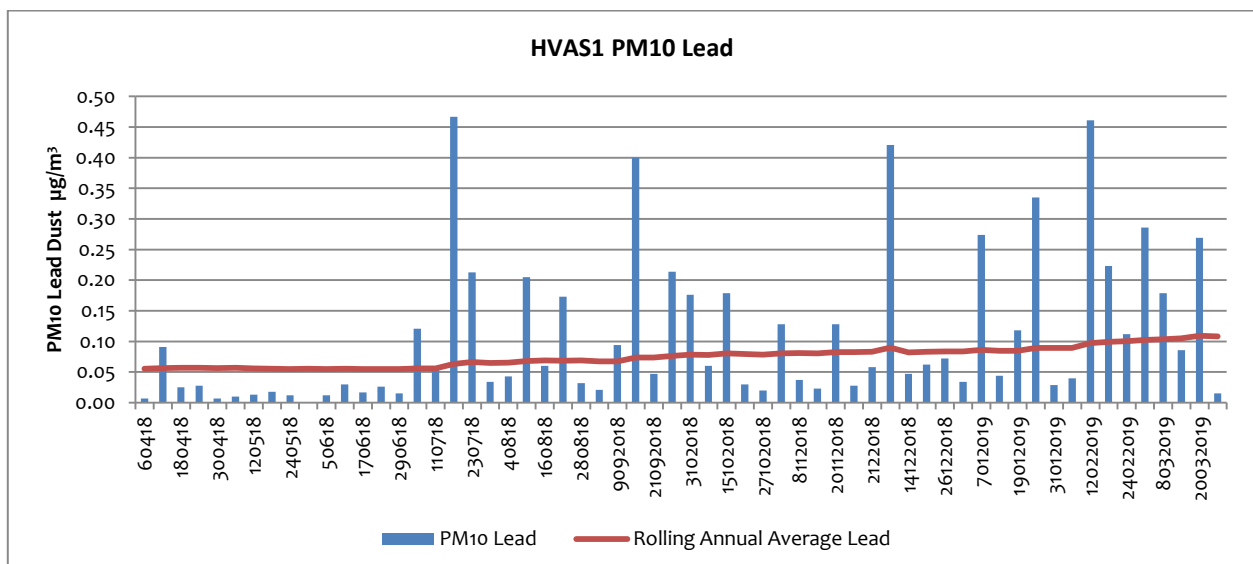


HVAS1 (EPL11) - Silver Tank (On Site) Results for March

DATE	PM10 ($\mu\text{g}/\text{m}^3$)	PM10 Lead ($\mu\text{g}/\text{m}^3$)
2-03-2019	49.80	0.29
8-03-2019	41.90	0.18
14-03-2019	27.90	0.09
20-03-2019	47.90	0.27
26-03-2019	17.10	0.02



HVAS1 (EPL11) is located on the Rasp Mine and while limit criteria do not apply at this point, they do apply at the closest residential location. Overall the trend for PM10 at this location has risen over the previous 12 month. The results show that the PM₁₀ rolling annual average for HVAS 1 has risen to 38.3 $\mu\text{g}/\text{m}^3$ which is above the PM₁₀ annual average criterion of 25 $\mu\text{g}/\text{m}^3$ required at the nearest residential location. The increase in PM₁₀ annual average would be a result of severe drought conditions over this period.

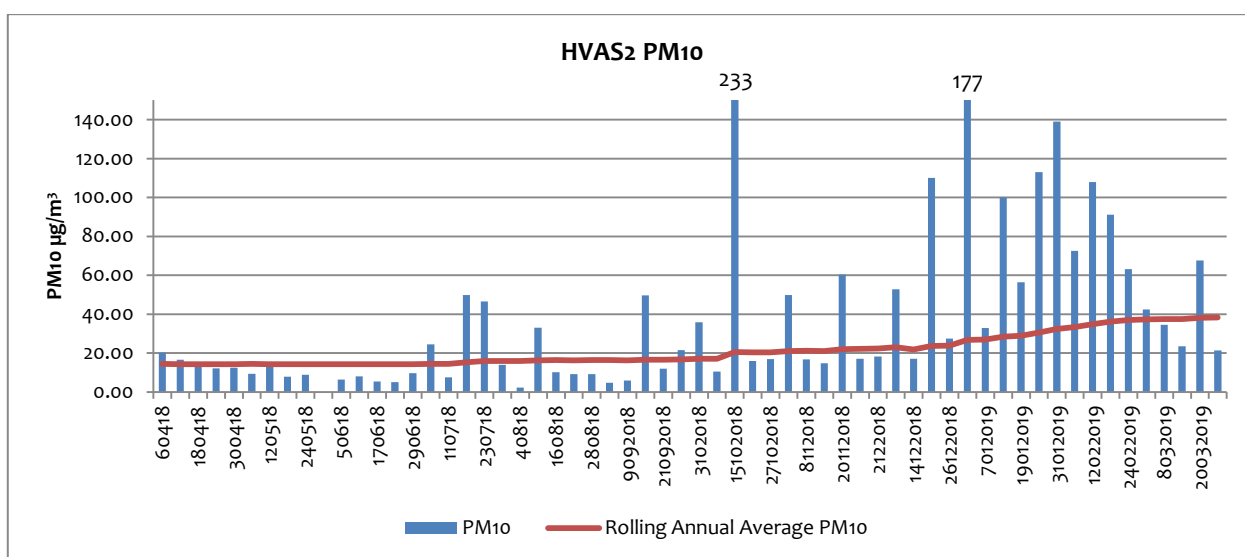




There is no guideline for assessing PM₁₀ lead dust; the trend for PM₁₀ lead dust at this location has risen over the previous 12 months from 0.06 µg/m³ to 0.11 µg/m³ and is likely the result of drought conditions and windy weather transporting lead contaminated dust from the Broken Hill environs.

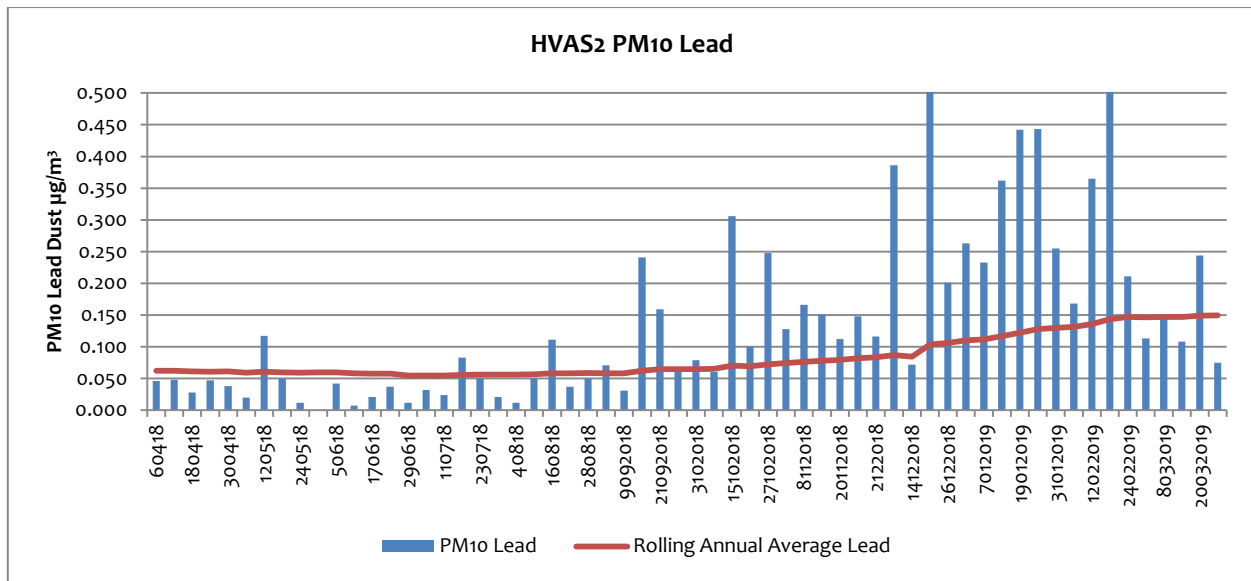
HVAS 2 (EPL12) - Blackwood Pit (On Site) Results for March

DATE	PM10 (µg/m ³)	Lead (µg/m ³)
2-03-2019	34.50	0.15
8-03-2019	23.50	0.11
14-03-2019	67.60	0.24
20-03-2019	21.30	0.08
26-03-2019	34.50	0.15



HVAS2 (EPL12) is located on the Rasp Mine and while limit criteria do not apply at this point, they do apply at the closest residential location. There were elevated dust levels above the daily criteria of 50 µg/m³ on the 14 March. The wind was predominately from the south east on these days, it would be unlikely the site operations contributed significantly to the high recordings.

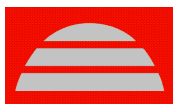
The rolling annual average PM₁₀ to March is 38.79 µg/m³ which is above the PM₁₀ annual average criterion 25 µg/m³ required at the nearest residential location.



There is no guideline for assessing PM₁₀ lead dust; the Annual Rolling Average for lead dust at this location has increased over the previous 12 months from 0.07 µg/m³ to 0.15 µg/m³ at the end of March 2019.

1.2 Tapered Element Oscillating Microbalance Sampling (TEOM)

There are two Tapered Element Oscillating Microbalance (TEOM) sampling units used to measure ambient air quality at the Rasp Mine – TEOM1 (EPL13) is located off-site within the perimeter fence of Essential Water south of the mine lease, and TEOM2 (EPL14) is located on-site adjacent to Blackwood Pit to the north of the mine lease. A map indicating these locations can be found on the Rasp Mine web site. TEOM1 and TEOM2 operate continuously and sample for particulate matter less than 10 microns (PM₁₀) in size.



TEOM1 (EPL13) (Off Site) and TEOM2 (EPL14) (On Site) Results for March

Particulate Matter <10 Microns 24Hr Average				
Date	TEOM 1 ($\mu\text{g}/\text{m}^3$)	Compliant with 50 $\mu\text{g}/\text{m}^3$ 24hr average?	TEOM 2 ($\mu\text{g}/\text{m}^3$)	Compliant with 50 $\mu\text{g}/\text{m}^3$ 24hr average?
01-Mar-19	46.1	Y	38.1	Y
02-Mar-19	26.0	Y	26.2	Y
03-Mar-19	25.5	Y	26.4	Y
04-Mar-19	25.1	Y	33.8	Y
05-Mar-19	92.0	Y ¹	107.5	Y ¹
06-Mar-19	24.6	Y	52.6	Y ¹
07-Mar-19	21.6	Y	27.8	Y
08-Mar-19	24.9	Y	24.8	Y
09-Mar-19	26.7	Y	30.6	Y
10-Mar-19	49.6	Y	43.2	Y
11-Mar-19	13.6	Y	16.9	Y
12-Mar-19	13.6	Y	26.2	Y
13-Mar-19	17.8	Y	24.6	Y
14-Mar-19	17.6	Y	23.2	Y
15-Mar-19	23.1	Y	31.6	Y
16-Mar-19	27.0	Y	44.2	Y
17-Mar-19	39.5	Y	51.3	Y ¹
18-Mar-19	18.9	Y	29.3	Y
19-Mar-19	22.5	Y	33.5	Y
20-Mar-19	30.7	Y	29.2	Y
21-Mar-19	35.5	Y	30.4	Y
22-Mar-19	41.0	Y	29.1	Y
23-Mar-19	32.5	Y	47.2	Y
24-Mar-19	10.2	Y	10.2	Y
25-Mar-19	10.9	Y	12.9	Y
26-Mar-19	16.8	Y	20.8	Y
27-Mar-19	15.0	Y	15.3	Y
28-Mar-19	20.0	Y	26.2	Y
29-Mar-19	71.5	Y ¹	92.1	Y ¹
30-Mar-19	13.5	Y	19.7	Y
31-Mar-19	10.2	Y	11.9	Y

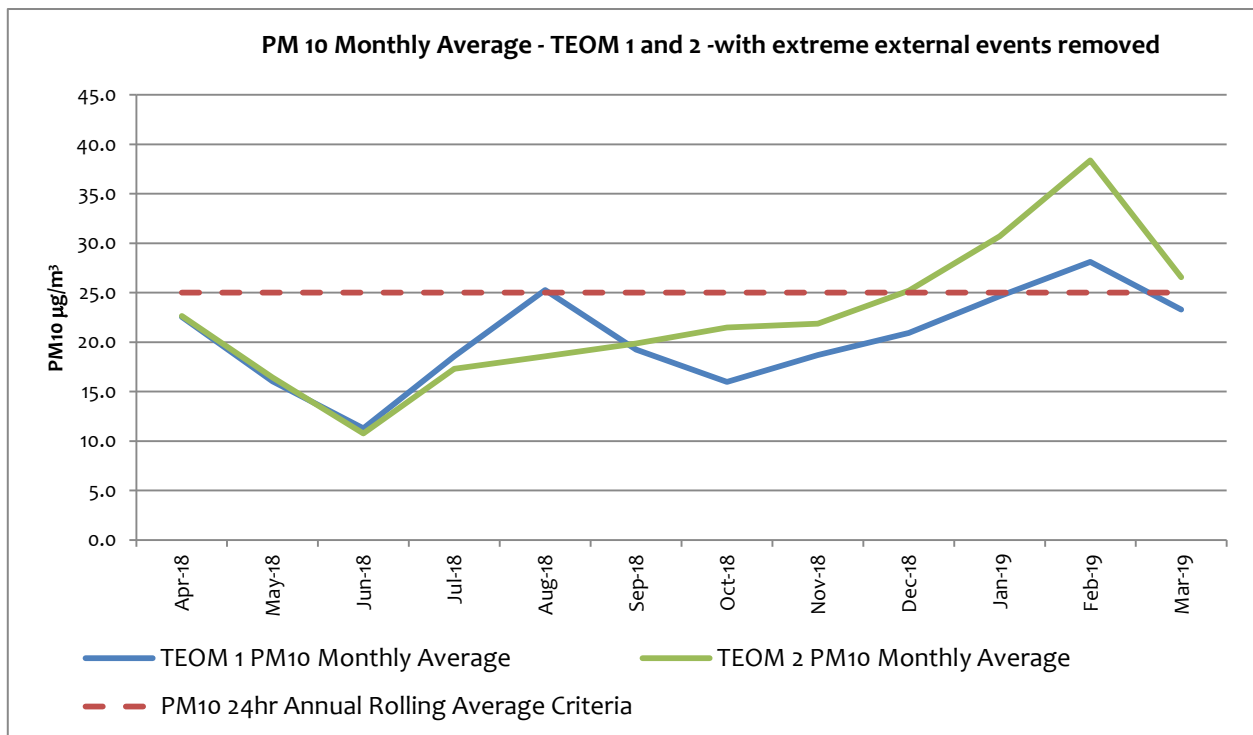
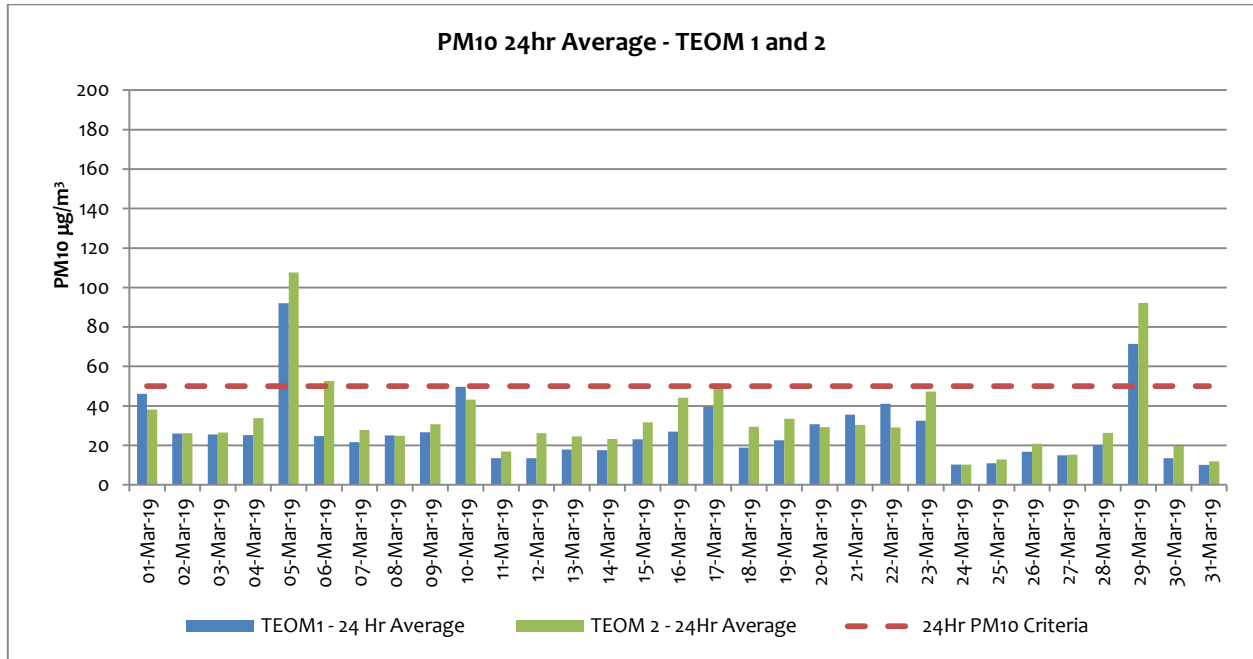
¹ = Monitoring results affected by general dust storms and high winds, particularly from the South and SSE.

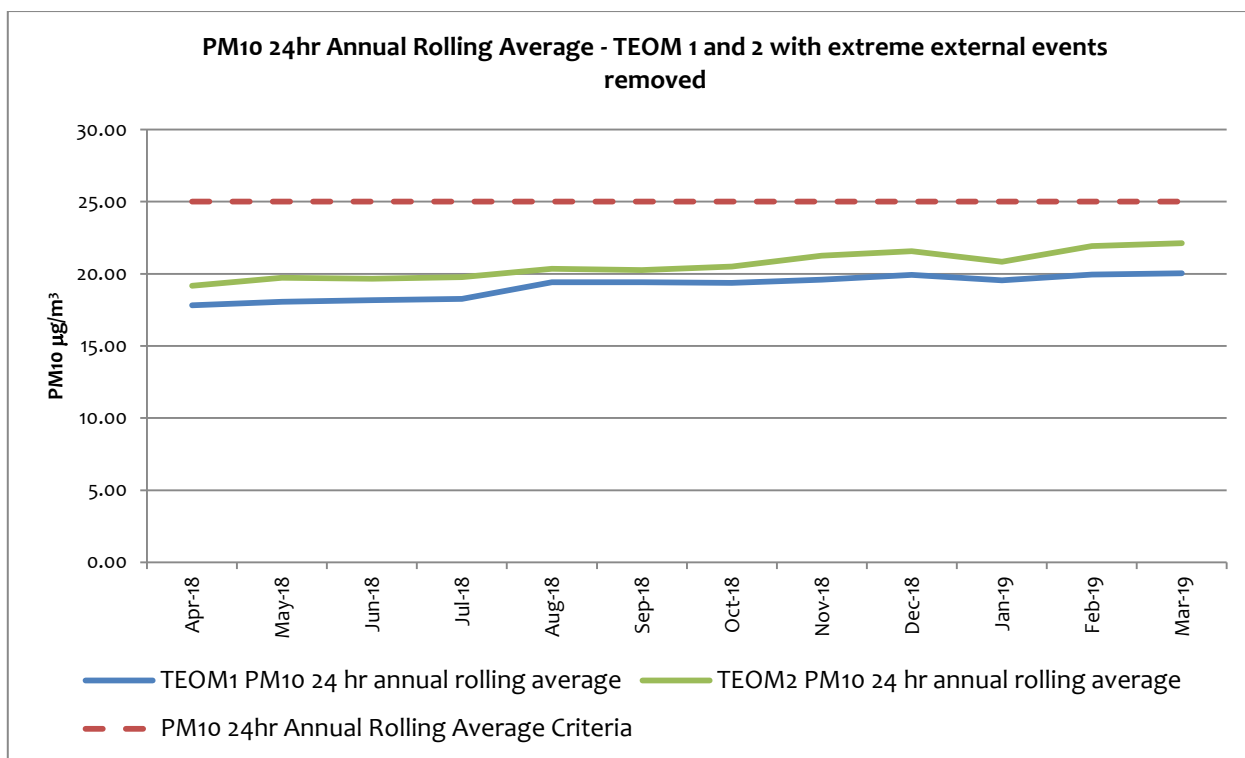
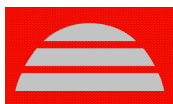
Project Approval 07_0018 apply at TEOM1 and 2, with two criteria listed for PM₁₀, a 24 hour average criteria of 50 $\mu\text{g}/\text{m}^3$ and an annual average criteria of 25 $\mu\text{g}/\text{m}^3$.

The average monthly PM₁₀ inclusive of dust storms during March was 36.9 $\mu\text{g}/\text{m}^3$ at TEOM1 and 48.2 $\mu\text{g}/\text{m}^3$ at TEOM2. Both Project Approval and Environment Protection Licence criteria exclude dust storms and other extraordinary events. Results for 24-hour periods have not been used to calculate the rolling average if there were dust storms on the day or readings were elevated at both TEOM units. TEOM2 can also be impacted from dust



generated at other activities to the South of the site. Both TEOM units recorded elevated dust levels on 1, 5, 10 and 29 March. TEOM2 recorded elevated dust levels during daytime hours on 6 and 17 March when the wind was from the SSE.





1.3 Dust Deposition Sampling

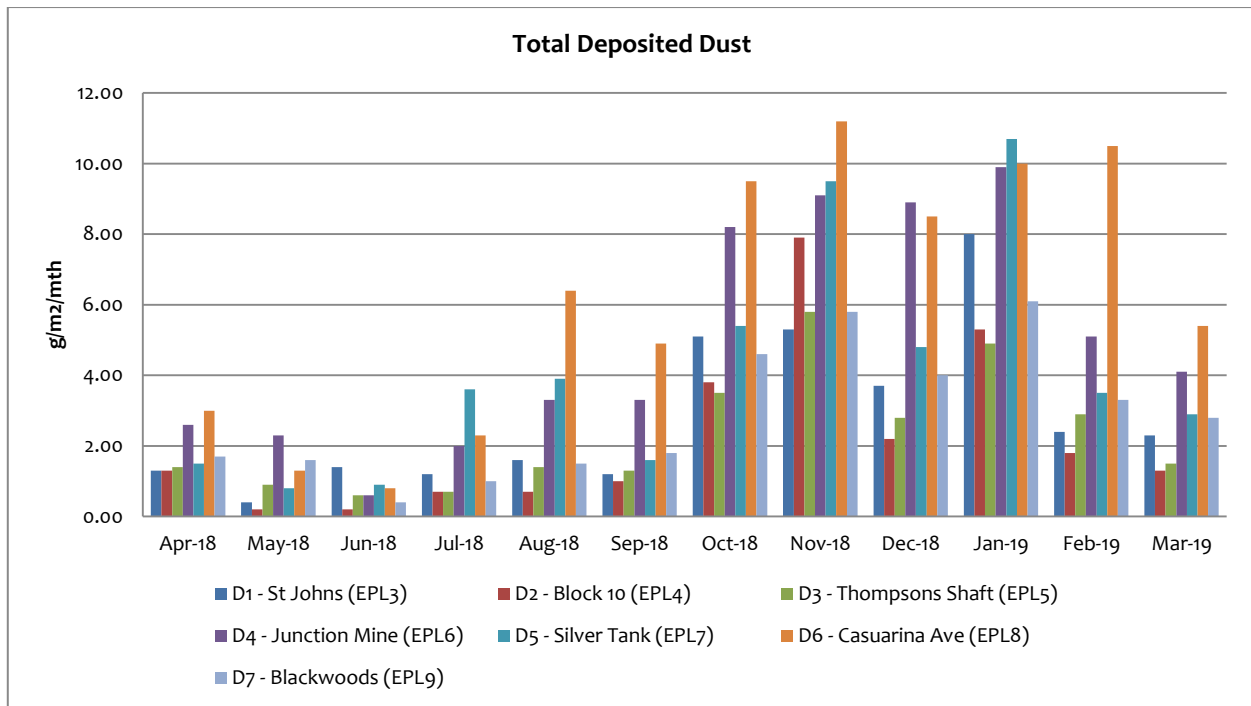
There are seven dust deposition gauges to measure ambient air quality at the Rasp Mine – D1 to D7. D1 and D6 are located off-site, D1 near the St Johns training facility north of the Rasp Mine and D6 in Casuarina Avenue south of the Rasp Mine. D2 to D5 and D7 are located on the mine lease in various locations. A map indicating these locations can be found on the Rasp Mine web site. Dust samples are collected monthly and analysed for total deposited dust and deposited lead dust.

Dust Deposition Gauges (D1 (EPL3) to D7 (EPL9)) – Results for March

Total Deposited Dust (g/m ² /Month)							
Date	D1 (off site)	D2 (on site)	D3 (on site)	D4 (on site)	D5 (on site)	D6 (off site)	D7 (on site)
March 2019	2.30	1.30	1.5	4.10	2.90	5.40	2.80
Background (2010)	4.0	3.1	4.3	5.7	⁻¹	5.8	⁻¹
Compliant?	Y	N/A	N/A	N/A	N/A	Y	N/A

Note: "1" = background not available

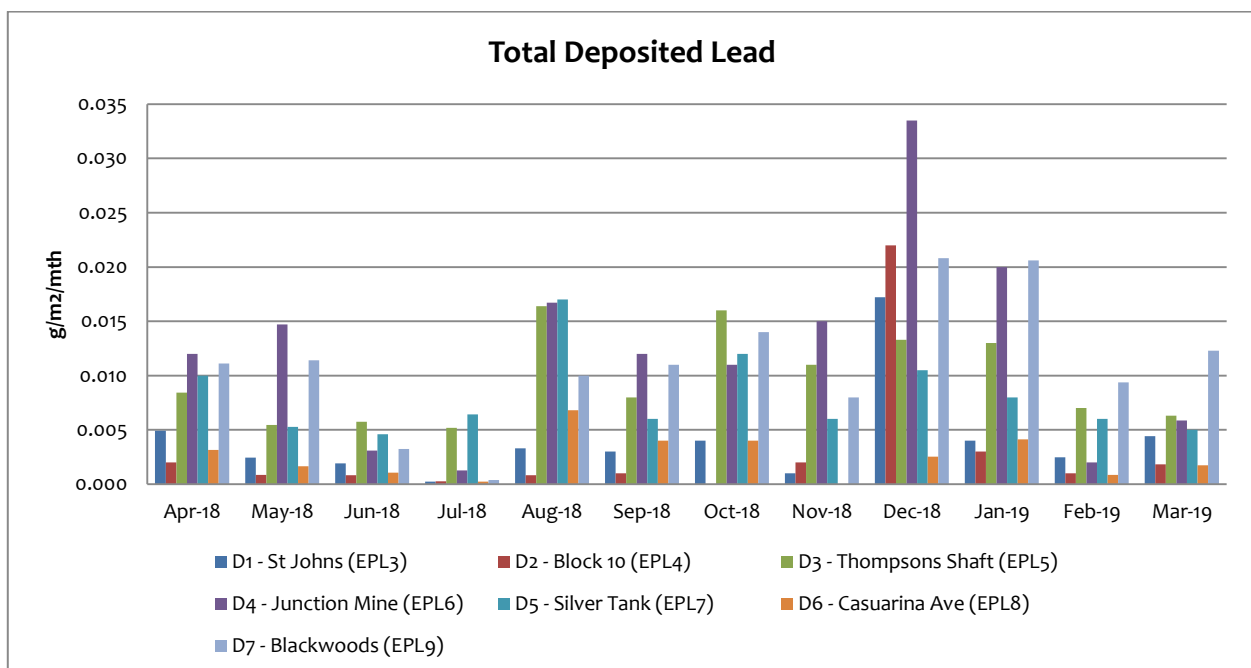
N/A = not applicable as dust deposition unit is located on site

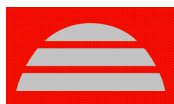


Results for all dust gauges were elevated in March and were impacted by dusty conditions and dust storms in March. Results were highest at Casuarina Avenue. The Casuarina Avenue location is situated in a residential area and frequently returns high dust readings which are likely due to it being situated adjacent to a bare block. Results for March were below background levels recorded in 2010.

Total Deposited Lead (g/m ² /Month)							
Date	D1 (off Site)	D2 (on site)	D3 (on site)	D4 (on site)	D5 (on site)	D6 (off Site)	D7 (on site)
March 2019	0.004	0.002	0.006	0.006	0.005	0.002	0.012
Background (2010)	0.0034	0.005	0.005	0.006	- ¹	0.004	- ¹

Note: "¹"= background not available





There are no guidelines for deposited lead dust. The highest March was at Blackwoods. The Blackwoods gauge is sited adjacent to unsurfaced areas subject to vehicular traffic. Dust suppressant is applied to unsealed areas of the site.

1.4 Ventilation Outlets and Bag House Monitoring

There are two locations to measure pollutants from exhausts or stacks, the Primary Ventilation Shaft, both measuring pollutants from underground firings, and the Baghouse Stack at the crusher measuring dust. Both are located on site; the Primary Ventilation Shaft is located centrally and to the north of the mine lease and the Primary Crusher Baghouse Stack is located within the area of the processing plant to the east of the lease. A map indicating these locations can be found on the Rasp Mine web site. Samples are collected quarterly and analysed for a number of parameters listed in below. Reference to the item required in the Rasp Mine Environment Protection Licence (EPL) is provided below. Shaft 6 (EPL56) was removed from the EPL in March 2019 as it was changed from an exhaust to an air intake in April 2018.

Quarterly sampling is undertaken in March, June, September and December. The following criteria apply:

Primary Ventilation Shaft (EPL1)

	Unit	Criteria
Nitrogen Oxides	mg/m ³	350
Volatile Organic Compounds	mg/m ³	40

Primary Ventilation Shaft (EPL1) and Crusher Baghouse (EPL2)

	Unit	Criteria
Total Suspended particles	mg/m ³	20
Type 1 and Type 2 ¹	mg/m ³	1

Note 1: "Type 1 substance" means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements.

"Type 2 substance" means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements.

Primary Vent Shaft (EPL1) and Crusher Baghouse (EPL2) Results for March 2019.

	Unit	Primary Vent Shaft (EPL1)	Crusher Baghouse (EPL2)
Nitrogen Oxides	mg/m ³	2.46	NA
Volatile Organic Compounds	mg/m ³	0.194	NA
Total Suspended particles	mg/m ³	7.17	10.9
Type 1 and Type 2	mg/m ³	0.0441	0.296



2 Noise

2.1 Blasting (Vibration and Overpressure)

There are 6 vibration monitors at various locations to measure for vibration and overpressure from blast firings. These include V1 to V5 which are located off-site and V6 which is located on-site near Shaft 4. A map indicating these locations can be found on the Rasp Mine web site. In addition there are 2 roving monitors, which may be used to monitor vibration and overpressure at particular locations as required. Monitors operate continuously and are automatically triggered when a blast occurs. The following conditions apply as listed in the PA 07_0018 and EPL 12559:-

Blasting Criteria (Western Mineralisation and Main Lodes excluding Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	Allowable Exceedance (for production and development blasts)
Residence on privately owned land (7am-7pm)	115	5	5% of the total number of blasts over a 12-month period ¹
(7am-7pm)	120	10	0%
(7pm-10pm)	105	-	-
(10pm-7am)	95	-	-
Public Infrastructure	-	100	0%

Note 1: Does not apply until completion of Pollution Reduction Program on the EPL at the end of 2018. Applies to EPL criteria in the period for the Annual Return 3 Nov to 2 Nov the following year and to DPE criteria in the reporting period 1 Jul to 30 Jun each year.

Blasting Criteria (Block 7)

Location	Airblast Overpressure (dB(Lin Peak))	Ground Vibration (mm/s)	Allowable Exceedance (for production and development blasts)
Residence on privately owned land (7am-7pm)	115	3 (interim)	5% of the total number of blasts over a 12-month period ¹
(7am-7pm)	120	10	0%
(7pm-10pm)	105	-	-
(10pm-7am)	95	-	-
Broken Hill Bowling Club, Italio (Bocce) Club, Heritage Items within CML7	-	50	0%
Perilya Southern Operations	-	100	0%
Public Infrastructure	-	100	0%

Note 1: Applies to EPL criteria in the period for the Annual Return 3 Nov to 2 Nov the following year and to DPE criteria in the reporting period 1 Jul to 30 Jun each year.

In addition the following conditions also apply:-

- Production blasts may occur between 6.45 am and 7.15 pm on any day
- 1 production blast per day, with 6 per week averaged over a calendar year
- 6 development blasts per day, with 42 per week averaged over a calendar year



Blasting Data Summary Results for March 2019

Total Blasts:

- 0 production blasts occurred before 6.45 am or after 7.15 pm
- The number of Production blasts averaged 4.05 per week over the previous calendar year
- The number of Development blasts averaged 29.28 per week over the previous calendar year

Western Mineralisation and Main Lodes (excluding Block 7):

- 0 Blasts recorded >5 mm/s
- 0 Blasts recorded >10 mm/s
- 0 development blasts recorded an over pressure level over 95 dBL (10pm to 7am)
- 0 development blasts recorded an over pressure level over 105 dBL (7pm to 10pm)
- 0 Blasts recorded an over pressure level over 115dBL (7am to 7pm)
- 0 Blasts recorded an over pressure level over or 120 dBL at any time
- Percentage of development blasts over 5 mm/sec = 0% (1 April 2018 until 31 March 2019)
- Percentage of production blasts over 5 mm/sec = 4.8% (1 April 2018 until 31 March 2019)

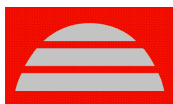
Block 7:

- 0 Blasts recorded >3 mm/s
- 0 Blasts recorded >10 mm/s
- 0 Blasts recorded >50 mm/s at V6
- 0 development blasts recorded an over pressure level over 95 dBL (10pm to 7am)
- 0 development blasts recorded an over pressure level over 105 dBL (7pm to 10pm)
- 0 Blasts recorded an over pressure level over 115 dBL (7am to 7pm)
- 0 Blasts recorded an over pressure level over or 120 dBL at any time
- Percentage of development blasts over 3mm/sec = 0% (1 April 2018 until 31 March 2019)
- Percentage of production blasts over 3mm/sec = 0% (1 April 2018 until 31 March 2019) (criteria does not apply in this period as not a regulator reporting period)

There was no blasting in Block 7 during March. The last blasts to have been conducted in Block 7 were in July 2018.

2.2 Noise

Noise monitoring is undertaken as per the NSW Noise Policy for Industry at a frequency of once per annum. Annual noise monitoring was conducted in December 2018.



3 Water

3.1 Groundwater

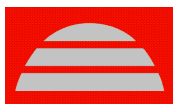
There are eighteen sampling locations for groundwater. GW01 (EPL37) to GW16 (EPL52) are piezometers installed at various locations around the mine site and are sampled quarterly. There are also two sampling locations for water pumped from underground mining, Shaft 7 (EPL53) and Kintore Pit (EPL54), which are sampled monthly. A map indicating these locations can be found on the Rasp Mine web site. Groundwater monitoring is scheduled for completion in May, June, September and January. No limits are applied in the EPL to the results from groundwater monitoring.

Groundwater Monitoring Requirements

EPA Identification Number	Frequency	Parameters to be analysed
Shaft 7 EPL53	Monthly	alkalinity (calcium carbonate (CaCO ₃)), cadmium (Cd), calcium (Ca), chloride (Cl), electrical conductivity (EC), iron (Fe), lead Pb), magnesium (Mg), manganese (Mn), pH, sodium (Na), sulphate (SO ₄), total dissolved solids (TDS) and zinc (Zn)
Kintore Pit (U/G dewatering) EPL54	Monthly	
Piezometers EPL37 (GW01) to EPL52 (GW16)	Quarterly	

Shaft 7 (EPL53) and Kintore Pit (EPL54) Results for March 2019

Sample Point	pH	EC (µS/cm ²)	TDS (mg/l)	Alkalinity (CaCO ₃) (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	Cd (mg/l)	Pb (mg/l)	Mn (mg/l)	Zn (mg/l)	Fe (mg/l)
Shaft 7 (EPL53)	6.20	12500	11800	7	5470	1740	558	300	1760	2.22	0.746	328	938	0.05
Kintore Pit (EPL54)	6.19	13300	11500	5	5660	1870	590	311	1920	2.64	4.66	351	1060	0.05



Groundwater Bores (EPL37 - EPL52) Results for March 2019

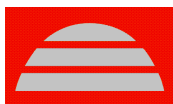
Sample Point	pH	EC (µS/cm ²)	TDS (mg/l)	Alkalinity (CaCO ₃) (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	Cd (mg/l)	Pb (mg/l)	Mn (mg/l)	Zn (mg/l)	Fe (mg/l)
GW01 (EPL37)	-Bore Dry-													
GW02 (EPL38)	-Bore Dry-													
GW03 (EPL39)	5.89	14900	13200	10	4500	3120	584	358	2260	1.87	2.43	304	274	0.05
GW04 (EPL40)	7.00	14800	14000	285	4510	2870	595	517	2350	0.0812	0.059	32.2	8.34	0.05
GW05 (EPL41)	6.17	8340	7420	63	3050	1120	285	257	1140	2.05	0.384	139	158	0.05
GW06 (EPL42)	6.26	13800	7100	54	4690	2620	548	420	2080	0.802	0.054	300	178	0.05
GW07 (EPL43)	6.20	12100	11400	37	4410	1720	534	293	1660	2.45	0.092	297	342	0.05
GW08 (EPL44)	5.91	12200	13000	13	4430	1970	577	271	1380	2.46	0.254	651	711	0.05
GW09 (EPL45)	6.70	11200	6580	104	4160	1490	610	513	1320	0.872	0.001	65.0	79.2	0.05
GW10 (EPL46)	7.14	14200	7020	316	4360	2740	587	503	2170	0.204	0.001	16.0	9.63	0.05
GW11 (EPL47)	6.91	5060	3490	80	2140	513	299	146	605	0.0587	0.060	21.5	27.8	0.05
GW12 (EPL48)	6.25	12300	9840	86	4690	1460	403	472	1880	1.27	0.002	62.9	62.9	0.05
GW13 (EPL49)	-Bore Dry-													
GW14 (EPL50)	-Bore Dry-													
GW15 (EPL51)	-Bore Dry-													
GW16 (EPL52)	-Bore Dry-													

3.2 Surface Water Sample Record

There are seven sampling locations for surface water, these include surface water basins located on the mine lease to capture and retain rainfall and two locations up and down stream of an ephemeral creek located south of the mine lease boundary. A map indicating these locations can be found on the Rasp Mine web site. Sampling is undertaken in October (highest rainfall month as recorded by Bureau of Meteorology) and April.

Surface Water Monitoring Requirements

Description	Frequency	Parameters to be Analysed
Federation Way Culvert EPL29/S31-1	2 x per year, six months apart	cadmium (Cd), chloride (Cl), electrical conductivity (EC), lead Pb), manganese
Ryan Street Dam EPL31/S49	2 x per year, six months apart	
Adjacent Olive Grove EPL32/S1A	2 x per year, six months apart	



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Adjacent Bowls Club EPL33 /S9-B2	2 x per year, six months apart	(Mn), pH, sodium (Na), sulphate (SO ₄), total dissolved solids (TDS) and zinc (Zn)
Horwood Dam EPL34/S34	2 x per year, six months apart	
Upstream Bonanza St EPL35	2 x per year, six months apart	
Downstream Sydney Rd EPL36	2 x per year, six months apart	

Surface Water Monitoring Results

Sample Point	pH	EC ($\mu\text{S}/\text{cm}^2$)	TDS (mg/l)	Alkalinity (CaCO_3) (mg/l)	SO ₄ (mg/l)	Cl (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	Cd (mg/l)	Pb (mg/l)	Mn (mg/l)	Zn (mg/l)	Fe (mg/l)
S9B-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
S31-1	6.32	441	466	4	224	1	56	2	4	0.314	1.54	5.34	36.8	0.05
S1A	6.73	603	648	31	252	33	72	5	30	0.143	7.48	6.83	22.4	0.36
Upstream	7.03	124	153	36	5	9	16	3	8	0.0020	0.15	0.188	0.467	0.07
Downstream	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
S49	6.60	264	226	6	120	1	41	1	2	0.0725	0.08	2.81	7.70	0.05
Horwood Dam	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS = insufficient volume to sample.

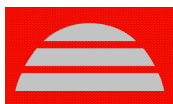
4 Weather Data

The weather station continuously monitors the following parameters as per Point 55 of the Environmental Protection Licence.

The following parameters are required to be recorded each month as listed in the EPL 12559:-

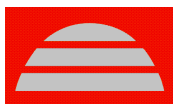
Rasp Mine Weather Station (EPL55) Monitoring Requirements

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 10 metres	AM-4	degrees Celsius	15 minutes	Continuous
Wind Direction at 10 metres	AM-4	degrees in a clockwise direction from True North	15 minutes	Continuous
Wind Speed at 10 metres	AM-4	metres per second	15 minutes	Continuous
Rainfall	AM-4	millimetres	1 hour	Continuous
Sigma theta	AM-2 & AM-4	degrees	15 minutes	Continuous



Weather Data Summary for March

Date	Temperature @ 10m (°C)		Wind Speed @ 10m (m/s)		Predominant Wind Direction @ 10m		Rainfall (mm)
	Min	Max	Min	Max	Cardinal	Degree	Total
01-Mar-19	24.7	34.2	2.8	23.3	NE	46	0.00
02-Mar-19	25.4	34.7	3.0	30.4	ENE	68	0.00
03-Mar-19	26.3	35.4	5.3	27.1	NE	45	0.00
04-Mar-19	27.3	36.0	1.9	28.0	SSW	203	0.00
05-Mar-19	20.7	35.6	2.3	33.4	West	269	0.00
06-Mar-19	14.1	20.7	11.8	37.7	South	180	0.00
07-Mar-19	10.5	23.6	3.2	24.0	ESE	111	0.00
08-Mar-19	17.8	30.0	1.8	14.8	ENE	68	0.00
09-Mar-19	22.7	33.6	0.7	23.7	SW	227	0.00
10-Mar-19	24.7	34.1	1.3	36.2	SW	226	0.00
11-Mar-19	19.4	28.6	3.4	24.0	SSW	206	0.00
12-Mar-19	15.2	24.8	5.9	26.1	South	180	0.00
13-Mar-19	13.5	25.1	4.1	22.9	SSE	160	0.00
14-Mar-19	15.1	26.4	3.9	19.2	SE	135	0.00
15-Mar-19	13.8	26.6	5.4	29.1	SSE	160	0.00
16-Mar-19	15.0	29.6	4.1	26.7	SSE	156	0.00
17-Mar-19	19.0	29.9	3.7	22.3	SSE	156	0.00
18-Mar-19	20.2	30.9	1.0	20.7	South	179	0.00
19-Mar-19	21.8	32.4	0.8	21.2	South	180	0.00
20-Mar-19	25.3	34.1	2.5	17.6	ENE	64	0.00
21-Mar-19	23.1	35.0	3.3	21.9	ENE	65	0.00
22-Mar-19	24.8	36.0	5.1	30.5	ENE	66	0.00
23-Mar-19	22.9	33.1	3.1	32.3	South	182	0.00
24-Mar-19	18.9	22.8	3.1	28.1	NE	44	14.20
25-Mar-19	13.4	20.9	7.0	32.1	SW	228	0.00
26-Mar-19	11.1	19.1	5.8	25.1	SSE	155	0.00
27-Mar-19	11.9	22.0	3.8	21.1	ESE	114	0.00
28-Mar-19	16.4	27.1	1.8	17.9	West	272	0.00
29-Mar-19	12.2	28.4	5.8	40.8	SSW	209	0.00
30-Mar-19	8.9	16.6	5.3	30.6	SSW	203	0.00
31-Mar-19	11.5	19.5	2.8	20.7	SW	226	0.00



5 Data Log

Sample	Result Received
Hi Volume Samples	26-04-2019
TEOM	26-04-2019
Dust Deposition	18-04-2019
Vents & Bag House	09-04-2019
Water	10-04-2019
Blast vibration and overpressure	01-04-2019
Weather	03-04-2019
Date posted to web site	16-04-2019

6 Correction Log

Nil corrections.