



WERRIS CREEK COAL PTY LTD

ENVIRONMENTAL MONITORING

REPORT

May, June & July 2010

This Environmental Monitoring Report covers the period 1st May 2010 to 31st July 2010 for the Werris Creek No.2 Coal Mine Community Consultative Committee.

The report includes environmental monitoring results from the on-site Weather Station, Air Quality, Noise (operational and blasting), Surface and Ground Water together with complaints received and general detail covering site environmental matters.

Note: Monitoring results with any non compliance of monitoring criteria are highlighted in **yellow**.

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1.0 METEOROLOGY

1.1 WEATHER STATION AVAILABILITY

Weather data was available for 100% of May 2010.

Weather data was available for 100% of June 2010.

Weather data was available for 97.4% of July 2010 due to a 14 hour time correction on weather station, no data missed.

2.0 AIR QUALITY

2.1 HVAS (PM10)

High Volume Air Sample (HVAS) monitoring for particulate matter less than 10 micron in size (PM10) and total suspended particulate (TSP) matter is conducted at five sites listed below.

- WCHV1 – “Cintra” PM10
- WCHV2 – “Tonsley Park” PM10
- WCHV3 – “Railway View” PM10
- WCHV4 – “Eurunderee” PM10
- WCHV5 – “Railway View” TSP

Sampling is scheduled for 24 hours every 6 days in accordance with DECCW (formerly EPA) guidelines and results are reported as micro grams per cubic meter ($\mu\text{g}/\text{m}^3$) of air sampled.

2.1.1 Monitoring Data Results

A table of the monthly average results are provided below, however see HVAS monitoring data under **Appendix 1** for individual results.

Monitor Location	May ($\mu\text{g}/\text{m}^3$)	June ($\mu\text{g}/\text{m}^3$)	July ($\mu\text{g}/\text{m}^3$)	Criteria ($\mu\text{g}/\text{m}^3$)
Cintra PM10	22.0	8.0	15.2	30
Tonsley Park PM10	12.4	6.2	15.0	30
Railway View PM10	11.0	7.2	10.0	30
Eurunderee PM10	12.0	4.2	13.6	30
Railway View TSP	36.4	11.8	18.0	90

2.1.2 Discussion - Compliance / Non Compliance

All 6 day PM10 24 hour average results were below the short term 24 hour impact criteria of $50\mu\text{g}/\text{m}^3$.

All PM10 sites monthly averages are below the long term impact annual criteria of $30\mu\text{g}/\text{m}^3$.

The TSP site is below the long term impact annual criteria of $90\mu\text{g}/\text{m}^3$.

2.2 DEPOSITED DUST

2.2.1 Monitoring Data Results

A table of the monthly average results are provided below; however **Appendix 2** has more information on Deposited Dust Monitoring Results.

Monitor Location	May ($\text{g}/\text{m}^2/\text{month}$)	June ($\text{g}/\text{m}^2/\text{month}$)	July ($\text{g}/\text{m}^2/\text{month}$)	Criteria ($\text{g}/\text{m}^2/\text{month}$)
WC2 - Cintra	1.2	2.1	0.7	3.6
WC5 – Railway View	1.0	1.6	0.8	3.6
WC7 – Tongsley Park	1.0	1.2	0.7	3.6
WC8 – Plain View	c5.1*	2.0	0.5	3.6
WC9 - Marengo	0.4	2.0	0.4	3.6

c - indicates sample is contaminated from a Non-Werris Creek Coal dust source and is not counted in the average

* - sample contaminated with organic matter from non-mining source (i.e bird droppings and insects)

2.2.2 Discussion - Compliance / Non Compliance

All dust deposition gauges were below the monthly amenity criteria of 3.6g/m²/month. However there was one sample for Plain View during May 2010 that has been excluded due to excessive organic material contamination.

2.3 AIR QUALITY COMPLAINTS

No complaints were received regarding dust for the period.

3.0 NOISE

3.1 OPERATIONAL NOISE

Monthly attended noise monitoring undertaken at the following locations:

- "Almawillee"
- "Glenara"
- "Marengo" (project related)
- "Tonsley Park"
- "Cintra" (project related)
- "Fletcher"

Three sets of measurements are made at each location; one during the day time period (before 6pm); one during the evening period (from 6pm – 10pm) and one at night (after 10pm).

The noise emission criterion for WCC is 35dB(A) unless otherwise subject to a current, legally binding agreement between WCC and the occupant of the affected residential property.

WCC environmental licence conditions indicate that compliance with noise emission criteria is not applicable under atmospheric conditions where wind speeds are higher than 3m/s and/or there is temperature inversion of greater than +3°C/100m.

3.1.1 Monitoring Data Results

Three summary tables of the noise results from May, June and July are provided below for only Werris Creek Coal operations (not ambient noise); however see Monthly Noise Reports under **Appendix 3** for more detail.

May: 15th June 2010

Location	Day	Evening	Night
Almawillee	Inaudible	36 [#]	37 [#]
Glenara	Inaudible	34 [#]	32 [#]
Cintra*	38*	40* [#]	39* [#]
Marengo	Inaudible*	24* [#]	30* [#]
Tonsley Park	Inaudible	Inaudible [#]	Inaudible [#]
Fletcher	Inaudible	Inaudible [#]	31 [#]
Limit	35	35	35

* - Project Related Property; # - Temperature Inversion >3°C/100m

June: 24th June 2010

Location	Day	Evening	Night
Almawillee	Inaudible	35 [#]	30 [#]
Glenara	Inaudible	39 [#]	32 [#]
Cintra*	35*	43* [#]	32* [#]
Marengo	Inaudible*	Inaudible* [#]	25* [#]
Tonsley Park	Inaudible	37 [#]	30 [#]
Fletcher	Inaudible	36 [#]	33 [#]
Limit	35	35	35

* - Project Related Property; # - Temperature Inversion >3°C/100m

July: 26th July 2010

Location	Day	Evening	Night
Almawillee	Inaudible	28 [#]	Inaudible [#]
Glenara	Inaudible	<25 [#]	Barely audible [#]
Cintra*	36*	34* [#]	36* [#]
Marengo	Inaudible*	Inaudible* [#]	Inaudible* [#]
Tonsley Park	33	<30 [#]	<25 [#]
Fletcher	Inaudible	Inaudible [#]	30 [#]
Limit	35	35	35

* - Project Related Property; # - Temperature Inversion >3°C/100m

3.1.2 Discussion - Compliance / Non Compliance

There was no noise compliance exceedances for May, June and July. However, there were elevated noise results recorded due to Werris Creek Coal's operations under adverse environmental conditions (temperature inversions >3°C/100m) during the May and June monitoring period at the privately owned residences of Almawillee and Glenara. No complaints were received on either occasion.

Werris Creek Coal's noise performance under "normal" meteorological conditions is regularly within our compliance criteria. However, Werris Creek Coal recognizes that under adverse conditions such as temperature inversions that the noise from operations can be elevated above 35dBA. Even though under adverse meteorological conditions the noise criteria do not apply, Werris Creek Coal have purchased a portable continuous noise monitor to improve management systems by providing a real time 24 hours a day noise performance feedback to operations and environment personnel onsite. Werris Creek Coal have implemented a new "Noise Management and Mitigation" procedure and have trained all Open Cut Examiners on how to respond to an alarm generated over the 2 Way radio system by the continuous noise monitor if low frequency noise is measured continuously over 35dBA.

As an intermediate solution to addressing elevated noise levels from temperature inversions, Werris Creek Coal has continued the hire of the current continuous noise monitor but relocated the unit to "Mountain View" property on Payne's Road since 15th July 2010, approximately 100m south of "Almawillee" and 1km west of "Glenara".

3.2 NOISE COMPLAINTS

There were three complaints related to noise from Werris Creek Coal operations; two from "Hazeldene" property residents on the 29th and 30th July 2010 and one from "Greenslopes & Banool" residents on 2nd July 2010. Specific actions taken in relation to these complaints are outlined in **Section 6**. Additional noise management strategies being implemented to address operational noise is discussed above in **Section 3.1.2**.

4.0 BLAST

Blast monitoring is undertaken at Glenala, Marengo, Tonsley Park and Cintra. Werris Creek Coal has made an application to DECCW and DoP to modify the Blast Monitoring Program to include a new monitoring location behind Kurrara Street, Werris Creek. 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). During the period a total of 36 blasts were fired by the blasting contractor, Orica Mining Services.

4.1 BLAST MONITORING

4.1.1 Monitoring Data Results

A summary table of blasting results from May, June and July are provided below; however see blasting results database under **Appendix 4** for more detail.

Month	# of Blasts	Overpressure		Vibration	
		Max dB(L)	Location	Max mm/s	Location
May 2009	13	110.2*	Cintra	1.49*	Cintra
June 2009	12	118.0*	Cintra	1.60*	Cintra
July 2009	11	117.7*	Cintra	1.50*	Cintra
TOTAL/MAX	36	118.0*	Cintra	1.60*	Cintra

* Indicates project related properties not subject to blasting criteria

4.1.2 Discussion - Compliance / Non Compliance

All blasts complied with license limits with only two blast overpressure results above 115dB(L) at the project related "Cintra" property and no vibration greater than 5mm/s. A number of blast monitors did not trigger during the period due to the vibration for the blast being below the trigger level of the monitor. No blasts were missed.

4.2 BLAST COMPLAINTS

There were four complaints related to blasting from Werris Creek Coal operations. Three were from a Kurrara Street resident on the 15th June, 7th and 26th July 2010. This residence on the southern edge of Werris Creek is now being monitored for each blast. The fourth blasting complaint was from an Anzac Parade resident on the 7th July 2010. Specific actions taken in relation to these complaints are outlined in **Section 6**.

5.0 WATER

Groundwater monitoring was undertaken on the 19th and 20th May 2010. Surface water monitoring was undertaken on the 11th May 2010. There were three surface water discharge events during the period.

5.1 GROUND WATER

5.1.1 Monitoring Data Results

Brief summary of groundwater monitoring results is provided below with detailed monitoring data outlined in **Appendix 5**.

Type	Site	pH	EC	Dip Level	Change
Groundwater – Quipolly Down	MW7	8.2	479	4.55	Decrease in water level but within historical range
Groundwater – Quipolly Up	MW12	8.2	488	9.52	Decrease in water level but within historical range
Groundwater – Basalt South	MW5	7.5	4080	9.29	Decrease in water level but within historical range
Groundwater – Basalt North	MW14	8.1	1830	16.72	Decrease in water level but within historical range

5.1.2 Discussion - Compliance / Non Compliance

All groundwater monitoring results were found to be within historical range of results and in accordance with WCC Site Water Management Plan response protocol. However, there has been a recent decreasing trend in the water levels for all bores being monitored by WCC. Geoterra (May 2010) undertook the 2009-2010 Annual Surface Water and Groundwater Monitoring Review indicated that the recent lowering of the water tables in the Werrie Basalt and Quipolly Alluvium aquifers was a direct result of reduced recharge from rainfall during the period.

5.2 SURFACE WATER

5.2.1 Monitoring Data Results

Summary of groundwater monitoring results is provided below with detailed monitoring data outlined in **Appendix 6**.

Type	Site	pH	EC	TSS	O&G	Change
Surface water – Sediment Basin	SB2	8.8	457	<1	<5	No change from February
Surface water – Sediment Basin	SB9	8.1	180	120	<5	No change from February
Surface water – Sediment Basin	SB10	-	-	-	-	Dam drier out from February
Surface water – Void Water	VWD1	7.9	1220	148	<5	Increase in EC & TSS from February
Surface water – Void Water	VWD2	7.9	1200	280	<5	Increase in EC & TSS from February

5.2.2 Discussion - Compliance / Non Compliance

Onsite surface water monitoring results were within the criteria of Site Water Management Plan response plan.

5.3 SURFACE WATER DISCHARGES

5.3.1 Monitoring Data Results

Between the 5th and 10th May 2010, WCC undertook a controlled surface water discharge with 1.2ML pumped out of SB9. Another controlled surface water discharge was undertaken between 12th and 17th July with 1.1ML pumped out of SB9. Also in July, a wet weather discharge occurred from SB2, SB9 and SB10 after a 5 day rainfall total of 55.2mm from 28th July 2010 to 1st August 2010 was recorded at WCC. A summary of discharge monitoring results is provided below with detailed monitoring data outlined in **Appendix 7**.

Date	Site	pH	EC	TSS	O&G	Compliance
5/5/2010	SB9	7.98	173	46	<5	Compliant – Water quality within criteria
12/7/2010	SB9	8.02	290	13	<5	Compliant – Water quality within criteria
28/7/2010	SB2	8.33	393	17	<5	Compliant – Rain event >39mm and water quality within criteria
28/7/2010	SB9	7.64	268	22	<5	Compliant – Rain event >39mm and water quality within criteria
28/7/2010	SB10	7.92	199	132	<5	Compliant – Rain event >39mm so water quality criteria do not apply
Criteria		8.5	N/A	50	10	

5.3.2 Discussion - Compliance / Non Compliance

All surface water discharge results were within WCC Environmental Protection Licence 12290 criteria and there were no impacts on water quality monitored in Quipolly and Werris Creeks' as a result of the discharge events.

5.4 WATER COMPLAINTS

There were three complaints related to groundwater levels falling in Quipolly Alluvium from three separate complainants – a Wadwells Lane resident, “Hazeldene” property resident and another Paynes Road land owner. Since the first complaint was received in May, WCC has increased the frequency of groundwater level monitoring from quarterly to monthly and also increased the number of monitoring locations from 14 to 33. The increase in the monitoring network will provide WCC with a better resolution of trends of the groundwater system to determine if the mine is having any impacts on groundwater levels within the Quipolly Alluvium aquifer. Specific actions taken in relation to these complaints are outlined in **Section 6**.

6.0 COMPLAINTS SUMMARY

There were ten complaints received during the reporting period and are summarized and discussed below.

Date	#	Complaint
20 th May 2010	57	Complaint from property owner along Quipolly Creek regarding an alleged drop in the water level of their bore as a result of WCC operations. WCC are continuing to monitor the bore regularly to establish a data baseline.
15 th June 2010	58	Blasting complaint from Kurrara St (Werris Creek) resident. The blast levels were within compliance limits.
7 th July 2010	59 & 62	Two complainants from a resident in Kurrara St and a resident in Anzac Pde both from Werris Creek made a complaint about a blast. The blast levels at the nearest monitor were within the compliance limits. WCC has committed to undertake blast monitoring at the residence.
2 nd July 2010	60	Noise complaint regarding dozers on the Product Coal Stockpile from a resident south of Werris Creek town on “Greenslopes & Banool” property. Product Coal Stockpile dozer operators made aware of the complaint and reinforced the 1st gear reverse policy onsite.
8 th July 2010	61	Groundwater level drop complaint from resident on Wadwells Lane. Groundwater level monitoring now undertaken at this property to establish baseline data.
8 th July 2010	63	Lighting complaint from flood lights on Product Coal Stockpile from resident on Coronation Ave in Werris Creek. Coal Processing Manager toolbox talked Train Load Out staff on issue and portable lights now only faces west.
26 th July 2010	64	Blasting complaint from a resident in Kurrara St in Werris Creek. Monitoring now being undertaken at rear of property and the blast levels were not high enough to trigger a result. EO also in attendance for every major blast.
29 th July 2010	65	Noise complaint from resident on “Hazeldene” property on Paynes Road. Noise monitor alarm also triggered at midnight and the OCE responded and pulled back dumping adjacent to SW dump edge. Fog developed and operations suspended at 1am.
30 th July 2010	66	Complaint forwarded through to WCC from CCC Chairman regarding residents of “Hazeldene” property issues with noise and dust levels and a reduction in groundwater levels allegedly caused by WCC. The issues raised in letter will be an agenda item at next CCC meeting as well as Senior Whitehaven Management will also seek a meeting with the residents to discuss their concerns.

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.

Regards
Andrew Wright
Environmental Officer

Appendix 1 – PM10 Dust Monitoring Data.

Appendix 2 – Deposited Dust Monitoring Data.

Appendix 3 – Noise Monitoring Results.

Appendix 4 – Blasting Monitoring Data.

Appendix 5 – Groundwater Monitoring Data.

Appendix 6 – Surface Water Monitoring Data.

Appendix 7 – Surface Water Discharge Monitoring Data