

Werris Creek Coal Community Consultative Committee

MINUTES

44th Meeting of the Committee, 30th August 2017.

Werris Creek Coal (WCC) Community Consultative Committee (CCC) met on site at Werris Creek Coal Mine from 9:30am for the quarterly meeting followed by a pit tour of the mine site, inspecting operations.

Meeting Opened at 9.40am.

1. Record of Attendance:

Present

Lindsay Bridge	Community Representative
Mike Lomax	Community Representative
James O'Brian	Community Representative
Rod Hicks	WCC Operations Manager
Shannon Reid	WCC Site Clerk and Minute Taker
Lynden Cini	WCC Environmental Officer
Cr Virginia Black	LPSC Councillor
Noel Taylor	Community Representative
Gae Swain	Independent Chairperson

Apologies

Col Stewart
Donna Ausling

Dave Goldman has
resigned.

2. Declaration of Pecuniary or Other Interests

Gae Swain declaration, has family members working for Whitehaven.

3. New Matters for Discussion under General Business

NT - Where are the new monitoring bores located?

LC – Offsite void water irrigation update

LC - Quipolly bore construction

LC - Water fact sheet

4. Minutes of Previous Meeting

Moved: Lindsay Bridge. Seconded: Noel Taylor. Motion carried.

5. Matters Arising

None.

6. Environmental Monitoring Report

LC provided commentary on each aspect of the report.

General discussion around some of the outcomes

Deposited dust gauge, DG34 – 8 Kurrara Street continues to be responding uncharacteristically high, all monitoring sites between DG34 and site within compliance. This monitor is accessible to the public.

JO'B – Blasting Notification to mobile – this was received but it was received ¾ hour after the blast had happened.

LC – There are 3 types of notifications we have regarding blast. We have text messaging, email and the website. Website is our main notification process, however we do also utilise email and text. I had not received any issues from others on the communications list, possibly an issue with phone reception I would assume. Messages are generally communicated an hour prior to the blast at the latest.

NT - One went off in the morning they usually go off at 1.15pm?

LC – Yes on occasions we need to blast in the morning if weather conditions are better than the afternoon.

Motion to accept the report. Moved: Virginia Black. Seconded: James O'Brien. Motion Carried.

7. General Business

LC – Update on water management and off site water. WCC have received the final approval for offsite water irrigation. Whilst approval has been granted, we have not pursued the implementation further at this point. The intention is to supply water to the approved parcel of land at some stage in the near future.

GS – On behalf of the committee I'd like to thank Lynden, Andrew, Rod and all other staff involved in getting this happening. This is no small task and a lot of time has gone into this and for a small committee and staff to get this happening is a great achievement.

ML – General discussion about irrigation and potential quantities or delivery to farm dams.

LC – At this point we are only approved to deliver water to the single parcel of land as outlined in the water management plan.

VB – A small step but a significant step to get it over the line.

LC – Quipolly bores – 4 new ground water bores have been constructed in the quarter. Strictly monitoring bores only. They have just been completed. Two shallow bores in the Quipolly aquifer and 2 deep monitoring bores within the Werrie aquifer. This has been undertaken in consultation and direction from the Department of Environment and Planning and the Department of Primary Industry – Water. The bores will have full time standing water level loggers deployed. An independent consultant was also engaged to oversee the construction of the project ensuring the wells were constructed correctly. They are producing a report to detail the project. The DPI – Water determined the bore locations.

LC – Water fact sheet has been produced for the wider public review. It is available on the website and hard copies can be found at Werris Creek library, the Werris Creek Pharmacy and Quirindi Council Chamber. The most significance information within the fact sheet is the response in bores where related to the cumulative rainfall over subsequent years. As the cumulative rainfall has fluctuated then the standing water levels in bores has also responded in line with the cumulative rainfall data.

Meeting Closed 10.35am.

Next Meeting Scheduled for Wednesday 29th November 2017

Site tour by Lynden.

Copy to:

All Committee members

The minutes will also be posted on the Whitehaven Coal Website

http://www.whitehavencoal.com.au/environment/werris_creek_mine_environmental_management.cfm



WERRIS CREEK COAL PTY LTD

QUARTERLY ENVIRONMENTAL MONITORING REPORT

May, June and July 2017

This Environmental Monitoring Report covers the period 1st May to 31st July 2017 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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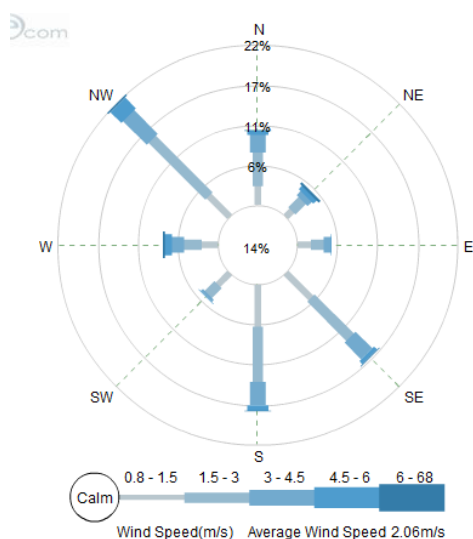
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1.0 METEOROLOGY

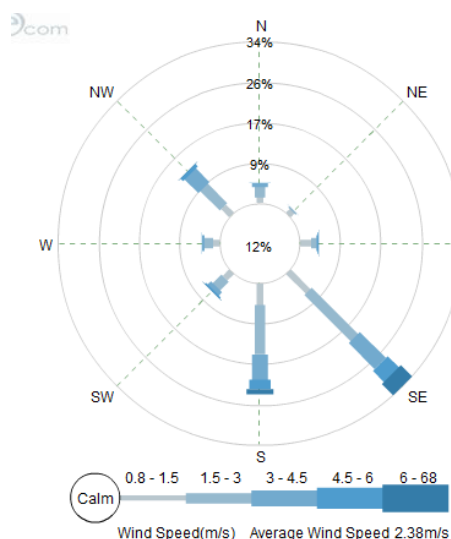
1.1 WEATHER STATION

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 three months. Monthly totals during the quarter were similar to the historical average in May and well below in June and July. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the south to southeast in May and June and northwest in July 2017.

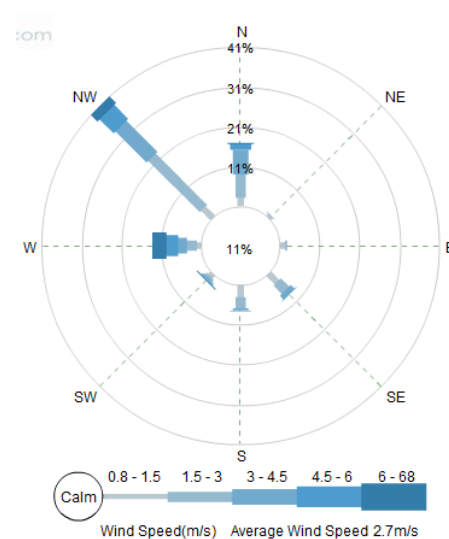
Month	Rainfall (mm)		
	Onsite	Historical Average	2017 Total
May 2017	37.6	34.1	287.8
June 2017	33.6	68.8	321.4
July 2017	10.2	41.6	331.6



May 2017



June 2017



July 2017

2.0 AIR QUALITY

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

WCC operates five High Volume Air Samplers (HVAS) measuring particulate matter less than 10 micron (PM₁₀) and total suspended particulate (TSP) matter at four sites. 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 micron) dust levels. Dust monitoring locations are identified in **Figure 1**.

2.1.1 Monitoring Data Results

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

Monitor Location	Daily Maximum (µg/m ³)	May 2017 (µg/m ³)	June 2017 (µg/m ³)	July 2017 (µg/m ³)	2017 Average (g/m ² /month)	Criteria (µg/m ³)	
						Annual	Daily
PM _{2.5} – TEOM92 “Werris Creek”	13.9	6.6	8.7	6.1	6.5	8	25
PM ₁₀ – TEOM92 “Werris Creek”	20.5	9.7	12.5	9.6	10.6	30	50
PM ₁₀ – HVP20 “Tonsley Park”	35.8	15.9	16.1	11.8	13.5	30	50
PM ₁₀ – HVP1 “Escott”	14.8	4.9	7.1	5.1	8.3	30	50
PM ₁₀ – HVP11 “Glenara”	52.4	14.2	19.9	14.4	17.8	30	50
PM ₁₀ – HVP98 “Kyooma”	13.4	5.5	6.8	4.4	7.6	30	50
TSP – HVT98 “Kyooma”	22.1	12.0	13.3	7.7	15.2	90	-

Yellow Bold – Elevated dust level.

2.1.2 Discussion - Compliance / Non Compliance

All TSP and PM10 and PM2.5 dust results were within criteria during the period with the exception of one PM10 results measured at "HVP11 "Glenara"", on the 23rd June 2017. This monitoring location is located due south of the Werris Creek Coal Mine. Upon investigation, the wind rose displayed predominate S-SE winds, indicating the monitor's location being upwind. Notification was made to the Department of Planning and Environment along with the initial investigation. No regulatory action was undertaken and the matter closed.

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 20 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 three months are provided in the table below.

Monitor Location	May 2017 (g/m ² /month)	June 2017 (g/m ² /month)	July 2017 (g/m ² /month)	2017 Average (g/m ² /month)	Annual Criteria (g/m ² /month)
DG1 "Escott"	1.2	0.6	0.2	0.6	4.0
DG2 "Cintra"	3.8	2.5	4.1	3.5	4.0
DG3 "Eurunderee"	3.2	0.7	1.1	1.8	4.0
DG5 "Railway View"	2.5	2.2	3.6	2.2	4.0
DG9 "Marengo"	1.6	0.8	0.3	0.7	4.0
DG11 "Glenara"	1.1	1.4	1.0	1.0	4.0
DG14 "Greenslopes"	0.7	2.4	0.6	1.0	4.0
DG15 "Plain View"	1.2	1.4	12.2*	0.9	4.0
DG17 "Woodlands"	1.9	0.7	1.2	1.1	4.0
DG20 "Tonsley Park"	1.0	0.5	3.0	1.1	4.0
DG22 "Mountain View"	1.0	0.7	2.6	1.1	4.0
DG24 "Hazeldene"	1.0	1.0	1.2	1.5	4.0
DG34 8 Kurrara St	0.6	9.7	11.7	9.6	4.0
DG62 Werris Creek South	1.4	1.0	0.7	1.0	4.0
DG92 Werris Creek Centre	0.5	0.4	0.4	0.5	4.0
DG96 "Talavera"	NS	NS	NS	NA	4.0
DG98 "Kyooma"	0.5	0.3	0.3	0.5	4.0
DG101 "Westfall"	0.7	0.8	0.8	1.2	4.0
DG103 West Street	0.8	0.4	0.6	0.7	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.

2.2.2 Discussion - Compliance / Non Compliance

All monthly dust deposition gauge results were below the annual criteria of 4.0g/m²/month throughout the period with the exception of DG34 (8 Kurrara St) which had elevated dust levels in June and July 2017 and a rolling 2017 average above criteria. Consistently high dust levels at this gauge and low deposited dust levels at nearby gauges indicate a localised source of dust generation, unrelated to activities at Werris Creek Coal Mine. DG2 had one anomalous high dust deposition measurement during July 2017 deposited dust levels remained low at nearby gauges, also indicating a localised source of dust.

2.3 QUIRINDI TRAIN DUST DEPOSITION

2.3.1 Monitoring Data Results

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

Monitor Location	May 2017		June 2017		July 2017		2017 Average (g/m ² /month)
	g/m ² /month	% Coal	g/m ² /month	% Coal	g/m ² /month	% Coal	
DDW30	1.2	5%	1.6	<5%	1.2	<5%	1.2
DDW20	0.9	5%	0.3	10%	0.8	<5%	0.8
DDW13	0.9	20%	0.3	<5%	0.7	5%	1.0

Train Line							
DDE13	1.6	10%	0.2	20%	2.1	<5%	1.3
DDE20	0.7	5%	0.2	<5%	1.0	<5%	0.8
DDE30	1.0	5%	0.3	<5%	2.5	<5%	1.1

* - sample contaminated with excessive organic matter (>50%) from non-mining source (i.e. bird droppings and insects); NS – Not Sampled, bottle and funnel smashed.

2.3.2 Discussion - Compliance / Non Compliance

Overall, the dust fallout levels adjacent to the train line are low, well below the impact assessment criteria nominated by the EPA of 4.0 g/m²/month and comparable to the levels monitored around Werris Creek Coal Mine. Coal contributions to the dust fraction remain generally low.

2.4 AIR QUALITY COMPLAINTS

There were two 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 three months are outlined in the table below. Noise monitoring locations are identified in **Figure 2**.

Wednesday 23rd and Thursday 24th May 2017

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	30	35
B	West Quipolly (R7*, R8*, R9* & R22*)	Inaudible#	40	28	40
C	Central Quipolly (R10*, R11*)	NM#	40	28	40
D	"Hazeldene" R24	Inaudible#	37	30	37
E	"Railway Cottage" R12	Inaudible	38	26	38
F	"Talavera" R96	Inaudible	38	<25	37
H	"Kyooma" R98	<20	38	37	38
I	Kurrara St, WC R57	Inaudible#	35	Inaudible	35
J	Coronation Ave, WC	Inaudible#	35	<25	35
K	Alco Park (R21*)	<25	40	33	40
L	West St, WC (R103)	28#	35	<30	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

Tuesday 27th June 2017

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	<20	35	22	35
B	West Quipolly (R7*, R8*, R9* & R22*)	<30	40	26	40
C	Central Quipolly (R10*, R11*)	NM	40	<30	40
D	"Hazeldene" R24	Inaudible	37	22	37
E	"Railway Cottage" R12	Inaudible	38	31	38
F	"Talavera" R96	Inaudible	38	21	37
H	"Kyooma" R98	<20	40	<25	40
I	Kurrara St, WC R57	Inaudible	35	Inaudible	35
J	Coronation Ave, WC	Inaudible	35	NM	35
K	Alco Park (R21*)	Inaudible	40	34	40
L	West St, WC (R103)	Inaudible	35	<25	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

^Multiple evening and night measurement was taken, for reporting purposes the highest reading of the period was used.

Monday 17th and Tuesday 18th July 2017

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	NM	35	NM	35
B	West Quipolly (R7*, R8*, R9* & R22*)	NM	40	29	40
C	Central Quipolly (R10*, R11*)	Inaudible	40	27	40
D	"Hazeldene" R24	Inaudible	37	NM	37
E	"Railway Cottage" R12	25#	38	23	38
F	"Talavera" R96	Inaudible#	38	24	37
H	"Kyooma" R98	Inaudible#	40	<25	40
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

^Multiple evening and night measurement was taken, for reporting purposes the highest reading of the period was used.

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.

There was one exceedance identified at the "Kyooma" R98 monitoring location during attended noise monitoring in May. This 15 minute attended noise monitoring event, of a total 60 minute total sample, identified the application of a low-frequency (dB(C)) noise penalty. The event has been internally investigated and self-reported to the appropriate Departments.

3.2 Noise complaints

There were no noise complaints during the period.

4.0 BLASTING

During the reporting period there was a total of thirty-two 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 three months are provided below.

May 2017		"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	101.2	0.59	102.1	0.26	98.1	0.17	99.7
Monthly Maximum		0.15	113.6	1.17	111.3	0.56	109.4	0.37	109.2
Annual Average		0.13	100.15	0.65	100.90	0.36	99.07	0.21	99.53
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling Ave	0.00%	0.68%	0.00%	0.00%	0.00%	0.00%	0.00%	0.68%
	Reporting Year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.67%

June 2017		"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		0.11	98.9	0.55	97.2	0.23	95.3	0.15	96.7
Monthly Maximum		0.56	105.7	2.35	103.4	0.60	106.2	0.45	106.0
Annual Average		0.13	99.94	0.64	100.29	0.34	98.45	0.20	99.05
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling Ave	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.61%
	Reporting Year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.33%

July 2017		"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	99.4	0.85	101.6	0.44	96.9	0.26	97.8
Monthly Maximum		0.30	105.4	1.92	109.1	0.83	109.1	0.50	106.2
Annual Average		0.13	99.86	0.67	100.48	0.35	98.23	0.21	98.87
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	Rolling Ave	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.58%
	Reporting Year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.20%

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 two blast complaints during the period.

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 on the 3rd, 4th and 5th May 2017 and 5th, 6th and 11th July 2017. 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		May-17	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	35.18	-7%
	MW3	19.16	0%
	MW4B	15.87	-9%
	MW5	11.96	-1%
	MW6	15.43	6%
	MW27*	52.09	5%
	MW36A	21.62	-1%
	MW36B	21.6	-2%
Werrie Basalt	MW8*	15.89	-5%
	MW10	13.25	1%
	MW14	18.04	-1%
	MW17B*	11.98	-2%
	MW19A*	10.48	-7%
	MW20*	21.54	0%
	MW38A	12.96	-4%
	MW38B*	9.58	-1%
	MW38C*	22.45	0%
# ¹	MW38E*	9.67	-2%
	MW24A*	14.49	-1%
Quipolly Alluvium	MW29*	12.16	-5%
	MW12*	11.2	-6%
	MW13*	6.13	-2%
	MW13B*	4.53	-1%
	MW13D*	4.8	2%
	MW15*	5.69	-2%
	MW16*	6.59	-4%
	MW17A*	5.68	-4%
	MW18A*	5.46	-3%
	MW21A*	9.35	-4%
	MW22A*	6.75	-4%
	MW22B*	6.98	-3%
	MW23A*	3.84	2%
	MW23B*	5.05	-14%
	MW26B*	8.56	-10%
	MW28A*	12.28	-8%
	MW32*	3.98	1%
# ²	MW34*	10.77	-2%

Site		July-17	
		mbgl	%
Werrie Basalt near WCC	MW1	Dry	
	MW2	37.89	-7%
	MW3	19.21	0%
	MW4B	16.07	-1%
	MW5	12.00	0%
	MW6	15.37	0%
	MW27*	49.95	4%
	MW36A	22.39	-3%
	MW36B	22.37	-3%
Werrie Basalt	MW8*	16.42	-3%
	MW10	13	2%
	MW14	18.51	-3%
	MW17B*	12.29	-3%
	MW19A*	10.63	-1%
	MW20*	21.57	0%
	MW38A	13.49	-4%
	MW38B*	9.72	-1%
	MW38C*	22.66	-1%
# ¹	MW38E*	9.84	-2%
	MW24A*	14.61	-1%
Quipolly Alluvium	MW29*	12.50	-3%
	MW12*	11.61	-4%
	MW13*	6.3	-3%
	MW13B*	4.69	-3%
	MW13D*	4.85	-1%
	MW15*	5.89	-3%
	MW16*	6.8	-3%
	MW17A*	5.97	-5%
	MW18A*	5.84	-7%
	MW21A*	9.64	-3%
	MW22A*	7.01	-4%
	MW22B*	7.29	-4%
	MW23A*	3.82	1%
	MW23B*	No access	
	MW26B*	8.3	3%
	MW28A*	12.57	-2%
	MW32*	3.86	3%
# ²	MW34*	10.7	1%

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 general sustained or decreased water levels during May and July.

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 on the 25th May 2017. 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.

Site	pH	EC	TSS	O&G	Change from Previous Quarter or General Comments
ONSITE					
SB2	Dry	Dry	Dry	Dry	Dry. Grass on bottom of dam.
SB9	Dry	Dry	Dry	Dry	Dry. Grass on bottom of dam.
SB10	Dry	Dry	Dry	Dry	Dry. Just puddle.
OFFSITE					
QCU	Dry	Dry	Dry	Dry	Dry. Just Gravel
QCD	8.0	992	10	<5	pH unchanged and EC slightly decreased, TSS was stable and O&G unchanged. Flowing.
WCU	8.0	481	5	<5	Previous quarter this location was Dry. Field sheet water pools.
WCD	8.3	1332	10	<5	pH slightly increased and EC slightly decreased, TSS decreased from 35 to 10 and O&G also decreased. 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

5.2.2 Discussion - Compliance / Non Compliance

Quarterly surface water monitoring was undertaken on 25th May 2017 with all onsite and offsite sampling undertaken in dry conditions represented by low or dry pools, which reflected on water quality. All water quality results were within long-term averages and the Site Water Management Plan trigger values.

5.3 SURFACE WATER DISCHARGES

There were no discharge events in May, June and July 2017.

5.3 WATER COMPLAINTS

There were no water release complaints during the period.

6.0 COMPLAINTS SUMMARY

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

#	Date	Issue	Complaint	Investigation	Action Taken
550	18/5/2017	Blast	Complainant advised they felt the blast at their residence.	WCC blast 064 fired at 1.08pm on the 18 May. Monitoring results were within compliance limits at all locations.	EO advised blast was in compliance.
551	9/6/2017	Odour	Complainant advised the EPA they could detect an odour of burning coal at their property.	WCC undertook an investigation into odour emissions and provided an Event Report to the EPA.	The EPA reviewed the investigation findings and provided feed back to the complainant.
552	30/6/2017	Odour / Dust	Complainant advised they could detect an odour of burning coal at their property. They noted dust over the project area.	EO advised the measures in place to manage odour and dust impacts, describing the findings of the recent odour investigation provided to the EPA.	Complainant was content with EO response.
553	3/7/2017	Odour / Dust	Complainant advised they could detect an odour of burning coal at their property. They noted dust over the project area.	EO advised the measures in place to manage odour and dust impacts. EO raised dust concerns with OCE, ensuring additional water cart cycles in dust prone operations. EO visited the complainant's property, no odour was evident by EO or complainant upon inspection.	None required.
554	7/7/2017	Odour	Complainant advised they could detect an odour of burning coal at their property early in the morning however had cleared prior to making the complaint.	EO advised the measures in place to manage odour.	Complainant was content with EO response.

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.

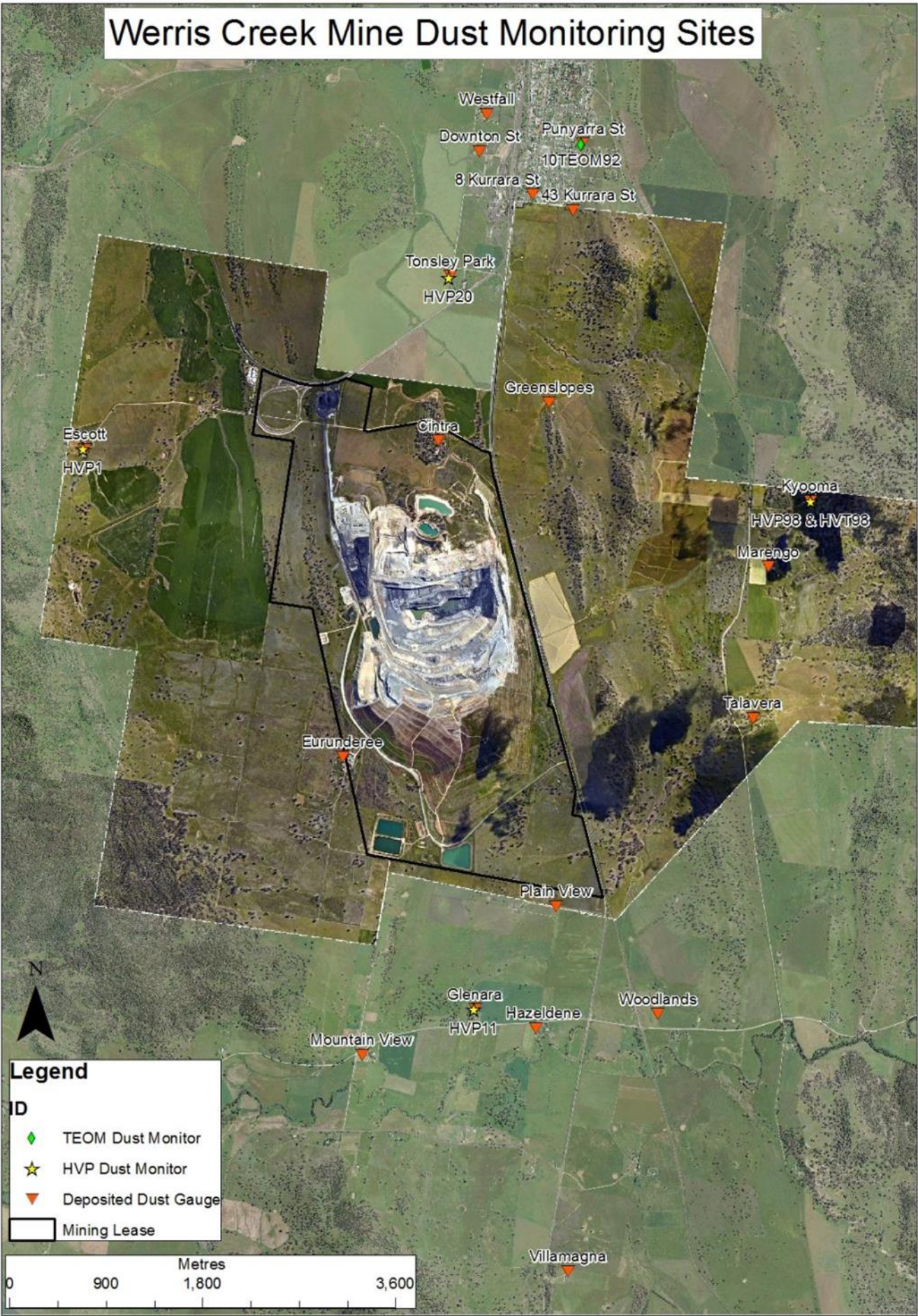


Figure 1 – WCC Dust Monitoring Locations

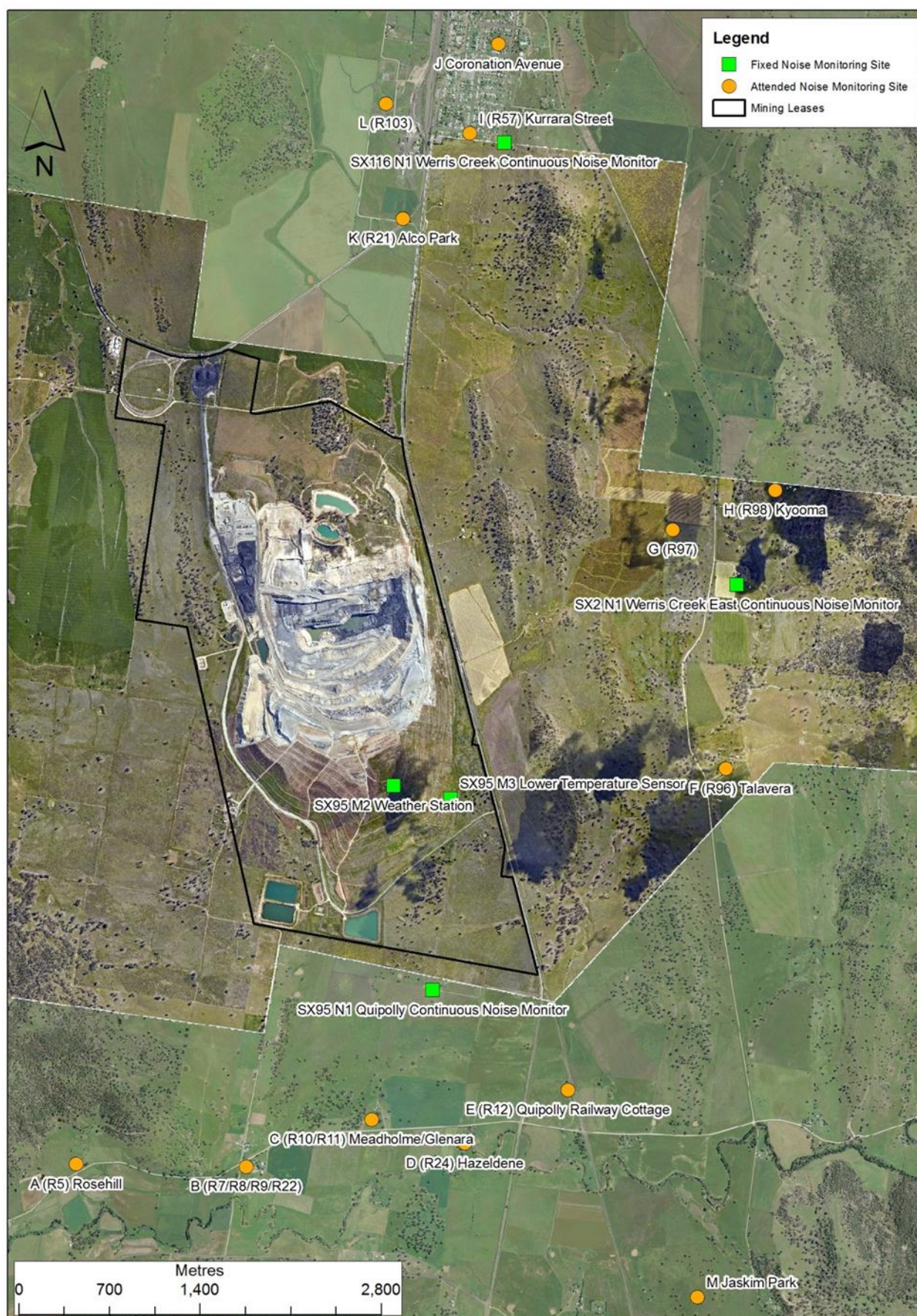


Figure 2 – WCC Noise Monitoring Locations

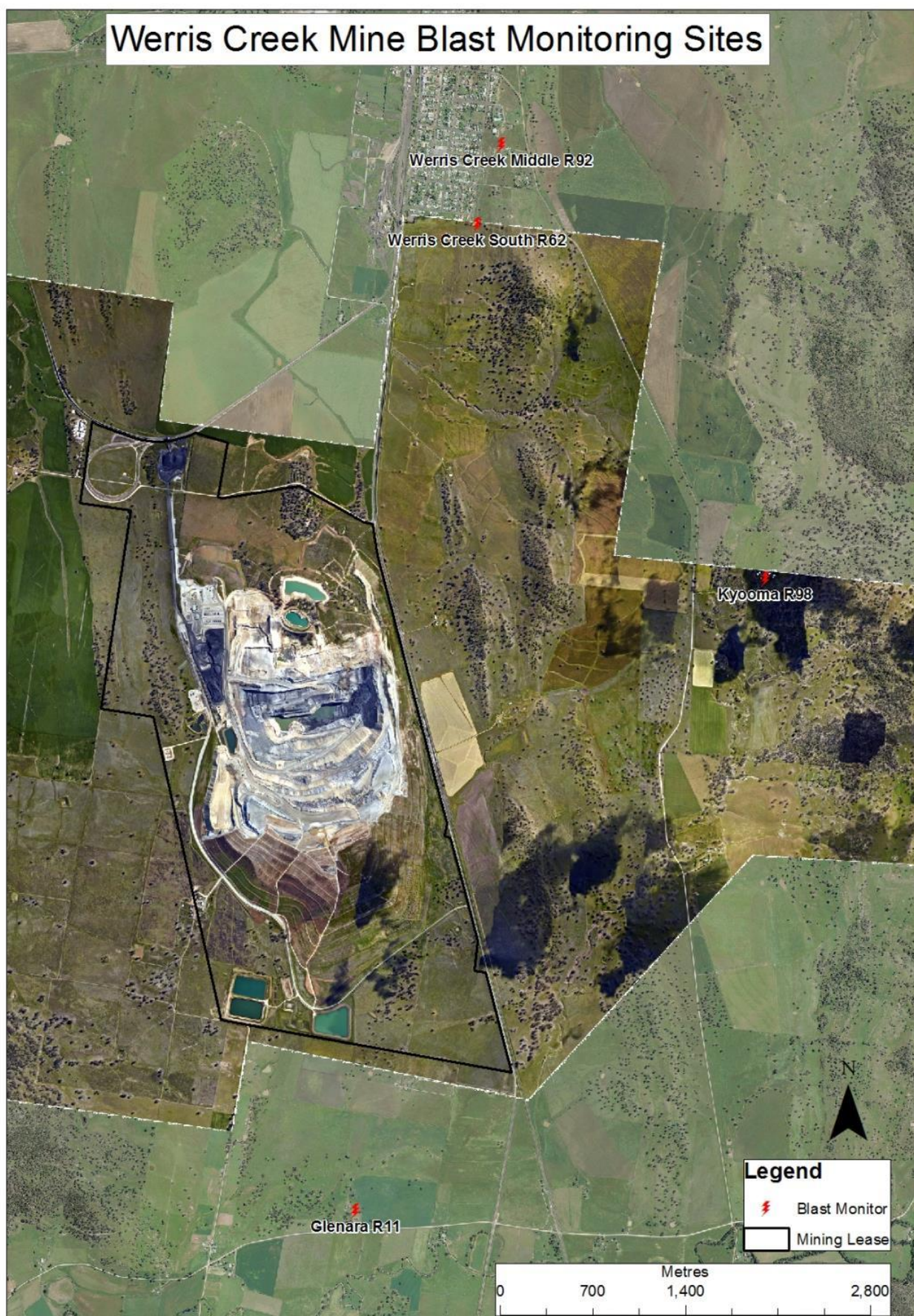


Figure 3 – WCC Blast Monitoring Locations

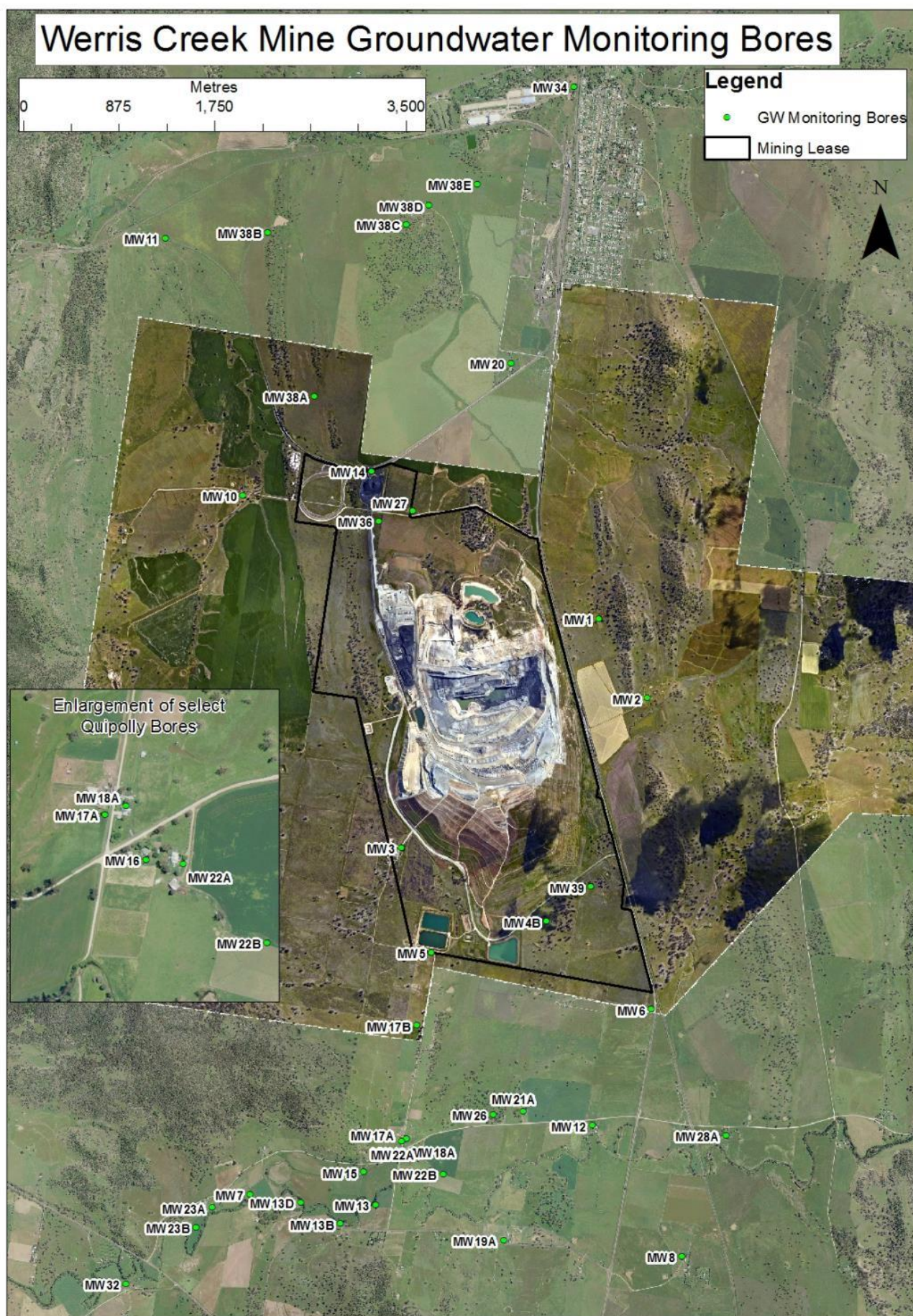


Figure 4 – WCC Groundwater Monitoring Locations



Figure 5 – WCC Surface Water Monitoring Locations