Narrabri Coal Operations Pty Ltd

ACN 129 850 139
ABN 15 129 850 139

Community Consultative Committee Meeting Minutes

Meeting No: 1
Date: 14 May 2008
Location: Narrabri Coal Operations Site Office
Present: Terry Miller
Sally Hunter
Peter Webb
James Stieger
Les Knox
Cr George Seville (for Clr Ken Bates)
Ben Bomford (Project Manager)
Danny Young (Whitehaven Environmental Manager)
Kellie Sutherland (Site Clerk)
Chris Burgess (General Manager New Projects)

1.0 Apologies

Mr Mark Foster, Mr Colin Phillips (Dept of Planning).

2.0 Overview

A welcome was extended to all members. There was a general concensus that the CCC provided members with an opportunity to participate in a major development which presents exciting times ahead for the local area.

The interest of members range from opportunities relating to future community development, ensuring local money stays local, monitoring of the environmental impact, employment and educational opportunities, smooth relations with neighbours and for the Shire to benefit as a whole. A number of members also reside in close proximity to the mine site and are interested to monitor general site impacts.

Colin Phillips from the Department of Planning issued an apology as he was unable to attend the meeting. However, he did indicate he is available to CCC members to discuss any issues of protocol and procedure. Members were advised to contact Danny Young in the first instance who would provide Mr Phillips contact details.

The Committee as a whole indicated that they would like to find out about other Underground Mines Community Consultative Committees currently active, and in particular the types of issues these CCC groups have been faced with. Danny Young indicated he would follow this up with the Department of Planning.

3.0 Progress Update

Ben Bomford, Project Manager, provided an overview of current construction progress as well as some detailed explanation to the committee as to direction and process of underground mining, minable resource estimates and projected mine life. This included review of plans and aerial photographs of construction works undertaken to date.

4.0 Site Visit

Members undertook a site visit around the Pit Top Area, with particular attention to the Box Cut which was under construction. Discussions were held on site in relation to equipment used, excavation techniques, blasting and environmental monitoring.

5.0 Environmental Overview

An overview was presented by Danny Young identifying that the CCC would be provided environmental monitoring results at each CCC meeting for discussion and review. Monitoring results collected to date were provided indicating general compliance with consent criteria.

A high level PM10 reading was queried by James Stieger which occurred on the 23rd February 2008, prior to significant construction works commencing. The PM10 level was noted at 48ug/m3. Danny Young explained that high PM10 readings may be attributable to a range of factors including general dust storms, adjacent agricultural activity etc. A review of the field recording sheet will be undertaken of the date in question and advice will issue as to the cause of this high level reading at the next meeting.

A CD was issued to CCC members containing copies of the Environmental Management Plans applicable to the site. Hard copy Environmental Management Plans will be provided to James Stieger & Peter Webb. As additional plans are progressively developed they will be referred through the CCC.

6.0 General Business

Community Involvement is encouraged and after the Box Cut is complete Narrabri Coal will invite the Baan Baa Community to a site visit to keep them informed and up to date with construction progress.

Narrabri Coal and the CCC agree that communications should be kept open to enable the community or individuals to present ideas they may have in relation to ongoing community benefits that could arise as a result of this project.

Whitehaven Mining currently offers apprenticeship and cadetship opportunities for locals, and this will be rolled out over the life of the Narrabri Coal Project. All employment opportunities are advertised locally in an effort by the company to attract local people, however, it must be acknowledged that in some circumstances, it is not always possible to find suitably qualified people from the local area.

To further enhance future potential to attract locals to mining based employment, Whitehaven Coal has been liaising with Narrabri and Gunnedah TAFES with regard to the development of mining based training packages to assist in local training and expertise.

The potential for sponsorship by the company to community based groups was discussed, particularly in terms of the process undertaken. The CCC was advised that sponsorship from the company is available, but is based on a submissions which must clearly indicate that a project is of real whole of community benefit. Each submission would be assessed on its individual merits.

It was suggested that the provision of video records of construction progress on the company website would be a good way of keeping the community informed as to the site development. Unfortunately, such means would take up significant bandwidth on the website and as a result not currently viable. However, Narrabri Coal has confirmed that it would be happy to provide the local community with updates on progress via organised tours of the site at appropriate times.

Minutes of the meetings are to be distributed by email to the following
Les Knox – muriman@bigpond.net.au
Sally Miller – sally@fundbase.com.au
Terry Miller – terry@watsonskitchen.com.au
With hardcopies for James Stieger and Peter Webb.

7.0 Next Meeting

Wednesday 13 August 2008, 4pm, Narrabri Coal Operations Site Office.

Narrabri Coal Project
Community Consultative Committee
Meeting #1

Environmental Monitoring Report

The project approval and Environment Protection Licence issued for the Narrabri Coal Project included the requirement to undertake a range of monitoring in order to assess the impacts of the operation on the adjacent environment. Direct monitoring relates to the following parameters:-

Noise Monitoring
Air Quality Monitoring
Blast Monitoring
Surface and Groundwater Monitoring

In addition to these monitoring programs, the project approval and Environment Protection Licence requires activities on the site to be undertaken in accordance with the following management plans:

Environmental Management Strategy
Environmental Monitoring Program
Water Management Plan
Noise Monitoring Program
Air Quality Monitoring Program
Blast Monitoring Program
Landscape Management Plan
Aboriginal Cultural Heritage Management Plan
Energy Savings Action Plan
Waste Management Plan

To date, Narrabri Coal has developed and received Departmental Approval for the following management plans:

Environmental Management Strategy
Construction Phase Surface Water Management Plan
Noise Monitoring Program
Air Quality Monitoring Program
Blast Monitoring Program
Aboriginal Cultural Heritage Management Plan
Waste Management Plan

The remaining plans are to be submitted to the Department on a progressive basis.

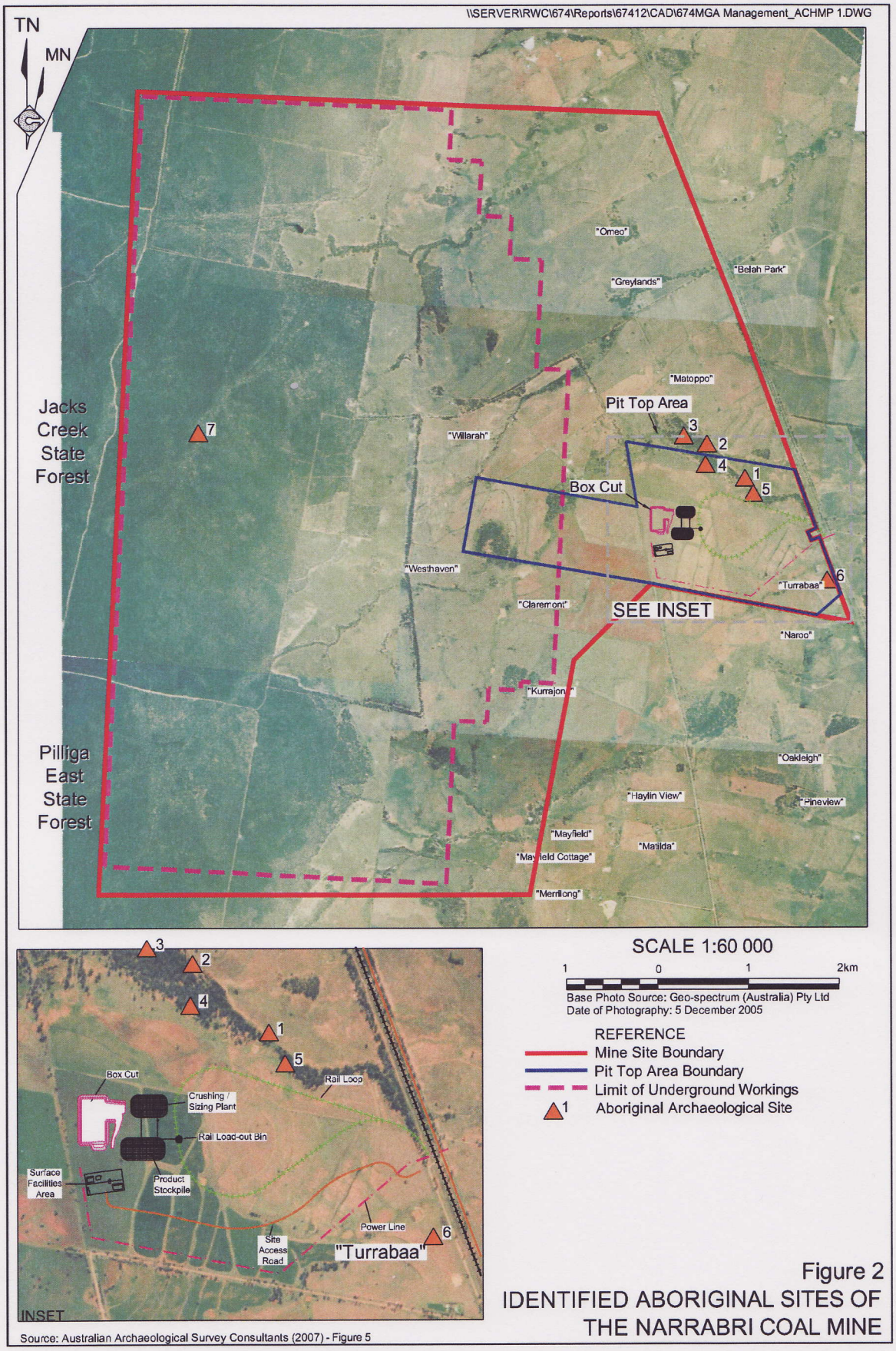
As part of the Community Consultative Committee process, Narrabri Coal will present an Environmental Monitoring Report at each CCC meeting. The purpose of the report is to provide members with an up to date account of environmental performance across the site in accordance with the above mentioned management plans and monitoring programs.

Prior to any works being permitted to commence on site, the project approval required the submission of an Aboriginal Cultural Heritage Management Plan and Construction Phase Surface Water Management Plan. The objectives of these plans are as defined below:-

Aboriginal Cultural Heritage Management Plan (ACHMP)

The ACHMP provides the basis for identification of known Aboriginal Sites in proximity to the Pit Top Area. The ACHMP was prepared in consultation with the Narrabri Local Aboriginal Land Council and the traditional owner group known as the Gomeroi Narrabri People. With the assistance of these groups, and the Department of Environment and Climate Change, the Pit Top Area was assessed for Aboriginal artefacts, and management strategies adopted to minimise impact on these sites. The identified sites within proximity to the Pit Top Area are shown on the following Figure. The sites are predominantly associated with the Kurrajong Creek Tributary which has now been fenced and signposted to restrict access.

In order to ensure adequate controls are in place to manage for unidentified Aboriginal sites within the Pit-Top area, Narrabri Coal has engaged representative members of the Gomeroi Narrabri People and Narrabri Local Aboriginal Land Council to undertake monitoring of soil stripping activity during the construction phase of the development. This process will enable the Aboriginal site monitors to undertake checks during the soil stripping process and identify any additional artefacts that may be uncovered. The ACHMP provides a protocol to be followed in the event that additional artefacts are discovered.



Source: Australian Archaeological Survey Consultants (2007) - Figure 5

Figure 2
IDENTIFIED ABORIGINAL SITES OF THE NARRABRI COAL MINE

Construction Phase Surface Water Management Plan

Narrabri Coal has prepared a construction phase surface water management plan (SWMP) in order to ensure appropriate erosion and sediment controls are in place during the construction phase. The plan also nominates surface water quality parameters for monitoring and relevant monitoring points in the event of any discharge of surface waters off site. To date there has been no discharge of surface waters from the site to enable testing of water quality parameters. Similarly, construction of all nominated sediment basins and storage dams is not yet complete. On completion of these features, the monitoring outlined in the table below will commence, with results presented at future CCC meetings.

Location	Parameter	Frequency
Sediment Basins 1, 2 and 3	EC, TDS, pH, TSS, Total Organic Carbon, Oil and Grease, water level	Quarterly Water Level in SB1 – Continuous
Storage Dams 1-6	EC, TDS, pH, TSS, Total Organic Carbon, Oil and Grease	Quarterly and during discharge from SD3, SD4, SD5, SD6, below isolation bund at Culvert 2.
Kurrajong Creek Tributary 1 and 2 upstream	EC, TDS, pH, TSS, Total Organic Carbon, Oil and Grease, water level.	Following significant rain to obtain baseline and during discharge.
Kurrajong Creek Tributary 1 and 2 downstream		
Kurrajong Creek (upstream and downstream)		
Pine Creek Tributary 1		

Reference to monitoring points is presented in the following figure.

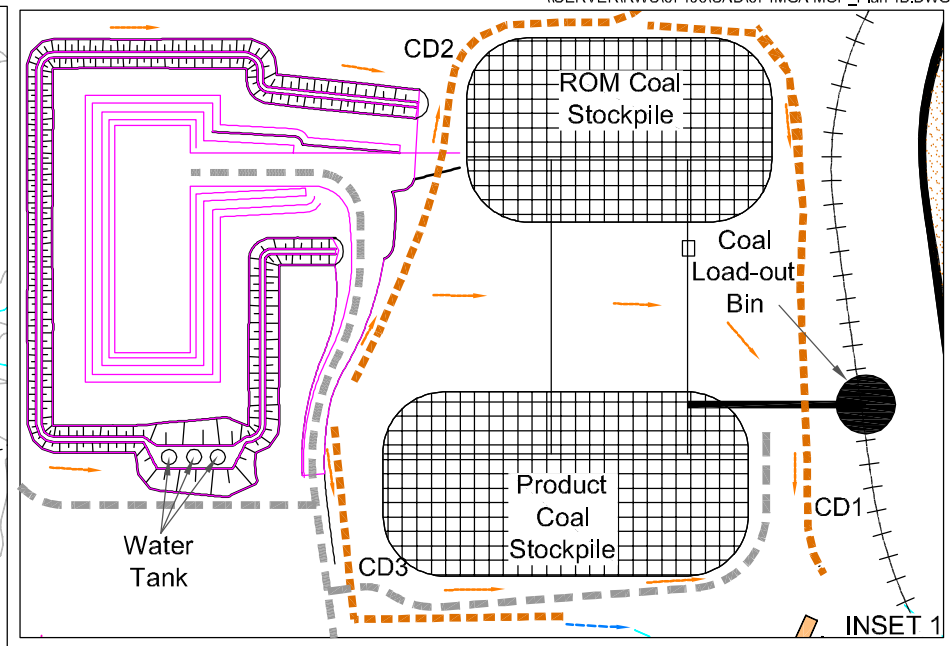
\\SERVER\RWC\67406\CAD\674MGA MOP_Plan 4B.DWG

TN
MN

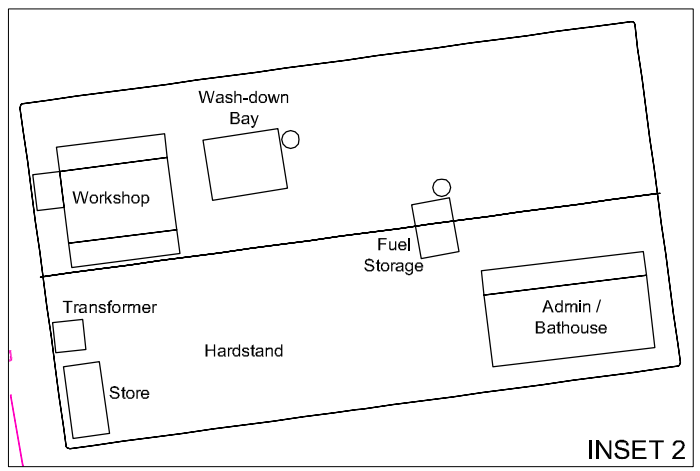
Surplus Soil Stockpile
SEE INSET 1
Perimeter Amenity Bund
Fire Fighting Water Tanks
SEE INSET 2
Surplus Soil Stockpile
Kurrajong Creek Tributary 1
Kurrajong Creek Tributary 2
SD1
SD2
SD3
SD4
SD5
SD6
SB1
SB2
SB3
CD1
CD2
CD3
Pond A Complex
A1
A2
A3
Pond D
Isolation Bund
CUL1
CUL2
CUL3
CUL4
CUL5
CUL6
CUL7
CUL8
CUL9
CUL10
Licensed Discharge Point
250
260
270
280

SCALE 1:10 000
100 0 100 200 300 400 500 m

Base Map Source: Geo-spectrum (Australia) Pty Ltd



SCALE 1:5 000
50 0 50 100 150 200 250 m



SCALE 1:2 500
25 0 25 50 75 100 125 m

REFERENCE

- Pit Top Area
- P — Power Line
- Sealed Road
- Site Road Access / Internal Road
- Site Rail Access
- 290 — Contour (m AHD)(Interval = 1m & 2m)
- Creek/ Drainage Line
- Dam/ Water Storage
- Building
- Explosives Magazine
- Rail Loop Bund
- Diversion Bank (Clean)
- CD2 — Catchment Bank (Dirty)
- Suface Drainage (Clean)
- Suface Drainage (Dirty)
- Perimeter Amenity Bund
- Sediment Fence
- CUL7 — Culvert
- SD1 — Storage Dam
- SB1 — Sediment Basin
- Evaporation / Storage Pond

Figure 3
AREAS OF DISTURBANCE DURING THE CONSTRUCTION PERIOD

Following approval of the ACHMP and Construction Phase SWMP, Narrabri Coal was able to commence operations on site, subject to the progressive implementation of the management plans and monitoring programs specified above. The regular monitoring programs which have been developed to date are described below.

Noise Monitoring

Construction Phase:

During the construction period, Narrabri Coal will undertake quarterly attended and unattended noise monitoring by a suitably qualified consultant. Noise monitoring will be undertaken from the "Bow Hills", "Westhaven", "Naroo", "Greylands" and "Kurrajong" properties as identified on the plan attached.

In addition to the above construction noise assessment, all earthmoving equipment brought on site for construction activity are required to exhibit sound power levels as prescribed in the Noise Monitoring Program.

The construction noise assessment will also be utilised to confirm that construction noise predictions identified in the initial Environmental Assessment for the project are valid.

Operational Phase:

During the operational phase of the project, Narrabri Coal will undertake quarterly attended and unattended nose monitoring by a suitably qualified consultant. Noise monitoring will be undertaken from the "Bow Hills", "Westhaven", "Naroo", "Greyland" and "Kurrajong" properties.

Attended Noise Monitoring

Noise Limits:

The noise limits applicable to operations on the Narrabri Project Site, as prescribed in the Project Approval and Environment Protection Licence, are as follows:-

Location	**Day**	**Evening**	**Night**	
	$L_{Aeq(15\ minute(}$	**$L_{Aeq(15\ minute)}$**	$L_{Aeq(15\ minute)}$	$L_{A1(1\ minute)}$
All Privately owned Residences	35	35	35	45

Impact Assessment Criteria dB(A).

To date, noise assessment on the project site has been undertaken in relation to sound power levels of earthmoving equipment which has confirmed machine noise levels are within prescribed rating limits for each machine. Additional testing will be carried out as additional equipment comes on site.

The first construction noise attended monitoring is to be undertaken this week by Spectrum acoustics, with the results to be presented at the next CCC meeting.

NARRABRI COAL PTY LTD - 10 - **NOISE MONITORING PROGRAM**
Narrabri Coal Mine *Report No. 674/12*

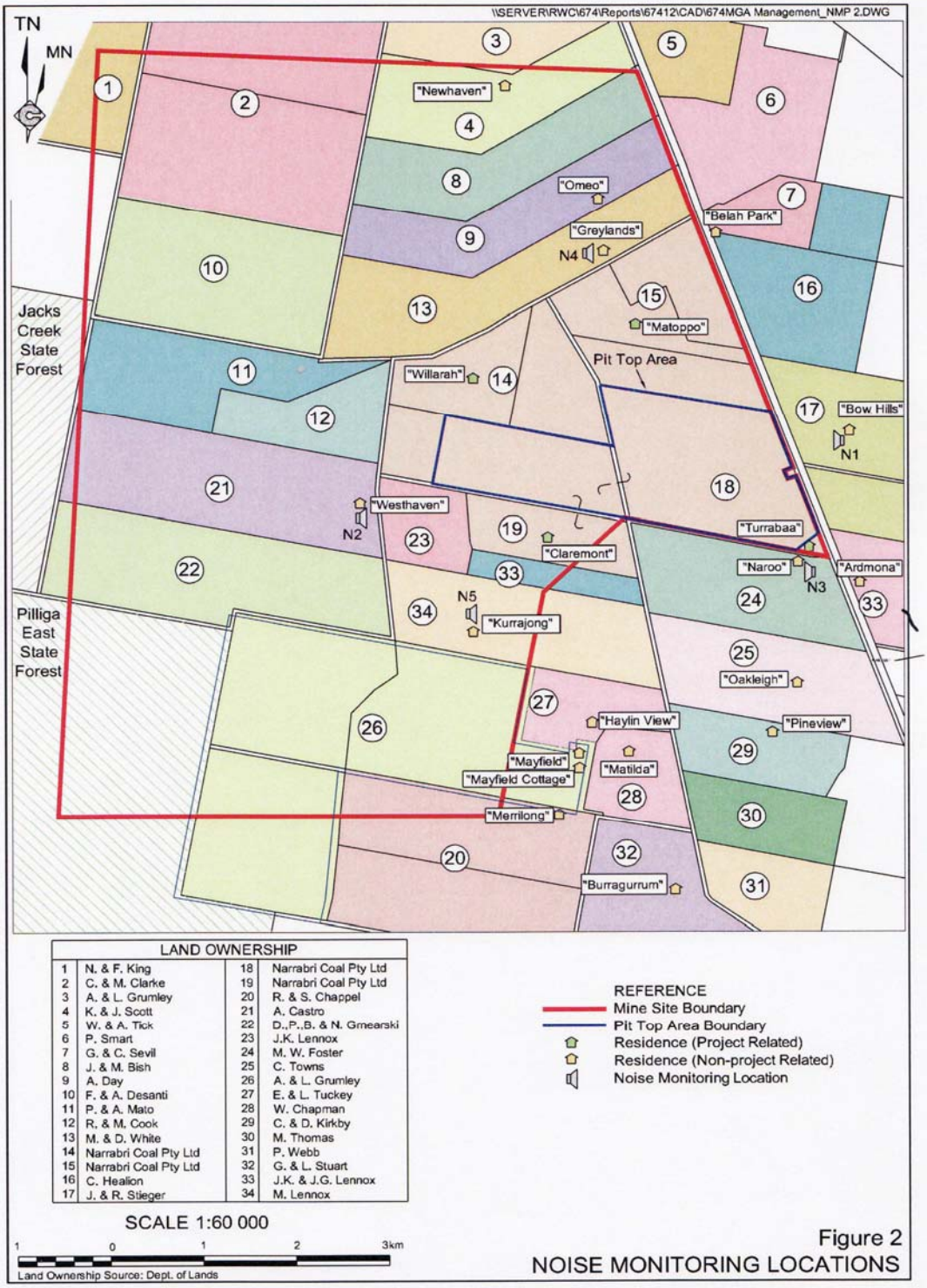


Figure 2
NOISE MONITORING LOCATIONS

Air Quality Monitoring

Air quality monitoring is required on all sides of the project site to assess deposited dust and particulate matter levels that may be attributable to mining operations. Specifically, the project is required to meet the following consent criteria.

Pollutant	Averaging Period	Criterion
Total Suspended particulate (TSP) matter	Annual	90 ug/m3
Particulate matter < 10ug (PM10)	Annual	30 ug/m3

Pollutant	Averaging Period	Criterion
Particulate matter < 10ug (PM10)	24 hour	50 ug/m3

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited Dust	Annual	2g/m2/month	4g/m2/month

Dust monitors have been established on all sides of the project site, as well as two High Velocity Air Samplers (HVAS) located on the “Claremont” and “Turrabaa” properties.

Deposited Dust Stand

High Velocity Air Sampler (PM10)

Deposited dust monitoring has been occurring for in excess of 12 months in order to establish background dust levels. The HVAS for PM10 measurements have only recently been established.

Deposited dust levels for the site to date are as presented in the tables below:

Narrabri Project 2007 Deposited Dust Annual Summary

Month	ND1	ND2	ND3	ND4	ND5	ND6	ND7	ND8	Annual Average Limit
January 2007	0.8	1.1	0.8	2.1	1.2	1.2	2.3	1.3	4.0
February 2007	1.5	5.0	1.3	1.9	1.8	0.7	1.5	1.0	4.0
March 2007	2.3	0.9	0.8	1.0	0.5	0.4	2.5	0.5	4.0
April 2007	2.0	1.1	1.0	0.9	1.3	0.9	2.2	1.3	4.0
May 2007	1.0	1.0	0.5	0.5	0.5	0.6	0.5	0.4	4.0
June 2007	0.6	0.2	0.2	0.3	0.3	0.4	0.2	0.2	4.0
July 2007	0.8	0.4	0.5	0.9	0.7	0.5	0.4	0.4	4.0
August 2007	0.6	0.4	0.3	0.5	4.5	0.3	0.2	0.2	4.0
September 2007	1.4	0.5	0.5	0.6	0.5	0.6	0.6	0.1	4.0
October 2007	2.4	1.1	1.2	0.8	1.1	1.1	1.0	0.6	4.0
November 2007	1.4	0.9	0.6	1.2	1.0	1.4	0.8	0.2	4.0
December 2007	0.7	1.0	0.9	1.4	0.7	1.3	0.6	0.8	4.0
Annual Average	**1.3**	**1.1**	**0.7**	**1.0**	**1.2**	**0.8**	**1.1**	**0.6**	**4.0**

Values used are Total Insoluble Matter (g/m²/month)

Narrabri Project 2008 Deposited Dust Annual Summary

Month	ND1	ND2	ND3	ND4	ND5	ND6	ND7	ND8	Annual Average Limit
January 2008	0.6	0.5	0.4	1.4	0.2	1.6	0.6	0.4	4.0
February 2008	0.9	0.8	0.5	1.0	2.3	6.2	1.3	0.6	4.0
March 2008	1.6	3.7	1.5	1.1	1.3	1.7	1.2	1.1	4.0
April 2008									4.0
May 2008									4.0
June 2008									4.0
July 2008									4.0
August 2008									4.0
September 2008									4.0
October 2008									4.0
November 2008									4.0
December 2008									4.0
Annual Average	**1.0**	**1.7**	**0.8**	**1.2**	**1.3**	**3.2**	**1.0**	**0.7**	**4.0**

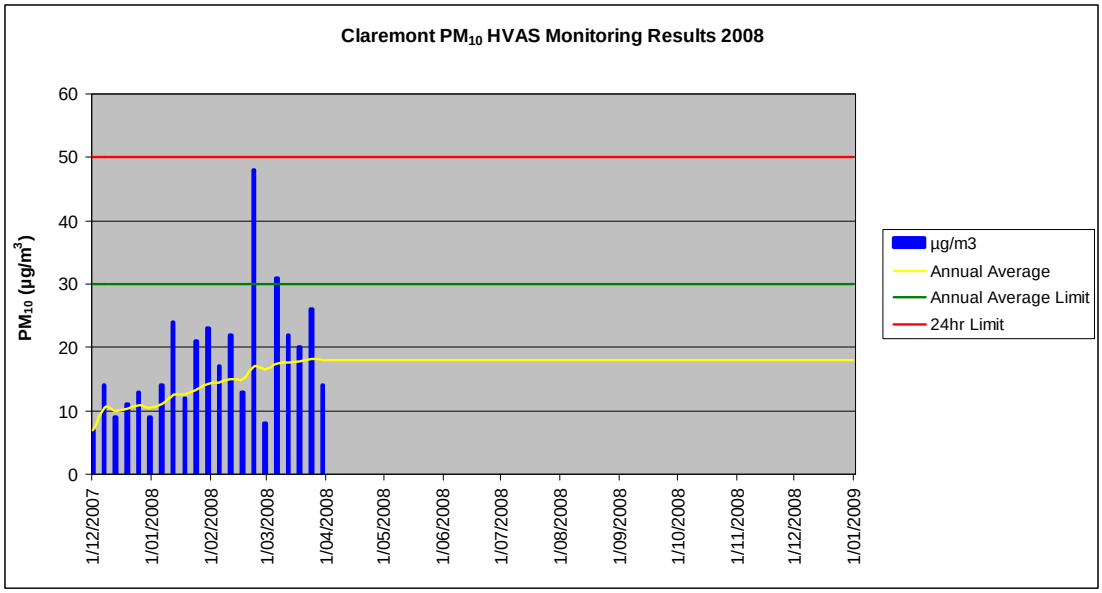
Values used are Total Insoluble Matter (g/m²/month)

The above results provide for some comparison of background levels with current levels, and will continue to be monitored over the course of the development.

PM10 measurements taken to date are presented in the following table:

Claremont PM10

Site	Site Id	Datum	Zone	Easting	Northing
Claremont PM10	ND-9	MGA	55	777047	6619621
Date	**mg/paper**	**µg/m3**	**Annual Average**	**Annual Average Limit**	**24hr Limit**
1/12/2007	11.1	7	7.00	30	50
7/12/2007	20.5	14	10.50	30	50
13/12/2007	14.2	9	10.00	30	50
19/12/2007	16.1	11	10.25	30	50
25/12/2007	20.7	13	10.80	30	50
31/12/2007	14.1	9	10.50	30	50
6/01/2008	20.9	14	11.00	30	50
12/01/2008	37.4	24	12.63	30	50
18/01/2008	19.4	12	12.56	30	50
24/01/2008	33	21	13.40	30	50
30/01/2008	35.6	23	14.27	30	50
5/02/2008	26.6	17	14.50	30	50
11/02/2008	34	22	15.08	30	50
17/02/2008	20.2	13	14.93	30	50
23/02/2008	74.3	48	17.13	30	50
29/02/2008	13.1	8	16.56	30	50
6/03/2008		31	17.41	30	50
12/03/2008		22	17.67	30	50
18/03/2008		20	17.79	30	50
24/03/2008		26	18.20	30	50
30/03/2008		14	18.00	30	50



The results for the Claremont P10 indicate compliance with PM10 levels. The first round of data for the Turrabaa PM10 unit has not yet been received, and will be presented at the next CCC meeting.

The location of the air quality monitoring points are as presented on the following figure.

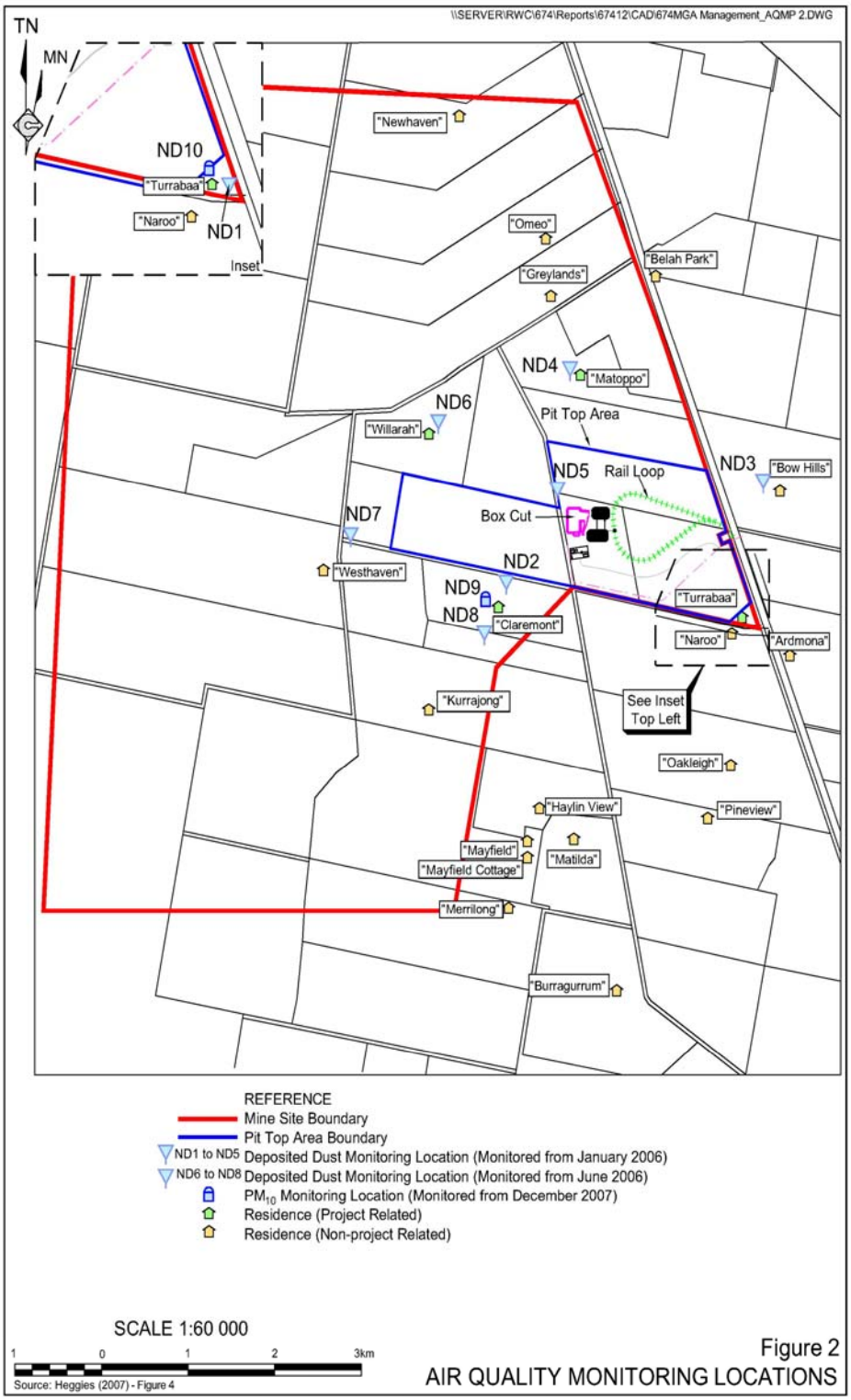


Figure 2
AIR QUALITY MONITORING LOCATIONS

Blast Monitoring

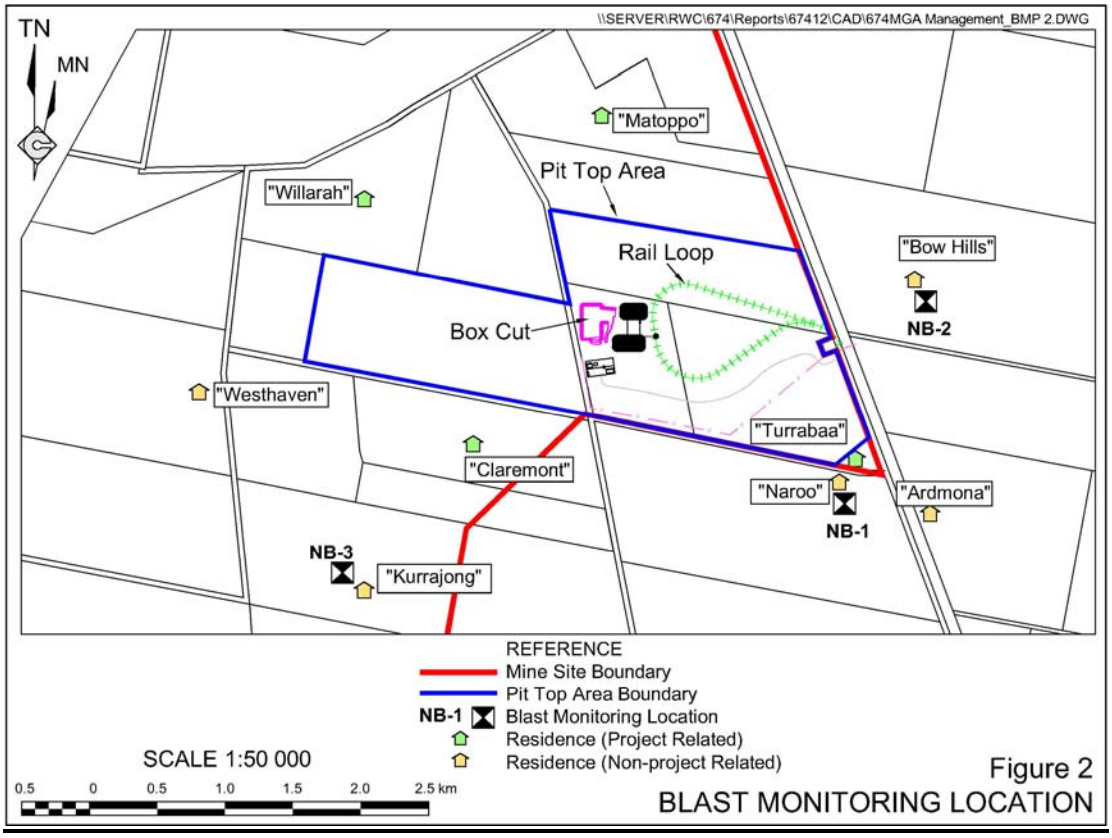
The consent for the Narrabri project also included a requirement to monitor blast activities to assess impacts in terms of peak overpressure and ground vibration.

The consent limits specified for blasting are as follows:-

Air-blast Overpressure Level (dB(Lin Peak))	Allowable Exceedance
115	5% of the total number of blasts in a 12 month period
120	0%

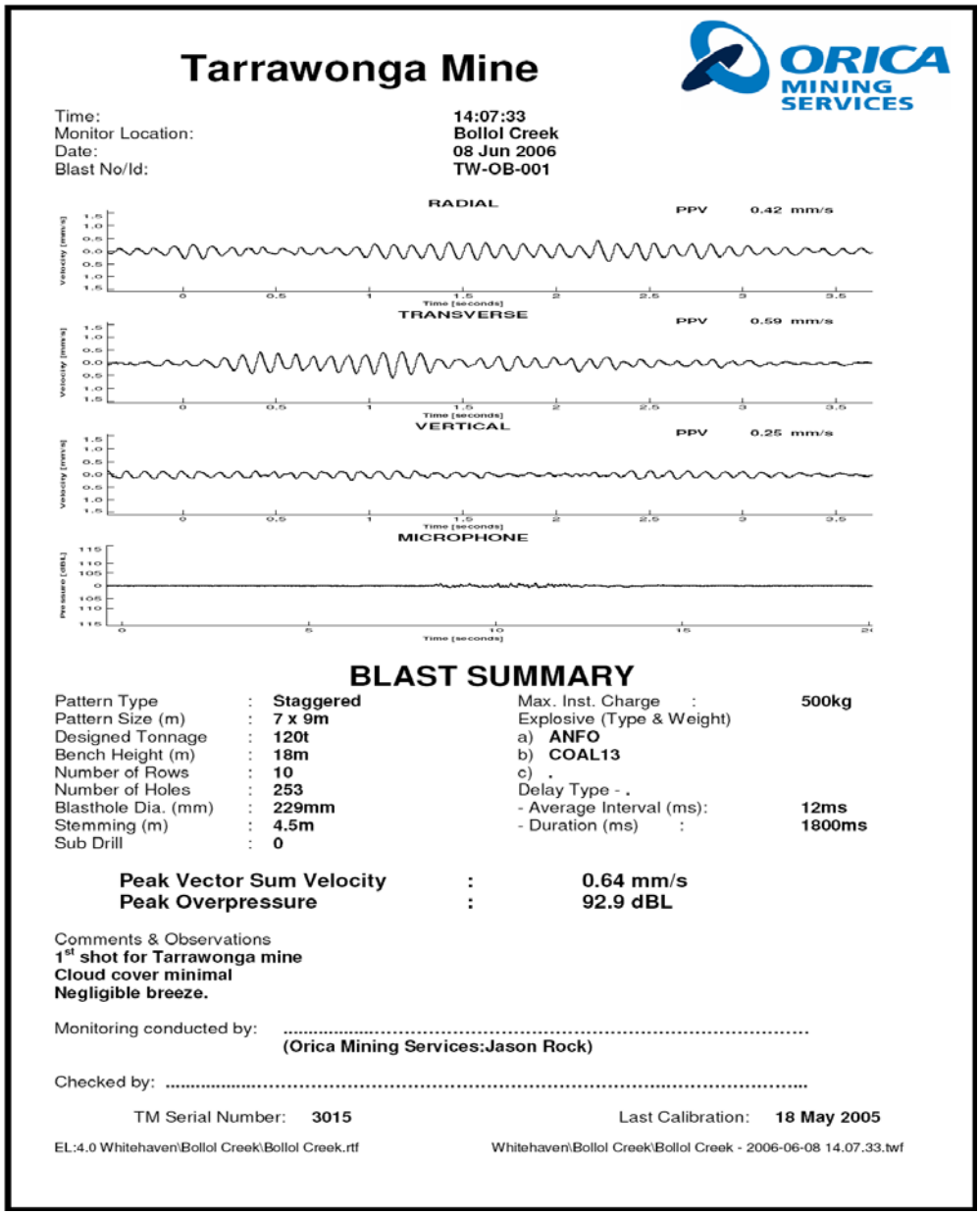
Peak particle velocity (mm/s)	Allowable Exceedance
5	5% of the total number of blasts in a 12 month period
10	0%

Blast monitoring has been identified to occur at three locations over the life of the project. All blasts will be monitored at the “Naroo” and “Kurrajong” properties, with blasts associated with the rail loop construction also measured at the “Bow Hills” property, as identified on the figure below.



Blasting Results

Blast monitoring will be undertaken at each blast by the use of approved monitors which provide measurements of peak overpressure and ground vibration as per the example below.



Tarrawonga Mine

ORICA MINING SERVICES

Time: 14:07:33
Monitor Location: Bollol Creek
Date: 08 Jun 2006
Blast No/Id: TW-OB-001

RADIAL PPV 0.42 mm/s

TRANSVERSE PPV 0.59 mm/s

VERTICAL PPV 0.25 mm/s

MICROPHONE

BLAST SUMMARY

Pattern Type	:	Staggered	Max. Inst. Charge :	500kg
Pattern Size (m)	:	7 x 9m	Explosive (Type & Weight)	
Designed Tonnage	:	120t	a) ANFO	
Bench Height (m)	:	18m	b) COAL13	
Number of Rows	:	10	c) .	
Number of Holes	:	253	Delay Type - .	
Blasthole Dia. (mm)	:	229mm	- Average Interval (ms):	12ms
Stemming (m)	:	4.5m	- Duration (ms) :	1800ms
Sub Drill	:	0		

Peak Vector Sum Velocity : 0.64 mm/s
Peak Overpressure : 92.9 dBL

Comments & Observations
1st shot for Tarrawonga mine
Cloud cover minimal
Negligible breeze.

Monitoring conducted by: .....
(Orica Mining Services:Jason Rock)

Checked by: .....

TM Serial Number: **3015** Last Calibration: **18 May 2005**

EL:4.0 Whitehaven\Bollol Creek\Bollol Creek.rtf Whitehaven\Bollol Creek\Bollol Creek - 2006-06-08 14.07.33.twf

To date there has been one blast which did not trigger at any of the monitoring points.

Groundwater Monitoring

The groundwater monitoring component of the water management plan for the site has not yet been completed, however is expected to be in place within the next 3 months.

Groundwater monitoring will be undertaken across a range of existing and new water bores within the project site and surrounding the project site. This monitoring will be undertaken initially to establish background levels prior to mining commencing and will include establishment and monthly monitoring of standing water level as well as quarterly assessment of water quality.

Upon development and approval of the groundwater monitoring program, the CCC will be advised in relation to monitoring points and parameters.

Pending Management Plans

As discussed previously, Narrabri Coal will be progressively developing the remaining management plans as specified in the project approval. As each plan is developed and given approval by the relevant agencies, it will be reported to the CCC.

Environmental Reporting

Narrabri Coal Operations is obliged to provide all environmental monitoring data to the Department of Planning, as well as Narrabri Shire Council. In addition, monitoring results must be placed on the company website for public view.

Any exceedance in assessment criteria as specified in the consent and or Environment Protection Licence also requires Narrabri Coal Operations to provide relevant advice to the Department of Planning and Department of Environment and Climate Change within 24 hours of being aware of the exceedance. A written report outlining the cause of the exceedance, and the response to ensure the potential for future exceedance is minimised is to be forwarded to the agencies within 6 days of the initial notification.

Narrabri Coal Operations will also be required to submit an Annual Environmental Management Report(AEMR) to the relevant agencies each year. The AEMR must include all monitoring results, discussion of results, and environmental performance over the reporting period, as well as the goals and objectives for the following year. This AEMR will also be presented to the CCC.

Narrabri Coal Operations Pty Ltd

ACN 129 850 139
ABN 15 129 850 139

Community Consultative Committee Meeting Minutes

Meeting No: 2
Date: 13 August 2008
Location: Narrabri Coal Operations Site Office
Present: Terry Miller
Mark Foster
Peter Webb
James Stieger
Les Knox
Cllr Ken Bates
Tony Jones (Whitehaven Community Liaison Officer)
Danny Young (Whitehaven Environmental Manager)
Bruce Dudgeon (Narrabri Coal Operations Civil Engineer)
Kellie Sutherland (Site Clerk)

1.0 Apologies

Chris Burgess
Ben Bomford
Sally Hunter
Moved Tony Jones, James Stieger

2.0 Previous Minutes

Moved James Stieger, Les Knox

2.1 Business Arising from Previous Minutes

The high level PM10 reading of 48 at Claremont on 23 February 2008.

- The reading was taken before construction works began on the site with the only possible explanation being a pile of timber that had been pushed up and burnt. There were no irregularities reported at the Narrabri Met Station for that day.

3.0 General Business

The project is currently two weeks from completing box cut excavation works. On completion the excavator and Dump Trucks will be demobilised.

The Shotcreting crew will begin works to stabilise site before the drift construction will begin.

The current drift commencement date is the 6-8 of September.

70% of the bulk earthworks have been completed including rail loop, dams and access road works.

Site rehabilitation will commence next week with the bund wall and box cut area being re-seeded.

Possession has been taken over the rail loop and turnout for two days to complete construction in conjunction with works being carried out from Newcastle to Moree.

Danny Young to provide Councillor Bates with complaints line number.

The initial reports detailed funding being allocated to the Gunnedah Shire Council as well as the Narrabri Shire Council. Question raised as to why, when the mine is in the Narrabri Shire. Tony Jones explained that both the Gunnedah and Narrabri communities are influenced by the mining activities. The Narrabri Shire is also receiving other benefits such as the Kurrajong Creek Road upgrade with 7km being sealed by Narrabri Coal Operations before the end of the year.

Narrabri Coal Operations has also contributed to several projects in the Narrabri Shire including road works and amenities in town. The Operation also endeavours to utilise local tradespeople wherever possible and currently owns 13 properties in the area.

The potential for Long-Wall Operations and establishment of a Wash Plant at the Narrabri Coal Operations site was discussed following conceptual discussions at the last meeting. Narrabri Coal reiterated that at this time, no application has been developed for Long-Wall Operations or establishment of a washplant. In the event that an application is submitted, it would be subject to the same procedures as the initial development requiring development of an Environmental Assessment, public exhibition and consultation throughout the process.

The CCC will endeavour to contact the local paper to identify the existence of the CCC, the representatives on the CCC and its role. This will provide members of the community with contact points should they have issues or questions in relation to the activities at the mine site.

Sally Hunter was seeking to organise a Baan Baa community tour of the site by bus. Narrabri Coal has indicated no problems with this proposal. Sally to liaise with Tony Jones in relation to timing and numbers.

Terry Miller indicated he may also seek to arrange a tour of the site by members of the Rotary Club as a means of fostering community engagement and providing the community with first hand view of a mine site rather than reliance on general negative publicity in the media.

4.0 Environmental Overview

As per Environmental Monitoring Report provided at the meeting.

5.0 Complaints

Over the period since the first meeting there have been two complaints as follows:

10th June 2008 – Complaint to DECC in Armidale in relation to noise at Kurrajong Residence. DECC referred the complaint to Environmental Manager for investigation. Narrabri Coal discussed issue with complainant to seek consent to undertake monitoring at the residence which was not supplied. Subsequently, additional monitoring was undertaken from the property boundary and site start up procedures modified in an effort to reduce noise impact.

25th July 2008 – Complaint on complaints line relating to position of ARTC vehicles blocking view of the rail line at rail crossing. ARTC wee subsequently contacted and their vehicles moved accordingly.

6.0 Site Visit

Members undertook a site visit around the Pit Top and rail loop areas to view progress.

7.0 Next Meeting

Wednesday 19 November 2008, 4pm, Turrabaa Homestead.

Narrabri Coal Project
Community Consultative Committee
Meeting #2

Environmental Monitoring Report

Management Plan Status

Since site commencement, Narrabri Coal has developed and received Departmental Approval for the following management plans:

Environmental Management Strategy
Construction Phase Surface Water Management Plan
Noise Monitoring Program
Air Quality Monitoring Program
Blast Monitoring Program
Aboriginal Cultural Heritage Management Plan
Waste Management Plan

Currently, Narrabri Coal is developing the full site water management plan which will incorporate groundwater and surface water management requirements post commencement of mining. An Energy Savings Action Plan has also been developed and is currently under review through the Department of Environment and Climate Change.

Narrabri Coal will shortly submit the Environmental Monitoring Program for approval and will be engaging a suitably qualified consultant to develop the Landscape Management Plan as required on the project approval.

Noise Monitoring

Construction Phase:

The project approval requires quarterly noise monitoring events throughout the construction phase of the project. The first round of construction noise monitoring was programmed with Spectrum Acoustics for June 2008. Prior to this full first round of construction noise monitoring, Spectrum was engaged to assess noise levels in proximity to the “Kurrajong” residence following noise related complaints. As the property owner refused entry to the “Kurrajong” property, noise measurements were taken from the Claremont property, with the consultant required to extrapolate results back to the “Kurrajong” residence to provide modelled noise levels.

On the day of monitoring, 15th May 2008, winds were gusting up to 8m/s from the north-east and generally across the project site towards the "Kurrajong" residence. This resulted in the monitoring activity being outside DECC guidelines for wind speed, and therefore not applicable as formal monitoring results. This wind speed and direction was also the worst case scenario in terms of noise propagation from the project site to the Kurrajong and Claremont residences.

Despite the conditions, Spectrum Acoustics provided noise results for the monitoring event which resulted in a noise level attributable to construction activity of 34dB(A) at the monitoring location (adjacent to the Claremont house). Extrapolation of this noise level back to "Kurrajong" provided a construction related noise level at "Kurrajong" of 26 dB(A), well within compliance limits.

At the time of this monitoring, measurements were also taken from an area in proximity to the "Bow Hills" gravel quarry to assess noise propagation to the east. Noise results returned a noise level attributable to construction activity at 29 dB(A).

In June, the full round of construction monitoring was undertaken with results presented in the table below:

Noise monitoring results 26th June 2008

Location	Time	dB(A) Leq	Wind Speed / Direction	Noise source
Bow Hills	9:17am	41	1.5m/s SE	Traffic(39), **NCM(34)**, Birds(27)
Westhaven	8:43am	41	1.0m/s NW	Birds & Cows(38), **NCM (36)**, Plane(36)
Naroo	7:51am	47	0.5m/s NE	Traffic(45), Birds(41), **NCM(34)**
Greylands	8:14am	40	1.0m/s NW	Traffic(43), **NCM(38),** Birds(34).
Kurrajong*	7:32am	50	0.5m/s NE	**NCM(48)**, Birds(42), Farm animals(35)
*Measured from Claremont/Kurrajong boundary and extrapolated.				

Results from this round of monitoring indicated a 1 dB(A) exceedance at "Westhaven", a 3dB(A) exceedance at "Greylands" and 13dB(A) modelled exceedance at "Kurrajong". This monitoring event was undertaken on a cold, clear morning with little or no wind which was indicative of temperature inversion conditions which exacerbate noise propagation. Review of the weather station data also confirmed temperature measurements at the 10m sensor significantly higher as compared to the 2m sensor verifying temperature inversion. Extrapolation of temperature difference over 100m indicated an inversion strength of greater than 3 degrees/100m. The occurrence of inversion during monitoring events does impact on the validity

of the monitoring results, but more importantly identifies atmospheric conditions that require consideration in the day to day operation of the site to reduce noise impact. In order to assess noise levels outside of inversion conditions, Spectrum Acoustics undertook additional measurements at the Kurrajong monitoring point at 3:20pm in the afternoon of Wednesday 25th June 2008 and 9:40am in the morning on the 26th June 2008 for comparison with other data. The afternoon testing returned a noise level of <25dB(A), whilst the monitoring at 9:40 in the morning a result of 38dB(A). These actions generally confirmed the impact of inversion conditions and the reducing noise impact as inversion conditions disperse as conditions warm through the day.

In order to address inversion impacts, Narrabri Coal modified its start up times and engaged Spectrum Acoustics to undertake additional monitoring to assess noise levels, with monitoring again conducted on Friday 11th July 2008 at the Kurrajong monitoring point. Results of this monitoring is presented in the Table below. This monitoring was based on a 7am start-up for construction equipment and excavator, and 7:30am start up for dump trucks.

Noise Monitoring Results 11th July 2008

Location	Time	dB(A), Leq	Wind Speed / Direction	Noise Source
Kurrajong*	7:02am	41	0.5 m/s SE	**NCM(41)**
Kurrajong*	7:30am	37	0.5 m/s SE	**NCM(37),** Birds(<30)
Kurrajong*	7:58am	44	0.5 m/s SE	**NCM(44)**
Kurrajong*	8:31am	46	0.5 m/s SE	Birds (46), **NCM(<30)**
Kurrajong*	9:00am	43	0.5 m/s SE	Birds (43), **NCM(<30)**
*Monitoring point from Kurrajong/Claremont boundary extrapolated to Kurrajong				

Monitoring on this day was again influenced by inversion conditions >3 degrees/100m. Results demonstrate the impact of warming through the morning and reduction in noise propagation at the Kurrajong monitoring point. As a consequence of these findings, Narrabri Coal has in place a 7:30am start up time (as opposed to initial 7am commencement). Total noise is also expected to decrease with a reduction in surface construction equipment in the near future. The commencement of Spring will also result in warmer mornings and diminishing inversion events. Spectrum Acoustics are undertaking an additional monitoring event on 13th August 2008.

Narrabri Coal has been in liaison with the Department of Planning and the Department of Environment and Climate Change in relation to the noise exceedances and actions being implemented to minimise noise impacts.

Air Quality Monitoring

Deposited dust levels for the site to date are as presented in the tables below:

Narrabri Project 2007 Deposited Dust Annual Summary

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4 Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	Annual Average Limit
January 2007	0.8	1.1	0.8	2.1	1.2	1.2	2.3	1.3	4.0
February 2007	1.5	5.0	1.3	1.9	1.8	0.7	1.5	1.0	4.0
March 2007	2.3	0.9	0.8	1.0	0.5	0.4	2.5	0.5	4.0
April 2007	2.0	1.1	1.0	0.9	1.3	0.9	2.2	1.3	4.0
May 2007	1.0	1.0	0.5	0.5	0.5	0.6	0.5	0.4	4.0
June 2007	0.6	0.2	0.2	0.3	0.3	0.4	0.2	0.2	4.0
July 2007	0.8	0.4	0.5	0.9	0.7	0.5	0.4	0.4	4.0
August 2007	0.6	0.4	0.3	0.5	4.5	0.3	0.2	0.2	4.0
September 2007	1.4	0.5	0.5	0.6	0.5	0.6	0.6	0.1	4.0
October 2007	2.4	1.1	1.2	0.8	1.1	1.1	1.0	0.6	4.0
November 2007	1.4	0.9	0.6	1.2	1.0	1.4	0.8	0.2	4.0
December 2007	0.7	1.0	0.9	1.4	0.7	1.3	0.6	0.8	4.0
Annual Average	**1.3**	**1.1**	**0.7**	**1.0**	**1.2**	**0.8**	**1.1**	**0.6**	**4.0**

Values used are Total Insoluble Matter (g/m²/month)

Narrabri Project 2008 Deposited Dust Annual Summary

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4 Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	Annual Average Limit
January 2008	0.6	0.5	0.4	1.4	0.2	1.6	0.6	0.4	4.0
February 2008	0.9	0.8	0.5	1.0	2.3	6.2	1.3	0.6	4.0
March 2008	1.6	3.7	1.5	1.1	1.3	1.7	1.2	1.1	4.0
April 2008	2.5	1.1	0.9	1.2	1.7	1.0	1.0	0.6	4.0
May 2008	3.5	2.6	2.2	2.1	2.3	2.0	0.6	1.5	4.0
June 2008	4.2	1.7	3.5	0.9	1.7	0.4	1.3	0.6	4.0
July 2008									4.0
August 2008									4.0
September 2008									4.0
October 2008									4.0
November 2008									4.0
December 2008									4.0
Annual Average	**2.2**	**1.6**	**1.5**	**1.3**	**1.6**	**2.1**	**1.0**	**0.8**	**4.0**

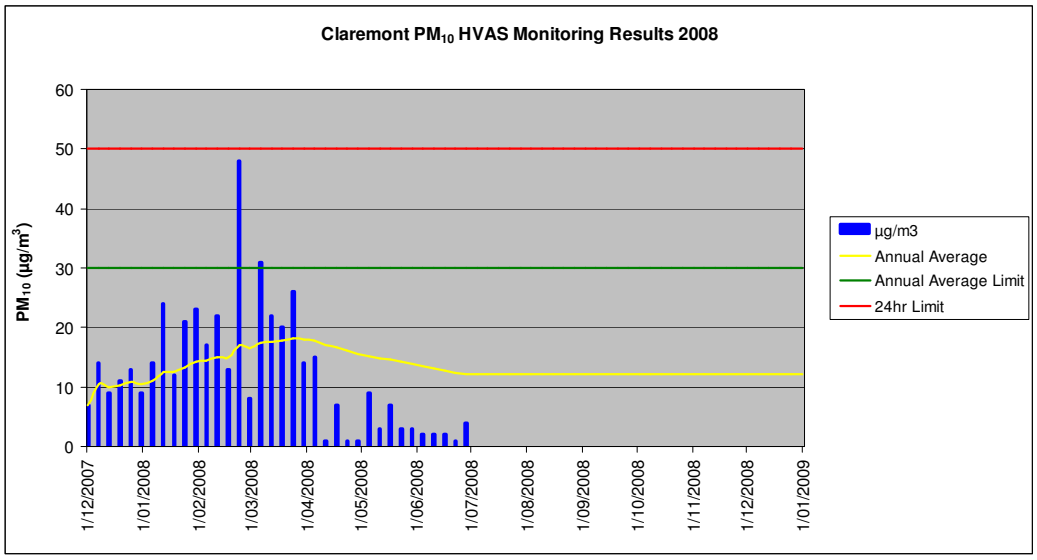
Values used are Total Insoluble Matter (g/m²/month)

The above results provide for some comparison of background levels with current levels, and will continue to be monitored over the course of the development. To date, deposited dust levels at all monitors are trending to be well within consent requirements.

PM10 measurements taken to date are presented in the following table:

Site	Datum	Zone	Easting	Northing
Claremont PM10	MGA	55	777047	6619621
Date	**µg/m3**	**Annual Average**	**Annual Average Limit**	**24hr Limit**
1/12/2007	7	7.00	30	50
7/12/2007	14	10.50	30	50
13/12/2007	9	10.00	30	50
19/12/2007	11	10.25	30	50
25/12/2007	13	10.80	30	50
31/12/2007	9	10.50	30	50
6/01/2008	14	11.00	30	50
12/01/2008	24	12.63	30	50
18/01/2008	12	12.56	30	50
24/01/2008	21	13.40	30	50
30/01/2008	23	14.27	30	50
5/02/2008	17	14.50	30	50
11/02/2008	22	15.08	30	50
17/02/2008	13	14.93	30	50
23/02/2008	48	17.13	30	50
29/02/2008	8	16.56	30	50
6/03/2008	31	17.41	30	50
12/03/2008	22	17.67	30	50
18/03/2008	20	17.79	30	50
24/03/2008	26	18.20	30	50
30/03/2008	14	18.00	30	50
5/04/2008	15	17.86	30	50
11/04/2008	1	17.13	30	50
17/04/2008	7	16.71	30	50
23/04/2008	1	16.08	30	50
29/04/2008	1	15.50	30	50
5/05/2008	9	15.26	30	50
11/05/2008	3	14.82	30	50
17/05/2008	7	14.55	30	50
23/05/2008	3	14.17	30	50
29/05/2008	3	13.81	30	50
4/06/2008	2	13.44	30	50

10/06/2008	2	13.09	30	50
16/06/2008	2	12.76	30	50
22/06/2008	1	12.43	30	50
28/06/2008	4	12.19	30	50

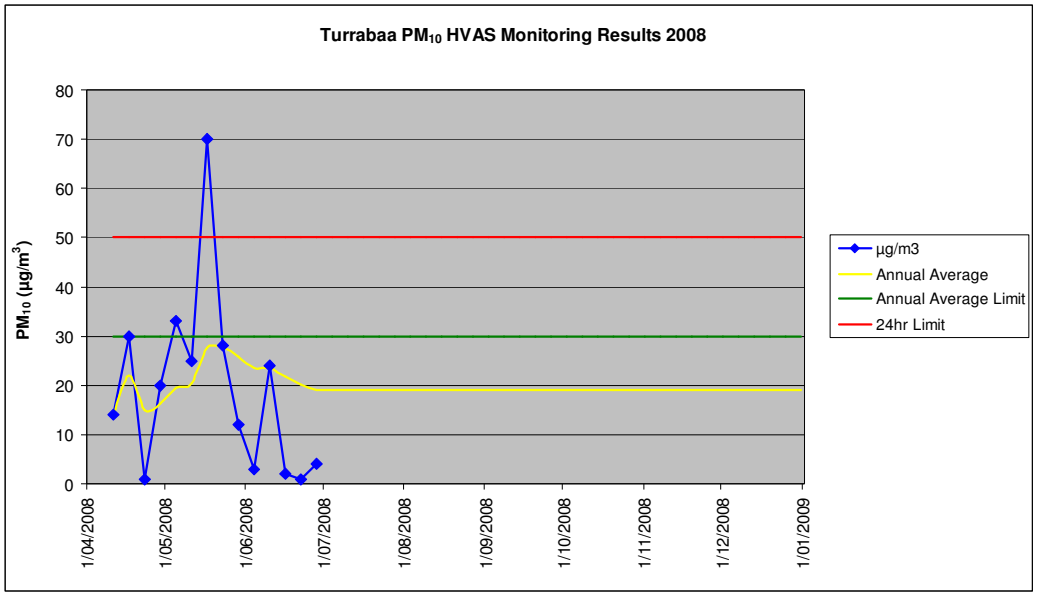


The results for the Claremont P10 indicate compliance with PM10 levels, with a general reduction in PM10 matter over the winter period.

Since the last CCC meeting the first round of results have been received for the Turrabaa PM10 monitor as presented in the Table below:

Site	Datum	Zone	Easting	Northing
Turrabaa PM10	MGA	55		
Date	**µg/m3**	**Annual Average**	**Annual Average Limit**	**24hr Limit**
11/04/2008	14	14.00	30	50
17/04/2008	30	22.00	30	50
23/04/2008	1	15.00	30	50
29/04/2008	20	16.25	30	50
5/05/2008	33	19.60	30	50
11/05/2008	25	20.50	30	50
17/05/2008	70	27.57	30	50
23/05/2008	28	27.63	30	50
29/05/2008	12	25.89	30	50
4/06/2008	3	23.60	30	50
10/06/2008	24	23.64	30	50
16/06/2008	2	21.83	30	50
22/06/2008	1	20.23	30	50

28/06/2008	4	19.07	30	50



The results for the Turrabaa PM10 identified an exceedance in 24hr criteria in PM10 levels on Saturday 17th May 2008 with a PM10 reading of 70. Investigation into site activity and conditions at the time indicated wind gusts from the north west of up to 66km/hr. Rainfall for May up to the 17th was also limited at 4.6mm. Construction activity at the time was predominantly in relation to the Box Cut, Dam A and the permanent access road, with water cart activity confined to these areas. The most likely contributor to the high level dust reading is considered to be dust from the internal access track from the Turrabaa house to site, which travels past the PM10 monitor on the western side. Since this event, personnel have moved from the Turrabaa house to office facilities within the project area thereby removing light vehicle use of the access track from Turrabaa. Advice of the exceedance has been referred to the Department of Planning and Department of Environment and Climate Change. PM10 results since this incident have been within compliance levels.

Blast Monitoring

Four blasts were initiated as part of the construction program. All blasts were well within compliance limits, with the final blast taking place on 29th May 2008.

Groundwater Monitoring

Groundwater monitoring has commenced across the site utilising a series of 20 piezometers within and adjacent to the project area. Additional monitoring will be undertaken from a range of pumping bores surrounding the site. EA Systems of Armidale have been engaged to undertake the first round of water quality monitoring from the piezometers and pumping bores during August 2008. Due to the number of piezometers and pumping bores being monitored, the monitoring results have not been included in this report but are available for review on request. A full groundwater monitoring update will be provided at the next CCC meeting upon receipt of water quality analysis from EA Systems.

Rehabilitation

There has been limited opportunity for rehabilitation at this stage. Actions will commence shortly to seed and fertilise around the Box Cut as well as the visual amenity bund and soil stockpiles. Once this has been done, seedlings will be sought for planting out on the bund wall as well as in strategic locations around the project site.

Narrabri Coal Operations Pty Ltd

ACN 129 850 139
ABN 15 129 850 139

Community Consultative Committee Meeting Minutes

Meeting No: 3
Date: 19 November 2008
Location: Narrabri Coal Operations Turrabaa Homestead
Present: Terry Miller
Peter Webb
James Stieger
Les Knox
Sally Hunter
Greig Duncan (Narrabri Coal Operations General Manager)
Ben Bomford (Narrabri Coal Operations Project Manager)
Danny Young (Whitehaven Environmental Manager)
Kellie Sutherland (Site Clerk)

1.0 Apologies

Cllr Ken Bates
Moved Ben Bomford,2nd Sally Hunter

2.0 Previous Minutes

Moved James Stieger, Les Knox

2.1 Business Arising from Previous Minutes

2.1.1 Contribution to Gunnedah and Narrabri Shire Councils

Project Approval conditions required contributions to both Gunnedah and Narrabri Shire Councils for community infrastructure projects due for payment within 12 months of approval.

Narrabri Shire Council will accept formal handover of the first payment next week. The overall contribution will amount to $100,000 over 5 years. One specification was that $7,000 goes to the provision of Bush Fire Service. The remaining $93,000 will go towards community infrastructure projects. in addition to these payments, Narrabri Coal is providing for the upgrade and sealing of 7 kilometres of Kurrajong Creek Road, with works expected to be completed by end of March 2009.

The community infrastructure funding will be administered according to Narrabri Shire Council. The CCC was advised that any community members seeking clarification of how funds will be expended should approach Narrabri Shire Council.

Gunnedah Shire Council will receive a monetary contribution of $100,000 over 5 years which has been identified to support the Gunnedah Urban River Scheme.

2.1.2 Stage 2 Longwall Development

All committee members received and reviewed copies of the proposal as supplied in the Preliminary Environmental Assessment.

There is no wash plant in current submission as coal quality will determine the need for a preparation plant. Any future determination that a washplant is required would need appropriate application detail.

Narrabri Coal Operations is currently in the process of preparing the Environmental Assessment for the project in conjunction with specialist consultants. Upon determination by the Dept of Planning that the Environmental Assessment prepared for the project is satisfactory, it will be placed on public exhibition for comment, as per the process followed for the original development.

The expected timeline for determination of the Stage 2 application is for October 2009. The maximum production that is expected to be achieved in the long term under a long-wall operation is 8 Million Tonnes per annum,
It was explained to the CCC that the majority of new mines in NSW are underground operations due to the depth of the resource, and open cut operations approaching their economic limits. The Narrabri operation will be the dominant producer for the Whitehaven group, with the open cuts producing in the vicinity of 1.5 million tonnes/year.

The expected commencement of 72 wagon trains on the rail network was raised and CCC members advised that 72 wagon trains are already operating, with the upgrades to the north-west line being adequate to cater for trains of this size.

Members of the CCC were advised of an error in the Preliminary Environmental Assessment which identified the Kurrajong property as under negotiation for purchase. This is incorrect, as there is currently no negotiation being undertaken for the purchase of this property.

2.1.3 CCC Representatives and Roles to be advertised

Group to decide on appropriate format for advertisement or story. Only to include names and not contact details. Narrabri Coal to draft story including committee members and update of what is happening at the mine and distribute to committee members for approval.

2.1.4 Baan Baa Community Bus Tour

Bus tour completed. 49 community members attended and the tour was very well received. The Baan Baa Hall Committee wrote to Sally Hunter to express their appreciation for the organisation of the tour and thank Narrabri Coal Operations. They requested that such tours happen twice a year or at significant milestones.

Narrabri Coal Operations have plans to hold an Open Day in June next year. Ben Bomford and reig uncan will coordinate this open day.
Rotary Club interested in organising Bus Tour.

3.0 General Business

3.1 Construction Progress Report

90% of Earthworks complete
Rail currently being laid for completion at the end of month with signalling at crossing to be installed by March 09.
Main access road has been sealed.
Construction of permanent administration and workshop facilities have commenced.
Paul Newton Construction from Narrabri to complete works.
Tunnelling commenced 5 October, with a total of 130m over three tunnels reached.
Narrabri Power line total replacement 55% complete with works completed by Christmas.
Upgrade of Kurrajong Creek Road commenced with works to be complete by March 09.
Culvert works to be done over the next month or so with minor delays on road.
Tunnelling material currently being placed on amenity bund.
Site currently being rehabilitated and will continue as earthworks are completed.

3.2 Environmental Overview

As per provided report

4.0 New Business

James Steiger requested the installation of quiet boom gates if possible. Initial train activity will average approximately 3 per day on commencement of production. An increase in production as a result of approval to Stage 2 Longwall operations is expected. This will be assessed as part of the Environmental Assessment for Stage 2.

Narrabri Coal advised the CCC that no sponsorship from the company is available at this time. This is purely on the basis that Narrabri Coal is not currently generating revenue. When the company commences coal production a policy will be adopted to administer sponsorship.

The CCC were asked to ensure that in the event they hear of rumour or rumblings that adjacent holders are dissatisfied with activities on the project site to direct them to Narrabri Coal so that the company has an opportunity to address the concerns raised. The Complaints line number will be readvertised to coincide with the notification of CCC members.

Litter on the roadside adjacent to the project site was raised. Narrabri Coal acknowledged this as an ongoing issue with contractors and employees and the matter was being addressed

5.0 Complaints and Complaints Hotline

Four complaints relating to noise have been received from the Kurrajong property since the last meeting.. Narrabri Coal has been undertaking regular monitoring and providing relevant advice to the DECC and DoP as to actions and initiatives being undertaken to address noise concerns. The specialist consultant undertaking noise monitoring for the company has also been requested to reassess the noise model for the site based on inversion strengths encountered over the winter period from monitoring events. The DECC and DoP have been satisfied with the actions being taken by Narrabri Coal to address the issues raised.

6.0 Next Meeting

Wednesday 25 February 2009, 4pm, Turrabaa Homestead.

Meeting closed 5.05pm

Narrabri Coal Project
Community Consultative Committee
Meeting #3

Environmental Monitoring Report
August – October 2008

Management Plan Development

Since site commencement, Narrabri Coal has developed and received Departmental Approval for a range of management plans. Since the previous meeting, approval has been obtained from the Department of Planning to the implementation of an Energy Savings Action Plan. The plan was developed by an energy consultant in conjunction with Narrabri Coal personnel and identifies energy saving measures for the site and reporting requirements.

Narrabri Coal is currently awaiting a project proposal from URS for the development of a Landscape Management Plan for the site as required under the project approval. It is expected that a draft of this plan will be completed by February 2009.

Noise Monitoring

Since the previous meeting, attended noise monitoring was undertaken on the 12th August to specifically address noise related complaints from the "Kurrajong" residence. Monitoring was undertaken over a 2 hour period during the morning to assess the strength of inversion over that period and its impact on noise propagation. Again, monitoring was confined to the Kurrajong/Claremont boundary as access to the Kurrajong property was denied. The results of the August monitoring are in the table below.

Noise monitoring results 12th August 2008

Location	Time	dB(A), Leq	Wind Speed / Direction	Noise Source
Kurrajong/Claremont	7:39am	47.1	Calm	**NCM(47)**
Kurrajong/Claremont	8:03am	44.1	Calm	Birds(40), **NCM(42)**
Kurrajong/Claremont	8:18am	40.7	Calm	**NCM(40.7)**
Kurrajong/Claremont	8:31am	38.6	0.1m/s, NE	Birds(<30), **NCM(38.4)**
Kurrajong/Claremont	8:53am	35.3	0.5m/s, NE	Birds(34), **NCM(27.6)**

The above monitoring results demonstrate the impact of temperature inversion on sound propagation. The strength of inversion over the monitoring period was measured at up to 12°C/100m. The maximum strength of inversion for noise monitoring purposes is 3°C/100m thereby indicating that the inversion strength during monitoring was above the perceived "normal" atmospheric conditions and thereby the results are not applicable against compliance criteria. As can be seen, noise levels diminished significantly over the monitoring program, with noise levels well within compliance limits by the measurement at 8:53am. It should also be noted that the measured noise levels were as obtained at the Kurrajong/Claremont boundary. Application of the initial noise model for the project identifies that noise level at the Kurrajong residence would be some 8dB lower as compared to those levels at the boundary.

The above results confirmed that temperature inversion during the winter period have been of greater strength and impact than that predicted in the initial monitoring. This advice has been referred to the Dept of Planning and Department of Environment and Climate Change who have requested that modelling for stage 2 of the project incorporate the significant inversion strength to assess future noise impacts.

The quarterly round of attended noise monitoring as required under the noise monitoring program was undertaken on the 30th September 2008, with results presented below:

Noise Monitoring Results 30th September 2008

Location	Time	dB(A), Leq	Wind Speed/ Direction	Noise Source
Bow Hills	8:39am	35.7	1.5m/s, SSE	Traffic(35), **NCM(26)**
Westhaven	9:36am	38.5	1.0m/s, SSE	Birds & Cows(38), **NCM inaudible**
Naroo	8:20am	47.9	2-3m/s, SSE	Birds(47), **NCM(<25)**
Greylands	9:11am	45	1.0m/s, SSE	Traffic(40), Birds(43), **NCM(22)**
Kurrajong*	7:58am	36.2	3-4m/s, SSE	Farm animals(35), **NCM(20)**

*Kurrajong measurement taken from Claremont/Kurrajong boundary

The monitoring results confirm compliance at all receivers during this monitoring event. It is evident that the warmer weather has removed the incidence of inversion and associated impacts. The completion of the majority of surface construction and de-mobilisation of a range of plant and equipment has also reduced noise impact.

Unattended noise monitoring was also undertaken through July and October as required under the consent. Noise logs have been provided to Narrabri

Coal from the consultant as part of the background noise collation. This data does not distinguish between mine and other noise sources and as such the data is not presented in this report. It is anticipated that following the first 12 months of mining from the project site, the requirement for ongoing unattended noise monitoring will be removed.

Air Quality Monitoring

Deposited dust levels for the site to date are as presented in the tables below:

Narrabri Project 2007 Deposited Dust Annual Summary

Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4 Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	Annual Average Limit
January 2007	0.8	1.1	0.8	2.1	1.2	1.2	2.3	1.3	4.0
February 2007	1.5	5.0	1.3	1.9	1.8	0.7	1.5	1.0	4.0
March 2007	2.3	0.9	0.8	1.0	0.5	0.4	2.5	0.5	4.0
April 2007	2.0	1.1	1.0	0.9	1.3	0.9	2.2	1.3	4.0
May 2007	1.0	1.0	0.5	0.5	0.5	0.6	0.5	0.4	4.0
June 2007	0.6	0.2	0.2	0.3	0.3	0.4	0.2	0.2	4.0
July 2007	0.8	0.4	0.5	0.9	0.7	0.5	0.4	0.4	4.0
August 2007	0.6	0.4	0.3	0.5	4.5	0.3	0.2	0.2	4.0
September 2007	1.4	0.5	0.5	0.6	0.5	0.6	0.6	0.1	4.0
October 2007	2.4	1.1	1.2	0.8	1.1	1.1	1.0	0.6	4.0
November 2007	1.4	0.9	0.6	1.2	1.0	1.4	0.8	0.2	4.0
December 2007	0.7	1.0	0.9	1.4	0.7	1.3	0.6	0.8	4.0
Annual Average	**1.3**	**1.1**	**0.7**	**1.0**	**1.2**	**0.8**	**1.1**	**0.6**	**4.0**

Values used are Total Insoluble Matter (g/m²/month)

Narrabri Project 2008 Deposited Dust Annual Summary

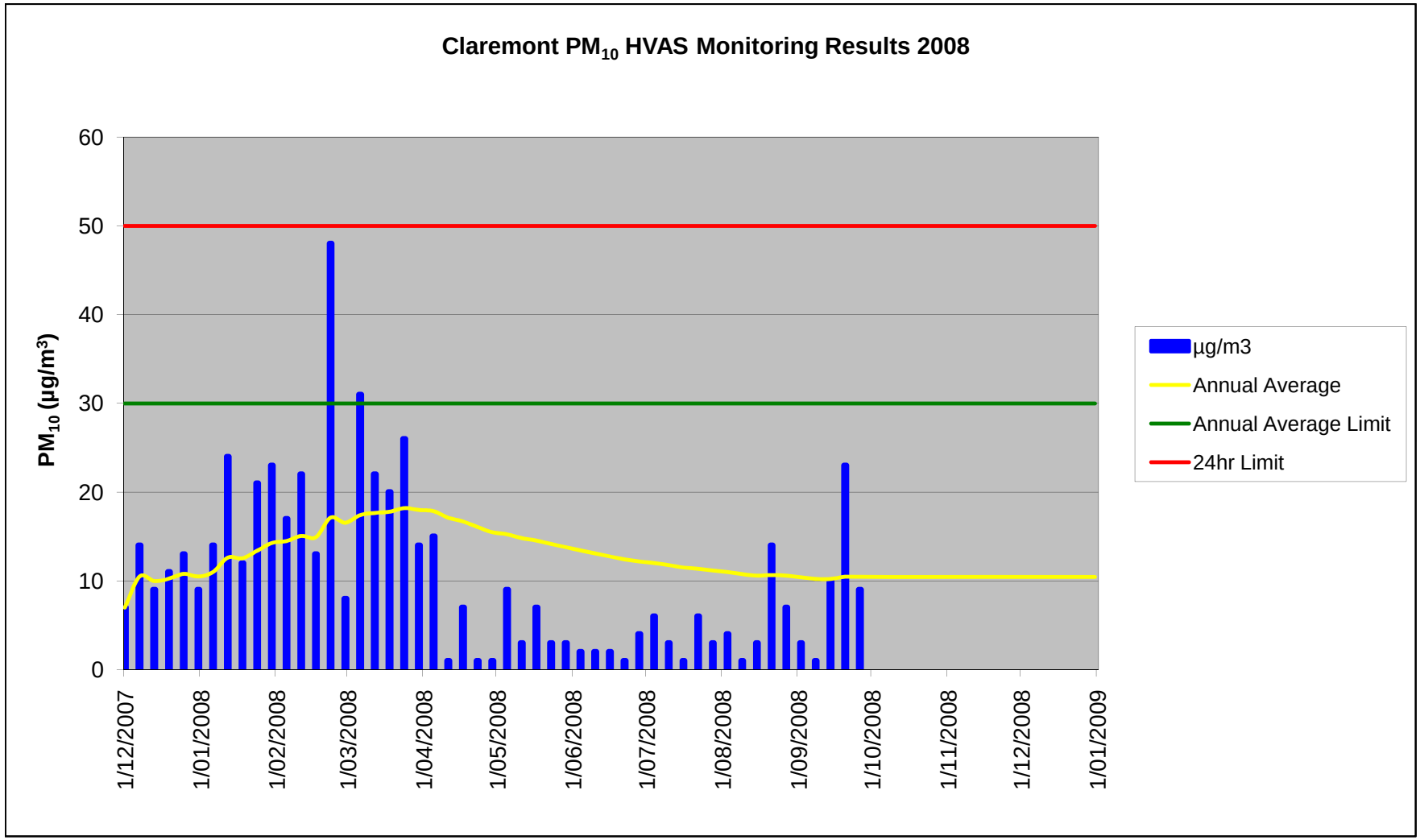
Month	ND1 Turrabaa	ND2 Claremont	ND3 Bow Hills	ND4 Matoppo	ND5 Claremont	ND6 Willarah	ND7 Claremont	ND8 Claremont	Annual Average Limit
January 2008	0.6	0.5	0.4	1.4	0.2	1.6	0.6	0.4	4.0
February 2008	0.9	0.8	0.5	1.0	2.3	6.2	1.3	0.6	4.0
March 2008	1.6	3.7	1.5	1.1	1.3	1.7	1.2	1.1	4.0
April 2008	2.5	1.1	0.9	1.2	1.7	1.0	1.0	0.6	4.0
May 2008	3.5	2.6	2.2	2.1	2.3	2.0	0.6	1.5	4.0
June 2008	4.2	1.7	3.5	0.9	1.7	0.4	1.3	0.6	4.0
July 2008	3.1	0.6	4.4	0.5	1.9	0.4	0.3	0.3	4.0
August 2008	1.2	0.5	3.6	1.6	3.3	0.4	0.5	0.5	4.0
September 2008									4.0
October 2008									4.0
November 2008									4.0
December 2008									4.0
Annual Average	**2.2**	**1.4**	**2.1**	**1.2**	**1.8**	**1.7**	**0.8**	**0.7**	**4.0**

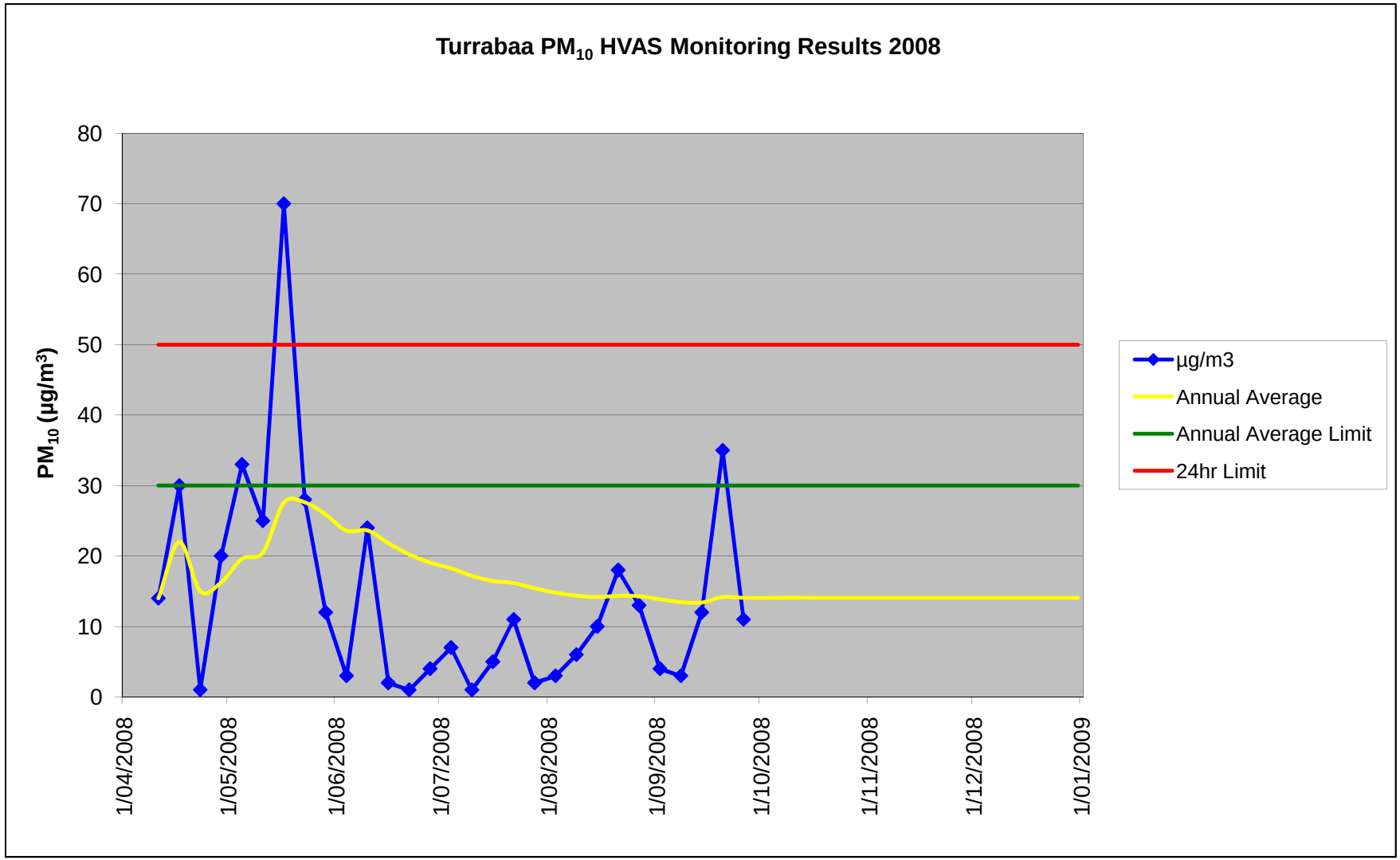
Values used are Total Insoluble Matter (g/m²/month)

The above results indicate that dust monitors surrounding the site remain within compliance levels and well below the annual average limit of 4g/m2/month. It is expected dust levels will dissipate further when results for the September and October period are released to coincide with a reduction in surface construction activity.

PM10 measurements taken to date for the Claremont High Velocity Air Sampler is returning a running annual average of 10.45ug/m^3 which is well below the annual average limit of 30ug/m^3. The highest reading from this sampler remains at 48ug/m^3 as measured on 23rd February 2008.

PM10 measurements taken to date for the Turrabaa High Velocity Air Sampler is returning a running annual average of 14.40ug/m^3 which is well below the annual average limit of 30ug/m^3. The highest reading from this sampler remains at 70ug/m^3 as measured on 17th May 2008.

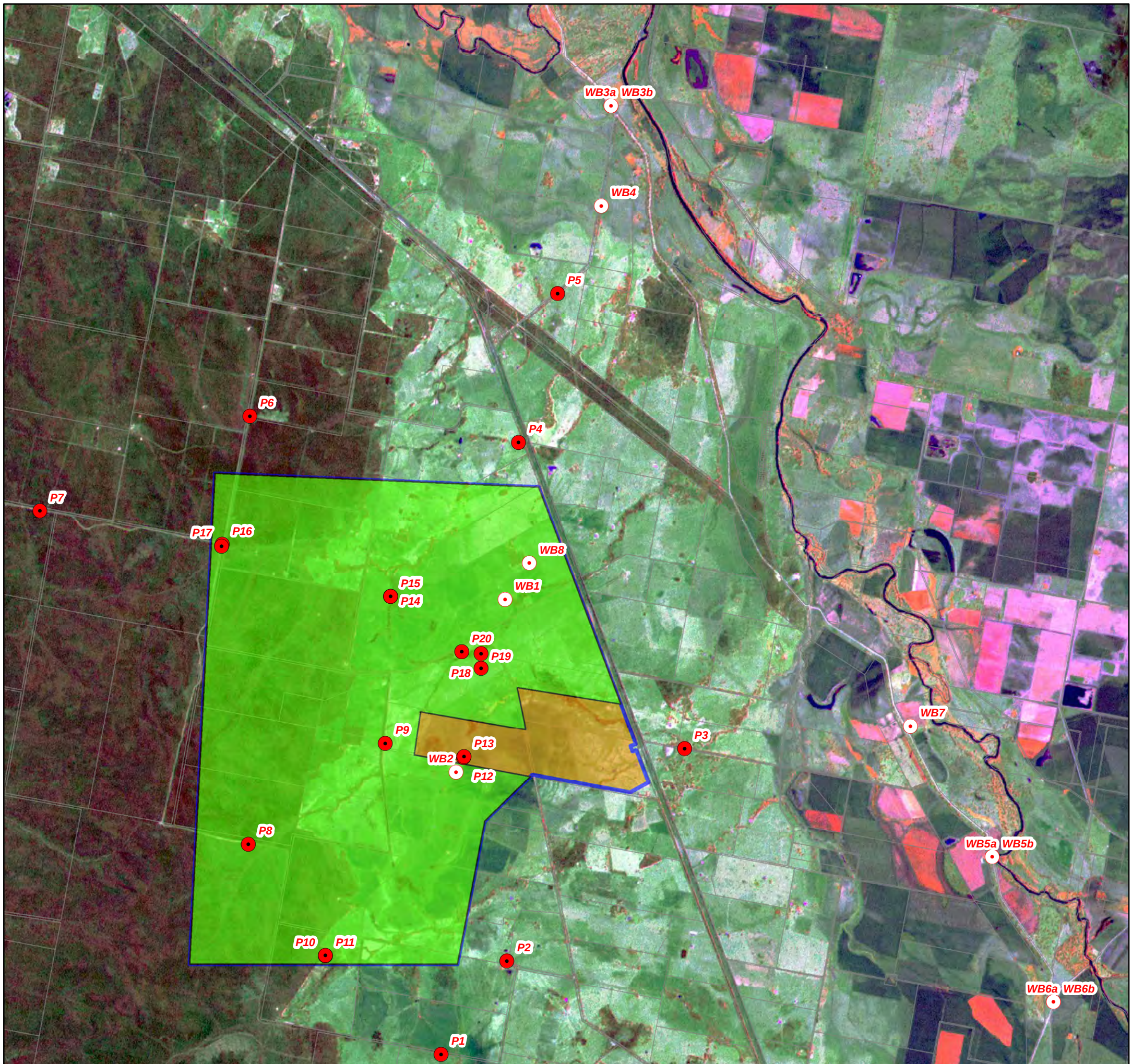

Claremont PM10 HVAS Monitoring Results 2008
PM10 (µg/m3)
60
50
40
30
20
10
0
1/12/2007
1/01/2008
1/02/2008
1/03/2008
1/04/2008
1/05/2008
1/06/2008
1/07/2008
1/08/2008
1/09/2008
1/10/2008
1/11/2008
1/12/2008
1/01/2009
µg/m3
Annual Average
Annual Average Limit
24hr Limit


Turrabaa PM10 HVAS Monitoring Results 2008
PM10 (µg/m3)
80
70
60
50
40
30
20
10
0
1/04/2008
1/05/2008
1/06/2008
1/07/2008
1/08/2008
1/09/2008
1/10/2008
1/11/2008
1/12/2008
1/01/2009
µg/m3
Annual Average
Annual Average Limit
24hr Limit

Groundwater Monitoring

EA Systems was contracted to provide a full water quality analysis from a range of monitoring piezometers and pumping bores surrounding the project site. The extent of monitoring locations is shown on the following plan. The purpose of this monitoring is to provide a baseline on water quality conditions to enable direct comparison with water quality monitoring upon commencement of mining. The range of parameters assessed is extensive and as such the full monitoring results are not included in this report. The results from Monitoring Piezometer 1 are provided to demonstrate the type of monitoring. Full monitoring results are available for review by CCC members on request. The full suite of analysis will continue to be undertaken on a 6 monthly basis.

Narrabri Coal Mine
Groundwater Monitoring Network



Narrabri Coal

WHITEHAVEN

N
W
E
S

1:70000

2,000 0 2,000 4,000 6,000 Meters

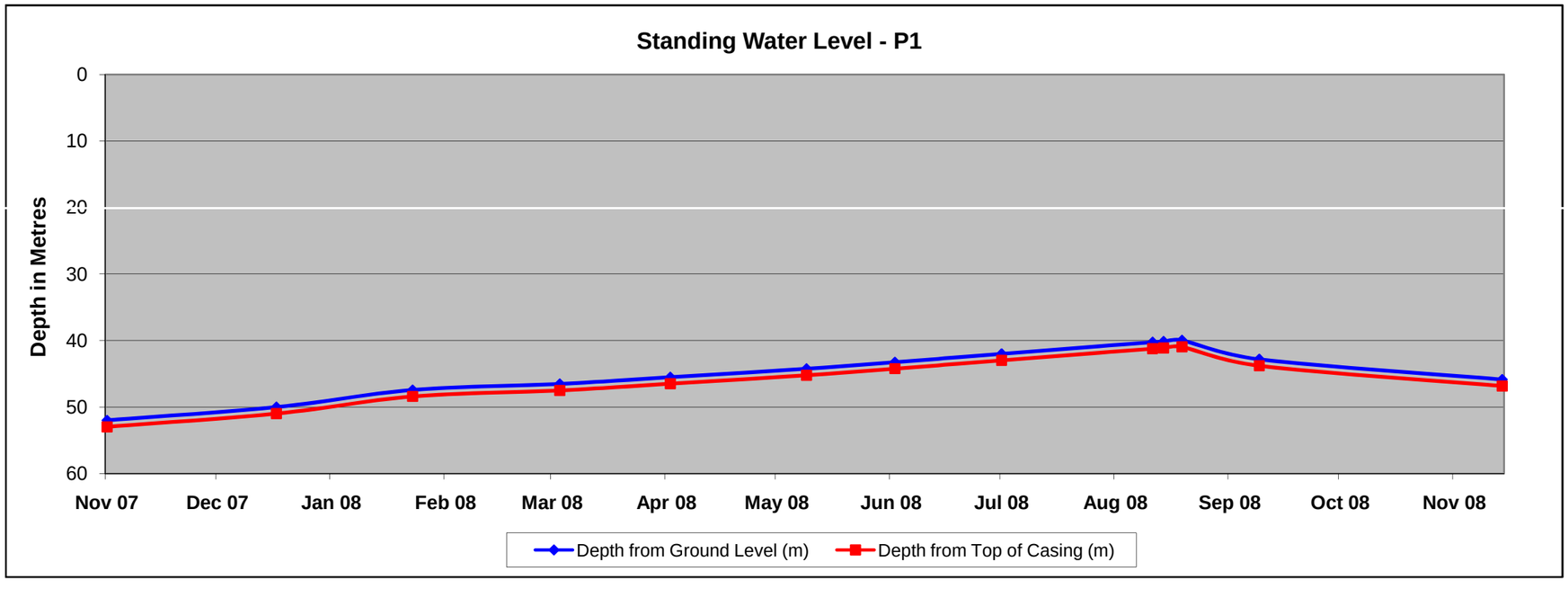
Legend

- Peizometer
- Water Bore
- Pit Top Area
- Site Boundary
- Undisturbed Surface Area

Site ID	Registered Number	Licence Number	Completion Date	Easting MGA-56	Northing MGA-56	Screen Top (mbgl)	Screen Base (mbgl)	Drilled Depth (mbgl)	Formation	Location	Landowner	County
P1	GW968435	90BL254481		776116	6614694	44	50		Garrawilla Volcanics	Longsight	G & L Clarke	White

Site ID	Piezometer / Water Bore	Date	Time	Depth to Ground - mbgl	Depth to Stand - mbtoc	Field Parameters						
						pH - Field	EC - Field - µs/cm	Temp - Field - °C	Arsenic (As) - mg/L	Barium (Ba) - mg/L	Beryllium (Be) - mg/L	Cadmium (Cd) - mg/L
P1	NG1	1-Nov-07	1450	52.015	53.00							
		17-Dec-07		50.015	51.00							
		23-Jan-08	1145	47.43	48.42							
		3-Mar-08	1230	46.525	47.51							
		2-Apr-08	1040	45.51	46.50							
		9-May-08	826	44.245	45.23							
		2-Jun-08	1200	43.25	44.24							
		1-Jul-08	1150	41.995	42.98							
		11-Aug-08	1350	40.235	41.22							
		14-Aug-08	1047	40.145	41.13							
		19-Aug-08	925	39.955	40.94							
		9-Sep-08	830	42.82	43.8	7.6	470	20.8	0.008	0.684	0.003	0.0008
		14-Nov-08	956	45.86	46.84							

Piezometer / Water Bore is dry or blocked



Parish	Lot No.	DP No.
Gorman	21	757104

NEPM Suite								Mercury (Hg) - mg/L	EC - Lab - µs/cm	Major Cations		
Chromium (Cr) - mg/L	Cobalt (Co) - mg/L	Copper (Cu) - mg/L	Maganese (Mn) - mg/L	Nickel (Ni) - mg/L	Lead (Pb) - mg/L	Vanadium (V) - mg/L	Zinc (Zn) - mg/L			Calcium (Ca) - mg/L	Magnesium (Mg) - mg/L	Sodium (Na) - mg/L
0.094	0.041	0.128	2.33	0.154	0.516	0.11	0.250	0.0001	3710	26	25	933

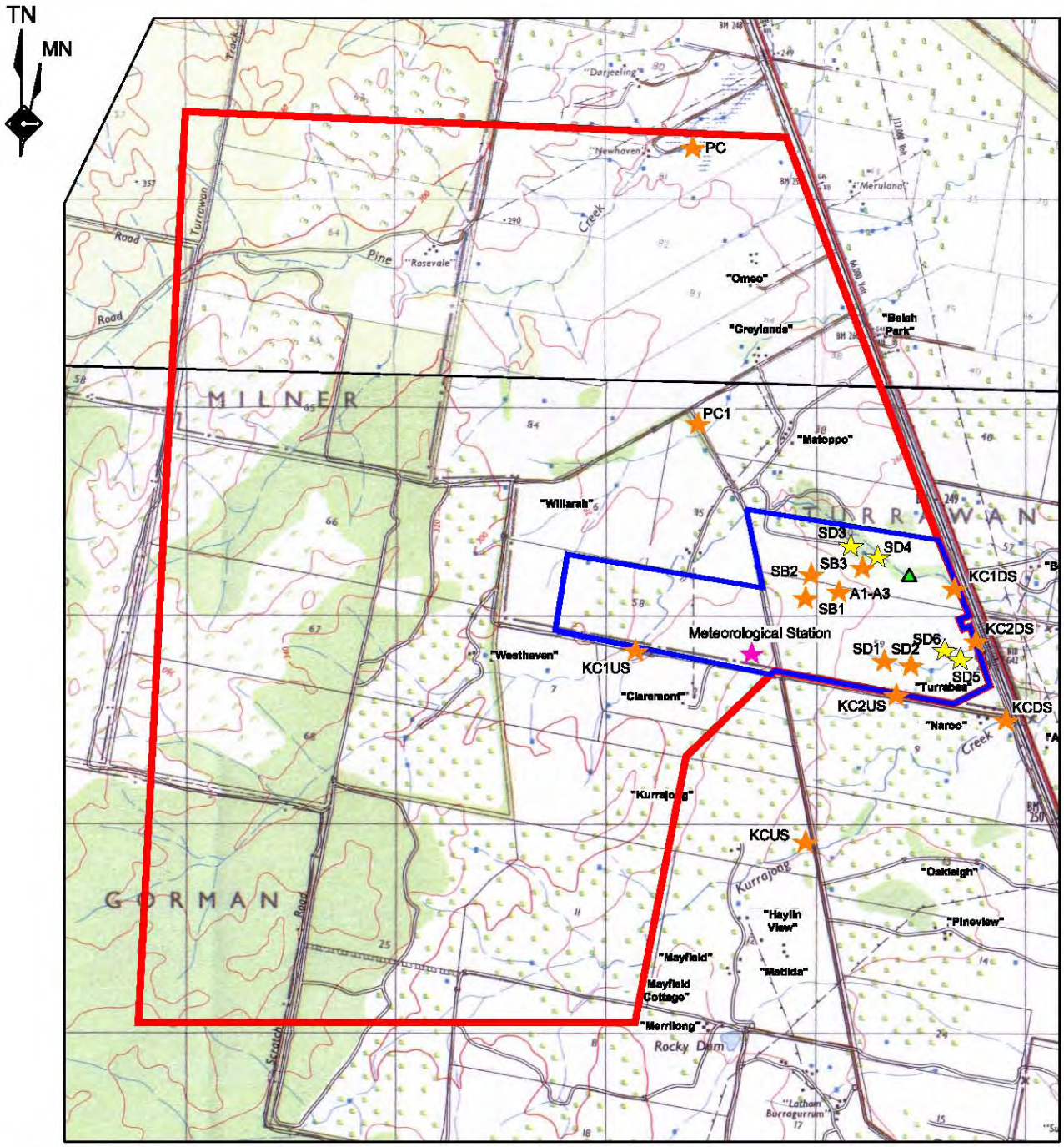
		Major Anions										
Potassium (K) - mg/L	***Total Cations - meq/L***	***Chloride (Cl) - mg/L***	***Sulfate (SO4) - mg/L***	***Hydroxide Alkalinity as CaCO3 - mg/L***	***Carbonate Alkalinity as CaCO3 - mg/L***	***Bicarbonate Alkalinity as CaCO3 - mg/L***	***Alkalinity - mg/L***	***Total Anions - meq/L***	***Ionic Balance***	***Ammonia as Nitrogen (N)***	***Total Iron (Fe)***	***Total Dissolved Solids***
24	44.6	641	43	<1	<1	1190	1190	42.7	2.06	1.62	56.7	2380

Surface Water Monitoring

A number of rainfall events have provided the opportunity for baseline water sampling upstream and downstream of the project site in Kurrajong Creek and Pine Creek. With surface water storage construction within the pit top area now complete, Narrabri Coal will be identifying discharge points for surface water flows from site which will become licensed under the Environment Protection Licence for the site, and will require water sampling during discharge events to assess water quality against compliance criteria. On this basis, the baseline water quality parameters surrounding the site are of significance for future comparison.

Date	Time	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Grease & Oil (mg/L)
23 September 2008	950	KC2US	6.5	65	35	<2
23 September 2008	1015	KC1US	8	65	320	<2
23 September 2008	1030	KCUS	7.7	315	168	<2
23 September 2008	1040	KCDS	7.2	230	150	<2
23 September 2008	1100	PC1	7.2	90	294	<2
23 September 2008	1113	PC1	7	90	62	<2
23 September 2008	1130	KC1DS	7.1	220	1280	<2
23 September 2008	1135	KC2DS	2.1	165	444	<2

The location of these monitoring points is shown on the attached diagram.



LEGEND

	Mine Site Boundary
	Pit Top Area Boundary
	Meteorological Station
	Surface Water Monitoring Location
	Surface Water Monitoring Location & Licensed Discharge Points
	Licensed Discharge Point
KC	Kurrajong Creek
KC1	Kurrajong Creek Tributary 1
KC2	Kurrajong Creek Tributary 2
US	Upstream
DS	Downstream
PC	Pine Creek
PC1	Pine Creek Tributary 1
SB	Sediment Basin
SD	Storage Dam
A1-A3	Evaporation Ponds

SCALE 1:60 000

1 0 1 2 3km

Source: WRM (2007) - Figure 11-1

drawn	CDC/AW
approved	PT
date	14/07/08
scale	AS SHOWN
original size	A4

coffey geotechnics
SPECIALISTS MANAGING THE EARTH

client: WHITEHAVEN COAL MINING PTY LTD

project: NARRABRI COAL PROJECT
SURFACE WATER MANAGEMENT PLAN
NARRABRI, NSW

title: SURFACE WATER MONITORING LOCATIONS

project no: GEOTLCOV23394AA

figure no: FIGURE 5