

**WERRIS CREEK COAL COMMUNITY CONSULTATIVE COMMITTEE**  
**60th Meeting of the Committee held at the Werris Creek Bowling Club on**  
**Wednesday, 9 November 2022 at 9:30AM**

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
Jacki Scott	Whitehaven Coal – Manager Community Partnerships and Investment
James O'Brien	Community Representative
Lindsay Bridge	Community Representative

**Apology**

Murray O'Keefe	Whitehaven Coal – Operations Manager
Mike Lomax	Community Representative
Col Stewart OAM	Community Representative

**Non-Attendance**

Noel Taylor	Community Representative
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**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 59<sup>th</sup> meeting held on 13 July 2022** were approved on 9 August 2022

**5 Matters Arising - Nil**

**6 Environmental Monitoring Report from 1 June to 30 September 2022**

Harry Mills went through the Report with the following comments:

**1.1 Weather Station** – The annual rainfall here is 680mm – currently at 571mm since July 2022 still with two months to end of the calendar year.

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

**2.2.1 Monitoring Data Results** – one high reading – quick return to normal levels.

**3.2 Noise complaints** - 11.07.2022 had one complaint from Coronation Street (a new resident) – a night-time complaint – checked and not the mine.

**4.2 Blast complaints** – 15.07.2022 one complaint – felt vibrations. As the mining moves closer to the township we are making smaller and smaller blasts.

**5.4 Water complaints** – water samples are varying with the rainfall. However considerable maintenance is required for the roads with so much rain. Water bores are recovering. Lindsay Bridge highlighted the height and flows in Quipoly Creek recently. James O'Brien questioned how the rain is impacting the mine pit? Harry Mills advised that it is being pumped out but is manageable. Mr O'Brien enquired as to what impact this was having on the dam. Mr Mills advised that there has been no irrigation offtake whilst Megan Martin advised that the evaporation fans have been operating.

## **7 General Business**

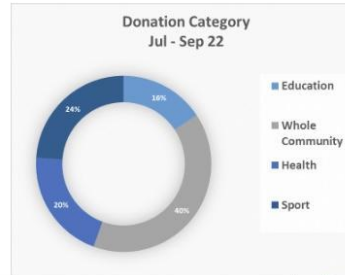
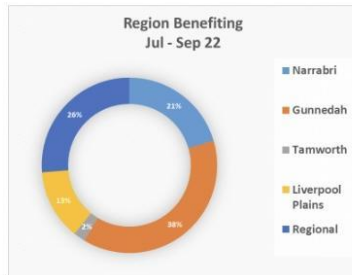
- **Rehabilitation Management Plan:** Megan Martin confirmed that community planning was going ahead with the draft Rehabilitation Management Plan which was emailed to the Committee earlier in October but no responses received to date.
- **Coal Mining:** James O'Brien asked what impact the recent flooding was having on mining operations. Megan Martin advised that it has significantly impacted Whitehaven's Maules Creek and Tarrawonga operations. It has had much less impact at Werris Creek with the pit taking about 12 hours to dry-out. Coal is still being mined at Werris Creek with productivity anticipated to improve over the next six months and the stockpile anticipated to last until the end of 2024.
- **Rail Loop:** James O'Brien enquired as the future of the rail loop. Megan Martin indicated options for the loop are still being considered.
- **Rail Overpass:** James O'Brien noted a proposal for a rail overpass being considered by Liverpool Plains Shire Council. He highlighted various local comments, however no decision on the proposal has yet been made.
- **Tree Planting:** Harry Mills confirmed that over 12,000 appropriate trees have been planted plus filling in where trees / shrubs have died plus native grasses. The wallabies, birds and other native animals have settled in at the top of the mound. However snakes, pigs, foxes and wild deer have also been sighted in the rehabilitation area, so we are monitoring numbers carefully at this stage.

### **7.1 Whitehaven Coal Sponsorship and Donations Process**

- Jacki Scott confirmed that a meeting on Thursday 10 November 2022 would finalise the successful applicants for Round 4 and the successful awardees would be notified on 1 December 2022. The next funding round will open in January 2023.

## Community

- Whitehaven continues to support the local Community with donations and sponsorships.
- More information on Sponsorships and Donations can be found at:
  - <https://whitehavencoal.com.au/sustainability/community/donations-sponsorships/>
- Donations for July – Sept 2022 over \$92,200 spent in the local community.
- Some highlights – Dorothea Mackellar Poetry Awards, Gunnedah Meals on Wheels, Narrabri Harmony Choir, Swimming Gunnedah Incorporated, Narrabri Junior Rugby League, Gunnedah Gunnedah Homes for the Aged.



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**Next meeting** Wednesday, 8 March 2023 at 9:30am – Venue - Werris Creek Bowling Club. A site visit will be considered as part of this meeting.

**Meeting closed at 10:50AM**

Mike Silver OAM  
Independent Chairperson

30 November 2022



## **WERRIS CREEK COAL PTY LTD**

### **QUARTERLY ENVIRONMENTAL MONITORING REPORT**

**June - September 2022**

This Environmental Monitoring Report covers the period 1<sup>st</sup> June to 30<sup>th</sup> September 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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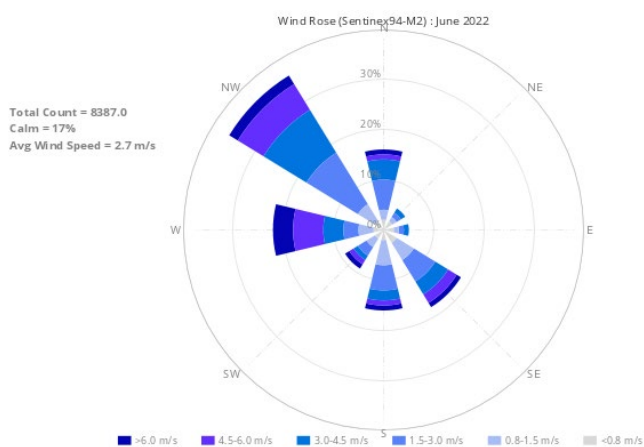
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## 1.0 METEOROLOGY

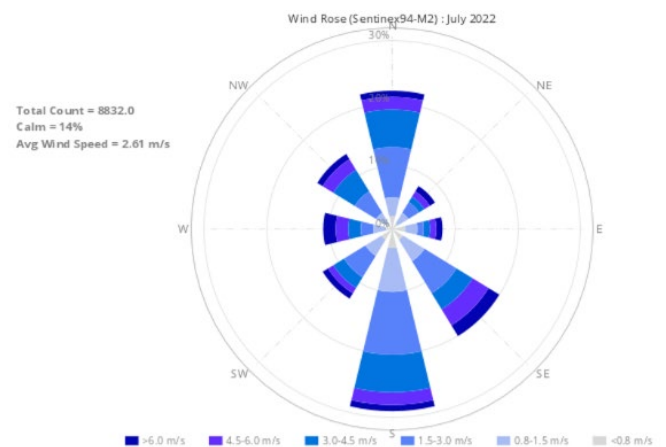
### 1.1 WEATHER STATION

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 for June-July 2022 was below the historical average and above during August-September 2022. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the north-west in June, from the south in July and September 2022 and from the north in August 2022.

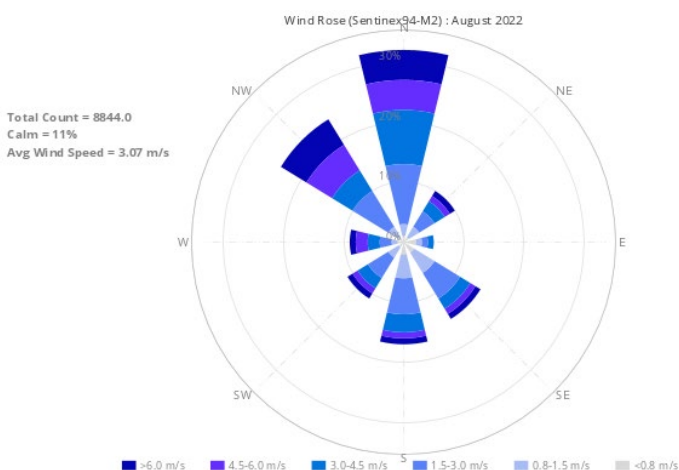
Month	Rainfall (mm)		
	Onsite	Historical Average	2022 Total
June 2022	22.4	61.9	338.6
July 2022	33.0	42.0	371.6
August 2022	116.4	38.3	488.0
September 2022	156.8	48.4	644.8



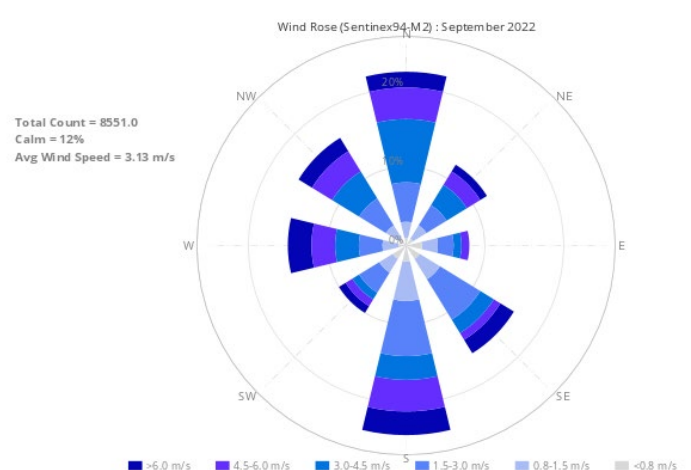
**JUNE 2022**



**JULY 2022**



**AUGUST 2022**



**SEPTEMBER 2022**

## 2.0 AIR QUALITY

### 2.1 HVAS (PM<sub>10</sub>) and TEOM (PM<sub>10</sub> & PM<sub>2.5</sub>)

WCC operates five High Volume Air Samplers (HVAS), four sites measuring particulate matter less than 10 microns (PM<sub>10</sub>) 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/m<sup>3</sup>) of air sampled. In addition, WCC operates a Tapered Element Oscillating Microbalance (TEOM) monitor in Werris Creek measuring real time PM<sub>10</sub> and PM<sub>2.5</sub> (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 <sup>3</sup> )	JUN 2022 (µg/m <sup>3</sup> )	JUL 2022 (µg/m <sup>3</sup> )	AUG 2022 (µg/m <sup>3</sup> )	SEP 2022 (µg/m <sup>3</sup> )	2022 AVG (µg/m <sup>3</sup> )	CRITERIA (µg/m <sup>3</sup> )	
							Annual	24hr
PM <sub>2.5</sub> – TEOM92 “Werris Creek”	14.2	1.7	1.9	6.1	4.2	3.5	-	-
PM <sub>10</sub> – TEOM92 “Werris Creek”	17.3	6.0	5.0	8.0	8.3	7.3	30	50
PM <sub>10</sub> – HVP20 “Tonsley Park”	15.2	9.8	4.6	3.7	8.1	7.2	30	50
PM <sub>10</sub> – HVP1 “Escott”	6.9	3.0	1.6	1.9	4.8	3.9	30	50
PM <sub>10</sub> – HVP11 “Glenara”	20.0	10.8	5.0	3.3	10.0	8.3	30	50
PM <sub>10</sub> – HVP98 “Kyooma”	6.7	2.8	1.4	1.9	3.8	3.5	30	50
TSP – HVT98 “Kyooma”	15.8	7.3	5.5	4.1	11.6	9.3	90	-

**Yellow Bold** – Elevated dust level.

#### 2.1.2 Discussion - Compliance / Non Compliance

All TSP, PM<sub>10</sub> and PM<sub>2.5</sub> 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/m<sup>2</sup>.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	JUN 2022 (g/m <sup>2</sup> /month)	JUL 2022 (g/m <sup>2</sup> /month)	AUG 2022 (g/m <sup>2</sup> /month)	SEP 2022 (g/m <sup>2</sup> /month)	2022 AVERAGE (g/m <sup>2</sup> /month)	Annual Criteria (g/m <sup>2</sup> /month)
DG1 "Escott"	0.6	0.1	0.8	0.6	0.9	4.0
DG2 "Cintra"	<b>5.8</b>	10.7*	6.2*	<b>8.5</b>	<b>5.1</b>	4.0
DG3 "Eurunderee"	1.4	0.6	1.5	1.0	0.9	4.0
DG5 "Railway View"	2.2	3.0	<b>4.4</b>	1.9	2.2	4.0
DG9 "Marengo"	2.0	0.3	0.3	0.8	1.2	4.0
DG11 "Glenara"	0.9	0.3	0.7	0.9	0.8	4.0
DG14 "Greenslopes"	0.7	0.2	0.8	0.7	0.7	4.0
DG15 "Plain View"	5.5*	0.5	0.6	0.8	1.4	4.0
DG17 "Woodlands"	<b>6.6</b>	0.7	3.1	1.5	2.2	4.0
DG20 "Tonsley Park"	2.2	1.6	2.2	1.4	1.7	4.0
DG22 "Mountain View"	0.9	0.5	2.6	1.0	1.0	4.0
DG24 "Hazeldene"	2.1	1.2	<b>4.1</b>	1.8	2.2	4.0
DG34 8 Kurrara St	0.8	1.3	0.6	0.9	0.8	4.0
DG62 Werris Creek South	0.9	0.6	0.6	4.1*	0.9	4.0
DG92 Werris Creek Centre	0.6	0.2	0.4	0.7	0.4	4.0
DG98 "Kyooma"	0.5	0.3	0.9	1.7	0.9	4.0
DG101 "Westfall"	2.3	2.2	13.5*	3.2	1.7	4.0
DG103 West Street	1.9	1.5	3.4	3.9	2.2	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/m<sup>2</sup>/month throughout the period, with the exception of:

- DG2 (Cintra) has exhibited some high dust levels through the reporting period. The dust is consistent with the activities of the nearby mining activity immediately adjacent to the dust gauge – DG2 is located within the Mining Lease Boundary.
- DG5 (Railway View) had an anomalous high result in August 2022. The rolling average remained below criteria.
- DG17 (Woodlands) had an anomalous high result in June 2022. The rolling average remained below criteria.
- DG24 (Hazeldene) had an anomalous high result in August 2022. The rolling average remained below criteria.

## 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**.

#### 28<sup>th</sup> Tuesday, June 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	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

#### 14<sup>th</sup> – 15<sup>th</sup> Thursday-Friday, July 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	26	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

#### 18<sup>th</sup> – 19<sup>th</sup> Thursday-Friday, August 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	26	35	Inaudible#	35
B	West Quipolly (R7*, R8*, R9* & R22*)	27	40	Inaudible	40
C	Central Quipolly (R10*, R11*)	23	40	22#	40
D	"Hazeldene" R24	Inaudible	37	26#	37
E	"Railway Cottage" R12	Inaudible	38	26	38
F	"Talavera" R96	Inaudible	38	29#	37
H	"Kyooma" R98	22#	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

**19<sup>th</sup> and 20<sup>th</sup> Monday-Tuesday, September 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	25	37
H	"Kyooma" R98	21	35	Inaudible	35
I	Kurrara St, WC R57	Inaudible#	35	25	35
J	Coronation Ave, WC	Inaudible	35	Inaudible	35
K	Alco Park (R21*)	Inaudible	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 was one noise complaint (11/07/2022) recorded during the period.

**4.0 BLASTING**

During the reporting period there was a total of 26 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.

June 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		0.09	100.6	0.49	105.1	0.56	102.2	0.29	96.9
Monthly Maximum		0.17	104.1	0.98	112.5	1.22	104.5	0.54	99.7
Annual Average		0.12	101.1	0.78	101.5	0.50	102.1	0.33	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%

July 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	102.5	0.93	103.2	0.56	103.1	0.36	101.2
Monthly Maximum		0.20	107.5	1.32	107.9	0.97	109.1	0.53	112.7
Annual Average		0.12	101.3	0.80	101.8	0.51	102.2	0.33	97.3
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%

August 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		0.07	100.6	0.48	100.6	0.37	101.1	0.24	92.4
Monthly Maximum		0.11	109.2	0.89	104.4	0.49	109.1	0.31	109.1
Annual Average		0.12	101.2	0.76	101.6	0.49	102.1	0.32	96.7
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%

September 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	98.9	0.69	102.0	0.38	101.5	0.27	98.3
Monthly Maximum		0.17	105.7	1.40	110.6	0.45	107.5	0.33	102.6
Annual Average		0.12	100.9	0.75	101.7	0.48	102.0	0.32	96.8
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 95<sup>th</sup> 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/borers 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 11-28 July 2022 and 12 September to 5 October 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		July-22	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	34.10	-2%
	MW3	17.05	2%
	MW4B	15.78	3%
	MW5	9.48	1%
	MW6	14.73	1%
	MW27*	52.48	-1%
	MW36A	19.23	-2%
	MW36B	19.22	-2%
Werrie Basalt	MW8*	No access	
	MW10	9.40	-2%
	MW14	14.95	-1%
	MW17B*	9.50	19%
	MW19A*	Pump over bore	
	MW20*	18.92	0%
	MW38A	10.93	-5%
	MW38B*	9.08	-2%
	MW38C*	20.64	0%
	MW38E*	7.62	40%
	MW41	5.13	-4%
	MW43	4.57	-3%
# <sup>1</sup>	MW24A*	12.16	1%
	MW29*	10.57	-1%
Quipolly Alluvium	MW12*	9.06	-1%
	MW13*	4.61	0%
	MW13B*	3.13	2%
	MW13D*	4.32	1%
	MW15*	No Access	
	MW16*	4.31	-6%
	MW17A*	3.40	6%
	MW18A*	3.26	5%
	MW21A*	5.88	-7%
	MW22A*	4.43	-5%
	MW22B*	4.58	-7%
	MW23A*	3.64	2%
	MW23B*	3.80	2%
	MW26B*	4.78	-5%
	MW28A*	9.79	-15%
	MW32*	Pump over bore	
	MW40	5.11	-4%
	MW42	4.50	-2%
# <sup>2</sup>	MW34*	9.11	-2%

Site		September-22	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	33.70	1%
	MW3	16.68	2%
	MW4B	15.57	1%
	MW5	8.88	7%
	MW6	15.61	-6%
	MW27*	52.07	1%
	MW36A	18.74	3%
	MW36B	18.72	3%
Werrie Basalt	MW8*	No access	
	MW10	9.26	2%
	MW14	14.84	1%
	MW17B*	8.85	7%
	MW19A*	Pump over bore	
	MW20*	18.72	1%
	MW38A	10.30	6%
	MW38B*	8.94	2%
	MW38C*	-	-
	MW38E*	7.33	4%
	MW41	#N/A	#N/A
	MW43	4.15	10%
# <sup>1</sup>	MW24A*	11.94	2%
	MW29*	9.77	8%
Quipolly Alluvium	MW12*	6.61	37%
	MW13*	4.27	8%
	MW13B*	2.94	6%
	MW13D*	4.17	4%
	MW15*	No Access	
	MW16*	4.15	4%
	MW17A*	3.10	10%
	MW18A*	2.95	11%
	MW21A*	5.08	16%
	MW22A*	4.01	10%
	MW22B*	4.06	13%
	MW23A*	3.56	2%
	MW23B*	3.75	1%
	MW26B*	4.39	9%
	MW28A*	6.57	49%
	MW32*	Pump over bore	
	MW40	4.57	12%
	MW42	4.13	9%
# <sup>2</sup>	MW34*	8.92	2%

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). #<sup>1</sup> – Werrie Basalt in the Black Soil Gully valley to east of Werris Creek Mine. #<sup>2</sup> - 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 from July to September 2022.

## 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 24<sup>th</sup> to 25<sup>th</sup> August 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.

#### 24<sup>th</sup> & 25<sup>th</sup> August 2022

Site	pH	EC	TSS	O&G	Change from Previous Quarter or General Comments
<b>ONSITE</b>					
<b>SB2</b>	7.7	347	14	<5	Previously dry (muddy)
<b>SB9</b>	7.55	284	38	<5	Previously dry, low water level now
<b>SB10</b>	7.5	427	24	<5	Water remains in dam
<b>SB18</b>	7.97	321	8	<5	Previously dry, low water level now
<b>OFFSITE</b>					
<b>QCU</b>	7.99	434	<5	<5	Remained flowing
<b>QCD</b>	8.08	643	18	<5	Remained flowing
<b>WCU</b>	8.33	904	8	<5	Remained flowing
<b>WCD</b>	8.39	1040	12	<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 August 24<sup>th</sup> and 25<sup>th</sup> 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 July and September 2022 following above average rainfall during the month. 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)
01/07/2022	<b>SB11</b> (EPA12)	7.8	780	4	<5	Yes	Controlled	N/A
01/07/2022	<b>QCU</b> (EPA25)	7.2	510	3	<5	N/A	Controlled	N/A
01/07/2022	<b>QCD</b> (EPA26)	7.9	780	2	<5	N/A	Controlled	N/A
11/08/2022	<b>SB11</b> (EPA12)	7.4	650	13	<5	Yes	Controlled	N/A
11/08/2022	<b>SB10</b> (EPA14)	7.4	590	11	<5	Yes	Controlled	N/A
11/08/2022	<b>QCU</b> (EPA25)	7.4	460	8	<5	N/A	Controlled	N/A
11/08/2022	<b>QCD</b> (EPA26)	7.6	540	20	<5	N/A	Controlled	N/A
11/08/2022	<b>WCU</b> (WPA23)	8.2	900	19	<5	N/A	Controlled	N/A
11/08/2022	<b>WCD</b> (WPA24)	8.2	980	24	<5	N/A	Controlled	N/A
14/08/2022	<b>SB10</b> (EPA14)	7.3	140	89	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	42.8
14/08/2022	<b>WCU</b> (WPA23)	8.0	290	105	<5	N/A	Controlled	N/A
14/08/2022	<b>WCD</b> (WPA24)	7.9	260	460	<5	N/A	Controlled	N/A
18/08/2022	<b>SB3</b> (EPA10)	7.0	570	5	<5	Yes	Controlled	N/A
18/08/2022	<b>SB11</b> (EPA12)	7.1	570	6	<5	Yes	Controlled	N/A
18/08/2022	<b>SB10</b> (EPA14)	7.2	430	35	<5	Yes	Controlled	N/A
18/08/2022	<b>QCU</b> (EPA25)	7.0	330	2	<5	N/A	Controlled	N/A
18/08/2022	<b>QCD</b> (EPA26)	7.0	380	6	<5	N/A	Controlled	N/A
18/08/2022	<b>WCU</b> (WPA23)	7.1	600	8	<5	N/A	Controlled	N/A

18/08/2022	<b>WCD</b> (WPA24)	7.0	660	28	<5	N/A	Controlled	N/A
15/09/2022	<b>SB3</b> (EPA10)	7.7	840	21	<5	Yes	Controlled	N/A
15/09/2022	<b>SB10</b> (EPA14)	7.3	270	47	<5	Yes	Controlled	N/A
15/09/2022	<b>QCU</b> (EPA25)	7.8	340	23	<5	N/A	Controlled	N/A
15/09/2022	<b>QCD</b> (EPA26)	7.7	400	22	<5	N/A	Controlled	N/A
15/09/2022	<b>WCU</b> (WPA23)	8.2	650	18	<5	N/A	Controlled	N/A
15/09/2022	<b>WCD</b> (WPA24)	8.2	760	29	<5	N/A	Controlled	N/A
16/09/2022	<b>SB2</b> (EPA10)	7.7	192	633	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Uncontrolled	58.6
16/09/2022	<b>SB10</b> (EPA14)	7.1	123	100	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Uncontrolled	58.6
16/09/2022	<b>QCU</b> (EPA25)	7.7	230	135	<5	N/A	Wet weather - Uncontrolled	N/A
16/09/2022	<b>QCD</b> (EPA26)	7.7	278	157	<5	N/A	Wet weather - Uncontrolled	N/A
16/09/2022	<b>WCU</b> (WPA23)	7.6	157	237	<5	N/A	Wet weather - Uncontrolled	N/A
16/09/2022	<b>WCD</b> (WPA24)	7.6	159	552	<5	Yes	Controlled	N/A
20/09/2022	<b>SB11</b> (EPA12)	7.4	320	20	<5	Yes	Controlled	N/A
20/09/2022	<b>QCU</b> (EPA25)	7.9	280	10	<5	N/A	Controlled	N/A
20/09/2022	<b>QCD</b> (EPA26)	7.7	300	28	<5	N/A	Controlled	N/A
21/09/2022	<b>SB10</b> (EPA14)	7.2	140	21	<5	Yes	Controlled	N/A
21/09/2022	<b>WCU</b> (WPA23)	8.0	380	59	<5	N/A	Controlled	N/A
21/09/2022	<b>WCD</b> (WPA24)	8.2	650	53	<5	N/A	Controlled	N/A
22/09/2022	<b>SB2</b> (EPA10)	7.4	340	40	<5	N/A	Wet weather - Uncontrolled	N/A
22/09/2022	<b>SB10</b> (EPA14)	7.1	110	68	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - Uncontrolled	51.4
22/09/2022	<b>QCU</b> (EPA25)	7.1	110	84	<5	N/A	Wet weather - Uncontrolled	N/A
22/09/2022	<b>QCD</b> (EPA26)	7.5	240	127	<5	N/A	Wet weather - Uncontrolled	N/A
22/09/2022	<b>WCU</b> (WPA23)	7.8	180	133	<5	N/A	Wet weather - Uncontrolled	N/A
22/09/2022	<b>WCD</b> (WPA24)	7.8	170	858	<5	N/A	Wet weather - Uncontrolled	N/A
28/09/2022	<b>SB3</b> (EPA10)	7.7	360	63	<5	No <sup>#</sup>	Controlled	N/A
28/09/2022	<b>SB11</b> (EPA12)	7.5	310	117	<5	No <sup>#</sup>	Controlled	N/A
28/09/2022	<b>SB13</b> (EPA14)	7.4	140	9	<5	N/A	Controlled	N/A
28/09/2022	<b>QCU</b> (EPA25)	7.8	320	11	<5	N/A	Controlled	N/A
28/09/2022	<b>QCD</b> (EPA26)	7.8	380	27	<5	N/A	Controlled	N/A
28/09/2022	<b>WCU</b> (WPA23)	8.2	550	28	<5	N/A	Controlled	N/A
28/09/2022	<b>WCD</b> (WPA24)	8.2	670	70	<5	N/A	Controlled	N/A
30/09/2022	<b>SB16</b> (EPA12)	7.4	290	112	<5	No <sup>#</sup>	Controlled	N/A
30/09/2022	<b>QCU</b> (EPA25)	7.9	340	21	<5	N/A	Controlled	N/A
30/09/2022	<b>QCD</b> (EPA26)	7.7	440	28	<5	N/A	Controlled	N/A
<b>Criteria</b>		<b>6.5 - 8.5</b>	<b>N/A</b>	<b>50</b>	<b>10</b>			

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

<sup>#</sup> The discharge sample was inconsistent with pre-discharge sampling of the dam and has been discussed with the EPA. This will be documented in the Annual Return.

### 5.3.2 Discussion - Compliance / Non-Compliance

The discharge sample taken on the 28<sup>th</sup> and 30<sup>th</sup> of September was inconsistent with pre-discharge sampling of the dam and has been discussed with the EPA. This will be documented in the Annual Return.

### 5.4 WATER COMPLAINTS

There were no water release complaints during the period.

## 6.0 COMPLAINTS SUMMARY

There were two complaints received during the reporting period.

#	Date	Issue	Complaint	Investigation	Action Taken
641	11/07/2022	Noise	Complainant wished to advise that noise could be heard coming from the mine.	EO Investigated noise levels and active noise modification measures.	EO advised noise levels were within compliance limits and mining operations will continue to be modified to minimise noise impacts.
642	15/07/2022	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

## 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.



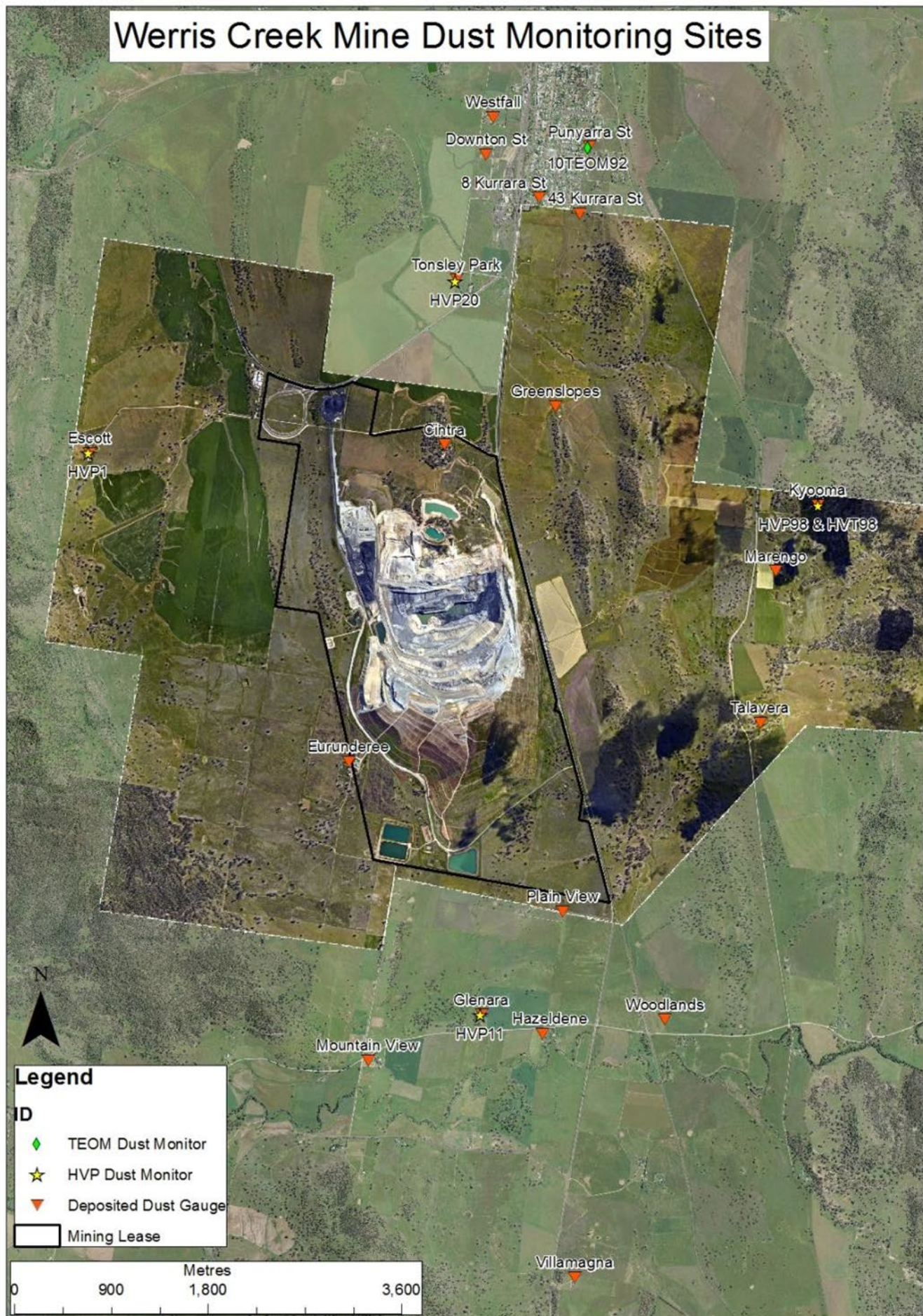


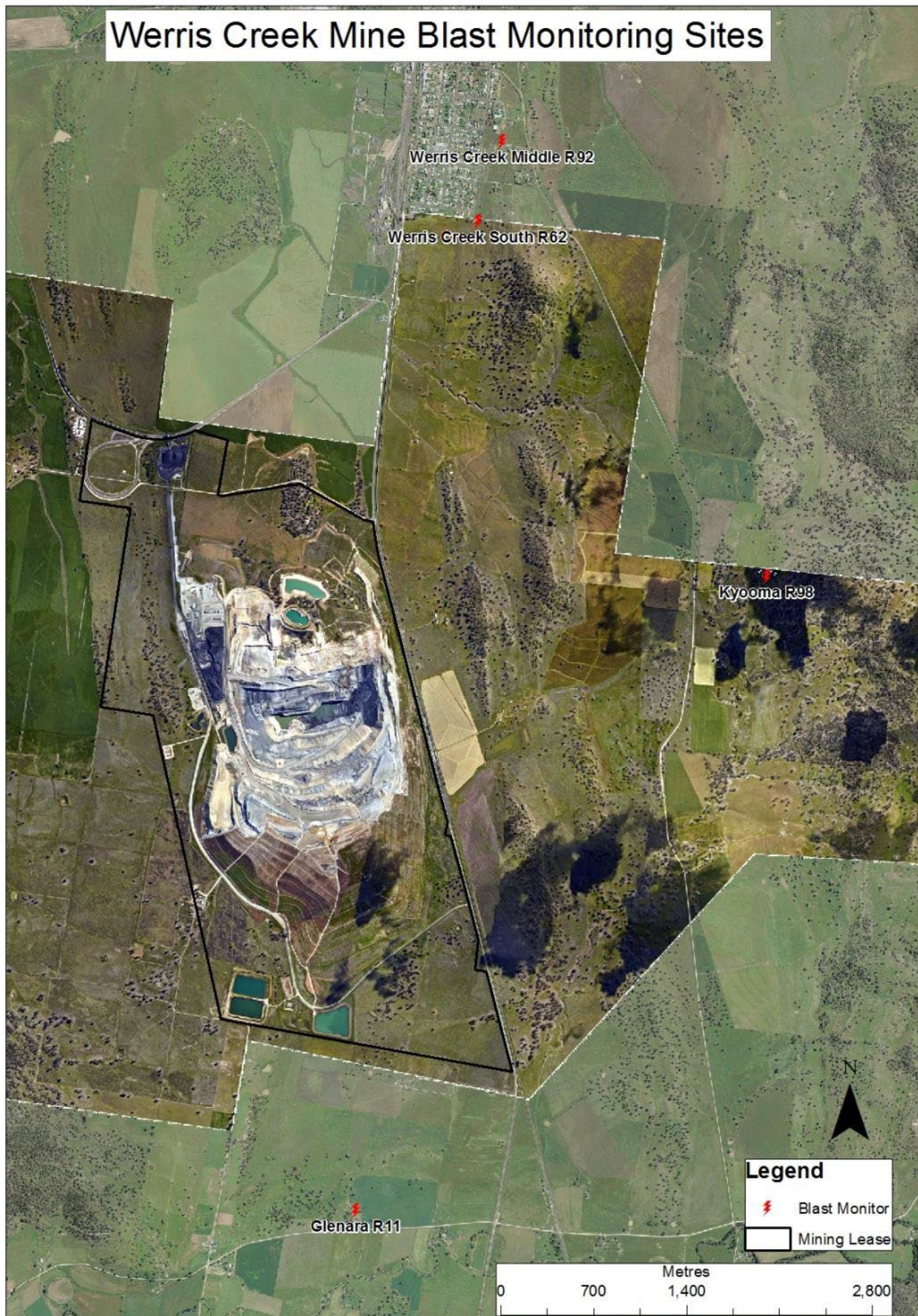
Figure 1 – WCC Dust Monitoring Locations





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