

WERRIS CREEK COAL COMMUNITY CONSULTATIVE COMMITTEE
58th Meeting of the Committee held at the Werris Creek Bowling Club on
Wednesday, 9 March 2022

Meeting opened at 9:40AM.

Record of attendance

Michael Silver OAM	Independent Chairperson
Jane Bradford OAM	Independent Minute Taker
Megan Martin	Werris Creek Coal - Environmental Superintendent
Harry Mills	Whitehaven Coal - Environmental Officer
Murray O'Keefe	Whitehaven Coal – Operations Manager
Andrew Garrett	Whitehaven Coal – General Manager Community Engagement
Lindsay Bridge	Community Representative
Noel Taylor	Community Representative

Note: *No Council representative has been appointed by Liverpool Plains Shire as yet.*

Non-Attendance

Mike Lomax	Community Representative
James O'Brien	Community 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 57th meeting held on 10 November 2021 were approved on 6 December 2021.

5 Matters Arising - Nil

6 Environmental Monitoring Report from 1 October to 31 January 2022

Megan Martin went through the Report with the following comments

1.0 Meteorology

1.1 Weather Station – The only comment was that it has been an exceptionally wet year with October – November well above the historical average – December – January just below average.

2.00 Air Quality

2.2.1 No non-compliance –DG34, 8 Kurrara Street had a high annual average, but this is under investigation as it is likely to be invalid data. Considering finding an alternate place for the dust deposition gauge to be placed.

4.2 Blast Complaints

4.2 There were five complaints during this period regarding random blast vibration or overpressure – windows shaken – however upon checking – all within criteria.

5.0 Water

5.1.2 **Seasonal normal** – Megan Martin to suggest that the Group Water Manager attends the next meeting. Majority of groundwater bores monitored have increased their standing water levels. Quipolly bore down 22' to find water – currently up to 58' – Noel Taylor wants to wait to see if the bore level balances out – not prepared to purchase a new meter at a cost of \$5,000.

7 General Business

7.1 Life of Mine Up-date

Still aiming for 2024 – no changes at this stage.

7.2 WCC Lodgement of Modification to existing approval (MOD5)

Proceeding as anticipated at this stage

7.4 WHC Sponsorship and Donations Process

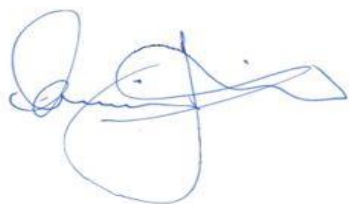
- Andrew Garratt advised of the following sponsorships granted by the community investment committee for the Liverpool Plains Shire Council made over the past four months:
 - ❖ Currabubula Preschool \$5,000
 - ❖ Walhollow Public School \$5,000
 - ❖ Currabubula Red Cross Art Show \$1,500
 - ❖ Murrurundi & District Pony Club \$1,500
- Andrew confirmed a meeting with Liverpool Plains Council five weeks ago suggesting that it should start looking at opportunities when the mine closes – not that far away.

Dates for Applications

Application Rounds	Round 1	Round 2	Round 3	Round 4
Applications open	1 January	1 April	1 July	1 October
Applications close	31 January	30 April	31 July	31 October
Successful applicants contacted	1 March	1 June	1 September	1 December

Next meeting Wednesday, 13 July 2022 at 9:30am – Venue - Werris Creek Bowling Club

Meeting closed at 10:15AM



Mike Silver OAM
Independent Chairperson

3 April 2022

Copy to all Committee Members and posted on the Whitehaven Coal website.



WERRIS CREEK COAL PTY LTD

QUARTERLY ENVIRONMENTAL MONITORING REPORT

October 2021 – January 2022

This Environmental Monitoring Report covers the period 1st October 2022 to 31st January 2022 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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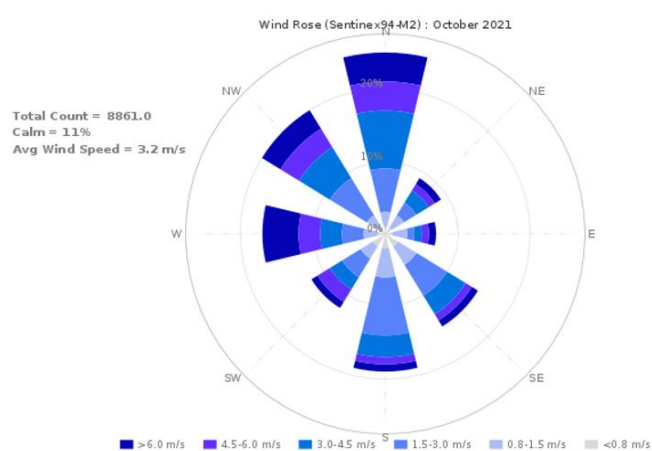
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1.0 METEOROLOGY

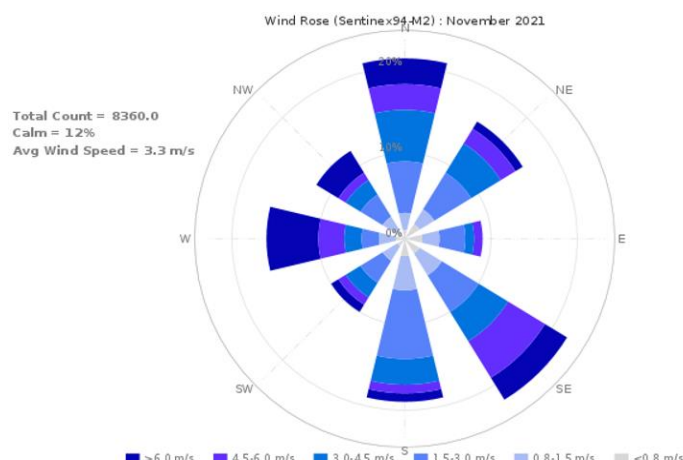
1.1 WEATHER STATION

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 in October-November 2021 was above the historical average and below during December 2021 and January 2022. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the north in October 2021 and from the south-east November 2021 through to January 2022.

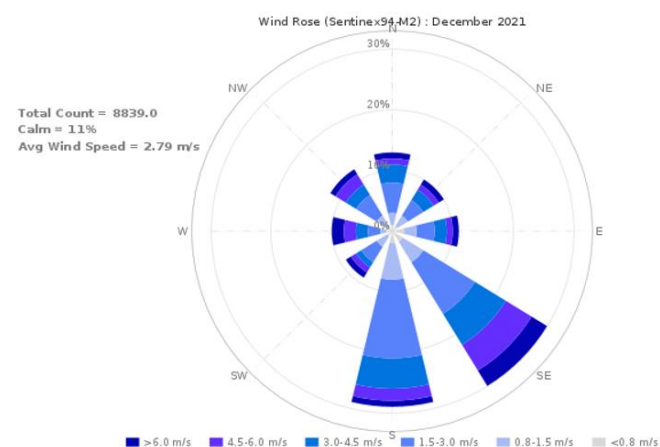
Month	Rainfall (mm)			
	Onsite	Historical Average	2021 Total	2022 Total
October 2021	68.0	58.8	771.0	
November 2021	243.4	88.9	1014.4	
December 2021	61.6	87.3	1076.0	
January 2022	60.4	65.2		60.4



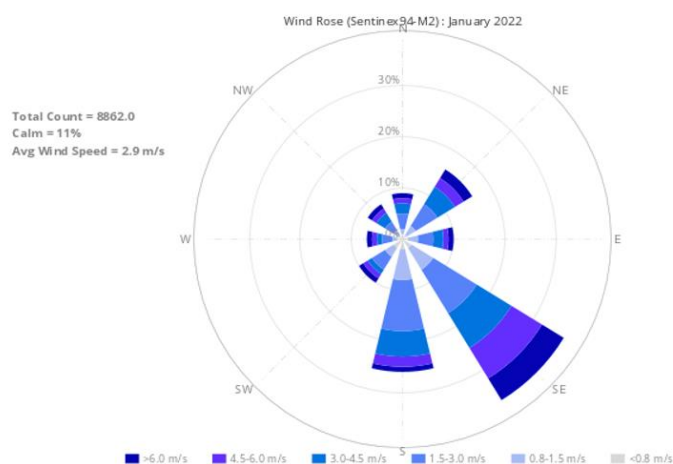
OCTOBER 2021



NOVEMBER 2021



DECEMBER 2021



JANUARY 2022

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 2021 (µg/m ³)	NOV 2021 (µg/m ³)	DEC 2021 (µg/m ³)	2021 AVG (µg/m ³)	JAN 2022 (µg/m ³)	2022 AVG (µg/m ³)	CRITERIA (µg/m ³)	
								Annual	24hr
PM _{2.5} – TEOM92 “Werris Creek”	13.3	2.4	0.3	4.9	4.7	6.3	6.3	-	-
PM ₁₀ – TEOM92 “Werris Creek”	28.7	8.2	6.1	11.6	9.4	10.0	10.0	30	50
PM ₁₀ – HVP20 “Tonsley Park”	14.1	8.4	7.5	7.3	10.7	6.7	6.7	30	50
PM ₁₀ – HVP1 “Escott”	9.0	5.1	4.4	4.9	6.1	5.2	5.2	30	50
PM ₁₀ – HVP11 “Glenara”	23.3	6.6	6.3	9.1	8.9	8.2	8.2	30	50
PM ₁₀ – HVP98 “Kyooma”	9.0	5.8	4.3	4.0	5.6	4.7	4.7	30	50
TSP – HVT98 “Kyooma”	47.6	27.0	13.4	12.2	16.7	10.9	10.9	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 2021 (g/m ² /month)	NOV 2021 (g/m ² /month)	DEC 2021 (g/m ² /month)	2021 AVERAGE (g/m ² /month)	JAN 2022 (g/m ² /month)	2022 AVERAGE (g/m ² /month)	Annual Criteria (g/m ² /month)
DG1 "Escott"	1.6	1.0	1.5	0.8	1.5	1.5	4.0
DG2 "Cintra"	2.3	2.7	1.9	3.8	#	#	4.0
DG3 "Eurunderee"	1.1	1.0	2.2	1.3	0.9	0.9	4.0
DG5 "Railway View"	4.0	3.0	1.8	2.5	2.6	2.6	4.0
DG9 "Marengo"	1.4	1.4	2.9	1.0	2.2	2.2	4.0
DG11 "Glenara"	1.1	0.6	0.4	0.9	2.2	2.2	4.0
DG14 "Greenslopes"	0.5	1.9	0.7	0.7	0.7	0.7	4.0
DG15 "Plain View"	0.2	0.6	0.4	0.6	0.8	0.8	4.0
DG17 "Woodlands"	1.2	1.2	0.8	1.1	1.4	1.4	4.0
DG20 "Tonsley Park"	0.8	0.4	0.9	1.2	1.8	1.8	4.0
DG22 "Mountain View"	1.1	1.5	3.0	1.1	1.2	1.2	4.0
DG24 "Hazeldene"	0.9	0.7	0.9	0.9	2.3	2.3	4.0
DG34 8 Kurrara St	0.8	0.6	0.7	5.8	0.2	0.2	4.0
DG62 Werris Creek South	1.2	0.8	0.8	0.6	0.8	0.8	4.0
DG92 Werris Creek Centre	0.5	0.6	0.5	0.4	0.3	0.3	4.0
DG98 "Kyooma"	1.0	1.2	2.1	0.8	2.6	2.6	4.0
DG101 "Westfall"	1.5	0.9	2.3	1.3	1.7	1.7	4.0
DG103 West Street	0.9	1.3	0.9	1.3	2.5	2.5	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 - Not Sampled; 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:

- DG34 (8 Kurrara St) had an anomalous high result in August 2021 and subsequently a rolling average above criteria. Deposited dust levels remained low at all other nearby gauges, indicating a localised source of dust, unrelated to activities at Werris Creek Coal Mine.

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 operations only 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**.

28th Thursday and 29th Friday, October 2021

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	20*	38
F	"Talavera" R96	Inaudible	38	Inaudible	37
H	"Kyooma" R98*	Inaudible	40	23	40
I	Kurrara St, WC R57	Inaudible*	35	25	35
J	Coronation Ave, WC	Inaudible*	35	Inaudible	35
K	Alco Park (R21*)	27*	40	23*	40
L	West St, WC (R103)	24*	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

16th Tuesday, November 2021

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	25	38	21	37
H	"Kyooma" R98*	23*	40	24*	40
I	Kurrara St, WC R57	Inaudible*	35	Inaudible	35
J	Coronation Ave, WC	Inaudible	35	Inaudible	35
K	Alco Park (R21*)	24	40	27	40
L	West St, WC (R103)	25*	35	22*	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

20th Monday and 21st Tuesday, December 2021

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	30*	40
C	Central Quipolly (R10*, R11*)	23	40	Inaudible	40
D	"Hazeldene" R24	26*	37	Inaudible*	37
E	"Railway Cottage" R12	Inaudible*	38	Inaudible	38
F	"Talavera" R96	Inaudible*	38	Inaudible	37
H	"Kyooma" R98*	21*	40	Inaudible	40
I	Kurrara St, WC R57	24*	35	28	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 Monday, January 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	40	Inaudible	40
I	Kurrara St, WC R57	Inaudible	35	Inaudible	35
J	Coronation Ave, WC	Inaudible	35	Inaudible*	35
K	Alco Park (R21*)	22	40	23*	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

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 17 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 2021		"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		0.18	100.7	1.43	103.9	1.00	103.6	0.45	100.7
Monthly Maximum		0.21	102.6	1.77	105.9	1.30	105.6	0.61	101.9
Annual Average		0.13	99.9	0.86	100.9	0.53	102.0	0.33	100.5
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling 12-mo Average	0.00%	1.69%	0.00%	0.00%	0.00%	1.69%	0.00%	0.00%
	YTD	0.00%	2.08%	0.00%	0.00%	0.00%	2.08%	0.00%	0.00%

November 2021		"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		0.09	100.5	0.54	100.9	0.38	104.4	0.20	99.2
Monthly Maximum		0.16	108.4	0.74	104.0	0.65	111.9	0.26	103.8
Annual Average		0.12	99.9	0.83	100.9	0.52	102.3	0.32	100.4
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling 12-mo Average	0.00%	1.64%	0.00%	0.00%	0.00%	1.64%	0.00%	0.00%
	YTD	0.00%	1.89%	0.00%	0.00%	0.00%	1.89%	0.00%	0.00%

December 2021		"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	98.1	0.80	100.6	0.50	102.1	0.30	96.9
Monthly Maximum		0.16	99.9	1.26	104.5	0.74	106.1	0.44	102.9
Annual Average		0.12	99.8	0.83	100.9	0.52	102.3	0.32	100.1
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling 12-mo Average	0.00%	1.72%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%
	YTD	0.00%	1.72%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%

January 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		0.18	103.8	1.01	99.9	0.55	102.4	0.60	99.5
Monthly Maximum		0.24	112.2	1.71	102.3	0.78	110.5	0.89	104.7
Annual Average		0.18	103.8	1.01	99.9	0.55	102.4	0.60	99.5
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling 12-mo Average	0.00%	1.75%	0.00%	0.00%	0.00%	1.75%	0.00%	0.00%
	YTD	0.00%	2.22%	0.00%	0.00%	0.00%	2.22%	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 were five (5) blast complaints during the period regarding blast vibration or overpressure.

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/bore 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 5-30 November 2021 and also 7-11 January 2022. 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-21	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	43.50	13%
	MW3	18.74	2%
	MW4B	18.03	3%
	MW5	10.86	5%
	MW6	16.43	-1%
	MW27*	55.27	2%
	MW36A	17.27	-3%
	MW36B	17.29	-3%
Werrie Basalt	MW8*	11.29	7%
	MW10	8.79	1%
	MW14	13.59	-4%
	MW17B*	10.06	5%
	MW19A*	Pump over bore	
	MW20*	20.14	3%
	MW38A	8.58	0%
	MW38B*	8.77	2%
	MW38C*	21.59	0%
	MW38E*	8.36	1%
	MW41	5.34	4%
	MW43	4.68	2%
# ¹	MW24A*	12.53	-2%
	MW29*	10.26	-2%
Quipolly Alluvium	MW12*	7.02	9%
	MW13*	4.01	15%
	MW13B*	2.70	16%
	MW13D*	3.67	22%
	MW15*	No access	
	MW16*	3.72	22%
	MW17A*	3.40	13%
	MW18A*	3.56	7%
	MW21A*	#N/A	#N/A
	MW22A*	3.78	21%
	MW22B*	3.73	26%
	MW23A*	3.28	8%
	MW23B*	No access	
	MW26B*	4.48	25%
	MW28A*	5.72	6%
	MW32*	Pump over bore	
	MW40	5.35	4%
	MW42	4.62	2%
# ²	MW34*	8.95	3%

Site		January-22	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	37.71	15%
	MW3	18.38	2%
	MW4B	17.28	4%
	MW5	9.87	10%
	MW6	15.47	6%
	MW27*	52.82	5%
	MW36A	17.29	0%
	MW36B	17.28	0%
Werrie Basalt	MW8*	10.81	4%
	MW10	8.53	3%
	MW14	13.52	1%
	MW17B*	9.15	10%
	MW19A*	Pump over bore	
	MW20*	19.41	4%
	MW38A	8.91	-4%
	MW38B*	8.60	2%
	MW38C*	21.29	1%
	MW38E*	No access	
	MW41	4.57	17%
	MW43	4.16	13%
# ¹	MW24A*	12.05	4%
	MW29*	9.66	6%
Quipolly Alluvium	MW12*	6.93	1%
	MW13*	4.49	-11%
	MW13B*	3.02	-11%
	MW13D*	3.94	-7%
	MW15*	No access	
	MW16*	3.91	-5%
	MW17A*	3.02	13%
	MW18A*	3.18	12%
	MW21A*	4.63	24%
	MW22A*	3.86	-2%
	MW22B*	3.78	-1%
	MW23A*	3.38	-3%
	MW23B*	No Record	
	MW26B*	4.16	8%
	MW28A*	5.12	12%
	MW32*	Pump over bore	
	MW40	4.58	17%
	MW42	4.22	9%
# ²	MW34*	8.70	3%

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 during November 2021 and January 2022, although some locations were noted as having a slight decrease.

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 9th and 10th November 2021. 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.

9th & 10th November 2021

Site	pH	EC	TSS	O&G	Change from Previous Quarter or General Comments
ONSITE					
SB2	7.93	343	26	<5	Low water level
SB9	7.66	301	34	<5	Low water level
SB10	8.1	264	123	<5	Low water level
SB18	Dry	Dry	Dry	Dry	Dry (muddy)
OFFSITE					
QCU	7.53	316	9	<5	Flowing
QCD	7.84	873	24	<5	Flowing
WCU	7.82	543	28	<5	Flowing
WCD	7.65	563	128	<5	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 9th and 10th November 2021. 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 two uncontrolled discharge events in November 2021 following above average rainfall during the month. Four controlled discharge events also occurred in November 2021.

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)
04/11/2021	SB3 (EPA10)	8.0	550	11	<5	Yes	Controlled	N/A
04/11/2021	QCU (EPA25)	7.1	1120	<2	<5	Yes	Controlled	N/A
04/11/2021	QCD (EPA26)	7.8	990	16	<5	Yes	Controlled	N/A
18/11/2021	SB3 (EPA10)	8.0	1040	14	<5	Yes	Controlled	N/A
18/11/2021	SB11 (EPA12)	7.9	510	4	<5	Yes	Controlled	N/A
18/11/2021	QCU (EPA25)	7.2	700	<2	<5	N/A	Controlled	N/A
18/11/2021	QCD (EPA26)	7.7	540	8	<5	N/A	Controlled	N/A
22/11/2021	SB10 (EPA14)	7.5	150	148	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	62.6
22/11/2021	WCU (WPA23)	8.0	190	162	<5	N/A	Wet weather - uncontrolled	62.6
22/11/2021	WCD (WPA24)	8.1	190	681	6	N/A	Wet weather - uncontrolled	62.6
24/11/2021	SB3 (EPA10)	8.2	380	18	<5	Yes	Controlled	N/A
24/11/2021	SB11 (EPA12)	8.1	410	14	<5	Yes	Controlled	N/A
24/11/2021	SB10 (EPA14)	7.8	310	34	<5	Yes	Controlled	N/A
24/11/2021	QCU (EPA25)	8.1	310	16	6	N/A	Controlled	N/A
24/11/2021	QCD (EPA26)	8.0	320	20	<5	N/A	Controlled	N/A
24/11/2021	WCU (WPA23)	8.2	360	24	<5	N/A	Controlled	N/A
24/11/2021	WCD (WPA24)	8.2	360	36	<5	N/A	Controlled	N/A

26/11/2021	SB3 (EPA10)	7.9	200	2980	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	88.2
26/11/2021	SB11 (EPA12)	7.9	300	77	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	88.2
26/11/2021	SB10 (EPA14)	7.3	110	231	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	88.2
26/11/2021	QCU (EPA25)	7.9	190	256	<5	N/A	Wet weather - uncontrolled	88.2
26/11/2021	QCD (EPA26)	7.2	140	84	<5	N/A	Wet weather - uncontrolled	88.2
26/11/2021	WCU (WPA23)	8.1	150	535	<5	N/A	Wet weather - uncontrolled	88.2
26/11/2021	WCD (WPA24)	8.2	160	2305	<5	N/A	Wet weather - uncontrolled	88.2
29/11/2021	SB3 (EPA10)	7.6	170	6	<5	Yes	Controlled	N/A
29/11/2021	SB11 (EPA12)	7.9	380	35	<5	Yes	Controlled	N/A
29/11/2021	SB10 (EPA14)	7.9	330	32	<5	Yes	Controlled	N/A
29/11/2021	QCU (EPA25)	8.0	250	16	<5	N/A	Controlled	N/A
29/11/2021	QCD (EPA26)	7.9	270	23	<5	N/A	Controlled	N/A
29/11/2021	WCU (WPA23)	8.2	420	25	<5	N/A	Controlled	N/A
29/11/2021	WCD (WPA24)	8.2	310	57	<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 Licence.

5.4 WATER COMPLAINTS

There were no water release complaints during the period.

6.0 COMPLAINTS SUMMARY

There were 7 complaints received during the period which are summarised below.

#	Date	Issue	Complaint	Investigation	Action Taken
634	8/10/2021	Vibration	Complainant advised the blast rattled the entire house shaking windows and doors.	EO confirmed blast was within compliance limits.	EO confirmed blast was within compliance limits.
635	8/10/2021	Vibration	Complainant advised they wished to advise the mine that the vibration from the blast could be felt in Werris Creek.	EO confirmed blast was within compliance limits.	EO confirmed blast was within compliance limits.
636	8/10/2021	Vibration	Complainant advised they wished to advise the mine that the vibration from the blast could be felt in Werris Creek.	EO confirmed blast was within compliance limits.	EO confirmed blast was within compliance limits.
637	4/11/2021	Other	Complainant advised of presence of uncontrolled St John's Wort in neighbouring Biodiversity Offset property	Biodiversity Officer notified and targeted weed control program implemented in area	Weeds sprayed as per weed control requirements
638	10/11/2021	Other	Complainant advised of presence of uncontrolled St John's Wort in neighbouring Biodiversity Offset property	Biodiversity Officer notified and targeted weed control program implemented in area	Weeds sprayed as per weed control requirements
639	12/01/2022	Blast	Complainant wished to advise the mine that the vibration from the blast could be felt in Werris Creek.	EO confirmed blast was within compliance limits.	No further follow-up actions
640	31/01/2022	Blast/Light	Complainant wished to advise the mine that the vibration from the blast could be felt in Werris Creek. And lighting could be seen at night.	EO confirmed blast was within compliance limits. Lighting plant inspection.	Lighting Plant Inspection. EO advised blast was within compliance limits and emailed a copy of the results to the complainant

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.

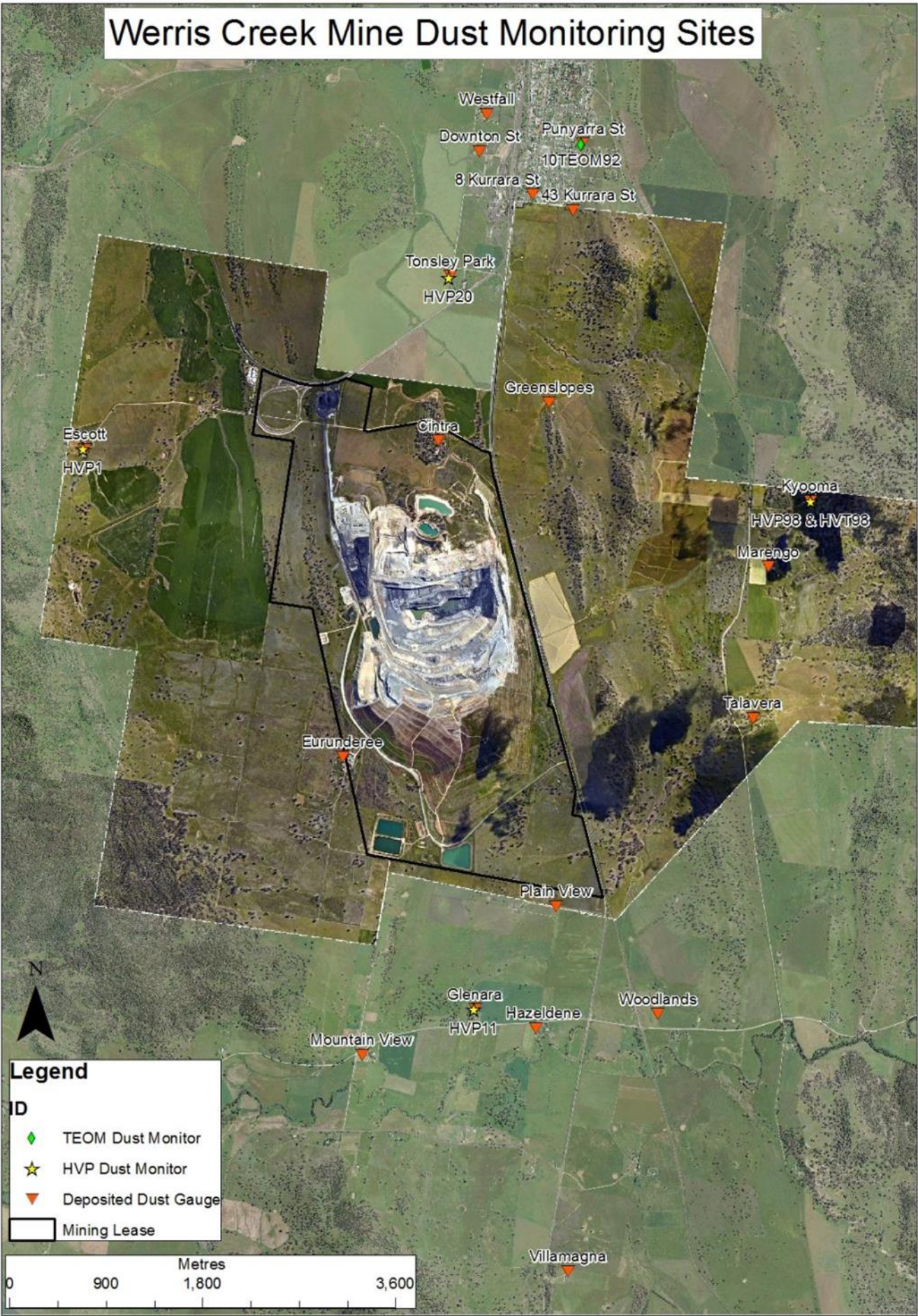


Figure 1 – WCC Dust Monitoring Locations



Figure 2– WCC Noise Monitoring Locations

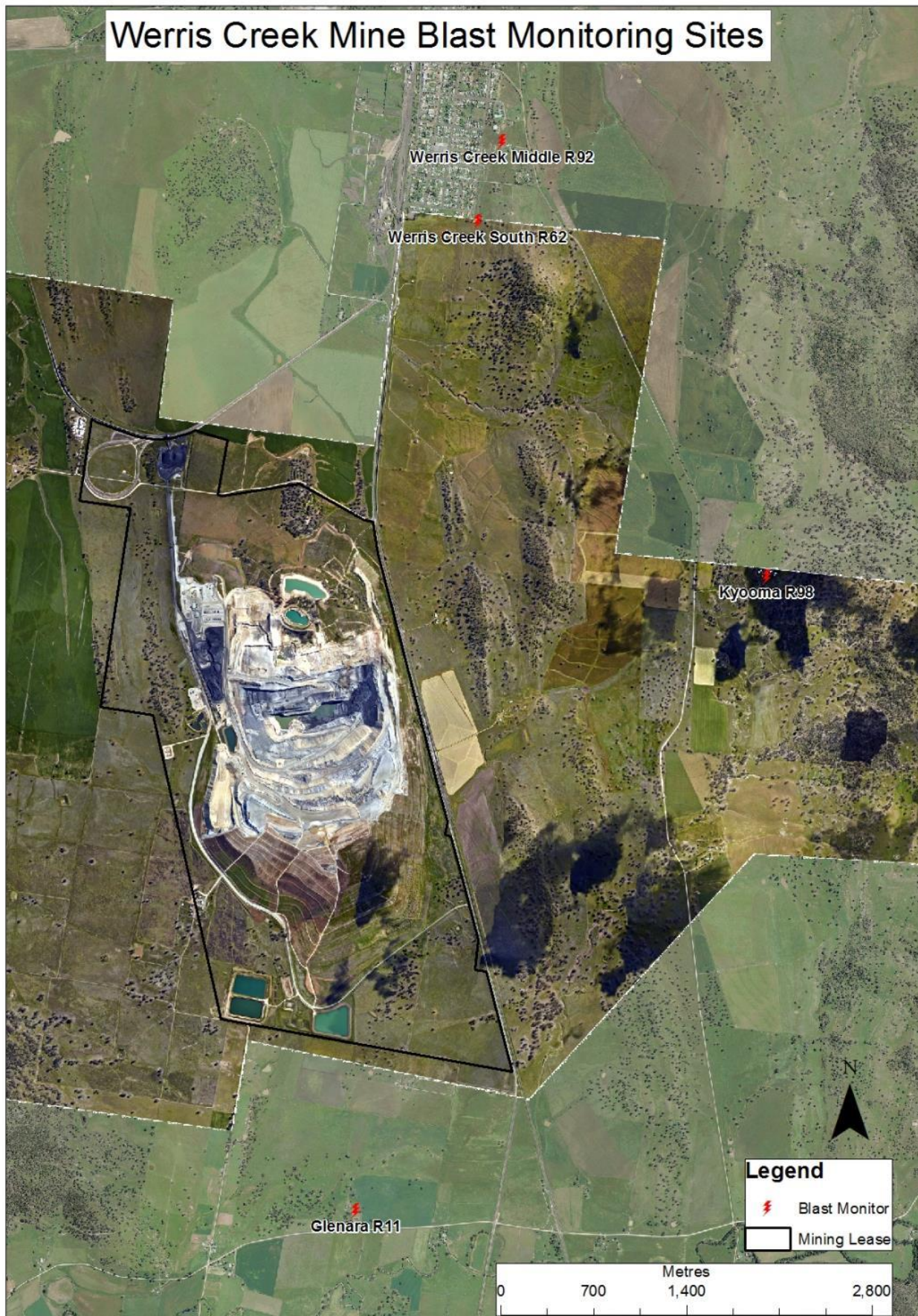


Figure 3 – WCC Blast Monitoring Locations



Figure 4 – WCC Groundwater Monitoring Locations



Figure 5 – WCC Surface Water Monitoring Locations