DONALDSON COAL
ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

As prescribed by Donaldson Coal Development Consent (114 –116) and the Mining Act 1992.

DONALDSON COAL MINE

Reporting Period:

1st November 2011 to 31st October 2012

Name of mine:	*Donaldson Coal Mine.*
Mining Titles/Leases:	*Mining Lease 1461*
MOP Commencement Date	*1st June 2006*
MOP Completion date (nominal)	*1st June 2012*
Name of leaseholder:	*Donaldson Coal Pty Ltd*
Name of mine operator (if different):	*Donaldson Coal Pty Ltd*
Reporting Officer:	*Mr Phillip Brown*
Title:	*Environmental Manager*
Signature:	
Date:	24/12/2013

DONALDSON COAL MINE

Annual Environmental Management Report (AEMR) 2011-2012

Prepared by:

Phillip Brown - Environmental Manager
Donaldson Coal Pty Ltd

C O N T E N T S

APPENDICES

i PURPOSE OF THE REPORT

Donaldson Coal Pty Ltd. (Donaldson) has prepared this report to fulfill the reporting requirements of the Donaldson Mine Development Consent, condition 114.

This report was also completed to satisfy the annual reporting requirements of the Department of Primary Industries, Mineral Resources (MR) and as such was prepared in accordance with the *Environmental Management Guidelines for Industry – Guidelines to the mining, rehabilitation and Environmental Management Process* [1] (Version 3 dated January 2006).

This report provides a detailed review of the site environmental management over the annual reporting period 1st November 2011 to 31st October 2012.

ii DONALDSON COAL ENVIRONMENTAL POLICY

Donaldson is managed in accordance with an Environmental Management System (EMS) based on a recognised international standard (ISO 14001). In accordance with this standard, Donaldson has adopted an Environmental Policy. The policy details the commitment made by Donaldson to ensure that a high standard of environmental care is met. A copy of the policy is attached as **Appendix 1** of this report.

[1] NSW DPI (2006) ***Guidelines to the Mining, Rehabilitation and Environmental Management Process,*** EDG03, Version 3 (dated January 2006).

1 INTRODUCTION AND GENERAL INFORMATION.

1.1 DEVELOPMENT – OVERVIEW.

The Donaldson open cut mine is located 23km from the Port of Newcastle, north of John Renshaw Drive and west of Weakleys Drive. The mining lease is contained within the Cessnock and Maitland Local government areas. An aerial photograph showing the location of the mine in a regional context is attached as **Appendix 2** of this report.

Donaldson Coal Mine commenced operation on 25th January 2001, following approval by the then Minister of Urban Affairs and Planning (now known as the Department of Planning and Infrastructure) in 1999. Mining is undertaken by way of truck and shovel mining techniques. During the first twelve months of the operation, the bulk of the overburden material was placed in an out of pit emplacement, 1.5km south west of the active pit. This was undertaken to allow sufficient opening up of the pit to expose the various coal seams. Since March 2002, the majority of the overburden material has been dumped in pit, backfilling the void once the coal has been mined out. Reshaping of the backfill to a landform commensurate to the existing topography commenced in September 2002.

The first load of coal was railed from Donaldson on the 26th March 2001. Up to 31st October 2012, approximately 13,002,548 tonnes of coal has been railed to both Hunter Valley power stations and international customers, through the Port of Newcastle. Mining was conducted under long term contract with Cooks Construction Pty Ltd (Cooks) until Donaldson coal became the Operator on the 2nd February, 2009. All mining and associated operations are undertaken in accordance with the Development Consent, Environment Protection Licence and other statutory instruments as issued by the various government agencies.

1.2 CONSENTS, LEASE AND LICENCES

Table 1 provides a current list of statutory instruments in effect, including the date of grant of all leases, subleases, consents, approval or licenses. It also includes information relating to the current Mining Operations Plan (MOP). Details of any amendments to the MOP since the last AEMR are described in section 1.2.1 below.

TABLE 1: LIST OF CURRENT CONSENTS, LEASE AND LICENCES

Instrument	Date of Issue	Date of Expiration	Comments
Mining Lease (No. 1461)	22/12/1999	22/12/2020	• A copy of the mining lease is available for review at the Donaldson Coal office.
Mining Operations Plan	1/06/2006	1/06/2012	• Amended MOP was approved by MR for the period 1 June 2002 to 1 June 2006. • Current MOP submitted in June 2006 to cover the period to 2012. • Minor amendment requested in August 2007.
Development Consent	14/10/99	March 2011	• A copy of the Development Consent is available for review at the Donaldson Coal office. • Valid for 11 years after the commencement of mining. • Certain conditions of the Consent will continue to operate after the Consent for mining operations has lapsed.
Environment Protection Licence (No. 11080).	13/09/2000	Valid until cancelled.	• Licence was reviewed in June 2004. • Latest Annual Return submitted to the Department of Environment and Climate Change on the 7th November 2007.
Water Works Licence (No. 20SL060534)	19/02/2001		• The licence covers earthworks associated with the construction of clean water diversion around the mining operation and out of pit emplacement.
Bore Licence (No. 20BL168123)	18/4/2009	17/04/14	• Issued to cover groundwater extraction as a result of the active mining area.
Water Works Licence (No. 20BL168124)	1/08/09	31/07/12	• The licence has been issued to cover the five test bores established to cover groundwater monitoring at the mine. It also incorporates the thirteen bores established as part of the EIS groundwater investigation.

1.2.1 Amendments to the Mining Operations Plan (MOP)

Development Consent and a mining lease have been granted to Donaldson Coal Pty Ltd to mine coal for a period of eleven (11) years. The initial Mining Operations Plan (MOP) covered a period of twelve (12) months of mining activity and was submitted to MR in September 2000 to enable operations to commence in January 2001.

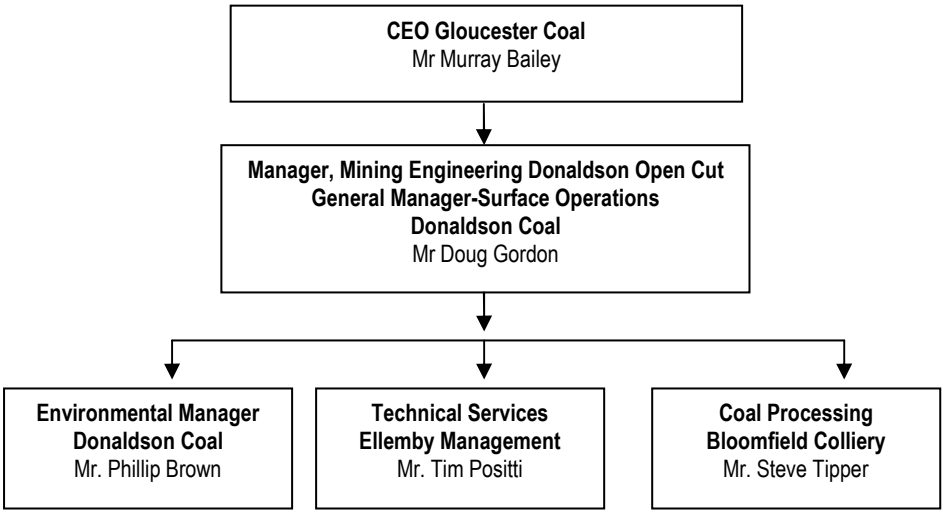
An amended MOP and associated plans were submitted to MR to cover the period January 2002 through to June 2006. A subsequent MOP was submitted to MR in June 2006 to cover the remaining life of the mine. This MOP also covers the relocation of the Hunter Water Board pipeline. This current MOP was issued on 1 June 2006 and expires on 1 June 2012. A minor amendment to the current MOP was requested in August 2007 and was approved.

The final MOP and Mine Closure plan was submitted to and approved by the Department during the 2010/11 AEMR reporting period.

1.3 MINE CONTACTS

Donaldson Coal Pty Ltd owns the mining operation and is the holder of the current mining lease. Donaldson is also the mining operator. Donaldson Coal is required to make appropriate appointments to fulfil the requirements of all statutory positions.

The following condensed organisational chart shows the site personnel responsible for the various aspects of the operation.



The following contacts have been provided for the General Manager - Operations and the Environmental Manager:

Donaldson Coal Mine
1132 John Renshaw Drive
BLACKHILL NSW 2322
PO Box 2275
GREENHILLS NSW 2323

Phone:	(02) 49342798	Community Hotline (24hrs): 1800 111 271
Fax:	(02) 49342736	
e-mail:	donaldson@gcl.com.au	
Internet:	www.doncoal.com.au	

1.4 ACTIONS REQUIRED AT PREVIOUS AEMR REVIEW

An annual environmental inspection of Donaldson Coal Mine was undertaken, during this reporting period, on the 7 February 2012.

During the inspection, there was general compliance with the relevant statutory approval instruments administered by the DRE.

2 OPERATIONS DURING THE REPORTING PERIOD

The following section briefly describes the general operation at the Donaldson Coal mine during the AEMR reporting period 1st November 2011 – 31st October 2012.

2.1 EXPLORATION

There was no exploration undertaken during the 2011-2012 AEMR reporting period and there is no exploration proposed for the next AEMR reporting period.

2.2 LAND PREPARATION

The Donaldson mine site is characterised by native woodland and forest communities. A detailed description is included in the Flora and Fauna Management Plan (Gunninah, 2000; pp6). Although previously disturbed by activities such as logging, deliberate bushfires and recreational pursuits (eg. motorbikes, etc), careful treatment is planned to minimise disturbance and its impact in preparation for mining activities.

All works undertaken during the reporting period have been undertaken in accordance with the commitments made in the MOP. This has included the following:

- The survey and marking of areas to be cleared ahead of the mining operations;
- Minimising cleared areas to only those needed specifically for mining activities;
- Undertaking pre-clearing surveys to assess the presence of rare and endangered flora and fauna species, as well as to mark potential habitat trees to be retained and stockpiled for further use in the rehabilitated areas;
- Archaeological surveys with the local Mindaribba Lands council both before clearing operations and during topsoil stripping;
- The assessment and recovery of all useable timber resources for fence posts, firewood and poles ahead of the clearing operations. To date broad scale mulching of waste timber has not been considered an economical option and therefore any timber not salvaged as part of the timber recovery operations is windrowed and buried in the pit as required.;
- Seed collection (where appropriate);

All topsoil ahead of the operation has been stripped and either taken to stockpile or direct spread over reshaped areas. Wherever possible, stockpiles are managed in accordance with the Erosion and Sediment Control Plan (Global Soils, 2000). There have been some occasions where stockpile heights have exceeded the maximum height of three (3) metres due to space limitations and not wanting to clear additional areas outside of the mining footprint. Where this has occurred, these topsoil stockpiles will be the first to be used once areas become available for direct spreading.

Water management and sediment control structures are in place in accordance with the requirements of the Water Management Plan (Perrens, 2000) and the Erosion and Sediment Control Plan.

To date visual screening has not been needed as the current working areas are protected by naturally occurring topographical features. Care is taken to position lighting towers on the in pit dumps to make sure they are pointed away from the residential areas when working at night.

2.3 CONSTRUCTION

There was no construction undertaken during the reporting period.

2.4 MINING

The planned mine capacity is based upon the removal of 7.0Mbcm of waste and 2.5Mtonnes of ROM coal each year, on a current roster of 2 x 8 hour shifts per day, five days per week plus the option of one (1) shift on Saturdays. Occasional periods of night shift operations (on a five-day basis) may also be required for coal preparation, or may be used to make up for lost production during wet periods. Maintenance will generally be performed on the "back" shifts. Working hours are typically between 6:00am to 11:30pm even though 24 hour operations are permitted under the consent.

The mining method employed is a "terrace mining" approach, with 75m strips oriented both perpendicular to, and along the strike. This arrangement provides the following advantages:

- Multiple seam plies are available simultaneously for blending purposes;
- Backfill void can be accessed quickly, thereby minimising out-of-pit dumping; and
- Haul distances to the backfill are minimised.

The thin nature of the seams and interburdens provides opportunities for efficient mining techniques including dozer push (to final position). **Table 2** shows the production and waste summary for this AEMR reporting period.

TABLE 2: PRODUCTION & WASTE SUMMARY

	Cumulative Production (cubic metres)		
	Start of Reporting Period	At end of Reporting Period	End of next reporting (estimated)
Topsoil stripped	360,598	360,958	360,598
Topsoil used/spread	67,100	67,100	244,700
Waste Rock	35,104,740	37,774,355	37,850,452
Coal (ROM)	12,649,374	13,926,089	14,311,030
Processing Waste	4,009,880	4,604,245	3,917,427
Product Coal (tonnes)	8,612,431	9,321,844	8,783,049

The total amount of waste rock moved in the 2012 AEMR period was 2,669,615 cubic meters.

2.5 MINERAL PROCESSING

Bloomfield Colliery is currently contracted to wash, stockpile and load all coal mined at the Donaldson Mine. All coal is transported from Donaldson in road registered coal haulage trucks. Loads are limited to a maximum of 40t. Once passed through the Bloomfield Coal Handling and Preparation Plant (CHPP), the coal is transported to the dump hopper at the conveyor head by one of two methods:

- Loader and Trucks;

- By direct reclaim.

The conveyor takes the coal from the CHPP area to a rail load out bin and manual loading facility. All Donaldson Coal is then transported from Bloomfield to the port or power stations by train using the existing Bloomfield rail loop. This is consistent with the current MOP as approved by MR.

2.5.1 Plant Throughput and Saleable Production

Table 3 shows the monthly treatment plant throughput and the saleable production for each month during the reporting period.

TABLE 3: PLANT THROUGHPUT AND SALEABLE PRODUCT.

(tonnes)	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012
Plant Feed	90,450	114,098	61,263	72,614	119,364	58,369
Washed Coal	87,528	40,832	64,430	97,392	171,963	65,844
Sizing	0	0	0	0	0	0

(tonnes)	May 2012	June 2012	July 2012	Aug 2012	Sep 2012	Oct 2012
Plant Feed	151,278	85,891	84,384	150,743	135,047	153,214
Washed Coal	137,875	85,225	93,770	152,290	92,865	171,376
Sizing	0	0	0	0	0	0

Totals for the reporting period were:

(tonnes)	TOTAL
Plant Feed	1,276,715
Washed Coal	1,261,390
Sizing	0

2.6 WASTE MANAGEMENT

The following section briefly outlines the waste management systems employed at the Donaldson Coal Mine. All waste is managed in accordance with the Waste Management Plan (Global 2000b).

2.6.1 Tailings and Rejects

Bloomfield Colliery, as part of the contract discussed above, manages all process waste. Both tailings and coarse rejects are disposed of on site at Bloomfield in accordance with their own management plans. This is consistent with the current MOP as approved by MR.

2.6.2 Sewerage Treatment/Disposal

Currently there are two (2) locations where sewerage is collected and managed. This includes the following areas:

- Open Cut administration and bathhouse
- Donaldson administration facility.

Individual Bio-cycle units service all two (2) areas with the treated water being used to irrigate the gardens and lawn/bushland around the offices. The bio-cycle units are serviced quarterly in accordance with the service schedule recommended by the supplier.

2.6.3 Fuel Containment

A permanent bulk fuel farm facility has been constructed on site in accordance with the appropriate standards. The area is contained by an earthen bund. Approximately 100,000L of diesel fuel is stored on site at any one time. Donaldson Coal is responsible for the management of the Fuel Farm facility.

2.6.4 Oil and Grease Containment and Disposal

Oil and grease is delivered to site in 205L drums. A bunded storage pad is used to store full 205L drums. All waste oil collected during servicing is stored in a 5000L-storage tank and routinely collected for recycling. Empty drums are stockpiled inside earthen bunds and collected by a licensed drum recycler on a regular basis.

Oily water is treated by way of an oil-water separator or collected and disposed of by a licensed waste disposal contractor.

2.6.5 Rubbish Disposal

A licensed contractor collects all general rubbish and disposes of it off site at an approved waste facility.

2.6.6 Additional Waste Streams

Table 4 shows the other minor waste streams identified at the Donaldson Mine including the current mode of disposal and treatment as required.

TABLE 4: WASTE TYPES AND THE MODE OF DISPOSAL/TREATMENT

WASTE TYPE	Method of Disposal or Treatment
Green Waste	Trees are removed for posts, poles, rails and woodchip. Those trees not used are windrowed and buried in the pit ahead of backfilling.
Oil Filters	Oil filters are drained and placed in 205L drums for recycling by a licensed waste disposal contractor.
Redundant Chemicals	Redundant chemicals are taken out of operation, labeled and disposed of by a licensed waste disposal contractor.
Batteries	Batteries are stockpiled on pallets and taken by licensed waste disposal contractors for recycling.
Tyres	All tyres are used on site as bunds and bollards, or are disposed of in the active dump. The Maxxhire maintenance manager keeps a list of all tyres disposed of in the backfill.
Scrap Metal	All scrap metal is collected in designated skips and recycled by a licensed scrap metal recycler.
Coolant	Coolant is collected in designated drums and disposed of by a licensed waste disposal contractor
Contaminated Soil	All contaminated soil from spills and accidents is taken to a designated area that is bunded. When a sufficient volume of soil is present it is bio-remediated using land-farming techniques.
Parts Wash Degreasers	Parts washers are collected by a licensed waste disposal contractor and recycled and returned to the site for reuse.

2.7 PRODUCT STOCKPILES

Both the main run of mine (ROM) and product stockpiles are located adjacent to the Bloomfield's CHPP and as such are specifically managed by Bloomfield. **Table 5** shows the washed and sizing stockpile capacities allocate to Donaldson Coal at Bloomfield.

TABLE 5: STOCKPILE CAPACITY (ROM & SALEABLE COAL).

(tonnes)	ROM	Product
Sizing Coal	10,000	25,000
Washed Coal	20,000	40,000

Donaldson has established two (2) primary ROM coal stockpiles on the Donaldson mine site itself. These stockpiles are used during wet weather or when the Bloomfield ROM stockpiles are full. The first is located part the way along the coal haul road adjacent to the Maxxhire Construction workshop (1.2km from pit), while the second is located on the out of pit dump (1.6km from pit). On some occasions in-pit ROM coal stockpiles are established in order to allow sequential mining to proceed when there are delays due to weather or insufficient stockpiling room at Bloomfield.

2.8 WATER MANAGEMENT

The following section details the water management structures constructed during the reporting period as well as other changes that have been made to water management at the mine. It also includes a brief summary of the water balance records. Information on the water monitoring program and a summary of results is included in section 3.2.3, 3.2.4 and 3.2.5 of this report.

2.8.1 Water Storage Structures

A 400 ML mine water dam was constructed in 2004. This dam is used to store mine water from the pit and is reused for dust suppression.

The 18 ML dam was increased in storage to 40 ML in 2004. This is used for collection of run-off water from rehabilitated areas.

2.8.2 Sediment Control Structures

Work was undertaken to refine the drainage of the hard stand area to the industrial dam. This area then drains to the large mine water storage dam.

The sediment dams alongside the coal haul road have been upgraded and the capacities increased. Maintenance is undertaken on a regular basis to remove sediment build up.

2.8.3 Water Consumption/Balance.

The site Environmental Manager maintains a site water balance based on water consumed at the mine. It includes recording the amount of water that is available in various water holding structures around the mine. The following chart, **Figure 1**, shows the site rainfall for the Donaldson Mine. All water for this monitoring period was obtained from site supplies.

FIGURE 1: SITE RAINFALL

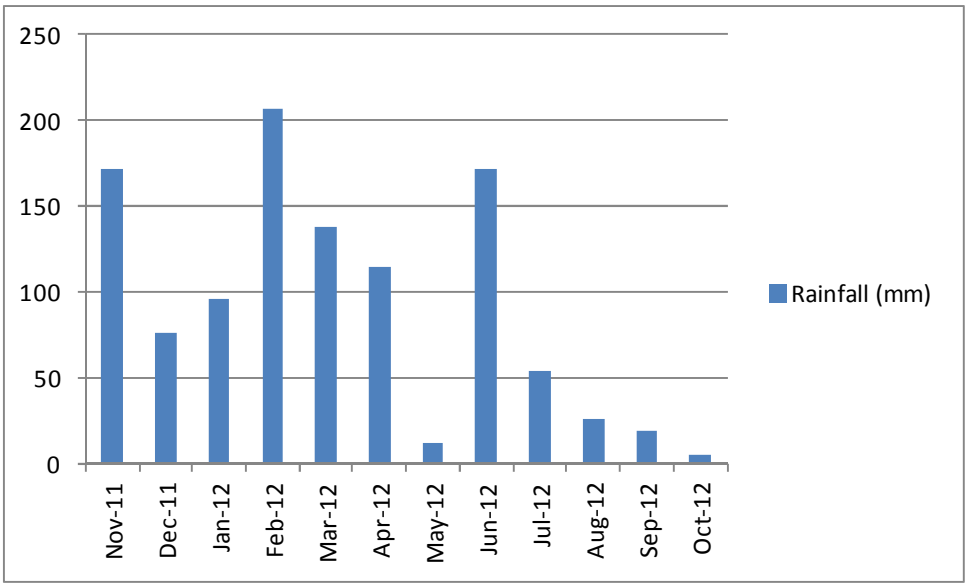


Table 6 shows the volume of water stored on site at the start and end of the reporting period. It also includes reference to the available storage capacity.

TABLE 6: STORED WATER

	Volumes held (cubic metres)		
	Start of Reporting Period	**At end of Reporting Period**	**Storage Capacity**
Dirty water	18	18	18
Contaminated water*	321	154	400+
Controlled discharge water** (salinity trading schemes)	N/A	N/A	N/A

Note: *This data assumes that there is no water stored in the pit, where in reality there is generally always an in pit sump established down dip. The sump is capable of storing some water without impacting on the mining operation. The water is used for in-pit dust suppression where it is accessible to the water cart.

**Donaldson Coal does not discharge water under the Hunter River Salinity Trading Scheme.

2.9 HAZARDOUS MATERIAL MANAGEMENT

As the operator of the Mine, Donaldson Coal is principally responsible for the management of hazardous and explosive materials. Donaldson Coal has the occasional need to use chemicals (drilling muds, herbicides, etc). All hazardous materials are managed in accordance with the Donaldson Coal Site Safety Management System.

2.9.1 Explosives

Orica Blasting Services currently provide blasting services to the mine. Previously, blasting was conducted by UEE and Roche Sasol Blasting. Orica manages all explosives and other related materials in accordance with the appropriate legislation and industry standards. All explosives, etc are brought to site on an as needs basis, and as such a magazine (or similar) is not required at the site.

2.9.2 Bulk Fuel Storage

All bulk fuels are managed in accordance with the detail described in sections 2.6.3 of this report.

A diesel fuel farm facility capable of storing up to 100,000L of diesel fuel is located onsite. The fuel farm facility has been approved as a bulk storage facility for hazardous materials.

2.9.3 Chemicals

Donaldson Coal keeps an up to date inventory of Material Data Safety Sheets (MSDS) for all chemical substances used on the site. Prior to a new substance being introduced on the site it has to be approved by the Statutory Mine Manager and is included in the site register.

In addition, copies of Material Data Safety Sheets (MSDS) are generally kept with the chemical when it is being used on site, where this is not the case copies are kept in the on-site chemical register.

ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

The following section gives an overview of the environmental management performance of the Donaldson Coal Mine during the reporting period. It considers the main environmental aspects of the operation and summarises environmental performance, providing explanation or interpretation for any exceedances. It also considers the adequacy of the control strategies and suggests ongoing improvements where required.

3.1 ENVIRONMENTAL MANAGEMENT STRATEGY (EMS)

The revised EMS has been developed in accordance with the ISO 14001 standard and the additional specific requirements of the Development Consent.

3.1.1 Environmental Risk Assessment

Donaldson Coal previously undertook a detailed Environmental Risk Assessment as part of the recent EMS review. The aim was to identify which activities at the mine present the greatest risk to the environment. **Table 7** lists the principal environmental aspects identified during this process. An internal risk rating score has been assigned to each identified risk as part of a frequency, probability and severity analysis (FPSA). **Table 7** is in accordance with the requirements of the DPI guidelines (EDG03). Control strategies and detail on the environmental performance in all areas encompassing these aspects are included in **section 3.2**.

TABLE 7: SUMMARY OF ENVIRONMENTAL RISKS & CONTROL STRATEGIES.

Environmental Aspect	Potential Environmental Impact	Internal Rating
maintaining conservation areas	Fire	HIGH
overburden hauling & emplacement	Noise	HIGH
coal haulage & stockpiling	acid mine drainage	HIGH
active waste emplacement	acid mine drainage	HIGH
landform & vegetation rehabilitation	Fire	HIGH
blasting overburden	impact on 132kV powerlines	MODERATE
overburden hauling & emplacement	Dust	MODERATE
blasting overburden	noise (overpressure)	MODERATE
vegetation clearing	disturb or destroy endangered flora & fauna	MODERATE
hazardous Goods Storage	hydrocarbon, oil spill	MODERATE
excavation O/B & coal	Dust	MODERATE
maintaining conservation areas	land disturbance – unauthorised	MODERATE
coal haulage & stockpiling	Dust	MODERATE
Mobile fuel truck	Hydrocarbon spill from vehicle incident	MODERATE
stripping topsoil	disturb or destroy cultural heritage sites	MODERATE
blasting overburden	Vibration	MODERATE
excavation O/B & coal	Noise	MODERATE
water distribution/pumping	broken pipeline causing leakage/siphoning	MODERATE
coal processing & loader	Noise	MODERATE
timber recovery	disturb or destroy cultural heritage sites	MODERATE
blasting overburden	Dust	MODERATE
timber recovery	disturb or destroy endangered flora & fauna	MODERATE
stripping topsoil	Dust	MODERATE
excavation O/B & coal	hydrocarbon spill (burst hose)	MODERATE
overburden hauling & emplacement	hydrocarbon spill (burst hose)	MODERATE
H/W water storage's (above ground)	failure of dam wall (10 ML) resulting in rapid release	MODERATE
H/W water storage's (below ground)	seepage or overflow	MODERATE
servicing & Maintenance	hydrocarbon, oil spill	MODERATE
coal haulage & stockpiling	Noise	MODERATE
rejects & tailings emplacement	off-site water contamination	MODERATE
stripping topsoil	Noise	MODERATE
vegetation clearing	disturb or destroy cultural heritage sites	MODERATE
landform & vegetation rehabilitation	erosion of landform and release of sediment	MODERATE
waste Management	hydrocarbon, oil or chemical spill. Consumables etc	MODERATE
maintaining conservation areas	land contamination by rubbish	MODERATE
overburden hauling & emplacement	exhaust emissions	MODERATE
using water-cart for dust suppression	repeated application to road surfaces	MODERATE
involving water importing from Bloomfield	pipe burst and leakage of very saline water	MODERATE
active waste emplacement	Visual	MODERATE
exploration drilling	disturb or destroy cultural heritage sites	MODERATE
excavation O/B & coal	loss of topsoil	MODERATE
stripping topsoil	hydrocarbon spill from burst hose or re-fuelling	MODERATE
vegetation clearing	hydrocarbon spill from burst hose or re-fuelling	MODERATE
active waste emplacement	Dust	MODERATE
coal haulage & stockpiling	hydro-carbon spill from vehicle roll-over	MODERATE
coal processing & loader	Dust	MODERATE
coal processing & loader	washery water spill/leak. Impact on water quality	MODERATE
stripping topsoil	loss of topsoil (quantity)	MINOR
stripping topsoil	erosion and sediment discharge	MINOR

timber recovery	hydrocarbon spill from burst hose or re-fuelling	MINOR
exploration drilling	hydrocarbon spill from burst hose or re-fuelling	MINOR
stripping topsoil	loss of topsoil (quality)	MINOR
drilling overburden	Noise	MINOR
drilling overburden	Dust	MINOR
drilling overburden	hydrocarbon spill	MINOR
coal haulage & stockpiling	spontaneous combustion	MINOR
rejects & tailings emplacement	contaminated land	MINOR
Vehicle parts washing	hydrocarbon, oil spill (no fixed location)	MINOR
vegetation clearing	Noise	MINOR
exploration drilling	water quality (drilling mud, additives)	MINOR
vegetation clearing	Dust	MINOR
vegetation clearing	erosion and sediment discharge	MINOR
timber recovery	Noise	MINOR
timber recovery	Dust	MINOR
timber recovery	erosion and sediment discharge	MINOR
exploration drilling	Noise	MINOR
exploration drilling	Dust	MINOR
exploration drilling	erosion and sediment discharge	MINOR

3.2 ENVIRONMENTAL MANAGEMENT CONTROLS

This section documents the implementation and effectiveness of control strategies and environmental performance for a range of environmental aspects as prescribed by the MR guidelines. Summary tables of all monitoring data are included for consideration by the MR. Detailed copies of all environmental data collected by Donaldson have not been included in the present report but are however available upon request.

3.2.1 Meteorological Monitoring

An automatic meteorological station has been in operation at the site since 3rd December 1999. In May 2001 the monitoring data was integrated with a Citect operating system to provide real time and meteorological data and trending functions. This feature has allowed operational staff the ability to make up-to-date decisions about the influence of meteorological conditions on mining operations. The Meteorological station was upgraded with new monitoring equipment in the 2008/9 AEMR reporting period. The station is a Davis Vantage Pro 2 system with instrumentation installed to measure solar radiation (W/m^2), 2m and 10m temperature (°C), wind speed (m/s), wind direction and rainfall (mm). Data from the station is recorded continuously and reported as ten-minute averages. **Figure 2** shows a typical screen that is displayed both in the Donaldson Coal Communication's office and the Shift Foreman office.

Rainfall

Table 8 details the rainfall for the 2012 AEMR reporting period. A total of 1092.1mm was recorded during the 2011 AEMR reporting period, slightly less than the corresponding 2011 AEMR period (1106.3 mm) and higher than the historical average (894mm). **Table 8** also includes a comparison between the historical monthly average rainfall from the Bureau of Meteorology site at East Maitland (site 061034 – operating from 1902 to 1 Mar 1994) and the rainfall recorded at the Donaldson Weather Station since January 2000.

FIGURE 2: WEATHER STATION SCREEN.

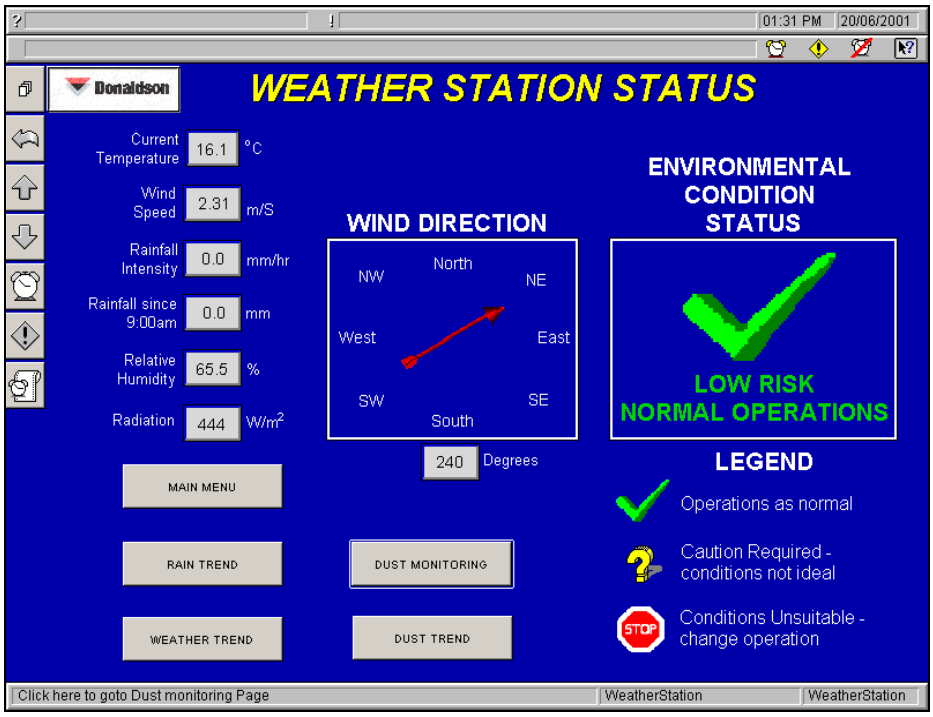


TABLE 8: COMPARISON BETWEEN MONTHLY RAINFALL DURING THE 2011/12 AEMR REPORTING PERIOD, PREVIOUS REPORTING PERIODS AND HISTORICAL AVERAGE.

Period	Average Monthly Rainfall (mm)												
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Historical Average (East Maitland)	89	94	97	87	70	84	58	52	55	66	62	81	894
2000	61	32	279	146	45	24	27	31	33	47	106	32	863
2001	46	169	193	114	244	3.4	63	22	12	31	91	38	1026.4
2002	48	281	184	66.4	62.1	30	30	21	17.4	18.8	56.2	149.2	964.1
2003	6	90	22.2	77	135	13.2	43	27.4	0	63.2	137.6	39	653.6
2004	86	176.6	80	33.6	17.4	9.4	15.4	43.1	61.2	136	77.4	69.8	805.9
2005	64.4	95.8	127.8	57.4	61.8*	56.8	7.2	0.8	37.0	84.0	22.8	9.6	625.4
2006	29.8	47.4	63.6	4.6	7.8	43.8	42.6	49.2	162.4	25.4	37.8	35.6	550.0
2007	13.4	88.0	102.0	86.0	60.0	301	17.0	79.6	19.8	17.2	163.8	49.5	997.3
2008	153.4	154.3	46	237.6	2.2	122.9	30	28.5	195.3	62.2	73.3	62.6	1168.3
2009	11.3	97.7	136.5	157.2	125.7	75.7	32.1	1.8	29.2	59.8	51.4	62	840.4
2010	0	52.1	83.9	37.1	89.4	112.8	65.3	38.5	26.4	80.6	171.1	39.9*	797.1
2011	26.0	34.5	65.6	137.9	98.8	152.0	129.0	49.0	103.0	100.0	**171.9**	**75.9**	**1143.6**
2012	**96.1**	**207.0**	**137.6**	**114.7**	**11.8**	**172.3**	**53.8**	**26.6**	**18.7**	**5.7**			

Note: Bold results are for this monitoring period. * Data set not complete

Wind Speed and Direction

Wind speed and direction data have been collected from the meteorological station at Donaldson Coal Mine since December 1999. These data are presented in the form of windrose charts. Windrose charts for each season within the 2012 AEMR reporting period are included in **Appendix 5**. A windrose chart for the entire 2012 AEMR reporting period is also included in **Appendix 5**.

The winds display a high degree of seasonality. Winds typically blow from the south to east quadrant from October to March and from the west to north quadrant from April to September.

3.2.2 Air Pollution

There are two principle sources of air pollution from the Donaldson Coal Mine. The first is airborne dust that comes from the mining activities (measured as depositional dust, PM_{10} and Total Suspended Particulates (TSP). The second source is from the combustion of diesel fuel, which is measured as $PM_{2.5}$ particles.

Donaldson operates the following dust monitoring equipment:

- one High Volume Air Sampler (HVAS) measuring TSP and
- two HVAS measuring PM_{10};
- onecontinuous DustTrak monitors measuring PM_{10};
- eleven Depositional Dust Gauges measuring insoluble solids; and

Refer to **Appendix 2** for dust monitoring locations. It is noted that measurements taken at any of these locations will include all background air pollution relevant to those locations, as well as any contribution occurring from the Donaldson Coal Mine.

Control Strategy:

The reviewed Donaldson Air Quality Management Plan (Holmes, 2007) details the range of measures employed by Donaldson to control airborne dust. These measures include:

- Maintenance of an adequate distance between the mine and neighboring residents;
- Minimisation of disturbance of land to only what is required by mining activities;
- Minimisation of the distance travelled by hauling overburden the shortest distance possible;
- Utilisation of mine water for dust suppression on roads, stockpiles and work areas; and
- Monitoring of real time weather conditions and alter or cease the offending operations when dust is becoming difficult to control.

Environmental Performance:

No dust complaints were made during the 2012 AEMR reporting period.

A review of the dust monitoring data for the period suggests that there has been no significant change in the regional dust levels as a result of mining activities compared to the previous reporting period. Seasonal variations are evident (ie. summer versus winter) and in some cases high readings have been recorded on the DustTrak's and the Depositional Dust Gauges. These high

events are related to activities adjacent to the monitoring site or regional effects (other than mining) including, but not limited to, dirt roads, bushfires, regional dust storms and lawn mowing.

A summary of the air quality monitoring data for the reporting period is provided.

Depositional Dust Gauges

Results were recorded for 131 monthly samples at twelve (11) dust gauges out of a possible total of 132. All results were obtained and all were judged to be valid, with acceptable levels of contamination from other sources including bird droppings, vegetation, refer **Table 9**.

All gauges were in compliance with the Donaldson Air Quality Management Plan, with annual average insoluble solid results for each gauge below the criteria of 4g/m^2.month. Results are displayed in **Table 9**. Results are generally similar or slightly lower to the previous year's results however; they indicate no major increase in dust emissions.

TABLE 9: CONCENTRATION MONITORING - DEPOSITIONAL DUST GAUGES

Sample Site	No. Samples Required	No. samples collected and analysed	Maximum Insoluble Solids (g/m^2.month)	Minimum Insoluble Solids (g/m^2.month)	Annual Average Insoluble Solids (g/m^2.month)
DG1	12	12	1.3	0.4	0.9
DG2	12	11	4.1	0.3	1.1
DG3	12	12	2.8	0.4	1.1
DG4	12	12	3.4	0.4	1.1
DG6	12	12	3.6	0.5	1.4
DG7	12	12	1.4	0.4	0.8
DG8	12	12	5.6	0.8	2.5
DG9	12	12	1.7	0.6	1.1
DG10	12	12	1.2	0.3	0.8
DG11	12	12	1.9	0.6	1.1
DG12	12	12	2.0	0.4	1.2

High Volume Air Samplers

This section deals with the high volume air samplers located at "Bartter Chicken Farms" site at Black Hill (now owned by the Catholic Diocese of Maitland and Newcastle) and the Beresfield Golf Course. Two sets of measurements have been performed during the reporting period, *viz*. PM_{10} (particulate matter of diameter less than 10 μm) and TSP (total suspended particulate matter). A summary of these measurements is included below.

PM_{10}

The annual average PM_{10} at both monitoring sites was below the annual average maximum criteria of 30ug/m^3. The annual average PM_{10} at the Beresfield Golf Course and at the Blackhill location was slightly higher when compared to the previous 2011 AEMR reporting period. Results are displayed in **Table 10**.

During this AEMR reporting period, all PM_{10} measurements recorded at the Beresfield Golf Course and at the "Bartter Enterprise" location satisfied the 24-hour NEPM maximum criteria of 50 μg/m^3.

TABLE 10: DETAILS OF CONCENTRATION MONITORING (PM_{10} HIGH VOLUME AIR SAMPLERS).

Sample Site	No Samples Required	No samples collected and analysed	Maximum PM_{10} Value ($\mu g/m^3$)	Minimum PM_{10} Value ($\mu g/m^3$)	Mean PM_{10} Value ($\mu g/m^3$)
Beresfield Golf Course	59	59	31	6	14
Bartter Enterprise	59	59	47	5	16

Total Suspended Particulates

TSP measurements were performed at the "Barter Enterprise" Blackhill location, using a high volume air sampler. Details of these measurements are included in **Table 11**.

The annual average TSP result at "Bartter Enterprise" (26 µg/m^3) was well below the annual average criteria of 90 µg/m^3. While there are no specified criteria for a 24-hr TSP maximum in the Donaldson consent or EPA license, all TSP results were well below the US EPA short term good air quality criteria of 260 µg/m^3.

In general, the results recorded during this reporting period are slightly higher to the corresponding measurements of the 2011 AEMR reporting period and indicate a low dust impact from mining operations. The ratio of PM_{10} to TSP over the reporting period was 57%, which is a higher ratio than the last reporting period results (42%) indicating more finer particulates in the Total Suspended Particulates.

TABLE 11: CONCENTRATION MONITORING (TSP HIGH VOLUME SAMPLERS).

Sample Site	No Samples Required	No samples collected and analysed	Maximum TSP Value ($\mu g/m^3$)	Minimum TSP Value ($\mu g/m^3$)	Mean TSP Value ($\mu g/m^3$)
Bartter Enterprise	59	59	81	10	27

Table 12 displays the data capture rate for the three high volume air sampler units during the period. All data from all scheduled runs for PM_{10} was collected in the AEMR monitoring period. The Blackhill TSP HVAS failed to run on two occasions due to mechanical fault. The TSP HVAS was re-run at a later date for both missed runs.

TABLE 12: HIGH VOLUME SAMPLER DATA CAPTURE RATE.

Monitoring Location	Data Capture Rate (%)
Bartter Enterprise (PM_{10})	100
Bartter Enterprise (TSP)	100
Beresfield, Golf Course (PM_{10})	100

DustTrak Monitors

Donaldson operates one continuous DustTrak air quality monitor at Blackhill Primary School. The unit is interrogated remotely from the mine by way of mobile phone telemetry. The results are logged and stored on the mine Environmental Monitoring computer system.

Table 13 summarises the DustTrak monitoring data and the data capture rate. The measurements of PM_{10} by optical methods (such as the DustTrak monitors) are known to be particularly sensitive to rainfall or high humidity events. Monthly inspections of the DustTrak monitors and regular servicing of the instruments assist with reducing occasions when the measurements become unstable or drift from sensible values. It was considered appropriate to exclude non-valid data from the calculations of the highest 24-hour average PM_{10}, annual average PM_{10} and the lowest 24-hour average PM_{10}. Despite this, the valid data recovery rate upon which the PM_{10} averages are based are still substantial.

The annual air quality monitoring data provided to Donaldson Coal by RCA Laboratories provides a graph of all the data collected. A chart of all DustTrak data in the AEMR monitoring period are provided in **Figure 3**.

TABLE 13: DETAILS OF DUSTTRAK CONTINUOUS MONITORING

Site	Data collection	Data recovery (%)	Highest 24-hour average PM_{10}	Annual average PM_{10}	Lowest 24-hour average PM_{10}
Blackhill Primary School	Continuous	89.9	49	13	0

Note: Data in this table is for the annual reporting period 1 November 2010 to 31 October 2011 as reported by RCA Laboratories.

The results from DustTrak monitoring are similar to those obtained from the PM_{10} High Volume Air Sampling at the Barter site. The annual average was below the maximum NEPM annual average criteria.

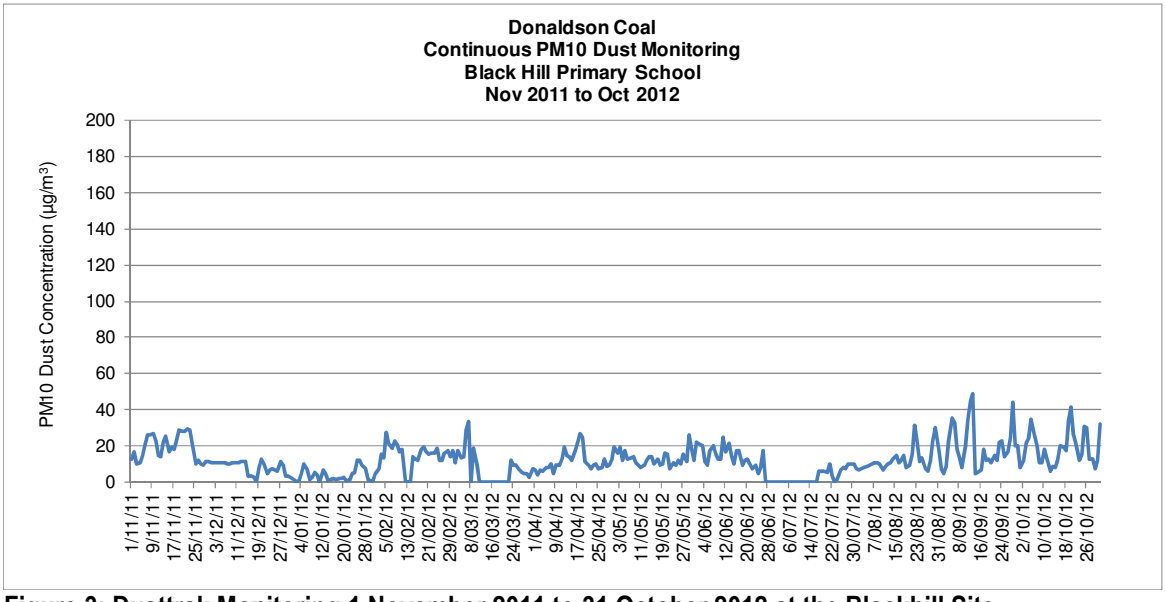


Figure 3: Dusttrak Monitoring 1 November 2011 to 31 October 2012 at the Blackhill Site

3.2.3 Erosion and Sediment Control

The Erosion and Sediment Control Plan (Global Soil Systems, 2000) details the methods for erosion and sediment control at the site. The works are progressively constructed in conjunction with the advancing mining operations.

Since the last inspection the following additional works have been completed at the Donaldson Mine:

- Routine maintenance of sediment dams A, B and C alongside the coal haul road;
- Drainage lines on the rehabilitated areas were regraded and pasture seeded to minimise scouring and assist in sediment removal. Drainage design was checked immediately after construction to assess consistent grade and ensure they were free draining. This is now standard practice on site;
- Ongoing minor works, including but not limited to, silt fences, hay bales and seeding using hybrid pasture grass species such as rye-corn, silk sorghum and oats; and
- Regular inspections of silt fencing is undertaking around the site and in particular following significant rainfall events.

Graded banks and waterways will continue to be used to divert all water from the reshaped and revegetated areas prior to release from the site. Where possible, banks will be built with a stable outlet. If this cannot be achieved in the short term, or if necessary to drop the banks short, the downstream consequences will be assessed and if unacceptable, an alternate design will be adopted.

Control Strategy:

The following control measures are employed at Donaldson in order to control erosion and sediment leaving the mine:

- Minimal disturbance (only what is required for mining);
- Diversionary works to separate clean and sediment laden waters;
- Sediment control dams;
- The employment of sediment fencing and hay bales to provide interim protection; and
- Revegetation as soon as is practical

Environmental Performance:

There were no complaints received by the mine relating to sediment control issues. Routine water quality monitoring undertaken at locations upstream and downstream of the mine is used to assess the performance of the sediment retention structures. Total Suspended Solids (TSS) is reported as an indicative measure of the effectiveness of sediment control. **Table 14** includes TSS data collected during the 2012 AEMR reporting period. Where necessary flocculates have been used in the past to precipitate sediment from solution and ensure an appropriate water quality.

A program of checking all sediment control structures is employed following rainfall events greater than 20mm in any one 24 hr period. Any repair works that are required (eg. clean out sediment dams or re-erect silt fencing etc) are undertaken as soon as is practical after the rainfall event.

3.2.4 Surface Water

The Water Management Plan (Perrens, 2000) details the measures employed by Donaldson Coal to ensure protection of surface water on and around the mine site. Surface water monitoring has been ongoing since June 2000. A plan showing the location of the water monitoring sites appears in **Appendix 2**. Carbon Based Environmental is engaged by Donaldson to undertake routine sampling and analysis of six (6) permanent surface water stream monitoring locations. Grab samples are also taken opportunistically from various other locations around the mine area as required (sediment dams and mine water storage dams). The surface stream water monitoring sites include:

- Four Mile Creek Upstream (EM1);
- Four Mile Creek Downstream (EM2);
- Scotch Dairy Creek Upstream (EM3);
- Scotch Dairy Creek Downstream (EM4);
- Weakley's Flat Creek Downstream (EM5); and
- Weakley's Flat Creek Upstream (EM6).

Samples collected from the six existing stream sites are analysed for Electrical Conductivity (EC), pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS) and Sulfates (SO_4), on a monthly basis. A full suite analysis is also carried out on a quarterly basis and includes analysis for EC, pH, TDS, TSS, SO_4, Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Chloride (Cl), Fluoride (Fl), Arsenic (As), Aluminium (Al), Barium (Ba), Cadmium (Cd), Cobalt (Co), Copper (Cu), Chromium (Cr), Iron (Fe), Manganese (Mn), Lead (Pb), Zinc (Zn), Total Alkalinity as $CaCO_3$, Nitrates and Phosphates (total). Surfactants (detergents) and Total Petroleum Hydrocarbons (TPH) are included in the suite of analysis for the industrial area sump or as required.

The out of pit sediment dam is sampled on a monthly basis to monitor any possible Acid Mine Drainage from the Out of Pit Dump. In this monitoring period it was sampled on 12 occasions.

Rising Stage Samplers (RSS) have been installed upstream and downstream of the site. These samplers collect water quality information during flow events with sample bottles located upward from the streambed at 0.2m intervals to a maximum of 1m. Samples are collected from these sites as soon as possible after flows, however this is limited to some extent by access to the sites during extended wet periods.

In addition to the physical and chemical water quality work, biological monitoring (macroinvertebrates) has been ongoing as part of the environmental impact assessment. The program consists of:

- A pre-mining baseline survey;
- A construction survey; and
- Twice yearly operational surveys.

Two monitoring surveys were completed during the 2012 AEMR reporting period, on the 12th April 2012 and the 1st November 2012.

Control Strategy:

The following control measures are employed at Donaldson in order to ensure an appropriate level of protection to surface water on and around the mine site (there are a number of similarities with the Erosion and Sediment Control Plan as detailed above):

- Minimal disturbance;
- Source separation in order to separate water of differing quality;
- Collection and containment of mine water for dust suppression;
- Grey water and sewerage is treated by bio-cycle technology; and
- Water from workshop and washdown areas (to be constructed) is directed through a simple oil/water separator prior to the Industrial Area dam and then via a channel drain to the mine water storage dam.

Environmental Performance:

There were no water-related complaints received during the 2012 AEMR reporting period. In addition, monthly water monitoring results were routinely reviewed to determine whether there were any changes as a result of activities at the mine.

Chemical & Physical Monitoring:

A summary of three key parameters, required by the DEC Pollution Control Licence, for the reporting period as well as the pre-mining baseline is included in **Table 14** for reference.

Mean pH values for all stream-monitoring locations as recorded on a monthly basis are generally comparable to the pre-mining pH levels. The average pH of all sites is within the recommended ANZECC Guideline (pH 6.5 – 9.0) for fresh and marine waters for the protection of aquatic ecosystems, apart from Scotch Dairy Creek Upstream and Downstream which are slightly below the lower guideline. As such, it appears that the activities of Donaldson Coal in this reporting period have not affected the pH of the surrounding stream environments.

The mean EC values in **Table 14** were generally higher than pre-mining results but were higher at the upstream water sites suggesting that Donaldson Coal is not having any significant impact on EC levels.

The annual mean TSS values at monitoring locations were generally similar to the respective pre-mining levels apart from higher values at Four Mile Creek Downstream, Weakleys Flat Creek Downstream and lower values at Scotch Dairy Creek Downstream. TSS levels were impacted by very high rainfall during the year and were not directly attributable to impacts from Donaldson Coal.

TABLE 14: SUMMARY OF KEY WATER QUALITY PARAMETERS COMPARED WITH PRE-MINING DATA.

Sample Site	No Samples Required	No samples collected and analysed*	Highest Sample Value			Lowest Sample value			Mean Sample Value		
			pH	EC	TSS	pH	EC	TSS	pH	EC	TSS
Four Mile Ck Upstream	12	12	7.4	624	51	6.9	199	6	7.2	418	21
Pre-mining	**---**	**---**	***7.44***	***522***	***90***	***6.70***	***265***	***180***	***7.06***	***276***	***32***
Four Mile Ck Downstream	12	12	7.7	253	228	7.0	133	6	7.4	201	58
Pre-mining	**---**	**---**	***7.73***	***265***	***32***	***6.40***	***120***	***2***	***7.15***	***175***	***8***
Scotch Dairy Creek Upstream	12	12	6.7	330	83	5.9	151	16	6.4	244	39
Pre-mining	**---**	**---**	***6.81***	***200***	***47***	***5.90***	***71***	***9***	***6.33***	***210***	***22***
Scotch Dairy Creek Downstream	12	12	6.8	294	191	5.8	132	8	6.2	195	45
Pre-mining	**---**	**---**	***6.80***	***270***	***1283***	***5.80***	***145***	***12***	***6.43***	***180***	***271***
Weakleys Flat Ck Upstream	12	11	7.6	502	90	7.0	179	8	7.4	330	28
Pre-mining	**---**	**---**	***7.49***	***310***	***3***	***6.60***	***200***	***1***	***7.15***	***249***	***2***
Weakleys Flat Ck Downstream	12	9	7.4	678	116	6.8	243	18	7.0	418	60
Pre-mining	**---**	**---**	***7.28***	***546***	***17***	***6.40***	***230***	***3***	***7.01***	***419***	***8***

* Some sites were dry at the time of sampling, with no sample available which accounts for the reduced number of samples collected.

Biological Monitoring

Assessment of stream fauna is used to assess areas of environmental stress through the diversity of the macroinvertebrate population and the presence of pollutant sensitive or pollutant tolerant species. Macroinvertebrate monitoring was undertaken on the 12th April 2012 and the 1st November 2012. Six sites are targeted on the three major tributaries traversing the mine site. **Table 15** includes the results for the last 21 surveys as well as the baseline survey.

The streams in the study area tended to show moderate diversity of fauna indicative of fair water quality. However all sites were populated by several pollutant sensitive families of invertebrates. None of the vertebrates observed in previous surveys were present during the Autumn 2012 survey, indicating a substantial decrease in the numbers of Gumbusia (mosquito fish). Stream levels and flows were similar to the Spring 2011 levels.

All systems performed relatively favourably with downstream comparison (Tuft and Associates, 2012). Individual site conclusions are provided by Tuft and Associates and these reports may be supplied upon request.

Table 15: **MACROINVERTEBRATE MONITORING (SPRING/AUTUMN 2001-2012) RESULTS COMPARED WITH BASELINE.**

	Four Mile Upstream	Four Mile Downstream	Scotch Dairy Upstream	Scotch Dairy Downstream	Weakleys Flat Upstream	Weakleys Flat Downstream
DIVERSITY						
Spring 2012	20	19	17	15	27	18
Autumn 2012	16	20	15	15	23	18
Spring 2011	8	9	13	16	15	15
Autumn 2011	15	13	-	-	19	-
Spring 2010	21	22	13	22	30	17
Autumn 2010	20	27	15	11	30	6
Spring 2009	28	26	21	18	30	19
Autumn 2009	17	7	17	9	20	19
Spring 2008	32	24	23	25	25	28
Autumn 2008	19	12	18	22	14	18
Spring 2007	28	20	16	19	27	24
Autumn 2007	22	20	11	16	19	22
Spring 2006	24	20	17	20	18	17
Autumn 2006	16	23	13	18	16	21
Spring 2005	19	24	23	23	15	26
Autumn 2005	11	27	20	21	12	25
Spring 2004	17	25	12	15	10	30
Autumn 2004	17	31	17	31	22	34
Spring 2003	17	27	17	13	16	28
Autumn 2003	14	28	19	27	27	33
Spring 2002	21	24	12	20	22	25
Autumn 2002	22	19	33	27	24	34
Spring 2001	37	30	NR	30	26	31
Autumn 2001	20	30	18	25	36	31
BASELINE	30	36	39	32	39	44
SIGNAL INDEX						
Spring 2012	5.2	5.7	5.7	5.9	5.4	5.6
Autumn 2012	6.0	6.6	5.6	6.3	5.6	5.7
Spring 2011	6.3	5.3	6.1	6.0	4.8	6.0
Autumn 2011	5.9	5.4	-	-	4.8	-
Spring 2010	5.3	5.3	5.8	5.2	5.0	5.3
Autumn 2010	5.1	4.9	4.4	4.2	4.5	5.8
Spring 2009	5.3	5.7	5.8	5.8	5.4	5.4
Autumn 2009	5.9	7.1?	5.5	6.0	4.9	5.4
Spring 2008	5.3	5.9	5.4	6.2	5.6	5.4
Autumn 2008	5.6	5.4	5.5	5.6	5.7	5.3
Spring 2007	5.4	6.1	5.1	4.7	5.1	4.7
Autumn 2007	5.7	5.3	6.0	5.2	5.4	4.8
Spring 2006	5.4	5.3	5.5	5.3	4.3	4.3
Autumn 2006	6.4	4.8	4.7	5.6	5.7	4.4
Spring 2005	5.7	5.7	5.1	6.0	5.7	4.3
Autumn 2005	5.2	5.6	5.2	6.2	4.6	4.4
Spring 2004	5.7	5.5	5.2	4.9	4.6	5.0
Autumn 2004	6.0	5.5	5.0	4.9	5.4	5.0
Spring 2003	6.0	5.9	4.6	5.7	5.5	5.3
Autumn 2003	6.1	5.7	5.2	5.5	4.6	5.0
Spring 2002	6.0	5.7	4.0	5.9	5.7	5.4
Autumn 2002	5.7	5.4	5.2	6.0	5.5	5.3
Spring 2001	5.8	5.8	NR	5.6	5.7	5.4
Autumn 2001	5.6	5.3	5.3	5.6	5.3	5.0
BASELINE	6.0	5.7	5.7	5.6	5.5	5.4

Table 15 (continued): MACROINVERTEBRATE MONITORING (SPRING/AUTUMN 2001-2012) RESULTS COMPARED WITH BASELINE.

	Four Mile Upstream	Four Mile Downstream	Scotch Dairy Upstream	Scotch Dairy Downstream	Weakleys Flat Upstream	Weakleys Flat Downstream
AUSRIVAS						
Spring 2011	0.51 (Band C)	0.39 (Band C)	0.7 (Band B)	0.88 (Band A)	0.48 (band C)	0.86 (Band A)
Autumn 2011	0.45 (Band C)	0.39 (Band C)	-	-	0.59 (Band B)	-
Autumn 2010	0.68 (Band B)	0.67 (Band B)	0.7 (Band B)	0.77 (Band B)	0.8 (Band B)	0.92 (Band A)
Spring 2009	0.68 (Band B)	0.68 (Band B)	0.8 (Band B)	0.96 (Band A)	1.02 (Band A)	1.1 (Band A)
Autumn 2009	0.69 (Band B)	0.58 (Band B)	0.78 (Band B)	1.01 (Band A)	0.66 (Band B)	0.55 (Band B)
Spring 2008	0.65 (Band B)	0.77 (Band B)	0.46 (Band C)	0.58 (Band B)	0.78 (Band B)	0.69 (Band B)
Autumn 2008	0.64 (Band B)	0.73 (Band B)	0.29 (Band C)	0.69 (Band C)	0.78 (Band B)	0.55 (Band B)
Spring 2007	0.78 (Band B)	0.58 (Band B)	0.48 (Band C)	0.89 (Band A)	0.77 (Band B)	0.39 (Band C)
Autumn 2007	0.54 (Band B)	0.49 (Band B)	0.48 (Band B)	0.69 (Band B)	0.68 (Band B)	out of range
Spring 2006	0.19(Band C)	0.68 (Band B)	0.68 (Band B)	0.48 (Band C)	0.60 (Band B)	0.58 (Band B)
Autumn 2006	0.52 (Band B)	0.31 (Band C)	0.48 (Band B)	0.6 (Band B)	0.42 (Band C)	0.45 (Band C)
Spring 2005	0.78 - Band B	0.58 - Band B	0.48 – Band C	0.88 - Band A	0.58 – Band B	0.69 – Band B
Autumn 2005	0.55 – Band B	0.97 – Band A	0.95 – Band A	0.68 Band B	0.93 – Band A	0.79 – Band B
Spring 2004	0.69 – Band B	0.73 – Band B	0.6 – Band B	1.06 – Band A	0.9 – Band A	0.78 – Band B
Autumn 2004	0.69 – Band B	0.73 – Band B	0.6 – Band B	1.06 – Band A	0.9 – Band A	0.78 – Band B
Spring 2003	0.67 - Band B	0.57 - Band B	0.29 – Band C	0.59 – Band B	0.58 – Band B	0.49 - Band C
Autumn 2003	0.87 – Band A	0.93 – Band A	1.03 – Band A	1.09 – Band A	0.78 – Band B	103 - Band A
Spring 2002	1.08 – Band A	0.58 – Band B	NR	0.9 – Band A	0.96 – Band A	0.69 – Band B
Autumn 2002	0.68 – Band B	0.61 – Band B	0.83 – Band A	0.95 – Band A	0.87 – Band A	0.87 – Band A
Spring 2001	0.93 – Band A	1.04 – Band A	1.08 – Band A	0.82 – Band A	0.86 – Band A	0.82 – Band A
Autumn 2001						
BASELINE						

At each site a detailed field observation sheet was completed covering riparian (stream bank) vegetation, stream geomorphology, visual characteristics and odour. The RCE was calculated following the assessment which evaluates the condition of the:

- Adjacent land
- Banks
- Channel & bed (includes in-stream vegetation and algae); and
- Riparian vegetation

Table 16 provides a summary of the RCE ranking results for the last twenty one (21) surveys as well as the baseline survey.

TABLE 16: RCE RANKING FOR ALL MONITORING SITES (2000-2012).

Site	Date of Collection	Bank Condition Scores	Bank Condition Rating	Bed Condition Score	Bed Condition Rating	Stream Condition (RCE)	RCE Rating
Four Mile Ck U/S	26/09/00	22	Excellent	10	Good	45	Excellent
	19/03/01	16	Good	6.5	Fair	45	Excellent
	11/10/01	16	Good	9	Good	40	Good
	15/04/02	12	Fair	7	Fair	34	Fair
	9/10/02	18	Good	9	Good	43	Good
	17/04/03	19	Excellent	8	Fair	43	Good
	10/10/03	16	Good	11	Excellent	43	Good
	1/4/04	19	Excellent	9	Good	48	Excellent
	6/10/04	14	Good	8	Fair	40	Good
	15/4/05	15	Good	7	Fair	40	Good
	27/9/05	15	Good	9	Good	41	Good
	11/4/06	15	Good	10	Good	41	Good
	17/11/06	14	Good	9	Good	40	Good
	20/4/07	15	Good	7	Fair	39	Good
	5/10/07	15	Good	11	Excellent	41	Good
	8/4/08	14	Good	11	Excellent	41	Good
	21/11/08	17	Good	8	Fair	41	Good
	20/5/09	16	Good	10	Good	38	Good
	16/11/09	15	Good	5	Poor	33	Fair
	27/4/10	16	Good	9	Good	40	Good
	14/12/10	17	Excellent	9	Good	41	Good
	1/4/11	15	Good	6	Poor	36	Fair
	18/10/11	17	Excellent	8	Fair	41	Good
	12/4/12	15	Good	10	Good	41	Good
	1/11/12	14	Good	11	Excellent	42	Good
Four Mile Ck D/S	26/09/00	21	Excellent	6	Poor	39	Good
	19/03/01	15	Good	7	Fair	39	Good
	11/10/01	16	Good	7	Fair	37	Good
	15/04/02	16	Good	6	Poor	36	Fair
	9/10/02	20	Excellent	9	Good	45	Good
	17/04/03	19	Excellent	10	Good	45	Good
	10/10/03	16	Good	11	Excellent	43	Good
	1/4/04	17	Good	10	Good	44	Good
	6/10/04	14	Good	10	Good	41	Good
	15/4/05	14	Good	10	Good	39	Good
	27/9/05	15	Good	10	Good	40	Good
	11/4/06	15	Good	8	Fair	38	Good
	17/11/06	16	Good	10	Good	43	Good
	20/4/07	16	Good	8	Fair	40	Good
	5/10/07	15	Good	10	Good	40	Good
	8/4/08	13	Good	10	Good	40	Good
	21/11/08	12	Fair	9	Good	35	Fair
	20/5/09	13	Good	5	Poor	30	Fair
	16/11/09	14	Good	10	Good	39	Good
	27/4/10	13	Good	11	Good	38	Good
	14/12/10	14	Good	11	Good	40	Good
	1/4/11	16	Good	5	Poor	35	Fair
	18/10/11	13	Good	7	Fair	36	Fair
	12/4/12	15	Good	9	Good	40	Good
	1/11/12	15	Good	9	Good	39	Good

TABLE 16 (continued): RCE RANKING FOR ALL MONITORING SITES (2000-2012).

Site	Date of Collection	Bank Condition Scores	Bank Condition Rating	Bed Condition Score	Bed Condition Rating	Stream Condition (RCE)	RCE Rating
Scotch Dairy Ck U/S	26/09/00	21	Excellent	8	Fair	39	Good
	19/03/01	15	Good	7	Poor	37	Good
	11/10/01	NR	NR	NR	NR	NR	NR
	15/04/02	12	Fair	9	Good	37	Good
	9/10/02	16	Fair	9	Good	43	Good
	17/04/03	17	Good	6	Poor	36	Fair
	10/10/03	15	Good	5	Poor	36	Fair
	1/4/04	19	Excellent	5	Poor	40	Good
	6/10/04	14	Good	5	Poor	36	Good
	15/4/05	14	Good	5	Poor	34	Fair
	27/9/05	14	Good	5	Poor	33	Fair
	11/4/06	13	Good	5	Poor	33	Fair
	17/11/06	16	Good	4	Very Poor	37	Good
	20/4/07	14	Good	5	Poor	36	Fair
	5/10/07	13	Good	5	Poor	35	Fair
	8/4/08	13	Good	4	Very Poor	33	Fair
	21/11/08	17	Excellent	4	Very Poor	41	Good
	20/5/09	15	Good	5	Poor	33	Fair
	16/11/09	15	Good	4	Very Poor	35	Fair
	27/4/10	15	Good	5	Very Poor	35	Fair
	14/12/10	18	Excellent	4	Very Poor	38	Good
	18/10/11	17	Excellent	4	Very Poor	38	Good
	12/4/12	17	Excellent	4	Very Poor	36	Fair
	1/11/12	15	Good	4	Very Poor	39	Good
Scotch Dairy Ck D/S	26/09/00	20	Excellent	5	Poor	39	Good
	19/03/01	17	Good	7	Fair	39	Good
	11/10/01	16	Good	11	Excellent	42	Good
	15/04/02	15	Good	8	Fair	40	Good
	9/10/02	16	Good	5	Poor	34	Fair
	17/04/03	17	Good	5	Poor	35	Fair
	10/10/03	15	Good	6	Poor	37	Good
	1/4/04	17	Good	5	Poor	40	Good
	6/10/04	13	Good	7	Fair	37	Good
	15/4/05	15	Good	6	Poor	37	Good
	27/9/05	16	Good	6	Poor	38	Good
	11/4/06	14	Good	5	Poor	35	Fair
	17/11/06	15	Good	6	Poor	36	Fair
	20/4/07	16	Good	8	Fair	35	Fair
	5/10/07	16	Good	8	Fair	40	Good
	8/4/08	13	Good	5	Poor	33	Fair
	21/11/08	16	Good	8	Fair	39	Good
	20/5/09	14	Good	6	Poor	34	Fair
	16/11/09	14	Good	5	Poor	34	Fair
	27/4/10	13	Good	10	Fair	37	Good
	14/12/10	15	Good	7	Fair	37	Fair
	18/10/11	17	Excellent	6	Poor	39	Good
	12/4/12	15	Good	7	Fair	39	Good
	1/11/12	13	Good	6	Poor	36	Fair
Weakleys Flat Ck U/S	26/09/00	21	Excellent	7	Fair	41	Good
	19/03/01	18	Good	6	Poor	40	Good
	11/10/01	14	Good	10	Good	40	Good
	15/04/02	14	Good	5	Good	37	Good
	9/10/02	17	Good	8	Fair	42	Good
	17/04/03	17	Good	8	Fair	39	Good
	10/10/03	15	Good	12	Excellent	42	Good
	1/4/04	17	Good	9	Good	45	Good
	6/10/04	14	Good	7	Fair	39	Good
	15/4/05	13	Good	6	Poor	36	Fair
	27/9/05	12	Fair	8	Fair	37	Good
	11/4/06	15	Good	9	Good	37	Good
	17/11/06	14	Good	10	Good	36	Fair
	20/4/07	17	Good	8	Fair	37	Good
	5/10/07	15	Good	8	Fair	38	Good
	8/4/08	16	Good	8	Fair	40	Good
	21/11/08	15	Good	8	Fair	39	Good
	20/5/09	15	Good	7	Fair	37	Good
	16/11/09	15	Good	7	Fair	37	Fair
	27/4/10	16	Good	6	Poor	34	Fair
	14/12/10	15	Good	6	Poor	34	Fair
	1/4/11	14	Good	6	Poor	34	Fair
	18/10/11	14	Good	7	Fair	34	Fair
	12/4/12	15	Good	8	Fair	35	Fair
	1/11/12	15	Good	8	Fair	36	Fair

TABLE 16 (continued): RCE RANKING FOR ALL MONITORING SITES (2000-2012).

Site	Date of Collection	Bank Condition Scores	Bank Condition Rating	Bed Condition Score	Bed Condition Rating	Stream Condition (RCE)	RCE Rating
Site 6 Weakleys Flat Ck D/S	26/09/00	19	Excellent	5	Poor	34	Fair
	19/03/01	14	Good	6.5	Fair	33.5	Fair
	11/10/01	15	Good	6	Poor	34	Fair
	15/04/02	12	Fair	9	Good	37	Good
	9/10/02	16	Good	8	Fair	39	Good
	17/04/03	15	Good	9	Good	38	Good
	10/10/03	15	Good	7	Fair	36	Fair
	1/4/04	17	Good	9	Good	39	Good
	6/10/04	14	Good	6	Poor	35	Fair
	15/4/05	14	Good	5	Poor	30	Fair
	27/9/05	14	Good	8	Fair	36	Fair
	11/4/06	11	Fair	8	Fair	34	Fair
	17/11/06	13	Good	6	Poor	29	Fair
	20/4/07	11	Fair	7	Fair	33	Fair
	5/10/07	14	Good	7	Fair	34	Fair
	8/4/08	13	Good	8	Fair	37	Good
	21/11/08	15	Good	6	Poor	34	Fair
	20/5/09	13	Good	4	Very Poor	23	Very Poor
	16/11/09	14	Good	5	Poor	34	Fair
	27/4/10	15	Good	8	Fair	34	Fair
	14/12/10	15	Good	6	Poor	36	Fair
	18/10/11	15	Good	7	Fair	39	Good
	12/4/12	16	Good	9	Good	41	Good
	1/11/12	14	Good	8	Fair	40	Good

3.2.5 Groundwater

The Water Management Plan (Perrens, 2000) details the measures employed by Donaldson Coal to ensure protection of ground water on and around the mine site.

Groundwater monitoring has been ongoing since June 2000. The groundwater monitoring locations at Donaldson Coal were reviewed by the DEC (EPA) as part of the EPL license review. There are now 10 current monitoring sites, the locations of which are shown on the revised "Location of Site Groundwater Wells – Figure 5.12". A copy is provided in **Appendix 2**. Two bores were replaced in line with the review. Carbon Based Environmental is engaged by Donaldson Coal to undertake the routine sampling and analysis of the monitoring sites.

Control Strategy:

The groundwater piezometers are monitored to determine impacts on both Standing Water Levels (SWL) and ground water quality. In some cases there are several piezometers in the one hole (multi-level) measuring several aquifers throughout the strata.

A regional site was included in the monitoring program, REGDPZ1. It is located in Avalon Estate approximately 1.2km to the north of the active mining area.

The analytes EC, pH, TDS, TSS and SO_4 are routinely taken each month at all of the current piezometer sites. A full suite analysis is taken every six months and includes analysis of EC, pH, TDS, TSS, SO_4, Ca, Mg, Na, K, Cl, Fl, As, Al, Ba, Cd, Co, Cu, Cr, Fe, Mn, Pb, Zn and Total Alkalinity as $CaCO_3$.

The standing water level of each of the monitoring wells is routinely measured each month.

Environmental Performance:

There were no groundwater-related complaints received by the mine during the reporting period. In addition, monthly water monitoring results were routinely reviewed to determine whether there were any changes as a result of activities at the mine.

A summary of the three key parameters required by the EPL (pH, EC and the Standing Water Level) for the reporting period as well as the pre-mining baseline is included in **Table 17**.

Generally the average Standing Water Levels (SWL) were higher than the baseline period (water moving away from the surface), however the variation in water level could be attributed to seasonal variations as there are similar trends across most sites. Additionally, the SWL show similar groundwater levels compared to the corresponding values in the 2011 AEMR reporting period.

Average pH values are generally similar to background levels at all sites apart from DPZ7@50m and DPZ8 which showed higher and lower values respectively, refer to **Table 17**. The EC values are generally similar to pre-mining values apart from DPZ3 which has shown a significant decrease in EC. **DPZ2** was destroyed in March 2012, **DPZ 7** was destroyed in September 2007 and **DPZ 9** was destroyed in March 2007 due to progressive mining operations.

Overall, it appears that Donaldson has had negligible or no impact on water quality of the surrounding off site groundwater resources during the 2012 AEMR reporting period.

TABLE 17: SUMMARY OF KEY GROUNDWATER PARAMETERS COMPARED WITH PRE-MINING BASELINE DATA.

Sample Site	No Samples Required	No samples collected and analysed	Highest Sample Value			Lowest Sample value			Mean Sample Value		
			pH	EC	SWL*	pH	EC	SWL*	pH	EC	SWL*
DPZ2	-	-	-	-	-	-	-	-	-	-	-
Pre-mining	**---**	**---**	***No pre-mining samples available***								
DPZ3	12	12	6.9	7690	9.9	5.7	272	9.3	6.4	1626	9.6
Pre-mining	**---**	**---**	***6.96***	***11350***	***11.51***	***5.99***	***10200***	***12.05***	***6.59***	***10860***	***11.76***
DPZ5	-	-	-	-	-	-	-	-	-	-	-
Pre-mining	**---**	**---**	***7.21***	***8520***	***5.90***	***6.72***	***4280***	***5.73***	***7.37***	***6986***	***5.81***
DPZ6	12	9	7.3	3730	35.0	7.0	662	31.1	7.1	2869	32.5
Pre-mining	**---**	**---**	***No pre-mining samples available***								
DPZ7@50m	12	12	7.6	2820	25.3	6.8	2010	23.7	7.2	2430	24.5
Pre-mining	**---**	**---**	***6.14***	***2390***	***21.47***	***5.36***	***2180***	***22.00***	***5.76***	***2270***	***21.78***
DPZ8	12	12	3.8	3370	30.6	3.0	2980	28.2	3.3	3192	30.1
Pre-mining	**---**	**---**	***5.66***	***1820***	***24.35***	***5.46***	***1690***	***24.35***	***5.56***	***1755***	***24.35***
DPZ9	-	-	-	-	-	-	-	-	-	-	-
Pre-mining	**---**	**---**	***6.32***	***2940***	***17.65***	***5.47***	***2221***	***17375***	***6.02***	***2563***	***17.49***
DPZ10	12	12	7.2	3710	13.2	6.8	3140	12.8	7.0	3366	13.0
Pre-mining	**---**	**---**	***6.97***	***3760***	***12.40***	***6.48***	***3670***	***12.40***	***6.71***	***3611***	***12.40***
DPZ12	12	12	6.8	9120	17.3	6.1	452	12.7	6.4	2358	15.7
Pre-mining	**---**	**---**	***No pre-mining samples taken due to restricted access to private property***								
DPZ13	12	12	7.5	12400	16.6	7.0	3710	8.0	7.3	9878	11.3
Pre-mining	**---**	**---**	***7.22***	***13750***	***7.25***	***6.67***	***12200***	***7.01***	***6.87***	***12907***	***7.14***

* Standing Water Level is recorded as metres (m) below the natural surface. Some sites were dry at the time of sampling, with no sample available which accounts for the reduced number of samples collected. DPZ2 and DPZ5 have been mined out.

3.2.6 Contaminated Land

Donaldson coal has been operating since January 2001, and as such there is little occurrence of contaminated land on the site. The exception to this would be some minor surface contamination of hydrocarbons in areas where hydrocarbons are stored, in the workshop area and the go-line (where trucks are parked between shifts and at crib). There has also been some minor surface contamination recorded at the bulk fuel storage facility and refueling point.

Control Strategy:

The following control measures are employed at the Donaldson Coal Mine in order to ensure that contamination of land is minimal.

- There are no underground storage tanks (UST) on the site;
- Earthen and concrete bunding is used as secondary containment for the bulk storage of hydrocarbons and chemicals;
- Oil spill mop and absorbents are used to clean up spills;
- When spills occur the contaminated material is excavated and taken to a landfarm where it is remediated prior to being placed back in the fill;

- Oil/Water separators are used to remove any residual hydrocarbon from washdown waters;
- Spills are recorded on an Environmental Incidents report. This form is used to identify where improvements can be made to reduce the likelihood of the incident re-occurring;
- Both the mining contractor and the Donaldson Coal Environmental Officer undertake informal and formal inspections of the workshop areas to ensure hydrocarbons and chemicals are stored appropriately;
- All new employees are taken through an Environmental Awareness Induction prior to commencing work at the mine. This includes an explanation of ways to avoid spills and to ensure that appropriate actions are taken to clean up the spill and ensure that it is remediated;
- Toolbox talks are undertaken with all employees to explain ways to avoid spills and to ensure that appropriate actions are taken to clean up the spill and ensure that it is remediated; and
- A land farm area has been constructed on the out-of pit dump where contaminated soil is stored temporarily and treated to remove the hydrocarbons before being placed back on the rehabilitated areas and revegetated.

Environmental Performance:

There are no significant areas of land contamination. In addition, routine monitoring for hydrocarbons and surfactants is undertaken at the Industrial Area dam that receives the water from the workshop area. To date, hydrocarbons (measured as Total Petroleum Hydrocarbons (TPH)) have not been recorded in routine environmental monitoring of the Industrial Area Dam. Ongoing monitoring and routine inspections will continue to detect the occurrence of spills (accidental or otherwise) and remediate them appropriately.

3.2.7 Threatened Flora

There was one species of threatened flora identified during the EIS, *Tetratheca juncea* (Black-eyed Susan). As a result a *Tetratheca juncea* Management Plan was developed by Gunninah (2000b). The aim of the plan is to provide a comprehensive program for the *Tetratheca juncea* population in the south western portion of the mine site.

A survey and identification report (Gunninah 2000c) was completed, which located the boundaries of the population and defined the limit of the conservation precinct. Subsequent works during 2001 and 2002 has extended the boundary and up to an additional 200 plants have been found during routine monitoring and vegetation characterisation.

In addition, approximately four hundred plants have been discovered during routine pre-clearing surveys and monitoring episodes. A large proportion of these plants fall outside of the active mine area, adding further conservation significance to the area(s) identified and managed by Donaldson Coal as the *Tetratheca juncea* Conservation Area (TjCA) (as discussed below).

In 2005, a design was developed for the experimental translocation of *Tetratheca juncea* from the planned mine disturbance area. The relocation is a management technique addressed in the *Tetratheca juncea* Management Plan (Gunninah 2000b).

The experimental design for the translocation was based on a study currently being conducted in the Gwandalan area (Ecobiological 2005). The ongoing monitoring of the translocated plants will focus on collecting data and information about the circumstances under which the plants are growing. Each plant and each recipient site has been photographed following translocation and will be photographed every twelve months for 5 years. The plants were monitored and watered on a

weekly basis for 6 weeks post planting to help ensure maximum initial survival and will be inspected twice per year for the five-year period.

Control Strategy:

The following control measures are employed at the Donaldson Coal Mine in order to ensure a high level of conservation for the threatened plant species *Tetratheca juncea*:

- The dedication of 650ha of bushland conservation around the mine to conserve habitat;
- The reduction of the proposed mining footprint and the establishment of a conservation precinct protecting a known population of *Tetratheca juncea*;
- Ongoing mapping and management protocols; and
- Pre-clearing surveys by a qualified biologist prior to any clearing activities.

In addition Donaldson Coal has supported both financially and technically, an honours student completing studies in Environmental Management at the University of Newcastle. The project commenced in January 2002 and is considering the ecology and growth of *Tetratheca juncea*.

Environmental Performance:

A baseline report was completed in January 2003 by Barker Harle, which describes the implementation of the TjMP and includes baseline information for use in subsequent reports. Subsequent monitoring and reporting is undertaken on an annual basis.

The following is a summary of the monitoring program and works that has been completed in the *Tetratheca juncea* Conservation Area (TjCA).

- The overall monitoring and collection of data for the population is based on a 40 x 40m grid, which has been established permanently across the entire population;
- One hundred individual plants have been permanently pegged and tagged. The co-ordinates of these plants have been referenced into the 40 x 40m grid. The location of each of these plants was selected so those individuals growing within the range of the micro-vegetative communities present in the TjCA were represented. The size of these plants has been recorded;
- A detailed survey has been carried out to describe the overstorey, shrubs to 2m high and groundcover vegetative communities present in the TjCA;
- Ten 10 x 10m monitoring quadrants have been pegged out throughout the population. Following the completion of the vegetation survey these quadrants have been located so that each one is in a different vegetative community in which *T. juncea* grows. The floristic content and abundance, using the modified Braun-Blanquet scale, of the vegetation within each of these quadrants has been described in detail;
- A detailed plant count was planned for late 2002 and again in 2004, however persistent drought conditions have significantly reduced the flowering season, meaning that a count was not considered reliable during this reporting period.

The following is a summary from the *Tetratheca juncea* Conservation Area Annual Report 2012 (Ecobiological, 2013):

The monitoring data continue to show a declining population. This points to *Tetratheca juncea* being out-competed by other ground species. Overall, this report builds on previous reports demonstrating that the TjCA population would benefit from a fire. This would both reduce the current level of competition and provide more nesting areas for tunneling native bee pollinators.

As has been recommended since the 2007 annual report, it is again recommended that the TjCA be burned at an appropriate time, no later than April in order to take advantage of viable seed and to allow for re-sprouting during warm weather.

3.2.8 Threatened Fauna

Several species of threatened fauna were identified during the EIS and supplementary reports, including both the areas proposed for mining and the immediate environs. They include the following:

- The Powerful Owl;
- The Masked Owl;
- The Barking Owl;
- Yellow-bellied Sheathtail Bat
- Eastern Bent-wing Bat
- Eastern Freetail Bat
- Greater Broad-nose Bat
- Little Bent-winged Bat.

Since the initial development of the Flora & Fauna Management Plan the Sooty Owl, The large footed Mytotis l and the Squirrel Glider have also been recorded on site.

Control Strategy:

The following control measures are employed at the Donaldson Coal Mine in order to ensure a high level of conservation for the threatened fauna species found on the site:

- The dedication of 650ha of bushland conservation around the mine to conserve habitat;
- Ongoing survey and management protocols;
- Pre-clearing surveys by a qualified biologist prior any clearing activities;
- Routine annual quadrant monitoring,
- Minimal clearance to only what is required; and
- Ongoing and progressive rehabilitation of disturbed areas.

The following flora and fauna monitoring activities were undertaken during the reporting period:

- Surveys of the foliage projective cover of each quadrat;
- Surveys of height and basal area of trees within each quadrat;

- Small mammal trapping (coinciding with autumn) within a radius of 300 metres centered on each quadrat;
- Insectivorous bat call recording at each quadrat;
- Owl call playback in the vicinity of each quadrat;
- Spotlighting in the area around each quadrat to observe any nocturnal birds and mammals;
- General observations around the larger conservation area; and
- Threatened species assessment.

Six monthly and annual reports are produced compiling the work undertaken throughout the year, along with detailed annual data interpretation and comparison with the baseline study. In addition Donaldson Coal has completed a recent experiment that tested the utilisation of artificial nest boxes placed in trees in 2005. This study continued through summer and winter from 2005 to 2010. There was a significant increase in proportion of nest boxes occupied over time from 2005 to 2010. Nest box utilization was significantly higher in summer than in winter across the years. Five species of fauna (Sugar Glider, Brown Antechinus, Feathertail Glider, Gould's Wattled Bat and Common Bushtail Possum) were visually confirmed to be active in and around the nest boxes on the site. In June 2008, 51.1% of nest boxes showed evidence of use, while in December 2008, this figure increased considerably to 64.4%. In July 2009 evidence of use reduced slightly to 60% followed by a slight increase in December 2009 to 62.2%. In May 2010 the nest box usage has risen considerably to 73.3% while in January 2011 this figure decreased to 66.6%. Several nest boxes were replaced in 2010 due to deterioration which may explain why occupancy was low. In July 2011, results have shown a considerable increase with 78.6% of nest boxes being used/occupied which is consistent with previous trends comparing winter periods. A monitoring survey of 40 nest boxes is now undertaken annually. Information recorded from the first nest box inspection in December 2011 is very promising with excellent results (62.5% usage) of the arboreal nest boxes. The poor usage rate of the terrestrial nest boxes may be explained by the lack of groundcover within the rehab areas suitable for terrestrial mammals. The individuals at Donaldson Coal are an important population considered in this research project. Donaldson Coal proposes to utilize nest box installation and monitoring within current future rehabilitation areas.

Targeted bi-annual bird surveys began in 2003 with a winter and summer survey of each quadrant conducted. A 2-ha area centered on each quadrant was surveyed for 30minutes in the morning between May and June 2010 and the birds were identified either visually, with the aid of binoculars, or by call interpretations.

Results for the annual flora and fauna monitoring survey conducted in late 2009 indicate that:

- Plant species numbers have increased since 2001 as have all floristic structural components which is indicative of a dynamic plant community with apparently high recruitment from the seed pool, normally an indicator of healthy plant community status.
- This continually increasing habitat, structural attributes and floristic diversity however is not reflected in faunal content. There has been an observed decline in mammal species between 2001 and 2009 most notably within the arboreal mammals. This decline is a probable indicator of the pressures being placed on the remnant habitat by the increasing habitat loss and the ever shrinking size of the Donaldson habitat remnant overall.
- The decline or disappearance of several species of arboreal mammal that has occurred at Donaldson may also be having an impact on the Powerful Owl population that occurs in the area.

- The declining species are all common prey items of the Powerful Owl and together with the general loss of foraging range may place significant pressure on the Powerful Owls at the subject site.

- Where possible other management options should be put in place to improve declining faunal numbers and diversity. Such measures might include a major spraying campaign to rid the site of most of the lantana that is constantly encroaching on native forest and a study to investigate the impact of shrinking habitat patches and loss of prey items on the Powerful Owl.

In addition to routine flora and fauna monitoring surveys, monitoring of fauna recolonisation success of the mines rehabilitation works has also been undertaken (Ecobiological, 2010). Four monitoring events have been undertaken to date. Stage 1 of the study, involving fieldwork and the preparation of an initial report, was undertaken in March 2008. Fieldwork and preparation of the second monitoring report were completed in December 2008. The third monitoring event and report preparation was undertaken in December 2009. The fourth monitoring event and report preparation was undertaken in December 2010.

Monitoring results indicate that all rehabilitation areas studied are showing positive signs of recolonisation by a variety of fauna species. Nine new species (two mammal and seven bird) were recorded during the December 2009 survey period. Overall, the total numbers of individuals captured increased in the current trapping period, compared with captures in December 2008. However, there was a decrease from 39 species recorded in both previous surveys to 33 species recorded overall in 2009 and 30 species in 2010.

Environmental Performance:

The monitoring undertaken to date suggests that flora is establishing well after mining but that there is additional pressure being placed on fauna populations in remnant habitats from habitat loss.

3.2.9 Weeds and Pests

The area was heavily disturbed by fire, dumping of rubbish, 4 wheel drive vehicles and motorcycles prior to the commencement of mining. As a result there have been a number of weeds introduced into the area,pests are not considered a significant problem.

Donaldson has undertaken to manage the weeds and pests as part of the management of the property including the areas in the Bushland Conservation Area (BCA), the areas to be disturbed by mining and the rehabilitated areas.

Control Strategy:

The weed management program involves the active control and monitoring throughout the site to control and prevent the spread of invasive weeds (including the rehabilitated areas). The following control strategies may be used on the site:

- Observance of the requirements prescribed by the NSW Noxious Weeds Act (1993);

- Assessment of weeds during pre-clearing and monitoring surveys;

- Dedicated weed control programs along access roads, tracks and exploration lines;

- Ensuring vehicles coming onto the site are clean and free of soil that could transfer weeds from other sites; and

- Restricting access to the Donaldson mine site by the erection of a fence and gates in an attempt to control illegal dumping.

The primary objective of the pest control strategy is to control the number of feral animals on the site. This is achieved by assessing the presence of pests during the routine monitoring program, pre-clearing surveys and during day to day activities. Where necessary the following specific control measures may be employed:

- Detailed surveys for feral animals; and
- Targeted baiting and trapping programs.

Environmental Performance:

Donaldson Coal continued the noxious weed control program, targeting *Pampas Grass, in 2011.* The plants, located on disturbed areas of the mine, were treated with herbicide application and flowering head removal. The treatment was carried out by suitably qualified personnel utilising manual shears and application of a Glyphosate herbicide product. All seed heads were bagged and disposed off site in a safe and secure manner.

Feral animals are not considered a major problem, however should it be determined in the future that action is required, a control strategy will be employed.

3.2.10 Blasting

Blasting activities commenced at Donaldson Coal mine on the 15th November 2001. A total of 36 blasts were undertaken at the mine during the 2012 AEMR reporting period compared to 38 blasts in the 2011 AEMR reporting period.

Prior to the commencement of blasting in 2001, structural surveys of all properties within 1.5km of the blast locations at the mine were completed. A copy of each report was presented to the resident and also kept on file at the mine.
On the 1st May 2001, five permanent blast monitoring stations (measuring peak particle velocity - ppv (mm/s) and Airblast (dB Linear) were installed and commissioned at the five locations described below:

1. Fairfax Regional Printing Facility;
2. Bartter Poultry Farm – Farm 6;
3. Weakley's Drive (Chidgey), Beresfield;
4. Avalon Estate, Thornton; and
5. The Hunter Water Pipeline.

On the 5th November, 2010 the blast monitors were relocated as the mine operations had moved further west along John Renshaw Drive.

Blast monitors are now located at:

1. Fairfax Regional Printing Facility
2. Jennings, 118 Blackhill Road, Blackhill
3. The Hunter Water Pipeline

A map, showing the blast monitors location is included in **Appendix 2** of this report.

The nearest unit to the mine (the pipleline unit) is used as a trigger unit. When it records a blast at the mine it triggers the other units to capture the relevant data. A trigger limit for peak particle velocity (mm/s) has been determined in order to minimise the number of spurious events recorded by the monitor. The loggers are automatically downloaded at the end of each day using scheduling software. Waveforms are recorded by the logger for each event and are used in the interpretation of the results (eg. separating wind gust from overpressure events). This system was previously found to miss small blasts of low vibration and a near field unit was established in March 2003 to improve data capture. This is discussed in more detail below.

Control Strategy:

The following control measures have been employed at the Donaldson Coal Mine in order to ensure that the limits set out in the Development Consent and DCCC (EPA) License are not exceeded.

- Establishment of a site specific site law using a ten (10) hole trial blasting program and detailed computer modelling;
- Blast design considerations (burden and spacing, stemming, MIC, etc);
- Considerations of explosive loading, initiation hook up and firing;
- Use of experienced blast contractors;
- Monitoring the meteorological conditions prior to blasting;
- Avoidance of concurrent blasts with adjoining Coal Mines; and
- Notifying Landowners and occupiers of blast events.

Environmental Performance:

A summary of the Peak Particle Velocity monitoring results for blasts undertaken during the period is presented in **Table 18.** All blast results are included in **Appendix 9**.The maximum vibration (peak particle velocity) recorded at the sites during the reporting period was 2.968 mm/s, which was below the applicable criteria (5 mm/s).

TABLE 18: SUMMARY OF PEAK PARTICLE VELOCITY (ppv) MONITORING RESULTS (mm/s).

Sample Site	No Samples Required	No samples collected and analysed	Highest Sample Value	Lowest Sample value	Mean Sample Value
Jennings	36	35	2.667	0.04	0.64
Fairfax Printing	36	35	0.161	0.031	0.06
HWC Pipeline	36	35	2.968	0.147	1.12

A summary of the overpressure monitoring results for blasts undertaken during the period is presented in **Table 19** below. DCCC (EPA) License criteria are applicable at the Jennings monitor. All blasts at this site recorded blast overpressure below 115dB(L), well within the Licence conditions. Overpressure monitoring is not required at the HWC pipeline site.

TABLE 19: SUMMARY OF OVERPRESSURE (dBL) MONITORING RESULTS.

Sample Site	No Samples Required	No samples collected and analysed	Highest Sample Value	Lowest Sample value	Mean Sample Value
Jennings	36	35	120.0	87.7	101.95
Fairfax Printing	36	35	104.5	85.1	93.61

Overall the data capture rate during the reporting period has been very good. **Table 20** shows the data capture rate for each of the blast monitoring units during the reporting period. None of the blasts undertaken at Donaldson during the period were too small to trigger the monitors that are some 1100m from the mine. Only one blast at all units was not monitored due to a failed trigger unit. The trigger unit was replaced the following day.

TABLE 20: SUMMARY OF DATA CAPTURE RATES – BLAST MONITORING UNITS

Monitoring Location	% Data Capture
Jennings	97.2
Fairfax Regional Printing Press	97.2
Hunter Water Pipeline	97.2
OVERALL:	97.2

The rate of data capture was similar from that recorded in the previous AEMR reporting period. The high rate of data capture has been achieved by way of the following initiatives implemented by the mine.

a) A near field "trigger" unit was established on the 17 March 2003 in the pit to ensure that the smaller blasts are not missed. When the monitor's vibration threshold is triggered it transmits the trigger to the outlying units;

b) Detailed reviews of system failures (replacement of faulty components). This includes a monthly test of components in the field and re-calibration and servicing once a year;

c) Monitors are now interrogated by the automatic scheduler system on a daily basis to detect any failures early and ensure correction prior to a blast; and

d) The units will be upgraded as part of the annual calibration. Each monitor will get the latest software updates each time they are sent for service repair or calibration.

3.2.11 Noise

Heggies Pty Ltd[2] have completed four routine quarterly unattended continuous noise surveys for Donaldson during the 2012 AEMR reporting period. The dates for the surveys are as follows:

- Wednesday 7th December - Thursday 22nd December 2011;
- Wednesday 14th March- Thursday 29th March 2012
- Tuesday 29th May – Thursday 14th June 2012; and
- Wednesday 29th August – Monday 10th September 2012

Operator attended surveys were also conducted to verify the unattended logging results and to determine the character and contribution of noise sources to the total ambient noise. The dates of these attended surveys were as follows:

- Monday 12th/Thursday 15th December 2011 (daytime), Wednesday 21st December 2011 (evening) and Wednesday 21st December 2011 (night-time);
- Wednesday 14th (daytime), Monday 26th March 2012 (evening & night-time);

[2] Heggies Pty Ltd (Newcastle Office), Newcastle, NSW. Ph:02 4908 4500

- Tuesday 14th/Tuesday 19th June 2012 (daytime), Monday 18th June 2012 (evening & night-time); and
- Monday 3rd September/Wednesday 5th September 2012 (daytime), Monday 3rd September 2012 (evening & night-time)

Heggies Pty Ltd[2] have performed baseline and preceding quarterly surveys at 5 locations around the Donaldson mine site. Heggies Pty Ltd, (2011a-d). Based on these surveys, the noise monitoring is now concentrated at the four potentially most affected areas at the time of survey. These locations are provided in **Table 21**.

TABLE 21: LIST OF PRESENT NOISE MONITORING SITES

Location	Donaldson Monitoring location
98 Weakleys Dr., Beresfield	Location A
684 Black Hill Road , Black Hill	Location F
156 Buchannan Road, Buchannan	Location G
17 Kilshanny Ave, Ashtonfield	Location L
Black Hill School, Black Hill	Location D

As the mine moves further to the south/west, additional monitoring sites will be included as required. A map showing the location of the above monitoring sites can be found attached as **Appendix 2** to this report.

Control Strategy:

The following control measures have been employed at the Donaldson Coal Mine in order to ensure that the limits set out in the development consent are not exceeded:

- Construction of an 8m high acoustic barrier which will be progressively moved with the excavation;
- Reduced night time operations, operating only on a day and afternoon roster with the full overburden removal and mining fleets;
- Testing of all equipment prior to being put to work at the operation;
- Constructing roadways and dumps to best use the natural shielding of the topography;
- Routine noise monitoring and complaint based investigative monitoring to determine compliance with noise limits;
- Monitoring the meteorological conditions and re-arranging the pit where possible to shield noisy activities during temperature inversions.

Environmental Performance:

Donaldson Coal has been monitoring noise from the mine since the commencement of operations in January 2001. The following sections summarise the results from both the routine attended and continuous monitoring undertaken during the reporting period.

Results of Unattended Continuous Surveys

Wednesday 7th December – Thursday 22nd December 2011 (December Quarter)

Table 22 presents a comparison between the noise statistics collected during the December quarter 2011 unattended continuous survey and the pre-mining baseline statistics.

TABLE 22: Unattended Continuous Monitoring Ambient Noise Levels, DECEMBER 2011 MONITORING PERIOD.

Location	Period	LA1	LA10	LA90	LAeq
A Weakleys Drive, Beresfield	Daytime	61	57	50	56
	Evening	61	56	48	58
	ENCM Daytime	61	57	49	57
	Night	59	54	44	52
F Lot 684 Black Hill Road, Black Hill	Daytime	71	59	44	58
	Evening	67	55	42	56
	ENCM Daytime	70	58	43	58
	Night	58	53	40	54
G 156 Buchanan Road, Buchanan	Daytime	54	48	37	47
	Evening	57	52	42	58
	ENCM Daytime	56	49	38	54
	Night	53	50	42	48
L 17 Kilshanny Ave, Ashtonfield	Daytime	64	59	51	69
	Evening	62	57	51	64
	ENCM Daytime	61	57	51	69
	Night	61	55	50	72
D Black Hill School, Black Hill	Daytime	-	-	-	-
	Evening	-	-	-	-
	ENCM Daytime	-	-	-	-
	Night	-	-	-	-

Note: Periods used for the Industrial Noise Policy (INP) are defined as Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.
EPA Periods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am.

Due to a logger error, no continuous monitoring results were recorded for location D.

Ambient LA_{90} Noise Levels

A summary of ambient LA10 noise levels can be found within **Table 22**.

The summary of results in **Table 22** show that ambient LA90 noise levels recorded for the quarter ending December 2011 were higher than levels recorded during the baseline monitoring process at Location A by 5 dBA during the daytime and night-time. Increases of 5 dBA, 7 dBA and 9 dBA were recorded respectively in the daytime, evening and night-time at Location F.

Given that no data was available at Locations G and L during baseline measurements and no monitoring was conducted at Location K during the September quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that LA90 noise levels were the same or lower than those recorded during the September 2011 at Location F. Increases of 2 dBA, 1 dBA and 4 dBA were recorded respectively in the daytime, evening and night-time periods at Location A and an increase of 4 dBA, 3 dBA and 13 dBA were recorded respectively in the daytime, evening and night-time periods at location G.

Significant increases in the LA90 noise levels were recorded at location L during the daytime, evening and night-time periods. It is considered that this is likely due to the impact of local insect and frog activity.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA90 noise levels were generally similar (within 2 dBA) or lower than those recorded in 2010 locations A and F.

Significant increases (up to 17 dBA) in the LA90 noise levels were recorded at location L during the daytime, evening and night-time periods. It is considered that this is likely due to the impact of local insect and frog activity.

Ambient LA_{10} Noise Levels

The summary of results in **Table 22** show that ambient LA10 noise levels recorded for the quarter ending December 2011 were 8 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime and 6 dBA higher during the evening and night-time. At Location A LA10 noise levels were similar (within 1 dBA) to those recorded during the baseline monitoring period during all periods.

Given that no data was available at Locations G and L during baseline measurements and no monitoring was conducted at Location K during the December quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that recorded LA10 noise levels at Location A were similar (within 1 dBA) to those recorded in September 2011.

Noise levels at location F were 3 dBA higher than those recorded in June 2011 during the evening and night-time. Noise levels at location G were 1 dBA higher during the daytime, 6 dBA higher during the evening and 13 dBA higher during the night-time. Noise levels at location L were up to 15 dBA higher than those recorded in the previous monitoring period.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA10 noise levels were similar (within 1 dBA) or lower than those recorded in December 2010 at locations A and F.

Noise levels at location L are significantly higher (up to 17 dBA) than during the same period last year.

Given that no monitoring was conducted at Location G during December 2010 no comparisons can be made.

Wednesday 14th March – Thursday 29th March 2012 (April Quarter)

Table 23 presents a comparison between the noise statistics collected during the March 2012 quarter unattended continuous survey and the pre-mining baseline statistics.

TABLE 23: Unattended Continuous Monitoring Ambient Noise Levels, MARCH 2012 MONITORING PERIOD.

Location	Period	LA1	LA10	LA90	LAeq
A Weakleys Drive, Beresfield	Daytime	59	56	48	54
	Evening	58	54	46	60
	ENCM Daytime	59	55	46	57
	Night	58	54	43	53
F Lot 684 Black Hill Road, Black Hill	Daytime	70	58	41	58
	Evening	65	52	40	57
	ENCM Daytime	70	58	42	58
	Night	58	49	36	53
G 156 Buchanan Road, Buchanan	Daytime	54	49	39	49
	Evening	57	55	46	56
	ENCM Daytime	56	52	40	53
	Night	54	53	46	54
L 17 Kilshanny Ave, Ashtonfield	Daytime	57	46	32	53
	Evening	55	45	36	51
	ENCM Daytime	56	45	33	50
	Night	45	42	36	42
D Black Hill School, Black Hill	Daytime	60	54	40	56
	Evening	55	52	45	67
	ENCM Daytime	58	53	40	62
	Night	53	50	44	51

Note: Periods used for the Industrial Noise Policy (INP) are defined as Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.
EPA Periods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am.

Ambient LA_{90} Noise Levels

The summary of results in **Table 23** show that ambient LA90 noise levels recorded for the quarter ending March 2012 were higher than levels recorded during the baseline monitoring process at Location A by 3 dBA, 5 dBA and 8 dBA were recorded respectively during the daytime, evening and night-time. Increases of 2 dBA were recorded in the daytime, and increases of 5 dBA were recorded in the evening and night-time at Location F.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the March 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that LA90 noise levels were the same or lower than those recorded during December 2011 at Location A, F and L. Increases of 2 dBA, 8 dBA and 4 dBA were recorded respectively in the daytime, evening and night-time periods at Location G.

Due to a logger error, no data was recorded for the December 2011 period at Location D.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA90 noise levels were generally similar (within 3 dBA) or lower than those recorded in 2011 locations A, F, L and D.

Significant increases (up to 8 dBA) in the LA90 noise levels were recorded at location G during the daytime, evening and night-time periods. It is considered that this is likely due to the impact of local insect and frog activity.

Ambient LA_{10} Noise Levels

The summary of results in **Table 23** show that ambient LA10 noise levels recorded for the quarter ending March 2012 were 7 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime and 3 dBA higher during the evening and within 1dBA during the night-time. At Location A LA10 noise levels were either similar to the levels recorded during the baseline monitoring process or up to 3 dBA below.

Given that no data was available at Locations G, L and D during baseline measurements and no monitoring was conducted at Location K during the March 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that recorded LA10 noise levels at Location A, F and G were similar (within 3 dBA) or lower to those recorded in December 2011.

Noise levels at location L decreased significantly (up to 13 dBA) than those recorded in December 2011 during the day, evening and night-time.

Due to a logger error, no data was recorded for the December period at Location D.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA10 noise levels were similar (within 2 dBA) or lower than those recorded in March 2011 at locations A, D and F.

Noise levels at location G and L are up to 4 dBA higher than during the same period last year.

Tuesday 29th May – Thursday 14th June 2011 (June Quarter)

Table 24 presents a comparison between the noise statistics collected during the June 2012 quarter unattended continuous survey and the pre-mining baseline statistics.

TABLE 24: Unattended Continuous Monitoring Ambient Noise Levels, JUNE 2012 MONITORING PERIOD.

Location	Period	LA1	LA10	LA90	LAeq
A Weakleys Drive, Beresfield	Daytime	62	59	49	63
	Evening	59	56	47	54
	ENCM Daytime	62	59	48	62
	Night	58	53	40	52
F Lot 684 Black Hill Road, Black Hill	Daytime	69	58	42	57
	Evening	67	53	46	52
	ENCM Daytime	68	57	42	58
	Night	57	53	42	52
G 156 Buchanan Road, Buchanan	Daytime	53	48	34	46
	Evening	53	48	40	49
	ENCM Daytime	54	48	35	47
	Night	51	49	35	46
L 17 Kilshanny Ave, Ashtonfield	Daytime	57	48	32	53
	Evening	49	48	36	45
	ENCM Daytime	56	46	35	49
	Night	45	42	35	43
D Black Hill School, Black Hill	Daytime	58	51	38	53
	Evening	54	44	36	47
	ENCM Daytime	57	51	36	50
	Night	51	45	33	49

Note: *Periods used for the Industrial Noise Policy (INP) are defined as Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.*
EPA Periods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am.

Ambient LA_{90} Noise Levels

The summary of results in **Table 24** show that ambient LA90 noise levels recorded for the quarter ending June 2012 were higher than levels recorded during the baseline monitoring process at Location A by 4 dBA, 6 dBA and 5 dBA were recorded respectively during the daytime, evening and night-time. Increases of 3 dBA were recorded in the daytime, and increases of 11 dBA were recorded in the evening and night-time at Location F.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the June 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that LA90 noise levels were the same or lower than those recorded during March 2012 at Location D, G and L. Increases of 1 dBA, 6 dBA and 6 dBA were recorded respectively in the daytime, evening and night-time periods at Location F. Increases of 1 dBA during the day-time and evening periods were recorded at location A.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA90 noise levels were generally similar (within 4 dBA) or lower than those recorded in 2011 locations F, L and G.

Significant increases (up to 9 dBA) in the LA90 noise levels were recorded at location A during the daytime, evening and night-time periods. It is considered that this is likely due to the impact of local traffic along Weakleys Drive and logging in the industrial area.

Ambient $L10_{10}$ Noise Levels

The summary of results in **Table 24** show that ambient LA10 noise levels recorded for the quarter ending June 2012 were 7 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime and 4 dBA higher during the evening and 5 dBA higher during the night-time. At Location A LA10 noise levels were either similar to the levels recorded during the baseline monitoring process or up to 3 dBA below.

Given that no data was available at Locations G, L and D during baseline measurements and no monitoring was conducted at Location K during the June 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that recorded LA10 noise levels at all monitoring locations were similar (within 4 dBA) or lower to those recorded in March 2012.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA10 noise levels were similar (within 3 dBA) or lower than those recorded in June 2011 at location F.

Noise levels at location A, G and L are up to 8 dBA, 11 dBA and 7 dBA higher than during the same period last year respectively.

Given that no data was available at Location D during the June 2011 quarter, no comparisons can be made.

Wednesday 29th August – Monday 10th September 2012 (September Quarter)

Table 25 presents a comparison between the noise statistics collected during the September 2012 quarter unattended continuous survey and the pre-mining baseline statistics.

TABLE 25: Unattended Continuous Monitoring Ambient Noise Levels, SEPTEMBER 2012 MONITORING PERIOD.

Location	Period	LA1	LA10	LA90	LAeq
A Weakleys Drive, Beresfield	Daytime	63	59	50	58
	Evening	59	55	47	53
	ENCM Daytime	62	58	46	56
	Night	59	55	41	53
F Lot 684 Black Hill Road, Black Hill	Daytime	68	58	43	57
	Evening	63	52	45	54
	ENCM Daytime	67	57	42	56
	Night	58	50	40	53
G 156 Buchanan Road, Buchanan	Daytime	53	47	37	50
	Evening	46	42	34	40
	ENCM Daytime	51	45	33	47
	Night	43	39	33	42
L 17 Kilshanny Ave, Ashtonfield	Daytime	57	48	33	51
	Evening	51	40	34	41
	ENCM Daytime	55	45	32	49
	Night	43	40	31	43
D Black Hill School, Black Hill	Daytime	57	51	36	51
	Evening	53	47	37	45
	ENCM Daytime	56	49	35	50
	Night	52	42	31	48

Note: *Periods used for the Industrial Noise Policy (INP) are defined as Daytime - 7.00 am to 6.00 pm Monday to Saturday, 8.00 am to 6.00 pm Sunday; Evening - 6.00 pm 10.00 pm; Night - 10.00 pm to 7.00 am pm Monday to Saturday, 10.00 pm to 8.00 am Sunday.*
EPA Periods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am

Ambient LA_{90} Noise Levels

The summary of results in **Table 25** show that ambient LA90 noise levels recorded for the quarter ending September 2012 were higher than levels recorded during the baseline monitoring process at Location A by 5 dBA and 2 dBA respectively during the daytime and night-time and 1 dBA lower during the evening noise survey. Increases of 4 dBA were recorded in the daytime, and increases of 10 dBA and 9 dBA were recorded in the evening and night-time at respectively at Location F.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the September 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that LA90 noise levels were generally similar (within 1 dBA) or lower than those recorded during June 2012 at Location A, F, L and D. Increases of 3 dBA were recorded during the daytime period and decreases of 6 dBA and 2 dBA were recorded respectively during the evening and night-time monitoring periods at Location G.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA90 noise levels were generally similar (within 2 dBA) or lower than those recorded in 2011 at locations A, F and L.

Increases of 4 dBA in the LA90 noise levels were recorded at location G during the daytime and night-time periods with a decrease of 5 dBA during the evening. It is considered that this is likely due to the impact of local insects and frog activity.

Given that no data was available at Location D during the September 2011 quarter, no comparisons can be made.

Ambient LA_{10} Noise Levels

The summary of results in **Table 25** show that ambient LA10 noise levels recorded for the quarter ending September 2012 were 7 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime and 3 dBA higher during the evening and night-time. At Location A LA10 noise levels were 3 dBA and 1 dBA higher during the daytime and night-time periods and 2 dBA lower during the evening period.

Given that no data was available at Locations G, L and D during baseline measurements and no monitoring was conducted at Location K during the June 2012 quarter no comparisons can be made.

A comparison of the current monitoring period with the previous monitoring period shows that recorded LA10 noise levels at all monitoring locations were similar (within 4 dBA) or lower to those recorded in June 2012.

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that LA10 noise levels were similar (within 3 dBA) or lower than those recorded in June 2011 at location A, F, G and L.

Given that no data was available at Location D during the September 2011 quarter, no comparisons can be made.

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Results of Attended Surveys

Monday 12th December – Wednesday 21nd December 2011

Operator attended noise measurements were conducted on Monday 12 December 2011, Thursday 15 December 2011 and Wednesday 21 December 2011. The results of the operator attended noise measurements are given in **Tables 26 to 30**. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations. Mine contributions listed in the tables are from Donaldson Mine and are stated only when a contribution could be quantified.

TABLE 26: ATTENDED SURVEY RESULTS – LOCATION A - 98 WEAKLEYS DRIVE BERESFIELD.

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
12/12/2011 14:05 W = Calm Temp = 22°C Cloud cover = 8/8	Daytime Ambient	72	63	57	50	55	Road Traffic (Weakleys Dr) ~ 50-55 Local industry ~ 55 Geese ~ 52 Door slam ~ 72 Donaldson inaudible
21/12/2011 21:10 W = Calm Temp = 20°C Cloud cover = 6/8	Evening Ambient	78	71	66	52	62	Road Traffic ~ up to 78 Birds/Insects ~ 50 Donaldson inaudible
21/12/2011 21:10 W = Calm Temp = 20°C Cloud cover = 6/8	Evening Ambient	78	71	66	52	62	Road Traffic ~ up to 78 Birds/Insects ~ 50 Donaldson inaudible

TABLE 27: ATTENDED SURVEY RESULTS – LOCATION F – LOT 684 BLACK HILL ROAD, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
12/12/2011 15:10 W = 1-2 m/s SE Temp = 23°C Cloud cover = 6/8	Daytime Ambient	86	81	68	47	67	Traffic (John Renshaw Dr) ~ up to 66 Traffic (Black Hill Rd) ~ up to 86. Insects ~ 47 Donaldson mine ~ inaudible.
21/12/2011 20:30 W = Calm Temp = 20°C Cloud cover = 6/8	Evening Ambient	75	64	57	51	56	Traffic (John Renshaw Dr) ~ 75 Crickets/insects/frogs ~ 52 Donaldson track slap just audible in lulls – not measureable
21/12/2011 23:10 W = Calm Temp = 20°C Cloud cover = 8/8	Night-time Ambient	70	62	56	50	54	Traffic (John Renshaw Dr) ~ up to 70. Crickets/insects/frogs ~ 48-50. Donaldson inaudible

TABLE 28: ATTENDED SURVEY RESULTS – LOCATION G – 156 BUCHANAN ROAD, BUCHANAN

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
12/12/2011 14:30 W = 1-2 m/s SE Temp = 22°C Cloud cover = 8/8	Daytime Ambient	59	52	45	38	43	Distant Traffic (Buchannan Rd) ~ up to 46, Birds/insects ~ 38-46 Operator noise ~ 59. Other mine noise occasionally just audible in lows ~ 39 Donaldson inaudible
21/12/2011 19:30 W = 1 m/s SE Temp = 22°C Cloud cover = 6/8	Evening Ambient	71	51	44	38	43	Road Traffic (Buchannan Rd) ~ 39-50 Insects/crickets ~ up to 42 Kookaburras ~ 50 Operator noise ~ 71 Other mine noise ~ 39 Donaldson Inaudible
21/12/2011 22:20 W = Calm Temp = 21°C Cloud cover = 8/8	Night-time Ambient	68	51	46	41	44	Frogs/Insects ~ 42-50 (dominant). Operator noise ~ 68. Distant road traffic ~ 43. Aircraft ~ 50-53 Other mine noise just discernible in lulls Donaldson inaudible

TABLE 29: ATTENDED SURVEY RESULTS – LOCATION L - 17 KILSHANNY AVE, ASHTONFIELD

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
15/12/2011 10:20 1-3 m/s E Temp = 23°C Cloud cover = 5/8	Daytime Ambient	74	61	48	41	49	Distant road traffic ~ 41, Road traffic ~ 74, Leaf rustle~ 51, Residential noise ~43. Donaldson ~ Inaudible
21/12/2011 19:00 W = 3 m/s SE Temp = 22°C Cloud cover = 4/8	Evening Ambient	60	51	48	44	46	Distant road traffic ~ 44 Leaf rustle ~ 45-52 Residential grinding ~ 46 Operator noise ~ 60 Other mining noise ~ 44 Donaldson inaudible
21/12/2011 22:00 W = Calm Temp = 20°C Cloud cover = 6/8	Night-time Ambient	74	60	52	39	51	Distant road traffic ~ 54, Residential xmas music ~ 40 Birds/insects ~ 53. Other mine noise occasionally just audible in lulls ~ 36 Donaldson inaudible

TABLE 30: ATTENDED SURVEY RESULTS – LOCATION D – BLACK HILL SCHOOL, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
15/12/2011 11:45 W = Calm Temp = 23°C Cloud cover = 4/8	Daytime Ambient	85	68	59	49	59	Road Traffic ~ 80 Birds/Insects ~ 49 Construction at school ~ 60-85 Donaldson inaudible
21/12/2011 20:50 W = Calm Temp = 20oC Cloud cover = 6/8	Evening Ambient	73	66	58	45	56	Road Traffic ~ 73 Insects/frogs ~ 56-58 Distant road traffic just audible Donaldson inaudible
21/12/2011 23:30 W = Calm Temp = 20°C Cloud cover = 6/8	Night-time Ambient	78	70	56	39	56	Road Traffic ~ 78 Distant road traffic ~ 43 Frogs/insects ~ 49-57 Donaldson inaudible

Noise generated by local and distant traffic was a significant contributor to noise levels at all monitored locations as well as "natural" noise such as birds, insects and leaf rustle.

Donaldson Mine operations were observed to be audible at Location F Black Hill Road during the evening period. Donaldson Mine operations were inaudible at all other locations.

The estimated Donaldson contribution at Location F during the evening was approximately L_{A10} 41 dBA respectively. This is a minor (1 dBA) exceedence of the consent noise limits, however, Location F is now a mine owned property and therefore the noise limits do not apply in accordance with Condition 15 of the consent conditions.

Based on the results and observations from operator attended surveys, it is likely that contributed noise levels from Donaldson Mine comply with noise emission goals for all periods.

Wednesday 14th March and Wednesday 26th March 2012

Operator attended noise measurements were conducted during the daytime on Wednesday 14 March 2012, during the evening on Monday 26 March 2012 and during the night-time on Monday 26 March 2012. All operator attended noise surveys were conducted using a Brüel & Kjær 2231 Type 1, integrating sound level meter (s/n: 1221076).

The results of this survey are presented in **Tables 31-35.** Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

Mine contributions listed in the tables are from Donaldson Mine and Abel Coal Mine and are stated only when a contribution could be quantified.

TABLE 31: ATTENDED SURVEY RESULTS – LOCATION A - 98 WEAKLEYS DRIVE BERESFIELD

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
14/03/2012 11:00 W = Calm Temp = 25°C Cloud cover = 4/8	Daytime Ambient	70	66	59	50	57	Road Traffic (Weakleys Dr) ~ 65-70 Local industry ~ 70 Insects ~ 52 Donaldson inaudible
26/03/2012 18:30 W = 1 m/s E Temp = 22°C Cloud cover = 3/8	Evening Ambient	78	74	68	53	65	Road Traffic ~ up to 78 Birds/Insects ~ 50-54 Distant Traffic ~ 49 Donaldson inaudible
27/03/2012 00:06 W = Calm Temp = 27°C Cloud cover = 2/8	Night-time Ambient	79	72	63	48	60	Road Traffic (Weakleys Dr) ~ 55 – 78 Distant Traffic ~ 42-54 Insects ~ 46-46 Donaldson inaudible

TABLE 32: ATTENDED SURVEY RESULTS – LOCATION F – LOT 684 BLACK HILL ROAD, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
14/03/2012 14:15 W = Calm Temp = 26°C Cloud cover = 7/8	Daytime Ambient	99	83	65	48	70	Traffic (John Renshaw Dr) ~ 55-99 Traffic (Black Hill Rd) ~ up to 74. Distant Road Traftic ~50 Insects/Birds ~ 50 Donaldson mine ~ inaudible.
26/03/2012 19:04 W = 0.5m/s E Temp = 21°C Cloud cover = 5/8	Evening Ambient	67	62	60	43	55	Traffic (John Renshaw Dr) ~ 45-63 Crickets/insects/frogs ~ 40-51 Leaves Rustling ~ 38-40 Dozer TS at the end <38~44
		Estimated Donaldson LAeq Contribution~ 40 dBA					
26/03/2012 23:42 W = Calm Temp = 17°C Cloud cover = 0/8	Night-time Ambient	67	58	52	47	50	Traffic (John Renshaw Dr) ~ up to 56. Crickets/insects/frogs ~ 45-52. Local Traffic ~ 65 Mines audible ~ <40-45
		Estimated Donaldson LAeq Contribution ~ 40 dBA					

TABLE 33: ATTENDED SURVEY RESULTS – LOCATION G – 156 BUCHANAN ROAD, BUCHANAN

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
14/03/2012 13:05 W = Calm Temp = 26°C Cloud cover = 5/8	Daytime Ambient	79	62	50	41	52	Distant Traffic ~ 45 Residential Road Traffic – 77. insects ~ 47-51. Donaldson inaudible
26/03/2012 21:45 W = Calm Temp = 19°C Cloud cover = 0/8	Evening Ambient	59	58	56	46	51	Road Traffic ~ 52-56 Dist Traffic ~ 38-45 Insects/crickets ~ 43-55 Donaldson in audible Mine Noise ~ 33
26/03/2012 22:00 W = Calm Temp = 19°C Cloud cover = 0/8	Night-time Ambient	59	58	57	47	53	Frogs/Insects ~ 46-58 (dominant). Distant road traffic ~ 38-48. Aircraft ~ 50 Traffic ~ 48-58 Mine Noise - <30 Donaldson inaudible

TABLE 34: ATTENDED SURVEY RESULTS – LOCATION L - 17 KILSHANNY AVE, ASHTONFIELD

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
14/03/2012 12:35 Wind: Calm Temp = 25°C Cloud cover = 4/8	Daytime Ambient	65	55	44	<30	43	Distant road traffic ~ 44, Insects~ 43-49, Donaldson ~ Inaudible
26/03/2012 20:15 W = Calm Temp = 19°C Cloud cover = 2/8	Evening Ambient	83	64	51	46	56	Distant road traffic ~ 43-53 Insects ~ 46-52 Local Disturbance ~ 53 Local Traffic ~ 74-82 Plane ~ 55 Donaldson inaudible
26/03/2012 22:37 W = Calm Temp = 17°C Cloud cover = 0/8	Night-time Ambient	77	59	50	45	52	Distant road traffic ~ 40-45, Birds/insects ~ 49-51. Local Traffic ~ 77 Jet ~ 52-60 Donaldson inaudible

TABLE 35: ATTENDED SURVEY RESULTS – LOCATION D – BLACK HILL SCHOOL, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels L_{Amax} – dBA
		L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	
14/03/2012 11:30 W = Calm Temp = 23°C Cloud cover = 4/8	Daytime Ambient	73	69	53	41	55	Road Traffic ~ 73 Birds/Insects ~ 47-49 school Noise ~45 Donaldson inaudible
26/03/2012 19:05 W = Calm Temp = 23°C Cloud cover = 7/8	Evening Ambient	78	64	60	46	57	Road Traffic ~ 66-77 Insects/Birds ~ 48-60 Distant road traffic ~ 48-58 Donaldson inaudible
26/03/2012 23:18 W = Calm Temp = 17°C Cloud cover = 0/8	Night-time Ambient	59	53	49	44	47	Distant road traffic ~ 49-59 Frogs/insects ~ 43-47 Animals ~ 44-52 Donaldson Audible~ <37
		Estimated Donadson LAeq Contribution ~ 37					

Noise generated by local and distant traffic was a significant contributor to noise levels at all monitored locations as well as "natural" noise such as birds, insects and leaf rustle.

Donaldson Mine operations were observed to be audible at Location F Black Hill Road during the evening period and at Location F Black Hill Road and Location D Black Hill School during the night time period. Donaldson Mine operations were inaudible at all other locations.

The estimated Donaldson contribution at Location F during the evening was approximately L_{Aeq} 40 dBA. This is within the consent noise limits.

The estimated Donaldson contribution at Location F and Loaction D during the night was approximately L_{Aeq} 40 dBA and 37dBA respectively. This is within the consent conductions with the exception of Location F which is now a mine owned property and therefore the noise limits do not apply in accordance with Condition 15 of the consent conditions.

Based on the results and observations from operator attended surveys, it is likely that contributed noise levels from Donaldson Mine comply with noise emission goals for all periods.

Thursday 14th June - Tuesday 19th June 2012

Operator attended noise measurements were conducted during the daytime on Thursday 14 June 2012 and Tuesday 19 June 2012, during the evening on Monday 18 June 2012 and during the night-time on Monday 18 June 2012.

The results of the operator attended noise measurements are given in **Tables 36-40**. Noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations. Mine contributions listed in the tables are from Donaldson Mine and are stated only when a contribution could be quantified.

TABLE 36: ATTENDED SURVEY RESULTS – LOCATION A - 98 WEAKLEYS DRIVE BERESFIELD.

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
19/06/2012 11:00 W = 2 m/s NW Temp = 21°C Cloud cover = 0/8	Daytime Ambient	64	59	56	52	54	Birds ~ 53 – 64 Logging Machinery ~ 54 – 60 Traffic ~ 59 – 63 Donaldson Mine - Inaudible
18/06/2012 18:20 W = Calm Temp = 11°C Cloud cover = 0/8	Evening Ambient	85	79	73	58	70	Local Traffic ~ 74-83 Distant Traffic ~ 50 Crickets ~ 48 Donaldson Mine - Inaudible
19/06/2012 00:41 W = Calm Temp = 8°C Cloud cover = 0/8	Night-time Ambient	86	80	67	42	66	Traffic ~ 67-74 Truck ~ 78-85 Crickets ~ 38 Distant Traffic ~ 44 – 47 Donaldson Mine - Inaudible

TABLE 37: ATTENDED SURVEY RESULTS – LOCATION F – LOT 684 BLACK HILL ROAD, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
19/06/2012 15:18 W = 1 m/s W Temp = 21°C Cloud cover = 0/8	Daytime Ambient	73	69	61	48	58	Local Traffic ~ 64-72 Frogs ~ 42 Bird ~ 56 John Renshaw Drive Traffic ~ 56 – 68 Trees rustling ~ 41 Donaldson Mine - Inaudible
18/06/2012 19:10 W = Calm Temp = 10°C Cloud cover = 0/8	Evening Ambient	79	70	58	47	58	John Renshaw Drive Traffic ~ 58-62 Crickets ~ 47 Bird ~ 54 Operator ~ 54 Donaldson Mine ~ 37
		Estimated Donaldson LAeq Contribution~ 37 dBA					
19/06/2012 00:24 W = 0.5 m/s NW Temp = 6°C Cloud cover = 0/8	Night-time Ambient	58	53	49	44	47	Crickets/Insects ~ 49-51 Local Traffic ~ 53-57 Animal ~ 50 Bird ~ 50-51 Operator Noise ~ 57 Donaldson Mine ~ 40-49
		Estimated Donaldson LAeq Contribution ~ 34 dBA					

TABLE 38: ATTENDED SURVEY RESULTS – LOCATION G – 156 BUCHANAN ROAD, BUCHANAN

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
14/06/2012 11:07 W = Calm Temp = 18°C Cloud cover = 4/8	Daytime Ambient	63	58	47	35	45	Birds ~ 50-53 Local Noise ~ 45 Plane ~ 32-42 Distant traffic ~ <30 Frogs ~ 35-43 Helicopter ~ 55-62 Donaldson Mine - Inaudible
18/06/2012 21:43 W = Calm Temp = 6°C Cloud cover = 0/8	Evening Ambient	56	46	43	36	40	Distant Traffic ~ 45-46 Insects ~ 42 – 47 Dog ~ 30 Frogs ~ 38 Operator ~ 53 Donaldson Mine - Inaudible
18/06/2012 22:00 W = Calm Temp = 19°C Cloud cover = 0/8	Night-time Ambient	56	46	44	36	40	Crickets ~ 45-47 Distant Traffic ~ 41-43 Dog ~ 30 Operator ~ 47 Reversing Alarm ~ 44 Donaldson Mine - Inaudible

TABLE 39: ATTENDED SURVEY RESULTS – LOCATION L - 17 KILSHANNY AVE, ASHTONFIELD

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
19/06/2012 14:07 Wind: 1 m/s NW Temp = 21°C Cloud cover = 0/8	Daytime Ambient	86	64	45	37	57	Door Slam ~ 47 Birds ~ 43-60 Trees Rustling ~ 34 Car ~ 85 Banging ~ 49-57 Distant Traffic ~ 40 Construction ~ 45 Saw ~ 41 Donaldson Mine - Inaudible
18/06/2012 20:25 W = Calm Temp = 7°C Cloud cover = 0/8	Evening Ambient	72	52	46	40	46	Insects/Crickets ~ 40 Distant Traffic ~ 43-44 Local traffic 72 Operator ~ 45 Plane ~46 – 49 Mine Operation ~ 38-50 Donaldson Mine - Inaudible
18/06/2012 22:30 W = 1 m/s NW Temp = 8°C Cloud cover = 0/8	Night-time Ambient	68	55	41	37	45	Truck ~42-43 Mine Operation ~ 35 – 42 Crickets/insects ~ 31 Operator ~ 51 Birds ~ 36 Local Traffic ~ 68 Distant Tr Donaldson Mine - Inaudible affic ~ 42 Donaldson Mine - Inaudible

TABLE 40: ATTENDED SURVEY RESULTS – LOCATION D – BLACK HILL SCHOOL, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
19/06/2012 15:42 W = Calm Temp = 22°C Cloud cover = 0/8	Daytime Ambient	81	75	64	45	62	Truck ~ 75 – 78 Local Traffic ~ 71 – 78 Birds ~ 55 Distant Traffic ~ 36 Children ~ 52 Bus ~ 80 Tradesmen~ 52 – 74 Dog ~ 55-79 Plane ~ 56 Donaldson Mine - Inaudible
18/06/2012 18:47 W = Calm Temp = 10°C Cloud cover = 0/8	Evening Ambient	77	68	54	40	54	Local Traffic ~ 48-76 Unidentified Industry ~ 36 Car Door ~ 56 Gate ~ 51 Dog ~ 42 Vacuum ~ 45 School students/parents ~ 51 Crickets ~ 34 Truck ~ 48-53 Cow ~ 43 Donaldson Mine ~ 49
		Estimated Donadson LAeq Contribution ~ 36					
18/06/2012 23:48 W = 1 m/s NW Temp = 6°C Cloud cover = 0/8	Night-time Ambient	57	47	45	40	43	Unidentified Industry ~ 36 Birds ~ 33 Operator ~ 57 Insects ~ 35 Stick Falling ~ 47 Cow ~ 44 Donaldson Mine ~ 47-50
		Estimated Donadson LAeq Contribution ~ 36					

Noise generated by local and distant traffic was a significant contributor to noise levels at all monitored locations as well as "natural' noise such as birds, insects and leaf rustle.

Donaldson Mine operations were observed to be audible at Location D Black Hill School and Location F Black Hill Road during the evening and night time periods. Donaldson Mine operations were inaudible at all other locations.

The estimated Donaldson Contribution at Location D and Location F during the evening was approximately LAeq 36 dBA and 37 dBA respectively. This is within the consent noise limits.

The estimated Donaldson contribution at Location D and Location F during the night was approximately LAeq 36 dBA and 34 dBA. This is within the consent conditions.

Based on results and observations from operator attended surveys, it is likely that the contributed noise levels from Donaldson Mine comply with noise emission goals for all periods.

Monday 3rd September - Wednesday 5th September 2012

Operator attended noise measurements were conducted during the daytime on Monday 3 September 2012 and Wednesday 5 September 2012, during the evening on Monday 3 September 2012 and during the night-time on Monday 3 September 2012.

The results of the operator attended noise measurements are given in **Tables 41 to 45**. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations. Mine contributions listed in the tables are from Donaldson Mine and are stated only when a contribution could be quantified.

TABLE 41: ATTENDED SURVEY RESULTS – LOCATION A - 98 WEAKLEYS DRIVE BERESFIELD.

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
03/09/2012 15:36 W = Calm Temp = 23°C Cloud cover = 0/8	Daytime Ambient	73	58	55	49	53	Birds ~ 46 to 56 Operator ~ 53 to 63 Other Industry ~ 50 to 64 Local Traffic ~ 50 to 63 Insects ~ 38 Chickens ~ 52 to 54 Resident ~ 50 to 73 Donaldson Mine - Inaudible
03/09/2012 18:15 W = Calm Temp = 13°C Cloud cover = 0/8	Evening Ambient	87	75	71	58	68	Local Traffic ~ 69 to 85 Distant Traffic ~ 49 Other Industry ~ 47 Donaldson Mine - Inaudible
04/09/2012 00:31 W = Calm Temp = 7°C Cloud cover = 0/8	Night-time Ambient	89	79	66	49	66	Local Traffic ~ 68 to 88 Other Industry ~ 55 Distant Traffic ~ 40 to 41 Birds 48 to 51 Donaldson Mine - Inaudible

TABLE 42: ATTENDED SURVEY RESULTS – LOCATION F – LOT 684 BLACK HILL ROAD, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
05/09/2012 14:51 W = 1.5 m/s NE Temp = 17°C Cloud cover = 0/8	Daytime Ambient	73	68	59	49	57	Local Traffic ~ 72 to 73 Bird ~ 54 to 61 JRD Traffic ~ 60 to 65 Trees rustling ~ 49 Insects ~ 45 Operator ~ 59 Donaldson Mine - Inaudible
03/09/2012 18:38 W = Calm Temp = 13°C Cloud cover = 0/8	Evening Ambient	76	67	55	48	55	JRD Traffic ~ 52 to 57 Local Traffic ~ 67 to 76 Frogs ~ 44 Bird ~ 51 Donaldson Audiable ~ 40 to 41
		Estimated Donaldson LAeq Contribution ~ 37 dBA					
04/09/2012 00:03 W = Calm Temp = 9°C Cloud cover = 0/8	Night-time Ambient	63	56	51	43	48	Crickets/Insects ~ 49-51 Local Traffic ~ 53-57 Animal ~ 50 Bird ~ 50-51 Operator Noise ~ 57 Donaldson Audible ~ 36 to 45
		Estimated Donaldson LAeq Contribution ~ 38 dBA					

TABLE 43: ATTENDED SURVEY RESULTS – LOCATION G – 156 BUCHANAN ROAD, BUCHANAN

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
03/09/2012 16:40 W = 2 m/s SE Temp = 19°C Cloud cover = 0/8	Daytime Ambient	51	45	43	39	41	Birds ~ 43 to 47 Local Traffic ~ 38 to 50 Haul Trucks ~ 37 to 41 Trees rustling ~ 38 Frogs ~ 36 Donaldson Mine - Inaudible
03/09/2012 21:39 W = Calm Temp = 10°C Cloud cover = 0/8	Evening Ambient	51	46	42	34	38	Distant Traffic ~ 44 to 47 Insects ~ 36 Dog ~ <30 Frogs ~ 36 Operator ~ 42 to 44 Donaldson Mine - Inaudible
03/09/2012 22:00 W = Calm Temp = 10°C Cloud cover = 0/8	Night-time Ambient	51	47	39	32	36	Crickets ~ 31 to 34 Frogs ~ 31 Bird ~ 34 Animal ~ 37 Distant Traffic ~ 35 to 51 Operator ~ 41 Donaldson Mine - Inaudible

TABLE 44: ATTENDED SURVEY RESULTS – LOCATION L - 17 KILSHANNY AVE, ASHTONFIELD

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
03/09/2012 16:12 Wind: 0.5 m/s NE Temp = 22°C Cloud cover = 0/8	Daytime Ambient	75	60	47	36	49	Local Traffic ~ 50 to 75 Resident ~ 37 to 65 Plane ~ 44 Birds ~ 43 to 50 Dog Barking ~ 45 Donaldson Mine - Inaudible
03/09/2012 20:14 W = Calm Temp = 12°C Cloud cover = 0/8	Evening Ambient	69	55	43	37	44	Insects/Crickets ~ 36 to 38 Distant Traffic ~ 42 to 47 Local traffic 44 to 68 Stick falling ~ 40 Resident ~ 48 Donaldson Mine - Inaudible
03/09/2012 22:29 W = Calm Temp = 9°C Cloud cover = 0/8	Night-time Ambient	44	39	36	32	34	Insects ~ 32 to 35 Distant Traffic ~ 37 Local Traffic ~ 37 to 44 Dog ~ 40 to 41 Stick ~ 36 Operator ~ 44 Resident ~ 35 Donaldson Mine - Inaudible

TABLE 45: ATTENDED SURVEY RESULTS – LOCATION D – BLACK HILL SCHOOL, BLACK HILL

Date/Start Time Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels LAmax – dBA
		LAmax	LA1	LA10	LA90	LAeq	
05/09/2012 15:17 W = Calm Temp = 22°C Cloud cover = 0/8	Daytime Ambient	80	70	60	45	58	Local Traffic ~ 70 to 80 Trees Rustling ~ 53 to 57 Children ~ 55 to 56 Door Slam ~ 55 Insects ~ 49 Birds ~ 52 to 59 Distant Traffic ~ 43 Donaldson Audible in Lulls ~ 38
		Estimated Donadson LAeq Contribution ~ <35					
18/06/2012 18:47 W = Calm Temp = 10°C Cloud cover = 0/8	Evening Ambient	57	47	45	41	44	Operator ~ 45 Distant Traffic ~ 43 to 51 Frogs ~ 36 Animal ~ 38 to 42 Bang ~ 45 Stick Falling ~ 44 Donaldson Mine ~ 33
		Estimated Donadson LAeq Contribution ~ <33					
03/09/2012 23:45 W = Calm Temp = 7°C Cloud cover = 0/8	Night-time Ambient	53	49	45	37	42	Operator ~ 42 Distant Traffic ~ 49 – 52 Frogs ~ 36 Birds ~ 36 JRD Traffic ~ 34 Stick ~ 43 Donaldson Mine ~ 33 to 34
		Estimated Donadson LAeq Contribution ~ <33					

Noise generated by local and distant traffic was a significant contributor to noise levels at all monitored locations as well as "natural' noise such as birds, insects and leaf rustle.

Donaldson Mine operations were observed to be audible at Location D Black Hill School during the daytime, evening and night time periods and at Location F during the evening and night-time periods. Donaldson Mine operations were inaudible at all other locations.

The estimated Donaldson Contribution at Location D during the day-time was approximately LAeq 33 dBA. This is within the consent noise limits.

The estimated Donaldson Contribution at Location D and Location F during the evening was approximately LAeq 33 dBA and 37 dBA respectively. This is within the consent noise limits.

The estimated Donaldson contribution at Location D and Location F during the night was approximately LAeq 33 dBA and 38 dBA. This is within the consent conductions with the exception of Location F which is now a mine owned property and therefore the noise limits do not apply in accordance with Condition 15 of the consent conditions.

Based on results and observations from operator attended surveys, it is likely that the contributed noise levels from Donaldson Mine comply with noise emission goals for all periods.

Complaints Based Noise Monitoring

There was no complaints based noise monitoring event during the 2012 AEMR reporting period.

3.2.12 Visual and Stray Lighting

Impacts on visual amenity were identified as one of the issues for residents in the Black Hill area during the EIS process. To date there have not been any complaints related to visual impact issues received by the mine. This includes complaints relating to stray lighting.

Control Strategy:

Visual impact is controlled by ensuring that (where possible) the waste emplacement dumps are shielded by the natural topography and trees. Once areas become available, rehabilitation commences as soon as possible to ensure that the visibility of the dumps is reduced.

To this end, the out of pit dump has deliberately been constructed at an appropriate RL to ensure that it cannot be seen from the Black Hill area.

Environmental Performance:

Visual impact and stray lighting is not considered an issue for the Donaldson Coal at the moment. Should it become an issue appropriate controls would be adopted to minimise any impacts.

3.2.13 Cultural and Natural Heritage Conservation

The following section outlines the commitment made by Donaldson to the protection of cultural and natural heritage of the area. A copy of a plan along with a summary table showing the known Aboriginal Cultural heritage sites is attached as **Appendix 3** of this report.

To date thirty-one sites of Aboriginal Cultural Heritage have been identified on property owned by Donaldson Coal. None of these sites were in areas that were impacted on by mining during the 2012 AEMR period.

Archaeological Studies

Donaldson Coal has been the subject of four archaeological studies since 1998. During each study the principle aims have been to:

a) Consult and involve the Aboriginal Community at every stage of the investigation and to provide continuous opportunities for the Aboriginal Community (through the MLC) to participate in the interpretation and decision making process.

b) Identify and record by field survey the material evidence of Aboriginal cultural heritage or locations of potential evidence with the land owned by Donaldson.

c) Assess the archaeological significance and understand the Aboriginal significance of material evidence of Aboriginal cultural heritage of the study area.

d) Assess the impacts of the mine on Aboriginal Cultural Heritage.

Management Plans

In accordance with conditions 84, 85 and 86 of the Development Consent, Donaldson Coal has prepared an Aboriginal Sites Management Plan for the mine. Separate plans are produced for each year of operation at the mine. This provides a better opportunity to address specific issues for each year as well as an opportunity to review and address the management of Aboriginal Sites both inside the mine impact area and within associated conservation areas surrounding the mine.

Control Strategy:

The following control measures have been employed at the Donaldson Coal Mine in order to ensure that reasonable duty of care is taken to ensure sites of aboriginal cultural significance are not knowingly disturbed or destroyed:

a) The MLC is actively involved in the management of Aboriginal Sites at Donaldson;

b) Representatives of the Lands Council are invited on site to monitor clearing and topsoil stripping activities.

Environmental Performance:

Donaldson and MLC enjoy a good working relationship and to date there have been no complaints or incidents recorded in relation to the management of sites of aboriginal cultural heritage.

3.2.14 Spontaneous Combustion

Donaldson has not experienced spontaneous combustion in any of its stockpiles or in the coal seams in the pit itself.

Control Strategy:

Notwithstanding this, the potential for spontaneous combustion is controlled as follows:

- ROM and product coal stockpiles are expected to be of small size and of limited turnaround time;
- Currently the bulk of the coal is pre-sold and as such is not required to be stockpiled for periods longer than two (2) months;
- The pit geologist is responsible for inspecting coal stockpile areas and reporting any evidence of obvious heating or spontaneous combustion;
- Coal stockpiles will be sprayed with water, particularly in hot, dry weather;
- Care is taken to ensure coal stockpiles are established in clear, open areas where the threat from bushfire is minimal;

- Should coal on the stockpile begin to combust, it will be removed using earthmoving equipment readily available at the mine and quenched using the sprays from the water cart; and

- Should occurrences become frequent, stockpiles will be shaped and compacted as required to minimise spontaneous combustion.

Where the decision is made to spoil thin coal seams the pit geologist is responsible for making the contractor aware of the possibility for spontaneous combustion and is to ensure that the material is placed over a dump face where it will be buried.

Environmental Performance:

There have been no recorded incidents of spontaneous combustion during the reporting period.

3.2.15 Bushfire

A Bushfire Management Plan was prepared in 2004 for the areas owned by Donaldson Coal. This includes both those areas to be disturbed by mining activities and the area set-aside as conservation areas. The management plan was submitted to the NSW Rural Fire Service (RFS) for review and part of the review involved a site inspection by the RFS. The Cessnock/Maitland Bushfire Management Committee ratified the Bush Fire Management Plan for the Donaldson Coal site at its meeting in October 2006. The Bushfire Management Plan takes into consideration the requirement for hazard reduction burns, natural fire regime and the need to maintain the ecological value of the site for flora and fauna.

Control Strategy:

Donaldson Coal operates a 38,000L water cart for dust suppression on site. The water cart is fitted with a monitor (spray) which can be used as required to control fires on site. In addition, earthmoving equipment can be provided at short notice to construct fire breaks or access.

A 20m fuel free and 15m fuel reduced zone has been established around the Donaldson Coal administration office in accordance with the requirements of the Cessnock City Council.

Care is to be taken to ensure fires (both those lit accidentally or deliberately) are kept out of areas that have been recently revegetated. Fire management trails will be established to provide access into these areas as well as fire breaks should they be required. In addition, care will be taken to keep fire out of the active pit area, or run of mine stockpiles and overburden emplacement areas. This is to ensure that the risk of any carbonaceous material catching alight is kept to an absolute minimum.

A hazard burn reduction was undertaken during the 2009 AEMR period. In April 2009, the Rural Fire Service completed a controlled burn off along the Hunter Water Corporation water pipeline. Hazard reduction will again be considered in the next AEMR reporting period as determined by the Bushfire Management Plan and the advice of the local RFS office. The program will maintain reduced fuel loading and protect mine assets and adjoining private properties.

A fuel loading reduction was undertaken during the 2011 AEMR period. The area around the Donaldson Coal Administration and Donaldson Open Cut offices was cleared using a trittering machine in accordance with an approval from the Rural Fire Service.

Environmental Performance:

There were no reported fires on Donaldson Coal property during the period of this report.

3.2.16 Mine Subsidence

Mine subsidence is not considered an issue at Donaldson Coal Mine because the mine is by open cut methods only.

3.2.17 Public Safety

Donaldson has fenced the eastern and southern boundaries of the mining lease, which are the most accessible to the public.

Sign-posting advising the public of the presence of the mine have been placed at the entrance and around the perimeter of the lease. The fences are inspected on a weekly basis and repairs undertaken where necessary.

3.3 REPORTABLE INCIDENTS

There were no externally reportable environmental incidents recorded at the mine during the reporting period.

4 COMMUNITY RELATIONS

This section details the various aspects of the community relations program at the mine, including but not limited to, complaints received on the community hotline, community liaison, detail on the Community Consultative Committee (CCC) and the social and economic benefits resulting from the presence of the mine in the area.

4.1 ENVIRONMENTAL COMPLAINTS

There were zero (0) complaints received by Donaldson Coal on the 1800 111 271 community hotline during the 2012 AEMR reporting period, with four (4) received in the previous AEMR reporting period. Information about the complaints is provided in **Appendix 4**. All complaints are followed up and remedial or additional monitoring is undertaken as required.

4.2 COMMUNITY LIAISON

The following section relates specifically to information relevant to the Community Consultative Committee (CCC) and the community liaison program implemented by the mine.

4.2.1 Community Consultative Committee (CCC).

There were no CCC meetings held at the Donaldson Mine site during the 2012 AEMR reporting period.

4.2.2 Site Tours/Inspections

The CCC did not inspect the mine during the 2012 AEMR period.

4.2.3 Community Newsletters

There were no community newsletters prepared in the 2012 AEMR reporting period, however a Community Noticeboard has been established on the Donaldson Coal Internet Site which has proven to be successful and is the preferred avenue for communicating information about the mining operations to the local community and any other interested parties.

4.2.4 Donaldson Coal Internet Site (www.doncoal.com.au)

The Donaldson Coal Internet site was launched in August 2000. It has since been reviewed and improved, with additional information and a site upgrade in August 2004. The site has been developed to provide information to the wider community. It contains up to date copies of the CCC meeting minutes, a Community Noticeboard, Donaldson news and updates, the most recent Environmental Monitoring Report, pictures of the mine and general information. It also contains a list of contact details should anyone wish to contact the mine directly either by telephone or e-mail.

4.3 SOCIAL/ECONOMICAL CONTRIBUTIONS

This section details the employment status and demographics for all staff employed both directly and indirectly at the Donaldson Coal Mine. It is important to note that Donaldson operates only a day and afternoon shift roster for overburden and interburden removal. Coal removal is undertaken on all shifts (including night shift). Should the option to operate overburden and interburden on a night shift be taken up, the employee numbers would increase.

4.3.1 Employment Status and Demography

Donaldson Coal directly employs or contracts 10 staff mainly within a technical services and management/supervision role. **Table 47** shows the breakdown of numbers for key functional areas as well as the percentage living in the Maitland Area.

TABLE 47: SUMMARY OF DONALDSON COAL EMPLOYEE STATISTICS

Functional Area:	No.	Place of Residence
Management	3	Maitland (33%), Other (66%)
Environmental	1	Other (100%)
Technical Services	6	Maitland (50%), Other (50%)

Donaldson Coal Pty Ltd currently directly employs 69 full-time employees in the production, maintenance and management areas. **Table 48** shows the breakdown of numbers for key functional areas as well as the percentage living in the Maitland Area.

TABLE 48: SUMMARY OF OPEN CUT EMPLOYEE STATISTICS

Functional Area:	No.	Place of Residence
Management/Supervisor	9	Maitland (44%), Other (56%)
Maintenance/Production	60	Maitland (32%) Other (68%)

In addition to those directly employed by either Donaldson there are a large number of additional sub contractors employed indirectly at the project. They include, but are not limited, the following areas:

a) Coal Haulage (Daily);

b) Coal Handling and Washing (Daily);

c) Maintenance contractors and fitters (Daily as required);

d) Cleaning staff;

e) Other consultants and contractors (as required).

4.3.2 Roll-on Employment Effects

The initial studies undertaken as part of the EIS detailed the importance of the coal mining industry to the economy of New South Wales. Donaldson Coal mine came on stream during a period where some of the mines in the upper valley were downsizing and offering redundancies. This has enabled a number of skilled workers an opportunity that may have otherwise not been available.

In addition there has been the roll on effect. The EIS used a multiplier (3.09) derived from the Australian Bureau of Statistics in order to calculate the roll on benefit of the operation. Based on the current numbers of direct employees (day and afternoon shift) it could be expected that up to the equivalent of an additional 244 jobs have been created as a result of the project taking place.

4.3.3 Value Adding Programs Directly Benefiting the Community

Donaldson Coal has also made a number of contributions to the local community. Donaldson has undertaken the following activities during the reporting period.

- Donaldson continues to be the major sponsor of an education initiative for local primary schools in the Maitland and surrounding area aimed at providing teaching resource aids, placing the local Maitland Mercury (newspaper) in Classrooms;

- Small financial contributions have been made to various local community based organisations in the area surrounding the mine.

- Donaldson has provided an avenue for training and employment for five individuals from the local Mindaribba Aboriginal Lands Council

5 REHABILITATION

This section describes the current rehabilitation activities during the reporting period at the Donaldson Coal Mine.

5.1 BUILDINGS

There were no changes to site buildings during this reporting period.

5.2 REHABILITATION OF DISTURBED LAND

It is proposed to re-establish a cover of native forest vegetation to the majority of the post-mining landform.

During the reporting period a total of 0 hectares were rehabilitated. Rehabilitation includes the provision of drainage controls to provide a stable landform in line with MOP requirements.

5.2.1 Management of Potentially Acid Material

In late 2003 a final report was provided by URS Australia Pty Limited on the management of potentially acidic material. In line with the recommendations, the out of pit dump was limed. A copy of the report was submitted to MR and the final recommendations are implemented in rehabilitation practices. During the 2010/11 AEMR reporting period all areas of rehabilitation were treated following the recommendations of the URS report.

Actions undertaken during the 2012 AEMR period included the continued selective use of the top 7 meters of the upper overburden and interburden strata for capping over the dump areas.

5.3 OTHER INFRASTRUCTURE

Other than those already mentioned in this report, there was some other infrastructure works undertaken during the reporting period. These works included the following:

- Routine maintenance of the fence along John Renshaw Drive
- Repairs undertaken to drains in rehabilitation areas

All works were undertaken in accordance with the requirements of the approved MOP.

5.4 REHABILITATION STATUS AT END OF THE REPORTING PERIOD

The principal area for rehabilitation is the emplacement areas outside of the active mining area known as the Top Dump, in the northern area of the mine. Due to the progression of mining operations less area was available in this AEMR reporting period due to the Top Dump not reaching final landform.

Approximately 0 Ha of rehabilitation was completed in this 2012 AEMR reporting period with a rehabilitation area of 92 Ha planned for 2012-2013. The rehabilitation report for 2012 is provided in **Appendix 7**. The latest rehabilitation plan for October 2013 is provided in **Appendix 8**.

An excellent result from direct tree seeding areas has been obtained by incorporating direct tree seeding with cover crops. This prevents weed growth, provides faster ground stabilisation, less soil erosion and sedimentation issues and has produced good uniform germination of all tree and shrub species. This technique will be continued at Donaldson Coal.

In 2013, the overburden material will continue to be placed in the dumps in a method that is commensurate with the final landform design. The design will minimise the final trim works required to achieve the designed post mining landform. Drainage control and erosion protection measures are being incorporated into the final landform design. This includes, but is not limited to, contour and graded banks, drains and sediment retention basins. Slopes are generally regraded to no greater than 10 degrees. Areas available for rehabilitation will be topsoiled and immediately seeded to reduce the risk of soil erosion.

5.5 REHABILITATION TRIALS AND RESEARCH

In mid 2005 Donaldson mine initiated a field research program incorporating world first biotechnology examining the natural enhancement of drought resistance in native tree species. The research was initiated by Mark Burns of Global Soil Systems and was enthusiastically supported by Donaldson Mine.

The technology centers on the treatment of young trees with a threshold concentration of a naturally occurring plant compound, by treating tubestock and seed with citric acid. Glasshouse trials at Newcastle University and the University of British Columbia, Canada showed dramatic improvement in both fine root development and the ability of trees to reduce water loss when subject to drought stress. Preliminary results at Donaldson Mine confirmed these findings and support the possible wider use of this technology in rehabilitation, forestry, agriculture and any plant group where enhanced drought resistance in plants may be beneficial.

5.6 FURTHER DEVELOPMENT OF THE FINAL REHABILITATION PLAN

Donaldson Coal recognises the need to manage rehabilitation of the Open Cut to ensure that the mine can function effectively and operate in accordance with statutory requirements. To this end Donaldson engaged Global Soil Systems (GSS) to prepare a Rehabilitation Management Plan (RMP) in accordance with the coal mining industry's best practice.

The report aims to specifically address rehabilitation in three (3) key areas including pre-mining operations (eg. clearing, seed collection, topsoil management, etc) post mining operations (eg. landform design, visual impact slope angles, water management and revegetation, etc) and mine closure and decommissioning (including but not limited to final void issues).

The rehabilitation strategies and concepts proposed for Donaldson Mine were formulated according to results of industry wide research and experience. All future site and industry research results will be utilised as input into a "cycle of continuous improvement" so that rehabilitation best practice is implemented at the site.

6. ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

The following initiatives by Donaldson Coal are proposed over the next twelve months.

- The Open Cut will continue in a westerly direction.
- The final MOP and Mine Closure plan was submitted to and approved by the Department.

7. DEVELOPMENT CONSENT COMPLIANCE REVIEW

An Independent Environmental Audit of the Donaldson Coal Mine was conducted during May 2010 by the consulting company, Trevor Brown and Associates, to review the compliance of the Donaldson Coal Mine operations with the Minister's Conditions of Consent granted on the 14 October 1999, and the conditions attached to the Notice of Modification granted by the Minister for Planning on 26 August 2005. This compliance review and Audit was required as part of the Conditions of Consent.

The compliance review and Audit was conducted generally in accordance with the Australian/New Zealand Standards AS/NZS ISO 14010:2004 - Guidelines and General Principles for Environmental Auditing; and AS/NZS ISO 14011:2004 – Procedures for Environmental Auditing. The files held by Donaldson Coal at the mine site and interview/discussions with the site personnel provided the auditor with all the required information and documentation for the verification of compliance of the operations with the conditions of approval and other statutory approvals.

A summary of the findings contained in the Independent Environmental Audit Report were:

"In conclusion the audit findings confirm a high degree of compliance with the requirements of the MCoA, Environment Protection Licence and Mining Lease."

8. REFERENCES

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- Holmes Air Sciences (October 2007) ***Air Quality Management Plan***, Unpublished report for Donaldson Coal Pty Ltd.
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- Gunninah (December 2000a) ***Donaldson Open-cut Coal Mine, Tetratheca juncea Management Plan.*** Unpublished Report for Donaldson Coal Pty Ltd.
- Gunninah (December 2000b) ***Donaldson Open-cut Coal Mine Tetratheca juncea survey and identification report,*** Unpublished Report for Donaldson Coal Pty Ltd.
- Global Soil Systems (2000b) ***Donaldson Coal Waste Management Plan***, Unpublished report completed by Donaldson Coal.
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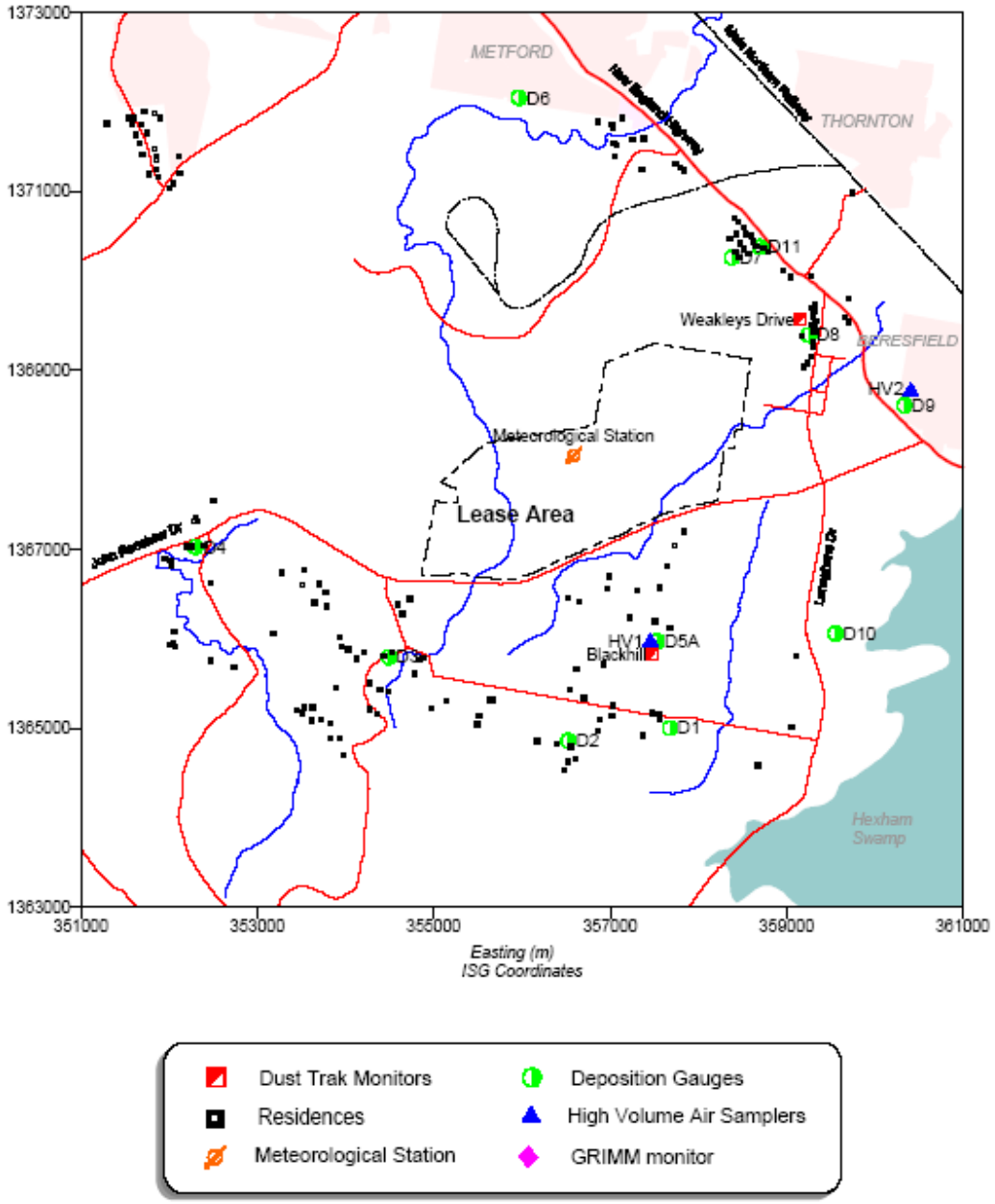
- Richard Heggies & Associates Pty Ltd (2012b) ***Noise Monitoring Survey, First Quarter 2012, Donaldson Mine***, Unpublished reported completed by Donaldson Coal.
- Richard Heggies & Associates Pty Ltd (2012c) ***Noise Monitoring Survey, Second Quarter 2012, Donaldson Mine***, Unpublished reported completed by Donaldson Coal.
- Richard Heggies & Associates Pty Ltd (2012d) ***Noise Monitoring Survey, Third Quarter 2012, Donaldson Mine***, Unpublished reported completed by Donaldson Coal.
- EcoBiological ***The Experimental Translocation of Tetratheca juncea (tremandraceae) at Donaldson Coal Mine, Beresfield*** *(2007)*, Unpublished report for Donaldson Coal Pty Ltd.
- EcoBiological ***Recolonisation Success of Rehabilitation Works – December 2010*** Donaldson Coal Open Cut Mine, Unpublished report for Donaldson Coal Pty Ltd.
- EcoBiological (2013) ***Annual Survey of the Tetratheca juncea Conservation Area 2012,*** Donaldson Coal Open Cut Mine, Unpublished report for Donaldson Coal Pty Ltd.
- Hunter Eco ***Relocation of Grevillea parviflora subsp. Parviflora,*** *Donaldson Open Cut Mine (2007),* Unpublished report for Donaldson Coal Pty Ltd.

APPENDIX 1:

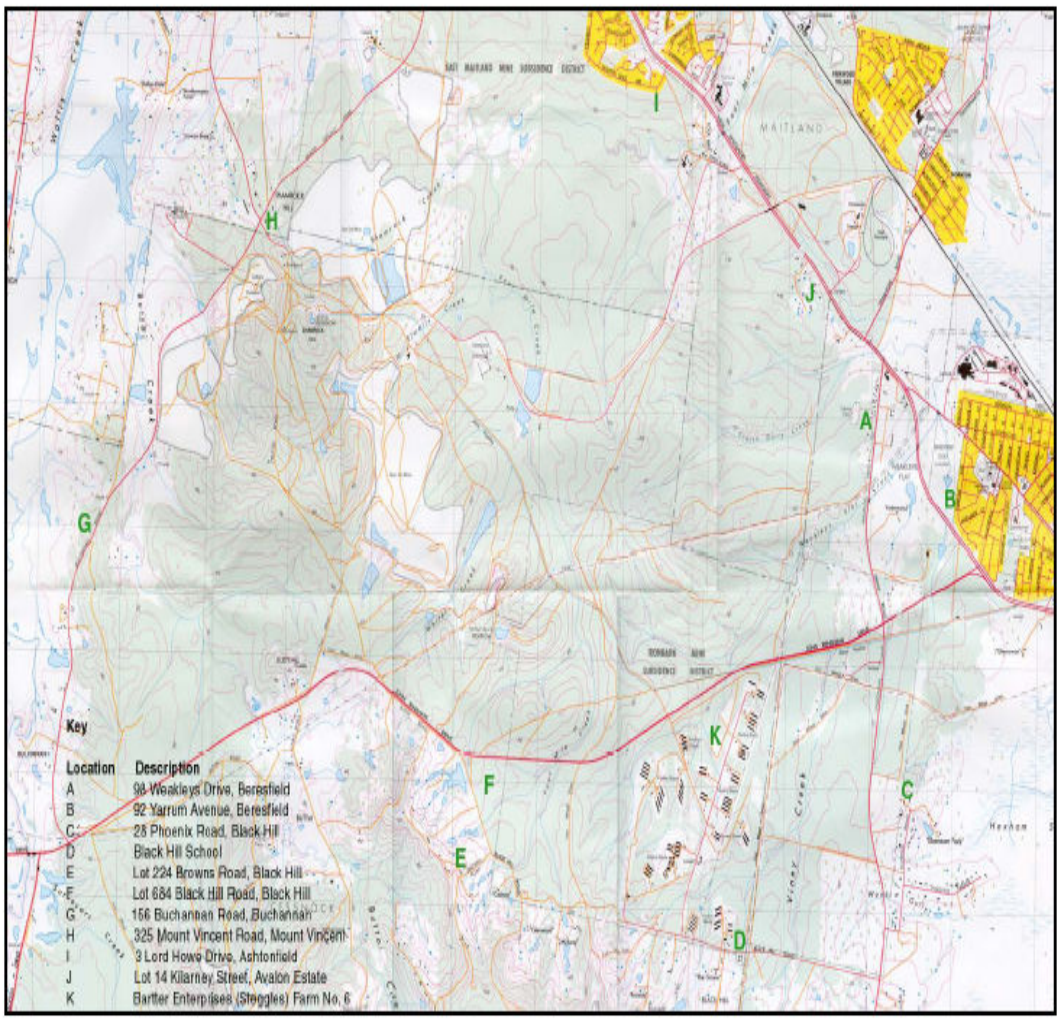
Donaldson Coal
Environmental Policy

APPENDIX 2:

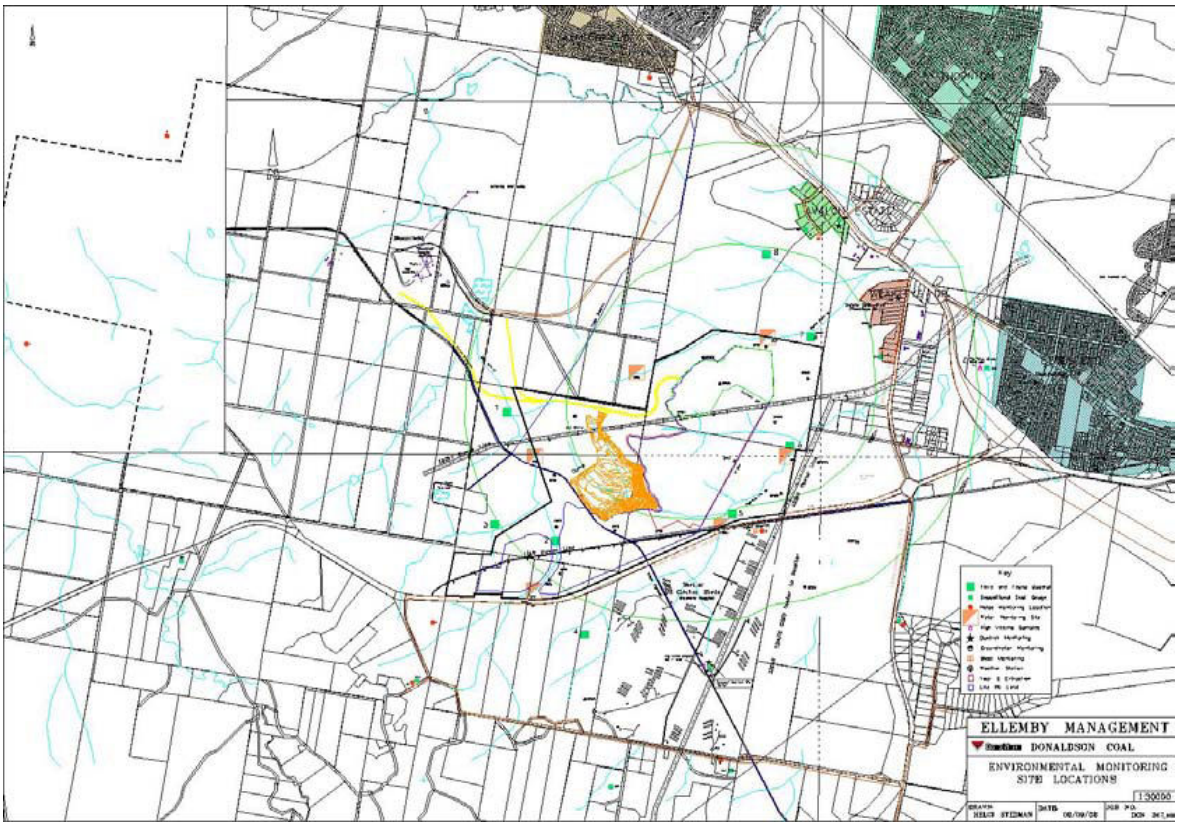
Site Locality Plan and Monitoring Locations



Locations of Air Pollution Monitoring Equipment.



Locations of Noise Monitoring Equipment during the 2012 AEMR period.



Water Monitoring Locations

APPENDIX 3:

Description and Location Plan of known Aboriginal Sites

Aboriginal Sites Within the Donaldson Mine Lease Area

Site Name	Recorder	Location	Description	Comments
Bushland Conservation Area				
FMC3	Effenberger (1997)	368300E 6368900N Bank of Four Mile Creek	Artefact scatter (5 artefacts), one axe grinding groove	
FMC4	Effenberger (1997)	368250E 6368650N Lower slope above Four Mile Creek	Artefact scatter (2 artefacts)	
FMC5	Effenberger (1997)	368500E 6368700N Lower slope above Four Mile Creek	Artefact scatter (2 artefacts)	
FMC6	Effenberger (1997)	368400E 6366100N Upper slope above Four Mile Creek	Artefact scatter (4 artefacts)	
FMC7	Effenberger (1997)	367600E 6366500N Crest between Four Mile Creek and a major tributary	Artefact scatter (3 artefacts)	
FMC8	Effenberger (1997)	367600E 6366850N Upper slope above tributary of Four Mile Creek	Scarred tree	
WFC1	Effenberger (1997)	371200E 6369200N Lower slope above Weakleys Flat Creek	Artefact scatter (3 artefacts)	
ISF3	Umwelt (1998)	368750E 6367650N Lower slope above Four Mile Creek	Isolated find	
ISF4	Umwelt (2001)	370550E 6368625N Mid slope above Weakleys Flat Creek	Isolated find	
Four Mile Creek 1 (38-4-139)	Brayshaw (1985)	368130E 6367020N Bank of Four Mile Creek	Artefact scatter (19 artefacts)	

Four Mile Creek 2 (38-4-140)	Brayshaw (1985)	367820E 6366880N Terrace of Four Mile Creek	Artefact scatter (10 artefacts)	
CA1	Umwelt (2001)	370658E 6368051N Mid slope, south of Weakleys Flat Creek	Isolated find	
CA2	Umwelt (2001)	371132E 6369039N Lower slope, north west of Weakleys Flat Creek	Artefact scatter (2 artefacts)	
CA3	Umwelt (2001)	370985E 6370511N Lower slope above a tributary of Scotch Dairy Creek	Isolated find	
CA4	Umwelt (2001)	369568E 6370040N Mid slope above Scotch Dairy Creek	Isolated find	
CA5	Umwelt (2001)	368391E 6366747N Mid slope, east of Four Mile Creek	Isolated find	
CA6	Umwelt (2001)	368229E 6366592N Lower slope above a tributary of Four Mile Creek	Isolated find	
CA7	Umwelt (2001)	367617E 6366456N Mid slope above Four Mile Creek	Isolated find	
CA8	Umwelt (2001)	370746E 6369747N Lower slope, south of Scotch Dairy Creek	Isolated find	
DMS2	Umwelt (2002)	370966E 6368184N Mid slope, south of Weakleys Flat Creek	Artefact scatter (2 artefacts)	
DMS4	Umwelt (2002)	368649E 6368181N Mid slope, east of Four Mile Creek	Isolated find	

DMS5	Umwelt (2002)	370665E 6368177N Mid slope, south of Weakleys Flat Creek	Isolated find	
DMS6	Umwelt (2002)	370809E 6369721N Mid slope, south of Scotch Dairy Creek	Scarred tree	
Mine Impact Area				
ISF1	(Effenberger 1997)	370500E 6369100N Lower slope above small tributary of Weakleys Flat Creek	Isolated find	Consent to Destroy granted (2002)
ISF2	(Effenberger 1997)	369800E 6368950N Lower slope above tributary of Weakleys Flat Creek	Isolated find	Consent to Destroy granted (2002)
ISF5	Umwelt (2001)	370275E 6368626N Mid slope above Weakleys Flat Creek	Isolated find	Application being prepared for consent to remove
ISF6	Umwelt (2001)	370305E 6368600N Mid slope above Weakleys Flat Creek	Isolated find	Application being prepared for consent to remove
Ironbark 2 (38-4-339)	Ruig (1993)	369190E 6367890N Upper slope above tributary of Weakleys Flat Creek	Isolated find	
DMS1	Umwelt (2002)	369734E 6369122N	Isolated find	Consent to Destroy granted (2002)
DMS3	Umwelt (2002)	369090E 6367962N Mid slope above Four Mile Creek	Isolated find	

APPENDIX 4:

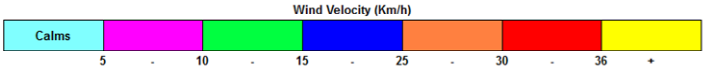
List of Complaints Received by the Mine

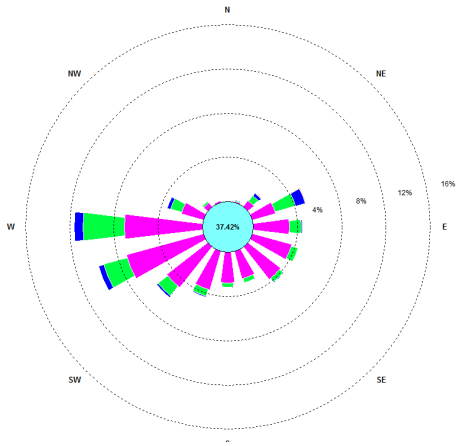
(There were no complaints received in this monitoring period)

APPENDIX 5:

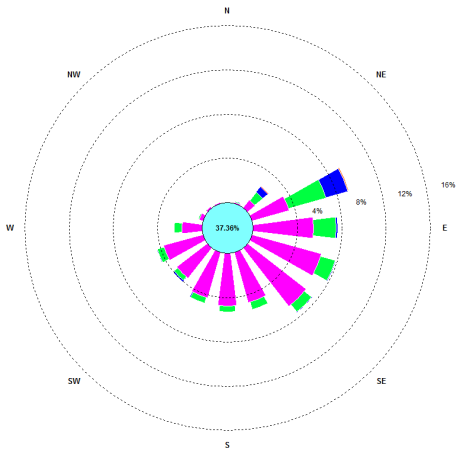
Wind Speed & Direction (Windrose) Diagram for the reporting period.

Annual and seasonal windroses (November 2011 – October 2012)

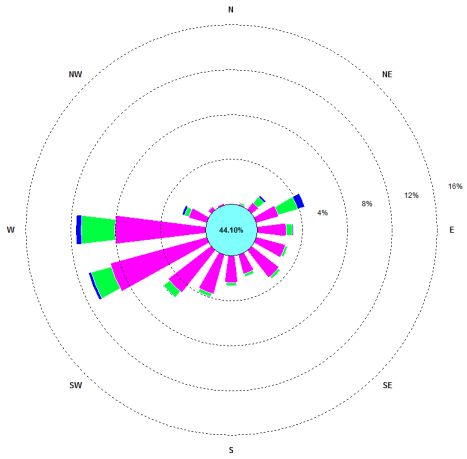




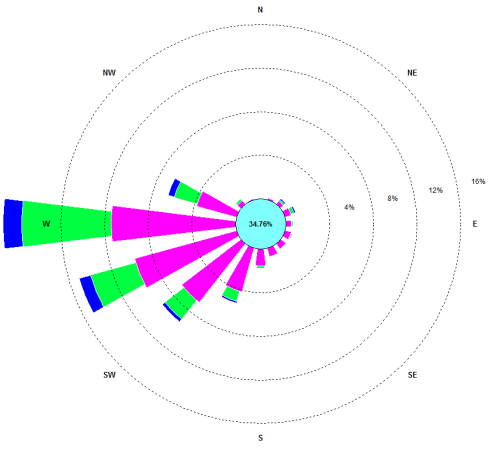
Annual
Calms = 37.4%



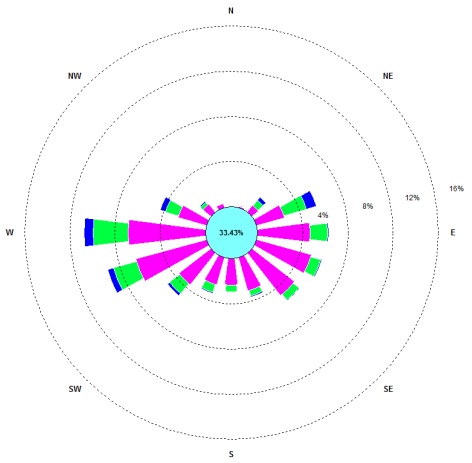
Summer
Calms = 37.4%



Autumn
Calms = 44.1%



Winter
Calms = 34.8%



Spring
Calms = 33.4%

APPENDIX 6:

Donaldson Development Approval Conditions

Condition	Minister's Conditions of Consent (MCoA)	Compliance		Comments/Notes
		Yes	No	
OPERATION OF DEVELOPMENT				
1	(1) Applicant shall carry out the development of the: Development application DA98/01173, dated 13 Feb 1998, lodged with Maitland City Council and DA 118/698/22 dated 19 Feb 1998, lodged with Cessnock City Council and the accompanying Environmental Impact Statement (EIS) dated 10 Feb 1998 and prepared by PPK Environment and Infrastructure, as modified by reports in Schedule 4; Submissions to the Commission of Inquiry by the applicant; Statement of Environmental Effects titled Modification to the approved mining area at the Donaldson Open Cut Cola Mine, Beresfield, dated 10 Nov 2004, and prepared by GSS Environmental; Conditions of this consent. (2) If there is any inconsistency between the above, either the conditions of this consent or the most recent document shall prevail to the extent of the inconsistency. (3) Unless otherwise specifically stated, the conditions of consent do not apply to lot 131 DP 234203 (owned by Steggles Limited at the date of this consent), provided the Deed of Agreement between Steggles Limited and the Applicant is in effect.	YES		The Donaldson Coal project has been developed generally in accordance with the EIS (PPK 1998) and the SEE (GSS 2004), with the mine pits and rehabilitation conducted in accordance with the Mining Operations Plan approved by DPI-Mineral Resources.
2	Except as expressly provided by the Statement of Environmental Effects, dated 10 November 2004, the development shall be restricted as follows: (i) the mine plan in the EIS shall be reduced such that no mining shall be undertaken in any area identified in accordance with these Conditions as a Conservation Area. This includes the Tetratheca Juncea Conservation Area (Condition 68); and (ii) the Applicant shall not clear any land or erect any structures within any Conservation Area without obtaining any further development approval from the Director-General.	YES		The mining area is delineated on the mine plans with the Conservation Area that surrounds the disturbed area of the mine managed for the protection of the vegetation and habitat value. The relocation of the 11kV power line required clearing a small area of the Bushland Conservation Area on the western end of the site and rehabilitation of the existing power line easement. The clearing and rehabilitation of these areas and the adjustment to the boundaries of the Bushland Conservation Area were approved by DoP in Nov 2006.
3	(1) Subject to (2) the approved hours of operation are as follows:	YES		Overburden removal only occurs at the Donaldson Mine on the day and afternoon shifts. Coal extraction and transport to Bloomfield CPP occurs 24 hours per day on an internal haul road. Blasting occurs during day shift only. Closure of John Renshaw Drive occurs in accordance with

				the RTA Road Occupancy Licence. Road closure allowance within the licence for blasting is restricted to 10 minutes for any blast between 0930 and 1430 Monday to Friday and 0700 to 1600 on Saturdays. Blast times are planned to comply with the restrictions in MCoA 3.
	(2) The Applicant shall submit a report to the D-G's satisfaction demonstrating that the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6pm to 10pm. If that report does not demonstrate that the noise limits can be met to the D-G's satisfaction, then the hours of operation for rail loading of coal shall be restricted to 7am to 6pm.	YES		The Noise Report on rail loading at the Bloomfield Coal Loading Facility prepared in 2001, concluded that loading until 10 pm could occur without exceedence of the noise criteria at the surrounding receptors.
4	The Applicant shall comply with any order of the D-G to cease activities causing serious or irreversible environmental concerns, until those concerns have been addressed to the satisfaction of the D-G.	-		Not activated.
COMMENCEMENT AND DURATION				
5	(1) To ensure the employment benefits of this development are realised without delay, the Applicant shall commence mining within two years of the date of this Consent. This does not remove the obligation of the Applicant to comply with any other requirement listed in the Conditions of this Consent. (2) To minimise potential delays to development on adjoining lands, consent for mining shall lapse 11 years from commencement of mining.	YES		Mining commenced on 25 January 2001 (i.e. within 2 years of granting of the Consent) therefore this condition was complied with. Extension of time approved by Department of Planning.
6	The Applicant shall notify the Director-General and the Councils in writing of the dates of commencement of: (i) construction works, (ii) mining, and (iii) coal processing operations, 14 days prior to the commencement of such works.	YES		Donaldson Coal provided written Notification to the Director-General and Councils prior to commencement of construction works, mining and coal processing operations.
7	No construction or mining shall commence until: (i) the relevant compliance reports in Condition 121 have been completed to the satisfaction of the Director-General; and (ii) the Applicant provides evidence to the Director-General of an agreement with the adjoining Bloomfield mine for the use of rail loading infrastructure.	YES		(i) Compliance Reports for construction and mining were prepared and submitted to DUAP prior to commencement of the activities on the site in 2001. (ii) An Initial Agreement between Donaldson Coal and Bloomfield occurred in 2000 for the use of the Bloomfield Washery for processing Donaldson Coal. Continued use of the Bloomfield Washery and rail loading infrastructure in accordance with the Oct 2000 Agreement was approved by the Director-General in 2003 and 2006.

ENVIRONMENTAL OFFICER				
8	The Applicant shall employ an Environmental Officer, whose qualifications are suitable to the Director-General, throughout the life of the mine. The Environmental Officer shall: (i) be responsible for the preparation of the Environmental Management Strategy and environmental management plans; (ii) be responsible for considering and advising on matters specified in the Conditions of this Consent and compliance with such matters; (iii) be responsible for receiving and responding to complaints; (iv) facilitate an induction and training program for all persons involved with construction activities, mining and environmental management activities; and (v) have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, to stop work immediately if an adverse impact on the environment is likely to occur.	YES		Phillip Brown was employed as Environmental Manager in 2003 and Planning NSW was notified on 7 April 2003 as required by MCoA 8.
9	The Applicant shall notify the Director-General, EPA, DLWC, DMR, NPWS, Councils and the Community Consultative Committee (Conditions 107-110) of the name and contact details of the Environmental Officer upon appointment and upon any changes to that appointment.	YES		The Director-General, EPA, DLWC, DMR, NPWS, Councils and the Community Consultative Committee were notified 30 May 2003 by letter of the appointment of Phillip Brown.
ENVIRONMENTAL MANAGEMENT STRATEGY				
10	The Applicant shall prepare an Environmental Management Strategy (the Strategy) for the development, providing a strategic context for environmental management. All environmental management plans required by the Conditions of this Consent shall be consistent with the Strategy. The Strategy shall be prepared in consultation with the relevant authorities and the Community Consultative Committee and to the satisfaction of the Director-General, prior to commencement of construction.	YES		The Environmental Management Strategy was prepared in May 2000 for the Donaldson Mine for construction of the mine and mining operations. Revision of the EMS occurred to integrate the requirements of the Donaldson Mine and the mining contractor to provide a single EMS for the project occurred in 2002. Review and revision of the EMS has occurred as management plans for the Donaldson Coal operations are revised and an integrated Environmental Management Strategy to include the Tasman and Abel Coal projects was approved by DoP on 26 February 2008.

11	The Strategy shall cover the area of mining, the haul road and rail loading facility, and the Conservation Areas. The Strategy shall include: (i) statutory and other obligations which the Applicant is required to fulfil during construction and mining, including all approvals and consultations and agreements required from authorities and other stakeholders, and key legislation and policies; (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to environmental management; (iii) overall environmental management objectives and performance outcomes, during construction, mining and decommissioning of the mine; (iv) overall ecological and community objectives and a strategy for restoration and management;	YES		The Environmental Management Strategy prepared for the Donaldson Mine included sections addressing each of the elements of ISO14001 and the requirements of MCoA 11. The Environmental Management Strategy provides the system and procedures for environmental management of the project and reference to relevant documentation for the implementation and maintenance of the programs by Donaldson Coal at the Donaldson Mine, Tasman Mine and Abel Mine.
12	The Applicant shall make copies of the Environmental Management Strategy available to Councils, EPA, DLWC, NPWS, DMR and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		Copies of the Environmental Management Strategy and revisions prepared for Donaldson Coal projects have been made available to the Councils, DECC, DPI and CCC.
ENVIRONMENTAL MONITORING AND REVIEWING				
13	(1) Except as provided in (2), the Applicant shall provide six-monthly monitoring reports on all environmental monitoring required under this Consent for the first three years of the project and for any further period as may be determined necessary by the Director-General. The reports shall contain interpretations of the monitoring data, and summarise exceedances and action taken. The Applicant shall make copies of the monitoring reports available to the Director-General, DLWC, EPA, DMR, Councils and the Community Consultative Committee, and to NPWS where relevant. (2) Noise monitoring reports shall be provided six-monthly for the life of the mine, unless the Director-General, on the advice of the independent noise expert (Condition 48) requires more frequent reports.	YES		Monitoring Reports including all noise, blasting, air quality, surface and groundwater, indigenous heritage, flora and fauna, employment statistics, community consultation and complaints, were prepared six monthly and provided to the relevant authorities listed in MCoA 13 (1) between 2001 and 2004. DIPNR approved the reporting of monitoring an annual basis on 1 April 2004. All monitoring data and reporting has occurred in the AEMR's since 2004.
14	All sampling strategies and protocols undertaken as part of any monitoring program shall include a quality assurance/quality control plan and shall require approval from the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories shall be used for laboratory analysis.	YES		Quality assurance/Quality Control information and data is included in the laboratory reports from the NATA registered laboratory, with the monitoring data. All sampling and analysis has been conducted by Ecowise Environment NATA or AS/NZS ISO 17025 registered laboratories, as from 23 May 2002.

<table>
<tr><td colspan="5">NOISE AND VIBRATION</td></tr>
<tr><td colspan="5">Noise Limits</td></tr>
<tr><td>15</td><td>Except as may be expressly provided by a DEC licence under the POEO Act 1997, or unless subject to a negotiated agreement in accordance with Condition 23, the Applicant shall ensure that the noise emission from construction or mining operations, when measured or computed at the boundary of any dwelling not owned by the Applicant, shall not exceed the following limits:
<table>
<tr><td colspan="3">Location LA10(15 minute) noise limits (dB(A))</td></tr>
<tr><td></td><td>Daytime</td><td>Night-time</td></tr>
<tr><td>Beresfield (residential)</td><td>45</td><td>35</td></tr>
<tr><td>Steggles Poultry Farm</td><td>50</td><td>40</td></tr>
<tr><td>Ebenezer Park</td><td>46</td><td>41</td></tr>
<tr><td>Black Hill Area</td><td>40</td><td>38</td></tr>
<tr><td>Buchanan/Louth Pk</td><td>38</td><td>36</td></tr>
<tr><td>Ashtonfield Area</td><td>41</td><td>35</td></tr>
<tr><td>Thornton Area</td><td>48</td><td>40</td></tr>
</table>
Table 2: Noise Limits</td><td>YES</td><td></td><td>Quarterly Noise Surveys have been conducted by SLR Consulting and include both attended and unattended monitoring. Results of the monitoring and data are summarised and reported in the AEMR's.

Attended noise survey results generally identified that noise levels contributed by Donaldson Mine operations do not exceed noise emission goals for any of the periods. The mine operations were recorded as inaudible at each of the monitoring sites for the majority of the attended monitoring periods.</td></tr>
<tr><td colspan="5">Noise Management</td></tr>
<tr><td>16</td><td>Prior to 31 October 2005, the Applicant shall prepare a Noise Monitoring Program for the development in consultation with the DEC, and to the satisfaction of the Director-General, which includes a noise monitoring protocol for evaluating compliance with the criteria in condition 15.</td><td>YES</td><td></td><td>The Mine Noise Monitoring Plan was forwarded to DoP and DEC in Oct 2005 and a final revised copy submitted on 27 Dec 2005 for approval. The Plan was approved by DoP on 22 Jan 2007.</td></tr>
<tr><td>17</td><td colspan="4">Deleted</td></tr>
<tr><td>18</td><td colspan="4">Deleted</td></tr>
<tr><td>19</td><td colspan="4">Deleted</td></tr>
<tr><td>20</td><td>In the event that a landowner or occupier considers that noise or vibration from the project at their property is in excess of the relevant criteria set out in this Consent, the Applicant shall, upon receipt of a written request and at its own expense immediately undertake direct discussion with the landowners or occupiers affected to determine their concerns. Independent investigations of the noise complaints shall be carried out if the matter is not resolved within six weeks, in accordance with Conditions 48-53</td><td>Not activated.</td><td></td><td>No request for acquisition by any land owners due to noise or vibration impact had been initiated prior to April 2007.</td></tr>
<tr><td colspan="5">Noise Acquisition</td></tr>
<tr><td>21</td><td>If noise monitoring or independent noise investigations indicate that noise from construction or operation of the mine at the boundary of a dwelling, or within 30 metres of the dwelling where the boundary is more than 30 metres from the dwelling, is in excess of the noise limits set out in this Consent under adverse weather conditions and if appropriate noise control measures cannot be achieved on the mine site, the landowner may request the Applicant in writing to acquire the whole of the property or such part of the property requested by the landowner where subdivision is approved.
Note: Adverse weather conditions means the presence of winds up to 3 metres per second, and/or temperature</td><td>Not activated</td><td></td><td>.</td></tr>
</table>

<table>
<tr><td></td><td>inversions of up to 4 degrees Celsius per 100 metres.</td><td></td><td></td></tr>
<tr><td>22</td><td>Any such request shall be referred to the Director-General for determination in consultation with the independent expert. If the Director-General determines acquisition is necessary, the Applicant shall acquire the property in accordance with Conditions 54-55.</td><td>Not activated</td><td></td></tr>
<tr><td colspan="4">Negotiated Agreements</td></tr>
<tr><td>23</td><td>If monitoring or independent investigations indicate that noise or dust from the mine is in excess of the criteria set out in this Consent and the affected landowner does not wish to be acquired, the Applicant shall, if requested by the affected landowner, enter into a negotiated agreement. Where a negotiated agreement is required, the Applicant shall, within the time period specified by the Director-General:
(i) appoint an independent facilitator, approved by the Director-General;
(ii) negotiate a package of benefits for the landowner, which may include undertaking noise reduction measures on the property or at the dwelling(s) or compensation;
(iii) pay all reasonable costs of the process; and
(iv) report to the Director-General and the EPA on the agreement reached.</td><td>Not activated</td><td>No requirement for a negotiated agreement with any land owners.</td></tr>
<tr><td colspan="4">BLASTING</td></tr>
<tr><td colspan="4">Blasting Criteria</td></tr>
<tr><td>24</td><td>The Applicant shall ensure that the airblast over pressure level from blasting at the development does not exceed the criteria in Table 3, and the ground vibration level does not exceed the criteria in Table 4, at any residence on privately owned land or noise sensitive location as defined in the EPA's Industrial Noise Policy.
<table>
<tr><td>Airblast overpressure (db(Lin Peak)</td><td>Allowable exceedance</td></tr>
<tr><td>115</td><td>5% of total number of blasts in a 12 month period</td></tr>
<tr><td>120</td><td>0%</td></tr>
</table>
Table 3: Airblast Overpressure Impact Assessment Criteria
<table>
<tr><td>Peak Particle Velocity mm/s</td><td>Allowable exceedance</td></tr>
<tr><td>5</td><td>5% of total number of blasts in a 12 month period</td></tr>
<tr><td>10</td><td>0%</td></tr>
</table>
Table 4: Ground Vibration Impact Assessment Criteria</td><td>YES</td><td></td><td>Monthly monitoring reports are prepared by RCA/Hunter Acoustics for the Donaldson Mine blast events.
Blast overpressure monitoring results for the Donaldson Mine operations did not exceed the requirements.</td></tr>
<tr><td colspan="4">Blasting Design and Management</td></tr>
<tr><td rowspan="3">25</td><td>(1) The Applicant shall not blast within 500 metres of an occupied residence.</td><td>YES</td><td></td><td>(1) There are no residential properties within 500 metres of the mining operations.</td></tr>
<tr><td>(2) The Applicant shall not blast within 500 metres of private lands unless there is a written agreement between the Applicant and the landowner/occupier(s) to the satisfaction of the Director-General that guarantees the safety of persons who might use those lands.</td><td>YES</td><td></td><td>None identified during this period.</td></tr>
<tr><td>(3) The Applicant shall not blast within 500 metres of public lands unless public access to those areas is prevented at times of blasting.</td><td>YES</td><td></td><td>(3) An Agreement between Donaldson Coal and the RTA was signed in 2004 and a Road Occupancy Licence obtained in 2006 in relation to any short-term closure of John Renshaw Drive during blasting</td></tr>
</table>

				operations within 500 metres the public road. The Road Occupancy Licence with the RTA has been extended each six months since 2006, to allow Donaldson Coal to effect short-term road closures (of no greater than 10 minutes) when blasting was to occur at the mine within 500m of the pubic road.
	(4) The Applicant shall not blast within 500 metres of a public road unless the road is closed with the prior written agreement of the Regional Traffic Committee (or in the absence of the Regional Traffic Committee, the Director-General). A copy of any such agreement shall be supplied to the Director-General within 14 days of the agreement. If determined necessary by the Regional Traffic Committee, the Applicant shall prepare a Traffic Study to identify upgrading of the surrounding road system commensurate with the additional traffic volumes. The Study shall be prepared in consultation with Councils and the RTA, and to the satisfaction of the Regional Traffic Committee. All recommended traffic management measures and road infrastructure upgrading are to be undertaken at the Applicant's expense prior to any closure of John Renshaw Drive. If the study identifies the need for acquisition to enable the works to be undertaken, acquisition shall occur in accordance with the acquisition procedures established under this Consent.	YES		An Agreement between Donaldson Coal and the RTA was signed in 2004 and a Road Occupancy Licence obtained in 2006 in relation to any short term closure of John Renshaw Drive during blasting operations that are within 500 metres the public road. Donaldson Coal have applied for and received an Extension from RTA for closure of John Renshaw Drive (Main Road 588) during blasting events at the Donaldson Mine.
	(5) The 500 metre distance may be reduced by the Director-General if a risk analysis undertaken by the Applicant to the Director-General's requirements indicates a lesser distance provides an appropriate level of safety.	Not activated at the time of this audit.		
26	The Applicant shall prepare and implement a Blast Management Plan in consultation with DMR and Councils, prior to the commencement of blasting (including trial blasting). The Applicant shall make copies of the Blast Management Plan available to the independent noise expert (Condition 48), EPA, DMR, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		Blast Management Plan was developed for the Donaldson Mine in consultation with the DMR and Maitland City Council, Cessnock City Council, and Newcastle City Council, prior to the commencement of blasting at the Donaldson Mine and copies of the Plan were distributed to the relevant authorities and the CCC. The Blast Management Plan was revised in 2007 and approved by DoP.
27	The Blast Management Plan shall: (i) provide details of any proposed trial blasting;			(i) The Blast Management Plan 2001 addresses Trial Blasting in Section 6.2.
	(ii) identify a monitoring program, including locations and justification for selection of locations such as the Steggles Black Hill poultry operations and areas of old underground mine workings;	YES		(ii) The Blast Management Plan 2001 Section 8 addressed the Monitoring Program for the specified areas. The blast monitoring program has been actioned for each blast event at the Donaldson Mine in the past 12 months.

	(iii) detail measures to ensure that air blast overpressure and vibration monitoring and control is generally carried out in accordance with the recommendations of Australian Standard AS-2187-1993 (or its latest version) and in terms of ANZECC Guidelines;	YES		The Blast Management Plan 2001 addresses Monitoring Procedures, in Section 8. The monthly Blast Monitoring and Assessment Reports by Hunter Acoustics address the quality control and monitor the data collection and recording.
	(iv) detail methods to measure weather data as soon as practicable prior to blasting and from that data predict whether noise levels are likely to be increased above the levels expected under prevailing meteorological conditions;	YES		The Blast Management Plan 2001 addresses Meteorological Data Collection in Section 7.2 and Table 9.4.1. The meteorological station located at the Donaldson Mine provides continuous records of the prevailing weather conditions and this data is available immediately prior to blasting.
	(v) detail measures to be taken to minimise disruptions from blasting, including any road closures agreed in accordance with Condition 25, and management of impacts on local traffic and pedestrian movements;	YES		(iii) The Blast Management Plan 2001 addresses minimisation of disruptions caused by blasting in Section 7.3. John Renshaw Drive road closure only occurs for a maximum of 10 minutes at the time of any blast in accordance with the RTA Road Occupancy Licence,
	(vi) specify procedures for ensuring that the occurrence of concurrent blasts with the adjoining coal mine operators is avoided; and	YES		The Blast Management Plan 2001 addresses timing of blasts in Section 7.4.
	(vii) identify procedures for notifying landowners/occupiers within 2 km of the site of the general blasting program and for notifying landowners or occupiers within 500m of blasting events (or any reduced area approved by the Director-General under Condition 25(5)) prior to blasting occurring.	YES		The Blast Management Plan addresses Notification of blasting events to land owners in Section 7.5. Blast notification is provided to landowners within 2km of the blast area. Newcastle Fairfax and the chicken farms are advised prior to each blast.
28	The Applicant shall not blast if weather conditions indicate that air blast overpressure levels are likely to be exceeded at residences not owned by the Applicant.	YES		The meteorological station located at the administration building at the Donaldson Mine provides continuous weather data and wind speed. Suitability of meteorological conditions is checked prior to each blast.
29	The Applicant shall report on blasting practices (including any trial blasting), weather data and the results of blast emissions monitoring in the six-monthly environmental monitoring reports and in the AEMR.	YES		Blast monitoring data and meteorological conditions were reported in the Monthly Monitoring Reports prepared by Hunter Acoustics and the blast monitoring results are reported in the AEMR's.

30	The Applicant shall revise the Blast Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, the independent noise expert, EPA, DMR, Councils and the Community Consultative Committee.	YES		The Blast Management Plan was revised and submitted to the DoP on 16 July 2007. Approval from DoP was received on 17 July 2007.
Blasting Impacts				
31	Prior to the commencement of blasting, the Applicant shall undertake baseline structural surveys of all buildings and structures within 1.5 kilometres of blasting locations, unless it can be demonstrated to the satisfaction of the Director-General in consultation with DMR that surveys of certain properties are unnecessary because blasting damage is unlikely to occur to those properties. In conducting these structural surveys, the Applicant shall ensure that: (i) the surveys are carried out by a technically qualified person, as agreed in consultation with the Director-General and relevant landowners; and (ii) a copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.	YES		Two consultants - Burke Engineering Services and Geoff Craig & Associates, were offered to building owners for the structural survey reports in 2000. All the required surveys of residences had been conducted when blasting commenced at the mine site, except for buildings on the Steggles property (as per a commercial agreement with Steggles). The survey of ABAKK House at the western end of the property was carried out later when the Donaldson Mine operations progressed to the west. Donaldson Coal corresponded with ABAKK Pty Ltd in 2007 in relation to three dwellings and infrastructure that would be within 1500m of the area of blasting at the Donaldson Mine and arranged for structural inspections. A copy of the structural survey reports were provided to the property owners for each residence/structure.
32	In the event that a landowner or occupier considers that blast emissions from the development may have affected the material condition of their property, the landowner may make a written request to the Director-General for an independent dilapidation assessment. If the Director-General, in consultation with the DMR, is satisfied that an independent investigation is required, the Applicant shall ensure: (i) the survey is carried out by a technically qualified person, as agreed in consultation with the Director-General and the relevant landowners or occupiers; and (ii) a copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.	Not activated at the time of the environmental audit.		No requests for structural surveys have been received during this reporting period.
33	Where a dilapidation assessment concludes that structural damage has occurred as a result of blast emissions, the Applicant shall undertake immediate preventative and/or remedial measures at its expense.	YES		No dilapidation assessments have been requested during this reporting period.

Newcastle Herald's Printing Facilities at Holmwood Business Park				
34	Prior to commencement of mining, the Applicant shall: (i) conduct ambient vibration monitoring adjacent to (on the floor) and if required, on the most vibration-sensitive component of the printing facilities in order to establish both the levels of ambient vibration generated by the operation of the Printing Facility itself and that of any other nearby vibration sources; (ii) provide a detailed report on the monitoring procedures and the monitoring results and findings to the Newcastle Herald upon completion of the survey; (iii) meet with Herald representatives to discuss the results of the survey and determine whether the initially agreed limit of 0.3 mm/s is appropriate; and (iv) design initial blasting for compliance with a peak particle velocity vibration criterion of 0.3 mm/s adjacent to or on the Printing Facility, unless a more appropriate limit is mutually agreed.	YES		Blast Vibration Assessment was conducted for the Newcastle Fairfax Printing facility in 2001. The report results established the ambient vibration levels at the site. Discussions with Fairfax in 2001 resulted in an agreement that the vibration criteria be 3 mm/s ppv. Correspondence in relation to the 3mm/s ppv was received by Donaldson and DUAP advised of the change on 18 December 2001.
35	The Applicant shall monitor the impacts of blasting on the Printing Facility throughout the life of the mine, at a mutually agreed location in or adjacent to the Printing Facility during every blast. The Applicant shall provide results of the monitoring to the Newcastle Herald and provide a summary in the AEMR.	YES		Blasts during this reporting period were monitored at Fairfax facility.
Hunter Water Corporation Pipelines				
36	The Applicant shall ensure that blasting is undertaken in a manner that protects the Hunter Water Corporation pipeline, to the satisfaction of the Hunter Water Corporation.	YES		Consultation with HWC resulted in agreement of a peak particle velocity of 100mm/sec at the pipeline. Vibration monitoring has been conducted for each blast at monitors located along the pipeline corridor. No results have exceeded the blast criteria agreed between Donaldson Coal and HWC for the pipeline infrastructure during this reporting period.
AIR QUALITY				
Air Quality Criteria				
37	The Applicant shall take all practical steps to manage the mine's operations so that the ambient air quality goals for total suspended particles (TSP) of 90ug/m3 (annual average) and the dust deposition goal of 4gm/m2 (annual average) are not exceeded as a result of the development when monitored at any monitoring location specified in the Air Quality Management Plan.	YES		The air quality results reported for the Donaldson Mine are compliant with the criteria in MCoA 37. The dust deposition criteria of 4gm/m2 and the TSP goal of 90ug/m3 have not been exceeded during this reporting period.

Air Quality Management				
38	The Applicant shall prepare and implement an Air Quality Management Plan, containing strategies to manage the mine's contribution to dust deposition, TSP, PM10 and PM2.5 to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Air Quality Management Plan available to the independent expert (Condition 48), EPA, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		The Air Quality Management Plan for the Donaldson Mine was finalised in November 2000 and presented to the CCC on 13 November 2000. The Air Quality Management Plan was reviewed in 2007 by Holmes Air Services and no revision was required.
39	The Air Quality Management Plan shall: (i) identify potential sources of dust deposition, TSP and fine particulates (PM10 and PM2.5) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the mine's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the mine site;	YES		(i) Air Quality Management Plan addresses potential sources of dust emissions and presents an appropriate monitoring program in Section 2. The monitoring program was implemented and the results of the dust deposition, TSP, PM10 and DustTrak recording are presented in the AEMR's section 3.2.
	(ii) provide the mine's monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;	YES		(ii) Air Quality Management Plan addresses the monitoring plan in Section 5.
	(iii) provide the design of any modelling or other studies, including the means for determining the contribution to dust deposition, TSP and fine particulates from the development;	YES		(iii) Air Quality Management Plan addresses modelling and other studies in Section 5.
	(iv) provide details of dust suppression measures for all sources of dust from the development (including the haul road and the rail loading site);	YES		(iv) Air Quality Management Plan addresses dust suppression measures in Section 6.
	(v) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and	YES		Air Quality Management Plan addresses amelioration and mitigation measures for dust control in Section 7.
	(vi) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the mine's operation.	YES		Air Quality Management Plan addresses dust management procedures in Section 7.2, 7.4 and 7.5.
40	The Applicant shall ensure the prompt and effective rehabilitation of all disturbed areas as soon as practicable to minimise the generation of dust.	YES		Rehabilitation has progressively occurred on disturbed land at the Donaldson Mine overburden and backfill areas to minimise generation of wind blown dust, with revegetation established using local indigenous species.

41	The Applicant shall cease offending work at such times when the hourly average wind speed exceeds 5 metres per second and the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.	YES		The meteorological station installed at the Donaldson Mine site provides continuous reading of wind speed. Results are available instantly on computer at the Donaldson Mine site offices. Wind speed above 5 m/s triggers a response to stop work at the mine site until wind conditions return to below 5 metres/sec.
42	The Applicant shall revise the Air Quality Management Plan as necessary and provide an updated Plan five years after commencement of mining and to the Director-General, independent air quality expert (Condition 48), EPA, Councils and the Community Consultative Committee.	YES		The Air Quality Management Plan and monitoring program was reviewed by Holmes Air Services in 2007 and it was concluded that the plan was adequate and did not require to be updated. The DoP accepted that the Air Quality Management Plan did not require revision following the review by Holmes Air Services.
Air Quality Monitoring				
43	The Applicant shall install, maintain and continuously operate a meteorological station in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The meteorological station shall be installed within six weeks of the date of this consent and remain for the life of the mine. The Applicant shall analyse and report the meteorological data on a monthly basis to adequately characterise the site, and shall use the data collected by the wind monitoring and recording station to determine when and how the mine operation is to be modified in accordance with the Air Quality Management Plan and the Conditions of this Consent.	YES		Meteorological station installed at the Donaldson Mine site office in December 2000. Meteorological data is collected continuously and analysed monthly in the air quality reports prepared by Holmes Air Sciences.
44	The Applicant shall install, maintain and operate dust deposition gauges in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The dust deposition gauges shall be installed and operational within six weeks of the date of this consent and the Applicant shall determine the dust deposition rate in grams/m2/month in each calendar month so that any increases in dust deposition rates can be presented in the AEMR.	YES		Eleven (11) dust deposition gauges have been installed on the Donaldson Mine site, in accordance with Australian Standard. Dust deposition is analysed monthly and the data is presented by Holmes Air Services in a monthly report to Donaldson Coal..

45	(1) The Applicant shall install, maintain and operate an air quality monitoring network in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The network shall be installed and operational within six weeks of the date of this consent and in each calendar year the Applicant shall determine the concentrations of TSP in g/m3 (annual average) and fine particulates (PM10 and PM2.5) in g/m3 (24 hour average and annual average) so that the contribution of the mine to regional ambient air quality can be presented in the AEMR. (2) The Applicant shall also participate in (and if appropriate contribute reasonable funds to) regional air quality studies conducted by or on behalf of the EPA or the Director-General.	YES		(1) See MCoA 44 above. All air quality meteorological data is stored on the air quality database at the Donaldson Mine site. High Volume Air Samplers (HVAS) have been installed at Bartter Enterprise site and Beresford Golf Course for collection of TSP, PM10 and PM2.5 particulate. (2) No approach has been made to Donaldson Mine in relation to regional air quality studies during this reporting period.`.
Air Quality Acquisition				
46 - 47		Not activated.		
INDEPENDENT MONITORING OF NOISE, VIBRATION OR DUST				
48-53		Not activated		
ACQUISITION PROCEDURE				
54-55		Not activated.		
INDEPENDENT VALUATION				
56-59		Not activated.		
WATER				
Water Management				
60	The Applicant shall prepare and implement a Water Management Plan in consultation with DLWC, Councils, EPA and the Hunter Catchment Management Trust, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Water Management Plan available to the EPA, DLWC, DMR, Councils, the Hunter Catchment Management Trust and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		The Water Management Plan 2000 was developed in consultation with the EPA, DLWC, Councils, Hunter Catchment Management Trust and to the satisfaction of the Director-General, prior to the commencement of construction. The Water Management Plan was reviewed in 2005 and a revision of the Plan occurred in 2008.
61	The Water Management Plan shall include but not be limited to: (i) management of the impacts of the development on the quality and quantity of surface and groundwater, including water in dirty water dams and clean water diversion dams;	YES		(i) The Water Management Plan addresses the management of impacts of the development on the quality and quantity of surface and ground water in Section 3.
	(ii) stormwater and general surface runoff diversion to ensure separate effective management of clean and dirty water;			(ii) The Water Management Plan addresses the management of impacts of the development on the quality and quantity of surface and ground water, in Section 3.3 and 3.4.
	(iii) stormwater management facilities designed to at least a 1:10 year storm design criteria;			(iii) The Water Management Plan addresses the stormwater management issues, in Section 3.3.

	(iv) identification of any possible adverse effects on water supply sources (both surface and groundwater) of landowners or occupiers from the development, and implementation of mitigation measures as necessary;			(iv) The Water Management Plan addresses possible adverse effects of the development on water supply sources, in Section 5.
	(v) identification of the fresh quality groundwater zones within the DA area and appropriate protection strategies;			(v) The Water Management Plan addresses the quality of groundwater zones within the DA area, in Section 6.
	(vi) management of the impacts of the development on the quality and quantity of groundwater within 2 kilometres of the boundary of the DA area, with particular attention to mobilisation of salts and contingency plans for managing any adverse impacts;			(vi) The Water Management Plan addresses the management of impacts on the quality and quantity of groundwater within 2km of the DA area, in Section 3 and 6.
	(vii) management of the impacts of the development on the quality and quantity of surface water discharged, including scheduling of mining operations to minimise the area excised from the catchment draining to Woodberry Swamp at any one time;			(vii) The Water Management Plan addresses the management of impacts on the quality and quantity of surface water discharged from the Donaldson Mine site, in Section 5.
	(viii) identification of a defined buffer zone between the mine pit and Four Mile Creek and measures to minimise the risk of blast-induced fractures in the buffer zone to prevent saline seepage from the rehabilitated landform toward Four Mile Creek in the post-mining period;			(viii) The Water Management Plan addresses the buffer zone and protection Four Mile Creek in Section 5.2.2
	(ix) procedures for the maintenance of drainage systems and water management structures; and			(ix) The Water Management Plan addresses the procedures for maintenance of drainage systems and water management structures in Section 4.2.
	(x) development of a strategy for the decommissioning of water management structures, including dirty water dams and clean water diversion dams, and long term management of the final void.			(x) The Water Management Plan addresses the strategy for decommissioning of the water management structures in Section 4.3.
62	The Applicant shall revise the Water Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, EPA, DLWC, DMR, Councils, the Hunter Catchment Management Trust and the Community Consultative Committee.	YES		The Water Management Plan was reviewed in 2005 and Tasman Mine requirements included. The Plan was further revised in 2008 to include the Abel Mine water management.

Water Monitoring				
63	The Applicant shall prepare and implement a detailed monitoring program for groundwater and surface water in consultation with the Department, DPI, and the Hunter-Central Rivers Catchment Management Authority, throughout the life of the mine and for a period of at least 5 years after the completion of mining, or other such period as determined by the D_G. The results of the monitoring shall be included in the AEMR (Conditions 114-116). The monitoring program shall contain: details of proposed monitoring sites, frequency and parameters to be tested; pre-mining baseline data; monitoring of surface water quality to detect any changes in ambient water quality between the mine site and the wetlands; monitoring of macroinvertabrates and vegetation in accordance with the protocols developed by the Hunter SIGNAL biological assessment criteria, with an assessment of inflows to the wetlands; monitoring of stream bank and bed stability; monitoring of the volume and quality of water transfer between the Donaldson and Bloomfield operations; and a program for replacement of any monitoring bores destroyed by the development.	YES		(i) Water Quality Management Plan section 5.9 (ii) Water Quality Management Plan section 3. (iii) Water Quality Management Plan section 5.9 and 7 (iv) monitoring locations located upstream and downstream in the three creeks, using SIGNAL and OZRIVER assessment criteria. (v) Macro-invertebrate surveys include bank and bed stability. (vi) Continuous metering of water transfer volumes between the Donaldson and Bloomfield operations occurs. (vii) Four (4) monitoring bores destroyed as part of the mining operations. These will be replaced when the backfilling of the area is completed.
64	Prior to 31 October 2005, the Applicant shall revise, and then implement any necessary changes in the monitoring program for groundwater and surface water to the satisfaction of the Director-General.	YES		The Water Management Plan was revised in 2005 under the Notification of Modification condition with comments received from DLWC and DoP and response from Peter Dundon & Associates.
Water Supply				
65	On request of a landowner whose water supply from licensed bore holes or springs has been determined by DLWC at any time to have been affected by the project, the Applicant shall replace lost water supply with water of an equivalent quality and quantity to meet the landowner's requirements, to the satisfaction of DLWC.	Not activated at the time of this environmental audit.		
EROSION AND SEDIMENT CONTROL				
66	The Applicant shall prepare and implement an Erosion & Sediment Control Plan for the development (including the haul road and the relocation of utilities and services) to the satisfaction of DLWC and submit the Plan to the EPA as part of applications for a licence under the Protection of the Environment Operations Act. The Plan shall be prepared prior to the commencement of work in the relevant areas. The Applicant shall make copies of all Erosion & Sediment Control Plan available to D-G, Councils and the CCC within 14 days of approval.	YES		Erosion and Sediment Control Plan was submitted to the EPA on 4 May 2000 as part of the application for Environment Protection Licence No. 11080. A review of the Erosion and Sediment Control Management Plan was conducted in 2005 following the DPI-MR inspection in May 2005, and the Plan revised.

67	The Erosion and Sediment Control Plan(s) shall include consideration and management of erosion and sedimentation of watercourses and water bodies, including Woodberry Swamp.	YES		The Erosion and Sediment Control Plan addresses the management of erosion and sedimentation of watercourses and water-bodies on the Donaldson Mine site, in Sections 4. Control of erosion and monitoring of water quality of watercourses and water bodies on the mine site and to the boundaries of the Donaldson property, results in management of impact from the mine on downstream habitats (e.g. Woodberry Swamp). Monitoring also includes assessment of bank and bed stability as part of the macroinvertabrate survey reports.
FLORA AND FAUNA				
Tetratheca Juncea Conservation Area				
68	Prior to the commencement of construction, the Applicant shall: (i) undertake a survey of potential Tetratheca Juncea habitat in the southwest portion of the site. The survey shall: (a) be undertaken by a suitably qualified botanist, with the assistance of a suitably qualified surveyor, both approved by the Director-General; (b) re-examine the outcomes of previous surveys; (c) be undertaken between the months of August and December (inclusive); (d) record the location of Tetratheca Juncea clumps on the ground using suitable tags and by using either theodolite and electronic measuring equipment or differential GPS; (e) investigate the occurrence of any native sonicating bee habitat within 500 metres of the Tetratheca Juncea population; and	YES		(i) Figures 1 and 2 of the Tetratheca Juncea Management Plan show the Southwest Conservation Area. (a) a T. Juncea survey of the Conservation Area was undertaken by Gunninah Environmental Consultants and the areal survey of the area was conducted by a qualified surveyor. (b) The results of previous T. Juncea surveys were assessed and collated with the current data for the preparation of the maps and T. Juncea Management Plan. (d) T. Juncea clumps have been located using GPS and surveyed onto the site maps in the T.Juncea Management Plan. (e) Bee habitat is discussed in Section 5.2.2 of the T. Juncea Management Plan.
	(ii) establish a Conservation Area for the Tetratheca Juncea based on the findings of the survey. The Conservation Area shall include a 50 metre buffer. The boundaries of the Conservation Area shall be surveyed and marked by a suitably qualified surveyor, with the assistance of a botanist, using either a theodolite and electronic measuring equipment or differential GPS. No clearing, construction or mining shall commence until the boundary of the Conservation Area has been approved by the Director-General.			(ii) The southwest Conservation Area has been established with a 50 metre buffer to the closest area that may become part of the mine operations (see Figure 1 from the Flora and Fauna Management Plan). The area is pegged but not fenced.

69	The Applicant shall prepare a Management Plan for the Tetratheca Juncea Conservation Area in consultation with NPWS and to the satisfaction of the Director-General, prior to commencement of construction. The Plan shall be consistent with the Flora and Fauna Management Plan (Conditions 76-79); and include measures for fire management. The Applicant shall clearly mark the boundary of the Conservation Area and make provision for signage which specify that no dumping, clearing or other works are permitted in the Conservation Area. Such signage shall be replaced as required. The Applicant shall make copies of the Tetratheca Juncea Management Plan available to NPWS, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		NPWS provided correspondence advising they were satisfied that the T Juncea Management Plan in November 2000. The property boundary of the Conservation Area is fenced along John Renshaw Drive and the T..Juncea areas are pegged but not fenced or signed. (The presence of a fence or signage around the specific areas of T.Juncea would highlight their location and result in unwanted attention and possibly vandalism to the area). The current status of the Conservation Area indicates that there is no intrusion of work areas or other disturbance to the T.Juncea locations. Weekly surveillance of the Conservation Area is conducted. A biologist monitors the T.Juncea areas to keep records of the status of growth and flowering.
BUSHLAND AREA				
70	Within six months of this Consent, or as otherwise agreed by the Director-General, the Applicant shall identify a bushland area(s) in the region that will adequately compensate for the impact of the mine on biodiversity, provide compensatory habitat and be managed for the primary purposes of conservation. The area shall be identified in consultation with NPWS and Councils and be to the satisfaction of the Director-General. Identification of the bushland area(s) shall include:	YES		See below
	(i) a detailed assessment of the current characteristics and ecological values of existing ecosystems affected by the mine, including the habitat of threatened species identified in the EIS as possibly occurring in the area and the Spotted Gum Ironbark community; (ii) identification of conservation objectives to be achieved by the establishment of the bushland area(s), with reference to the Regional Biodiversity Strategy and the principles of Ecologically Sustainable Development;	YES		(i) A detailed assessment of the current flora and fauna and habitat values of the mine site was conducted by Barker Harle in 2001. (ii) The Bushland Area Management Plan was prepared and submitted

	(iii) consideration of alternative locations within the region, including, but not limited to, the land proposed as compensatory area in the EIS (i.e. land adjoining the mine site); (iv) a detailed assessment of appropriate boundaries, size and shape of the bushland area(s), in relation to the characteristics, values and objectives; (v) consideration of appropriate management options necessary to protect the conservation values; and (vi) consideration of opportunities to incorporate cultural heritage conservation into the bushland area(s).			to the Director-General in 2005 for approval. The Plan included identification of conservation objectives. (iii) NPWS provided Donaldson Mine with a number of compensatory bushland areas to consider in 2001. Donaldson assessed inclusion of land around the mining lease, and have established the Conservation Area for bushland protection, within the mine lease area.
71	In identifying the bushland area(s), the following broad criteria shall be applied: (i) a ratio of 2:1 in terms of compensatory area to the area to be directly impacted by mining and associated infrastructure; (ii) the vegetation communities and habitat values of the bushland area(s) are to be broadly representative of the area which will be subject to mining and contain a similar suite of fauna species; (iii) the location of the bushland area(s) will aim to consolidate existing reserves in the lower Hunter Area; and (iv) reserve design criteria, including edge-to-area ratio, size and connectivity shall be taken into account.	YES		(i) The Donaldson owned property around the mine area has been retained as a buffer and compensatory conservation area. (ii) The compensatory area of bushland is adjacent to and surrounds the mining area and is representative of the vegetation communities and habitat present on the disturbed areas. (iii) The compensatory area around the Donaldson Mine is contiguous with the Ironbark-Spotted Gum vegetative corridors in the Maitland area.
72	Upon approval of the identified bushland area(s) by the Director-General, the Applicant shall: (i) secure care, control and management of the bushland area(s) prior to the commencement of mining; (ii) retain management and ownership of the land for a minimum of 36 years from the commencement of construction, unless other arrangements are agreed in accordance with Condition 73; and	YES		(i) The bushland area around the mine operations is owned by Donaldson Mine and managed as part of the overall land management strategies. (ii) See above.
	(iii) prepare and implement a Management Plan for that area in consultation with NPWS and to the satisfaction of the Director-General, during the period in which the Applicant is responsible for management. The Management Plan shall be consistent with the Flora and Fauna Management Plan (Conditions 76-79) and consider the integration of cultural conservation objectives and management. The Applicant shall make copies of the Management Plan available to NPWS and the Community Consultative Committee within 14 days of approval by the Director-General. For the purposes of the Conditions of this Consent, the bushland area(s) approved by the Director-General shall be known as the Bushland Conservation Area until the completion of the period referred to in Condition 72(ii) and any Conditions relating to Conservation Areas shall apply to that area during that period. The Management Plan referred to in Condition 72(iii) shall be referred to as the Bushland Conservation Area Management Plan.	YES		(iii) The Bushland Conservation Area Management Plan was developed in consultation with the NWPS and the Plan submitted to the Director-General on 31 October 2005. (Refer to MCoA 74).

73	The Applicant shall undertake negotiations with the NPWS and Councils to reach agreement on the long term tenure and management status of the Bushland Conservation Area. These negotiations must commence within six months of commencement of construction.	YES		Donaldson Coal provided information on the management of the proposed bushland conservation area to NPWS in May 2001 and undertook consultation and negotiations with the authorities. A Draft Plan of Management for the Bushland Conservation Area was presented to the D-G in February 2005 and the Plan revised and submitted to the D-G in October 2005.
74	Prior to 31 October 2005, the Applicant shall revise the Bushland Conservation Area Management Plan to compensate for the extension of the disturbance area in the vicinity of Weakleys Flat Creek, to the satisfaction of the Director-General, and provide an updated Plan to the DEC, Councils, and the Consultative Committee.	YES		The Draft Bushland Conservation Area Management Plan was revised in October 2005 and submitted to DIPNR by 31 October 2005. In November 2005 the DoP released the Draft Lower Hunter Regional Strategy (LHRS) which identified some of the Donaldson land and adjoining lands as inter-modal freight facility, and vegetation corridors for future conservation, the most significant of which was the Stockton to Watagan Range corridor that encompasses part of the Donaldson land. Studies by DEC during 2006 in preparation for the Draft Lower Hunter Conservation Plan (LHCP), which was to be released together with the final LHRS, identified parts of the Donaldson land for conservation reserve and bio-banking investment (NAPS Map). The identified conservation land does not align exactly with the Donaldson Bushland Conservation Area. Donaldson, along with other Lower Hunter major landowners, was formally requested by DEC to consider dedication of lands for conservation in the reserve system prior to announcement of the final LHRS and Draft LHCP. Donaldson presented a formal proposal to DEC in late 2006, and discussions with DEC are continuing for a major

				portion of the Donaldson land to be dedicated as conservation reserve or nominated as Bio-banking investment area. The likely outcome of the intensive investigations described above is that some 400-500 hectares of the Donaldson land may be placed in permanent conservation (via either the reserve system or bio-banking) and the remainder of the land will be zoned consistent with the final LHRS (yet to be finalised).
Flora and Fauna Management				
75	The Applicant shall bear the reasonable costs of the appointment by the Director-General of an independent flora and fauna expert(s) to assist in the implementation of the Conditions of this Consent. The independent expert(s) shall: (i) be selected in consultation with the applicant; (ii) assess and advise the D-G on the proposed Conservation Areas and Management Plans; (iii) assess and advise the D-G on the proposed bushland area(s); (iv) assess and advise the D-G on the proposed Flora and Fauna Management and the Rehabilitation Plan; (v) assess and advise the Director-General on the monitoring of flora and fauna management and rehabilitation.	Planning NSW - condition of approval		Robert Payne was commissioned as an independent flora and fauna expert by Director-General to assess and advise on the flora and fauna management for the Donaldson Mine proposed conservation areas and flora and fauna management plans.
76	The Applicant shall prepare and implement a Flora and Fauna Management Plan for the mine site (in addition to the management plans for specific Conservation Areas), in consultation with DLWC, NPWS and Councils, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Flora and Fauna Management Plan available to DLWC, NPWS, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		The Flora and Fauna Management Plan was prepared and approved by DUAP in December 2000. The Flora and Fauna Management Plan was implemented for the Donaldson Mine site and the Plan reviewed in 2007. The flora and fauna monitoring programs have been conducted and results summarised in the AEMR's.
77	The Flora and Fauna Management Plan shall include but not be limited to: (i) additional surveys to more precisely identify the distribution of known and potential nest and roost trees for owl species. The surveys shall: (a) be undertaken by a person experienced in the identification of owl nest and roost trees, approved by the Director-General; and (b) record the location of known and potential nest and roost trees on the ground by marking the tree and by using either theodolite and electronic measuring equipment or differential GPS;	YES		(i)(a) Additional surveys of owl habitat were conducted by Rod Kavanagh on the Donaldson Mine site during Sept - Oct 2000. The Kavanagh Report is included in Appendix F and G of the Flora and Fauna Management Plan.
	(ii) a vegetation map delineating major vegetation communities, topographic features and the location of threatened species habitats, including potential and known owl nest and roost trees;			(ii) Figures 3 and 4 in the Flora and Fauna Management Plan present vegetation communities and locations of threatened species habitats on the Donaldson Mine site.

	(iii) details of measures to manage the impacts of the development, including: (a) restoration of degraded areas; (b) management of invasive weeds and feral animals; (c) establish an appropriate hazard reduction regime in keeping with the ecological values of the area; (d) revegetation and provision of compensatory areas of equivalent ecological and habitat value where necessary; and (e) strategies to provide increased security for existing habitats and communities;			(iii)(a) Degraded area restoration procedures are presented in the Rehabilitation Plan Dec 2000 section 4.3.7. (iii)(b) Weed management and feral animal control are presented in the Rehabilitation Plan sections 5.2 and 5.3. (iii)(c) Hazard reduction addressed in the Rehabilitation Plan section 5.4, and the Bushfire Management Plan. (iii)(d) See comments on MCoA 71 to 74. (iii)(e) Protection strategies for existing habitats and communities include pre-clearing surveys of all areas to be disturbed, fenced perimeter of the mine lease area, and the Flora and Fauna Management Plan section 4.1 and 4.2.
	(iv) details of measures to manage the impacts of environmental management on flora and fauna, including the impact of erosion and sediment control measures and hazard reduction burning;			(iv) The priorities for action in relation to protection of flora and fauna are outlined in section 4.3.1 (Erosion and Sediment Control) and section 4.3.6 (Bushfire Management Regime) of the Flora and Fauna Management Plan.
	(v) priorities for action and a timetable for all works outlined in the Plan; and			(v) The priorities for action in relation to protection of flora and fauna are outlined in section 4.4 of the Flora and Fauna Management Plan.

	(vi) a program to monitor flora and fauna impacts on undisturbed portions of the mining lease area and downstream environments (such as the Woodberry Swamp). The program shall extend for the life of the mine and for a period thereafter as approved by the Director-General, and include: (a) justification for monitoring intervals and locations; (b) monitoring of the presence and persistence of native flora and fauna species over time, particularly threatened species; and (c) monitoring the effectiveness of management measures.			(vi) Section 5 (Monitoring and Reporting) of the Flora and Fauna Management Plan describes the proposed monitoring programs. A detailed survey and reporting of the flora and fauna on the Donaldson Mine site was conducted during Sept and Oct 2001 by Barker Harle. The quadrants used for the surveys were recorded and the report provides a detailed quantitative description of the flora and fauna species present within the boundaries of the Donaldson property. As the Donaldson property has no boundary with the Woodberry Swamp the surveys did not extend to the Woodberry Swamp. There are a large number of developments downstream of Donaldson that have the potential to affect the environment of the swamp. The surveys to the boundary of the Donaldson property will specifically identify potential impacts from the mine activities.
78	The Flora and Fauna Management Plan shall also include a Rehabilitation Plan that details the measures to be undertaken to progressively rehabilitate disturbed areas of the mine to replicate the original vegetation cover that existed before mining occurred. The Applicant shall be responsible for the management and monitoring of the rehabilitated mine site until such time as the Director-General agrees that restoration has been successful.	YES		The Rehabilitation Plan was included in the Mining Operations Plan (MOP) for the June 2006 to May 2012 period for the Donaldson Mine. The Rehabilitation Management Plan is now Appendix 3 of the Landscape Management Plan 2008.
79	The Applicant shall revise the Flora and Fauna Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, NPWS, Councils and the Community Consultative Committee.	In progress		The Flora and Fauna Management Plan was reviewed by Ecobiological in March 2007 and a Revised Flora and Fauna Management Plan submitted to DoP on 17 July 2007. DoP approved the revised Plan on 25 July 2007.

80	The Applicant shall participate in (and if appropriate, contribute such reasonable funds as determined by the Director-General in consultation with NPWS) research into the Powerful Owl and Masked Owl habitat requirements in the region, and the habitat requirements and lifecycle of Tetratheca Juncea.	YES		Donaldson Mine supported projects by the University of Newcastle with financial and technical help for: Deborah Landenberger - 2 year Honours project 'Defining the Niche of T. Juncea'; and Adam Blundell with Rod Kavanagh during 2002-2003 for 'Comparing Ecology of Powerful Owl in Disturbed and Undisturbed Environments'. Both these projects have been completed.
HERITAGE				
Heritage Statutory Requirements				
81	Prior to commencement of construction, the Applicant shall: (i) comply with the statutory requirements of NPWS in relation to works affecting Aboriginal sites; and (ii) undertake a targeted archaeological survey of the slopes component within the mining impact area in cooperation with the Aboriginal community. Any Aboriginal sites located will be recorded, the significance of the sites assessed, and management strategies for the sites identified.	YES		Management of the aboriginal heritage sites occurs in accordance with the Aboriginal Sites Management Plan and the status of management is reported in the AEMR.
82	If, during the course of construction, the Applicant becomes aware of any heritage or archaeological material, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the Heritage Office, and the Local Aboriginal Land Councils. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.	YES		Section 90 Consents to Destroy under the National Parks and Wildlife Act , were obtained for Aboriginal artefact areas DMS1 on 22 April 2000 and ISF1 and ISF2 on 3 May 2000. No further Section 90 Consents have been required since that time.

Aboriginal Heritage Management				
83	Prior to commencement of construction, the Applicant shall establish an Aboriginal Conservation Area along Four Mile Creek and tributaries in accordance with a plan approved by the Director-General. The plan shall include: (i) identification of an appropriate boundary and the basis on which the boundary has been selected; (ii) a map at a scale of 1:1000 or larger which clearly delineates the Conservation Area boundary and specific features; and (iii) documentation of consultations with NPWS and Aboriginal community groups in relation to the definition of the Conservation Area.	YES		(i) A 50 metre buffer along Four Mile Creek as an Aboriginal Conservation Area (ACA) has been established by Donaldson Coal. The ACA boundary is shown in Figure 2.3 of the Aboriginal Sites Management Plan. (ii) Maps of the Four Mile Creek Conservation Area and other Conservation Areas (1:1000 scale) have been prepared by Donaldson Coal for the Donaldson Mine area. (iii) Consultation with the Mindaribba Aboriginal Local Land Council was held during the preparation of the Aboriginal Sites Management Plan. NPWS consultation and correspondence was available on file.
84	The Applicant shall prepare and implement an Aboriginal Sites Management Plan in consultation with the Aboriginal community, Councils and NPWS, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Aboriginal Sites Management Plan available to the Director-General, Aboriginal community, Councils and the Community Consultative Committee within 14 days of approval by NPWS.	YES		An Aboriginal Sites Management Plan was prepared prior to commencement of mining operations in 2000, with Supplementary Plans prepared for Years 2 to 5 of the operations. The Aboriginal Sites Management Plan has been submitted to the relevant authorities within 14 days of approval by the NPWS. The Aboriginal Sites Management Plan has not required revision since 2005.

85	The Management Plan shall include, but not be limited to: (i) documentation of consultation with the relevant Aboriginal community groups to identify any outstanding concerns they may have with the project and a clear statement about how these concerns will be addressed, including any action to be taken; (ii) identification of conservation objectives for the site as a whole and for the Conservation Area specifically; (iii) a program to monitor the impacts of the development on the Conservation Area, including justification for monitoring locations and intervals; (iv) strategies to achieve conservation objectives, including an access policy; (v) the provision of fencing to permit faunal movement and the removal of fencing within six months of completion of mining; (vi) further investigations; and (vii) long term management requirements upon completion of mining.	YES		(i) Consultation with the Mindaribba Aboriginal Local Land Council is addressed in the Plan with relevant correspondence attached in Appendix 1 of the Plan. (ii) Conservation objectives are addressed in section 1.3 of the Aboriginal Sites Management Plan. (iii) Monitoring of the Conservation Area is outlined in section 2.1 and 3 of the Aboriginal Sites Management Plan. The location of the monitoring datum points are illustrated in Figure 2.4 of the Plan. (iv) Strategies to achieve the conservation objectives are outlined in section 2 of the Aboriginal Sites Management Plan. (v) The boundary of the Mining lease area and the Donaldson owned land is fenced. (vi) The mining lease area was re-surveyed for Year 2 to 5 of the mining operations. Ongoing monitoring and surveys will occur prior to disturbance of any new areas required for mining.
86	The Applicant shall revise the Aboriginal Sites Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, NPWS, Councils and the Community Consultative Committee.	YES		The Aboriginal Sites Management Plan was subjected to annual review until 2005 and amendments top the Plan made by Umwelt as required. The Plan has not required revision since 2005.
WASTE				
87	The Applicant shall prepare and implement a Waste Management Plan in consultation with EPA, DMR and the Hunter Waste Planning and Management Board, and to the satisfaction of the Director-General, prior to commencement of construction. The Applicant shall make copies of the Waste Management Plan available to Councils and the Community Consultative Committee within 14 days of approval by the Director-General.	YES		The Waste Management Plan was prepared prior to commencement of construction of the mine. The Plan was submitted to DUAP and approved on 10 October 2000. Copies of the Waste Management Plan were distributed to the Councils and the CCC, within 14 days of approval by the Director-General.

88	The Waste Management Plan shall include, but not be limited to the management of the mine site to prevent dumping of waste; and the management and treatment of Potentially Acid Forming waste.	YES		Management of waste streams including overburden, coarse rejects material and fine reject material is included in section 7 of the Waste Management Plan. The management and treatment of potential acid forming (PAF) material is addressed in the geotechnical report and there is ongoing assessment of PAF material to ensure application of best practice management options.
89	The Applicant shall meet the requirements of Councils, EPA and Hunter Water Corporation with respect to water and sewer.	YES		Potable water for use on the mine site is supplied from the Hunter Water Corporation. There is no discharge to sewer from the site operations. All ablutions are connected to onsite biocycle systems.
VISUAL AMENITY				
Landscaping				
90	The Applicant shall provide a minimum of 50 metres of landscaping between the outer edge of the bund wall and the edge of John Renshaw Drive. The 50 metres may include landscaping within the road verge if agreed by Cessnock Council.	YES		The Landscape Management Plan has been implemented with revegetation of the 50m strip along the power-line easement between John Renshaw Drive and the earthern bund on the edge of the high-wall of the open cut. The Landscape Management Plan was reviewed and revised in March 2008. The 2008 Landscape Management Plan is an integrated plan for all the Donaldson Coal projects (i.e. the Donaldson Mine, Tasman Mine and Abel Mine). The 2008 Plan has the Rehabilitation Management Plan, Final Void Management Plan and Integrated Mine Closure Plan appended to provide an overall strategy for the mines.
91	The Applicant shall, within three months of the date of this Consent, or within such further period as Councils may require, submit for the Councils' approval a detailed Landscaping Plan covering all land within the proposed mining area (including the haul road and transmission line easements) and road reserve along the frontage to John Renshaw Drive. The Applicant shall engage a suitably qualified person to assist in the landscaping plan.	YES		
92	The Landscaping Plan shall be consistent with the Environmental Management Strategy and include: (i) provision for the establishment of trees and shrubs and the construction of mounding or bunding along the planned highwall and any other areas identified as necessary by the Councils for the maintenance of satisfactory visual amenity and the re-establishment of flora and fauna habitats and corridors;	YES		The Landscape Management Plan 2000 addresses the establishment of trees and shrubs for visual amenity and re-establishment of flora and fauna corridors in Section 4.3.

	(ii) appropriate erosion control and sediment control practices for earthworks associated with the landscaping;			The Landscape Management Plan 2000 addresses erosion and sediment control in Section 4.3 and refers to the Erosion and Sediment Management Plan.
	(iii) details of the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications). Buildings and structures shall be designed and constructed so as to present a neat and orderly appearance and to blend as far as possible with the surrounding landscape; and			The Landscape Management Plan 2000 addresses the visual appearance of buildings, structures, facilities and works in Section 4.0.
	(iv) details, specifications and staged work programs to be undertaken, including a maintenance program of all landscape works, building materials and cladding.			The Landscape Management Plan 2000 addresses the staged work programs for maintenance program of all landscape works, building materials and cladding in Section 4.2
93	The Applicant shall implement the approved Plan in accordance with Councils' requirements and make copies available to the Community Consultative Committee within 14 days of approval by Councils.	YES		Copies of the Landscape Management Plan 2000 were provided to the CCC following approval by the Councils 9 March 2000. The revised Landscape Management Plan was submitted to the CCC in 2008.
94	The Applicant shall plant screening vegetation on properties at higher elevation and with views across the mine site in the Black Hill area if requested in writing by the landowner, within three months of that request. The species, density and location of the plantings shall be determined in consultation with the landowner.	Condition not activated at the time of the audit.		
95	The Applicant shall lodge a landscaping bond with Cessnock Council, to a maximum of $10,000 at any one time, for landscaping during the life of mine. This bond does not affect rehabilitation works covered by the Mining Act.	YES		Landscaping bond of $10,000 lodged with the Cessnock City Council on 19 April 2007.
Lighting				
96	The Applicant shall screen or direct all onsite lighting and vehicle lights away from residences and roadways to the satisfaction of Councils. All screening to be completed prior to commissioning of the coal preparation plant and associated facilities.	YES		Lighting from the mine activities has not given rise to complaints. No lighting is used on high points of the overburden emplacement areas at night and no light scatter occurs to roadways or residential areas from the Donaldson Mine operations.

HAZARDS, RISKS AND SAFETY				
97	The Applicant shall: (i) provide adequate fire protection works on site. This shall include one fully equipped fire fighting unit on standby and hazard reduction works at a time determined by the relevant Council, with particular attention to boundaries of adjoining land holdings;	YES		(i) Fire fighting equipment on includes a 38,000L water cart with capability for fire fighting. Meetings have been held between Donaldson Mine and the Cessnock City Council / Thornton Fire Brigade in relation to access to the mine site in case of fire. Donaldson Coal will make equipment available if required at short notice to construct fire-breaks or access to reach the seat of any fire on Donaldson property.
	(ii) submit an annual report on fire management activities to the local Bush Fire Management Committee; and	YES		(ii) A Bushfire Management Plan for the areas owned by Donaldson Coal was prepared in 2004 and submitted to the Rural Fire Service for review. Following a site inspection the RFS provided comments and the Plan was updated and finalised. A report on controlled burn-off at the Donaldson site was forwarded to the RFS for inclusion in the Bush Fire Management Committee folder in Oct 2005. Hazard burning is conducted on the Donaldson Mine site and reported to the Bushfire Management Committee by the RFA. Mechanical works along the southern and eastern sections of the Avalon Estate at Thornton is also carried out annually.

	(iii) ensure that all dangerous goods and materials stored on site are stored in accordance with the relevant Australian standards.	YES		(iii) The bulk storage for dangerous goods includes: T1 Above ground tank – approx. diesel 60,000L at the maintenance workshop area and T2 Above ground tank - diesel 40,000L in an earthern bunded above the MaxxHire workshop compound. The fuel farm facility is approved as a bulk storage facility for hazardous materials under Workcover requirements. Storage of lubricants and waste oil is in drums and small above ground tanks that are less than the volume required to be notified under the Occupational Health and Safety (Dangerous Goods) Regulation 2005.
UTILITIES AND SERVICES				
98	The Applicant shall consult with affected service authorities and make arrangements satisfactory to those authorities for the protection or relocation of utilities and services (such as transmission lines and pipelines) at the Applicant's expense, prior to any existing utilities or services being affected by mining activity. Relocation of utilities and services shall be conducted in accordance with the relevant Management Plans and the Erosion and Sediment Control Plan(s).	YES		The Energy Australia 11kV power-line was relocated along an easement adjacent to the John Renshaw Drive boundary of the mine lease, in 2002. Part of the Hunter Water Corporation water pipeline was relocated for the progression of the Donaldson Mine, in accordance with the MOP. Telstra lines off the new intersection on John Renshaw Drive were relocated in 2006.
TRANSPORT AND ACCESS				
99	Prior to commencement of construction, or as otherwise agreed by the Councils, the Applicant shall design, construct and seal the private haul road and access road to the satisfaction of the Councils, and with consideration of the impact on the fragmentation of fauna habitat and fauna movement.	YES		The internal haul road was constructed from Donaldson Mine to Bloomfield CPP and Coal Loader in 2001. Cessnock City Council advised it did not require to approve the road construction as it was an internal haul road. The Flora and Fauna Management Plan included pre-clearing protocol, road design and general measures covering erosion and sediment control, removal of weeds and rubbish, and incident reporting that were applied to the construction of the road.

100	No coal shall be hauled on public roads.	YES		All coal from the Donaldson Mine is transported to the Bloomfield CPP by the internal road and the product coal is transported by rail from the Bloomfield Coal Loader to Newcastle. No coal is transported on public roads.
101	The Applicant shall carry out intersection improvements as determined necessary by the Regional Traffic Committee as a result of the development and by such times as directed by the Regional Traffic Committee.	YES		A Development Application was submitted to the Cessnock City Council for the John Renshaw Drive intersection in Nov 2001. The Hunter Regional Traffic Committee considered the DA and recommended a number of changes, and the plan was amended and re-submitted to the Council. The Council re-exhibited the DA and granted consent in July 2003. The intersection from John Renshaw Drive to the Donaldson Mine access road was completed in accordance with the consent.
102	If closure of John Renshaw Drive is agreed by the Regional Traffic Committee under Condition 25(4), the Applicant shall: (i) pay $20,000 to Cessnock City Council to upgrade the alignment and surface of the unsealed western end of Black Hill Road; (ii) provide a water cart and apply water to the unsealed western end of Black Hill Road to the requirements of Cessnock City Council prior to each closure of John Renshaw Drive for blasting; and (iii) prepare a Traffic Management Plan for the approval of the RTA in relating to the closure of John Renshaw Drive during blasting.	YES		The $20,000 contribution was provided to the Cessnock City Council in November 2004 for the upgrade of the western end of Black Hill Road. The improvements to Black Hill Road were completed by Cessnock City Council. The improvement of the Black Hill Road intersection with a John Renshaw Drive turning lane, was under construction at the time of this audit (i.e. April 2010). Donaldson has a current Road Occupancy Licence for the closure of John Renshaw Drive during blasting.

103	The Applicant shall provide for signalling of the Bloomfield rail loop to the satisfaction of Freight Corp prior to the commencement of mining.	YES		Freightcorp correspondence provided options for implementation of safe working procedures for the rail loop to satisfy MCoA 103. Bloomfield upgraded the rail system alarm signals on the Entry road to the mines, from the old key system. The management of trains on the loop has been upgraded with implementation of safe work practices.
INITIAL COAL WASHING				
104	Upon commencement of coal extraction, the Applicant shall initially make use of the coal preparation plant (CPP) at the adjoining Bloomfield coal mine for up to two years from commencement of mining or such other period as approved by the Director-General. This will allow the Applicant to: (i) trial the washing of Donaldson coal to assist in the determination of its washing characteristics; and (ii) commence the earliest possible coal extraction at Donaldson, and hence hasten project completion.	YES		Approval for the ongoing use of the Bloomfield CPP is now in place under the Abel Mine consent with an extended agreement between Bloomfield Coal and Donaldson Coal.
105	The haulage route for raw coal from the Donaldson pit to the Bloomfield CPP shall be the same as that proposed for haulage of product coal from the proposed Donaldson CPP to the existing Bloomfield rail loading facility up to the point of intersection with the Bloomfield Mine access road, and thence westward along the Bloomfield Mine access road to the CPP, unless otherwise agreed to with the owners of Bloomfield. However, any variation to the route shall be considered to determine whether a modification to this Consent is required to enable the variation.	YES		Donaldson Coal constructed an internal haul road to transport ROM coal to the Bloomfield CPP, the road alignment crossing Four Mile Creek.
106	The Applicant shall notify the Director-General within eighteen months of the commencement of mining as to the results of the Bloomfield washery trials.	YES		See comment on MCoA 104.

COMMUNITY INVOLVEMENT				
Community Consultative Committee				
107	The Applicant shall establish a Community Consultative Committee which shall be chaired by an independent chairperson approved by the Director-General. Selection of representatives shall be agreed by the Director-General and include (unless otherwise agreed by the Director-General) two representatives from the Applicant (including the Environmental Officer), four community representatives (including a representative of the local Aboriginal Community) and representatives of the local Councils. Representatives from relevant government agencies (including DUAP) may be invited to attend meetings of the Committee as required.	YES		The CCC was established on 30 May 2000 and meetings have been held regularly since that time. Members of the CCC are: Independent Chairperson – Hon Milton Morris Donaldson Mine representatives – Alick Osborne - Director Donaldson Coal and Phillip Brown Environmental Manager Community Representatives - Mr Stephen Wright Dr Greg Steele
108	The Committee may make comments and recommendations about the implementation of the development. The Applicant shall ensure that the Committee has access to the necessary plans and/or studies for such purposes. The Applicant shall consider the recommendations and comments of the Committee and provide a response to the Committee and the Director-General.	YES		Management Plans have been provided to the CCC for comment and information. Discussion of management plans has occurred at the CCC meetings.
109	The Applicant shall, at its own expense: (i) provide appropriate facilities for meetings of the Committee;	YES		CCC Meetings have been held at Donaldson Mine offices. Donaldson have arranged and provided the required material and administrative backup for the meetings.
	(ii) nominate a representative to attend all meetings of the Committee;	YES		Donaldson Coal nominated representative to attend all meetings is the Environmental Manager- Phillip Brown.
	(iii) ensure that the first meeting is held prior to commencement of construction, that meetings are held at least every six months for the first 24 months from the date of the mining lease and at least annually thereafter;	YES		The first meeting of the CCC was held on 30 May 2000 prior to commencement of construction and subsequent meetings have been held on a regular basis. The meetings have been arranged by the Independent Chairperson as required. The CCC Meetings are currently being held annually with no requests for additional meetings made by members of the CCC.
	(iv) provide to the Committee regular information on the progress of the work and monitoring results;	YES		Reports on project status, monitoring results and AEMR's and complaints are provided to the CCC and

	(v) promptly provide to the Committee such other information as the Chairperson of the Committee may reasonably request concerning the environmental performance of the development; and	YES		Material is provided to the CCC as and when requested as detailed in the CCC Minutes.
	(vi) provide reasonable access for site inspections by the Committee.	YES		Site inspections by members of the CCC to view the mine and rehabilitation areas, following CCC Meetings.
110	The Applicant shall establish a trust fund to be managed by the Chairperson of the Committee to facilitate functioning of the Committee, and pay $2000 per annum to the fund for the duration of mining operations. The payment shall be indexed according to the Consumer Price Index (CPI) at the time of payment. The first payment shall be made by the date of the first Committee meeting.	YES		A trust fund for the functioning of the CCC was established in May 2000 and has been managed by the Independent Chairperson. Donaldson Coal provides all the requirements for the CCC Meetings with any additional funding reported to be provided upon request by the Chairperson.
Community Information				
111	The Applicant shall, in consultation with Councils, ensure that the local community is kept informed of the progress of the project, including prior notice of: (i) the nature of works proposed for the forthcoming period; (ii) hours of construction; (iii) a 24 hour contact telephone number; (iv) any traffic disruptions and controls; (v) proposed blasting program, and any changes to the program; (vi) work required outside the normal working hours; (vii) individuals' rights under the Conditions of this Consent (such as the rights for acquisition or independent monitoring) and mechanisms proposed to be used to safeguard the community and individual properties against adverse impacts from the development.	YES		Since June 2003, community information has been made available on the Donaldson website.
112	The Applicant shall ensure that the AEMR, minutes from Community Consultative Committee meetings and results and interpretation of monitoring required by this Consent are placed on the Internet for public information within 14 days after they are available. The Internet address is to be made publicly available.	YES		Donaldson website has been established and information on the CCC, monitoring and company status and activities is available on the site, including Minutes of the CCC Meetings, AEMR's and any project Newsletters.
Complaints				
113	(1) The Applicant shall record details of all complaints received and ensure that a response is provided to the complainant within 24 hours. (2) If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall refer the matter to an independent mediator (approved by the Director-General) and bear the costs of such mediation. The Applicant shall immediately carry out such works as agreed through the mediation process. (3) The Applicant shall make available a 3 monthly report on complaints to the Community Consultative Committee and to relevant government agencies and the Councils upon request; and include a summary in the AEMR. The report shall include the complaints that have been resolved with or without mediation.	YES		(1) The Complaints Register is on a database held at the Donaldson Mine office and maintained by the Environment Manager. (2) This requirement of the condition had not been activated at the time of the audit. (3) A Complaints Report is prepared and presented to the CCC at each meeting. A summary of complaints/actions/status is presented in the AEMR's:

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT				
	The Applicant shall prepare and submit an Annual Environmental Management Report (AEMR) throughout the life of the mine to the satisfaction of the Director-General. The AEMR shall review the performance of the mine against the Environmental Management Strategy and the Conditions of this Consent, and other licences and approvals relating to the mine. To enable ready comparison with the EIS's predictions, diagrams and tables, the report shall include, but not be limited to, the following matters:	YES		The AEMR's have been prepared in accordance with the Guidelines and submitted to the DPI/DMR.
114	(i) an annual compliance audit of the performance of the project against Conditions of this Consent and statutory approvals; (ii) a review of the effectiveness of the environmental management of the mine in terms of EPA, DLWC, DMR, and the Councils' requirements and provide an explanation of any variance; (iii) results of all environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person; (iv) identification of trends in monitoring results over the life of the mine; (v) a comparison of the actual impacts with predictions made in the EIS and supporting documents; (vi) a review of the social impact of the mine, including mitigation works and acquisition; (vii) a listing of any variations obtained to approvals applicable to the subject area during the previous year; (viii) the outcome of the water budget for the year, the quantity of water used from water storages and details of discharge of any water from the site; (ix) rehabilitation report; and (x) environmental management targets and strategies for the next year, taking into a account identified trends in monitoring results.	YES		(i) Compliance Audit conducted by Donaldson Mine in August 2001. Compliance with the conditions of consent is commented on in each AEMR. (ii) Commented on throughout the AEMR. (iii) Environmental monitoring data included in the AEMR in the relevant sections. (iv) Trends in monitoring data are presented under each specific heading in section 3 of the AEMR. (v) Comparison with the EIS predictions for the development are provided in each AEMR taking account of the approved MOP. (vi) No acquisition requests have been made to the time of this audit. Mitigation measures are part of the normal mine operation. (vii) Approval status is summarised in section 1.2 of the AEMR. (viii) No discharge has occurred from the mine site during the 2007 to 2010 period. Water management is reported in section 2.8 of the AEMR. (ix) Rehabilitation progress is reported in section 5 of the AEMR. (x) Targets and strategies for the next 12 months are reported in Section 6 of the AEMR.
115	In preparing the AEMR, the Applicant shall: (i) consult with the Director-General during preparation of each report for any additional requirements; (ii) comply with any requirements of the Director-General or other relevant government agency and with any guidelines current at the time of reporting; and (iii) ensure that the first report is completed and submitted within 12 months of this Consent, or at a date determined by the Director-General in consultation with the DMR and the EPA.	YES		(i) No additional requirements for the AEMR's have been advised from the Director-General. The AEMR's have been prepared to satisfy the DMR Guidelines. (ii) see above

116	The Applicant shall ensure that copies of each AEMR are submitted at the same time to DUAP, EPA, DLWC, NPWS, Councils and the Community Consultative Committee, and made available for public information at Councils within 14 days of submission to these authorities.	YES		Copies of the AEMR's prepared for the Donaldson Mine have been submitted to the authorities following receipt of acceptance of the document by the DII (or DPI-MR) and the Director-General. The AEMR's have been prepared in accordance with the DMR Guidelines and submitted to the DII/DPI/DMR in accordance with the mining lease agreement.
INDEPENDENT ENVIRONMENTAL AUDIT				
	At 3 yearly intervals after the commencement of mining and at the completion of mining, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:	YES		An Independent Environmental Audit was conducted in April 2010 by Trevor Brown & Associates to fulfil the requirements of MCoA 117.
117	(i) be conducted by a suitably qualified, experienced and independent person whose appointment has been endorsed by the Director-General; (ii) be consistent with ISO 19011:2002 – Guideline for Quality and/or Environmental Systems Auditing, or equivalent updated versions of these guidelines; (iii) assess the environmental performance of the development, and its effects on the surrounding environment; (iv) assess whether the development is complying with the relevant standards, performance measures and statutory requirements; (v) review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; (vi) and if necessary, recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.	YES		The April 2010 audit was conducted by Trevor Brown of Trevor Brown & Associates Applied Environmental Management Consultants. The conduct of the 2010 audit was consistent with the requirements of ISO19011. The environmental performance of the development was reviewed and comments are provided in Section 4 of this audit report. The development demonstrated a high degree of compliance with the standards, performance measures and statutory requirements relevant to the development (v) Comment on the Environmental Management Strategy and Environmental Monitoring Program are provide in Section 3 of this report
118	The audit shall: (i) assess compliance with the requirements of this Consent, licences and approvals; (ii) review the effectiveness of the environmental management of the mine, and any mitigation works; (iii) be carried out at the Applicant's expense; and (iv) be conducted by a duly qualified independent person or team approved by the Director-General in consultation with the Councils.	YES		An Independent Environmental Audit was conducted in April 2010 by Trevor Brown & Associates to fulfil the requirements of MCoA 117 and 118 in place in 2010.

119	The Director-General may, after assessing compliance in accordance with this Consent and after considering any submission made by the EPA, DLWC, DMR, the Councils or the Community Consultative Committee on the report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the Director-General may require.	Noted		
COMPLIANCE				
120	The Applicant shall comply with all requirements of the D-G in respect of the implementation of any measures arising from the Conditions of this Consent. The Applicant shall bring to the attention of the D-G any matter that may require further investigation and the issuing of instructions from the D-G. The Applicant shall ensure that these instructions are implemented to the satisfaction of the D-G within such time that the D-G may specify. If necessary, the D-G may order the Applicant to cease work until non-compliance has been addressed to the satisfaction of the D-G.	Noted		
121	The Applicant shall submit for the approval of the D-G compliance reports concerning the implementation of Conditions of this Consent as applicable: (i) before the commencement of construction works; and (ii) before the commencement of mining.	YES		Compliance Reports were prepared and submitted to DUAP for construction of the Donaldson Mine on 20 October 2000, and a Compliance Report was submitted to DUAP prior to commencement of mining works on 17 January 2001.
Y2K COMPLIANCE				
122	One month prior to the commencement of operation of any automated system, included embedded systems used for operation, pollution control, monitoring and safety (including fire safety), the Applicant shall provide the D-G with a report confirming that the system(s) has been tested in accordance with the most recent edition of BSI/DISC PD2000-1 to confirm continuous time and date functionality of that system.	YES		The Donaldson Mine commenced after the 1 January 2000. Systems installed and operated for the Donaldson Mine are Y2K compliant.
DISPUTE RESOLUTION				
123	In the event that the Applicant and an individual, the Councils or a Government agency, other than DUAP, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Director-General or if not resolved within six months, to the Minister for Urban Affairs and Planning, whose determination of the disagreement shall be final and binding on the parties.	Noted		The development consent was accepted by the parties and construction and commencement of mining occurred after 1 January 2000.

OTHER ISSUES				
124	The Applicant shall participate in (including a financial contribution if appropriate, to a maximum of $10,000) the preparation of a revised Planning Strategy for the Thornton-Beresfield area. Any such financial contribution shall be paid as directed by the Director-General and any amounts not expended in the review upon completion of mining shall be refunded to the Applicant.	Requirements of this condition not specifically activated at the time of the audit due to changes to the planning proposals.		The Thornton-Beresford Area has been incorporated into the Lower Hunter Area and a Planning Strategy as an employment generating area with a transport internodal hub proposed for the area. Donaldson has participated in meetings associated with the Thornton-Killingworth study, Lower Hunter Regional Strategy and Lower Hunter Conservation Plan. Donaldson also made some financial contributions including analysis and participation in the planning of a Newcastle rail by-pass line through the Stony Pinch site. The Lower Hunter Regional Strategy and Conservation Plan is not yet finalised, but Donaldson Coal continues to be involved in discussions with the authorities on the Strategy and Plan.
125	The Applicant shall provide reasonable funding to Councils for independent counselling services for any landowner within 1.5 kilometres of the mining lease area who may request support on stress-related matters resulting from the development.	Not activated at the time of the audit		No requests have been made for the activation of this condition.
126	Within six months of the date of this Consent and in each AEMR thereafter, the Applicant shall report to the Director-General on the number of personnel employed by the mine in construction, mining and environmental management during that reporting period. The report shall compare the employment figures with those predicted in the EIS.	YES		Mine employment numbers are reported annually in the AEMR.

APPENDIX 7:

Annual Rehabilitation Report

TABLE: REHABILITATION SUMMARY

	Cumulative Area Affected (hectares)			
	To date	Last report	Next Report (estimated)	
A: MINE LEASE AREA				
A1 Mine Lease(s) Area	532.8			
B: DISTURBED AREAS				
B1 Infrastructure area (other disturbed areas to be rehabilitated at closure including facilities, roads)	43.36	37.97	40.78	
B2: Active Mining Area (excluding items B3 – B5 below)	37.90	18.03	43.31	
B3 Waste emplacements, (active/unshaped/in or out-of-pit)	33.20	34.18	24.63	
B4 Tailings emplacements, (active/unshaped/uncapped)	0	0	0	
B5 Shaped waste emplacement (awaits final vegetation)	42.59	43.72	53.82	
ALL DISTURBED AREAS	**157.05**	**133.90**	**162.54**	F1
C REHABILITATION PROGRESS				
C1 Total Rehabilitated area (except for maintenance)	139.93	141.22	141.06	F2
D: REHABILITATION ON SLOPES				
D1 10 to 18 degrees	0	0	0	
D2 Greater than 18 degrees	0	0	0	
E: SURFACE OF REHABILITATED LAND				
E1 Pasture and grasses	0	0	0	
E2 Native forest/ecosystems	139.93	141.22	141.06	
E3 Plantations and crops	0	0	0	
E4 Other (include non-vegetative outcomes)	0	0	0	

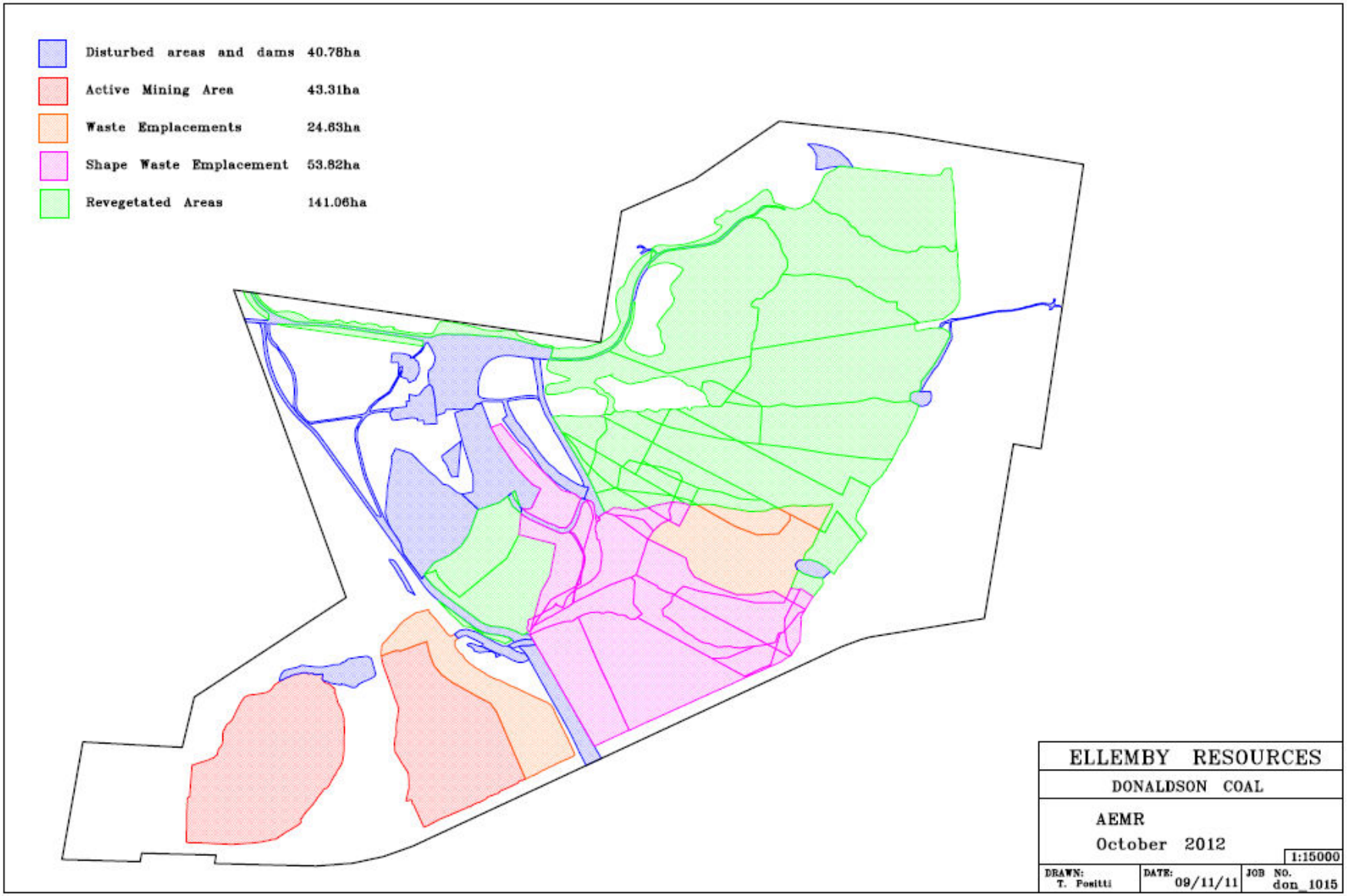
TABLE: MAINTENANCE ACTIVITIES ON REHABILITATED LAND

(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**)**	0	0	
Re-covering (detail - further topsoil, subsoil sealing etc)	0	0	
Soil treatment (detail - fertiliser, lime, gypsum etc)	0	0	
Treatment/Management (detail – grazing, cropping, slashing etc)	0	0	
Re-seeding/Replanting (detail – species density, season etc)	0	0	
Adversely Affected by Weeds (detail - type and treatment)	0	0	
Feral animal control (detail – additional fencing, trapping, baiting etc)	0	0	

APPENDIX 8:

Rehabilitation Plan


Disturbed areas and dams 40.78ha
Active Mining Area 43.31ha
Waste Emplacements 24.63ha
Shape Waste Emplacement 53.82ha
Revegetated Areas 141.06ha
ELLEMBY RESOURCES
DONALDSON COAL
AEMR
October 2012
1:15000
DRAWN: T. Positti
DATE: 09/11/11
JOB NO. don_1015

APPENDIX 9:

Blast Monitoring Results

Date	Fairfax Peak Vector Sum Vibration	Fairfax Peak Air Blast Overpressure	Pipeline Peak Vector Sum Vibration	Abakk Peak Vector Sum Vibration	Abakk Peak Air Blast Overpressure	Jennings Peak Vector Sum Vibration	Jennings Peak Air Blast Overpressure	Comment
9 Nov 2010 12.07	0.059	93.9	2.085	0.98	97.8	0.61	91.4	
12 Nov 2010 12.06	0.079	93.7	1.745	1.58	108.2	0.565	104.9	
24 Nov 2010 12.06	0.079	92.1	NR	1.321	111.5	0.662	103.2	Pipeline monitor not on mobile network due to low external battery voltage & did not receive trigger SMS
1 Dec 10 13.55	0.026	93	1.17	0.411	108	0.286	104.1	
8 Dec 10 12.15	0.059	88.6	1.464	0.898	106.5	0.247	101.8	
15 Dec 10 12.04	0.039	91.4	1.405	0.588	103.1	0.182	99	
22 Dec 10 12.12	0.046	92.6	1.405	0.581	104.6	0.169	97.2	
12 Jan 2011 12.10	0.039	87.9	0.863	***		0.441	103.2	*** Donaldson Coal Pty Limited purchased this property in January 2011
19 Jan 2010 12.05	0.066	90	2.15			0.656	109.8	
2 Feb 2011 12.13	0.072	94.6	3.516			1.077	106.8	
4 Feb 2011 12.12	0.066	94.4	2.529			0.733	105.2	
11 Feb 2011 12.10	0.046	102.4	3.849			0.227	105.6	
18 Feb 2011 12.11	0.046	92.8	3.065			0.558	95	
23 Feb2011 12.08	0.039	92.8	2.019			0.221	101.7	
2 Mar 11 12.05	0.059	91.9	1.771			0.779	108.2	
4 Mar 11 12.15	0.046	92.8	1.294			0.182	100.3	
9 Mar 11 12.09	0.085	106.1	1.764			0.688	112.3	
16 Mar 11 12.16	0.072	100.4	1.549			0.915	105.5	
17 Mar 11 12.15	0.059	101.8	1.928			0.532	104.9	
23 Mar 11 12.08	0.072	99.2	1.49			0.948	105.4	
30 Mar 11 12.06	0.085	98.3	1.562			0.941	105.4	
6 Apr 11 12.12	0.046	94.4	2.614			0.188	95.7	
8 Apr 11 12.08	0.053	99.7	1.568			0.221	104.4	
14 Apr 11 12.22	0.085	96.7	1.529			1.24	105	
May 4 2011 12.14	0.046	100.5	2.372			0.48	94.7	
May 6 2011 12.11	0.059	98.5	1.47			0.863	101.1	
May 11 2011 12.12	0.039	95.6	1.863			0.26	108.1	
May 19 2011 12.06	0.039	97.1	0.921			0.318	106	
May 27 2011 12.09	0.059	99.1	2.137			0.558	100.9	
13 July 2011 12.06	0.046	109.1	1.281			0.545	106.7	
21 July 2011 12.13	0.085	104.8	2.496			1.246	105.4	
27 July 2011 12.09	0.105	106.8	2.581			1.337	104.7	
5 Aug 11 12.12	0.105	104.9	0.497			1.09	105.2	
12 Aug 11 12.30	0.099	107.3	1.83			2.812	104.5	
17 Aug 11 12.10	0.046	95	1.255			0.239	104.6	
26 Aug 11 12.12	0.043	90	0.926			0.187	96.2	
31 Aug 11 12.08	0.105	95.6	2.128			1.367	105.1	
7 Sept 2011 12.11	0.056	92.3	1.815			0.353	104.3	
Minimum	0.026	87.9	0.497	0.411	97.8	0.169	91.4	
Average	0.06	96.79	1.84	0.91	105.67	0.66	103.25	
Maximum	0.105	109.1	3.849	1.58	111.5	2.812	112.3	
Number of Blasts	38	38	37	7	7	38	38	
% Blast Results	100	100	97.4	100	100	100	100	