Peabody

WILPINJONG COAL MINE

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

February 2010

Wilpinjong Coal Pty Limited

Annual Environmental Management Report

1 January 2009 - 31 December 2009

Prepared for:
Wilpinjong Coal Mine

Prepared by:
Peabody Pacific Pty Ltd

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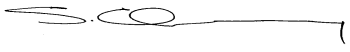
Name of Mine:	WILPINJONG COAL MINE
Titles/Mining Leases:	ML 1573
MOP Commencement Date:	FEBRUARY 2007
MOP Completion Date:	JANUARY 2012
AEMR Commencement Date:	1 JANUARY 2009
AEMR End Date:	31 DECEMBER 2009
Name of Leaseholder:	WILPINJONG COAL PTY LIMITED
Name of Mine Operator (if different):	THIESS PTY LTD
Reporting Officer:	SHAUN CLEARY
Title:	ENVIRONMENT AND COMMUNITY MANAGER
Signature:	
Date:	25 February 2010

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This Report and Appendices are available on the Peabody web site at
www.peabodyenergy.com.au/nsw/wilpinjong-documents.html

1 INTRODUCTION

Wilpinjong Coal Pty Limited (WCPL) has prepared this Annual Environmental Management Report (AEMR) for the Wilpinjong Coal Mine (the Mine) to satisfy approval, lease and licence reporting conditions as required by the New South Wales (NSW) Department of Industry and Investment (DII) and other relevant authorities, for the period from 1 January 2009 to 31 December 2009.

This AEMR has been prepared in accordance with Condition 6, Schedule 5 of Project Approval 05-0021 (Project Approval) granted on 1 February 2006, Conditions 28 and 29 of Mining Lease (ML) 1573 granted on 8 February 2006 and the DII's *Guidelines to the Mining, Rehabilitation and Environmental Management Process*.

In accordance with Condition 12(a), Schedule 5 of the Project Approval (as modified on 30 November 2007 by the NSW Minister for Planning), copies of this AEMR will be made available to:

- NSW Department of Planning (DoP);
- Department of Industry and Investment (DII);
- NSW Department of Environment Climate Change and Water (DECCW);
- Mid-Western Regional Council (MWRC); and
- Mine Community Consultative Committee (CCC).

In addition, a copy will be made available for viewing to members of the public at the Mine administration office, as well as on the Peabody website (www.peabodyenergy.com.au/nsw/wilpinjong-documents.html) in accordance with Conditions 12(b) and 12(c), Schedule 5 of the Project Approval.

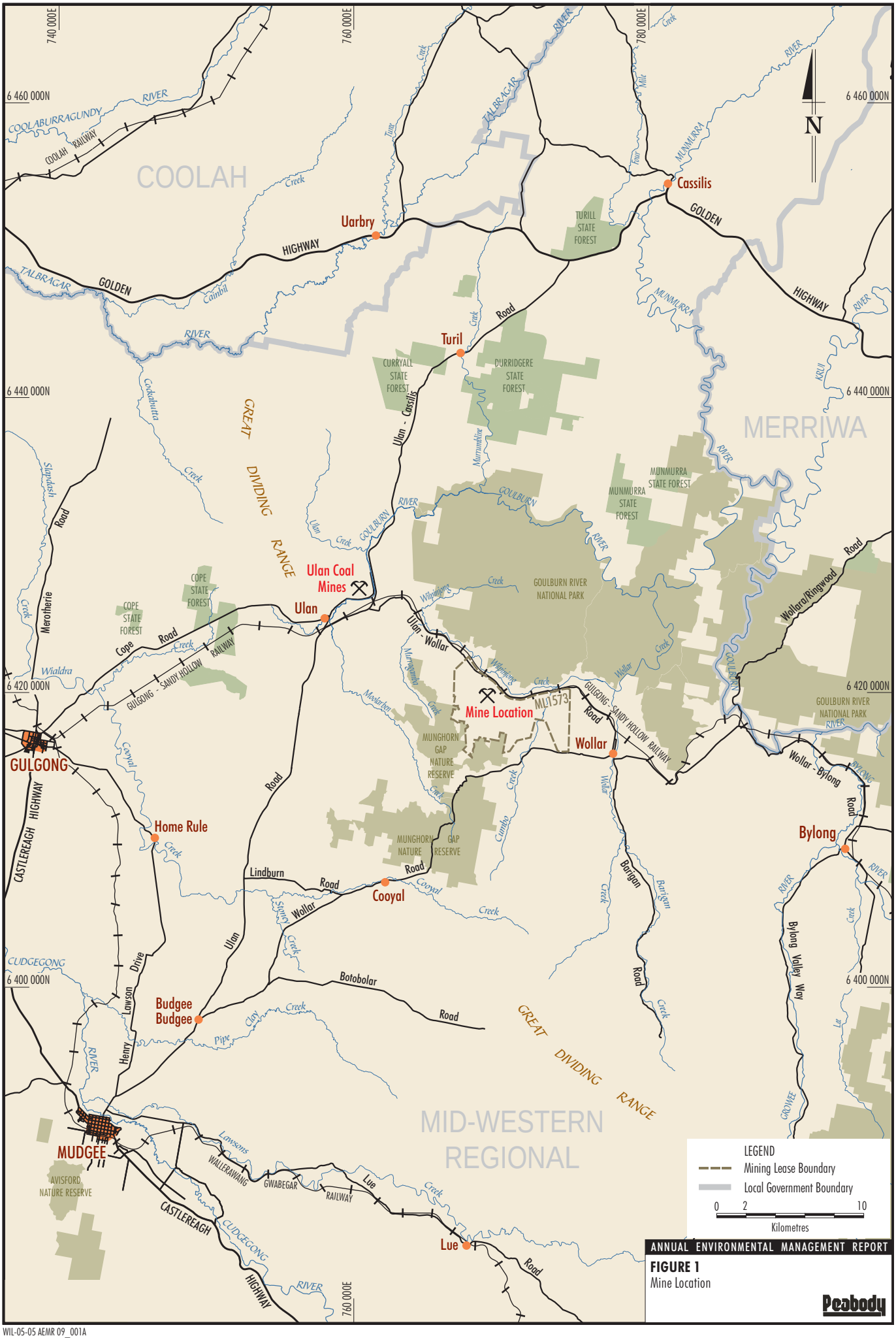
1.1 SUMMARY OF OPERATIONS

The Mine is situated approximately 40 kilometres (km) north-east of Mudgee, near the village of Wollar, within the Mid-Western Regional Local Government Area (LGA), in central NSW (Figures 1 and 2).

The Mine is surrounded by the narrow flood plains associated with the tributaries of the Goulburn River, the undulating foothills, ridges and escarpments of the Great Dividing Range and the dissected landforms of the Goulburn River National Park. Landuse in the vicinity of the Mine is characterised by a combination of coal mining operations (Ulan and Moolarben Coal Mines), agricultural landuses (primarily grazing) and rural residential development (evident in the local villages of Wollar, Ulan and the localities of Cumbo, Slate Gully and Araluen).

In December 2003, the then Minister for Mineral Resources granted Exploration Licence (EL) 6169 to WCPL under the *Mining Act, 1992*. Project Approval (05-0021) was granted by the Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act, 1979* on 1 February 2006, following submission of the *Wilpinjong Coal Project Environmental Impact Statement* (the EIS) in May 2005.

ML 1573 was granted by the Minister for Primary Industries on 8 February 2006. Construction of the Mine commenced in February 2006, with mining commencing in September 2006.



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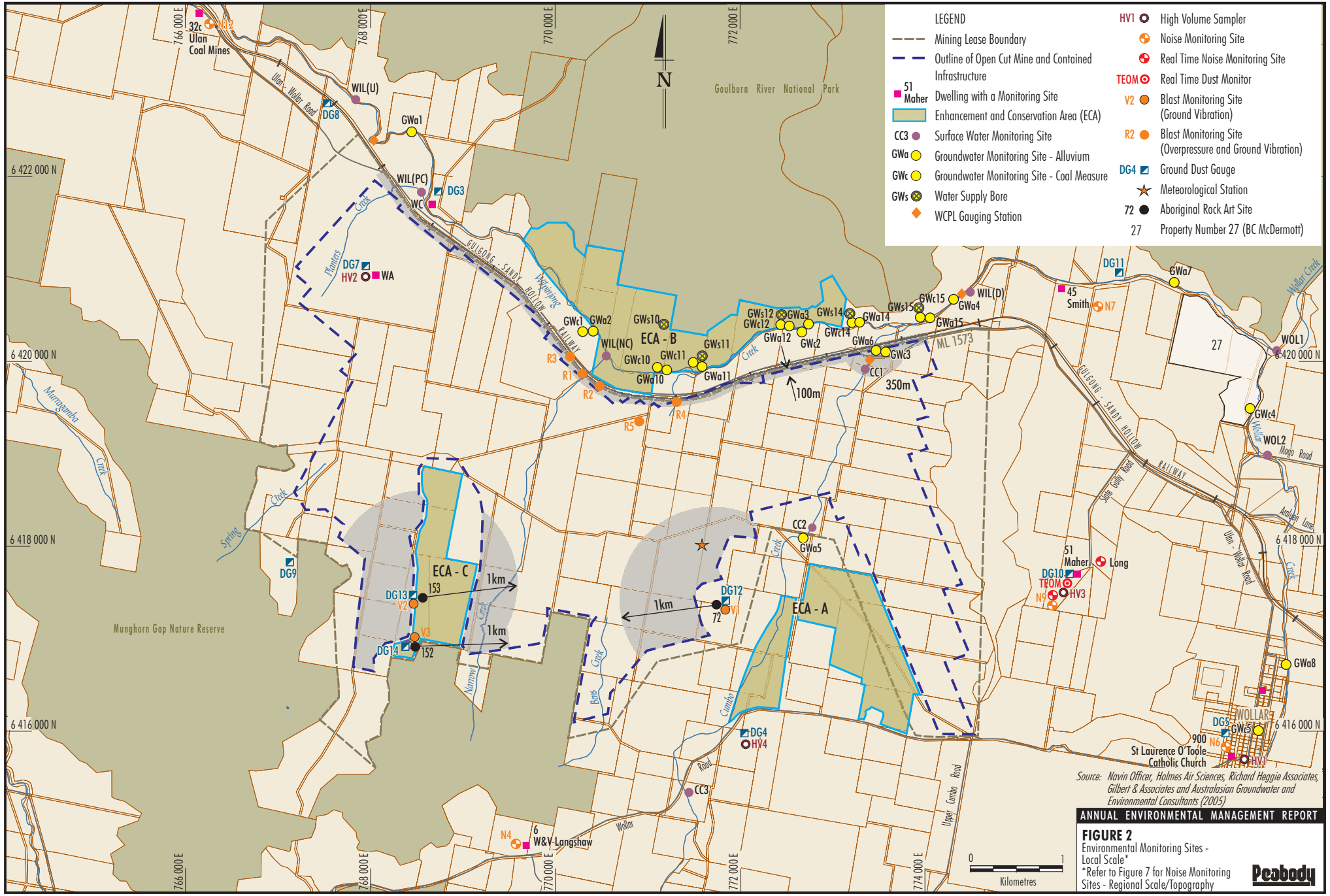

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The Mine is owned by WCPL, a wholly owned subsidiary of Peabody Pacific Pty Ltd, and is operated by Thiess. The Mine includes an open cut mining operation, Coal Handling and Preparation Plant (CHPP), associated raw and product coal handling facilities, and a train load-out facility.

Approved run-of-mine (ROM) coal production at the Mine is 13 million tonnes per annum (Mtpa). ROM coal is either washed at the CHPP, or by-passed to the product stockpile, prior to being loaded onto trains via the train loading infrastructure. Product coal is then transported by rail to either the Bayswater/Liddell rail unloader or the Port of Newcastle.

1.2 APPROVALS, LEASES AND LICENCES

1.2.1 Current List of Approvals, Leases and Licences

The Mine operates under the approvals, leases and licences presented in Table 1.

Table 1
Mine Approvals, Leases and Licences

Instrument	Relevant Authority	Date of Grant	Duration of Approval
Project Approval (05-0021)	DoP	1 February 2006 (Modified on 30 November 2007)	21 years from commencement of Project Approval
ML 1573	DII	8 February 2006	February 2027
Mining Operations Plan (MOP)	DII	February 2007 (Modified on 31 October 2008)	January 2012
EL 6169	DII	June 2008	November 2012
Environment Protection Licence (EPL) (No. 12425)	DECCW	8 February 2006	Until the licence is surrendered, suspended or revoked. The licence is subject to review every three years
Production (Cumbo) Bore - Water Licence 20BL 169659	DWE	December 2005	December 2010
Water supply bores – Water Licence 20BL 170058 and 20BL 170059	DWE	19 December 2006	18 December 2011
Water supply bores – Water Licence 20BL 170061 to 20BL 170063	DWE	19 December 2006	18 December 2011
Dewatering Bores - Water Licence 20BL 170147 to 20BL 170153	DWE	31 March 2006	30 March 2011
Open Cut Dewatering Bores - Water Licence 20BL 170162 and 20BL 170172	DWE	8 June 2006	7 June 2011
Monitoring Bore - Water Licence 20BL 170215	DWE	1 May 2006	Perpetuity
Monitoring Bores - Water Licence 20BL 170217 to 20BL 170229	DWE	1 May 2006	Perpetuity
Water supply bores - Water Licence 20BL 170056; 20BL 170057; 20BL 170068; and 20BL 170088 and 20BL 170089	DWE	15 March 2007	14 March 2012
Water supply bores - Water Licence 20BL 170065	DWE	9 May 2007	12 May 2012

Project Approval

This AEMR has been prepared in accordance with Condition 6, Schedule 5 of the Project Approval. The relevant sections of this AEMR which address Condition 6, Schedule 5 of the Project Approval are outlined in Table 2.

Table 2
Summary of Project Approval Condition Reporting Requirements

Project Approval Condition 6, Schedule 5	AEMR Section
Within 12 months of this approval, and annually thereafter, the Proponent shall submit an Annual Environmental Management Report (AEMR) to the Director-General and the relevant agencies. This report must:	This AEMR
(a) identify the standards and performance measures that apply to the project;	Section 3
(b) describe the works carried out in the last 12 months;	Section 2
(c) describe the works that will be carried out in the next 12 months;	Section 6
(d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;	Section 4
(e) include a summary of the monitoring results for the project during the past year;	Section 3
(f) include an analysis of these monitoring results against the relevant: • *impact assessment criteria/limits;* • *monitoring results from previous years; and* • *predictions in the EIS;*	Section 3
(g) identify any trends in the monitoring results over the life of the project;	Section 3
(h) identify any non-compliance during the previous year; and	Section 3
(i) describe what actions were, or are being, taken to ensure compliance.	Section 3

Mining Lease

This AEMR has been prepared in accordance with Conditions 28 and 29 of ML 1573 and the Guidelines. The relevant sections of this AEMR which address Conditions 28 and 29 of ML 1573 are outlined in Table 3.

Table 3
Summary of Mining Lease Condition Reporting Requirements

Mining Lease Conditions 28 and 29 of ML 1573	AEMR Section
28. The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the DG.	This document
29. The EMR must:	
• *report against compliance with the MOP;*	Sections 1 to 6
• *report on progress in respect of rehabilitation completion criteria;*	Section 5
• *report on the extent of compliance with regulatory requirements; and*	Section 3
• *have regard to any relevant guidelines adopted by the Director-General.*	Sections 1 to 6

Mining Operations Plan

The current MOP covers the period from October 2008 – January 2012 and was approved in February 2009 following an approved variation to the original MOP.

Environment Protection Licence

EPL 12425 was issued by DECC on 8 February 2006. A copy of EPL 12425 is available on the Mine website (www.peabodyenergy.com.au/nsw/wilpinjong-documents.html).

1.2.2 Approval Variations Applicable to the Mine

Project Approval

No modifications to the Project Approval were made during the reporting period.

Environmental Protection Licence

There were no EPL modifications during the AEMR reporting period.

1.3 MINE CONTACTS

Contact details for the Mine are provided below:

General Manager
Keith Downham
Telephone: (02) 6370 2500
Fax: (02) 6373 4575
Email: kdownham@peabodyenergy.com.au

Environment and Community Manager
Shaun Cleary
Telephone: (02) 6370 2500
Fax: (02) 6373 4575
Email: scleary@peabodyenergy.com.au

The street and postal address for the Mine is provided below:

Street Address
1343 Ulan-Wollar Road
Wollar NSW 2850

Postal Address
Locked Bag 2005
Mudgee NSW 2850

1.4 ACTIONS REQUIRED AT THE PREVIOUS AEMR MEETING

A meeting to discuss the 2008 AEMR and inspect the mine site was held on 7 April 2009. Personnel from DECC, DoP, DWE, MWRC, DPI-MRD & WCPL attended the meeting.

Three recommendations were made for inclusion in future AEMR reports:

- PM10 values to be reporting during exceedance events.
- Report on mine shut downs that occur as part of noise management
- MIC figures to be included in blast reporting

The above recommendations have been addressed during this reporting period and reported on in this AEMR.

2 OPERATIONS DURING THE REPORTING PERIOD

The following sections detail the operations and activities undertaken at the Mine during the reporting period.

2.1 EXPLORATION

A summary of the exploration, drilling and other geology-related activities undertaken during the reporting period is provided below:

- No exploration drilling was conducted in 2009
- No extra water supply bores were drilled and equipped.

2.2 LAND PREPARATION

Land preparation activities undertaken during the reporting period relating to vegetation clearance, threatened species management and Aboriginal cultural heritage management were implemented in accordance with the MOP, Rehabilitation Management Plan (RMP) and Aboriginal Cultural Heritage Management Plan (ACHMP).

During the reporting period, approximately 118,339 bank cubic metres (bcm) of topsoil was stockpiled, which is a reduction of 138, 072 bcm on the previous reporting when 256,411 bcm of topsoil was stockpiled.

Proposed land preparation activities to be undertaken during the next reporting period are shown on Plan 1.

2.3 CONSTRUCTION

There were a number of construction activities undertaken during the reporting period. They were:

- The base for the CHPP product stockpiles was expanded to increase capacity from 350,000 tonnes (t) to 390,000t.
- A satellite crib hut and new heavy vehicle hardstand was constructed adjacent to Keylah dump, towards the Northern end of Pit 5.
- A fast fill water source was constructed at the recycled water dam.
- A coal scanner was installed on the train load out conveyor.

2.4 MINING

8,390,510 tonnes (t) of ROM coal was mined during the reporting period (Table 4).

Table 4
Production Schedule

Year	Month (from/to)	Mine Waste Rock (Overburden) Removed (bcm)	ROM Coal Mined (t)	ROM Coal Crushed (t)	ROM Coal Processed (CHPP Feed) (t)	Product Coal (t)
2009	Jan - Dec	12,597,071	8,390,510	8,693,791	4,125,994	4,155,199

Source: Thiess (2010)

t = tonne

At the end of the reporting period open cut mining operations were located in Pit 1, Pit 2 and Pit 5. Pit 2 was largely inactive for the duration of the year and was utilised for water storage. The proposed mining sequence is shown on Plan 2.

2.5 PROCESSING

The Mine produces both unwashed and washed product coal. The coal handling and processing infrastructure has been established to accommodate the processing of raw coal, the handling of raw and washed product coal, and the stockpiling and train loading of product coal.

Stockpiles located near the infrastructure area are used to store various qualities of raw coal excavated from the mining pits. Various stockpiles are managed around the ROM area to ensure product coal quality can be appropriately managed. The raw coal mined is either stockpiled or direct fed into the ROM bin.

The CHPP accommodates the processing of ROM coal, handling of ROM coal, reject and product coal and stockpiling and train loading of product coal. A primary crusher crushes the coal for the secondary crushers to further crush and size the coal. The resultant product is either raw product coal or raw feed for the processing plant. Approximately 8.69 Mt of raw coal was crushed during the reporting period (Table 4). Approximately 4.1 Mt of ROM coal was washed during the reporting period.

A radial stacker manages the stockpiling of sized coal across three valves. These product stockpiles have a combined capacity of approximately 390,000 t. The stockpiles are separated into various raw and washed product stockpiles, with different coal qualities, to ensure railed product coal quality is appropriately managed. A series of three feeder valves located beneath the product stockpiles are used to supply the train load out conveyor. The raw feed stockpile supplies the processing plant with product for washing via a feeder valve and conveyor on which the stockpile sits.

The CHPP is capable of producing a single washed coal product which is stockpiled adjacent to the plant on the southern end of the product stockpile.

Process water is sourced from the raw water dam located within the rail loop and any necessary makeup water is obtained by recycled water from the tailings dam and/or the active voids.

A train loading facility capable of loading coal at a rate of 4,000 tonnes per hour (tph) is located at the head of the rail loop within the Mine infrastructure area and receives product coal via a product feed conveyor running the length of the product coal stockpile area. Train loading is available to load trains on a continuous basis, 24 hours a day and 7 days a week.

The CHPP has approval to operate up to 24 hours per day, seven days per week with a design capacity of approximately 1,600 tph of ROM feed.

2.6 WASTE MANAGEMENT

2.6.1 Mining Waste

12,576,726 bcm of mine waste rock (overburden) was removed during the reporting period.

1,146,125 t of CHPP rejects (i.e. coarse rejects/tailings) were produced during the reporting period, as shown in Table 5.

Table 5
Cumulative Production Schedule

	Cumulative Production		
	Start of Reporting Period	**End of Reporting Period**	**End of Next Reporting Period (estimated)**
Topsoil Stripped (bcm)	564,611	682,950	1,041,481
Topsoil Used/Spread (bcm)	24,000	116,000	218,000
Waste overburden (bcm)	15,283,302	27,880,373	46,662,936
CHPP rejects (t)	1,802,113	2,948,238	4,517,113

Source: Thiess (2010)

2.6.2 Non-Mining Waste

2.6.2.1 Sewerage Treatment and Disposal

The Mine facilities include two aerated sewage and pumping systems that discharge via an irrigation sprinkler system within the rail loop and/or CHPP area. These facilities are serviced by a licensed contractor on a 6 monthly basis or as required.

2.6.2.2 Oil and Grease Disposal

An oil/water separator is located downstream of the workshop area and a manually operated oil/water separator is located at the vehicle washdown bay area.

Oil water separators are maintained in house by Thiess personnel. Any sediment trapped in the oil water separator sump is removed and placed in the site landfarm for rehabilitation. All waste hydrocarbons collected via the separators are disposed of via a licensed waste disposal company (i.e. Thiess Services) on a monthly basis.

2.6.2.3 Waste Disposal

During the reporting period, site employees received training on appropriate waste management practices and the importance of minimising resource consumption. Wastes were segregated according to type to recycle materials such as paper, cardboard, plastics, metals and oil filters. Air filters were also reused. Lids on waste and recyclables skips were also kept closed to prevent scattering of materials by wind and vermin.

On-site waste is managed in accordance with the principles of waste minimisation. A summary of waste figures for the reporting period are provided in Table 6.

Table 6
Monthly Waste Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
General waste (kg)	4,476	5,620	7,140	8,130	4,620	6,740	4,350	5,800	6,680	7,280	22,840	6,115	89,791
Oily rags (kg)	0	80	0	0	180	263	0	50	90	195	0	55	913
Recycling – Paper and Cardboard	665	830	1,240	765	790	450	1,220	850	1,052	505	0	1,015	9,382
Waste oil filters (kg)	226	545	0	1,250	1,182	1,480	1,052	2,006	830	993	1,945	934	12,443
Scrap steel (kg)	0	0	0	8,580	5,100	3,700	0	4,903	4,240	3,820	0	12,500	42,843
Recycled oil (L)	17,500	0	32,400	0	0	0	4,000	28,000	17,600	21,200	0	20,000	140,700
Waste effluent (L)	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Thiess (2010)
kg = kilograms
L = litre

2.7 ROM PRODUCT COAL STOCKPILES

The ROM coal stockpiles located in the infrastructure area were used to stockpile raw coal excavated from the mining pits (Plan 2). These stockpiles had a total capacity of between 230 000 t to 650 000 t during the reporting period. Each stockpile is managed dependant on quality and age.

A radial stacker is used to manage the stockpiling of coal across the product stockpiles (combined capacity of approximately 390,000 tph). The radial stacker was commissioned in the first quarter of 2007.

During the reporting period, approximately 7.47 Mt of coal (comprised of ROM and product coal) was transported from the Mine site via rail at an average of 2.41 train movements per day to the end of the reporting period.

2.8 WATER MANAGEMENT

Water management activities were undertaken during the reporting period in accordance with the Mine water management system outlined in the MOP and Site Water Management Plan (SWMP).

A summary of surface water and groundwater management activities undertaken during the reporting period is provided in Sections 3.6 and 3.7.

Table 7 provides the volume of water held in the water storages at the start and end of the reporting period.

Table 7
Volume of Water Stored On-site

	Start of Reporting Period (ML)	Total at End of Reporting Period (ML)	Storage Capacity (ML)
Clean water dam (ML)	50	47	50
Pit 2*	640	894	3000
Recycled water dam (ML) (located south of administration)	246	294	450

Source: Thiess (2010)
* Pit 2 was used as a temporary water storage.
ML = megalitre

In accordance with Condition 25, Schedule 3 of the Project Approval, no waters were discharged from the Mine during the reporting period.

2.9 HAZARDOUS MATERIALS MANAGEMENT

The major hazardous materials used and stored on-site during the reporting period were explosives, diesel, and other hydrocarbons such as oil.

Two 28,000 L self-bunded double-skinned hydrocarbon (oil) storage tanks and two bunded 88,000 L diesel tanks have been installed and operated in accordance with Australian Standard (AS) 1940:1993 *The Storage and Handling of Flammable and Combustible Liquids* and the *Occupational Health and Safety Act, 2000*. Two shipping containers are used for the storage of grease and oil pods and flammable paints are stored on a containment pallet and in a locked cabinet inside the workshop.

In accordance with the MOP, all chemicals brought on-site are recorded in a register which identifies the compatibility of materials and the emergency response procedures in the event of a spill.

2.9.1 Status of Licences

WCPL currently holds a Notification for the Keeping of Dangerous Goods (Notification No. 35/037774) under the *Dangerous Goods Act, 1975* for the magazine areas. This notification is valid until the 8 November 2012. WCPL also holds a licence granted under the *Explosives Act, 2003*, for the possession and storage of explosives, which is valid until 7 November 2012.

2.9.2 Inventory of Materials Management

An inventory of all goods and materials, including hazardous materials, contained on-site is maintained by Mine personnel. Material Safety Data Sheets (MSDS) for all materials are maintained by Thiess. These sheets provide all critical information for the safe use and handling of substances brought on-site. The Mine also utilises ChemWatch, an online computer-based chemicals management and data system.

3 ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

Environmental management measures undertaken during the reporting period have been conducted in accordance with the MOP and management plans and monitoring programmes developed for the Mine (Section 3.1). Monitoring was undertaken throughout the reporting period at the locations shown on Figure 2.

3.1 MANAGEMENT PLANS AND MONITORING PROGRAMMES

In accordance with the Project Approval and the MOP, the Mine currently operates under a number of management plans and monitoring programmes, including:

- Environmental Management Strategy (EMS).
- Environmental Monitoring Programme (EMP).
- ACHMP.
- Noise Monitoring Programme (NMP).
- Blast Management Plan and Monitoring Programme (BMP).
- Spontaneous Combustion Management Plan (SCMP).
- Air Quality Monitoring Programme (AQMP).
- SWMP, including:
  - Site Water Balance (SWB);
  - Erosion and Sediment Control Plan (ESCP);
  - Surface Water Management and Monitoring Programme (SWMMP);
  - Groundwater Monitoring Programme (GMP); and
  - Surface and Groundwater Response Plan (SGWRP).
- Rehabilitation and Landscape Management Plan, including:
  - Rehabilitation Management Plan.

Copies of the above plans are available on the Mine website (http://www.peabodyenergy.com.au/nsw/wilpinjong-documents.html).

The above management plans and monitoring programmes have been reviewed by WCPL following the independent environmental audit and are currently being assessed by DoP.

3.2 ENVIRONMENTAL RISK IDENTIFICATION

In accordance with the Guidelines, the Environmental Risk Identification undertaken as part of the MOP development has been included in this AEMR. The Environmental Risk Identification Matrix contained within the MOP is reproduced in Table 8.

3.3 METEOROLOGICAL MONITORING

In accordance with Condition 24, Schedule 3 of the Project Approval, an on-site meteorological station was operated during the reporting period. The location of the meteorological station is shown on Figure 2. The meteorological station is maintained by Wilpinjong Coal staff, and calibration checks are routinely conducted by NATA accredited technicians. This ensures that continued accurate measurement and calibration are maintained. The meteorological station monitors the following parameters:

- rainfall;
- relative humidity;
- temperature – measured at 2 and 10 metres (m) above the ground surface;
- wind speed – horizontal and vertical;
- wind direction – measured at 10 m above the ground surface;
- sigma theta;
- Pasquill stability classification; and
- solar radiation.

Three pluviometers also recorded catchment rainfall for Murragamba Creek and Cumbo Creek during the reporting period.

Table 8
WCPL Risk Matrix

	Exploration	Land Preparation, Vegetation and Topsoil Stripping	All Construction Activities including Earthmoving	Mine Development and Mining, Surface and Underground	Use/Maintenance of Roads, Tracks and Equipment	Waste Rock Emplacement and Management	Mineral Processing Facilities and Infrastructure	Ore/Product Stockpiling and Handling	Tailings Impoundment Management	Water Management including Storm Event	Hazardous Materials and Fuel, Handling/Spills	Sewerage	Rubbish Disposal	Rehabilitation Activities	Rehabilitated Land and Remaining Features
Air pollution, dust/other		X	X	X	X	X		X	X					X	
Erosion/sediment minimisation	X	X	X		X	X				X				X	X
Surface water pollution	X		X				X		X	X	X	X	X		
Groundwater pollution	X			X					X		X	X	X		
Contaminated or polluted land							X		X		X	X	X		
Threatened flora protection	X	X	X		X										X
Threatened fauna protection		X												X	X
Weed control and management	X	X										X		X	X
Operational noise	X	X	X	X		X	X	X						X	
Vibration and air blast		X	X												
Visual amenity, stray light			X			X	X	X						X	
Aboriginal heritage	X	X	X		X					X				x	
Natural heritage conservation (flora)		X													
Spontaneous combustion				X		X		x							
Bushfire	X	X	X		X									X	X
Mine subsidence															
Hydrocarbon contamination	X	X	X	X											
Methane drainage/venting															
Public safety	X	X	X	X	X				X		x				

Source: WCPL (2007)

3.3.1 Rainfall

A summary of rainfall data recorded during the reporting period at the on-site meteorological station is provided in Table 9.

Table 9
Summary of Rainfall Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	10.6	67.8	42.2	25.4	7.4	44.8	48.0	8.2	36.2	43.0	24.2	103.2
Cumulative Rainfall (mm)	10.6	78.4	120.6	146	153.4	198.2	246.2	254.4	290.6	333.6	357.8	461

Source: Ecowise (2010)
mm = millimetres

The month with the highest total rainfall recorded during the reporting period was December with 103.2 mm (Table 9). The total rainfall (461.0 mm) (Table 9) recorded during the reporting period was 256.6mm less than the previous reporting period, and was lower than the average inferred long-term annual average rainfall of approximately 650 mm at the Mine (Figure 3).

3.3.2 Temperature

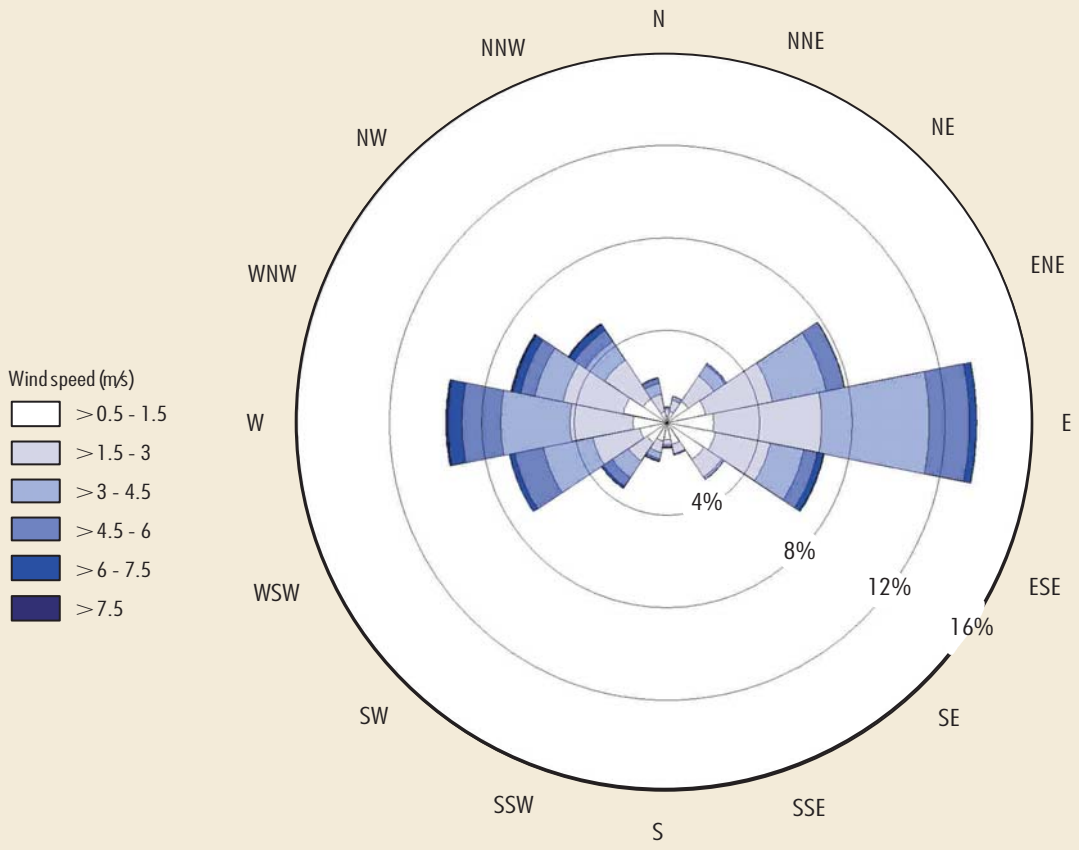
A summary of air temperature data recorded during the reporting period at the on-site meteorological station is provided in Table 10.

Table 10
Summary of Air Temperature Data

Month (2009)	Air Temperature (^{o}C at 2 m)			Air Temperature (^{o}C at 10 m)		
	Min	Max	Mean	Min	Max	Mean
January	9.31	39.2	24.04	10.5	37.14	23.73
February	11.41	41.08	22.89	12.27	39.66	22.57
March	6.02	33.46	20.17	7.37	32.88	20.08
April	2.29	28.35	16.09	3.09	26.88	16.08
May	-0.55	23.41	12.38	0.67	22.29	12.51
June	-4.15	19.95	9.88	-3.07	19.17	9.91
July	-3.07	21.86	8.62	-2.36	20.87	8.70
August	-4.23	27.27	10.83	-2.86	26.46	10.96
September	-1.09	29.99	13.60	0.42	28.88	13.61
October	1.153	33.92	15.78	2.35	32.65	15.72
November	8.76	42.34	23.62	9.81	41.55	23.45
December	6.71	39.74	22.90	8.05	38.75	22.56

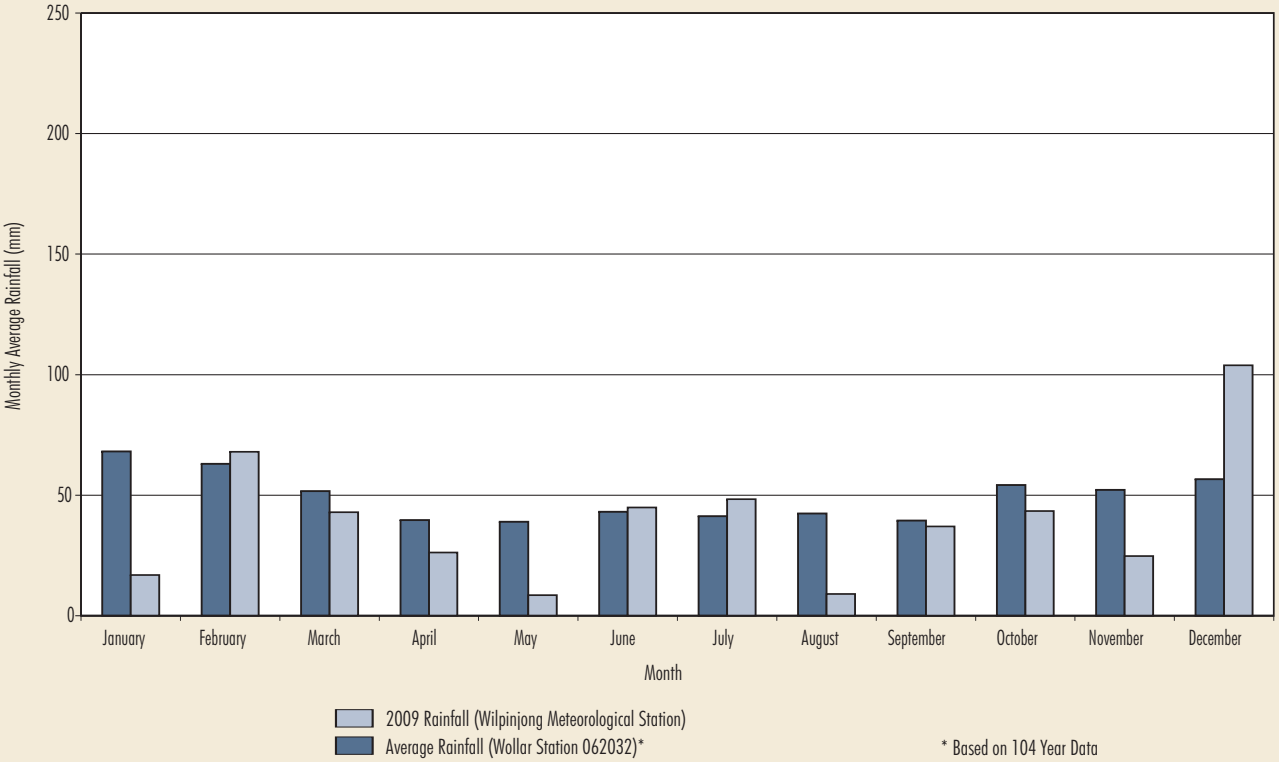
Source: Ecowise (2010)
^{o}C = degrees Celsius

The highest recorded temperature was 41.08^{o}C (at 2 m) and was recorded in February (Table 10). This was 4.38^{o}C higher than the 2008 top temperature of 36.7^{o}C. The lowest recorded temperature onsite was -4.23^{o}C recorded at 2m in August, this is 1.67^{o}C warmer than 2008 lowest temperature. The average temperatures recorded during 2009 at both 2m and 10m levels were higher than those experienced in 2008 for all but one month.



2009 Annual Windrose - Wilpinjong Meteorological Station

Rainfall Summary



* Based on 104 Year Data

Source: WCPL, 2005; Ecowise, 2009 and PAE Holmes, 2009

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FIGURE 3
Annual Windrose and Rainfall Graph

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3.3.3 Wind Speed and Direction

The annual wind rose data from the meteorological station is shown on Figure 3. Over the reporting period, the wind was predominantly from an easterly direction (Figure 3).

3.4 AIR QUALITY - DUST

3.4.1 Environmental Management

Air quality management and mitigation measures were undertaken in accordance with the AQMP (approved by the Director-General of the DoP in February 2006). As outlined in the AQMP, the Standard Protocol was implemented to facilitate the day-to-day management of dust emissions from Mine activities.

During the reporting period, dust monitoring was carried out in accordance with the AQMP utilising static (dust deposition) and high-volume sampling equipment. The relevant air quality parameters recorded during the reporting period are as follows:

- deposited dust;
- particulate matter less than 10 microns in size (μm) (PM_{10}); and
- total suspended particulates (TSP).

In accordance with the AQMP, seven dust deposition gauges were operated during the reporting period to measure deposited dust levels. In addition, PM_{10} was monitored via three high volume samplers and a Tapered Element Oscillating Microbalance (TEOM). Total Suspended Particulate was measured using one high volume sampler.

Air quality monitoring locations are shown on Figure 4. Table 11 outlines the air quality monitoring parameters, locations and frequencies as described in the AQMP.

Table 11
Summary of the Air Quality Monitoring Programme

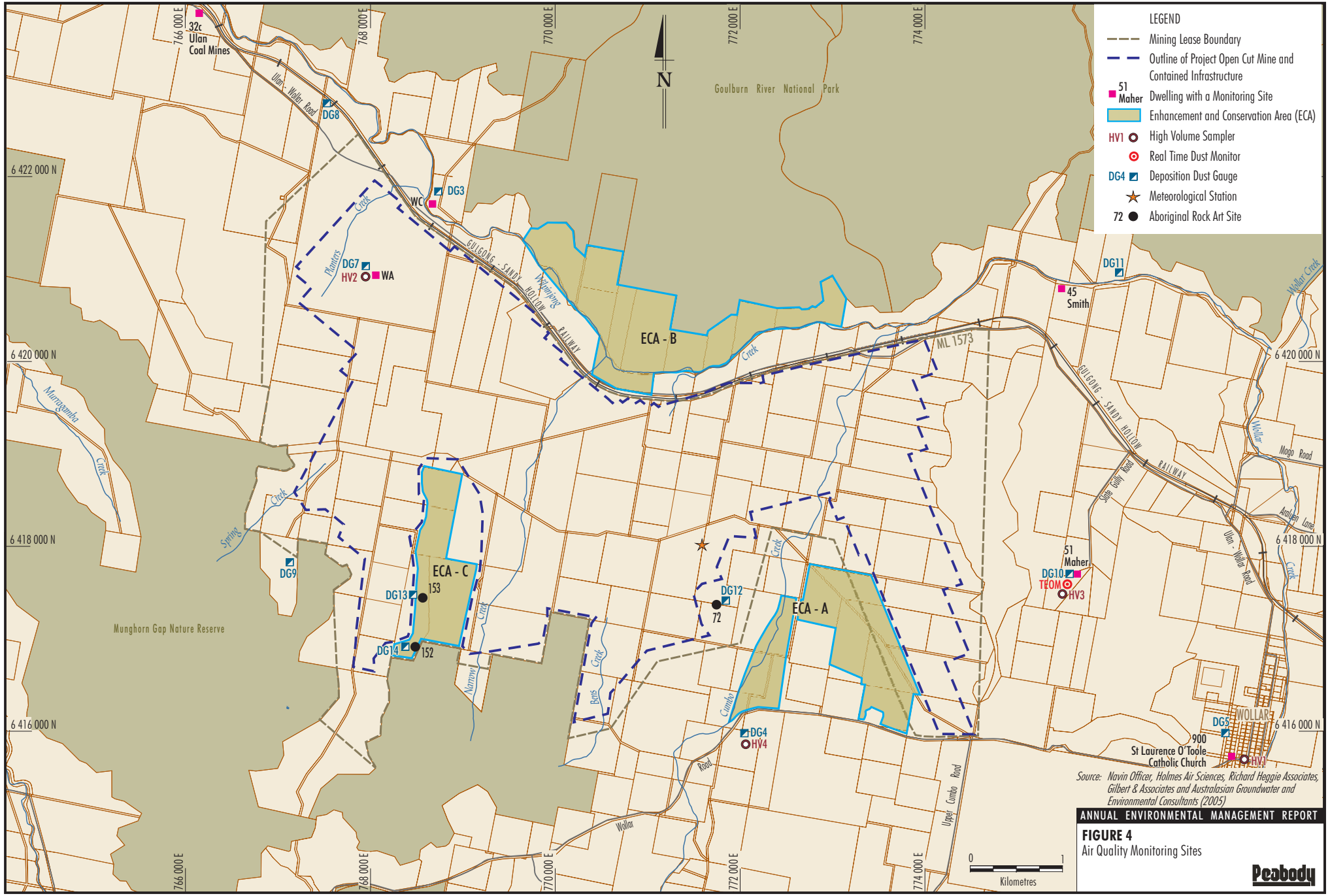
Monitoring Parameter	Monitoring Locations[1]	Frequency
Dust deposition	• DG4[2], DG5, DG7, DG8, DG9[3], DG10 and DG11	• Monthly
	• DG12, DG13 and DG14 (Aboriginal rock art sites)	• Monthly (when mining within 1 km of the rock art site)
High volume sampling (PM_{10})	• HV1, HV2 and HV4	• Continuous six day cycle
Total Suspended Particulate	• HV3	• Continuous six day cycle
Real time (PM_{10})	• TEOM	• Continuous

[1] Monitoring locations are shown on Figure 4.

[2] Monitoring location formerly referred to as the "Robinson" dwelling, now owned by WCPL.

[3] Monitoring location formerly referred to as the "McKinna" and then "Power" dwelling, now owned by WCPL.

The AQMP lists the Helm (44) dwelling as the proposed air quality monitoring location for DG7. Due to access restrictions and limited power supply, DG7 was re-located to the Mine-owned dwelling "WA". The AQMP also lists the Smith (45) dwelling as the proposed air quality monitoring location for DG11. However, due to access restrictions, this monitoring site was re-located to the land to the north-east of the Smith property, on the northern side of Wilpinjong Creek (Figure 4).



Source: Navin Officer, Holmes Air Sciences, Richard Heggie Associates, Gilbert & Associates and Australasian Groundwater and Environmental Consultants (2005)

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FIGURE 4
Air Quality Monitoring Sites

Peabody

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Condition 20, Schedule 3 of the Project Approval stipulates the criteria for deposited dust, PM_{10} and TSP, as shown in Table 12.

Table 12
Relevant Air Quality Criteria

Pollutant	Averaging Period	Maximum Increase (from the Mine)	Maximum (from all sources)
Deposited dust	Annual	2 g/m^2/month	4 g/m^2/month
PM_{10}	Annual	-	30 $\mu g/m^3$
PM_{10}	24 hour	-	50 $\mu g/m^3$
TSP	Annual	-	90 $\mu g/m^3$

g/m^2/month = grams per square metre per month
$\mu g/m^3$ = micrograms per cubic metre

Effectiveness of the Control Strategies

Dust control measures were implemented during the reporting period in accordance with the MOP and AQMP. All active roads and traffic areas were watered on an ongoing basis using water carts. Water spray were utilised on product stockpiles and the ROM bin, and recently stripped areas and topsoil stockpiles were watered. All these methods were utilised to minimise the generation of dust. In addition, the area disturbed by active mining was minimised as far as practicable. These controls were adequate to control dust generation proximal from the Mine during the reporting period. As demonstrated by the environmental performance measures discussed below.

3.4.2 Environmental Performance

Deposited Dust

Mean monthly dust deposition data for the reporting period is summarised in Table 13. Records of dust deposition data for the reporting period is provided in Appendix A.

Table 13
Summary of Mean Monthly Dust Deposition Data[1]

	DG2	DG3	DG4	DG5	DG8	DG9	DG10	DG11	DG12	DG13	DG14
Insoluble Matter (g/m^2/month)	1.90	5.22	2.32	2.77	2.19	4.53	2.88	2.29	3.98	4.68	3.08

Source: Ecowise (2010)

[1] Monitoring locations are shown on Figure 4.

Dust deposition results for the reporting period were below the Project Approval long-term impact assessment criteria for annual maximum total deposited dust levels of 4 g/m^2/month (averaged over a 12 month period) for 8 of the 11 sites.

It was noted during the reporting period that average dust levels at DG3, DG9 & DG13 were trending above the criteria for annual maximum total deposited dust levels. Upon identification of this trend, the air quality monitoring protocol was implemented. The investigation involved consideration of previous monitoring results in conjunction with prevailing and preceding conditions relevant to the location of DG3, DG9 & DG13. The investigations concluded the following:

- DG3 – A dust concentration of 28.6 g/m^2/month was recorded in March. This value is considered spurious as it is not supported by the levels recorded by surrounding depositional dust gauges i.e.: DG2 & DG8 which monitored levels of 1.4 & 1.4 g/ m^2/month. If this value was replaced by the average monthly concentration value, the annual average would have been 2.9 g/m^2/month

- DG9 – High dust concentrations were monitored in March (7.1 g/m^2/month), April (7.3 g/m^2/month) & May (8.0 g/m^2/month), these were caused by cattle grazing in the paddock surrounding the dust gauge. Once the cattle were removed from the paddock monitored dust concentrations returned to normalised levels. Annual average dust concentrations remained below 4 g/m^2/month until the region experience a series of dust storms through September, October, November and December. These regional dust events influenced the annual dust concentrations above 4g/m^2/month.

- DG13 – Annual average dust concentrations were influenced by the regional dust storms through September, October, November and December, increasing monitored annual average dust concentrations above 4g/m^2/month. Prior to these events annual dust concentrations were around 2.0g/m^2/month.

- DG11 – Annual average dust concentration at this site have now returned to levels below 4g/m^2/month. During the last reporting period dust concentrations at this site were influenced by vehicle movements along the unsealed section of road between the Mine and Wollar. The increase in average dust levels at DG11 was likely to be associated with the unusually high truck movements along the unsealed section of the Ulan-Wollar Road in relation to the construction of a high voltage power line.

PM_{10} and TSP

Four high volume air samplers and a Tapered Element Oscillating Microbalance (TEOM) were utilised to monitor particulate matter during the reporting period. The results are summarised in Table 14.

Table 14
Summary of High Volume Sampling Data

	Monitoring Locations[1]				
	HV1	**HV2**	**HV3**	**HV4[2]**	**TEOM**
PM_{10} (μg/m^3) recorded range*	3.1 - 59.9	1.0 – 61.6		2.1 – 52.5	2.8 – 1117.5
PM_{10} (μg/m^3) annual average	14.2	16.3		12.6	18.5
TSP (μg/m^3) recorded range*			5.4 - 112		
TSP (μg/m^3) annual average			24.19		

Source: Ecowise (2010), Advitech (2010)

* Data presented is the range of maximum 24 hour averages.

[1] Monitoring locations are shown on Figure 4.

[2] Monitoring location formerly referred to as the "Robinson" dwelling, now owned by WCPL.

HV = high volume

The measured maximum 24 hour average PM_{10} concentrations at three high volume sampler locations (HV1, HV2 and HV4) and the TEOM exceeded the 50 μg/m^3 short-term impact assessment criterion for particulate matter on a number of occasions during the reporting period. These events triggered the implementation of the Air Quality Monitoring Protocol as described in the AQMP for the following sites and dates;

HV1 – 8th December 2009 (59.9 μg/m3)
HV2 – 20th November 2009 (56.2 μg/m3) & 8th December 2009 (61.6 μg/m3)
HV4 – 8th December 2009 (52.5 μg/m3)
TEOM – 6th March 2009 (51.4 μg/m3), 26th April 2009 (83.2 μg/m3), 2nd July 2009 (54.3 μg/m3), 24th September 2009 (1117.5 μg/m3), 27th September 2009 (59.6 μg/m3), 14th (52.0 μg/m3)& 15th October 2009 (108.8 μg/m3), 23rd October 2009 (62.3 μg/m3), 29th November 2009 (78.2 μg/m3), 30th November 2009 (194.8 μg/m3) and 9th December 2009 (51.6 μg/m3).

Exceedance of the 50 μg/m3 short-term impact assessment criterion as recorded on the 6th March 2009, 26th April 2009, 2nd July 2009, 24th September 2009, 27th September 2009, 14th & 15th October 2009, 23rd October 2009, 29th & 30th November 2009, 8th & 9th December 2009 can all be attributed to non localised dust events. On each occasion a review of regional conditions during these periods indicated that elevated PM10 concentrations were not local to Wilpinjong operations. These events were a result of strong predominately Westerly winds in combination with drought affected lands, leading to widespread dust storms. On each occasion trends observed in air quality monitoring data from locations within NSW as managed by DECCW indicated the presence of elevated PM10 concentrations throughout the state.

HV2 experienced an exceedance of the 50 μg/m3 short-term impact assessment criterion on the 20th November 2009. An investigation into this event determined wind conditions were predominately from the West, and averaged 2.0m/s with gusts greater than 8.5m/s. It is not feasible that dust from the Wilpinjong operation was able to influence concentrations monitored on this day, as HV2 is located to the North West of the operation. It is likely that PM10 concentrations monitored on this day were representative of dust emissions from land use activities upwind of the operation. PM10 concentrations monitored by HV1, HV3, HV4 and the TEOM, which are all located East of the operation all remained within compliance levels during this period.

The average annual PM10 concentrations recorded at HV1 (14.2 μg/m3), HV2 (16.3 μg/m3), HV4 (12.6 μg/m3) and TEOM (18.5 μg/m3) were below the criteria limit of 30 μg/m3 for average annual PM10 concentrations.

Average annual TSP concentrations recorded at HV3 (24.19 μg/m3) were below the criteria limit of 90 μg/m3 for average annual TSP concentrations. .

Monitoring – Greenhouse Gas

Greenhouse gas emissions as a result of the Mine during the reporting period were primarily associated with:

- combustion of diesel fuel;
- use of electricity; and
- fugitive emissions of methane (CH_4) and carbon dioxide (CO_2) as the coal is mined.

Greenhouse gas emission estimates for the reporting period are provided in Table 15.

Table 15
Estimated Mine Greenhouse Gas Emissions

Year	ROM Coal (Mt)	Electricity Consumed (kWh)	Diesel Consumed (kL)	CO_2-e Electricity Usage (t)*	CO_2-e Diesel Usage (t)*	CO_2-e Fugitive Emissions (t)#	Total CO_2-e Emissions (t)*
2009	12.68	15,867,630	12,923	14,123	34,549	15,216	63,888

Source: Thiess (2009)

* Emissions calculations conducted in accordance with the provisions of the Department of Climate Change (2008) – Electricity consumption purchased from grid 0.89 kg CO_2-e/kWh and transport fuel consumption (diesel oil) 69.2 kg CO_2-e/GJ.

\# Based on site-specific fugitive emission factor of 1.2 kg CO_2-e per tonne ROM coal (Holmes Air Sciences, 2005).

KWh = kilowatts per hour

GJ = gigajoule

kL = kilolitre

CO_2-e = carbon dioxide equivalent

Greenhouse gas abatement measures undertaken for the reporting period included the following:

- Minimisation of fuel usage (i.e. diesel and unleaded petrol) through:
  - encouragement of staff car pooling;
  - undertaking plant and equipment maintenance; and
  - operational practices (e.g. unattended plant is not left idling and is switched off as soon as practicable after use).
- Use of solar power for monitoring equipment and investigations into its use for other operations.

3.4.3 Reportable Incidents

No environmental incidents were reported relating to air quality at the Mine during the reporting period. Complaints regarding air quality received during the reporting period were responded to in accordance with the Mine Complaint Response Protocol (Section 4.1).

3.4.4 Further Improvements

In response to the Audit recommendations, WCPL has revised the AQMP during this reporting period, and it is currently under assessment with DoP. Awareness of the importance of dust management is also targeted through employee education and training (e.g. toolbox meetings and inductions).

Thiess Pty Ltd (WCPL contracted operational workforce) continues to be a signatory to the Greenhouse Challenge Plus programme. This programme aims to establish working partnerships between the Australian Government and industry to improve energy efficiency and reduce greenhouse gas emissions.

As reported in the 2008 AEMR, investigations were conducted during this reporting period into the use of larger truck bodies to reduce truck movements. This investigation has resulted in the mining fleet containing 5 trucks with larger bodies. This has allowed those 5 trucks to increase their coal carrying capacity, and reduce truck movements on site.

3.5 EROSION AND SEDIMENT

3.5.1 Environmental Management

Effectiveness of the Control Strategies

Erosion and sediment control measures were implemented in accordance with the ESCP (approved by the Director-General of the DoP in February 2006). In accordance with the MOP and ESCP, installation of erosion and sediment control works were undertaken during the reporting period, including the installation of permanent structures for infrastructure components and temporary structures (i.e. sediment dams and silt fences) for other disturbance areas.

The above control strategies were considered adequate to manage erosion and sediment-related risks associated with operations during the reporting period, as demonstrated by the environmental performance measures outlined in Section 3.5.2.

3.5.2 Environmental Performance

Monitoring

In accordance with the ESCP, sediment control structures were inspected for capacity on at least a monthly basis as well as following rainfall events of 20 mm or more in a 24 hour period throughout the reporting period.

Performance Outcomes

Sediment control structures performed adequately during the year, and specifically after rainfall events experienced in March, September and December 2009. Water from the sediment control system was recycled on site.

No additional diversion bunds were constructed during the reporting period.

3.5.3 Reportable Incidents

No environmental incidents or complaints were reported relating to erosion and sediment control at the Mine during the reporting period.

3.5.4 Further Improvements

In response to the Audit recommendations, WCPL has revised the ESCP during this reporting period, and it is currently under assessment with DoP. The ESCP will be reviewed and updated as necessary during the next reporting period, so as to provide an accurate template and planning tool for current and future operating conditions, as well as integrate with the drainage aspects of the RMP.

3.6 SURFACE WATER

3.6.1 Environmental Management

Effectiveness of the Control Strategies

Surface water management and mitigation measures were undertaken in accordance with the SWMP (approved by the Director-General of the DoP in March 2006). WCPL also continued to operate in accordance with the SGWRP, which includes surface water monitoring triggers.

In accordance with the MOP and the SWMP, surface water control structures, works and procedures were implemented during the reporting period. Areas disturbed by active mining were minimised and runoff from catchment areas was isolated and diverted around disturbance areas through the construction of water diversion bunds. Runoff from construction and operation areas was diverted to sediment retention storages across the mine area. Erosion and sediment control measures were also implemented (as described in Section 3.5).

The above control strategies were considered adequate to manage surface water-related risks associated with operations during the reporting period, as demonstrated by the environmental performance measures outlined below.

3.6.2 Environmental Performance

Monitoring

Table 16 outlines the surface water parameters, monitoring locations and frequency of monitoring recorded for the Mine in accordance with the SWMP. Surface water monitoring locations are shown on Figure 5.

Table 16
Summary of the Surface Water Monitoring Programme

Monitoring Parameter	Monitoring Sites[1]	Frequency
• pH, EC, turbidity, TSS and SO_4.	• WIL(U), WIL(U2), WIL(PC), WIL(NC), WIL(D), WIL(D2), CC1 to CC3, WOL1 and WOL2.	• Monthly and following significant rainfall events (i.e. greater than 20 mm in 24 hours).
• Flow rate and EC.	• Wilpinjong Creek (upstream and downstream) and Cumbo Creek gauging stations.	• Continuous.
• pH, EC, turbidity, TSS and SO_4.	• Wilpinjong Creek (upstream and downstream) and Cumbo Creek gauging stations. • Site water storages, tailings disposal storages and sediment retention dams.	• Monthly.
• Water level, pH, EC, turbidity and SO_4.	• Existing waterholes on the McDermott property*.	• In consultation with individual landholder.
• Stream "health" monitoring.	• Sections of Wilpinjong Creek and Cumbo Creek.	• Annually
• Channel stability monitoring.	• Long sections of Wilpinjong Creek and Cumbo Creek will be surveyed along the creek alignment.	• Every 5 years.

[1] Monitoring locations are shown on Figure 5.

* McDermott property shown on Figure 2.

EC = electrical conductivity; SO_4: sulphates

Performance Outcomes

pH, SO_4, TSS and Turbidity

A summary (i.e. minimum and maximum) of the surface water quality monitoring results for pH, SO_4 and turbidity is provided in Table 17. In November 2009 the monitoring of Turbidity replaced TSS, as it aligns better with the SWMP.

Table 17
Summary of Surface Water Quality Monitoring Data - pH, EC, SO_4 TSS and Turbidity[1]

Parameter	Surface Water Monitoring Location[2]											
	WIL (U)	WILU2	WIL (PC)	Wil D2	WIL (NC)	WIL (D)	CC1	CC2	CC3	WOL1	WOL2	Baseline Range[#]
EC	1,100-1,800	3,550	410-12,190	7,160	Dry	3,170-4,910	1,430-9,870	4,700-7,640	100-4,850	2,190-3,190	2,050-4,460	185 – 11,000
pH	6.0-7.6	6.89	5.7-7.42	8.24	Dry	7.38-7.8	7.2-8.0	7.3-7.96	7.1-8.1	7.2-8.19	7.16-7.83	5.8-9.1
SO_4 (mg/L)	39-101	80	38-1760	Dry	Dry	234-852	249-4080	1675-4050	18-2055	14-796	121-1235	10-2,450
Total Suspended Solids (TSS) (mg/L)	<2-39		<2-108		Dry	<2-21	4-130	<2-10	4-62	<2-39	<2-65	2-400
Turbidity	Dry	10	Dry	Dry	Dry	2.7-2.9	Dry	0.81	Dry	4.1	6.2-7.1	

Source: Ecowise (2010)

[1] For a full set of water quality monitoring results for the reporting period refer to Table B-1, Appendix B.

[2] Monitoring locations are shown on Figure 5.

[#] Based on baseline monitoring results specified in WCPL (2005).

Dry Sites were dry during those sampling periods, therefore no samples were taken

mg/L = milligrams per litre

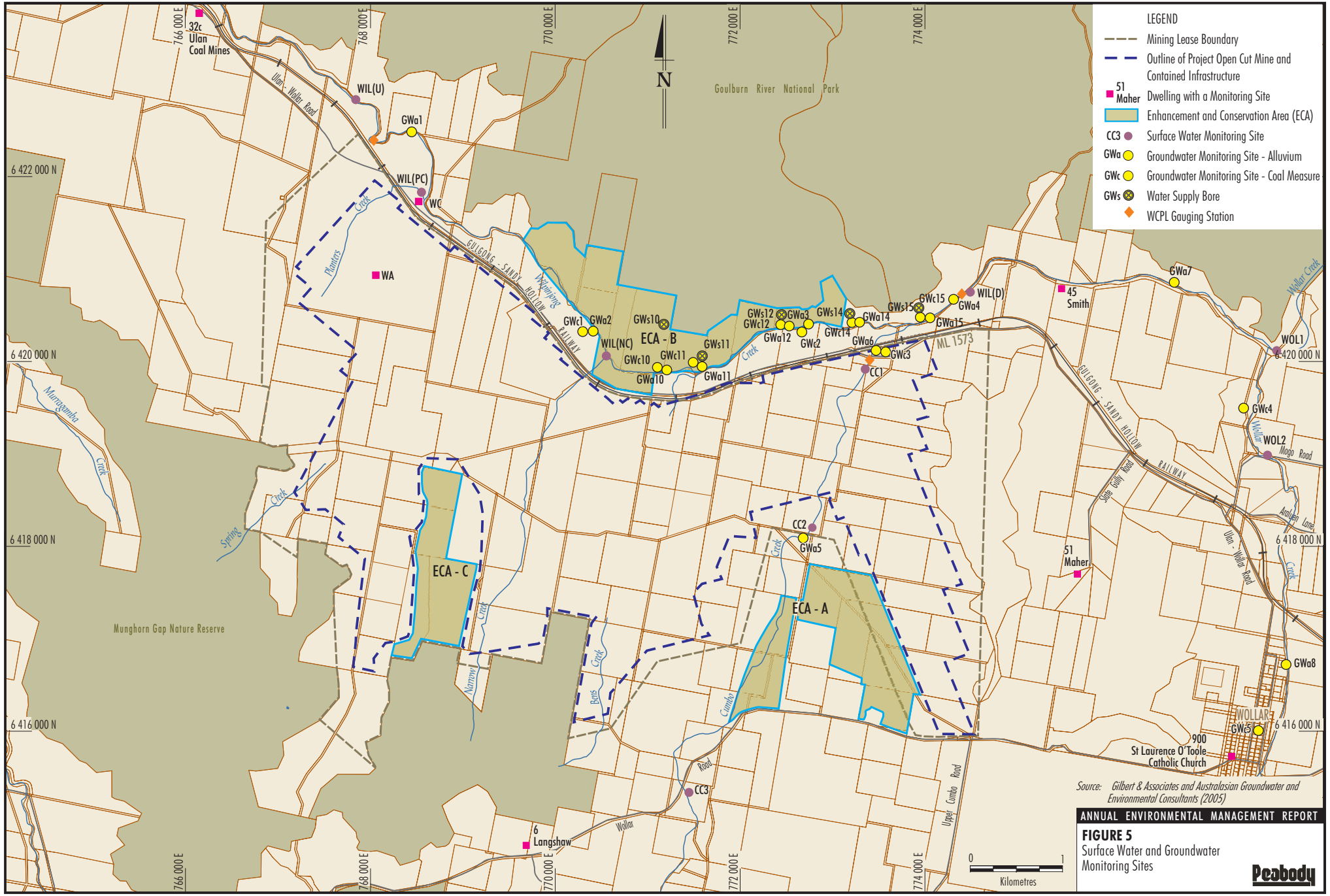

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FIGURE 5
Surface Water and Groundwater Monitoring Sites

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WIL-05-05 AEMR 09_005A

December 2009 saw the inclusion of two new surface water monitoring points along Wilpinjong Creek. WIL U2 was commissioned to better define water quality upstream of the mining lease boundary. WIL D2 was established in a location closer to the boundary of the mining lease. This mitigates any influence adjoining land practises may have on the water quality of Wilpinjong Creek prior to it being monitored.

Surface water quality monitoring data collected during the reporting period for pH and turbidity indicated that results were within baseline ranges. SO_4 results also within baseline ranges in Wilpinjong Creek. Cumbo Creek SO_4 recorded levels were outside the Baseline range; this is the third year in which this has occurred. These readings are considered to be natural fluctuations as there has been no mining related impact on this creek system. EC ranges within baseline ranges for all sites, except for WIL (PC). The high reading was recorded in February 2009, and sampling notes indicate that the sample was taken from a stagnant pool with evidence of cattle activity.

On-site Water Storages

Monitoring of pH, turbidity, EC and SO_4 at the on-site water storages (e.g. clean water dam and recycled water dam) and sediment retention dams was undertaken during the reporting period. Monitoring results are presented in Table B-2, Appendix B.

Flow Rate and EC

The mine operated three gauging stations throughout the reporting period. The stations are located upstream and downstream of the mining lease on Wilpinjong Creek and on Cumbo Creek upstream of the confluence with Wilpinjong Creek (figure 5). The stations monitor flow and EC on 15 minutes intervals (Figures 6a, 6b and 6c). As indicated on Figures 6a and 6b, there were several gaps in the EC data at the Upstream and Downstream Wilpinjong stations. Each gap in EC data can be attributed to monitoring equipment failure.

Figures 6a, 6b and 6c (Wilpinjong Creek upstream, downstream and Cumbo Creek gauging stations) all demonstrate typical significant reductions in EC following rainfall and surface flow events through out the reporting period.

During the reporting period the downstream Wilpinjong Creek flows were compared to the following stream flow triggers in accordance with the SGWRP (Section 3.7.4).

- Flow Volume Percentage, calculated as the ratio of recorded total flow for the preceding 12-month period compared to the model predicted total flow for the preceding 12-month period. Trigger for investigation if the ratio falls below 80%.
- Cease-to-Flow Percentage, calculated as the ratio of recorded cease-to-flow days for the preceding 12-month period to the model predicted cease-to-flow days for the preceding 12-month period. Trigger for investigation is if the ratio fall below 80%.

The flow volume percentage ratio fell below 80% during the reporting period (figure 6d) which activated an investigation into its possible causes. The investigation found that the changing nature of the in stream vegetation and dry climatic conditions experienced over the past year could have potentially contributed to the reduction in recorded flows compared to modelled flows (figure 6e). Additionally the upstream gauging station which is not influenced by mining operations also displayed a similar trend when comparing modelled flows to actual recorded flows (figure 6f).

The Cease-to-Flow percentage did not fall below 80% during the reporting period. (Figure 6g). No investigations were required.

Stream Health Monitoring

In accordance with the SWMP, stream health monitoring was undertaken by Bio-Analysis during the reporting period. The findings of the report remain consistent with those drawn in the 2006 & 2008 reports. These reports cover both pre mining conditions and when mining has commenced. The 2007 stream health report was abandoned after heavy rainfalls caused high and unsafe flows in both Wilpinjong and Cumbo Creeks.

Wilpinjong Creek and Cumbo Creek are both classified as being “severely polluted” when using the SIGNAL index for macro invertebrate abundance. Stream health is also considered to be “very poor”.

Channel Stability Monitoring

In accordance with the SWMP, channel stability monitoring along Wilpinjong Creek and Cumbo Creek has been rescheduled to be undertaken at 5 yearly intervals, following an in principal agreement from DoP. During the reporting period, predoic visual monitoring of the channels has identified little to no change in stability, although creek banks are continuing to revegetating naturally. This is most likely attributable to the exclusion of stock from riparian areas. Whilst re-establishment of the riparian zone is still in the early stages, it is anticipated that bank stability along both creeks will continue to improve as vegetation establishes.

3.6.3 Reportable Incidents

No environmental incidents or complaints were reported regarding surface water management at the Mine during the reporting period.

Figure 6a. Upstream Wilpinjong Creek
Daily flow Vs Electrical Conductivity

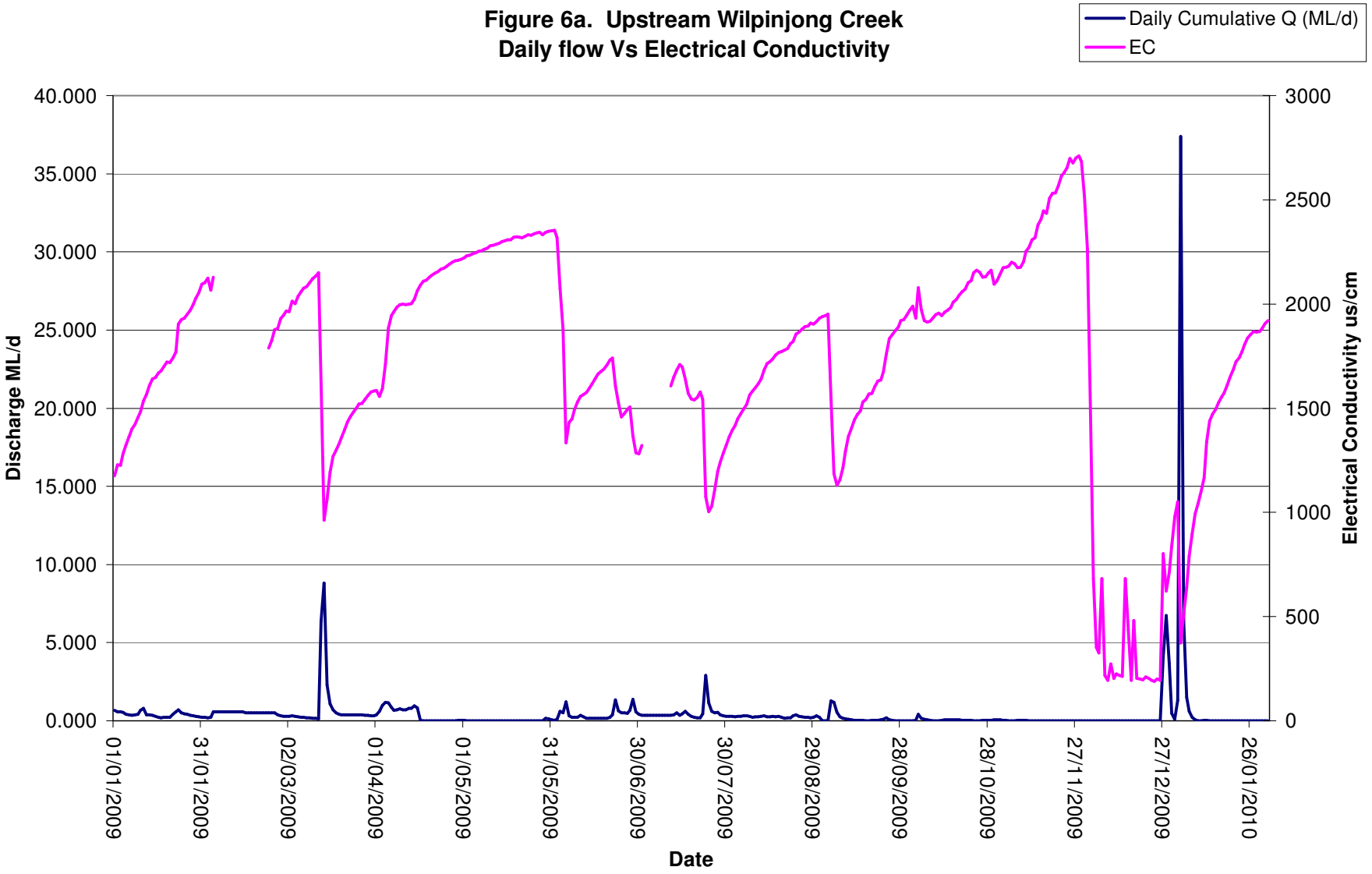


Figure 6b. 2009 Downstream Wilpinjong Creek
Daily Discharge Vs Electrical Conductivity

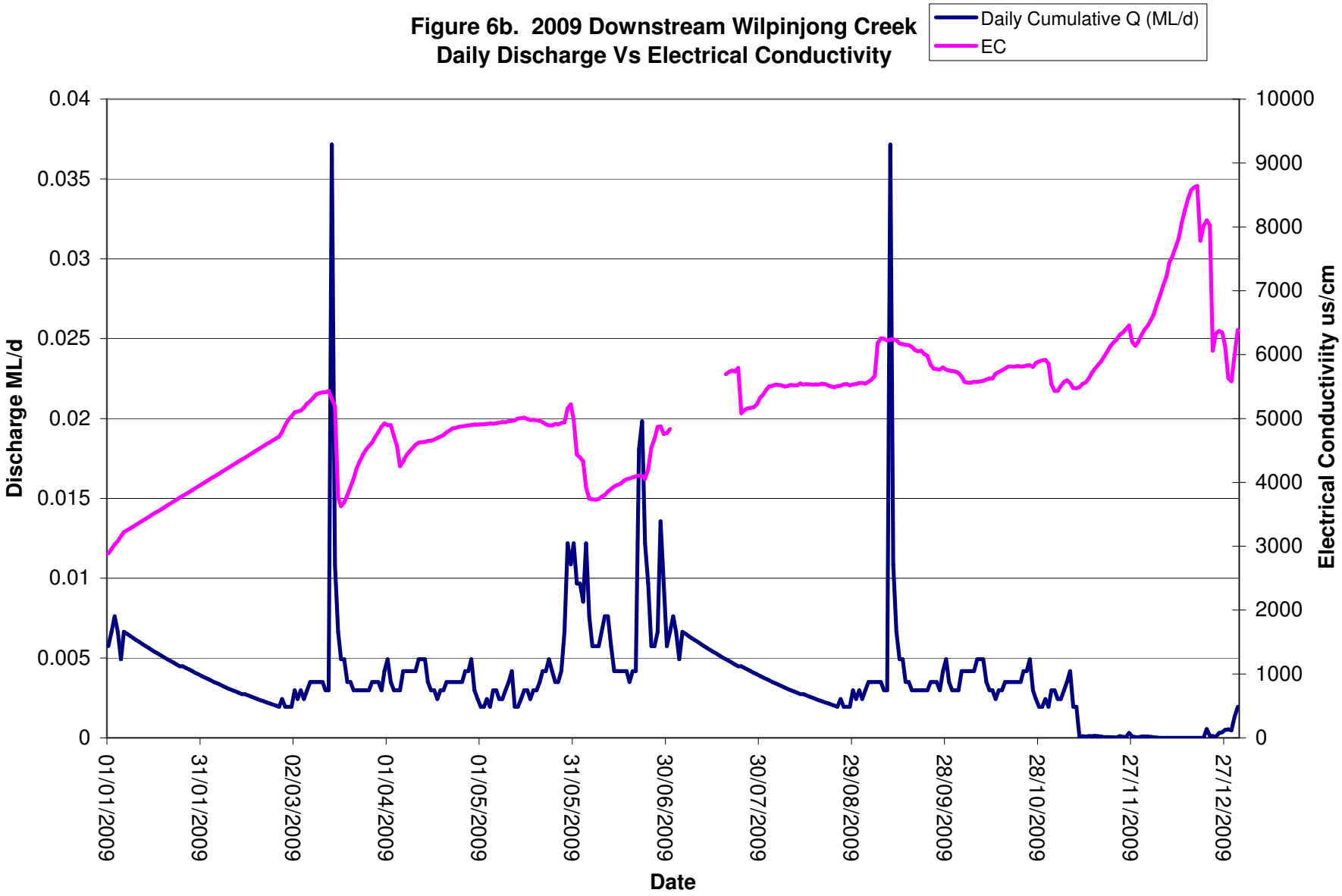


Figure 6c. Cumbo Creek
Daily Flow Vs Electricial Conductivity

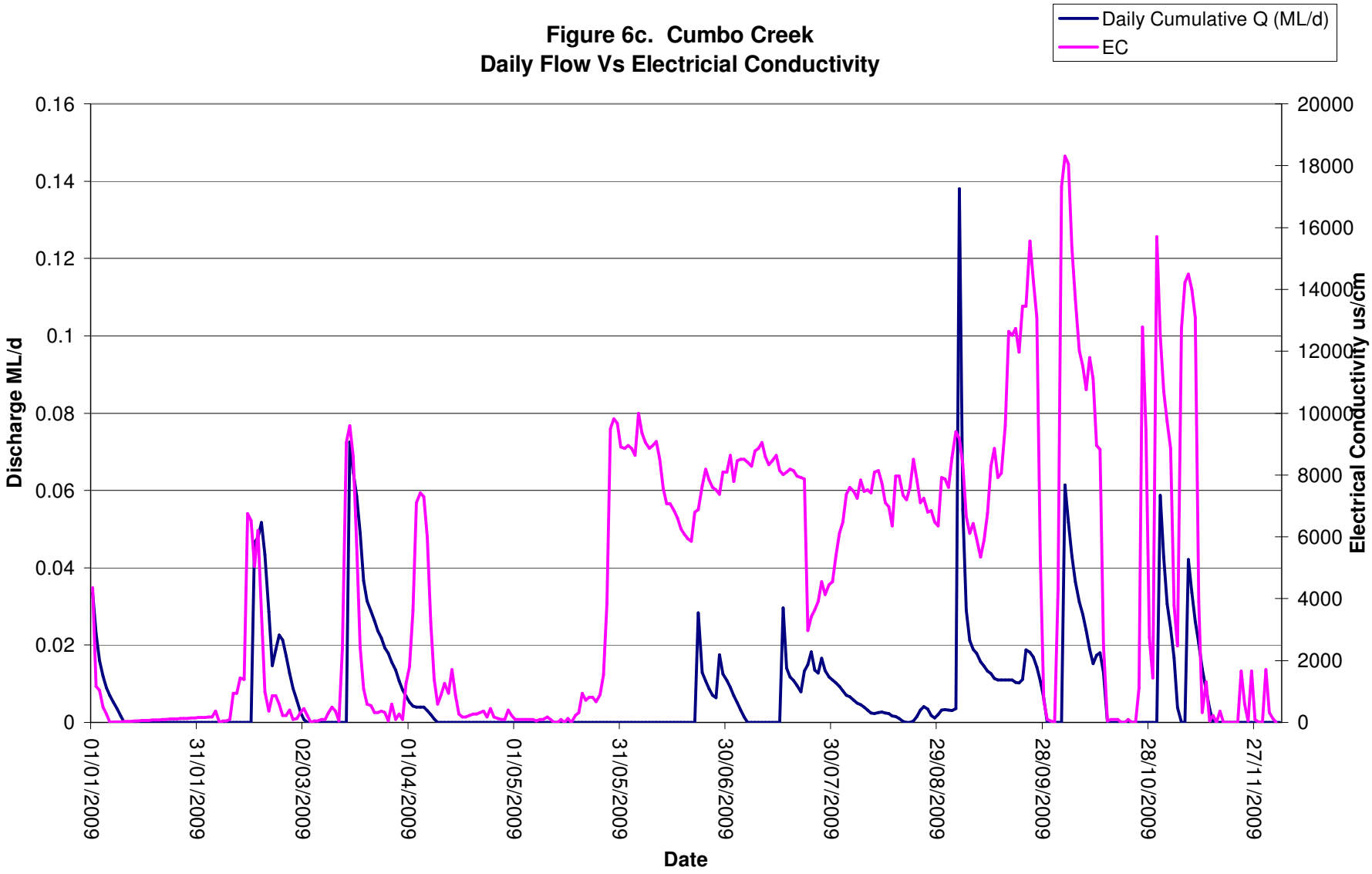
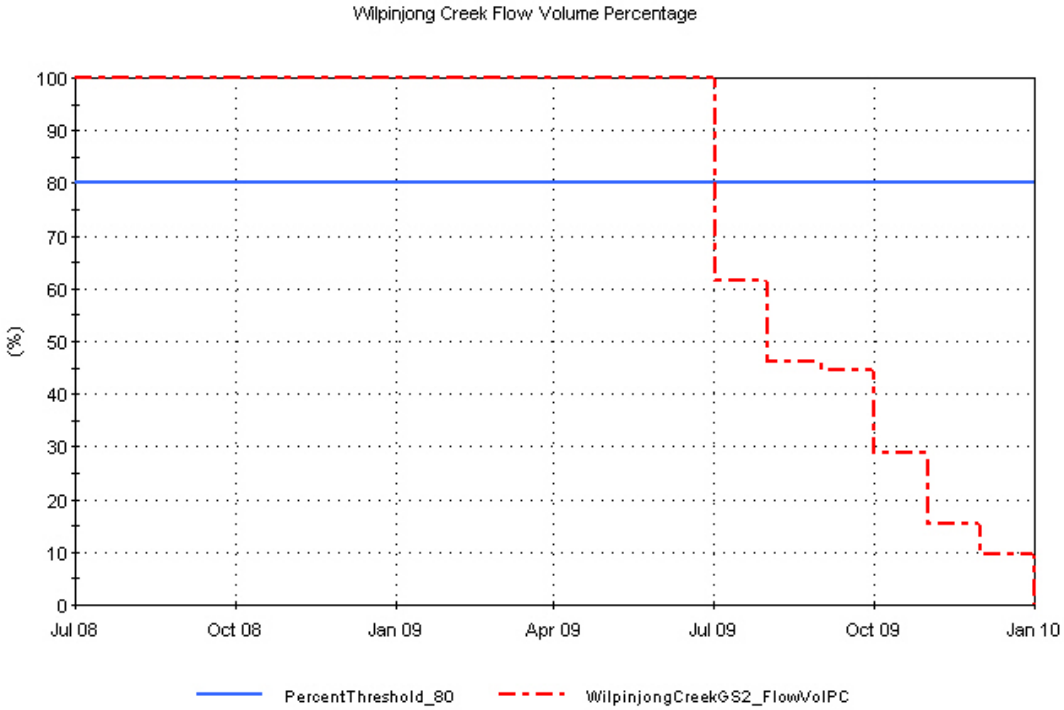


Figure 6d. 2009 Wilpinjong Creek Flow Volume Percentage.



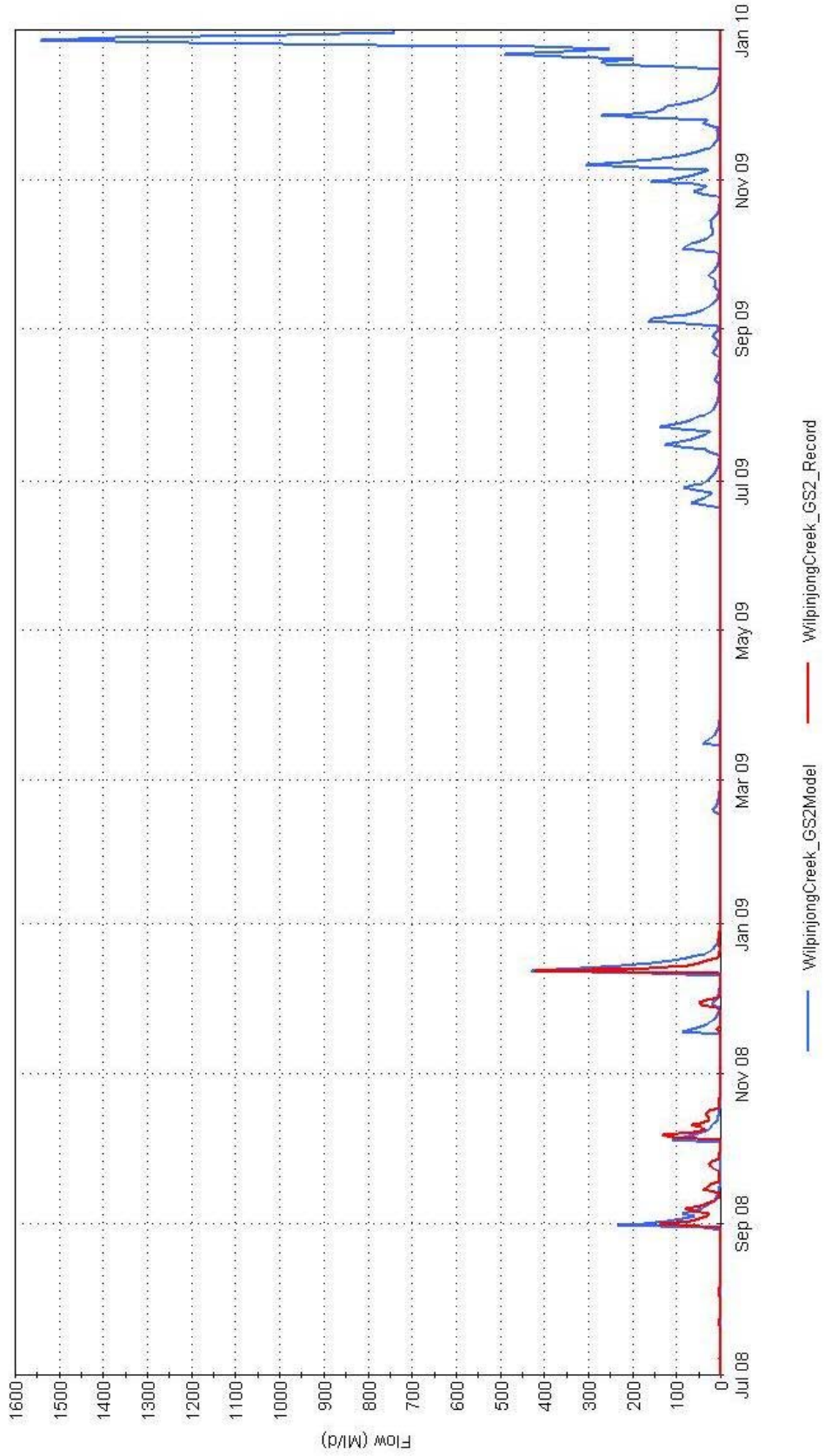


Figure 6e. 2009 Downstream Wilpinjong Creek Actual Flow Vs Modelled Flow.

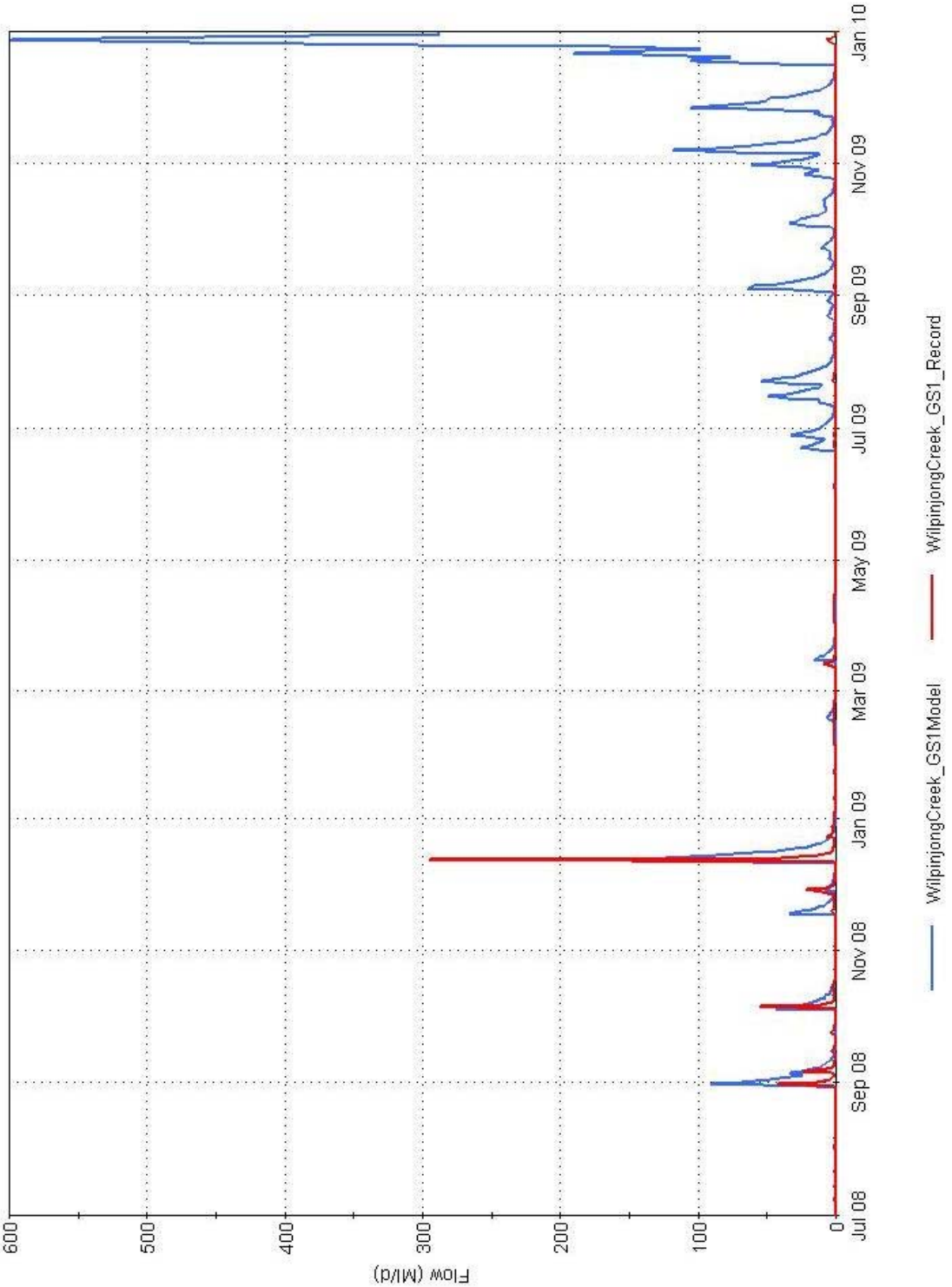
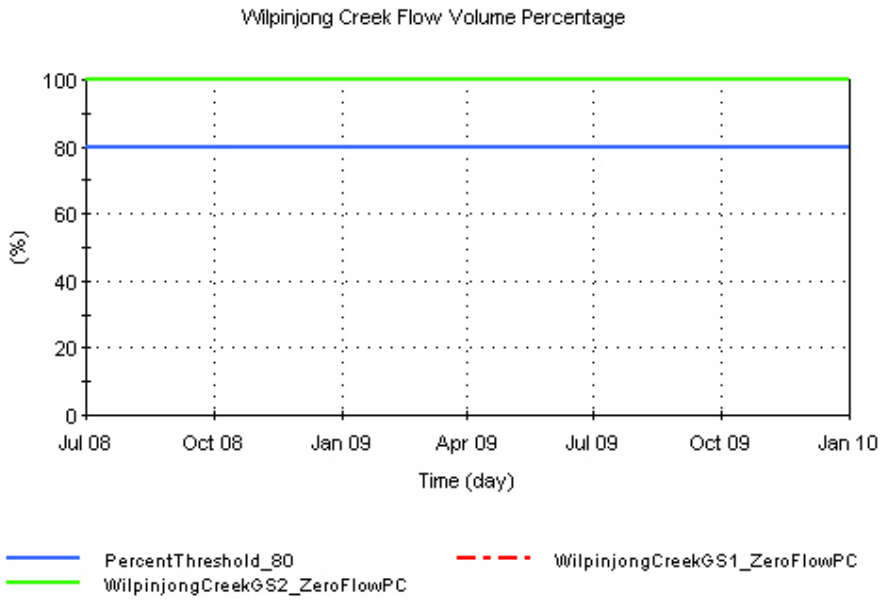


Figure 6f. 2009 Upstream Wilpinjong Creek Actual Flow Vs Modelled Flow

Figure 6g. 2009 Cease to flow percentage.



3.6.4 Further Improvements

In response to the Audit recommendations, the Surface Water Management Plan (SWMP) (including the Surface Water Management and Monitoring Plan (SWMMP and Site Water Balance (SWB)) have been reviewed during this reporting period. The SWB has been reviewed and updated as necessary to reflect water management on site. The SWMP has also been reviewed and updated in this reporting period.

3.7 GROUNDWATER

3.7.1 Environmental Management

Effectiveness of the Control Strategies

Groundwater management and mitigation measures were undertaken in accordance with GMP (approved by the Director-General of the DoP in February 2006). The SGWRP developed as part of the SWMP also includes groundwater monitoring triggers.

In accordance with the MOP and SWMP, the control strategies implemented were considered adequate to manage groundwater-related risks associated with operations during the reporting period.

3.7.2 Environmental Performance

Monitoring

Table 18 outlines the groundwater parameters, monitoring locations and frequency of monitoring recorded for the Mine in accordance with the GMP. Groundwater monitoring locations are shown on Figure 5.

Table 18
Summary of the Groundwater Monitoring Programme

Monitoring Parameter	Monitoring Sites[1]	Frequency
• Water level, field pH, EC and volume of water extracted.	• Open Cut Operations – Main pit sump(s). • Open Cut Operations – Dewatering Bores. • Water Supply Bores – GWs1 to GWs19.	• Monthly.
• Na, K, Mg, Ca, Cl, HCO_3, SO_4, Total Fe.	• Wilpinjong Creek – GWa1 to GWa4, GWa7 (Alluvium), GWc1 and GWc2 (Coal Measures). • Cumbo Creek – GWa5 and GWa6 (Alluvium) and GWc3 (Coal Measure). • Wollar Creek – GWc4 (Coal Measures). • Wollar Village – GWa8 (Alluvium) and GWc5 (Coal Measures).	• Every six months.

Table 18 (Continued)
Summary of the Groundwater Monitoring Programme

Monitoring Parameter	Monitoring Sites[1]	Frequency
• Water level, field pH and EC.	• Wilpinjong Creek – GWa1 to GWa4 and GWa7 (Alluvium) and GWc1 and GWc2 (Coal Measures). • Cumbo Creek – Gwa5 and GWa6 (Alluvium) and GWc3 (Coal Measure).	• Monthly.
	• Wollar Creek – GWc4 (Coal Measures). • Wollar Village – GWa8 (Alluvium) and GWc5 (Coal Measures).	• Quarterly.
• Water level, field pH and EC, Na, K, Mg, Ca, Cl, HCO_3, SO_4, and Total Fe.	• Landholder bores, wells and waterholes.	• In consultation with individual landholders.

[1] Monitoring locations are shown on Figure 5.

Performance Outcomes

There were no requests for monitoring to be undertaken at any landholder bores, wells or waterholes during the reporting period.

A summary of the groundwater monitoring data recorded during the reporting period is provided in Table 19. A complete set of the groundwater monitoring results for the reporting period is provided in Appendix C. Monthly EC, pH and water levels monitored for the alluvial and coal measure aquifer monitoring bores for the installed water supply bores are also provided in Appendix C.

Table 19
Summary of Groundwater Monitoring Data

Site	Water Level (mbgl)	pH	EC (µS/cm)	Na (mg/L)	K (mg/L)	Mg (mg/L)	Ca (mg/L)	Cl (mg/L)	HCO_3 (mg/L)	SO_4 (mg/L)	Total Fe (mg/L)
GWa1	3.01-4.36	7.0-7.2	3560-12730	1730	29	260	264	2460	1680	379	6.6
GWa2	0.96-2.34	6.6-7.1	1750-3230	234-442	10-26	46-57	37-73	376-383	196-630	70-199	0.1-1.8
GWa3	2.86-3.52	6.3-6.9	1810-2050	235-298	12-15	59-69	67-77	230-276	460-500	171-208	1.4-5.8
GWa4	2.08-2.76	6.1-6.9	2090-2640	242-254	24-27	85-101	124-150	369-425	490-540	261-314	2.6-3.8
GWa5	0.77-1.58	6.5-7.0	8870-14870	1180-1880	32-39	490-1030	622-762	1680-3030	442-675	4090-5240	0.35-2.2
GWa6	0.66-2.39	7.2-7.7	4100-7950	820-964	20-26	182-202	128-165	815-993	650-715	1340-1380	1.2-4.9
GWa7	3.48-4.18	6.6-7.0	9800-10490	1280-1410	32-36	510-533	481-528	1840-1880	1040-1100	2740-3360	14-39
GWa8	1.05-1.68	6.8-7.2	990-2070	142-151	11-12	71-85	73-80	206-223	196-225	392-454	0.29-0.57
GWa10	*	6.4-6.8	3260-3580	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWa11	*	7.4	2270-3760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWa12	*	6.8-7.2	1220-1840	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWa14	*	6.8-7.1	2860-3180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWa15	*	6.2-7.4	1580-3410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWc1	8.18-10.8	6.3-6.8	1200-1320	148-157	8.4-9.6	34-40	21-28	276-284	70-114	81-100	14-100
GWc2	0.00	6.8-7.2	1130-1300	168-182	23-24	19-21	41-46	89-92	482-530	<2	0.98-6.4
GWc3	0.84-3.12	6.5-7.3	3080-3410	514-547	37-39	95-101	98-108	418-440	525-630	570-819	0.3-1.2
GWc4	12.41-13.58	6.5-7.0	2250-2420	188-197	54-58	71-93	167-185	269-291	685-715	189-225	0.08-0.4
GWc5	4.84-5.4	6.7-7.0	4500-4980	663-706	51-52	177-233	172-303	454-482	1835-1890	376-430	0.09-0.33
GWc10	*	6.7-7.2	2360-2850	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWc11	*	6.1-6.5	1780-2410	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWc12	*	7.6-8.2	1480-1710	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWc14	*	6.7-6.8	2730-2830	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GWc15	*	6.4-6.6	2600-3080	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Ecowise (2010)

Notes:

N/A Monitoring of these parameters not required.

* Refer to Table C-4, Appendix C for water levels.

Carbonate recorded as $CaCO_3$

µS/cm = microsiemens per centimetre

mbgl = metres below ground level

Groundwater impact assessment triggers are included in the Groundwater Monitoring Programme (GMP). Monitoring results from bores in the alluvium (i.e. GWa1 to GWa15) during the reporting period indicate an exceedance of the relevant groundwater impact assessment criteria for EC (4,100 µS/cm) at GWa1 (12,730 µS/cm), GWa5 (14,870 µS/cm), GWa6 (7,950 µS/cm) and GWa7 (10,490 µS/cm). Following these exceedances, the groundwater impact investigation protocol was implemented.

Investigations involved consideration of previous monitoring results in conjunction with prevailing and preceding meteorological conditions. The investigations concluded the following:

- High EC values had been recorded for these locations in 2006; the EIS noted that a *highly saline groundwater seep (EC of 11,000 to 12,000 µS/cm) enters Cumbo Creek immediately east of Wilpinjong Road (GWa5)*; consistent with baseline and recent monitoring data suggest this is a naturally saline system.
- High EC values were also recorded during the 2007 reporting period for GWa5 and GWa6. During the 2008 reporting period high EC values were recorded at GWa1, GWa5, GWa6, GWa7 and GWa15.

Monitoring results from bores in both the alluvium and coal seams were generally within the relevant groundwater impact assessment criteria for pH (~0.5 above or below the baseline range).

A review of the SGWRP (Section 3.7.4) has been completed, including the groundwater impact assessment triggers in consideration of the above monitoring results for GWa1, GWa5, GWa6, GWa7 and GWa15. The reviewed plan is currently awaiting assessment from DoP.

A total of 642 ML was extracted from the Main Pit sump. A breakdown of water extraction volumes is provided in Appendix C. The groundwater extraction limits (as specified in the relevant water licence conditions [Section 1.2.1]) were not applicable, given that no water was extracted from the water supply bores during the reporting period. The bores were reviewed during the reporting period and assessed as being required. This was part of the revision of the SWB (Section 3.7.4).

Recorded groundwater levels are also provided in Appendix C. Recorded groundwater levels for the water supply bores did not drawdown below the reporting or cease-to-pump trigger levels as specified in the SGWRP during the reporting period.

3.7.3 Reportable Incidents

No environmental incidents or complaints were reported relating to groundwater management at the Mine during the reporting period.

3.7.4 Further Improvements

In response to the Audit recommendations, the SWMP (including the SGWRP and GMP) has been reviewed during this reporting period. Currently the documents are being assessed by DoP

3.8 BLASTING

3.8.1 Environmental Management

Effectiveness of the Control Strategies

Blast management and mitigation measures were undertaken in accordance with the BMP (approved by the Director-General of the DoP in May 2006).

In accordance with the MOP and the BMP, the control strategies implemented were considered adequate to manage blast related risks associated with operations during the reporting period. This is demonstrated by the environmental performance measures, as discussed in Section 3.5.2.

Condition 13, Schedule 3 of the Project Approval includes the following operating conditions:

During mining operations, the Proponent shall:

(a) implement best blasting practice to:

- *protect the safety of people and livestock in the area surrounding blasting operations;*
- *protect public or private infrastructure/property in the area surrounding blasting operations from blasting damage; and*
- *minimise the dust and fume emissions from blasting at the project;*

(b) limit temporary blasting related road closures to 1 per day; and

(c) co-ordinate timing of blasting on site with the timing of blasting at the adjoining Moolarben coal mine to minimise the potential cumulative blasting impacts of the two mines.

3.8.2 Environmental Performance

Monitoring

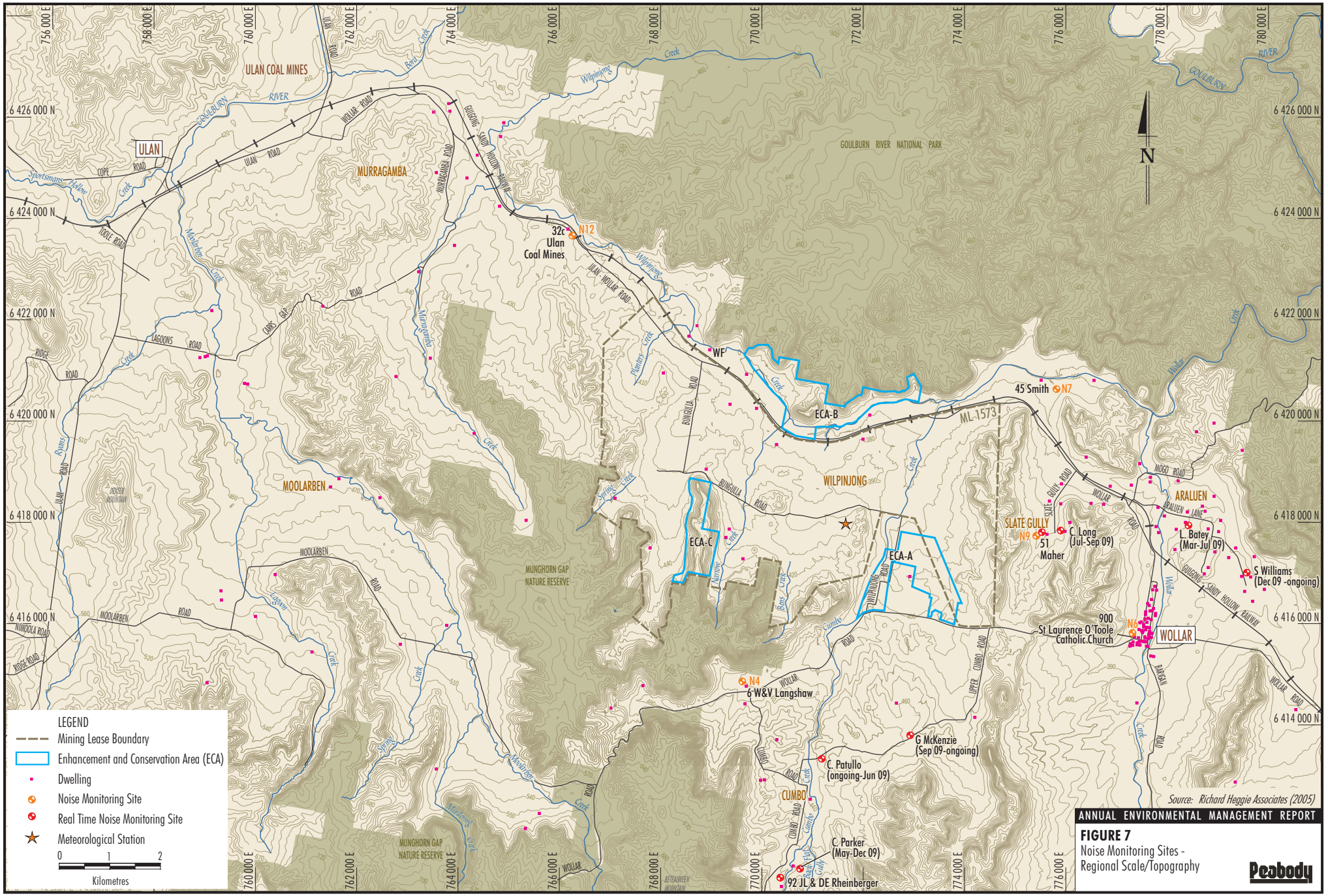
In accordance with Condition 15, Schedule 3 of the Project Approval, a Blasting Hotline continued to operate during the reporting period.

Table 20 outlines the blasting parameters, monitoring locations and frequency of monitoring recorded for the Mine in accordance with the BMP. Blast monitoring locations are shown on Figure 7.

Table 20
Summary of the Blasting and Vibration Monitoring Programme

Monitoring Parameter	Monitoring Sites[1]	Frequency
• Ground vibration.	• V1, V2 and V3 (Aboriginal rock art sites).	• Every blast within 1 km of sites.
	• Power poles. • Railway culverts. • Railway bridge.	• Every blast within 350 m of sites.
• Ground vibration and airblast overpressure.	• Private residences.	• All blasts within 3 km of residences.

[1] Monitoring locations are shown on Figure 7.



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Performance Outcomes

Condition 10, Schedule 3 of the Project Approval and Condition L7.1 of EPL 12425 stipulate ground vibration impact assessment criteria, which is provided in Table 21.

Table 21
Ground Vibration Impact Assessment Criteria

Peak Particle Velocity (mm/s)	Allowable Exceedance[1]
5	5% of the total number of blasts over a period of 12 months
10	0%

[1] Project Approval – Ground vibration levels from blasting at the Mine can not exceed the criteria at any residence on privately owned land.

EPL - The ground vibration peak particle velocity level from blasting operations in or on the premises can not exceed the criteria at any point within the grounds of noise and vibration sensitive locations and within 30 m of any residence or other noise sensitive location such as a school or hospital.

mm/s = millimetres per second

Condition 9, Schedule 3 of the Project Approval and Condition L7.2 of EPL 12425 also stipulate airblast overpressure impact assessment criteria, which is provided in Table 22.

Table 22
Airblast Overpressure Impact Assessment Criteria

Airblast Overpressure Level (dB[Lin Peak])	Allowable Exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

[1] Project Approval - Airblast overpressure level from blasting at the Mine can not exceed the criteria at any residence on privately owned land.

EPL - The airblast overpressure level from blasting operations in or on the premises can not exceed the criteria at any point within the grounds of noise and vibration sensitive locations and within 30 m of any residence or other noise sensitive location such as a school or hospital.

dB(Lin Peak) = decibel linear in peak

The BMP also specifies blast vibration criteria for the following locations:

- Gulgong – Sandy Hollow Railway Line – 100% compliance with a vibration peak particle velocity of 200 mm/s; and
- Culverts - 100% compliance with a vibration peak particle velocity of 80 mm/s.

During the reporting period, blast monitoring was undertaken at the locations listed below (Figure 7):

- Aboriginal rock art site (72) V1;
- Pit 1 main rail east culvert (R1);
- Pit 1 main rail west embankment (R2);
- concrete power pole and concrete railway antenna (R3);
- Pit 2 main rail east, main rail west and main rail culvert (R4); and
- rail loop (R5).

A summary of the blast monitoring results is provided in Table 23. Appendix D provides a complete set of blast monitoring results.

Table 23
Summary of Blast Monitoring Results

	Maximum instantaneous Charge (MIC)	Rock Art (Site 72)		Pit 2 Main Rail Culvert	Pit 2 Main Rail East	Pit 2 Main Rail West	Pit 1 Main Rail East Culvert	Pit 1 Main Rail West Embankment	Concrete Power Pole	Concrete Railway Antenna	Wilpinjong Rail Loop	Nearest privately owned residence - compliance monitoring	
		V1		R4			R1	R2	R3		R5		
		Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Overpressure (dB)
Maximum	2760	0.00	0.00	0.00	6.77	0.00	6.05	3.63	0.00	0.00	9.28	0.25	0.00
Minimum	40	0.00	0.00	0.00	3.78	0.00	6.05	0.80	0.00	0.00	0.47	0.13	0.00
Average	317	0.00	0.00	0.00	5.30	0.00	6.05	2.44	0.00	0.00	5.49	0.17	0.00

* Not detected, vibration below threshold of 0.1 mm/s.

\# Not detected, overpressure below threshold of 100 dB

No exceedances of the MIC, ground vibration or the airblast overpressure impact assessment criteria were recorded during the reporting period.

3.8.3 Reportable Incidents

No environmental incidents were reported relating to blasting at the Mine during the reporting period. Complaints regarding blasting noise received during the reporting period were responded to in accordance with the Mine Complaint Response Protocol (Section 4.1).

3.8.4 Further Improvements

In response to the Audit recommendations, the BMP was reviewed during the reporting period. The BMP is now being assessed by DoP. WCPL is committed to implementing best practice blast management practices and monitoring programmes in accordance with Condition 13, Schedule 3 and Appendix 8 of the Project Approval.

3.9 NOISE

3.9.1 Environmental Management

Effectiveness of the Control Strategies

Noise management and mitigation measures were undertaken in accordance with the NMP (approved by the Director-General of the DoP in October 2009). As outlined in the NMP, the Standard Protocol continued to be implemented to facilitate the day-to-day management of noise emissions from Mine activities.

As specified in the MOP and NMP, control strategies were implemented during the reporting period to minimise noise emissions from construction and operation of the Mine. For example, fixed plant and mobile equipment were maintained to remain below the specified maximum operating equivalent continuous noise level (L_{Aeq}) sound power levels.

Investigations were undertaken during previous reporting periods in regard to the potential for further noise attenuation at the Mine site. It was concluded however, that no further feasible or reasonable measures were currently available and efforts were therefore focused on managing noise impacts through operational modifications and refinement of monitoring and management procedures. During the reporting period a total of 2806 machine hours were lost as a results of noise management activities on site (figure 8)
The effectiveness of the control strategies implemented during the reporting period is demonstrated by the environmental performance measures discussed below.

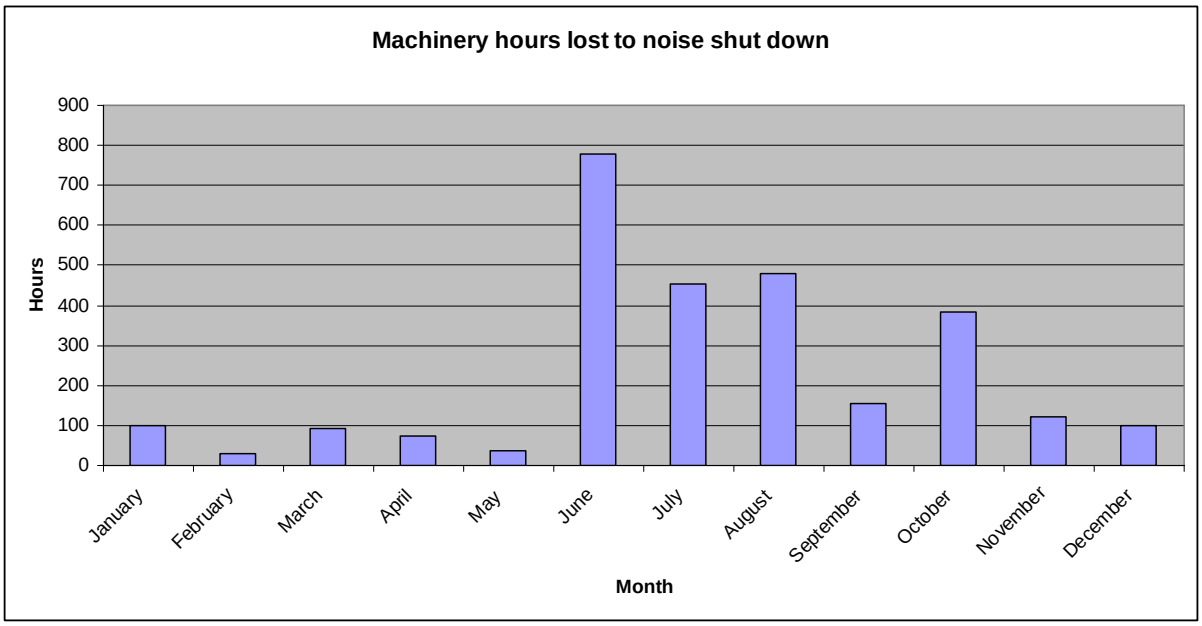


Figure 8 Machinery Hours lost to Noise Management.

3.9.2 Environmental Performance

Monitoring

Table 24 outlines the noise monitoring parameters, locations and frequency recorded for the Mine in accordance with the NMP. Noise monitoring locations are shown on Figure 7.

Table 24
Summary of the Noise Monitoring Programme

Monitoring Parameter	Monitoring Sites[1]	Frequency
• Attended and unattended noise monitoring.	• N4, N6, N7, N9 and N12.	• Quarterly for the first 12 months of the Mine then complaint-based thereafter.
• Real time monitoring.	• N9 and N15.	• Continuous.

[1] Monitoring locations are shown on Figure 7.

The remote continuous noise monitor has since been re-located from the Rhienberger (N15) (now mine owned) / Parker (88) (now mine owned) residence to the McKenzie (94) residence in response to ongoing consultation (regarding noise) with residences to the south of the Mine.

Performance Outcomes

Condition 2, Schedule 3 of the Project Approval stipulates the noise impact assessment criteria and is provided in Table 25.

Table 25
Noise Impact Assessment Criteria (dBA)

Day	Evening	Night		Land Number
$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1(1\ minute)}$	
35	35	40	45	4 - Robinson
35	38	39	45	60A - Reid
35	37	39	45	49 - Harkin
35	35	37	45	29 - Kattau
				59 – Langshaw
35	35	36	45	90 – Pattullo
35	39	39	45	51 – Bailey
				52A – Long
				52B – Long
				53 – Reynolds
				55 – Fox
				56 – Rogers
35	38	38	45	23A - Bloomfield
35	37	37	45	23B - Bloomfield
				31A - Conradt
35	36	36	45	31B - Conradt
36	35	35	45	Wollar - Residential
35	35	35	45	All other privately owned land
35	35	35	-	901 – Wollar School
40	40	40	-	150A – St Luke's Anglican Church
				900 – St Laurence O'Toole Catholic Church
50	50	50	-	Goulburn River National Park/Munghorn Gap Nature Reserve

Notes:

(a) Noise from the Mine is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 m of a dwelling (rural situations) where the dwelling is more than 30 m from the boundary, to determine compliance with the $L_{Aeq(15\ minute)}$ noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the Mine is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

(b) Noise from the Mine is to be measured at 1 m from the dwelling façade to determine compliance with the $L_{A1(1\ minute)}$ noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the Mine is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

(c) For the Goulburn River National Park/Munghorn Nature Reserve noise levels are to be assessed at the most affected point within 50 m of the Goulburn River National Park/Munghorn Nature Reserve. The limit applies when the area is in use.

(d) The noise emission limits identified in the above table apply under meteorological conditions of:

- wind speeds of up to 3 m/s at 10 m above ground level; or
- temperature inversion conditions of up to 3ºC/100 m, and wind speeds of up to 2 m/s at 10 m above ground level.

* Refer to Project Approval for complete table.

dBA = A-weighted decibels.

Attended Noise Monitoring

Attended noise monitoring was undertaken on a quarterly basis at five locations, including the Langshaw (6) dwelling (N4), St Laurence O'Tool Catholic Church (Wollar – Residential) (N6), Ulan-Wollar Road (East) (N7), Wollar Road (south of the mine) (N10) and Ulan-Wollar Road (west) (Ulan Coal Mines – N12). The 4th quarter attended noise monitoring was conducted under the revised and approved NMP and included monitoring at the Maher dwelling (Slate Gully Road – Wollar) (N9), which replaced the site Wollar Road (south of the mine) (N10).

Attended monitoring at these locations indicated that the mine "complied with noise consent limits at all monitoring locations" during the reporting period.

Unattended Noise Monitoring

Two remote continuous noise monitors were utilised throughout the reporting period. One of the stations was located to the east of the Mine at the Maher dwelling (N9) near Slate Gully Road. The other station was located to the south of the Mine at the Patullo dwelling (90), Parker dwelling (88) and McKenzie dwelling (94) (Figure 7).

The locations of the Maher (N9) and Pattullo (N11) noise monitors represent noise compliance points (i.e. land numbers) as provided in Condition 2, Schedule 3 of the Project Approval.

The continuous noise monitors were installed to continually record noise levels adjacent to the Mine. These monitors do not discriminate between Mine-related noise and other noise sources such as birds, dogs, road traffic, wind, rain, etc. As a result, the noise data is required to be analysed and filtered so that Mine-related noise can be separated and determined from other noise sources.

The continuous noise data is filtered and analysed on a quarterly basis. A summary of the results is provided below. In the revised NMP, real-time noise data has been utilized to develop data exclusion rules for noise investigation triggers, which are designed to exclude extraneous noise sources. The data exclusion rules are contained in the new revised NMP which can be viewed at **www.peabodyenergy.com.au/nsw/wilpinjong-documents.html**

$L_{Aeq(15\ minute)}$ Cumulative Noise Level Results

Monitoring data is compiled as statistical cumulative frequency distribution curves for the required monitoring locations and show cumulative noise levels for the day, evening and night periods and any percentage exceedances relative to the Project Approval criteria. It should be noted that analysis of cumulative distribution data does not identify the sources of noise, only when exceedances of specific noise levels have occurred. However, the assessed exceedance rate based on measures monitoring data that has been filtered for low frequency noise and to exclude data captured during periods of high winds (i.e. > 3 m/s) and rain.

$L_{Aeq(period)}$ Noise Level Results

$L_{Aeq(period)}$ monitoring data is compiled from the $L_{Aeq(15\ minute)}$ data as an average of noise level for each day, evening and night period and is used to assess the impact of mining operations on the amenity of the receiving noise environment. The $L_{Aeq(period)}$ noise descriptor does not, however, represent a Project Approval condition. However, $L_{Aeq(period)}$ 40 dBA is an indicative acceptable noise limit for a residence in a rural environment in accordance with the NSW Industrial Noise Policy (EPA, 2000). Monitoring results for the reporting period indicate that night-time cumulative $L_{Aeq(period)}$ noise levels were above 40 dBA on a number of occasions.

Review of the audio data indicated that meteorological conditions, livestock, barking dogs, and insects were the dominant noise sources at the Patullo (90), Maher (51) and Parker (88) dwellings for the January to September reporting period. The passage of trains along the Gulgong to Sandy Hollow railway were also identified as the dominant noise source at the Maher (51) dwelling during the reporting period.

$L_{A1(1\ minute)}$ Sleep Disturbance Results

Peak $L_{A1(1\ minute)}$ noise levels recorded at the Maher (51) dwelling indicated measured exceedances of the 45 dBA night-time criteria on several occasions during the reporting period. A review of audio data indicated that mining operations were not the dominant noise source during the exceedances of the sleep disturbance criteria during events recorded between January to September. Measured exceedances during the period where attributed to multiple sources including insect & animal noise, train activities and gusting winds.

Peak $L_{A1(1\ minute)}$ noise levels recorded at the Pattullo (90) dwelling indicated measured exceedances of the 45 dBA night-time criteria on a number of occasions during the period January to June. A review of audio data attributed the measured exceedances to multiple sources including insects, animal noise, plane noise and gusting wind. Mine noise significantly contributed to the noise levels experienced on the 24th January, 12th & 20th June, but was within compliance limits.

Peak $L_{A1(1\ minute)}$ noise levels recorded at the Parker (88) dwelling indicated measured exceedances of the 45 dBA night-time criteria on a number of occasions during the period July to September. A review of audio data attributed the measured exceedances to multiple sources including planes, birds and livestock.

3.9.3 Reportable Incidents

No environmental incidents were reported relating to noise at the Mine during the reporting period. Complaints regarding noise received during the reporting period were responded to in accordance with the Mine Complaint Response Protocol (Section 4.1).

3.9.4 Further Improvements

WCPL continues to engage with residents surrounding the Mine in regard to the communication of noise monitoring results and the investigation of preventative noise measures, noise attenuation and property acquisition (Section 4.1).

3.10 ABORIGINAL HERITAGE

3.10.1 Environmental Management and Performance

Aboriginal heritage management and mitigation measures were undertaken in accordance with the ACHMP (approved by the Director-General of the DoP in February 2006). Control measures for managing and monitoring Aboriginal heritage were implemented in accordance with the MOP and ACHMP during the reporting period and were considered to be effective.

In accordance with Conditions 46 to 48, Schedule 3 of the Project Approval, an archaeological salvage programme continued to be implemented during the reporting period. The Aboriginal community was involved in salvage works and which have completed the clearance of the Northern end of Pit 5. Test excavations have been conducted in the Southern End of Pit 5. A Keeping Place continues to be maintained on-site for the temporary storage of recovered materials prior to their re-placement on rehabilitated landforms and in the ECAs.

Test excavations where conducted on Winter Sun Hill to determine the origin of a number of stone arrangements, located during vegetation clearance. At the end of the reporting period the origin of the stone arrangements is still undetermined. The stone arrangements have been excavated and replaced in their original formation in the Mine administration garden, for the edification of mine personnel.

In accordance with the ACHMP and Native Title Agreement, the Native Title Implementation Committee and Cultural Heritage Liaison Sub-Committee met on three occasions during the reporting period (Section 4.2).

Monitoring and management of rock art sites occurred throughout the reporting period and included dust deposition and ground vibration monitoring in accordance with the AQMP, BMP and ACHMP (Sections 3.4, 3.8 and 3.10, respectively).

The Native Title Liaison Officer continued to facilitate the Cultural Heritage Employee and Contractor Training Programme and educate site personnel about cultural heritage management at the Mine.

In accordance with the Native Title Agreement, WCPL continued to offer employment and work skills training programmes, including the recruitment of an administrative trainee to assist the Native Title Liaison Officer (annual contract).

WCPL was recognised for its community cultural heritage achievements by becoming a finalist in the Indigenous Category of the 2009 Banksia Environmental Foundation Awards. WCPL was acknowledged for its successful partnership with the North East Wiradjuri under the Native Title agreement.

3.10.2 Reportable Incidents

No environmental incidents or complaints were reported regarding Aboriginal heritage during the reporting period.

3.10.3 Further Improvements

No further improvements to Aboriginal heritage management are proposed for the next reporting period.

3.11 NON-ABORIGINAL HERITAGE

No activities or monitoring relevant to non-Aboriginal heritage occurred during the reporting period.

3.12 SPONTANEOUS COMBUSTION

In accordance with Condition 4 of the MOP, a SCMP was prepared and approved by the DII on 20 July 2006, prior to coal extraction taking place. In accordance with Condition 22 (c), Schedule 3 of the Project Approval, the SCMP was also prepared to detail the management measures that WCPL and Thiess would incorporate to minimise the off-site odour and fume emissions generated by any spontaneous combustion at the Mine.

Management measures to reduce the risk of or manage spontaneous combustion events were implemented in accordance with the SCMP during the reporting period. Small isolated outbreaks of spontaneous combustion occurred during the reporting period. These were managed by smothering the area with inert overburden material to remove available oxygen, whilst outbreaks in coal stockpiles were processed through the CHPP.

Complaints regarding spontaneous combustion received during the reporting period were responded to in accordance with the Mine Complaint Response Protocol (Section 4.1).

Reporting of spontaneous combustion events has been included in the fortnightly environmental inspections and the daily OCE inspection reports.

There have been five environmental incidents reported as uncontrolled emissions into the atmosphere during the reporting period resulting from Spontaneous Combustion events.

3.13 THREATENED SPECIES

3.13.1 Environmental Management and Performance

Threatened species management and mitigation measures were undertaken in accordance with the RMP (approved by the DoP in February 2006).

Control measures for managing and monitoring threatened species were implemented in accordance with the MOP and RMP, and were considered to be effective during the reporting period. These included implementation of a Vegetation Clearance Protocol (VCP) and specific fauna management strategies.

The VCP included delineation of areas to be cleared of remnant vegetation, pre-clearance surveys, management of impacts on fauna, and vegetation clearance procedures. Habitat tree mapping and inspection of felled trees was undertaken in December 2009 prior to clearance activities in Pit 2. A total of 50 habitat trees were felled and inspected during this time. Management strategies were implemented to minimise impacts on fauna during the felling of habitat trees. All felled habitat trees were inspected for evidence of trapped or injured individuals, and any individuals located were either extracted from the hollows and taken into care with a wildlife rescue organisation, or released. No threatened fauna species were recovered from the felled habitat trees and therefore implementation of the Threatened Species Management Protocol (TSMP) was not required.

Other fauna management strategies included the identification and monitoring of wombat burrows, followed by trapping and relocation of individuals prior to vegetation clearance and land disturbance.

Offset Strategy

In accordance with the RMP, fencing maintenance was undertaken to maintain stock exclusion from the Environmental Conservation Areas (ECAs) during the reporting period.

Monitoring of the ECAs was also undertaken in September 2009 as part of an annual monitoring programme which commenced in 2007, designed to assess the degree and rate of rehabilitation in these areas. Monitoring was compared to the baseline data collected in the previous reporting period for a number of long term monitoring transects that have been established across the Mine site. The monitoring results indicated a marked variation in the status of the monitoring sites given the range of disturbance levels that has occurred at individual sites (i.e. from sites with undisturbed vegetation to other sites where pasture generation has been the dominant landuse and there is little or no generation of native species). It is anticipated that changes in the upper storey vegetation and groundcover across these areas will occur quite rapidly given stock exclusion, although damage caused by the invasion of rabbits & marsupials will continue to slow the re-establishment of perennial grasses and the successful rehabilitation of the ground layer.

3.13.2 Reportable Incidents

No environmental incidents or complaints were reported regarding threatened species management during the reporting period.

3.13.3 Further Improvements

No further improvements to threatened species management are proposed for the next reporting period.

3.14 WEEDS AND ANIMAL PESTS

3.14.1 Environmental Management and Performance

Weed and animal pest management and mitigation measures were undertaken in accordance with the MOP and RMP during the reporting period.

Weed Control

Ongoing monitoring and control of weeds on WCPL-owned land was undertaken as part of general land management practices, and included:

- ongoing surveys of WCPL-owned lands to identify areas requiring follow-up herbicide treatment or any new areas requiring treatment;
- follow-up herbicide treatment of noxious weeds such as Blackberry in ECAs; and
- limiting the potential for the establishment of new weeds on ECAs by minimising the transport of weed species to and from ECAs (e.g. limiting vehicle access and minimising stock access through fencing).

During the reporting period St Johns Wart was found to very vigorous and subsequently required more spraying that has been traditionally necessary to control its propagation. Additionally good progress was made controlling of Tree-of-Heaven and Blackberry.

Feral Animal Control

Feral animal control strategies undertaken included the use of poison baits to control populations of rabbits and foxes. Numbers of rabbits in particular over the past reporting period have increased and Wilpinjong has worked in conjunction with the Livestock, Health and Pest Authority (LHPA) to implement a baiting programme to curb these increasing numbers.

WCPL also provided financial assistance to the Wild Dog Destruction Board, whose role is to initiate actions aimed at the eradication of dingoes and wild dogs. Operational procedures included the maintenance of a clean rubbish-free environment to discourage scavenging and reduce the potential for colonisation of these areas by non-endemic fauna such as rodents and birds. Lids on waste and recyclables skips were also kept closed to prevent scattering of materials by vermin.

The above control strategies were considered adequate to manage weed and animal pest related risks associated with operations during the reporting period.

3.14.2 Reportable Incidents

No environmental incidents or complaints were reported relating to weed and animal pest control at the Mine during the reporting period.

3.14.3 Further Improvements

No further improvements to weed and animal pest management measures are proposed for the next reporting period. Feral animal control, particularly rabbits and foxes, will continue to be a priority given their effect on native species re-generation within the ECAs (Section 3.13.1).

3.15 ROAD TRANSPORT

3.15.1 Environmental Management and Performance

In accordance with the Statement of Commitments (Appendix 8) of the Project Approval, a number of improvements to the road network were commenced and/or completed during the reporting period, including:

- Completion of the upgrade of Ulan-Wollar Road between the Murragamba Creek and the Mine access road (top sealing of the road); and
- Payment of a road safety contribution of $20,000 to the MWRC to assist with the development of school bus lay-by areas along Ulan Road.

WCPL also encourages staff car pooling by offering financial incentives to Mine employees who engage in the car pooling programme. WCPL has also set advised speed limits of 80 kilometres per hour (km/h) on the Ulan-Wollar Road for all employees to help minimise local traffic impacts (the actual speed limit for this road is 100 km/h).

3.15.2 Reportable Incidents

No environmental incidents were reported relating to road transport at the Mine during the reporting period. One Environmental complaint was received by WCPL regarding the passage of B- double trucks on the Ulan – Wollar road. An investigation was undertaken and the truck in question conforms to the allowable standard of an A-double truck. WCPL is planning to install an additional diesel fuel tank onsite in the next reporting period. This will reduce the number of truck movements and the frequency the fuel truck will travel on the Ulan – Wollar Road.

3.15.3 Further Improvements

WCPL continued to make road maintenance contributions to the MWRC in accordance with Condition 3, Appendix 2 of the Project Approval. WCPL will continue to engage in consultation with Ulan Mines and Moolarben Mines in regard to reaching agreement on shift timing arrangements

COMMUNITY RELATIONS

3.16 ENVIRONMENTAL COMPLAINTS

A total of 134 environmental-related complaints were received by WCPL during the reporting period compared with the 103 received during the previous AEMR reporting period (figure 8). There were 23 complainants, with 4 complainants contributing 69.4% of all complaints. The majority were related to noise with dust, spontaneous combustion and blasting related complaints also received. The majority of complaints were received from the areas of Araluen Lane/Road, Wollar and the Cumbo Valley (figure 9). The Cumbo Valley acquisition strategy is now complete, which has seen a reduction in the number of complaints received from this area.

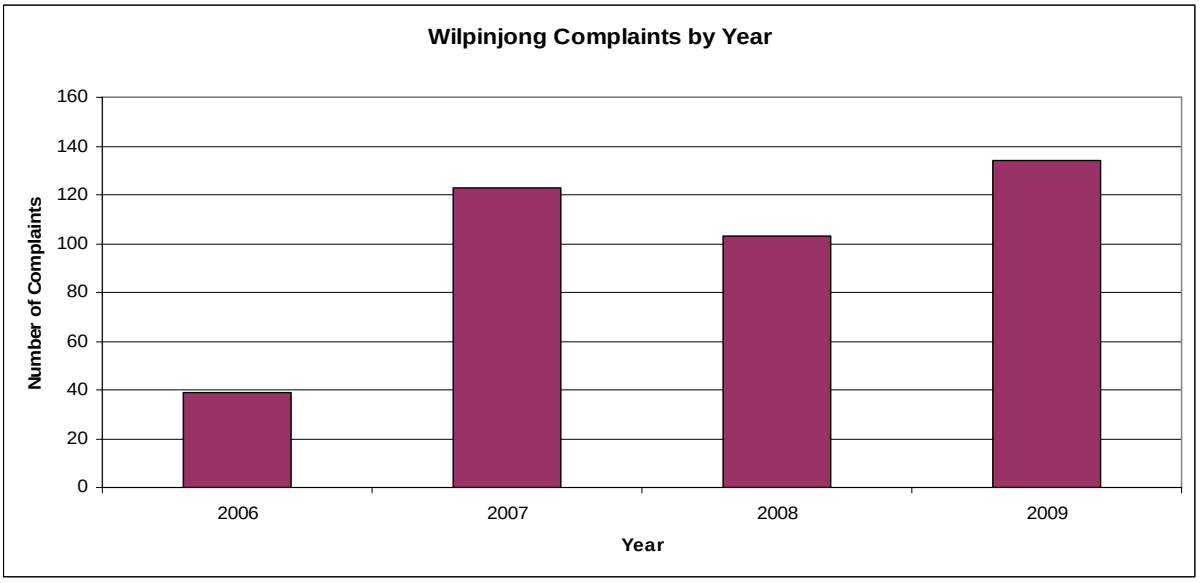


Figure 9 Environmental Complaints by Year of Operation

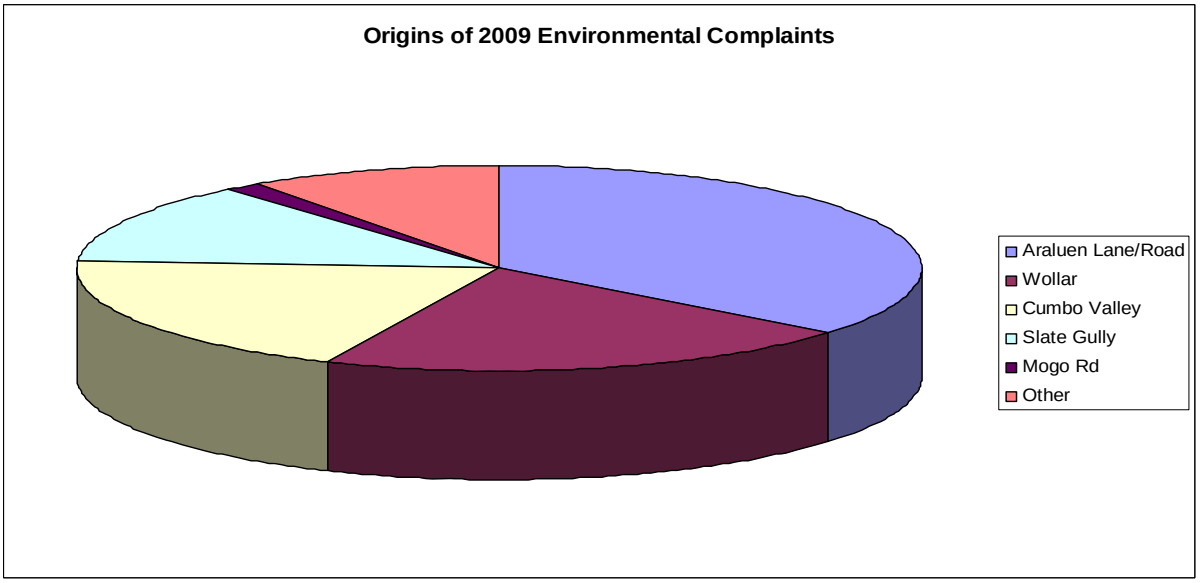


Figure 10 Origins of Environmental Complaints

Mine-related complaints are managed in accordance with the Mine Complaints Response Protocol as outlined in the Mine EMS.

A summary of the complaints register is provided in Appendix E.

3.17 COMMUNITY LIAISON

In accordance with Condition 10, Schedule 5 of the Project Approval, the CCC continued to meet during the reporting period. The Native Title Implementation Committee and the Cultural Heritage Liaison Sub-Committee also met during the reporting period. The chronology of community consultation meetings held during the reporting period is outlined in Table 26.

Table 26
Community Consultation Committee Meeting Summary

Date	Meeting Type
23 February 2009	Cultural Heritage Liaison Sub Committee, North Eastern Wiradjuri Wilpinjong Community Fund and Native Title Implementation Committee
23 February 2009	CCC – Community Consultative Committee Meeting
4 May 2009	CCC – Community Consultative Committee Meeting
19 May 2009	Native Title Implementation Committee and North Eastern Wiradjuri Wilpinjong Community Fund
18 August 2009	Cultural Heritage Liaison Sub Committee, North Eastern Wiradjuri Wilpinjong Community Fund and Native Title Implementation Committee
31 August 2009	CCC – Community Consultative Committee Meeting
16 November 2009	Cultural Heritage Liaison Sub Committee, North Eastern Wiradjuri Wilpinjong Community Fund and Native Title Implementation Committee
30 November 2009	CCC – Community Consultative Committee Meeting

As discussed in Section 3.10.1, WCPL was acknowledged for its community cultural heritage achievements by credited recognized as a finalist in the Indigenous Category of the 2009 Banksia Environmental Foundation Awards.

4 REHABILITATION

4.1 BUILDINGS

No buildings were removed during the reporting period.

4.2 REHABILITATION OF DISTURBED LAND

Twenty five hectares of spoil were rehabilitated in 2009 in the northern end of Pit 1. Rehabilitation activities included:

- re-shaping of mine spoil
- capping with 2 metres of inert material
- topsoil placement; and
- Contour ripping, seeding and fertilising.

A variety of locally occurring eucalypt species were seeded into the rehabilitation areas along with exotic pasture grasses. Progress of the rehabilitated area progressed well following reasonable rainfall after the completion of ripping and seeding.

4.3 OTHER INFRASTRUCTURE

No other infrastructure (e.g. fences, exploration pads or associated infrastructure) was rehabilitated during the reporting period.

4.4 REHABILITATION TRIALS AND RESEARCH

No trials were undertaken during the reporting period.

4.5 FURTHER DEVELOPMENT OF THE FINAL REHABILITATION PLAN

A review of the final landform design was completed during the reporting period, which includes a tailings management strategy. The design was based on current mine planning and will continue to be revised if necessary following future mine planning modifications. A detailed mining schedule has also been completed based on the current life-of-mine plan.

5 ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

A number of activities are proposed to be undertaken in the next AEMR period in accordance with the Project Approval and environmental management and monitoring programmes, including:

- implementation of the activities proposed in the response to the Audit report (Section 3);
- continuation of rehabilitation works in mined areas, primarily in Pit 1 (refer to Plan 3);
- continued weed and animal pest control across the WCPL owned land;
- continued stock exclusion in ECAs to promote regeneration and weed reduction;
- continued consultation with surrounding landholders;
- establishment of a third onsite diesel fuel tank; and
- Construction of bulk oil storage facility

PLANS

PLANS

In accordance with Section 4 of the Guidelines, a number of plans (including a proposed land preparation plan, proposed mining activities plan and proposed rehabilitation plan) are required to be prepared for the Annual Environmental Management Report. These plans are to show equivalent information to plans provided in the current Mining Operations Plan (MOP) (February 2007 to January 2012).

Proposed Land Preparation Plan

Plan 1 shows proposed land preparation areas (including topsoil stockpiles, out-of-pit dumps and disturbance areas) for the next reporting period.

Proposed Mining Activities Plan

Plan 2 shows proposed mining operations including the layout of the open cut pits, topsoil stockpiles water management structures, tailings emplacement and infrastructure areas and out-of-pit dumps.

Mining activities for the next reporting period have been addressed in the MOP. A summary of operations for the next reporting period is provided in Section 6 of this report.

Proposed Rehabilitation Plan

Rehabilitation activities proposed for the next reporting period are described in the MOP and shown on Plan 3.

N 6423000 E 767000 E 767500 E 768000 E 768500 E 769000 E 769500 E 770000 E 770500 E 771000 E 771500 E 772000 E 772500

N
W E
S

0 100 200 300 400 500metres

GOULBURN RIVER NATIONAL PARK

Parish of Wilpinjong

Parish

Cumbo

MUNGHORN GAP NATURE RESERVE

PIT 3 SECTION 1

PIT 3 SECTION 2

PIT 1 SECTION 1

PIT 2 SECTION 1

A A'

B B'

C C'

D D'

Access Road

OUT OF PIT DUMP

Tailings Emplacement Area

Future Tailings Emplacement Area

Rail Loop

Clean Water Dam

Open Cut Offices

WORKSHOP/ADMIN AREA

ROM PAD

Product Stockpiles

RECYCLED WATER DAM

CHPP

REJECTS BIN

LEGEND

- MLA 259 Boundary
- Proposed Extraction Approval Area
- Area to be disturbed
- Parish Boundary
- Existing native vegetation
- Existing Dam
- Water Course
- Topsoil Stockpiles
- Out Of Pit Dumps

Soils Sites & Types		Depths
● 44	Soil Observation Sites	
	Alluvial	30cm
	Yellow Podzolic	20cm
	Red Podzolic	15cm
	Earthy Sands	30cm
	Brown Earths	25cm
	Yellow Solodic	0cm
	Lithosols	0cm

100 200 300 400 500metres

I, ..., certify that the information on this plan is a true indication of the proposed development.

Manager Date

I, ..., certify that to the best of my knowledge and belief this plan conforms to the accuracy standards required by the Department of Mineral Resources, NSW.

Mine Surveyor Date

REV	DESCRIPTION	DATE
A	ISSUED FOR INFORMATION	08-2008

LEGEND:

Peabody WILPINJONG COAL

Thiess Pty Ltd

1: 7500

25/08/2008

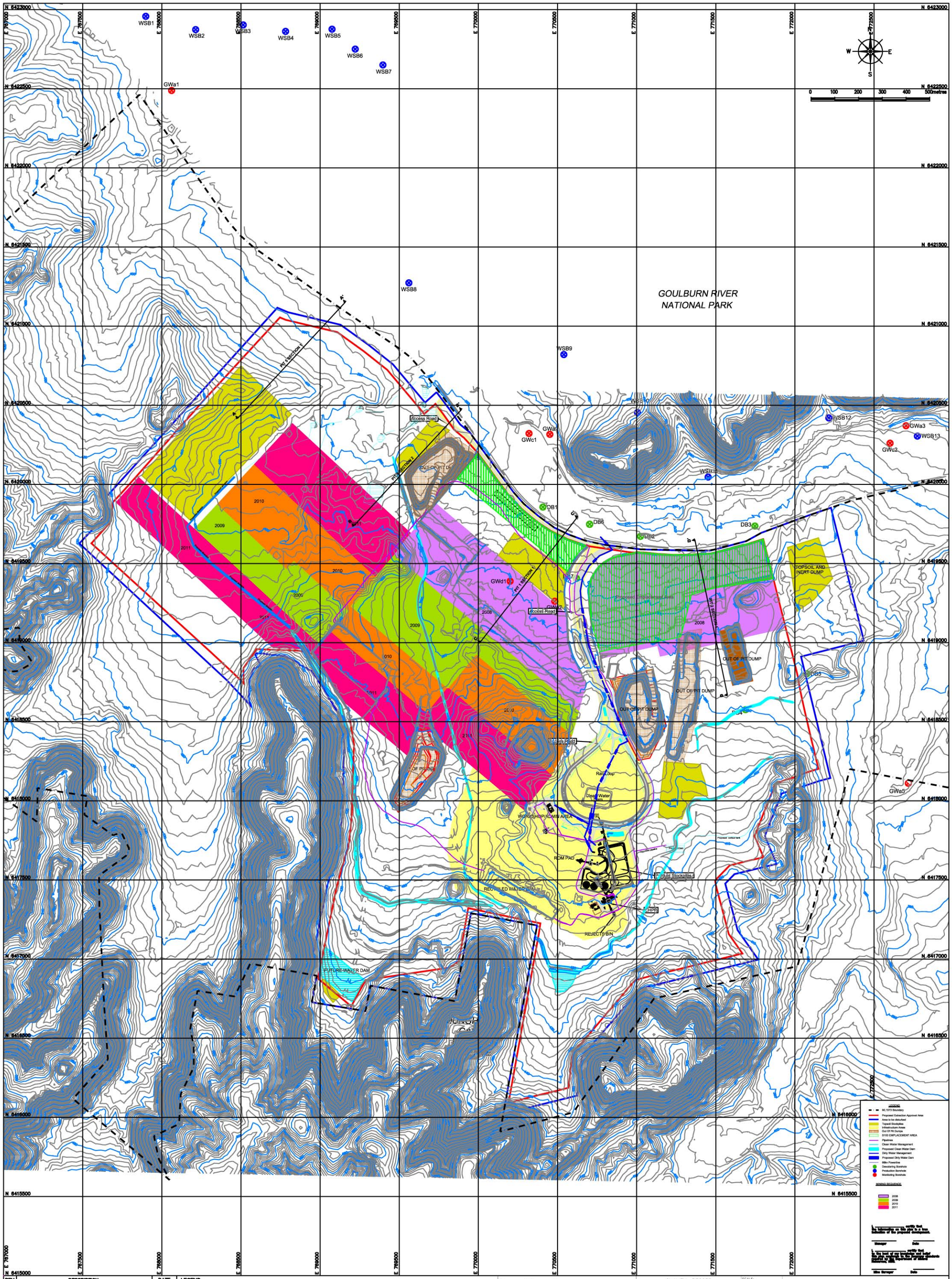
740820

740820-STAT-0017 740820-STAT-0017 SURVEY SERVICES

WILPINJONG COAL

PLAN 1: PROPOSED LAND PREPARATION

740820-STAT-0017 A



REV	DESCRIPTION	DATE
A	ISSUED FOR INFORMATION	11-2000

LEGEND:

Peabody
WILPINJONG COAL

Thiess Pty Ltd
THIESS WILPINJONG COAL PROJECT
LOCKED BAG 2000 MUDGEE NSW 2850
PHONE (02) 63 72 0438 FAX (02) 9218 9294

QUALITY RECORD

REVIEW	NAME	SIGNATURE	DATE
DRAWN	[redacted]		25/8/2008
DWG CHECKED			
DESIGNER			
DESIGN CHECKED			

PLOT FILE: 740820-STAT-0018
FILE REF: 740820-STAT-0018

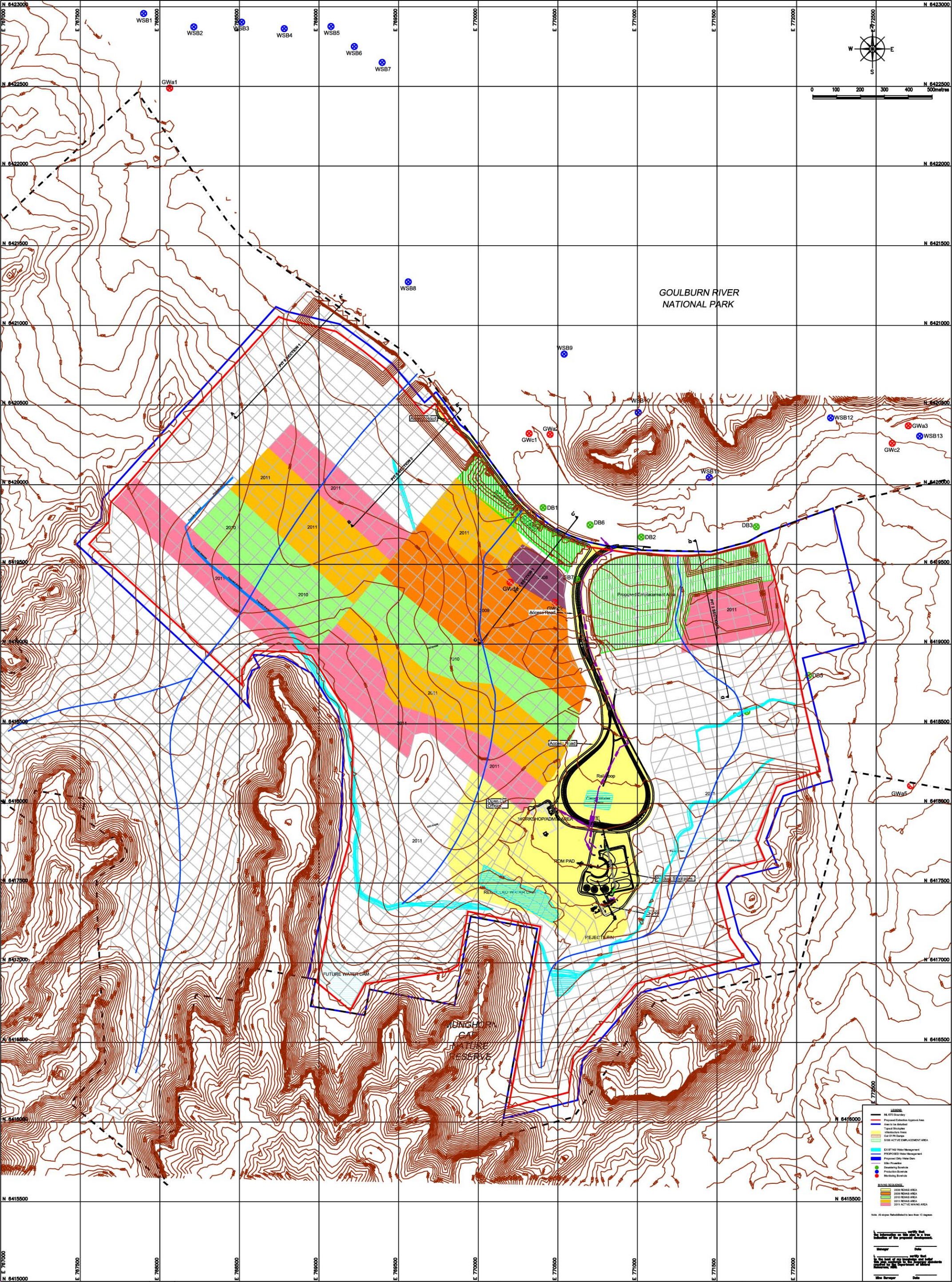
Completion of the Quality Record is evidence that the design and drawing have been verified conforming with the requirements of the Quality Plan. Where the Quality Record is incomplete all information on this drawing is intended for preliminary purposes only as it is unchecked

SCALE: 1:7500
JOB REF: 740820
FILE LOCATION: SURVEY

WILPINJONG COAL

PLAN 2: Proposed Mining Activities

DRAWING NO. 740820-STAT-0018
REV A



REV	DESCRIPTION	DATE
A	ISSUED FOR INFORMATION	08-2008

LEGEND:

Peabody
WILPINJONG COAL

Thiess Pty Ltd
THIESS WILPINJONG COAL PROJECT
LOCKED BAG 2000 MUDGEE NSW 2850
PHONE (02) 63 72 0438 FAX (02) 9218 9294

QUALITY RECORD

REVIEW	NAME	SIGNATURE	DATE
DRAWN	II		25/8/2008
DWG CHECKED			
DESIGNER			
DESIGN CHECKED			

PLOT FILE: 740820-STAT-0019
FILE REF: 740820-STAT-0019
FILE LOCATION: SURVEY SERVICES

Completion of the Quality Record is evidence that the design and drawing have been verified conforming with the requirements of the Quality Plan. Where the Quality Record is incomplete all information on this drawing is intended for preliminary purposes only as it is unchecked

SCALE: 1:7500
JOB REF: 740820

WILPINJONG COAL

PLAN 3 : Proposed Rehabilitation

DRAWING NO. 740820-STAT-0019
REV A

APPENDIX A

DUST DEPOSITION MONITORING RESULTS

(Source: Ecowise, 2010)

Table A-1
Dust Deposition Monitoring Results

Site: Mine-owned Dwelling (WA) (DG2)						Site: Mine-owned Dwelling (WC) (DG3)					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**	**Month (2009)**	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	<10	1.5	0.9	0.6	0.3	January	295	1.6	0.9	0.6	0.3
February	1520	3.2	1.6	1.3	0.3	February	1620	1.6	1.6	1.0	0.6
March	680	1.4	1.4	1.0	0.4	March	800	28.6	22.7	3.7	19.0
April	350	1.5	1.5	0.8	0.7	April	535	6.0	5.9	1.7	4.2
May	150	1.1	1	0.6	0.4	May	315	14.6	11.2	1.9	9.3
June	1000	0.8	0.7	0.3	0.4	June	1000	0.9	0.8	0.5	0.3
July	920	0.8	0.6	0.4	0.2	July	760	0.7	0.5	0.3	0.2
August	70	1.2	1.1	0.7	0.4	August	190	3.2	2.8	1.4	1.4
September	590	6.1	5.7	4.8	0.9	September	775	4.6	4.4	3.7	0.7
October	295	3.9	2.8	2.1	0.7	October	610	3.8	2.7	2.0	0.7
November	255	2.8	2	1.4	0.6	November	640	2.1	1.8	1.1	0.7
December	2000	3.3	1.9	1.3	0.6	December	2180	2.9	1.4	0.9	0.5
Site: Robinson Dwelling (DG4)						**Site: Wollar (DG5)**					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**	**Month (2009)**	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	135	1.8	1.1	0.6	0.5	January	185	6.3	4.9	1.3	3.6
February	1080		0.6	0.6	<0.1	February	1150	4.7	4.1	2.0	2.1
March	1170	0.9	0.9	0.9	<0.1	March	1140	1.4	1.3	0.9	0.4
April	430	3.1	3.1	1.0	2.1	April	425	0.9	0.9	0.6	0.3
May	240	0.7	0.7	0.5	0.2	May	235	2.5	1.9	0.8	1.1
June	960	1.7	0.9	0.5	0.4	June	670	0.6	0.5	0.3	0.2
July	880	0.8	0.4	0.4	<0.1	July	910	2.2	1.4	0.7	0.7
August	175	0.8	0.8	0.5	0.3	August	110	4.2	3.5	0.9	2.6
September	740	5.7	5.4	4.1	1.3	September	645	7.4	7.4	6.1	1.3
October	700	3.8	2.8	2.0	0.8	October	450	3.2	3	2.1	0.9
November	560	1.9	1.9	1.2	0.7	November	195	2.4	2.4	1.4	1.0
December	1680	10.8	9.2	3.4	5.8	December	1600	3.1	1.9	1.2	0.7

Table A-1 (Continued)
Dust Deposition Monitoring Results

Site: Ulan Coal Mines-owned Dwelling (DG8)						Site: Power Dwelling (DG9)					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**	**Month (2009)**	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	210	2.3	1.8	0.9	0.9	January	<10	2.0	1.5	0.6	0.9
February	1570	2.1	1.2	1.0	0.2	February	1800	3.3	1.8	1.5	0.3
March	1040	1.6	1.6	0.9	0.7	March	910	7.1	7.1	2.2	4.9
April	465	1.1	1.1	0.7	0.4	April	300	9.3	7.3	1.8	5.5
May	265	4.0	0.5	0.3	0.2	May	120	10.6	8	1.8	6.2
June	1120	0.5	0.4	0.3	0.1	June	1340	4.1	3.5	1.5	2.0
July	755	0.5	0.5	0.3	0.2	July	970	1.1	1.1	0.7	0.4
August	170	0.9	0.9	0.5	0.4	August	125	2.8	1.3	0.7	0.6
September	775	5.0	5	4.1	0.9	September	645	5.5	5.2	3.9	1.3
October	485	5.3	4.8	2.9	1.9	October	430	7.3	6.3	3.3	3.0
November	745	1.9	1.3	1.0	0.3	November	390	10.8	8	2.6	5.4
December	2280	9.1	7.2	1.9	5.3	December	1900	4.4	3.3	1.5	1.8
Site: Maher Dwelling (Slate Gully) (DG10)						**Site: Cumbo Land (DG11)**					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**	**Month (2009)**	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	<10	1.3	1.2	0.6	0.6	January	100	1.9	1.1	0.6	0.5
February	1090	2.3	1.6	1.0	0.6	February	1285	2.6	1.8	1.0	0.8
March	1080	11.6	9.7	2.4	7.3	March	940	5.8	5.8	3.4	2.4
April	500	4.2	0.9	0.5	0.4	April	570	4.5	0.9	0.7	0.2
May	275	0.7	0.7	0.4	0.3	May	340	1.1	0.9	0.5	0.4
June	780	0.7	0.4	0.3	0.1	June	880	0.8	0.4	0.2	0.2
July	840	0.9	0.9	0.5	0.4	July	765	0.7	0.6	0.3	0.3
August	170	2.8	2.3	1.0	1.3	August	180	1.1	1.1	0.6	0.5
September	655	7.3	7.1	6.0	1.1	September	650	5.8	5.5	4.7	0.8
October	640	2.7	2	1.7	0.3	October	710	3.3	2.5	1.7	0.8
November	600	6.7	5.4	1.6	3.8	November	770	5.3	4.6	2.1	2.5
December	1930	2.8	2.4	1	1.4	December	1860	4	2.3	1.3	1

Table A-1 (Continued)
Dust Deposition Monitoring Results

Site: Aboriginal Rock Art Site 72 (DG12)					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	105	2.6	1.5	0.8	0.7
February	1055	3.3	1.9	1.1	0.8
March	700	6.9	6.3	2.0	4.3
April	285	4.0	4	1.6	2.4
May	140	2.1	2.1	1.0	1.1
June	860	4.7	4.7	1.7	3.0
July	865	6.8	5.7	2.3	3.4
August	80	3.8	3.8	1.9	1.9
September	600	7.1	6.6	4.9	1.7
October	465	5.9	5.3	3.0	2.3
November	230	4.0	3.5	1.6	1.9
December	1710	3.4	2.3	1.3	1

Site: Aboriginal Rock Art Site 153 (DG13)					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	85	2.8	2.1	0.8	1.3
February	1980	3.7	2.2	1.2	1.0
March	970	6.5	5.8	1.5	4.3
April	365	2.9	2.9	1.2	1.7
May	160	1.1	1.1	0.6	0.5
June	1200	5.1	2.9	1.4	1.5
July	860	0.7	0.7	0.4	0.3
August	175	1.3	1.3	0.7	0.6
September	710	5.6	5.3	3.4	1.9
October	620	10.1	9.4	3.8	5.6
November	650	25.0	14.9	2.9	12.0
December	1910	11.4	7.6	2.2	5.4

Site: Aboriginal Rock Art Site 152 (DG14)					
Month (2009)	**Volume (ML)**	**Solids (g/m^2/month)**	**Insoluble Matter (g/m^2/month)**	**Ash (g/m^2/month)**	**Combustible Matter (g/m^2/month)**
January	110	1.4	0.9	0.5	0.4
February	1975	4.9	4.3	1.9	2.4
March	760	1.8	1.8	0.9	0.9
April	385	4.4	3.5	2.0	1.5
May	150	2.2	1.5	0.4	1.1
June	1200	1.4	0.7	0.4	0.3
July	900	0.6	0.5	0.3	0.2
August	205	1.9	1.1	0.6	0.5
September	680	3.9	3.9	3.4	0.5
October	580	4.9	4.6	2.9	1.7
November	660	15.9	10.8	1.9	8.9
December	1820	3.6	3.3	1.6	1.7

APPENDIX B

SURFACE WATER MONITORING RESULTS

(Source: Ecowise, 2010)

Table B-1
Surface Water Monitoring Results

Site: CC1					Site: CC2					Site: CC3				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**
January	Dry	Dry	Dry	Dry	January	Dry	Dry	Dry	Dry	January	Dry	Dry	Dry	Dry
February	1430	7.2	249	130	February	Dry	Dry	Dry	Dry	February	100	7.1	18	62
March	Dry	Dry	Dry	Dry	March	7500	7.3	4050	3	March	Dry	Dry	Dry	Dry
April	7200	8.0	2040	5	April	7640	7.6	3340	<2	April	Dry	Dry	Dry	Dry
May	Dry	Dry	Dry	Dry	May	6470	7.8	3185	<2	May	Dry	Dry	Dry	Dry
June	7580	7.8	3250	16	June	6540	7.9	3150	2	June	Dry	Dry	Dry	Dry
July	5740	7.8	1900	9	July	4700	7.8	1675	2	July	4420	8.0	1895	4
August	8240	8.0	2480	4	August	5840	7.8	2250	3	August	Dry	Dry	Dry	Dry
September	8990	7.9	2520	16	September	6460	7.7	2290	10	September	4850	8.1	2055	4
October	9870	7.8	4080	11	October	6290	8.0	2430	<2	October	Dry	Dry	Dry	Dry
November *	Dry	Dry	Dry	Dry	November *	7120	7.54	2340	0.81	November *	Dry	Dry	Dry	Dry
December *	Dry	Dry	Dry	Dry	December *	Dry	Dry	Dry	Dry	December *	Dry	Dry	Dry	Dry
Site: WIL (NC)					**Site: WIL (PC)**					**Site: WIL (U)**				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**
January	Dry	Dry	Dry	Dry	January	Dry	Dry	Dry	Dry	January	1800	7.6	47	5
February	Dry	Dry	Dry	Dry	February	12190	5.7	1760	47	February	Dry	Dry	Dry	Dry
March	Dry	Dry	Dry	Dry	March	Dry	Dry	Dry	Dry	March	Dry	Dry	Dry	Dry
April	Dry	Dry	Dry	Dry	April	Dry	Dry	Dry	Dry	April	Dry	Dry	Dry	Dry
May	Dry	Dry	Dry	Dry	May	2210	6.5	56	<2	May	Dry	Dry	Dry	Dry
June	Dry	Dry	Dry	Dry	June	7680	5.9	1100	9	June	1460	6.5	81	<2
July	Dry	Dry	Dry	Dry	July	410	6.5	38	108	July	1100	6.5	39	10
August	Dry	Dry	Dry	Dry	August	3900	6.9	265	6	August	1490	6.0	88	<2
September	Dry	Dry	Dry	Dry	September	6710	6.7	601	12	September	1470	6.4	101	39
October	Dry	Dry	Dry	Dry	October	9080	7.4	649	<2	October	1760	7.5	70	<2
November *	Dry	Dry	Dry	Dry	November *	Dry	Dry	Dry	Dry	November *	Dry	Dry	Dry	Dry
December *	Dry	Dry	Dry	Dry	December *	Dry	Dry	Dry	Dry	December *	Dry	Dry	Dry	Dry

Table B-1 (Continued)
Surface Water Monitoring Results

Site: WIL (D)					Site: WOL (1)					Site: WOL (2)				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**
January	3670	7.5	354	4	January	2280	8.0	425	<2	January	3120	7.3	454	6
February	4130	7.4	321	21	February	2700	7.8	593	39	February	3580	7.6	425	65
March	4070	7.4	349	4	March	3190	7.6	796	2	March	4460	7.4	730	47
April	3860	7.6	332	2	April	3010	8.1	582	<2	April	4390	7.4	601	26
May	3470	7.5	234	<2	May	2860	7.2	517	5	May	4330	7.5	560	5
June	3350	7.8	496	<2	June	2690	8.0	503	3	June	2170	7.8	486	3
July	3170	7.7	517	<2	July	2190	8.0	413	5	July	2090	7.8	429	5
August	3980	7.6	794	2	August	2320	8.0	14	<2	August	2050	7.8	422	<2
September	3580	7.7	721	6	September	2290	8.1	481	9	September	2420	7.8	1235	6
October	4330	7.7	852	<2	October	2800	8.2	560	17	October	2370	7.8	473	2
November *	4250	7.38	792	2.7	November *	3120	8.12	622	4.1	November *	3350	7.16	520	6.2
December *	4910	7.48	680	2.9	December *	Dry	Dry	Dry	Dry	December *	3890	7.51	121	7.1

Site: WIL (U2)#					Site: WIL (D2)#				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**TSS / Turbidity**
December *	3550	6.89	80	10	December *	7160	8.24	-	-

* In November monitoring of TSS changed to Turbidity due to a review of the SWMP

\# Sites WIL (U2) and WIL (D2) started monitoring in December 2009 due to a review of the SWMP

Table B-2
Surface Water Monitoring Data (On-site Water Storages)

Site: Raw Water Dam					Site: Recycled Water Dam					Site: Sediment Control Dam 1				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**
January	2740	8.3	1000	4.7	January	2560	8.3	887	3.1	January	Dry	Dry	Dry	Dry
February	2840	8.5	1040	7.2	February	2180	7.3	937	4.4	February	Dry	Dry	Dry	Dry
March	2920	8.0	1430	7	March	2640	8.0	915	26	March	Dry	Dry	Dry	Dry
April	2860	8.4	1250	1.9	April	2580	8.3	913	11	April	Dry	Dry	Dry	Dry
May	2950	8.0	1300	6.4	May	2670	8.2	924	2	May	Dry	Dry	Dry	Dry
June	3090	8.1	1170	7.4	June	2810	8.3	1010	43	June	3030	7.8	1060	6
July	3080	6.5	1210	7.4	July	2720	8.1	1010	5.4	July	2660	7.6	860	390
August	3220	8.2	1400	2.3	August	2980	8.1	1200	12	August	3230	8.7	1220	3.7
September	3220	8.1	1390	7.1	September	3000	8.1	1170	4.4	September	2740	8.0	1015	10
October	3300	8.2	1440	9.6	October	3040	8.2	1200	5.8	October	3280	8.2	1190	8.1
November	3480	8.11	1500	7.1	November	3230	8.25	1330	1.6	November	3440	8.16	1330	2
December	3610	8.06	1550	7.6	December	3330	8.32	1240	3.9	December	3560	8.08	1300	4.6
Site: Sediment Control Dam 2					**Site: Sediment Control Dam 3**					**Site: Sediment Control Dam 4**				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**
January	3220	7.7	1290	7.8	January	3480	6.6	1180	18	January	290	7.4	53	22
February	1900	8.0	663	12	February	3270	7.3	1210	41	February	210	7.8	52	140
March	2380	7.9	982	47	March	3550	6.9	1220	18	March	200	7.3	58	410
April	2870	8.7	1160	2.9	April	3430	7.5	1230	19	April	220	7.9	67	130
May	3320	8.0	1310	13	May	3530	6.9	1180	64	May	240	7.6	62	86
June	3260	7.7	1240	10	June	3590	7.3	1250	60	June	240	8.0	73	51
July	2510	7.7	918	110	July	1250	4.8	378	2700	July	270	7.0	97	96
August	3410	8.2	1450	12	August	3700	7.5	1280	74	August	200	6.3	73	110
September	2440	8.1	1035	11	September	3690	7.3	1305	51	September	220	6.8	85	180
October	3430	8.4	1460	5.2	October	3760	7.4	1330	37	October	280	7.7	85	61
November	3610	8.1	1460	6.2	November	3930	7.55	1400	49	November	360	7.4	126	28
December	4240	7.81	1590	21	December	3980	7.73	1270	13	December	600	7.2	198	67

Table B-2 (Continued)
Surface Water Monitoring Data (On-site Water Storages)

Site: Sediment Control Dam 5					Site: Sediment Control Dam 6					Site: Sediment Control Dam 7				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**
January	4970	7.2		2.4	January	3100	8.2	1040	6.7	January	220	7.6	33	1500
February	3780	7.8	974	1.7	February	1930	7.6	573	12	February	110	7.0	28	1000
March	3090	7.9	679	2	March	1460	7.2	469	27	March	500	7.5	134	1500
April	4430	8.0	1190	1.5	April	2540	8.1	774	6.1	April	1820	8.1	505	3.4
May	4030	7.1	983	1.6	May	3300	8.3	1090	5	May	3060	8.3	1090	4.3
June	3130	7.8	1250	3.9	June	3290	84.0	1110	2.7	June	1990	7.7	941	3
July	2080	6.9	408	680	July	3070	8.2	1050	10	July	2050	8.0	754	68
August	4000	7.1	1010	1.8	August	3310	8.4	1080	2.8	August	3410	8.1	1380	4.7
September	3850	7.1	1040	5.8	September	2190	7.9	691	6.8	September	710	7.3	149	660
October	4040	7.1	1080	1.9	October	3360	8.5	1170	16	October	3060	8.3	1285	13
November	4090	7.06	1090	5.7	November	3170	8.25	1090	3.8	November #	-	-	-	-
December	4270	7.18	990	1.1	December	3910	8.27	1450	8	December #	-	-	-	-
Site: Sediment Control Dam 8					**Site: Sediment Control Dam 9**					**Site: Pit 1**				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**
January	3620	7.8	960	12	January	1200	8.1	289	11	January	3860	7.7	2240	9.1
February	3070	8.0	886	32	February	1290	7.8	354	28	February	3960	6.7	2030	17
March	3360	8.4	997	9.2	March	1230	8.0	362	8.5	March	4060	9.5	2460	8.9
April	3130	8.0	976	3.9	April	1270	8.2	345	4.1	April	2910	6.6	1250	140
May	3210	8.1	927	2.6	May	1330	8.1	361	7.2	May	3430	7.5	1590	14
June	3320	7.9	1270	1.9	June	1370	8.3	377	4.8	June	3790	7.8	1630	2800
July	2080	8.0	650	190	July	1360	7.8	382	22	July	1860	5.6	1190	850000
August	3450	8.0	1040	3	August	1380	8.1	341	3.5	August	3370	4.3	1480	98000
September	3110	7.9	984	5.3	September	1410	8.2	437	4.1	September	3670	8.0	1680	580
October	3440	8.0	1215	12	October	1600	8.3	452	4.8	October	3850	6.1	1880	34000
November	3610	7.58	1280	7.8	November	1790	8.27	485	5.3	November *	Dry	Dry	Dry	Dry
December	3960	7.71	1250	8.8	December	1980	8.68	540	2	December *	Dry	Dry	Dry	Dry

Table B-2 (Continued)
Surface Water Monitoring Data (On-site Water Storages)

Site: Pit 2					Site: Ed's Lake				
Month (2009)	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**	**Month (2009)**	**EC µS/cm**	**pH (Unit)**	**SO_4 (mg/L)**	**Turbidity (NTU)**
January					January				
February					February				
March					March				
April					April				
May	3090	7.5	1260	76	May				
June	3110	7.5	1530	26	June				
July	3210	7.5	1260	14	July				
August	3240	7.7	1390	27	August	3260	7.6	1170	4
September	3230	7.6	1395	6.9	September	2860	7.3	1020	16
October	3300	7.7	1405	19	October	3380	7.7	1510	57
November	3540	7.87	1490	18	November	3400	7.94	1400	2.2
December	3620	7.88	1440	29	December	3510	7.55	1170	4.3

Sediment Control Dam & was removed in late October 2009 due to mining operations.

* During October pumping had ceased and had dried by November, monitoring will discontinue in Pit 1 in 2010

APPENDIX C

GROUNDWATER MONITORING RESULTS

(Source: Ecowise, 2010)

Table C-1
Groundwater Monitoring Data – Field pH, Electrical Conductivity and Water Level

pH

Month (2009)	GWa1	GWa2	GWa3	GWa4	GWa5	GWa6	GWa7	GWa8	GWa10	GWa11	GWa12	GWa14	GWa15	GWc1	GWc2	GWc3	GWc4	GWc5	GWc10	GWc11	GWc12	GWc14	GWc15
January	7.1	7.0	6.6	6.9	6.8	7.2	6.8	7.2	6.8	7.4	7.2	6.8	7.3	6.6	7.1	6.6	6.7	6.9	7.0	6.1	7.9	6.7	6.6
February	7.2	7.0	6.6	6.8	6.5	7.2	6.7	7.0	6.6	Dry	7.2	6.8	7.4	6.6	7.0	6.6	6.8	6.8	6.9	6.1	8.0	6.8	6.5
March	7.2	6.9	6.5	6.8	6.9	7.4	6.7	7.0	6.7	Dry	7.0	6.8	7.1	6.6	7.0	6.5	6.8	6.9	7.0	6.1	8.0	6.7	6.4
April	7.0	6.9	6.9	6.8	6.5	7.2	6.6	7.0	6.8	Dry	6.8	6.9	6.8	6.8	7.0	6.5	6.9	6.8	7.0	6.4	7.9	6.8	6.4
May	7.0	6.9	6.5	6.8	6.5	7.2	6.6	7.0	6.5	Dry	7.0	6.9	6.5	6.6	6.9	6.7	6.9	6.8	6.7	6.1	7.8	6.7	6.4
June	Dry	7.1	6.8	6.8	6.8	7.5	6.8	7.2	6.7	Dry	7.0	7.0	6.6	6.8	7.2	7.0	7.0	7.0	7.0	6.1	7.8	6.7	6.5
July	7.2	6.6	6.3	6.8	6.8	7.2	6.8	7.0	6.4	Dry	6.9	6.9	6.7	6.3	6.8	6.9	6.8	6.8	6.9	6.2	7.6	6.7	6.4
August	7.2	7.1	6.7	6.8	7.0	7.7	7.0	7.1	6.8	7.4	7.1	7.1	6.8	6.7	7.2	7.2	6.7	6.9	7.2	6.2	7.9	6.7	6.5
September	7.2	6.8	6.7	6.7	7.0	7.5	6.9	6.8	6.8	Dry	7.1	7.1	6.2	6.5	7.1	7.1	6.6	6.8	7.1	6.3	7.9	6.7	6.6
October	7.0	6.9	6.6	6.7	7.0	7.5	6.8	6.9	6.7	Dry	7.1	7.1	6.8	6.6	7.1	7.1	6.6	7.0	7.0	6.3	7.9	6.7	6.6
November	$$$	6.9	6.5	6.6	6.9	7.4	6.7	6.9	6.6	Dry	7.0	7.1	6.4	6.5	7.0	7.2	6.6	6.7	6.9	6.3	8.1	6.7	6.4
December	Dry	6.9	6.6	6.1	6.5	7.3	6.7	6.9	6.7	Dry	7.1	6.9	6.5	6.5	7.0	7.3	6.5	6.7	7.0	6.5	8.2	6.7	6.6

EC

Month (2009)	GWa1	GWa2	GWa3	GWa4	GWa5	GWa6	GWa7	GWa8	GWa10	GWa11	GWa12	GWa14	GWa15	GWc1	GWc2	GWc3	GWc4	GWc5	GWc10	GWc11	GWc12	GWc14	GWc15
January	3560	3170	2050	2090	13480	7950	10130	1280	3260	2270	1220	2890	2480	1260	1150	3080	2340	4730	2360	1780	1480	2740	2600
February	1020	3230	2000	2520	10910	6300	10040	1750	3330	Dry	1350	2960	2730	1250	1130	3120	2290	4730	2580	2000	1630	2800	2710
March	9890	2520	1980	2350	10040	4300	9970	1680	3320	Dry	1410	2990	1580	1280	1140	3180	2250	4660	2580	2080	1570	2790	2720
April	10760	2230	1940	2560	9240	6150	10000	1700	3390	Dry	1530	3180	2440	1210	1150	3330	2370	4730	2680	2180	1570	2780	2770
May	11130	2120	1870	2640	8870	5030	9800	1700	3340	Dry	1540	3210	2970	1200	1150	3250	2310	4660	2520	2130	1560	2730	2730
June	Dry	1760	1830	2460	9370	4100	9880	1650	3380	Dry	1620	3010	3320	1210	1160	3280	2330	4500	2510	2140	1550	2770	2780
July	11900	1750	1810	2490	11240	5150	9880	1710	3410	Dry	1730	2860	3180	1260	1170	3330	2340	4720	2570	2240	1590	2810	2790
August	12560	1860	1840	2510	14870	5610	10180	1840	3500	3760	1770	2860	3350	1320	1190	3370	2310	4550	2550	2240	1620	2810	2800
September	12520	1840	1920	2460	14870	5610	10110	1850	3520	Dry	1790	2910	3410	1270	1190	3340	2380	4780	2730	2310	1650	2830	2850
October	12540	1920	1970	2410	13980	5290	9910	1890	3560	Dry	1800	2880	3390	1230	1220	3280	2350	4730	2790	2290	1630	2790	2760
November	12730	1940	1920	2520	14440	5380	10490	2070	3580	Dry	1830	2790	3080	1280	1300	3410	2420	4980	2850	2320	1710	2820	3080
December	Dry	1960	1850	2580	12220	6370	10260	990	3580	Dry	1840	3050	3080	1300	1290	3310	2370	4940	2850	2410	1660	2740	3000

Water level (metres below ground level [mbgl])

Month (2009)	GWa1	GWa2	GWa3	GWa4	GWa5	GWa6	GWa7	GWa8	GWa10	GWa11	GWa12	GWa14	GWa15	GWc1	GWc2	GWc3	GWc4	GWc5	GWc10	GWc11	GWc12	GWc14	GWc15
January	3.01	0.96	2.86	2.08	0.98	0.66	3.48	1.16	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.97	0	0.84	12.41	5.5	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
February	3.31	1.56	3.19	2.28	1.07	1.18	3.81	1.1	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.38	0	3.12	12.45	5.16	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
March	3.44	1.7	3.26	2.39	1.09	1.35	3.93	1.68	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.08	0	1.2	12.53	5.21	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
April	3.2	1.93	3.31	2.48	1.07	1.45	4.04	1.41	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	10.1	0	1.23	12.54	4.87	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
May	3.52	2.03	3.32	2.54	0.92	1.5	4.13	1.34	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	10.3	0	1.26	12.54	4.84	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
June	4.36	2.15	3.36	2.5	0.91	1.4	4.17	1.18	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	10.8	0	1.47	12.58	5.31	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
July	3.31	2.17	3.35	2.51	0.98	1.29	4.15	1.13	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	10.73	0	1.58	12.59	5.16	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
August	3.76	2.14	3.37	2.51	0.85	1.03	4.11	1.09	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.72	0	1.54	12.54	5.11	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
September	3.89	2.15	3.38	2.52	0.77	0.97	4.14	1.05	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.19	0	1.58	12.53	4.98	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
October	3.95	2.14	3.41	2.54	0.83	1.11	4.13	1.15	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	8.18	0	1.65	12.57	5.15	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
November	4.01	2.206	3.47	2.6	0.93	1.24	4.155	1.24	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	8.67	0	1.78	12.665	5.09	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4
December	4.05	2.34	3.52	2.745	1.575	2.39	4.07	1.605	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	9.57	0	2.76	13.58	5.4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4	Refer Table C-4

Notes:
- Monitoring data not available

Table C-2
Groundwater Monitoring Data

Bore No.	Parameter							
	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Alkalinity (Bicarbonate mg CaCO3/L)	Sulphate (mg/L)	Sodium (mg/L)	Iron (mg/L)
11-March-09								
GWa1	29	260	264	2460	1680	379	1730	6.6
GWa2	26	57	73	383	630	199	442	0.1
GWa3	15	69	71	276	495	208	298	1.4
GWa4	27	101	144	425	540	314	249	3.3
GWa5	37	521	622	1790	442	4210	1180	2.2
GWa6	26	182	147	851	685	1380	820	4.7
GWa7	35	528	501	1880	1070	3070	1280	15
GWa8	11	76	73	206	196	393	142	0.57
GWc1	9.6	40	28	284	114	81	148	25
GWc2	24	19	46	92	530	<2	168	0.98
GWc3	39	101	108	418	625	819	514	1.2
GWc4	58	74	170	269	685	192	188	0.3
GWc5	52	186	303	454	1890	430	663	0.12

Bore No.	Parameter							
	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Alkalinity (Bicarbonate mg CaCO3/L)	Sulphate (mg/L)	Sodium (mg/L)	Iron (mg/L)
19-Jun-09								
GWa1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
GWa2	10	46	49	376	196	70	234	1.8
GWa3	15	59	77	234	460	171	235	4.9
GWa4	27	89	150	411	540	261	254	2.6
GWa5	32	490	640	1680	495	4090	1220	0.35
GWa6	25	202	165	993	715	1340	939	1.2
GWa7	36	510	528	1860	1100	3360	1410	14
GWa8	11	71	73	213	205	392	150	0.29
GWc1	9.5	34	26	284	85	82	157	100
GWc2	24	19	46	92	482	<2	182	6.4
GWc3	38	95	104	440	630	599	547	0.3
GWc4	58	71	167	291	715	189	196	0.08
GWc5	52	177	172	482	1835	422	706	0.09

Bore No.	Parameter							
	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Alkalinity (Bicarbonate mg CaCO3/L)	Sulphate (mg/L)	Sodium (mg/L)	Iron (mg/L)
07-Sep-09								
GWa1	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
GWa2	11	46	37	376	235	80	263	0.16
GWa3	12	61	67	230	500	176	246	5.8
GWa4	24	85	124	369	490	266	242	3.8
GWa5	39	1030	762	3030	675	5240	1880	0.51
GWa6	20	185	128	815	650	1340	964	4.9
GWa7	32	533	481	1840	1040	2740	1360	39
GWa8	12	85	80	223	225	454	151	0.3
GWc1	8.4	35	21	276	70	100	157	14
GWc2	23	21	41	89	500	<2	178	2.4
GWc3	37	100	98	440	525	570	542	0.45
GWc4	54	93	185	276	695	225	197	0.4
GWc5	51	233	293	461	1880	376	696	0.33

Notes:

- Monitoring data not available

There is no December data as a review of the SWMP in October found that the detailed analysis was to be conducted every six months so March and September each year will be the designated months for the detailed analysis of the groundwater samples.

Table C-3
Groundwater Extraction (ML)

Extraction from Bore / Dewatering (ML)						
Month	**GWS10**	**GWS11**	**GWS12**	**GWS14**	**GWS15**	**Main Pit Sump**
January	0	0	0	0	0	136
February	0	0	0	0	0	122
March	0	0	0	0	0	67
April	0	0	0	0	0	14
May	0	0	0	0	0	24
June	0	0	0	0	0	14
July	0	0	0	0	0	59
August	0	0	0	0	0	9
September	0	0	0	0	0	20
October	0	0	0	0	0	60
November	0	0	0	0	0	13
December	0	0	0	0	0	104
					Total	642

Table C-4
Alluvial and Coal Measure Aquifer Groundwater Level Monitoring Summary*

Bore Description	**Monitoring Bore**	**Recorded Groundwater Level (range) (m AHD)***	**Trigger Levels[1]**		**Interpretation**
			Reporting (m AHD)	**Cease-to-Pump (m AHD)**	
WSB10	GWa10	367.05 - 369.042	N/A	N/A	-
	GWc10	360.56 - 362.554	351.5	346	Recorded groundwater levels did not drawdown below the reporting or cease-to-pump trigger levels.
WSB11	GWa11	365.142 - 366.176	N/A	N/A	-
	GWc11	358.993 - 361.983	353	348.5	Recorded groundwater levels did not drawdown below the reporting or cease-to-pump trigger levels.
WSB12	GWa12	362.527 - 364.13	N/A	N/A	-
	GWc12	365.696 - 366.774	338	332.5	Recorded groundwater levels did not drawdown below the reporting or cease-to-pump trigger levels.
WSB14	GWa14	360.243 - 361.001	N/A	N/A	-
	GWc14^	366.086 - 366.496	328	319.5	Recorded groundwater levels did not drawdown below the reporting or cease-to-pump trigger levels.
WSB15	GWa15	355.439 – 355.651	N/A	N/A	-
	GWc15^	366.49 - 366.778	324	314.5	Recorded groundwater levels did not drawdown below the reporting or cease-to-pump trigger levels.

* Monitoring results available up to 16 November 2009. Remaining water level logger data to be available in early 2010.

[1] Triggers as stipulated in the Surface and Groundwater Response Plan (WCPL, 2006).

^ These bores were capped in 2007 but were still monitored for groundwater quality during the reporting period.

APPENDIX D

BLAST MONITORING RESULTS

Table D-1
Summary of Blast Monitoring Results

Date	Maximum instantaneous Charge (MIC)	Rock Art (Site 72)		Pit 2 Main Rail Culvert	Pit 2 Main Rail East	Pit 2 Main Rail West	Pit 1 Main Rail East Culvert	Pit 1 Main Rail West Embankment	Concrete Power Pole	Concrete Railway Antenna	Wilpinjong Rail Loop	Nearest privately owned residence - compliance monitoring	
		V1		R4			R1	R2	R3		R5		
		Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Overpressure (dB)
6-Jan-09	165	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9-Jan-09	252 & 1345	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.74	N/A	N/A
14-Jan-09	118	N/A	N/A	N/A	N/A	N/A	N/A	1.77	N/A	N/A	N/A	N/A	N/A
16-Jan-09	94	N/A	N/A	N/A	N/A	N/A	N/A	2.13	N/A	N/A	N/A	N/A	N/A
19-Jan-09	759	N/A	N/A	N/A	N/A	N/A	N/A	0.8	N/A	N/A	N/A	N/A	N/A
21-Jan-09	134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.17	N/A	N/A
23-Jan-09	134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.91	N/A	N/A
29-Jan-09	244	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Feb-09	1520 & 139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.28	N/A	N/A
4-Feb-09	247	N/A	N/A	N/A	N/A	N/A	N/A	3.03	N/A	N/A	N/A	N/A	N/A
10-Feb-09	547	N/A	N/A	N/A	N/A	N/A	N/A	3.63	N/A	N/A	N/A	N/A	N/A
13-Feb-09	403	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17-Feb-09	126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20-Feb-09	236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.92	N/A	N/A
25-Feb-09	141	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27-Feb-09	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Mar-09	129	N/A	N/A	N/A	N/A	N/A	N/A	3.27	N/A	N/A	N/A	N/A	N/A
5-Mar-09	159	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18-Mar-09	398	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20-Mar-09	141	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24-Mar-09	131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27-Mar-09	185	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30-Mar-09	640	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Apr-09	351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7-Apr-09	106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8-Apr-09	135	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16-Apr-09	129	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22-Apr-09	270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24-Apr-09	114	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table D-1 (Continued)
Summary of Blast Monitoring Results

Date	Maximum instantaneous Charge (MIC)	Rock Art (Site 72)		Pit 2 Main Rail Culvert	Pit 2 Main Rail East	Pit 2 Main Rail West	Pit 1 Main Rail East Culvert	Pit 1 Main Rail West Embankment	Concrete Power Pole	Concrete Railway Antenna	Wilpinjong Rail Loop	Nearest privately owned residence - compliance monitoring	
		V1		R4			R1	R2	R3		R5		
		Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Overpressure (dB)
28-Apr-09	126	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30-Apr-09	275	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.87	N/A	N/A
4-May-09	101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.8	N/A	N/A
6-May-09	192	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.47	N/A	N/A
12-May-09	192	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13-May-09	149	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15-May-09	401	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19-May-09	159	N/A	N/A	N/A	5.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26-May-09	387	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29-May-09	207	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Jun-09	245	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5-Jun-09	275	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10-Jun-09	165	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12-Jun-09	330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16-Jun-09	159 & 91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19-Jun-09	92	N/A	N/A	N/A	N/A	N/A	6.05	N/A	N/A	N/A	N/A	N/A	N/A
22-Jun-09	599	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26-Jun-09	158	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30-Jun-09	204 & 142	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Jul-09	408	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.81	N/A	N/A
7-Jul-09	176	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9-Jul-09	105	N/A	N/A	N/A	3.78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10-Jul-09	1263 & 102	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14-Jul-09	240 & 182	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17-Jul-09	264	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.74	N/A	N/A
21-Jul-09	248	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28-Jul-09	139	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30-Jul-09	158	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Aug-09	153	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table D-1 (Continued)
Summary of Blast Monitoring Results

Date	Maximum instantaneous Charge (MIC)	Rock Art (Site 72)		Pit 2 Main Rail Culvert	Pit 2 Main Rail East	Pit 2 Main Rail West	Pit 1 Main Rail East Culvert	Pit 1 Main Rail West Embankment	Concrete Power Pole	Concrete Railway Antenna	Wilpinjong Rail Loop	Nearest privately owned residence - compliance monitoring	
		V1		R4			R1	R2	R3		R5		
		Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Overpressure (dB)
5-Aug-09	2292	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7-Aug-09	205	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11-Aug-09	217	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14-Aug-09	180 & 104	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20-Aug-09	134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.27	N/A	N/A
21-Aug-09	2760	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.25	N/A
26-Aug-09	131	N/A	N/A	N/A	6.77	N/A	N/A	N/A	N/A	N/A	N/A	0.16	N/A
28-Aug-09	266	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Sep-09	134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Sep-09	115 & 71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.9	N/A	N/A
4-Sep-09	110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9-Sep-09	84 & 118	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11-Sep-09	47 & 160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16-Sep-09	114 & 147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18-Sep-09	151 & 152	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
25-Sep-09	155	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.16	N/A
2-Oct-09	194	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7-Oct-09	114	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8-Oct-09	323	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13-Oct-09	193	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.16	N/A
14-Oct-09	133	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16-Oct-09	284	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19-Oct-09	708 & 394	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21-Oct-09	129	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22-Oct-09	144	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27-Oct-09	131	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28-Oct-09	170	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
30-Oct-09	95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5-Nov-09	147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9-Nov-09	145	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table D-1 (Continued)
Summary of Blast Monitoring Results

Date	Maximum instantaneous Charge (MIC)	Rock Art (Site 72)		Pit 2 Main Rail Culvert	Pit 2 Main Rail East	Pit 2 Main Rail West	Pit 1 Main Rail East Culvert	Pit 1 Main Rail West Embankment	Concrete Power Pole	Concrete Railway Antenna	Wilpinjong Rail Loop	Nearest privately owned residence - compliance monitoring	
		V1		R4			R1	R2	R3		R5		
		Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Vibration (mm/s)	Overpressure (dB)
12-Nov-09	861	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	N/A
13-Nov-09	1272	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19-Nov-09	210	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20-Nov-09	1144	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23-Nov-09	138	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24-Nov-09	125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26-Nov-09	157	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Dec-09	1515	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Dec-09	188	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8-Dec-09	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10-Dec-09	257	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11-Dec-09	1320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15-Dec-09	68 & 174	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16-Dec-09	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18-Dec-09	112	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22-Dec-09	106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23-Dec-09	165	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24-Dec-09	844	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

N/A: No monitoring required as blasting was not within the required distance specified in the *Wilpinjong Coal Project Blast Management and Monitoring Programme* (WCPL, 2006) i.e. within 3 km of private residences; 350 m of concrete power poles; 350 m of railway culverts/bridges; 100 m of railway lines; and 1 km of Aboriginal rock art sites 72, 152 and 153.

Vibration limits for public infrastructure as specified in the *Wilpinjong Coal Project Blast Management and Monitoring Programme* (WCPL, 2006): Concrete power poles: 50 mm/s; Railway culverts/bridges: 80 mm/s; Railway lines: 200 mm/s ground vibration.

A geological damage criterion for vibration at Aboriginal rock art sites is provided in the *Wilpinjong Coal Project Environmental Impact Statement* (WCPL, 2005): 80 mm/s (there is no Project related overpressure criterion for Aboriginal rock art sites).

APPENDIX E

COMMUNITY COMPLAINTS REGISTER SUMMARY

Table E-1
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
1/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
5/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
5/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/01/2009	Vibration	Excessive Vibration from Blasting	Logged as complaint. Complainant contacted by WCPL staff. Event based vibration monitoring commenced near property. Blasting within compliance levels. No further action taken.
16/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
20/01/2009	Noise and Vibration	Excessive Noise and Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise & vibration within compliance levels. No further action taken.
22/01/2009	Noise	Excessive Noise from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
22/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
23/01/2009	Vibration	Excessive Vibration from Blasting	Logged as complaint. Complainant contacted by WCPL staff. Ongoing blast monitoring near property. Blasting within compliance levels. No further action taken.
23/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
30/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
31/01/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
9/02/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/02/2009	Vibration	Excessive Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. No further action taken.
17/02/2009	Noise	Excessive Noise from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
23/02/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
24/02/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
28/02/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
1/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
4/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
5/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. Noise monitor moved to region.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
15/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
15/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
19/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
20/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
24/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
25/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
25/03/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
2/04/2009	Road Traffic	Truck movements on Ulan - Wollar road	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL. No further action taken.
3/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
4/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
12/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
17/04/2009	Air Quality	Spontaneous Combustion - gas emission	Logged as complaint Investigation undertaken. Complainant contacted by WCPL staff. Work conducted on spontaneous combustion affected areas.
24/04/2009	Vibration	Excessive Vibration from Blasting	Logged as complaint. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
24/04/2009	Vibration	Excessive Vibration from Blasting	Logged as complaint. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
24/04/2009	Noise and Vibration	Excessive Noise and Vibration from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
24/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
24/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
26/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
28/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
29/04/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
1/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
1/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
7/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
12/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. Noise monitor moved to region.
19/05/2009	Noise	Excessive Noise from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
19/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
19/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
19/05/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
2/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
4/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
7/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
8/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
8/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
11/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
13/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
13/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
13/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
15/06/2009	Noise and Vibration	Excessive Noise and Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise & vibration within compliance levels. No further action taken.
22/06/2009	Vibration	Excessive Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
23/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
24/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
25/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
26/06/2009	Noise	Excessive Noise from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
27/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
27/06/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
1/07/2009	Air Quality	Excessive Dust	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Dust within compliance levels. No further action taken.
6/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
11/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
11/07/2009	Noise and Vibration	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
12/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
12/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. Noise monitor moved to region.
13/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
14/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
20/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
21/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
25/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
26/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
28/07/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
4/08/2009	Noise and Vibration	Excessive Noise and Vibration from Blasting	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Blasting within compliance levels. No further action taken.
4/08/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/08/2009	Air Quality	Spontaneous Combustion - gas emission	Logged as complaint Investigation undertaken. Complainant contacted by WCPL staff. Work conducted on spontaneous combustion affected areas.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
24/08/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
29/08/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/09/2009	Vibration	Excessive Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. No further action taken.
13/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
15/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
15/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/09/2009	Noise and Vibration	Excessive Noise and Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise & vibration within compliance levels. No further action taken.
16/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
19/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
19/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
22/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
22/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
24/09/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
1/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
3/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
12/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
12/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
16/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
20/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
21/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
23/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
30/10/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
3/11/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
11/11/2009	Noise and vibration	Excessive Noise and Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise & vibration within compliance levels. No further action taken.
16/11/2009	Vibration	Excessive Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. No further action taken.
19/11/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. Noise monitor moved to region.
21/11/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
27/11/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
5/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise monitor moved to region.
10/12/2009	Noise and Vibration	Excessive Noise and Vibration	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise & vibration within compliance levels. No further action taken.
10/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
10/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Table E-1 (Continued)
Community Complaints Register Summary

Date of Complaint	Environmental Concern Raised	Issue	Action Taken
12/12/2009	Air Quality	Excessive Dust	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Dust within compliance levels. No further action taken.
16/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
18/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.
21/12/2009	Noise	Excessive Noise	Logged as complaint. Investigation undertaken. Complainant contacted by WCPL staff. Noise within compliance levels. No further action taken.

Wilpinjong Coal Mine Aerial Photograph - August 2009

Source: WCPL (2009)