Rasp Mine
Monthly Environmental Monitoring Report
September 2023

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 pollutants as listed in the Project Approval (DA 07_0018 MOD10 December 2022) are required to be monitored in EPL 12559:

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

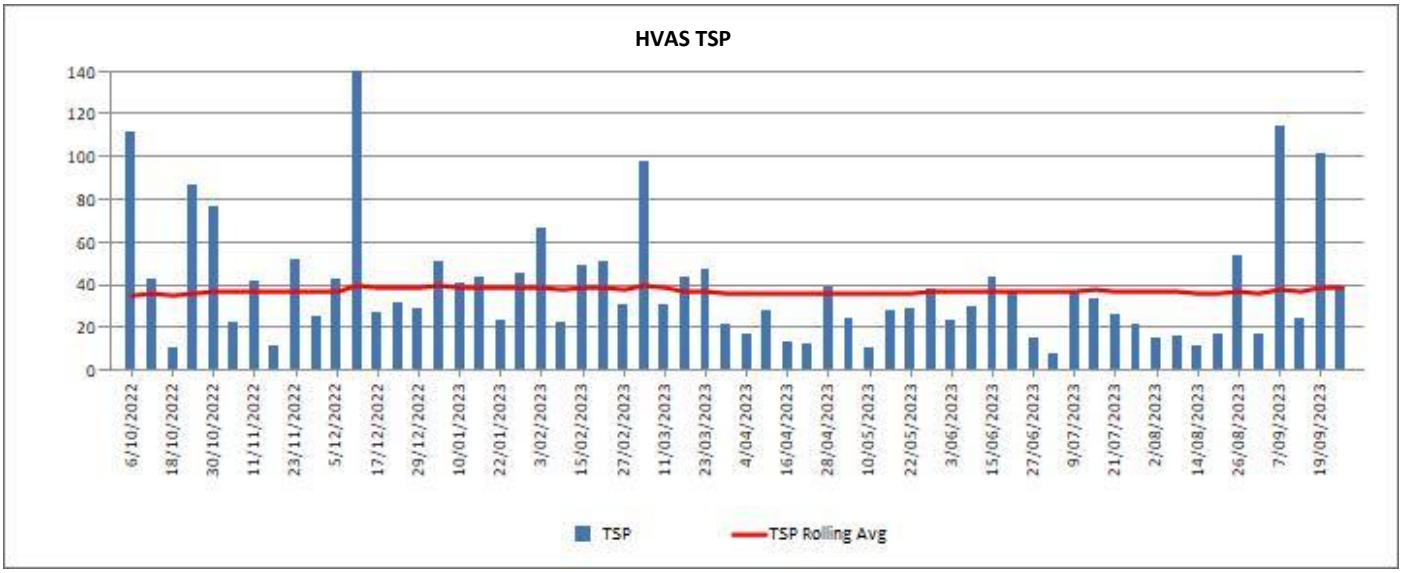
1.1 High Volume Air Samplers

There are four 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) and HVAS3 (EPL57) are located adjacent to and north of Blackwood Pit. A map indicating these locations can be found on the Rasp Mine web site. HVAS and HVAS3 sample for total suspended particulates (TSP) and lead dust, and HVAS1 and HVAS2 sample for particulate matter less than 10 microns (PM_{10}) and lead dust.

HVAS (EPL10) - Silver Tank (On Site) Results for September 2023

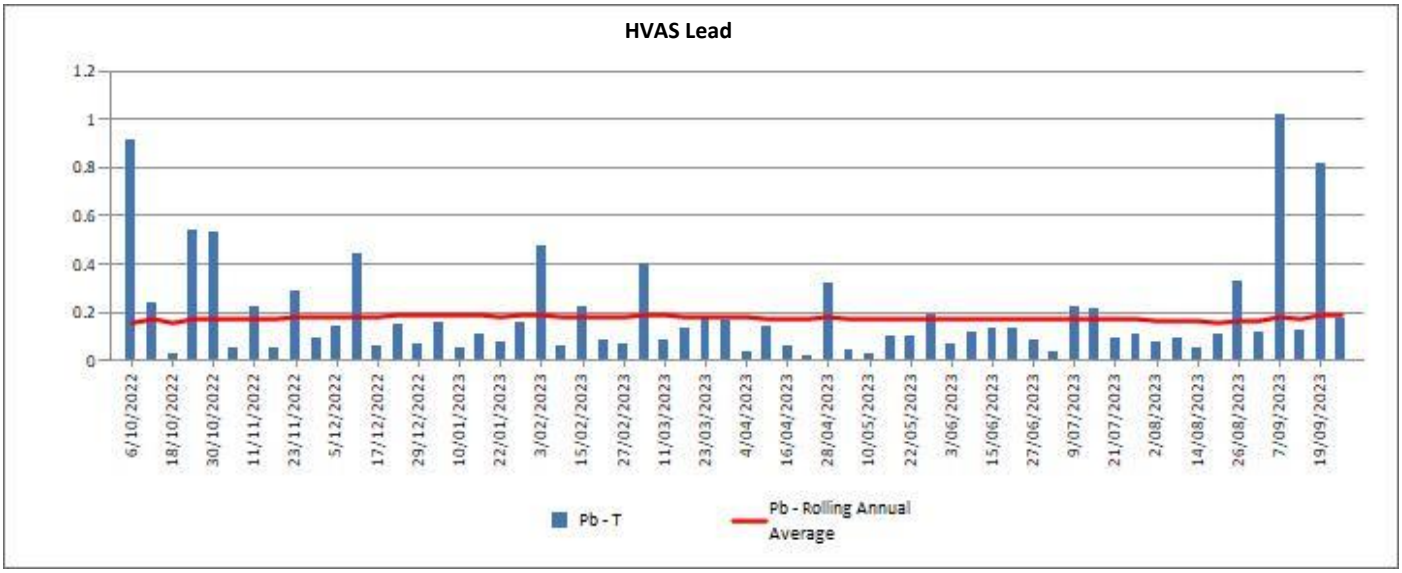
DATE	TSP (µg/m^3)	Lead (µg/m^3)
01-September-23	16.9	0.12
07-September-23	114	1.02
13-September-23	23.8	0.12
19-September-23	101	0.82
25-September-23	38.6	0.17

HVAS (EPL10) is located on the southern boundary of Rasp Mine and while limit criteria do not apply at this point, they do apply at the closest residential location.



TSP dust results at HVAS for the month of September were higher than previous months. The highest TSP result for September was 114 µg/m^3 on 7 September when winds were predominantly from the West. While there was likely contribution from MOD6 material being stored in Little Kintore Pit, a regional dust event moved through Broken Hill on this day, which is believed to be the main source of dust. Another dust storm occurred on 19 September, with winds from the WSW, when a TSP result of 101 µg/m^3 was recorded. Water carts apply water to site roads daily and dust suppressant is applied to free areas and unsealed roads. The annual rolling average for TSP at this location is 38.64 µg/m^3 at the end of September, above the rolling annual average of 34.75 µg/m^3 at the beginning of October 2022.

The annual rolling average for TSP is determined using data with extreme dust events included.



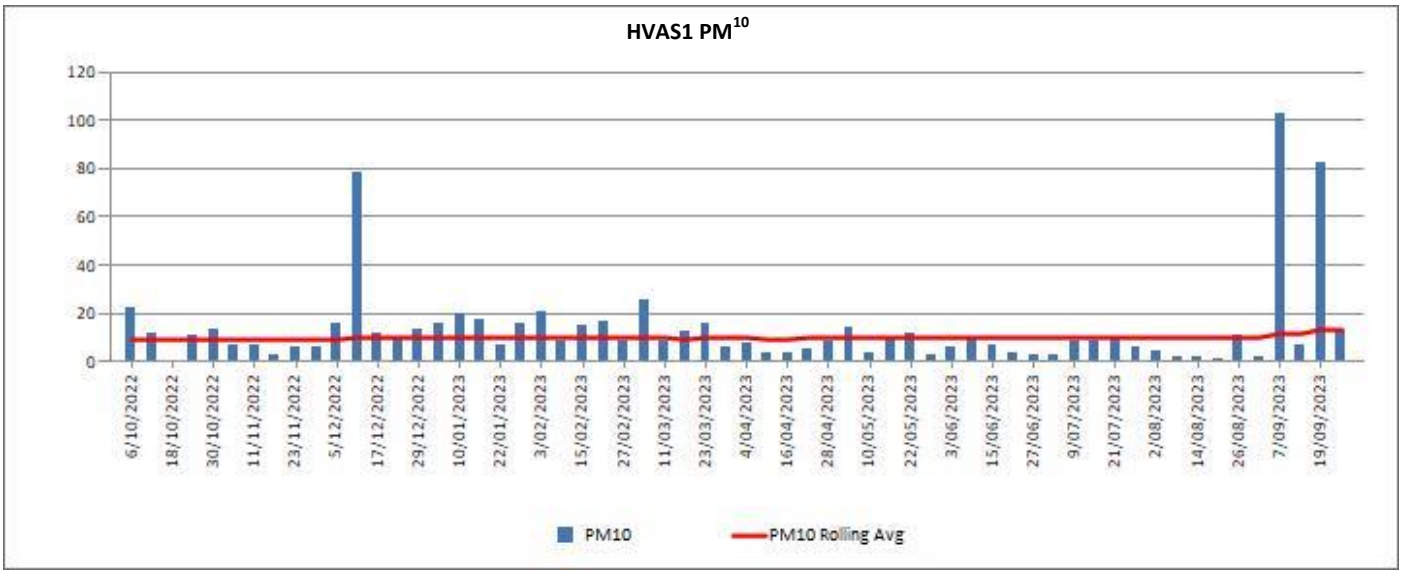
TSP Lead dust results at HVAS for the month of September were higher than results in previous months. The highest TSP Lead level for September was 1.02 µg/m^3 on 7 September when winds were predominately from the West, suggesting there may have been contribution from Little Kintore Pit. A regional dust event moved through Broken Hill on this day, which may have also contributed lead dust from off-site sources. Another dust storm, with winds from the WSW, occurred on 19 September when a TSP Lead result of 0.82 µg/m^3 was recorded. Water carts apply water to site roads daily and dust suppressant is applied to free areas and unsealed roads. The rolling annual average

for TSP Lead in September 2023 was 0.17 µg/m^3, consistent with the rolling annual average of 0.17 µg/m^3 for TSP Lead in October 2022.

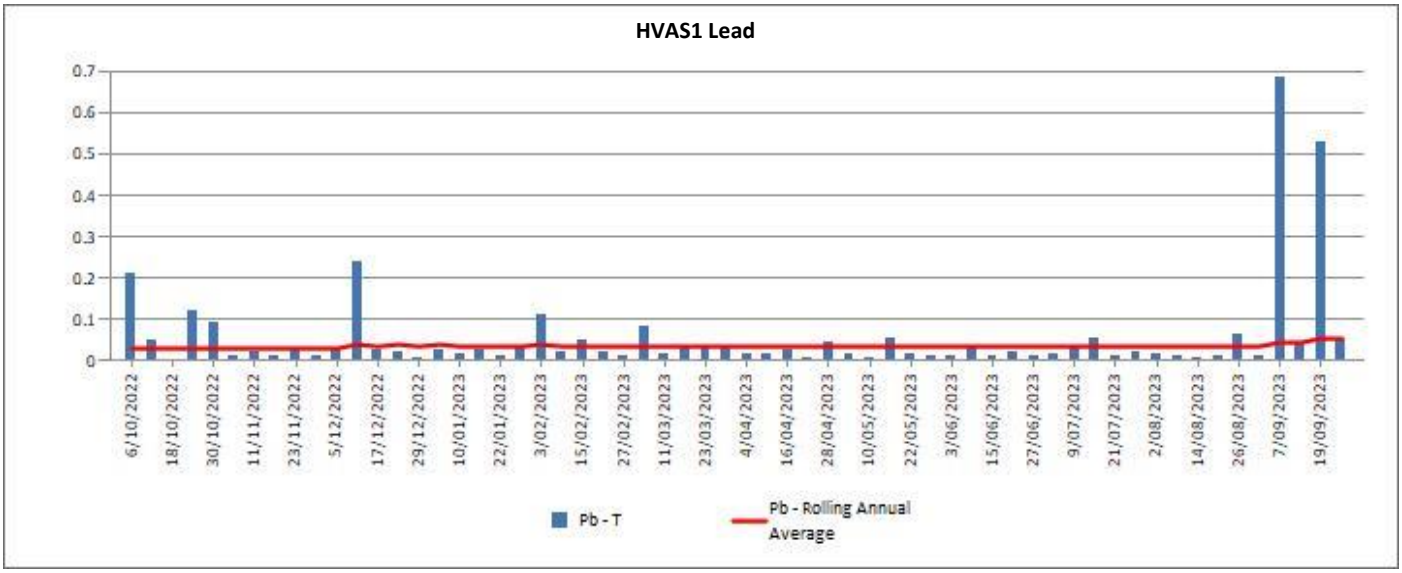
HVAS1 (EPL11) - Silver Tank (On Site) Results for September 2023

DATE	PM_{10} (µg/m^3)	PM_{10} Lead (µg/m^3)
01-September-23	2.2	0.01
07-September-23	103	0.69
13-September-23	6.9	0.04
19-September-23	82.7	0.53
25-September-23	13.7	0.05

HVAS1 (EPL11) is located on the southern boundary of Rasp Mine and while limit criteria do not apply at this point, they do apply at the closest residential location.



PM_{10} dust results at HVAS1 for September were higher than previous months. The highest PM_{10} dust level recorded was 103 µg/m^3 on 7 September when winds were predominantly from the West. While there may have been contribution from Little Kintore Pit, it was likely a regional dust event on this day that contributed the bulk of the dust. Another dust storm occurred on 19 September, with winds from the WSW, when a PM_{10} dust level of 103 µg/m^3 was recorded. Water carts apply water to site roads daily and dust suppressant is applied to free areas and unsealed roads. The annual rolling average for PM_{10} dust at this location is 15.83 µg/m^3 at the end of September 2023, higher than the annual rolling average of 9.1 µg/m^3 at the beginning of October 2022. External and extreme dust events are recorded in measurements.

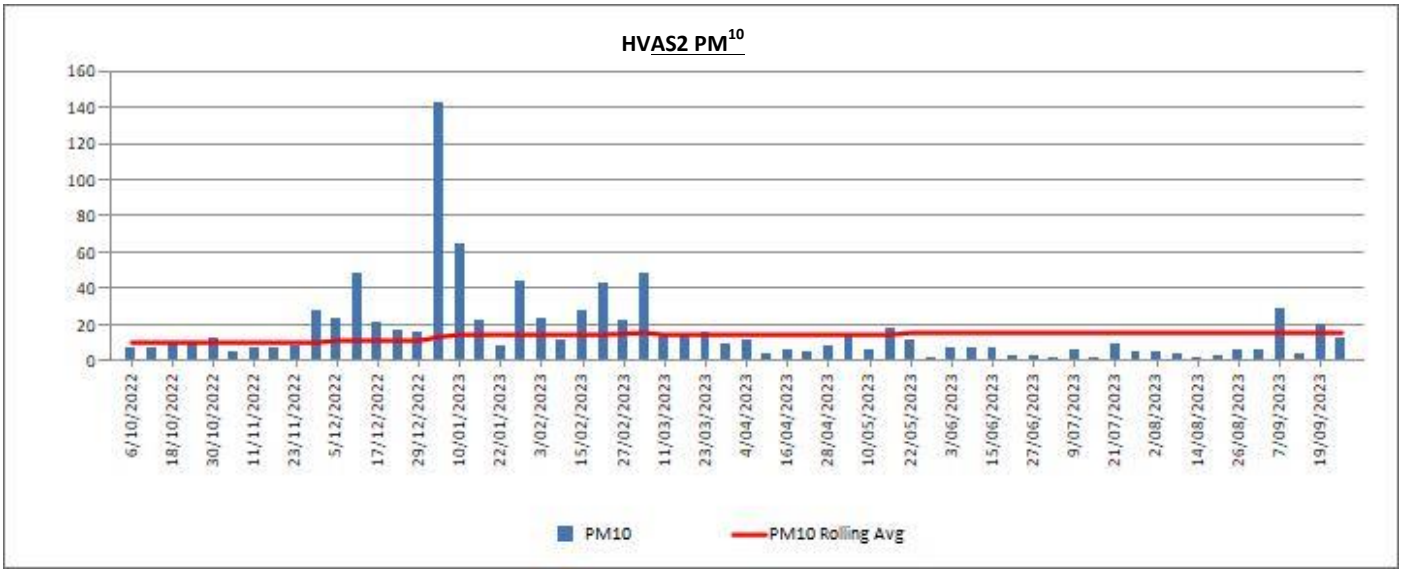


PM_{10} Lead dust results at HVAS1 in the month of September were higher than previous months. The highest Lead PM_{10} result recorded was 0.69 µg/m^3 on 7 September when winds were predominantly from the West and a regional dust event was experienced in Broken Hill. It is possible that Little Kintore Pit and the Haul Road contributed dust recorded on this day. Another dust storm, with winds from the WSW, occurred on 19 September when a PM10 Lead dust result of 0.53 µg/m^3 was recorded. Water carts apply water to site roads daily and dust suppressant is applied to free areas and unsealed roads. The rolling annual average for PM_{10} Lead in September was 0.05 µg/m^3, higher than the rolling annual average of 0.03 µg/m^3 in October 2022.

HVAS 2 (EPL12) - Blackwood Pit (On Site) Results for September 2023

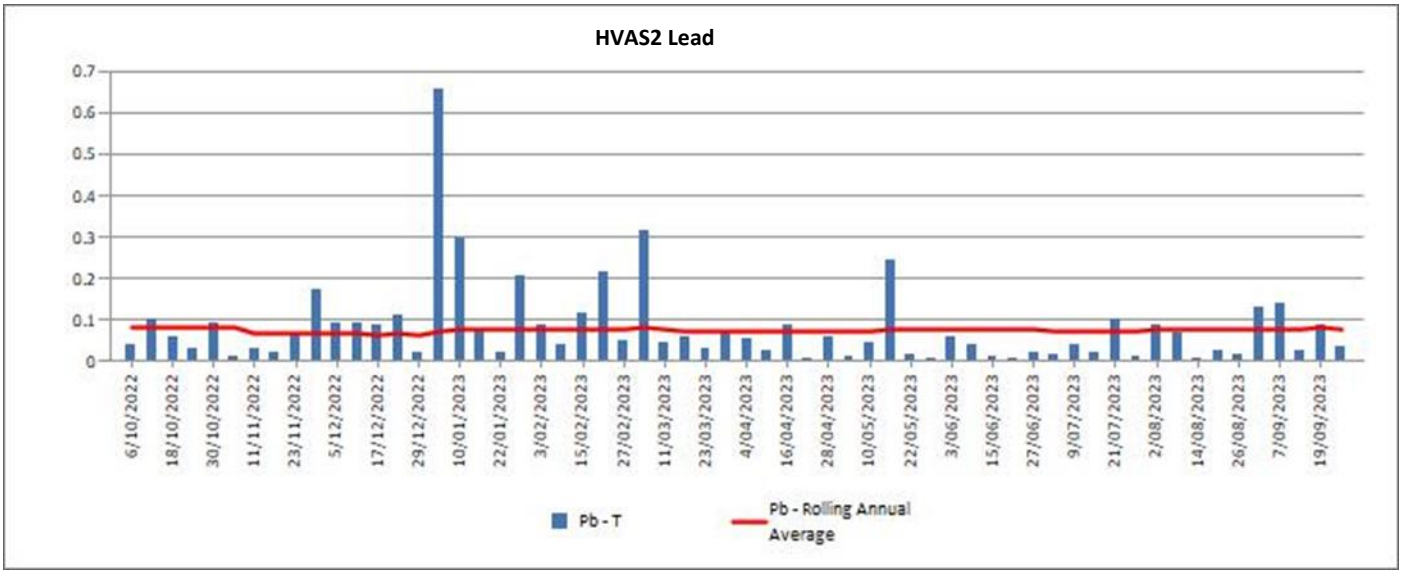
DATE	PM_{10} (µg/m^3)	PM_{10} Lead (µg/m^3)
01-September-23	6.1	0.13
07-September-23	28.8	0.14
13-September-23	3.8	0.03
19-September-23	19.5	0.09
25-September-23	12.2	0.03

HVAS2 (EPL12) is located on the northern boundary of Rasp Mine and while limit criteria do not apply at this point, they do apply at the closest residential location.



In September PM_{10} levels at HVAS2 were higher than previous months. The highest recorded PM_{10} dust reading for September was 28.8 µg/m^3 on the 7 September when winds were from the West suggesting contribution of dust from off-site sources. However, on 7 September the area also experienced a regional dust event which is likely to have been the major source of dust for this result. The annual rolling average for PM_{10} dust at this location is 15.83 µg/m^3 at the end of September 2023, up from 10.33 µg/m^3 in October 2022.

The annual rolling average for PM_{10} dust is determined using data with extreme dust events included.

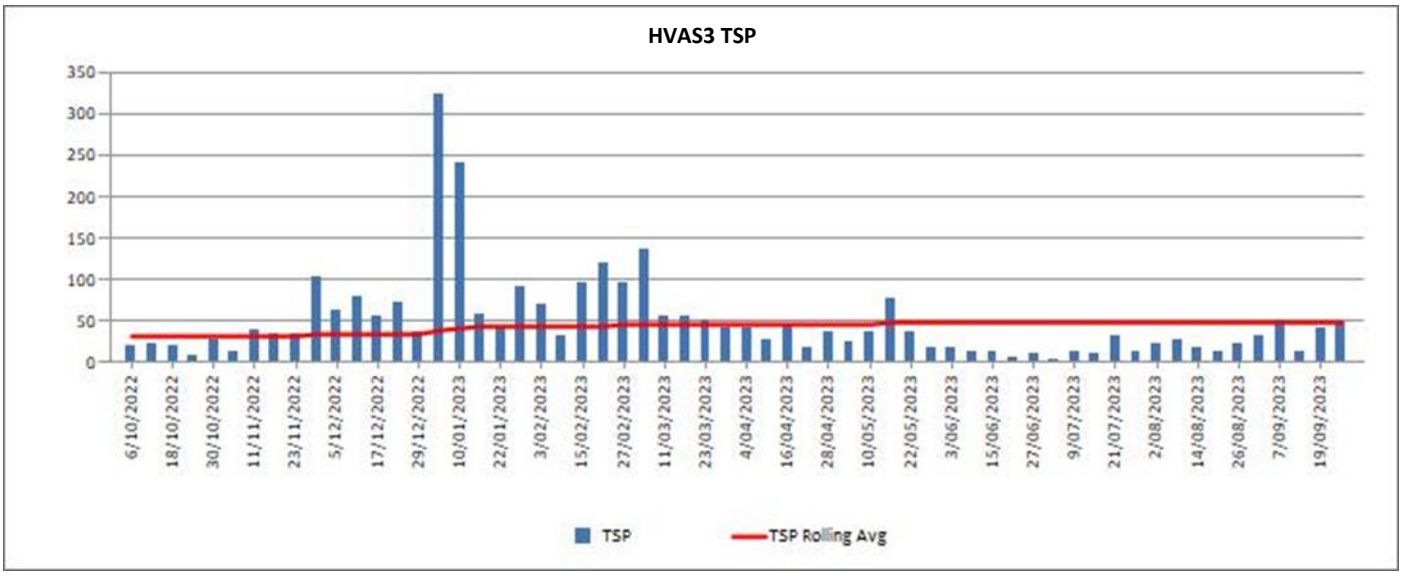


PM_{10} lead levels at TSF2 monitors in September were higher than in previous months. The highest recorded PM_{10} Lead dust reading for September was 0.14 µg/m^3 on 7 September when winds were from the West suggesting there was contribution of Lead dust from off-site sources. An elevated PM_{10} Lead dust reading of 0.13 µg/m^3 on 1 September was recorded when predominant winds were from the SSE, suggesting there was contribution of Lead dust from TSF2. Water carts and dust suppressant is applied to the TSF surface to minimise dust lift-off. The rolling annual average for PM_{10} Lead in September 2023 was 0.08 µg/m^3, equal to 0.08 µg/m^3 in October 2022.

HVAS 3 (EPL57) - Blackwood Pit (On Site) Results for September 2023

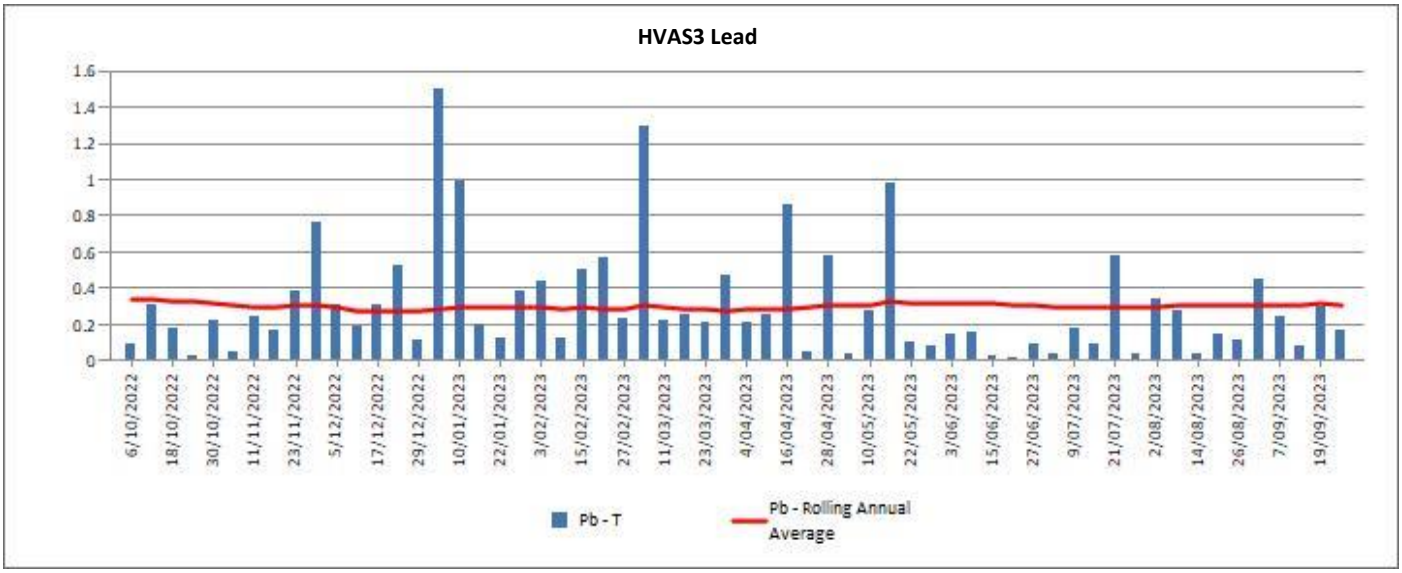
DATE	TSP ($\mu g/m^3$)	Lead ($\mu g/m^3$)
01-September-23	31.7	0.45
07-September-23	51.6	0.24
13-September-23	13.6	0.08
19-September-23	41.3	0.30
25-September-23	47.9	0.16

HVAS3 (EPL57) was included in EPL 12559 on 14 March 2019 to provide for monitoring of TSP Dust on the northern boundary of the site at Blackwoods Pit TSF2.



TSP levels were highest on 7 September with a result of 51.6 $\mu g/m^3$, when winds were from the West, suggesting some contribution of dust from off-site sources. Water carts and dust suppressant is applied to the TSF surface to minimise dust lift-off. The annual rolling average for TSP dust at this location is 48.32 $\mu g/m^3$ at the end of September 2023, up from 32.74 $\mu g/m^3$ in October 2022.

The annual rolling average for TSP is determined using data with extreme dust events included.



TSP Lead levels in September were consistent with previous months. The highest result of 0.45 µg/m^3 was recorded on 1 September when winds were predominantly from the South suggesting dust lift-off from TSF2 contributed to this result. The rolling annual average for TSP Lead in September was 0.31 µg/m^3, down from 0.34 µg/m^3 in October 2022. Water carts and dust suppressant is applied to the TSF surface to minimise dust lift-off.

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 are designed to operate continuously and sample for particulate matter less than 10 microns (PM_{10}) in size.

TEOM2 was temporarily decommissioned in 19 June 2019 due to Embankment 2 TSF2 construction works. The decommissioning is in accordance with dust management strategies agreed with the EPA which includes the operation of a real-time PM10 monitor north of the construction works. Both Project Approval and Environment Protection Licence criteria exclude dust storms and other extraordinary events.

Project Approval 07_0018 criteria apply at TEOM1 and TEOM2, with two criteria listed for PM10, a 24 hour average criteria of 50 ug/m^3 and an annual average criteria of 25 ug/m^3.

TEOM data is validated by third party consultants using Australian Standards and internal procedures, and is used to populate the table of TEOM monthly data provided below.

TEOM1 (EPL13) (Off Site) and TEOM2 (EPL14) (On Site) Validated Results for September 2023

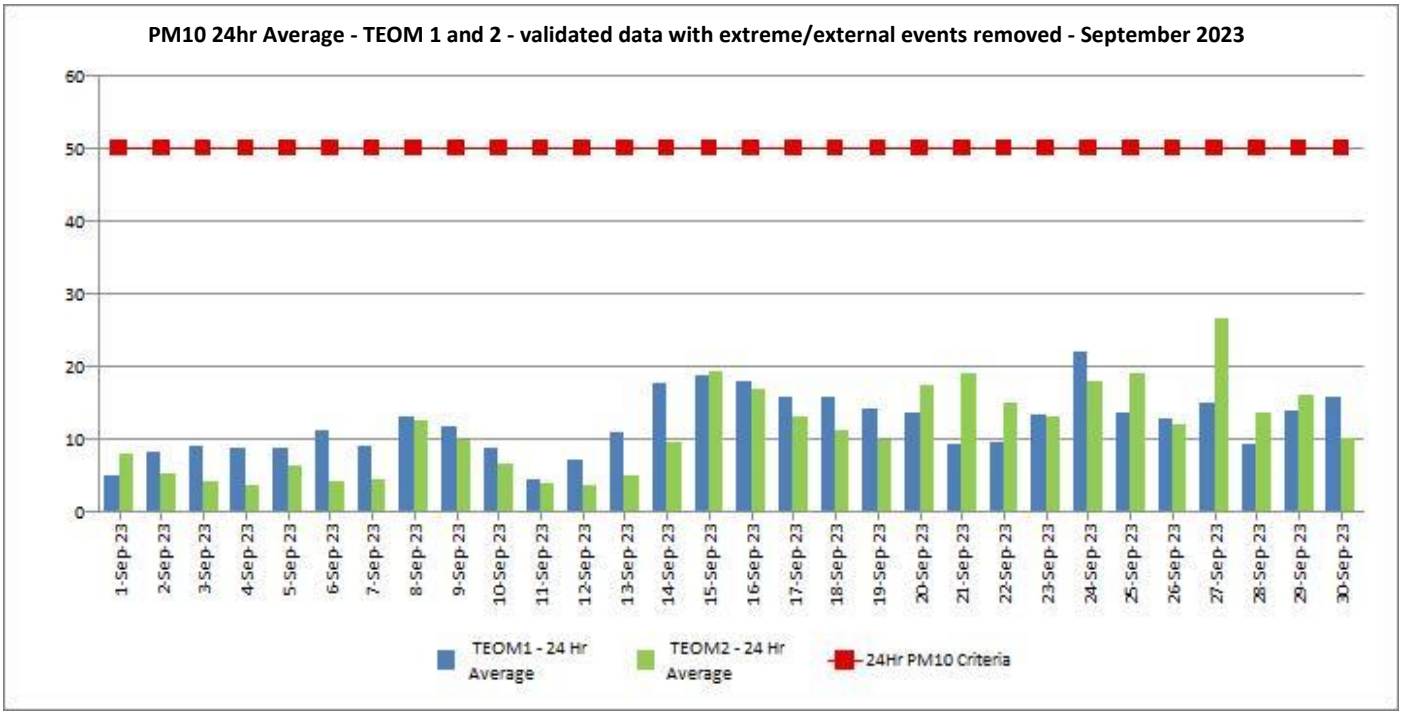
Particulate Matter <10 Microns 24Hr Average				
Date	TEOM 1 (µg/m^3)	Compliant with 50µg/m^3 24hr average?	TEOM 2 (µg/m^3)	Compliant with 50µg/m^3 24hr average?
1-Sep-23	7.8	Y	5	Y
2-Sep-23	8.2	Y	5.1	Y
3-Sep-23	4.2	Y	4.2	Y
4-Sep-23	28.9	Y	30	Y
5-Sep-23	13.3	Y	11.9	Y
6-Sep-23	11.2	Y	4	Y
7-Sep-23	56.5	Y	49.2	Y
8-Sep-23	13	Y	12.5	Y
9-Sep-23	11.7	Y	9.8	Y
10-Sep-23	8.8	Y	6.6	Y
11-Sep-23	4.3	Y	3.8	Y
12-Sep-23	7.2	Y	3.5	Y
13-Sep-23	10.9	Y	5	Y
14-Sep-23	17.5	Y	9.5	Y
15-Sep-23	18.8	Y	19.3	Y
16-Sep-23	18	Y	16.8	Y
17-Sep-23	15.7	Y	13.1	Y
18-Sep-23	21.7	Y	18.3	Y
19-Sep-23	40.6	Y	33.9	Y
20-Sep-23	13.7	Y	17.5	Y
21-Sep-23	9.2	Y	19	Y
22-Sep-23	9.6	Y	14.9	Y
23-Sep-23	13.3	Y	13	Y
24-Sep-23	22	Y	17.8	Y
25-Sep-23	13.7	Y	18.9	Y
26-Sep-23	12.7	Y	12	Y
27-Sep-23	14.8	Y	26.4	Y
28-Sep-23	9.3	Y	13.6	Y
29-Sep-23	13.8	Y	16.1	Y
30-Sep-23	15.6	Y	10.1	Y

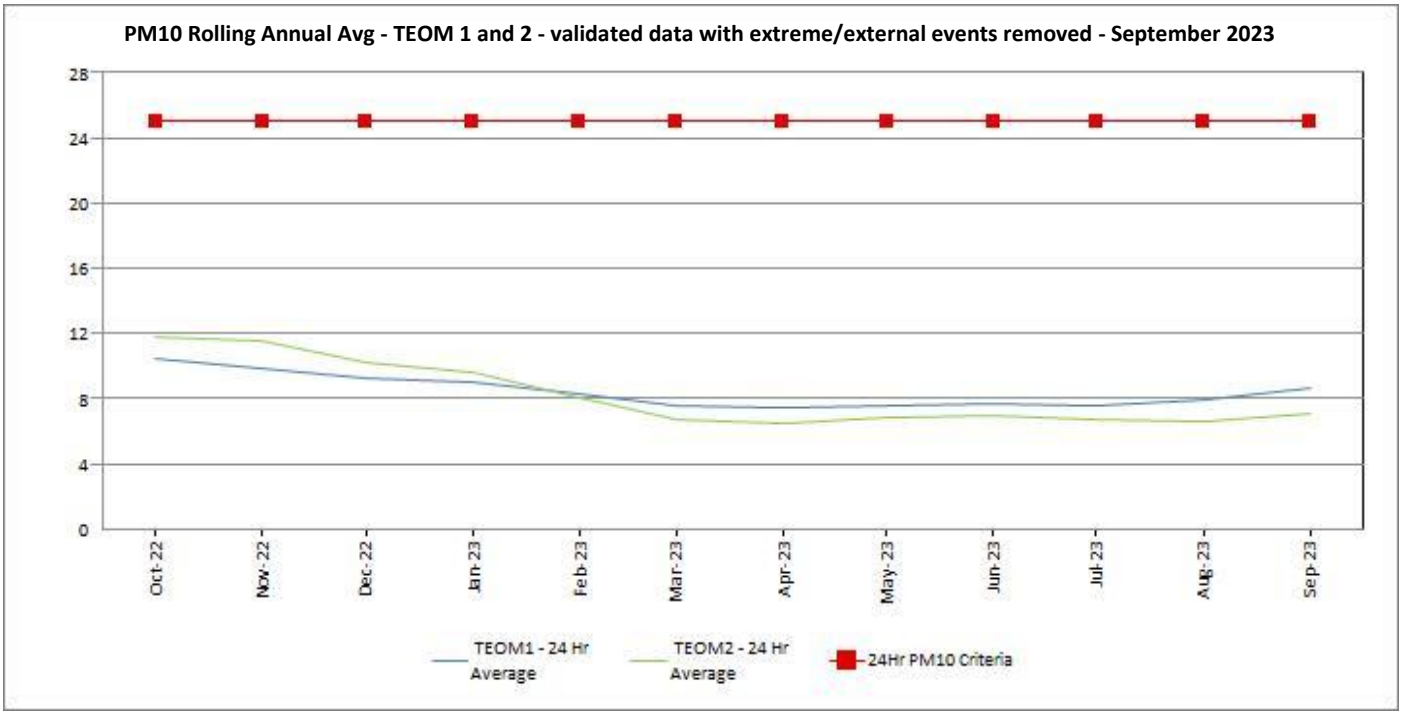
PM_{10} dust levels at both TEOM units were low in the month of September, with neither site recording a daily average over the limit of 50 µg/m^3, except for TEOM1 on 7 September when there was a regional dust storm.

The rolling annual average for PM10 at TEOM1 with external dust events removed for the period October 2022 to September 2023 is 8.65 µg/m^3, lower than 13.43 µg/m^3 at the beginning of the reporting period.

The rolling annual average for PM10 at TEOM2 with external dust events removed for the period October 2022 to September 2023 is 7.08 µg/m^3, below the rolling annual average of 12.33 µg/m^3 at the beginning of the reporting period.

The PM_{10} 24-hour rolling annual average for both TEOM sites remain below the annual average criteria of 25 ug/m^3.





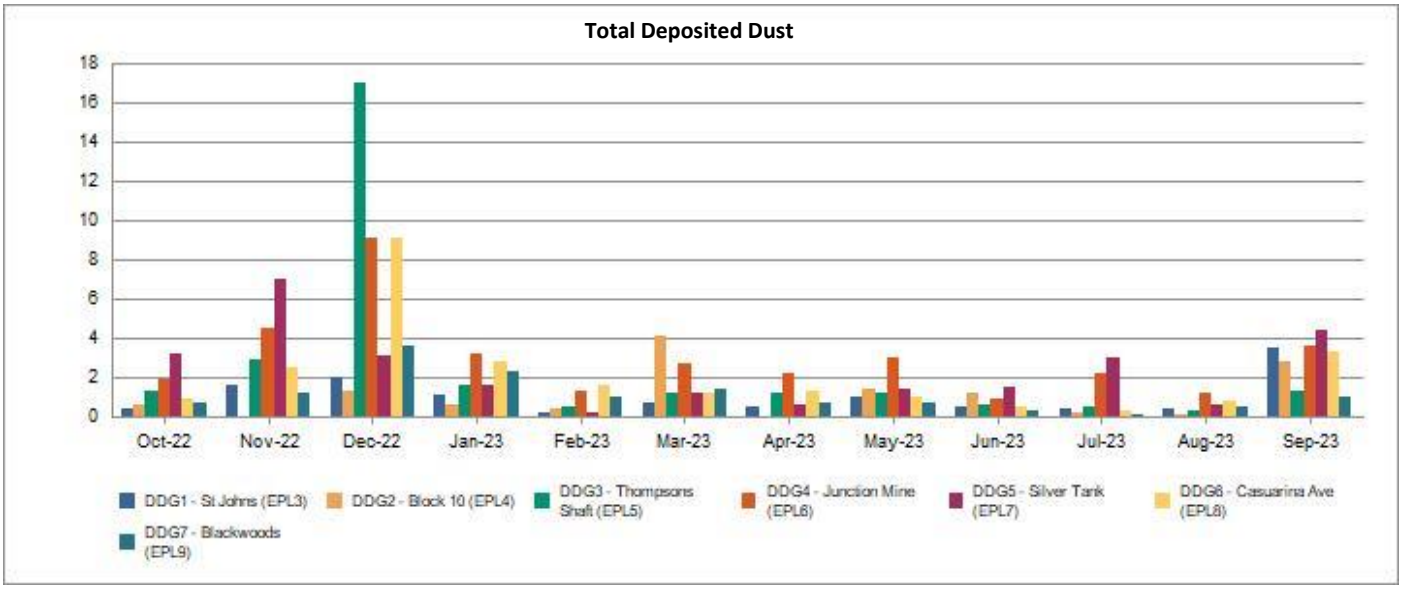
1.3 Dust Deposition Sampling

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 September 2023

Total Deposited Dust (g/m^2.month)							
Sample Period	D1 (off site)	D2 (off site)	D3 (on site)	D4 (off site)	D5 (on site)	D6 (off site)	D7 (on site)
September 2023	3.5	2.8	1.3	3.6	4.4	3.3	1.0
Annual Rolling Average	1.03	1.13	2.47	2.98	2.32	2.11	1.13
Background (2010)	-1	3.1	4.3	5.7	-1	5.8	-1

Note: "1"= background not available, N/A = not applicable as dust deposition unit is located on site, NS = No sample

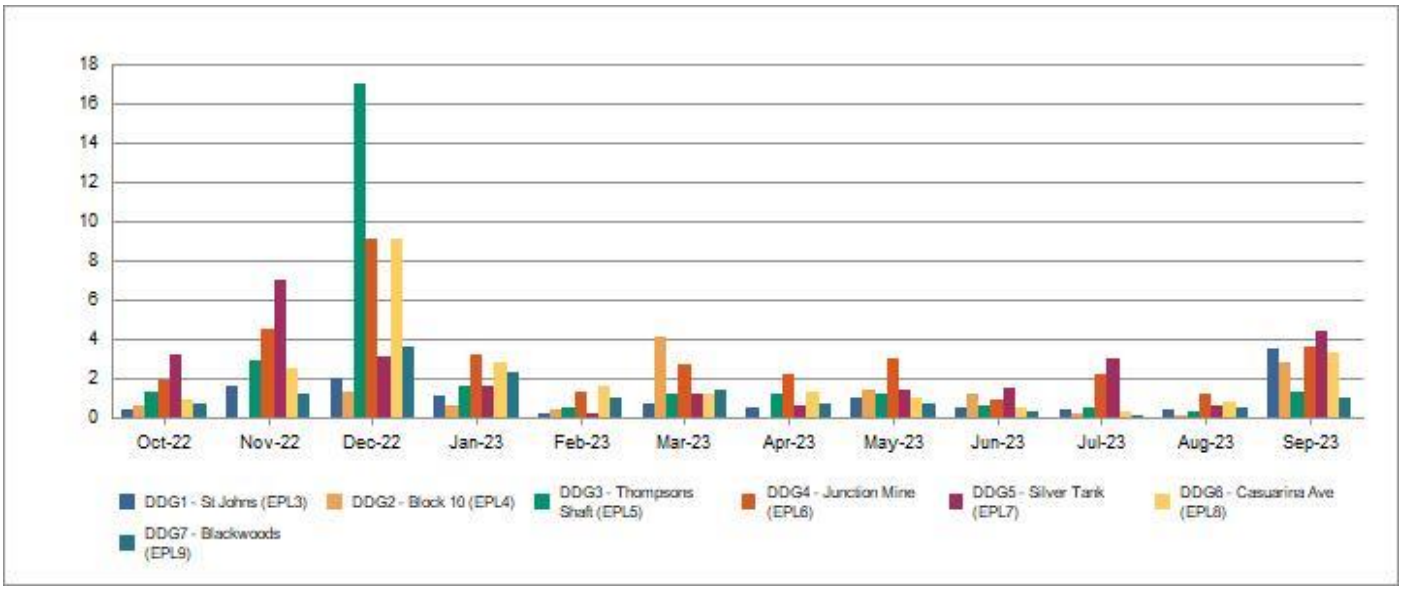


The dust levels recorded in Dust Gauges in September 2023 were higher than previous months. The highest dust levels were recorded in the D5 Silver Tank gauge. The predominant wind direction for September was from the South as shown in the Wind Rose in Section 4, although wind direction was highly variable, suggesting contribution of dust in this location was likely from off-site sources and site activities.

Dust Deposition Gauges that are located off-site must adhere to criteria for annually averaged deposited dust of 4 g/m^2.month. All off-site Dust Deposition Gauges were compliant in the reporting period.

Insoluble Lead (g/m^2.month)							
Sample Period	D1 (off Site)	D2 (on site)	D3 (on site)	D4 (on site)	D5 (on site)	D6 (off Site)	D7 (on site)
September 2023	0.0044	0.0022	0.0214	0.0279	0.0301	0.0066	0.0192
Background (2010)	0.0034	0.005	0.005	0.006		0.004	

Note: "1"= background not available, NS = No sample



There are no guidelines for deposited lead dust limits. Results for September were higher than previous months with the highest result recorded in the D5 Silver Tank gauge. The predominant wind direction for September was from the South as shown in the Wind Rose in Section 4, although wind direction was highly variable, suggesting contribution of dust in this location was likely from off-site sources and site activities. Dust suppressant is applied to unsealed areas of the site and roads are frequently watered using water carts in an attempt to control dust emissions.

1.4 Ventilation Outlets and Bag House Monitoring

There are two locations to measure pollutants from exhausts or stacks; these include the Primary Ventilation Shaft, measuring pollutants from underground firings, and the Baghouse Stack at the crusher measuring dust. Each 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. Shaft 6 (EPL56) was removed as a monitoring location with the variation of EPL12559 in March 2019 as it became an intake rather than an exhaust in April 2018. A map indicating these locations can be found on the Rasp Mine web site. Samples are collected quarterly and analysed for a number parameters listed in below. Reference to the item required in the Rasp Mine Environment Protection Licence (EPL) is provided below. Emissions monitoring is conducted quarterly.

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 (TSP)	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 September 2023

Monitoring was conducted at the Primary Vent Shaft (EPL1) and the Crusher Baghouse (EPL2) on 21 August 2023.

2 Noise

2.1 Blasting (Vibration and Overpressure)

There are five compliance vibration monitors at various locations measuring for vibration and overpressure from blast firings. These include V1 to V5 which are located on-site and off-site. A map indicating these locations can be found on the Rasp Mine web site. In addition, there are a number of roving monitors which may be used to monitor vibration and overpressure at particular locations as required. Monitors operate continuously and are automatically triggered to record 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 September 2023 (annual period)

Total Blasts:

- 0 production blasts occurred before 6.45 am or after 7.15 pm
- The number of Production blasts averaged 2.13 per week over the previous calendar year
- The number of Development blasts averaged 20.06 per week over the previous calendar year

Western Mineralisation and Main Lodes (excluding Block 7):

- 0 Blast 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 for the annual period = 0%
- Percentage of production blasts over 5 mm/sec for the annual period = 0%

Block 7:
There have been no blasts in Block 7 for the 12-month period.

The have been no production blasts in the Western Mineralisation and Main Lodes producing vibration at monitors over 5 mm/sec for the 12-month period.

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 last conducted during two consecutive night-time periods from 27 to 29 October 2022.

The monitoring assessment found that site LAeq, 15min noise contributions satisfied the relevant limits during the measurements at all assessment locations.

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 March, June, September and December. 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 (SO4), 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 September 2023

Sample Point	pH	EC (µS/cm^2)	TDS (mg/l)	Alkalinity ($CaCO_3$) (mg/l)	SO4 (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)	6.02	14100	29400	8	6120	1680	514	383	1840	4.62	3.78	529	1320	0.08
Kintore Pit (EPL54)	Not pumping													

Groundwater Bores (EPL37 - EPL52) Results for September 2023

Sample Point	pH	EC (µS/cm^2)	TDS (mg/l)	Alkalinity ($CaCO_3$) (mg/l)	SO4 (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)	4.49	8360	8300	1	4480	722	238	380	1360	0.170	0.041	288	238	<0.05
GW02 (EPL38)	Bore Dry													
GW03 (EPL39)	5.49	14700	13500	<1	4770	2890	551	362	2170	0.559	3.47	491	425	0.22
GW04 (EPL40)	5.57	14700	12000	290	4610	2480	554	567	2370	0.0197	0.004	20.6	9.89	<0.05
GW05 (EPL41	5.88	13600	12000	32	4600	2380	546	406	2130	1.53	0.597	286	260	<0.05

Sample Point	pH	EC ($\mu S/cm^2$)	TDS (mg/l)	Alkalinity ($CaCO_3$) (mg/l)	SO4 (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)
GW06 (EPL42)	5.91	14300	12800	48	4900	2460	534	479	2210	1.20	0.072	341	227	<0.05
GW07 (EPL43)	6.1	12500	11900	26	4620	1780	513	328	1810	2.58	1.78	326	428	<0.05
GW08 (EPL44)	5.92	10400	9840	3680	1640	552	255	1320	2.06	0.485	320	535	<0.05	5.92
GW09 (EPL45)	6.59	10700	8900	150	3650	1700	579	446	1380	0.508	<0.001	49.2	52.9	<0.05
GW10 (EPL46)	6.11	15700	13200	110	4630	2980	566	528	2430	3.10	<0.001	153	294	<0.05
GW11 (EPL47)	5.99	3180	2670	11	1360	272	300	75	336	1.19	0.547	9.24	54.6	<0.05
GW12 (EPL48)	Insufficient sample													
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. Based on historical data, sampling is most likely to be undertaken in October (highest rainfall month as recorded by Bureau of Meteorology) and April.

Results for all locations were consistent with previous samples.

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 (Mn), pH, sodium (Na), sulphate (SO4), total dissolved solids (TDS) and zinc (Zn)
Ryan Street Dam EPL31/S49	2 x per year, six months apart	
Adjacent Olive Grove EPL32/S1A	2 x per year, six months apart	
Adjacent Bowls Club EPL33 /S9-B2	2 x per year, six months apart	
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 for September 2023

No surface water sampling was conducted in September due to lack of rainfall.

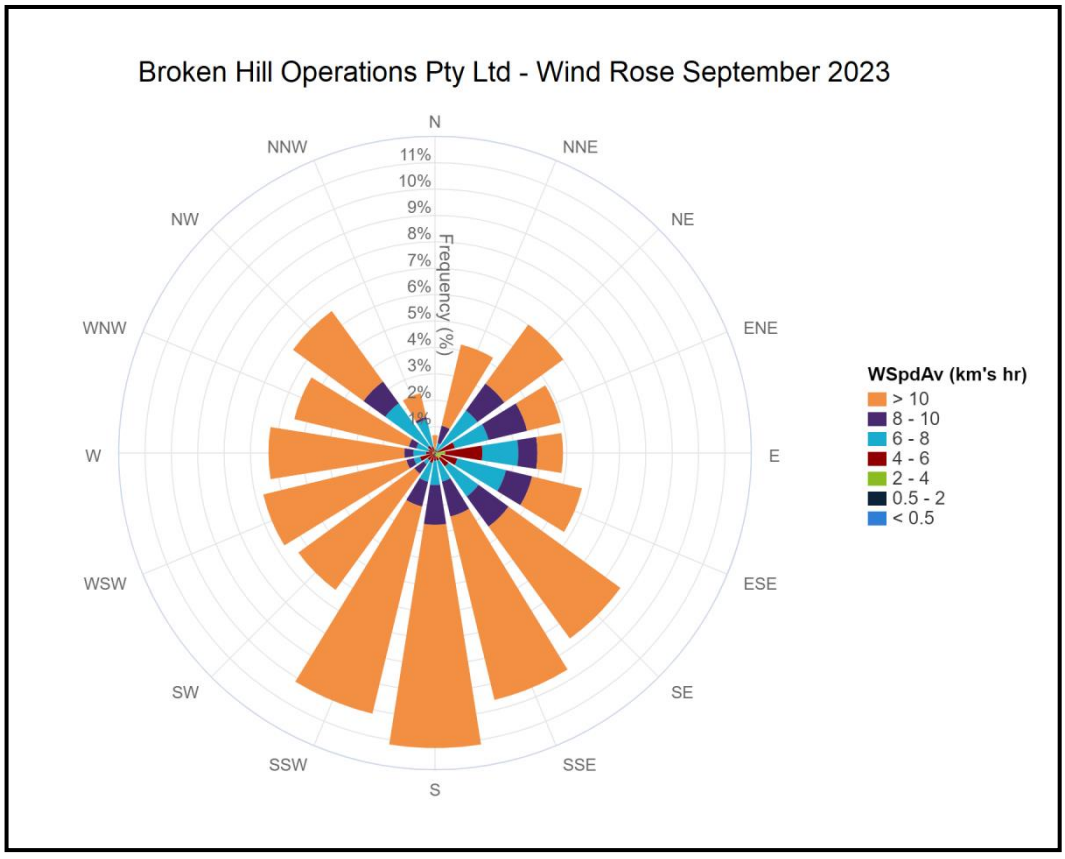
4 Weather Data

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



The wind rose provided above indicates that the prominent wind direction for the month of September was from the South.

Weather Data Summary for September 2023

Date	Temperature @ 10m (°C)		Wind Speed @ 10m (km/hr)		Predominant Wind Direction @ 10m		Rainfall (mm)
	Min	Max	Min	Max	Cardinal	Degree	Total
01-Sep-2023	7.7	15.4	8.557	10.745	SSE	135.51	0.00
02-Sep-2023	11.7	20.1	7.429	9.583	ESE	112.19	0.00
03-Sep-2023	14.7	23.2	16.333	21.795	SE	133.22	0.00
04-Sep-2023	9.3	23.5	14.688	20.794	W	258.51	0.00
05-Sep-2023	11.7	18.7	8.05	10.45	WNW	287.14	0.00
06-Sep-2023	13.8	21.8	14.141	18.896	SE	123.98	0.00
07-Sep-2023	4.7	23.8	19.756	29.171	WNW	273.02	0.00
08-Sep-2023	3.8	14.2	14.14	18.482	SW	206.82	0.00
09-Sep-2023	7.8	14.5	8.101	10.556	SSE	138.18	0.00
10-Sep-2023	9.2	17.5	9.858	13.236	SE	129.54	0.00
11-Sep-2023	11.3	19.1	8.027	10.717	SE	122.05	0.00
12-Sep-2023	15	22.8	6.901	8.789	E	85.52	0.00
13-Sep-2023	16.8	26.1	7.814	10.09	E	73	0.00
14-Sep-2023	16	27.5	14.026	18.636	SSW	182.89	0.00
15-Sep-2023	15.5	29.8	9.714	13.02	WSW	237.89	0.00
16-Sep-2023	20.2	29.5	7.226	9.543	WSW	240.72	0.00
17-Sep-2023	22.4	32.1	10.84	14.5	SSW	191.36	0.00
18-Sep-2023	22.4	32.8	15.105	21.704	SW	221.24	0.00
19-Sep-2023	15.4	32.7	13.194	18.801	WSW	233.8	0.00
20-Sep-2023	10.4	25.6	14.711	19.842	SW	218.42	0.00
21-Sep-2023	7.5	18.8	12.977	17.033	S	159.60	0.00
22-Sep-2023	12.5	15.7	13.7	19.045	SE	120.73	0.00
23-Sep-2023	13.4	23.8	9.697	12.275	ESE	97.63	0.00
24-Sep-2023	18.3	28.8	12.276	16.647	SE	131.52	0.00
25-Sep-2023	12.8	27.3	10.89	14.002	SSW	199.27	0.00
26-Sep-2023	13	28.2	9.486	12.464	WSW	226.22	0.00
27-Sep-2023	8.3	21.7	15.673	19.734	S	178.06	0.72
28-Sep-2023	11.9	23.9	8.469	12.365	SE	127.39	0.00
29-Sep-2023	19.7	28.8	7.905	10.458	ESE	109.82	0.00
30-Sep-2023	22.4	30.3	13.028	17.685	SW	216.01	0.00

Rainfall of 0.72 mm fell in September 2023.

5 Data Log

Sample	Result Received
Hi Volume Samples	20-10-2023
TEOM	27-10-2023
Dust Deposition	25-10-2023
Vents & Bag House	10-10-2023
Noise	05-12-2022
Water	12-10-2023
Blast vibration and overpressure	01-10-2023
Weather	01-10-2023
Date posted to web site	06-12-2023

6 Correction Log

No corrections.