



DONALDSON COAL

PTY LTD

ABN: 87 073 088 945

Annual Environmental Management Report

for the

**Abel Underground Coal Mine
1 June 2009 to 31 May 2010**

Compiled by:



R.W. CORKERY & CO. PTY. LIMITED

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Name of mine	Abel Underground Coal Mine		
Mining Titles/Leases	ML 1618		
MOP Commencement Date	31/12/09	MOP Completion date	31/12/16
AEMR Commencement Date	01/06/09	AEMR Completion date	31/05/10
Name of leaseholder	Donaldson Coal Company Pty Ltd		
Name of mine operator (if different)	NA		

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Ref No. 737/05

April 2011



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FOREWORD

This Annual Environmental Management Report (“AEMR”) for the Abel Underground Coal Mine has been compiled by R.W. Corkery & Co. Pty. Limited on behalf of Donaldson Coal Pty Ltd (the “Company”). The Abel Underground Coal Mine (the “Abel mine”) is located approximately 23km northwest of Newcastle, New South Wales (see **Figure 1.1**).

This is the third AEMR submitted for the Abel mine and is applicable for the period 1 June 2009 to 31 May 2010 (“the reporting period”). The information presented within this AEMR has been compiled based on information and advice provided by the Company, together with observations during a site inspection undertaken on 10 August 2010.

This AEMR has been prepared in accordance with *Schedule 5 Condition 4* of Project Approval 05_0136 and generally follows the format and content requirements identified in the Guidelines to the Mining, Rehabilitation and Environmental Management Process (version 3) (2006) (I&I NSW).



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1. INTRODUCTION

1.1 CONSENTS, LEASE AND LICENCES

The Company has operated the approved activities at the Abel Underground Coal Mine (the “Abel mine”) under the following consent, lease and licences (**Table 1.1**).

Table 1.1
Abel Underground Coal Mine – Approvals, Leases and Licences

Approval/Lease/Licence	Issue Date	Expiry Date	Details / Comments
Project Approval 05_0136	7 June 2007	31 December 2028	Granted by the Minister for Planning.
Mining Lease ML 1618*	15 May 2008	15 May 2029	Granted by the Department of Primary Industries - Mineral Resources. Incorporates 2755ha of surface area.
Environment Protection Licence No. 12856	9 July 2008	Not applicable	Issued by the (then) Department of Environment and Climate Change (EPA)
Water Licence 20BL171935	5 August 2008	4 August 2013	Bore licence to intercept groundwater

*See **Figure 1.1**

The Company also holds Exploration Licence 5497 which remains valid until July 2012.

During the reporting period, modification of Project Approval 05_0136 was sought for the installation of a downcast ventilation shaft. An Environmental Assessment was submitted in May 2010 and the proposed modification approved by the Department of Planning on 10 June 2010 (outside this reporting period).

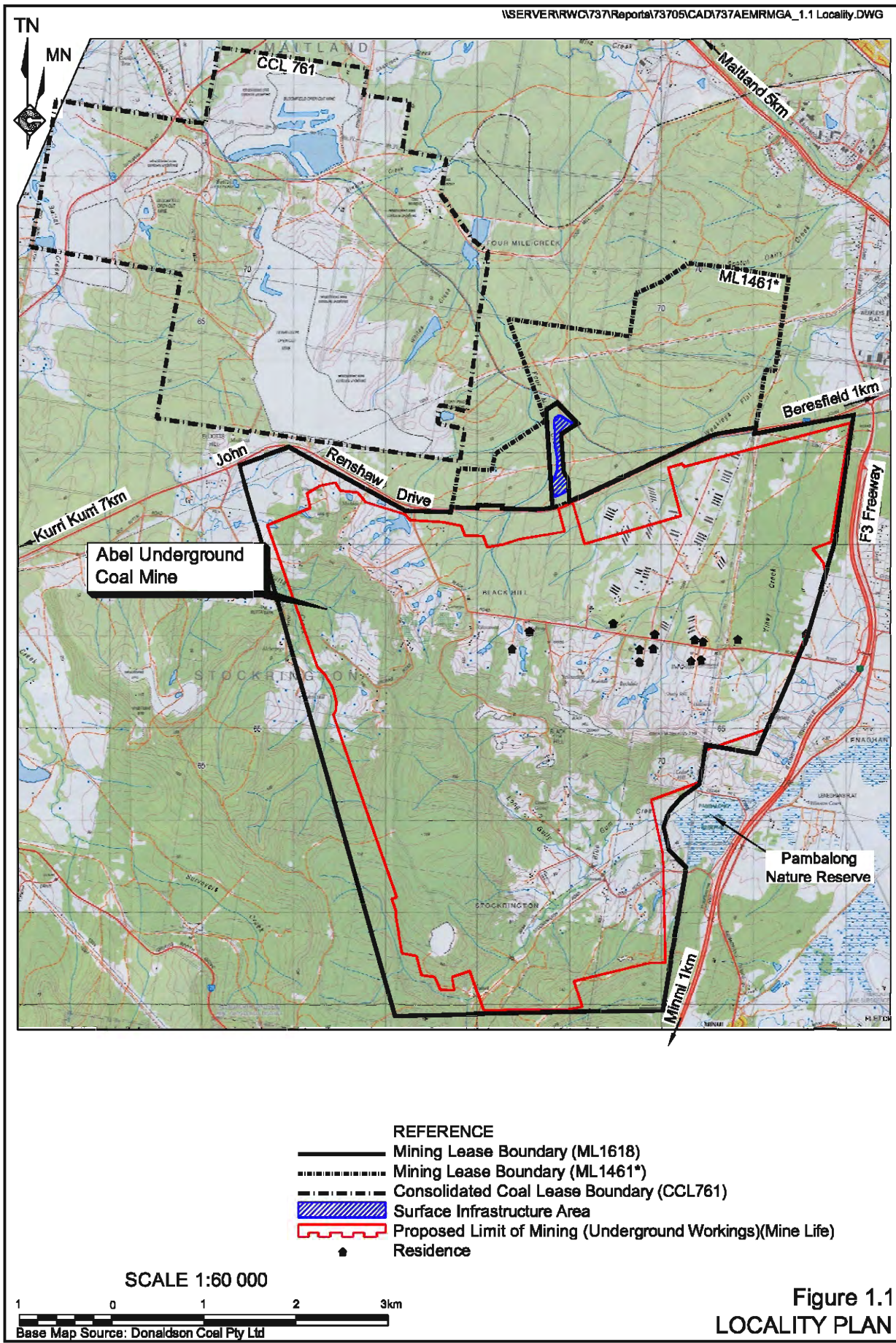
No other modifications or variations have been sought within the AEMR reporting period for any of the other leases, approvals or licences outlined within **Table 1.1**.

Conditions within the existing approval and mining lease which specify specific environmental criteria are as follows.

- Noise
 - *Schedule 4 Condition 23* of Project Approval 05_0136 - noise emissions (day, evening and night).
- Air Quality
 - *Schedule 4 Condition 25* of Project Approval 05_0136 - dust emissions (suspended particulates and deposited dust).

The approved management and monitoring plans and programs prepared for the Abel mine provide further detailed information relating to applicable environmental criteria.





1.2 MINE CONTACTS

The Manager of Mining Engineering, Mr Matthew Blackham is the primary mine contact (Tel: 0438 682 984). Mr Blackham is responsible for the environmental management of the Abel mine and ensuring compliance with all relevant legislative obligations. Mr Phillip Brown (Tel: 0439 909 952) is the nominated Environmental Manager and is also responsible for the environmental management of the Abel mine. The contact details for the Abel mine are as follows.

Postal Address: Donaldson Coal Pty Ltd Tel: 02 4015 1100
PO Box 2275 Fax: 02 4015 1199
GREENHILLS NSW 2323 Email: donaldson@doncoal.com.au

Physical Address: Donaldson Open Cut Coal Mine
1132 John Renshaw Drive
BLACKHILL NSW 2322

24 hour Environmental Hotline Tel: 1800 111 271

1.3 ACTION REQUIRED AT PREVIOUS AEMR REVIEW

The 2008/2009 AEMR for the Abel mine was submitted to the Department of Planning (DoP), Industry and Investment NSW – Mineral Resources (I&I NSW-MR) and other agencies in December 2009. The DoP was satisfied with the AEMR, however, no feedback was provided by I&I NSW-MR.

2. OPERATIONS DURING THE REPORTING PERIOD

2.1 EXPLORATION

During the reporting period 50 geological holes were drilled targeting the upper and lower Donaldson Seams to further define coal quality, resources and the proposed structure of the underground mine. No piezometers were installed into these holes, with all drill holes sealed in accordance with the *Borehole Sealing Requirements on Land: Coal Exploration* guidelines (DPI Ref: EDG01) and standard industry practice.

Exploration reports for EL 5497 continued to be provided to the Coal Advice and Resource Assessment section of I&I NSW.

2.2 LAND PREPARATION

During the reporting period, no land preparation activities specific to the Abel mine MOP and ML 1618 were undertaken although some widening of the light vehicle access road near the substation involving minor vegetation clearing and soil stripping was undertaken as part of the Donaldson Open Cut Coal Mine (the “Donaldson mine”). Vegetation and soil material was windrowed adjacent the access road and seeded with a cover crop (see **Plate 1**). Reporting of this activity will be included in the 2009/2010 AEMR for the Donaldson mine.



2.3 CONSTRUCTION

During the reporting period the primary construction activities, as shown in **Plan 1**, included installation of the following facilities.

- Additional administration facilities (including a safety and training building).
- Additional bath house and associated sewerage facilities.

The installation of the power substation and connection of mains power was also completed in January 2010.

2.4 MINING

Plan 2 presents the mining related activities undertaken during the reporting period. Mining activities concentrated on continuation of first workings within the South Mains, East Mains, East Install Headings, Panel 1 and Tailgate Headings. No secondary workings were undertaken during the reporting period. A total of 736 708t (526 220m³) of run-of-mine coal (ROM) was recovered during the reporting period producing 459 498t (328 212m³) Product Coal following processing at the Bloomfield Coal Handling and Preparation Plant (CHPP).

Table 2.1 provides a production summary for this reporting period and estimated production at the end of the next reporting period.

Table 2.1
Production and Waste Summary – 1 June 2009 to 31 May 2010

	Cumulative Production (m ³)		
	Start of Reporting Period	End of Reporting Period	End of Next Reporting Period (Estimated)
Topsoils Stripped ¹	0	0	0
Topsoil used / spread	0	0	0
Waste Rock	1500	2 200	3 300
ROM Coal	152 110	678 330	1 341 951
Processing Waste	0	0	0
Product Coal ²	152 110	678 330	1 341 951
Note 1: Topsoil stripped for the widening of the light vehicle access road to the substation to be reported under the Donaldson mine AEMR. 2: For the purposes of reporting, as no coal processing is undertaken on-site, ROM coal equates to 'product coal' and therefore no processing waste is produced. Source: Donaldson Coal Pty Ltd			

No blasting relating to operations undertaken as part of the Abel mine occurred during the reporting period.





Plate 1
View east across the
widened substation
access road (Date of
Photography 10
August 2010)

(Ref E737C_045)



Plate 2
New Safety & Training
and Administration
Building (Date of
Photography 10
August 2010)

(Ref E737C_002)



Plate 3
View north over portal
and coal handling area
(Date of Photography
10 August 2010)

(Ref E737C_034)

Mining equipment used at the mine throughout the reporting period along with its primary function is presented in **Table 2.2**.

Table 2.2
Mining Equipment Used within the Reporting Period

Item	No.	Primary Function
Continuous Miner (Joy 12CM12 and 12CM30)	4	Forming underground roadways.
Shuttle Cars	8	Transporting cut material away from Continuous Miner.
Driftrunners	9	Transporting people underground.
Coaltrams	4	Transporting materials and equipment, clean up roadways.
Feeder breaker	1	Discharge point for shuttle cars. Reduces size of coal and feeds it onto the conveyor system.
Ventilation Fans (Main Vent / Auxiliary)	1 / 4	Extracting used air from the mine.
Source: Donaldson Coal Pty Ltd		

2.5 MINERAL PROCESSING

No processing activities were undertaken within ML 1618 other than the use of a feeder breaker to reduce spillage from the conveyor transporting coal to the surface. Processing activities are, however, applicable to Project Approval 05_0136 issued for the Abel underground mine which provides for haulage to and processing at Bloomfield CHPP. During the reporting period, approximately 736 708t coal from Abel underground mine was processed at Bloomfield CHPP. This resulted in the production of approximately 459 498t Product Coal from Abel mine during the reporting period. Details of this process and associated waste management are provided within the respective reporting for the Bloomfield CHPP.

2.6 WASTE MANAGEMENT

Wastes generated on site during the reporting period included the following.

- Waste rock / unprocessable weathered coaly material.
- Greases, oils, filters, tyres and batteries from maintenance of vehicles and equipment.
- Bulk scrap metal and plastics from discarded equipment.
- General office wastes, e.g. paper.
- General waste generated by employees, e.g. food scraps, paper, cardboard, aluminium and steel cans.
- Wastewater and sewage from bathhouses.

Fine and coarse rejects were also generated at the Bloomfield CHPP.



As shown in **Table 2.1**, approximately 700m³ of waste rock and unprocessable coaly material was removed within the reporting period during formation of underground roadways. All waste rock and unprocessable coaly material was removed using dump trucks and placed within the Donaldson mine waste rock emplacement and backfill areas in accordance with the approved final landform for the Donaldson mine (Development Consent 114-116).

All waste oil was stored within 205L drums or 1 000L IBC's within the oil store before being removed from site, along with used oil filters and oily rags, by Australian Waste Oils. Used tyres are removed from site during servicing by Marathon for repair or disposal.

Paper, cardboard, steel, aluminium and any other recyclable material was stored separately in 1.5m³ and 3.0m³ skip bins for recycling. Paper, cardboard and general waste material continued to be collected by Veolia on a weekly basis whilst scrap metal was collected by CMA recycling on an as-needs basis. The scrap steel / drum crusher continued to be in use.

All general wastes were stored in skip bins and removed by Veolia. All wastewater (greywater) and sewage generated on the site from bathhouses was also removed from the site by Veolia, on an as-needs basis. Approximately 5.3ML of grey water and sewage effluent was removed from site during the reporting period.

2.7 COAL STOCKPILES

All ROM coal was stockpiled within the mine's portal and coal handling area (see **Plate 3**). The ROM stockpile, which is situated under the conveyor outfeed, has a capacity of approximately 3000t. During the reporting period, ROM coal continued to be transported to the Bloomfield CHPP by private road.

2.8 WATER MANAGEMENT

The water management procedures are presented in the approved Water Management Plan prepared for the Abel mine and are not presented here in detail. Essentially, all surface water was managed through the use of the existing water management structures for the Donaldson mine with clean water flows directed away from the surface facilities area. Water runoff from within the box cut area incorporating the surface facilities together with excess underground water was directed to an approximately 1.5ML water storage sump located in the southeast corner of the box cut. A small temporary 'dirty water catch dam' is also used to collect stormwater runoff from the northern part of the portal access road.

As required, water from the sump was pumped to the Big Kahuna dam (400ML storage capacity, located within ML 1461 for the Donaldson mine). **Table 2.3** provides a summary of the volumes of water stored at the start of the reporting period, at the end of the reporting period and the total storage capacity.



Table 2.3
Stored Water

	Volumes Held (m ³) [#]		Storage Capacity
	Start of Reporting Period	At end of Reporting Period	
Clean Water	400	400	450
Dirty Water	1500	1500	1500
Controlled Discharge Water	0	0	0
Contaminated Water	0	0	0
Source: Donaldson Coal Pty Ltd		[#] Within Abel Surface Infrastructure Area.	

2.9 HAZARDOUS MATERIAL MANAGEMENT

At the time of reporting, fuel storages for the site include a 2 000L self bunded tank for the refuelling of mobile equipment, a 55 000L self bunded tank in the storage area above the portal and a 55 000L self bunded tank near the newly constructed dedicated hydrocarbon store near the workshop. All tanks were filled as required using mini tankers. Smaller volumes of oils and grease are also stored within 1 000L IBC's or 20L/25L drums stored on bunded pallets and / or within the area draining to the wash bay and oil/water separator.

All handling, storage and transport of dangerous goods were undertaken in accordance with relevant Australian Standards including *AS1940*, *AS1596* and the *Dangerous Goods Code*. An on-line Material Safety Data Sheet (MSDS) database is available through subscription to ChemAlert. This provides immediate and current MSDS information in the Administration Office. When MSDSs are required underground hard copies are printed. Any new chemical substance is approved by the Mine Manager before introduction to the site.

Additionally, as part of the Environmental Management System for the Abel mine, a series of Emergency Response and Preparedness Plans have been prepared by the Company to address any significant environmental emergency, including those involving hazardous materials. Spill kits are located at appropriate points and are serviced by the supplier on a monthly basis.

The mine has established a 20L spill criterion for classification of a hydrocarbon incident. Two incidents occurred during the reporting period. The first involved the failure of a valve on a diesel line in the bunded area above the portals. The area was cleaned and contaminated soil removed. The second incident involved overflow from transfer between oil tanks. The overflow reported to the wash down bay / oil water separator and was cleaned up. Neither incident resulted in material harm or was required to be reported under the Annual Return for the Environment Protection Licence.

2.10 OTHER INFRASTRUCTURE MANAGEMENT

No additional management measures were required for other infrastructure during the reporting period.



3. ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

3.1 METEOROLOGICAL MONITORING

An automated weather station, installed for the Donaldson mine, has been approved by the Department of Planning as also meeting the requirements for the Abel mine. The weather station records wind speed and direction, temperature, rainfall and solar radiation. A summary of the rainfall data for the past 5 years is presented in **Table 3.1** and monthly and annual wind roses are presented in the Monthly Dust and Meteorological Reports provided in **Appendix 2**.

Table 3.1
Monthly Rainfall Records

Period	Average Monthly Rainfall (mm)												
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2004	86.0	176.6	80.0	33.6	17.4	9.4	15.4	43.1	61.2	136.0	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	34.4	34.5	545.5
2007	13.4	96.4	101.4	84.6	59.7	315.2	16.5	79.6	28.3	35.0	163.8	49.5	1043.4
2008	153.4	154.3	46.0	237.6	2.2	105.4	17.4	13.4	27.2	8.4	73.3	62.6	900.3
2009	125.7	97.7	102.8	189.0	125.7	75.7	32.1	1.8	29.2	59.8	44.3	62.0	945.8
2010	89.0	52.1	83.9	37.1	89.4								351.5

Note: Results relevant to this reporting period are in bold.

Total rainfall during the reporting period was 656.4mm.

3.2 AIR POLLUTION

Environmental Management

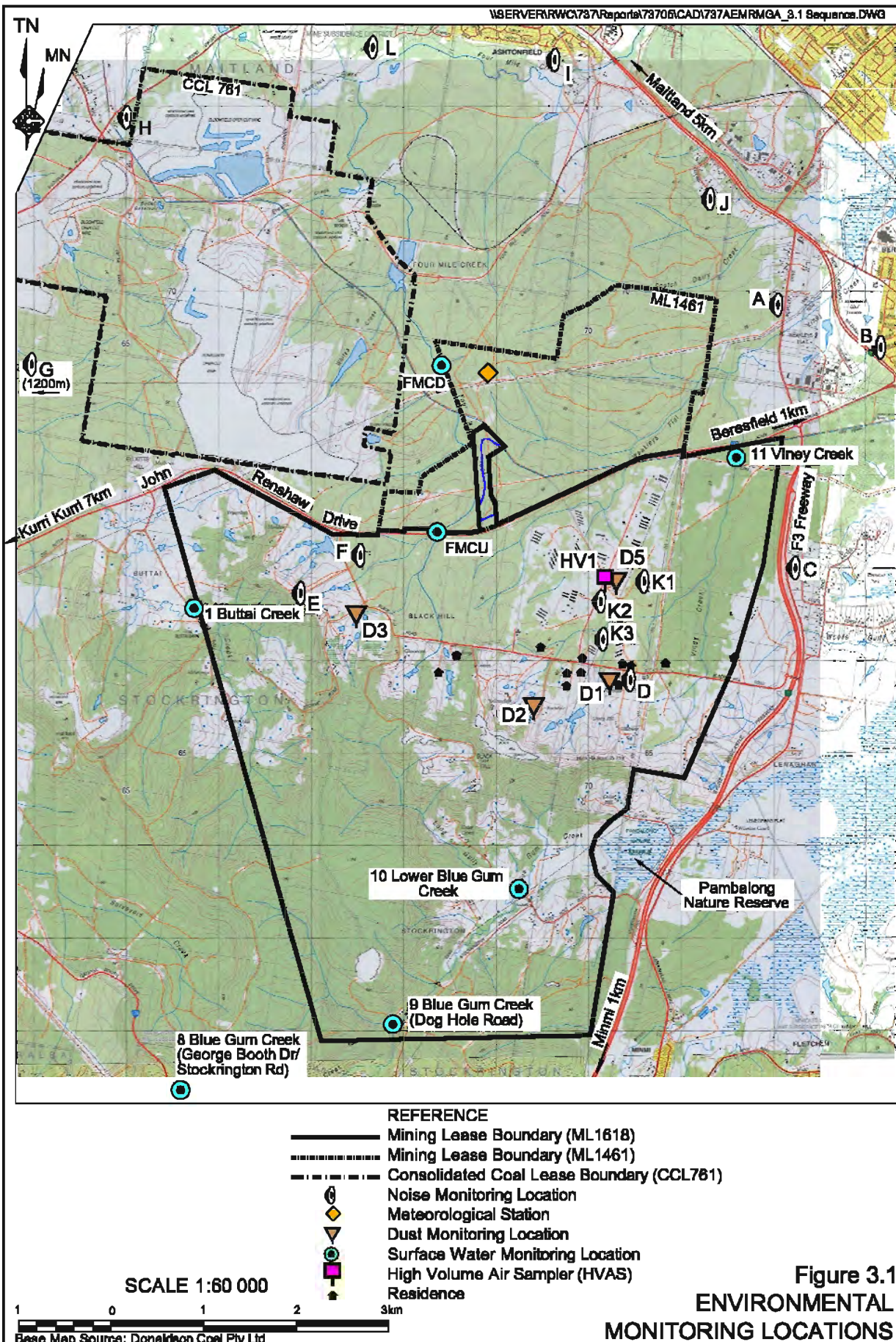
Management of air quality during the reporting period was largely undertaken as part of the Donaldson mine activities which included watering of unsealed access roads (on an as needs basis) and use of exhaust controls on mobile equipment.

Environmental Performance

Monthly deposited dust monitoring was undertaken by Carbon Based Environmental at a total of four locations surrounding the Abel mine (consisting of four existing locations for the Donaldson mine). TSP and PM₁₀ monitoring was also undertaken at the existing High Volume Air Sampling station for the Donaldson mine located approximately 1500m southeast of the surface infrastructure area at Blackhill. Locations of deposited dust and suspended particulate (high volume air sampling) monitoring are shown on **Figure 3.1** and results summarised within **Table 3.2** and **Figure 3.2**. Monthly Dust and Meteorological Reports are provided in **Appendix 2**.

The highest dust deposition measurement (11.3/m²/month at D2) occurred in February 2010. The laboratory report indicates that this sample was excessively contaminated with insects and grass / grass seed. This reading has therefore been removed when calculating the annual average. The annual average deposition rates for the gauges in the network were all significantly below the goal of 4g/m²/month, indicating good air quality with respect to dust deposition.





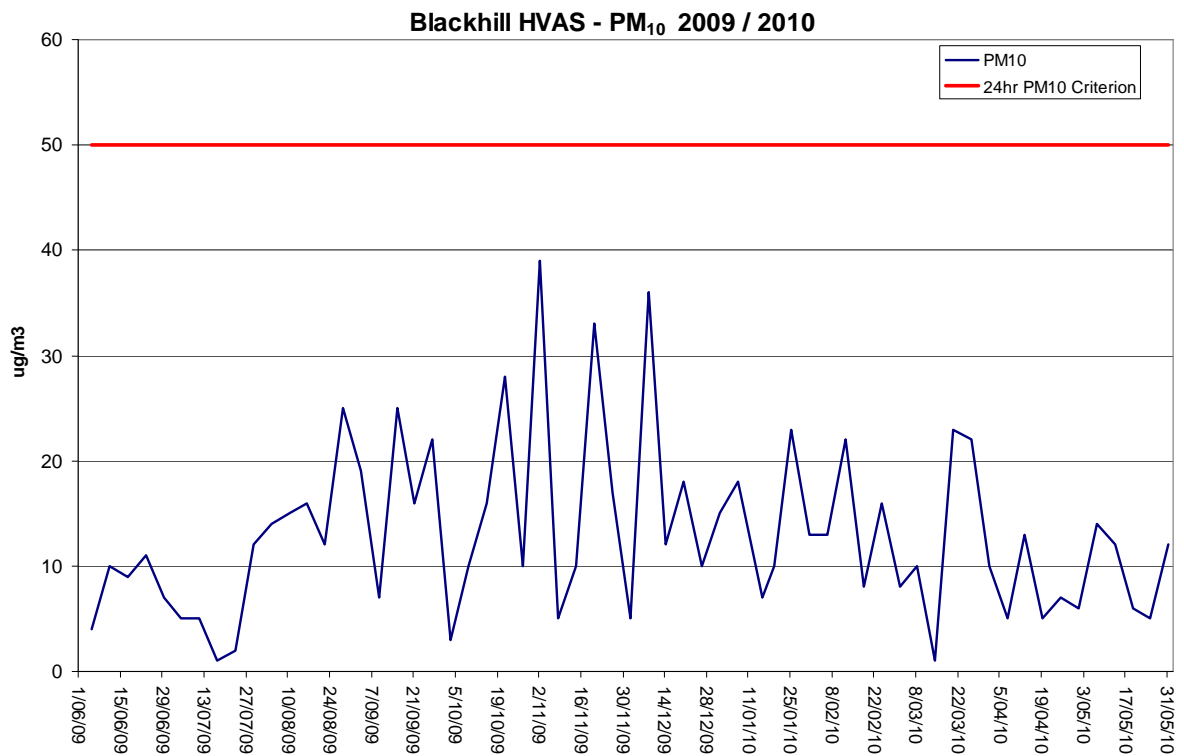
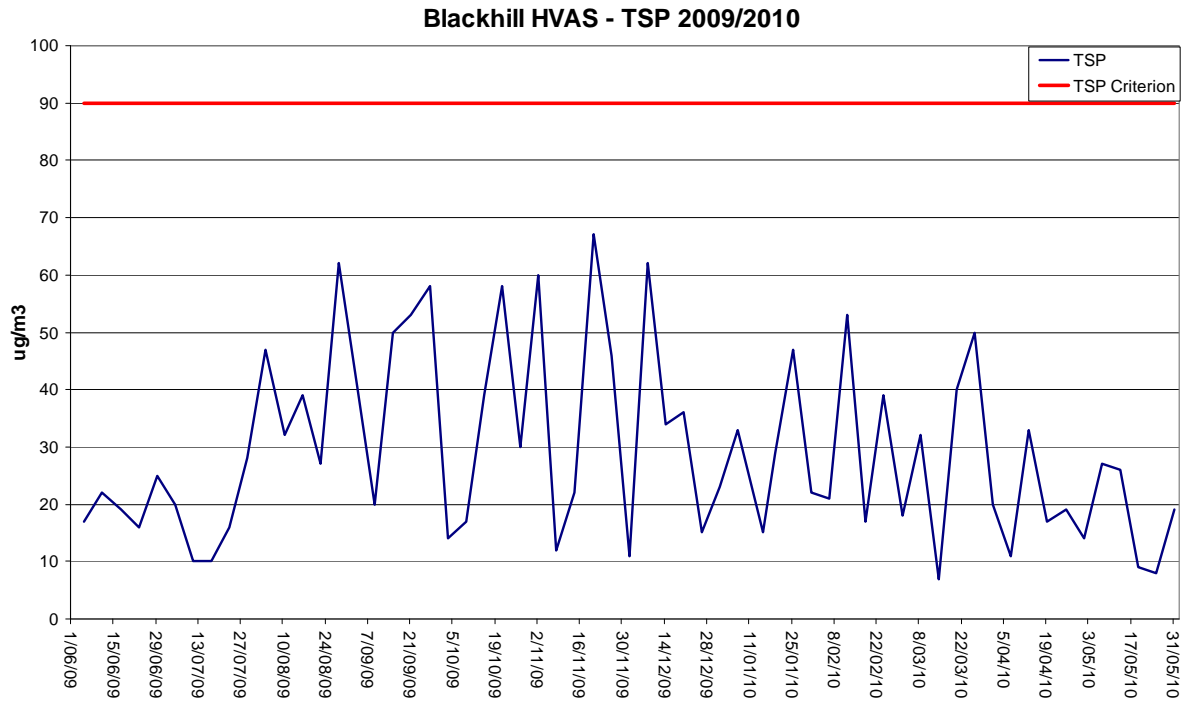


Figure 3.2 Suspended Particulate Monitoring Results – 2009/2010



Table 3.2
Deposited Dust Monitoring Results

Reporting Period	Month	Monthly Dust Deposition Rate (g/m ² /month)			
		D1	D2	D3	D5
2007/2008	Monthly Minimum	0.4	0.1	0.6	0.1
	Monthly Maximum	4.5	0.9	3.7	2.9
	Annual Average	1.65	0.56	1.51	0.81
2008/2009	Monthly Minimum	0.2	0.4	0.1	0.5
	Monthly Maximum	2.8	5.8	2.7	2.5
	Annual Average	0.9	2.1	1.3	1.2
2009/2010	Jun-09	0.4	1.3	0.8	0.5
	Jul-09	0.2	1.0	0.6	0.3
	Aug-09	0.8	3.6	0.8	1.0
	Sep-09	1.0	1.8	1.8	1.0
	Oct-09	4.3	9.0	5.2	3.2
	Nov-09	0.8	1.7	1.4	0.7
	Dec-09	1.4	4.0	1.6	1.7
	Jan-10	0.6	0.8	5.6	2.4
	Feb-10	1.9	11.3*	1.9	1.5
	Mar-10	0.6	0.6	3.2	4.1
	Apr-10	0.8	1.8	2.4	-
	May-10	0.8	4.9	3.0	1.2
	Monthly Minimum	0.2	0.1	0.1	0.1
	Monthly Maximum	4.3	11.3*	5.6	4.1
	Annual Average	1.1	2.8	2.4	1.6
Source: Donaldson Coal Pty Ltd					
*Sample invalid due to excessive contamination with insects and grass seed (not included in average)					

The suspended particulate monitoring results show that the highest 24-hour average PM₁₀ concentration was 39µg/m³, measured on 02 November 2009. On no occasion did the measured PM₁₀ concentrations exceed the 50µg/m³ 24-hour *National Environment Protection Measures* (NEPM) goal. The highest 24-hour TSP was 67µg/m³ recorded on 20 November 2009 which is below the annual 90µg/m³ *National Health and Medical Research Council* (NHMRC) goal.

The annual average PM₁₀ concentration for Blackhill was 13µg/m³ for the 12 months to May 2010. The annual average TSP concentration for the 12 months to May 2010 was 29µg/m³. The monitoring results indicate that suspended particulate concentrations are well below the annual average criteria of 30µg/m³ and 90µg/m³ respectively.

A National Greenhouse Gas and Energy Report (NGER) was also submitted during the reporting period covering the 2008/2009 financial year. This was the first NGER report for the Abel mine.

Reportable Incidents

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



Further Improvements

No further improvements relating to air pollution are planned or considered necessary. Air quality management measures during future operations will be consistent with those outlined within the MOP prepared for the Abel mine and the Air Quality Management Plan.

3.3 EROSION AND SEDIMENT CONTROL

Environmental Management

Sediment and erosion management procedures implemented throughout the reporting period included the following.

- i) Continued diversion of 'dirty' surface water flows within the box cut area to the water storage sump.
- ii) Continued diversion of 'clean' water from areas surrounding the box cut to existing drainage lines.
- iii) Maintenance of a small dirty water catch dam on the western edge of haul road between the surface infrastructure and portal area to capture runoff from a small section of this road.

No further erosion and sediment controls were deemed necessary.

Environmental Performance

No major erosion or sedimentation was observed during the reporting period. The erosion and sediment control measures implemented were largely considered successful without the need for further control measures. Silt fencing and sediment traps continued to be regularly inspected and maintained although some improvements could be achieved at the small dirty water catch dam.

Reportable Incidents

No reportable incidents occurred during the reporting period.

Further Improvements

No further erosion and sediment control measures are planned or considered necessary. Erosion and sediment control measures during future operations will be consistent with those outlined within the Water Management Plan and MOP prepared for the Abel mine. Regular inspections will continue to be undertaken to ensure that these measures remain effective, particularly at the spillway of the small dirty water catch dam (until runoff from the road is re-directed – see Section 3.4).



3.4 SURFACE WATER POLLUTION

Environmental Management

As part of the approved Water Management Plan, Abel mine transfers water off-site to the Big Kahuna and then to Bloomfield CHPP as required. Surface water monitoring sites specified for the Abel mine are aimed at detecting indirect impacts such as from underground mining activities and activities in the surface infrastructure area. Monitoring at Sites FMCU and FMCD commenced prior to the commencement of the Abel underground mine and serve to provide baseline data. Monitoring at Sites 1, 8, 9, 10 and 11 commenced in 2006 and provide baseline data and can also be used to assess impacts attributable to the Abel mine.

Environmental Performance

Surface water monitoring data for the reporting period is summarised in **Table 3.3** and presented graphically in **Figure 3.3**, with the full data set provided in **Appendix 7**. It is noted that monitoring at additional sites identified within the Integrated Environmental Monitoring Program incorporating the Abel mine, Donaldson Mine, Tasman Underground Coal Mine and Bloomfield Colliery were undertaken and will be reported within their respective AEMRs.

It is noted that for most sites, few or no samples could be collected between January and May 2010 due to dry conditions. Where water was present the flow conditions were generally nil or low flow.

Table 3.3
Summary of Water Quality Monitoring Results – 2009/2010

Sampling Site [^]	pH [#]	EC (µS/cm) [#]	Turbidity (NTU)	TSS (mg/L)
1	7.2 to 8.8	510 to 1580	3.8 to 77	5 to 22
8	6.4 to 7.4	630 to 840	5.4 to 74	<2 to 11
9	7.6 to 8.4	390 to 1770	14 to 71	19 to 186
10	7.3 to 8.5	680 to 2610	3.3 to 57	3 to 23
11	6.2 to 8.8	560 to 2230	10 to 60	7 to 72
FMCU	6.6 to 7.6	280 to 700	28 to 72	12 to 23
FMCD	7.2 to 7.9	140 to 240	3.8 to 566	<2 to 360
ANZECC Trigger Level *	6.5 – 8.5	125 - 2200	6 – 50 (NTU)	-

[^] See **Figure 3.1** * ANZECC Chapter 3 – Aquatic Ecosystems – Lowland Rivers in NSW. [#] Field Measurement

Analysis of the results obtained during the reporting period, indicate the following.

- The pH at all sites was slightly acidic to slightly alkaline. Results were generally within the water quality trigger values for Lowland Rivers in NSW (6.5 to 8.5) outlined in the *Guidelines for Fresh and Marine Water Quality* (ANZECC 2000) although some results were marginally above or below the guidelines.



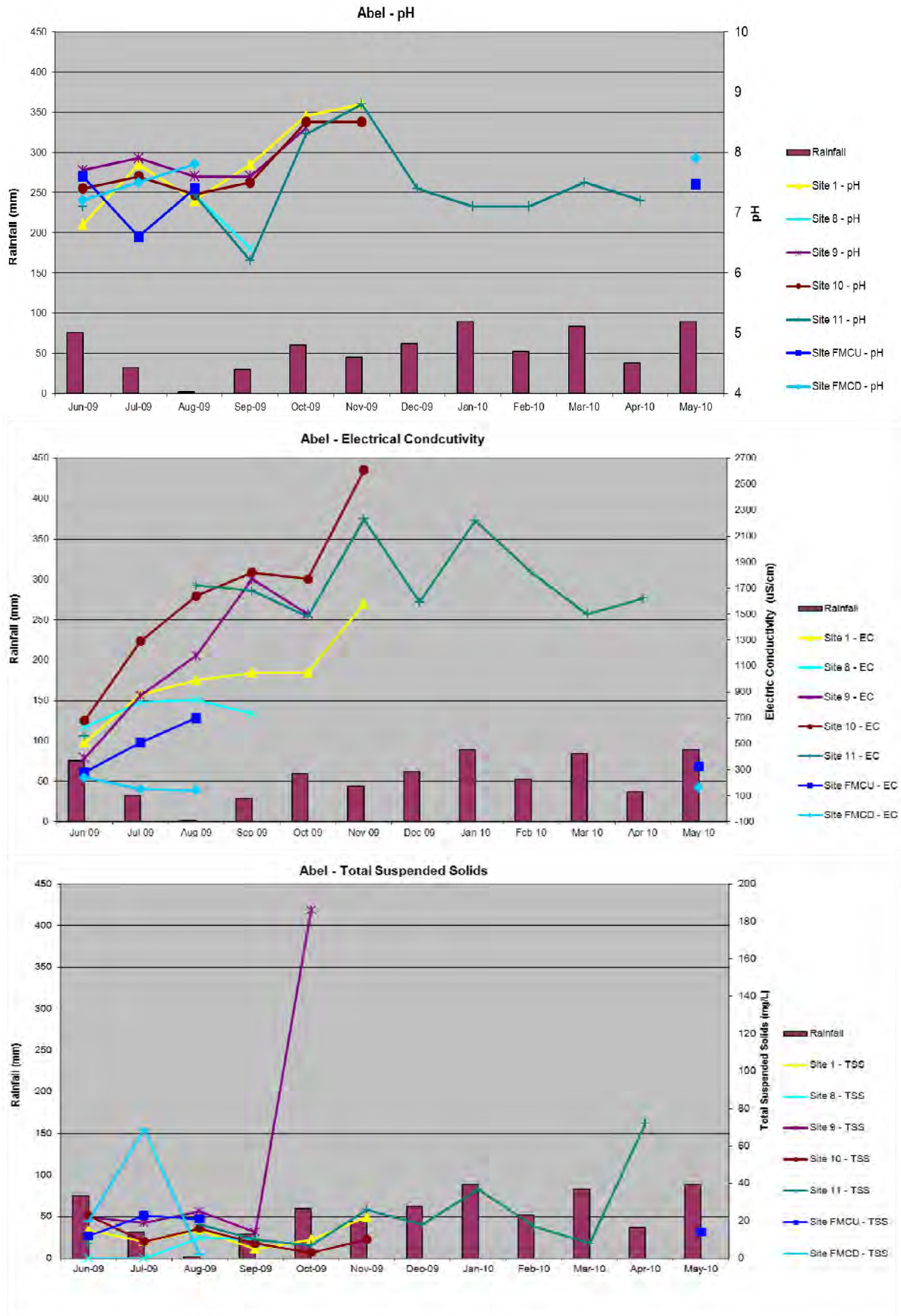


Figure 3.3 Surface Water Quality Monitoring Results 2009/2010



- The electrical conductivity (EC) results range between 140 to 240 μ S/cm at FMCD and 680 to 2 610 μ S/cm at Site 10 (Lower Blue Gum Creek). All EC results, with the exception of one recording at Site 10 (2 610 μ S/cm) and Site 11 (Viney Creek) (2230 μ S/cm), are within the water quality trigger values for Lowland Rivers in NSW (125 to 2 200 μ S/cm) (ANZECC 2000).

Table 3.3.3 of the Guidelines advises that higher EC levels may occur in lowland waterways during low flow periods. Flow rates observed at Sites 10 and 11 during the twelve monitoring occasions were predominantly nil to low flow. Furthermore Viney Creek is subject to influence from John Renshaw Drive and the disused poultry farms southwest of the monitoring site. Elevated EC levels have previously been recorded at Sites 10 and 11 and as these sites are not affected by activities within the Abel surface infrastructure area and no secondary extraction has yet been undertaken within the underground area it is considered that the Abel mine is not having an influence on these EC levels.

- Turbidity results for all sites and total suspended solids (TSS) levels at three sites (Sites 9, 11 and FMCD) exceeded the water quality trigger values for Lowland Rivers in NSW (6 to 50 NTU) outlined in the Guidelines for Fresh and Marine Water Quality (ANZECC 2000) and commonly applied TSS criteria (50mg/L).

Baseline monitoring data results presented in the Water Management Plan show that maximum TSS of 6 430mg/L and an average of 265mg/L had been recorded at FMCD. A maximum of 528mg/L and average of 72mg/L were also recorded at FMCU during baseline monitoring. As for EC, the remaining monitoring sites target the underground mining area. With no secondary extraction having commenced, it is considered that the Abel mine is not having an influence on the turbidity and TSS levels for these sites.

Reportable Incidents

No reportable incidents occurred during the reporting period.

Further Improvements

During the next reporting period it is planned to alter the drainage from the Coal Haul Road between the surface facilities and portal and coal handling area to drain eastwards into the box cut. This will assist in managing runoff from the haul road during high rainfall events.

No other surface water control measures are planned or considered necessary and surface water control measures during future operations will remain consistent with those outlined within the Water Management Plan and MOP prepared for the Abel mine.

3.5 GROUNDWATER POLLUTION

Environmental Management

Monthly monitoring of regional groundwater levels and groundwater quality was undertaken throughout the reporting period in accordance with the Site Water Management Plan and Integrated Environmental Monitoring Plan.



Environmental Performance

A summary of groundwater level monitoring results relevant to the Abel Underground Coal Mine is provided in **Table 3.4**.

Table 3.4
Groundwater Levels

Piezometers		Standing Water Level (m AHD)		
		2007/2008	2008/2009	2009/2010
C063A	Average	-5.57	-5.52	-5.06
	Range	2.07	2.17	1.33
C063B	Average	-19.07	-21.75*	-22.17
	Range	3.48	1.29*	2.13
C072	Average	22.90	25.16	27.52
	Range	5.54	4.86	2.46
C072B	Average	12.48	12.39	12.48
	Range	0.29	0.37	1.08
C078A	Average	45.87	44.74	42.60
	Range	0.67	5.85	5.53
C078B	Average	8.70	7.83	8.90
	Range	0.21	8.35	0.62
C080	Average	25.84	25.22	21.41
	Range	0.65	2.08	4.69
C081A	Average	17.42	11.52	6.67
	Range	1.19	9.49	10.28
C081B	Average	0.17	0.33	0.80
	Range	0.25	0.61	1.52
C082	Average	9.38	9.08	8.99
	Range	0.78	1.15	1.66
C087	Average	17.06	Dry	Dry
	Range	0.01	Dry	Dry

Source: Donaldson Coal Pty Ltd *Corrected data excluding spurious recording on 24/02/09

The results indicate that groundwater levels and fluctuations have generally remained consistent over the reporting period and compared to previous reporting periods.

Groundwater quality monitoring results are presented in **Appendix 7** and summarised in **Table 3.5** and **Figure 3.4**. They show that the pH ranges between slightly acidic (6.3) and alkaline (8.2), EC ranges between 260µS/cm and 14 850µS/cm and TSS ranges between 12mg/L and 1 380mg/L. One pH sample of 10.9 was also recorded in the field, however, subsequent laboratory analyses recorded a pH of 6.8. It is therefore considered likely to be a metre fault. The Environmental Assessment baseline monitoring reported that the quality of groundwater sampled within the underground mining area of the Abel Mine was variable with total dissolved solids (TDS) ranging from less than 518mg/L to 13 000mg/L, which is approximately equivalent to EC readings of between 865µS/cm and 21 700µS/cm. The Environmental Assessment predicted that salinity and pH would initially remain similar, but that over time salinity may increase to levels around 3 000mg/L to 4 000mg/L. This is approximately equivalent to an EC reading of between 5 000µS/cm and 6 700µS/cm.



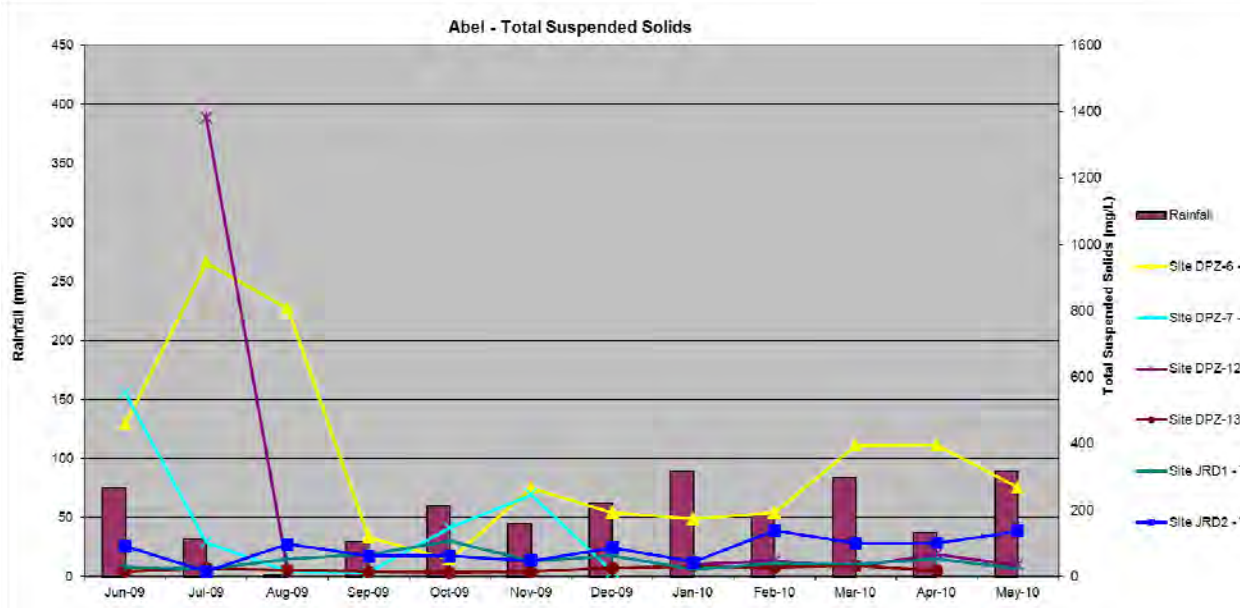
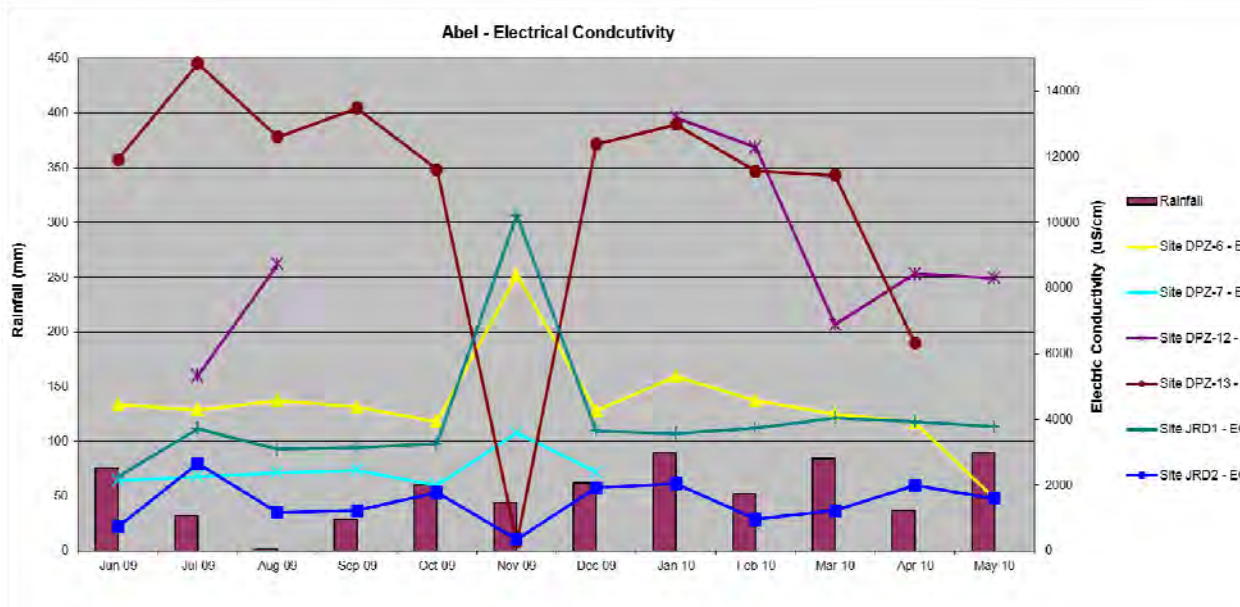
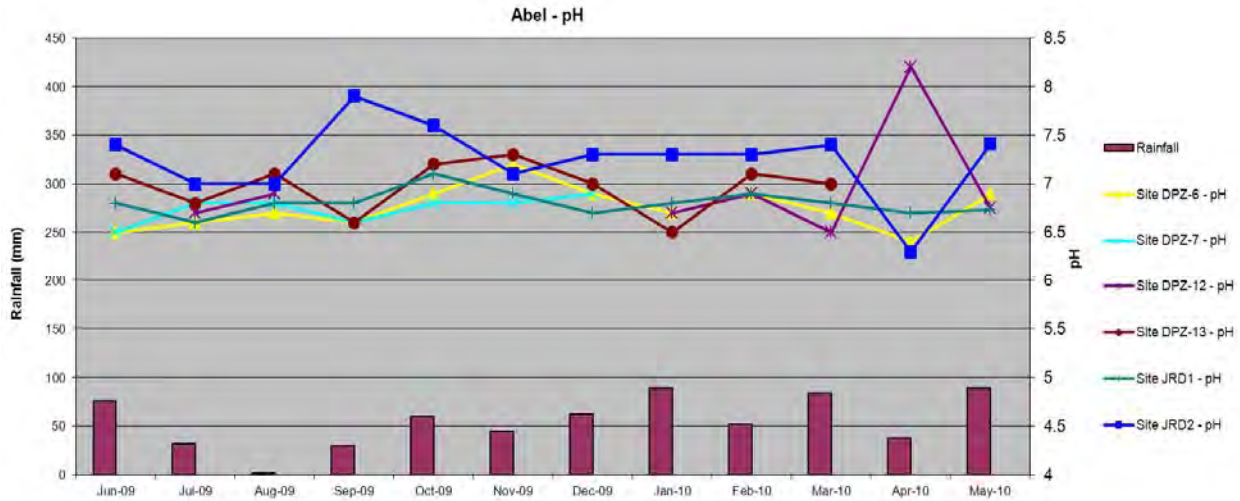


Figure 3.4 Groundwater Quality Monitoring Results 2009/2010



Table 3.5
Summary of Groundwater Quality Monitoring Results – 2009/2010

Sampling Site	pH	EC ($\mu\text{S/cm}$)	TSS (mg/L)
DP2 - 6	6.4 to 7.2	1 590 to 8 400	51 to 945
DP2 -7	6.5 to 6.9	2 000 to 3 590	12 to 551
DP2 - 12	6.5 to 8.2	5 330 to 13 200	15 to 1 380
Dp2 - 13	6.5 to 10.9	260 to 14 850	12 to 32
JRD1	6.6 to 7.1	2 250 to 10 230	21 to 106
JRD2	6.3 to 7.9	350 to 2 660	15 to 139

Source: Donaldson Coal Pty Ltd

Reportable Incidents

No reportable incidents occurred during the reporting period.

Further Improvements

Given that a maximum baseline measure of salinity was approximately 21 700 $\mu\text{S/cm}$, it is considered that, at this point in time, the activities of Abel Underground Coal Mine are not having an effect on groundwater quality. Continued monitoring in subsequent reporting periods will detect any trends in groundwater quality parameters.

3.6 THREATENED FLORA AND FAUNA

Environmental Management

As all activities during the reporting period were undertaken within areas previously disturbed through the Donaldson mine, no specific management procedures relating to Threatened flora and fauna were required within the surface infrastructure area. Additionally, as no mining was undertaken during the reporting period that would lead to subsidence, no specific management measures were required above the underground mining area.

Environmental Performance

Ongoing survey work was completed by Ecobiological during the reporting period as part of the Dam Monitoring and Management Plan, Sub-tropical Rainforest Monitoring Plan and Pambalong Nature Reserve Monitoring Plan (see **Appendices 3, 4 and 5**).

The dam monitoring indicated that, although there were no impacts from the mining operation, compared to the 2008 baseline survey, there was a much lower overall diversity of frogs across the 84 dams identified for long term monitoring with only a few dams recording more species. Bird diversity did not change significantly. No threatened frogs or birds or individuals of the threatened plant *Maundia triglochinosides* were identified.

The sub-tropical rainforest monitoring results indicated no substantial change in floral or faunal diversity to the 2008 baseline monitoring. Specifically, 48 and 46 flora species were identified on the two monitoring transects in 2009 compared to 54 and 51 species in 2008. No threatened flora species were recorded. A total of 49 fauna species were recorded in 2009 compared to 55 species in 2008. Two threatened bat species (Little Bentwing-bat *Miniopterus australis* and Eastern Freetail-bat *Mormopterus norfolkensis*) listed as vulnerable under the NSW *Threatened Species Conservation Act 1995* were detected during the 2009 survey. No undermining of sub-tropical rainforest occurred during the reporting period or will occur for a number of years.



Continued monitoring as part of the Pambalong Nature Reserve Monitoring Plan during 2009/2010 representing the second year of monitoring. The monitoring plan is aimed at building a picture of what constitutes normal variation so that any impacts from subsidence in the future can be identified. Monitoring

During the 2009/2010 monitoring, a total of 99 flora and 99 fauna species were identified within Pambalong Nature Reserve including one fish, five frog, two terrestrial mammal, eight bat and 83 bird species. No significant changes to the vegetation community extent were recorded with weed management continuing to be conducted by the National Parks and Wildlife Service, particularly targeting Water Hyacinth and Blackberry. The Blackberry control appeared to be effective at the time of survey.

Reportable Incidents

No reportable incidents were recorded during the reporting period.

Further Improvements

Ongoing monitoring will provide information to assist in assessing any potential impacts from subsidence and in formulating the subsidence management plans. Future Dam monitoring will also include a water quality and condition assessment to assist in differentiating any potential effects from the mining operation compared to other influences. Additionally, Donaldson Coal will liaise with the DECCW and Bureau of Meteorology in relation to installation of an additional weather station in the immediate vicinity of the Pambalong Nature Reserve and installation of permanent water depth markers.

3.7 WEEDS

Environmental Management

Regular inspections of the areas surrounding the surface infrastructure area were undertaken as part of weed management associated with the Donaldson mine and spraying of weeds was undertaken around the substation.

Environmental Performance

No noxious weeds were identified as part of regular inspections.

Reportable Incidents

No reportable incidents were recorded within the reporting period.

Further Improvements

No further improvements are deemed necessary. Ongoing regular weed inspections within the area of responsibility for the Abel mine will continue.

3.8 BLASTING

No blasting was undertaken during the reporting period.



3.9 OPERATIONAL NOISE

Environmental Management

The principal management control during the reporting period relating to noise was the continued use of low modulated frequency reversing alarms on mobile equipment.

Environmental Performance

Quarterly noise monitoring applicable to the Abel mine commenced in December 2008 as an extension of the monitoring survey previously undertaken for the Donaldson Open Cut Coal Mine. Quarterly attended and unattended noise monitoring continued to be undertaken throughout the reporting period for quarters ending June, September and December 2009 and March 2010. Monitoring results are presented in **Table 3.6** and copies of the monitoring reports are presented within **Appendix 6**.

The findings of the monitoring surveys were that the Abel mine operations were inaudible at all locations with noise attributable to non-mine related traffic and cricket, insect and frog noise during evening and night time measurements. As the Abel mine operations were inaudible, it was concluded that noise contribution would not have exceeded the noise goals (including night time sleep disturbance criteria) and were in compliance with the Project Approval for the Abel mine.

Reportable Incidents

No reportable incidents were recorded within the reporting period.

Further Improvements

Other than ongoing plant maintenance and noise monitoring (both attended and unattended), no other improvements are planned during the next reporting period.

Table 3.6
Summary of Attended Noise Monitoring Results – 2009 / 2010

Location	Time	Project Noise Goal	Attended Monitoring	Noise generated by Abel Mine
A 98Weakley's Drive, Beresfield	Day ($L_{A eq}(15 min)$)	50	52 to 62	Abel inaudible
	Evening ($L_{A eq}(15 min)$)	48	66 to 69	Abel inaudible
	Night ($L_{A eq}(15 min)$)	41	61 to 67	Abel inaudible
	Night ($L_{A1}(1min)$)	51	74 to 79	Abel inaudible
F Black Hill Rd, Black Hill	Day ($L_{A eq}(15 min)$)	41	56 to 63	Abel inaudible
	Evening ($L_{A eq}(15 min)$)	40	50 to 65	Abel inaudible
	Night ($L_{A eq}(15 min)$)	36	37 to 53	Abel inaudible
	Night ($L_{A1}(1min)$)	46	46 to 65	Abel inaudible
G Buchanan Rd, Buchanan	Day ($L_{A eq}(15 min)$)	43	42 to 69	Abel inaudible
	Evening ($L_{A eq}(15 min)$)	41	42 to 65	Abel inaudible
	Night ($L_{A eq}(15 min)$)	36	38 to 55	Abel inaudible
	Night ($L_{A1}(1min)$)	46	43 to 69	Abel inaudible
K Catholic Diocese (formerly Bartter Enterprises)	Day ($L_{A eq}(15 min)$)	41	45 to 48	Abel inaudible
	Evening ($L_{A eq}(15 min)$)	40	68 to 78	Abel inaudible
	Night ($L_{A eq}(15 min)$)	37	66 to 72	Abel inaudible
	Night ($L_{A1}(1min)$)	46	79 to 86	Abel inaudible
L 7 Kilshanny Av, Ashtonfield	Day ($L_{A eq}(15 min)$)	46	50 to 57	Abel inaudible
	Evening ($L_{A eq}(15 min)$)	46	43 to 52	Abel inaudible
	Night ($L_{A eq}(15 min)$)	40	39 to 44	Abel inaudible
	Night ($L_{A1}(1min)$)	53	42 to 56	Abel inaudible



3.10 VISUAL, STRAY LIGHT

Environmental Management

During the reporting period all lighting was positioned and directed so as to minimise disturbing light emissions. As all activities occurred within the box cut created for the surface infrastructure area, no further controls were deemed necessary. Structures are painted a muted dark green to blend with the background bush.

Environmental Performance

The visual controls implemented have been considered effective and will be maintained throughout the next reporting period.

Reportable Incidents

No complaints regarding visual amenity or stray light were recorded during the reporting period.

Further Improvements

No further improvements are planned or are deemed necessary.

3.11 ABORIGINAL HERITAGE

No known items of Aboriginal heritage were disturbed as part of the operations undertaken during the reporting period.

No Aboriginal artefacts are expected to be affected by subsidence within Area 1 (Panels 1 to 13) although a further survey for Aboriginal artefacts will be completed prior to secondary extraction. Results of this survey will be summarised within the relevant AEMR.

3.12 NATURAL HERITAGE

No items or areas of natural heritage significance are considered to occur within the surface infrastructure area.

3.13 SPONTANEOUS COMBUSTION

No incidents of spontaneous combustion were recorded during the reporting period. Considering that the Upper and Lower Donaldson seams are considered to have a very low propensity for spontaneous combustion and with no history of spontaneous combustion, the management measures implemented have been considered adequate.



3.14 BUSHFIRE

Environmental Management

Integrated emergency response procedures have been prepared for Donaldson mine and Abel mine.

Environmental Performance

No bushfire incidents occurred during the reporting period nor were any requests received to assist in containing bushfires in the local area.

Reportable Incidents

No bushfires or other related reportable incidents occurred during the reporting period.

Further Improvements

Other than maintenance of firefighting equipment at all site buildings and provision of clear access and signposting, no further improvements are planned or deemed necessary.

3.15 MINE SUBSIDENCE

A Subsidence Management Plan was prepared in December 2009 for pillar extraction within Area 1 incorporating Panels 1 to 13 and was approved on 27 May 2010 by I&I NSW. No secondary workings were undertaken during the reporting period and no subsidence related management measures or monitoring was undertaken (other than ongoing environmental monitoring discussed in Section 3 of this AEMR). At least two baseline subsidence and strain surveys will be completed during the next reporting period prior to any mine subsidence to establish survey accuracy.

A summary of subsidence related management measures and monitoring will be provided within the appropriate AEMR.

3.16 HYDROCARBON CONTAMINATION

Environmental Management

All hydrocarbons were stored either within a self-bunded tank or a bunded area with a capacity to contain a minimum 110% of the largest storage tank.

Environmental Performance, Reportable Incidents and Further Improvements

Two hydrocarbon related incidents occurred during the reporting period, namely:

- a valve on a diesel line failed in the bunded area above the portals on 03 November 2009 resulting in a misting of diesel; and
- an oil spill resulting from an overflow during gravity feeding oil between two tanks in the Oil Store occurred on 09 November 2009.



In both instances the spill was contained and cleaned up with contaminated material removed from site by Australian Waste Oil. These were not reportable incidents and did not lead to pollution of land or natural waters.

The existing hydrocarbon management practices will continue to be implemented with no further improvements planned during the next reporting period.

3.17 METHANE DRAINAGE / VENTILATION

Methane testing previously undertaken during exploration programs indicate that the generation of methane will be low. Other than the use of the ventilation fan, no other specific ventilation or methane drainage management measures were considered necessary during the reporting period. However, the Company has applied for a modification to install a downcast ventilation shaft which was approved by the Department of Planning shortly following this reporting period (10 June 2010).

The Company intends to install the downcast ventilation shaft and new ventilation shaft during the next reporting period.

3.18 PUBLIC SAFETY

The perimeter of the Donaldson mine, incorporating the surface infrastructure area for the Abel Underground Coal Mine, has been secured by standard rural fencing, boom gates and lockable gates to prevent unauthorised entry and various warning and information signs positioned to alert both employees and visitors.

No public safety issues relating to the Abel mine were reported during the reporting period.

3.19 OTHER ISSUES AND RISKS

No other issues arose during the reporting period nor were there unaccounted risks which needed to be addressed.



4. COMMUNITY RELATIONS

4.1 ENVIRONMENTAL COMPLAINTS

Between 1 June 2009 and 31 May 2010 no complaints relating to the Abel mine were received.

4.2 COMMUNITY LIAISON

The only formal community consultation undertaken by the mine is the community consultative committee. In accordance with *Schedule 5 Condition 8* of Project Approval 05_0136, the Company has established a community consultative committee for the Abel mine. During the reporting period the committee consists of:

- five representatives from the Company (Messer's Alick Osborne, Phillip Brown, Mark McPherson, Tony Sutherland and Adam Heeney);
- a representative from Bloomfield Colliery (Mr Lachlan Crawford);
- a representative from Maitland City Council (Clr Peter Blackmore); and
- five representatives of the local community (Messer's Alan Brown, Allan Jennings, Terry Lewin, Andrew Pace and Brad Ure).

The committee is chaired by the Hon Mr Milton Morris, an independent chairperson appointed by the NSW State government.

The committee held a total of four meetings during the reporting period (29 June and 28 September 2009 and 01 February and 03 May 2010). The meetings have continued to provide an opportunity for the Company to keep the community up-to-date with activities undertaken and programmed at the Abel mine and for community members to table issues relating to the Abel mine for the Company's consideration. It is noted that the Company provided a number of presentations during these meetings to provide updates on the mine development, environmental monitoring and subsidence management planning.

During the meetings, a range of questions and issues were also raised by the community in relation to the Abel mine. These questions and issues were responded to through discussion and a range of presentations and response documents which are included with the meeting minutes provided on the Company's website. A summary of the principal issues raised during the meetings within the reporting period is provided as follows.

- The need for a newsletter to the Blackhill residents to update them on the progress of mining operations and include a mine plan showing mining years. *The Company agreed to provide a newsletter prior to the next committee meeting.*
- A range of written and verbal queries relating to subsidence, Subsidence Management Plans and monitoring and the Water Management Plan including water transfers / interactions of the Bloomfield, Donaldson, Tasman and Abel mines and water balance. *The Company provided a written response to issues raised and tabled this document at the meeting.*



- Sightings of a drill rig along Blackhill Road.

It was confirmed that the drill rig was associated with the operations of the Abel mine drilling to further define coal seams, structures and quality.

- Reported changes in Company ownership and its effect on future liaison with Company senior management.

The Company advised that Nobel now own 100% of Donaldson, however, the CEO remains and operations will continue as usual.

- Queries regarding the status of the Company's contribution initiatives.

The Company confirmed the status of conservation, community welfare, road safety and employment contributions.

- Queries regarding information presented within the 2008/2009 AEMR including clarification of attended noise monitoring results, reject management and Community Consultative Committee meeting frequency.

The minutes of community consultative meetings are placed on the mine's website after ratification at the following meeting or by committee members.



5. REHABILITATION

5.1 BUILDINGS

No buildings were renovated or removed during the reporting period.

5.2 REHABILITATION OF DISTURBED LAND

As the Abel mine is an underground operation, the only significant rehabilitation will be during mine decommissioning. During the reporting period, no additional rehabilitation works were undertaken with the principal target being regular inspection and maintenance of previously rehabilitated areas and retained vegetation. As discussed in Section 2.2, minor widening of the access road to the substation was undertaken as part of the Donaldson mine operations with topsoil and vegetation windrowed adjacent the access road and seeded with a cover crop. This activity will be reported through the Donaldson mine AEMR.

Table 5.1 provides a summary of the areas disturbed and rehabilitated at the start and end of the reporting period and estimated areas during the next reporting period whilst **Table 5.2** provides a further breakdown of the rehabilitation activities.

Table 5.1
Rehabilitation Summary

A: MINE LEASE AREA	Area Affected (ha)		
	Total Area, start of Reporting Period	Total Area, end of Reporting Period	Area Estimated end of next Reporting Period
A1 Mine lease(s) Area	2755	2755	2755
B: DISTURBED AREAS			
B1 Infrastructure area # (other disturbed areas to be rehabilitated at closure including facilities, roads)	9.8	9.8	9.8
B2: Active Mining Area (excluding items B3 - B5 below)	38.0 (underground)	74.9 (underground)	121.5
B3 Waste emplacements , (active/unshaped/in or out-of-pit)	0	0	0
B4 Tailings emplacements , (active/unshaped/uncapped)	0	0	0
B5 Shaped waste emplacement (awaits final vegetation)	0	0	0
Previous Mining Activities	0	0	0
TOTAL ALL DISTURBED AREAS	47.8	84.7	131.3
C REHABILITATION			
C1 Total Rehabilitated area (except for maintenance)	0.7	0.7	0.7
D: REHABILITATION ON SLOPES			
D1 10 to 18 degrees	0.7	0.7	0.7
D2 Greater than 18 degrees	0	0	0
D3 Less than 10 degrees	0	0	0
E: SURFACE OF REHABILITATED LAND			
E1 Pasture and grasses	0.7	0.7	0.7
E2 Native forest/ecosystems	0	0	0
E3 Plantations and crops	0	0	0
E4 Other (include non-vegetative outcomes)	0	0	0
Notes: # All areas associated with the surface infrastructure area have previously been disturbed through activities associated with the Donaldson mine.			



Table 5.2
Maintenance Activities on Rehabilitated Land

Nature of Treatment	Area Treated (ha)		Comments/control strategies/treatment detail [#]
	During Reporting Period [#]	During Next Reporting Period [*]	
Additional Erosion Control Works	0	0	No additional erosion control works were undertaken during the reporting period.
Re-covering	0	0	Nil
Soil Treatment	0	0	No soil treatment (eg. lime, gypsum or fertilisers) was required during the reporting period or is likely to be required in subsequent reporting periods.
Treatment / Management	0	0	No other specific treatments or management measures were required during the reporting period or are expected to be required in ensuing reporting periods.
Re-seeding / Replanting	0	0	No areas were hydro mulched or re-seeded or are expected to be in the next reporting period.
Adversely Affected by Weeds	0	0	No areas were identified as being adversely affected by weeds. Continued inspections and, where necessary, weed control will be undertaken.
Feral Animal Control	0	0	No feral animal control was deemed necessary during the reporting period. Feral animal control will be undertaken in ensuing reporting periods if required.
[#] See Plan 3 [*] Indicative only			

5.3 OTHER INFRASTRUCTURE

As discussed in Section 2.1, all exploration holes that were no longer required were sealed in accordance with the *Borehole Sealing Requirements on Land: Coal Exploration* guidelines and standard industry practice. Any disturbance resulting from the drilling of the hole and equipment used was rehabilitated in accordance with landholder requirements.

Following the completion and connection of the substation to supply mains power, the temporary generators were removed from site. The area within which these were stored has been retained as a general storage area. No other specific rehabilitation or maintenance activities were undertaken during the reporting period.

5.4 REHABILITATION TRIALS AND RESEARCH

No rehabilitation trials or research was undertaken during the reporting period.

5.5 FURTHER DEVELOPMENT OF THE FINAL REHABILITATION PLAN

No further development of the final rehabilitation plan was undertaken during the reporting period. The Landscape Management Plan which incorporates a Rehabilitation Management Plan was approved by the Department of Planning on 11 February 2008 and remains the most up-to-date rehabilitation plan. No concerns have been raised by any stakeholders relating to final rehabilitation.



6. ACTIVITIES PROPOSED IN THE NEXT AEMR PERIOD

The activities proposed for 2010/2011 will include the continued expansion of mining areas together with a range of exploration and monitoring activities. The following provides a summary of the proposed activities.

Infrastructure

A new ventilation fan is planned to be installed on the western portal together with the construction of the approved downcast ventilation shaft south of John Renshaw Drive (see **Plan 1**). The construction of the downcast ventilation shaft would also require the upgrade of a section of existing access track.

Exploration

Over the next 12 months it is proposed to drill approximately a further 54 holes to assist with mine planning and development.

Exploration reports will continue to be submitted to the Coal Advice and Resource Assessment section of I&I NSW-MR in accordance with ML 1618.

Mining

During the next reporting period, mining will focus upon continued first workings within the South East Mains, East Mains East Install Headings and Panels 4, 5 and 6 and second workings within Panels 1, 2, 3 and 4 (see **Plan 2**).

Rehabilitation

Additional stabilisation and rehabilitation of access road batters, drains and banks and ongoing maintenance (in accordance with the Mining Operations Plan prepared for the Abel mine) will be undertaken as required, however, no major rehabilitation work will be able to be undertaken until the decommissioning of the site.

Monitoring

The following monitoring will be undertaken during the next reporting period.

- Air Quality – ongoing deposited dust, TSP and PM₁₀ monitoring will be undertaken by Carbon Based Environmental Pty Ltd.
- Surface water – ongoing surface water quality and flow monitoring at a range of routine monitoring sites located within Blue Gum Creek, Viney Creek, Buttai Creek, Four Mile Creek and a number of local water storages. This monitoring will be undertaken by Carbon Based Environmental Pty Ltd as part of the integrated monitoring with the Bloomfield, Donaldson and Tasman mines.
- Groundwater – ongoing groundwater quality and level monitoring will be undertaken as part of the integrated network of monitoring bores for the Bloomfield, Donaldson and Tasman mines. Measurement of the quality and volume of inflow water to the underground workings will also be undertaken by Carbon Based Environmental Pty Ltd.



- Noise – Heggies Pty Ltd will undertake quarterly noise monitoring and review the frequency for ongoing monitoring.
- Flora & Fauna – Ecobiological will undertake flora and fauna surveys and reporting in accordance with approved Flora and Fauna Management Plan.
- Meteorological – the on-site meteorological station at Donaldson mine will be maintained and data collated.
- Subsidence monitoring will commence.

Community Consultation and Liaison

The community consultative committee will continue to be convened during the next reporting period. It is expected that a further two meetings will be held during this time but additional meetings will be conducted if required. The 24hr environmental hotline will be maintained and a register retained of any complaints received.



7. REFERENCES

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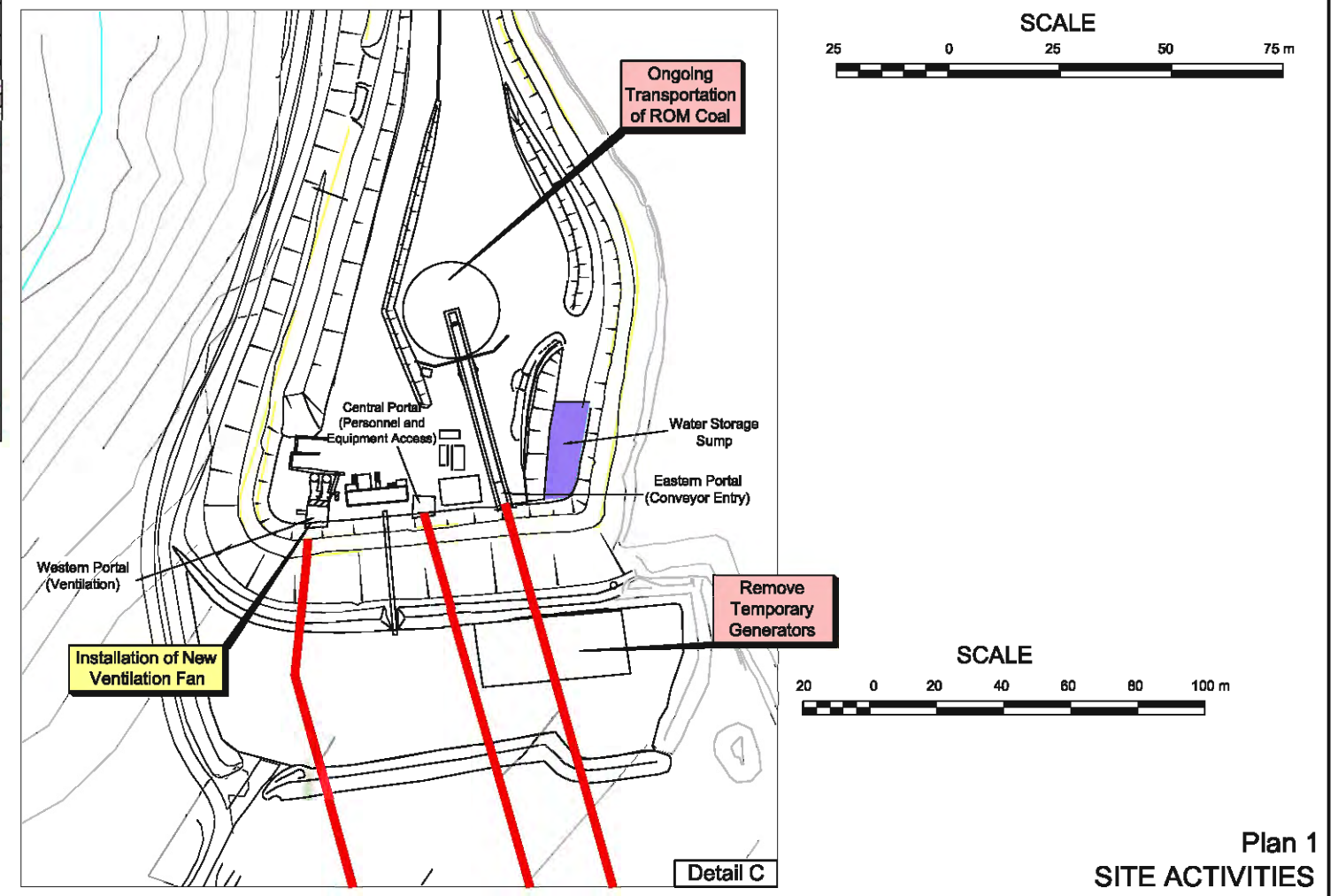
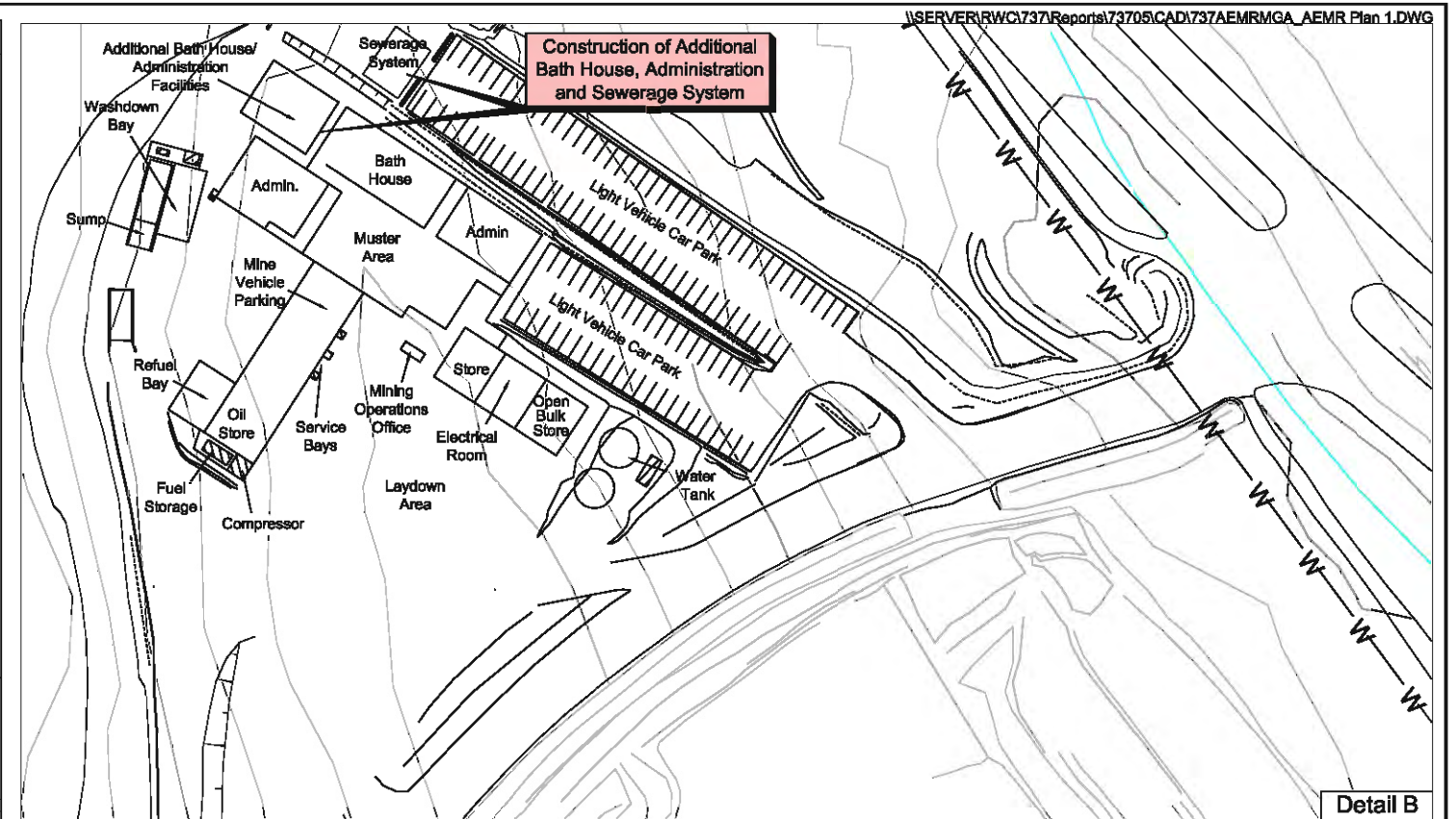
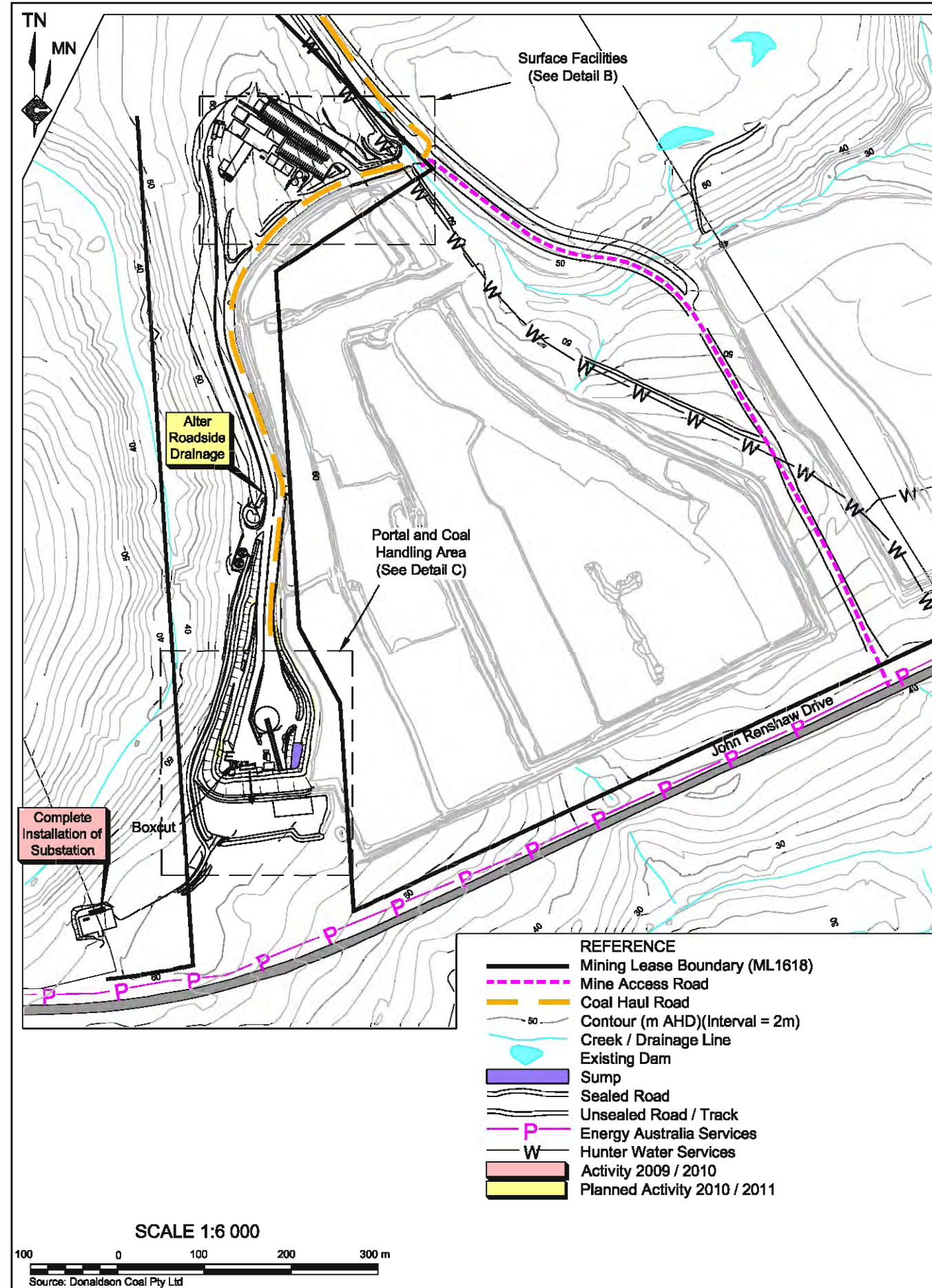
National Health and Medical Research Council (NHMRC) (2003), *National Environmental Protection Measures (NEPM)*.

NSW Department of Primary Industries (2006), *Guidelines to the Mining, Rehabilitation and Environmental Management Process*.

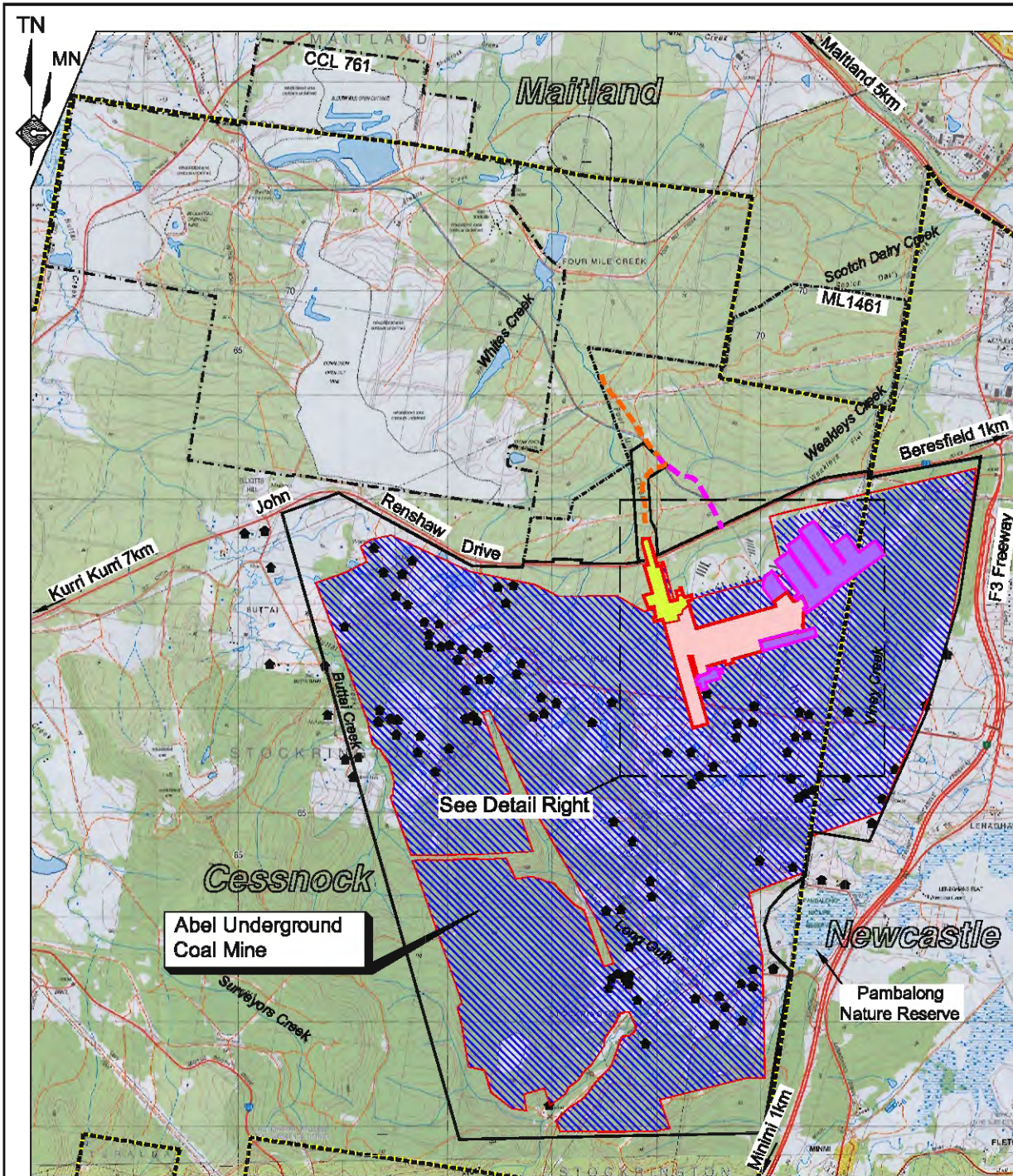


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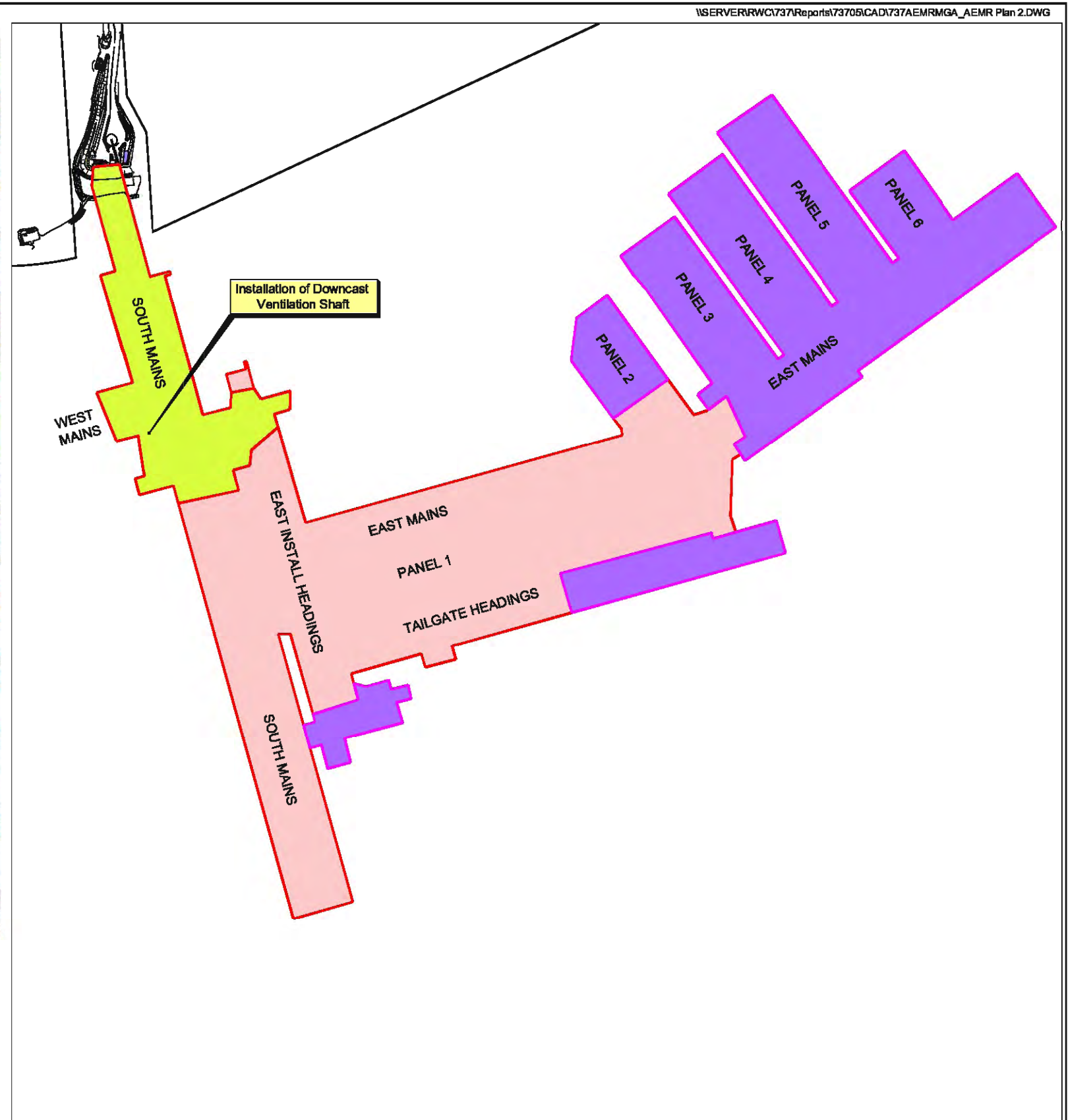


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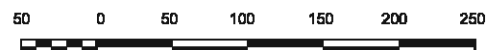


- REFERENCE
- LGA Boundary (offset for clarity)
 - CCL 761 Boundary
 - ML 1461 Boundary
 - Mining Lease Boundary (ML1618)
 - Yellow Underground Workings (Prior to this AEMR)
 - Red Underground Workings 2009 / 2010
 - Purple Underground Workings (2010 / 2011 - Indicative)
 - Blue hatched Underground Workings (Mine Life - Indicative)
 - Orange dashed Coal Haul Road to Internal Mine Road
 - Pink dashed Mine Access Road
 - Circle with C157 Residence
 - Yellow box Planned Activity 2010 / 2011

Base Map Source: Donaldson Coal Pty Ltd



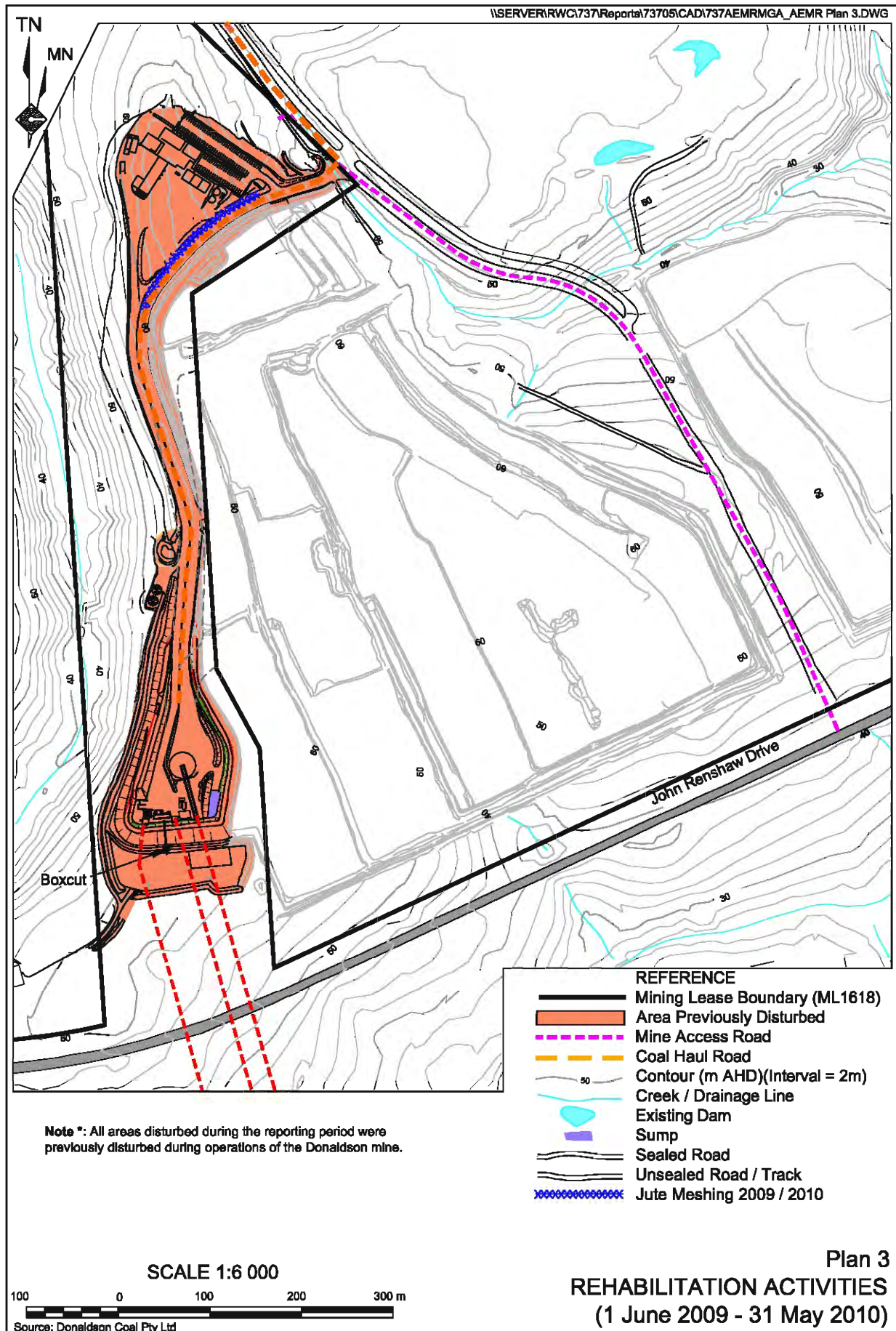
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Plan 2
MINING ACTIVITIES



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