

WERRIS CREEK COAL COMMUNITY CONSULTATIVE COMMITTEE
61ST Meeting of the Committee held at the Werris Creek Bowling Club on
Wednesday, 8 March 2023 at 9:30AM

Meeting opened at 9:35AM.

Record of attendance

Michael Silver OAM	Independent Chairperson
Jane Bradford OAM	Independent Minute Taker
Megan Martin	Werris Creek Coal - Environmental Superintendent
James O'Brien	Community Representative
Lindsay Bridge	Community Representative
Noel Taylor	Community Representative
Mike Lomax	Community Representative

Note: Murray O'Keefe Whitehaven Coal – Operations Manager arrived as meeting closed.

Apologies

Harry Mills	Whitehaven Coal - Environmental Officer
Jacki Scott	Whitehaven Coal – Manager Community Partnerships and Investment
Darren Swain	Whitehaven Coal - General Manager Community Engagement

Non-Attendance

Liverpool Shire Council	Representative
Col Stewart OAM	Community Representative

2 Acknowledgement of Country

The Chair acknowledged the Traditional Owners of the land on which the meeting is being held and recognised their continuing connection to the land, water and culture, paying respects to their Elders past, present and emerging.

3 Declaration of Pecuniary or Other Interests –

The Chair advised that his meeting expenses are borne by the proponent.
Other members - Nil

4 Minutes of the previous 60th meeting held on 9 November 2022 were approved on 30 November 2022.

5 Matters Arising - Nil

6 Environmental Monitoring Report from October 2022 to January 2023

Megan Martin went through the Report with the following comments:

1.1 Weather Station – Well above average annual rainfall 951.6mm for 2022 – currently 62.2mm since January 2023.

2.0 Air Quality – Excellent – rain has kept dust levels down.

2.2.1 Monitoring Data Results – “Cintra” one slightly over 4.00 – quick return to normal levels.

2.3 Air Quality Complaints - Nil

3.1 Operational Noise – stayed within range over the period

4.0 Blast complaints – 24 blasts – all compliant. As the mining moves closer to the township we are making smaller blasts.

5.2 Surface Water – last discharge was 18.11.2022.

5.2.1 Monitoring Data Results – non-compliant discharge was discussed in the previous report. All monitoring results from this quarter were compliant.

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7 General Business

- Life of Mine – indicated Quarter 3 of FY23-24 (1st Quarter of CY24)
- Public Auction of properties and / or lease in due course
- Land holders surrounding or owned to be notified
- **Note** Whitehaven will still have liabilities
- **Extensive damage to fencing** – 2kl repairs pre-winter – further work due in spring. In the past the farmer provides the fencing and the mine pays for the actual fencing – will require two quotes
- Mine is not involved with the inland rail or any over pass project

7.1 Whitehaven Coal Sponsorship and Donations Process

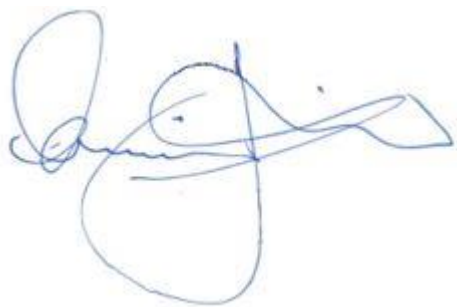
- Megan Martin confirmed that the current round opened in January 2023 and is still open.

Next meeting Wednesday, 12 July 2023 at 9:30am

Venue - Werris Creek Bowling Club. A site visit may be considered as part of this meeting.

Meeting closed at 10:25AM

Meeting minutes approved:

A handwritten signature in blue ink, appearing to read 'Michael J. Silver', with a large, stylized loop at the end.

Michael J. Silver OAM
Independent Chairperson

19 April 2023



WERRIS CREEK COAL PTY LTD

QUARTERLY ENVIRONMENTAL MONITORING REPORT

October 2022 – January 2023

This Environmental Monitoring Report covers the period 1st October 2022 to 31st January 2023 for the Werris Creek Coal Mine Community Consultative Committee.

The report includes environmental monitoring results from the on-site Weather Station, Air Quality, Noise, Blasting, Surface Water, Groundwater and Discharge Water Quality together with any community complaints received and general details on site environmental matters.

Note: Elevated monitoring results above the relevant monitoring criteria are highlighted in **yellow**.

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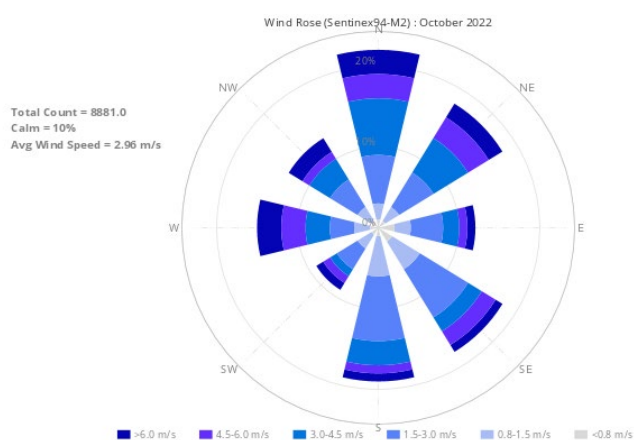
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1.0 METEOROLOGY

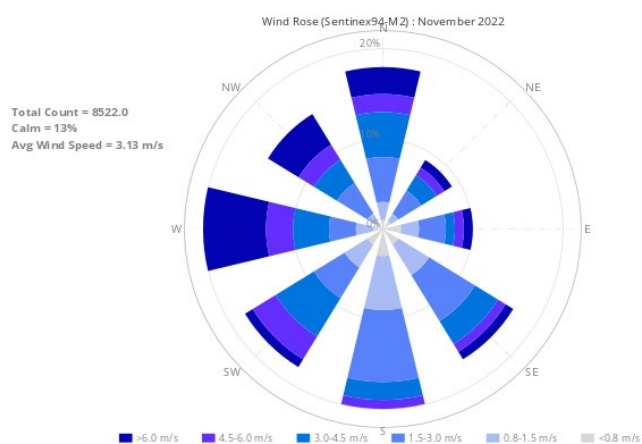
1.1 WEATHER STATION

Werris Creek Coal (WCC) collects meteorological data from the onsite weather station located on the top level of the overburden emplacement. The following table summarises rainfall data for the last four months. The monthly rainfall total for October-November 2022 was above the historical average and below during December 2022-January 2023. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the north in October 2022, west in November 2022, south-east in December 2023 and south in January 2023.

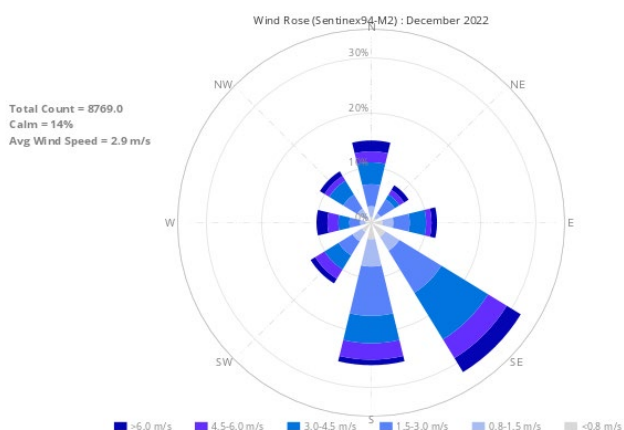
Month	Rainfall (mm)			
	Onsite	Historical Average	2022 Total	2023 Total
October 2022	158.4	64.3	803.2	
November 2022	109.6	90.1	912.8	
December 2022	38.8	84.6	951.6	
January 2023	62.2	65.0		62.2



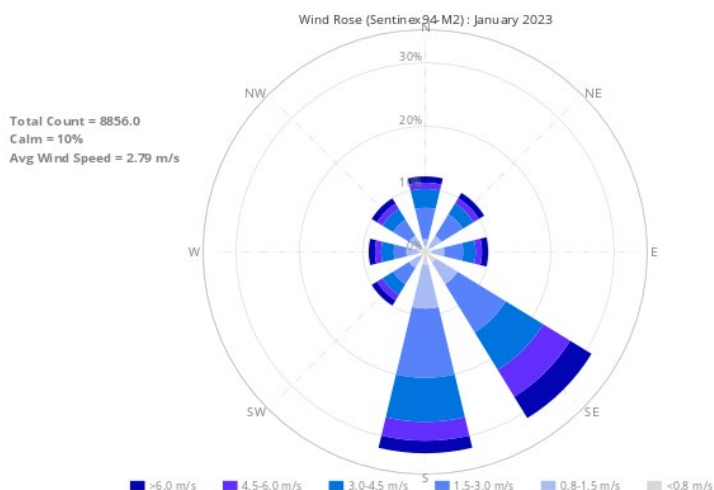
OCTOBER 2022



NOVEMBER 2022



DECEMBER 2022



JANUARY 2023

2.0 AIR QUALITY

2.1 HVAS (PM₁₀) and TEOM (PM₁₀ & PM_{2.5})

WCC operates five High Volume Air Samplers (HVAS), four sites measuring particulate matter less than 10 microns (PM₁₀) and one site measuring total suspended particulate (TSP) matter. HVAS sampling is scheduled every 6 days for a 24-hour run period in accordance with Environment Protection Authority (EPA) guidelines. Results are reported in micro grams per cubic metre (µg/m³) of air sampled. In addition, WCC operates a Tapered Element Oscillating Microbalance (TEOM) monitor in Werris Creek measuring real time PM₁₀ and PM_{2.5} (particulate matter less than 2.5 microns) dust levels. Dust monitoring locations are identified in **Figure 1**.

2.1.1 Monitoring Data Results

The average results for the last four months are provided in the table below.

MONITORING LOCATION	24Hr Maximum (µg/m ³)	OCT 2022 (µg/m ³)	NOV 2022 (µg/m ³)	DEC 2022 (µg/m ³)	2022 AVG (µg/m ³)	JAN 2023 (µg/m ³)	2023 AVG (µg/m ³)	CRITERIA (µg/m ³)	
								Annual	24hr
PM _{2.5} – TEOM92 “Werris Creek”	16.1	3.5	3.0	6.3	4.2	5.0	5.0	-	-
PM ₁₀ – TEOM92 “Werris Creek”	24.5	7.8	10.6	13.0	8.3	10.8	10.8	30	50
PM ₁₀ – HVP20 “Tonsley Park”	15.5	6.9	7.7	8.1	8.1	11.7	11.7	30	50
PM ₁₀ – HVP1 “Escott”	12.3	4.6	6.0	6.8	4.8	8.4	8.4	30	50
PM ₁₀ – HVP11 “Glenara”	20.4	6.5	11.1	8.9	10.0	10.8	10.8	30	50
PM ₁₀ – HVP98 “Kyooma”	16.1	3.9	4.7	6.7	3.8	6.9	6.9	30	50
TSP – HVT98 “Kyooma”	35.3	11.4	15.6	15.4	11.6	15.5	15.5	90	-

Yellow Bold – Elevated dust level.

2.1.2 Discussion - Compliance / Non Compliance

All TSP, PM₁₀ and PM_{2.5} dust results were within criteria during the period.

2.2 WERRIS CREEK MINE DEPOSITED DUST

Deposited dust monitoring measures particulate matter greater than 30 microns in size that readily settles out of the air related to visual impact. Dust deposition is monitored at 18 locations around WCC. Sampling is scheduled monthly in accordance with EPA guidelines and results are reported as grams per square metre per month (g/m².month). Dust monitoring locations are identified in **Figure 1**.

2.2.1 Monitoring Data Results

The results for the last four months are provided in the table below.

MONITORING LOCATION	OCT 2022 (g/m ² /month)	NOV 2022 (g/m ² /month)	DEC 2022 (g/m ² /month)	2022 AVERAGE (g/m ² /month)	JAN 2023 (g/m ² /month)	2023 AVERAGE (g/m ² /month)	Annual Criteria (g/m ² /month)
DG1 "Escott"	2.5	0.7	2.1	1.1	1.2	1.2	4.0
DG2 "Cintra"	7.9*	17.6*	10.7*	5.1	11.8*	-	4.0
DG3 "Eurunderee"	1.5	0.6	0.7	0.9	1.3	1.3	4.0
DG5 "Railway View"	2.2	3.1	3.0	2.3	2.0	2.0	4.0
DG9 "Marengo"	1.8	1.0	0.6	1.2	0.8	0.8	4.0
DG11 "Glenara"	2.0	0.7	3.5	1.1	1.9	1.9	4.0
DG14 "Greenslopes"	1.7	2.1	1.0	0.9	2.1	2.1	4.0
DG15 "Plain View"	1.0	0.9	3.1	1.4	1.2	1.2	4.0
DG17 "Woodlands"	1.4	3.1	1.4	2.1	1.2	1.2	4.0
DG20 "Tonsley Park"	1.3	1.5	0.6	1.6	2.8	2.8	4.0
DG22 "Mountain View"	1.1	2.1	0.8	1.1	0.9	0.9	4.0
DG24 "Hazeldene"	2.2	1.2	0.4	2.0	1.6	1.6	4.0
DG34 8 Kurrara St	1.2	0.9	0.7	0.8	0.9	0.9	4.0
DG62 Werris Creek South	3.0	1.5	NS	1.2	1.2	1.2	4.0
DG92 Werris Creek Centre	1.1	0.6	0.6	0.5	0.9	0.9	4.0
DG98 "Kyooma"	1.2	0.8	NS	1.0	1.2	1.2	4.0
DG101 "Westfall"	3.4	0.8	2.3	1.8	2.6	2.6	4.0
DG103 West Street	1.6	0.7	1.4	1.9	2.3	2.3	4.0

* - sample contaminated with excessive organic matter (>50%) from non-mining source (i.e., bird droppings and insects); # - indicates sample is contaminated from a Non-Werris Creek Coal dust source; **Yellow Bold** – Elevated dust level; NS - No Sample; Site damage – stand and bottle vandalised

2.2.2 Discussion - Compliance / Non-Compliance

All monthly dust deposition gauge results were below the annual criteria of 4.0 g/m²/month throughout the period, with the exception of:

- DG2 (Cintra) has exhibited some high dust levels throughout the reporting period. Some samples have been deemed contaminated by visual field inspections and the presence of insects, vegetation and bird droppings in some samples. The dust is, however, consistent with the activities of the nearby mining immediately adjacent to the dust gauge – DG2 is located within the Mining Lease Boundary.

2.3 AIR QUALITY COMPLAINTS

There were no dust complaints recorded during the period.

3.0 NOISE

3.1 OPERATIONAL NOISE

Monthly attended noise monitoring is undertaken representative of the following 16 properties from 13 monitoring points below. Attended noise monitoring was undertaken twice for either 60 minutes at privately owned properties or 15 minutes at properties with private agreements; representative of the day period and the evening/night period.

3.1.1 Monitoring Data Results

The WCC operation's noise level (not ambient noise) results for the last four months are outlined in the tables below. Noise monitoring locations are identified in **Figure 2**.

26th Wednesday, October 2022

Location		Day dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min	Evening/Night dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min
A	"Rosehill" R5	Inaudible	35	Inaudible	35
B	West Quipolly (R7*, R8*, R9* & R22*)	Inaudible	40	25	40
C	Central Quipolly (R10*, R11*)	Inaudible	40	Inaudible	40
D	"Hazeldene" R24	Inaudible#	37	Inaudible	37
E	"Railway Cottage" R12	Inaudible#	38	Inaudible	38
F	"Talavera" R96	23#	38	32#	37
H	"Kyooma" R98	24#	35	35#	35
I	Kurrara St, WC R57	Inaudible	35	29#	35
J	Coronation Ave, WC	Inaudible#	35	24#	35
K	Alco Park (R21*)	Inaudible#	40	26#	40
L	West St, WC (R103)	Inaudible#	35	26#	35

WC – Werris Creek; * - Private agreement in place with resident; **Yellow Bold** – Elevated noise; # Adverse weather with wind >3m/s, temperature inversions >+12°C/100m or >2m/s and >0°C/100m; 1 – R22 criteria is 36 dB(A) L_{eq} 15min while R9 is 37 dB(A) L_{eq} 15min

NM- Denotes Not Measurable. If site only noise is noted as NM, this means some noise from the source of interest was audible at low-levels, but could not be quantified

10th Thursday, November 2022

Location		Day dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min	Evening/Night dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min
A	"Rosehill" R5	Inaudible#	35	Inaudible	35
B	West Quipolly (R7*, R8*, R9* & R22*)	Inaudible	40	27	40
C	Central Quipolly (R10*, R11*)	Inaudible	40	Inaudible	40
D	"Hazeldene" R24	Inaudible	37	22	37
E	"Railway Cottage" R12	Inaudible	38	Inaudible	38
F	"Talavera" R96	22#	38	Inaudible	37
H	"Kyooma" R98	Inaudible	35	Inaudible	35
I	Kurrara St, WC R57	Inaudible	35	Inaudible	35
J	Coronation Ave, WC	Inaudible	35	Inaudible	35
K	Alco Park (R21*)	Inaudible	40	32	40
L	West St, WC (R103)	Inaudible	35	Inaudible	35

WC – Werris Creek; * - Private agreement in place with resident; **Yellow Bold** – Elevated noise; # Adverse weather with wind >3m/s, temperature inversions >+12°C/100m or >2m/s and >0°C/100m; 1 – R22 criteria is 36 dB(A) L_{eq} 15min while R9 is 37 dB(A) L_{eq} 15min

NM- Denotes Not Measurable. If site only noise is noted as NM, this means some noise from the source of interest was audible at low-levels, but could not be quantified

19th and 20th Monday-Tuesday, December 2022

Location		Day dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min	Evening/Night dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min
A	"Rosehill" R5	Inaudible#	35	Inaudible#	35
B	West Quipolly (R7*, R8*, R9* & R22*)	Inaudible#	40	Inaudible#	40
C	Central Quipolly (R10*, R11*)	Inaudible#	40	Inaudible#	40
D	"Hazeldene" R24	Inaudible#	37	Inaudible#	37
E	"Railway Cottage" R12	Inaudible#	38	Inaudible#	38
F	"Talavera" R96	Inaudible	38	Inaudible#	37
H	"Kyooma" R98	Inaudible	35	Inaudible#	35
I	Kurrara St, WC R57	Inaudible#	35	Inaudible#	35
J	Coronation Ave, WC	Inaudible#	35	Inaudible#	35
K	Alco Park (R21*)	Inaudible#	40	Inaudible#	40
L	West St, WC (R103)	Inaudible#	35	Inaudible#	35

WC – Werris Creek; * - Private agreement in place with resident; **Yellow Bold** – Elevated noise; # Adverse weather with wind >3m/s, temperature inversions >+12°C/100m or >2m/s and >0°C/100m; 1 – R22 criteria is 36 dB(A) L_{eq} 15min while R9 is 37 dB(A) L_{eq} 15min

NM- Denotes Not Measurable. If site only noise is noted as NM, this means some noise from the source of interest was audible at low-levels, but could not be quantified

17th Tuesday, January 2023

Location		Day dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min	Evening/Night dB(A) L_{eq} 15min	Criteria dB(A) L_{eq} 15min
A	"Rosehill" R5	Inaudible	35	27	35
B	West Quipolly (R7*, R8*, R9* & R22*)	Inaudible	40	Inaudible	40
C	Central Quipolly (R10*, R11*)	Inaudible	40	Inaudible#	40
D	"Hazeldene" R24	Inaudible	37	Inaudible#	37
E	"Railway Cottage" R12	Inaudible	38	Inaudible	38
F	"Talavera" R96	Inaudible	38	Inaudible	37
H	"Kyooma" R98	Inaudible	35	Inaudible	35
I	Kurrara St, WC R57	Inaudible	35	22#	35
J	Coronation Ave, WC	Inaudible#	35	Inaudible#	35
K	Alco Park (R21*)	26	40	27#	40
L	West St, WC (R103)	Inaudible	35	24#	35

WC – Werris Creek; * - Private agreement in place with resident; **Yellow Bold** – Elevated noise; # Adverse weather with wind >3m/s, temperature inversions >+12°C/100m or >2m/s and >0°C/100m; 1 – R22 criteria is 36 dB(A) L_{eq} 15min while R9 is 37 dB(A) L_{eq} 15min

NM- Denotes Not Measurable. If site only noise is noted as NM, this means some noise from the source of interest was audible at low-levels, but could not be quantified

3.1.2 Discussion - Compliance / Non-Compliance

Noise from Werris Creek Coal Mine was inaudible at a high percentage of the monitoring sites during the quarter. Throughout the period, Werris Creek Coal Mine adjusted mining operations and shut down equipment at various times to reduce noise generation potential in response to noise levels measured at the real time noise monitors.

3.2 Noise complaints

There were no noise complaints recorded during the period.

4.0 BLASTING

During the reporting period there was a total of 24 blasts fired by WCC with monitoring of each blast undertaken at "Glenara", "Kyooma", "Werris Creek South" and "Werris Creek Mid". Compliance limits for blasting overpressure is 115dB(L) (and up to 120dB(L) for only 5% of blasts) and vibration is 5mm/s (and up to 10mm/s for only 5% of blasts). Blast monitoring locations are identified in **Figure 3**.

4.1 BLAST MONITORING**4.1.1 Monitoring Data Results**

The summary tables of blasting results over the last four months are provided below.

October 2022		"Glenara" R11		"Kyooma" R98		Werris Creek South R62		Werris Creek Mid R92	
		mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)
Monthly Average		0.08	101.1	0.57	99.9	0.41	100.3	0.27	94.6
Monthly Maximum		0.15	110.6	1.21	105.3	0.90	110.7	0.52	102.7
Annual Average		0.11	100.9	0.73	101.5	0.47	101.9	0.31	96.6
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

November 2022		"Glenara" R11		"Kyooma" R98		Werris Creek South R62		Werris Creek Mid R92	
		mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)
Monthly Average		0.12	97.8	0.85	100.3	0.59	102.6	0.37	100.2
Monthly Maximum		0.18	101.4	1.14	105.4	0.91	107.6	0.55	106.4
Annual Average		0.11	100.7	0.74	101.4	0.48	101.9	0.32	96.9
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

December 2022		"Glenara" R11		"Kyooma" R98		Werris Creek South R62		Werris Creek Mid R92	
		mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)
Monthly Average		0.13	99.7	0.99	99.9	0.72	102.2	0.38	100.1
Monthly Maximum		0.27	111.5	1.34	102.5	1.14	103.2	0.50	101.6
Annual Average		0.11	100.6	0.76	101.3	0.50	102.0	0.32	97.2
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

January 2023		"Glenara" R11		"Kyooma" R98		Werris Creek South R62		Werris Creek Mid R92	
		mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)
Monthly Average		0.10	97.4	0.85	99.2	0.52	101.2	0.32	98.5
Monthly Maximum		0.13	100.8	1.04	106.9	0.73	110.0	0.37	107.1
Annual Average		0.10	97.4	0.85	99.2	0.52	101.2	0.32	98.5
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Yellow – overpressure >115dB(L) or Werris Creek vibration >5.0mm/s.

4.1.2 Discussion - Compliance / Non-Compliance

All blasts over the period complied with maximum licence limits (120dB(L) and 10mm/s) as well as the 95th percentile limits (115dB(L) and 5mm/s).

4.2 BLAST COMPLAINTS

There was one blast complaints (15/07/2022) during the period regarding vibration.

5.0 WATER

The groundwater monitoring program monitors groundwater levels bi-monthly and groundwater quality six monthly. Surface water monitoring is undertaken quarterly.

5.1 GROUND WATER

Groundwater monitoring is undertaken to identify if there are any impacts on groundwater quality and water levels as a result of the mining operations. WCC monitors approximately 38 groundwater wells/bores and piezometers in the key aquifers surrounding WCC including Werrie Basalt (next to WCC and further afield) and Quipolly Creek Alluvium. Groundwater level surveys were completed between 8-25 November 2022 and 6-30 January 2023. Groundwater monitoring locations are identified in **Figure 4**.

5.1.1 Monitoring Data Results

A summary of groundwater monitoring results has been provided below.

Site		November-22	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	32.86	3%
	MW3	15.56	7%
	MW4B	14.77	5%
	MW5	7.70	15%
	MW6	14.37	9%
	MW27*	46.32	12%
	MW36A	16.83	11%
	MW36B	16.82	11%
Werrie Basalt	MW8*	No access	
	MW10	8.70	6%
	MW14	13.12	13%
	MW17B*	7.83	13%
	MW19A*	Pump over bore	
	MW20*	17.39	8%
	MW38A	8.97	15%
	MW38B*	8.54	5%
	MW38C*	Pump over bore	
	MW38E*	7.03	4%
	MW41	3.53	28%
	MW43	3.58	16%
#1	MW24A*	10.72	11%
	MW29*	8.89	10%
Quipolly Alluvium	MW12*	5.98	11%
	MW13*	4.43	-4%
	MW13B*	3.14	-6%
	MW13D*	3.98	5%
	MW15*	No Access	
	MW16*	3.21	29%
	MW17A*	2.17	43%
	MW18A*	2.07	43%
	MW21A*	3.56	43%
	MW22A*	2.97	35%
	MW22B*	3.03	34%
	MW23A*	3.06	16%
	MW23B*	3.37	11%
	MW26B*	3.15	39%
	MW28A*	4.59	43%
	MW32*	Pump over bore	
	MW40	3.57	28%
	MW42	3.55	16%
#2	MW34*	8.83	1%

Site		January-23	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	33.50	-2%
	MW3	15.07	3%
	MW4B	13.66	8%
	MW5	7.60	1%
	MW6	13.97	3%
	MW27*	48.44	-4%
	MW36A	15.39	9%
	MW36B	15.38	9%
Werrie Basalt	MW8*	10.92	-1%
	MW10	8.64	1%
	MW14	11.67	12%
	MW17B*	8.02	-2%
	MW19A*	Pump over bore	
	MW20*	16.72	4%
	MW38A	8.55	5%
	MW38B*	8.59	-1%
	MW38C*	Pump over bore	
	MW38E*	7.01	0%
	MW41	4.02	-12%
	MW43	4.06	-12%
#1	MW24A*	11.03	-3%
	MW29*	9.28	-4%
Quipolly Alluvium	MW12*	6.06	-1%
	MW13*	4.65	-5%
	MW13B*	3.44	-9%
	MW13D*	4.19	-5%
	MW15*	No Access	
	MW16*	3.73	-14%
	MW17A*	2.74	-21%
	MW18A*	2.05	1%
	MW21A*	3.65	-2%
	MW22A*	3.55	-16%
	MW22B*	3.64	-17%
	MW23A*	3.58	-15%
	MW23B*	No access	
	MW26B*	3.09	2%
	MW28A*	5.12	-10%
	MW32*	Pump over bore	
	MW40	3.98	-10%
	MW42	4.00	-11%
#2	MW34*	8.79	0%

mbgl – meters below ground level is the distance in meters from top of bore to groundwater surface; **Orange** – Change decrease; **Green** – change increase or no change; * - Indicates bore is used for water extraction unrelated to WCC (i.e. stock and domestic or irrigation). #1 – Werrie Basalt in the Black Soil Gully valley to east of Werris Creek Mine. #2 - Werris Creek Alluvium.

5.1.2 Discussion - Compliance / Non-Compliance

Measured groundwater levels in the Werrie Basalt and Quipolly Alluvium aquifer indicate an overall increase in water levels in November 2022 and a decrease change in January 2023.

5.2 SURFACE WATER

Surface water monitoring is undertaken in local creeks offsite as well as from discharge point dirty water dams to monitor for potential water quality issues. Quarterly surface water monitoring was undertaken 23rd - 24th November 2022. Surface water monitoring locations are identified in **Figure 5**.

5.2.1 Monitoring Data Results

Summary of surface water quality monitoring results has been provided below.

23rd & 24th November 2022

Site	pH	EC	TSS	O&G	Change from Previous Quarter or General Comments
ONSITE					
SB2	Insignificant water for sample			Previously low level, only puddles now	
SB9	7.42	270	27	<5	Previously low water level
SB10	Insignificant water for sample			Previously water in dam, very low level now	
SB18	8.41	349	<5	<5	Previously low water level now
OFFSITE					
QCU	7.92	492	<5	<5	Remained flowing
QCD	7.95	607	16	<5	Remained flowing
WCU	8.27	881	<5	<5	Remained flowing
WCD	8.34	976	<5	<5	Remained flowing

pH – measure of acidity/alkalinity; EC – Electrical Conductivity measures salinity; TSS – Total Suspended Solids is a measure of suspended sediment in water (i.e. similar to turbidity); O&G – Oil and Grease measures amount of hydrocarbons (oils and fuels) in water. NA – No Access

5.2.2 Discussion - Compliance / Non-Compliance

Quarterly surface water monitoring was undertaken on 23rd - 24th November 2022. All water quality results were within long-term averages and the Site Water Management Plan trigger values.

5.3 SURFACE WATER DISCHARGES

5.3.1 Monitoring Data Results

There were three uncontrolled discharge events between October and November 2022 following above average rainfall during these months. Eight controlled discharge events also occurred this period.

Sampling conducted within the Quipolly and Werris Creek system during the discharge events was in accordance with licence conditions.

Sample Date	Dam	pH	EC	TSS	O&G	Compliance	Type	5 Day Rain (mm)
18/10/2022	SB12 (EPA10) - dam	7.9	350	19	<5	Yes	Controlled	N/A
18/10/2022	SB12 (EPA10) - pipe	7.7	360	15	<5	Yes	Controlled	N/A
18/10/2022	SB16 (EPA12) - dam	8.1	410	24	<5	Yes	Controlled	N/A
18/10/2022	SB16 (EPA12) - pipe	8.1	390	18	<5	Yes	Controlled	N/A
18/10/2022	SB13 (EPA14)	7.4	200	34	<5	Yes	Controlled	N/A
18/10/2022	QCU (EPA25)	7.7	370	8	<5	N/A	Controlled	N/A
18/10/2022	WCU (WPA23)	8.2	700	16	<5	N/A	Controlled	N/A
18/10/2022	WCD (WPA24)	8.3	840	17	<5	N/A	Controlled	N/A
26/10/2022	SB12 (EPA10) - dam	8.0	370	19	<5	Yes	Controlled	N/A
26/10/2022	SB12 (EPA10) - pipe	8.0	350	18	<5	Yes	Controlled	N/A
26/10/2022	SB1 (EPA10) - dam	7.8	570	23	<5	Yes	Controlled	N/A
26/10/2022	SB1 (EPA10) - pipe	8.0	550	19	<5	Yes	Controlled	N/A
26/10/2022	SB16 (EPA12) - dam	8.0	470	18	<5	Yes	Controlled	N/A
26/10/2022	SB16 (EPA12) - pipe	7.6	490	25	<5	Yes	Controlled	N/A
26/10/2022	QCU (EPA25)	7.8	290	8	<5	N/A	Controlled	N/A
28/10/2022	SB10 (EPA14) - dam	7.2	200	13	<5	Yes	Controlled	N/A
28/10/2022	SB10 (EPA14) - pipe	7.4	210	25	<5	Yes	Controlled	N/A
28/10/2022	WCU (WPA23)	8.1	390	14	<5	N/A	Controlled	N/A
28/10/2022	WCD (WPA24)	8.0	340	63	<5	N/A	Controlled	N/A
29/10/2022	SB10 (EPA14) - dam	6.9	140	19	<5	Yes	Controlled	N/A
29/10/2022	SB10 (EPA14) - pipe	6.8	130	23	<5	Yes	Controlled	N/A

29/10/2022	WCU (WPA23)	8.2	560	9	<5	N/A	Controlled	N/A
29/10/2022	WCD (WPA24)	8.1	550	22	<5	N/A	Controlled	N/A
01/11/2022	SB2 (EPA10)	7.7	370	278	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Uncontrolled	67.6
01/11/2022	SB10 (EPA14)	7.1	80	190	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Uncontrolled	67.6
01/11/2022	QCU (EPA25)	6.8	90	36	<5	N/A	Wet weather - Uncontrolled	N/A
01/11/2022	WCU (WPA23)	7.8	120	701	<5	N/A	Wet weather - Uncontrolled	N/A
01/11/2022	WCD (WPA24)	8.1	130	1390	<5	N/A	Wet weather - Uncontrolled	N/A
02/11/2022	SB12 (EPA10)	7.7	250	416	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
02/11/2022	SB1 (EPA10)	7.7	210	526	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
02/11/2022	QCU (EPA25)	7.8	210	100	<5	N/A	Wet weather - Uncontrolled	N/A
03/11/2022	SB16 (EPA12) - dam	7.4	230	410	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
03/11/2022	SB16 (EPA12) - pipe	7.4	220	181	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
03/11/2022	SB11 (EPA12) - dam	7.4	250	241	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
03/11/2022	SB11 (EPA12) - pipe	7.3	250	226	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	67.6
03/11/2022	QCU (EPA25)	7.6	240	35.5	<5	N/A	Wet weather - Controlled	N/A
14/11/2022	SB2 (EPA10)	7.3	100	32	<5	Yes	Wet weather - Uncontrolled	N/A
14/11/2022	SB10 (EPA14)	7.3	80	28	<5	Yes	Wet weather - Uncontrolled	N/A
14/11/2022	SB13 (EPA14)	7.4	80	138	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	57.6
14/11/2022	QCU (EPA25)	7.3	130	66	<5	N/A	Wet weather - Uncontrolled	N/A
14/11/2022	WCU (WPA23)	8.0	180	295	<5	N/A	Wet weather - Uncontrolled	N/A
14/11/2022	WCD (WPA24)	8.0	180	1106	7	N/A	Wet weather - Uncontrolled	N/A
18/11/2022	SB16 (EPA12) - dam	7.3	350	45	<5	Yes	Wet weather - Controlled	N/A
18/11/2022	SB16 (EPA12) - pipe	7.3	350	53	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	57.6
18/11/2022	SB11 (EPA12) - dam	7.6	320	72	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Controlled	57.6
18/11/2022	SB11 (EPA12) - pipe	7.5	330	49	<5	Yes	Wet weather - Controlled	N/A
18/11/2022	QCU (EPA25)	7.7	280	13	<5	N/A	Controlled	N/A
Criteria		6.5 - 8.5	N/A	50	10			

pH – measure of acidity/alkalinity; EC – Electrical Conductivity measures salinity; TSS – Total Suspended Solids is a measure of suspended sediment in water (i.e. similar to turbidity); O&G – Oil and Grease measures amount of hydrocarbons (oils and fuels) in water; **Bold** – indicates results outside criteria due to 5 day rain trigger >39.2mm

5.3.2 Discussion - Compliance / Non-Compliance

Sampling results were in compliance with WCC's Environmental Protection License.

5.4 WATER COMPLAINTS

There were no water release complaints during the period.

6.0 COMPLAINTS SUMMARY

There were no complaints received during the reporting period.

7.0 GENERAL

Please feel free to ask any questions in relation to the information contained within this document during Item 7 of the meeting agenda.

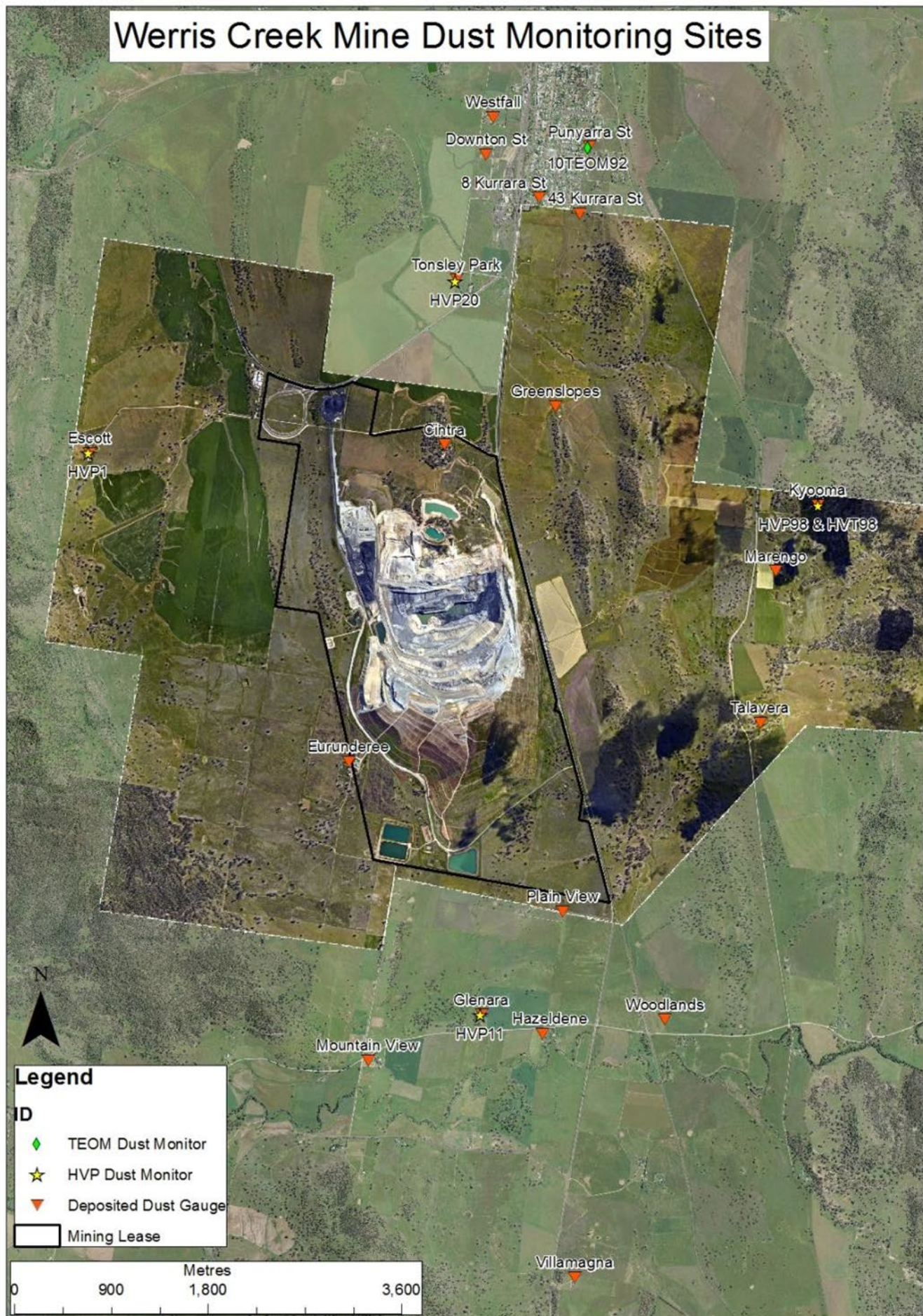


Figure 1 – WCC Dust Monitoring Locations



Figure 2– WCC Noise Monitoring Locations

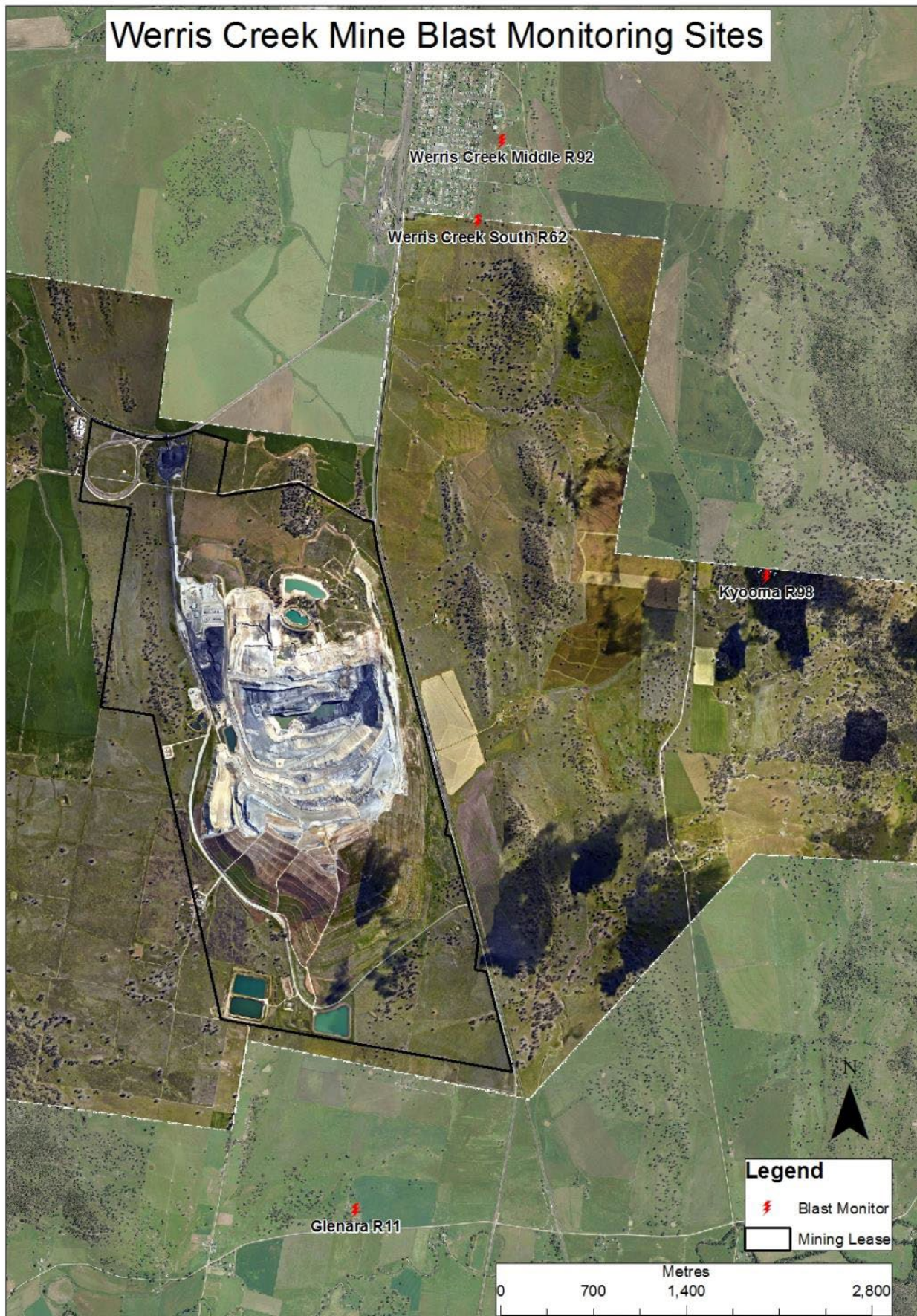


Figure 3 – WCC Blast Monitoring Locations

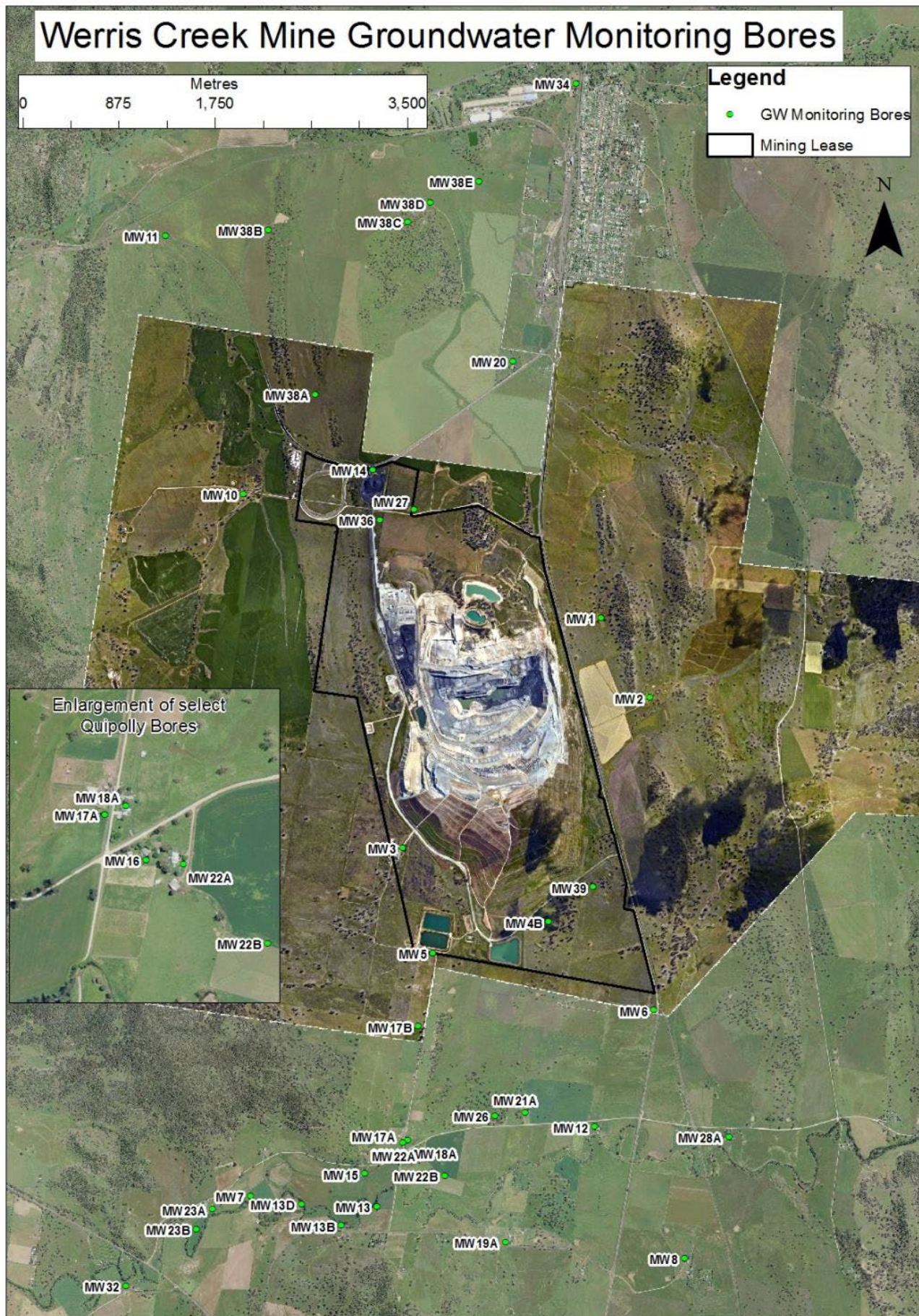


Figure 4 – WCC Groundwater Monitoring Locations



Figure 5 – WCC Surface Water Monitoring Locations