# WERRIS CREEK COAL COMMUNITY CONSULTATIVE COMMITTEE 51st Meeting of the Committee held at the Werris Creek Bowling Club Wednesday, 10 November 2021 at 9:35am

# **Record of attendance**

Michael Silver OAM	Independent Chairperson
Jane Bradford OAM	Independent Minute Taker
Matt Hollis	Werris Creek Coal - Environmental Superintendent
Kelsy Sammons	Whitehaven Coal - Environmental Officer
Clr lan Lobsey OAM	Councillor – Liverpool Shire Council
Lindsay Bridge	Community Representative
James O'Brien	Community Representative
Apologies	
Craig Sullivan	Werris Creek Coal - Operations Manager
Andrew Garrett	Whitehaven Coal – General Manager Community
	Engagement
Mike Lomax	Community Representative
Noel Taylor	Community Representative
Col Stewart OAM	Community Representative
Moved Matt Hollis, secon	ded Lindsay Bridge, THAT the apologies be accepted.
CARRIED	

# 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 land, waters, 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

. The meeting noted that the minutes of the previous meeting held on 14 July 2021 were approved on 11 August 2021.

# 5 Matters Arising - Nil

6 Environmental Monitoring Report from 1 June to 30 September 2021 Matt Hollis went through the Report with the following comments:

# 1.0 Meteorology

The prevailing direction was predominantly from the north to north-west over the quarter and the monthly rainfall total for June-August was well above the historical average June to August and about average for September.

# 2.0 Air Quality

- 2.1.1 Monitoring Data Results OK for the period
- 2.2.2 August had high dust an anomalous deposited dust result for single gauge in Werris Ck (Kurrara St) considered to be localised dust source and further analysis indicated high organic content (vegetable / insect matter) rather than dust indicating that the reported result was unrelated to activities at the Werris Creek Coal Mine. DG62 site was vandalised during August and therefore no result captured.

# 4.2 Blast Complaints

There were three (3) blast complaints, but all blast results were compliant during the reporting period.

- **Question** Is there a maximum depth for blasting and does wind come into the reckoning when preparing a blast?
- Answer Yes, there is a maximum depth the aim is to blast to the top of the basal coal seam (G seam). Typical blast depth is 15 - 20m depending on strip geology. Blasting only undertaken with wind not in south westerly direction (blowing towards Werris Ck Town) and below 8.0m/s.

Matt also noted that the company has recently changed blasting product suppliers – new contract is with Anaex. This contract will run through to the end of production at Werris Creek Mine.

# 5.0 Water

5.1.2 Seasonal normal – Both Werrie Basalt and Quipolly Alluvium groundwater aquifers continue to recover. Currently not pumping out of in pit – Likely to recommence early 2022 calendar year to permit mining of basal coal seams in Strip 20.

# 7 General Business

# 7.1 Life of Mine Up-date

Mine has been operating since 2005 – anticipate coal production to end in Mid 2024 plus a further two years (approximately) to rehabilitate the site for final closure.

# 7.2 Equipment

Production fleet (excavators and Haul trucks) will be progressively shut down over next few years relative to available work area and coal reserves. Extensive workforce management to be undertaken with respect of transfer to other Whitehaven projects or other opportunities dependent on the individual workers preferences.

# 7.3 WCC Lodgement of Modification to existing approval (MOD5)

Werris Creek Coal are currently preparing an application for a modification to the current project approval (MOD5). Details on the proposed MOD5 include:

• Relates to a change in the final landform and a change in parts of the proposed final land use.

- Whitehaven Coal has submitted the scoping letter to NSW Planning (DPIE) and have had some early engagement with DPIE and certain agencies regarding an approval pathway through the planning system for the proposed Modification.
- Still working through specialist assessments and looking to submit an application / Modification report late 2021, or early 2022.
- Further updates to be provided to CCC chair as they become available.

# 7.4 WHC Sponsorship and Donations Process

Changes to the process for administering and assessing the WHC community investment fund.

Changes include:

- A community-based Committee has been established to administer the four application rounds. The Committee Members include an Indigenous representative, as well as one community representative and one Council representative each from each LGA Whitehaven operate in:
  - Narrabri Local Government Area
  - Gunnedah Local Government area
  - Liverpool Plains Local Government area.
- A community-based Committee has been established to administer the four application rounds. The Committee Members include an Indigenous representative, as well as one community representative and one Council representative each from:
- The Committee will review requests for sponsorships and donations against the • criteria outlined in our guidelines and a statement of our contributions will be published on an annual basis.
- This new approach will continue Whitehaven's tradition of supporting both longer-term partnership funding and one-off donations in the local community.
- The criteria for funding, information required for the application itself, and total amount of funds available is not changing. With these set timeframes, and greater community involvement, this new process will provide all potential applicants greater certainty and ability to plan.

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	

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

# Meeting closed at 10:40AM

Michael J. Silver OAM Independent Chairperson 6 December 2021

Copy to all Committee Members The Minutes also posted on the Whitehaven Coal Website LPSC WCC



# WERRIS CREEK COAL PTY LTD

# QUARTERLY ENVIRONMENTAL MONITORING REPORT

# June - September 2021

This Environmental Monitoring Report covers the period 1<sup>st</sup> June to 30<sup>th</sup> September 2021 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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# 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 June-August 2021 was above the historical average and just slightly higher in September 2021. Directional wind data, presented in the wind-rose figures below, indicate the prevailing wind direction was predominantly from the north to north-west in June through September 2021.

Month	Rainfall (mm)						
Wolten	Onsite	Historical Average	2021 Total				
June 2021	136.6	64.2	514.2				
July 2021	104.4	42.5	618.6				
August 2021	41.8	33.7	660.4				
September 2021	42.6	42.1	703.0				



#### 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 ( $\mu$ g/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 rour months are provided in the table below.									
						<b>2021 AVG</b> (μg/m³)	CRITERIA	(µg/m³)	
MONITORING LOCATION	24Hr Maximum (μg/m³)	JUN <b>2021</b> (μg/m³)	JOL 2021 (μg/m³)	<b>AUG</b> <b>2021</b> (μg/m³)	<b>2021</b> (μg/m³)		Annual	24hr	
PM <sub>2.5</sub> – TEOM92 "Werris Creek"	18.0	4.0	5.7	6.8	5.7	5.4	-	-	
PM <sub>10</sub> – TEOM92 "Werris Creek"	19.7	6.0	10.1	11.0	10.4	9.7	30	50	
PM <sub>10</sub> – HVP20 "Tonsley Park"	32.4	3.2	17.9	11.7	13.2	11.7	30	50	
PM <sub>10</sub> - HVP1 "Escott"	30.2	2.1	4.2	4.9	10.1	6.6	30	50	
PM <sub>10</sub> – HVP11 "Glenara"	40.7	9.9	8.3	8.5	10.4	9.4	30	50	
PM <sub>10</sub> – HVP98 "Kyooma"	25.0	3.1	3.9	5.7	9.3	5.9	30	50	
TSP – HVT98 "Kyooma"	81.9	7.7	9.9	25.9	29.7	16.4	90	-	

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

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 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 four months are provided in the table below.

MONITORING LOCATION	JUN 2021 (g/m²/month)	<b>JUL 2021</b> (g/m²/month)	<b>AUG 2021</b> (g/m²/month)	<b>SEP 2021</b> (g/m²/month)	2021 AVERAGE (g/m2/month)	Annual Criteria (g/m²/month)
DG1 "Escott"	0.4	0.2	0.2	0.5	0.5	4.0
DG2 "Cintra"	4.3	1.5	1.6	5.3	4.5	4.0
DG3 "Eurunderee"	1.6	1.9	0.1	1.0	1.3	4.0
DG5 "Railway View"	1.3	2.0	0.9	2.1	2.4	4.0
DG9 "Marengo"	0.6	0.7	0.2	0.7	0.7	4.0
DG11 "Glenara"	0.8	0.7	0.3	2.0	0.9	4.0
DG14 "Greenslopes"	0.8	0.3	0.1	0.7	0.6	4.0
DG15 "Plain View"	0.8	0.9	0.1	0.7	0.6	4.0
DG17 "Woodlands"	1.6	1.0	0.1	0.8	1.1	4.0
DG20 "Tonsley Park"	2.3	0.5	0.1	2.7	1.3	4.0
DG22 "Mountain View"	0.4	0.1	0.2	0.8	0.9	4.0
DG24 "Hazeldene"	2.1	1.0	0.2	0.5	1.0	4.0
DG34 8 Kurrara St	0.7	1.1	16.6	0.6	7.6	4.0
DG62 Werris Creek South	0.4	0.3	DAMAGE	0.4	0.5	4.0
DG92 Werris Creek Centre	0.3	0.1	0.1	0.5	0.4	4.0
DG98 "Kyooma"	NS	NS	NS	NS	NS	4.0
DG101 "Westfall"	0.4	0.3	1.3	1.0	0.6	4.0
DG103 West Street	2.0	1.6	0.4	1.0	1.2	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) which had high results in June and September 2021 and a rolling average above criteria. Deposited dust levels remained low at nearby gauges, indicating a localised source of dust, related directly to nearby mining activities at Werris Creek Coal Mine. DG2 (Cintra) deposition guage is located within the Mining Lease immediately adjacent to an active mining area. Cintra is a Whitehaven owned property.
- 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**.

Location		Day dB(A) L <sub>eq</sub>	Criteria dB(A) L <sub>eq</sub>	Evening/Night	Criteria dB(A) L <sub>eq</sub>
	Location	15min	15min	dB(A) L <sub>eq 15min</sub>	15min
Α	<b>"Rosehill"</b> R5	24#	35	25#	35
В	West Quipolly (R7*, R8*,R9* & R22*)	Inaudible#	40	Inaudible#	40
С	Central Quipolly (R10*,R11*)	30#	40	30#	40
D	<b>"Hazeldene"</b> R24	Inaudible#	37	23#	37
Е	"Railway Cottage" R12	24#	38	25#	38
F	<b>"Talavera"</b> R96	23#	38	25#	37
Н	<b>"Kyooma"</b> R98*	Inaudible#	40	31#	40
I.	Kurrara St, WC R57	Inaudible#	35	Inaudible	35
J	Coronation Ave, WC	Inaudible#	35	Inaudible#	35
K	Alco Park (R21*)	Inaudible	40	24#	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) Leg 15min while R9 is 37 dB(A) Leg 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

#### 21st Wednesday, July 2021

Location			Criteria dB(A) L <sub>eq</sub>	Evening/Night	Criteria dB(A) L <sub>eq</sub>
	Location	Day UD(A) Leq 15min	15min	dB(A) L <sub>eq 15min</sub>	15min
А	<b>"Rosehill"</b> R5	24	35	Inaudible#	35
В	West Quipolly (R7*, R8*,R9* & R22*)	25	40	Inaudible#	40
С	Central Quipolly (R10*,R11*)	24	40	Inaudible	40
D	<b>"Hazeldene"</b> R24	23	37	Inaudible	37
Е	"Railway Cottage" R12	27	38	Inaudible	38
F	<b>"Talavera"</b> R96	22	38	28	37
Н	<b>"Kyooma"</b> R98*	Inaudible	40	34	40
Ι	Kurrara St, WC R57	Inaudible#	35	30	35
J	Coronation Ave, WC	Inaudible	35	Inaudible	35
К	Alco Park (R21*)	28#	40	24	40
L	West St, WC (R103)	Inaudible#	35	Inaudible	35
1.10		de la state de <mark>Mallación Bala</mark>			

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 guantified

#### 30th Monday, August 2021

Location		Day dB(A) L <sub>eq</sub> Criteria dB(A) L <sub>eq</sub> E		Evening/Night dB(A)	Criteria dB(A) L <sub>eq</sub>	
		15min	15min	L <sub>eq 15min</sub>	15min	
Α	<b>"Rosehill"</b> R5	22	35	24	35	
В	West Quipolly (R7*, R8*,R9* & R22*)	Inaudible#	40	26	40	
С	Central Quipolly (R10*,R11*)	Inaudible#	40	25	40	
D	<b>"Hazeldene"</b> R24	Inaudible	37	Inaudible	37	
Е	"Railway Cottage" R12	Inaudible	38	Inaudible	38	
F	<b>"Talavera"</b> R96	21	38	27	37	
Н	<b>"Kyooma"</b> R98*	23#	40	26	40	
Ι	Kurrara St, WC R57	Inaudible	35	Inaudible	35	
J	Coronation Ave, WC	Inaudible	35	Inaudible#	35	
К	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

#### 16th Thursday, September 2021

Location		Day dB(A) L <sub>eq</sub> Criteria dB(A) L <sub>eq</sub> Ev		Evening/Night dB(A)	Criteria dB(A) L <sub>eq</sub>
	Location	15min	15min	L <sub>eq 15min</sub>	15min
А	<b>"Rosehill"</b> R5	Inaudible	35	22	35
В	West Quipolly (R7*, R8*,R9* & R22*)	Inaudible	40	24	40
С	Central Quipolly (R10*,R11*)	Inaudible	40	25	40
D	"Hazeldene" R24	Inaudible	37	Inaudible	37
Е	"Railway Cottage" R12	Inaudible	38	Inaudible	38
F	<b>"Talavera"</b> R96	23	38	26	37
н	<b>"Kyooma"</b> R98*	25	40	24	40
1	Kurrara St, WC R57	Inaudible	35	Inaudible	35
J	Coronation Ave, WC	Inaudible	35	Inaudible	35
К	Alco Park (R21*)	Inaudible	40	22	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 20 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 four months are provided below.

JUN 2021		"Glena	ara" 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	y Average	0.13	100.1	1.06	99.2	0.49	103.1	0.35	101.3
Monthly Maximum		0.23	103.0	1.98	102.4	0.76	111.9	0.79	107.8
Annual Average		0.11	99.6	0.68	99.8	0.45	101.3	0.29	100.3
Criteria		5	115	5	115	5	115	5	115
% >115dB(L)	0.00%	1.54%	0.00%	0.00%	0.00%	1.54%	0.00%	0.00%	0.00%
or 5mm/s	0.00%	3.33%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%

JUL 2021		"Glena	ira" R11	"Куоо	ma" R98	Werri Sout	s Creek :h R62	Werris Creek Mid R92	
		mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)	mm/s	dB(L)
Monthl	y Average	0.15	100.8	0.85	103.6	0.49	106.0	0.33	102.9
Monthly	Maximum	0.22	107.6	1.72	107.9	0.55	115.0	0.35	111.7
Annual Average		0.12	99.7	0.71	100.3	0.45	102.0	0.30	100.7
Criteria		5	115	5	115	5	115	5	115
% >115dB(L)	0.00%	1.59%	0.00%	0.00%	0.00%	1.59%	0.00%	0.00%	0.00%
or 5mm/s	0.00%	2.94%	0.00%	0.00%	0.00%	2.94%	0.00%	0.00%	0.00%

AUG 2021		"Glena	ara" R11	"Куоо	ma" R98	Werri Sout	s Creek h 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	98.3	1.05	100.0	0.63	100.0	0.50	99.7
Monthly	Maximum	0.16	106.3	1.45	105.7	1.14	105.8	1.13	100.9
Annual	Average	0.12	99.6	0.75	100.3	0.47	101.8	0.32	100.6
Cri	teria	5	115	5	115	5	115	5	115
% >115dB(L)	0.00%	1.61%	0.00%	0.00%	0.00%	1.61%	0.00%	0.00%	0.00%
or 5mm/s	0.00%	2.56%	0.00%	0.00%	0.00%	2.56%	0.00%	0.00%	0.00%
		"Glana	ara" B11	"Kyoo	ma" 898	Werri	s Creek	Werris C	reek Mid
SEP	2021	"Glena	ara" R11	"Куоо	ma" R98	Werri Sout	s Creek h R62	Werris C R	reek Mid 92
SEP	2021	"Glena mm/s	ara" <b>R11</b> dB(L)	<b>"Kyoo</b> mm/s	ma" R98 dB(L)	Werri Sout mm/s	s Creek h R62 dB(L)	Werris C R mm/s	reek Mid 92 dB(L)
SEP	2021 y Average	<b>"Glena</b> <i>mm/s</i> 0.13	ara" <b>R11</b> <i>dB(L)</i> 101.8	<b>"Kyoo</b> <i>mm/s</i> 1.18	ma <b>" R98</b> <i>dB(L)</i> 103.1	Werri Sout mm/s 0.52	s Creek h R62 <i>dB(L)</i> 102.9	Werris C R mm/s 0.33	reek Mid 92 <i>dB(L)</i> 99.5
SEP Monthly Monthly	2021 y Average Maximum	<b>"Glena</b> <i>mm/s</i> 0.13 0.15	ara" <b>R11</b> <i>dB(L)</i> 101.8 106.9	<b>"Kyoo</b> <i>mm/s</i> 1.18 2.72	ma" R98 <i>dB(L)</i> 103.1 106.4	Werri Sout <i>mm/s</i> 0.52 0.72	s Creek h R62 dB(L) 102.9 107.2	Werris C R mm/s 0.33 0.44	reek Mid 92 <i>dB(L)</i> 99.5 104.2
SEP Monthly Monthly Annual	2021 y Average Maximum Average	<b>"Glena</b> <i>mm/s</i> 0.13 0.15 0.12	ara" R11 <i>dB(L)</i> 101.8 106.9 99.8	<b>"Kyoo</b> <i>mm/s</i> 1.18 2.72 0.80	ma" R98 <i>dB(L)</i> 103.1 106.4 100.6	Werri Sout mm/s 0.52 0.72 0.48	s Creek h R62 dB(L) 102.9 107.2 101.9	Werris C R mm/s 0.33 0.44 0.32	reek Mid 92 <i>dB(L)</i> 99.5 104.2 100.5
SEP Monthly Monthly Annual Cri	2021 y Average Maximum Average teria	"Glena mm/s 0.13 0.15 0.12 5	<i>dB(L)</i> 101.8 106.9 99.8 115	<b>"Kyoo</b> <i>mm/s</i> 1.18 2.72 0.80 5	ma" R98 <u>dB(L)</u> 103.1 106.4 100.6 115	Werri Sout mm/s 0.52 0.72 0.48 5	s Creek h R62 dB(L) 102.9 107.2 101.9 115	Werris C R mm/s 0.33 0.44 0.32 5	reek Mid 92 dB(L) 99.5 104.2 100.5 115
SEP Monthly Monthly Annual Cri % >115dB(L)	2021 y Average Maximum Average teria 0.00%	"Glena mm/s 0.13 0.15 0.12 5 1.61%	<i>dB(L)</i> 101.8 106.9 99.8 115 0.00%	<b>"Kyoo</b> mm/s 1.18 2.72 0.80 5 0.00%	ma" R98 dB(L) 103.1 106.4 100.6 115 0.00%	Werri Sout mm/s 0.52 0.72 0.48 5 1.61%	s Creek h R62 dB(L) 102.9 107.2 101.9 115 0.00%	Werris C R mm/s 0.33 0.44 0.32 5 0.00%	reek Mid 92 dB(L) 99.5 104.2 100.5 115 0.00%
SEP Monthly Monthly Annual Cri % >115dB(L) or 5mm/s	2021 y Average Maximum Average teria 0.00% 0.00%	"Glena mm/s 0.13 0.15 0.12 5 1.61% 2.22%	<i>dB(L)</i> 101.8 106.9 99.8 115 0.00% 0.00%	<b>"Kyoo</b> mm/s 1.18 2.72 0.80 5 0.00% 0.00%	ma" R98   dB(L)   103.1   106.4   100.6   115   0.00%   0.00%	Werri Sout mm/s 0.52 0.72 0.48 5 1.61% 2.22%	s Creek h R62 dB(L) 102.9 107.2 101.9 115 0.00% 0.00%	Werris C R mm/s 0.33 0.44 0.32 5 0.00% 0.00%	reek Mid 92 dB(L) 99.5 104.2 100.5 115 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 were two (2) 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/bores and piezometers in the key aquifers surrounding WCC including Werrie Basalt (next to WCC and further afield) and Quipolly Creek Alluvium. Groundwater level surveys were completed between 8-27 July 2021 and also 20-28 September 2021. Groundwater monitoring locations are identified in Figure 4.

# 5.1.1 Monitoring Data Results

A summary of groundwater monitoring results has been provided below.

		July-21		Septem		Septembe	nber-21	
	Site	mbgl	%			Site	mbgl	%
	MW1	Drv				MW1	Dry	
0	MW2	50.88	3%		ő	MW2	49.26	3%
۲ N	MW3	19.73	3%		∎r <	MW3	19.18	3%
nea	MW4B	19.36	2%		nea	MW4B	18.62	4%
altı	MW5	11.78	8%		salt	MW5	11.40	3%
Bas	MW6	16.35	1%		Bas	MW6	16.21	1%
rie I	MW27*	55.25	0%		rie	MW27*	56.45	-2%
Ven	MW36A	15.93	1%		Ner	MW36A	16.80	-5%
	MW36B	15.92	1%		_	MW36B	16.79	-5%
	MW8*	14.37	7%			MW8*	12.05	19%
	MW10	10.05	5%			MW10	8.87	13%
	MW14	12.63	0%			MW14	13.03	-3%
	MW17B*	12.03	8%			MW17B*	10.60	13%
salt	MW19A*	Pump over bore			salt	MW19A*	Pump over bore	
Ba	MW20*	21.64	3%		Ba	MW20*	20.70	5%
rrie	MW38A	No access			rrie	MW38A	8.55	2%
We	MW38B*	No access			We	MW38B*	8.92	2%
	MW38C*	21.75	3%			MW38C*	8.55 8.92 21.68	0%
	MW38E*	No access				MW38E*	8.47	20%
	MW41	6.91	18%			MW41	5.57	24%
	MW43	5.38	28%			MW43	4.76	13%
	MW24A*	13.11	7%		#1	MW24A*	12.25	7%
#'	MW29*	10.15	5%		#	MW29*	10.03	1%
	MW12*	8.43	6%			MW12*	7.68	10%
	MW13*	4.60	37%			MW13*	4.60	0%
	MW13B*	3.48	26%			MW13B*	3.14	11%
	MW13D*	3.99	21%			MW13D*	4.46	-11%
	MW15*	No access				MW15*	No access	
	MW16*	5.25	32%			MW16*	4.55	15%
E	MW17A*	4.97	23%		Б	MW17A*	3.84	29%
ivi	MW18A*	4.93	22%		uvi	MW18A*	3.80	30%
All	MW21A*	9.24	7%		AII A	MW21A*	6.47	43%
olly	MW22A*	4.86	49%		llo	MW22A*	4.58	6%
luip	MW22B*	4.80	57%		Suip	MW22B*	4.71	2%
0	MW23A*	3.33	15%		0	MW23A*	3.55	-6%
	MW23B*	3.76	13%			MW23B*	3.87	-3%
	MW26B*	7.76	11%			MW26B*	5.61	38%
	MW28A*	8.10	19%			MW28A*	6.05	34%
	MW32*	Pump over bore				MW32*	Pump over bore	
	MW40	6.92	18%			MW40	5.58	24%
	MW42	5.31	29%			MW42	4.69	13%
#²	MW34*	9.25	7%		#²	MW34*	9.26	0%

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

# 5.1.2 Discussion - Compliance / Non-Compliance

Measured groundwater levels in the Werrie Basalt and Quipolly Alluvium aquifer indicate an overall increase in water levels during July and September 2021, 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 24<sup>th</sup> and 30<sup>th</sup> August 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.

#### 24<sup>th</sup> & 30<sup>th</sup> August 2021

Site	рН	EC	TSS	O&G	Change from Previous Quarter or General Comments				
	ONSITE								
SB2	Dry	Dry	Dry	Dry	Previously wet and now dry				
SB9	6.62	326	32	<5	Previously dry and now wet (low level)				
SB10	Dry	Dry	Dry	Dry	Remained dry				
SB18	8.38	367	103	<5	Previously dry and now wet (low level)				
	OFFSITE								
QCU	7.51	658	44	<5	Previously dry and now flowing				
QCD	7.93	924	7	<5	Previously only a trickle and now flowing				
WCU	8.17	850	246	<5	Remained flowing				
WCD	8.19	1140	62	<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 24<sup>th</sup> and 30<sup>th</sup> August 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 was one uncontrolled discharge event during June 2021 following above average rainfall during the month. One controlled discharge also occurred in June 2021.

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

Sample Date	Dam	рН	EC	TSS	O&G	Compliance	Туре	5 Day Rain (mm)
11/06/2021	<b>SB10</b> (EPA14)	7.5	220	76	<5	Yes - TSS Ok because rainfall >39.2mm	Wet weather - uncontrolled	76.7
11/06/2021	WCU (WPA23)	8.0	260	70	<5	N/A	Werris Creek	76.7
11/06/2021	WCD (WPA24)	8.0	220	43	<5	N/A	Werris Creek	76.7
15/06/2021	<b>SB3</b> (EPA10)	8.2	390	4	9	Yes	Controlled	N/A
15/06/2021	<b>SB11</b> (EPA12)	7.9	600	10	6	Yes	Controlled	N/A
16/06/2021	<b>SB10</b> (EPA14)	8.0	420	6	<5	Yes	Controlled	N/A
16/06/2021	SB18 (EPA32)	8.2	460	11	<5	Yes	Controlled	N/A
15/06/2021	QCU (EPA25)	8.2	300	7	<5	Yes	Controlled	N/A
15/06/2021	<b>QCD</b> (EPA26)	8.0	330	8	<5	Yes	Controlled	N/A
16/06/2021	WCU (WPA23)	8.1	460	9	<5	Yes	Controlled	N/A
16/06/2021	WCD (WPA24)	8.1	700	9	<5	Yes	Controlled	N/A
Crite	ria	65-85	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 three (3) complaints received during the period which are summarised below.

#	Date	Issue	Complaint	Investigation	Action Taken
631	4/06/2021	Blast	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	No further follow-up actions
632	26/07/2021	Blast	Phone to EO	Complainant advised they felt the blast at their residence. Doors and windows rattled. Requested results via email.	EO confirmed blast was within compliance limits
633	26/07/2021	Blast	Phone to EO	Complainant advised they wished to advise the mine that the vibration from the blast could be felt in at their premises.Noted indoor wind chime moved.	EO confirmed blast was within compliancelimits

#### 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 Werris Creek Coal