



BLOOMFIELD COLLIERY

Annual Environmental Management Report 2011-2012

Bloomfield Collieries Pty Ltd

Annual Environmental Management Report (2011-2012)

Name of Mine	Bloomfield Colliery		
Titles/Mining Leases	Consolidated Coal Lease 761 dated 20/11/91		
MOP Commencement Date	2012	MOP Completion Date	2016
AEMR Commencement Date	1/4/2011	AEMR End Date	31/3/2012
Name of leaseholder	Bloomfield Collieries Pty Limited		
Name of Mine Operator	Bloomfield Collieries Pty Limited		
Reporting Officer	Greg Lamb		
Title	Environmental Officer		
Signature	<hr/>		
Date	<hr/>		

TABLE OF CONTENTS

1	INTRODUCTION.....	5
1.1	Consents, Leases and Licences.....	5
1.2	Mine Contacts.....	6
1.3	Actions Required at Previous AEMR Review	6
2	OPERATIONS DURING THE REPORTING PERIOD.....	7
2.1	Exploration.....	7
2.2	Land Preparation	7
2.3	Construction.....	7
2.4	Mining	7
2.5	Mineral Processing.....	7
2.6	Waste Management.....	8
2.7	Product Stockpiles	9
2.8	Water Management.....	9
2.9	Hazardous Materials Management.....	12
2.10	Other Infrastructure Management	13
3	ENVIRONMENTAL MANAGEMENT AND PERFORMANCE.....	14
3.1	Air Pollution.....	14
3.2	Erosion and Sediment.....	17
3.3	Surface Water	17
3.4	Ground Water	23
3.5	Contaminated Land.....	25
3.6	Threatened Flora and Fauna.....	25
3.7	Weeds & Pests	26
3.8	Blasting.....	27
3.9	Operational Noise	29
3.10	Visual, Stray Light	29
3.11	Aboriginal Heritage.....	30
3.12	Natural Heritage.....	31
3.13	Spontaneous Combustion	31
3.14	Bushfire.....	32
3.15	Mine Subsidence	32
3.16	Hydrocarbon Contamination.....	33
3.17	Public Safety	34
4	COMMUNITY RELATIONS	35
4.1	Environmental Complaints	35
4.2	Community Liaison.....	36
5	REHABILITATION.....	38
5.1	Buildings	38
5.2	Rehabilitation of Disturbed Land	38
5.3	Further Development of the Final Rehabilitation Plan.....	40
6	ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD	41

LIST OF TABLES

Table 1: Approvals, Leases and Licenses for Bloomfield Colliery.....	5
Table 2: Production and Waste Summary.....	8
Table 3: Stored Water.....	11
Table 4: Annual Rainfall.....	11
Table 5: Dust Monitoring Sites.....	14
Table 6: Annual Average Dust Deposition for Reporting Period.....	15
Table 7: Dust Monitoring Sites.....	16
Table 8: Discharge Sampling Analytical Results.....	22
Table 9: Blast Monitoring Summary.....	28
Table 10: Blast Predictions.....	28
Table 11: Community Contacts Register.....	35
Table 12: Rehabilitation Summary.....	39
Table 13: Maintenance Activities on Rehabilitated Land.....	40

LIST OF FIGURES

Figure 1: Rainfall.....	12
Figure 2: Four Mile Creek Catchment Electrical Conductivity.....	20
Figure 3: pH of Four Mile Creek.....	20
Figure 4: pH & EC in Site Water Storages.....	21
Figure 5: pH & EC in Four Mile Ck Tributary.....	21
Figure 6: pH & EC in Wallis Ck Tributary.....	22
Figure 7: Groundwater Levels.....	23
Figure 8: Groundwater pH.....	24
Figure 9: Groundwater EC.....	24
Figure 10: Community Complaints.....	35

LIST OF PLANS

Plan 1.	Environmental Monitoring Sites
Plan 2.	Rehabilitation Plan

APPENDICES

Appendix A.	PM10 and TSP Results
Appendix B.	Water Discharge Monitoring Results
Appendix C.	Blast Monitoring Results
Appendix D.	Noise Monitoring Results

1 INTRODUCTION

Bloomfield Collieries (Bloomfield) is one of two open cut coal mines owned by its parent company, Big Ben Holdings Pty Limited (Big Ben). Bloomfield Colliery is located at East Maitland, NSW, and produces approximately 0.6 million tonnes of product coal by open cut methods per year. Coal has been mined on the property for over 100 years. Underground mining by the current owner commenced in 1937 and the last coal extracted from underground operations was in May 1992. The open cut commenced operations in 1964. Bloomfield produces mainly thermal coal with some semi soft coking coal, principally for the Asian export market.

The parent company also owns Rix's Creek Mine which is located north of Singleton. Rixs Creek currently produces approximately 1.2 million tonnes of product coal per year.

This report is prepared to meet the requirements for the production of Annual Environmental Management Reports (AEMR), as outlined by the NSW Department of Primary Industries - Mineral Resources (DPI-MR) in the Guidelines to the Mining, Rehabilitation and Environmental Management Reporting Process (edg03 V3, DPI-MR, 2006). The report covers the period 1/4/2011 to 31/3/2012, being Bloomfield's fiscal reporting year.

1.1 Consents, Leases and Licences

Bloomfield operates under consents, leases and licenses presented in Table 1.

Table 1: Approvals, Leases and Licenses for Bloomfield Colliery.

Approval/Lease/License	Issue Date	Expiry Date	Details/ Comments
Project Approval 07_0087	3 September 2009	31 December 2021	Granted by the Minister for Planning
Consolidated Coal Lease (CCL) 761	20 October 1991	8 October 2029	Granted by Minister for Natural Resources
Project Approval 05_0136 (Abel)	7 June 2007	31 December 2028	Granted by Minister for Planning
Environmental Protection License 396	31 December 2007	Renewed Annually	Issued by Department of Environment and Climate Change (now EOH)
Project Approval Modification, 07_0087_ Mod 1	16 May 2011	31 December 2021	Granted by Minister for Planning and Infrastructure
Project Approval Modification, 07_0087_ Mod 2	29 March 2012	31 December 2021	Granted by Minister for Planning and Infrastructure

The lease area for CCL 761 is shown on the Bloomfield site locality plan in Plan 1.

Project Approval (05_0136) for the Abel Underground Mine allows for the operation of the Bloomfield Coal Handling and Preparation Plant (CHPP), Rail Loading Facility (RLF) and other related facilities required for the handling and processing of coal.

Project Approval (07_0087) was granted by the Minister for Planning under Part 3A of the *Environment Planning & Assessment Act 1979* (EP&A Act) to allow for the completion of open cut mining operations and rehabilitation. The approval was issued 3 September, 2009 and is subject to a number of conditions. A variation to modify the Project Approval under s75W of the EP&A Act was granted on 16 May 2011 (07_0087_Mod 1). An additional variation to modify the Project Approval under s75W of the EP&A Act was granted on 29 March 2012 (07_0087_Mod 2).

The 2004 Mining Operations Plan (MOP) for Bloomfield Collieries expired in 2010. A new MOP is being prepared under DREs new Interim MOP Guidelines. Under direction from DRE the MOP submission has been delayed due to the pending renewal of CCL 761 is finalised. The new MOP is expected to be lodged in April 2012.

1.2 Mine Contacts

The Bloomfield General Manager Mining, Mr Garry Bailey, is the primary mining contact and is responsible for regulatory compliance. The Environmental Officer is Mr Greg Lamb who coordinates environmental management and rehabilitation operations at Bloomfield Colliery.

Postal Address	PO Box 4 East Maitland. NSW 2323	Tel:02 4930 2624 Fax:02 4933 8940
Site Address	Four Mile Creek Rd Ashtonfield NSW 2323	
Environmental / Community Hotline		24hr: 02 4930 2680
Mr Garry Bailey		Tel: 02 4930 2618 Mob: 0407938003 Email: gbailey@bloomcoll.com.au
Mr Greg Lamb		Tel: 02 4930 2689 Mob: 0457 819 211 Email: glamb@bloomcoll.com.au

1.3 Actions Required at Previous AEMR Review

There were no outstanding issues arising from the previous AEMR.

2 OPERATIONS DURING THE REPORTING PERIOD

2.1 Exploration

There were no exploration activities at Bloomfield during the reporting period.

2.2 Land Preparation

Approximately 8 ha of land was prepared for mining during the reporting period. This area was to the west of South Cut and the south of Creek Cut. Vegetation (regrowth) and groundcover was removed with the topsoil. The topsoil was removed and placed directly on shaped overburden areas as part of the rehabilitation program. Topsoil volumes are presented in Table 2.

2.3 Construction

No major construction was undertaken on the site during the reporting period.

2.4 Mining

During the reporting period, Bloomfield operated 15 shifts a week for 48 weeks employing 93 personnel. Production was 833,000 tonnes of raw coal, 492,000 tonnes of saleable coal and 4.9 million cubic metres of overburden moved primarily using a Hitachi 5500 excavator and Caterpillar rear dump trucks.

Mining operations continued in S Cut and Creek Cut throughout the year, generally in accordance with the mining methods described in the 2012 MOP. During the next reporting period, Mining in S Cut will continue towards the west and Creek Cut will continue towards the south.

2.5 Mineral Processing

The coal handling and preparation plant (CHPP) has a throughput of up to 6.5 Mtpa, as approved under the Abel Consent. The throughput is currently rated at 1000 tonnes per hour. ROM coal and clean coal volumes are presented in Table 2.

Table 2: Production and Waste Summary

	Cumulative Production (Annual Production)		
	Start of Reporting Period	At end of Reporting Period	End of next reporting (estimated)
Topsoil stripped (bcm)	200,000	231,000 (31,000)	270,000
Topsoil used (bcm)	200,000	231,000 (31,000)	270,000
Waste Rock (bcm)	44,962,000	49,869,000 (4,907,000)	55,112,000
Run Of Mine Coal (t) (Bloomfield)	7,579,000	8,412,000 (833,000)	9,412,000
(Donaldson)	16,215,000	17,088,000 (873,000)	17,988,000
(Tasman)	2,290,000	3,018,000 (728,000)	3,318,000
(Abel)	1,955,000	3,019,000 (1,064,000)	5,519,000
TOTAL ROM	28,039,000	31,537,000 (3,498,000)	36,237,000
Processing Waste (t) (Bloomfield)	3,822,000	4,175,000 (353,000)	4,615,000
(Donaldson)	4,854,000	5,218,000 (364,000)	5,593,000
(Tasman)	716,000	1,085,000 (369,000)	1,235,000
(Abel)	679,000	1,013,000 (334,000)	1,793,000
TOTAL WASTE	10,071,000	11,491,000 (1,420,000)	13,236,000
Coal (tonne) (Bloomfield)	4,420,000	4,912,000 (492,000)	5,512,000

2.6 Waste Management

Process Waste: Process Waste from the CHPP consists of breaker reject, coarse rejects and fine rejects (tailings). Breaker reject consists of large diameter (>150mm) rocks and coal rejects, and is hauled by truck to operational open cut pits and placed under advancing overburden dumps. Coarse rejects which are separated out during processing, and are currently disposed of under advancing overburden dumps. Fine tailings are currently pumped as 20% solids slurry to Tailings Dam, a disused open cut pit in north of the mine site. Reject fines settle out of the slurry, gradually backfilling the pit, whilst the decant water is returned to the CHPP for re-use in processing. Process waste volumes are provided in Table 2.

Waste Oil: Waste oil from scheduled maintenance of mining equipment and the workshop oil separator is collected in a storage tank and periodically evacuated for reprocessing and

re-use by a licensed waste oil contractor. The waste contractor re-synthesise the waste oil to a fuel oil product for re-use in ANFO explosive for blasting operations.

Waste Oil Filters: During the reporting period a recycling bin was installed for disposal of used oil filters. Used oil filters are placed in a 3m³ bin and collected by licensed waste contractor for disposal.

Waste Metal: Bloomfield has a well implemented scrap metal recycling program, and has a high rate of on-site re-use of suitable steel. If no longer suitable for re-use, scrap metal is collected in designated skips and sold for recycling.

Waste Tyres: Discarded earthmoving machinery tyres are used on site wherever possible for the protection of the base of concrete plinths and metal columns located in areas where heavy vehicles are operated. As there is no recycling process available for heavy earthmoving machinery tyres, surplus tyres are disposed of progressively in the open cut void and buried. Tyres are disposed of as deep in the void as possible, without being placed on the pit floor, to avoid the potential of re-surfacing. The void is then progressively backfilled with overburden and rehabilitated in the normal process.

General Waste: General waste is placed in 1.5m³ and 3m³ bins and collected by licensed waste contractor for disposal.

Waste Paper: During the reporting period recycling bins were installed for disposal of paper and cardboard. Waste paper and cardboard waste is placed in 1.5m³ and 3.0m³ bins and collected by licensed waste contractor for disposal.

Paint Waste: During the reporting period a recycling bin was installed for disposal of paint drums. Used paint drums are placed in a 1.5m³ bin and collected by licensed waste contractor for disposal.

2.7 Product Stockpiles

The ROM stockpile pad has a capacity of 150,000 tonnes and the clean coal stockpiles have a capacity of approximately 500,000 tonnes.

2.8 Water Management

The water management system has been designed with three primary goals and objectives:

- separation of clean water and mine water;
- safe storage and priority use of mine water on-site;
- management of water that is discharged so as to preserve the environmental values of Four Mile Creek and comply with the conditions of EPL 396.

In meeting these objectives, the following components of the system have been constructed or implemented.

Mine Water: Bloomfield has two major mine water storage facilities, Lake Kennerson and Lake Foster. Water pumped from the open cuts (S Cut and Creek Cut) reports via open drains to Lake Kennerson. Run off from disturbed areas (i.e. high wall, haul roads,

overburden dumps awaiting rehabilitation) which has the potential to carry suspended solids, is also directed to Lake Kennerson. Lake Kennerson dissipates velocity and allows the settlement of suspended solids.

Lake Kennerson has a valve controlled pipe which, when opened, feeds to Lake Foster. Lake Foster also receives decant water from the tailings storage facility (U Cut) and water from the stockpile dam, which collects the run off from the CHPP and coal stockpile pads. Mine water is pumped, primarily from Lake Foster, to the CHPP for use in coal processing and for dust suppression spraying on the coal stockpile pads.

Mine water is discharged, via lockable valve pipes, into an open drain that flows to Four Mile Creek. Discharges are undertaken in accordance with conditions of the Environmental Protection Licence (EPL 396). Water samples are collected during discharge for independent water quality analysis. A monitoring station located downstream in Four Mile Creek continuously measures electrical conductivity (EC) and water level. Monthly background sampling is conducted in Lake Kennerson, Lake Foster and various upstream and downstream watercourses (see Section 3.3 for details).

During the reporting period, fine coal rejects (tailings) was transferred for disposal to a disused open cut pit (U Cut). Water from the historic underground workings is used in dust suppression and coal processing. Water storage volumes are presented in Table 3.

Clean Water: Run off from undisturbed and rehabilitated areas is directed away from operational areas and mine water storages via diversion banks and channels. These banks and channels direct this run off into clean water dams or natural watercourses. The major clean water storage dam is Possums Puddle. No clean water is accessed for operational purposes and these dams overflow into natural drainage systems. Further isolation of smaller rehabilitated catchment areas from the mine water system will continue as rehabilitation work progresses.

The major natural creek running through the site is Four Mile Creek. Most of the operational mining areas at Bloomfield are located within the catchment of Four Mile Creek. A series of drains and levees direct Four Mile Creek around Lake Foster (mine water storage) and into Possums Puddle (clean water storage). From Possums Puddle clean water overflows, or can be discharged, back into Four Mile Creek.

Table 3: Stored Water

	Volumes held (cubic metres)		
	Start of Reporting Period	At end of Reporting Period	Storage Capacity
Clean Water	90ML	90ML	90ML
Dirty Water			
Lake Kennerson	120ML	80ML	245ML
Lake Foster	40ML	35ML	45ML
Tailings Dam	400ML	400ML	600ML
S Cut	NIL (operational pit)	NIL (operational pit)	NIL (operational pit)
Creek Cut	NIL (operational pit)	NIL (operational pit)	NIL (operational pit)
Controlled Discharge Water (EPL 396)		2300 ML	
Contaminated Water	NIL	NIL	NIL

Rainfall for the period is shown in Table 4. The total rainfall for the twelve month period was 1443 mm compared with 785 mm for the previous year. This was 561 mm above the annual average of 882 mm.

Table 4: Annual Rainfall

Month	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY '12	FEBRUARY '12	MARCH '12	TOTAL
Total Rainfall	125	100	162	127	54	109	100	179	81	65	205	137	1443
Average Rainfall (1989 – 2010)	77	76	88	51	42	53	58	81	64	72	125	94	882

A comparison of monthly recorded rainfall for the reporting period and annual average data is shown in Figure 2.

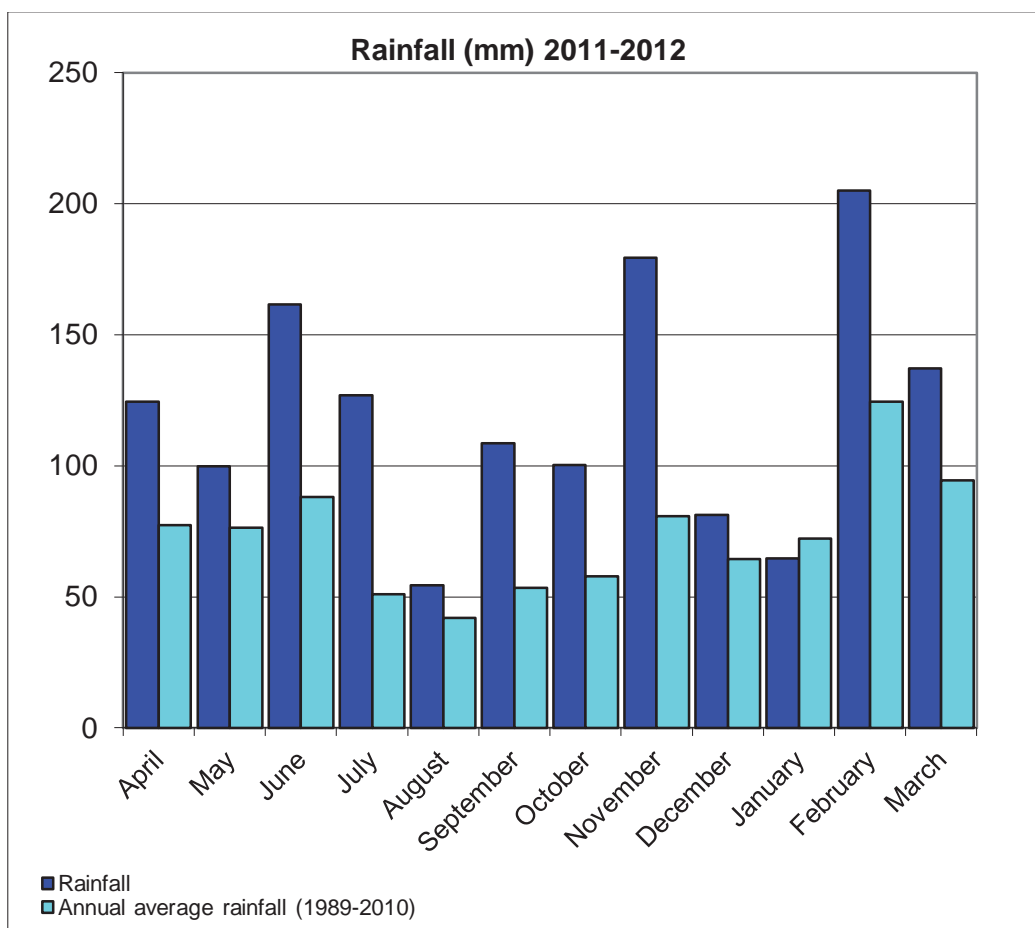


Figure 1: Rainfall.

Waste water: Wastewater generated on site, consisting of domestic waste from bathhouses, administration offices and associated amenity areas, passes through Cessnock City Council approved aerobic waste water treatment system.

2.9 Hazardous Materials Management

Bloomfield held dangerous goods notification and a licence to store and handle explosives in accordance with WorkCover legislation for substances stored on site. The notification covers depots for explosives, distillate, gas cylinder stores, sodium hydroxide and MIBC reagent.

Explosives are stored in an explosive magazine located on site. The magazine complies with the relevant standards for storage of explosives. Bulk materials are also stored on site in a hopper for loading into a mobile mixing unit. This area is enclosed within concrete bunding and any spillage from this area is directed into a collection tank for periodic evacuation by a licensed contractor.

A bunded fuel farm, designed in accordance with AS1940, is used for bulk distillate storage at the open cut workshop. Spill protected racks are used for small volume oil and lubricant storage. Distillate, MIBC and sodium hydroxide used for coal processing in the CHPP are stored in tanks contained in bunded enclosures.

ChemAlert is an online Material Safety Data Sheet (MSDS) database service and is used to provide up to date MSDS information. If new chemicals are introduced to site they must comply with system requirements and be approved by the Mine Manager.

No hazardous materials-related environmental incidents were reported during the reporting period.

2.10 Other Infrastructure Management

Silt traps along the edges of haul roads and hard stand areas are cleaned at regular intervals. They have been designed to capture surface run off during rain events and allow sediment to settle. All silt traps, dams, drains, bunds, lines, valves and other infrastructure used to manage runoff are inspected on a quarterly basis as part of the site Environmental Management System (EMS). Issues identified during the inspections are reported and appropriate actions taken address these matters.

3 ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

3.1 Air Pollution

3.1.1 Environmental Management

Dust can be generated by the operation of mobile plant on unsealed surfaces, loading and handling of coal and overburden in dry and windy conditions, or by blasting.

Operational procedures are in place to minimise dust impacts on the surrounding environment and community. Vehicular generated dust is controlled through the use of water carts on all internal roads and high traffic areas. The company provides a fleet of three water trucks to allow for greater coverage and flexibility in dry and/or windy conditions.

Sprinkler systems operate on coal stockpile areas and the surrounds of the washing plant. Conveyor systems at the washing plant and rail loader are enclosed on at least two sides. Operational practices such as not dumping to exposed locations, minimizing the drop height into trucks during loading are also employed.

During the reporting period the use of a predictive meteorological modeling software program was introduced to assist in planning mine operations. The software incorporates regional weather station data to predict daily weather events that may exacerbate dust impacts from operations.

A dust monitoring program is in place with 10 dust deposition gauges and 2 High Volume Air Samplers (HVOL) located on and around the mine lease area. The locations are listed in Table 5 and are shown in Plan 1. Samples are collected by independent environmental consultants and analysed by a NATA registered laboratory.

Table 5: Dust Monitoring Sites

Site	Location
On Lease	
D1	Adjacent to Buttai Reservoir
D2	Adjacent to Main Haul Road
D3	Plantation Site
D4	Off Haul Road West of Stoney Pinch Reservoir
D9	Shamrock Lane
Off Lease	
D5	Bali Close Ashtonfield
D6	Off Four Mile Creek Road
D7	Off New England Highway Avalon Estate
D8	Adjacent of Main North Rail line at Rail Loop
D10	Private property adjacent to John Renshaw Drive
HVOLs	Private property adjacent to John Renshaw Drive

3.1.2 Environmental Performance

Table 6 summarises the monthly deposition rates for insoluble solids during the reporting period and includes long-term averages for the site and the EPA guideline of 4 g/m²/month.

Table 6: Annual Average Dust Deposition for Reporting Period

Insoluble Solids (g/m ² /month)										
Site	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Apr-11	2.5	2.2	1.2	2.3	1.7	3.1	1.3	1.5	1.4	1.7
May-11	1.3	1.5	1.0	6.5	1.3	1.1	0.7	0.9	0.6	0.4
Jun-11	1.3	0.9	1.1	3.2	1.2	2.0	1.1	1.9	0.8	1.2
Jul-11	0.7	1.6	1.3	3.8	1.6	3.9	1.2	1.1	1.1	0.9
Aug-11	0.6	0.5		2.5	0.7	10.2	1.0	0.7	0.3	2.1
Sep-11	1.5	0.9	0.7	2.0	1.3	7.1	1.5	23.5	0.7	6.1
Oct-11	1.4	1.7	0.7	8.6	1.4	3.4	1.4	1.0	0.9	4.8
Nov-11	2.5	2.4	1.4	1.7	2.3	4.7	1.7	1.7	1.4	2.0
Dec-11	1.9	1.6	3.4c	0.6	1.3	2.4	1.1	1.4	0.7	0.5
Jan-12	0.8	1.4	3.4	1.1	1.6	4.7	1.2	1.8	2.3	1.4
Feb-12	2.2	1.1	1.0	3.0	1.2	1.8	1.1	1.3	0.7	1.1
Mar-12	2.2	1.9	1.5	5.3	1.8	1.2	1.6	1.3	1.1	1.0
Annual Averages										
1997-1998	1.2	1.8	1.8	1.5	1.1	1.9	1.6	1.5	1.8	1.7
1998-1999	1.5	2.1	1.8	1.6	1.3	2.4	1.6	1.1	1.8	0.9
1999-2000	1.8	2.6	1.8	1.1	1.5	1.9	2.0	1.3		
2000-2001	1.2	1.6	1.3	1.4	1.2	3.1	1.8	1.1		
2001-2002	1.1	1.8	1.4	6.6	1.3	2.0	2.4	1.3	1.4	1.7
2002-2003	1.7	2.0	1.2	4.3	1.9	2.3	1.9	1.8	1.4	2.2
2003-2004	2.4	1.6	0.8	6.5	1.2	1.5	1.4	1.3	1.0	1.0
2004-2005	1.6	1.5	1.1	3.2	1.1	2.2	1.4	1.4	0.9	1.1
2005-2006	3.4	1.9	1.2	3.1	1.0	1.4	1.5	1.4	1.2	1.9
2006-2007	2.8	2.2	1.5	3.9	3.0	1.7	1.8	1.7	1.2	1.8
2007-2008	2.7	1.9	1.6	5.2	2.1	2.0	1.9	2.2	1.2	2.3
2008-2009	1.8	1.9	3.3	6.0	1.3	1.7	2.0	1.9	1.5	2.9
2009-2010	1.8	2.4	3.2	3.1	1.4	1.6	2.3	1.8	1.5	2.8
2010-2011	1.1	1.6	1.8	1.6	0.9	2.4	1.4	1.4	1.1	2.1
2011-2012	1.6	1.5	1.3	3.4	1.5	3.8	1.2	3.2	1.0	1.9
Overall*	1.8	1.9	1.7	3.3	1.4	2.1	1.7	1.6	1.2	1.9
EPA Licence Limit	4									

Notes: * - Overall annual average since 1997.

C - "Denotes highest result contaminated with insects, vegetation or bird droppings and considered non standard

All dust deposition gauges recorded annual averages below the 4g/m²/month limit for 2011-2012. The long term average annual dust deposition rates are all within the nominated

criteria. Sites D3 and D4 are located adjacent to operational areas well within lease boundaries. Results from these sites indicate the level of dust generated by mining operations. Site D4 was repositioned in the 2009-2010 reporting period to allow for the stabilisation of the batter adjacent to the haul road where it was originally located. Dust levels at Site D3 are lower than the previous year and consistent with the long-term average. As discussed, Sites D3 and D4 are located well within the lease, adjacent to mining operations, and operational dust contributing to these elevated results is unlikely to impact off site.

Table 7 summarises the PM10 and TSP monitoring results during the reporting period and detailed results are provided in Appendix A. The HVOLs were installed during the reporting period and became operational in May 2011. All PM10 results recorded 24-hour averages below the 50 ug/m³ limit for 2011-2012. The highest result recorded was 43 ug/m³. The annual average PM10 result recorded was below the 30 ug/m³ limit for 2010. The average annual PM10 level was 17 ug/m³. The annual average TSP result recorded was below the 90 ug/m³ limit for 2010. The average annual TSP level was 39 ug/m³.

Table 7: Dust Monitoring Sites

	PM10 24hr (ug/m³)	TSP (ug/m³)
Maximum 24hr Average result 2011-2012	43	-
<i>EPA Licence Limit PM10 24hr Average</i>	50	-
Annual Average 2011-2012	17	39
<i>EPA Licence Limit Annual Average</i>	30	90

3.1.3 Reportable Incidents

No reportable incidents relating to air pollution occurred within the reporting period.

3.1.4 Further Improvements

In accordance with the EPL 396 Condition U1, a Best Management Practice determination will be conducted for the site during the next reporting period. The determination will identify the most practicable means to reduce particle emissions from the site.

3.2 Erosion and Sediment

3.2.1 Environmental Management

Erosion and sedimentation control is an integral part of the site's water management system. The design of rehabilitated areas incorporates water management structures to effectively shed run-off water, whilst minimising erosion and sediment load. Progressive rehabilitation of disturbed areas as soon as is practicable also reduces the potential for erosion and downstream sedimentation.

There are a number of sediment basins around the site that are positioned to intercept run-off from other disturbed areas on-site, such as along haul roads, stockpile pads, infrastructure areas, and recently rehabilitated areas. These structures are inspected as part of the site EMS and cleaned as necessary.

Site drains used to transport mine water, or natural catchment flow, are inspected for erosion or damage as part of the site EMS, and remedial maintenance works conducted as necessary.

3.2.2 Environmental Performance

No major erosion or problems with erosion and sediment control were observed during the reporting period. Rehabilitated areas are regularly inspected in addition to quarterly inspections of erosion and sediment controls across the site.

3.2.3 Environmental Incidents

No reportable incidents relating to erosion and sediment occurred during the reporting period.

3.2.4 Further Improvements

An erosion and sediment control plan has been prepared in accordance with the conditions of the Project Approval. As mining and rehabilitation progresses the recommendations will be followed including ongoing quarterly inspections of erosion and sediment control structures.

3.3 Surface Water

3.3.1 Environmental Management

Bloomfield Colliery has prepared and submitted a Water Management Plan (WMP) in accordance with Development Consent requirements for the operation of the mine. The Plans prescribe the process water source and supply requirements, site-water balance, storage, impact management and monitoring of surface water in the vicinity of the mining operations.

Bloomfield has several sources of surface water (mine water) that require management to avoid pollution, or a non-compliance with the site EPL.

In addition to the physical, or infrastructure, components of the mine water management system (as detailed in Section 2.8), the two major management controls for surface water pollution are *water quality monitoring* and *licensed mine water discharge*.

Water Quality Monitoring: The water monitoring program at Bloomfield consists of discharge sampling, which is under *licensed mine water discharge*, and background monitoring. The background monitoring sites are centred on Four Mile Creek and its tributaries. Progressing down the catchment, the four Mile Creek sites are:

- John Renshaw Drive (W10);
- Four Mile Creek upstream of Lake Foster (W6);
- Possums Puddle Overflow (W4);
- Ewells Creek and Four Mile Creek junction (W3);
- Shamrock Creek and Four Mile Creek junction (W12); and
- Four Mile Creek at New England Highway (W11).

Background monitoring samples are also collected from tributaries of Four Mile Creek at:

- Shamrock Creek (W2); and
- Ewells Creek (W5).

The three on-site water storage dams are sampled, namely:

- Lake Kennerson – mine water (W9);
- Lake Foster - mine water(W8); and
- Possums Puddle – surface water (W7).

One monitoring site (W1) is located adjacent to the old Rathluba Colliery site in the west of the mine lease area, on a tributary of Wallis Creek. And a further monitoring site (W13) is located on Buttai Creek on Buchanan Rd.

Plan 2 shows the location of monitoring sites. These sites are sampled monthly and analysed at an independent laboratory for the following analytes:

- pH;
- Electrical Conductivity (EC);
- Dissolved Oxygen;
- Turbidity;
- Total Suspended Solids (TSS);
- Total Dissolved Solids (TDS); and
- Filterable Iron.

Quarterly analysis includes:

- Chloride;
- Sulphate;
- Alkalinity (HCO₃);
- Alkalinity (CO₃);
- Calcium;
- Magnesium;
- Sodium; and
- Potassium.

These results are reviewed and, if required, remedial action or further investigation initiated to identify the cause of anomalies.

Mine Water Discharge: Mine water is discharged in accordance with conditions P1, L3 and L4 of Environmental Protection Licence 0396 (EPL). These conditions allow discharge of 40ML of mine water per day, within water quality limits, dependent on rainfall. Representative samples are collected at the discharge point and at the Four Mile Creek monitoring station during each day of discharge. Samples are tested on site to ensure discharge water is within the allowed water quality limits, before being dispatched to an independent laboratory for analysis. Discharge samples are tested for:

- pH;
- EC;
- Total Suspended Solids (TSS);
- Total Dissolved Solids (TDS); and
- Filterable Iron (for discharge point samples).

A permanent monitoring station is located on Four Mile Creek, approximately 500m upstream of the New England Highway. It records EC and water level (via pressure sensor and V-notch weir) every 15 minutes and logs the results every hour.

Other Management: All infrastructure (i.e. drains, dams, spillways, discharge pipes and valves) used for the separation of clean water and mine water, or the discharge of mine water, are inspected as part of the site EMS, with a documented quarterly check sheet being completed.

3.3.2 Environmental Performance

Background Monitoring Results: The background water monitoring results are shown in Figures 3 to 7 below.

Figure 3 and 4 shows EC and pH results for the Four Mile Creek sites. Figure 3 shows salinity levels are slightly elevated in the lower end the catchment. Four Mile Creek is ephemeral and the EC level varies with rainfall and mine discharge. The higher salinity results along Four Mile Creek (Ewells Creek and Shamrock Creek junctions and New England Hwy) reflect concentration of solutes in ponds during low flow periods and from licensed discharges in addition to offsite sources such historic underground workings.

As outlined later, there were 27 licenced discharges throughout the reporting period. The monthly sample collected in May, July, October, December and January coincided with a licenced discharge event.

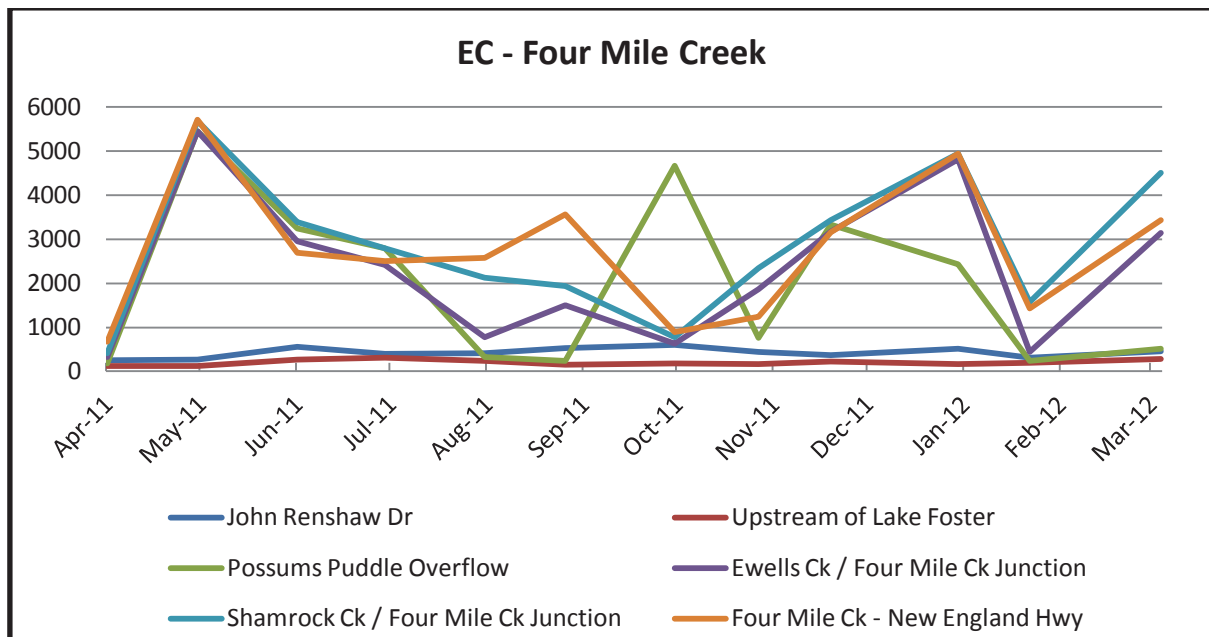


Figure 2: Four Mile Creek Catchment Electrical Conductivity

Figure 4 shows the pH levels in Four Mile Creek are generally consistent with ANZECC water quality guidelines (pH 6.5-8.5).

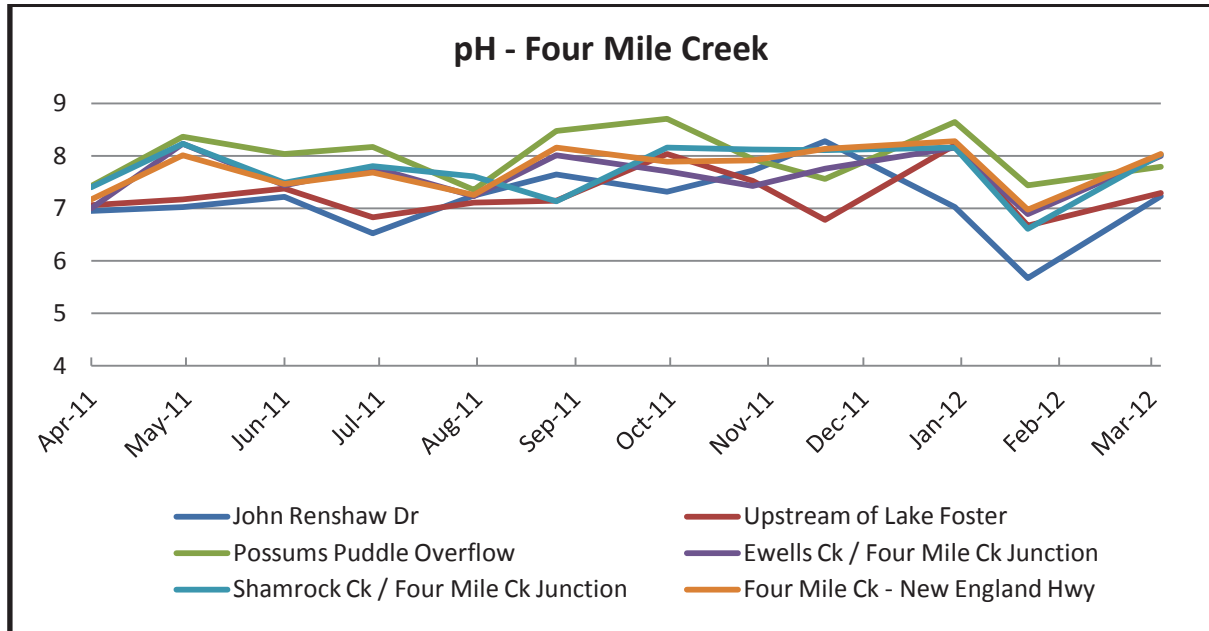


Figure 3: pH of Four Mile Creek

Water quality within the mine water storage dams (Lake Kennerson and Lake Foster) varies throughout the year depending on rainfall capture in the open cut pits, CHPP water usage and frequency of licensed discharge events, which are also rainfall dependent (see Figure 5). The freshwater dam (Possums Puddle) remains fairly constant throughout the year as it is separate from mining influences.

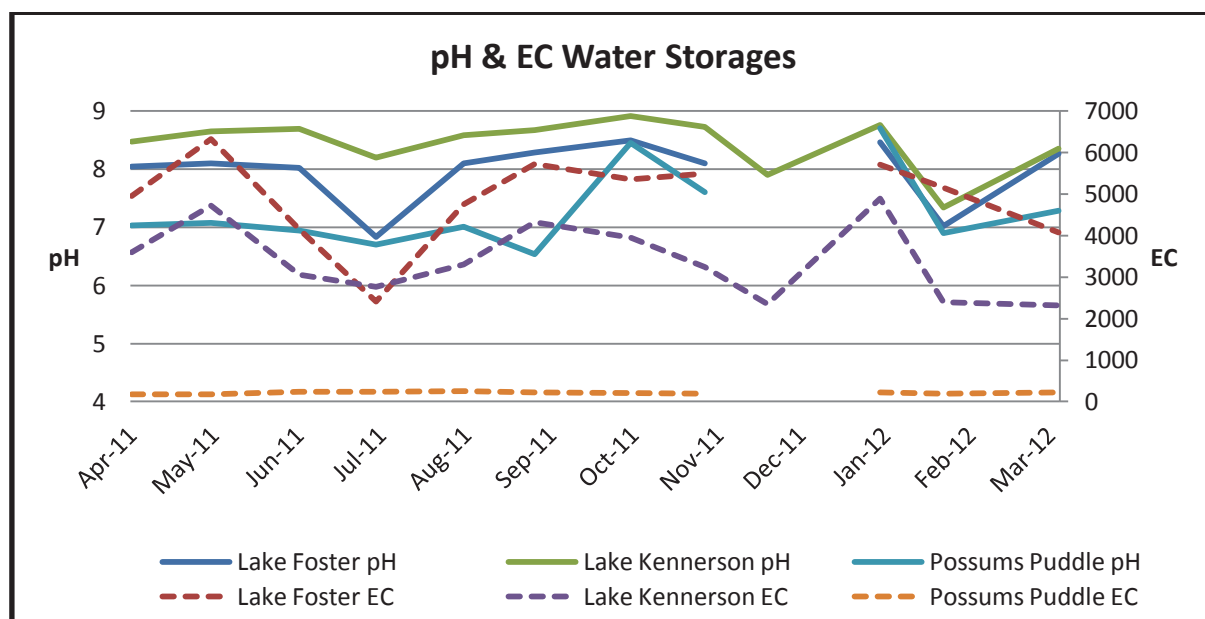


Figure 4: pH & EC in Site Water Storages

Figure 6 shows the pH and salinity levels in Four Mile Creek tributaries are generally consistent with ANZECC water quality guidelines (pH 6.5-8.5 & EC 125-2200).

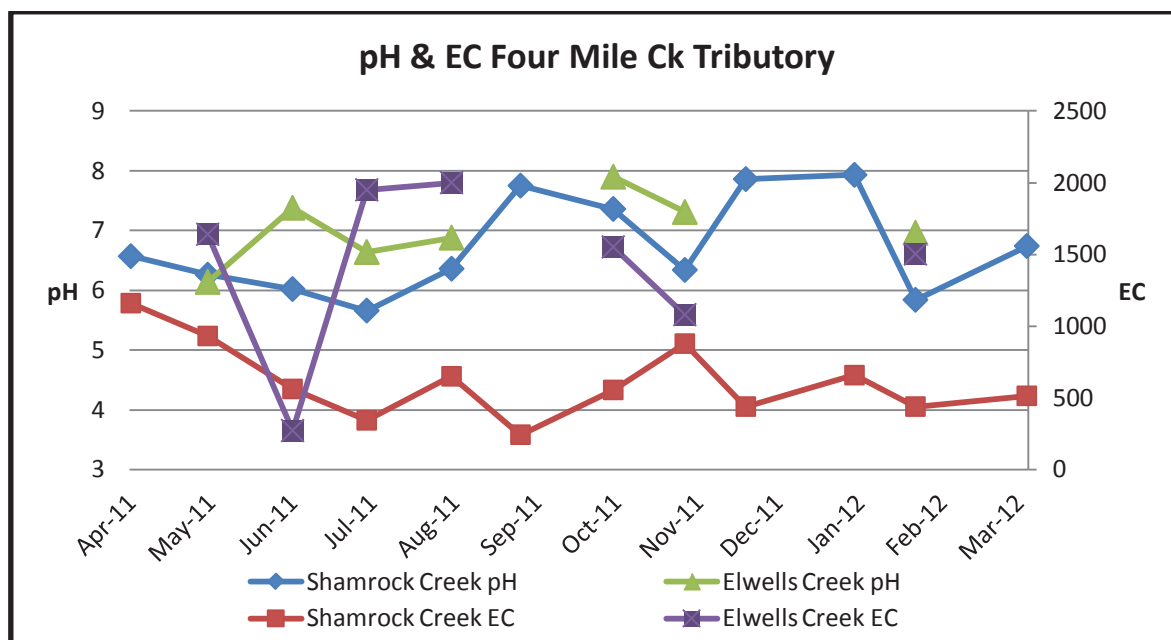


Figure 5: pH & EC in Four Mile Ck Tributary

Figure 7 shows the pH and salinity levels in Wallis Creek tributaries are generally consistent with ANZECC water quality guidelines (pH 6.5-8.5 & EC 125-2200).

The eight samples taken from the drainage line adjacent to Rathluba were of lower pH. Only eight samples were taken as the drainage line was dry at other times. Previous results indicate that the surface flow adjacent to Rathluba has historically been of low pH, regardless of mining impacts. Prior to 2006 pH results were less than 4 however pH levels have been steadily increasing since then. This drainage line carries surface flow from non-mining land and rehabilitated mining land, indicating that other off-site effects may be influencing the water quality in the area.

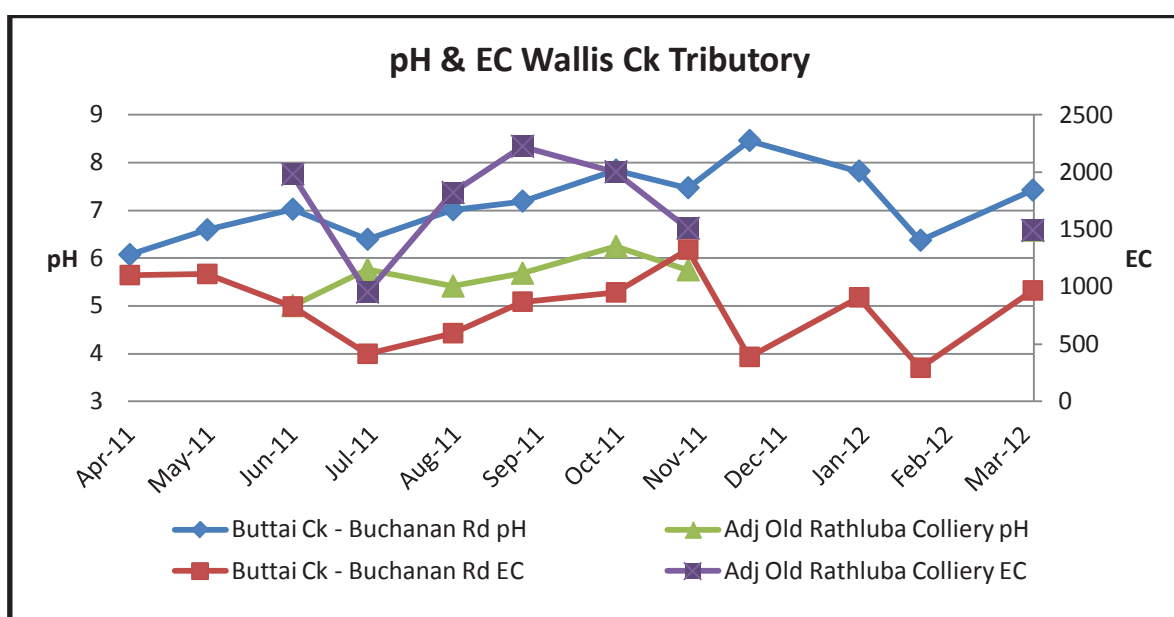


Figure 6: pH & EC in Wallis Ck Tributary

Discharge Monitoring Results: there were 27 licensed discharges conducted during the reporting period, with a total discharge volume of 2300 ML. Table 8 shows the average, maximum and minimum water quality results at the discharge point, compared to EPA discharge water quality thresholds. The results show that no EPL discharge criteria were exceeded. Detailed daily discharge results are provided in Appendix B.

Table 8: Discharge Sampling Analytical Results

DATE	pH	TOTAL SUSPENDED SOLIDS (mg/L)	TOTAL DISSOLVED SOLIDS (mg/L)	SPECIFIC CONDUCTANCE (uS/cm)	IRON (mg/L)	DISCHARGE VOLUME (ML/day)
EPA Limits	6.5-8.5	30	-	6,000	1	40
Average	8.2	9	3620	4835	<0.1	39.7
Maximum	8.5	24	4760	5970	0.77	40
Minimum	7.8	1	1780	2340	<0.05	20

3.3.3 Environmental Incidents

There were no reportable surface water incidents.

3.3.4 Further Improvements

The surface water monitoring program will be continued in accordance with WMP requirements.

3.4 Ground Water

3.4.1 Environmental Management

Bloomfield Colliery has prepared and submitted a Water Management Plan (WMP) in accordance with Development Consent requirements for the operation of the mine. The Plans prescribe the process water source and supply requirements, site-water balance, storage, impact management and monitoring of groundwater in the vicinity of the mining operations.

3.4.2 Environmental Performance

Quarterly monitoring was undertaken during the period and the results are summarised in Figures 8 - 10. The results are fairly consistent and do not show any real trends. At this stage insufficient data has been collected to provide an analysis of any trends in the groundwater quality over time.

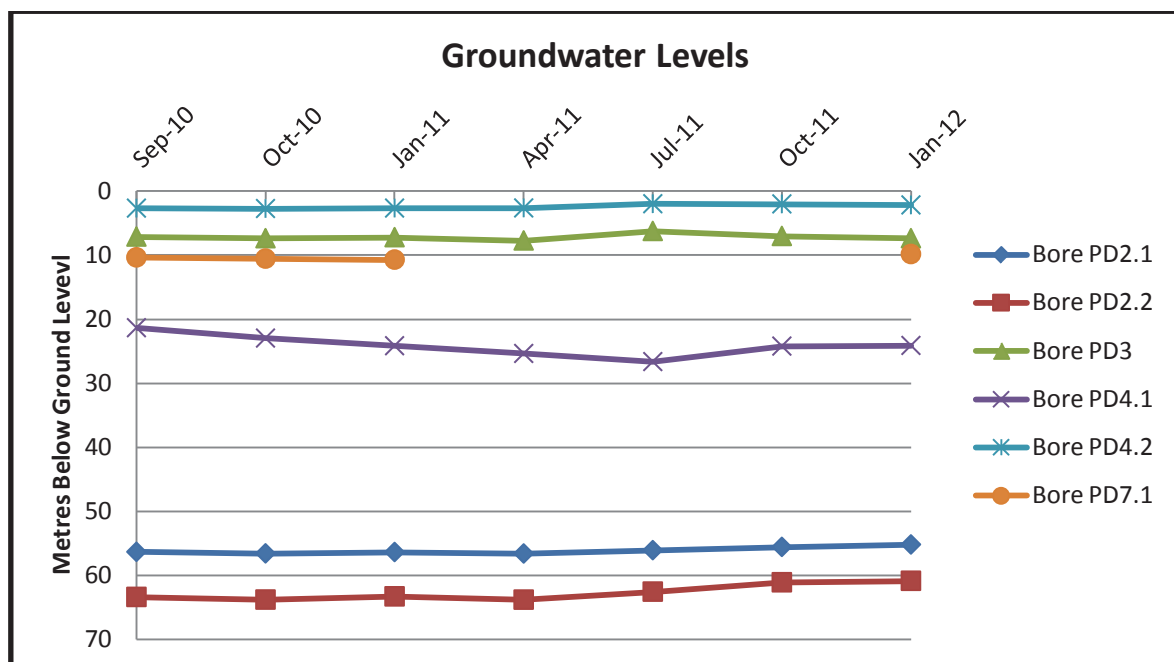


Figure 7: Groundwater Levels

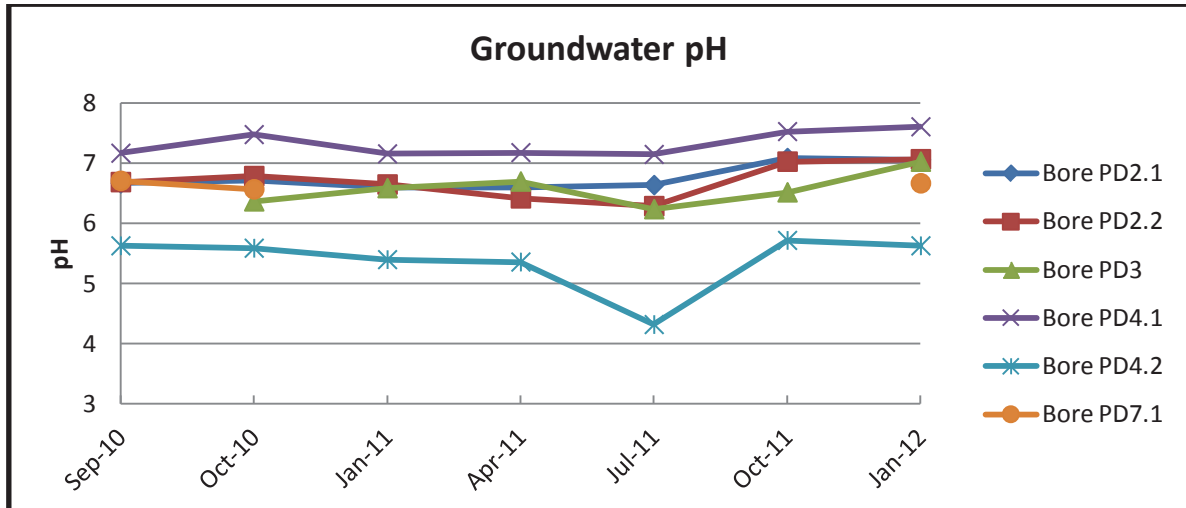


Figure 8: Groundwater pH

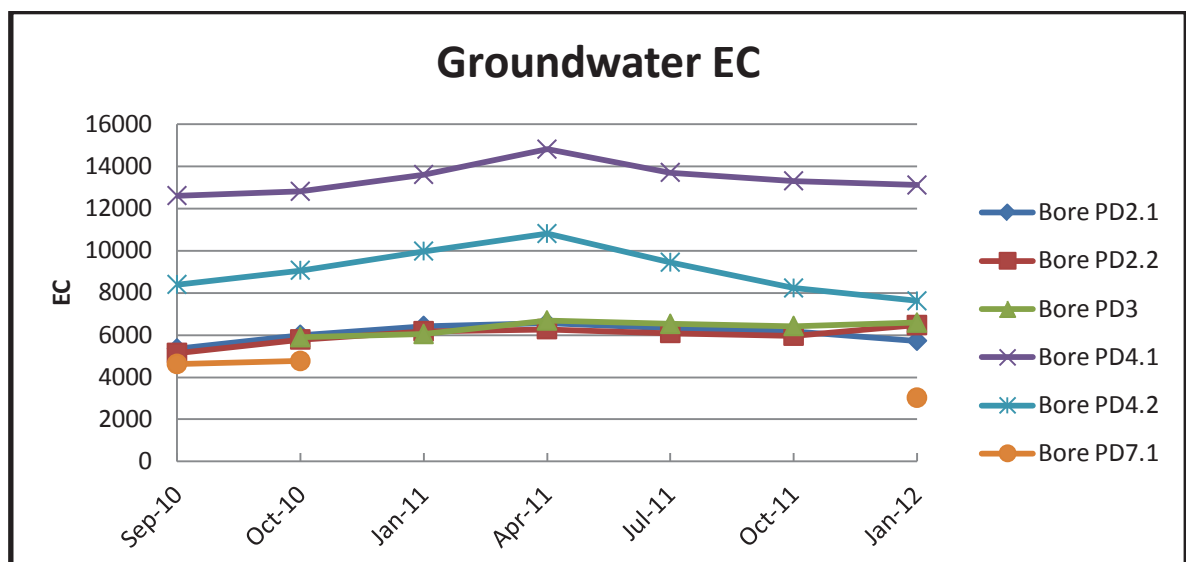


Figure 9: Groundwater EC

3.4.3 Environmental Incidents

No reportable incidents relating to groundwater pollution occurred during the reporting period.

3.4.4 Further Improvements

The groundwater monitoring program will be continued in accordance with WMP requirements. As more groundwater data is collected any long-term trends may be identified.

3.5 Contaminated Land

3.5.1 Environmental Management

No contaminated or polluted land has been identified at Bloomfield. No significant hydrocarbon or chemical spills occurred within the Lease requiring special response, clean-up or ongoing management.

3.5.2 Environmental Performance

Quarterly inspections of hydrocarbon storage facilities are completed as part of the site EMS, and no land contamination or significant polluting incidents were reported during these inspections.

3.5.3 Reportable Incidents

No reportable incidents relating to land contamination occurred during the reporting period.

3.5.4 Further Improvements

As no areas of land contamination have been identified, no improvements to the current management system are planned. Quarterly inspections will be maintained.

3.6 Threatened Flora and Fauna

3.6.1 Environmental Management

The Environmental Assessment included an assessment of the potential impacts associated with the clearance vegetation. Any clearing of vegetation within the project area must be undertaken in accordance with the requirements of the Project Approval.

3.6.2 Environmental Performance

No vegetation was cleared for Bloomfield mining or coal washing operations during the reporting period. Biodiversity enhancement has also been considered during the planning and implementation of land rehabilitation.

The Project Approval (Mod 1) included a condition for Bloomfield to provide a \$20,000 contribution towards a conservation project within the Cessnock LGA. The contribution was made to the Stanford Merthry Reserve rehabilitation project being undertaken by the Land and Property Management Group (formerly Crown Lands).

A Biodiversity Offset Area was established during the reporting period to compensate for future land clearance at the mine. The land was purchased by Bloomfield in December 2011 and consists of 40 Ha of remnant vegetation adjacent to the Watagan State Forest. The western boundary abuts a part of Watagan State Forest on the eastern side of the Corrabare

Range. A Biodiversity Offset Management Plan was submitted to DP&I for approval in November 2011.

3.6.3 Reportable Incidents

No reportable incidents relating to flora and fauna management occurred during the reporting period.

3.6.4 Further Improvements

Further details on progress of the implementation measures of the Biodiversity Offset Area will be provided in the next AEMR.

3.7 Weeds & Pests

3.7.1 Environmental Management

Bloomfield undertakes regular inspections and has a treatment program to control weeds across the site. A contract weed-sprayer is employed in addition to mechanical support from mine plant such as dozers and backhoes when required. Over the reporting period priority was given to the control of pampas grass, blackberry and mother-of-millions. Lantana was also targeted during the reporting period.

Periodic feral animal control programs are undertaken in conjunction with neighboring mines. Activities include feral dog baiting programs. These programs are conducted on an as need basis.

3.7.2 Environmental Performance

Approximately \$28,500 was spent across the site on weed control during the reporting period. No Class 1 or Class 2 declared weeds were identified onsite. The following weed species were identified and treated during the reporting period included:

- Mother-of-millions (class 3)
- Parramatta Grass (class 3)
- Pampas Grass (class 4)
- Blackberry (class 4)
- Crofton Weed (class 4)
- Noogoora Burr (class 4)
- Lantana (class 5)
- African Daisy.

During the reporting period Cessnock City Council Noxious Weeds Officer inspected the site. The Officer was satisfied with condition of the site and instructed Bloomfield to continue with present programs. No written instructions were deemed necessary by the Officer.

Also during the reporting period two wild dog and fox baiting programs were undertaken in conjunction with neighbouring mines and the Livestock Health and Pest Authority. These

were conducted in July 2011 and March 2012 by a pest control contractor. Both baiting programs proved to be very successful with numerous baits taken.

3.7.3 Reportable Incidents

No reportable incidents relating to weed management occurred during the reporting period.

3.7.4 Further Improvements

The weed management budget for the upcoming reporting period will be maintained at a similar level to previous years. The control of pampass grass and blackberry remains the priority for the next reporting period in addition to the ongoing management of Lantana.

3.8 Blasting

3.8.1 Environmental Management

A draft blast monitoring plan has been prepared in accordance with the conditions of the Project Approval. It is expected that the blast monitoring plan will be endorsed by the Director General during the next reporting period. Blasting activities are licensed under EPL 396. The EPL stipulates monitoring requirements, restricts blasting hours, as well as limiting airblast overpressure and ground vibration impacts at the nearest residences.

Blasting techniques have been developed in conjunction with ORICA, utilising the “none1” initiation system and implemented to achieve maximum fragmentation and maintain levels ground vibration and overpressure levels within the approved criteria for the site.

During the reporting period two new blast monitoring stations were installed. Each blast is now monitored at four nearby residences for ground vibration and overpressure. Monitors are located at residences to the south, south-east, west and north-west of current open cut operations. The location of the blast monitors is shown on Plan 1.

Also during the reporting period the use of a predictive meteorological modeling software program was introduced to assist in planning blast operations. The software incorporates regional weather station data to predict daily weather events that may exacerbate overpressure impacts from blasting operations.

3.8.2 Environmental Performance

All blast results for the reporting period are included in Appendix C and are summarised in Table 9 and Table 10.

During the reporting period a total of 70 blasts were initiated on the site. Of these, three (4.3% of total shots) exceeded 115 dB blast overpressure and nil blasts (0%) exceeded 5 mm/sec ground vibration. One blast on the 9th March 2012 resulted in an over pressure reading of 120.6 dB at McNaughtons. The incident was reported to the EPA in accordance with EPL 396.

Table 9: Blast Monitoring Summary

Blasting Criteria Limits	Allowable Exceedance ¹	Results 2011-2012
Airblast Overpressure Level dB (Lin Peak)		
115	5 %	4.3 %
120	0 %	1.4 %
Ground Vibration Peak Particle Velocity (mm/s)		
5	5 %	0 %
10	0 %	0 %

Note: 1. Percentage of the total number of blasts over a period of 12 months

Blast modelling predictions conducted as part of the Environmental Assessment (PA 07_0087) are shown in Table 10. Monitoring indicates that mean and median results are at or below predicted levels.

Table 10: Blast Predictions

Location	N - Elliotts		M - MacNaughtons		H - Mt Vincent Rd		G - Richards	
	Airblast dBL	Vibration mm/s	Airblast dBL	Vibration mm/s	Airblast dBL	Vibration mm/s	Airblast dBL	Vibration mm/s
Max	119.0	2.0	120.6	2.1	118.0	0.8	109.4	0.9
Min	82.3	0.2	93.4	0.1	82.2	0.1	83.0	0.1
Mean	99.8	0.9	103.0	0.6	96.7	0.2	97.5	0.2
Median	99.0	0.8	102.7	0.4	97.1	0.1	98.0	0.1
EA Prediction	113.0	4.8	103.5	1.2	96.5	0.4	102.1	1.0

3.8.3 Reportable Incidents

As mentioned above, one blast (9/03/12) resulted in an exceedance of overpressure during the reporting period. This incident was reported to the EPA and an official caution was issued.

3.8.4 Further Improvements

Monitoring of blasts will continue in accordance with EPL and Project Approval requirements. Use of the predictive meteorological modeling software program will be refined with the incorporation of Williamstown meteorological data. This will enable more accurate weather predictions to be made.

3.9 Operational Noise

3.9.1 Environmental Management

A draft noise monitoring plan has been prepared in accordance with the conditions of the Project Approval. It is expected that the noise monitoring plan will be endorsed by the Director General during the next reporting period. Quarterly noise monitoring has been undertaken in accordance with the draft monitoring plan.

During the reporting period the use of a predictive meteorological modeling software program was introduced to assist in planning mine operations. The software incorporates regional weather station data to predict daily weather events that may exacerbate noise impacts from operations.

3.9.2 Environmental Performance

Attended quarterly noise monitoring was undertaken during the reporting period which assessed noise impacts from Bloomfield Colliery against relevant criteria detailed within PA 07_0087. The respective criteria for each of the five locations and a summary of the attended noise monitoring results undertaken during the reporting period are presented in Appendix D. The results in Appendix D are the results obtained in the absence of all other noise sources.

The September quarterly noise indicted a noise exceedance at Location F on Black Hill. This property is now owned by an adjoining mine, Gloucester Coal, and therefore the noise limits do not apply in accordance with Condition 1 of the consent condition. The monitoring indicated that compliance with the sleep disturbance consent criteria was met at all locations during the night-time period.

3.9.3 Reportable Incidents

No reportable incidents relating to operational noise occurred during the reporting period.

3.9.4 Further Improvements

Use of the predictive meteorological modeling software program will be refined with the incorporation of Williamstown meteorological data. This will enable more accurate weather predictions to be made.

3.10 Visual, Stray Light

3.10.1 Environmental Management

Progressive rehabilitation of disturbed land is the main strategy for minimising visual impacts. In addition to providing a safe and stable landform, one of the key objectives of rehabilitation planning is to provide vegetated landforms that blend with the surrounding landscape.

Fixed lighting around the site has been positioned and/or shielded where possible to minimise light shed. Consideration is also given to the location and alignment of mobile light to minimise stray light.

3.10.2 Environmental Performance

The visual assessment of the Bloomfield open cut noted that the main visual impacts are on residences to the south of John Renshaw Drive, to the south of the mine.

3.10.3 Reportable Incidents

No reportable incidents relating to visual amenity or stray light occurred during the reporting period.

3.10.4 Further Improvements

Rehabilitation of areas visible from nearby residences or road traffic will be given priority during mine planning and rehabilitation scheduling.

3.11 Aboriginal Heritage

3.11.1 Environmental Management

In response to a condition of the Project Approval, an Aboriginal Cultural Heritage Management Plan (ACHMP) was prepared in consultation with Mindaribba LALC. The plan was endorsed by DECCW and the Director General of Planning during the reporting period.

3.11.2 Environmental Performance

A number of Aboriginal sites identified during the Project Approval process were previously salvaged in accordance with the ACHMP. Representatives from Mindaribba LALC participated and monitored the process ahead of preparation for mining activities. In all, 34 artefacts were salvaged and are being stored with the Mindaribba LALC.

3.11.3 Reportable Incidents

No reportable incidents relating to Aboriginal heritage occurred during the reporting period.

3.11.4 Further Improvements

The ACHMP will continue to be implemented in the next reporting period which includes management of identified sites.

3.12 Natural Heritage

3.12.1 Environmental Management

No National Parks, nature reserves, or other areas of protected natural heritage are located near Bloomfield. The nearest, Pambalong Nature Reserve, is located approximately 6km to the south-east of Bloomfield mining operations. Therefore, natural heritage management is not considered a significant environmental risk.

3.12.2 Environmental Performance

N/A

3.12.3 Reportable Incidents

No reportable incidents relating to natural heritage occurred during the reporting period.

3.12.4 Further Improvements

No improvements are planned with regards to natural heritage management.

3.13 Spontaneous Combustion

3.13.1 Environmental Management

There was no spontaneous combustion incidences recorded during the reporting period. Historically the site does not have a problem with spontaneous combustion and no management actions were required during the reporting period.

3.13.2 Environmental Performance

N/A

3.13.3 Reportable Incidents

No reportable incidents relating to spontaneous combustion occurred during the reporting period.

3.13.4 Further Improvements

No improvements are planned with regards to spontaneous combustion management.

3.14 Bushfire

3.14.1 Environmental Management

A Bushfire Management Plan for Bloomfield Colliery was prepared in consultation with representatives of the NSW Rural Fire Service (RFS). The plan divides the site into 44 fire management Sectors, describes fire risk levels across the site, and outlines site features relevant to fire management such as vegetation type, access trail locations, asset locations, and water supplies.

Weather conditions permitting, hazard reduction burns are conducted periodically by the RFS. Selection of burn location is based on risk levels, as determined by fuel load assessment and location of assets/asset protection zones. Hazard reduction clearing/slashing was also undertaken by Bloomfield along fire trails, asset protection zones and the mine boundary.

3.14.2 Environmental Performance

An asset protection zone adjacent to residential areas near Ashtonfield and Buchanan was slashed and maintenance work carried on a number of tracks to enable access for hazard reduction activities by the RFS. A hazard reduction burn was planned but not undertaken due to persistent unfavourable weather conditions. No bushfires were recorded on the site during the reporting period.

3.14.3 Reportable Incidents

No reportable incidents relating to bushfire management occurred during the reporting period.

3.14.4 Further Improvements

No improvements to the Bushfire Management Plan are planned, however, ongoing hazard reduction burning and clearing will continue in consultation with the RFS. A hazard reduction burn is planned for winter 2012.

3.15 Mine Subsidence

3.15.1 Environmental Management

Areas of the Bloomfield mine site (CCL 761) are undermined by historic underground workings, some relatively shallow. Sink holes associated with shallow workings are infrequent, but have previously been identified. If identified, the standard management procedure is to flag off and isolate the sink holes from access, back fill the holes and monitor for further subsidence. Once deemed stable, the area will then be rehabilitated and periodical inspections will continue.

3.15.2 Environmental Performance

No issues arose during the reporting period.

3.15.3 Reportable Incidents

No reportable incidents relating to subsidence management occurred during the reporting period.

3.15.4 Further Improvements

Other than the remediation and rehabilitation of sink holes as identified, no improvements to subsidence management are planned.

3.16 Hydrocarbon Contamination

3.16.1 Environmental Management

As no areas of hydrocarbon contamination have been identified within the Bloomfield lease area, management is geared to contamination prevention. Bulk hydrocarbon storages (including the NALCO products) are located within bunded areas. The volumes of these bunded areas are capable of containing greater than 110% of the largest storage tank.

All machinery is fitted with quick fill mechanisms. The inlets and outlets, at the refueling bay and mobile tanker are positively closed with an automatic cut off when full. This refueling method is quick and minimises any potential for spillage during the refueling operation.

Hydrocarbon storage infrastructure at the CHPP and open cut is inspected regularly and documented maintenance check sheets are completed quarterly.

3.16.2 Environmental Performance

No areas of hydrocarbon contamination were identified during the reporting period.

3.16.3 Reportable Incidents

No reportable incidents relating to hydrocarbon contamination occurred during the reporting period.

3.16.4 Further Improvements

As no hydrocarbon contamination has been identified, no improvements are planned for hydrocarbon management.

3.17 Public Safety

3.17.1 Environmental Management

Being situated close to urban areas, Bloomfield has historically had a problem with dumping of rubbish, theft and vandalism on the site. A major fencing and exclusion barrier program has greatly reduced these occurrences. Bloomfield continues to invest significant time and resources into keeping the site closed to unauthorised access, including fencing along all public roads, installing lockable gates and other temporary barriers (such as logs, rocks and concrete blocks) on major access tracks and ensuring clear signage is placed covering likely approaches.

3.17.2 Environmental Performance

No public safety incidents were recorded or reported during the reporting period.

3.17.3 Reportable Incidents

No reportable incidents relating to public safety during the reporting period.

3.17.4 Further Improvements

No overall improvements are planned to manage public safety; however, Bloomfield will continue to maintain existing fencing, gates, barriers and signage.

4 COMMUNITY RELATIONS

4.1 Environmental Complaints

Nine community complaints were received during the reporting period and a summary is provided below (Table 10). Four of the complaints related to noise and five of the complaints were in relation to blasting.

Table 11: Community Contacts Register

Date	Issue	Type	Location
05/04/2011	Noise	Resident	Buttai
28/06/2011	Blasting	Resident	East Maitland
04/08/2011	Noise	Resident	Buttai
12/09/2011	Blasting	Resident	Louth Park
19/09/2011	Noise	Resident	Buttai
21/09/2011	Blasting	Resident	Buchanan
21/10/2011	Blasting	Resident	Buchanan
02/03/2012	Noise	Resident	Ashtonfield
07/03/2012	Blasting	Resident	Louth Park

Figure 10 displays a comparison of complaints with previous reporting periods, which demonstrates a decline in the number of complaints received.

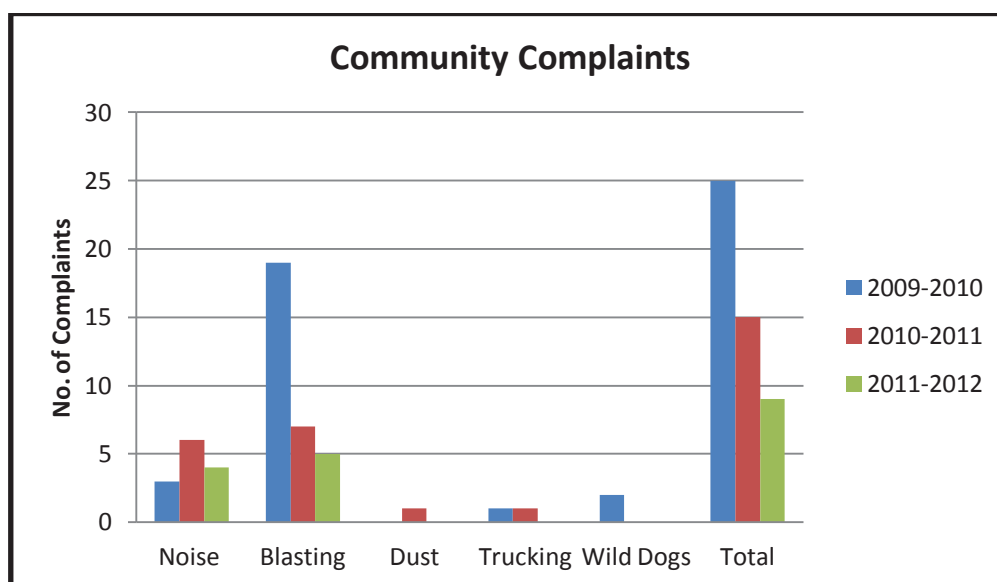


Figure 10: Community Complaints

4.2 Community Liaison

4.2.1 Community Consultative Committee

In accordance with the Project Approval, a Community Consultative Committee (CCC) has been established. The CCC meets three times a year basis. Additional information about the operation has been included on the company website (www.bloomcoll.com.au) and information about blasting schedules advertised quarterly in local newspapers.

4.2.2 Adopt-a-Road Program

Bloomfield is a participant in Cessnock City Council's Adopt-a-Road program. Bloomfield has entered into a three year agreement with the Council to undertake litter collection campaigns along Buchanan Road, between John Renshaw Drive and Louth Park Road, Buchanan. Bloomfield has contracted the Kurri Kurri Community Center Inc to conduct quarterly litter collection programs.

4.2.3 Community Sponsorship

The Bloomfield Group has a commitment to support local community projects and activities. As part of this commitment, financial sponsorship was provided for the following community groups, schools, charities and community events during the reporting period.

- All Saints College
- Australian Lions Children's Mobility Foundation
- Australian Red Cross
- Australian Signing Choir
- Bellbird Country Music Club
- Bishop Tyrrell College
- Branxton-Greta Amateur Swimming Club
- Can Assist
- Cancer Council of NSW
- Carols in the City Real Life Church
- Carrie's Place
- Children's Cancer Institute
- Chuck Duck & Rooster Cluck's Brekky Club
- Cure For Life Foundation
- Curlewis Campdraft Club
- Dads In Distress
- East Maitland Rugby Club
- East Maitland Schoolboy Rugby League Football Club
- Elektrik Dancer
- Farham Clothing
- Giant Steps Sydney
- Gunnedah Show
- Hunter Medical Research Institute
- Hunter Prostate Cancer Alliance

- Hunter River Community School
- Hunter Valley Research Foundation
- Juvenile Diabetes Research Foundation
- Kurri Kurri Public School
- Leukemia Foundation
- Life Shapers Soul Café
- Maitland & Kurri High School 2015 Anzac Tour
- Maitland Aroma Festival
- Maitland Basketball Association
- Maitland Taste Festival 2012
- Mayumarri Heal for Life
- Melanoma Institute
- Meniere's Research Fund Inc
- Medical & Educational Sustainable Community Help
- Metford School Academy Publishing
- NSW Mineral Council Bursary Fund
- Motor Neurone Disease
- MS Australia
- Muswellbrook Polocrosse Club
- Northern Agricultural Association
- NSW SES Volunteers Ass Welfare Fund
- Re Engineering Australia Foundation
- Red Shield Appeal
- River of Black Gold Festival Committee
- RSL Singleton Sub-Branch
- Rugby Blacks Netball
- Samaritans Foundation
- School of Mining Engineering UNSW
- Seaham School Fete
- Singleton Council Rose Point Cook Park
- Singleton Family Support Scheme Inc
- Singleton Heights Pre School
- Singleton High School
- Singleton High School Anzac Centenary Student Tour
- Singleton Rotary Art Exhibition
- St Paul's Primary School
- Steamfest
- The Smith Family
- Thornton Public School
- Toronto Bridge Club
- Upper Hunter Conservatorium Music
- We Help Ourselves
- West Wallsend Public School
- Westpac Rescue Helicopter
- Youth Of The Streets

5 REHABILITATION

5.1 Buildings

There have been no buildings or structures decommissioned over the site during the reporting period.

5.2 Rehabilitation of Disturbed Land

Landscape re-contouring, topsoil handling and revegetation techniques are well established at Bloomfield. The objectives of the rehabilitation program being: -

- To establish post-mining surfaces and vegetation cover which ensure a safe and stable landform of land capability class equal to that which existed prior to mining disturbance.
- Return the land to a condition suitable for a range of post-mining landuses, which take into account the proximity of the site to the urban areas of Maitland and possible future development demands.
- Create landforms that can accommodate overburden and waste products produced during coal mining and processing, and merge with adjoining undisturbed landforms.
- Reinststate a surface drainage network on the rehabilitated landforms that is hydrologically stable and incorporates adequate erosion and sediment control structures so as to effectively protect adjoining areas from potential water-borne impacts.
- Undertake a maintenance program to ensure the continued sustainability of previously rehabilitated areas.

Rehabilitation is carried out throughout the year, with the aim of timing vegetation seeding operations in Spring and Autumn.

The majority of the lease area is relatively undisturbed remnant native bushland and no other activities are carried out on the area other than the mining operation. To date 428 Ha has been rehabilitated.

The major rehabilitation program undertaken over the past decade has now resulted in only relatively small areas becoming available for rehabilitation each year. Combined with this was an expansion of dumping area over areas previously categorised as rehabilitated. As such, although 14.9 ha of land was rehabilitated during the reporting period, there was still a net decrease in rehabilitated land of 13 ha recorded for the reporting year (see Table 11).

Plan 2 provides an overview of the site showing areas previously rehabilitated, rehabilitation undertaken during the reporting period, shaped areas ready for rehabilitation, unshaped areas (active dumps), and active mining areas.

Table 12: Rehabilitation Summary

		Area Affected/Rehabilitated (hectares)		
		To date	Last report	Next Report (estimated)
A: MINE LEASE AREA				
A1	Mine Lease(s) Area	1,453.26		
B: DISTURBED AREAS				
B1	Infrastructure area (other disturbed areas to be rehabilitated at closure including facilities, roads)	73.7	74.0	73.7
B2:	Active Mining Area (excluding items B3 – B5 below)	59.5	63.8	64.5
B3	Waste emplacements, (active/unshaped/in or out-of-pit)	243.3	213.0	237.3
B4	Tailings emplacements, (active/unshaped/uncapped)	86.8	86.8	86.8
B5	Shaped waste emplacement (awaits final vegetation)	13.1	16.2	9.1
ALL DISTURBED AREAS		476.4	453.8	471.4
C REHABILITATION PROGRESS				
C1	Total Rehabilitated area (except for maintenance)	428.2	441.2	438.2
D: REHABILITATION ON SLOPES				
D1	10 to 18 degrees	27.8	32.6	27.8
D2	Greater than 18 degrees	-	-	-
E: SURFACE OF REHABILITATED LAND				
E1	Pasture and grasses	423.2	436.2	433.2
E2	Native forest/ecosystems	-	-	-
E3	Plantations and crops	5	5	5
E4	Other (include nonvegetative outcomes)	-	-	-

F1

F2

The active pit area decreased by 4.3 ha and the active overburden emplacement areas increased by approximately 30.3 ha, much of which was over areas included in C1, *Total Rehabilitated Area* in previous AEMRs. All rehabilitated land that was dumped over was rehabilitated to pasture with scattered trees and was stripped of topsoil and surface vegetation before dumping commenced. These materials were placed directly on prepared slopes for rehabilitation, or stockpiled for future use.

Table 12 provides a summary of the maintenance activities during the period and activities proposed for the next reporting period.

Table 13: Maintenance Activities on Rehabilitated Land

NATURE OF TREATMENT	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report period	Next period	
Additional erosion control works (drains re-contouring, rock protection)	-	-	Construction of contour drain to manage run off from expanded workings.
Re-covering (detail – further topsoil, subsoil sealing etc)	-	-	Small, isolated bare patches & washouts across the site to be ripped, retreated with lime, biosolids and/or fertiliser, and re-seeded during the next reporting period. Actual areas small and difficult to calculate.
Soil treatment (detail – fertiliser, lime, gypsum etc)	-	-	See "Re-covering" above.
Treatment/Management (detail – grazing, cropping, slashing etc)	-	50	The southern area of X Cut to be fenced and cattle grazing introduced to maintain pasture.
	-	5	Slashing of established rehabilitation to encourage nutrient recycling and, where needed, fertiliser application.
Re-seeding/Replanting (detail – species density, season etc)	-	-	See "Re-covering" above.
Adversely Affected by Weeds (detail - type and treatment)	-	-	Continual localised areas of weed treatment across all disturbed areas (see Section 3.7), but no specific areas of intensive treatment.
Feral animal control (detail – additional fencing, trapping, baiting etc)	550	-	Feral dog baiting undertaken during the reporting period in consultation with other large land holders in the area.

5.3 Further Development of the Final Rehabilitation Plan

In accordance with the Project Approval, Landscape Management Plan and Rehabilitation Management Plan have been prepared and submitted to DP&I for approval. The Mine Closure Plan and Final Void Management Plan will be submitted for approval before the end of June 2012. These documents outline the rehabilitation planning, operation and monitoring process for Bloomfield Group mining operations. All are expected to be approved during the next reporting period.

The 2004 Mining Operations Plan (MOP) for Bloomfield Collieries expired in 2010. A new MOP is being prepared under DREs new Interim MOP Guidelines. Under direction from DRE the MOP submission has been delayed due to the pending renewal of CCL 761 is finalised. The new MOP will be lodged in April 2012.

The 2004 MOP estimated approximately 30 ha of rehabilitation would be completed annually. However, this reporting period saw a net reduction in Total Rehabilitated Area due to lack of bulk areas available for rehabilitation and the expanded overburden dump footprint.

6 ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

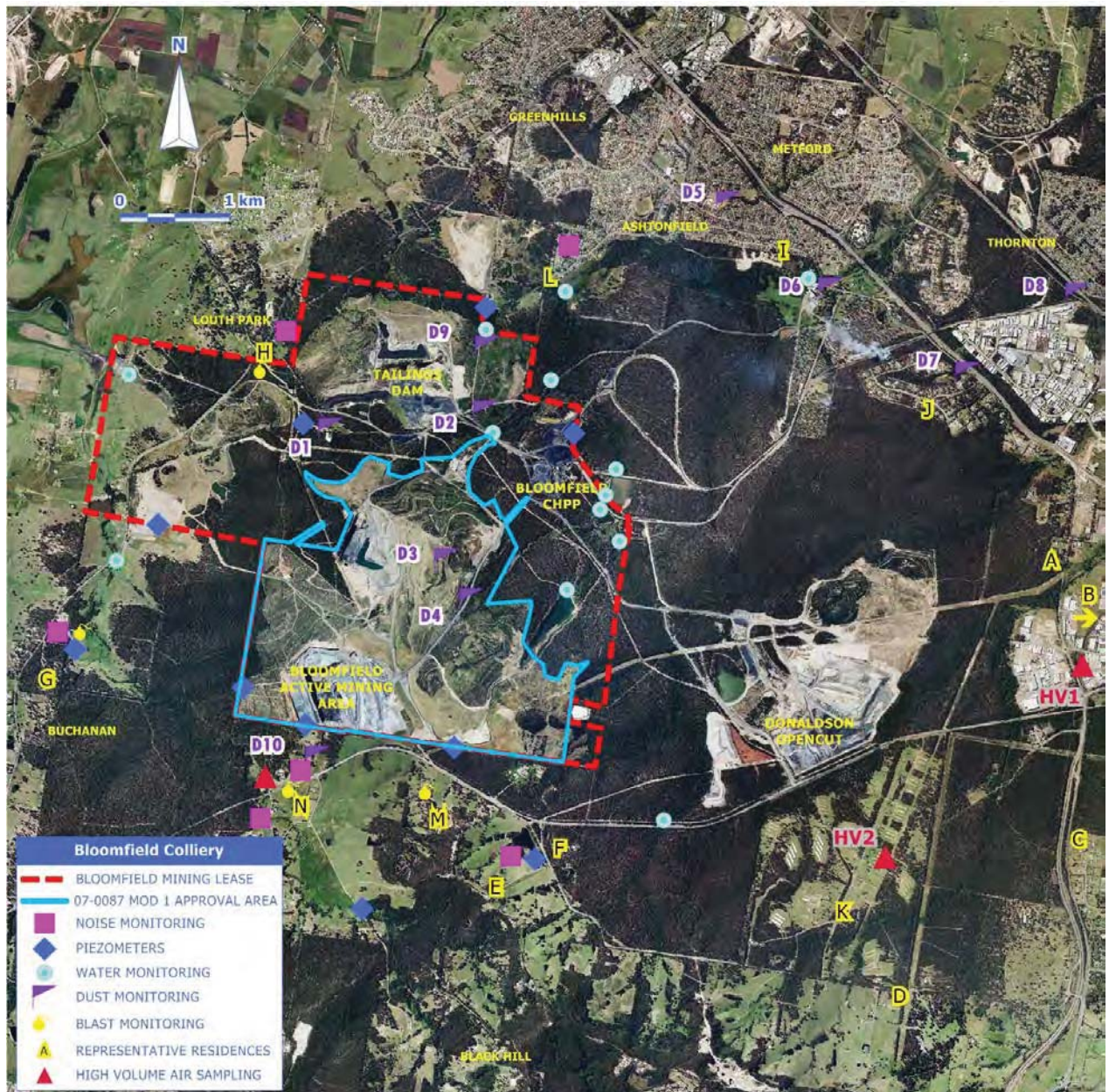
The activities for the ensuing year will generally be in accordance with the rehabilitation and landscape management strategy outlined in the Environmental Assessment and the MOP schedule. Environmental activities proposed for the next AEMR period have been previously reported within relevant sections of this document.

In accordance with the rehabilitation and landscape management strategy outlined in the Environmental Assessment and the MOP, an approximately 50 Ha area of the established rehabilitation area will be fenced and stock introduced for grazing purposes. The area will consist of the southern part of X-Cut along Buchanan Road. Further details will be provided in the next AEMR.

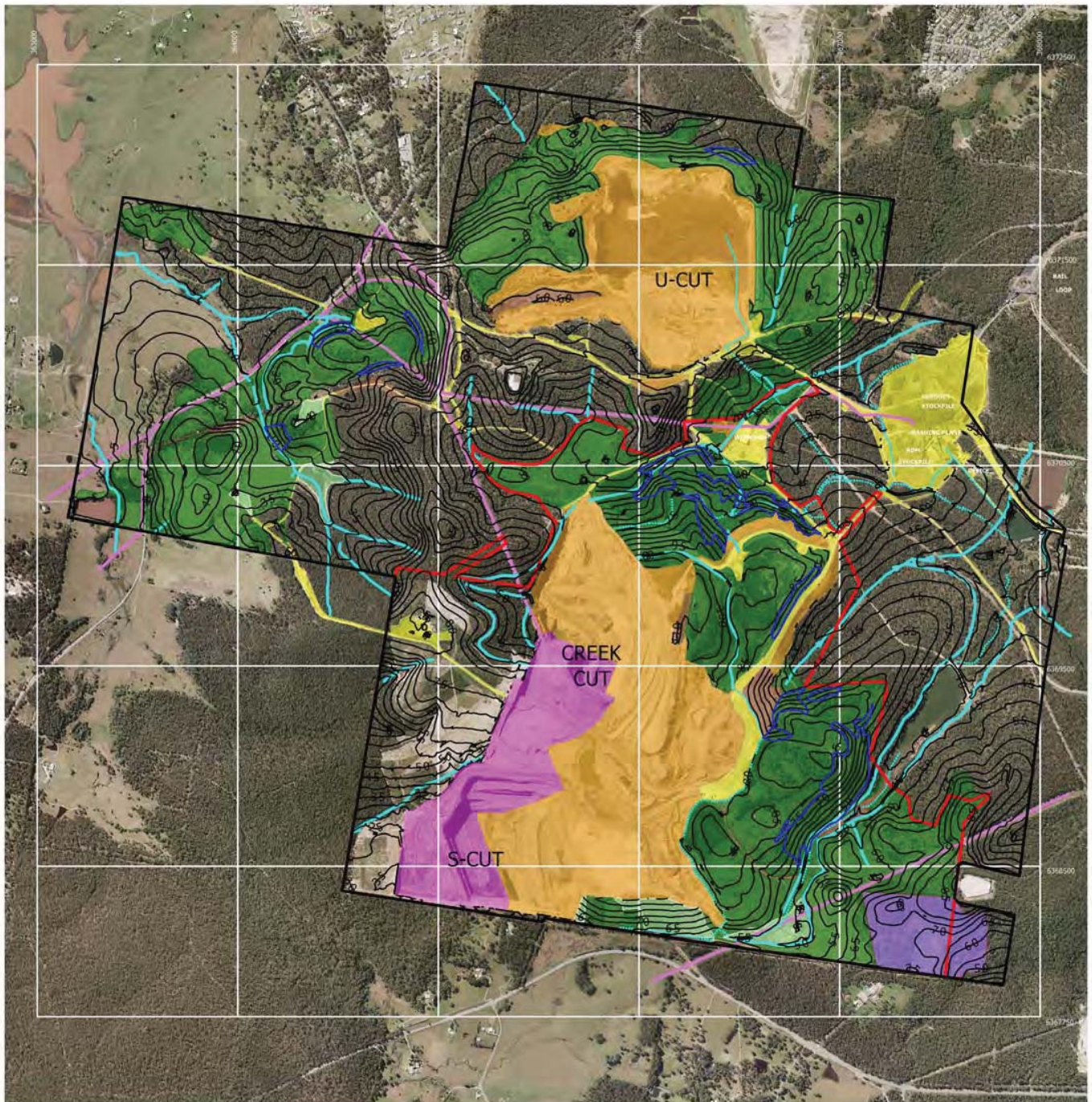
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PLANS



Plan 1 – Environmental Monitoring Sites



LEGEND

0 1 km
Contour interval 5m



— Contour (m AHD)	— Slopes 10 to 18 Degrees	— Unshaped Areas
— Clean Water	— Power Lines	— Shaped Areas
— Dirty Water	— Relinquished	— Active Areas
— Approval Area	— Previous Rehabilitation	— Infrastructure
— Colliery Holding	— New Rehabilitation	



Bloomfield Colliery

Annual Environmental Management Report

Plan 2

Rehabilitation Plan 2012

Scale: 1:20000

Date: March 2012
Photo: March 2012

Drawing: A3

APPENDIX A

PM10 and TSP Results 2011-2012

Date	TSP Concentration (ug/m ³)	PM ₁₀ Concentration (ug/m ³)
26/05/2011	29	11
1/06/2011	39	16
7/06/2011	34	14
13/06/2011	20	9
19/06/2011	22	11
25/06/2011	34	20
1/07/2011	33	19
7/07/2011	33	10
13/07/2011	44	26
19/07/2011	25	16
25/07/2011	30	14
31/07/2011	32	18
6/08/2011	49	25
12/08/2011	34	16
18/08/2011	21	10
24/08/2011	31	12
30/08/2011	52	17
5/09/2011	55	27
11/09/2011	24	9
17/09/2011	80	43
23/09/2011	73	41
29/09/2011	21	12
5/10/2011	36	17
11/10/2011	46	19
17/10/2011	52	21
23/10/2011	53	26
29/10/2011	42	20
4/11/2011	36	13
10/11/2011	57	25
16/11/2011	79	22
22/11/2011	28	12
28/11/2011	48	18
4/12/2011	34	18
10/12/2011	37	17
16/12/2011	39	14
22/12/2011	28	10
28/12/2011	36	22
3/01/2012	65	14
9/01/2012	46	21
15/01/2012	28	12
21/01/2012	33	17
27/01/2012	29	12
2/02/2012	11	7
8/02/2012	69	27
14/02/2012	30	13
20/02/2012	32	15
26/02/2012	30	14
3/03/2012	35	19
9/03/2012	36	18
15/03/2012	42	17
21/03/2012	38	16

Date	TSP Concentration (ug/m3)	PM10 Concentration (ug/m3)
27/03/2012	48	14
Maximum 24 hr Average	-	43
EPA Limit 24hr Average	-	50
Annual Average	39	17
EPA Limit Annual Average	90	30

APPENDIX B

WATER DISCHARGE MONITORING RESULTS

Discharge Monitoring Results 2011-2012

DATE	pH	TOTAL SUSPENDED SOLIDS (mg/l)	TOTAL DISSOLVED SOLIDS (mg/l)	SPECIFIC CONDUCTANCE (uS/cm)	IRON (mg/l)	DISCHARGE VOLUME (ML/day)
06-Jan-11	8.3	3	3,420	4,970	<0.05	40
18-Feb-11	8.1	5	4,440	5,900	<0.05	40
22-Mar-11	7.8	7	4,560	5,960	<0.05	40
31-Mar-11	8.5	2	3,700	5,310	<0.05	40
11-Apr-11	8.3	3	4,080	5,740	<0.05	40
25-May-11	8.4	2	3,340	5,860		40
26-May-11	8.3	3	4,120	5,970	<0.05	40
31-May-11	8.3	10	3,780	5,620	<0.05	40
01-Jun-11	8.4	5	3,480	5,050	0.07	40
02-Jun-11	8.5	5	3,280	4,910	<0.05	40
14-Jun-11	8.0	2	4,120	5,910	<0.05	40
15-Jun-11	8.4	1	3,770	4,950	<0.05	40
16-Jun-11	8.5	19	2,540	3,730	<0.05	40
29-Jun-11	8.1	15	4,400	5,700	<0.05	40
20-Jul-11	8.0	5	3,230	4,550	<0.05	40
21-Jul-11	8.2	9	3,100	4,300	<0.05	40
22-Jul-11	8.3	7	3,140	4,250	<0.05	40
23-Jul-11	8.4	15	2,410	3,500	<0.05	40
24-Jul-11	8.4	17	2,440	3,690	<0.05	40
20-Aug-11	8.3	2	3,690	4,620	<0.05	40
21-Aug-11	8.3	4	3,590	4,450	<0.05	40
22-Aug-11	8.4	4	3,310	4,350	<0.05	40
09-Sep-11	8.2	5	3,490	5,460	<0.05	40
10-Sep-11	8.3	4	3,240	5,070	<0.05	40
11-Sep-11	8.3	4	3,160	4,930	<0.05	40
25-Sep-11	8.0	2	4,070	5,470	<0.05	40
26-Sep-11	8.2	5	3,830	5,280	<0.05	40
27-Sep-11	8.4	9	3,300	4,560	<0.05	40
29-Sep-11	8.2	8	3,900	5,100	<0.05	20
26-Oct-11	8.0	4	4,710	5,650	<0.05	40
27-Oct-11	8.1	4	3,950	5,060	<0.05	40
28-Oct-11	8.1	4	3,270	4,390	<0.05	40
31-Oct-11	8.3	4	3,110	4,220	0.07	40
01-Nov-11	8.4	10	3,150	4,250	0.12	40
02-Nov-11	8.4	12	2,740	3,970	0.11	40
08-Nov-11	8.0	7	3,560	5,480	0.06	40
09-Nov-11	8.1	11	4,210	5,550	0.34	40

DATE	pH	TOTAL SUSPENDED SOLIDS (mg/l)	TOTAL DISSOLVED SOLIDS (mg/l)	SPECIFIC CONDUCTANCE (uS/cm)	IRON (mg/l)	DISCHARGE VOLUME (ML/day)
10-Nov-11	8.4	22	2,270	3,480	0.05	40
17-Nov-11	8.2	6	4,230	5,520	0.10	40
18-Nov-11	8.0	8	4,030	5,580	<0.05	40
24-Nov-11	8.0	7	4,680	5,670	<0.05	40
25-Nov-11	8.2	10	3,890	5,280	<0.05	40
08-Dec-11	8.2	8	4,080	5,250	<0.05	40
13-Dec-11	8.1	5	4,330	5,090	<0.05	40
14-Dec-11	8.1	14	3,280	4,090	<0.05	40
15-Dec-11	8.3	19	2,510	3,380	<0.05	40
20-Dec-11	8.1	11	4,370	5,250	<0.05	40
23-Jan-12	8.0	5	3,940	4,790	<0.05	40
25-Jan-12	8.1	9	4,200	5,260	<0.05	40
26-Jan-12	8.3	11	3,930	5,010	<0.05	40
27-Jan-12	8.4	15	3,610	4,670	<0.05	40
03-Feb-12	8.2	13	4,220	5,300	<0.05	40
04-Feb-12	8.1	12	3,240	4,040	<0.05	40
13-Feb-12	8.0	11	4,370	5,160	<0.05	40
14-Feb-12	8.5	18	3,480	4,270	<0.05	40
20-Feb-12	8.2	11	3,110	3,860	<0.05	40
02-Mar-12	8.0	9	3,520	4,110	<0.05	40
03-Mar-12	8.0	8	3,400	4,100	<0.05	40
04-Mar-12	7.8	24	1,780	2,340	<0.05	40
20-Mar-12	7.9	7	4,580	5,170	<0.05	40
27-Mar-12	8.0	12	4,760	5,390	0.77	40
28-Mar-12	8.3	15	2,980	3,950	<0.05	40
Average	8.2	9	3,620	4,835	<0.1	39.7
Maximum	8.5	24	4,760	5,970	0.77	40
Minimum	7.8	1	1,780	2,340	<0.05	20

APPENDIX C

BLAST MONITORING RESULTS

Bloomfield Colliery

Annual Shotfiring Results 2011-2012

Shot No.	Date	Time	Blast Monitoring Results							
			N - Elliotts		M - MacNaughtons		H - Mt Vincent Rd		G - Richards	
			O/pressure	Vibration	O/pressure	Vibration	O/pressure	Vibration	O/pressure	Vibration
			dB	mms	dB	mms	dB	mms	dB	mms
6186	1/04/2011	9.10am	103.7	1.58	99.3	0.29				
6187	6/04/2011	10.58am	DNR	DNR	DNR	DNR				
6188	13/04/2011	1.06pm	104.0	0.2	113.9	0.07				
6189	13/04/2011	3.37pm	82.3	0.3	105.6	0.20				
6190	19/04/2011	2.09pm	DNR	DNR	DNR	DNR				
6191	21/04/2011	1.10pm	DNR	DNR	DNR	DNR				
6192	5/05/2011	2.01pm	DNR	DNR	DNR	DNR				
6193	18/05/2011	10.54am	DNR	DNR	DNR	DNR				
6194	27/05/2011	2.02pm	DNR	DNR	DNR	DNR				
6195	8/06/2011	9.18am	DNR	DNR	DNR	DNR				
6196	28/06/2011	9.38am	104.9	2.0	103.2	1.43				
6197	29/06/2011	9.48am	DNR	DNR	DNR	DNR				
6198	30/06/2011	1.47pm	DNR	DNR	DNR	DNR				
6199	4/07/2011	9.20am	106.0	0.88	104.2	0.18				
6200	7/07/2011	4.38pm	109.8	1.43	114.2	1.26				
6201	8/07/2011	1.48pm	DNR	DNR	DNR	DNR				
6202	12/07/2011	3.28pm	108.3	0.7	104.5	0.43				
6203	14/07/2011	10.02am	DNR	DNR	DNR	DNR				
6204	15/07/2011	1.50pm	DNR	DNR	DNR	DNR				
6205	18/07/2011	1.45pm	DNR	DNR	DNR	DNR				
6206	19/07/2011	1.55pm	DNR	DNR	DNR	DNR				

Shot No.	Date	Time	Blast Monitoring Results							
			N - Elliotts		M - MacNaughtons		H - Mt Vincent Rd		G - Richards	
			O/pressure	Vibration	O/pressure	Vibration	O/pressure	Vibration	O/pressure	Vibration
			dB	mms	dB	mms	dB	mms	dB	mms
6207	28/07/2011	1.49pm	112.8	1.7	112.6	0.41				
6208	29/07/2011	10.00am	DNR	DNR	DNR	DNR				
6209	5/08/2011	1.53pm	101.3	1.00	107.4	1.09				
6210	9/08/2011	11.51am	108.5	1.0	104.8	0.38				
6211	10/08/2011	9.48am	DNR	DNR	DNR	DNR				
6212	12/08/2011	12.52pm	119.0	0.79	105.9	0.14				
6213	24/08/2011	1.45pm	108.0	0.67	101.2	0.11				
6214	31/08/2011	1.42pm	98.1	0.8	99.4	0.81				
6215	12/09/2011	1.34pm	98.4	1.33	100.8	1.69				
6216	21/09/2011	10.19am	98.4	1.8	104.5	2.09				
6217	23/09/2011	10.04am	97.1	0.5	96.7	0.58				
6218	10/10/2011	12.07pm	95.9	1.9	104.3	1.6				
6219	18/10/2011	1.42pm	99.0	1.11	99.6	1.29				
6220	20/10/2011	11.04am	105.8	0.80	105.4	0.10				
6221	21/10/2011	11.03am	102.4	1.70	103.6	1.14				
6222	28/10/2011	12.09	102.4	0.94	102.2	0.15	97.5	0.07		
6223	1/11/2011	2.08pm	95.9	0.52	98.9	0.08			100.9	0.09
6224	4/11/2011	11.03am	DNR	DNR	DNR	DNR	97.9	0.07	107.3	0.09
6225	8/11/2011	11.02am	109.2	1.80	107.8	0.20	97.1	0.10	98.0	0.14
6226	8/11/2011	1.34pm	109.0	0.85	105.0	0.81	85.8	0.84	101.4	0.90
6227	11/11/2011	10.02am	105.3	0.31	95.5	0.05	99.1	0.08	107.0	0.08
6228	14/11/2011	1.53pm	102.6	0.88	107.7	0.82	88.4	0.74	85.3	0.46
6229	19/11/2011	11.44am	DNR	DNR	DNR	DNR	96.6	0.08	100.9	0.08
6230	28/11/2011	1.01pm	DNR	DNR	DNR	DNR	106.5	0.09	102.3	0.06
6231	2/12/2011	12.07pm	DNR	DNR	DNR	DNR	97.9	0.08	96.6	0.07
6232	6/12/2011	10.13am	DNR	DNR	DNR	DNR	99.3	0.09	99.2	0.07
6233	9/12/2011	11.48am	98.70	0.25	101.0	0.09	88.4	0.10	89.5	0.10

Shot No.	Date	Time	Blast Monitoring Results							
			N - Elliotts		M - MacNaughtons		H - Mt Vincent Rd		G - Richards	
			O/pressure dB	Vibration mms	O/pressure dB	Vibration mms	O/pressure dB	Vibration mms	O/pressure dB	Vibration mms
6234	13/12/2011	10.36am	95.1	0.24	103.9	0.10	90.2	0.09	97.1	0.08
6235	16/12/2011	9.42am	92.40	0.29	101.4	0.05	100.1	0.08	97.7	0.09
6236	20/12/2011	1.40pm	DNR	DNR	DNR	DNR	101.0	0.10	101.6	0.20
6237	22/12/2011	10.44pm	91.8	0.3	104.7	0.3	92.6	0.13	-	-
6238	22/12/2011	11.05am	DNR	DNR	DNR	DNR	96.9	0.08	-	-
6239	20/01/2012	1.45pm	95.5	1.55	96.8	1.39	107.1	0.40	96.9	0.57
6240	30/01/2012	2.24pm	DNR	DNR	DNR	DNR	111.3	0.10	109.4	0.10
6241	31/01/2012	1.50pm	DNR	DNR	DNR	DNR	111.3	0.10	109.4	0.10
6242	6/02/2012	1.51pm	85.1	0.41	98	0.61	103.7	0.36	104.1	0.46
6243	13/02/2012	1.48pm	88.6	0.59	100.8	0.77	98.6	0.36	100.6	0.56
6244	22/02/2012	1.32pm	85.1	0.68	93.4	0.66	101.9	0.40	98.8	0.63
6245	27/02/2012	1.56pm	92.4	0.72	101.9	0.333	92.1	0.28	90.9	0.45
6246	2/03/2012	12.37pm	90.3	1.11	100.3	0.71	102.1	0.43	102.6	0.57
6247	6/03/2012	4.48pm	DNR	DNR	DNR	DNR	118.0	0.09	106.2	0.08
6248	9/03/2012	12.07pm	101.8	0.31	120.6	0.15	91.0	0.11	85.3	0.11
6249	14/03/2012	12.48pm	DNR	DNR	93.4	0.18	82.9	0.09	83.0	0.07
6250	15/03/2012	12.38pm	DNR	DNR	DNR	DNR	82.2	0.08	84.3	0.07
6251	21/03/2012	12.07pm	99	0.64	104.5	0.62	96.2	0.34	93.8	0.26
6252	21/03/2012	2:45pm	92.4	0.28	101	0.33	92.9	0.20	96.1	0.21
6253	26/03/2012	12.28pm	97.8	0.31	96.4	0.06	86.1	0.08	96	0.09
6254	27/03/2012	12.36pm	DNR	DNR	DNR	DNR	85	0.08	86.6	0.07
6254	29/03/2012	12.56pm	98.4	0.47	99.4	0.05	92.0	0.1	95.1	0.1
		Max	119.0	2.0	120.6	2.1	118.0	0.8	109.4	0.9
		Min	82.3	0.2	93.4	0.1	82.2	0.1	83.0	0.1
		Mean	99.8	0.9	103.0	0.6	96.7	0.2	97.5	0.2
		Median	99.0	0.8	102.7	0.4	97.1	0.1	98.0	0.1

APPENDIX D

QUARTERLY NOISE MONITORING RESULTS

June 2011 Quarter Results

Location	Estimated Bloomfield LAeq(15minute) Contribution			Consent Conditions LAeq(15 minute)			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
F – Black Hill Road, Black Hill	<39 ^{1,2}	<43 ^{1,2}	<43 ^{1,2}	35	35	35	NA ¹	NA ¹	NA ¹
G – Buchanan Road, Buchanan	<30 ¹	43 ³	37	39	42	37	Yes	No ³	Yes
L – Kilshanny Ave, Ashtonfield	<30 ^{1,2}	36	35	35	35	35	Yes	No ³	Yes
M – John Renshaw Drive, Buttai	<35 ^{1,2}	37	35	39	39	37	Yes	Yes	Yes
N – Lings Road, Buttai	<40 ^{1,2}	<44 ^{1,2}	<43 ¹	42	42	35	Yes ³	NA ¹	NA ¹

1 - Bloomfield operations inaudible/not measurable

2 - Estimated contribution equals LA90 minus 10 dBA

3 – Within 2 dBA tolerance as per Chapter 11 of NSW INP

September 2011 Quarter Results

Location	Estimated Bloomfield LAeq(15minute) Contribution			Consent Conditions LAeq(15 minute)			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
F – Black Hill Road, Black Hill	<37 ^{1,2}	<38 ^{1,2}	39 ²	35	35	35	NA ¹	NA ¹	No
G – Buchanan Road, Buchanan	<30 ¹	35	<30	39	42	37	Yes	Yes	Yes
L – Kilshanny Ave, Ashtonfield	<30 ^{1,2}	<30 ^{1,2}	37	35	35	35	Yes	Yes	No ³
M – John Renshaw Drive, Buttai	<43 ^{1,2}	40	38	39	39	37	Yes	Yes	Yes
N – Lings Road, Buttai	<42 ^{1,2}	<41 ^{1,2}	36 ¹	42	42	35	Yes	Yes	No ³

1 - Bloomfield operations inaudible

2 - Estimated contribution equals LA90 minus 10 dBA

3 – Within 2 dBA tolerance as per Chapter 11 of NSW INP

December 2011 Quarter Results

Location	Estimated Bloomfield LAeq(15minute) Contribution			Consent Conditions LAeq(15 minute)			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
F – Black Hill Road, Black Hill	<37 ^{1,2}	<41 ^{1,2}	<40 ^{1,2}	35	35	35	NA ¹	NA ¹	NA ¹
G – Buchanan Road, Buchanan	32	35	35	39	42	37	Yes	Yes	Yes
L – Kilshanny Ave, Ashtonfield	35	35	30	35	35	35	Yes	Yes	Yes
M – John Renshaw Drive, Buttai	<40 ^{1,2}	<42 ^{1,2}	<37 ^{1,2}	39	39	37	NA ¹	NA ¹	Yes
N – Lings Road, Buttai	<42 ^{1,2}	<42 ^{1,2}	<36 ^{1,2}	42	42	35	Yes	Yes	NA ¹

1 - Bloomfield operations inaudible

2 - Estimated contribution equals LA90 minus 10 dBA

3 - Within 2 dBA tolerance as per Chapter 11 of NSW INP

March 2012 Quarter Results

Location	Estimated Bloomfield LAeq(15minute) Contribution			Consent Conditions LAeq(15 minute)			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
F – Black Hill Road, Black Hill	<38 ^{1,2}	<33 ^{1,2}	<37 ^{1,2}	35	35	35	NA ¹	Yes ¹	NA ¹
G – Buchanan Road, Buchanan	31	33	33	39	42	37	Yes	Yes	Yes
L – Kilshanny Ave, Ashtonfield	<30 ^{1,2}	<36 ¹	<35 ^{1,2}	35	35	35	Yes ^{1,2}	N/A ²	Yes ^{1,2}
M – John Renshaw Drive, Buttai	<44 ^{1,2}	<39 ^{1,2}	<38 ^{1,2}	39	39	37	N/A ^{1,2}	Yes ^{1,2}	Yes ^{1,2}
N – Lings Road, Buttai	<35 ^{1,2}	<40 ²	<39 ²	42	42	35	Yes ¹	Yes ^{1,2}	N/A ^{1,2}

1 - Bloomfield operations inaudible

2 - Estimated contribution equals LA90 minus 10 dBA

3 - Within 2 dBA tolerance as per Chapter 11 of NSW INP