Werris Creek Coal Community Consultative Committee

46th Meeting of the Committee to be held on site at the Werris Creek Coal Mine

9:30am 7th March 2018

AGENDA

The normal quarterly meeting will begin at 9.30am, with a site tour following the meeting (weather conditions permitting).

1. Record of Attendance
    a. Apologies
2. Declaration of Pecuniary or Other Interests
3. New Matters for Discussion under General Business
4. Minutes of Previous Meeting
5. Matters Arising
    a. Actions from Previous Meeting
6. Environmental Monitoring Report
7. General Business
    a. Letter from QWAG to WCC 31st January 2018
    b. Discussion regarding the frequency of meetings and potential for change
    c. Request for Mr Peter Wills to attend next meeting as an observer

Copy to: CCC Chairperson
Community Representatives
LPSC
WCC

Werris Creek Coal Community Consultative Committee

MINUTES

46th Meeting of the Committee, 7th March 2018.

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 9.38am.

1. Record of Attendance:

Present

Lindsay Bridge	Community Representative
Rod Hicks	WCC Operations Manager
Shannon Reid	WCC Site Clerk and Minute Taker
Lynden Cini	WCC Environmental Officer
Noel Taylor	Community Representative
Gae Swain	Independent Chairperson
Col Stewart	Community Representative

Apologies

Virginia Black
Donna Ausling
James O'Brien
Mike Lomax

Moved: Col Stewart Seconded Noel Taylor. Motion carried

2. Declaration of Pecuniary or Other Interests.

Gae Swain has a Son in law working for Whitehaven Coal at Narrabri Underground Mine and a son working at Maules Creek Mine

Lindsay Bridge – Working with government and industry on application of coal dust technology

3. New Matters for Discussion under General Business

a) Letter from QWAG to WCC 31st January 2018
b) Discussion regarding the frequency of meetings and potential for change
c) Request for Mr Peter Wills to attend next meeting as an observer
d) Noel Taylor - Offsite Irrigation Project update

4. Minutes of Previous Meeting

Moved: Col Stewart Seconded Lindsay Bridge. Motion carried.

5. Matters Arising

None

6. Environmental Monitoring Report

Lynden provided commentary on the report.

Motion to accept the report. Moved: Noel Taylor Seconded Lindsay Bridge. Motion Carried.

7. General Business.

a. Letter from QWAG to WCC 31st January 2018

LC tabled the letter received from QWAG. General discussion from LC regarding the items raised by QWAG. CCC minutes and quarterly reporting data were updated on the website and a response on details pertaining to the new monitoring bores and data provided directly to QWAG.

Moved: Lindsay Bridge Seconded: Col Stewart Motion Carried

b. Discussion regarding the frequency of meetings and potential for change

LC – On review of the CCC Guidelines there is a potential for this committee to consider meeting at a reduced frequency. I would like the committee to consider the potential for meetings be held twice a year, noting that should there be a need, an extra ordinary meeting can be held at any time.

CS – has a concern that by decreasing from four to two meetings 2 that the community may perceive the reduction as trying to hide something. It will be a 6-month gap between receiving information.

NT – What if we decreased to 3 meeting a year so every 4 months instead of every 3 months?

LB – I would like to keep it as is. I like to be kept informed what is happening at the mine. Guided tours help to keep me up to speed with what is happening in the mine so when questioned from people outside the mine I can converse with them. I'm here to help the mine engage with the community.

GS – By going with Noel's suggestion that means we only push the meetings out by one month

NT & LB – Both agree they do not want to go to six monthly meetings.

GS – Does the committee reduce it to three meetings a year being every four months?

CCC agree to the reduction of meetings from every three months to every four months, with the option to hold an extra ordinary meeting if needed.

Moved: Lindsay Bridge Seconded: Noel Taylor Motion carried

c. Request for Mr Peter Wills to attend next meeting as an observer

GS - Reviewed the CCC guidelines – Observers can attend meetings by invitation from a member but can only observe and not participate.

Open discussion on the request.

CS – I question the value an observer would bring given they cannot participate and the potential for a reduction in free speech by members within the committee.

GS – Should members of the community have concern the current committee members can be approached to formally raise issues, and there is opportunity to raise items directly with the committee through by letter should the need arise. This has always been the best approach.

Committee vote.

GS - We acknowledge the request, but have agreed unanimously this is not how our committee operates and respectfully decline the request from Mr Wills.

ACTION for GS - A response will be issued by the Chairperson to Mr Wills advising the committee's decision.

Moved: Col Stewart Seconded: Lindsay Bridge Motion Carried

d. Water off site irrigation

NT – would like to know a bit about the irrigator, when it runs and who pays for it?

LC – The pivot irrigator for Plain View is a 230m centre pivot. Construction was completed in Dec 2017. It is used to move water from VWD1. Since there have been approximately 5 watering's of the current crop, using approximately 4 ML per watering however this varies based on the required application rate. WHC own the infrastructure and pay for costs as required.

Meeting Closed. 10.56am

Next Meeting Scheduled for Wednesday 11th July 2018

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

November, December 2017 and January 2018

This Environmental Monitoring Report covers the period 1st November 2017 to 31st January 2018 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**.

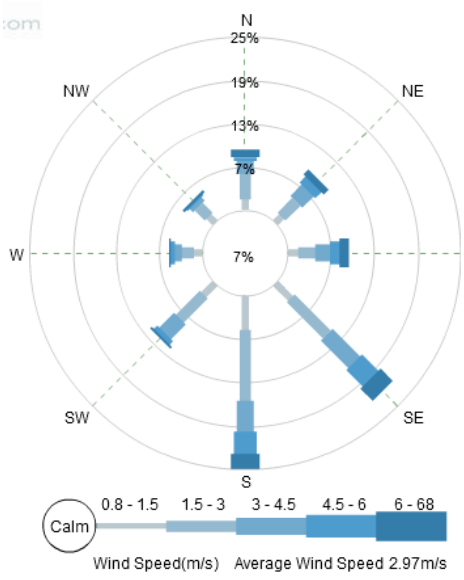
CONTENTS

1.0 METEOROLOGY

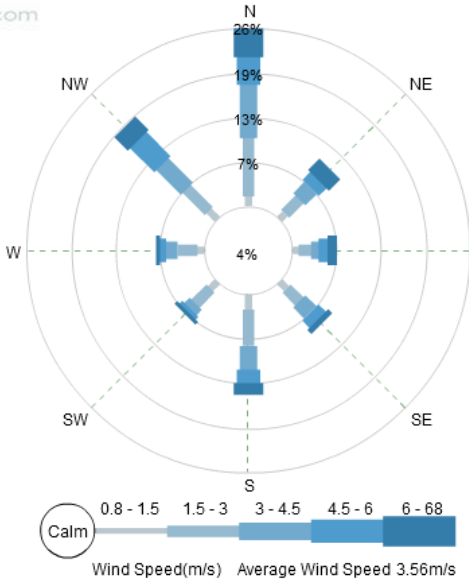
1.1 WEATHER STATION

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 throughout the quarter were lower than the historical average. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the south to southeast in November, north to northwest in December 2017 and south to northeast in January 2018.

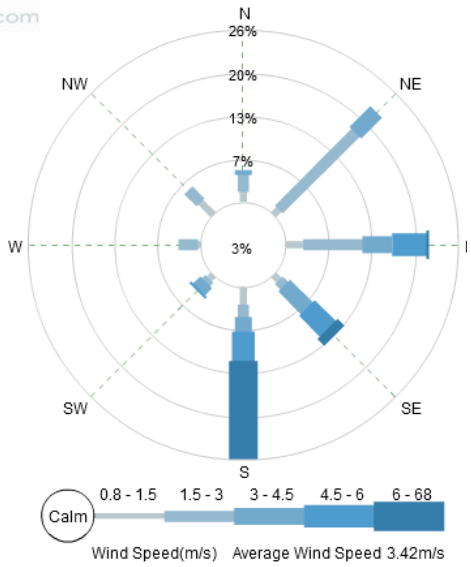
Month	Rainfall *(mm)*			
	Onsite	***Historical Average***	***2017 Total***	***2018 Total***
November 2017	66	85	503.2	NA
December 2017	68	95.7	571.2	NA
January 2018	27.8	63.8	NA	27.8



November 2017



December 2017



January 2018

2.0 AIR QUALITY

2.1 HVAS (PM_{10}) and TEOM (PM_{10} & $PM_{2.5}$)

WCC operates five High Volume Air Samplers (HVAS) measuring particulate matter less than 10 micron (PM_{10}) 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 ($\mu g/m^3$) of air sampled. In addition, WCC operates a Tapered Element Oscillating Microbalance (TEOM) monitor in Werris Creek measuring real time PM_{10} 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 *($\mu g/m^3$)*	November 2017 *($\mu g/m^3$)*	December 2017 *($\mu g/m^3$)*	January 2018 *($\mu g/m^3$)*	2017 Average *(g/m^2/month)*	2018 Average *(g/m^2/month)*	Criteria *($\mu g/m^3$)*	
							Annual	Daily
$PM_{2.5}$ – TEOM92 "Werris Creek"	13.2	5.6	7.1	8.1	6.1	8.1	8	25
PM_{10} – TEOM92 "Werris Creek"	31.9	10.0	12.3	15.5	10.8	15.5	30	50
PM_{10} – HVP20 "Tonsley Park"	27.0	14.5	17.3	15.7	15.0	15.7	30	50
PM_{10} - HVP1 "Escott"	20.2	7.7	13.4	13.2	9.2	13.2	30	50
PM_{10} – HVP11 "Glenara"	28.2	15.1	21.5	18.6	19.1	18.6	30	50
PM_{10} – HVP98 "Kyooma"	36.4	7.5	13.4	11.3	8.7	11.3	30	50
TSP – HVT98 "Kyooma"	36.3	17.1	24.7	22.8	17.4	22.8	90	-

Yellow Bold – Elevated dust level.

2.1.2 Discussion - Compliance / Non Compliance

All TSP, PM_{10} 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 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/m^2/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	November 2017 *(g/m²/month)*	December 2017 *(g/m²/month)*	January 2018 *(g/m²/month)*	2017 Average *(g/m²/month)*	2018 Average *(g/m²/month)*	Annual Criteria *(g/m²/month)*
DG1 "Escott"	0.6	0.5	2.1	0.6	2.1	4.0
DG2 "Cintra"	1.9	1.8	3.5	3.0	3.5	4.0
DG3 "Eurunderee"	0.9	1.2	17.3*	1.6	17.3*	4.0
DG5 "Railway View"	1.8	3.6	3.2	2.3	3.2	4.0
DG9 "Marengo"	0.8	2.3	1.5	1.0	1.5	4.0
DG11 "Glenara"	1.6	0.9	1.2	1.1	1.2	4.0
DG14 "Greenslopes"	0.5	0.7	0.7	0.9	0.7	4.0
DG15 "Plain View"	1.2	0.9	0.7	1.5	0.7	4.0
DG17 "Woodlands"	3.0	4.7c	1.3	1.3	1.3	4.0
DG20 "Tonsley Park"	0.2	1.3	2.1	1.0	2.1	4.0
DG22 "Mountain View"	1.0	0.9	1.4	1.8	1.4	4.0
DG24 "Hazeldene"	0.8	0.6	0.7	1.3	0.7	4.0
DG34 8 Kurrara St	0.3	**15.2**	2.1	**7.1**	2.1	4.0
DG62 Werris Creek South	0.3	1.2	0.4	1.0	0.4	4.0
DG92 Werris Creek Centre	0.5	**6.8**	0.5	1.1	0.5	4.0
DG96 "Talavera"	NS	NS	NS	NA		4.0
DG98 "Kyooma"	0.3	1.6	0.7	0.7	0.7	4.0
DG101 "Westfall"	0.3	0.7	1.3	0.9	1.3	4.0
DG103 West Street	0.4	0.8	1.8	0.7	1.8	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/m^2/month throughout the period with the exception of DG34 (8 Kurrara St) which had a high result in December 2017 and 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. DG92 had one anomalous high dust deposition measurement during December 2017 deposited dust levels remained low at nearby gauges, also indicating a localised source of dust, unrelated to activities at Werris Creek Coal Mine.

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	November 2017		December 2017		January 2018		2017 Average *(g/m²/month)*	2018 Average *(g/m²/month)*
	g/m²/month	*% Coal*	*g/m²/month*	*% Coal*	*g/m²/month*	*% Coal*		
DDW30	1.0	<5%	1.0	5%	1.0	15%	1.3	1.0
DDW20	1.0	<5%	0.8	10%	0.8	10%	0.9	0.8
DDW13	3.1	<5%	1.1	10%	0.8	10%	1.2	0.8
Train Line								
DDE13	1.2	20%	1.3	5%	14.3*	<5%	1.2	N/A
DDE20	1.0	5%	1.4	10%	1.4	10%	0.9	1.4
DDE30	3.0*	<5%	5.0*	<5%	3.0*	10%	1.1	N/A

* - 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/m^2/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 three odour 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**.

Tuesday 21st and Wednesday 22nd November 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	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	38	Inaudible#	38
I	**Kurrara St, WC** R57	Inaudible	35	Inaudible#	35
J	**Coronation Ave, WC**	Inaudible	35	Inaudible#	35
K	**Alco Park** (R21*)	Inaudible	40	<25#	40
L	**West St, WC** (R103)	Inaudible	35	27#	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 26th and 27th December 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	22#	35
B	**West Quipolly** (R7*, R8*,R9* & R22*)	Inaudible#	40	21#	40
C	**Central Quipolly**(R10*,R11*)	NM#	40	<30#	40
D	**"Hazeldene"** R24	Inaudible#	37	<20#	37
E	**"Railway Cottage"** R12	Inaudible#	38	NM#	38
F	**"Talavera"** R96	Inaudible#	38	28#	37
H	**"Kyooma"** R98	<30#	40	<30#	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~~ot monitored~~ - 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.

Wednesday 24th and Thursday 25th January 2018

	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	NM	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	Inaudible#	37
H	**"Kyooma"** R98	Inaudible	40	Inaudible#	40
I	**Kurrara St, WC** R57	Inaudible	35	<30#	35
J	**Coronation Ave, WC**	Inaudible	35	Inaudible#	35
K	**Alco Park** (R21*)	Inaudible	40	<30	40
L	**West St, WC** (R103)	NM#	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.

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 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 115dBL (and up to 120dBL 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.

November 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		0.12	98.6	0.70	100.9	0.35	99.1	0.22	99.7
Monthly Maximum		0.24	107.9	1.60	108.9	0.75	111.6	0.41	111.2
Annual Average		0.12	100.38	0.70	101.02	0.36	98.66	0.22	99.39
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	**Rolling Ave**	0.00%	0.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.94%
	Reporting Year	0.00%	1.60%	0.00%	0.00%	0.00%	0.00%	0.00%	1.60%

December 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		0.20	97.7	1.22	96.9	0.40	94.1	0.28	96.8
Monthly Maximum		0.42	105.7	2.26	101.3	0.54	103.0	0.50	106.2
Annual Average		0.13	100.16	0.74	100.68	0.36	98.28	0.22	99.17
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	**Rolling Ave**	0.00%	1.50%	0.00%	0.00%	0.00%	0.00%	0.00%	1.50%
	Reporting Year	0.00%	1.50%	0.00%	0.00%	0.00%	0.00%	0.00%	1.50%

January 2018		"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		0.17	97.6	1.00	98.6	0.42	99.6	0.32	98.0
Monthly Maximum		0.36	108.5	1.32	108.3	0.68	105.3	0.55	107.9
Annual Average		0.17	97.64	1.00	98.57	0.42	99.56	0.32	97.99
Criteria		5	115	5	115	5	115	5	115
% >115dB(L) or 5mm/s	**Rolling Ave**	0.00%	1.40%	0.00%	0.00%	0.00%	0.00%	0.00%	1.40%
	Reporting Year	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 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 3, 6, 7 and 9 November 2017 and 5, 8 and 9 January 2018. 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-17		Site		January-18	
		mbgl	%			mbgl	%
Werrie Basalt near WCC	MW1	Dry		Werrie Basalt near WCC	MW1	Dry	
	MW2	44.53	-8%		MW2	44.87	-1%
	MW3	19.35	0%		MW3	19.41	0%
	MW4B	16.42	-1%		MW4B	16.81	-2%
	MW5	12.18	-1%		MW5	12.29	-1%
	MW6	15.81	-2%		MW6	15.83	0%
	MW27*	49.88	-1%		MW27*	50.80	-2%
	MW36A	23.69	-2%		MW36A	23.54	1%
	MW36B	23.65	-2%		MW36B	23.48	1%
Werrie Basalt	MW8*	17.66	-2%	Werrie Basalt	MW8*	18.28	-3%
	MW10	12.31	7%		MW10	13.64	-10%
	MW14	19.51	-2%		MW14	18.6	5%
	MW17B*	12.76	-2%		MW17B*	12.49	2%
	MW19A*	12.77	-3%		MW19A*	13.26	-4%
	MW20*	21.8	-1%		MW20*	21.85	0%
	MW38A	14.33	-3%		MW38A	14.57	-2%
	MW38B*	9.86	-1%		MW38B*	9.96	-1%
	MW38C*	22.81	-2%		MW38C*	23.16	-2%
	MW38E*	10.20	-2%		MW38E*	10.44	-2%
	MW41	8.49	-3%		MW41	8.75	-3%
	MW43	7.34	-4%		MW43	7.57	-3%
#1	MW24A*	15.1	-29%	#1	MW24A*	15.41	-2%
	MW29*	13.02	-2%		MW29*	13.25	-2%
Quipolly Alluvium	MW12*	12.19	-2%	Quipolly Alluvium	MW12*	Dry	
	MW13*	6.79	-4%		MW13*	6.99	-3%
	MW13B*	5.12	-5%		MW13B*	5.37	-5%
	MW13D*	5.1	-4%		MW13D*	5.48	-7%
	MW15*	6.26	-3%		MW15*	6.56	-5%
	MW16*	7.35	-3%		MW16*	7.61	-3%
	MW17A*	6.44	-4%		MW17A*	6.7	-4%
	MW18A*	6.25	-3%		MW18A*	6.55	-5%
	MW21A*	10.15	-2%		MW21A*	10.47	-3%
	MW22A*	7.48	-4%		MW22A*	7.80	-4%
	MW22B*	7.79	-3%		MW22B*	Dry	
	MW23A*	4.07	-4%		MW23A*	4.19	-3%
	MW23B*	4.25	-4%		MW23B*	No access	
	MW26B*	8.96	-3%		MW26B*	9.05	-1%
	MW28A*	13.94	-5%		MW28A*	14.56	-4%
	MW32*	4.03	0%		MW32*	4.15	-3%
	MW40	8.58	-4%		MW40	8.78	-2%
	MW42	7.23	-4%		MW42	7.45	-3%
#2	MW34*	11.06	-2%	#2	MW34*	11.45	-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 general sustained or decreased water levels during November 2017 and January 2018 with the exception of increases in depth at MW10 in November and MW36A, MW36B, MW14 and MW17B in January 2018.

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 22nd November and 4th December 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.
OFFSITE					
QCU	Dry	Dry	Dry	Dry	Dry. Wet gravel
QCD	7.9	1047	10	<5	pH slightly decreased and EC slightly increased, TSS was stable and O&G unchanged. Flowing slowly.
WCU	Dry	Dry	Dry	Dry	Dry
WCD	8.0	1295	22	<5	pH and EC slightly decreased, TSS increased from 14 to 22 and O&G unchanged. Flowing slowly.

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 22nd November and 4th December 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 November, December 2017 and January 2018.

5.3 WATER COMPLAINTS

There were no water release complaints during the period.

6.0 COMPLAINTS SUMMARY

There were 5 complaints received during the period, which are summarised below.

#	Date	Issue	Complaint	Investigation	Action Taken
562	5/12/2017	Odour	Complainant advised they could detect a smell of burning coal.	EO provided a detailed verbal response on the current mining operations and odour / spon com management practices currently in place. EO offered to provide a site tour and further discuss management practices.	Complainant was content with EO response.
563	12/12/2017	Blast	Complainant advised they felt the blast at their residence.	EO confirmed a blast had taken place at 2.30pm and all monitoring data was within compliance limits.	EO advised blast was within compliance limits and emailed a copy of the results to the complainant.
564	12/12/2017	Blast	Complainant advised they felt the blast at their residence.	EO confirmed a blast had taken place at 2.30pm and all monitoring data was within compliance limits.	Complainant was content with EO response.
565	21/12/2017	Odour	Complainant advised they could detect an odour at their residence	EO provided a detailed verbal response on the current mining operations and odour / spon com management practices currently in place.	Complainant was content with EO response.
566	2/01/2018	Odour	Complainant advised they could detect an odour at their residence	EO provided a detailed verbal response on the current mining operations and odour / spon com management practices currently in place.	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.

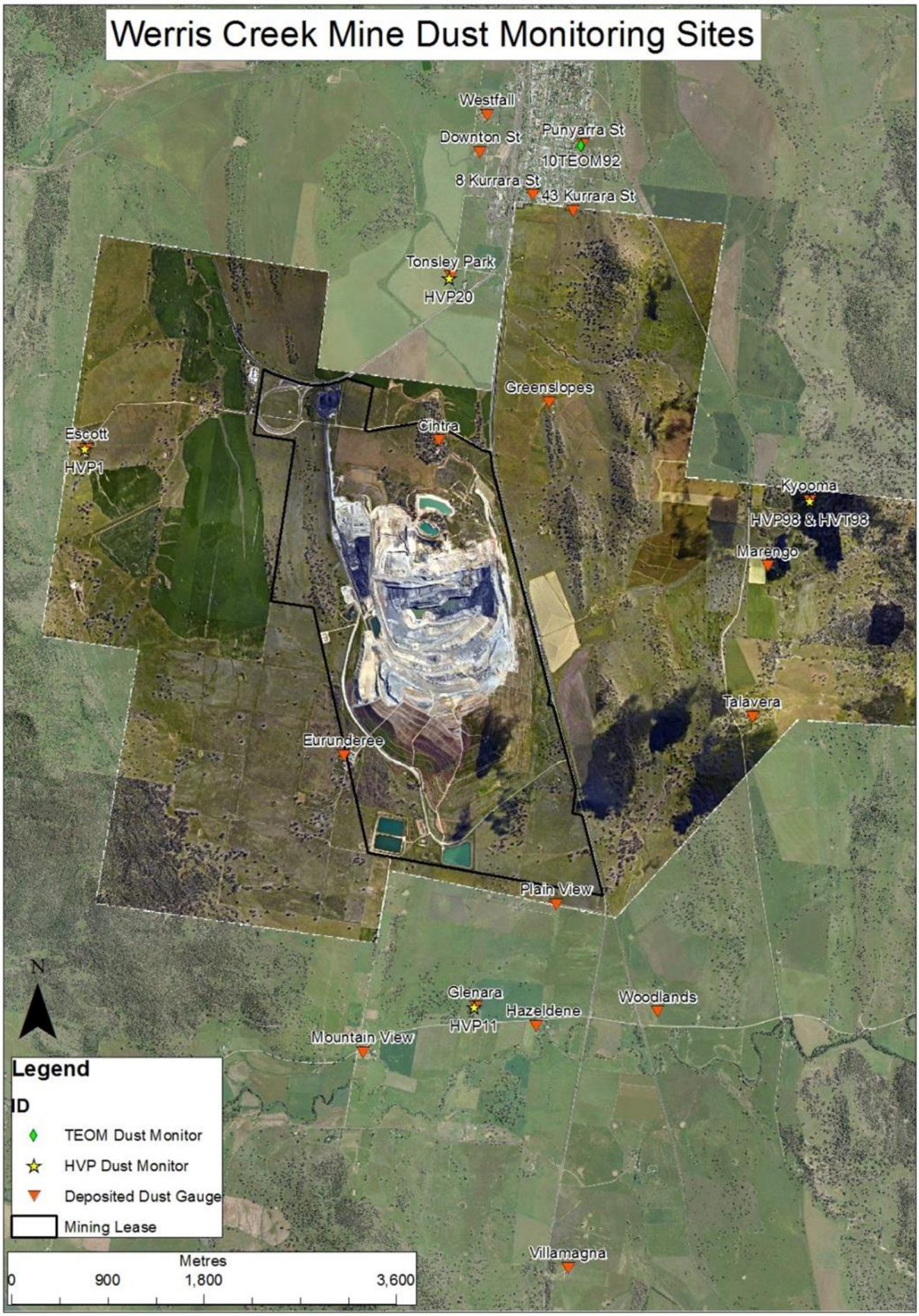


Figure 1 – WCC Dust Monitoring Locations

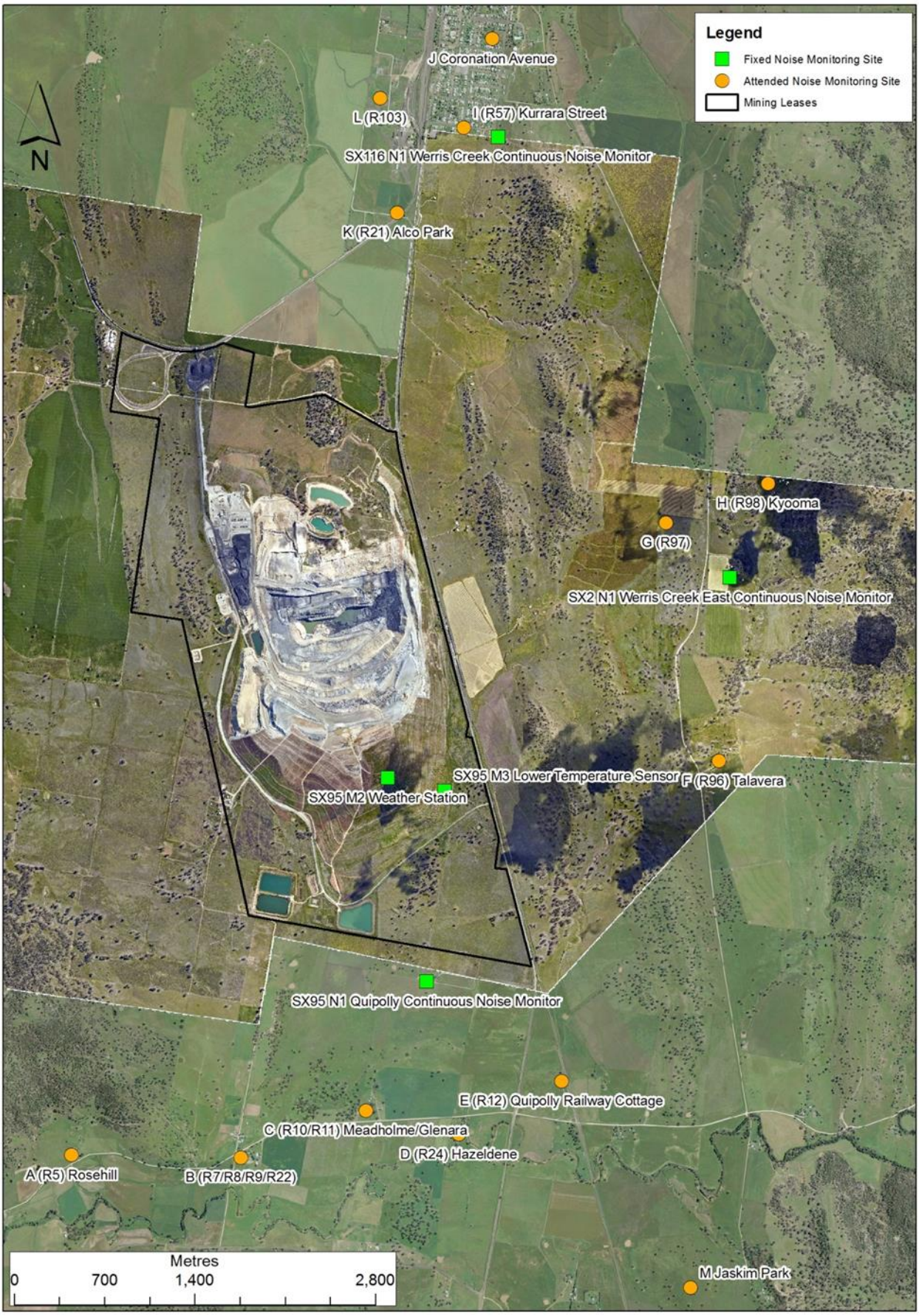


Figure 2 – WCC Noise Monitoring Locations

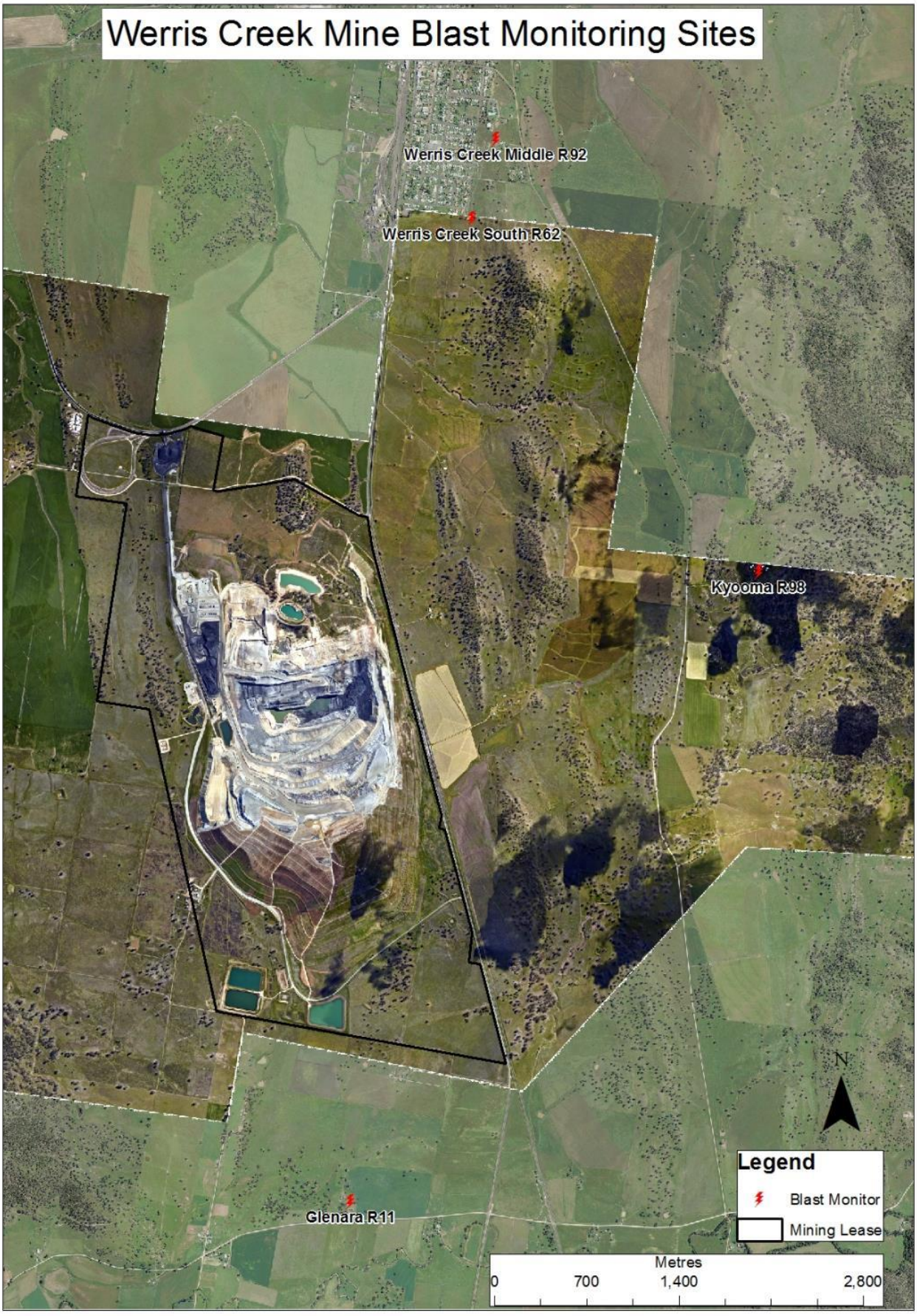


Figure 3 – WCC Blast Monitoring Locations

Figure 4 – WCC Groundwater Monitoring Locations

Figure 5 – WCC Surface Water Monitoring Locations