



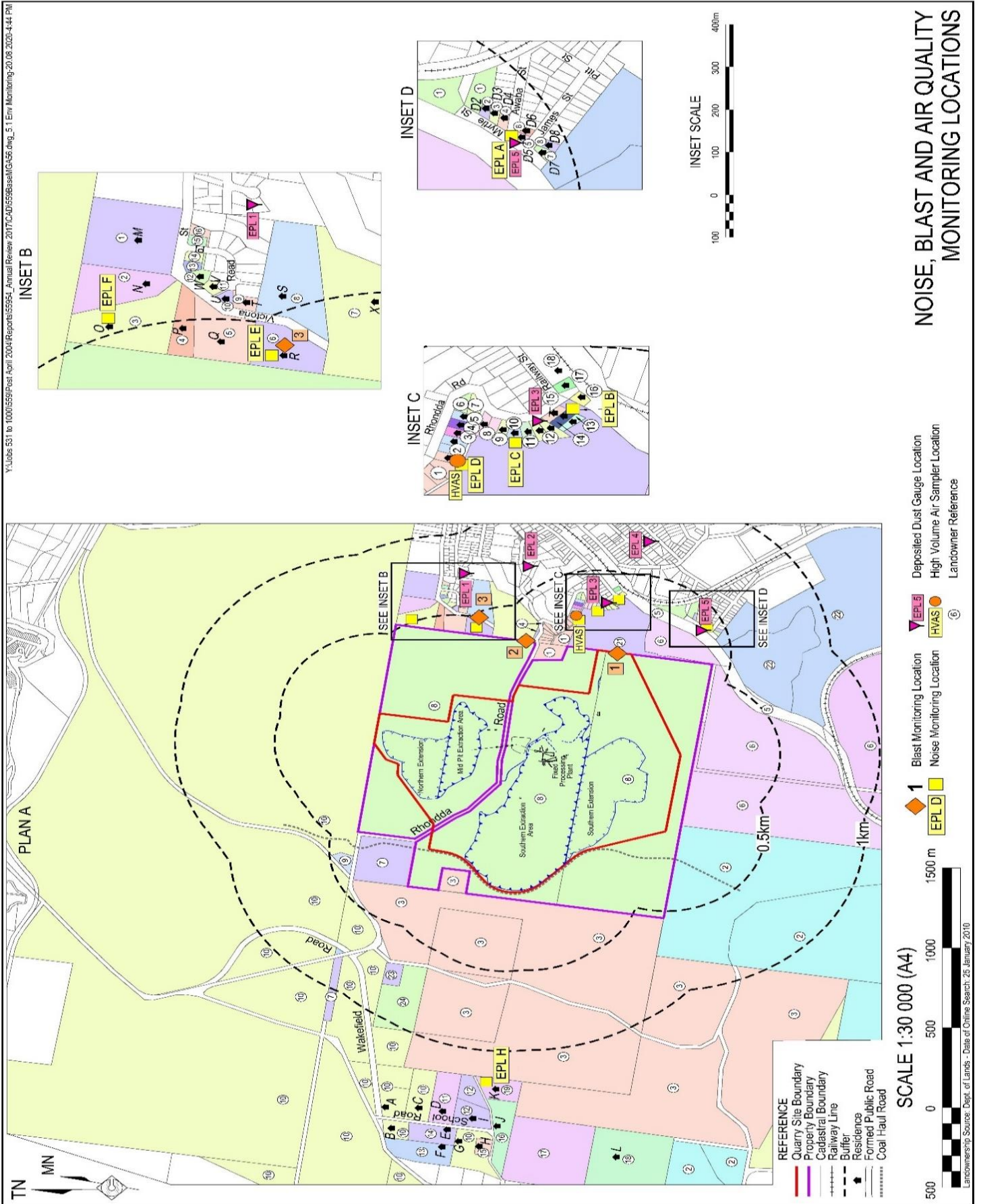
Teralba Quarry Environmental Monitoring Summary

July 2024

Environmental Protection Licence (EPL):	536
Licensee:	Metromix Pty Limited
Licensee Address:	PO Box 1295 Parramatta, NSW 2124
Premises:	Metromix Pty Limited Teralba Quarry Rhondda Road Teralba, NSW 2284
Licensee Website:	https://www.metromix.com.au/
Licensee Website - Monitoring Results:	https://www.metromix.com.au/resources/#quarry
EPA Public Register:	https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers
Prepared by:	R. W. Corkery & Co.
Sample Period:	July 2024
Date Last Data Received	14 August 2024
Date of Report	20 August 2024

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Deposited Dust

Sample Period Start: 01/07/2024
Sample Period End: 01/08/2024
Sample Frequency: 30 ± 2 days
Sample Collected By: Metromix - AL
Date Received by Laboratory: 01/08/2024
Date Results Received by Metromix: 12/08/2024

EPA Identification No.	Location	Criteria (g/m ² /month)	Insoluble Solids (g/m ² /month)	Ash Fraction (g/m ² /month)	% Ash Fraction
1	Hillside Crescent	4.0	0.3	0.2	67
8	Rodgers Street	4.0	0.8	0.5	63
9	Rhondda Road	4.0	0.8	0.4	50
11	Myrtle Street	4.0	1.3	0.9	69
23	York Street	4.0	0.3	0.8	267

Comments

No exceedances of the approved criteria were detected during the sample period.

Deposited Dust - Year to Date

	Rhondda Road			Myrtle Street			Hillside Crescent			Rodgers Street			York Street		
	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash	Total Insoluble Solids	Ash Fraction	% Ash
Units	g/m ² /month	g/m ² /month		g/m ² /month	g/m ² /month		g/m ² /month	g/m ² /month		g/m ² /month	g/m ² /month		g/m ² /month	g/m ² /month	
EPA Approved Level	4.0			4.0			4.0			4.0			4.0		
January	0.3	0.2	67	0.5	0.3	60	1.7	0.1	6	0.2	0.1	50	0.6	0.2	33
February	0.6	0.3	50	1.3	0.4	31	0.8	0.4	50	0.5	0.2	40	1.2	0.6	50
March	0.3	0.1	33	0.5	0.2	40	1.6	0.6	38	0.2	0.1	50	0.3	0.1	33
April	0.8	0.3	38	0.8	0.4	50	0.5	0.2	40	0.6	0.3	50	1.1	0.4	36
May	0.5	0.3	60	1.6	1.0	63	0.3	0.2	67	0.7	0.6	86	0.2	0.2	100
June	0.3	0.2	67	0.3	0.3	100	0.4	0.3	75	0.4	0.1	25	1.2	0.5	42
July	0.8	0.4	50	1.3	0.9	69	0.3	0.2	67	0.8	0.5	63	1.3	0.8	62
August															
September															
October															
November															
December															
Annual Average	0.5	0.3	52	0.9	0.5	59	0.8	0.3	49	0.5	0.3	52	0.8	0.4	51
Annual Maximum	0.8	0.4	67	1.6	1.0	100	1.7	0.6	75	0.8	0.6	86	1.3	0.8	100
Annual Minimum	0.3	0.1	33	0.3	0.2	31	0.3	0.1	6	0.2	0.1	25	0.2	0.1	33

Particulate Matter (PM₁₀)

Sample Location: EPA 3 - Rodgers Street
 Sample Frequency: 6 days

Date Sample Taken (24-hr)	Collected by	Date Results Received	PM ₁₀ $\mu\text{g}/\text{m}^3$	Monthly Average Criteria ($\mu\text{g}/\text{m}^3$)	Annual Average Criteria ($\mu\text{g}/\text{m}^3$)
04/07/2024	CBased - LK, TD	18/07/2024	11.4	50	
10/07/2024	CBased - LK, TD	18/07/2024	5.5	50	
16/07/2024	CBased - TD	24/07/2024	9.4	50	
22/07/2024	CBased - TD	29/07/2024	16.9	50	
28/07/2024	CBased - MB	06/08/2024	3.9	50	
Monthly Average			9.4		25/30*

*Project Approval (PA 10_0183) outlines the annual average PM₁₀ criteria to be 30 $\mu\text{g}/\text{m}^3$. However, EPL 536 Condition R4.5a) requires that the air quality monitoring data is assessed against the Air Impact Assessment Criteria outlined in EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*. The most up to date version of this guideline was published in 2022 and outlines the annual average PM₁₀ criteria to be 25 $\mu\text{g}/\text{m}^3$. Metromix has considered both criteria for its review of particulate matter monitoring.

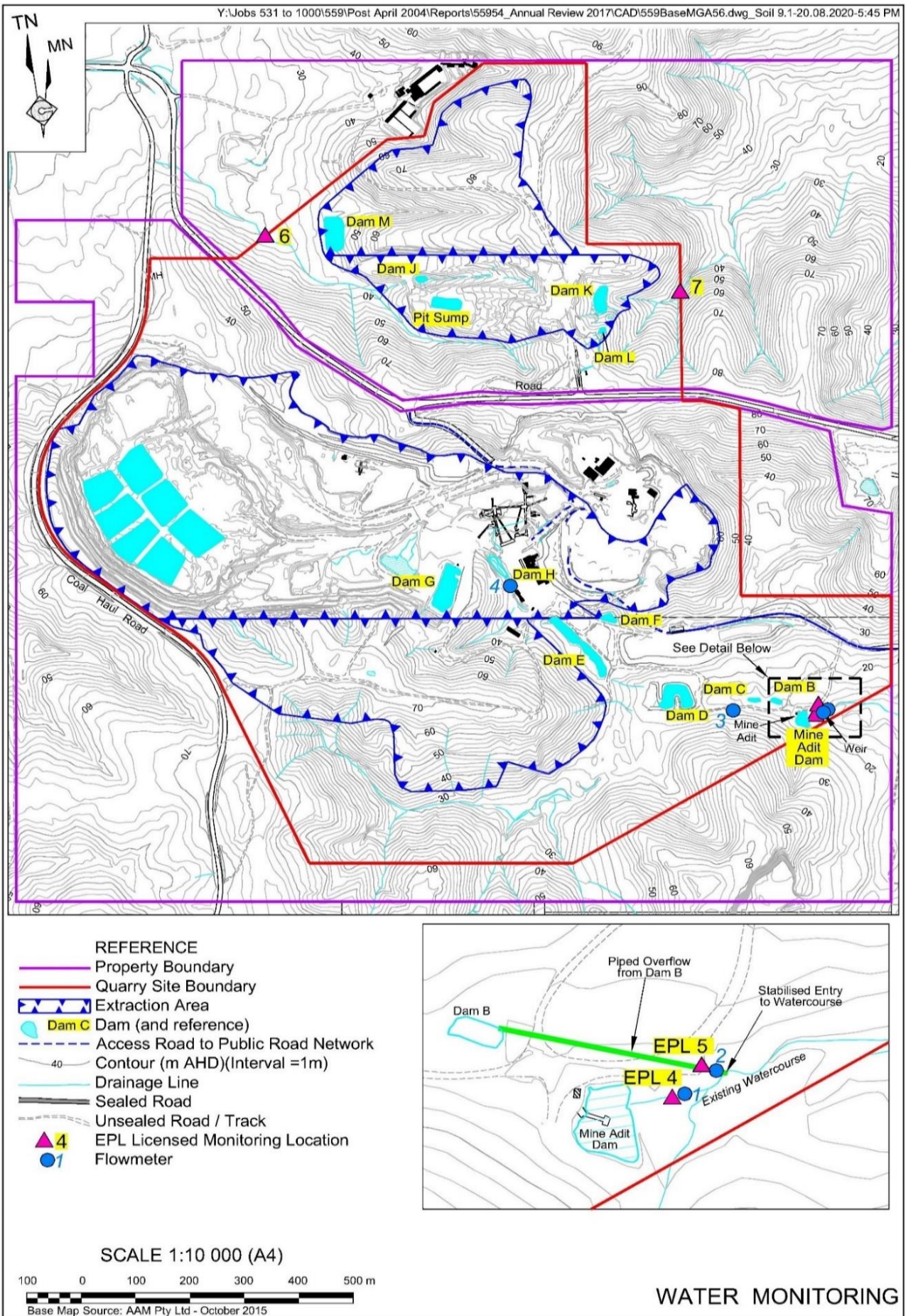
Comments

All PM₁₀ results remained below the approved criteria for the sample period.

Particulate Matter (PM₁₀) - Year to Date

Date	PM ₁₀ (µg/m ³)	Monthly Average (µg/m ³)	Year to Date Average (µg/m ³)	24-Hr Criteria (µg/m ³)	Comments
06/01/2024	12.7	15.9	12.7	50	
12/01/2024	14.5		13.6	50	
18/01/2024	8.1		11.8	50	
24/01/2024	20.0		13.8	50	
30/01/2024	24.4		15.9	50	
05/02/2024	46.3	27.5	12.7	50	See comment in February 2024 Monitoring Summary.
11/02/2024	26.3		21.8	50	
17/02/2024	20.5		21.6	50	
23/02/2024	22.5		21.7	50	
29/02/2024	21.7		21.7	50	
06/03/2024	18.9	14.3	21.4	50	
12/03/2024	22.0		21.5	50	
18/03/2024	8.5		20.5	50	
24/03/2024	9.4		19.7	50	
30/03/2024	12.7		19.2	50	
05/04/2024	9.1	11.1	18.6	50	
11/04/2024	12.0		18.2	50	
17/04/2024	14.9		18.0	50	
23/04/2024	9.6		17.6	50	
29/04/2024	10.0		17.2	50	
05/05/2024	3.7	10.0	16.6	50	
11/05/2024	5.1		16.0	50	
17/05/2024	15.8		16.0	50	
23/05/2024	8.5		15.7	50	
29/05/2024	17.1		15.8	50	
04/06/2024	8.2	7.4	15.5	50	
10/06/2024	8.0		15.2	50	
16/06/2024	3.4		14.8	50	
22/06/2024	5.5		14.5	50	
28/06/2024	11.9		14.4	50	
04/07/2024	11.4	9.4	14.3	50	
10/07/2024	5.5		14.0	50	
16/07/2024	9.4		13.9	50	
22/07/2024	16.9		14.0	50	
28/07/2024	3.9		13.7	50	

Minimum	3.4
Maximum	46.3
Average	13.7
Standard Deviation	8.5
24-hr Criteria	50
Number of Exceedences	0
Annual Average Criteria	25/30*
Annual Average Criteria Exceeded	No
*See explanation on previous page.	



Water**Water Monitoring****EPL Point 4 - Monthly Monitoring**

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
01/07/2024	5:50am	Metromix - CD	9/07/2024		7.0	1060	<5	<5	

EPL Point 5 - Monitoring Daily During Discharge

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
01/07/2024	5:45am	Metromix - CD	9/07/2024		7.2	1800	10	<5	

EPL Point 6 - Monthly Monitoring

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
No discharge occurred at this location and therefore no monitoring was required.									

EPL Point 7 - Monthly Monitoring

Date	Time	Sampled By	Date Results Received		pH	EC	TSS	Oil & Grease	Comments
				Units	pH Units	µS/cm	mg/L	mg/L	
				EPL Criterion*	6.5-8.5	NA	<50	10	
				ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
No discharge occurred at this location and therefore no monitoring was required.									

Flow Meter Records

EPA Identified Point	Location	Description	Sample Period	Daily Average Flow ML	Monthly Total Flow ML
4	Adit Dam	Adit Dam to Creek (off site)	01/07/2024 - 01/08/2024	3.39	105.0
5	Dam B	Discharge from Dam B (from Quarry)	01/07/2024 - 01/08/2024	0.42	13.0
4	Adit Dam	Water pumped from Adit Dam to Dam G (processing use)	01/07/2024 - 01/08/2024	3.58	111.1

Comments

All water monitoring results remained within the approved criteria levels during the monitoring period.

Water - Year to Date**EPL Point 4 : Monthly Monitoring**

	pH	EC	TSS	Oil & Grease	Comments
Units	pH Units	µS/cm	mg/L	mg/L	-
EPL Criterion*	6.5-8.5	NA	<50	10	-
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	-
January	7.3	2090	<5	6	-
February	-	-	-	-	No discharge occurred at this location and no monitoring was undertaken (see February 2024 monitoring summary).
March	8.3	2100	<5	<5	-
April	7.4	2100	<5	<5	-
May	7.2	1670	5	<5	-
June	7.2	1650	12	<5	-
July	7.0	1060	<5	<5	-
August					
September					
October					
November					
December					

EPL Point 5 : Monitoring During Discharge

	pH	EC	TSS	Oil & Grease	Comments
Units	pH Units	µS/cm	mg/L	mg/L	
EPL Criterion*	6.5-8.5	NA	<50	10	
ANZECC Water Quality Limits	6.5-8.5	125-2200	<50	-	
8 April	6.9	798	5	<5	-
1 May	6.9	758	<5	<5	-
3 June	6.9	859	<5	<5	-
1 July	7.2	1800	10	<5	-

Flow Meter Records

EPA Identifier	Location	Description	Date	Monthly
4	Adit Dam	Water pumped from Adit Dam to Dam G (processing use)	02/01/2024 - 01/02/2024	0.2
			01/02/2024 - 01/03/2024	72.2
			01/03/2024 - 02/04/2024	76.0
			02/04/2024 - 01/05/2024	86.2
			01/05/2024 - 03/06/2024	118.4
			03/06/2024 - 01/07/2024	85.3
			01/07/2024 - 01/08/2024	111.1

EPA Identifier	Location	Description	Date	Monthly
5	Dam B	Discharge from Dam B (from Quarry)	02/01/2024 - 01/02/2024	0.0
			01/02/2024 - 01/03/2024	0.9
			01/03/2024 - 02/04/2024	0.0
			02/04/2024 - 01/05/2024	11.4
			01/05/2024 - 01/06/2024	27.5
			03/06/2024 - 01/07/2024	9.7
			01/07/2024 - 01/08/2024	13.0

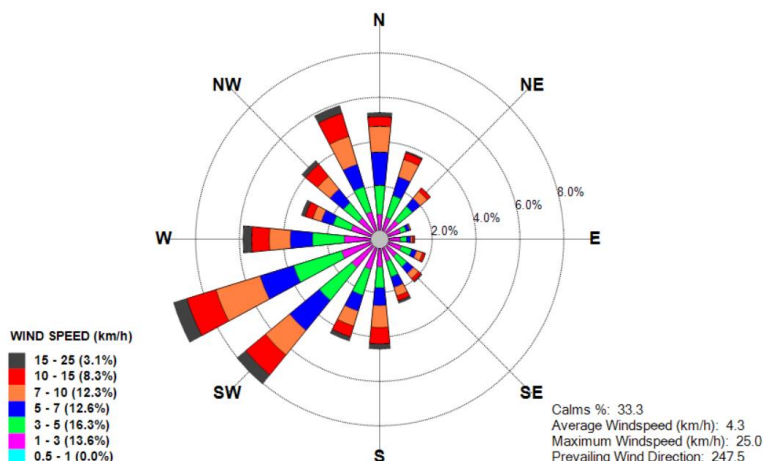
EPA Identifier	Location	Description	Date	Monthly
4	Adit Dam	Adit Dam to Creek (off site)	02/01/2024 - 01/02/2024	20.3
			01/02/2024 - 01/03/2024	0.9
			01/03/2024 - 02/04/2024	2.8
			02/04/2024 - 01/05/2024	45.1
			01/05/2024 - 01/06/2024	31.6
			01/06/2024 - 01/07/2024	216.9
			01/07/2024 - 01/08/2024	105.0

Meteorological Conditions

Monitoring Location: Mid-Pit Entrance
 Monitoring Frequency: Continuous

Windrose

Metromix Teralba - Windrose
 JULY 2024



Monthly Summary

Date	Mean Wind Direction (°)	Mean Wind Speed (km/h)	Daily Rainfall (mm)	Mean Sigma Theta	Max Temperature (°C) at 2m	Min Temperature (°C) at 2m
01/07/24	211	7.0	20.0	34.0	15.0	8.4
02/07/24	216	4.2	48.2	36.9	12.2	8.4
03/07/24	208	5.3	8.6	36.2	15.7	9.0
04/07/24	181	5.3	1.2	40.2	16.6	9.0
05/07/24	160	5.0	0.2	43.1	17.6	10.9
06/07/24	189	4.0	5.8	39.6	17.2	9.9
07/07/24	201	3.3	3.8	37.9	16.8	9.3
08/07/24	155	2.4	1.8	23.0	14.9	11.6
09/07/24	NR	NR	NR	NR	17.6	10.6
10/07/24	NR	NR	NR	NR	18.6	9.2
11/07/24	NR	NR	NR	NR	17.6	8.8
12/07/24	NR	NR	NR	NR	19.4	8.6
13/07/24	NR	NR	NR	NR	17.4	9.2
14/07/24	NR	NR	NR	NR	15.8	7.2
15/07/24	NR	NR	NR	NR	15.0	5.0
16/07/24	NR	NR	NR	NR	13.6	7.8
17/07/24	NR	NR	NR	NR	18.2	9.0
18/07/24	254	6.0	6.2	25.6	18.4	8.4
19/07/24	250	7.8	0.0	46.3	15.6	6.6
20/07/24	241	14.6	0.0	48.9	17.0	11.5
21/07/24	248	6.9	0.0	35.7	18.1	8.6
22/07/24	260	5.0	0.0	29.6	18.0	7.6
23/07/24	210	6.4	0.0	25.8	19.2	9.6
24/07/24	164	6.8	0.0	25.7	19.8	8.8
25/07/24	170	7.6	0.0	23.5	21.8	9.6
26/07/24	205	4.9	6.4	28.5	20.8	11.4
27/07/24	208	5.2	7.6	24.5	15.2	11.4
28/07/24	244	9.7	0.2	27.9	14.4	8.2
29/07/24	230	8.2	0.0	34.5	15.4	4.6
30/07/24	218	8.9	0.0	34.3	15.6	8.0
31/07/24	225	7.8	0.0	34.1	14.5	9.0

NR: Not Recorded

Note: During the period of 7 July 2024 to 18 July 2024, the meteorological station at Teralba Quarry did not record data for a number of meteorological parameters including mean wind direction, mean wind speed, daily rainfall and mean sigma theta. This non-compliance was notified to the Department of Planning, Housing, and Infrastructure and the Environment Protection Authority and resolved accordingly.

Meteorological Conditions - Year to Date

Monitored Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Rainfall (mm)	33.0	165.8	27.6	335.8	189.0	121.6	110.0						982.8
Average Minimum Temperature (°C) at 2m	17.0	16.4	15.0	12.0	7.6	5.2	4.6						11.1
Average Maximum Temperature (°C) at 2m	42.2	41.2	36.8	30.0	23.8	21.2	21.8						31.0
Average Minimum Temperature (°C) at 10m	17.4	16.2	15.4	12.2	8.9	6.5	5.2						11.7
Average Maximum Temperature (°C) at 10m	41.0	40.3	35.5	28.6	23.2	20.5	21.4						30.1
Average Sigma Theta	33.3	34.6	32.5	30.3	28.3	29.4	33.5						31.7
Average Solar Radiation (W/m ²)	192.0	160.7	159.0	127.4	88.3	82.0	93.8						129.0
Average Relative Humidity (%)	70.0	75.0	74.0	73.0	77.0	69.0	65.0						71.9

Blasting

Monitoring Frequency Each Blast

Blast Monitoring Completed By MAXAM

Shot #	Day	Month	Time	Location	Elevation (m)	Location 1		Location 2		Location 3		Comments
						Overpressure	Vibration	Overpressure	Vibration	Overpressure	Vibration	
						dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	
1	10	January	13:14:00	Stage 2B-1	RL48	103.3	0.17	102.7	0.08	NM	NM	
2	19	January	11:52:39	Stage 2B-2	RL48	96.3	0.33	99.9	0.06	NM	NM	
3	29	January	11:51:27	Stage 2B	RL48	90.9	0.32	96.7	0.09	NM	NM	
4	7	February	11:38:31	Stage 2B-3	RL48	106.7	0.26	97.6	0.07	NM	NM	
5	26	February	13:49:00	Stage 2B-3	RL60	100.1	0.34	105.2	0.08	NM	NM	
6	29	February	10:47:00	Stage 2B	RL48	112.1	0.38	108.2	0.06	NM	NM	
7	14	March	12:59:31	Stage 1C	RL40	102.3	0.18	NT	NT	NM	NM	
8	2	April	12:43:14	Stage 2B-3	RL48	109.5	0.30	101.7	0.08	NM	NM	
9	12	April	12:09:28	Stage 1C	RL40	NT	NT	NT	NT	NM	NM	
10	29	April	13:15:28	Stage 2B-3	RL48	105.2	0.30	NT	NT	NM	NM	
11	13	May	13:28:00	Stage 2B-3	RL48	NT	NT	NT	NT	NM	NM	
12	22	May	14:17:00	Stage 1C	RL48	101.6	0.36	NT	NT	NM	NM	
13	7	June	13:34:00	Stage 2B-3	RL48	105.2	0.33	NT	NT	NM	NM	
14	26	June	13:40:00	Stage 1C	RL40	103.6	0.25	NT	NT	NM	NM	
15	10	July	13:48:36	Stage 3	RL49	114.7	0.55	NT	NT	NM	NM	
16	24	July	14:12:00	Stage 2A	RL40	105.4	0.24	NT	NT	NM	NM	

NT Not Triggered

NM Not Monitored

Blasting Criteria

Parameter	Units of Measure	Limit	
		95% of blasts per year	100% of blasts
Airblast Overpressure (Linear Peak)	decibels (dB(L))	115	120
Ground Vibration (Peak Particle Velocity)	millimeters per second	5	10

Comments

Two blasting events occurred during the monitoring period. All blast monitoring results were within the approved criteria.

Waste Management**Waste Removal Summary**

Month	January	February	March	April	May	June	July	August	September	October	November	December
Item	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
General Waste Bin (10m ³)	-	-	-	-	-	-	-					
General Waste Bin (4.5m ³)	-	-	-	-	-	-	-					
General Waste Bin (6m ³)	-	-	-	-	-	-	-					
General Waste Bin (20m ³)	1	-	1	1	1	-	1					
Paper & Cardboard Bin (3m ³)	2	1	2	1	1	2	2					
Shredded Paper Bin (240L)	-	-	-	-	-	-	-					
Co Mingled Recycling (2 x 240 L)	2	4	4	4	4	4	4					
Tonner Cartridges	49	-	-	-	-	-	-					
Waste Oil (L)	-	-	-	-	-	-	-					
Scrap Steel (t)	2.86	-	3.28	2.66	-	-	-					
Timber (m ³)	-	-	-	-	-	-	-					
Engine Coolant (L)	-	-	-	-	-	-	-					
Oil Filters (240L bin)	-	3	-	-	4	-	-					
Batteries	-	-	-	-	-	-	-					
Oily Rags (240L bin)	-	-	-	-	-	-	-					
Aerosols (120L bin)	-	-	-	-	-	-	-					
Tyres	-	-	-	-	-	-	-					
Other	-	-	-	-	-	-	-					
Oily Water (L)	-	-	-	-	-	-	-					
Grease Waste (L)	-	-	-	-	-	-	-					