

BLOOMFIELD

BLOOMFIELD MINING OPERATIONS

Annual Environmental Management Report

Ver	Date	Description	By	Chk	App
1	310710	Draft	KH	SG & JH	SG
2	120810	Final	KH	SG	SG

Bloomfield Collieries Pty Ltd

Annual Environmental

Management Report (2009-2010)

Name of Mine	Bloomfield Colliery		
Titles/Mining Leases	Consolidated Coal Lease 761 dated 20/11/91		
MOP Commencement Date	2004	MOP Completion Date	2011
AEMR Commencement Date	1/4/2009	AEMR End Date	31/3/2010
Name of leaseholder	Bloomfield Collieries Pty Limited		
Name of Mine Operator	Bloomfield Collieries Pty Limited		
Reporting Officer	Keren Halliday		
Title	Environmental Officer		
Signature	<hr/>		
Date	<hr/>		

Executive Summary

Project Approval (07_0087) for the continued operation and rehabilitation of the site was granted by the Minister for Planning on the 3rd of September, 2009. In a response to the conditions of the approval, a number of draft management plans have been prepared and submitted to relevant government agencies and departments for comment. These will be finalised and implemented during the next reporting period.

During the reporting period, Bloomfield operated 15 shifts a week for 48 weeks employing 76 personnel. Production was 1,103,877 tonnes of raw coal, 562,280 tonnes of saleable coal and 6.78 million banked cubic meters 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 2004 MOP. During the next reporting period, Mining in S Cut will continue towards the west and Creek Cut will continue towards the south. Approximately 1.8 ha of land was prepared for mining during the reporting period.

The coal handling and preparation plant (CHPP) operates at a throughput of 6.5Mtpa, as approved under the Abel Consent. The throughput is currently rated at 1000 tonnes per hour.

Twelve licensed discharges were conducted with a total discharge volume of 459ML. No surface water pollution incidents (exceedance of EPL discharge thresholds) occurred.

During the reporting period a total of 108 blasts were initiated on the site. Of these, two (1.9%) exceeded 115 dB blast overpressure and nil blasts (0.0%) exceeded 5 mm/sec ground vibration. No blasts exceeded the EPL blast overpressure limit of 120 dB.

Twenty five community enquiries were registered during the reporting period, consisting of:

- twenty complaints about blast noise and/or ground vibration;
- two complaints about noise;
- a complaint about highway truck movements that was found not be associated with Bloomfield; and
- two enquiries about wild dogs

One hazard reduction burn was conducted by the Rural Fire Service during the reporting period. A number of tracks required for hazard reduction were maintained for access and slashing undertaken along an asset protection zone near an adjoining residential area.

A net decrease in rehabilitated land of 10.7 ha was recorded for the reporting year, due to the increase in overburden dump area disturbing previously rehabilitated land. Actual rehabilitation completed was approximately 9.5 ha. Large areas of rehabilitation maintenance and remedial rehabilitation were also completed.

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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 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, however underground mining by the current owner began in 1937. The open cut commenced operations in 1964. The last coal extracted from underground operations was in May 1992. 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. Rix's 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 1/4/2009 to 31/3/2010, being Bloomfield's fiscal reporting year.

1.1 Consents, Leases and Licences

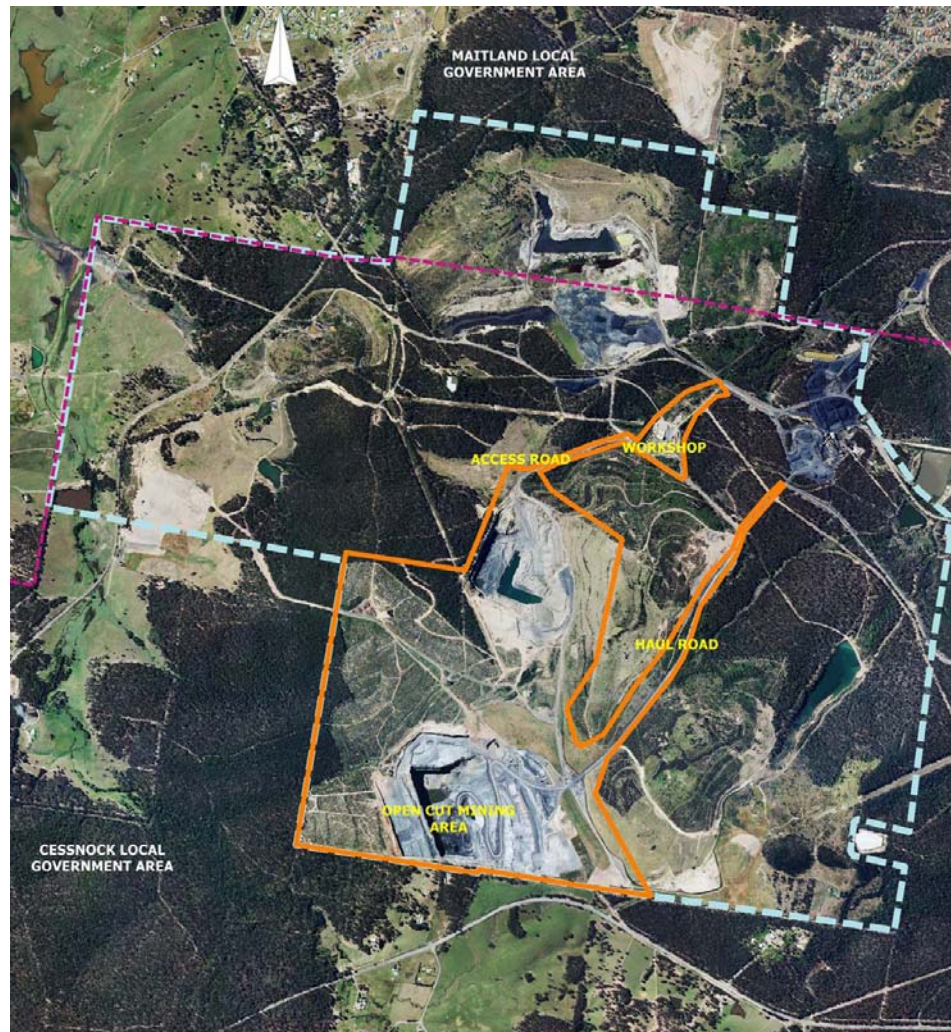
Bloomfield operates under consents, leases and licenses presented in Table 1.

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	29 October 2010	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 0369	31 December 2007	Renewed Annually	Issued by Department of Environment and Climate Change (DECC NSW). Review date 15 November 2009

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



3A PROJECT APPROVAL AREA



Figure 1: Bloomfield Colliery

During the reporting period, Project Approval (07_0087) was granted by the Minister for Planning under Part 3A of the *Environment Planning & Assessment Act 1979* 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.

The current Mining Operations Plan (MOP) for Bloomfield Collieries was lodged with the DPI-MR in 2004. There were no changes to this MOP in the reporting period.

1.2 Mine Contacts

The Bloomfield Mine Manager/Group Mining Superintendent, Mr Reg Crick, is the primary mining contact and is responsible for regulatory compliance. The Environmental Officer is Ms Keren Halliday 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 Hotline		BH: 02 4930 2624 AH: 0407 938 002
Mr Reg Crick		Tel: 02 4930 2620 Mob: 0408 680 432 Email: rcrick@bloomcoll.com.au
Ms Keren Halliday		Tel: 02 4930 2689 Mob: 0457 819 211 Email: khalliday@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 1.8 ha of land was prepared for mining during the reporting period. This area was situated to 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 3.

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 76 personnel. Production was 1,103,877 tonnes of raw coal, 562,280 tonnes of saleable coal and 6.78 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 2004 MOP. During the next reporting period, Mining in S Cut will continue towards the west and Creek Cut will continue towards the south.

1	x	Hitachi EX5500 excavator
1	x	Caterpillar 785 rear dump truck
3	x	Caterpillar 789 rear dump truck
4	x	Caterpillar 793 rear dump truck
3	x	Cat D11 dozer
1	x	Cat D10 dozer
1	x	Cat D9 dozer
2	x	Cat 777 water cart
2	x	Cat 16 grader
1	x	Cat 992 loader
1	x	Cat 994 loader
1	x	Reeddrill SK75 drill
1	x	D40k drilltech

The secondary production equipment includes:-

1	x	Cat 666 scraper
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2.5 Mineral Processing

The coal handling and preparation plant (CHPP) has a throughput of 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)	146,000	172,000	202,000
Topsoil used/spread (bcm)	146,000	172,000	202,000
Waste Rock (bcm)	33,291,028	39,771,130 (6,480,102)	44,944,265
Run Of Mine Coal (t) (Bloomfield)	5,679,242	6,783,119 (1,103,877)	7,570,866
(Donaldson)	13,898,786	15,411,668 (1,512,882)	16,226,283
(Tasman)	969,344	1,678,319 (708,975)	2,181,954
(Abel)	140,612	781,654 (641,042)	2,287,434
TOTAL ROM	20,687,984	24,654,760	28,266,537
Processing Waste (t) (Bloomfield)	2,956,986	3,498,583 (541,597)	3,816,045
(Donaldson)	4,001,082	4,592,309 (591,227)	4,910,657
(Tasman)	346,987	575,003 (228,016)	736,979
(Abel)	83,589	357,923 (274,334)	824,715
TOTAL WASTE	7,388,644	9,023,818	10,288,395
Coal (tonne) (Bloomfield)	3,384,718	3,946,998 (562,280)	4,417,283

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 and in the U Cut open cut pit on site. Fine tailings are currently pumped as 20% solids slurry to U Cut, 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 3.

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. During the reporting period Bloomfield switched to a waste contractor who re-synthesise waste oil to a fuel oil product for re-use in ANFO explosive for blasting operations. Approximately 115,100L of waste oil was collected in the reporting period.

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. The total scrap metal for the reporting period was 169 tonnes.

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 3.0m³ bins and collected by licensed waste contractor for disposal.

2.7 Product Stockpiles

In accordance with the Abel consent, Bloomfield has increased the capacity of the ROM coal and clean coal stockpile pads in the previous reporting period. The ROM stockpile pad has a capacity of 300,000 tonnes and the clean coal stockpiles have a capacity of 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 water 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

(if more than one storage of each type, list separately)	Volumes held (cubic metres)		
	Start of Reporting Period	At end of Reporting Period	Storage Capacity
Clean water	90ML	90ML	90ML
Dirty water			
Lake Kennerson	145ML	120ML	245ML
Lake Foster	40ML	40ML	45ML
U Cut	500ML	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)	459		
Contaminated water	NIL	NIL	NIL

Rainfall for the period is shown in Table 4. The total rainfall for the twelve month period was 676.7 mm compared with 1279.5 mm for the previous year. This was 189.5 mm below the annual average of 866.2 mm

Table 4: Annual Rainfall

BLOOMFIELD COLLIERIES ANNUAL RAINFALL													
Month	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY '09	FEBRUARY '09	MARCH '09	TOTAL
Total Rainfall	128.5	83.0	66.0	33.0	1.5	31.0	60.0	39.5	47.7	77.5	34.5	74.5	676.7
Average Rainfall	74.8	74.9	84.0	47.5	43.4	53.0	53.6	74.3	62.9	74.1	128.4	95.4	866.2

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

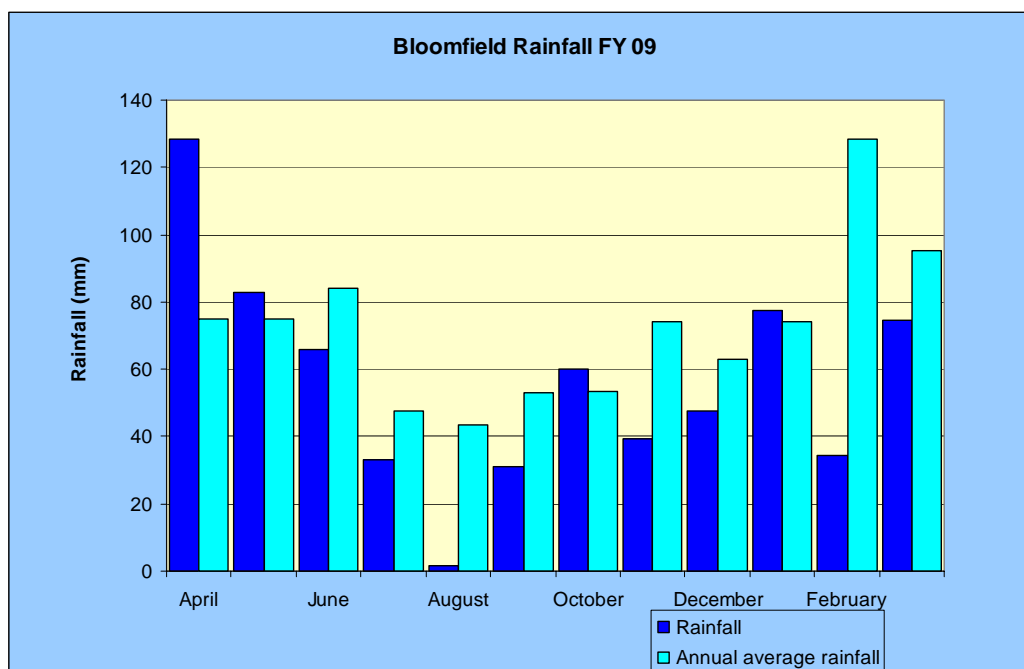


Figure 2: Rainfall.

Waste water: Wastewater generated on site, consisting of domestic waste from bathhouses, administration offices and associated amenity areas, passes through a septic system. The septic tank provides a primary and secondary process with solid waste being processed by anaerobic bacteria. Effluent then passes to a maturation pond prior to disposal by evaporation and transpiration.

2.9 Hazardous Materials Management

Bloomfield held Dangerous Goods Licence and under current WorkCover legislation notification has been provided to WorkCover of the substances stored on site. A separate application to store and handle explosives on site has been made.

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. During the reporting period, the CHPP stopped using distillate and MIBC for coal processing

and is trialling Nalco frother and collector products as alternatives. As a result, distillate and MIBC is no longer stored at the CHPP.

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.

A dust monitoring program is in place with 10 dust deposition gauges located on and around the mine lease area. The locations are listed in Table 5 and generally conform to the relevant Australian Standard. Samples are collected by independent environmental consultants and analysed by a NATA registered laboratory.

Table 5: Dust Monitoring Sites

Site	Location
On Lease	
1	Adjacent to Buttai Reservoir
2	Adjacent to Main Haul Road
3	Plantation Site
4	Off Haul Road West of Stoney Pinch Reservoir
9	Shamrock Lane
Off Lease	
5	Bali Close Ashton Field
6	Off Four Mile Creek Road
7	Off New England Highway Avalon Estate
8	Adjacent of Main North Rail line at Rail Loop
10	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. A full copy of the air quality monitoring results are included in Appendix A.

Table 6: Annual Average Dust Deposition for reporting period

SITE	MAXIMUM RESULT 2009 (g/m ² /month)	MINIMUM RESULT 2009 (g/m ² /month)	YEARLY AVERAGE 2009 (g/m ² /month)	YEARLY AVERAGE 2008 (g/m ² /month)	LONG TERM AVERAGE (1991 – 2009) (g/m ² /month)
1	2.9	0.9	1.8	1.8	2.1
2	4.3	1.3	2.4	1.9	2.2
3	5.4	1.1	3.2	3.0	1.8
4	5.0(58.8c)	1.5	-	-	2.7
5	2.2	0.8	1.4	1.3	1.6
6	2.5(22.8)	1.0	1.6	1.7	2.1
7	4.9(8.5)	1.3	2.3	2.0	1.9
8	3.9(434c)	1.2	1.8	1.9	1.4
9	3.9	0.8	1.5	1.3	1.2
10	10.1	0.9	2.8	2.9	1.9

Note: "c" denotes highest result that may have been contaminated. "ns" denotes result is considered non standard.

Site 4 repositioned during previous reporting period and yearly average not available

Sites 3 and 4 are located adjacent to operational areas well within lease boundaries. Results from these sites indicate the level of dust generated by mining operations. As with previous years, Site 4 continued to show a number of slightly elevated results. Site 4 was temporarily suspended and then repositioned during the reporting period. This was to allow for stabilisation of the batter adjacent to the haul road where it was originally located. Dust levels at Site 3 are higher than the previous year and the long-term average, as operational overburden dumps move closer to that vicinity. As discussed, Sites 3 and 4 are located well within the lease, adjacent to mining operations, and operational dust contributing to these elevated results is unlikely to impact off site.

Not including contaminated results (insects, vegetation, bird droppings, etc), maximum results for offsite gauges (Sites 5-10) are generally below the DECC guideline of 4 g/m²/month. The maximum levels recorded at Sites 7 and 10 exceeded the guidelines; however, annual averages for those sites are well below the guidelines. The maximum result for Site 10 in September (10.1 g/m²/month) is believed to be an anomaly. Prevailing winds for May are from the west and south-east, neither of which would have increased site generated dust contributions at Site 10, which is located to the south-west of the operational areas. The annual average and long-term average for site 10 is below the DECC guideline. Results for other offsite gauges indicate that the dust generated through mining operations, as indicated at Sites 3 and 4, is largely contained on site.

Figure 3 shows the individual monthly insoluble solids deposition rates for each site during the reporting period, compared with the long term average and DECC guideline of 4 g/m²/month.

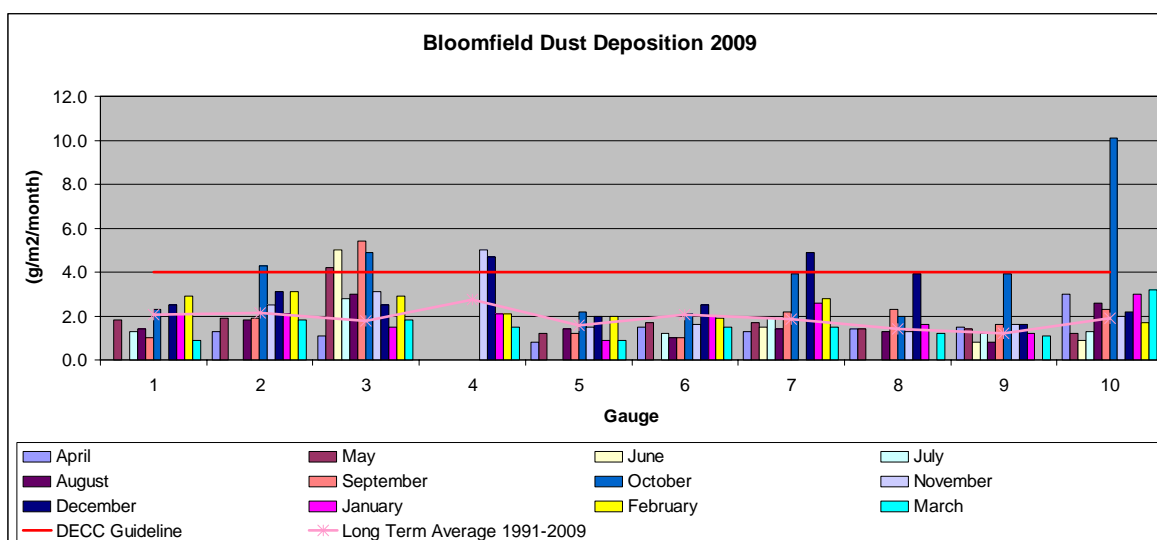


Figure 3: Dust Deposition - Insoluble Solids

Field notes for the following highly elevated results indicate that the gauge was potentially contaminated with insects, vegetation matter or bird droppings.

- Site 6, June 09 – 22.8 g/m²/month;
- Site 7, November 09 – 8.5 g/m²/month;
- Site 8, February 09 – 434 g/m²/month;

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 Project Approval, a dust monitoring plan has been prepared for the site. During the next reporting period high volume air samplers (PM₁₀ and TSP) will be installed.

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 Reportable 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 Pollution

3.3.1 Environmental Management

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 will be discussed 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); 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 (W12).

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

- Lake Kennerson – mine water (W9);
- Lake Foster - mine water(W8); and
- Possums Puddle (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. 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 flow level (via pressure sensor and V-notch weir) every 15 seconds and logs results every hour or when there is a greater than 5% change in measured results.

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.

The Lake Kennerson spillway was also expanded and regraded to reduce erosion and sedimentation potential during times of overflow.

3.3.2 Environmental Performance

Background Monitoring Results: The background water monitoring results are shown in Figures 4 to 6, below. Figure 4 shows EC results for the Four Mile Creek sites. Figure 5 shows the pH results for Four Mile Creek. Figure 6 shows pH and EC for the site water storages – Lake Kennerson (mine water), Lake Foster (mine water) and Possums Puddle (catchment water).

Figure 4 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 Junction and New England Highway) reflect concentration of solutes in ponds during non-flow periods from licensed discharges in addition to off site sources such historic underground workings. The elevated EC result for Possum's Puddle overflow and Ewells Creek in April occurred after a high rainfall event following a period of dry weather. The results for May show that EC were significantly lower and consistent with normal background conditions.

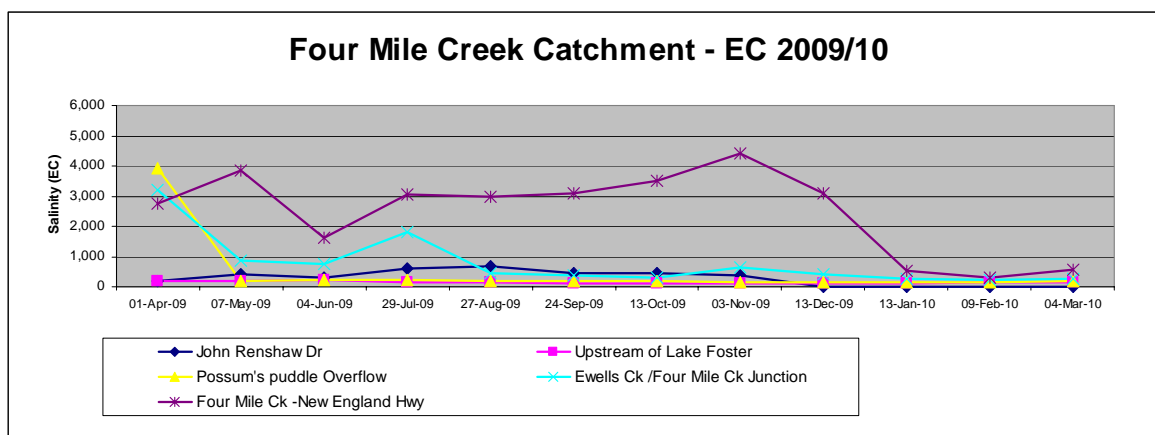


Figure 4: Four Mile Creek Catchment EC.

The pH monitoring results in Fig 5 indicate the levels in Four Mile Creek are generally consistent with water quality guidelines (pH 6.5-8.5). Several monthly samples from the drainage line adjacent to Rathluba were of low pH. Previous years' results indicate that the surface flow adjacent to Rathluba has historically been of low pH, regardless of mining impacts. 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. For the majority of the reporting period this site was dry and no samples were taken. Full water monitoring results are presented in Appendix B.

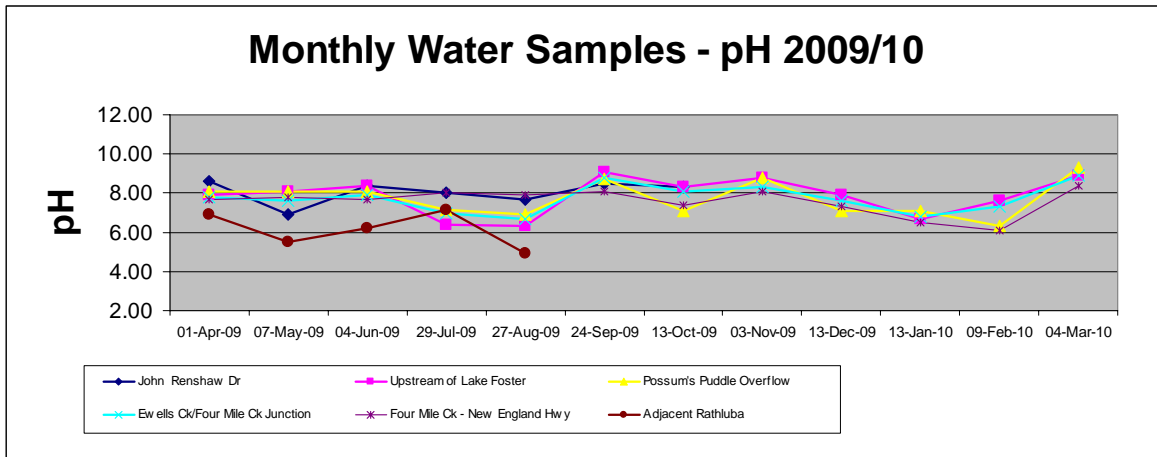


Figure 5: pH Results for Four Mile Creek and Rathluba.

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.

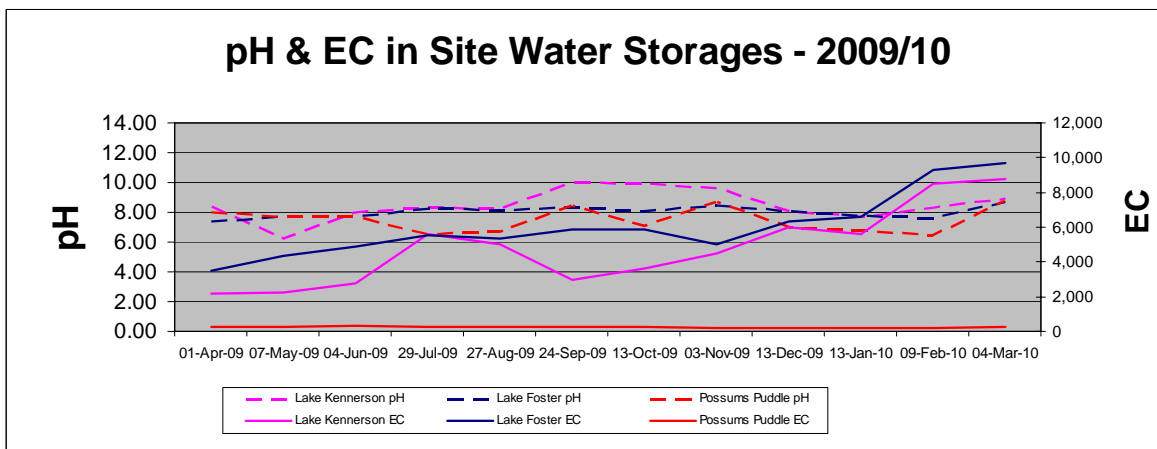


Figure 6: pH and EC in site water storages

Discharge Monitoring Results: there were 12 licensed discharges conducted during the reporting period, with a total discharge volume of 459ML. Table 8 shows the water quality results at the discharge point, compared to EPL discharge water quality thresholds. The results show that no EPL discharge criteria were exceeded.

Table 7: Discharge sampling analytical results

DATE	pH	TSS (mg/l)	TDS (mg/l)	EC (uS/cm)	IRON (mg/l)	DATE	pH	TSS (mg/l)	TDS (mg/l)	EC (uS/cm)	IRON (mg/l)
23-Jul-09	8.2	6	4,200	5,600	<0.05	21-Apr-09	8.2	13	3,300	4,300	<0.05
22-Jun-09	8.3	6	3,155	4,255	<0.05	20-Apr-09	8.1	17	3,350	4,500	<0.05
19-Jun-09	8.2	0	4,010	5,230	<0.05	04-Apr-09	7.3	7	1,340	1,400	0.06
17-Jun-09	8.2	1	4,285	5,645	<0.05	03-Apr-09	7.5	11	1,450	1,600	0.05
22-May-09	8.1	9	3,080	4,200	<0.05	02-Apr-09	7.9	4	2,270	2,600	0.06
21-May-09	8.1	6	3,090	5,000	0.18	01-Apr-09	8.0	4	3,860	4,300	<0.05
EPL Limits	6.5-8.5	30	n/a	6000	1.0	EPL Limits	6.5-8.5	30	n/a	6000	1.0

3.3.3 Reportable Incidents

There were no reportable surface water incidents recorded

3.3.4 Further Improvements

Project Approval was granted during the reporting period and is subject to a number of consent conditions. The Site Water Management Plan will be finalised and implemented during the next reporting period which includes additional surface and ground water quality monitoring.

3.4 Ground Water Pollution**3.4.1 Environmental Management**

Project Approval was granted during the reporting period and is subject to a number of consent conditions. The Site Water Management Plan will be finalised and implemented during the next reporting period which includes ground water quality monitoring.

3.4.2 Environmental Performance

No adverse impacts on groundwater quality are expected as a result of the completion of mining and rehabilitation at Bloomfield.

3.4.3 Reportable Incidents

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

3.4.4 Further Improvements

The Site Water Management Plan will be finalised and implemented during the next reporting period which includes additional ground water quality monitoring.

3.5 Contaminated Polluted Land**3.5.1 Environmental Management**

No contaminated or polluted land has been identified at Bloomfield. No significant hydrocarbon or chemical spills occurred 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.

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.

3.6.3 Reportable Incidents

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

3.6.4 Further Improvements

The Project Approval includes a condition for Bloomfield to provide a \$20,000 contribution towards a conservation project within the Cessnock LGA. The contribution will be made in the next reporting period.

3.7 Weeds & Pests

3.7.1 Environmental Management

Bloomfield undertakes regular inspections and has a treatment program to control weeds across the site. Approximately \$31,000 was spent across the site on weed control during the reporting period. 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.

3.7.2 Environmental Performance

No Class 1 or Class 2 declared weeds were identified onsite. The following weed species were identified and treated during the reporting period include:

- Mother-of-millions (class 3)
- Pampas grass (class 4)
- Blackberry (class 4)
- Crofton weed (class 4)
- Noogoora Burr (class 4)
- Lantana (class 5)

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 pampas 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

Blasting activities are licensed under the site EPL. The EPL 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 “nonel” initiation system and implemented to achieve maximum fragmentation and maintain levels ground vibration and overpressure levels within the approved criteria for the site.

Each blast is monitored at two nearby residences for ground vibration and overpressure. One monitor is located at a residence immediately to the south of current open cut operations and the second is stationed at a residence to the south-east on John Renshaw Drive.

Records are maintained for all blasts which include shot design, explosive type and volume, initiation method and monitoring results.

3.8.2 Environmental Performance

During the reporting period a total of 108 blasts were initiated on the site. Of these, two (1.9%) exceeded 115 dB blast overpressure and nil blasts (0.0%) exceeded 5 mm/sec ground vibration. No shots exceeded the absolute limits of 120dB or 10mm/s.

All blast results for the reporting period are included in Appendix C.

3.8.3 Reportable Incidents

No exceedance of blasting limits was reported during the reporting period. On one occasion (17/3/10) the blast monitoring equipment malfunctioned and was not operative during a blast. This was reported to DECCW and a warning letter was issued. In response, a program to check the monitors prior to blasting has been implemented.

3.8.4 Further Improvements

Monitoring of blasts will continue in accordance with EPL and Project Approval requirements.

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 approved by the Director General and implemented fully during the next reporting period.

3.9.2 Environmental Performance

Three complaints relating to operational noise were received and investigated during the reporting period (refer to Table 8). Noise monitoring undertaken during the reporting period found the site to be compliant with noise criteria specified in the Project Approval.

3.9.3 Reportable Incidents

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

3.9.4 Further Improvements

A draft noise monitoring plan has been prepared in accordance with the conditions of the Project Approval. The noise monitoring plan will be finalised during the next reporting period and implemented.

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 submitted to DECCW and DoP during the reporting period for endorsement by the Director General.

3.11.2 Environmental Performance

A number of Aboriginal sites identified during the Project Approval process were protected and left undisturbed during the reporting period. All future activities that may impact these sites will be undertaken in accordance with ACHMP.

3.11.3 Reportable Incidents

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

3.11.4 Further Improvements

It is expected that the ACHMP will be approved and 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. 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 annually 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

One hazard reduction burn was completed during the reporting period, in a compartment to the south east of Lake Kennerson. An asset protection zone adjacent to an urban area near Ashtonfield was slashed and maintenance work completed on a number of tracks to enable access for hazard reduction activities by the RFS. 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.

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

Nil

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. Several theft and vandalism incidents reported to the police.

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

Bloomfield received twenty five community complaints during the reporting period and a summary is provided below (Table 8). Fifteen of the complaints were in relation to blasting; four of which were also reported to the DECC enquiries line. The blasting complaints were in relation to eight separate blasting events. The other complaints were in relation to noise, truck movements on a public road and two wild dog enquiries from Ashtonfield.

Table 8: Community Contacts Register

Date	Issue	Type	Location
1/04/2009	Noise	Environment Line (DECCW)	Black Hill
4/04/2009	Noise	Resident	Avondale Estate
7/04/2009	Blasting	Resident	Louth Park
8/04/2009	Blasting	Resident	Louth Park
14/05/2009	Blasting	Environment Line (DECCW)	Black Hill
14/05/2009	Blasting	Resident	Black Hill
15/05/2009	Blasting	Resident	Black Hill
23/06/2009	Wild Dogs	Resident	Louth Park
26/06/2009	Blasting	Resident	Black Hill
2/07/2009	Blasting	Environment Line (DECCW)	
21/07/2009	Trucks	Resident	Pelaw
8/05/2009	Blasting	Resident	Black Hill
8/05/2009	Blasting	Resident	Black Hill
28/08/2009	Wild Dogs	Resident	
21/10/2009	Blasting	Environment Line (DECCW)	Ashtonfield
22/12/2009	Blasting	Resident	Black Hill
12/03/2010	Noise	Environment Line (DECCW)	Ashtonfield
17/03/2010	Blasting	Environment Line (DECCW)	Black Hill
17/03/2010	Blasting	Resident	Black Hill
17/03/2010	Blasting	Resident	Black Hill
17/03/2010	Blasting	Resident	Buchanan
29/03/2010	Blasting	Resident	Black Hill
29/03/2010	Blasting	Resident	Black Hill
29/03/2010	Blasting	Resident	Buchanan
29/03/2010	Blasting	Environment Line (DECCW)	

4.2 Community Liaison

In accordance with the Project Approval, a Community Consultative Committee (CCC) was established during the reporting period and the first meeting held at the start of the next reporting period. 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.

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.

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 dump area over areas previously categorised as rehabilitated. As such, although approximately 9.2ha of land was rehabilitated during the reporting period, there was still a net decrease in rehabilitated land of 52.7ha recorded for the reporting year (see Table 9). This 9.2ha of rehabilitation consisted mainly of the remaining area in the vicinity of the explosives magazines being completed during the year.

Large areas of maintenance and remedial rehabilitation were completed during the year, mainly in the vicinity of the “Save-a-mile” haul road. Mulching and fertiliser topdressing were also undertaken in existing rehabilitated areas. These activities are summarised in Table 10.

Table 9: 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 ha			
B: DISTURBED AREAS				
B1 Infrastructure area (other disturbed areas to be rehabilitated at closure including facilities, roads)	74.4	75.0	78.0	
B2: Active Mining Area (excluding items B3 – B5 below)	50.4	48.6	53.5	
B3 Waste emplacements, (active/unshaped/in or out-of-pit)	191.9	176.2	210	
B4 Tailings emplacements, (active/unshaped/uncapped)	86.8	55.0	55.0	
B5 Shaped waste emplacement (awaits final vegetation)	22.9	25.6	25.0	
ALL DISTURBED AREAS	426.4	380.4	421.5	F1
C REHABILITATION PROGRESS				
C1 Total Rehabilitated area (except for maintenance)	455.1	465.8	472.8	F2
D: REHABILITATION ON SLOPES				
D1 10 to 18 degrees	31.95	31.95	33.0	
D2 Greater than 18 degrees	-	-	-	
E: SURFACE OF REHABILITATED LAND				
E1 Pasture and grasses	450.1	460.8	467	
E2 Native forest/ecosystems	-	-	-	
E3 Plantations and crops	5	5	5	
E4 Other (include nonvegetative outcomes)	-	-	-	

Although the active pit area only increased by 1.8ha, active overburden dump area increased by approximately 15.7ha, much of which was over areas included in C1, *Total Rehabilitated Area* in previous AEMR. 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 10: Maintenance Activities on Rehabilitated Land

(This period's activities and activities proposed in the next reporting period)

NATURE OF TREATMENT	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report period	Next period	
Additional erosion control works (drains re-contouring, rock protection)	-	-	Nil
Re-covering (detail – further topsoil, subsoil sealing etc)	-	-	Small, isolated bare patches & washouts across the site were ripped, retreated with lime, biosolids and/or fertiliser, and re-seeded during the reporting period. Actual areas small and difficult to calculate, but approximately 248 tractor hours were dedicated to this activity during the reporting period. This program will continue in future reporting periods.
Soil treatment (detail – fertiliser, lime, gypsum etc)	-	-	See "Re-covering" above.
Treatment/Management (detail – grazing, cropping, slashing etc)	12	18	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 was undertaken during the reporting period.

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. These documents outline the rehabilitation planning, operation and monitoring process for Bloomfield Group mining operations. Both are expected to be finalised during the next reporting period.

It is anticipated that, Bloomfield will be required to lodge a new MOP with DPI-MR in order to gain a new surface mining lease. This MOP will include details that tie together final rehabilitation information from the various documents mentioned above.

The 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, the expanded overburden dump footprint, and the switch of emphasis to remedial rehabilitation and maintenance.

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. Production and rehabilitation will be less than the schedule provided in the MOP.

There are few areas available for bulk rehabilitation so the emphasis of rehabilitation operations will be focused on remedial rehabilitation and maintenance of existing areas. As such, it is planned that older rehabilitation will be subject to remedial rehabilitation activities. Such activities include minor earthworks for failed drainage infrastructure, topdressing bare areas with biosolids and re-seeding. Maintenance activities will include fertiliser application and slashing.

In accordance with the Project Approval, a Rehabilitation Management Plan and Landscape Management Plan have been submitted for endorsement by the Director General. It is expected that both will be finalised during the next reporting period. The Project Approval also requires the Final Void Management Plan and Mine Closure Plan be submitted for approval by the end of 2011 and work will continue on both over the next 12 months.

It is anticipated that a new MOP and application for a surface mining lease will be made during the next reporting period. The revised MOP will take into account the various conditions of the Project Approval and DII requirements particularly in relation to the management of the final void and mine closure planning.

Bloomfield will also continue to investigate final sign off for areas of established, stable rehabilitation.

APPENDIX A

AIR QUALITY MONITORING RESULTS

20 April 2010

Commercial-in-ConfidenceKeren Halliday
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

Dear Keren,

Monthly Air Quality Monitoring for Bloomfield Colliery - March 2010

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for March 2010. Sampling was performed by AECOM Australia Pty Ltd and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN1000625). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**.

Results Summary

Dust deposition collection period: 16 February 2010 – 19 March 2010.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – March 2010

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	800	Light Green	Slightly Turbid	Insects + Vegetation
D2	900	Clear	Clear	Insects
D3	1000	Clear	Clear	Insects
D4b	1100	Clear	Clear	Insects
D5	1000	Clear	Clear	Insects
D6	1000	Clear	Clear	Insects
D7	1000	Clear	Clear	Insects
D8	1100	Clear	Clear	Insects
D9	900	Clear	Clear	Insects
D10	1000	Light Brown	Slightly Turbid	Insects + Bird droppings

Table 2: Dust Deposition Monitoring – March 2010 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	0.9	1.8	0.4	44
D2	1.8	2.4	0.9	50
D3	1.8	2.4	0.9	50
D4b	1.5	-	0.9	60
D5	0.9	1.4	0.3	33
D6	1.5	1.6	1.0	67
D7	1.5	2.3	1.1	73
D8	1.2	1.8	1.0	67
D9	1.1	1.5	0.6	55
D10	3.2	2.8	2.0	63

"-"New gauge. Insufficient data for annual average

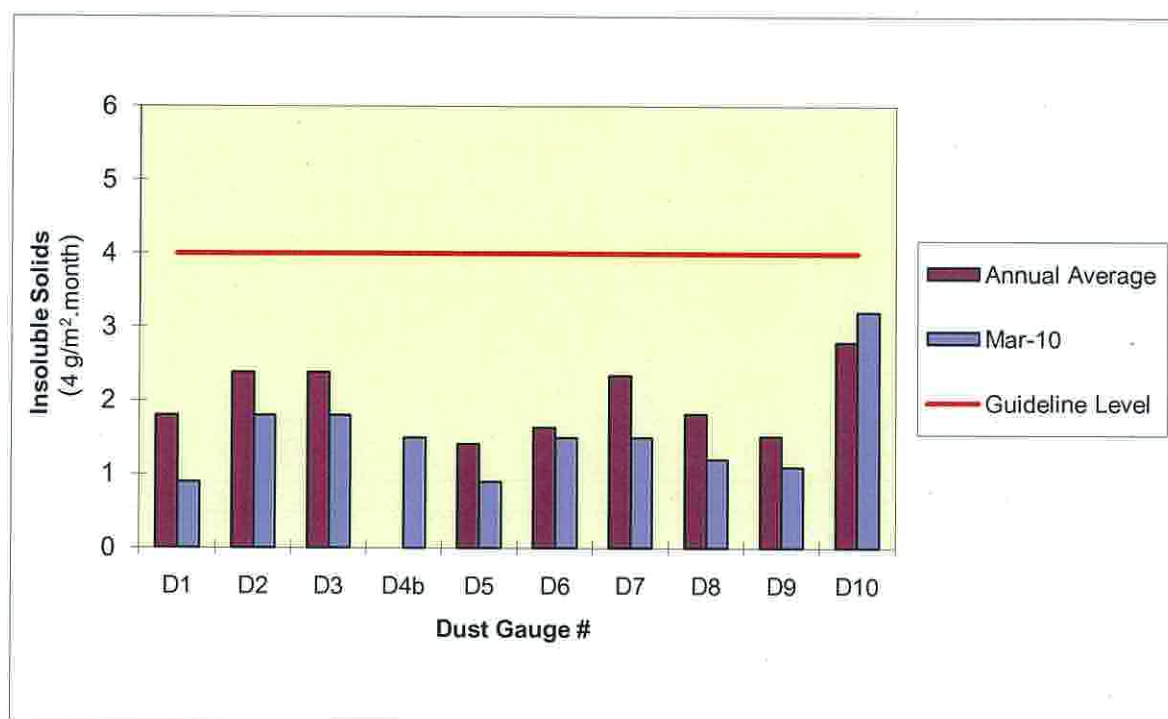


Figure 1: March 2010 Dust Deposition and Annual Average Insoluble Solids

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009 and renamed D4b. Insufficient data is available for an annual average calculation.

Annual average results from all monitoring locations met the assessment criteria of $4 \text{ g/m}^2 \cdot \text{month}$.

If you have any questions regarding these results, please contact the AECOM Singleton office on 6575 9000.

Yours sincerely,

AECOM Australia Pty Ltd



Kathryn Yates

Environmental Technician

Technical Peer Reviewer:

Date:

	3/5/10
David Rollings Senior Professional Engineer	

Encl: Laboratory Result Certificates, Field Sheets and Chain of Custody Documentation.

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN1000625	Page	: 1 of 4
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1206147	Date Samples Received	: 19-MAR-2010
C-O-C number	: ---	Issue Date	: 26-MAR-2010
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Peter Keyte	Newcastle Manager	Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304
Tel. +61-2-4968 9433 Fax: +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN1000625
Client : AECOM Australia Pty Ltd
Project : N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN1000625
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

Client sample ID

				DG1	DG2	DG3	DG4B	DG5
				16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10
Client sampling date / time				19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
Compound	CAS Number	LOR	Unit	EN1000625-001	EN1000625-002	EN1000625-003	EN1000625-004	EN1000625-005
EA120: Ash Content								
Ash Content	----	0.1	g/m ² .month	0.4	0.9	0.9	0.9	0.3
Ash Content (mg)	----	1	mg	7	17	16	17	6
EA140: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m ² .month	0.9	1.8	1.8	1.5	0.9
Total Insoluble Matter (mg)	----	1	mg	16	34	32	28	17

Page : 4 of 4
 Work Order : EN1000625
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID	DG6	DG7	DG8	DG9	DG10
				Client sampling date / time	16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10	16/02/10 - 19/03/10
					19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00	19-MAR-2010 15:00
Compound	CAS Number	LOR	Unit		EN1000625-006	EN1000625-007	EN1000625-008	EN1000625-009	EN1000625-010
EA120: Ash Content									
Ash Content	---	0.1	g/m ² .month		1.0	1.1	0.8	0.6	2.0
Ash Content (mg)	---	1	mg		17	20	15	11	36
EA140: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² .month		1.5	1.5	1.2	1.1	3.2
Total Insoluble Matter (mg)	---	1	mg		27	28	23	20	58

Client: Bloomfield Project No.: N5031501 Sampled By: R BROWN
 Date Collected: 19/3/10 Collection Start Time: 1020 Collection Stop Time:

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1220	16/2/10	19/3/10	800	LT GREEN	ST	INSECTS + VEC	
2	1215			900	CLR	C		
3	1155			1000	CLR	C		
4b	1145			1100	CLR	C		
5	1100			1000	CLR	C		
6	1110			1000	CLR	C		
7	1020			1000	CLR	C		
8	1130			1100	CLR	C		
9	1205			900	CLR	C		
10	1220			800	LT G	ST		T BP
	1240			1000	LT BROWN			

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials:

AECOM**CHAIN OF CUSTODY DOCUMENTATION**

CLIENT: AECOM Australia Pty Limited

Australian Laboratory
Services Pty Ltd

POSTAL ADDRESS: PO Box 3148 Singleton NSW 2330

SEND REPORT TO: sln.als@ensr.aecom.comSEND INVOICE TO: sln.als@ensr.aecom.com

LABORATORY BATCH NO:

SAMPLERS:

PHONE:

FAX:

E-MAIL:

DATA NEEDED BY: 7 working days

REPORT NEEDED BY: 7 working days

REPORT FORMAT: HARD:

FAX: Yes

DISK:

BULLETIN BOARD: Yes

E-MAIL: Yes

PROJECT ID: N5031501

QUOTE NO.: SYN/003/07

P.O. NO.: 1206147

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

QC LEVEL:

QCS1:

QCS2:

QCS3: Yes

QCS4:

FOR LAB USE ONLY

Page 1 of 1

COOLER SEAL

Yes

No

Broken

Intact

Dust Deposition Samples

PLEASE NOTE THE CHANGE OF NAME FOR GAUGE D4a IT IS NOW D4b

COOLER TEMP: deg.C

ANALYSIS REQUIRED

Insol Solids

Ash Residue

NOTES

SAMPLE DATA

OFF

CONTAINER DATA

DATE	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH
16/2/10	D1	Dust	19/3/10				
	D2						
	D3						
	D4b						
	D5						
	D6						
	D7						
	D8						
	D9						
	D10						

Environmental Division
Newcastle
Work Order**EN1000625**

Telephone : + 61-2-4968 9433

NAME: R Brown
 OF: *[Signature]*
 NAME: *[Signature]*
 OF: *[Signature]*

RELINQUISHED BY:

DATE: 19/3/10

TIME:

DATE:

TIME:

RECEIVED BY

NAME: *[Signature]*OF: *[Signature]*

NAME:

OF:

DATE: 19/3/10

TIME: 1:25pm

DATE:

TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle;
 VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;
 O = Other.

AUSTRALIAN LABORATORY SERVICES P/L

16 March 2010

Commercial-in-Confidence

Keren Halliday
 Environmental Officer
 Bloomfield Collieries
 PO Box 4
 East Maitland NSW 2323

Dear Keren,

Monthly Air Quality Monitoring for Bloomfield Colliery - February 2010

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for February 2010. Sampling was performed by AECOM Australia Pty Ltd and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN1000338). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**.

Results Summary

Dust deposition collection period: 18 January 2010 – 16 February 2010.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – February 2010

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	2000	Clear	Clear	Insects
D2	1900	Clear	Clear	Insects
D3	2000	Clear	Clear	Insects
D4b	2000	Clear	Clear	Insects
D5	1800	Clear	Clear	Insects
D6	1800	Clear	Clear	Insects
D7	2000	Clear	Clear	Insects
D8	2000	Light Brown	Turbid	Insects + Mud in Funnel*
D9	1800	Clear	Clear	Insects**
D10	1000	Light Brown	Slightly Turbid	Insects + Vegetation

*Gauge obviously contaminated with mud in funnel. Gauge attached to new fence. Evidence of recent drainage and other earthworks around gauge.

**Gauge broken when delivered to laboratory.

Table 2: Dust Deposition Monitoring – February 2010 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	2.9	1.9	1.0	34
D2	3.1	2.6	1.4	45
D3	2.9	3.3	1.7	59
D4b	2.1	-	1.2	57
D5	2.0	1.6	0.9	45
D6	1.9	1.9	0.8	42
D7	2.8	2.6	1.4	50
D8	434c	2.1	406	94
D9	NS	1.6	NS	NS
D10	1.7	2.8	1.1	65

"c" Denotes gauge suspected of contamination.

"-" New gauge. Insufficient data for annual average

"NS" No sample, gauge broken when delivered to laboratory

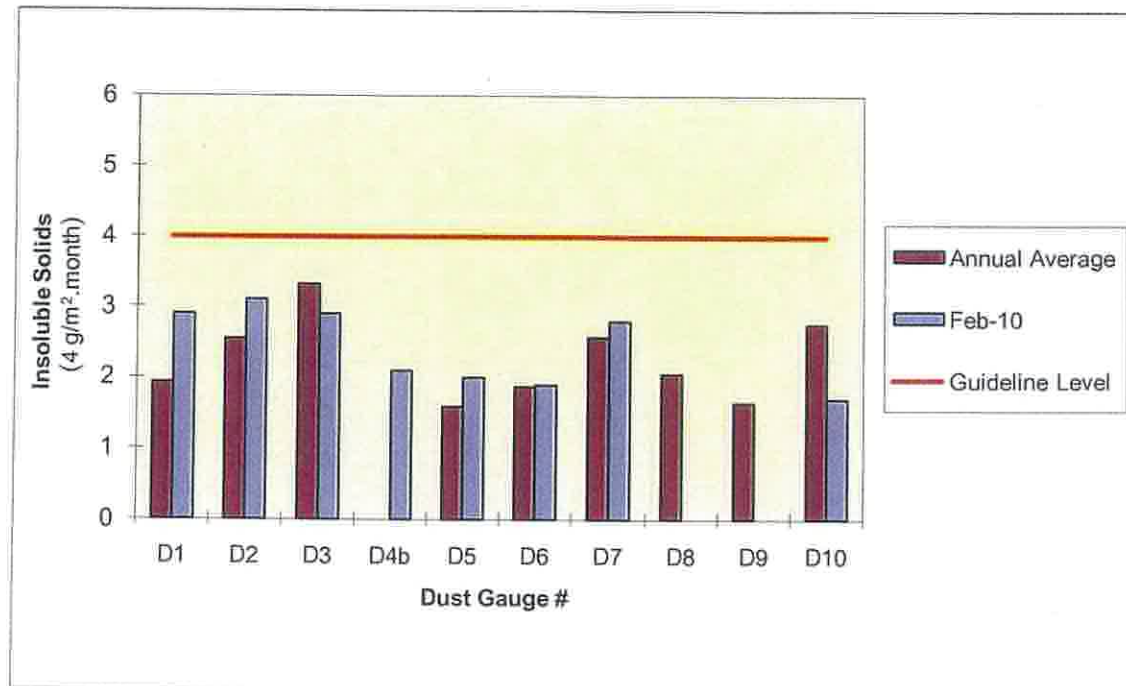


Figure 1: February 2010 Dust Deposition and Annual Average Insoluble Solids

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in bold indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009 and renamed D4b. Insufficient data is available for an annual average calculation.

Annual average results from all monitoring locations met the assessment criteria of 4 g/m².month.

If you have any questions regarding these results, please contact the AECOM Singleton office on 6575 9000.

Yours sincerely,

AECOM Australia Pty Ltd


Scott McDonald
Environmental Chemist

Technical Peer Reviewer:

Date:

	17/3/10
Chad Whitburn Senior Professional/Workgroup Leader	

Encl: Laboratory Result Certificates, Field Sheets and Chain of Custody Documentation.

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN1000338	Page	: 1 of 4
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1205864	Date Samples Received	: 16-FEB-2010
C-O-C number	: ---	Issue Date	: 24-FEB-2010
Sampler	: ---	No. of samples received	: 9
Site	: ---	No. of samples analysed	: 9
Quote number	: SYN/003/07		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Petro Holowinskyj

Position

Senior Analyst

Accreditation Category

Newcastle

Environmental Division Newcastle

Part of the ALS Laboratory Group

5 Rosegum Road Warabrook NSW Australia 2304

Tel. +61-2-4968 9433 Fax +61-2-4968 0349 www.alsglobal.com

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Page: 2 of 4
Work Order: EN1000338
Client: AECOM Australia Pty Ltd
Project: N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².mth.

Page : 3 of 4
 Work Order : EN1000338
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

Sub-Matrix: DUST				Client sample ID		D1		D2		D3		D4B		D5					
				18/01/10 - 16/02/10		18/01/10 - 16/02/10		18/01/10 - 16/02/10		18/01/10 - 16/02/10		18/01/10 - 16/02/10		18/01/10 - 16/02/10					
Client sampling date / time				16-FEB-2010 15:00		16-FEB-2010 15:00		16-FEB-2010 15:00		16-FEB-2010 15:00		16-FEB-2010 15:00		16-FEB-2010 15:00					
Compound				CAS Number		LOR		Unit		EN1000338-001		EN1000338-002		EN1000338-003		EN1000338-004		EN1000338-005	
EA120: Ash Content																			
Ash Content				---	0.1	g/m².month		1.0		1.4		1.7		1.2		0.9			
Ash Content (mg)				---	1	mg		18		24		29		20		15			
EA140: Total Insoluble Matter																			
Total Insoluble Matter				---	0.1	g/m².month		2.9		3.1		2.9		2.1		2.0			
Total Insoluble Matter (mg)				---	1	mg		50		53		49		36		34			

Page : 4 of 4
 Work Order : EN1000338
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D6	D7	D8	D10	
				Client sampling date / time	18/01/10 - 16/02/10	18/01/10 - 16/02/10	18/01/10 - 16/02/10	18/01/10 - 16/02/10	
					16-FEB-2010 15:00	16-FEB-2010 15:00	16-FEB-2010 15:00	16-FEB-2010 15:00	
Compound	CAS Number	LOR	Unit		EN1000338-006	EN1000338-007	EN1000338-008	EN1000338-009	
EA120: Ash Content									
Ash Content	---	0.1	g/m ² .month		0.8	1.4	406	1.1	---
Ash Content (mg)	---	1	mg		14	23	6940	18	---
EA140: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² .month		1.9	2.8	434	1.7	---
Total Insoluble Matter (mg)	---	1	mg		32	48	7420	28	---

Client: Bloomfield Project No.: N5031501 Sampled By: R Brown
 Date Collected: 16/2/10 Collection Start Time: 1100 Collection Stop Time: 1300

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1300	18/1/10	16/2/10	2000	CLR	C	INSECTS	
2	1220			1900	CLR	C		
3	1210			2000	CLR	C		
4b	1200			2000	CLR	C		
5	1110			1800	CLR	C		
6	1120			1800	CLR	C		
7	1100			2000	CLR	C		
8 *	1130			2000	Lt Brown	T		+ MUD IN FUNNEL
9 **	1230			1800	CLR	C		
10	1245			1000	Lt Brown	ST		+ VEG

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

** GAUGE BROKEN WHEN
 DELIVERED TO LAB.

* RECENT DRAINAGE & EARTHWORKS
 GAUGE OBVIOUSLY CONTAMINATED WITH
 MUD IN FUNNEL. GAUGE ATTACHED TO
 10. 10. 10

Initials: RM

24 February 2010

Mr Lachlan Crawford

Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

Dear Lachlan,

Re Monthly Air Quality Monitoring for Bloomfield Colliery - January 2010

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for January 2010. Sampling was performed by AECOM Australia Pty Ltd and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN1000128). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**.

Results Summary

Dust deposition collection period: 18 December 2009 – 18 January 2010.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – January 2010

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	1000	Light brown	Slightly turbid	Insects + vegetation
D2	1700	Clear	Clear	Insects
D3	1800	Clear	Clear	Insects
D4b	1900	Clear	Clear	Insects
D5	1200	Clear	Clear	Insects
D6	1800	Clear	Clear	Insects
D7	2000	Clear	Clear	Insects
D8	1800	Clear	Clear	Insects
D9	1700	Clear	Clear	Insects
D10	2000	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – January 2010 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	2.1	1.8	0.9	43
D2	2.1	2.5	1.1	52
D3	1.5	3.4	0.9	60
D4b	2.1	-	1.3	62
D5	0.9	1.5	0.4	44
D6	2.0	1.8	0.9	45
D7	2.6	2.5	2.0	77
D8	1.6	2.0	0.9	56
D9	1.2	1.6	0.7	58
D10	3.0	2.9	1.2	40

"c" Denotes gauge suspected of contamination.

"-" New gauge. Insufficient data for annual average

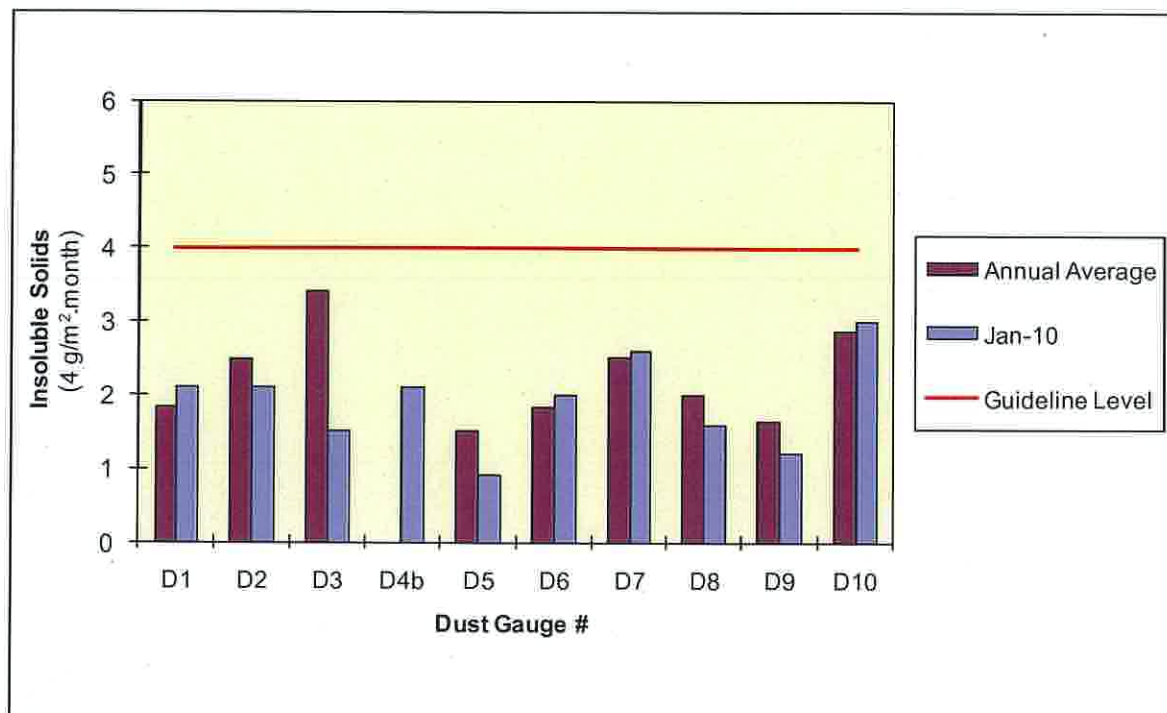


Figure 1: January 2010 Dust Deposition and Annual Average Insoluble Solids

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009 and renamed D4b. Insufficient data is available for an annual average calculation.

Annual average results from all monitoring locations met the assessment criteria of $4 \text{ g/m}^2 \cdot \text{month}$.

If you have any questions regarding these results, please contact the AECOM Singleton office on 65712822.

Yours sincerely,

AECOM Australia Pty Ltd



Sarah Brown
Environmental Technician



Chad Whitburn
Senior Professional/Workgroup Leader

Encl: Analytical laboratory certificates, field notes, chain of custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN1000128	Page	: 1 of 5
Amendment	: 1		
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1205622	Date Samples Received	: 18-JAN-2010
C-O-C number	: ---	Issue Date	: 24-FEB-2010
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: SYN/003/07		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in
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ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Peter Keyte	Newcastle Manager	Newcastle
Petro Holowinskyj	Senior Analyst	Newcastle

Page : 3 of 5
Work Order : EN1000128 Amendment 1
Client : AECOM Australia Pty Ltd
Project : N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².mth.

Page : 4 of 5
 Work Order : EN1000128 Amendment 1
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D1	D2	D3	D4B	D5
				18/12/09 - 18/01/10	18/12/09 - 18/01/10	18/12/09 - 18/01/10	18/12/09 - 18/01/10	18/12/09 - 18/01/10
				18-JAN-2010 15:00	18-JAN-2010 15:00	18-JAN-2010 15:00	18-JAN-2010 15:00	18-JAN-2010 15:00
Compound	CAS Number	LOR	Unit	EN1000128-001	EN1000128-002	EN1000128-003	EN1000128-004	EN1000128-005
EA120: Ash Content								
Ash Content	0.1	g/m ² .month	0.9	1.1	0.9	1.3	0.4	
Ash Content (mg)	1	mg	16	20	16	24	6	
EA140: Total Insoluble Matter								
Total Insoluble Matter	0.1	g/m ² .month	2.1	2.1	1.6	2.1	0.9	
Total Insoluble Matter (mg)	1	mg	39	38	27	39	17	

Page : 5 of 5
 Work Order : EN1000128 Amendment 1
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				Client sampling date / time				
Compound	CAS Number	LOR	Unit	D6 18/12/09 - 18/01/10 18-JAN-2010 15:00	D7 18/12/09 - 18/01/10 18-JAN-2010 15:00	D8 18/12/09 - 18/01/10 18-JAN-2010 15:00	D9 18/12/09 - 18/01/10 18-JAN-2010 15:00	D10 18/12/09 - 18/01/10 18-JAN-2010 15:00
				EN1000128-006	EN1000128-007	EN1000128-008	EN1000128-009	EN1000128-010
EA120: Ash Content								
Ash Content	---	0.1	g/m ² .month	0.9	2.0	0.9	0.7	1.2
Ash Content (mg)	---	1	mg	16	36	17	13	22
EA140: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² .month	2.0	2.6	1.6	1.2	3.0
Total Insoluble Matter (mg)	---	1	mg	36	47	30	22	55

Client: Bloomfield Project No.: N5031501 Sampled By: R Brown
 Date Collected: 18/11/10 Collection Start Time: 1000 Collection Stop Time: 1245

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1230	18/12/9	18/1/10	1000	Lo Brown	ST	INSECTS	+ LRG
2	1215			1700	CLR	C		
3	1205			1800	CLR	C		
4b	1155			1900	CLR	C		
5	1245			1200	CLR	C		
6	1120			1800	CLR	C		
7	1115			2000	CLR	C		
8	1130			1800	CLR	C		
9	1220			1700	CLR	C		
10	1000			2000	CLR	C		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: RB

AECOM**CHAIN OF CUSTODY DOCUMENTATION**Australian Laboratory
Services Pty Ltd

CLIENT: AECOM Australia Pty Limited

POSTAL ADDRESS: PO Box 3148 Singleton NSW 2330

SEND REPORT TO: sln.als@ansr.aecom.comSEND INVOICE TO: sln.als@ansr.aecom.com

LABORATORY BATCH NO:

SAMPLERS:

PHONE:

FAX:

E-MAIL:

DATA NEEDED BY: 7 working days

REPORT NEEDED BY: 7 working days

REPORT FORMAT: HARD:

FAX: Ys

DISK:

BULLETIN BOARD: Yes

E-MAIL: Yes

PROJECT ID: N5031501

QUOTE NO.: SYN/003/07

QC LEVEL:

QCS1:

QCS2:

QCS3: Yes

QCS4:

P.O. NO.: 1205622

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LAB USE ONLY

COOLER SEAL:

Yes

Broken

Cooler Temp: 10 deg C

Page 1 of 1

Dust Deposition Samples

PLEASE NOTE THE CHANGE OF NAME FOR GAUGE D4a IT IS NOW D4b

ANALYSIS REQUIRED

Insol Solids

Ash Residue

NOTES

ON SAMPLE DATA

alt.

CONTAINER DATA

SAMPLE ID 1812/09

MATRIX

DATE

TIME

TYPE & PRESERVATIVE

NO.

pH

1 D1

Dust

18/11/10

2 D2

3 D3

4 D4b

5 D5

6 D6

7 D7

8 D8

9 D9

10 D10

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

Environmental Division

Newcastle

Work Order

EN1000128

Telephone: +61-2-4958 9433

RELINQUISHED BY:

NAME: K. Hoffman

DATE: 18/11/10

OF:

TIME:

NAME:

DATE:

OF:

TIME:

RECEIVED BY

NAME: ALS

DATE: 18/11/10

OF:

TIME:

NAME:

DATE:

OF:

TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle;
 VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;
 O = Other.

AUSTRALIAN LABORATORY SERVICES P/L

6 January 2010

Mr Lachlan Crawford

Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

Dear Lachlan,

Re Monthly Air Quality Monitoring for Bloomfield Colliery - December 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for December 2009. Sampling was performed by AECOM Australia Pty Ltd and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN0902103). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**.

Results Summary

Dust deposition collection period: 17 November 2009 – 18 December 2009.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – December 2009

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	300	Light brown	Slightly turbid	Insects + vegetation
D2	300	Light brown	Slightly turbid	Insects + vegetation
D3	500	Clear	Clear	Insects
D4a	500	Cloudy	Turbid	Insects + bird droppings
D5	400	Clear	Clear	Insects
D6	400	Clear	Clear	Insects
D7	500	Brown	Turbid	Insects + bird droppings
D8	500	Cloudy	Slightly turbid	Insects + many beetles
D9	400	Clear	Clear	Insects
D10	700	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – December 2009 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	2.5	1.8	1.7	68
D2	3.1	2.5	1.8	58
D3	2.5	3.6	1.9	76
D4b	4.7	-	2.7	57
D5	2.0	1.6	1.3	65
D6	2.5	1.9	1.7	68
D7	4.9	2.5	2.8	57
D8	3.9	2.1	2.1	54
D9	1.6	1.7	1.2	75
D10	2.2	2.8	1.4	64

"c" Denotes gauge suspected of contamination.

"-" New gauge. Insufficient data for annual average

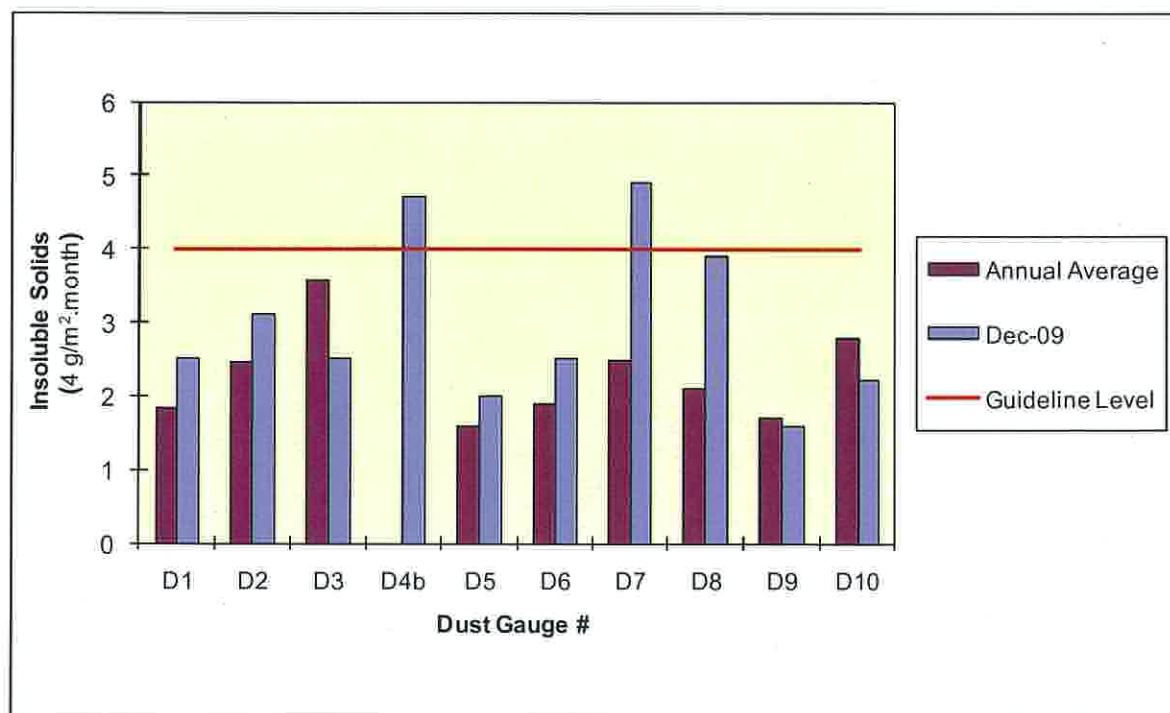


Figure 1: December 2009 Dust Deposition and Annual Average Insoluble Solids

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009 and renamed D4b. Insufficient data is available for an annual average calculation.

Annual average results from all monitoring locations met the assessment criteria of $4 \text{ g/m}^2 \cdot \text{month}$.

If you have any questions regarding these results, please contact the AECOM Singleton office on 65712822.

Yours sincerely,

AECOM Australia Pty Ltd



Katie Hoffman
Trainee Environmental Technician



Chad Whitburn
Senior Professional/Workgroup Leader

Encl: Analytical laboratory certificates, field notes, chain of custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0902375	Page	: 1 of 4
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1205468	Date Samples Received	: 18-DEC-2009
C-O-C number	: ---	Issue Date	: 29-DEC-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: SYN/003/07		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



WORLD RECOGNISED
ACCREDITATION

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Signatories

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

Signatories

Position

Accreditation Category

Peter Donaghy

Laboratory Supervisor

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304
Tel. +61-2-4968 9433 Fax +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0902375
Client : AECOM Australia Pty Ltd
Project : N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0902375
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D1	D2	D3	D4A	D5
				Client sampling date / time	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09
					18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00
Compound	CAS Number	LOR	Unit		EN0902375-001	EN0902375-002	EN0902375-003	EN0902375-004	EN0902375-005
EA120: Ash Content									
Ash Content	---	0.1	g/m ² .month		1.7	1.8	1.9	2.7	1.3
Ash Content (mg)	---	1	mg		31	33	34	50	24
EA140: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² .month		2.5	3.1	2.5	4.7	2.0
Total Insoluble Matter (mg)	---	1	mg		46	55	46	86	36

Page : 4 of 4
 Work Order : EN0902375
 Client : AECOM Australia Pty Ltd
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D6	D7	D8	D9	D10
				Client sampling date / time	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09	17/11/09 - 18/12/09
					18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00	18-DEC-2009 09:00
Compound	CAS Number	LOR	Unit		EN0902375-006	EN0902375-007	EN0902375-008	EN0902375-009	EN0902375-010
EA120: Ash Content									
Ash Content	---	0.1	g/m ² .month		1.7	2.8	2.1	1.2	1.4
Ash Content (mg)	---	1	mg		30	50	38	22	26
EA140: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² .month		2.5	4.9	3.9	1.6	2.2
Total Insoluble Matter (mg)	---	1	mg		46	90	70	30	39

Client: Bloomfield Project No.: N5031501 Sampled By: R BROWN
 Date Collected: 18/12/9 Collection Start Time: 0900 Collection Stop Time: 1045

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1025	17/11/9	18/12/9	300	LT BROWN	ST	INSECTS	+ VEG
2	1005			300	LT BROWN	ST		+ VEG
3	0955			500	CLR	C		
4b	0930			500	CLOUDY BROWN	T		+ BP
5	0910			400	CLR	C		
6	095			400	CLR	C		
7	0900			500	BROWN	T		+ BP
8	0930			500	CLOUDY	ST		+ MANY BEETLES
9	1015			400	CLR	C		
10	1045			700	CLR	C		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: AB

24 November 2009

Mr Lachlan Crawford

Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

Dear Lachlan,

Re Monthly Air Quality Monitoring for Bloomfield Colliery - November 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for November 2009. Sampling was performed by AECOM Australia Pty Ltd and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN0902103). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**.

Results Summary

Dust deposition collection period: 16 October 2009 – 17 November 2009.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – November 2009

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	500	Green	Slightly turbid	Insects + vegetation
D2	900	Clear	Clear	Insects
D3	1000	Clear	Clear	Insects
D4a	1100	Clear	Clear	Insects
D5	1000	Clear	Clear	Insects
D6	1000	Clear	Clear	Insects
D7	1000	Brown	Slightly turbid	Insects + bird droppings + cricket
D8	1100	Clear	Clear	Insects
D9	1000	Clear	Clear	Insects
D10	1200	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – November 2009 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.0c	1.8	0.4	40
D2	2.5	2.4	1.3	52
D3	3.1	3.6	1.7	55
D4b	5.0	-	3.4	68
D5	1.5	1.6	0.8	53
D6	1.6	1.9	0.9	56
D7	8.5c	2.4	2.5	29
D8	1.3	2.1	0.7	54
D9	1.6	1.7	0.9	56
D10	2.0	3.0	1.1	55

"c" Denotes gauge suspected of contamination.

"-" New gauge. Insufficient data for annual average

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

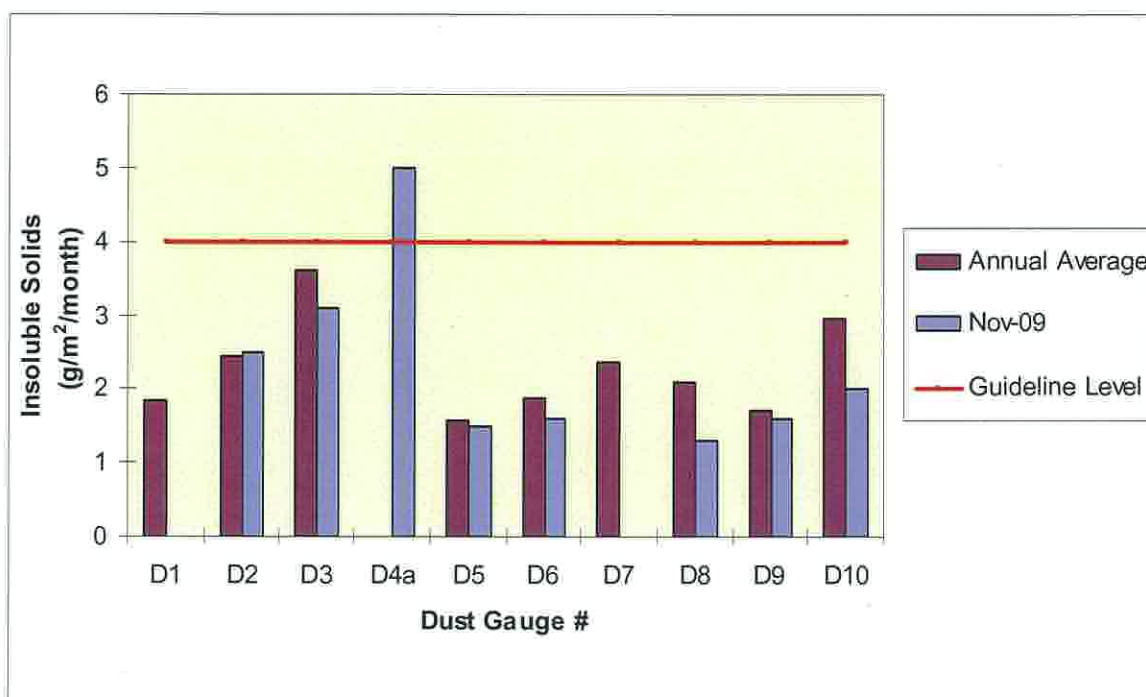


Figure 1: November 2009 Dust Deposition and Annual Average Insoluble Solids

Ash to insoluble solids ratios for gauges D1 (40%) and D7 (29%) of less than 50%, indicated that the gauge contents were mainly organic. The water colour of D1 was green, slightly turbid, containing insects and vegetation and gauge D7 water was brown, slightly turbid, containing insects, bird droppings and a cricket. Hence, both gauges are considered likely to have been contaminated and have not been used in the annual average calculation.

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009 and renamed D4b. In sufficient data is available for an annual average calculation.

Annual average results from all monitoring locations met the assessment criteria of 4 g/m².month.

If you have any questions regarding these results, please contact the AECOM Singleton office on 65712822.

Yours sincerely,

AECOM Australia Pty Ltd



Katie Hoffman
Trainee Environmental Technician



Greg Schumacher
Hunter - Manager

Encl: Analytical laboratory certificates, field notes, chain of custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0902103	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1205179		
C-O-C number	: ---	Date Samples Received	: 17-NOV-2009
Sampler	: ---	Issue Date	: 23-NOV-2009
Site	: ---		
Quote number	: SYN/003/07	No. of samples received	: 10
		No. of samples analysed	: 10

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



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This document is issued in
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ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Peter Donaghy

Laboratory Supervisor

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304
Tel. +61-2-4968 9433 Fax +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0902103
Client : ENSR AUSTRALIA PTY LIMITED
Project : N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0902103
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
					D1	D2	D3	D4A
				Client sampling date / time	16/10/09 - 17/11/09	16/10/09 - 17/11/09	16/10/09 - 17/11/09	16/10/09 - 17/11/09
					17-NOV-2009 15:00	17-NOV-2009 15:00	17-NOV-2009 15:00	17-NOV-2009 15:00
Compound	CAS Number	LOR	Unit		EN0902103-001	EN0902103-002	EN0902103-003	EN0902103-004
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)		0.4	1.3	1.7	3.4
Ash Content (mg)	---	0.1	mg		7.2	24.5	31.5	63.6
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month		1.0	2.5	3.1	5.0
Total Insoluble Matter (mg)	---	0.1	mg		18.8	46.3	58.2	93.3
								29.1

Page : 4 of 4
 Work Order : EN0902103
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D6	D7	D8	D9	D10
				Client sampling date / time	16/10/09 - 17/11/09	16/10/09 - 17/11/09	16/10/09 - 17/11/09	16/10/09 - 17/11/09	16/10/09 - 17/11/09
					17-NOV-2009 15:00	17-NOV-2009 15:00	17-NOV-2009 15:00	17-NOV-2009 15:00	17-NOV-2009 15:00
Compound	CAS Number	LOR	Unit		EN0902103-006	EN0902103-007	EN0902103-008	EN0902103-009	EN0902103-010
EA120: Ash Content									
Ash Content	---	0.1	g/(m ² month)		0.9	2.5	0.7	0.9	1.1
Ash Content (mg)	---	0.1	mg		17.3	47.8	13.3	16.3	20.2
EA141: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² /month		1.6	8.5	1.3	1.6	2.0
Total Insoluble Matter (mg)	---	0.1	mg		30.8	162	24.8	30.2	36.7

Client: Bloomfield Project No.: N5031501 Sampled By: R. Brown
 Date Collected: 17/11/9 Collection Start Time: 1010 Collection Stop Time: 1215

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1200	16/10/9	17/11/9	500	GREEN	ST	INSECTS	+ VEG
2	1135			900	CLR	C		
3	1125			1000	CLR	C		
4B	1110			1100	CLR	C		
5	1020			1000	CLR	C		
6	1030			1000	CLR	C		
7	1010			1000	BROWN	ST		+ BP + CRICKET
8	1045			1100	CLR	C		
9	1145			1000	CLR	C		
10	1215			1200	CLR	C		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: RB

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory
Services Pty Ltd

CLIENT: ENSR Australia Pty Limited

POSTAL ADDRESS: PO Box 3148 Singleton NSW 2330

SEND REPORT TO: sin.als@ensr.aecom.com

SEND INVOICE TO: sin.als@ensr.aecom.com

LABORATORY BATCH NO.:

SAMPLERS:

PHONE:

FAX:

E-MAIL:

DATA NEEDED BY: 7 working days

REPORT NEEDED BY: 7 working days

REPORT FORMAT: HARD:

FAX: Yes

DISK:

BULLETIN BOARD: Yes

E-MAIL: Yes

PROJECT ID: N5031501

QUOTE NO.: SYN/003/07

QC LEVEL:

QCS1:

QCS2:

QCS3: Yes

QCS4:

P.O. NO.: 1205179

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED

FOR LAB USE ONLY

Page 1 of 1

COOLER SEAL

Yes

No

Dust Deposition Samples

Broken

Intact

COOLER TEMP: deg.C

Insol Solids

Ash Residue

NOTES

SAMPLE DATA

CONTAINER DATA

DATE	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH
16/10/09	D1	Dust	17/11/09				
	D2						
	D3						
	D4A						
	D5						
	D6						
	D7						
	D8						
	D9						
	D10						

NAME: R Brown

RELINQUISHED BY:

DATE: 17/11/09

OF:

TIME:

NAME: Kit

DATE: 17/11/09

OF: ALS Newcastle

TIME: 17:00

RECEIVED BY

NAME:

DATE:

OF:

TIME:

NAME:

DATE:

OF:

TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle;

VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;

O = Other.

AUSTRALIAN LABORATORY SERVICES P/L

Mr Lachlan Crawford
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland

2 November 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - October 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for October 2009. Sampling was performed by AECOM Australia Pty Ltd (AECOM) and analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW. (Report number EN0901884). Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 2** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 18 September 2009 – 16 October 2009.

Samples collected by Ralph Brown of AECOM.

Table 1: Dust Monitoring Results – October 2009

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	700	Clear	Clear	Insects
D2	700	Light green	Clear	Insects
D3	700	Clear	Clear	Insects
D4a	700	Brown	Very turbid	Insects + bird droppings
D5	600	Green	Slightly turbid	Insects + vegetation
D6	700	Clear	Clear	Insects
D7	800	Clear	Clear	Insects
D8	800	Clear	Clear	Insects
D9	700	Clear	Clear	Insects
D10	700	Clear	Clear	Insects

Use or disclosure of data contained on this sheet is subject to the restriction on the distribution page of this document

Commercial In Confidence

Table 2: Dust Deposition Monitoring – October 2009 Results

Site	Insoluble Solids (g/m ² .month)	Insoluble Solids Annual Average (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	2.3	1.8	1.7	74
D2	4.3	2.4	3.1	72
D3	4.9	3.5	3.5	71
D4a	58.8c	-	44.3	75
D5	2.2	1.6	1.5	68
D6	2.1	1.9	1.5	71
D7	3.9	2.4	2.8	72
D8	2.0	2.3	1.5	75
D9	3.9	1.7	3.2	82
D10	10.1	3.0	8.8	87

"c" Denotes gauge suspected of contamination.

"-" New gauge. Insufficient data for annual average

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECCW (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

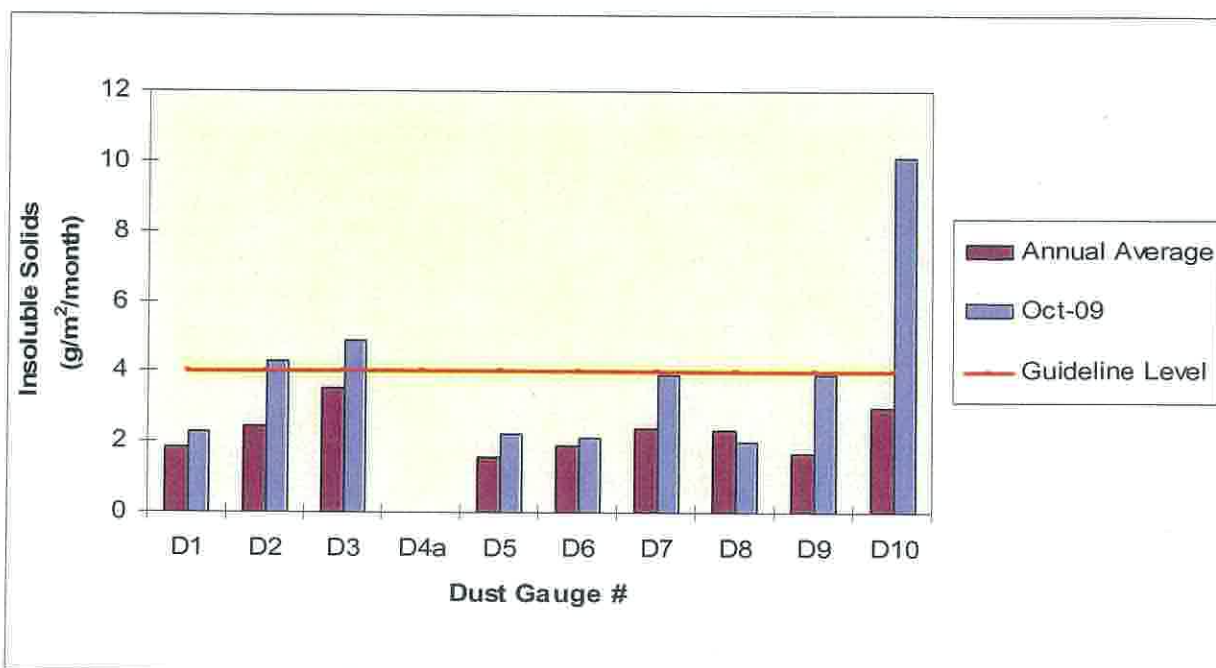


Figure 1: October 2009 Dust Deposition and Annual Average Insoluble Solids

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. Gauge D4a was relocated after sample collection on 16 October 2009.

All gauges except D8 were above their corresponding annual average during the October 2009 monitoring period and results may have been affected by regional storms on 23 & 26 September 2009. Annual average results from all monitoring locations met the assessment criteria of 4 g/m².month.

If you have any questions regarding these results, please contact the AECOM Singleton office on 6571 2822.

Yours sincerely,

AECOM Australia Pty Ltd



Katie Hoffman
Trainee Environmental Technician


per

Greg Schumacher
Hunter - Manager

© AECOM

- * AECOM Australia Pty Ltd (hereafter referred to as AECOM) has prepared this document for the purpose which is described in the Scope of Works section, and was based on information provided by the client, AECOM's understanding of the site conditions, and AECOM's experience, having regard to the assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles.
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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0901884	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N5031501	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1204833	Date Samples Received	: 16-OCT-2009
C-O-C number	: ---	Issue Date	: 23-OCT-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: SYN/003/07		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories

Peter Donaghy

Position

Laboratory Supervisor

Accreditation Category

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304

Tel. +61-2-4968 9433 Fax +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0901884
Client : ENSR AUSTRALIA PTY LIMITED
Project : N5031501



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

• Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0901884
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

Client sample ID

Compound	CAS Number	LOR	Unit	D1	D2	D3	D4A	D5
				13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09
				16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00
				EN0901884-001	EN0901884-002	EN0901884-003	EN0901884-004	EN0901884-005
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	1.7	3.1	3.5	44.3	1.5
Ash Content (mg)	---	1	mg	28	50	58	731	25
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	2.3	4.3	4.9	58.8	2.2
Total Insoluble Matter (mg)	---	1	mg	38	71	81	970	36

Page : 4 of 4
 Work Order : EN0901884
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N5031501



Analytical Results

Sub-Matrix: DUST

Client sample ID

				D6	D7	D8	D9	D10
				13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09	13/09/09 - 16/10/09
Client sampling date / time				16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00	16-OCT-2009 15:00
Compound	CAS Number	LOR	Unit	EN0901884-006	EN0901884-007	EN0901884-008	EN0901884-009	EN0901884-010
EA120: Ash Content								
Ash Content	----	0.1	g/(m ² month)	1.5	2.8	1.5	3.2	8.8
Ash Content (mg)	----	1	mg	26	45	24	52	145
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m ² /month	2.1	3.9	2.0	3.9	10.1
Total Insoluble Matter (mg)	----	1	mg	35	64	32	64	166

CHAIN OF CUSTODY DOCUMENTATION

[illegible]

AUSTRALIAN LABORATORY SERVICES P/L

Client: Bloomfield Project No.: N5031501 Sampled By: R Brown
 Date Collected: 16/10/9 Collection Start Time: 0940 Collection Stop Time: 1220

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1155	18/9/9	16/10/9	800	CLR	C	INSECTS	
2	1125			700	LT GREEN	C	"	
3	1110			700	CLR	C	"	
4A *	1100			700	BROWN	VT	"	+ BP
5	0940			600	GREEN	ST	"	+ VEL
6	0945			700	CLR	C	"	
7	0920			800	CLR	C	"	
8	1000			800	CLR	C	"	
9	1140			700	CLR	C	"	
10	1220			700	CLR	C	"	

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: AB

DUST STORM 23 & 26 SEPT 2009

* D4B TAN CLOSE TO LIVE DUMP & WAS MOVED AFTER COLLECTION – NOW D4B

CHAIN OF CUSTODY DOCUMENTATION

**Australian Laboratory
Services Pty Ltd**

[illegible]

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; Q = Other.

AUSTRALIAN LABORATORY SERVICES P/L

AECOM
PO Box 3148 SINGLETON NSW 2330
T+61 2 6571 2822 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

October 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - September 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for September. Sampling was performed by AECOM Australia Pty Ltd (AECOM), analysis was performed by Australian Laboratory Services (ALS) laboratory in Warabrook NSW, report number EN0901430. Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 17 August 2009 – 18 September 2009.

Samples collected by: Ralph Brown – AECOM.

Table 1: Dust Deposition Monitoring – September 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	300	Clear	Clear	Insects
D2	300	Clear	Clear	Insects
D3	300	Clear	Clear	Insects
D4a	300	Brown	Very turbid	Insects + bird droppings
D5	300	Light green	Slightly turbid	Insects + Blossom
D6	400	Clear	Clear	Insects
D7	300	Light brown	Slightly turbid	Insects + bird droppings
D8	300	Clear	Clear	Insects
D9	300	Clear	Clear	Insects
D10	300	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – September 2009 Results

Site	Insoluble Solids (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.0	0.5	50
D2	1.9	1.5	79
D3	5.4	4.0	74
D4a	28.9c	17.8	62
D5	1.2	0.8	67
D6	1.0	0.8	80
D7	2.2	1.3	59
D8	2.3	1.3	57
D9	1.6	0.7	44
D10	2.3	1.6	70

'c' Denotes gauge suspected of contamination.

Table 3: Insoluble Solids Annual Average to September 2009

Dust Monitoring Site	D1	D2	D3	D4a	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m ² .month)	1.8	2.2	3.4	-	1.6	1.9	2.2	2.3	1.5	2.2

- New gauge. Insufficient data for annual average.

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

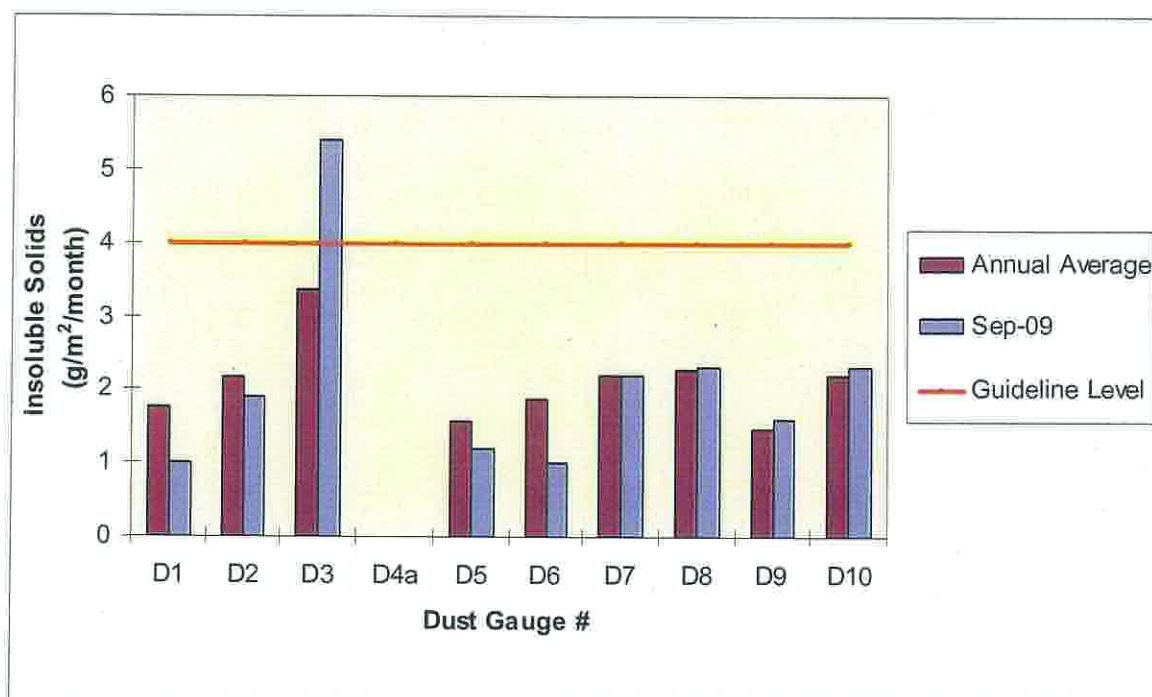


Figure 1: September 2009 Dust Deposition and Annual Average Insoluble Solids

Gauge D4a returned a high insoluble solids result (28.9 g/m².month). Field sheets recorded the gauge water as brown in colour and very turbid, containing insects and bird droppings. The gauge was also recorded to be in the vicinity of an active dump to the north and a raw coal dump to the south. As a result this gauge was deemed contaminated and has not been included in the annual average calculation. Gauge D9 returned an ash to insoluble solid ratio of 44% however the field notes indicate the water in the gauge to be clear and not turbid. This gauge was not deemed contaminated.

Since the commencement of monitoring of site D4a in June 09, results have continually been affected by organic contamination and nearby mining operations. It is recommended that this gauge be relocated.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

AECOM Australia Pty Ltd (AECOM)

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By

AECOM

ABN: 20 093 846 925

St Patrick's Commercial Centre, Queen Street Singleton NSW 2330

PO Box 3148 Singleton NSW 2330

Ph: +61 2 6571 2822 Fax: +61 2 6571 2959



Katie Hoffman

Trainee Environmental Technician

	20/10/09
Greg Schumacher Hunter Operations Manager	

Technical Peer Reviewer:

Date:

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Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
China	+86-20-8130-3737
England	+44 1928-726006
France	+33(0)1 48 42 59 53
Germany	+49-631-341-13-62
Ireland	+353 1631 9356
Italy	+39-02-3180 77 1
Japan	+813-3541 5926
Malaysia	+603-7725-0380
Netherlands	+31 10 2120 744
Philippines	+632 910 6226
Scotland	+44 (0) 1224-624624
Singapore	+65 6295 5752
Thailand	+662 642 6161
Turkey	+90-312-428-3667
United States	+1 978-589-3200
Venezuela	+58-212-762-63 39

Australian Locations

Adelaide
Brisbane
Canberra
Darwin
Melbourne
Newcastle
Perth
Sydney
Singleton

www.aecom.com



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0901666	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044011	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1204538	Date Samples Received	: 18-SEP-2009
C-O-C number	: ---	Issue Date	: 25-SEP-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



WORLD RECOGNISED
ACCREDITATION

NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Peter Donaghy

Position

Laboratory Supervisor

Accreditation Category

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304

Tel. +61-2-4968 9433 Fax. +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0901666
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044011



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0901666
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044011



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D1	D2	D3	D4A	D5
				17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09
Client sampling date / time				18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00
Compound	CAS Number	LOR	Unit	EN0901666-001	EN0901666-002	EN0901666-003	EN0901666-004	EN0901666-005
EA120: Ash Content								
Ash Content	----	0.1	g/(m ² month)	0.5	1.5	4.0	17.8	0.8
Ash Content (mg)	----	0.1	mg	9.4	27.4	75.4	336	15.3
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m ² /month	1.0	1.9	5.4	28.9	1.2
Total Insoluble Matter (mg)	----	0.1	mg	18.5	35.0	102	545	23.0

Page : 4 of 4
 Work Order : EN0901666
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044011



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D6	D7	D8	D9	D10
				Client sampling date / time	17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09	17/08/09 - 18/09/09
					18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00	18-SEP-2009 14:00
Compound	CAS Number	LOR	Unit		EN0901666-006	EN0901666-007	EN0901666-008	EN0901666-009	EN0901666-010
EA120: Ash Content									
Ash Content	---	0.1	g/(m ² month)		0.8	1.3	1.3	0.7	1.6
Ash Content (mg)	---	0.1	mg		14.6	24.4	24.2	13.8	30.6
EA141: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² /month		1.0	2.2	2.3	1.6	2.3
Total Insoluble Matter (mg)	---	0.1	mg		19.4	41.9	43.5	29.7	44.4

CHAIN OF CUSTODY DOCUMENTATION

**Australian Laboratory
Services Pty Ltd**

[illegible]

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; Q = Other.

AUSTRALIAN LABORATORY SERVICES P/L

Client: Bloomfield Project No.: N4044001 Sampled By: R BROWN
 Date Collected: 18/9/9 Collection Start Time: 0735 Collection Stop Time: 0945

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	0930	17/8/9	18/9/9	300	CLR	C	INSECTS	
2	0910			300	CLR	C		
3	0900			300	CLR	C		
4A	0845			300	BROWN	VT	+ BP	*
5	0745			300	LT GREEN	ST	+ Blossom	
6	0800			400	CLR	C		
7	0735			300	LT BROWN	ST		+ BP
8	0815			300	CLR	C		
9	0915			300	CLR	C		
10	0945			300	CLR	C		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

* ACTIVE DUMP TO NORTH &
 RAW COAL DUMP TO SOUTH

Initials: MB

AECOM
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T+61 2 6571 2822 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

3 September 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - August 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for August 2009. Sampling was performed by ENSR Australia Pty Ltd (trading as AECOM) and hereafter referred to as AECOM, analysis was performed by Australian Laboratory Services' (ALS) laboratory in Warabrook NSW, report number EN0901430. Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 17 July 2009 – 17 August 2009.

Samples collected by: Sarah Brown – AECOM.

Table 1: Dust Deposition Monitoring – August 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	400	Clear	Clear	Insects
D2	400	Clear	Clear	Insects
D3	400	Cloudy	Slightly turbid	Insects + bird droppings
D4a	300	Brown	Turbid	Insects + bird droppings, funnel blocked
D5	300	Cloudy	Slightly turbid	Insects
D6	400	Clear	Clear	Insects
D7	400	Clear	Clear	Insects
D8	400	Clear	Clear	Insects + small solids in bottom
D9	400	Clear	Clear	Insects
D10	400	clear	clear	Insects

Table 2: Dust Deposition Monitoring – August 2009 Results

Site	Insoluble Solids (g/m ² .month)	Ash Residue (g/m ² .month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.4	0.4	29
D2	1.8	1.1	61
D3	3.0	2.1	70
D4a	14.0c	6.2	44
D5	1.4	0.7	50
D6	1.0	0.6	60
D7	1.4	0.8	57
D8	1.3	0.7	54
D9	0.8	0.5	63
D10	2.6	1.7	65

'c' Denotes gauge suspected of contamination.

Table 3: Insoluble Solids Annual Average to August 2009

Dust Monitoring Site	D1	D2	D3	D4a	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m ² .month)	1.9	2.1	3.1	-	1.5	1.9	2.1	2.1	1.4	2.1

'-' New gauge. Insufficient data for annual average.

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m².month insoluble solids – maximum total deposited dust level (annual average).

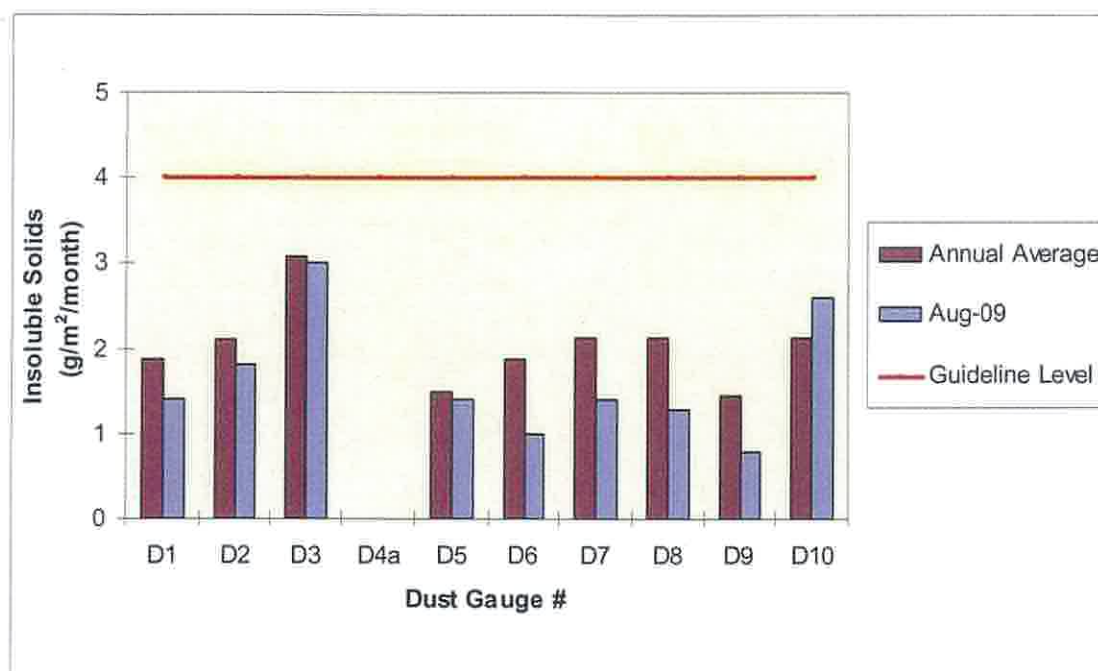


Figure 1: August 2009 Dust Deposition and Annual Average Insoluble Solids

The sample site D4 is no longer accessible due to mining operations and has been replaced by D4a.

Gauge D4a returned a high insoluble solids result ($14 \text{ g/m}^2 \cdot \text{month}$). Field sheets recorded the gauge water as brown in colour and very turbid, containing insects, bird droppings and the funnel was blocked. As a result this gauge was deemed contaminated and has not been included in the annual average calculation. Gauge D1 returned an ash to insoluble solid ratio of 29% however the field notes indicate the water in the gauge to be clear and not turbid. This gauge was not deemed contaminated.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

ENSR Australia Pty Ltd (trading as AECOM)

Kathryn Yates
Kathryn Yates

Environmental Technician

Technical Peer Reviewer:

Date:

<i>Greg Schumacher</i>	
Greg Schumacher Hunter Operations Manager	

Enclosures:

Analytical Reports, Field Sheets, Chain of Custody documentation

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Environment

AECOM



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0901430	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044001	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1204158	Date Samples Received	: 17-AUG-2009
C-O-C number	: ---	Issue Date	: 21-AUG-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



WORLD RECOGNISED
ACCREDITATION

NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Peter Donaghy	Laboratory Supervisor	Newcastle

Environmental Division Newcastle
Part of the ALS Laboratory Group

5 Rosegum Road Warabrook NSW Australia 2304
Tel. +61-2-4968 9433 Fax. +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0901430
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044001



General Comments

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0901430
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

Client sample ID

				D1 17/07/09 - 17/08/09	D2 17/07/09 - 17/08/09	D3 17/07/09 - 17/08/09	D4A 17/07/09 - 17/08/09	D5 17/07/09 - 17/08/09
Client sampling date / time				17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00
Compound	CAS Number	LOR	Unit	EN0901430-001	EN0901430-002	EN0901430-003	EN0901430-004	EN0901430-005
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	0.4	1.1	2.1	6.2	0.7
Ash Content (mg)	----	0.1	mg	8.0	19.8	38.7	114	11.8
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.4	1.8	3.0	14.0	1.4
Total Insoluble Matter (mg)	----	0.1	mg	25.3	33.4	54.8	256	25.2

Page : 4 of 4
 Work Order : EN0901430
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D6	D7	D8	D9	D10
				Client sampling date / time	17/07/09 - 17/08/09	17/07/09 - 17/08/09	17/07/09 - 17/08/09	17/07/09 - 17/08/09	17/07/09 - 17/08/09
					17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00	17-AUG-2009 12:00
Compound	CAS Number	LOR	Unit		EN0901430-006	EN0901430-007	EN0901430-008	EN0901430-009	EN0901430-010
EA120: Ash Content									
Ash Content	----	0.1	g/(m ² month)		0.6	0.8	0.7	0.5	1.7
Ash Content (mg)	----	0.1	mg		11.7	15.1	12.8	8.7	32.1
EA141: Total Insoluble Matter									
Total Insoluble Matter	----	0.1	g/m ² /month		1.0	1.4	1.3	0.8	2.5
Total Insoluble Matter (mg)	----	0.1	mg		19.1	25.1	23.9	14.8	48.1

Client: Bloomfield Project No.: N4044001 Sampled By: S. BROWN
 Date Collected: 17/8/09 Collection Start Time: 1000 Collection Stop Time: 1220

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	11.50	17/7/09	17/8/09	400	clear	C	insects	
2	11.25	17/7/09	17/8/09	400	clear	C	insects	
3	11.15	17/7/09	17/8/09	400	cloudy	ST	insects + BP	
4A	11.05	17/7/09	17/8/09	300	brown	VT	insects + BP	funnel blocked
5	10.05	17/7/09	17/8/09	300	cloudy	ST	insects	
6	10.35	17/7/09	17/8/09	400	clear	C	insects	
7	10.25	17/7/09	17/8/09	400	clear	C	insects	
8	10.45	17/7/09	17/8/09	400	clear	C	insects +	small solids in bottom
9	11.35	17/7/09	17/8/09	400	clear	C	insects	
10	12.05	17/7/09	17/8/09	400	clear	C	insects	

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: SB

[illegible]

AUSTRALIAN LABORATORY SERVICES P/L

AECOM
PO Box 3148 SINGLETON NSW 2330
T+61 2 6571 2822 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

14 August 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - July 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for July 2009. Sampling was performed by ENSR Australia Pty Ltd (trading as AECOM) and hereafter referred to as AECOM, analysis was performed by Australian Laboratory Services' (ALS) laboratory in Warabrook NSW, report number EN0901057. Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 19 June 2009 – 17 July 2009.

Samples collected by: Ralph Brown – AECOM.

Table 1: Dust Deposition Monitoring – July 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	800	Light green	Slightly Turbid	Insects + Vegetation
D2	1000	Light green	Slightly turbid	Insects
D3	900	Light green	Slightly turbid	Insects + bird droppings
D4a	900	Brown	Turbid	Insects + bird droppings + mud possibly from droppings
D5	900	Light green	Slightly turbid	Insects+ vegetation
D6	1000	Clear	Clear	Insects
D7	1200	Clear	Clear	Insects
D8	1100	Light green	Slightly turbid	Insects + vegetation
D9	900	Clear	Clear	Insects
D10	900	clear	clear	Insects

Table 2: Dust Deposition Monitoring – July 2009 Results

Site	Insoluble Solids (g/m ² /month)	Ash Residue (g/m ² /month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.3	0.8	62
D2	1.5c	0.6	40
D3	2.8	1.9	68
D4a	19.3c	13.5	70
D5	1.9c	0.9	47
D6	1.2	0.7	58
D7	1.9	1.1	58
D8	1.7c	0.7	41
D9	1.2	0.6	50
D10	1.3	0.8	62

'c' Denotes gauge suspected of contamination.

Table 3: Insoluble Solids Annual Average to July 2009

Dust Monitoring Site	D1	D2	D3	D4a	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m ² /month)	1.9	2.1	3.1	-	1.5	1.9	2.1	2.2	1.5	2.0

'-' New gauge. Insufficient data for annual average.

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%), are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m²/month insoluble solids – maximum total deposited dust level (annual average).

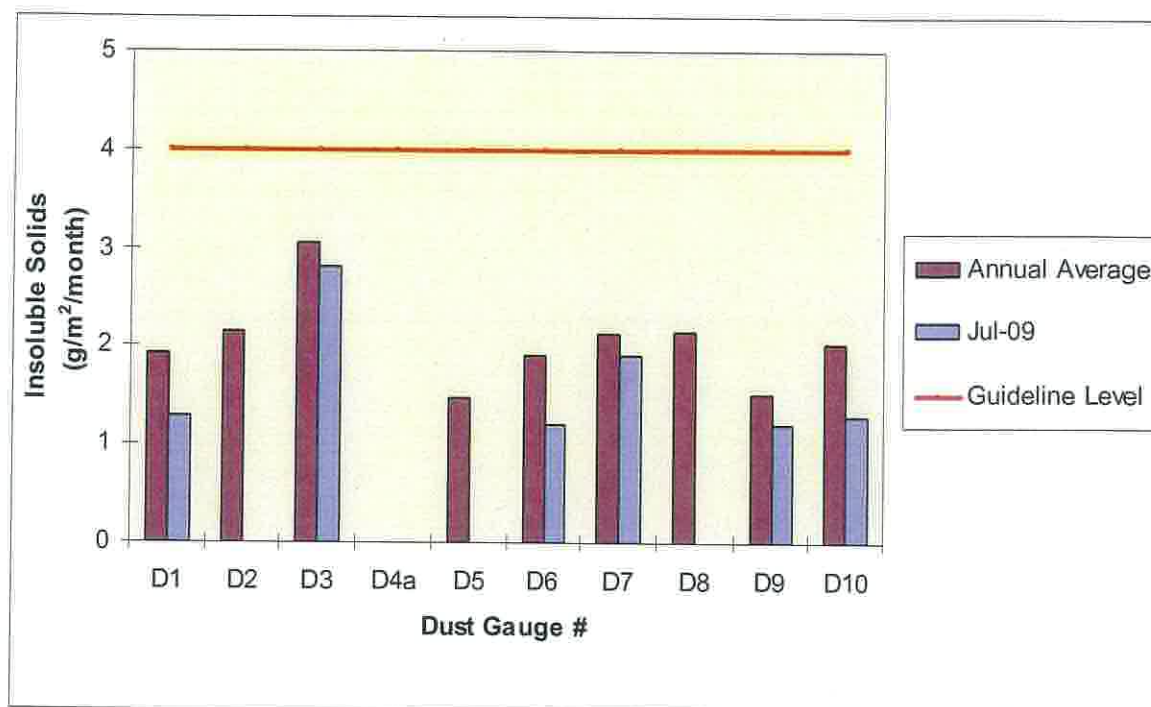


Figure 1: July 2009 Dust Deposition and Annual Average Insoluble Solids

The sample site D4 is no longer accessible due to mining operations and has been replaced by D4a.

Dust gauges D2, D5 and D8 returned an ash residue to insoluble solids ratio of <50% with discoloured and turbid gauge water and have been deemed contaminated. Gauge D4a returned a high insoluble solids result (19.3 g/m²/month). Field sheets recorded the gauge water as brown in colour and turbid, containing insects, bird droppings and mud possibly from droppings. As a result the gauges have been deemed contaminated and have not been included in the annual average calculations.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

ENSR Australia Pty Ltd (trading as AECOM)

Katie Hoffman

Trainee Environmental Technician

Technical Peer Reviewer:

Date:

	14/8/9
Greg Schumacher Hunter Operations Manager	

Enclosures:

Analytical Reports, Field Sheets, Chain of Custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0901235	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044001	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1203871	Date Samples Received	: 17-JUL-2009
C-O-C number	: ---	Issue Date	: 23-JUL-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

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accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Peter Donaghy

Position

Laboratory Supervisor

Accreditation Category

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

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Page : 2 of 4
Work Order : EN0901235
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044001



General Comments

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0901235
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID	D1	D2	D3	D4A	D5
				Client sampling date / time	19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09
					17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		EN0901235-001	EN0901235-002	EN0901235-003	EN0901235-004	EN0901235-005
EA120: Ash Content									
Ash Content	---	0.1	g/(m ² month)		0.8	0.6	1.9	13.5	0.9
Ash Content (mg)	---	0.1	mg		13.8	10.8	31.2	223	14.6
EA141: Total Insoluble Matter									
Total Insoluble Matter	---	0.1	g/m ² /month		1.3	1.5	2.8	19.3	1.9
Total Insoluble Matter (mg)	---	0.1	mg		21.5	24.9	45.4	319	31.4

Page : 4 of 4
 Work Order : EN0901235
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D6	D7	D8	D9	D10
				19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09	19/06/09 - 17/07/09
Client sampling date / time				17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00	17-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	EN0901235-006	EN0901235-007	EN0901235-008	EN0901235-009	EN0901235-010
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	0.7	1.1	0.7	0.6	0.8
Ash Content (mg)	---	0.1	mg	11.1	17.6	11.1	10.3	12.6
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.2	1.9	1.7	1.2	1.3
Total Insoluble Matter (mg)	---	0.1	mg	20.2	30.8	27.4	20.5	20.8

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory
Services Pty Ltd

[illegible]

AUSTRALIAN LABORATORY SERVICES P/L

Client: Bloomfield Project No.: N4044001 Sampled By: *R Brown*
 Date Collected: *17/7/9* Collection Start Time: *0720* Collection Stop Time: *0930*

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	<i>0810</i>	<i>19/6/9</i>	<i>17/7/9</i>	<i>800</i>	<i>LT GREEN</i>	<i>ST</i>	<i>DABGETS +</i>	<i>VEG</i>
2	<i>0835</i>			<i>1000</i>	<i>LT GREEN</i>	<i>ST</i>		
3	<i>0845</i>			<i>900</i>	<i>LT BROWN</i>	<i>ST</i>	<i>+ BP</i>	
4A	<i>0855</i>			<i>900</i>	<i>Brown</i>	<i>T</i>	<i>+ BP +</i>	<i>MUD MAY BE FROM DROPPINGS</i>
5	<i>0800</i>			<i>900</i>	<i>LT GREEN</i>	<i>ST</i>	<i>+ VEG</i>	
6	<i>0730</i>			<i>1000</i>	<i>CLN</i>	<i>C</i>		
7	<i>0720</i>			<i>1200</i>	<i>CLN</i>	<i>C</i>		
8	<i>0745</i>			<i>1100</i>	<i>LT GREEN</i>	<i>ST</i>	<i>+ VEG</i>	
9	<i>0830</i>			<i>900</i>	<i>CLN</i>	<i>C</i>		
10	<i>0930</i>			<i>900</i>	<i>CLN</i>	<i>C</i>		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: *RB*

AECOM
 PO Box 3148 SINGLETON NSW 2330
 T+61 2 6571 2922 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
 Environmental Officer
 Bloomfield Collieries
 PO Box 4
 East Maitland NSW 2323

22 June 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - June 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for June 2009. Sampling was performed by ENSR Australia Pty Ltd (trading as AECOM) and hereafter referred to as AECOM, analysis was performed by Australian Laboratory Services' (ALS) laboratory in Warabrook NSW, report number EN0901057. Sampling and analysis was performed in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 18 May 2009 – 19 June 2009.

Samples collected by: Ralph Brown – AECOM.

Table 1: Dust Deposition Monitoring – June 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	1800	Light Green	Slightly Turbid	Insects + Vegetation
D2	2000	Clear	Clear	Insects
D3	2000	Clear	Clear	Insects
D4a	2000	Clear	Clear	Insects
D5	2000	Clear	Clear	Insects
D6	2000	Light Brown	Slightly Turbid	Insects + Bird Droppings
D7	2000	Clear	Clear	Insects
D8	2000	Clear	Clear	Insects
D9	2000	Clear	Clear	Insects
D10	2000	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – June 2009 Results

Site	Insoluble Solids (g/m ² /month)	Ash Residue (g/m ² /month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.5c	0.6	40
D2	1.5c	0.6	40
D3	5.0	3.7	74
D4a	5.2	3.7	71
D5	1.3c	0.6	46
D6	22.8c	16.3	71
D7	1.5	0.9	60
D8	0.9c	0.4	44
D9	0.8	0.4	50
D10	0.9	0.6	67

Table 3: Insoluble Solids Annual Average to June 2009

Dust Monitoring Site	D1	D2	D3	D4a	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m²/month)	1.9	2.0	3.5	1.7	1.4	1.9	2.1	2.1	1.5	2.0

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%) are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m²/month insoluble solids – maximum total deposited dust level (annual average).

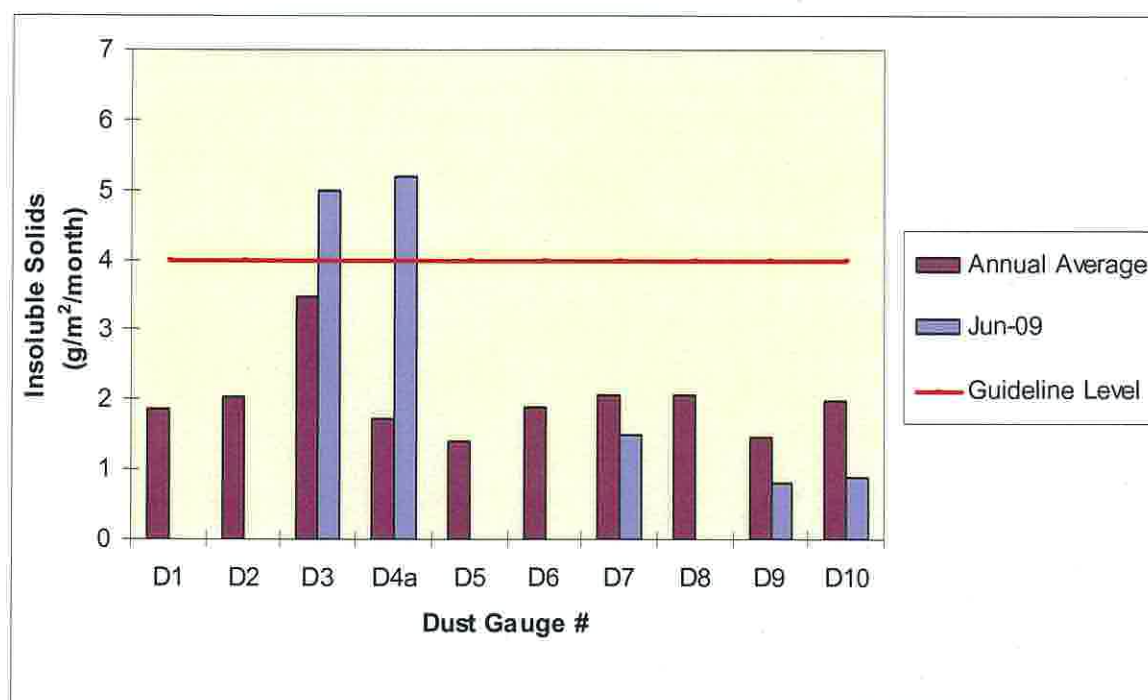


Figure 1: June 2009 Dust Deposition and Annual Average Insoluble Solids

The sample site D4 is no longer accessible due to mining operations and has been replaced by D4a at the client's request.

Gauges D1, D2, D5, and D8 returned an ash residue to insoluble solids ratio of <50% and have been deemed contaminated. Gauge D6 returned a high insoluble solids result (22.8 g/m²/month), review of the field sheets revealed the gauge water was light brown in colour, containing insects and bird droppings, as a result the gauge has been deemed to be contaminated.

The gauges deemed contaminated have not been included in the annual average calculations.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

ENSR Australia Pty Ltd (trading as AECOM)

Scott McDonald
Environmental Chemist

Technical Peer Reviewer:

Date:

	27/7/9
Greg Schumacher Hunter Operations Manager	

Enclosures:
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Analytical Reports, Field Sheets, Chain of Custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0901057	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044001	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1203566	Date Samples Received	: 19-JUN-2009
C-O-C number	: ---	Issue Date	: 24-JUN-2009
Sampler	: ---	No. of samples received	: 10
Site	: ---	No. of samples analysed	: 10
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Peter Donaghy

Laboratory Supervisor

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304

Tel. +61-2-4968 9433 Fax. +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 4
Work Order : EN0901057
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044001



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0901057
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D1	D2	D3	D5	D6
				18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09
Client sampling date / time				19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00
Compound	CAS Number	LOR	Unit	EN0901057-001	EN0901057-002	EN0901057-003	EN0901057-004	EN0901057-005
EA120: Ash Content								
Ash Content	----	0.1	g/(m ² month)	0.6	0.6	3.7	0.6	16.3
Ash Content (mg)	----	0.1	mg	10.5	11.8	69.8	11.2	307
EA141: Total Insoluble Matter								
Total Insoluble Matter	----	0.1	g/m ² /month	1.5	1.5	5.0	1.3	22.8
Total Insoluble Matter (mg)	----	0.1	mg	28.2	28.3	94.0	24.4	430

2217

Page : 4 of 4
 Work Order : EN0901057
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D7	D8	D9	D10	D4A
				18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09	18/05/09 - 19/06/09
Client sampling date / time				19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00	19-JUN-2009 12:00
Compound	CAS Number	LOR	Unit	EN0901057-006	EN0901057-007	EN0901057-008	EN0901057-009	EN0901057-010
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	0.9	0.4	0.4	0.6	3.7
Ash Content (mg)	---	0.1	mg	17.0	7.2	8.2	10.8	70.1
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.5	0.9	0.8	0.9	5.2
Total Insoluble Matter (mg)	---	0.1	mg	28.4	16.1	14.9	15.9	99.1

#2217

Client: Bloomfield Project No.: N4044001 Sampled By: R Brown
 Date Collected: 19/6/9 Collection Start Time: 0800 Collection Stop Time: 1020

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1010	18/5/9	19/6/9	1800	LT GREEN	ST	INSECTS +	VEG
2	0930			2000	CLR	C		
3	0915			2000	CLR	C		
5	0820			1000	CLR	C		
6	0830			2000	LIGHT BROWN	ST	+ BP	
7	0800			2000	CLR	C		
8	0840			2000	CLR	C		
9	0945			2000	CLR	C		
10	1020			2000	CLR	C		
4A	0910			2000	CLR	C		

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: R

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory
Services Pty Ltd

[illegible]

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; Q = Other.

AUSTRALIAN LABORATORY SERVICES P/L

AECOM
 PO Box 3148 SINGLETON NSW 2330
 T+61 2 6571 2822 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
 Environmental Officer
 Bloomfield Collieries
 PO Box 4
 East Maitland NSW 2323

11 June 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - May 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for May 2009. Sampling and analyses were performed by ENSR Australia Pty Ltd (trading as AECOM) and hereafter referred to AECOM, in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 17 April 2009 – 18 May 2009.

Samples collected by: Ralph Brown – AECOM.

Table 1: Dust Deposition Monitoring – May 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	500	Light Green	Slightly Turbid	Insects + Vegetation
D2	800	Clear	Clear	Insects
D3	900	Clear	Clear	Insects
D5	800	Light Green	Clear	Insects + Vegetation + over hanging branches
D6	900	Clear/ Cloudy	Slightly Turbid	Insects + beetles
D7	1000	Clear	Clear	Insects + Road repairs near gauge, crushed concrete laid on track
D8	1000	Clear	Clear	Insects
D9	900	Clear	Clear	Insects
D10	1100	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – April 2009 Results

Site	Insoluble Solids (g/m ² /month)	Ash Residue (g/m ² /month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.8	1.1	61
D2	1.9	1.1	58
D3	4.2	3.3	79
D5	1.2	0.5	42
D6	1.7	1.0	59
D7	1.7	1.0	59
D8	1.4	0.8	57
D9	1.4	0.9	64
D10	1.2	0.8	67

Table 3: Insoluble Solids Annual Average to May 2009

Dust Monitoring Site	D1	D2	D3	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m ² /month)	1.9	2.0	3.3	1.3	1.8	2.0	2.0	1.4	2.0

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%) are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m²/month insoluble solids – maximum total deposited dust level (annual average).

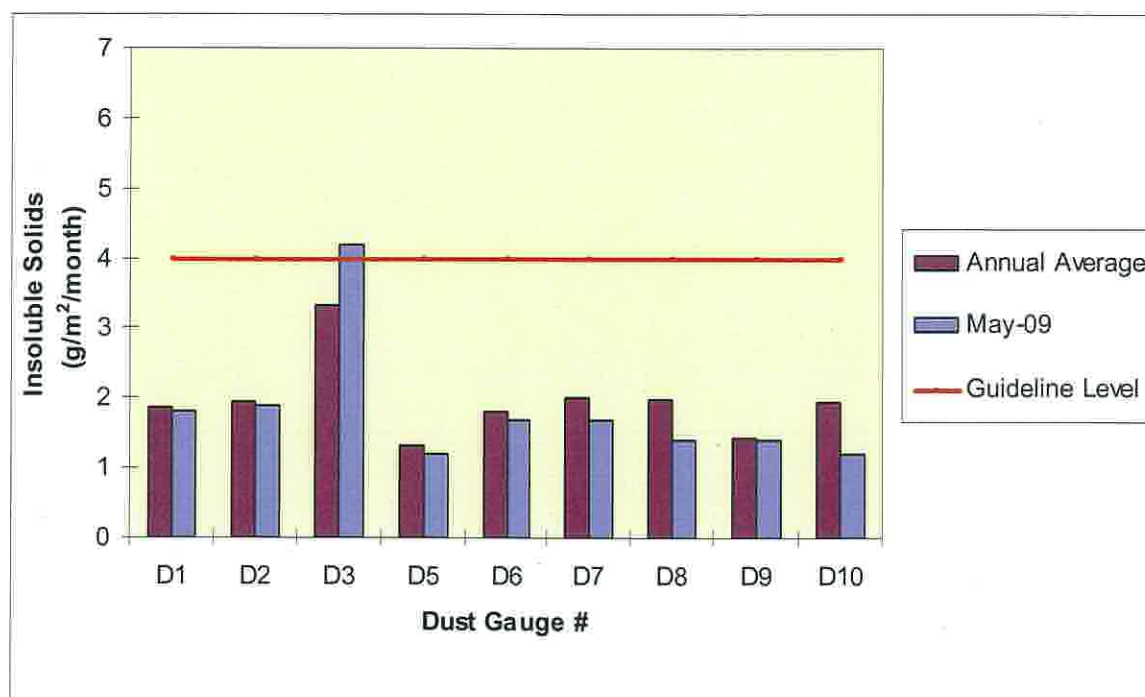


Figure 1: May 2009 Dust Deposition and Annual Average Insoluble Solids

The sample site D4 is no longer accessible due to mining operations and has been discontinued at the client's request.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

ENSR Australia Pty Ltd (trading as AECOM)

Katie Hoffman

Trainee Environmental Technician

Technical Peer Reviewer:

Date:

	17/6/9
Greg Schumacher Hunter Operations Manager	

Enclosures:

Analytical Reports, Field Sheets, Chain of Custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0900839	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044001	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1203278	Date Samples Received	: 18-MAY-2009
C-O-C number	: ---	Issue Date	: 21-MAY-2009
Sampler	: ---	No. of samples received	: 9
Site	: ---	No. of samples analysed	: 9
Quote number	: EN/004/09		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



WORLD RECOGNISED
ACCREDITATION

NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Peter Donaghy

Laboratory Supervisor

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

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Page : 2 of 4
Work Order : EN0900839
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044001



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Samples passed through a 1mm sieve prior to analysis. NATA accreditation is not held for results reported in g/m².month.

Page : 3 of 4
 Work Order : EN0900839
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D1	D2	D3	D5	D6
				17/04/09 - 18/05/09	17/04/09 - 18/05/09	17/04/09 - 18/05/09	17/04/09 - 18/05/09	17/04/09 - 18/05/09
				18-MAY-2009 12:00	18-MAY-2009 12:00	18-MAY-2009 12:00	18-MAY-2009 12:00	18-MAY-2009 12:00
Client sampling date / time								
Compound	CAS Number	LOR	Unit	EN0900839-001	EN0900839-002	EN0900839-003	EN0900839-004	EN0900839-005
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	1.1	1.1	3.3	0.5	1.0
Ash Content (mg)	---	0.1	mg	20.1	19.6	60.9	9.9	19.3
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.8	1.9	4.2	1.2	1.7
Total Insoluble Matter (mg)	---	0.1	mg	33.7	35.2	77.7	22.7	31.6

Page : 4 of 4
 Work Order : EN0900839
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: DUST

				Client sample ID				
				D7	D8	D9	D10	
				17/04/09 - 18/05/09	17/04/09 - 18/05/09	17/04/09 - 18/05/09	17/04/09 - 18/05/09	
Client sampling date / time				18-MAY-2009 12:00	18-MAY-2009 12:00	18-MAY-2009 12:00	18-MAY-2009 12:00	
Compound	CAS Number	LOR	Unit	EN0900839-006	EN0900839-007	EN0900839-008	EN0900839-009	
EA120: Ash Content								
Ash Content	----	0.1	g/(m ² month)	1.0	0.8	0.9	0.8	---
Ash Content (mg)	----	0.1	mg	18.1	15.3	16.9	14.3	---
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.7	1.4	1.4	1.2	---
Total Insoluble Matter (mg)	----	0.1	mg	31.0	26.0	25.9	21.9	---

CHAIN OF CUSTODY DOCUMENTATION

**Australian Laboratory
Services Pty Ltd**

[illegible]

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle;
VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;
Q = Other.

AUSTRALIAN LABORATORY SERVICES P/L

Client: Bloomfield Project No.: N4044001 Sampled By: R Brown
 Date Collected: 18/5/9 Collection Start Time: 0730 Collection Stop Time: 1050

Site	Time Collected	Installed Date	Collection Date	Water Level	Water Colour	Turbidity	Decomposing Matter	Comments
1	1030	17/4/9	18/5/9	500	LT GREEN	ST	INSECTS +	VEG
2	1010			800	CLR	C		
3	0915			900	CLR	C		
5	0745			800	LT GREEN	C		OVERHANGING
6	0800			900	CLR/CLOUDY	ST		+ VEG BRANCHES
7	0730			1000	CLR	C		+ BEETLES
8	0810			1000	CLR	C		ROAD REAMERS NEAR GAUGE
9	1120			900	CLR	C		CAUSED GULLAGE LAID OUT
10	1050			1100	CLR	C		
D4A	0945	18/5/9 -	NEW GAUGE INSTALLED -					D4 REMOVED & SAMPLE DISCARDED

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: MS

AECOM
PO Box 3148 SINGLETON NSW 2330
T+61 2 6571 2822 F+61 2 6571 2959 www.aecom.com

Mr Lachlan Crawford
Environmental Officer
Bloomfield Collieries
PO Box 4
East Maitland NSW 2323

22 May 2009

Dear Lachlan,

Re: Monthly Air Quality Monitoring for Bloomfield Colliery - April 2009

Please find attached monthly results for the Bloomfield Colliery dust deposition monitoring network for April 2009. Sampling and analyses were performed by ENSR Australia Pty Ltd (trading as AECOM) and hereafter referred to AECOM, in accordance with AS3580.10.1 (2003). A summary of monitoring data is presented in **Tables 1 - 3** and **Figure 1**. Analytical laboratory certificates, chain of custody documentation and field notes are enclosed.

Results Summary

Dust deposition collection period: 20 March 2009 – 17 April 2009.

Samples collected by: Ralph Brown – AECOM.

Table 1: Dust Deposition Monitoring – April 2009 Field Observations

Site	Water level (mL)	Water Colour	Turbidity	Decomposing Matter/ Comments
D1	2000	Light Brown	Slightly Turbid	Insects + Vegetation + bird droppings
D2	2000	Clear	Clear	Insects + bird droppings
D3	2000	Clear	Clear	Insects
D5	2000	Clear	Clear	Insects
D6	2000	Clear	Clear	Insects + beetles
D7	2000	Clear	Clear	Insects
D8	2000	Clear	Clear	Insects + large spider
D9	2000	Clear	Clear	Insects
D10	2000	Clear	Clear	Insects

Table 2: Dust Deposition Monitoring – April 2009 Results

Site	Insoluble Solids (g/m ² /month)	Ash Residue (g/m ² /month)	Ash Residue to Insoluble Solids Ratio (%)
D1	1.4c	0.5	36
D2	1.3	0.7	54
D3	1.1	0.6	55
D5	0.8	0.3	38
D6	1.5	0.9	60
D7	1.3	0.8	62
D8	1.4	0.7	50
D9	1.5	0.7	47
D10	3.0	2.0	67

'c' denotes suspected contaminated gauge.

Table 3: Insoluble Solids Annual Average to April 2009

Dust Monitoring Site	D1	D2	D3	D5	D6	D7	D8	D9	D10
Annual Average Insoluble Solids (g/m ² /month)	1.8	1.9	3.1	1.3	1.7	2.0	1.9	1.5	3.0

Note – Gauges suspected of being contaminated i.e. having gauge water recorded as discoloured and/or turbid with a low ash to insoluble solids ratio (<50%) are excluded from the calculation of the annual average. Results in **bold** indicate an exceedence of the DECC (2005) guideline level of 4 g/m²/month insoluble solids – maximum total deposited dust level (annual average).

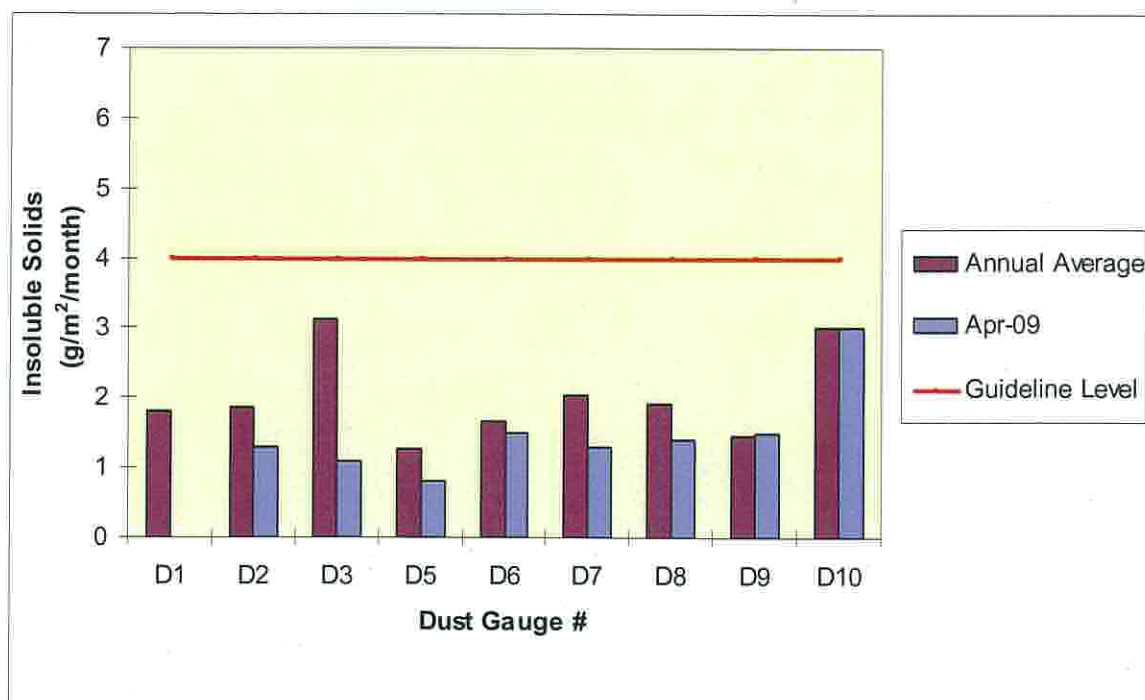


Figure 1: April 2009 Dust Deposition and Annual Average Insoluble Solids

The sample site D4 is no longer accessible due to mining operations and has been discontinued at the client's request.

If you require any further information, please contact our Singleton office on 65712822.

Yours sincerely,

ENSR Australia Pty Ltd (trading as AECOM)

[Signature]
Ralph Brown
 Senior Environmental Scientist

Technical Peer Reviewer:

Date:

<i>[Signature]</i>	27/5/09
Greg Schumacher Hunter Operations Manager	

Enclosures:

Analytical Reports, Field Sheets, Chain of Custody documentation

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EN0900653	Page	: 1 of 4
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Newcastle
Contact	: ALL SINGLETON RESULTS	Contact	: Peter Keyte
Address	: PO BOX 3148 SINGLETON NSW, AUSTRALIA 2330	Address	: 5 Rosegum Road Warabrook NSW Australia 2304
E-mail	: sin.als@ensr.aecom.com	E-mail	: peter.keyte@als.com.au
Telephone	: +61 02 6571 2822	Telephone	: +61-2-4968 9433
Facsimile	: +61 02 6571 2959	Facsimile	: +61-2-4968 0349
Project	: N4044001	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 163534	Date Samples Received	: 17-APR-2009
C-O-C number	: ---	Issue Date	: 23-APR-2009
Sampler	: ---	No. of samples received	: 9
Site	: ---	No. of samples analysed	: 9
Quote number	: ---		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in
accordance with NATA
accreditation requirements.

WORLD RECOGNISED
ACCREDITATION

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Peter Donaghy

Laboratory Supervisor

Newcastle

Environmental Division Newcastle

Part of the **ALS Laboratory Group**

5 Rosegum Road Warabrook NSW Australia 2304

Tel. +61-2-4968 9433 Fax +61-2-4968 0349 www.alsglobal.com

A Campbell Brothers Limited Company

*Results Entered
11/5/09*

Page : 2 of 4
Work Order : EN0900653
Client : ENSR AUSTRALIA PTY LIMITED
Project : N4044001



General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

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

- Results reported in g/m².month not covered by scope of accreditation.

Page : 3 of 4
 Work Order : EN0900653
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: AIR

Client sample ID

Client sampling date / time

				D1 20/3/09 - 17/4/09 17-APR-2009 15:00	D2 20/3/09 - 17/4/09 17-APR-2009 15:00	D3 20/3/09 - 17/4/09 17-APR-2009 15:00	D5 20/3/09 - 17/4/09 17-APR-2009 15:00	D6 20/3/09 - 17/4/09 17-APR-2009 15:00
Compound	CAS Number	LOR	Unit	EN0900653-001	EN0900653-002	EN0900653-003	EN0900653-004	EN0900653-005
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	0.5	0.7	0.6	0.3	0.9
Ash Content (mg)	---	0.1	mg	8.1	11.2	9.3	5.6	15.1
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.4	1.3	1.1	0.8	1.5
Total Insoluble Matter (mg)	---	0.1	mg	22.6	20.8	18.4	13.8	24.3

Page : 4 of 4
 Work Order : EN0900653
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : N4044001



Analytical Results

Sub-Matrix: AIR

Client sample ID

				D7 20/3/09 - 17/4/09 17-APR-2009 15:00	D8 20/3/09 - 17/4/09 17-APR-2009 15:00	D9 20/3/09 - 17/4/09 17-APR-2009 15:00	D10 20/3/09 - 17/4/09 17-APR-2009 15:00	---
Client sampling date / time								
Compound	CAS Number	LOR	Unit	EN0900653-006	EN0900653-007	EN0900653-008	EN0900653-009	---
EA120: Ash Content								
Ash Content	---	0.1	g/(m ² month)	0.8	0.7	0.7	2.0	---
Ash Content (mg)	---	0.1	mg	13.5	10.8	11.8	32.9	---
EA141: Total Insoluble Matter								
Total Insoluble Matter	---	0.1	g/m ² /month	1.3	1.4	1.5	3.0	---
Total Insoluble Matter (mg)	---	0.1	mg	21.0	22.6	24.5	48.7	---

Client: Bloomfield Project No.: N4044001 Sampled By: R Brown
Date Collected: 17/4/9 Collection Start Time: 0830 Collection Stop Time: 1020

[illegible]

Turbidity – Clear (C), Slightly Turbid (ST), Turbid (T), Very Turbid (VT).

Initials: 9/2

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory
Services Pty Ltd

CLIENT: ENSR Australia Pty Limited

POSTAL ADDRESS: PO Box 3148 Singleton NSW 2330

SEND REPORT TO: sin.als@ensr.aecom.com

SEND INVOICE TO: sin.als@ensr.aecom.com

DATA NEEDED BY: 7 working days

REPORT NEEDED BY: 7 working days

PROJECT ID: N4044001

QUOTE NO.: SYN/003/07

P.O. NO.: 163534

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LAB USE ONLY

Page 1 of 1

COOLER SEAL

Yes

No

Dust Deposition Samples

Broken

Intact

COOLER TEMP: deg.C

LABORATORY BATCH NO:

SAMPLERS:

PHONE:

FAX:

E-MAIL:

REPORT FORMAT: HARD:

FAX: Ys

DISK:

BULLETIN BOARD: Yes

E-MAIL: Yes

QC LEVEL:

QCS1:

QCS2:

QCS3: Yes

QCS4:

ANALYSIS REQUIRED

Insol Solids

Ash Residue

NOTES

SAMPLE DATA

CONTAINER DATA

DATE	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH
20/3/9	1 D1	Dust	17/4/9				
	2 D2						
	3 D3						
	4 D5						
	5 D6						
	6 D7						
	7 D8						
	8 D9						
	9 D10						

Environmental Division
Newcastle
Work Order
EN0900653

Telephone: +61-2 4968 9433

NAME: R Brown

RELINQUISHED BY:

DATE:

17/4/9

TIME:

RECEIVED BY

NAME: PETER DONAGHY

DATE: 17/4/09

OF: MS NEWCASTLE

TIME: 1215

NAME:

DATE:

NAME:

DATE:

OF:

TIME:

OF:

TIME:

METHOD OF SHIPMENT

CONSIGNMENT NOTE NO.

TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle;

VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle;

O = Other.

AUSTRALIAN LABORATORY SERVICES P/L

23/4

APPENDIX B

MONTHLY WATER QUALITY MONITORING RESULTS

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234

Origin: Bloomfield Collieries **Report No:** 6800 3986-00 page 1 of 2
Description: Monthly Water Samples **Date:** 22nd March 2010
Sampled 04/03/2010
Report To: Keren Halliday **Copy to:** File

Site W01 – Rathluba, W02 – Shamrock/4 Mile Creeks and W12 – Shamrock/4 Mile Creek
Ashtonfield were dry. Site W10 – 4 Mile Creek John Renshaw drive had no access due to roadworks.

Sample Description		W03 – Elwells/4 Mile Creek	W04 – Possums Puddle OF	W06 – Mile Creek US Lake Foster	W07 – Possums Puddle
Dissolved Oxygen	mg/L	8.7	9.0	7.0	8.0
Total Suspended Solids	mg/L	9	4	90	9
Total Dissolved Solids	mg/L	200	120	350	97
Temperature	°C	20.3	23.2	21.6	24.1
Iron (Dissolved) *	mg/L	0.35	0.18	0.24	0.81
pH	-	8.9	9.3	8.9	8.8
Electrical Conductivity	µS/cm	280	190	140	170
Turbidity	NTU	86	12	24	12

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*

Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES01004427

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234

Origin: Bloomfield Collieries **Report No:** 6800 3986-00 page 1 of 2
Description: Monthly Water Samples **Date:** 22nd March 2010
Sampled 04/03/2010
Report To: Keren Halliday **Copy to:** File

Sample Description		W08 – Lake Foster	W09 – Lake Kennerson	W11 – 4 Mile Creek/ New England HWY
Dissolved Oxygen	mg/L	8.5	7.8	8.8
Total Suspended Solids	mg/L	1	15	16
Total Dissolved Solids	mg/L	110	5300	4500
Temperature	°C	23.6	24.2	20.5
Iron (Dissolved) *	mg/L	0.16	<0.05	<0.05
pH	-	8.7	8.9	8.4
Electrical Conductivity	µS/cm	9700	8800	550
Turbidity	NTU	8	6	15

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*

Reported By:  _____

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES01004427

Origin: Bloomfield Collieries **Report No:** 6800 3951-00 page 1of 2

Description: Monthly Water Samples **Date:** 22nd February 2009
Sampled 09/02/2010

Report To: John Hope **Copy to:** File

Sample Description		W02 Shamrock/4 mile Creek	W03 Elwells/4 mile Creek	W04 Possums Puddle Overflow	W06 4 Mile Creek U/S Lake Foster	W07 Possums Puddle
Dissolved Oxygen	mg/L	7.9	8.4	8.9	7.8	7.4
Total Suspended Solids	mg/L	-	14	2	38	10
Total Dissolved Solids	mg/L	-	130	110	130	120
Temperature	°C	26.5	24.6	26.9	24.7	27.5
Iron (Dissolved) *	mg/L	0.07	0.28	0.22	0.77	0.11
pH	-	5.5	7.3	6.3	7.6	6.5
Electrical	µS/cm	1900	220	170	150	160
Turbidity	NTU	19	14	5	52	7

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*


Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES01002465

Origin: Bloomfield Collieries **Report No:** 6800 3951 - 00 Page 2 of 2
Description: Monthly Water Samples **Date:** 22nd February 2009
Sampled 09/02/2010
Report To: John Hope **Copy to:** File

Sample Description		W08 lake Foster	W09 lake Kennerson	W11 4 Mile Creek New England highway	W12 Shamrock Ashtonfield
Dissolved Oxygen	mg/L	8.1	8.7	6.2	7.4
Total Suspended Solids	mg/L	13	14	45	22
Total Dissolved Solids	mg/L	5200	4400	310	150
Temperature	=C	27.2	28.5	24.3	23.5
Iron (Dissolved) *	mg/L	<0.05	<0.05	0.33	0.29
pH	-	7.6	8.3	6.1	5.5
Electrical Conductivity	µS/cm	9300	8500	320	230
Turbidity	NTU	11	18	10	58

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*

Reported By: 
Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES1002465

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234

Origin: Bloomfield Collieries **Report No:** 6800 3911-00 page 1 of 2
Description: Monthly Water Samples **Date:** 25th January 2009
Sampled 13/01/2010
Report To: John Hope **Copy to:** File

Sample Description		W03 Elwells/4 mile Creek	W04 Possums Puddle Overflow	W06 4 Mile Creek U/S Lake Foster	W07 Possums Puddle
Dissolved Oxygen	mg/L	8.1	8.2	7.6	7.9
Total Suspended Solids	mg/L	10	6	5	2
Total Dissolved Solids	mg/L	200	120	88	110
Temperature	°C	24.9	28.7	27.5	29.9
Iron (Dissolved) *	mg/L	0.61	0.17	0.62	0.16
pH	-	6.8	7.1	6.7	6.8
Electrical Conductivity	µS/cm	280	150	110	150
Turbidity	NTU	17	8	17	11
Alkalinity	mg/L	92	46	47	44
Chloride	mg/L	39	24	12	24
Calcium	mg/L	14	12	13	12
Sodium	mg/L	34	14	8	14
Magnesium	mg/L	10	4	2	4
Potassium	mg/L	3	2	1	2

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*

Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES01000638.

ACIRL Pty Ltd

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234



Origin: Bloomfield Collieries
Description: Monthly Water Samples
Sampled 13/01/2010


Report No: 6800 3911 - 00 Page 2 of 2
Date: 25th January 2009

Report To: John Hope

Copy to: File

Sample Description		W08 lake Foster	W09 lake Kennerson	W11 4 Mile Creek New England highway	W12 Shamrock Ashtonfield
Dissolved Oxygen	mg/L	7.9	8.8	3.4	5.8
Total Suspended Solids	mg/L	14	18	18	6
Total Dissolved Solids	mg/L	5600	4300	370	190
Temperature	°C	30.2	30.0	27.9	24.2
Iron (Dissolved) *	mg/L	<0.05	<0.05	0.38	0.30
pH	-	7.8	7.7	6.5	6.1
Electrical Conductivity	µS/cm	6600	5600	530	310
Turbidity	NTU	9	6	11	16
Alkalinity	mg/L	271	355	146	90
Chloride	mg/L	497	602	63	39
Calcium	mg/L	265	122	22	13
Sodium	mg/L	1050	1100	81	32
Magnesium	mg/L	290	257	18	8
Potassium	mg/L	30	24	6	4

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*

Reported By: 
Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES1000638

ACIRL Pty Ltd

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234



Origin: Bloomfield Collieries **Report No:** 6800 3872-00 page 1 of 2
Description: Monthly Water Samples **Date:** 8th January 2010
Sampled 13/12/2009
Report To: John Hope **Copy to:** File

Sample Description		W03 – Elwells/ 4 Mile Creek	W04 – Possums Puddle Overflow	W06 – Mile Creek US Lake Foster	W07 – Possums Puddle
Dissolved Oxygen	mg/L	7.6	7.8	2.2	6.7
Total Suspended Solids	mg/L	8	2	5	3
Total Dissolved Solids	mg/L	140	90	50	40
Temperature	°C	22.3	26.3	25.0	27.5
Iron (Dissolved) *	mg/L	0.23	0.13	0.19	0.45
pH	-	7.6	7.1	7.9	7.0
Electrical Conductivity	µS/c	410	160	120	160
Turbidity	NTU	18	22	13	67

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.

Reported By: _____

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0919536

ACIRL Pty Ltd

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234



Origin: Bloomfield Collieries **Report No:** 6800 3872 - 00 Page 2 of 2
Description: Monthly Water Samples **Date:** 8th January 2010
Sampled 13/12/2009
Report To: John Hope **Copy to:** File

Sample Description		W08 – Lake Foster	W09 – Lake Kennerson	W11 – 4 Mile Creek NEH	W12 – Shamrock/4 Mile Creek Ashtonfield
Dissolved Oxygen	mg/L	7.6	7.6	7.8	7.7
Total Suspended Solids	mg/L	3	5	55	64
Total Dissolved Solids	mg/L	6200	5500	3500	300
Temperature	°C	26.7	18.8	26.0	21.9
Iron (Dissolved) *	mg/L	0.08	<0.05	<0.05	<0.05
pH	-	8.1	8.1	7.3	7.3
Electrical Conductivity	µS/cm	6300	6000	3100	550
Turbidity	NTU	45	27	27	10

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.

A handwritten signature in black ink, appearing to be "John Hope", written over a horizontal line.

Reported By: _____
Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0919536

Origin: Bloomfield Collieries **Report No:** 6800 3824-00 page 1 of 3
Description: Monthly Water Samples **Date:** 17th November 2009
Sampled 03/11/2009
Report To: John Hope **Copy to:** File

Sample Description		W02 – Shamrock 03/11/2009	W03 – Shamrock/4 Mile Creek 03/11/2009	W04 – Possums Puddle O/F 03/11/2009	W06 – Mile Crk U/S Lake Foster 03/11/2009
Dissolved Oxygen	mg/L	8.6	8.6	8.8	8.8
Total Suspended Solids	mg/L	14	10	6	12
Total Dissolved Solids	mg/L	510	5000	130	120
Temperature	°C	24.8	19.4	24.4	24.1
Iron (Dissolved) *	mg/L	0.63	0.70	0.44	0.40
pH	-	7.7	8.3	8.8	8.8
Electrical Conductivity	µS/cm	5900	640	150	120
Turbidity	NTU	70	27	22	31

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.*



Reported By: _____

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0916949

ACIRL Pty Ltd

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234



Origin: Bloomfield Collieries **Report No:** 6800 3824 - 00 Page 2 of 3
Description: Monthly Water Samples **Date:** 17th November 2009
Sampled 03/11/2009
Report To: John Hope **Copy to:** File

Sample Description		W07 – Possums Puddle 03/11/2009	W08 – lake Foster 03/11/2009	W09 – Lake Kennerson 03/11/2009
Dissolved Oxygen	mg/L	9.0	9.2	9.2
Total Suspended Solids	mg/L	4	3	29
Total Dissolved Solids	mg/L	140	3600	3200
Temperature	°C	25.8	24.6	26.3
Iron (Dissolved) *	mg/L	0.38	0.06	<0.05
pH	-	8.7	8.5	9.6
Electrical Conductivity	µS/cm	160	5000	4500
Turbidity	NTU	108	29	31

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.

A handwritten signature in black ink, appearing to read "GDPH".

Reported By: _____
Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0916949

(ABN 66 003 451 876)

Unit 2, Lot 6 Industrial Close, Muswellbrook 2333

Phone: (02) 6542 2400

Fax: (02) 6543 3234

Origin: Bloomfield Collieries**Report No:** 6800 3824-00 Page 3 of 3**Description:** Monthly Water Samples
Sampled 03/11/2009**Date:** 17th November 2009**Report To:** John Hope**Copy to:** File

Sample Description		W10 – 4 Mile Crk/John Renshaw 03/11/2009	W11 – 4 Mile Crk/NEH 03/11/2009	W12 – Shamrock/4 Mile Crk Ashtonfield 03/11/2009
Dissolved Oxygen	mg/L	8.2	8.6	9.0
Total Suspended Solids	mg/L	18	33	2
Total Dissolved Solids	mg/L	430	3200	5200
Temperature	°C	23.0	22.1	20.6
Iron (Dissolved) *	mg/L	2.09	0.10	<0.05
pH	-	8.5	8.1	8.3
Electrical Conductivity	µS/cm	380	4400	6200
Turbidity	NTU	120	17	5

- Note:*
1. Sampled by client. Analysis as received.
 2. Elemental analysis analysed as total unless indicated otherwise.
 3. Temperature, pH, EC, Turbidity, performed in situ.
 4. Dissolved Oxygen was analysed in the lab.



Reported By: _____
Analysed in accordance with APHA Standard Methods,
* Analysed by ALS Environmental – ES0916949

ACIRL Pty Ltd

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234



Origin: Bloomfield Collieries **Report No:** 6800 3784-00 page 1 of 3
Description: Quarterly Water Samples **Date:** 23rd October 2009
Sampled 13/10/2009
Report To: Lachlan Crawford **Copy to:** File

Sample Description		W03 – Shamrock/4 Mile Creek 13/10/2009 UH 265076	W04 – Possums Puddle O/F 13/10/2009 UH 265077	W05 – Elwells Crk Adj Haul Rd 13/10/2009 UH 265078	W06 – Mile Crk U/S Lake Foster 13/10/2009 UH 265079
Dissolved Oxygen	mg/L	8.1	8.1	8.0	8.1
Total Suspended Solids	mg/L	370	4	-	10
Total Dissolved Solids	mg/L	210	140	-	85
Bicarbonate Alkalinity*	mg/L	52	33	54	38
Carbonate Alkalinity *	mg/L	<1	<1	<1	<1
Chloride *	mg/L	38	28	20	13
Calcium *	mg/L	15	11	1	12
Magnesium*	mg/L	10	4	9	2
Sodium *	mg/L	39	20	21	8
Temperature		15.9	18.1	17.2	17.0
Iron (Dissolved) *	mg/L	0.61	0.61	0.31	0.54
Potassium*	mg/L	3	3	2	1
pH	-	8.1	7.1	8.2	8.3
Electrical Conductivity	µS/cm	310	170	250	110
Turbidity	NTU	46	10	114	23

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, performed in situ.
4. Dissolved Oxygen was analysed in the lab.

Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0915625

ACIRL Pty Ltd

(ABN 66 003 451 876)
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Fax: (02) 6543 3234



Origin: Bloomfield Collieries **Report No:** 6800 3784-00 Page 2 of 3
Description: Quarterly Water Samples **Date:** 23rd October 2009
Sampled 13/10/2009
Report To: Lachlan Crawford **Copy to:** File

Sample Description		W07 – Possums Puddle 13/10/2009 UH 265080	W08 – lake Foster 13/10/2009 UH 265081	W09 – Lake Kennerson 13/10/2009 UH 265082
Dissolved Oxygen	mg/L	7.7	8.9	8.1
Total Suspended Solids	mg/L	6	11	8
Total Dissolved Solids	mg/L	130	4700	2400
Bicarbonate Alkalinity*	mg/L	36	340	38
Carbonate Alkalinity *	mg/L	<1	<1	75
Chloride *	mg/L	27	456	355
Calcium *	mg/L	10	213	45
Magnesium *	mg/L	4	251	131
Sodium *	mg/L	19	846	528
Temperature		18.4	19.1	19.9
Iron (Dissolved) *	mg/L	0.57	<0.05	0.21
Potassium*	mg/L	3	28	12
pH	-	7.1	8.1	9.9
Electrical Conductivity	µS/cm	170	5900	3600
Turbidity	NTU	41	6	19

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.
4. Dissolved Oxygen was analysed in the lab.

A handwritten signature in black ink, appearing to be "GDPH".

Reported By: _____

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0915625

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234

Origin: Bloomfield Collieries **Report No:** 6800 3784-00 Page 3 of 3
Description: Quarterly Water Samples **Date:** 23rd October 2009
Sampled 13/10/2009
Report To: Lachlan Crawford **Copy to:** File

Sample Description		W10 – 4 Mile Crk/John Renshaw 13/10/2009 UH 265083	W11 – 4 Mile Crk/NEH 13/10/2009 UH 265084	W12 – Shamrock/4 Mile Crk Ashtonfield 13/10/2009 UH 265085
Dissolved Oxygen	mg/L	8.3	8.4	8.7
Total Suspended Solids	mg/L	-	24	16
Total Dissolved Solids	mg/L	-	2700	2500
Bicarbonate Alkalinity *	mg/L	84	166	193
Carbonate Alkalinity *	mg/L	<1	<1	<1
Chloride *	mg/L	109	240	217
Calcium *	mg/L	10	139	139
Magnesium *	mg/L	13	136	139
Sodium *	mg/L	73	452	448
Temperature		17.2	15.6	15.3
Iron (Dissolved) *	mg/L	1.26	0.10	0.22
Potassium*	mg/L	7	17	17
pH	-	8.3	7.4	7.1
Electrical Conductivity	µS/cm	440	3500	3500
Turbidity	NTU	66	16	20

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.
4. Dissolved Oxygen was analysed in the lab.



Reported By: _____

Analysed in accordance with APHA Standard Methods,

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES

Received 24-Sep-09

Report to: Lachlan Crawford**Report :** 6800-3731-00

Page 1 of 2

Date: 06-Oct-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
263405	W02 - Shamrock/4 Mile Creek	24-Sep-09	18.2	7.5	1,900	10.4	90.0			0.55
263406	W03 - Elwells/4 Mile Creek	24-Sep-09	15.2	8.8	360	10.5	34.0	14	220	0.74
263407	W04 - Possums Puddle Overflow	24-Sep-09	17.2	8.7	160	10.3	5.0	6	120	0.72
263408	W05 - Elwells Creek Adj. Haul Rd	24-Sep-09	15.5	6.4	1,500	9.0	101.0			0.77
263409	W06 - Mile Creek U/S LakeFoster	24-Sep-09	17.3	9.1	120	9.7	42.0	10	80	0.86
263410	W07 - Possums Puddl	24-Sep-09	17.3	8.5	170	10.1	82.0	7	110	0.81
263411	W08 - Lake Foster	24-Sep-09	19.1	8.3	5,900	10.3	51.0	10	4,400	0.06

Note : Water Sampled by ALS ACIRL

Reported By:

 Gerard Gleeson
 Environmental Services
 Coordinator


**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES
Received 24-Sep-09**Report to:** Lachlan Crawford**Report :** 6800-3731-00

Page 2 of 2

Date: 06-Oct-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
263412	W09 - Lake Kennersoi	24-Sep-09	18.3	10.0	3,000	10.8	11.0	23	1,900	< 0.05
263413	W10 - 4 Mile Creek John Renshaw Dr	24-Sep-09	15.8	8.5	460	9.2	80.0			2.33
263414	W11 - 4 Mile Creek NEH	24-Sep-09	15.3	8.1	3,100	10.4	14.0	8	2,100	0.23
263415	W12 - Shamrock/4 Mile Creek	24-Sep-09	14.9	8.0	2,800	10.0	52.0	16	1,800	0.74

Note : Water Sampled by ALS ACIRL

Reported By:
Gerard Gleeson
Environmental Services
Coordinator

ACIRL Pty Ltd

(ABN 66 003 451 876)
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Phone: (02) 6542 2400
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Origin: Bloomfield Collieries
Description: Monthly Water Samples
Sampled 27/08/09
Report To: Lachlan Crawford
Report No: 6800 3665-01 Page 1 of 2
Date: 2009
Copy to: File

Sample Description		W01- Rathluba 27/08/2009	W03 – Elwells/4 Mile Creek 27/08/2009	W04 – Possums Puddle Overflow 27/08/2009	W05 – Elwells Crk Adj Haul Rd 27/08/2009
Dissolved Oxygen	mg/L	9.0	9.0	9.2	9.2
Iron (Dissolved) *	mg/L	0.11	0.54	0.76	1.08
pH		4.90	6.67	6.91	3.71
Electrical Conductivity	µS/cm	5140	453	200	1870
Turbidity	NTU	9.3	42.9	15.2	7.5

Sample Description		W06 – 4 Mile Crk U/S Lk Foster 27/08/2009	W07 – Possums Puddle 27/08/2009	W08 – Lake Foster 27/08/2009	W09 – lake Kennerson 27/08/2009
Dissolved Oxygen	mg/L	9.0	9.5	10.2	10.5
Iron (Dissolved) *	mg/L	0.22	0.75	<0.05	<0.05
Total Dissolved Solids	mg/L			4110	3840
Suspended Solids	mg/L			14	12
pH		6.35	6.66	8.12	8.20
Electrical Conductivity	µS/cm	134	190	5330	4980
Turbidity	NTU	15.1	13.5	4.0	6.2

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.

Reported By: 

Analysed in accordance with APHA Standard Methods,
ALS Environmental – ES0912882

ACIRL Pty Ltd



(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
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Origin: Bloomfield Collieries
Description: Monthly Water Samples
Sampled 27/08/09

Report No: 6800 3665-01 Page 2 of 2
Date: 2009

Report To: Lachlan Crawford

Copy to: File

Sample Description		W10 – 4 Mile Crk John Renshaw Dr 27/08/2009	W11 – 4 Mile Crk New England HWY 27/08/2009	W12 – Shamrock (Ashtonfield) 27/08/2009
Dissolved Oxygen	mg/L	9.5	10.2	9.3
Iron (Dissolved) *	mg/L	1.86	<0.05	0.16
pH		7.65	7.92	7.76
Electrical Conductivity	µS/cm	666	2980	2850
Turbidity	NTU	35.2	12.9	20.5

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.

Reported By: 

Analysed in accordance with APHA Standard Methods,
* Analysed by ALS Environmental – ES0912882

ACIRL Pty Ltd



(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
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Origin: Bloomfield Collieries
Description: Quarterly Water Samples
Sampled 29/07/09
Report To: Lachlan Crawford

Report No: 6800 3665-00 page 1 of 3
Date: 26th August 2009
Copy to: File

Sample Description		W01-Rathluba 29/07/2009	W03 – Elwells/4 Mile Creek 29/07/2009	W04 – Possums Puddle Overflow 29/07/2009	W05 – Elwells Crk Adj Haul Rd 29/07/2009
Dissolved Oxygen	mg/L	9.2	9.2	9.4	8.9
Total Alkalinity *	mg/L	7	144	32	<1
Bicarbonate Alkalinity*	mg/L	7	144	32	<1
Carbonate Alkalinity *	mg/L	<1	<1	<1	<1
Chloride *	mg/L	453	142	42	113
Calcium *	mg/L	158	52	9	92
Magnesium*	mg/L	136	60	6	80
Sodium *	mg/L	563	240	28	181
Iron (Dissolved) *	mg/L	<0.05	0.28	0.87	3.09
Potassium*	mg/L	11	7	4	5
pH		7.13	6.95	7.15	3.74
Electrical Conductivity	µS/cm	3900	1820	322	1890
Turbidity	NTU	2.6	73.8	25.6	7.2

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.*

Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0911142

ACIRL Pty Ltd

(ABN 66 003 451 876)
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Origin: Bloomfield Collieries
Description: Quarterly Water Samples
Sampled 29/07/09
Report To: Lachlan Crawford
Report No: 6800 3665-00 Page 2 of 3
Date: 26th August 2009
Copy to: File

Sample Description		W06 – 4 Mile Crk U/S Lk Foster 29/07/2009	W07 – Possums Puddle 29/07/2009	W08 – Lake Foster 29/07/2009	W09 – lake Kennerson 29/07/2009
Dissolved Oxygen	mg/L	8.6	8.6	9.1	9.8
Total Alkalinity *	mg/L	35	28	389	460
Bicarbonate Alkalinity*	mg/L	35	28	389	460
Carbonate Alkalinity *	mg/L	<1	<1	<1	<1
Chloride *	mg/L	20	36	399	470
Calcium *	mg/L	12	8	234	166
Magnesium *	mg/L	3	4	236	230
Sodium *	mg/L	12	20	832	905
Iron (Dissolved) *	mg/L	0.26	0.88	<0.05	<0.05
Potassium*	mg/L	2	4	28	21
pH		6.37	6.52	8.24	8.27
Electrical Conductivity	µS/cm	160	234	5570	5620
Turbidity	NTU	38.9	25.8	2.6	3.6

Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.

Reported By: 

Analysed in accordance with APHA Standard Methods,
• Analysed by ALS Environmental – ES0911142

(ABN 66 003 451 876)
Unit 2, Lot 6 Industrial Close, Muswellbrook 2333
Phone: (02) 6542 2400
Fax: (02) 6543 3234

Origin: Bloomfield Collieries
Description: Quarterly Water Samples
Sampled 29/07/09

Report No: 6800 3665-00 Page 3 of 3
Date: 26th August 2009

Report To: Lachlan Crawford

Copy to: File

Sample Description		W10 – 4 Mile Crk John Renshaw Dr 29/07/2009	W11 – 4 Mile Crk New England HWY 29/07/2009	W12 – Shamrock (Ashtonfield) 29/07/2009
Dissolved Oxygen	mg/L	9	9.4	9.4
Total Alkalinity *	mg/L	56	223	240
Bicarbonate Alkalinity *	mg/L	56	223	240
Carbonate Alkalinity *	mg/L	<1	<1	<1
Chloride *	mg/L	118	239	292
Calcium *	mg/L	9	97	137
Magnesium *	mg/L	12	108	153
Sodium *	mg/L	69	421	582
Iron (Dissolved) *	mg/L	1.78	<0.05	<0.05
Potassium*	mg/L	6	13	17
pH		8.02	8.01	8.10
Electrical Conductivity	µS/cm	607	3060	3950
Turbidity	NTU	105	26.2	36.1

*Note: 1. Sampled by client. Analysis as received.
2. Elemental analysis analysed as total unless indicated otherwise.
3. Temperature, pH, EC, Turbidity, Dissolved Oxygen performed in situ.*

Reported By: 

Analysed in accordance with APHA Standard Methods,
* Analysed by ALS Environmental – ES0911142

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES

Received 04-Jun-09

Report to: Lachlan Crawford**Report :** 6800-3543-01

Page 1 of 2

Date: 25-Jun-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
255945	W01-Rathluba	04-Jun-09	15.8	6.2	2,810	8.5	2.0	2	1,800	0.17
255946	W02 - Shamrock/4 Mile Crk	04-Jun-09	15.8	7.8	620	8.1	18.0			0.14
255947	W03 - Elwells/4 Mile Crk	04-Jun-09	15.3	7.9	770	9.5	24.0	10	4,600	0.73
255948	W06 - Mile Crk U/S Lk Foster	04-Jun-09	14.8	8.4	240	8.6	56.0	23	160	1.15
255949	W07 - Possums Puddl	04-Jun-09	16.1	7.7	210	7.2	15.0	4	120	1.07
255950	W08 - lake Foster	04-Jun-09	17.6	7.7	4,880	9.9	7.0	3	3,490	< 0.05
255951	W09 - lake kennerson	04-Jun-09	16.3	8.0	2,760	9.4	13.0			< 0.05
255952	W10 - 4 Mile Crk JR D	04-Jun-09	14.9	8.4	310	8.9	18.0	10	130	1.27

Note : Water Sampled by ALS ACIRL

Reported By:

DENNIS HAFEY
MANAGER

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES

Received 04-Jun-09

Report to: Lachlan Crawford**Report :** 6800-3543-01

Page 2 of 2

Date: 25-Jun-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
255953	W11 - 4 Mile Crk NEH	04-Jun-09	15.1	7.7	1,630	8.8	32.0	12	940	0.49
255954	W12 - Shamrock/4 Mile Crk	04-Jun-09	15.2	7.3	1,790	8.8	20.0	12	1,070	0.49
255956	W04 - Possums Puddle O/F	04-Jun-09	16.0	8.1	240	9.0	16.0	5	140	1

*Note : Water Sampled by ALS ACIRL***Reported By:***D. Hafey*
DENNIS HAFEY
MANAGER

**Origin:** Bloomfield Colliery**Report :** 6800-3491-01

Page 1 of 2

Project: Bloomfield Colliery**Description:** WATER SAMPLES**Date:** 05-Jun-09

Received 07-May-09

Report to: Lachlan Crawford**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
254008	W01 - Ruthluba	07-May-09	20.3	5.5	3,420	9.6	5.0			0.19
254009	W02 - Shamrock/4 Mile Crk	07-May-09	18.6	7.3	870	7.4	44.0			0.8
254010	W03 - Elwells/4 Mile Crk	07-May-09	14.5	7.6	860	9.4	23.0	8	580	0.9
254011	W04 - Possums Puddle O/F	07-May-09	18.2	8.1	202	9.5	11.0	3	160	1.04
254012	W05 - Elwells Crk Adj. Haul Rd	07-May-09	15.2	4.3	1,550	8.0	75.0			1.66
254013	W06 - Mile Crk U/S lake Foster	07-May-09	15.1	8.1	199	8.5	31.0	190	130	0.88
254014	W07 - Possums Puddle	07-May-09	18.9	7.7	205	8.0	21.0	9	150	0.96
254015	W08 - lake Foster	07-May-09	18.2	7.7	4,330	9.4	22.0	15	3,170	0.14

Note : Water Sampled by ALS ACIRL

Reported By: D. Hafey
DENNIS HAFEY
MANAGER

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES
Received 07-May-09**Report to:** Lachlan Crawford**Report :** 6800-3491-01

Page 2 of 2

Date: 05-Jun-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
254016	W09 - lake Kennerson	07-May-09	20.8	6.2	2,250	9.7	24.0	11	1,510	0.22
254017	W10 - 4 Mile Crk John Renshaw Dr	07-May-09	15.7	6.9	416	6.8	19.0			1.95
254018	W11 - 4 Mile Crk New Eng Hwy	07-May-09	14.9	7.8	3,850	8.3	18.0	8	2,820	0.38
254019	W12 - Shamrock/4 Mile Crk	07-May-09	15.6	7.7	4,040	8.9	6.0	8	2,990	0.45

Note : Water Sampled by ALS ACIRL

Reported By: D. Hafey
DENNIS HAFEY
MANAGER

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES

Received 01-Apr-09

Report to: Lachlan Crawford**Report :** 6800-3458-00

Page 1 of 2

Date: 07-May-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
253039	W1	01-Apr-09	21.9	6.9	1,180	8.7	26.0	13	770	0.99
253040	W2		22.3	8.2	350	8.5	303.0	340	150	2.66
253041	W3		22.1	7.8	2,310	9.7	280.0	130	1,420	0.78
253042	W4		22.8	8.1	2,630	9.5	50.0	40	1,710	0.58
253043	W5		21.6	6.9	8,010	10.0	890.0	80	510	1
253044	W6		20.4	7.9	170	9.3	350.0	130	160	1.61
253045	W7		23.2	8.0	3,910	10.0	57.0	48	2,580	0.24
253046	W8		22.3	7.4	3,510	9.2	13.0	10	2,340	1.56

Note : Water Sampled by ALS ACIRL

Reported By:

DENNIS HAFEY
MANAGER

**Origin:** Bloomfield Colliery**Project:** Bloomfield Colliery**Description:** WATER SAMPLES
Received**Report to:** Lachlan Crawford**Report :** 6800-3458-00

Page 2 of 2

Date: 07-May-09**Copy to:** File

Sample No	Sample Description	Sampled	Temperature	pH	Conductivity µS/cm	Dissolved Oxygen mg/L	Turbidity NTU	TSS mg/L	TDS mg/L	Filterable Iron mg/L
253047	W9		22.4	8.4	2,190	9.8	22.0	10	1,390	0.12
253048	W10		20.5	8.6	200	9.1	82.0	40	150	1.23
253049	W11		21.5	7.7	2,750	6.8	360.0	150	1,720	1.01
253050	W12		21.8	7.7	2,760	8.6	405.0	200	1,780	1.09

Note : Water Sampled by ALS ACIRL

Reported By:
DENNIS HAFEY
MANAGER

APPENDIX C

BLAST MONITORING RESULTS

	Result exceeding EPL 5% limits		Result exceeding EPL limits
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		U645	U645	u702	u702
Date	Shot time	Overpressure (dB)	Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)
7/04/2009	3.00pm	101.0	1.23	102.3	1.55
8/04/2009	2.04pm	110.0	0.31	108.5	0.08
9/04/2009	1.59pm	102.9	0.53	98.1	0.13
9/04/2009	2.23pm	91.3	0.25	91.6	0.18
9/04/2009	2.35pm	DNR	DNR	DNR	DNR
24/04/2009	11.36am	101.4	0.62	100.9	0.50
29/04/2009	2.26pm	98.4	0.58	102.5	0.48
1/05/2009	9.51am	107.1	0.40	102.8	0.12
4/05/2009	2.07pm	111.0	0.33	109.8	0.12
6/05/2009	10.08am	103.9	0.64	98.5	0.12
6/05/2009	1.37pm	84.1	0.50	98.9	0.10
7/05/2009	1.36pm	106.3	0.42	101.2	0.10
8/05/2009	12.55pm	105.0	0.89	98.5	0.13
11/05/2009	1.50pm	104.4	0.52	99.9	0.13
12/05/2009	4.26pm	110.2	0.36	104.7	0.12
14/05/2009	9.50am	114.2	0.57	113.0	0.14
15/05/2009	9.02am	112.8	0.58	110.1	0.14
18/05/2009	10.08am	101.0	0.57	98.9	0.12
18/05/2009	2.24pm	103.4	0.57	99.9	0.09
20/05/2009	10.46am	116.5	0.94	109.2	0.15
21/05/2009	9.51am	109.0	0.39	109.1	0.22
1/06/2009	11.55am	106.2	0.25	DNR	DNR
2/06/2009	1.43pm	DNR	DNR	DNR	DNR
4/06/2009	3.26pm	DNR	DNR	DNR	DNR
9/06/2009	2.20pm	100.3	0.21	DNR	DNR
15/06/2009	2.32pm	111.4	0.49	DNR	DNR
19/06/2009	1.08pm	101.2	0.54	106.1	0.19
22/06/2009	2.47pm	105.3	0.47	103.9	0.19
24/06/2009	2.03pm	104.9	0.39	102.0	0.19
26/06/2009	1.43pm	106.4	0.45	107.7	0.18
2/07/2009	1.43pm	111.4	1.20	108.1	0.22
3/07/2009	1.43pm	109.8	1.13	108.1	0.15
6/07/2009	2.04pm	113.3	0.73	110.0	0.15
8/07/2009	1.38pm	111.0	0.91	104.9	0.18
10/07/2009	1.58pm	102.2	1.06	101.5	0.12
10/07/2009	2.09pm	106.4	0.44	100.6	0.14
13/07/2009	10.06am	DNR	DNR	DNR	DNR
14/07/2029	1.40pm	109.5	0.50	112.3	0.15
14/07/2009	1.41pm	109.5	0.50	112.3	0.15
15/07/2009	1.49pm	109.2	0.67	109.8	0.19
16/07/2009	1.46pm	105.5	0.55	105.1	0.15
17/07/2009	1.22pm	104.9	0.59	104.9	0.13
20/07/2009	1.45pm	109.3	0.44	109.0	0.12

		U645	U645	u702	u702
Date	Shot time	Overpressure (dB)	Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)
23/07/2009	1:40pm	DNR	DNR	DNR	DNR
23/07/2009	2:03pm	92.8	0.43	103.7	0.25
28/07/2009	1:40pm	DNR	DNR	DNR	DNR
31/07/2009	9:50am	DNR	DNR	DNR	DNR
31/07/2009	10:06am	DNR	DNR	DNR	DNR
5/08/2009	1:46pm	105.3	1.35	115.3	1.29
6/08/2009	1:50pm	DNR	DNR	DNR	DNR
7/08/2009	11:35am	DNR	DNR	DNR	DNR
12/08/2009	1:45pm	99.7	0.43	103.2	0.12
4/09/2009	4:20pm	DNR	DNR	DNR	DNR
9/09/2009	1:43pm	DNR	DNR	DNR	DNR
14/09/2009	1:43pm	DNR	DNR	DNR	DNR
18/09/2009	1:50pm	DNR	DNR	DNR	DNR
21/09/2009	1:43pm	105.3	0.29	108.9	0.19
23/09/2009	9:56am	DNR	DNR	DNR	DNR
29/09/2009	2:08pm	101.7	0.68	102.4	0.53
2/10/2009	9:55am	104.2	0.40	96.7	0.54
9/10/2009	1:45pm	106.2	0.36	111.9	0.40
19/10/2009	1:48pm	DNR	DNR	DNR	DNR
22/10/2009	10:01am	DNR	DNR	DNR	DNR
23/10/2009	1:43pm	99.8	0.51	103.3	0.36
29/10/2009	3:23pm	99.6	0.56	99.7	0.70
2/11/2009	2:30pm	110.9	0.61	109.7	0.89
4/11/2009	12:50pm	DNR	DNR	DNR	DNR
5/11/2009	3:31pm	DNR	DNR	DNR	DNR
9/11/2009	3:22pm	93.9	0.11	100.0	0.53
13/11/2009	2:15pm	DNR	DNR	DNR	DNR
16/11/2009	12:35pm	DNR	DNR	DNR	DNR
16/11/2009	1:46pm	DNR	DNR	DNR	DNR
20/11/2009	9:12am	100.0	0.36	DNR	DNR
25/11/2009	2:35pm	DNR	DNR	DNR	DNR
25/11/2009	2:46pm	101.0	0.33	98.1	0.11
26/11/2009	1:41pm	107.2	0.47	100.7	0.11
30/11/2009	3:17pm	112.3	0.31	102.7	0.10
1/12/2009	2:15pm	DNR	DNR	DNR	DNR
2/12/2009	2:00pm	100.7	0.44	98.8	0.14
4/12/2009	9:50am	DNR	DNR	DNR	DNR
7/12/2009	10:06am	DNR	DNR	DNR	DNR
7/12/2009	3:28pm	103.1	0.26	109.3	0.19
8/12/2009	1:47pm	DNR	DNR	DNR	DNR
9/12/2009	2:30pm	DNR	DNR	DNR	DNR
11/12/2009	1:43pm	DNR	DNR	DNR	DNR
16/12/2009	9:02am	104.4	0.57	83.8	0.04
17/12/2009	2:22pm	113.1	0.34	105.4	0.18
18/12/2009	9:54am	98.4	1.48	93.9	0.32
21/12/2009	9:57am	101.9	1.86	99.4	0.33
22/12/2009	1:20pm	108.0	0.30	107.1	0.29
18/01/2010	1:53pm	DNR	DNR	DNR	DNR

		U645	U645	u702	u702
Date	Shot time	Overpressure (dB)	Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)
22/01/2010	1.25pm	110.7	2.03	109.6	0.84
28/01/2010	2.50pm	DNR	DNR	DNR	DNR
2/02/2010	1.35pm	DNR	DNR	DNR	DNR
4/02/2010	12.43pm	DNR	DNR	DNR	DNR
9/02/2010	1.32pm	DNR	DNR	DNR	DNR
10/02/2010	1.55pm	DNR	DNR	DNR	DNR
11/02/2010	1.55pm	DNR	DNR	DNR	DNR
12/02/2010	9.55am	105.4	0.23	102.7	0.08
16/02/2010	9.59am	DNR	DNR	DNR	DNR
16/02/2010	1.53pm	105.2	0.27	102.3	0.19
17/02/2010	1.46pm	102.1	1.69	95.4	0.31
23/02/2010	1.50pm	108.3	0.46	108.5	0.24
25/02/2010	9.51am	102.3	1.67	98.5	0.28
2/03/2010	12.43pm	109.7	1.91	101.7	0.57
8/03/2010	3.02pm	110.3	1.13	101.9	0.34
17/03/2010	2.35pm	Monitor failed (reported to DECCW)			
29/03/2010	1.38pm	102.6	1.77	95.9	2.08

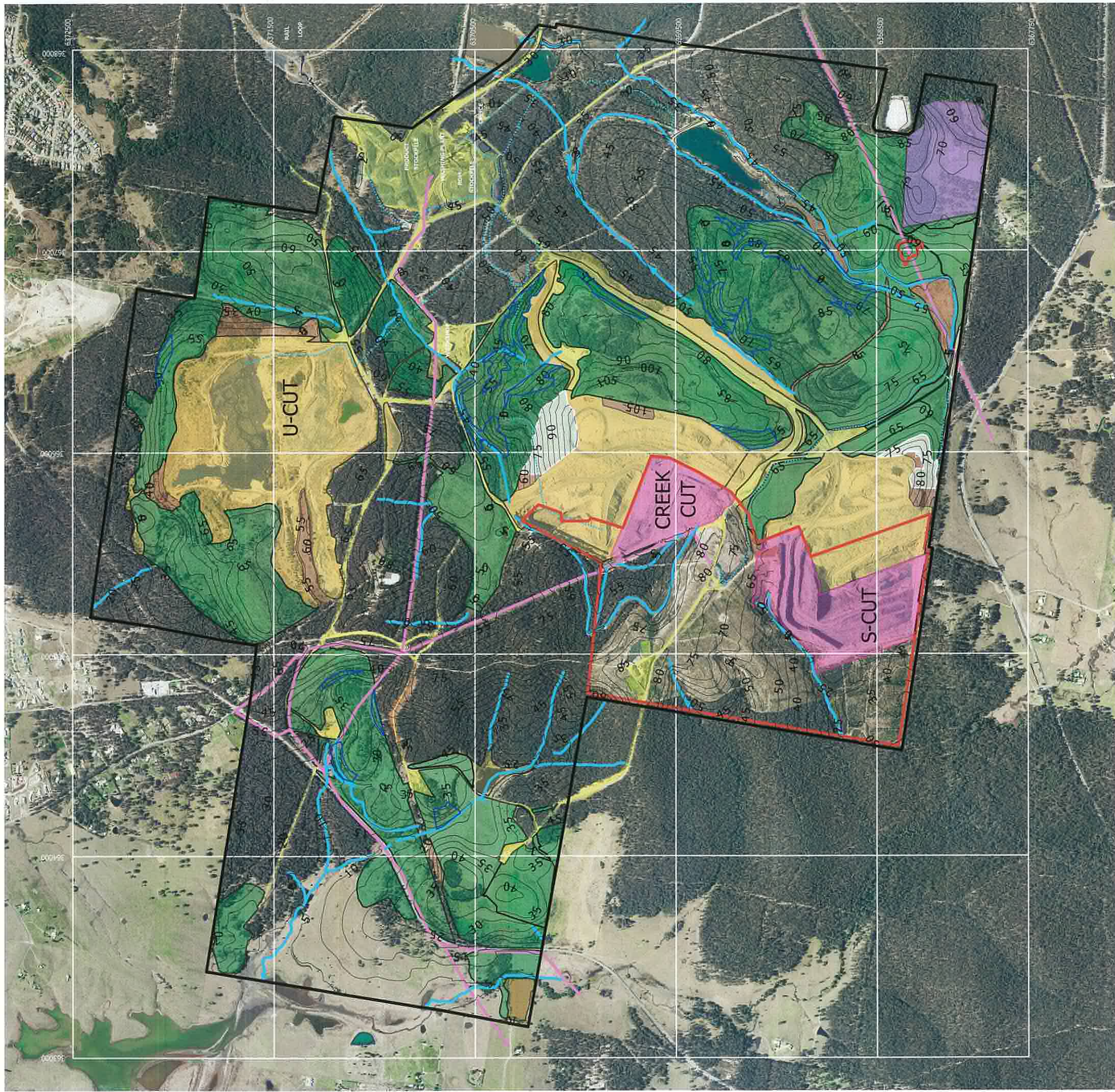
PLANS



BLOOMFIELD ANNUAL ENVIRONMENTAL REPORT 2008

PLAN 1: ENVIRONMENTAL MONITORING SITES

JUNE 2009



LEGEND



- | | | |
|--------------------|---------------------------|----------------|
| — 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

Rehabilitaion Plan 2010

Date: March 2010
Photo: August 2009

Scale: 1:20000

Drawing: A3