Werris Creek Coal Mine Community Consultative Committee

Fourteenth Meeting of the Committee

Whitehaven Training Room, Werris Creek Coal Mine

10.00am Thursday 11 March 2010

MINUTES

1. Record of Attendance:

Ron Short (Chairman); Lindsay Bridge (Community Representative); Noel Taylor (Community Representative); Jill Coleman (Community Representative); Merv Prendergast (Liverpool Plains Shire Council); Des George (Werris Creek Coal - WCC); Mick Post (Project Manager WCC); Andrew Wright (Environmental Officer WCC); Lisa Single (WCC).

Apologies: Chris Holley (Community Representative), Ron Van Katwyk (Liverpool Plains Shire Council – LPSC), Paul Moules (Liverpool Plains Shire Council – LPSC)

Ron Short (RS) introduced new Environmental Officer, Andrew Wright (AW). AW gave a brief background on his experience as Environmental Officer with 10 years industry experience.

2. Minutes of Previous Meeting

Minutes of the previous meeting 19th November 2009 were accepted as true representation of business conducted on day. Motion moved.

Moved: Jill Coleman Seconded: Lindsay Bridge. Motion carried

3. Declaration of Pecuniary or other interests

None declared.

4. Matters Arising

Merv Prendergast (MP) reported that Paul Moules will be declining the position on the committee from Council. Once another delegate has been arranged MP will contact RS.

RS handed Lisa Single (LS) a draft note to place in the local papers requesting person/s with any knowledge on the former underground colliery to contact Andrew Wright or himself.

MP asked if WCC had kept the old weather station as a backup. AW explains that WCC is currently waiting for Electrician to supply serial port to USB connection to access the old weather station and see if it is actually collecting data and if it is of any use. MP was concerned about the weather stations data loses and AW explained that the lost data over the Christmas Period was due to batteries going flat with no Environmental Officer on site. MP requested that AW answer whether WCC will be keeping both weather stations at the next meeting.

5. New Matters for Discussion Under General Business

- WCC Life of Mine (LOM) Project and Environmental Assessment process (AW)
- Reinstating a regular WCC community newsletter (AW).
- Noise complaint received by Liverpool Plains Shire Council (MP).
- Potential conflict of interest (NT).

6. Environmental Monitoring Report July 2009 to February 2010

Jill Coleman (JC) asked why the Monitoring Report was titled "Werris Creek No.2 Coal Mine" Community Consultative Committee? Des George (DG) explained that it is actually the official name of the mine as the former underground mine was the first "Werris Creek Coal" mine.

Weather Station

As previously described in the Minutes, there has been data lost from the weather station over December & January due to flat batteries. JC asked if solar panels would solve the problem. AW will investigate an answer from the electrician.

Air Quality

No issues raised.

Noise

AW explained that the monthly attended noise monitoring had identified an exceedance of noise limits at "Marengo" during October. RS asked what is the Company's view on the situation at Marengo? AW stated that WCC had committed to hiring a continuous monitor at the property for a month long trial starting today (11th March 2010). This period was chosen due to the increased likelihood of temperature inversion due to the meteorological conditions at this time of the year. The continuous noise monitor is capable of sending a warning SMS alarms to WCC of exceedance allowing corrective actions to be taken and also has the capability for audio files to be downloaded to verify the noise source. WCC was taking this as a serious issue and committed $4000 per month for the hire of the unit. WCC had received a written warning from the Department of Environment, Climate Change and Water due to the October exceedance.

Blasting

RS mentioned that the blasting complaints seem to comprise of a mix of valid and invalid complaints, especially from Punyarra St complainant. RS asked if WCC had established what was causing the issue in Punyarra St? AW explained that all the blasting complaints from Punyarra St were from evening occurrences and that WCC does not blast at night, never have and never will. A CCC member mentioned to AW that there is believed to be a rock shelf in the southern edge of town that generates vibration by the train tracks pass over and transmits the vibration into the town. MP suggests WCC to investigate by placing a vibration monitor at the Punyarra property and look at the train timetable. AW had spoken to the ORICA blasting consultants and was seeing if they had a spare vibration monitor to be placed at Punyarra St.

Groundwater

JC stated that the monitoring results at MW4 were still a concern and that the metal levels were not consistent with just a dead animal. AW will investigate further and report back to next CCC meeting.

Surface Water
AW discussed how the good rainfall experienced since Christmas time had resulted in two discharges events from our sediment basins on site, which are license discharge points under our Environment Protection License and on both occasions each discharge was compliant with our limits.

Complaints
AW discussed that the complaints line now had both the OCE & Environmental Officer's mobile numbers for direct contact 24/7.

The Environmental Monitoring Report for July 2009 to February 2010 was accepted by the Committee.

Moved: Jill Coleman Seconded: Lindsay Bridge. Motion carried.

7. General Business

WCC LOM Project and Environmental Assessment process
An application is about to be made to the Department of Planning to allow an Environmental Assessment to be undertaken by WCC for the LOM Project. The LOM Project involves an extension of mining operations to the north for a further 20 years at an increased rate of 2.5 Million Tonnes per annum (Mtpa) up from the current approved 2.0Mtpa. This will remove the entire coal resource in the Werris Creek area, stopping 2.6km short of the Werris Creek township as that is the northern most extent of coal. Plans shown to the committee outlined the proposed mining area and a cross section of the final landform showing that the proposed dump height won't go higher than the currently approved 445m. JC stated that if the Department of Planning approves the extension, there isn't much the community can say against it. MP responded that the community can raise issues of concern that the mine must look into including potential dust, noise and site appearance impacts. MP continued that from the Council's point of view, the issues will be how much more coal will be transported on our local roads and on the rail corridor. RS asked what impact will the increased movement of coal have over time on the adjoining road network and is there any rail adjustment? MP stated that the Council and Australian Rail Track Corporation have had discussions about a realignment of the rail corridor to bypass Werris Creek for trains going to the north west and requested that an overpass road by built for Werris Creek Road. This will eliminate delays for motorists and emergency vehicles. AW stated that the LOM Project includes the construction of a rail loop so that trains do not have to turn around in Werris Creek. RS enquired if there will be any other property acquisitions as the mine moves further north? AW answered that this is unknown at this stage but if increased impacts (such as noise and dust) are predicted then property acquisition will be looked at that time.

Proposed Community Newsletter
AW put forward an example to reinstate a regular community newsletter publication to inform the community of what is happening at WCC. RS suggested that the community should know what the employees contribute to the Westpac Rescue Helicopter charity and any other positive contributions the mine has on the community. JC asked if the first newsletter could have something in it about the LOM Project having finite resources and that there was no risk that the mine will end up mining up to Werris Creek township. RS & MP offered any assistance that AW required to produce the newsletter.

Noise Complaint received by Council
MP raised that the Council had received a complaint from the owner of Marengo about the noise from WCC and wanted someone from the council to go out and stop the mine. MP explained that council has no consent authority for this mine and that he would raise the issue in today's CCC meeting. He also told the complainant to contact the EPA but he had already done this. The Council will only become involved in a mine if the EPA call and say they need an officer on site

right now and EPA Officer will be on their way and they will take over once they arrive. The Council has no real compliance issue in regard to the mine except when they are outside their boundary and on our roads. The Council is more than happy to take their complaints.

Possible Conflict of Interest

Noel Taylor (NT) raised that his son had recently been employed by WCC and was prepared to step down as committee member if the CCC viewed it as a conflict of interest. RS explained how to declare Pecuniary Interests during CCC meetings and that a section had been added to the agenda for this purpose however RS did not see NT's situation as a conflict of interest. All CCC members present had no objections for NT to remain as a committee member and both the Council and WCC endorsed the CCC sentiment for NT to stay. NT thanked everybody and stated that he will remain on the committee.

Meeting Closed 11:40am.

Next Meeting was scheduled for 27th May 2010 at 9.30am.

Copy to:

Ron Short	Chairman
Chris Holley	Community Representative
Jill Coleman	Community Representative
Noel Taylor	Community Representative
Lindsay Bridge	Community Representative
Anna Bradley	DoP
Michael Lloyd	DII
Ron Van Katwyk	LPSC
Merv Prendergast	LPSC
Cr Col Stewart	LPSC
Casper Dieben	Werris Creek Coal
Brian Cullen	Werris Creek Coal
Danny Young	Werris Creek Coal
Mick Post	Werris Creek Coal
Des George	Werris Creek Coal
Andrew Wright	Werris Creek Coal

WERRIS CREEK COAL PTY LTD

ENVIRONMENTAL MONITORING

QUARTERLY REPORT

July, August, September, October, November & December 2009
January & February 2010

This Environmental Monitoring Report covers the period 1st July 2009 to 28th February 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.

CONTENTS

Appendices

1.0 METEOROLOGY

1.1 WEATHER STATION AVAILABILITY

Weather data was available for 100% of July 2009.
Weather data was available for 100% of August 2009.
Weather data was available for 100% of September 2009.
Weather data was available for 99.8% of October 2009.
Weather data was available for 100% of November 2009.
Weather data was available for 61.2% of December 2009 – Data lost from 19/12/09 to 31/12/09.
Weather data was available for 80.6% of January 2010 – Data lost from 1/1/10 to 6/1/10.
Weather data was available for 93.1% of February 2010 – Data lost on 11/2/10.

2.0 AIR QUALITY

2.1 HVAS (PM10) Monitoring

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

WCHV1 – "Old Colliery"
WCHV2 – "Patterson"
WCHV3 – "Railway View"
WCHV4 – "Eurunderee"
WCHV5 – "Railway View"

Sample data 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 (ug/m^3) of air sampled.

2.1.1 Monitoring Data Results

Please see HVAS monitoring data under Appendix 1.

2.1.2 Discussion - Compliance / Non Compliance

Individual PM10 24 hour average results at all sites were equal to or below the short term 24 hour impact criteria of 50ug/m^3 except for:

- 15th September 2009 – Eurunderee recorded PM10 81ug/m^3. Meteorological data indicates a very light wind day blowing predominately from the west. Unlikely to be a result of WCC due to ambient air quality at other locations was good. Most likely to have been a localized activity on that property.
- 21st October 2009 – Railway View recorded PM10 55ug/m^3 and TSP 134 ug/m^3. Meteorological data indicates a strong north westerly particularly during the middle of the day. Most likely to have been a result of WCC. This property is now mined owned and therefore dust criteria do not apply to project related properties.

All PM10 sites are below the long term impact and land acquisition annual impact criteria of 30ug/m^3.

The TSP site is below the long term impact and land acquisition annual impact criteria of 90ug/m^3.

2.2 DEPOSITED DUST

2.2.1 Monitoring Data Results

Please see Appendix 2 – Deposited Dust Monitoring Results. After November, WCC rationalized its dust deposition monitoring network to be more representative of community/neighbouring landholders ambient air quality.

In accordance with the Department of Planning, Development Consent, deposited dust monitoring limits are set at a maximum level of 3.6g/m^2/month. During the period the following exceedances were recorded:

- August – WC6 South Boundary with a result of 6.6g/m^2/month (Ash Residue 1.8g/m^2/month = 27%) that the field notes and low inorganic content (ash), this sample was contaminated with organic matter (insects, bird droppings and plant matter).
- September – all gauges exceeded WC1 Escott 5.8 g/m^2/month, WC2 Cintra 5.9 g/m^2/month, WC3 Colliery 3.9 g/m^2/month, WC4 Hillview 7.9 g/m^2/month, WC5 Railway View 4.3 g/m^2/month, WC6 South Boundary 6.1 g/m^2/month, WC7 Patterson 4.6 g/m^2/month, WC8 Quirindi Road 8.8 g/m^2/month. All gauges were influenced by regional dust storm events across Eastern Australia on 23rd and 26th September 2009 and not as a direct result of WCC.
- October – WC6 South Boundary & WC8 Quirindi Road recorded 37.5 and 4.3 g/m^2/month respectively. These two gauges were relocated the following month because they were not representative of community/neighbouring landholders ambient air quality as they were to close other dust sources not related to mining.

2.3 AIR QUALITY COMPLAINTS

No complaints received regarding excessive dust for the period.

3.0 NOISE

New monitoring locations were established in October 2009 after a revised Noise Monitoring Program was approved by DoP. Noise Monitoring is conducted by Spectrum Acoustics at the following locations:

"Almawille"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra" (private agreement)
"Fletcher"

Three sets of measurements are made over the "circuit", 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 that +3°C/100m.

3.1 OPERATIONAL NOISE

3.1.1 Monitoring Data Results

Please see noise monitoring data under Appendix 3.

3.1.2 Discussion - Compliance / Non Compliance

There was one noise exceedance recorded for the period. During the October (15th) attended noi monitoring, there was an exceedance recorded at Marengo with 40dB(A) recorded during the day time peri from Werris Creek Coal operations.

A number of elevated noise results were recorded at the Cintra property, which has a private agreement place with the owner allowing noise emissions 5dB(A) above the criteria. Also at the Marengo property, t August 2009 and January 2010 monitoring recorded elevated results for evening and night time perio influenced due to a strong temperature inversion present. These were not non-compliant due to the no applicable weather conditions (i.e. temperature inversion) present at the time.

3.1.3 Action Taken

Werris Creek Coal is investigating upgrading the community enquiry line to allow additional options to conta the on duty Open Cut Examiner or Environmental Officer to allow more rapid responses to night tim complaints. Also Werris Creek Coal are trialing a real time noise monitor capable of recording audio an sending alarms to mine personnel when there are high noise levels to enable pro-active noise mitigation to b made by production.

3.2 NOISE COMPLAINTS

There were three complaints related to noise from Werris Creek Coal, all were from the Marengo propert owner. The first noise complaint for the period was received on 10th September 2009 relating to excessiv night time mining related noise. The next two noise complaints received 19th January and 15th February 201 occurred during cooler nights when a temperature inversion and calm to light northwesterly winds were present with the potential to enhance noise levels such as observed by the Marengo resident.

4.0 BLAST

The Marengo property was added in August following blasting complaints at the property. All blasting monitoring locations were revised and new locations established in October 2009 after a revised Blas Monitoring Program was approved by DoP for Glenala, Marengo, Thornsley Park and Cintra. During the period a total of 84 blasts were fired by the blasting contractor, Orica Mining Services.

July 2009	13 blasts
August 2009	10 blasts
September 2009	11 blasts
October 2009	13 blasts
November 2009	11 blasts
December	7 blasts
January	8 blasts
February	11 blasts

4.1 BLAST MONITORING

4.1.1 Monitoring Data Results

Please see noise monitoring data under Appendix 4.

4.1.2 Discussion - Compliance / Non Compliance

All blasts complied with license limits with no blast overpressure above 115dB(L) or 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.

4.1.3 Action Taken

Following two blasting complaints being received from the Marengo property, this location was added to the blast monitoring program for WCC.

Also two of the complaints were related to excessive fume generated by blasts from WCC. WCC's blasting contractor Orica conducted a detailed investigation into the cause. The findings identified that the fume was generated from the incomplete combustion of the explosives releasing oxides of nitrogen caused by the explosive product reacting with the clayey ground and/or water in the ground. The following recommendations have been implemented since with a reduction in the number of fume episodes since:

- Reduce the size of blasts in fume prone areas;
- Reduce the sleep time of the explosives in fume prone areas;
- Use different explosive products that are more resistant to reactions with clay and water.

4.2 BLAST COMPLAINTS

There were 7 complaints received regarding blasting, however only 3 were related to an actual blasting event.

21/07/2009	Blast undertaken on the day (21st July) was the worst the resident at "Park Hill" had experienced since the start of mining. Shook the house	Compliant
04/08/2009	"Marengo" resident was concerned with the orange fume from the blast undertaken on the 30th July 2009. Stated that the fume could land on his property and contaminate his tank water or become a respiratory health hazard.	Compliant
08/10/2009	A resident from Punyarra St in Werris Creek made a complaint about blasting on the nights of the 6th and 7th October 2009 experiencing some ground vibrations and movement at the residence.	No blast undertaken
08/10/2009	"Marengo" resident was unhappy with the blast on the 7th October 2009 and stated that dust from the blast drifted onto his property. He also noted a bad smell which he believed was associated with the blast.	Compliant
20/10/2009	A resident from Punyarra St in Werris Creek made a complaint about vibrations at their house and said on the night of the 19th October 2009 there was some ground vibrations and movement at the residence at 11.00pm.	No blast undertaken
01/11/2009	A resident from Punyarra St in Werris Creek made a complaint about vibrations at their house and said on the night of Sunday the 1st November 2009 there was some ground vibrations at the residence at 10.40pm.	No blast undertaken
04/11/2009	A resident from Punyarra St in Werris Creek made a complaint about vibrations at their house and said on the night of Tuesday the 4st November 2009 there was some ground vibrations at the residence at 10.20pm.	No blast undertaken

5.0 WATER

Groundwater and Surface water monitoring during the period was undertaken on the 26th August 2009 (and 15th September 2009 for a groundwater resample), 10th November 2009 and 23rd February 2010. All samples were collected and analyzed by ALS Environmental.

4.1 GROUND WATER

4.1.1 Monitoring Data Results

See Appendix 5 - Groundwater Monitoring results.

4.1.2 Discussion - Compliance / Non Compliance

No recorded exceedances.

4.2 SURFACE WATER

4.2.1 Monitoring Data Results

See Appendix 6 – Surface water monitoring results.

4.2.2 Discussion - Compliance / Non Compliance

Surface water monitoring undertaken by ALS Environmental returned typical water quality results for th period. WCC had two surface discharges during the reporting period:

- SB9 – 6th January from rainfall runoff event. The water quality was compliant with EPL 12290;
- SB9 – 15th February from rainfall runoff event. The discharge was compliant with EPL 12290 fo rainfall events greater than 39.2mm over 5 days;

6.0 COMPLAINTS SUMMARY

There were 10 complaints received during the reporting period, all have been summarized and discussed above.

7.0 GENERAL

WCC have made improvements to the Blasting, Air Quality and Noise monitoring programs to improve the representativeness of the monitoring data to community/neighbouring landholders.

The noise exceedance at the Marengo property on the 15th October 2009 was reported to Department of Environment Climate Change and Water which issued WCC a warning. As discussed above, this exceedance and other complaints made about the environmental performance of WCC are taken seriously with a month long trial of real time noise monitoring unit to be installed at the Marengo property. If the trial is proven successful, then these units could be used not only at WCC into the future but also at other Whitehaven Coal mines.

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
Whitehaven Coal

Appendix 1 – PM10 Dust Monitoring Data

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 2600 1045 - 00
Date Reported: 14-Aug-09

Report To: Mr. Lynden Cini
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m³)	TSP (µg/m3)
WCHV1	Marquette	8180790	05-Jul-09	1439	4.8	3	-
WCHV1	Marquette	8180796	11-Jul-09	1439	14.5	9	-
WCHV1	Marquette	8176127	17-Jul-09	1439	5.2	3	-
WCHV1	Marquette	8176139	23-Jul-09	1439	28.3	18	-
WCHV1	Marquette	8176147	29-Jul-09	1439	7.0	4	-
WCHV2	Patterson	8180787	05-Jul-09	1439	4.5	3	-
WCHV2	Patterson	8180797	11-Jul-09	1439	10.2	6	-
WCHV2	Patterson	8176121	17-Jul-09	1439	7.3	5	-
WCHV2	Patterson	8176142	23-Jul-09	1439	25.4	16	-
WCHV2	Patterson	8176150	29-Jul-09	1439	14.0	9	-
WCHV3	Ryan	8180789	05-Jul-09	1441	1.1	1	-
WCHV3	Ryan	8180793	11-Jul-09	1439	5.6	4	-
WCHV3	Ryan	8176129	17-Jul-09	1439	5.0	3	-
WCHV3	Ryan	8176141	23-Jul-09	1439	27.5	18	-
WCHV3	Ryan	8176148	29-Jul-09	1439	3.8	2	-
WCHV4	Eurunderee	8176145	29-Jul-09	1439	10.7	7	-
WCTSP	Ryan	8180788	05-Jul-09	1439	7.4		5
WCTSP	Ryan	8099720	11-Jul-09	1439	23.5		14
WCTSP	Ryan	8176128	17-Jul-09	1440	11.9		7
WCTSP	Ryan	8176140	23-Jul-09	1439	72.8		45
WCTSP	Ryan	8176148	29-Jul-09	1439	23.4		14

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	2600 1057 - 00
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	18-Sep-09
Report To:	Mr. Lynden Cini	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Marquette	8184576	04-Aug-09	1442	18.4	12	-
WCHV1	Marquette	8253531	10-Aug-09	1439	25.3	16	-
WCHV1	Marquette	7559607	16-Aug-09	1440	31.9	20	-
WCHV1	Marquette	8181403	22-Aug-09	1440	9.1	6	-
WCHV1	Marquette	52899	28-Aug-09	1440	30.5	21	-
WCHV2	Patterson	8184580	04-Aug-09	1440	15.1	10	-
WCHV2	Patterson	8253548	10-Aug-09	1440	46.5	30	-
WCHV2	Patterson	7559610	16-Aug-09	1439	37.4	24	-
WCHV2	Patterson	7559666	22-Aug-09	1441	35.1	23	-
WCHV2	Patterson	52898	28-Aug-09	1440	32.7	22	-
WCHV3	Ryan	8184578	04-Aug-09	1439	11.8	7	-
WCHV3	Ryan	8253550	10-Aug-09	1440	19.7	13	-
WCHV3	Ryan	7559609	16-Aug-09	1440	29.9	19	-
WCHV3	Ryan	7559667	22-Aug-09	1439	33.3	22	-
WCHV3	Ryan	52897	28-Aug-09	1440	33.0	22	-
WCHV4	Eurunderee	8184575	04-Aug-09	1439	17.8	11	-
WCHV4	Eurunderee	8184579	10-Aug-09	1440	25.9	16	-
WCHV4	Eurunderee	7559606	16-Aug-09	1440	36.4	23	-
WCHV4	Eurunderee	8181402	22-Aug-09	1441	7.6	5	-
WCHV4	Eurunderee	52900	28-Aug-09	1440	30.5	21	-
WCTSP	Ryan	8184577	04-Aug-09	1440	26.0	-	16
WCTSP	Ryan	8253549	10-Aug-09	1440	39.6	-	25
WCTSP	Ryan	7559608	16-Aug-09	1440	51.2	-	32
WCTSP	Ryan	8181401	22-Aug-09	1439	64.1	-	41
WCTSP	Ryan	52896	28-Aug-09	1440	69.8	-	46

Notes:
1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

Accreditation #15784, Site #11423

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 26001068-01
Date Reported:

Report To: Mr. Lynden Cini
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Marquette	52317	03-Sep-09	1440	32.3	21	-
WCHV1	Marquette	8244766	09-Sep-09	1439	3.1	2	-
WCHV1	Marquette	8244779	15-Sep-09	1441	40.5	27	-
WCHV1	Marquette	8244780	21-Sep-09	1439	19.5	13	-
WCHV1	Marquette	8171449	27-Sep-09	1440	47.6	31	-
WCHV2	Patterson	52888	03-Sep-09	1440	34.0	22	-
WCHV2	Patterson	8244770	09-Sep-09	1440	2.0	1	-
WCHV2	Patterson	8244775	15-Sep-09	1441	42.8	28	-
WCHV2	Patterson	8171439	21-Sep-09	1439	22.1	14	-
WCHV2	Patterson	8253741	27-Sep-09	1440	54.6	35	-
WCHV3	Ryan	52314	03-Sep-09	1440	29.1	19	-
WCHV3	Ryan	8244768	09-Sep-09	1440	<0.1	<1	-
WCHV3	Ryan	8244776	15-Sep-09	1440	41.4	27	-
WCHV3	Ryan	8171437	21-Sep-09	1439	13.7	9	-
WCHV3	Ryan	8171447	27-Sep-09	1440	39.5	26	-
WCHV4	Eurunderee	52316	03-Sep-09	1440	31.2	20	-
WCHV4	Eurunderee	8244767	09-Sep-09	1439	<0.1	<1	-
WCHV4	Eurunderee	8244778	15-Sep-09	1440	123.4	81	-
WCHV4	Eurunderee	8171436	21-Sep-09	1439	11.8	8	-
WCHV4	Eurunderee	8171450	27-Sep-09	1440	45.6	29	-
WCTSP	Ryan	52315	03-Sep-09	1440	44.0	-	27
WCTSP	Ryan	8244769	09-Sep-09	1439	10.1	-	6
WCTSP	Ryan	8244777	15-Sep-09	1442	81.3	-	52
WCTSP	Ryan	8171438	21-Sep-09	1439	118.6	-	78
WCTSP	Ryan	8171448	27-Sep-09	1441	117.0	-	74

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 26001101 - 00
Date Reported: 6th November 2009

Report To: Mr. Lynden Cini
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Marquette	8252407	03-Oct-09	1440	51.8	33	-
WCHV1	Marquette	8252419	09-Oct-09	1440	28.5	18	-
WCHV1	Marquette	8184760	15-Oct-09	1439	16.4	11	-
WCHV1	Marquette	8236375	21-Oct-09	1439	42.4	28	-
WCHV1	Marquette	8245133	27-Oct-09	1439	8.3	5	-
WCHV2	Patterson	8252406	03-Oct-09	1440	57.0	37	-
WCHV2	Patterson	8252418	09-Oct-09	1439	4.3	3	-
WCHV2	Patterson	8184759	15-Oct-09	1439	9.9	7	-
WCHV2	Patterson	8236371	21-Oct-09	1439	44.0	29	-
WCHV2	Patterson	8245134	27-Oct-09	1439	5.2	3	-
WCHV3	Ryan	8252409	03-Oct-09	1440	47.7	31	-
WCHV3	Ryan	78062	09-Oct-09	1439	10.4	5	-
WCHV3	Ryan	8184762	15-Oct-09	1439	25.1	17	-
WCHV3	Ryan	8236372	21-Oct-09	1440	83.7	55	-
WCHV3	Ryan	8245135	27-Oct-09	1439	1.2	1	-
WCHV4	Eurunderee	8252408	03-Oct-09	1439	44.5	29	-
WCHV4	Eurunderee	8252420	09-Oct-09	1439	1.8	1	-
WCHV4	Eurunderee	8184763	15-Oct-09	1439	0.4	<1	-
WCHV4	Eurunderee	8236374	21-Oct-09	1439	9.8	5	-
WCHV4	Eurunderee	8245137	27-Oct-09	1799	0.2	<1	-
WCTSP	Ryan	8252410	03-Oct-09	1440	112.3	-	71
WCTSP	Ryan	78064	09-Oct-09	1439	53.1	-	33
WCTSP	Ryan	8184761	15-Oct-09	1440	122.8	-	79
WCTSP	Ryan	8236373	21-Oct-09	1439	209.9	-	134
WCTSP	Ryan	8245136	27-Oct-09	1439	9.1	-	6

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. **Inconsistent flow observed at WCHV4. Unit is to be serviced and repaired**
4. Sampling times and flow rates as per field data
5. Weather data - ex Bureau of Meteorology - Gunnedah
6. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 26001131-01
Date Reported:

Report To: Mr. Lynden Cini

Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Marquette	8245148	02-Nov-09	1439	41.5	28	-
WCHV1	Marquette	8236330	08-Nov-09	1439	8.4	6	-
WCHV1	Marquette	8236338	14-Nov-09	1441	32.8	22	-
WCHV1	Marquette	8236346	20-Nov-09	1284	77.0	59	-
WCHV1	Cintra	8264601	26-Nov-09	1440	56.5	38	-
WCHV2	Patterson	8245144	02-Nov-09	1439	18.3	12	-
WCHV2	Patterson	8236329	08-Nov-09	1440	11.9	8	-
WCHV2	Patterson	8236334	14-Nov-09	1439	27.2	18	-
WCHV2	Patterson	8236347	20-Nov-09	1439	48.7	33	-
WCHV2	Patterson	52266	26-Nov-09	1439	47.7	32	-
WCHV3	Ryan	8245145	02-Nov-09	1439	26.1	17	-
WCHV3	Ryan	8236333	08-Nov-09	1439	8.4	6	-
WCHV3	Ryan	8236336	14-Nov-09	1440	15.1	10	-
WCHV3	Ryan	8236349	20-Nov-09	1439	46.6	32	-
WCHV3	Ryan	52268	26-Nov-09	1440	40.8	28	-
WCHV4	Eurunderee	8245147	02-Nov-09	1079	4.3	3	-
WCHV4	Eurunderee	8236331	08-Nov-09	1440	3.2	2	-
WCHV4	Eurunderee	8236337	14-Nov-09	2198	11.6	4	-
WCHV4	Eurunderee	-	20-Nov-09	-	-	-	-
WCHV4	Eurunderee	-	26-Nov-09	-	-	-	-
WCTSP	Ryan	8245146	02-Nov-09	1439	61.7	-	40
WCTSP	Ryan	8236332	08-Nov-09	1439	18.6	-	12
WCTSP	Ryan	8236335	14-Nov-09	1439	36.9	-	24
WCTSP	Ryan	8236348	20-Nov-09	1439	78.8	-	52
WCTSP	Ryan	52267	26-Nov-09	1440	67.0	-	44

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.
6. Eurunderee sampler currently under repair
7. Marquette Sampler relocated to "Cintra".

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	26001204 - 174
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	17th January 2010
Report To:	Mr. Danny Young	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	8264612	02-Dec-09	1439	26.5	17	-
WCHV1	Cintra	8264622	08-Dec-09	1439	102.0	70	-
WCHV1	Cintra	8264636	14-Dec-09	1440	77.2	51	-
WCHV1	Cintra	8292104	20-Dec-09	1439	32.1	21	-
WCHV1	Cintra	8264650	26-Dec-09	1441	22.3	15	-
WCHV2	Patterson	8264611	02-Dec-09	1440	11.6	7	-
WCHV2	Patterson	8264621	08-Dec-09	1440	66.2	46	-
WCHV2	Patterson	8264635	14-Dec-09	1440	63.8	43	-
WCHV2	Patterson	8292105	20-Dec-09	1439	28.8	19	-
WCHV2	Patterson	8264649	26-Dec-09	1441	21.6	14	-
WCHV3	Ryan	8264613	02-Dec-09	1440	10.2	7	-
WCHV3	Ryan	8264623	08-Dec-09	1439	84.6	58	-
WCHV3	Ryan	8264637	14-Dec-09	1440	59.5	40	-
WCHV3	Ryan	8292102	20-Dec-09	1439	29.4	19	-
WCHV3	Ryan	8264648	26-Dec-09	1441	21.0	14	-
WCTSP	Ryan	8264614	02-Dec-09	1440	37.5	-	24
WCTSP	Ryan	8264624	08-Dec-09	1439	200.2	-	134
WCTSP	Ryan	8264638	14-Dec-09	1440	106.8	-	71
WCTSP	Ryan	8292103	20-Dec-09	1439	56.2	-	37
WCTSP	Ryan	8264647	26-Dec-09	1441	135.1	-	89

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Gunnedah.
5. Samples analysed as received.
6. Harvest activities in progress during December.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 26001222 - 216
Date Reported: 16th February 2010

Report To: Mr. Danny Young
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m³)	TSP (µg/m3)
WCHV1	Cintra	8292910	01-Jan-10	1439	15.7	10	-
WCHV1	Cintra	8292922	07-Jan-10	1441	23.0	15	-
WCHV1	Cintra	8291402	13-Jan-10	1441	39.7	27	-
WCHV1	Cintra	8291422	19-Jan-10	1440	29.9	20	-
WCHV1	Cintra	8263735	25-Jan-10	1440	48.7	33	-
WCHV2	Cintra	8263743	31-Jan-10	1440	26.7	18	-
WCHV2	Patterson	8292909	01-Jan-10	1439	17.5	12	-
WCHV2	Patterson	8292921	07-Jan-10	1443	22.5	15	-
WCHV2	Patterson	8291401	13-Jan-10	1440	34.7	24	-
WCHV2	Patterson	8291419	19-Jan-10	1440	27.8	18	-
WCHV2	Patterson	8263732	25-Jan-10	1439	45.2	31	-
WCHV3	Patterson	8263747	31-Jan-10	1440	24.3	16	-
WCHV3	Ryan	8292912	01-Jan-10	1440	15.7	10	-
WCHV3	Ryan	8292924	07-Jan-10	1439	21.4	14	-
WCHV3	Ryan	8291404	13-Jan-10	1439	34.9	24	-
WCHV3	Ryan	8291421	19-Jan-10	1440	39.5	26	-
WCHV3	Ryan	8263733	25-Jan-10	1439	42.3	29	-
WCHV4	Ryan	8263746	31-Jan-10	1439	20.6	14	-
WCHV4	Eurunderee	8263744	31-Jan-10	1439	24.7	16	-
WCTSP	Ryan	8292911	01-Jan-10	1439	16.9	-	11
WCTSP	Ryan	8292923	07-Jan-10	1441	36.0	-	23
WCTSP	Ryan	8291403	13-Jan-10	1440	66.1	-	44
WCTSP	Ryan	8291420	19-Jan-10	1440	112.0	-	72
WCTSP	Ryan	8263734	25-Jan-10	1439	70.9	-	47
WCTSP	Ryan	8263745	31-Jan-10	1441	35.1	-	23

Notes:

1. Samples collected by ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Gunnedah.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	5th March 2010
Report To:	Mr. Danny Young	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra		06-Feb-10			8	-
WCHV1	Cintra		12-Feb-10			26	-
WCHV1	Cintra		18-Feb-10			14	-
WCHV1	Cintra		24-Feb-10			19	-
WCHV2	Patterson		06-Feb-10			11	-
WCHV2	Patterson		12-Feb-10			23	-
WCHV2	Patterson		18-Feb-10			13	-
WCHV2	Patterson		24-Feb-10			16	-
WCHV3	Ryan		06-Feb-10			11	-
WCHV3	Ryan		12-Feb-10			21	-
WCHV3	Ryan		18-Feb-10			10	-
WCHV3	Ryan		24-Feb-10			12	-
WCHV4	Eurunderee		06-Feb-10			22	-
WCHV5	Eurunderee		12-Feb-10			23	
WCHV6	Eurunderee		18-Feb-10			73	
WCHV7	Eurunderee		24-Feb-10			17	
WCTSP	Ryan		06-Feb-10			-	16
WCTSP	Ryan		12-Feb-10			-	45
WCTSP	Ryan		18-Feb-10			-	21
WCTSP	Ryan		24-Feb-10			-	28

Notes:

1. Samples collected by ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Gunnedah.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

Appendix 2 – Deposited Dust Monitoring Data

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Lynden Cini - Environmental Officer

Report Number: 2600 1057 - 01

Date Issued: 18th August 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m²/month)	Insoluble Matter (g)	Ash Residue (g/m²/month)	Ash Residue (g)	Combustible Matter (g)
WC1 - Escott	6-Jul-09	03-Aug-09	12.53	28	700	Clear	Clear	Plant Matter	0.2	0.0028	0.1	0.0017	0.0011
WC2 - Cintra	6-Jul-09	03-Aug-09	13.00	28	400	Clear	Clear		0.5	0.0086	0.1	0.0017	0.0069
WC3 - Colliery	6-Jul-09	03-Aug-09	12.45	28	700	Clear	Clear	Insects, Bird Droppings	2.2	0.0355	0.9	0.0152	0.0203
WC4 - Hillview	6-Jul-09	03-Aug-09	13.23	28	750	Clear	Clear	Insects	0.4	0.0062	0.2	0.0036	0.0026
WC5 - Railway View	6-Jul-09	03-Aug-09	13.30	28	700	Clear	Clear	Insects, Bird Droppings	0.3	0.0046	0.2	0.0027	0.0019
WC6 - Sth Boundary	6-Jul-09	03-Aug-09	12.15	28	656	Turbid	Brown	Insects	2.4	0.0389	0.8	0.0129	0.0260
WC7 - Patterson	6-Jul-09	03-Aug-09	12.05	28	700	Clear	Clear	Insects,Plant Material, Bird Droppings	1.4	0.0237	0.9	0.0141	0.0096
WC8 - Quirindi Rd	6-Jul-09	03-Aug-09	13.15	28	650	Clear	Clear		0.4	0.0058	0.2	0.0037	0.0021

Notes:
* Dust gauges installed and removed by ALS ACIRL.
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Lynden Cini - Environmental Officer

Report Number: 2600 1068 - 00

Date Issued: 18th September 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC1 - Escott	3-Aug-09	04-Sep-09	9:30	32	100	Clear	Clear	Plant Material	1.3	0.0242	0.7	0.0134	0.0108
WC2 - Cintra	3-Aug-09	04-Sep-09	9:20	32	100	Clear	Clear	Insects, Plant Material	1.5	0.0288	1.0	0.0182	0.0106
WC3 - Colliery	3-Aug-09	04-Sep-09	8:20	32	100	Clear	Clear	Bird Droppings	2.9	0.0550	2.5	0.0474	0.0076
WC4 - Hillview	3-Aug-09	04-Sep-09	8:55	32	100	Clear	Clear	Insects, Plant Material	1.6	0.0298	1.1	0.0213	0.0085
WC5 - Railway View	3-Aug-09	04-Sep-09	9:10	32	100	Clear	Clear	Insects, Plant Material	1.5	0.0282	1.0	0.0180	0.0102
WC6 - Sth Boundary	3-Aug-09	04-Sep-09	8:40	32	100	Turbid	Grey	Insects, Bird Droppings, Plant Material	6.6	0.1242	1.8	0.0342	0.0900
WC7 - Patterson	3-Aug-09	04-Sep-09	8:00	32	100	Clear	Clear	Insects, Plant Material	4.0	0.0760	2.5	0.0479	0.0281
WC8 - Quirindi Rd	3-Aug-09	04-Sep-09	9:40	32	100	Clear	Clear	Insects, Plant Material	0.4	0.0066	0.1	0.0010	0.0056

Notes:
* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Lynden Cini - Environmental Officer

Report Number: 2600 1101 - 01

Date Issued: 21st October 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC1 - Escott	4-Sep-09	2-Oct-09	13:23	28	1200	Clear	Clear	Insects, Plant Material	5.8	0.0951	4.3	0.0705	0.0246
WC2 - Cintra	4-Sep-09	2-Oct-09	13:15	28	1100	Clear	Clear	Insects, Plant Material	5.9	0.0980	4.7	0.0767	0.0213
WC3 - Colliery	4-Sep-09	2-Oct-09	14:00	28	500	Clear	Clear	Insects	3.9	0.0637	2.5	0.0413	0.0224
WC4 - Hillview	4-Sep-09	2-Oct-09	13:36	28	1000	Clear	Clear	Insects	7.9	0.1299	6.7	0.1105	0.0194
WC5 - Railway View	4-Sep-09	2-Oct-09	14:33	28	800	Clear	Clear	Insects, Plant Material	4.3	0.0704	4.9	0.0804	-0.0100
WC6 - Sth Boundary	4-Sep-09	2-Oct-09	14:26	28	1000	Turbid	Brown	Insects, Bird Droppings, Plant Material	6.1	0.1012	4.7	0.0772	0.0240
WC7 - Patterson	4-Sep-09	2-Oct-09	14:45	28	1100	Clear	Clear	Insects	4.6	0.0754	3.4	0.0563	0.0191
WC8 - Quirindi Rd	4-Sep-09	2-Oct-09	13:03	28	900	Clear	Clear	Insects, Plant Material	8.8	0.1457	5.2	0.0858	0.0599

Notes:

* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Lynden Cini - Environmental Officer

Report Number: 2600 1131 - 00

Date Issued: 18th November 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC1 - Escott	2-Oct-09	04-Nov-09	10:34	33	400	Clear	Clear	Insects	1.7	0.0324	1.3	0.0262	0.0062
WC2 - Cintra	2-Oct-09	04-Nov-09	10:25	33	450	Clear	Clear	Insects	3.3	0.0633	2.2	0.042	0.0213
WC3 - Colliery	2-Oct-09	04-Nov-09	10:58	33	500	Clear	Clear	Insects, Bird Droppings, Plant Material	2.9	0.0572	2.0	0.0397	0.0175
WC4 - Hillview	2-Oct-09	04-Nov-09	14:10	33	450	Clear	Clear	Insects	2.5	0.0484	1.9	0.0372	0.0112
WC5 - Railway View	2-Oct-09	04-Nov-09	13:53	33	450	Clear	Clear	Insects	2.4	0.0464	1.9	0.0368	0.0096
WC6 - Sth Boundary	2-Oct-09	04-Nov-09	13:44	33	450	Clear	Clear	Insects, Bird Droppings, Plant Material	37.5	0.7284	26.3	0.5113	0.2171
WC7 - Patterson	2-Oct-09	04-Nov-09	10:17	33	400	Clear	Clear	Insects, Plant Material	2.1	0.0407	1.6	0.0315	0.0092
WC8 - Quirindi Rd	2-Oct-09	04-Nov-09	12:45	33	500	Clear	Clear	Insects, Plant Material	4.3	0.0829	3.3	0.0637	0.0192

Notes:

* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number
* Escott, Old Colliery, South Boundary, Hillview gauges removed. Quirindi Rd gauge relocated. New gauge installed at "Mare

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 2600 1204
Workorder No. 136
Date Issued: 17th December 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	4-Nov-09	04-Dec-09	12:25	30	200	Clear	Clear	Insects, Plant Material	2.8	0.0496	1.3	0.0225	0.0271
WC5 - Railway View	4-Nov-09	04-Dec-09	12:40	30	300	Clear	Clear	Insects	0.9	0.0165	0.6	0.0105	0.0060
WC7 - Patterson	4-Nov-09	04-Dec-09	12:15	30	250	Clear	Clear	Insects	0.9	0.0162	0.6	0.0106	0.0056
WC8 - Plain View	4-Nov-09	04-Dec-09	12:55	30	200	Clear	Clear	Insects	0.7	0.0131	0.5	0.0081	0.0050
Marengo	4-Nov-09	04-Dec-09	13:05	30	250	Clear	Clear	Insects, Bird Droppings	0.6	0.0108	0.4	0.0078	0.0030

Notes:
* Dust gauges installed and removed by ALS Coal
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001222 - 198

Date Issued: 14th January 2009

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	4-Dec-09	04-Jan-10	11:35	31	2500	Clear	Clear	Insects, Plant Material	1.4	0.0254	1.0	0.0185	0.0069
WC5 - Railway View	4-Dec-09	04-Jan-10	11:40	31	2500	Clear	Clear	Insects	1.0	0.0180	0.8	0.0138	0.0042
WC7 - Patterson	4-Dec-09	04-Jan-10	11:20	31	2500	Clear	Clear	Insects	1.5	0.0269	1.1	0.0207	0.0062
WC8 - Plain View	4-Dec-09	04-Jan-10	11:55	31	2500	Clear	Clear	Insects, Bird Droppings	1.4	0.0259	1.1	0.0193	0.0066
Marengo	4-Dec-09	04-Jan-10	12:20	31	2500	Clear	Clear	Insects, Bird Droppings	1.4	0.0250	1.1	0.0209	0.0041

Notes:
* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001234 - 286

Date Issued: 8th February 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m²/month)	Insoluble Matter (g)	Ash Residue (g/m²/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	4-Jan-10	02-Feb-10	15:45	29	200	Clear	Clear	Insects, Plant Material	2.1	0.0360	1.0	0.0164	0.0196
WC5 - Railway View	4-Jan-10	02-Feb-10	15:05	29	300	Clear	Clear	Insects	0.9	0.0157	0.6	0.0106	0.0051
WC7 - Patterson	4-Jan-10	02-Feb-10	14:50	29	300	Slightly Turbid	Clear	Insects, Bird Droppings	2.0	0.0341	1.1	0.019	0.0151
WC8 - Plain View	4-Jan-10	02-Feb-10	14:17	29	800	Slightly Turbid	Clear	Insects, Plant Material	2.1	0.0353	1.4	0.0246	0.0107
Marengo	4-Jan-10	02-Feb-10	14:40	29	400	Slightly Turbid	Clear	Insects	1.2	0.0208	0.6	0.0106	0.0102

Notes:

* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number:

Date Issued: 5th March 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	2-Feb-10	02-Mar-10		28					1.9		1.4		
WC5 - Railway View	2-Feb-10	02-Mar-10		28					1.5		1.0		
WC7 - Patterson	2-Feb-10	02-Mar-10		28					1.4		0.8		
WC8 - Plain View	2-Feb-10	02-Mar-10		28					2.1		1.3		
Marengo	2-Feb-10	02-Mar-10		28					3.2		2.2		

Notes:
* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Appendix 3 – Noise Monitoring Results

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

3 August 2009

Ref: 04035/3205

Mr. Lynden Cini
Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: JULY 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the morning of Wednesday 29th July and finishing in the morning of Thursday 30th July 2009. Noise measurement locations for the attended noise survey are listed below:

Location R2:	Zeolite Australia
Location R3:	Cintra
Location R4:	Old Colliery*
Location R5:	Mountain View
Location R6:	Hillview*
Location R7:	Railway View*
Location R8:	Hazeldene
Location R10:	Escott

* Hillview, Railway View and Old Colliery are mine owned residences.

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report was supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The afternoon of July 29 was mild with light winds from the south east. Wind speeds dropped off significantly during the evening and night to be calm. Temperature data from the mine operated weather station indicated a strong temperature inversion active from early afternoon.

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 29 July 2009 (day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	3:52 pm	37	n/a	2.2 m/s SW	**WCC (34)**, Zeolite Aus (34), birds (28)
Cintra	4:10 pm	50	n/a	0.9 m/s SE	Birds (50), **WCC (33)**
Old Colliery	3:15 pm	44	n/a	1.3 m/s SE	**WCC (44)**, birds (30)
Mountain View	5:25 pm	35	n/a	0.4 m/s SE	Birds (35), **WCC barely audible (est. <25)**
Hillview	4:28 pm	49	n/a	0.4 m/s SE	Traffic (46), **WCC (43)**, birds (35)
Railway View	4:45 pm	50	n/a	0.9 m/s SE	**WCC (49)** traffic (44)
Hazeldene	5:06 pm	38	n/a	0.4 m/s SE	Traffic (34), birds (34), **WCC (33)**
Escott	3:35 pm	35	n/a	1.3 m/s SE	Birds & dogs (33), **WCC (31)**

Table 2
WCC Noise Monitoring Results – 29 July 2009 (evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	8:29 pm	42	> +3	2.2 m/s SW	**WCC (42)**
Cintra	8:46 pm	42	> +3	1.3 m/s W	Train (33), insects (29), traffic (25), **WCC (<25)**
Old Colliery	9:42 pm	53	> +3	0.9 m/s W	**WCC (53)**
Mountain View	7:30 pm	37	> +3	0.4 m/s SE	Distant traffic (36), train (28), **WCC inaudible**
Hillview	9:04 pm	60	> +3	2.2 m/s N	Train (60), **WCC (47)**
Railway View	9:23 pm	48	> +3	Calm	**WCC (45)**, traffic (45), insects (35)
Hazeldene	7:47 pm	43	> +3	Calm	Traffic (42), **WCC (32)**, sheep (30)
Escott	8:12 pm	43	> +3	1.3 m/s W	Horses (42), **WCC (35)**, insects (28)

Table 3
WCC Noise Monitoring Results – 29 and 30 July 2009 (night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	10:37 pm	42	> +3	Calm	**WCC (42)**, insects (25)
Cintra	10:55 pm	41	> +3	Calm	**WCC (41)**
Old Colliery	10:00 pm	47	> +3	Calm	**WCC (47)**
Mountain View	12:15 am	34	> +3	Calm	**WCC (32)**, distant traffic (30)
Hillview	11:12 pm	50	> +3	0.4 m/s SE	Traffic (47), **WCC (46)**
Railway View	12:55 am	52	> +3	Calm	**WCC (52)**, traffic (40)
Hazeldene	12:32 am	45	> +3	Calm	Traffic (44), insects & animals (35), **WCC (33)**
Escott	10:20 pm	36	> +3	Calm	**WCC (36)**

The results in **Tables 1, 2** and **3** show received noise levels in excess of 35 dB(A) Leq (15 min) noise criterion were recorded at Old Colliery, Railway View and Hillview during each of the day, evening and night monitoring periods, at Zeolite Australia during the evening and night and at Cintra and Escott during the night. At Old Colliery, Railway View and Hillview the noise was attributable to all general open cut mine noise including engine revs, haul truck noise, dozer tracks etc. At Zeolite Australia, Cintra and Escott whilst noise from the open cut operation was a contributor to the overall measured levels, the most significant contributor was noise from the rail loading facility. This included noise from the loader, the train on the rail loop and from the dozers working on the coal stockpile.

Railway View, Hillview, Old Colliery and Escott are mine owned properties. The mine has an agreement with the landowners at Cintra and Zeolite Australia in regards to elevated noise levels. The agreement allows for an additional 5 dB(A) Leq (15 min) over the noise criterion.

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

Data from the mine operated weather station showed a temperature inversion of greater than +3° C/100m active throughout the late afternoon of July 29 and continuing until the morning of July 30. The elevated noise levels at Zeolite Australia and Cintra were, therefore, measured under non compliant atmospheric conditions.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed 45 dB(A) Lmax between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine. During the night time measurement circuit Lmax noise from WCC exceeded the sleep disturbance criterion at Old Colliery, Railway View and Hilview. The Lmax noise levels were attributable to loud engine revs and impacts. All of these residences are mine owned. At Mountain View the Lmax from impact noise was 45 dB(A) and at Hazeldene the Lmax from engine revs was 44 dB(A).

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

19 August 2009

Ref: 04035/3221

Mr. Lynden Cini
Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: AUGUST 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the morning of Monday 17th August and finishing in the morning of Tuesday 18th August 2009. Noise measurement locations for the attended noise survey are listed below:

Location R2:	Zeolite Australia
Location R3:	Cintra
Location R4:	Old Colliery*
Location R5:	Mountain View
Location R6:	Hillview*
Location R7:	Railway View*
Location R8:	Hazeldene
Location R10:	Escott*

* Hillview, Railway View, Old Colliery and Escott are mine owned residences.

Noise levels were also measured at "Marengo" to the west of Railway View. This location was not listed as a receiver in the EIS for the mine and, therefore, is not noted with an R prefix.

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that during the day time monitoring period winds were gusty from the south west. Wind speeds dropped off during the evening and night and turned from a southerly direction.

Temperature data from the mine operated weather station indicated a strong temperature inversion (>+3^{o}C/100m) active from early evening. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 17 August 2009 (day)

Location	Time	dB(A),Leq	Inversion ^{o}C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	3:55 pm	48	n/a	5.8 m/s SW	Wind (47), birds (40), Zeolite Australia (30), **WCC inaudible**
Cintra	4:12 pm	47	n/a	6.7 m/s SW	Wind (46), birds (40), **WCC (<30)**
Old Colliery	4:50 pm	46	n/a	5.6 m/s SW	**WCC (46)**, birds (32)
Mountain View	5:44 pm	51	n/a	4.9 m/s SW	Birds (51), traffic (30), **WCC inaudible**
Hillview	4:30 pm	58	n/a	6.3 m/s SW	Traffic (58), **WCC (44)**, birds (40)
Railway View	5:07 pm	52	n/a	5.6 m/s SW	**WCC (50)**, traffic (49),
Hazeldene	5:27 pm	35	n/a	4.5 m/s SW	Birds & insects (32), traffic (32), **WCC inaudible**
Escott	3:37 pm	48	n/a	5.8 m/s SW	Dogs (48),, wind (35), **WCC inaudible**
Marengo	3:06 pm	41	n/a	6.3 m/s SW	Birds & insects (39), wind (35), **WCC (est. <30)**

Table 2
WCC Noise Monitoring Results – 17 August 2009 (evening)

Location	Time	dB(A),Leq	Inversion ^{o}C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	7:37 pm	38	> +3	6.5 m/s SW	Wind (36), insects (32), **WCC inaudible**
Cintra	7:55 pm	39	> +3	3.5 m/s SSW	**WCC (37)**, insects (32)
Old Colliery	9:40 pm	49	> +3	2.9 m/s S	**WCC (49)**, insects (34)
Mountain View	7:07 pm	32	> +3	7.0 m/s S	**WCC (31)**, insects (24)
Hillview	9:02 pm	74	> +3	2.7 m/s S	Train (74), traffic (50), **WCC (44)**, insects (35)
Railway View	9:20 pm	56	> +3	2.6 m/s S	**WCC (56)**
Hazeldene	6:50 pm	29	> +3	6.9 m/s S	**WCC (29)**
Escott	7:20 pm	30	> +3	7.0 m/s SW	Dogs & insects (30), **WCC barely audible (est. <25)**
Marengo	8:25 pm	40	> +3	3.8 m/s SE	**WCC (39)**, insects (32)

Table 3 WCC Noise Monitoring Results – 17 and 18 August 2009 (night)					
Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	10:37 pm	41	> +3	2.0 m/s S	**WCC (39)**, wind (37)
Cintra	10:55 pm	44	> +3	3.1 m/s S	Train (42), **WCC (39)**, insects (34)
Old Colliery	10:01 pm	47	> +3	3.1 m/s SSW	**WCC (47)**
Mountain View	1:17 am	31	> +3	0.9 m/s SSE	Insects (30), **WCC (25)**
Hillview	11:12 pm	52	> +3	3.6 m/s S	Traffic (50), **WCC (47)**
Railway View	1:40 am	57	> +3	1.8 m/s SSE	Train (56), **WCC (51)**
Hazeldene	1:00 am	36	> +3	2.2 m/s S	Traffic (32), sheep (31), insects (30), **WCC inaudible**
Escott	10:20 pm	37	> +3	2.0 m/s S	**WCC (34)**, dogs (34)
Marengo	12:35 am	40	> +3	2.6 m/s S	**WCC (38)**, frogs & insects (34)

The results in **Tables 1, 2** and **3** show received noise levels in excess of 35 dB(A) Leq (15 min) noise criterion were recorded at Old Colliery, Hillview and Railway View during each of the day, evening and night monitoring periods, and at Cintra and Marengo during the evening and night.

Railway View and Hillview are mine owned properties. The mine has an agreement with the landowner at Cintra in regards to elevated noise (to a level 5 dB(A) above the operational noise criterion).

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

Data from the mine operated weather station showed a temperature inversion of greater than +3° C/100m active throughout the evening and night of August 17 and continuing until the morning of August 18. The elevated noise levels at each of the locations detailed were, therefore, measured under non compliant atmospheric conditions.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC exceeded the sleep disturbance criterion at Old Colliery, Railway View and Hillview. The Lmax noise levels were attributable to loud engine revs. All three residences are mine owned and Old Colliery and Railway View are unoccupied.

At Marengo loud revs were measured at an Lmax level of 45 dB(A) which is equal to the sleep disturbance criterion. This occurred under the above detailed temperature inversion conditions. The sleep disturbance criterion is applicable at the bedroom window of a residence. It is not known where the bedrooms are in the residence at Marengo.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

21 September 2009

Ref: 04035/3269

Mr. Lynden Cini
Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: SEPTEMBER 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the morning of Tuesday 1st September and finishing in the morning of Wednesday 2nd September 2009. Noise measurement locations for the attended noise survey are listed below:

Location R2:	Zeolite Australia
Location R3:	Cintra
Location R4:	Old Colliery*
Location R5:	Mountain View
Location R6:	Hillview*
Location R7:	Railway View*
Location R8:	Hazeldene
Location R10:	Escott*

* Hillview, Railway View, Old Colliery and Escott are mine owned residences.

Noise levels were also measured at "Marengo" to the west of Railway View. This location was not listed as a receiver in the EIS for the mine and, therefore, is not noted with an R prefix. The gates to Old Colliery were locked during the survey and, as this residence is mine owned, the monitoring was not carried out there.

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that during the day time monitoring period winds were light and from varying directions. During the evening the wind shifted to a general southerly direction before dropping to calm during the night.

Temperature data from the mine operated weather station indicated a strong temperature inversion (>+3°C/100m) active from early evening. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 1 September 2009 (day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	3:10 pm	41	n/a	1.8 m/s SW	Birds (40), Zeolite Australia (33), **WCC (30)**
Cintra	3:27 pm	42	n/a	1.8 m/s WNW	Birds (40), **WCC (38)**
Mountain View	5:06 pm	36	n/a	0.9 m/s SE	Cattle (34), birds (32), **WCC barely audible**
Hillview	3:45 pm	48	n/a	1.3 m/s WSW	Traffic (48), **WCC (35)**, birds (20)
Railway View	4:05 pm	47	n/a	1.3 m/s SSW	Traffic (44), **WCC (43)**, cattle (33)
Hazeldene	5:25 pm	42	n/a	1.8 m/s NW	Traffic (41), birds (34), **WCC barely audible (est. <25)**
Escott	2:50 pm	29	n/a	2.7 m/s SW	Birds (26), **WCC (24)**, traffic (22)
Marengo	4:40 pm	32	n/a	0.4 m/s SE	Birds & insects (31), **WCC (25)**

Table 2
WCC Noise Monitoring Results – 1 September 2009 (evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	8:55 pm	29	> +3	1.3 m/s SSE	**WCC (29)**
Cintra	9:12 pm	39	> +3	0.9 m/s SSE	**WCC (39)**
Mountain View	7:25 pm	29	> +3	1.3 m/s N	Traffic (29), cattle (25), **WCC (<20)**
Hillview	9:27 pm	50	> +3	1.3 m/s SE	**WCC (48)**, traffic (47)
Railway View	9:45 pm	50	> +3	1.3 m/s SE	Traffic (49), **WCC (44)**
Hazeldene	7:43 pm	35	> +3	0.9 m/s NW	Traffic (32), **WCC (32)**
Escott	8:37 pm	32	> +3	1.3 m/s S	**WCC (30)**, insects (28)
Marengo	8:07 pm	35	> +3	0.9 m/s SW	**WCC (32)**, train (31), frogs & insects (27)

Table 3 WCC Noise Monitoring Results – 1 and 2 September 2009 (night)					
Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Zeolite Australia	10:25 pm	33	> +3	Calm	**WCC (33)**
Cintra	10:42 pm	35	> +3	0.9 m/s SSW	**WCC (31)**, insects & dogs (30), traffic (30)
Mountain View	12:52 am	34	> +3	Calm	**WCC (33)**, insects (26)
Hillview	11:00 pm	54	> +3	0.4 m/s SSW	Traffic (51), **WCC (51)**
Railway View	11:20 am	55	> +3	Calm	**WCC (55)**
Hazeldene	12:35 am	37	> +3	Calm	Traffic (35), **WCC (33)**, insects (30)
Escott	10:07 pm	30	> +3	Calm	**WCC (30)**
Marengo	1:25 am	32	> +3	Calm	**WCC (30)**, frogs & insects (27)

The results in **Tables 1, 2** and **3** show received noise levels in excess of 35 dB(A) Leq (15 min) noise criterion were recorded at Railway View during each of the day, evening and night monitoring periods, at Cintra during the day and evening and Hillview during the evening and night.

At Railway View and Hillview the noise was due to all emissions from the open cut operations including Haul truck engine revs, shovel and dozer tracks etc. At Cintra the noise was attributable to the dozers working on the coal stockpile at the rail load out facility.

Railway View and Hillview are mine owned properties. The mine has an agreement with the landowner at Cintra in regards to elevated noise (to a level 5 dB(A) above the operational noise criterion).

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

Data from the mine operated weather station showed a temperature inversion of greater than +3° C/100m active throughout the evening and night of September 1 and continuing until the morning of September 2. During the evening and night time periods the elevated noise levels at each of the locations detailed were, therefore, measured under non compliant atmospheric conditions.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC exceeded the sleep disturbance criterion at Railway View and Hillview. The Lmax noise levels were attributable to loud engine revs and dozer tracks. Both residences are mine owned.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

21 October 2009

Ref: 04035/3316

Mr. Lynden Cini
Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: OCTOBER 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the evening of Wednesday 14th October and finishing in the morning of Thursday 15th October 2009. Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that throughout all monitoring period winds were moderate generally from the west to north.

Temperature data from the mine operated weather station indicated a mild to strong temperature inversion (>+3^{o}C/100m) active from early evening. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 14 October 2009 (evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	8:43 pm	35	> +3	3.1 m/s WSW	Insects (34), traffic (30), **WCC inaudible**
Glenara	9:00 pm	30	< +3	2.7 m/s W	**WCC (26)**, traffic (25), plane (25), insects (22)
Cintra	8:20 pm	33	< +3	3.6 m/s WSW	Insects (32), traffic (30), **WCC (23)**
Marengo	9:43 pm	33	> +3	2.7 m/s W	**WCC (31)**, insects (25), traffic (25)
Tonsley Park	7:57 pm	31	> +3	2.7 m/s WSW	Traffic (28), insects (28), **WCC inaudible**
Fletcher	9:18 pm	30	> +3	2.7 m/s W	Insects (26), traffic (25), **WCC (24)**

Table 2
WCC Noise Monitoring Results – 14/15 October 2009 (night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	12:58 am	26	> +3	1.8 m/s WNW	**WCC (25)**, insects (20)
Glenara	12:40 am	26	> +3	2.2 m/s NW	**WCC (26)**, traffic (20)
Cintra	10:06 pm	32	> +3	2.2 m/s WNW	Wind in trees (30), dog (26), traffic (25), **WCC barely audible**
Marengo	11:03 pm	34	> +3	1.8 m/s WNW	**WCC (32)**, train (30), insects (20)
Tonsley Park	10:28 pm	30	> +3	2.2 m/s WNW	Train (26), traffic (22), **WCC (22)**, insects (20)
Fletcher	11:30 pm	56	> +3	2.2 m/s WNW	Train (56) traffic (40), **WCC inaudible**

Table 3
WCC Noise Monitoring Results – 15 October 2009 (day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	8:59 am	35	n/a	4 m/s WNW	Birds & insects (34), **WCC (28)**
Glenara	8:41 am	39	n/a	3.6 m/s WNW	Traffic (36), insects (35), **WCC (30)**
Cintra	7:23 am	43	n/a	3.6 m/s NW	**WCC (40)**, birds & insects (37), traffic (37)
Marengo	8:02 am	42	n/a	2.2 m/s NNW	**WCC (40)**, insects (35), cattle (30)
Tonsley Park	7:04 am	48	n/a	3.6 m/s N	Traffic (48), **WCC barely audible**
Fletcher	8:23 am	39	n/a	3.1 m/s WNW	Traffic (38), birds (30), **WCC barely audible**

The results in **Tables 1, 2** and **3** show received noise levels in excess of 35 dB(A) Leq (15 min) noise criterion were recorded at Marengo and Cintra during the day time monitoring period.

At Marengo the noise was due to all emissions from the open cut operations including haul truck engine revs, shovel and dozer tracks etc. At Cintra the noise was attributable to the dozers working on the coal stockpile at the rail load out facility.

The mine has an agreement with the landowner at Cintra in regards to elevated noise (to a level 5 dB(A) above the operational noise criterion).

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

Data from the mine operated weather station showed that at the time of the monitoring at Cintra the wind speed was greater than 3m/s and, therefore, the elevated noise levels at this time was measured under non compliant atmospheric conditions.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

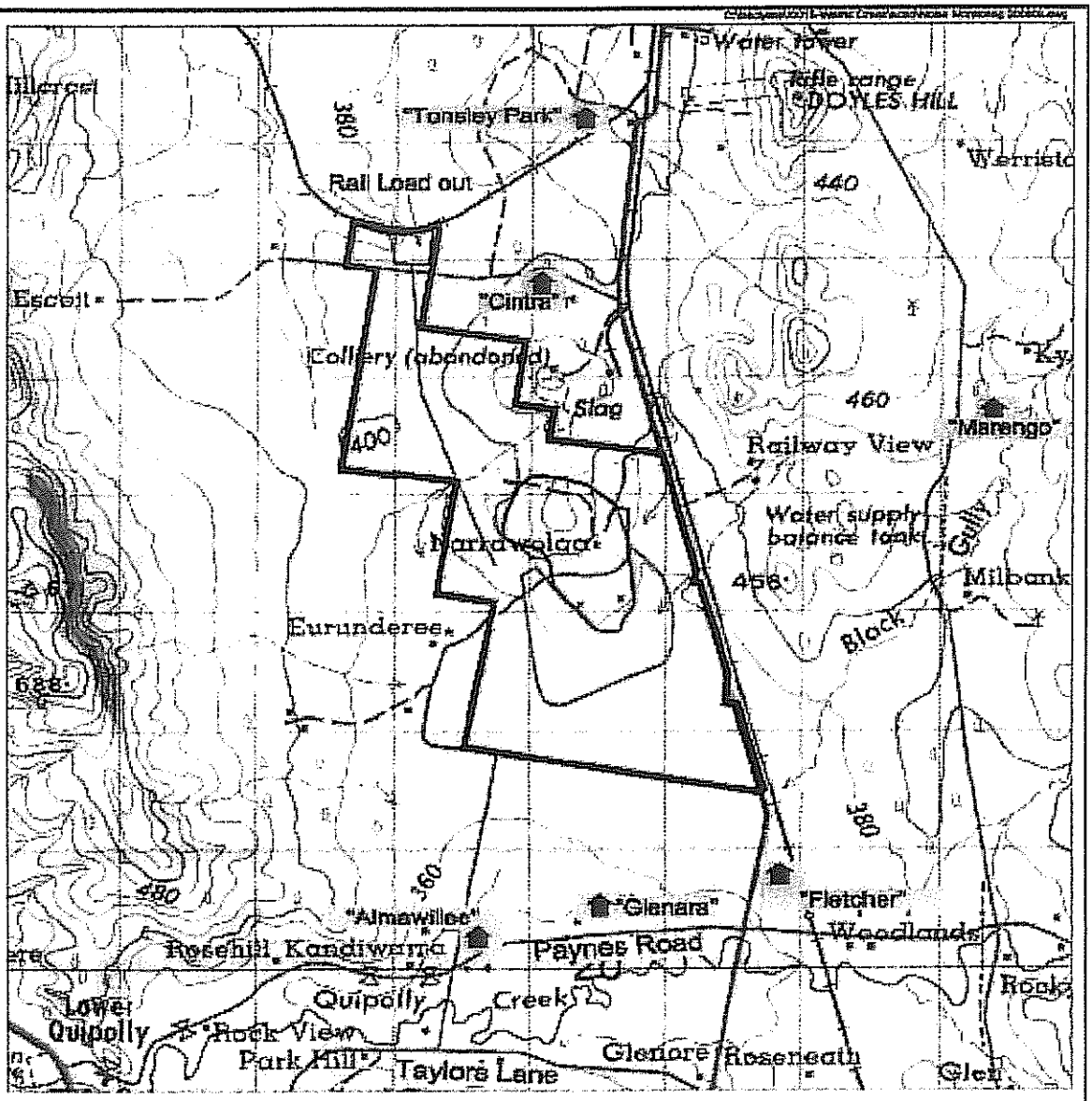

Figure 1
ASSESSMENT LOCATIONS - NOISE

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

1 December 2009

Ref: 04035/3316

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: NOVEMBER 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the evening of Wednesday 25th November and finishing in the morning of Thursday 26th November 2009. Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1:**

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that throughout all monitoring period winds were light to gentle and varying in direction from West north west to the east.

Temperature data from the mine operated weather station indicated a mild to strong temperature inversion (>+3^{o}C/100m) active throughout parts of the evening and night time monitoring periods. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

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Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 25 November 2009 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	5:45 pm	42	n/a	2.2/SSW	Birds & insects (42), traffic (30), **WCC barely audible**
Glenara	5:28 pm	41	n/a	1.8/WNW	Birds (41), traffic (26), **WCC inaudible**
Cintra	4:51 pm	35	n/a	1.3/SSE	Insects & birds (35), traffic (29), **WCC (25)**
Marengo	4:00 pm	31	n/a	2.7/WSW	Insects (28), **WCC (26)**, plane (22)
Tonsley Park	4:31 pm	38	n/a	4.0/SE	Traffic (36), insects (33), **WCC inaudible**
Fletcher	5:10 pm	32	n/a	2.2/WNW	Birds & insects (30), traffic (28), **WCC inaudible**

Table 2
WCC Noise Monitoring Results – 25 November 2009 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	9:42 pm	38	>+3	4.0/SE	Insects (34), domestic noise (34), **WCC (30)**
Glenara	9:25 pm	40	+2	4.2/SE	Traffic (40), insects (30), **WCC inaudible**
Cintra	8:50 pm	39	>+3	4.9/SE	Traffic (34), **WCC (33)**, cattle (33)
Marengo	7:55 pm	35	>+3	3.1/SE	Insects & frogs (35), **WCC barely audible**
Tonsley Park	8:30 pm	49	+1	5.4/SE	Insects (49), traffic (35), **WCC (30)**
Fletcher	9:08 pm	32	>+3	4.2/SE	Birds & insects (32), **WCC inaudible**

Table 3
WCC Noise Monitoring Results – 25/26 November 2009 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	11:42 pm	37	>+3	0.9/NE	Insects (31), traffic (31), irrigators (30), **WCC (30)**
Glenara	11:23 pm	35	>+3	1.3/E	Insects (31), traffic (30), **WCC (29)**
Cintra	11:08 pm	33	>+3	2.6/E	**WCC (30)**, insects (28), traffic (26)
Marengo	10:26 pm	40	>+3	3.1/ENE	Wind (38), insects (35), **WCC inaudible**
Tonsley Park	10:47 pm	44	>+3	4.0/ENE	Insects (44), traffic (35), **WCC inaudible**
Fletcher	10:05 pm	36	+2	2.7/ESE	Traffic (34), insects (32), **WCC inaudible**

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC did not exceed the criterion of 35 dB(A) at any monitoring location during any monitoring period.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

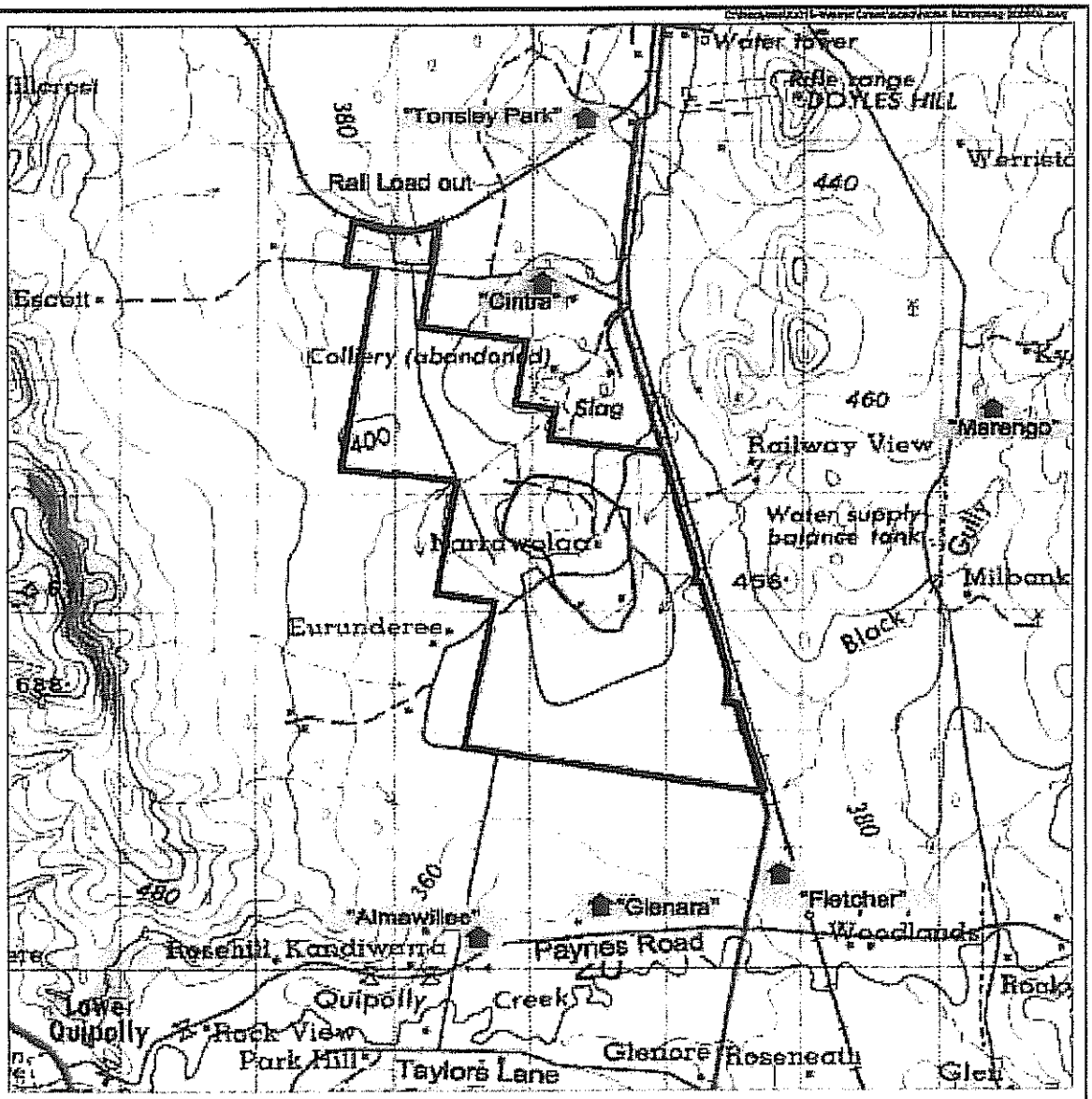

Figure 1
ASSESSMENT LOCATIONS - NOISE

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

16 December 2009

Ref: 04035/3364

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: DECEMBER 2009 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the evening of Thursday 10th December and finishing in the morning of Friday 11th December 2009. Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were light from the north to north west during the evening and night of December 10 and variable from the north to the south during the morning of December 11.

Temperature data from the mine operated weather station indicated a mild to strong temperature inversion (>+3^{o}C/100m) active during all of the evening and night time monitoring periods. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

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ABN: 40 106 435 554
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PO Box 374 Wallsend NSW 2287
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Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 11 December 2009 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	9:02 am	37	n/a	3.1/S	Insects (37), traffic (30), **WCC barely audible (<25)**
Glenara	8:44 am	45	n/a	2.7/S	Birds (45), **WCC (<25)**
Cintra	7:12 am	41	n/a	0.9/NNE	**WCC (40)**, insects & birds (33)
Marengo	8:06 am	33	n/a	0.9/NE	Birds &insects (31), **WCC (27)**, plane (26)
Tonsley Park	7:35 am	39	n/a	1.8/NW	Insects (35), train (35), **WCC (32)**
Fletcher	8:26 am	45	n/a	2.2/SSE	Birds (44), traffic (39), **WCC inaudible**

Table 2
WCC Noise Monitoring Results – 10 December 2009 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	9:00 pm	38	>+3	1.8/N	Domestic noise (35), Insects (33), **WCC (30)**
Glenara	8:42 pm	35	>+3	2.2/N	Traffic (32), insects (29), **WCC (29)**
Cintra	7:25 pm	41	>+3	1.8/N	Traffic (39), Insects (34), **WCC inaudible**
Marengo	8:04 pm	35	>+3	2.7/N	Insects & frogs (35), **WCC barely audible**
Tonsley Park	7:40 pm	32	>+3	0.9/N	Traffic (31), insects (25), **WCC inaudible**
Fletcher	8:25 pm	43	>+3	3.6/N	Traffic (43), insects (33), **WCC (<25)**

Table 3
WCC Noise Monitoring Results – 10 December 2009 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	11:45 pm	38	>+3	2.2/N	Frogs & insects (37), traffic (28), **WCC inaudible**
Glenara	11:29 pm	35	>+3	2.7/NNW	Traffic (32), insects (31), **WCC (25)**
Cintra	11:09 pm	34	>+3	2.9/NW	Traffic (32) Insects (27), **WCC inaudible**
Marengo	10:27 pm	39	>+3	4.0/NW	Traffic (35), insects (34), **WCC (32)**
Tonsley Park	10:50 pm	39	>+3	2.6/NW	Insects (39), traffic (29), **WCC inaudible**
Fletcher	10:05 pm	37	>+3	3.6/NW	Traffic (36), **WCC (28)**, insects (25)

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC only exceeded the criterion of 35 dB(A) at the monitoring location at Cintra during the day time monitoring period. A train was being loaded at the time and the noise at Cintra was due to emissions from the dozer working on the coal stockpile, trucks arriving and departing the rail loading facility and the train being loaded. WCC has an agreement in place with the owner of Cintra in regards to elevated noise levels.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

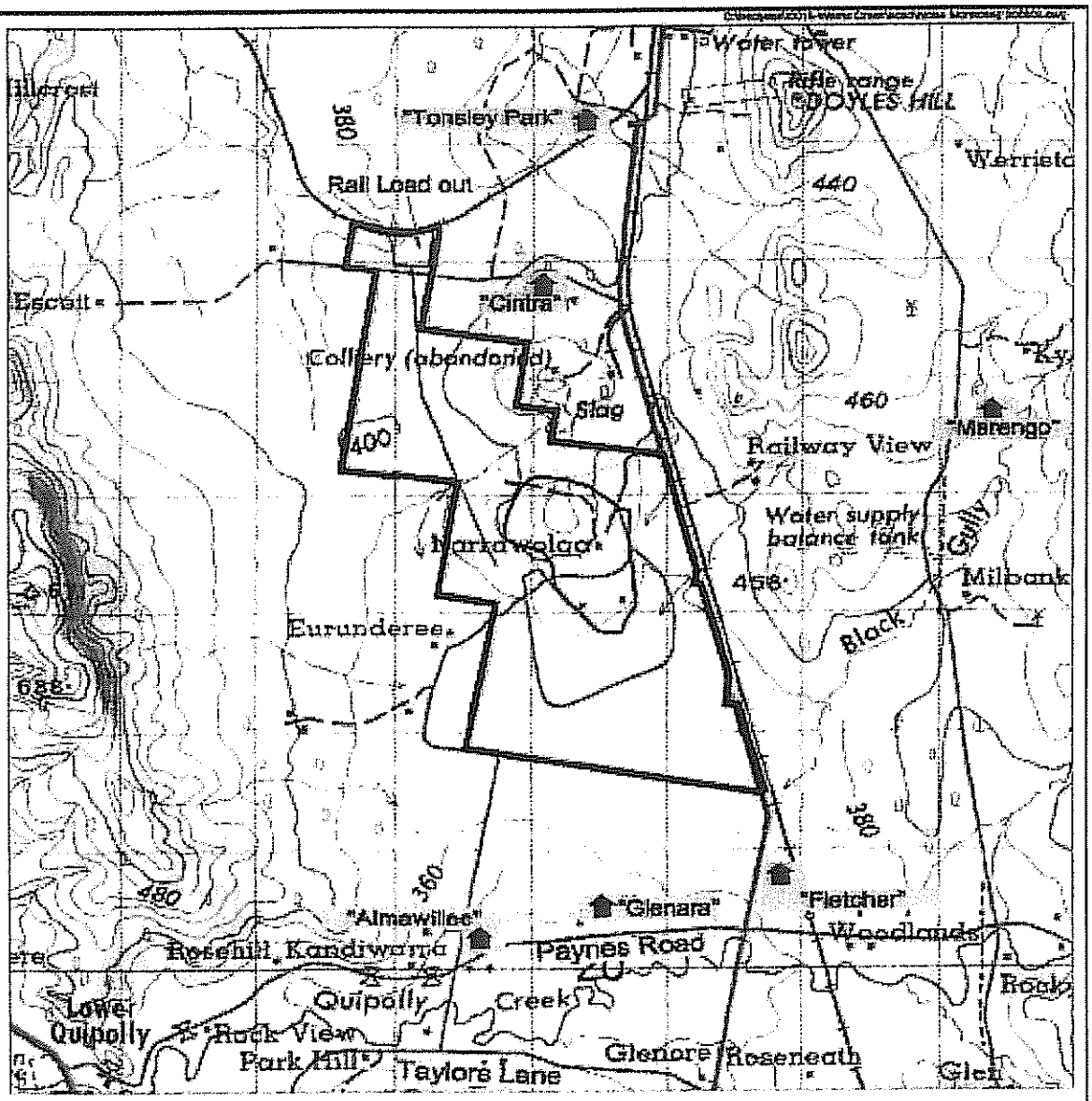

Figure 1
ASSESSMENT LOCATIONS - NOISE

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

25 January 2010

Ref: 04035/3408

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: JANUARY 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the evening of Tuesday 19th January 2010 and finishing in the morning of Wednesday 20th January 2010. Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were light to gentle form the south west during the day dropping off during the evening of January 19. At night the conditions were calm.

Temperature data from the mine operated weather station indicated a mild to strong temperature inversion (>+3^{o}C/100m) active during all of the evening and night time monitoring periods. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Spectrum Acoustics Pty Limited
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Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 19 January 2010 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	2:36 pm	42	n/a	2.7/WSW	Insects (40), wind (38), **WCC barely audible (<25)**
Glenara	2:53 pm	45	n/a	3.6/WSW	Birds (43), wind (39), **WCC (31)**
Cintra	4:23 pm	45	n/a	4.5/SW	Insects & birds (43), **WCC (38)**, wind (36)
Marengo	3:38 pm	46	n/a	4.9/WSW	Insects (45), wind (40), **WCC barely audible (<25)**
Tonsley Park	4:03 pm	43	n/a	4.5/SW	Insects (43), **WCC (32)**
Fletcher	3:14 pm	43	n/a	6.3/SW	Traffic (43), birds & insects (40), **WCC inaudible**

Table 2
WCC Noise Monitoring Results – 19 January 2010 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	7:20 pm	44	Lapse	3.1/SW	Insects & birds (43), traffic (36), **WCC inaudible**
Glenara	7:38 pm	36	>+3	1.3/SW	Insects (35), traffic (30), **WCC barely audible**
Cintra	9:11 pm	37	>+3	1.3/SW	**WCC (35)**, insects (32)
Marengo	8:22 pm	36	>+3	0.9/SW	Insects (33), **WCC (33)**
Tonsley Park	8:50 pm	49	>+3	Calm	Insects (49), **WCC (30)**
Fletcher	7:57 pm	44	>+3	1.3/SW	Traffic (42), insects (38), **WCC (est. <25)**

Table 3
WCC Noise Monitoring Results – 20 January 2010 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	1:16 am	31	>+3	Calm	**WCC (30)**, insects (25)
Glenara	12:55 am	33	>+3	Calm	**WCC (30)**, traffic (29), insects (25)
Cintra	1:47 am	31	>+3	Calm	**WCC (30)**, insects (25)
Marengo	2:30 am	40	>+3	Calm	**WCC (39)**, traffic (30), insects (20)
Tonsley Park	2:09 am	35	>+3	Calm	**WCC (32)**, train (30), insects (27)
Fletcher	2:54 am	32	>+3	Calm	**WCC (30)**, traffic (26)

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Cintra monitoring location during the day and at the Marengo monitoring location during the night.

The elevated noise at Cintra during was mainly as a result of emissions from the dozer working on the coal stockpile and trucks arriving and departing the rail loading facility. WCC has an agreement in place with the owner of Cintra in regards to elevated noise levels.

The elevated noise at Marengo was as a result of a number of noises from the mine including mine hum, revving and dumping noise from haul trucks and engine noise.

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

Data from the mine operated weather station showed a temperature inversion of greater than +3° C/100m active throughout the evening and night of January 19 and continuing until the morning of January 20. The elevated noise level when the monitoring was carried out at Marengo was, therefore, measured under non compliant atmospheric conditions.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers. The maximum noise from the mine at Marengo during the night time measurement was 45 dB(A) Lmax.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

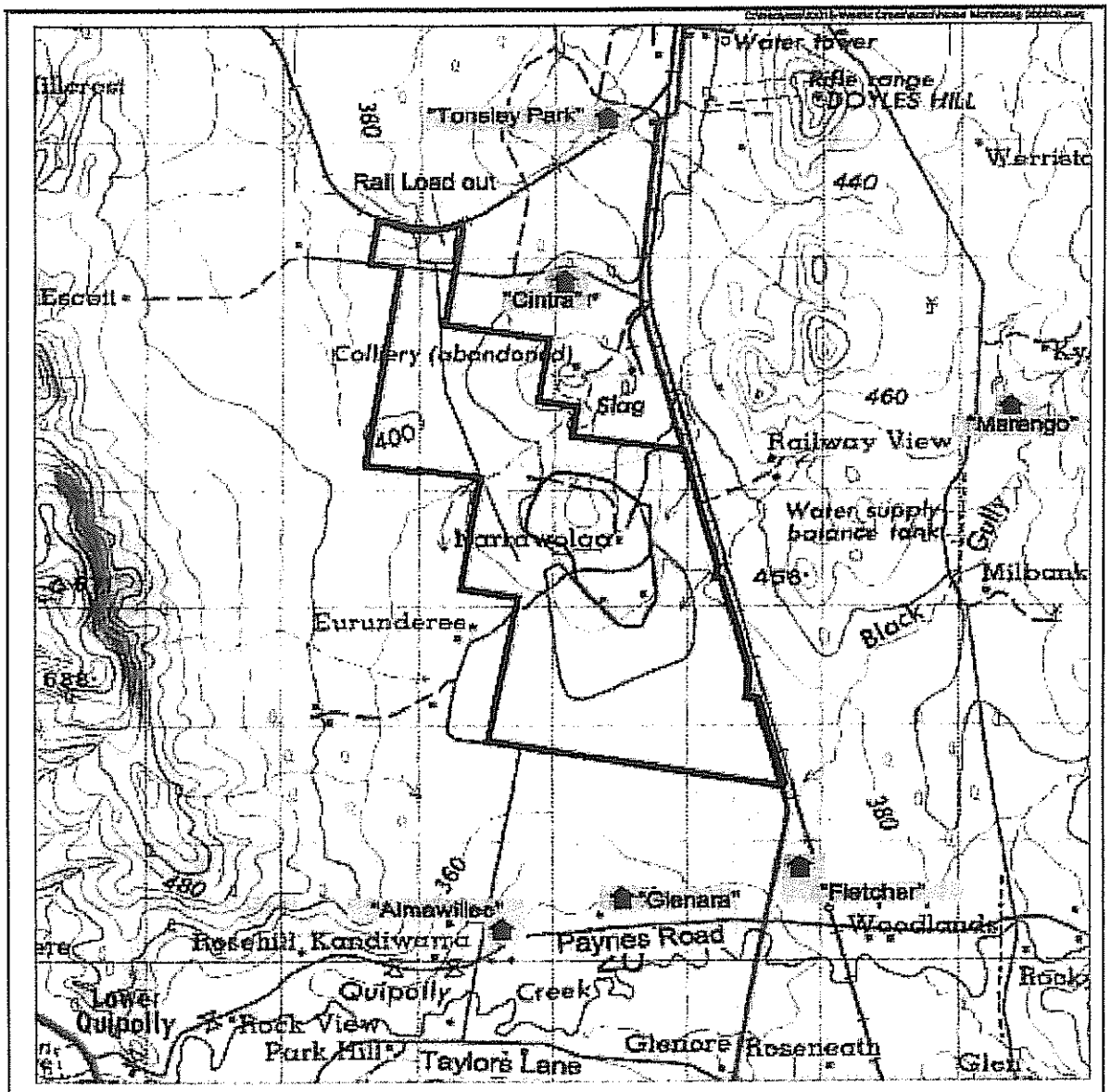


Figure 1
ASSESSMENT LOCATIONS - NOISE

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

1 March 2010

Ref: 04035/3456

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: FEBRUARY 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) commencing in the afternoon of Tuesday 23rd February 2010 and finishing in the early morning of Wednesday 24th February 2010. Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were light from the west to north west during the day. Wind speeds and direction were variable in the evening before turning to be from the south at night.

Temperature data from the mine operated weather station indicated a weak temperature inversion (<+3°C/100m) at times during the evening and night time monitoring periods. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Spectrum Acoustics Pty Limited
ABN: 40 106 435 554
Suite 1, 1 Roath Street, Cardiff NSW 2285
PO Box 374 Wallsend NSW 2287
Phone: (02) 4954 2276
Fax: (02) 4954 2257

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 23 February 2010 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	9:43 am	36	n/a	0.9/NNW	Birds & insects (34), **WCC (30)**, farm noise (28)
Glenara	10:00 am	43	n/a	0.9/N	Birds & insects (43), **WCC (32)**
Cintra	11:10 am	43	n/a	3.3/WNW	Insects & birds (40), **WCC (40)**
Marengo	11:35 am	33	n/a	2.9/WNW	Birds & insects (32), horse (25), **WCC (22)**
Tonsley Park	10:49 am	45	n/a	2.2/WNW	Birds & insects (42), wind (40), train (37), **WCC (<30)**
Fletcher	10:26 am	38	n/a	3.1/W	Traffic (37), birds & insects (30), **WCC (28)**

Table 2
WCC Noise Monitoring Results – 23 February 2010 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	6:05 pm	49	Lapse	0.4/S	Birds & insects (49), **WCC inaudible**
Glenara	6:21 pm	37	+2	0.9/S	Birds & insects (37), **WCC barely audible (est. <20)**
Cintra	7:30 pm	40	+1	4.0/NW	Birds & insects (38), **WCC (37)**
Marengo	7:55 pm	35	Lapse	3.5/N	Birds & insects (33), **WCC (30)**
Tonsley Park	7:05 pm	39	Lapse	4.9/WNW	Birds & insects (38), **WCC (30)**
Fletcher	6:40 pm	48	Lapse	1.1/SW	Train (46), traffic (41), birds & insects (35), **WCC (30)**

Table 3
WCC Noise Monitoring Results – 24 February 2010 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	2:45 am	37	>+3	3.6/S	Insects & frogs (37), **WCC inaudible**
Glenara	2:28 am	38	+1	2.7/S	Insects (32), traffic (31), **WCC inaudible**
Cintra	12:55 am	38	+1	2.7/S	**WCC (37)**, insects (32)
Marengo	1:47 am	31	Lapse	2.7/S	Insects (31), **WCC barely audible (est. <20)**
Tonsley Park	1:19 am	40	Lapse	2.7/S	Insects (38), **WCC (30)**, traffic (33)
Fletcher	2:10 am	32	Lapse	2.7/S	**WCC (30)**, traffic (26)

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Cintra monitoring location during the day, evening and night.

The elevated noise at Cintra during was mainly as a result of emissions from dozers working on the coal stockpile and trucks arriving and departing the rail loading facility. Cintra is now a project related residence.

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

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers. The maximum noise from the mine at Marengo during the night time measurement was 45 dB(A) Lmax.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

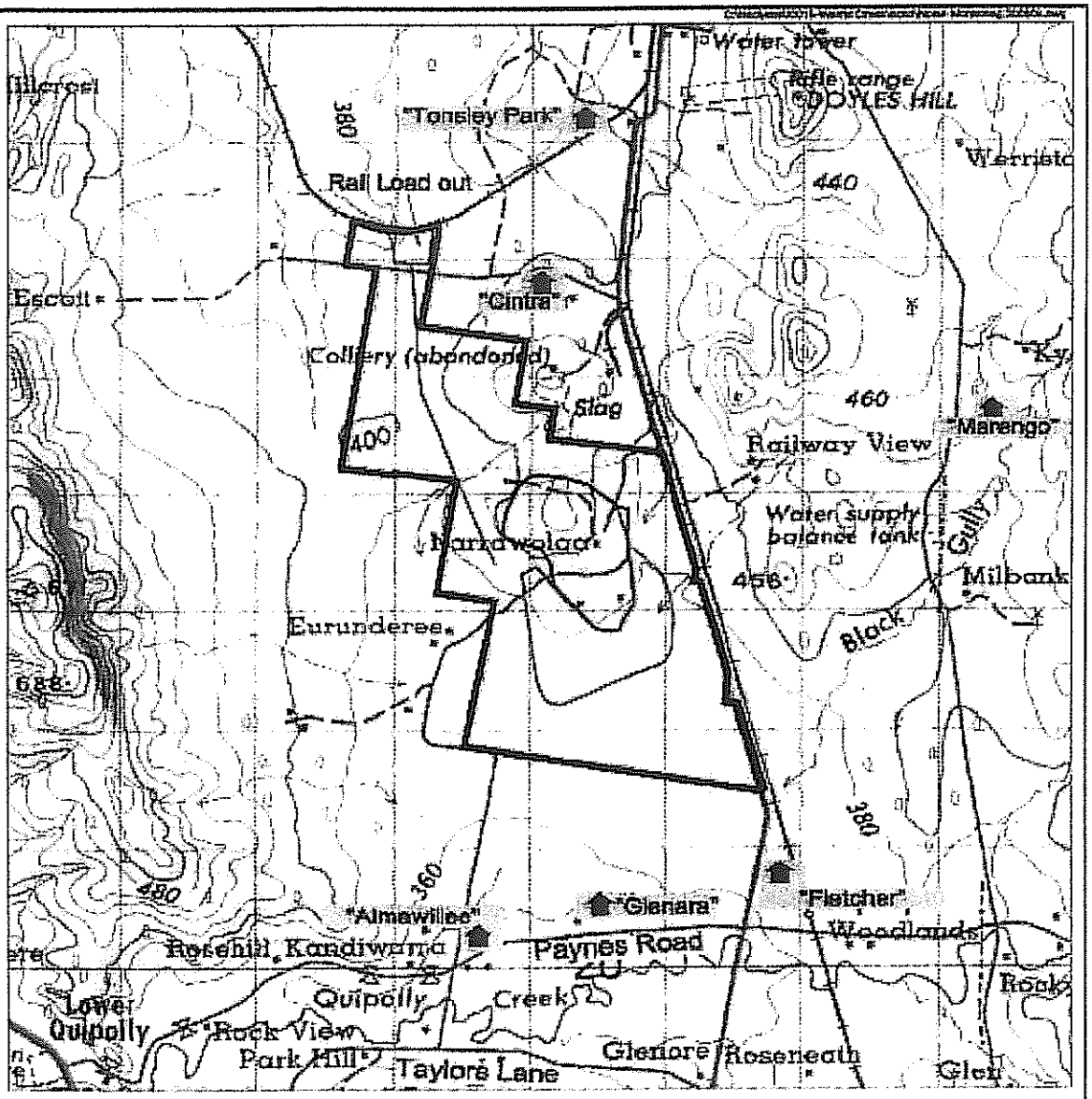


Figure 1
ASSESSMENT LOCATIONS - NOISE

Werris Creek Coal Mine Community Consultative Committee

Fifthteenth Meeting of the Committee

Whitehaven Coal Training Room, Werris Creek Coal Mine

9.30am Thursday 27 May 2010

MINUTES

1. **Record of Attendance:**

Ron Short (Chairman); Lindsay Bridge (Community Representative); Noel Taylor (Community Representative); Chris Holley (Community Representative); Col Stewart (Liverpool Plains Shire Council); Ron Van Katwyk (Liverpool Plains Shire Council); Des George (Werris Creek Coal - WCC); Mick Post (Project Manager WCC); Andrew Wright (Environmental Officer WCC); Lisa Single (WCC).

Lindsay Bridge left meeting at 11:00am.

Apologies: Jill Coleman (Community Representative).

Ron Short (RS) introduced new Liverpool Plains Shire Council (LPSC) representative, Councillor Col Stewart (CS).

2. **New Matters for Discussion under General Business**

1. Noel Taylor (NT) – Neighbour with a complaint regarding drop in bore water level
2. Chris Holley (CH) – Noise Complaints (dealt with during Environmental Report)
3. RS – Dust (dealt with during Environmental Report)
4. Mick Post (MP) – New Pacific Carbon Domestic Coal Train Loading Operation

3. **Matters Arising**

- Ron Van Katwyk (RVK) questioned whether Werris Creek is experiencing any adverse impact from blasting. Andrew Wright replied that WCC had received some complaints from Werris Creek about blasting, with one resident complaining about blasts during the night, but WCC does not blast at night. RVK stated that the night time complaints could be vibrations from trains. There have been two other blasting complaints in total. RS asked if WCC could keep Werris Creek residents informed about blasting times and particularly as blasting moves closer to the town. WCC could present to Precinct 355 Meeting which is attended by representatives of the Werris Creek community.
- RS stated that the community newsletter was a good initiative and CH requested that CCC member's names be added in the next newsletter edition.

4. **Minutes of Previous Meeting**

Minutes of the previous meeting 11th March 2010 were accepted as true representation of business conducted on day. Motion moved.

Moved: Lindsay Bridge Seconded: Noel Taylor. Motion carried

5. **Declaration of Pecuniary or other interests**

None declared.

6. Environmental Monitoring Report March & April 2010

Weather Stations – WCC will continue to run both weather stations in parallel to each other because the new weather station has a communication link back to the office and the older weather station measures an additional meteorological parameter call Sigma Theta required by the Environment Protection Licence. The availability of the weather station data was 100% for the period.
Dust – All dust monitoring locations were within compliance limits. One reading for March was 50 g/m^2/month at Tonsley Park was extremely high (while other locations maintained low levels), most likely a result of sample contamination at the laboratory.
Noise – a good two months of results with no non-compliances. There was one noise complaint from the former owner of Marengo. WCC has since purchased the property. No noise complaints have been received since.
Blasting – 21 blasts in the period and all within compliance limits. There were 2 blast complaints from a resident in Kurrara St who claims the blasts in January had caused cracks in her garage. WCC organized a structural assessment. The outcome was that poor drainage from a pathway had leaked into the foundations and the heavy rain in January caused the soil to swell under the garage resulting in the cracks. Also the blast monitor at Tonsley Park (~0.5km closer to the mine) recorded vibration levels less than 1mm per second, well below levels that would cause deformation of structures & buildings (damage is caused by blast vibrations 50-70mm). Based on this information WCC don't believe the cracks to Kurrara St are blast related. The resident has stated she will seek further advice.
Water Monitoring – no monitoring due to the short 2 month period.
Lighting – Kurrara St resident complained about lighting coming in her windows. This has been rectified after communications with OCE's.
Clearing – a complaint came through the DECCW environment line about WCC undertaking illegal clearing of old growth forests. After discussions with the DECCW, the complaint was regarding the clearing of trees close to Werris Creek Road. These trees were felled legally; however it did take a while before they were relocated around to the rehabilitation area.

RS had received a call from a member of the community regarding a dust pall that "hangs over Werris Creek Road". RS did investigate this by undertaking early morning drives along Taylor's Lane for 5 or 6 mornings, but could not find any evidence of excessive dust. MP agrees that there could be some dust in the morning depending on the weather conditions but not enough that would result in an exceedance.

Motion moved to accept the Environmental Monitoring Report March & April 2010

Moved: Col Stewart. Seconded: Chris Holley. Motion Carried.

7. General Business

CH received an issue from Mrs Margaret Muirson of 'Ickwell' Quipolly regarding the lights on Monday 3rd May around 6.53pm. She was travelling from Quipolly on the old dam road turning around towards Werris Creek; she was blinded as the lights were pointing in that direction. MP commented the OCE's drive around the mine area checking on the positioning of the lighting plants and adjusting them as they need. He will address this further with the OCE's.

NT received a call from Ray Capp with concerns that his water levels had dropped considerably. Noel went and measured his well and there was no unusual drop in his levels. Noel passed this on to Ray Capp and gave him AW's number. AW did receive a call and started to dip the well 2-3 times a week for the last 2 weeks. There has been minimal change in the water level since. This information was passed on to Ray Capp and he was not happy with this response. Ray Capp

then contacted Danny Young (Environmental Manager) and further monitoring will continue for the next couple of months.

RVK spoke with DECCW regarding train dust and had received minimal information. RVK asked if there is anything happening on measuring and assessing the cumulative impact of trains and dust emissions particular in the towns. AW stated there was no monitoring network planned for Liverpool Plains like there was for the upper Hunter. RS has had a number of residents complaining to him about the dust and he suggested for them to raise it with council so that the Rail Authority starts getting serious about dust emissions. CH suggests maybe using water sprays or build barriers along the rail line that goes through a town. RVK suggested that for future DA's submitted to Council contain the issues of barriers and covered coal trains and that he will raise the issue through Coal related council groups. MP said that trucks can't drive down the highway without their loads being covered so why doesn't it apply to the trains.

A new train loading area and stockpile will be built for Pacific Carbon to fill containers on trains with front end loader with their specific "nut" coal product. One train is expected per week.

WCC had undertaken habitat improvement of the rehabilitation area by reinserting stag trees. AW explained that the idea is to place stag trees into the rehabilitation so that in 10-20 years they will develop hollows which is sooner than it would otherwise take around another 100 years before you will have any "natural" stag trees. It is just shortening the timeframe that our rehab can provide habitat for the restoration of woodland communities as the flora and fauna recolonise the site. CS & RVK commends WCC for their initiative and hopes it continues.

The next WCC newsletter will have a dedicated artile for the CCC. RS indicated that he would be happy to write the article so if anyone has any input to speak with RS. The committee recommended that articles on the topics of stag trees, blasting and visual impact be included in the next edition.

RVK mentioned a workshop at the council chambers tomorrow with Martin Rush the Mayor of Muswellbrook who was also a Barrister and QC addressing the Council Mining Consultative Committee on the legal and political aspect on the impacts of mining. It starts at 10.30am finishing at 4.30pm. CCC was invited to attend.

CH indicated that he had started to go through the 4700 documents looking for information on the former Werris Creek Colliery history. RS met with Dora Coots (nee Thomas) whom has a lot of information and stories. This information will be used by WCC who have engaged a heritage consultant for the Life of Mine Project Environmental Assessment. RVK indicated that LPSC has engaged a heritage advisor (Ray Christenson) to visit once a month and that he would be interested in the findings of our studies.

Meeting Closed 11:45am.

Next Meeting was scheduled for August 2010

Copy to:

Ron Short	Chairman and Community Representative
Chris Holley	Community Representative
Jill Coleman	Community Representative
Noel Taylor	Community Representative
Lindsay Bridge	Community Representative

Colin Phillips	DoP	Casper Dieben	Werris Creek Coal
Michael Lloyd	I&I NSW	Brian Cullen	Werris Creek Coal
Ron Van Katwyk	LPSC	Danny Young	Werris Creek Coal
Cr Col Stewart	LPSC	Mick Post	Werris Creek Coal
		Des George	Werris Creek Coal
		Andrew Wright	Werris Creek Coal

WERRIS CREEK COAL PTY LTD

ENVIRONMENTAL MONITORING REPORT

March & April 2010

This Environmental Monitoring Report covers the period 1st March 2010 to 30th April 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.

CONTENTS

APPENDICES

1.0 METEOROLOGY

1.1 WEATHER STATION AVAILABILITY

Weather data was available for 100% of March 2010.
Weather data was available for 100% of April 2010.

2.0 AIR QUALITY

2.1 HVAS (PM10) Monitoring

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

Sample data 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 (ug/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	March (µg/m^3)	April (µg/m^3)
Cintra PM10	21	16
Tonsley Park PM10	16	7
Railway View PM10	21	8
Eurunderee PM10	19	9
Railway View TSP	51	23

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 50ug/m^3.

All PM10 sites are below the long term impact and land acquisition annual impact criteria of 30ug/m^3.

The TSP site is below the long term impact and land acquisition annual impact criteria of 90ug/m^3.

2.2 DEPOSITED DUST

2.2.1 Monitoring Data Results

A Table of the monthly average results are provided below; however see Appendix 2 – Deposited Dust Monitoring Results for more information.

Monitor Location	March (g/m^2/month)	April (g/m^2/month)
WC2 - Cintra	1.7	2.0
WC5 – Railway View	1.2	1.6
WC7 – Tongsley Park	50.0 – contaminated result excluded	0.9
WC8 – Plain View	3.1	0.7
WC9 - Marengo	1.1	0.4

All dust deposition gauges were below the monthly amenity criteria of 3.6g/m^2/month. However there was one sample for Tonsley Park during March that has been excluded due to a likely result of contamination during laboratory analysis.

2.3 AIR QUALITY COMPLAINTS

No complaints received regarding excessive dust for the period.

3.0 NOISE

3.1 OPERATIONAL NOISE

Monthly attended noise monitoring undertaken at the following locations:

- "Almawille"
- "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 that +3°C/100m.

3.1.1 Monitoring Data Results

Two Tables of the monthly results are provided below; however see Monthly Noise Reports under Appendix 3 for more detail.

MARCH 2010	Day			Evening			Night		
Location	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction
Almawillee	33	n/a	3.1/WNW	40#	>+3	2.7/SE	34	>+3	Calm
Glenara	35	n/a	3.6/WNW	37#	>+3	2.2/SE	36#	>+3	0.4/NW
Cintra	44*	n/a	3.6/W	38*	>+3	3.1/SW	34	>+3	Calm
Marengo	35	n/a	4.0/WNW	37#	>+3	2.2/SW	32	>+3	Calm
Tonsley Park	36#	n/a	3.6/NW	47#	>+3	2.7/SW	32	>+3	Calm
Fletcher	43#	n/a	3.6/W	44#	>+3	3.1/SW	34	>+3	Calm

* Elevated level due to mining operations but at a property that is Project Related or Private Agreement;
# Elevated level not due to mining operations;
@ Elevated level due to meteorological conditions;

APRIL 2010	Day			Evening			Night		
Location	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction	dB(A) Leq	Inversion °C/ 100m	Wind m/s/ direction
Almawillee	35#	n/a	Calm	40#	Lapse	1.5/WSW	37#	Lapse	0.9/NW
Glenara	39#	n/a	Calm	42#	Lapse	2.2/NW	36#	Lapse	2.2/W
Cintra	35	n/a	Calm	36#	Lapse	2.2/W	42*	Lapse	0.9/SW
Marengo	34	n/a	Calm	29	Lapse	2.6/W	26	Lapse	1.8/SW
Tonsley Park	35	n/a	Calm	42#	Lapse	1.3/WSW	36#	Lapse	2.0/SW
Fletcher	46#	n/a	Calm	46#	Lapse	2.2/WSW	38#	Lapse	2.0/W

* Elevated level due to mining operations but at a property that is Project Related or Private Agreement;
# Elevated level not due to mining operations;
@ Elevated level due to meteorological conditions;

3.1.2 Discussion - Compliance / Non Compliance

There was no noise exceedance recorded for March and April as a result of Werris Creek Coal's operations.

There were a number of elevated noise results from non-mining related sources (traffic, trains and environmental sources) were recorded at properties with private agreements or are project related (owned).

3.2 NOISE COMPLAINTS

There was one complaint related to noise from Werris Creek Coal from the former Marengo property owner received on 9th March 2010. Complaint was lodged during night shift operations and a prompt response was achieved with OCE and EO present at 2.30am and modifications were made to operations. Werris Creek Coal has subsequently purchased the property.

4.0 BLAST

Blast monitoring is undertaken at Glenala, Marengo, Thornsley Park and Cintra. Werris Creek Coal compliance limits for 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 21 blasts were fired by the blasting contractor, Orica Mining Services.

March 2010	13 blasts
April 2010	8 blasts

4.1 BLAST MONITORING

4.1.1 Monitoring Data Results

Please see noise monitoring data under Appendix 4.

4.1.2 Discussion - Compliance / Non Compliance

All blasts complied with license limits with no blast overpressure above 115dB(L) or 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.

4.1.3 Action Taken

Following the first of two blasting complaints being received from the Kurrara Street property in Werris Creek, WCC arranged for a structural inspection and assessment to be completed for the house. During the interview with the complainant on 17th March 2010, an accusation was made that another blast in January 2010 resulted in cracking of the arc above their garage door. An independent engineering firm, Kelly Covey completed the structural assessment determined that WCC blasting was unlikely to have caused the cracks because:

- WCC blasting overpressure and vibration levels are too low to cause damage as measured at nearby Tonsley Park. Overpressure and vibration studies have shown that damage starts at >140dBA and >50mm/s respectfully;
- A concrete path along the western wall of the garage drains rainfall runoff towards the wall. This is likely to result in saturation of the foundation of the garage and given the black soil shrink/swell behavior is the likely cause of the cracking in the garage brickwork.

4.2 BLAST COMPLAINTS

There were two complaints received regarding blasting at WCC, both from the Kurrara Street resident:

- 17th March – blast results were in compliance, however there was a louder than normal overpressure due to a couple of blast holes rifling and this loud sound would of cause a "whack" against her windows;
- 23rd April - blast results were in compliance. The blast was on the eastern side of the pit which could have made her house slightly more exposed.

5.0 WATER

No groundwater or surface water monitoring was undertaken during the period due to the shorter period between CCC meetings and timing of the quarterly monitoring.

4.1 GROUND WATER

4.1.1 Monitoring Data Results

None.

4.1.2 Discussion - Compliance / Non Compliance

None.

4.2 SURFACE WATER

4.2.1 Monitoring Data Results

None.

4.2.2 Discussion - Compliance / Non Compliance

None.

6.0 COMPLAINTS SUMMARY

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

Date	#	Complaint
09/03/2010	52	Former Marengo property owner complaint was lodged during night shift operations and a prompt response was achieved with OCE and EO present at 2.30am and modifications were made to operations. Werris Creek Coal has subsequently purchased the property.
17/03/2010	53	A resident from Kurrara St in Werris Creek made a complaint about blasting overpressure that was within compliance limits. A structural engineer is assessing claims that a crack in the brickwork is caused by Werris Creek Coal.
08/04/2010	54	DECCW forwarded through a complaint that they had received regarding illegal clearing at Werris Creek Coal, however the clearing had been undertaken in late 2009 and was approved as part of the last DA modification.
16/04/2010	55	A resident from Kurrara St in Werris Creek made a complaint regarding a bright beaming light at night shining directly into her lounge room from the Mine. All OCEs were made aware of the complaint and be aware not to shine lights from the top of the dump directly at Werris Creek.
23/04/2010	56	A resident from Kurrara St in Werris Creek made a complaint regarding another light at night shining into her lounge room and that another blast had shaken her house badly. A structural inspection had been undertaken following the complaint in March, and OCEs again were made aware of the potential for lighting complaints.

7.0 GENERAL

The increase in height of the dump at WCC has resulted in that it is possible for lighting to shine over the ridge line towards Werris Creek. OCE's have always been conscious of lighting impacts on Werris Creek Road and now will take into account the direction of the township when setting up lights on top of the dump.

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

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	26001247 - 448
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	9th April 2010
Report To:	Mr. Danny Young	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	8213075	02-Mar-10	1440	24.0	16	-
WCHV1	Cintra	8213083	08-Mar-10	1439	35.6	24	-
WCHV1	Cintra	8213361	14-Mar-10	1441	11.7	8	-
WCHV1	Cintra	8213374	20-Mar-10	1441	39.8	26	-
WCHV1	Cintra	8213388	26-Mar-10	1439	44.3	29	-
WCHV2	Patterson	8213074	02-Mar-10	1440	18.7	12	-
WCHV2	Patterson	8213082	08-Mar-10	1439	19.0	13	-
WCHV2	Patterson	8213365	14-Mar-10	1441	8.1	5	-
WCHV2	Patterson	8213373	20-Mar-10	1442	38.8	26	-
WCHV2	Patterson	8213382	26-Mar-10	1441	37.0	25	-
WCHV3	Ryan	8213077	02-Mar-10	1440	12.2	8	-
WCHV3	Ryan	8213084	08-Mar-10	1439	18.1	12	-
WCHV3	Ryan	8213362	14-Mar-10	1440	8.1	5	-
WCHV3	Ryan	8213376	20-Mar-10	1441	42.9	28	-
WCHV3	Ryan	8213389	26-Mar-10	1439	75.6	50	-
WCHV4	Eurunderee	8213078	02-Mar-10	1441	23.2	15	-
WCHV4	Eurunderee	8213086	08-Mar-10	1439	28.7	19	-
WCHV4	Eurunderee	8213364	14-Mar-10	1445	12.7	8	-
WCHV4	Eurunderee	8213377	20-Mar-10	1441	39.8	25	-
WCHV4	Eurunderee	8213391	26-Mar-10	1439	42.3	27	-
WCTSP	Ryan	8213076	02-Mar-10	1440	25.0	-	16
WCTSP	Ryan	8213085	08-Mar-10	1439	58.5	-	38
WCTSP	Ryan	8213363	14-Mar-10	1442	18.3	-	12
WCTSP	Ryan	8213375	20-Mar-10	1440	91.2	-	59
WCTSP	Ryan	8213390	26-Mar-10	1439	202.4	-	131

Notes:
1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Gunnedah.
5. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunnedah

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	26001260 - 526
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	10th April 2010
Report To:	Mr. Andrew Wright	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	8289139	01-Apr-10	1439	33.9	23	-
WCHV1	Cintra	8093651	07-Apr-10	1440	9.0	6	-
WCHV1	Cintra	8093666	13-Apr-10	1439	56.7	36	-
WCHV1	Cintra	8091003	19-Apr-10	1439	11.6	8	-
WCHV1	Cintra	8091011	25-Apr-10	1439	9.6	6	-
WCHV2	Patterson	8289136	01-Apr-10	1439	13.6	9	-
WCHV2	Patterson	8093654	07-Apr-10	1440	7.2	5	-
WCHV2	Patterson	8093667	13-Apr-10	1440	27.2	17	-
WCHV2	Patterson	8091004	19-Apr-10	1439	3.8	2	-
WCHV2	Patterson	8091010	25-Apr-10	1439	5.5	4	-
WCHV3	Ryan	8289137	01-Apr-10	1439	13.5	9	-
WCHV3	Ryan	8289150	07-Apr-10	1440	4.4	3	-
WCHV3	Ryan	8093664	13-Apr-10	1439	34.3	22	-
WCHV3	Ryan	8091001	19-Apr-10	1439	5.5	4	-
WCHV3	Ryan	8091012	25-Apr-10	1439	5.1	3	-
WCHV4	Eurunderee	8289140	01-Apr-10	1439	12.3	8	-
WCHV4	Eurunderee	8093652	07-Apr-10	1440	11.6	7	-
WCHV4	Eurunderee	8093660	13-Apr-10	1439	19.5	12	-
WCHV4	Eurunderee	8093653	19-Apr-10	1439	21.5	14	-
WCHV4	Eurunderee	8091014	25-Apr-10	1439	5.9	4	-
WCTSP	Ryan	8289138	01-Apr-10	1439	27.1	-	17
WCTSP	Ryan	8289149	07-Apr-10	1440	14.3	-	10
WCTSP	Ryan	8093665	13-Apr-10	1440	98.4	-	63
WCTSP	Ryan	8091002	19-Apr-10	1439	21.2	-	14
WCTSP	Ryan	8091013	25-Apr-10	1439	19.3	-	12

Notes:

1. Samples collected by ALS ACIRL Gunnedah
3. Determined in accordance with AS3580.9.6
4. Sampling times and flow rates as per field data
5. Weather data - ex Bureau of Meteorology - Gunnedah.
6. Samples analysed as received.

Reported By: _____

Gerard Gleeson - Environmental Coordinator

Accreditation #15784. Site #11423

Appendix 2 – Deposited Dust Monitoring Data

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001260 - 474

Date Issued: 8th April 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	2-Mar-10	30-Mar-10	15:40	28	200	Clear	Clear	Insects	1.7	0.0274	1.1	0.0174	0.0100
WC5 - Railway View	2-Mar-10	30-Mar-10	16:15	28	200	Clear	Clear	Insects, Plant Material	1.2	0.0194	0.6	0.0107	0.0087
WC7 - Patterson	2-Mar-10	30-Mar-10	15:59	28	250	Clear	Clear	Insects	50.0	0.8240	48.9	0.8067	0.0173
WC8 - Plain View	2-Mar-10	30-Mar-10	16:40	28	250	Clear	Clear	Insects	3.1	0.0515	2.6	0.0421	0.0094
Marengo	2-Mar-10	30-Mar-10	16:50	28	280	Clear	Clear	Insects	1.1	0.0178	0.6	0.0094	0.0084

Notes:
* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001268 - 561

Date Issued: 8th February 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	30-Mar-10	27-Apr-10	10:15	28	150	Clear	Clear	Insects, Plant Material	2.0	0.0327	1.2	0.0198	0.0129
WC5 - Railway View	30-Mar-10	27-Apr-10	10:30	28	150	Clear	Clear	Insects, Plant Material	1.6	0.0257	1.2	0.0202	0.0055
WC7 - Patterson	30-Mar-10	27-Apr-10	10:00	28	150	Clear	Clear	Insects, Bird Droppings	0.9	0.0149	0.6	0.0098	0.0051
WC8 - Plain View	30-Mar-10	27-Apr-10	11:15	28	200	Clear	Clear	Insects, Plant Material	0.7	0.0119	0.6	0.0092	0.0027
Marengo	30-Mar-10	27-Apr-10	11:40	28	200	Clear	Clear	Insects	0.4		0.2		

Notes:

* Dust gauges installed and removed by ALS ACIRL
* Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3
* Samples analysed as received
* This report replaces any previous report bearing the same report number

Reported By:

Gerard Gleeson - Laboratory Operations Manager
ALS ACIRL Gunendah

Appendix 3 – Noise Monitoring Results

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

29 March 2010

Ref: 04035/3480

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: MARCH 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) during the afternoon and evening of Tuesday 9th March 2010 and the evening and early morning of Tuesday 23rd and Wednesday 24th March 2010. The monitoring commenced on March 9 but instrument failure caused the survey to be curtailed. The remainder of the monitoring was completed at the next available opportunity on March 23.

Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were gentle to moderate from the west to north west on March 9. During the evening of March 23 the winds were light from the south east to south west. At night conditions were calm.

Temperature data from the mine operated weather station indicated a temperature inversion of $<+3^{o}C/100m$ throughout the all of the evening and night monitoring periods. Temperature inversion strength is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Spectrum Acoustics Pty Limited
ABN: 40 106 435 554
Suite 1, 1 Roath Street, Cardiff NSW 2285
PO Box 374 Wallsend NSW 2287
Phone: (02) 4954 2276
Fax: (02) 4954 2257

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 9 March 2010 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	4:43 pm	33	n/a	3.1/WNW	Birds & insects (31), farm noise (26), **WCC (<25)**
Glenara	4:59 pm	35	n/a	3.6/WNW	Wind (31), birds & insects (30), traffic (30), **WCC (<25)**
Cintra	4:18 pm	44	n/a	3.6/W	**WCC (40)**, wind (40), insects & birds (35)
Marengo	5:43 pm	35	n/a	4.0/WNW	Birds & insects (31), **WCC (30)**, farm noise (30), wind (28)
Tonsley Park	3:55 pm	36	n/a	3.6/NW	Wind (36), **WCC barely audible (<28)**
Fletcher	5:20 pm	43	n/a	3.6/W	Traffic (43), **WCC inaudible**

Table 2
WCC Noise Monitoring Results – 9 & 23 March 2010 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	8:39 pm*	40	>+3	2.7/SE	Insects (40), **WCC barely audible**
Glenara	8:22 pm*	37	>+3	2.2/SE	Insects (37), **WCC inaudible**
Cintra	7:35 pm	38	>+3	3.1/SW	**WCC (37)**, birds & insects (31)
Marengo	8:30 pm	37	>+3	2.2/SW	Birds & insects (36), **WCC (30)**, traffic (25)
Tonsley Park	7:55 pm	47	>+3	2.7/SW	Birds & insects (47), traffic (33), **WCC (32)**
Fletcher	7:15 pm	44	>+3	3.1/SW	Traffic (44), birds & insects (34), **WCC inaudible**

* March 23

Table 3
WCC Noise Monitoring Results – 24 March 2010 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	12:30 am	34	>+3	Calm	**WCC (33)**, insects (26)
Glenara	12:47 am	36	>+3	0.4/NW	**WCC (34)**, dogs (30), insects (26)
Cintra	2:47 am	34	>+3	Calm	**WCC (33)**, insects (26)
Marengo	1:47 am	32	>+3	Calm	**WCC (29)**, insects (28)
Tonsley Park	2:16 am	32	>+3	Calm	Railway works (30), insects (28), **WCC inaudible**
Fletcher	1:09 am	34	>+3	Calm	**WCC (34)**, insects (23)

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Cintra monitoring location during the day and evening of March 9.

The elevated noise at Cintra during was mainly as a result of emissions from dozers working on the coal stockpile and trucks arriving and departing the rail loading facility. Cintra is now a project related residence.

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

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the sleep disturbance criterion at any receivers.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

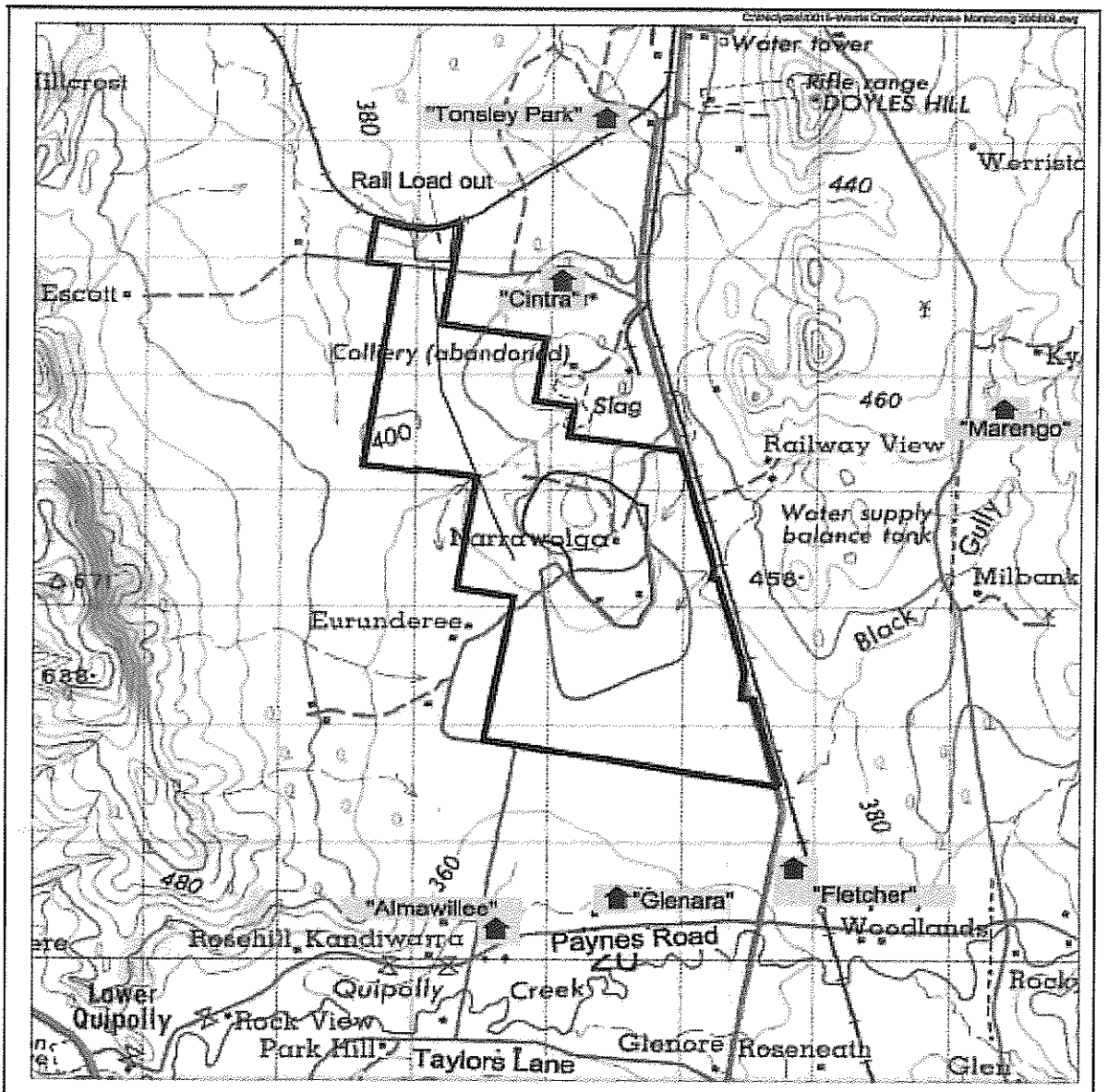


Figure 1
ASSESSMENT LOCATIONS - NOISE

SPECTRUM ACOUSTICS
NOISE AND VIBRATION CONSULTANTS

29 April 2010

Ref: 04035/3523

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: APRIL 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) on Thursday 22nd April 2010.

Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were calm during the afternoon and gentle to moderate from the west to south west during the evening and night.

Temperature data from the mine operated weather station indicated that temperature lapse conditions occurred throughout the all of the evening and night monitoring periods. The temperature inversion or lapse data is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

Spectrum Acoustics Pty Limited
ABN: 40 106 435 554
Suite 1, 1 Roath Street, Cardiff NSW 2285
PO Box 374 Wallsend NSW 2287
Phone: (02) 4954 2276
Fax: (02) 4954 2257

Noise emission levels were measured with a Brüel & Kjær Type 2260 Precision Sound Analyser. This instrument has Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator Prior to and at the completion of measurements.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 22 April 2010 (Day)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	2:40 pm	35	n/a	Calm	Birds & insects (35), **WCC (17)**
Glenara	3:01 pm	39	n/a	Calm	Birds & insects (39), **WCC inaudible**
Cintra	4:30 pm	35	n/a	Calm	Birds & insects (35), **WCC (20)**
Marengo	3:40 pm	34	n/a	Calm	Birds & insects (34), **WCC (<15)**
Tonsley Park	4:10 pm	35	n/a	Calm	Birds & insects (35), **WCC inaudible**
Fletcher	3:19 pm	46	n/a	Calm	Traffic (46), insects (30), **WCC (<15)**

Table 2
WCC Noise Monitoring Results – 22 April 2010 (Evening)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	7:40 pm	40	Lapse	1.5/WSW	Birds & insects (37), pump (36) **WCC (30)**
Glenara	7:57 pm	42	Lapse	2.2/NW	Insects (39), traffic (36) **WCC (34)**
Cintra	9:23 pm	36	Lapse	2.2/W	**WCC (35)**, traffic (30), insects (22)
Marengo	8:38 pm	29	Lapse	2.6/W	Birds & insects (27), train (25), **WCC barely audible**
Tonsley Park	9:03 pm	42	Lapse	1.3/WSW	Insects (39), traffic (37), **WCC (35)**
Fletcher	8:16 pm	46	Lapse	2.2/WSW	Train (45), traffic (40), **WCC (31)**, insects (28)

Table 3
WCC Noise Monitoring Results – 22 April 2010 (Night)

Location	Time	dB(A),Leq	Inversion °C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	10:02 pm	37	Lapse	0.9/NW	Pump (36), insects (27), **WCC (20)**
Glenara	10:19 pm	36	Lapse	2.2/W	Traffic (33), insects (32), **WCC (26)**
Cintra	11:40 pm	42	Lapse	0.9/SW	**WCC (42)**, insects (30)
Marengo	10:59 pm	26	Lapse	1.8/SW	Frogs & insects (26), **WCC inaudible**
Tonsley Park	11:22 pm	36	Lapse	2.0/SW	Insects (34), traffic (30), **WCC (29)**
Fletcher	10:37 pm	38	Lapse	2.0/W	Dogs (36), traffic (33), **WCC (25)**

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Cintra monitoring location during the night monitoring period.

The elevated noise at Cintra during was a result of emissions from dozers working on the coal stockpile and a train being loaded at the rail loading facility. Cintra is a project related residence.

Data from those times where WCC operations were audible was analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC was 49 dB(A) at the Cintra monitoring location. The sleep disturbance criterion is applicable at a point 1m from the bedroom window of a residence. The monitoring location at Cintra is on the road near the house and not at the bedroom window. It is noted above that Cintra is project related.

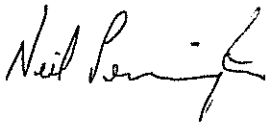
We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:



Neil Pennington
Acoustical Consultant

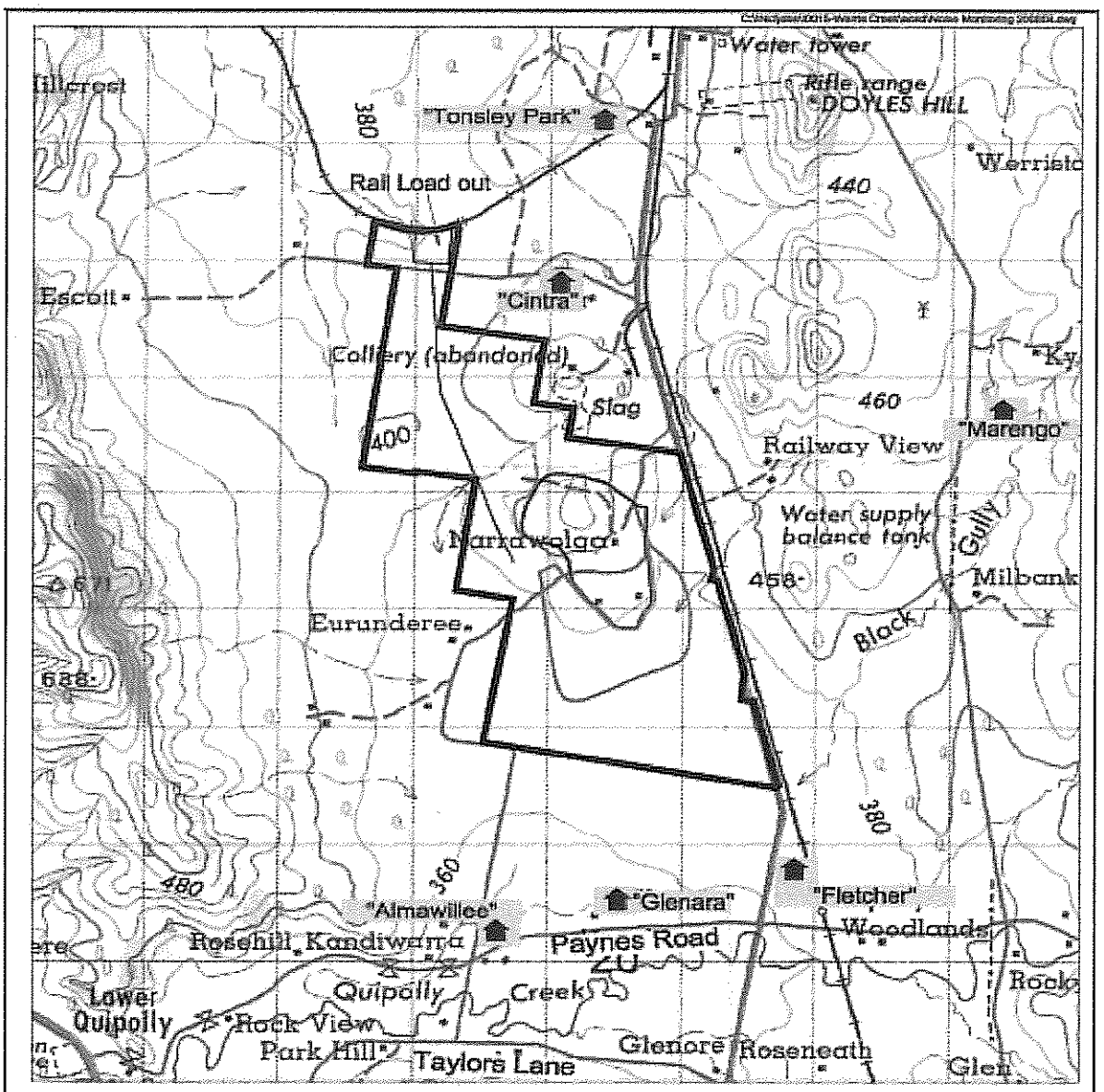


Figure 1
ASSESSMENT LOCATIONS - NOISE

Appendix 4 – Blasting Monitoring Data.

Shot number	Date fired	Time Fired	Werris Creek Coal Blasting Results							
			Glenala		Marengo		Thonsley Park		Cintra	
			Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)
262	2/03/2010	13:16	-	-	-	-	-	-	-	-
263	4/03/2010	13:15	-	-	0.45	98.9	0.55	94.6	0.6	113
264	5/03/2010	13:05	-	-	-	-	-	-	0.63	112.3
265	9/03/2010	13:29	-	-	-	-	-	-	-	-
266	11/03/2010	13:14	-	-	0.62	109.5	0.4	112	0.16	114.3
267	12/03/2010	13:12	-	-	-	-	0.58	104.1	1	111.1
268	16/03/2010	13:20	-	-	0.82	97.1	0.48	97.7	0.66	100.8
269	17/03/2010	13:22	-	-	0.1	112.2	0.1	112.6	0.13	113.7
270	19/03/2010	13:11	-	-	1	105.9	0.7	100.6	0.84	108.4
271	23/03/2010	13:46	-	-	0.92	94.8	0.68	94.6	0.84	95.4
272	8/04/2010	12.52	-	-	0.08	113.5	-	-	0.69	104.6
273	26/03/2010	13:09	-	-	0.92	99.4	0.45	100	0.53	97.7
274	31/03/2010	13:27	-	-	0.5	105.4	-	-	0.47	107.2
275	1/04/2010	13:11	-	-	0.67	100.8	0.35	93.3	0.83	98.6
276	9/04/2010	13.07	-	-	1.32	108.8	0.55	100.6	0.85	106.9
277	13/04/2010	13.18	-	-	1.37	101.7	0.9	97.7	1.15	98.6
278	15/04/2010	13.51	-	-	-	-	-	-	-	-
279	19/04/2010	13.26	-	-	0.82	104.3	0.65	100.6	0.93	105.4
280	21/04/2010	13.18	-	-	0.45	99.9	-	-	-	-
281	22/04/2010	13.13	-	-	-	-	0.53	106.6	0.75	110.4
282	27/04/2010	14.50	-	-	1.45	109.5	0.7	101.2	1.25	106.5

Werris Creek Coal Mine Community Consultative Committee

Sixteenth Meeting of the Committee

Whitehaven Coal Training Room, Werris Creek Coal Mine

10.00am Thursday 16 Sept 2010

MINUTES

1. Record of Attendance:

Present: Ron Short (Chairman); Lindsay Bridge (Community Representative); Noel Taylor (Community Representative); Chris Holley (Community Representative); Jill Coleman (Community Representative); Col Stewart (Liverpool Plains Shire Council); Ron Van Katwyk (Liverpool Plains Shire Council); Des George (Werris Creek Coal - WCC); Andrew Wright (Environmental Officer WCC); Lisa Single (WCC Minutes Secretary).

Jill Coleman (JC) left meeting at 11:55am. Col Stewart (CS) apologised to the Committee for leaving his mobile phone on as he is part of the Rescue Squad.

Apologies: Mick Post (Project Manager WCC).

2. New Matters for Discussion under General Business

A. Life of Mine Project Environmental Assessment Update
B. Community Complaint phone service upgrade
C. Former Werris Creek Colliery History Update
D. Letter's to CCC from Resident in Paynes Road, Quipolly
E. Letter to CCC from Resident in Kurrara St, Werris Creek
F. Dust from Coal Trains
G. Groundwater Media Interest
H. Overburden Emplacement Footprint and Water Management

3. Matters Arising

a) Actions from Previous Meeting

Blasting Notification - AW described how blasting details were now included in the Werris Creek Flyer weekly newsletter. The committee indicated that AW/WCC should follow up attending the Section 355 Committee (Economic Development Committee) meetings. Ron Short (RS) on behalf of the committee suggested that Whitehaven should look at committing more resources for community consultation as he was regularly hearing incorrect stories and other misinformation about Werris Creek Coal from community members. AW said he will update community consultation planning in General Business regarding the WCC LOM Project.

b) Other Matters Arising

Former Werris Creek Colliery Heritage Assessment – Discussion was held on plans for the heritage assessment and has been minuted in Section 6 General Business.

4. Minutes of Previous Meeting

Minutes of the previous meeting 27th May 2010 were accepted as true representation of business conducted on day. Motion moved.

Moved: Chris Holley Seconded: Noel Taylor. Motion carried

5. Declaration of Pecuniary or other interests

None declared.

6. Environmental Monitoring Report May, June and July 2010

Weather Station – The weather station was 100% available for May and June, however only 97% of data was available during July due to a 14 hour time correction to the Weather Station. WCC was planning to relocate the weather station to the top of the overburden emplacement and upgrade communications on the weather station to improve temperature inversion monitoring and programming capabilities.
Dust – Overall results have been within compliance; however one result was contaminated from "Plain View" that had high levels of organic matter (i.e. bird droppings and insects).
Noise – During the period monitoring results from attended monitoring were within compliance; however there were elevated noise levels measured at "Glenara" and "Almawillie" due to strong temperature inversions present during the winter monitoring.
Blasting – A total of 36 blasts were fired during the period with no exceedances recorded.
Groundwater – Groundwater level monitoring observed a downward trend prior to the recent rainfall, which have subsequently rapidly risen again following good recharge from heavy winter rains.
Surface water - There were 3 discharge events, 1 due to rainfall and 2 controlled discharges that were all within our Environmental Protection Licence conditions.
Complaints – There were 10 complaints for the period with four complaints regarding blasting, three complaints regarding noise, two complaints about groundwater and one complaint regarding lighting.
Action taken regarding ground water complaints to date has been to expand the number of bores being monitoring particularly in the Quipolly Creek area. Since May, WCC have added another 20 bores on neighbouring properties and have commenced monitoring all bores monthly. The data collected prior to and after the recent rainfall showed that the rapid rise in groundwater levels indicated that the alluvium and basalt aquifers are heavily influenced by rainfall recharge supporting the conclusions in the 2010 Annual Water Monitoring Review.
Action taken regarding blasting complaints to date has been to establish a new monitoring location on the southern edge of Werris Creek township. In additional, WCC have begun notifying a particularly complainant of likely blasts that could be louder than normal as well as completing a Structural Integrity Assessment of their residence. Both monitoring results and the structural assessment have not identified any issues as a result of blasting activities.
Action taken regarding noise complaints to date has seen WCC adopt two new procedures for Continuous Noise Monitoring and Mitigation and Truck Operation Noise Mitigation. Also the continuous noise monitor has been located to the south on Paynes Road as representative of the Quipolly area.
Action taken regarding lighting complaints are being addressed by the OCE's doing a circuit of the mine site every night to make sure that Werris Creek Road is not being inconvenienced. Also the Project Manager and Coal Processing Managers have tool boxed staff in setting up lighting plants focusing on orienting lights to the west as much practicable away from Werris Creek residences.

Motion moved to accept the Environmental Monitoring Report May to July 2010

Moved: Lindsay Bridge. Seconded: Jill Coleman. Motion Carried.

7. General Business

A) **WCC LOM Project Environmental Assessment (EA) Progress** - RS reiterated the need for WCC to inform the community about the Life of Mine Project. AW indicated that the EA has not yet been finalised but will be submitted to Department of Planning in October. Consultation undertaken to date focused on one on one meetings with the nearest neighbours in Quipolly and southern Werris Creek. Also one community newsletter had been produced and a second newsletter was soon to be published. On the 20th October 2010 there will be a Community Day as well as an Open day for the mine, where WCC and specialist consultants will be available to explain to the community about the mining proposal and other issues. The Department of Planning will review the EA and once they accept it as adequate, it will be placed on public exhibition during December. Overall, the project approval will not be determined until June 2011. CH stated that the only problem for Werris Creek residents will be blasting and not the noise. CH & JC suggest that the promotional material needs to push the fact that the mining is stopping at the Cintra Hill and outline the management options that WCC will undertake to reduce noise. CS commented on Council's role in the process – LPSC were given a copy of the preliminary EA and were expected to make comments. RVK stated that they had made 17 dot point submission and was surprised that there had not been any clarification from WCC or their consultants. RVK continued that the interaction between road and rail was a big concern to council. AW indicated WCC knew that they needed to address these matters and were being currently integrated into the EA, however AW will get the consultants to contact LPSC.

B) **Community Complaints Phone Line Service Upgrade** - There are now additional options instead of just leaving a message so that even after hours an immediate response was possible where option 1 will be put through to Environmental Officer; Option 2 will be put through to the OCE and Option 3 leave a message.

C) **Former Werris Creek Colliery Heritage Assessment** – Jill Coleman (JC) asked how Chris Holley (CH) was going with the 4700 documents he was going through on the mine history. CH has sent quite a lot of documents to Matt Cupper for compiling. RS asks if there is anything significant found and what method of recording the mine workings is in place. Des George (DG) stated that there is a record tracing for the underground workings but as an Open Cut we don't have to keep records but for prosperity we will reestablish the tracing. AW stated that Matt Cupper had finished his heritage assessment for the Life of Mine Project and was now to start documenting a history of the old colliery if the committee agrees. The Committee agreed to use Matt Cupper to produce a 10-20 page A5 size document with the information he already has. AW will get the CCC to review the draft prior to publishing. RS suggested that this should be an agenda item for the next meeting and AW will send out the draft with the monitoring report for CCC to look at prior to the next meeting.

   AW told the CCC that during the heritage assessment they found hand and foot prints in concrete belonging to Dora Koops and her sister when they were yound. The story goes that their uncle laid the slab during the time of World War 2 because he couldn't get back overseas because of the blockade. WCC has cut the prints out of the slab and gave them to Dora and her sister.

D) **Letter's to CCC from Resident in Paynes Road** - "Hazeldene" property resident's have written two letter to CCC which have been tabled prior to and at this meeting. The residents

had written to the committee about their concerns and complaints regarding noise, groundwater levels and dust. RS had had meetings with the residents on 29 July and 30 July and had a look around their property. AW indicated that on the 26 August WCC representatives held a meeting with property owners and an agreement is being drawn up. A couple of committee members indicated that they believed that the residents had lived on the property for a shorter period of time than was presented in the letters. A motion was moved for RS to write a letter indicating that the matter had been discussed at a CCC meeting and the Committee was satisfied with the company's response at this time and hope that these issues can be resolved amicably.

Moved: Chris Holley. Seconded: Jill Coleman. Motion Carried

E) **Letter's to CCC from Resident in Kurrara Street** - RS received correspondence from the residents in Kurrara St Werris Creek regarding issues and complaints they had with blasting and lighting. RS spent 2.5 hours with the residents and surveyed the damage that they claim has happened due to the blasts from the mine. AW presented a Structural Engineers report indicating that black soil and wet weather had caused the failure of the foundation. A motion was moved for RS to write a letter indicating that the matter had been discussed at a CCC meeting and the Committee was satisfied that the company was pursuing a satisfactory course of action under the circumstances.

Moved: Chris Holley. Seconded: Jill Coleman. Motion Carried.

F) **Dust from Coal Trains** – RVK stated that the prediction for Quirindi is that the train movements would be every 20 minutes and up to 1.4 km long. RVK indicated that the matter was on the agenda of the State Government and that one of the main stakeholders, ARTC, held an environmental license number (3142) which had a pollution reduction program to investigate reducing dust emissions from the train corridor. ARTC produced a report that relied heavily on the QLD rail networks progress on the same matter. QLD trialed a spray sealant over the carriages. The carriers and the mining companies are against the covers as there is a large cost factor involved and another problem was that there is no dust monitoring occurring in the rail corridors. The criterion being set for dust emissions is over a 24 hour timeframe so there is an issue with monitoring. The ARTC report concluded that there are 4 options: Option 1. A veneer product applied to the carriage at loading at the mine. Option 2. Improved loading techniques at the mine. Option 3. Low profile train loads at the mine. Option 4. Wagon lids which is not the preferred option.

CH moved a motion that the CCC write a letter to Whitehaven Coal to recommend investigating further dust mitigation from its coal trains through a joint venture arrangement with ARTC or State Government.

Moved: Chris Holley. Seconded: Jill Coleman. Motion Carried.

G) **Groundwater Media Interest -** AW raised that a local news crew had approach the mine and other neighbours to comment on that WCC had allegedly drained an aquifer between Taylors Lane and Paynes Road last Friday. NT stated that he had been approached by the news reporter but stated that he had no problems with his bore and in fact the level had risen. RS stated that he had also been approached for comment but could not get a straight answer from the reporter as to what the issue was for him to comment on.

H) **Overburden Emplacement Footprint and Water Management** - RS raised that he had noted that the mine overburden dump footprint had expanded to the east towards Werris Creek Road. AW stated that this was occurring in accordance with the development consent

modification approved last year (DA 172-7-2005 MOD5). RS also noted that he had observed water runoff from dump causing some erosion and asked if the sediment dams had sufficient capacity to capture sediment laden runoff from the increasing size of the overburden emplacement. AW replied that the observed erosion near the office was designed as a "sacrificial" water drain because all the contour banks flow out at this point it was going to erode but controlled to erode only in this location. In time as the rehabilitation area is expanded the contour banks will be completed so that they will run out onto the natural surface without further erosion. AW added that the recent Surface Water study for WCC had indicated that there was sufficient sediment dam capacity to manage water runoff to the south of the site through the licensed discharge point SB2 and WCC was confident that this was the case.

Meeting Closed 11:45am.

Next Meeting was scheduled for November 2010

Copy to:

Ron Short	Chairman and Community Representative
Chris Holley	Community Representative
Jill Coleman	Community Representative
Noel Taylor	Community Representative
Lindsay Bridge	Community Representative

Colin Phillips	DoP	Casper Dieben	Werris Creek Coal
Michael Lloyd	I&I NSW	Brian Cullen	Werris Creek Coal
Ron Van Katwyk	LPSC	Danny Young	Werris Creek Coal
Cr Col Stewart	LPSC	Mick Post	Werris Creek Coal
		Des George	Werris Creek Coal
		Andrew Wright	Werris Creek Coal

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.

CONTENTS

APPENDICES

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 (ug/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 (µg/m^3)	June (µg/m^3)	July (µg/m^3)	Criteria (µg/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 50ug/m^3.

All PM10 sites monthly averages are below the long term impact annual criteria of 30ug/m^3.

The TSP site is below the long term impact annual criteria of 90ug/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 (g/m^2/month)	June (g/m^2/month)	July (g/m^2/month)	Criteria (g/m^2/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/m^2/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:

- "Almawille"
- "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 that +3^{o}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^{o}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^{o}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
20th 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.
15th June 2010	58	Blasting complaint from Kurrara St (Werris Creek) resident. The blast levels were within compliance limits.
7th 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.
2nd 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.
8th July 2010	61	Groundwater level drop complaint from resident on Wadwells Lane. Groundwater level monitoring now undertaken at this property to establish baseline data.
8th 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.
26th 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.
29th 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.
30th 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

Werris Creek Coal Mine Community Consultative Committee

Seventeenth Meeting of the Committee

Whitehaven Coal Training Room, Werris Creek Coal Mine

10.00am Thursday 25th November 2010

MINUTES

Community Consultative Committee met at 9:30am prior to the meeting for a pit tour of the mine site to update committee members on the progress and status of operations onsite.

1. **Record of Attendance:**

Present: Ron Short (Chairman); Noel Taylor (Community Representative); Chris Holley (Community Representative); Jill Coleman (Community Representative); Col Stewart (Liverpool Plains Shire Council); Ron Van Katwyk (Liverpool Plains Shire Council); Des George (Werris Creek Coal - WCC); Andrew Wright (Environmental Officer WCC); Lisa Single (WCC Minutes Secretary); Mick Post (Project Manager WCC).

Apologies: Lindsay Bridge (Community Representative).

2. **New Matters for Discussion under General Business**

   A. WCC Community Open Day feedback
   B. WCC Life of Mine Project Environmental Assessment Update
   C. Former Werris Creek Colliery History Update

3. **Matters Arising**

a) Actions from Previous Meeting

Letter to Campbell – RS tabled a copy of the CCC letter sent to Mrs. Campbell as well as two additional letters received from Mrs. Campbell. RS had to give the Campbell's a copy of the letter as they stated that it was lost in the mail. RS indicated that he still felt comfortable with position that the CCC had adopted in the letter to the Campbell's and that WCC were following the right course of action regarding this sensitive issue. The CCC reaffirmed that WCC should continue to take each complaint from the Campbell's seriously and fully investigate each issue.

Letter to George/Eslick – RS stated that the CCC letter to George/Eslick of "Hazeldene" had been sent and they had received the letter.

Letter to Managing Director of Whitehaven Coal – RS stated that the CCC letter to Tony Haggarty (TH) had been sent and AW confirmed that it had been received. AW stated that TH will respond to CCC letter in due course once WHC have confirmed a course of action regarding coal dust from rail transport issue. MP stated that TH had confirmed that the company wants to work in partnership with the other rail partners to identify and implement a solution to the issue. AW mentioned that WHC have already written to Australian Rail Track Corporation and Pacific National to commence a collaborative approach with these key organisations.

b) Other Matters Arising

WCC to attend Council 355 Committee Meeting – It is still AW's intention to get to this committee meeting but hasn't as yet. However has made contact with the Council's Economic Development Director on how WCC can be involved.

4. Minutes of Previous Meeting

Minutes of the previous meeting 26th September 2010 were accepted as true representation of business conducted on day.

Moved: Chris Holley Seconded: Jill Coleman. Motion carried

5. Declaration of Pecuniary or other interests

None declared.

6. Environmental Monitoring Report August, September and October 2010

Weather Station – The weather station availability was over 99% for August and October but dropped to 79% during September because of the week long relocation to the new site on top of the overburden emplacement as previously discussed at the last CCC meeting.
Dust – Dust levels have been in compliance; however two results were contaminated at "Cintra" (project related) in September and October that had high levels of organic matter (i.e. bird droppings and insects) which are excluded from the average.
Noise – There was one noise exceedance from mining operations resulting in non-compliance recorded at "Glenara" during October. The investigation found that the exceedance was minor (only 1dB(A)) and short in duration. DECCW and DoP were notified of the exceedance with DECCW accepting that the non-compliance was minor and being appropriately managed with continuous noise monitoring and negotiation with the property owner.
Blasting – A total of 25 blasts were fired during the period with no exceedances recorded.
Groundwater – Groundwater level monitoring has observed that levels have rapidly risen following good recharge from heavy winter rains.
Surface water - There were 4 discharge events, 3 due to rainfall and 1 controlled discharge that were all within the criteria specified in the Environmental Protection License conditions.
Complaints – There were 9 complaints for the period with four complaints regarding lighting, three complaints regarding blasting, two complaints about dust and one complaint regarding noise.
Actions taken regarding lighting complaints have been to investigate and audit lighting locations. Proactive management strategies have been toolbox talked to all operators responsible for lighting plant set up on the location of Werris Creek township and how to orientate lights to the west away from residences.
Action taken regarding blasting complaints to date have included continued monitoring on the southern edge of Werris Creek township and to include in the local newsletter "Werris Creek Flyer" weekly notification of blasting times.
Action taken regarding dust complaints have been to continue implementing standard onsite processes ensuring that water carts are available and in use on trafficked roads and where necessary, suspending operations. The Environmental Officer routinely inspects the mine perimeter for evidence of point source emissions but on the specific day of the two complaints it appears that minimal winds prevailed for a number days consecutively preventing the Quipolly Creek valley from "being flushed" resulting in dust levels accumulating creating hazy conditions on that day.
No additional action was taken regarding the noise complaint due to the delayed reporting and general nature however the complainant was made aware of the additional measures being implemented by the mine such as continuous noise monitoring to address noise issues offsite.

Motion moved to accept the Environmental Monitoring Report August to October 2010.

Moved: Jill Coleman. Seconded: Col Stewart. Motion Carried.

7. General Business

A. WCC Community Open Day feedback

A number of CCC members expressed that they had heard only positive feedback regarding the open day held by WCC at the Werris Creek Bowling and Tennis Club on 20th October. Most of the comments from people were around being impressed with the mine tour. Over 150 people attended the day.

B. WCC Life of Mine Project Environmental Assessment Update

RVK explained that he had submitted the Councils response to the Environmental Assessment. AW explained that once WCC had adequately responded to each agency submissions, then the DoP will place the final EA on public exhibition with the company aiming for 15th December. A copy of the EA will be available from that date.

C. Former Werris Creek Colliery History Update

All CCC members received a copy of the draft "History of Coal Mining at Werris Creek" and were generally happy with the format. The CCC decided to leave finalizing the document until the next meeting to allow people time to investigate further stories to be incorporated into the document. Once finalised, WCC has offered to have the document professionally designed and published so that local organizations such as the Railway Museum could on-sell if the committee wanted. NT said that he had spoken to Tony O'Donnell (former owner of Narrawolga) who had great knowledge of the former underground mine but he was not willing to talk to WCC about it. RS said that he will see if Tony will speak to him.

Meeting Closed 11:00am.

Next Meeting was scheduled for 24th February 2010

Copy to:

Ron Short	Chairman and Community Representative
Chris Holley	Community Representative
Jill Coleman	Community Representative
Noel Taylor	Community Representative
Lindsay Bridge	Community Representative

Colin Phillips	DoP	Casper Dieben	Werris Creek Coal
Michael Lloyd	I&I NSW	Brian Cullen	Werris Creek Coal
Ron Van Katwyk	LPSC	Danny Young	Werris Creek Coal
Cr Col Stewart	LPSC	Mick Post	Werris Creek Coal
		Des George	Werris Creek Coal
		Andrew Wright	Werris Creek Coal

WERRIS CREEK COAL PTY LTD

ENVIRONMENTAL MONITORING

REPORT

August, September & October 2010

This Environmental Monitoring Report covers the period 1st August 2010 to 31st October 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, Blasting, Surface Water, Groundwater and Discharge Water Quality together with any community complaints received and general details on site environmental matters.

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

CONTENTS

APPENDICES

1.0 METEOROLOGY

1.1 WEATHER STATION AVAILABILITY

Weather data was available for 99.9% of August 2010.
Weather data was available for 79.6% of September 2010 due to relocation of entire meteorology station from nearby to Council Quarry to Overburden Emplacement Area RL445m level.
Weather data was available for 99.9% of October 2010.

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 Department of Environment, Climate Change and Water (DECCW) guidelines and results are reported as micro grams per cubic meter (µg/m^3) of air sampled.

2.1.1 Monitoring Data Results

The monthly average results for the last three months are provided in the table below, however see HVAS monitoring data under **Appendix 1** for individual results.

Monitor Location	August (µg/m^3)	September (µg/m^3)	October (µg/m^3)	Criteria (µg/m^3)
WCHV1	17.0	7.8	8.0	30
WCHV2	17.8	6.4	6.2	30
WCHV3	18.8	7.0	8.0	30
WCHV4	14.8	5.2	5.6	30
WCHV5	30.4	21.8	30.2	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 50ug/m^3.

All PM10 sites monthly averages are below the long term impact annual criteria of 30ug/m^3.

The TSP site is below the long term impact annual criteria of 90ug/m^3.

2.2 DEPOSITED DUST

Deposited dust monitoring is for particulate matter generally greater than 30 micron in size which readily settles out of the air and is monitored at six locations.

WC2 – "Cintra"
WC5 – "Railway View"
WC7 – "Tonsley Park"
WC8 – "Plain View"
WC9 – "Marengo"
WC10 – "Mountain View"

Sampling is scheduled monthly in accordance with DECCW guidelines and results are reported as grams per metre squared per month (g/m^2/month).

2.2.1 Monitoring Data Results

The monthly results for the last three months are provided in the table below; however **Appendix 2** has more information on Deposited Dust Monitoring Results.

Monitor Location	August (g/m^2/month)	September (g/m^2/month)	October (g/m^2/month)	Criteria (g/m^2/month)
WC2	0.5	1.4*	6.6*	3.6
WC5	0.9	0.6	0.5	3.6
WC7	0.6	0.5	0.9	3.6
WC8	0.9	0.8	0.6	3.6
WC9	0.3	0.5	0.9	3.6
WC10**	0.7	0.7	0.9	3.6

* - sample contaminated with excessive organic matter (>50%) from non-mining source (i.e bird droppings and insects) and is excluded from the average
** – WC10 Mountain View new dust deposition gauge installed in August 2010

2.2.2 Discussion - Compliance / Non Compliance

All dust deposition gauges were below the monthly amenity criteria of 3.6g/m^2/month. However there were two samples for WC2 - Cintra for September and October 2010 that has been excluded due to excessive organic material contamination.

2.3 AIR QUALITY COMPLAINTS

There were two dust related complaints for the period both received on the 24th September 2010. The day in particular was quite hazy in the morning with the preceding couple of days weather conditions being very calm. It is probable that a build up dust levels occurred in the Quipolly Creek valley over a number of days with no wind to flush the air shed around the mine. Several inspections on the day did not identify any excessively dusty activities on the site, also the LPSC quarry was operating and later on using a water cart to control trafficable dust. There was no specific HVAS data runs on that date, the closest was on 22nd September with PM10 values between 8 and 15ug/m^3 and TSP at 65ug/m^3 with no exceedance of dust criteria during September 2010. Specific actions taken in relation to these complaints are outlined in **Section 6.**

3.0 NOISE

3.1 OPERATIONAL NOISE

Monthly attended noise monitoring undertaken at the following locations:

- "Almawille"
- "Glenara"
- "Marengo" (project related)
- "Tonsley Park"
- "Cintra" (project related)
- "Bojba"

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 protection license (EPL) conditions indicate that compliance with noise emission criteria is not applicable under atmospheric conditions where wind speeds are greater than 3m/s and/or there is a temperature inversion greater than +3^{o}C/100m.

3.1.1 Monitoring Data Results

The three summary tables of the noise results from August, September and October below present noise levels only from Werris Creek Coal operations (not ambient noise); however see Monthly Noise Monitoring Reports under **Appendix 3** for more detail.

20th August 2010

Location	Day	Evening	Night	Criteria
"Almawillee"	Barely audible	29#	Inaudible#	35
"Glenara"	Inaudible	<30#	Barely audible#	35
"Cintra"*	<30*	30*#	33*#	35
"Marengo"*	35*	40*#	38*#	35
"Tonsley Park"	Inaudible	Inaudible#	32#	35
"Bojba"	Inaudible	33#	Inaudible#	35

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

17th September 2010

Location	Day	Evening	Night	Criteria
"Almawillee"	30	25	<20	35
"Glenara"	34	28	30	35
"Cintra"*	34*	25*	27*	35
"Marengo"*	27*	37*	38*	35
"Tonsley Park"	Inaudible	32	32	35
"Bojba"	Inaudible	27	31	35

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

27th October 2010

Location	Day	Evening	Night	Criteria
"Almawillee"	32	Barely audible#	Inaudible#	35
"Glenara"	25	**36**	Inaudible#	35
"Cintra"*	40*	38#*	41#*	35
"Marengo"*	30*	32#*	40*	35
"Tonsley Park"	28	40#	36#	35
"Bojba"	Inaudible	33#	Barely audible	35

Yellow Bold – WCC mining related noise exceedance; * - Project Related Property; # - Temperature Inversion >3°C/100m

3.1.2 Discussion - Compliance / Non Compliance

There was one noise non-compliance for October recording 36dB(A) during the evening period at "Glenara" due to mining related noise. Both attended and continuous noise monitors confirm that the exceedance was minor in nature, short term and isolated with no other breaches of noise criteria recorded on the 27th October. DECCW have responded stating that "DECCW accepts that Werris Creek Coal have diligently implemented a range of noise management protocols in an attempt to appropriately manage noise impacts on the receptors located to the south of the mine site. These protocols are likely to have significantly reduced either the magnitude and/or duration of impacts at the time the exceedance was observed during routine noise monitoring. Given the minor nature of the exceedance, and the diligent approach that Werris Creek Coal is taking with respect to this issue, the DECCW does not intend to take any further action with respect this matter on this occasion". Werris Creek Coal is going to negotiate a private agreement with the "Glenara" owners. Also during October monitoring, elevated noise results were recorded at "Tonsley Park" due to Werris Creek Coal's operations under adverse environmental conditions (temperature inversions >3°C/100m).

3.2 NOISE COMPLAINTS

There was one complaint related to 'general' noise from Werris Creek Coal operations on 13th August 2010 forwarded on by the owners of "Rosehill" property. Specific actions taken in relation to this complaint are outlined in **Section 6.**

4.0 BLAST

Blast monitoring is undertaken at "Glenala", "Milbank", "Werris Creek", "Tonsley Park", "Greenslopes and Banool" and "Cintra". 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 25 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 August, September and October 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
August	8	114.7	Glenara	1.49	Cintra*
September	8	112.0	Cintra*	1.17	Cintra*
October	9	113.7	Cintra*	1.12	Cintra*
TOTAL/MAX	25	114.7	Glenara	1.49	Cintra*

* Indicates project related properties not subject to blasting criteria

4.1.2 Discussion - Compliance / Non Compliance

All blasts complied with licence limits with no blast overpressure levels above 115dB(L) and no blast vibration levels greater than 5mm/s. A number of blast monitors did not trigger during the period due to the overpressure and/or vibration levels from the blast being below the trigger level of the monitor. No blasts were missed.

4.2 BLAST COMPLAINTS

There were three complaints related to blasting from Werris Creek Coal operations. The first complaint was received from the residents at "Glenara" on 25th August from a wedge shot recording 114.7dB(A) at their property. The higher than expected overpressure level was due to minimal confinement of the blast energy that can occur with thin wedge shots. The other two complaints were from a Kurrara Street resident on the 13th and 18th October 2010. A number of actions have been undertaken in relation to this resident with a structural inspection completed and every blast now being monitored at this residence. The blast levels on the 13th October did not trigger the monitor and therefore were within compliance, however Werris Creek Coal did not blast on 18th October as that day was a Sunday and the mine does not operate on Sundays. Specific actions taken in relation to these complaints are outlined in **Section 6**.

5.0 WATER

Groundwater monitoring was undertaken on the 8th and 9th September 2010. Surface water monitoring was undertaken on the 19th August 2010. There were four surface water discharge events during the period.

5.1 GROUND WATER

Groundwater monitoring is undertaken to monitor if there are any impacts on groundwater quality and levels as a result of the Werris Creek Coal mine. WCC monitor 41 groundwater bores and piezometers in the vicinity of the mine, with the key aquifers being Quipolly Creek Alluvium (MW12 upstream and MW7 downstream) and Werrie Basalt (MW5 south and MW14 north).

5.1.1 Monitoring Data Results

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

Site	pH	EC	Dip	Change
Quipolly Creek Alluvium				
MW7	7.01	535	4.15	Significant winter rain has raised water level by ~0.4m since May.
MW12	7.17	505	7.59	Significant winter rain has raised water level by ~1.9m since May.
Werrie Basalt				
MW5	7.33	1902	8.41	Significant winter rain has raised water level by ~0.8m and freshen water quality since May.
MW14	7.01	1220	15.88	Significant winter rain has raised water level by ~0.9m and freshen water quality since May.

5.1.2 Discussion - Compliance / Non Compliance

During the period between July 2010 and September 2010, the WCC weather station has recorded 214.6mm of rain, which is approximately one third of the annual rainfall for the region. This heavy rainfall has resulted in substantial rise of the groundwater levels measured in both the Quipolly Creek Alluvium and Werrie Basalt aquifers as noted in the table above.

5.2 SURFACE WATER

Surface water monitoring is undertaken at key dirty and void water dams to monitor for potential contamination issues due to mining while the water is still onsite.

5.2.1 Monitoring Data Results

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

Site	pH	EC	TSS	O&G	Change
SB2	8.05	363	38	<5	pH and EC decreased due to fresh runoff from substantial rainfall. TSS increased.
SB9	7.66	131	295	<5	pH and EC decreased due to fresh runoff from substantial rainfall. TSS increased.
SB10	7.65	190	365	<5	pH and EC decreased due to fresh runoff from substantial rainfall. TSS increased.
VWD1	8.13	1010	16	<5	pH increase and EC decrease due to increase in pit dewatering due to rainfall.
VWD2	8.56	8.39	16	<5	pH increase and EC decrease due to increase in pit dewatering due to rainfall.

5.2.2 Discussion - Compliance / Non Compliance

Onsite surface water monitoring results were within the criteria of Site Water Management Plan response plan. No issues with onsite water quality.

5.3 SURFACE WATER DISCHARGES

5.3.1 Monitoring Data Results

A wet weather discharge event occurred from both SB2 and SB9 on 12th August after 40.4mm fell between 10th and 15th August 2010. WCC undertook a controlled surface water discharge with 1.7ML pumped out of SB9 starting on 28th September 2010. A wet weather discharge event occurred from SB2 on 25th October 2010 after 28.0mm fell between 23rd and 25th October 2010. 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
12/8/2010	**SB2**	7.52	389	6	<5	Compliant – Rain event >39.2mm and water quality within criteria
12/8/2010	**SB9**	7.63	121	73	<5	Compliant – Rain event >39.2mm and water quality within criteria
28/9/2010	**SB9**	8.24	133	42	10	Compliant – Controlled discharge with water quality within criteria
25/10/2010	**SB2**	8.27	417	16	<5	Compliant – Rain event <39.2mm but water quality within criteria
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 no water related complaints during the period.

6.0 COMPLAINTS SUMMARY

There were nine complaints received during the reporting period and the details are summarized below. In total there were 10 issues raised – four relating to lighting, three relating to blasting, two relating to dust and one relating noise. Six of the issues have been raised by the one complainant in Werris Creek including all four lighting issues raised.

Lighting Complaints

Since the overburden emplacement dump height increased above RL410m in February to the top level of RL445m, one Werris Creek resident has made a total of seven complaints relating to lights including four during this period. Each complaint has been investigated with a review of the lighting plant locations undertaken. Werris Creek Coal has had to raise awareness with both Open Cut Examiners and operators since February that now lights on the upper levels of the overburden emplacement area are visible at night from the higher aspects of Werris Creek town. This has lead to the development of a site rule that night time dumping above RL430m requires all lighting plants to be oriented westwards towards the ridge line where there are no neighbouring properties. This site rule eliminates any direct off site lighting impacts in light beams, however lighting plants and the indirect glow are still visible at night to certain residents within Werris Creek that prior to February would not have seen these lights.

Date	#	Complaint
13/08/10	67	Owners of "Rosehill" on Paynes Road passed on a complaint from their tenant leasing the property regarding general noise from the mine. The Environmental Officer met with the property owners and they were comfortable with the noise management measures being implemented by the mine.
25/08/10	68	"Glenara" residents complained about excessive blast noise from WCC shot #325/326. Environmental Officer meet with residents and explained that the levels recorded of 114.7dBL were louder than expected but within compliance levels, however there was a strong north westerly wind at the time that was likely to have enhanced the overall noise impact.
26/08/10	69	Resident from Punyarra St complained about lighting shining towards her house on the southern edge of Werris Creek. The Environmental Officer met with her and she was disappointed that the lighting issue had been repeated. A review of lighting plant locations was undertaken with a lighting plant reorientated.
24/9/2010	70	Dust complaint from "anonymous" resident of Werris Creek irate about the huge amounts of dust over the mine blowing towards Werris Creek
24/9/2010	71	Dust complaint from "Hazeldene" residents of Quipolly that has been blowing from the mine for the last 3 days resulting in his partner and step son having asthma attacks.
5/10/2010	72	Lighting complaint from Kurrara St resident of Werris Creek regarding two mine lights shining into her lounge room. A review of lights was undertaken with a light relocated and another re-orientated which according to the resident improved the situation but was still a problem.
13/10/2010	73	Lighting and blasting complaint from Kurrara St resident of Werris Creek regarding lights shining at her house and blast shook her house last week. The blast results were within compliance levels. A review of lighting impact towards the house identified that no lights were shining at the house but the lights were visible. As the lights are not shining directly at her house, there is not much more the mine can do in the short term to improve her amenity as the mine was operating in accordance with approvals.
18/10/2010	74	Blasting complaint from Kurrara St resident of Werris Creek regarding a blast on Sunday that shook her house. No mining activities including blasting were undertaken on the weekend and neither Zeolitte nor the Council quarry was operating that day.
26/10/2010	75	Lighting complaint from Kurrara St resident of Werris Creek regarding two mine lights shining at her house. A review of lighting plants resulted in one light being relocated.

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.

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 26001309 - 958
Date Reported: 6/8/10

Report To: Mr. Danny Young
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	8349499	30/07/2010	1439	22.3	14	-
WCHV1	Cintra	8353402	5/08/2010	1439	26.6	17	-
WCHV1	Cintra	8334292	11/08/2010	1439	24.8	16	-
WCHV1	Cintra	8342005	17/08/2010	1439	35.6	22	-
WCHV1	Cintra	8342041	23/08/2010	1439	25.4	16	-
WCHV2	Patterson	8349500	30/07/2010	1439	25.0	16	-
WCHV2	Patterson	8353401	5/08/2010	1439	29.4	19	-
WCHV2	Patterson	8334291	11/08/2010	1439	26.0	17	-
WCHV2	Patterson	8342004	17/08/2010	1439	32.6	21	-
WCHV2	Patterson	8342042	23/08/2010	1439	25.3	16	-
WCHV3	Ryan	8349461	30/07/2010	1439	20.6	13	-
WCHV3	Ryan	8353404	5/08/2010	1439	39.1	25	-
WCHV3	Ryan	8334293	11/08/2010	1519	25.2	16	-
WCHV3	Ryan	8342006	17/08/2010	1439	36.4	23	-
WCHV3	Ryan	8334279	23/08/2010	1439	26.8	17	-
WCHV4	Eurunderee	8349463	30/07/2010	1439	21.8	14	-
WCHV4	Eurunderee	8353405	5/08/2010	1439	22.4	14	-
WCHV4	Eurunderee	8334295	11/08/2010	1439	23.9	15	-
WCHV4	Eurunderee	8342008	17/08/2010	1439	27.3	17	-
WCHV4	Eurunderee	8342017	23/08/2010	1439	23.1	14	-
WCTSP	Ryan	8349462	30/07/2010	1439	23.2	-	15
WCTSP	Ryan	8353403	5/08/2010	1439	90.1	-	56
WCTSP	Ryan	8334294	11/08/2010	1439	30.1	-	19
WCTSP	Ryan	8342007	17/08/2010	1439	67.3	-	41
WCTSP	Ryan	8334280	23/08/2010	1439	33.3	-	21

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.

Nata Accreditation applies to gravimetric determinations only. Does not apply to volumetric calculations

Reported By: T. Tomkins

Tammy Tomkins
Environmental Supervisor

Accreditation #15784. Site #11423

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin: Werris Creek Coal Pty Ltd
Project ID: Werris Creek TSP and PM10
Sample Description: High Volume Air Sampler Filters

Report Number: 2600 1309 - 1041
Date Reported: 28/9/10

Report To: Mr. Danny Young
Copy To: File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	9342044	29-Aug-10	1439	8.9	6	-
WCHV1	Cintra	8339433	04-Sep-10	1439	6.4	4	-
WCHV1	Cintra	8339412	10-Sep-10	1439	3.0	2	-
WCHV1	Cintra	100002	16-Sep-10	1439	8.6	6	-
WCHV1	Cintra	8339445	22-Sep-10	1430	32.3	21	-
WCHV2	Patterson	8342043	29-Aug-10	1439	14.5	9	-
WCHV2	Patterson	8339439	04-Sep-10	1439	7.3	5	-
WCHV2	Patterson	8339413	10-Sep-10	1439	1.3	1	-
WCHV2	Patterson	100001	16-Sep-10	1439	5.2	3	-
WCHV2	Patterson	8339444	22-Sep-10	1439	22.4	14	-
WCHV3	Ryan	8342045	29-Aug-10	1439	8.1	5	-
WCHV3	Ryan	8339441	04-Sep-10	1439	5.5	4	-
WCHV3	Ryan	8339411	10-Sep-10	1439	3.1	2	-
WCHV3	Ryan	100004	16-Sep-10	1439	11.0	7	-
WCHV3	Ryan	8339446	22-Sep-10	1439	26.1	17	-
WCHV4	Eurunderee	8342047	29-Aug-10	1439	8.6	5	-
WCHV4	Eurunderee	8339442	04-Sep-10	1439	4.9	3	-
WCHV4	Eurunderee	8339429	10-Sep-10	1439	3.7	2	-
WCHV4	Eurunderee	100005	16-Sep-10	1439	8.2	5	-
WCHV4	Eurunderee	8339448	22-Sep-10	1439	18.2	11	-
WCTSP	Ryan	8342046	29-Aug-10	1439	15.9	-	10
WCTSP	Ryan	8339440	04-Sep-10	1439	18.3	-	12
WCTSP	Ryan	8339430	10-Sep-10	1439	21.8	-	14
WCTSP	Ryan	100003	16-Sep-10	1439	39.7	-	25
WCTSP	Ryan	8339447	22-Sep-10	1439	76.6	-	48

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Scone.
5. Samples analysed as received.

Nata Accreditation applies to gravimetric determinations only.
Does not apply to volumetric calculations

Reported By: _____

Tammy Tomkins
Environmental Supervisor

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Accredited for compliance ISO / IEC 17025.
This document will not be reporoduced except in full.

Accreditation #15784. Site #11423

ALS ACIRL Pty Ltd

(ABN 66 003 451 876)
Units 1-4, Lot 6 Industrial Cl, Muswellbrook 2333
Ph: (02) 6542 2400 Fax (02) 6543 3234

Sample Origin:	Werris Creek Coal Pty Ltd	**Report Number:**	6800-4368-01
Project ID:	Werris Creek TSP and PM10		
Sample Description:	High Volume Air Sampler Filters	**Date Reported:**	4th November 2010
Report To:	Mr. Danny Young	**Copy To:**	File

Sampler ID	Location	Filter Number	Run Date	Run Time (Minutes)	Deposit (mg)	PM10 (µg/m^3)	TSP (µg/m3)
WCHV1	Cintra	8369278	28-Sep-10	1439	28.5	19	-
WCHV1	Cintra	8369258	04-Oct-10	1439	8.8	6	-
WCHV1	Cintra	8338270	10-Oct-10	1439	4.5	3	-
WCHV1	Cintra	8346131	16-Oct-10	1439	3.9	2	-
WCHV1	Cintra	8369602	22-Oct-10	1439	14.9	10	-
WCHV2	Patterson	8369276	28-Sep-10	1439	22.1	14	-
WCHV2	Patterson	8369257	04-Oct-10	1439	5.7	4	-
WCHV2	Patterson	8338269	10-Oct-10	1439	7.2	5	-
WCHV2	Patterson	8346133	16-Oct-10	1439	-0.7	0	-
WCHV2	Patterson	8369601	22-Oct-10	1439	11.6	8	-
WCHV3	Ryan	8369280	28-Sep-10	1439	24.4	16	-
WCHV3	Ryan	8369259	04-Oct-10	1439	8.1	5	-
WCHV3	Ryan	8346116	10-Oct-10	1439	0.5	0	-
WCHV3	Ryan	8346134	16-Oct-10	1439	5.6	4	-
WCHV3	Ryan	8369605	22-Oct-10	1439	22.7	15	-
WCHV4	Eurunderee	8369261	28-Sep-10	1439	20.1	13	-
WCHV4	Eurunderee	8343111	04-Oct-10	1439	5.8	4	-
WCHV4	Eurunderee	8346118	10-Oct-10	1439	1.3	1	-
WCHV4	Eurunderee	8346136	16-Oct-10	1439	2.2	1	-
WCHV4	Eurunderee	8369603	22-Oct-10	1439	14.7	9	-
WCTSP	Ryan	8369279	28-Sep-10	1439	65.2	-	42
WCTSP	Ryan	8369260	04-Oct-10	1439	19.0	-	12
WCTSP	Ryan	8346117	10-Oct-10	1439	19.2	-	12
WCTSP	Ryan	8346135	16-Oct-10	1439	31.5	-	20
WCTSP	Ryan	8369604	22-Oct-10	1439	103.2	-	65

Notes:

1. Samples collected by - ALS ACIRL Gunnedah
2. Determined in accordance with AS3580.9.6
3. Sampling times and flow rates as per field data
4. Weather data - ex Bureau of Meteorology - Gunnedah.
5. Samples analysed as received.

Reported By: _____

Helen Hayes - Operations Manager
ALS ACIRL Gunnedah/Muswellbroo

Accreditation #15784. Site #11423

Appendix 2 – Deposited Dust Monitoring Data.

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001298 - 910

Date Issued: 30 August 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	20-Jul-10	19-Aug-10	9:55	30	2500	Clear	Clear	Insects	0.5	0.0095	0.3	0.0051	0.0044
WC5 - Railway View	20-Jul-10	19-Aug-10	10:30	30	2500	Clear	Clear	Insects	0.9	0.0154	0.5	0.0084	0.0070
WC7 - Patterson	20-Jul-10	19-Aug-10	10:40	30	2500	Clear	Clear	Insects	0.6	0.0106	0.3	0.006	0.0046
WC8 - Plain View	20-Jul-10	19-Aug-10	11:15	30	2500	Clear	Clear	Broken Funnel, Glass in bottle	0.9	0.0157	0.5	0.009	0.0067
Marengo	20-Jul-10	19-Aug-10	12:45	30	2500	Clear	Clear	Insects, Plant Material	0.3	0.0058	0.2	0.0034	0.0024
Mountain View	20-Jul-10	19-Aug-10	11:30	30	2500	Clear	Clear	Insects	0.7	0.0125	0.4	0.0074	0.0051

Notes:

*** Dust gauges installed and removed by ALS ACIRL**
*** Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3**
*** Samples analysed as received**
*** This report replaces any previous report bearing the same report number**
*** NATA accreditation only applies to gravimetric determinations.**

Reported By:

Tammy Tomkins
Environmental Supervisor

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: 26001309 - 1013

Date Issued: 30 September 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
WC2 - Cintra	19-Aug-10	17-Sep-10	9:30	29	1000	Clear	Clear	Insects, Plant Material	1.4	0.0236	0.5	0.0078	0.0158
WC5 - Railway View	19-Aug-10	17-Sep-10	10:10	29	1000	Clear	Clear	Insects, Plant Material	0.6	0.0104	0.4	0.0062	0.0042
WC7 - Patterson	19-Aug-10	17-Sep-10	9:05	29	900	Clear	Clear	Insects, Plant Material	0.5	0.0093	0.3	0.0045	0.0048
WC8 - Plain View	19-Aug-10	17-Sep-10	11:20	29	1000	Clear	Clear	Insects, Plant Material	0.8	0.0135	0.5	0.0080	0.0055
Marengo	19-Aug-10	17-Sep-10	11:55	29	1000	Clear	Clear	Insects, Plant Material	0.5	0.0081	0.3	0.0049	0.0032
Mountain View	19-Aug-10	17-Sep-10	11:30	29	1000	Clear	Clear	Insects, Plant Material	0.7	0.0113	0.4	0.0074	0.0039

Notes:

*** Dust gauges installed and removed by ALS ACIRL**
*** Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3**
*** Samples analysed as received**
*** This report replaces any previous report bearing the same report number**
*** NATA accreditation only applies to gravimetric determinations.**

Reported By:

Tammy Tomkins
Environmental Supervisor

Certificate of Analysis

Origin: Werris Creek Coal Pty Ltd

Project: Werris Creek Mine

Description: Dust Deposition Samples

Report To: Mr. Danny Young - Group Environmental Manager

Report Number: **26001319 - 1132**

Date Issued: 2 November 2010

Copy To: File

ALS ACIRL Pty Ltd
Units 1-4, Lot 6 Industrial Cl
Muswellbrook NSW 2333
Ph: (02) 6542 2400
Fax: (02) 6541 5342

Sample ID	Date Installed	Date Removed	Sampling Time	Days Exposed	Volume Collected (mL approx.)	Appearance	Colour	Observations	Insoluble Matter (g/m^2/month)	Insoluble Matter (g)	Ash Residue (g/m^2/month)	Ash Residue (g)	Combustible Matter (g)
Glenarro													
WC2 - Cintra	17-Sep-10	19-Oct-10	9:20	32	800	Clear	Clear	Insects, bird droppings	6.6	0.1237	1.3	0.0252	0.0985
WC5 - Railway View	17-Sep-10	19-Oct-10	10:15	32	900	Clear	Clear	Insects, bird droppings	0.5	0.0102	0.3	0.0062	0.0040
WC6 - Plain View	17-Sep-10	19-Oct-10	9:35	32	900	Clear	Clear	Insects	0.9	0.0165	0.5	0.0086	0.0079
WC7 - Patterson	17-Sep-10	19-Oct-10	9:10	32	600	Clear	Clear	Insects, bird droppings, plant material	0.6	0.0104	0.3	0.0061	0.0043
Marengo	17-Sep-10	19-Oct-10	11:05	32	800	Clear	Clear	Insects, bird droppings	0.9	0.0165	0.4	0.007	0.0095
Mountain View	17-Sep-10	19-Oct-10	10:45	32	700	Clear	Clear	Insects, bird droppings	0.9	0.0175	0.6	0.0122	0.0053

Notes:

*** Dust gauges installed and removed by ALS ACIRL**
*** Samples analysed in accordance with AS3580.10.1 Parts 8.2 and 8.3**
*** Samples analysed as received**
*** This report replaces any previous report bearing the same report number**

Reported By:

Eric Martin
Manager

Appendix 3 – Noise Monitoring Results.

27 August 2010

Ref: 04035/3657

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: AUGUST 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) on Friday 20 August 2010.

Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The weather station showed that winds were light to gentle from the west south west during the day and evening monitoring periods. During the night the wind stayed from the west south west but decreased in speed to be calm by the end of the survey.

Temperature data from the mine operated weather station indicated that there was a temperature inversion throughout the all of the evening and night monitoring periods. The temperature inversion or lapse data is extrapolated from the 2m and 10m temperature gauges on the weather station tower.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1
WCC Noise Monitoring Results – 20 August 2010 (Day)

Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	5:43 pm	39	n/a	4.5/WSW	Traffic (37), birds (36), WCC barely audible
Glenara	5:25 pm	35	n/a	3.1/WSW	Traffic (34), birds & insects (25), WCC inaudible
Cintra	4:00 pm	37	n/a	4.9/WSW	Wind (33), traffic (32), birds & insects (30), WCC (<30)
Marengo	4:42 pm	39	n/a	3.6/WSW	WCC (35), wind (34), cattle (31), traffic (30)
Tonsley Park	4:20 pm	43	n/a	3.6/WSW	Wind (33), traffic (38), train (37), WCC inaudible
Fletcher	5:07 pm	55	n/a	4.0/WSW	Traffic (54), track works (47), WCC inaudible

Table 2
WCC Noise Monitoring Results – 20 August 2010 (Evening)

Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	9:30 pm	35	>3	4.5/WSW	Frogs (34), WCC (29)
Glenara	9:22 pm	39	>3	4.9/WSW	Traffic (35), planes (33), insects (32), WCC (<30)
Cintra	7:55 pm	44	>3	6.3/WSW	Wind (41), plane (36), traffic (35), WCC (30)
Marengo	8:40 pm	41	>3	4.9/WSW	WCC (40), wind (35), train (30)
Tonsley Park	8:17 pm	48	>3	5.8/WSW	Train (46), wind (43), traffic (40), WCC inaudible
Fletcher	9:01 pm	46	>3	5.8/WSW	Traffic (46), insects (34), WCC (33)

Table 3
WCC Noise Monitoring Results – 20 August 2010 (Night)

Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	11:27 pm	32	>3	2.7/WSW	Frogs (32), WCC inaudible
Glenara	12:48 am	33	>3	Calm	Traffic (31), frogs (29), WCC barely audible
Cintra	10:04 pm	35	>3	3.1/WSW	WCC (33), wind (29), frogs (28)
Marengo	10:40 am	39	>3	3.1/WSW	WCC (38), wind (32)
Tonsley Park	10:18 pm	35	>3	4.0/WSW	Traffic (32), WCC (32)
Fletcher	10:58 pm	58	>3	2.7/WSW	Trains (58), traffic (47), WCC inaudible

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Marengo monitoring location during the evening and night monitoring periods. Marengo is a project related residence.

Data from those times where WCC operations were audible were analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.
In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the Lmax criterion at any monitoring location.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

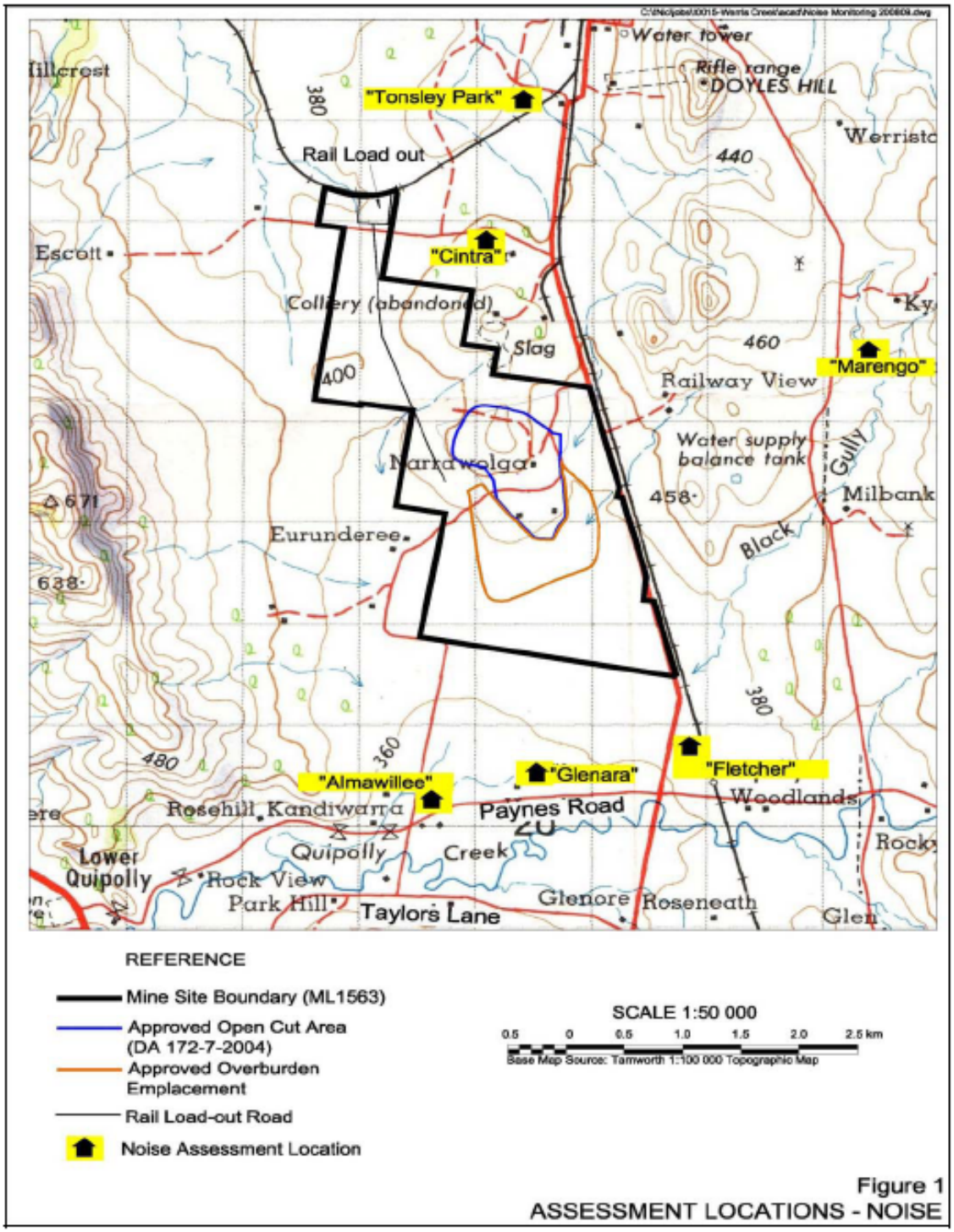

Figure 1
ASSESSMENT LOCATIONS - NOISE

“

28 September 2010

Ref: 04035/3696

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: SEPTEMBER 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) on Friday 17 September 2010.

Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *“Noise Management Protocol”*. The locations are listed below and attached in **Figure 1**:

“Almawillee”
“Glenara”
“Marengo”
“Tonsley Park”
“Cintra”
“Fletcher”

Three sets of measurements were made over the “circuit”, one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

The mine operated automatic weather station was not functioning during the period of the survey. Meteorological data used in this report was, therefore, obtained from a hand held weather station with measurements made at approximately 2m above ground level.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer “*Evaluator*” analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1 WCC Noise Monitoring Results – 17 September 2010 (Day)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	4:45 pm	36	n/a	1/N	Traffic (33), WCC (30), birds (29)
Glenara	4:27 pm	39	n/a	1/N	Traffic (35), WCC (34), birds (33)
Cintra	3:05 pm	35	n/a	0.5/NW	WCC (34), birds & insects (28)
Marengo	3:47 pm	32	n/a	0.5/NW	Birds & insects (29), WCC (27), cattle (25)
Tonsley Park	3:25 pm	34	n/a	0.5/NW	Train noise (34), birds & insects (25), WCC inaudible
Fletcher	4:09 pm	46	n/a	1/N	Traffic (46), WCC inaudible

Table 2 WCC Noise Monitoring Results – 17 September 2010 (Evening)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	8:47 pm	30		<0.5/NW	Frogs (26), WCC (25), insects (23)
Glenara	8:31 pm	34		<0.5/NW	Traffic (32), WCC (28), insects (24)
Cintra	9:10 pm	30		<0.5/NW	Traffic (28), WCC (25), insects (20)
Marengo	7:53 pm	38		<0.5/NW	WCC (37), insects (30)
Tonsley Park	7:20 pm	39		Calm	Traffic (37), WCC (32), domestic noise (31)
Fletcher	8:14 pm	45		<0.5/NW	Traffic (45), WCC (27)

Table 3 WCC Noise Monitoring Results – 17 September 2010 (Night)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	11:32 pm	33		Calm	Birds (33), WCC (<20)
Glenara	11:15 am	36		Calm	Traffic (35), WCC (30), insects (20)
Cintra	10:00 pm	31		<0.5/NW	WCC (27), traffic (27), insects (24)
Marengo	10:37 am	38		Calm	WCC (38), insects (23)
Tonsley Park	10:17 pm	38		Calm	Traffic (36), WCC (32)
Fletcher	10:58 pm	48		Calm	Traffic (48), birds (35), WCC (31)

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Marengo monitoring location during the evening and night monitoring periods. Marengo is a project related residence.

Data from those times where WCC operations were audible were analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the Lmax criterion at any monitoring location.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

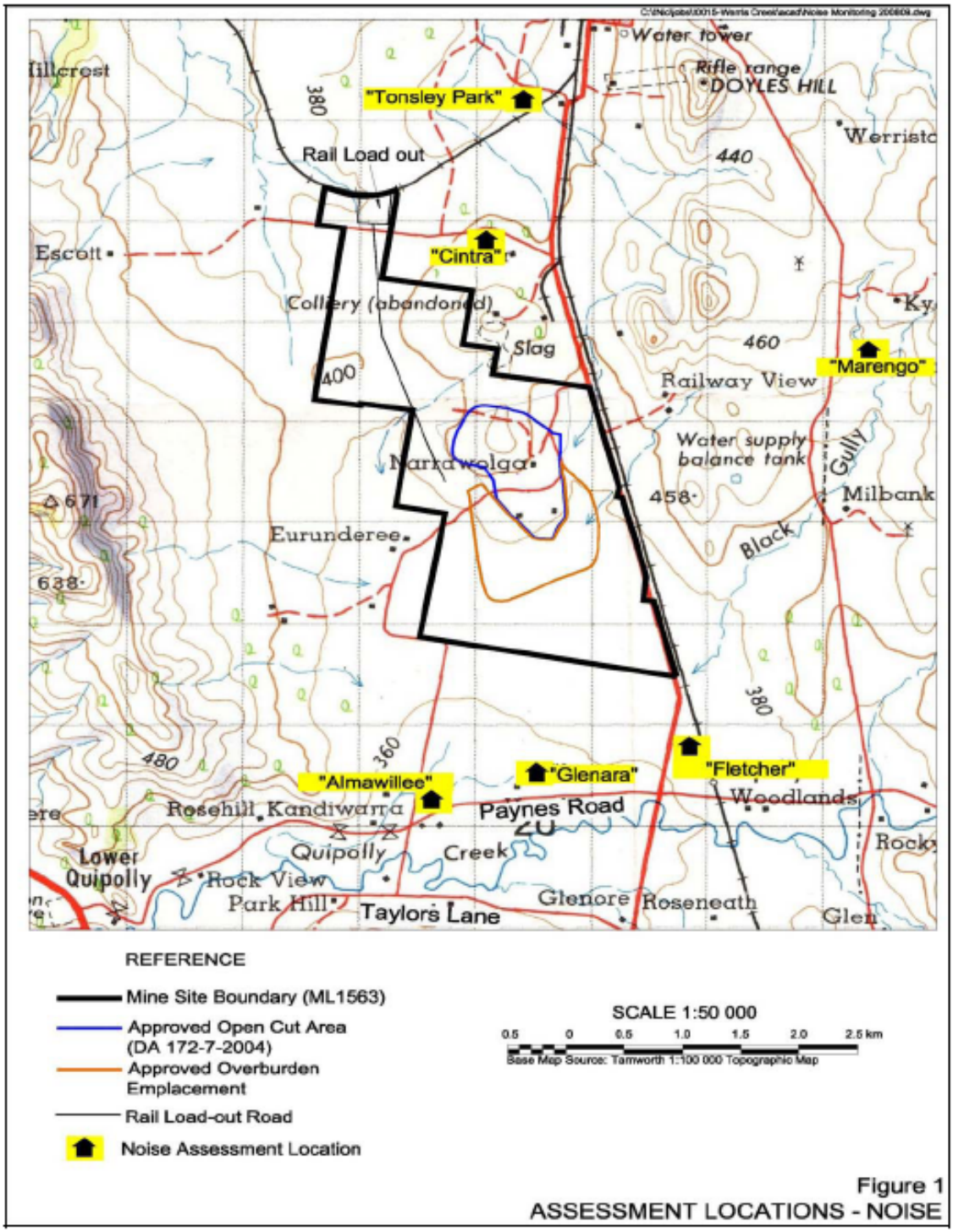

Figure 1
ASSESSMENT LOCATIONS - NOISE

2 November 2010

Ref: 04035/3756

Werris Creek Coal
1435 Werris Creek – Quirindi Road
Werris Creek NSW 2341

RE: OCTOBER 2010 NOISE MONITORING RESULTS

This letter report presents the results of noise compliance monitoring conducted for the Werris Creek Coal Mine (WCC) on Wednesday 27 October 2010.

Noise measurement locations for the attended noise survey are as defined in the Werris Creek Coal Pty Ltd *"Noise Management Protocol"*. The locations are listed below and attached in **Figure 1**:

"Almawillee"
"Glenara"
"Marengo"
"Tonsley Park"
"Cintra"
"Fletcher"

Three sets of measurements were made over the "circuit", one during the day time period (before 6 pm), one during the evening period (from 6 pm – 10 pm) and one at night (after 10 pm). WCC activities were audible at some monitoring locations throughout the survey.

Meteorological data used in this report were supplied by the mine from their automatic weather station. Wind speeds and direction have been determined as the arithmetic average of the measurements over the monitoring period. The data shows that winds were light to moderate from the north to north west during the day, dropping to calm in the evening before a southerly change came through at the start of the night time monitoring period. The data showed a mild temperature inversion for most of the evening and night.

The total measured Leq is shown in the tables below. Where the noise from WCC was audible the Bruel & Kjaer "*Evaluator*" analysis software was used to quantify the contributions of the mine and other significant noise sources to the overall.

The noise criterion for the operational phase of the WCC project is **35 dB(A) $L_{eq\ (15\ min)}$** for all operating times. Mine noise from WCC is shown in bold type. Where noise from WCC is listed as inaudible, this means the noise levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 1 WCC Noise Monitoring Results – 27 October 2010 (Day)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	3:30 pm	41	n/a	3.6/N	Birds & insects (40), WCC (32), plane (30)
Glenara	3:48 pm	30	n/a	3.6/NW	Traffic (27), WCC (25), birds & insects (22)
Cintra	5:18 pm	41	n/a	4.0/NW	WCC (40), birds & insects (34), traffic (30)
Marengo	4:35 pm	39	n/a	4.0/WNW	Birds & insects (38), WCC (30), traffic (28)
Tonsley Park	4:58 pm	38	n/a	4.5/NNW	Frogs & insects (37), traffic (28), WCC (28)
Fletcher	4:05 pm	48	n/a	3.1/NNW	Traffic (46), train (42), birds & insects (38), WCC inaudible

Table 2 WCC Noise Monitoring Results – 27 October 2010 (Evening)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	7:50 pm	37	>3	Calm	Traffic (34), birds & insects (32), frogs (31), WCC barely audible
Glenara	8:08 pm	40	<3	Calm	Traffic (36), WCC (36), insects (32)
Cintra	9:44 pm	38	>3	0.4/NW	WCC (38), insects (28)
Marengo	8:58 pm	40	>3	Calm	Frogs & insects (39), WCC (32)
Tonsley Park	9:25 pm	44	>3	Calm	Frogs & insects (41), WCC (40), traffic (35)
Fletcher	9:44 pm	49	>3	Calm	Traffic (49), WCC (33)

Table 3 WCC Noise Monitoring Results – 27 October 2010 (Night)					
Location	Time	dB(A),Leq	Inversion ^{O}C/ 100m	Wind speed/ direction	Identified Noise Sources
Almawillee	11:30 pm	32	>3	6.3/SSW	Traffic (31), insects (26), WCC inaudible
Glenara	12:38 am	30	>3	7.2/S	Traffic (30), WCC inaudible
Cintra	11:03 pm	42	>3	4.0/SSW	WCC (41), traffic (36), insects (30)
Marengo	10:15 am	41	0	3.1/SW	WCC (40), frogs & insects (35)
Tonsley Park	10:43 pm	43	>3	2.7/S	Traffic (40), frogs & insects (39), WCC (36)
Fletcher	12:55 pm	34	<3	5.4/S	Traffic (34), insects (23), WCC barely audible

The results shown in Tables 1-3 indicate that, under the operational and atmospheric conditions at the time, noise emission from WCC where higher than the criterion of 35 dB(A) at the Cintra monitoring locations during the day, evening and night monitoring periods and at Tonsley Park during the evening and night, at Glenara during the evening and Marengo at night.

Cintra and Marengo are project related residences.

The noise at Cintra and Tonsley Park was related to emissions from the train loading facility including train noise, dozer tracks and trucks hauling coal. At Marengo and Glenara the noise was attributed to general mining hum with occasional individual noise sources discernable from haul trucks and excavators.

WCC environmental licence conditions indicate that compliance with noise emission criteria is not applicable under atmospheric conditions where winds speeds are higher than 3m/s and/or there is a temperature inversion of greater than +3° C/100m. Data from the mine operated weather station indicated that all of the elevated noise levels at Tonsley Park were measured whilst there was a temperature inversion of greater than +3° C/100m in place.

Data from those times where WCC operations were audible were analysed using the *"Evaluator"* software. This analysis showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

In addition to the operational noise, the noise from WCC must not exceed **45 dB(A) Lmax** between the hours of 10 pm and 7 am. This is to minimise the potential for sleep disturbance as a result of individual loud noises from the mine.

During the night time measurement circuit Lmax noise from WCC did not exceed the Lmax criterion at any monitoring location.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,
SPECTRUM ACOUSTICS PTY LIMITED

Author:

Ross Hodge
Acoustical Consultant

Review:

Neil Pennington
Acoustical Consultant

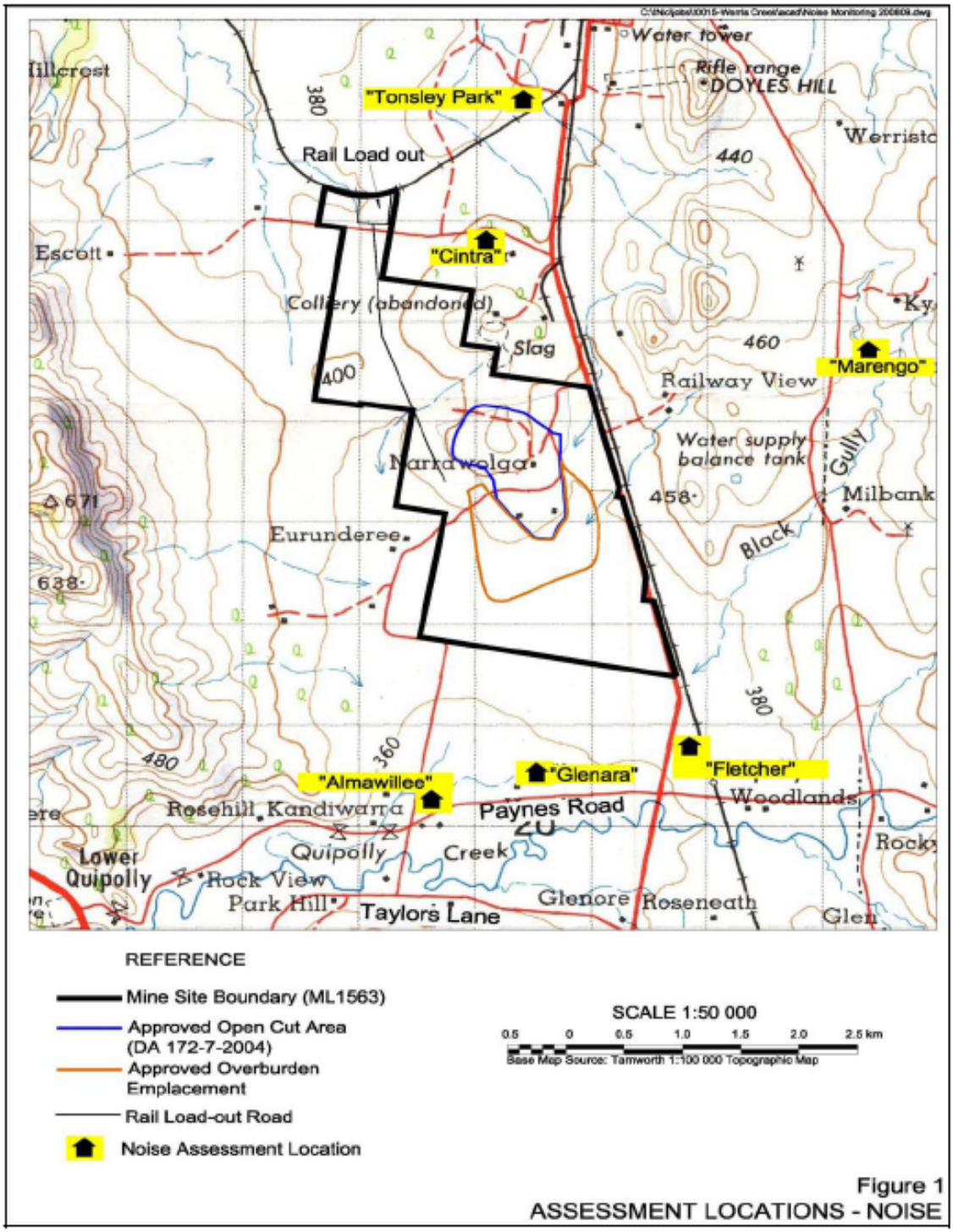

Figure 1
ASSESSMENT LOCATIONS - NOISE

Appendix 4 – Blasting Monitoring Data.

Shot number	Date fired	Time Fired	Location	Type	Werris Creek Coal Blasting Results											
					Glenala		Marengo		Tonsley Park		Cintra		Werris Creek		COMPLIANCE	
					Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)
318	2/08/2010	13:18	Strip 13	OB	NT	NT	0.42	104.9	0.83	109.7	1.49	114.3	NT	NT	10	120
320	4/08/2010	13:21	Strip 13	OB	NT	NT	0.07	112.2	NT	NT	0.08	113.2	NT	NT	10	120
321	6/08/2010	14:02	Strip 10	OB	NT	NT	NT	NT	0.4	101.8	0.62	108.4	NT	NT	10	120
322	12/08/2010	13:12	Strip 9	IB	NT	NT	NT	NT	0.4	100.6	0.52	104.6	NT	NT	10	120
323	17/08/2010	13:22	Strip 10	OB	NT	NT	NT	NT	0.6	100.6	0.67	106.4	NM	NM	10	120
324	23/08/2010	13:14	Strip 9	IB	NT	NT	NT	NT	0.57	103.1	0.35	96.8	NT	NT	10	120
325	25/08/2010	13:23	Strip 9	IB	0.1	114.7	NT	NT	NT	NT	0.07	113.7	NT	NT	10	120
326	25/08/2010	13:23	Strip 10	WE	0.1	114.7	NT	NT	NT	NT	0.07	113.7	NT	NT	10	120
TOTALS	**AUGUST**	**# BLAST**	**8**	**HIGHEST**	**0.1**	**114.7**	**0.42**	**112.2**	**0.83**	**109.7**	**1.49**	**114.3**	**-**	**-**	**10**	**120**

KEY
NT - Not Triggered
NM - Not Monitored

Shot number	Date fired	Time Fired	Location	Type	Werris Creek Coal Blasting Results											
					Glenala		Marengo		Tonsley Park		Cintra		Werris Creek		**COMPLIANCE**	
					Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)
327	3/09/2010	13:12	Strip 9	IB	NT	NT	NM	NM	NT	NT	0.42	111.3	NT	NT	10	120
328	8/09/2010	13:12	Strip 10	IB	NT	NT	NM	NM	1.05	105.7	1.17	111.7	NT	NT	10	120
329	7/09/2010	13:43	Strip 9	IB	NT	NT	NM	NM	NT	NT	NT	NT	NT	NT	10	120
330	15/09/2010	13:10	Strip 9	IB	NT	NT	NM	NM	0.53	105.7	0.92	110.2	NT	NT	10	120
331	21/09/2010	12:36	Strip 10	IB	NT	NT	NM	NM	0.55	103.7	0.9	108.4	NT	NT	10	120
332	24/09/2010	13:12	Strip 9	IB	NT	NT	NM	NM	0.68	107.2	1	110.9	NT	NT	10	120
333	24/09/2010	13:12	Strip 9	IB	NT	NT	NM	NM	0.68	107.2	1	110.9	NT	NT	10	120
334	30/09/2010	13:13	Strip 10	THRU	NT	NT	NM	NM	0.5	105.3	1.15	112	NT	NT	10	120
TOTALS	**SEPTEMBER**	**# BLAST**	**8**	**HIGHEST**	**-**	**-**	**-**	**-**	**1.05**	**107.2**	**1.17**	**112**	**-**	**-**	**10**	**120**

KEY
NT - Not Triggered
NM - Not Monitored

Shot number	Date fired	Time Fired	Location	Type	Werris Creek Coal Blasting Results											
					Glenala		Marengo		Tonsley Park		Cintra		Werris Creek		**COMPLIANCE**	
					Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)	Vib (mm/s)	OP (dB)
335	7/10/2010	14:35	Strip 10	IB	NT	NT	NM	NM	0.63	106	1	112	NT	NT	10	120
336	12/10/2010	13:12	Strip 10	IB	NT	NT	NM	NM	0.6	93.3	1.12	99.6	NT	NT	10	120
337	11/10/2010	13:16	Strip 9	WE	NT	NT	NM	NM	NT	NT	NT	NT	NT	NT	10	120
338	13/10/2010	13:12	Strip 10	IB	NT	NT	NM	NM	NT	NT	NT	NT	NT	NT	10	120
339	22/10/2010	13:19	Strip 11	OB	NT	NT	NM	NM	0.6	113.3	0.9	107.5	NT	NT	10	120
340	25/10/2010	13:16	Strip 9	IB	NT	NT	NM	NM	0.5	106.8	0.7	113.7	NT	NT	10	120
341	27/10/2010	13:15	Strip 10	OB	NT	NT	NM	NM	0.97	105.8	0.62	112.1	NT	NT	10	120
342	26/10/2010		Strip 10	IB	NT	NT	NM	NM	0.4	87.2	0.9	113.3	NT	NT	10	120
343	29/10/2010	13:44	Strip 9	IB	NT	NT	NM	NM	NT	NT	NT	NT	NT	NT	10	120
TOTALS	**OCTOBER**	**# BLAST**	**9**	**HIGHEST**	**-**	**-**	**-**	**-**	**0.97**	**113.3**	**1.12**	**113.7**	**-**	**-**	**10**	**120**

KEY
NT - Not Triggered
NM - Not Monitored

Appendix 5 – Groundwater Monitoring Data.

FIELD SAMPLING SHEET - SURFACE & GROUND WATERS

CLIENT: WERRIS CREEK COAL PTY LTD

QUOTATION No:

ADDRESS/OFFICE:

ACIRL LABORATORY:

PROJECT ID: WERRIS CREEK COAL QUARTERLY GROUNDWATERS

SAMPLER NAME: B. Phillips / M. Steele

SITE: WERRIS CREEK MINE AND SURROUNDS

Reportables / Analytes	Sample ID Information			Bore Data			Sampling Data			Field Tests			Field Observations			Comments
	Sample ID / Bore ID	Date	Time	Standing Water Level	Bore depth	Stick up	Purge Type	Purge Volume	Pump Set Depth	EC - field	pH - field	Temp - field	Appearance	Odor	Colour	
			(24hr)	□mbgl □mbtoc □m	□mbgl □mbtoc □m	m	Pump / Bailer	L	mbgl mbtoc m	uS/cm	pH units	°C				
	MW1	8/9/10	9:50	52.17		0.27	Bail			1235	6.71	19.4	Clear	Nil	Clear	(Hillview)
	MW2	8/9/10	10:10	25.38		0.3	Tap			924	7.50	19.5	Clear	Nil	Clear	(Railview) Ryans.
	MW3	9/9/10	12:15	/		.95	Tap			25.0	7.49 / 7.70 ms	17.2	Clear	Nil	Clear	Pump over bore (Burranderee)
	MW4	9-9-10	14:20	10.36		0.64	Bail			1021	7.58	19.0	~~Clear~~ Turbid	Nil	Clear	Bailed Turbid / Gritty
	MW5	9-9-10	14:40	8.41		1.17	Bail			1902	7.33	19.5	Clear	Nil	Clear	Bailed.
	MW6	8/9/10	14:05	12.68		1.05	Bail			1966	7.13	20.6	Turbid	Nil	Brown	no vehicle access / muddy.
	MW7	8/9/10	11:30	4.15			Bail			535	7.01	20.1	Clear	Nil	Clear	(Andersons) from well.
	MW8	8/9/10	10:40	14.33		-02	Tap			1153	7.36	19.2	Clear	Nil	Clear	(Roseneath) from pump.
	MW9	9/9/10	11:55	13.69		1.07	Pump	90	20m	8.01	7.30	21.7	Clear	Nil	Clear	1/11 Constant E.C.
	MW10	8/9/10	13:40	17.18		0.2	Tap			1275	8.00	15.3	Clear	Nil	Clear	from tap.
	MW11	9/9/10	9.55	—			Tap			1227	7.27	15.2	Clear	Nil	Clear	Pump over bore
	MW12	8/9/10	12:50	7.59		0.45				505	7.17	16.2	Clear	Nil	Clear	(Hazeldean)
	MW13	8/9/10	11:55	4.44		0.42				720	7.04	19.5	Clear	Nil	Clear	from well.
	MW14	9/9/10	11:25	15.88		1.04	Pump	90.	22m	1220	7.01	22.5	Clear	Nil	Clear	1/11 constant EC.
	MW15	8/9/10	11:00	4.69		0.50	Bail			1004	7.23	19.5	Clear	Nil	Clear	(Windmill) well.
	MW16	8/9/10	12:35	4.43		0.2	Tap			1035	7.18	17.9	Clear	Nil	Clear	Bad shed around side.
	MW17A	8/9/10	12:10	3.59		0.4	Tap			962	7.02	21.6	Clear	Nil	Clear	N83) from pump.
	MW17B	8/9/10	12:20	9.73		0.5				238	8.54	18.9	Clear	Nil	Clear	from Tank.
	P1	9/9/10	13:50	20.58		.92	Pump	100	35m	1720	6.55	21.3	Turbid	Nil	light brown	1/11 constant EC
SPECIAL COMMENTS:	P2	9-9-10	14:00	20.10		1.01	Bail			1065	7.28	19.8	Turbid	Nil	Light Brown	Bailed from bore.

Sheet: of

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1018191**	Page	: 1 of 5
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: 5-7 TALBOT RD GUNNEDAH NSW 2380	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: 02 6742 0058	Telephone	: +61-2-8784 8555
Facsimile	: 02 6742 0068	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK GROUNDWATER	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 09-SEP-2010
Sampler	: BP	Issue Date	: 15-SEP-2010
Site	: ----		
		No. of samples received	: 12
Quote number	: SY/261/10	No. of samples analysed	: 12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ashesh Patel	Inorganic Chemist	Inorganics
Sarah Millington	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW1	MW2	MW6	MW7	MW8
				Client sampling date / time: 08-SEP-2010 09:50	08-SEP-2010 10:10	08-SEP-2010 14:00	08-SEP-2010 11:30	08-SEP-2010 10:40
				ES1018191-001	ES1018191-002	ES1018191-003	ES1018191-004	ES1018191-005
EA005: pH								
pH Value	----	0.01	pH Unit	6.85	7.27	7.19	7.10	7.19
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	1210	903	1840	503	1120
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	----	0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.02	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	8.60	5.14	4.58	1.67	4.01
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	8.60	5.14	4.60	1.67	4.01
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.6	0.3	0.7	0.5	0.2
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	9.2	5.4	5.3	2.2	4.2
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.13	0.15	0.57	0.09	0.16
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	0.05	0.07	0.11	0.08	0.02

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW10	MW12	MW13	MW15	MW16
				Client sampling date / time: 08-SEP-2010 13:40	08-SEP-2010 12:50	08-SEP-2010 11:55	08-SEP-2010 11:00	08-SEP-2010 12:35
				ES1018191-006	ES1018191-007	ES1018191-008	ES1018191-009	ES1018191-010
EA005: pH								
pH Value	----	0.01	pH Unit	**7.92**	**7.23**	**7.05**	**7.19**	**7.06**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**1280**	**488**	**695**	**990**	**1030**
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**13.3**	**1.25**	**3.32**	**1.42**	**20.2**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**13.3**	**1.25**	**3.32**	**1.42**	**20.2**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.0**	**0.3**	<0.1	**0.4**	**3.1**
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**14.3**	**1.6**	**3.3**	**1.8**	**23.3**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.16**	**0.04**	**0.12**	**0.12**	**0.15**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.05**	**0.04**	**0.09**	**0.09**	**0.12**

Analytical Results

Sub-Matrix: WATER			Client sample ID	MW17A	MW17B	----	----	----
			Client sampling date / time	08-SEP-2010 12:10	08-SEP-2010 12:20	----	----	----
Compound	CAS Number	LOR	Unit	ES1018191-011	ES1018191-012	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**7.16**	**8.38**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**937**	**2330**	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	**0.01**	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**1.20**	**0.22**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**1.20**	**0.24**	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**0.1**	**0.8**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**1.3**	**1.0**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.12**	**0.03**	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.09**	**0.03**	----	----	----

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1018269**	Page	: 1 of 5
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: 5-7 TALBOT RD GUNNEDAH NSW 2380	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: 02 6742 0058	Telephone	: +61-2-8784 8555
Facsimile	: 02 6742 0068	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK GROUNDWATER	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 10-SEP-2010
Sampler	: BP/MS	Issue Date	: 16-SEP-2010
Site	: ----		
		No. of samples received	: 10
Quote number	: SY/261/10	No. of samples analysed	: 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Inorganics
Celine Conceicao	Spectroscopist	Inorganics
Sarah Millington	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **TDS by method EA-015 may bias high due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW3	MW4	MW4	MW9	MW11
				Client sampling date / time: 09-SEP-2010 12:15	09-SEP-2010 14:20	09-SEP-2010 14:40	09-SEP-2010 11:55	09-SEP-2010 09:55
				ES1018269-001	ES1018269-002	ES1018269-003	ES1018269-004	ES1018269-005
EA005: pH								
pH Value	----	0.01	pH Unit	**6.73**	**7.47**	**7.45**	**7.34**	**7.44**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**28**	**1000**	**1740**	**773**	**1210**
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	**0.24**	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.42**	**1.48**	**0.04**	**2.81**	**10.6**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.42**	**1.48**	**0.28**	**2.81**	**10.6**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	**1.0**	**10.6**	**1.0**	**0.7**
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**0.4**	**2.5**	**10.9**	**3.8**	**11.3**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.03**	**0.32**	**0.97**	**0.07**	**0.05**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.02**	**0.05**	**0.86**	**0.02**	**0.04**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW14	P1	P2	SPOIL	DUNMORE DAM
				Client sampling date / time: 09-SEP-2010 11:25	09-SEP-2010 13:50	09-SEP-2010 14:00	09-SEP-2010 15:00	09-SEP-2010 15:00
				ES1018269-006	ES1018269-007	ES1018269-008	ES1018269-009	ES1018269-010
EA005: pH								
pH Value	----	0.01	pH Unit	**7.15**	**6.68**	**7.31**	**7.86**	**7.47**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**1170**	**1650**	**1040**	**1090**	**110**
EA015: Total Dissolved Solids								
^ Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	----	----	----	**704**	**208**
EA025: Suspended Solids								
^ Suspended Solids (SS)	----	1	mg/L	----	----	----	**14**	**110**
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	----	----	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	----	----	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	----	----	**288**	**33**
Total Alkalinity as CaCO3	----	1	mg/L	----	----	----	**288**	**33**
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	----	----	**2**	**10**
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	----	----	----	**139**	**11**
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	----	----	----	**85**	**1**
Magnesium	7439-95-4	1	mg/L	----	----	----	**15**	**2**
Sodium	7440-23-5	1	mg/L	----	----	----	**97**	**16**
Potassium	7440-09-7	1	mg/L	----	----	----	**14**	**3**
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	----	----	**0.001**	----
Barium	7440-39-3	0.001	mg/L	----	----	----	**0.130**	----
Beryllium	7440-41-7	0.001	mg/L	----	----	----	<0.001	----
Cadmium	7440-43-9	0.0001	mg/L	----	----	----	<0.0001	----
Cobalt	7440-48-4	0.001	mg/L	----	----	----	**0.001**	----
Chromium	7440-47-3	0.001	mg/L	----	----	----	<0.001	----
Copper	7440-50-8	0.001	mg/L	----	----	----	**0.002**	----
Manganese	7439-96-5	0.001	mg/L	----	----	----	**0.017**	----
Nickel	7440-02-0	0.001	mg/L	----	----	----	**0.002**	----
Lead	7439-92-1	0.001	mg/L	----	----	----	<0.001	----
Vanadium	7440-62-2	0.01	mg/L	----	----	----	<0.01	----
Zinc	7440-66-6	0.005	mg/L	----	----	----	**0.007**	----
Iron	7439-89-6	0.05	mg/L	----	----	----	<0.05	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	----	----	<0.0001	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: MW14	P1	P2	SPOIL	DUNMORE DAM
				Client sampling date / time: 09-SEP-2010 11:25	09-SEP-2010 13:50	09-SEP-2010 14:00	09-SEP-2010 15:00	09-SEP-2010 15:00
				ES1018269-006	ES1018269-007	ES1018269-008	ES1018269-009	ES1018269-010
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	**0.01**	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**17.6**	<0.01	**4.25**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**17.6**	<0.01	**4.27**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.0**	<0.1	**1.5**	----	----
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**18.6**	<0.1	**5.8**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.12**	**0.04**	**0.21**	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.02**	**0.02**	**0.19**	----	----
EN055: Ionic Balance								
^ Total Anions	----	0.01	meq/L	----	----	----	**9.71**	**1.17**
^ Total Cations	----	0.01	meq/L	----	----	----	**10.1**	**1.00**
^ Ionic Balance	----	0.01	%	----	----	----	**1.81**	----

Appendix 6 – Surface Water Monitoring Data.

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1016812**	Page	: 1 of 5
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: 5-7 TALBOT RD GUNNEDAH NSW 2380	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: 02 6742 0058	Telephone	: +61-2-8784 8555
Facsimile	: 02 6742 0068	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK SURFACE-WATER	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 20-AUG-2010
Sampler	: BP	Issue Date	: 27-AUG-2010
Site	: ----		
		No. of samples received	: 11
Quote number	: SY/261/10	No. of samples analysed	: 11

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

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Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Inorganics
Charlie Pierce	Laboratory Manager	Inorganics
Sarah Millington	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: SB2	SB6	SB9	SB10	VWD1
				Client sampling date / time: 19-AUG-2010 14:35	19-AUG-2010 13:20	19-AUG-2010 13:40	19-AUG-2010 13:55	19-AUG-2010 14:25
				ES1016812-001	ES1016812-002	ES1016812-003	ES1016812-004	ES1016812-005
EA005: pH								
pH Value	----	0.01	pH Unit	8.05	7.69	7.66	7.65	8.13
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	363	476	131	190	1010
EA025: Suspended Solids								
^ Suspended Solids (SS)	----	1	mg/L	38	20	295	365	16
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	0.01	11.8	0.40	0.87	1.32
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.01	12.1	0.40	0.87	1.32
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.0	4.3	1.1	0.7	1.1
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	1.0	16.4	1.5	1.6	2.4
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.26	0.08	0.38	0.28	0.52
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	0.09	<0.01	0.16	0.17	0.04
EP020: Oil and Grease (O&G)								
^ Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: VWD2	BGD	QCU	QCD	WCU
				Client sampling date / time: 19-AUG-2010 14:10	19-AUG-2010 12:10	19-AUG-2010 12:20	19-AUG-2010 11:50	19-AUG-2010 09:40
				ES1016812-006	ES1016812-007	ES1016812-008	ES1016812-009	ES1016812-010
EA005: pH								
pH Value	----	0.01	pH Unit	8.56	7.78	8.13	7.80	7.85
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	839	159	285	468	618
EA025: Suspended Solids								
^ Suspended Solids (SS)	----	1	mg/L	16	37	10	18	8
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	4.53	0.02	0.24	0.03	0.53
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	4.61	0.06	0.25	0.18	0.53
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	2.6	2.6	0.9	1.1	1.1
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	7.2	2.7	1.2	1.3	1.6
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	0.91	0.52	0.18	0.15	0.26
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	0.01	0.37	0.09	0.14	0.12
EP020: Oil and Grease (O&G)								
^ Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER			Client sample ID	WCD	----	----	----	----
			Client sampling date / time	19-AUG-2010 09:20	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1016812-011	----	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.20**	----	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**811**	----	----	----	----
EA025: Suspended Solids								
^ Suspended Solids (SS)	----	1	mg/L	**28**	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.54**	----	----	----	----
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.56**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**0.6**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**1.2**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.53**	----	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.20**	----	----	----	----
EP020: Oil and Grease (O&G)								
^ Oil & Grease	----	5	mg/L	<5	----	----	----	----

Appendix 7 – Surface Water Discharge Monitoring Data

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1016291**	Page	: 1 of 4
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: Unit 2, Lot 6 Industrial Close MUSWELLBROOK NSW, AUSTRALIA 2333	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: +61 02 6542 2400	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 6543 4121	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK SURFACE WATER	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 13-AUG-2010
Sampler	: BK	Issue Date	: 17-AUG-2010
Site	: ----		
		No. of samples received	: 7
Quote number	: SY/261/10	No. of samples analysed	: 7

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Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Inorganics

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Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: SB2	SB9	SB10	QCU	QCD
				Client sampling date / time: 12-AUG-2010 12:05	12-AUG-2010 11:45	12-AUG-2010 11:30	12-AUG-2010 13:45	12-AUG-2010 13:55
				ES1016291-001	ES1016291-002	ES1016291-003	ES1016291-004	ES1016291-005
EA005: pH								
pH Value	----	0.01	pH Unit	**7.52**	**7.63**	**7.30**	**7.60**	**7.39**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**389**	**121**	**91**	**256**	**231**
EA025: Suspended Solids								
Suspended Solids (SS)	----	1	mg/L	**6**	**73**	**68**	**22**	**105**
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.23**	**0.41**	**0.03**	**0.18**	**0.25**
EK059G: NOX as N by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.23**	**0.41**	**0.03**	**0.18**	**0.25**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**0.5**	**0.8**	**1.3**	**0.8**	**0.8**
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**0.7**	**1.2**	**1.3**	**1.0**	**1.0**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.16**	**0.28**	**0.82**	**0.22**	**0.32**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.10**	**0.18**	**0.68**	**0.10**	**0.39**
EP020: Oil and Grease (O&G)								
^ Oil & Grease	----	5	mg/L	<5	<5	<5	<5	<5

Analytical Results

Sub-Matrix: WATER				Client sample ID	WCU	WCD	----	----	----
				Client sampling date / time	12-AUG-2010 12:25	12-AUG-2010 12:45	----	----	----
Compound	CAS Number	LOR	Unit		ES1016291-006	ES1016291-007	----	----	----
EA005: pH									
pH Value	----	0.01	pH Unit		7.62	7.60	----	----	----
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		323	324	----	----	----
EA025: Suspended Solids									
Suspended Solids (SS)	----	1	mg/L		148	130	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
^ Nitrate as N	14797-55-8	0.01	mg/L		0.81	0.68	----	----	----
EK059G: NOX as N by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		0.81	0.68	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		0.8	0.6	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	0.1	mg/L		1.6	1.3	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.43	0.42	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	----	0.01	mg/L		0.40	0.40	----	----	----
EP020: Oil and Grease (O&G)									
^ Oil & Grease	----	5	mg/L		<5	<5	----	----	----

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1019457**	Page	: 1 of 3
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: 5-7 TALBOT RD GUNNEDAH NSW 2380	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: 02 6742 0058	Telephone	: +61-2-8784 8555
Facsimile	: 02 6742 0068	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK GROUNDWATER	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 29-SEP-2010
Sampler	: AW	Issue Date	: 05-OCT-2010
Site	: ----		
		No. of samples received	: 5
Quote number	: SY/261/10	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Sarah Millington	Senior Inorganic Chemist	Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

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Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EK061G: Spike failed for TKN due to matrix interference.(confirmed by re-digestion and re-analysis).**

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: SB9	MW24	TANK	MW25a	MW25b
				Client sampling date / time: 28-SEP-2010 08:00	28-SEP-2010 07:00	28-SEP-2010 07:00	28-SEP-2010 06:00	28-SEP-2010 06:00
				ES1019457-001	ES1019457-002	ES1019457-003	ES1019457-004	ES1019457-005
EA005: pH								
pH Value	----	0.01	pH Unit	**8.24**	**7.01**	**7.13**	**6.96**	**6.94**
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**133**	**2140**	**35**	**2170**	**2030**
EA015: Total Dissolved Solids								
^ Total Dissolved Solids @180°C	GIS-210-010	1	mg/L	----	**1240**	**17**	**1070**	**1000**
EA025: Suspended Solids								
^ Suspended Solids (SS)	----	1	mg/L	**42**	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
^ Nitrate as N	14797-55-8	0.01	mg/L	**0.03**	**3.05**	**0.24**	**5.52**	**7.40**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.03**	**3.05**	**0.24**	**5.52**	**7.40**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.5**	**0.6**	**0.2**	**1.3**	**0.8**
EK062: Total Nitrogen as N (TKN + NOx)								
^ Total Nitrogen as N	----	0.1	mg/L	**1.5**	**3.6**	**0.4**	**6.8**	**8.2**
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.36**	**0.01**	**0.02**	<0.01	**0.06**
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	----	0.01	mg/L	**0.04**	<0.01	<0.01	<0.01	<0.01
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	**10**	----	----	----	----

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES1021486**	Page	: 1 of 3
Client	: **ACIRL PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: A WRIGHT	Contact	: Charlie Pierce
Address	: Unit 2, Lot 6 Industrial Close MUSWELLBROOK NSW, AUSTRALIA 2333	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: awright@whitehavencoal.com.au	E-mail	: sydney.enviro.services@alsglobal.com
Telephone	: +61 02 6542 2400	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 6543 4121	Facsimile	: +61-2-8784 8500
Project	: WERRIS CREEK DISCHARGE SAMPLES	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 26-OCT-2010
Sampler	: AW	Issue Date	: 29-OCT-2010
Site	: ----		
		No. of samples received	: 5
Quote number	: SY/261/10	No. of samples analysed	: 5

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Signatories	*Position*	*Accreditation Category*
Ashesh Patel	Inorganic Chemist	Inorganics
Sarah Millington	Senior Inorganic Chemist	Inorganics

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LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: WATER				Client sample ID	SB2	QCU	QCD	WCU	WCD
				Client sampling date / time	25-OCT-2010 15:00	25-OCT-2010 15:00	25-OCT-2010 15:00	25-OCT-2010 15:00	25-OCT-2010 15:00
Compound	CAS Number	LOR	Unit		ES1021486-001	ES1021486-002	ES1021486-003	ES1021486-004	ES1021486-005
EA005: pH									
pH Value	----	0.01	pH Unit		8.27	7.89	7.81	7.83	7.86
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		417	370	924	549	587
EA025: Suspended Solids									
^ Suspended Solids (SS)	----	1	mg/L		16	20	7	136	200
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	0.02	<0.01	0.38	<0.01
EK058G: Nitrate as N by Discrete Analyser									
^ Nitrate as N	14797-55-8	0.01	mg/L		<0.01	0.22	0.07	0.40	25.2
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	0.23	0.07	0.78	25.2
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		0.8	1.8	0.3	1.9	5.5
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	0.1	mg/L		0.8	2.0	0.4	2.7	30.7
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		0.06	0.18	0.07	0.86	0.41
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	----	0.01	mg/L		0.01	0.12	0.07	0.81	0.30
EP020: Oil and Grease (O&G)									
^ Oil & Grease	----	5	mg/L		<5	<5	<5	<5	<5