THE WALLERAWANG COLLIERIES LIMITED

2006 ANNUAL ENVIRONMENTAL

MANAGEMENT REPORT

Name of mine		Baal Bone Colliery	
Titles/Mining Leases		CCL 749, MPL 261, CL 391, ML 1302, ML 1382	
MOP Commencement Date	10/07/2006	**MOP Completion Date**	10/07/2009
AEMR Commencement Date	01/01/2006	**AEMR End Date**	31/12/2006
Name of leaseholder		The Wallerawang Collieries Limited	
Name of mine operator (if different)		Baal Bone Colliery	
Reporting Officer		Tony King	
Title		Environment and Community Co-ordinator	
Signature		.....	
Date	28/02/2006		

Managed by xstrata coal

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SECTION 1.0: INTRODUCTION

1.1 Scope

This Annual Environmental Management Report (AEMR) for Baal Bone Open Cut and Underground mines is prepared annually by Baal Bone Colliery to fulfil the reporting requirements of various regulatory departments.

The layout of this AEMR has been aligned to the Department of Primary Industries – Mineral Resources' (DPI-MR) document: '*Guidelines and Format for Preparations of an Annual Environmental Management Report'*, Version 3, January 2006.

The report will be submitted to the following Authorities:

- Department of Primary Industries –Minerals Resources (DPI-MR);
- Department of Planning (DoP);
- Department of Natural Resources (DNR);
- Lithgow City Council (LCC);
- Department of Environment and Conservation (DEC);
- Sydney Catchment Authority (SCA);
- Forests NSW.

The reporting period for this AEMR is 1st January 2006 to 31st December 2006.

It should be noted that this AEMR does necessarily provide a comprehensive description of each individual operation or environmental control that is currently employed at Baal Bone; this level of detail is available in the Mining Operations Plan (MOP) for Baal Bone's Underground and Open Cut Operations (July 2006).

Rather, this AEMR will focus on providing a succinct review of the significant operational and environmental activities undertaken throughout the year. It will also examine the performance of key site operations and environmental controls throughout the 2006 reporting period.

Included is a summary of monitored data (as applicable), a discussion regarding the level of compliance achieved; together with an overview of initiatives proposed and actions planned for the 2007 reporting period.

1.2 Consents, Leases and Licences

1.2.1 History of Mining at Baal Bone

Mining in the Baal Bone area commenced in the late 1940's with the operation of the Ben Bullen Open Cut mine by the NSW Mining Co. Pty. Ltd.; a subsidiary of the State and Federal Government-owned Joint Coal Board. In September 1979, The Wallerawang Collieries Limited was granted (in addition to maintaining Wallerawang Colliery) Authorisation to Prospect (Coal) No. 161 incorporating the area north-east of Cullen Bullen and the former Ben Bullen Open Cut Mine. This area is now known as Baal Bone Colliery. Following the approval of the

Environmental Impact Statement (EIS), a Development Consent was granted for the underground operations in September 1982.

Stage 1 of the development involved the establishment of surface facilities at Baal Bone Colliery and the use of continuous miners to produce up to 1Mt Run of Mine (ROM) coal which would then be transported by road to the former Wallerawang Colliery for washing, stockpiling and dispatch via rail to the Balmain Ship Loader or Port Kembla Coal Terminal.

Stage 2 involved the commissioning of a longwall mining system, construction of a Coal Handling and Preparation Plant (CHPP) with a railway spur line and balloon loop. Stage 2 developments were completed in 1986. The Wallerawang Colliery was subsequently closed in April 1987. In 1989, Baal Bone Colliery acquired a southern extension to its lease from the neighbouring Invincible Colliery.

In November 1995 the EIS for the open cut development was submitted, and in February 1996 DA 186/95 was granted for ML 1389 for the open cut mining operation and associated development of Boxcut as part of the Northern underground extension.

The current open cut mine commenced in 2005 following the approval of a Mining Operations Plan (MOP) on the 1st February 2005. This operation was designed to recover remaining open cut reserves within the former Ben Bullen Open Cut Mine and to generate suitable soil and overburden material for the rehabilitation of the former open cut site. Roche Mining was contracted by Xstrata Coal to operate and maintain the northern and southern open cut domains. Extraction and rehabilitation of both these areas is scheduled for completion in late 2007.

1.2.2 Current Consents, Leases and Licences

During the reporting period, there was no relinquishment or approval for new development consents or lease areas. There were however, a variety of changes to the Colliery's approved licences. A list of all current consents, leases and licences are below in **Table 1.1**.

Table 1.1. Consents Leases and Licences.

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/ Review Date	Scope
Development Consent	DoP	Nil	Coalex Pty Ltd	13/09/1982	Perpetuity	Planning consent for CCL 749. Original Baal Bone Development Consent. For export.
			Baal Bone Colliery Pty Ltd	31/12/1992	Perpetuity	Section 102 EP&A Act (1979) modification of original Development Consent (13/09/1982). Road haulage of 150,000 tonnes of coal per annum for domestic markets
	DUAP / DIPNR	164/98	The Wallerawang Collieries Pty Ltd	23/12/2003	31/12/2015	Modification to DA 164/98 for the extension of the duration of the haulage road from Baal Bone Colliery to Mt Piper and Wallerawang Power Stations.
	Greater Lithgow Council	186/95	The Wallerawang Collieries Pty Ltd	27/02/1996	Perpetuity	Planning Consent for Open Cut Mining and Associated Development of Boxcut as part of the Northern Extension
Environment Protection Licence	DEC	765	The Wallerawang Collieries Pty Ltd	28/04/2006	17/11/2007	Premise and Scheduled Activity (Coal Mining/ Washery) Licence
Mining Operations Plan	DPI – MR	06/4648	The Wallerawang Collieries Pty Ltd	10/07/2006	10/07/2009	MOP for Baal Bone Colliery OC and LW 25-28.
	DPI - MR	CCL 749	The Wallerawang Collieries Pty Ltd	05/04/1990	23/03/2010	Mining Entitlement

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/ Review Date	Scope
Mining Leases	DPI – MR	MPL 261 (Act 1973)	The Wallerawang Collieries Pty Ltd	22/08/1990	22/08/2011	Mining Entitlement Parish: Ben Bullen, Depth: 0-10m
	DPI – MR	CL 391 (Act 1973)	The Wallerawang Collieries Pty Ltd	24/02/1992	24/02/2013	Mining Entitlement Parish: Ben Bullen Depth: 0-10m
	DPI – MR	ML 1302 (Act 1992)	The Wallerawang Collieries Pty Ltd	29/09/1992	29/09/2013	Mining Entitlement Parish: Ben Bullen Depth: >20m
	DPI – MR	ML 1389 (Act 1992)	The Wallerawang Collieries Pty Ltd	09/05/1996	09/05/2017	Mining Entitlement Parish: Ben Bullen Depth: All, 0-20m
S126(1) Approval	DPI – MR	317524306001	Baal Bone Colliery	14/11/2005	Perpetuity	Section 126(1) of the CMRA (1982) Construction and operation REA V
S138 Approval	DPI – MR	05/2226	Baal Bone Colliery	09/05/2005	01/01/2008	Section 138 CMRA (1982) Approval to mine long walls 25-28
Occupation Permit	Forestry Commission of NSW	14719	Baal Bone Colliery	05/03/1991	Perpetuity	Occupation permit for the power line route from the company's freehold land to MPL 261. Includes various extensions to include pipelines, exploratory drilling, piezometers etc.
		14161	Baal Bone Colliery	08/03/1991	Perpetuity	Occupation Permit for the power line that supplies power to the railway loop on the western edge of Ben Bullen State Forest.

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/ Review Date	Scope
S22H (1)(a) Approval	DLWC	N/A		27/07/1991	Perpetuity	Section 22H(1)(a) of the Rivers and Foreshores Act (1948) exemption. Permission to undertake activities on streams and drainage lines within the Baal Bone Mining Leases
Bore Licences	DNR	80BL127440	The Wallerawang Collieries Pty Ltd	01/06/2004	02/06/2008	Section 115 of the Water Act 1912. Bore – potable water supply (adjacent to southern boundary of site) – no longer in use.
	DNR	80BL136703	The Wallerawang Collieries Pty Ltd	13/01/2004	13/01/2008	Section 115 of the Water Act 1912. Bore – main Washery water make-up bore
	DNR	80BL135509	The Wallerawang Collieries Pty Ltd	Renewal Pending	Renewal Pending	Section 115 of the Water Act 1912. Borehole No. 6 Rail Loop – Augmentation + haul road spraying. Gone dry
	DNR	80BL236132	The Wallerawang Collieries Pty Ltd	18/01/1995	Perpetuity	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 1 (South Bore 1)
	DNR	80BL236134	The Wallerawang Collieries Pty Ltd	18/01/1995	Perpetuity	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 1 (South Bore 2)
	DNR	80BL239077	The Wallerawang Collieries Pty Ltd	Renewal Pending	Renewal Pending	Section 115 of the Water Act 1912. Bore – Mine dewatering Long Wall 19. North Bore.
Water Licence	DNR	80SL046064	The Wallerawang Collieries Pty Ltd	17/07/2002	17/07/2007	Section 12 of the Water Act 1912. Diversion works, 2 pumps, overshot and block dams, bywash dam.

Type	Regulatory Authority	Approval Number	Holder	Issue Date	Expiry/ Review Date	Scope
Acknowledge-ment of notification of dangerous goods on premises	Work Cover Authority	35/023231	The Wallerawang Collieries Pty Ltd	11/01/2007	06/04/2007	Dangerous Goods Licence
Radiation Gauges	DEC	29207	The Wallerawang Collieries Pty Ltd	17/01/06	16/01/07	To sell and posses – Radiation Control Act 1990. Coal quality sensing devices
	DEC	1123	The Wallerawang Collieries Pty Ltd	17/08/06	15/09/07	Registration Certificate – Radiation Control Act 1990; fixed radiation gauge.

Abbreviations:

CCL – Consolidated Coal Lease
CL – Coal Lease
CMRA – Coal Mines Regulation Act 1982
DA – Development Application
DEC – Department of Environment and Conservation
DNR – Department of Natural Resources
DoP – Department of Planning
DPI-MR – Department of Primary Industries - Mineral Resources
EPL – Environment Protection Licence
ML – Mining Lease
MOP – Mining Operations Plan
MPL – Mining Purposes Lease
REA - Refuse Emplacement Area

1.2.3 Amendments During the Reporting Period

The following amendments, changes, variations or new approvals were obtained by Baal Bone during 2006:

- In December 2004, the underground and open cut MOP's were separate documents. These MOPs were amalgamated in July 2006 and subsequently approved on 25th August 2006. The approval allowed for the extraction of Longwalls 25-28, and predicted to produce up to 7.5Mt ROM coal combined by the end of the MOP period, 10th July 2009;
- Radiation gauges 730, 7439 and 7440 were decommissioned and Licences 29207 and 1123 were commissioned. Radiation gauge 29207 was renewed late December 2006;
- Bore licences 80BL135509 and 80BL239077 were renewed, however receipt of the licences remain pending.

1.3 Mine Contacts

Baal Bone Colliery can be contacted via telephone on (02) 6350 6900 and fax (02) 6359 0530. The postal and street addresses are as follows:

Postal: Baal Bone Colliery
PO Box 13, Lithgow NSW 2790

Street: Baal Bone Colliery
Off Castlereagh Highway
Cullen Bullen, NSW 2790

Personnel responsible for environmental issues at Baal Bone Colliery are shown in **Table 1.2**. The current organisation chart is shown in **Figure 1.1**.

Table 1.2. Mine Personnel Contact Details

Name	Title	Contact Details
Dave McLean	Baal Bone Operations Manager	Phone: (02) 6350 6928 Fax: (02) 6359 0530 Email: dmclean@xstratacoal.com.au
Tony King	Baal Bone Environment and Community Co-ordinator	Phone: (02) 6350 6920 Fax: (02) 6359 0530 Email: tking@xstratacoal.com.au
Peter Roser	Roche Project Manager (Open Cut Operations)	Phone: (02) 6350 6302 Fax: (02) 6359 0786 Email: Peter.Roser@Roche.com.au

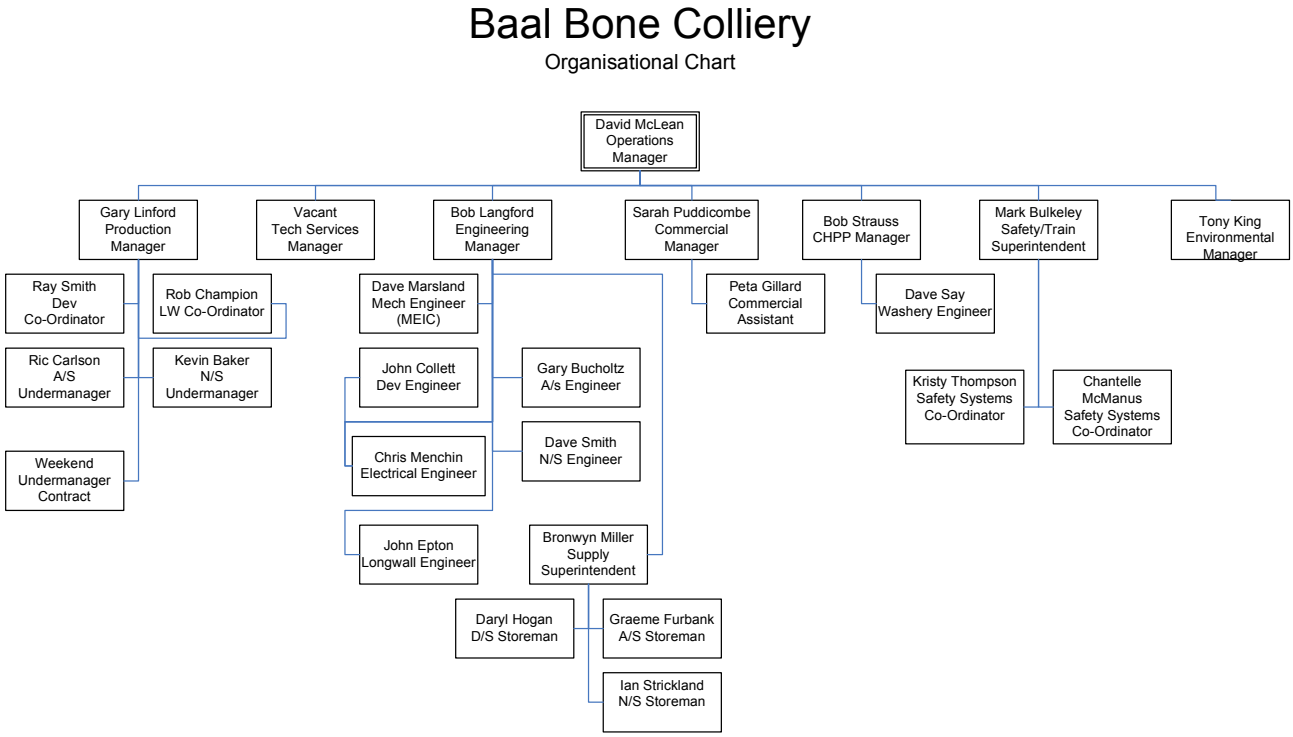

Figure 1.1. Baal Bone Organisational Chart

1.4 Actions Required at Previous AEMR Review and Site Inspection

The DPI-MR, Forests NSW, LCC and Sydney Catchment Authority conducted a Joint Agency AEMR review meeting and site inspection at Baal Bone Colliery on 14th July 2006. The purpose of the meeting was to review progress of site operations and to discuss issues relating to environmental management and performance for the 2005 AEMR reporting period. Actions arising from the review are detailed in **Table 1.3** below.

Table 1.3. Actions from a Review of the 2005 AEMR and Annual Environmental Inspection

Action Required	Where dealt with in this AEMR
What year mining operations commenced.	1.2.1 History of Mining at Baal Bone
Location of drill holes and their current status.	2.1 Exploration Plan 2
More detail on the location of the land preparation and specific works undertaken.	2.2 Land preparation
Specify location of the office building and workshop.	2.3 Construction & Plan 1
Location of sewage ponds and other referenced dams.	2.8.1 Process Water Circuit 2.8.3 Sewage Treatment and Disposal Plan 1
Bore licences	1.2.2 Current Consents, leases and licences 3.4 Ground Water and Pollution Plans 1 & 2
Include status of bores under "groundwater pollution."	As for Bore Licences above
Correctly address the "Contaminated Polluted Lands" section to discuss presence of contamination and not waste disposal.	3.5 Contaminated Land
Include information on the effectiveness of noise control measures including further improvements or monitoring.	3.9 Blasting 3.10 Operational Noise 4.1 Environmental Complaints
Detail security patrols or signage used to prevent trespassing. Show location of fencing on plans.	3.19 Public Safety
Include dates of when complaints are received.	4.1 Community Complaints
The amount of proposed rehabilitation should be specified in the "Activities proposed in the next	5.2 Rehabilitation of Disturbed Land 6.2 Rehabilitation

Action Required	Where dealt with in this AEMR
AEMR period" section. When combined with the Rehabilitation Plan and the Rehabilitation Summary Table, it should clearly identify the amount and location of rehabilitation works to be undertaken.	Table 5.1 Plan 1
Include a Land Preparation Plan	2.2 Land Preparation MOP Plans 2 & 3 (unchanged)
Mining Activities Plan	Plan 1
Rehabilitation Plan needs to show areas rehabilitated in the reporting period and areas to be rehabilitated in the next 12 months.	Plan 1
Production and Wastes Summary Table (cumulative)	Table 2.3
Rehabilitation Summary Table	Table 5.1

1.5 Employment Status and Demographics

Employment details for staff based at Baal Bone Colliery are found in **Tables 1.4 – 1.7** below:

Table 1.4 Employment Type

Employment Type	Number of persons in reporting period
Permanent	158
Contractor	12

Table 1.5 Male/Female Breakdown of Workforce

Gender	Number of persons in reporting period
Male	164
Female	6

Table 1.6 Residential Location of Employees

Residential Location	Number of persons in reporting period
Lithgow	167
Bathurst	2
Mudgee	1

Table 1.7 Origin of Employees

Location of Origin	Number of persons in reporting period
Lithgow Shire (Lithgow, Portland, Wallerawang)	159
Other	11

1.6 Environmental and Community Vision and Policy

Baal Bone Colliery has developed an Environment and Community Vision and Policy. These policies have the commitment and support of Baal Bone Management and have been developed with the Xstrata Coal NSW (XCN) Environment and Community Vision and Policy. They are displayed in prominent locations accessed by the workforce, contractors and visitors, as well as being provided on the intranet for all staff awareness. The Environment and Community vision and policy confirms Baal Bone's commitment to being recognised leaders in environmental management and valued operators within the community.

1.7 Enduring Value – The Australian Mineral Industry Framework for Sustainable Development

Xstrata Coal is a signatory to "Enduring Value – The Australian Minerals Industry Framework for Sustainable Development". As Baal Bone Colliery is owned and managed by Xstrata Coal Pty Ltd. (Xstrata Coal), it is obliged to operate within the guidelines for environmental management as part of Enduring Value. Enduring Value reporting will commence in 2007.

1.8 National Pollution Inventory

In December 1997, the NSW Parliament passed a number of new legislation that saw the start of the National Pollution Inventory (NPI) reporting process. The NPI is an internet database designed to provide the community, industry and the government with information on the types and amounts of certain substances being emitted to the environment.

In September 2006, Baal Bone Colliery submitted an NPI report for the period of 1st July 2005 to 30th June 2006. The report detailed emissions of listed substances from Baal Bone Colliery to air, water and land requiring collation, analysis and interpretation of site-specific data. Results can be obtained from the NPI website www.npi.gov.au.

SECTION 2.0: OPERATIONS DURING THE REPORTING PERIOD

2.1 Exploration

A confirmation drilling programme within CCL 749 was conducted in Q2 2006 to confirm resource potential and to assess potential structural zones to the south and east of current underground workings.

A continuation of this confirmation drilling programme was undertaken in Q4 2006 to identify the exact location and extent of the previously identified Coxs River lineament that is adjacent to the proposed south east extension of the underground workings.

A total of 11 non-cored drill holes were completed; the locations of which are shown on **PLAN 2**.

2.2 Land Preparation

During the 2006 reporting period land preparation activities have proceeded in accordance with the detail discussed in the current MOP.

2.2.1 Clearing and Vegetation Disposal

Throughout 2006 a total of 242,123 m^2 of grassland was cleared ahead of advancing open cut operations. Several isolated tress were also removed as part of this process and these have been set aside specifically for use in the open cut rehabilitation program.

No additional areas of clearing or vegetation disposal were associated with underground operations during the reporting period.

2.2.2 Topsoil Volumes and Subsoil Removal

The total volume of topsoil and subsoil materials (aka. freedig) removed by the open cut operations during the reporting period was approximately 723,522 m^3.

In addition to the material that has already been respread over shaped areas, a further 413,880 m^3 of freedig has also been stockpiled at various locations around the site for use in future rehabilitation works at mine closure.

No additional areas of land disturbance were associated with underground operations during the reporting period.

2.3 Construction

The existing administration, amenities, workshops and coal handling infrastructure associated with the Baal Bone Colliery should remain unchanged for the duration of the mine. Surface facilities and infrastructure are shown on **PLAN 1**. Further construction activities were not envisaged during the preparation of the MOP in June 2006.

Since this time however, continued drought conditions has necessitated the installation of an additional temporary above ground polythene pipeline to redirect water from both the north and south mine dewatering bores back into the site's process water circuit.

A T-piece and gate valve arrangement was installed in this system to facilitate provision of riparian base flows in Jews Creek when required. Liaison occurred with Forests NSW as the landholders and an extension has been noted on Baal Bone's existing Occupation Permit.

The location of this pipeline is shown on Drawing No. **Bbm_19Waterbore_line1.dwg**.

Construction of an 11 kV transmission line and an upcast ventilation shaft are being planned to provide ventilation for the proposed south east extension of the underground operations. An application under Part 3a of the EP&A Act will be prepared and should be lodged with Department of Planning sometime in Q1 2007. Subsequent to this will be an application to DPI - MR for a Mining Lease for Mining Purposes

Following receipt of the necessary consents and approvals, construction and operation of the vent shaft and transmission line will be included in an Amendment to the MOP.

2.4 Mining

2.4.1 Underground Mining Activities

Underground operations continue to extract coal using longwall mining methods. Underground coal is conveyed to the Coal Handling and Preparation Plant (CHPP) where it is washed, graded and stockpiled. Export coal is loaded onto trains at Baal Bone's rail loop and delivered to Port Kembla.

2.4.2 Open Cut Mining Activities

The Baal Bone Open Cut Operation commenced in 2005 for:

- the recovery of remaining viable open cut reserves within the Lithgow coal seam contained within the northern section of the abandoned Ben Bullen Open Cut Mine; and
- the generation of suitable overburden and capping material for the rehabilitation of the abandoned Ben Bullen Open Cut site.

Baal Bone Open Cut Operation utilises a truck and excavator operation to remove overburden, to extract and transport coal to the open cut ROM stockpile. This coal is then crushed and dispatched directly to Mt Piper Power Station.

2.4.3 Current Reserves and Estimated Mine Life

Approximately 3 million tonnes of minable coal remain in longwall panels covered by the current MOP (LW 25-28), with extraction scheduled for completion in Q3 2008.

Mine life may be extended by a further 26 months if approval is received to extract 4.3 million tonnes of minable coal in proposed longwall panels 29-31. An application under Part 5 of the EP&A Act will be prepared and should be lodged with DPI-MR sometime in Q1 2007.

Following receipt of the necessary consents and approvals, extraction of LW 29-31 will be included in an amended MOP.

Approximately 411,660 tonnes of minable coal remain in the open cut reserves. It is expected that open cut extraction should be completed by July 2007.

PLAN 1 & **PLAN 2** shows the current mine layout and lease areas for both the open cut and underground operations and associated surface facilities.

2.4.4 Production

The total Run of Mine (ROM) tonnage for the 2006 reporting period was approximately 2.48 million tonnes. The principle export markets for the product in 2006 were Japan, Korea and Taiwan. Local customers included Mount Piper Power Station, Bluescope Steel (BHP), Manildra Flour, and Australian Pulp and Paper. **Table 2.1** shows the production record for 2004-2006 at Baal Bone Colliery.

Table 2.1 Production Record (2004-2006) for Baal Bone Colliery (1000 tonnes)

Product	2004	2005	2006
Domestic	471	767	629
PCI	232	148	159
Premium	-	-	-
Thermal	1315	1498	1770
Total Saleable	2018	2414	2558*
ROM Production	2910 (UG only)	2913 (UG) 543(OC)	1840 (UG) 648 (OC)

* total coal sold in 2006 exceeds ROM production due to a significant stockpile carry over from 2005

2.4.5 Resource Utilisation

Both open cut and underground operations target the Lithgow Seam of the Illawarra Measures. This is the only seam in the area of sufficient thickness and quality to warrant economic recovery. Other seams in the Baal Bone area do not justify mining operations.

The Lithgow Seam in the open cut area ranges from 1.9-2.7m in thickness and is mainly of dull, medium volatile and generally non-swelling bituminous coal of moderate ash content

(average 19.4%) and low sulphur content (0.6%) (Corkery & Co., 1995). The overburden to coal ratio averages 6 BCM/t.

The Lithgow Seam in the underground workings ranges from 2.25-2.5m in thickness and it is still intended to extract the full seam.

2.4.6 Changes in Mining Equipment or Method

Mining method remains the same as the previous reporting period. The major mining equipment fleet currently utilised at Baal Bone Colliery is outlined in **Tables 2.2a, b** and **c** below.

Table 2.2a. Open Cut Mining Equipment

Equipment Type	Number of units
Hydraulic Excavator (L994 Excavator Liebherr P3447)	1
Haul Trucks (785B Dump Trucks)	4
Diesel Rotary Drill (Drill Gardner Denver)	1
Dozers (D9R Dozer Caterpillar P.23816, D11RCD Dozer Caterpillar P.23905)	2
Water Cart (Water Truck Miscella P.27482)	1
Grader (14G Grader Caterpillar P.22551)	1
Lube/Fuel/Service Cart (Service Truck Mack P.27483, Mobile Compress P.26479)	2
Lighting Plants	6
966D Tyre Handler P.23035	1
Hired Plant P.31874	1

Table 2.2b Washery Equipment

Equipment Type	Number of Units
Haulpac Dump truck (DT433)	1
Stationary Engine (crusher, screen, plant)	1
Dozers (Tiger 690B - wheeled Dozer, Clarke 380B, Mitchigan	4

Equipment Type	Number of Units
380, CAT D11)	
Emeco (980G(WL090), 980G(WL105))	2
Bobcat –Diesel (liked wheeled tractor)	1
Washery Water Cart	1
Washery ROM Screen	1
Washery ROM Crusher	1

Table 2.2c Underground Mining Equipment

Equipment Type	Number of Units
Bobcat - Diesel (like wheeled tractor)	1
913 Eimco	4
912 Eimco	1
915 Eimco	1
130 Eimco	2
Forklift	2
Domino Road Grader	1
PJB Man transports	8
972 Wheeled Loader	1

Baal Bone Colliery commissioned a third continuous miner in September 2006 to accelerate development of longwall panels 26-28. No equipment was decommissioned during the reporting period.

2.5 Mineral Processing

Baal Bone produces two grades of crushed coal and three grades of washed coal for both the domestic and export markets. These grades include crushed underground ROM (24% ash), crushed open cut ROM (21% ash), and 9%, 14% & 18% ash washed coal.

During the 2006 reporting period 1.84 Mt ROM underground coal was washed at a nominal rate of 550 tonnes per hour, compared with 2.4 Mt washed during the 2005 reporting period. After the washing process, 1.6 Mt of saleable coal was produced from the Baal Bone CHPP in 2006.

Open cut coal is crushed, stockpiled and dispatched directly to Mount Piper Power Station; it is not generally washed prior to delivery. During the reporting period 648,000 tonnes of open cut coal was produced.

There have been no changes or additions to the process or facilities during the reporting period.

2.5.1 Production, Processing and Waste Summary

Table 2.3 shows production and waste for the reporting period plus an estimate for the next reporting period. It must be noted that open cut ROM coal is not washed prior to delivery to Mount Piper Power Station.

Table 2.3 Production, Processing and Waste Summary

	Cumulative Production			
	Start of Reporting Period	2006 Total (non cumulative)	**End of Reporting Period**	**End of next reporting period (estimated)**
Topsoil stripped (m^3)	66,582	723,522	790,104	1,151,865
Topsoil used/spread (m^3)	66,582	309,642	376,224	737,985
Waste Rock (open cut) (m^3)	9,081	4,022,601	4,031,682	5,767,554
ROM coal (1000 tonnes)	49,438	2,488	51,926	55,033
Processing Waste (CHPP) (1000 tonnes)	10,644	608	11,252	11,887
Product (1000 tonnes)	38,794	1,616	40,410	42,213

2.5.2 Product Destination and Transportation

At the 2005 AEMR Joint Agency Review Meeting, Lithgow City Council requested that Baal Bone include detail regarding product destination and transportation in the AEMR. This information has been summarised in **Table 2.4** below.

The total quantity of coal dispatched from Baal Bone during the reporting period included 1,929,217 tonnes by rail and 628,194 tonnes by road. This compares to 767,323 tonnes dispatched by road during the 2005 reporting period.

During the reporting period there were no changes to the product transportation process. However, Baal Bone has been advised that the contact to supply a boutique “nut-coal” to Nowra will not be renewed when it expires at the end of January 2007. This contract has been awarded to the Invincible Colliery.

Discussions with Delta Electricity have confirmed Mount Piper Power Station will be unlikely to receive coal by road after 2008. Delta anticipates that a rail unloading facility will be

operational by that time. Based on current delivery rates Baal Bone's present contract with Delta should be fulfilled around June 2007.

Table 2.4 Product destination and tonnages for 2006

Destination	Tonnes dispatched (2006)	Mode of transportation
Export – Port Kembla	1,770,293	Rail
Delta Electricity – Mount Piper Power Station	502,097	Road
Bluescope Steel – Port Kembla	158,924	Rail
Manildra Flour Mill and Australian Paper Mill – both in Nowra	120,940	Road
James Cummings – Auburn	3,635	Road
Sanitarium – Newcastle	1,171	Road
Other Domestic	351	Road

2.6 Waste Management

2.6.1 Washery Waste

Baal Bone Colliery reject comprises a mixture of high ash coal and non-coal materials, such as sedimentary rock and clay. These materials occur both within the coal seam and as floor or roof materials extracted during the mining operation. They are rejected during the beneficiation process on a specific gravity basis.

2.6.2 Coarse Reject

Baal Bone's coarse reject has a particle size ranging from 100 mm to 100 micron and comprises approximately 22% of Washery feed. Analysis of the Baal Bone coarse reject material confirms that it is non saline and pH is near neutral with negligible acid producing capacity. It does however exhibit poor physical characteristics with a coarse texture and low water holding capacity.

Even though it is chemically benign, this material is not suitable for use as a growth medium. All reshaped areas are therefore covered with a minimum of 300mm of soil (freedig) material to provide a covering layer in which a sustainable and protective vegetative cover will be established.

Coarse rejects are currently being strategically placed around in and around the southern open cut void to eventually create the design final landform. Three dimensional modelling completed

in late 2006 confirms that a further 4.73Mt of coarse reject can be placed in this area. Based on current production rates this area should provide sufficient capacity for the remainder of the life of mine.

2.6.3 Fine Reject

Fine Washery reject is generally smaller than 100 micron in diameter and comprises around 7% of Washery feed. Fine reject is pumped as 20–25 % w/w slurry to the designated tailings emplacement area contained within the southern open cut void.

Baal Bone Colliery currently disposes of fine rejects in Reject Emplacement Area 5 (REA 5) which was commissioned in early 2006. The void capacity for REA V has been calculated at 485,000m^3 and based on current delivery rates will have an operational life of another 3 years.

Leachate generated by REA 5 is collected in a leachate collection dam and is returned to be process water circuit for reuse by the CHPP.

In accordance with Baal Bone's Section 126 Approval for the construction and operation of REA 5, an independent geotechnical assessment of the REA was undertaken in January 2007 by Mr Ross Seedsman of Seedsman Geotechnics P/L. A written report remains pending at this time, however verbal confirmation of the stability of the structure has been obtained.

REA 2A and REA 4 were decommissioned and rehabilitated during the reporting period. These areas were dewatered, covered with coarse reject material and waste rock, and then capped with a clay loam material. It is expected that these areas will be ameliorated, seeded and fertilised in Q2 2007 in conjunction with the remainder of the rehabilitation areas in both the northern and southern open cut areas.

It should be noted that REA 3 was not utilised due to the significant resources required for the rehabilitation of the area and the potential for detrimental water quality impacts resulting from its operation.

2.6.4 Open Cut Waste Rock

During the reporting period approximately 4,000,000 m^3 of overburden and waste rock was generated as a result of the open cut operations. This material was strategically placed around in and around the disturbed areas in both the northern and southern open cut pits to create the final design landform.

In the southern open cut area this material was augmented with coarse reject from the CHPP.

2.7 Ore and Product Stockpiles

The maximum working capacity of the Baal Bone coal stockpiles (both ROM and product) is approximately 1,000,000 tonnes.

During January 2006 the maximum tonnage of stockpiled underground ROM coal reached 469,000 tonnes and the maximum tonnage of stockpiled washed coal also peaked at 320,000 tonnes in January.

The Open Cut ROM stockpile held a maximum of approximately 61,000 tonnes in July 2006, with the product stockpile peaking at approximately 79,000 tonnes in September.

2.8 Water Management

The Baal Bone Water Management System Flow Chart is shown schematically in **Figure 2.1**. The location of some monitoring points and the analysis undertaken at each of these will reviewed in Q1 2007. Preliminary discussions have been held with DEC in this regard.

2.8.1 Process Water Circuit

Baal Bone Colliery has a cyclic Process Water Management System. That is, all site runoff is directed into and is reticulated around the Process Water Circuit for use in general site operations and the CHPP. Some water is discharged into the Jews Creek through an EPA Licenced discharge point during high intensity rainfall events.

As at 31st December 2006, approximately 73 ML of water was held within the process water circuit, see **Table 2.5**. This water is used throughout the CHPP at a rate of 2.5 ML/day. An additional 0.5 ML/day is supplied to the open cut operations for dust suppression purposes.

Tailings slurry from the CHPP is pumped to the tailings dam at an average rate of 150 m^3/hr. From the tailings dam, water is gravity fed through a filter embankment to the leachate collection dam, from where it is pumped back into the Dirty Water Dam.

As discussed in Section 2.8.4 below, water from both the north mine and south mine dewatering bores now augments the process water circuit and is piped back into the Dirty Water Dam. A bore adjacent to the UC1 drive head (Licence No. 80BL136703) also supplies makeup water into this system as required.

Water from the Dirty Water Dam is subsequently pumped into the Process Water Dam prior to redistribution to the CHPP and to the underground operations for wash down, dust suppression and fire fighting purposes.

2.8.2 Potable Water

Potable water is purchased from State Water and is supplied through a connection into the Fish River Water Supply Pipeline. This connection services the administration centres and bathhouses, and is also used underground in a solcenic emulsion for the longwall hydraulic roof support system. Drinking water is also taken underground in containers.

The annual potable water bill received from State Water is based on a usage period from 1st July 2005 to 30th June 2006. This invoice confirmed that for the twelve months to June 2006, Baal Bone used 42.58 ML of potable water.

Table 2.5 Stored Water at Baal Bone Colliery

	Volume Held (Mega Litres)			
	Start of Reporting Period	**End of Reporting Period**	**Volume lost/gained**	**Maximum Storage Capacity**
Dirty Water Dam	37 ML	20 ML	17 ML lost	37 ML
Process Water Dam	55 ML	50 ML	5 ML lost	55 ML
Box Cut Sump	3 ML	3 ML	0 ML lost	6.9 ML
Controlled Discharge Water (Salinity Trading Schemes)	Nil	Nil	Nil	Nil
Contaminated Water	Nil	Nil	Nil	Nil

2.8.3 Sewage Treatment and Disposal

Sewage and grey water effluent from site facilities, including the administration building, bathhouse, CHPP and amenities are collected in a sump and directed through macerator pumps to an on-site sewage treatment plant (STP). The waste is treated by an activated sludge treatment process then is discharged into two maturation ponds, with a total residence time of approximately 20 days.

Following treatment and maturation the overflow from the second pond discharges onto a well vegetated transpiration bed; this is an EPL Discharge and Monitoring Point. The location of the STP and maturation ponds is shown on **PLAN 1**.

Contra-Shear Technology was engaged by Baal Bone Colliery in December 2006 to provide a formal operational review of this system and to develop a systematic inspection/maintenance procedure. Results of the review should be finalised in early 2007.

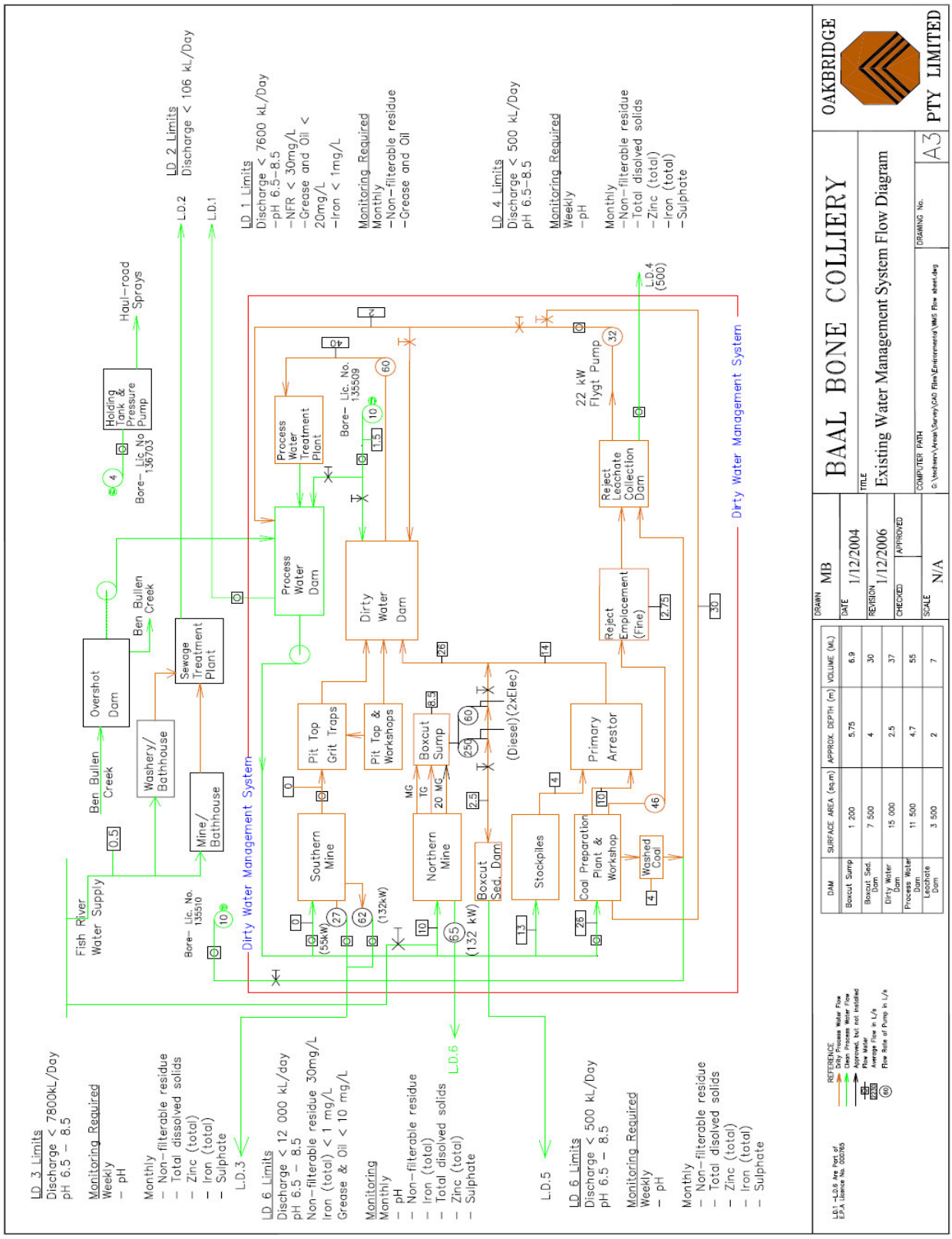

Figure 2.1. Baal Bone Water Management System Flow Chart

2.8.4 Changes to the Water Management System During 2006

To secure Baal Bone Colliery's water supply during the current drought conditions, the north mine dewatering bore (Licence 80BL239077) and south mine dewatering bores (Licences 80BL236132 and 80BL236134) have now been piped back into Colliery's Process Water Circuit. These bores currently discharge into Jews Creek through EPA licenced discharge points.

A T-piece and gate valve arrangement was installed in this system to facilitate provision of riparian/environmental base flows in Jews Creek when required. During Q1 2007 Baal Bone will be seeking approval from DEC to include the location of this discharge point on EPL 765. Preliminary discussions have been held with DEC in this regard.

Liaison has occurred with Forests NSW as the landholders and an extension has been noted on Baal Bone's existing Occupation Permit to include this pipeline.

The Box Cut Sediment Dam was removed in Q4 2006 due to the advancing open cut operations. Whilst this was an EPA Licenced discharge point it had not been utilised for a considerable period of time as the Box Cut precinct was no longer an active underground mining area. All water from the Box Cut sump which previously discharged through the Box Cut sediment dam, is now returned to the Dirty Water Dam and is incorporated into the process water system.

In Q1 2007 Baal Bone will also be seeking approval from DEC to remove the location of this licenced discharge point from EPL 765. Preliminary discussions have been held with DEC in this regard.

2.9 Hazardous Material Management

2.9.1 Status of Licence

Baal Bone Colliery's Dangerous Goods Licence (35-023231) expired on 6th April 2006, however it was renewed during the reporting period and prior to the date of expiry. Baal Bone is still awaiting a response from WorkCover regarding the current status of the renewal process.

As a result of the Dangerous Goods Act (1975) and Regulation (1999) having been repealed on 1st September 2005. There is now a requirement to notify WorkCover of dangerous goods stored and handled onsite. The threshold for notification is higher than that for licencing and is set out in the Occupational Health and Safety Regulation (2001).

The major change in the Regulation is the storage and handling of explosives. In order to be granted a licence to store explosives, in accordance to the new Explosives Regulation (2005), Baal Bone has nominated suitable persons to hold an Unsupervised Handling Licence following appropriate state and federal security background check. The Explosive and Detonator Magazine was also included when the licence was renewed to comply with the new Regulations.

Details of hazardous materials stored on-site during the reporting period are provided in **Table 2.6.** Location of the storage of hazardous goods can be found on **Plan 1**.

Table 2.6 Hazardous Materials Stored On Site

Hazardous Material	Dangerous Goods Classification	Maximum Quantity Stored	Storage Type
Explosives; blasting, Type A	Class 1.1D	480 kg	Surface Explosive Magazine
Detonator, non-electric and electric	Class 1.1B	1000 kg	Surface Explosives Magazine
Petroleum gases, liquefied	Class 2.1	45,500L	Above Ground Tanks
Acetylene, dissolved	Class 2.1	$100m^3$	Cylinder Store

2.9.2 Material Safety Data Sheets

Under Baal Bone Colliery's Environmental Management System (EMS) there is a Hazardous Substance Standard (HSEC STD 5.03 – Hazardous Substances), which deal with the safe storage, handling and disposal of chemicals and other hazardous substances. Materials Safety Data Sheets (MSDS) are made available to all employees at the Store facility.

The Colliery also has a comprehensive online "Chemalert" database, which provides all employees easy assess to information on all chemicals held on site. Information includes but is not limited to: the safe handling of products, Personal Protective Equipment (PPE) requirements, storage, use and disposal of the materials and spill response procedures. Chemalert is available on most PCs including the one for general employee use in the lamp room.

2.10 Other Infrastructure Management

The location of existing infrastructure is shown on **PLAN 1**. There were no changes to the existing infrastructure during the reporting period, nor were there changes or additions to processes or facilities.

SECTION 3.0: ENVIRONMENTAL MANAGEMENT AND PERFORMANCE

Baal Bone Colliery maintains and operates an Environmental Management System (EMS), which has been prepared to reflect industry best practice and to specifically address Development Consent conditions, approvals, licence and other statutory requirements.

Detailed Plans of Management and Performance Standards for a wide range of environmental elements have subsequently been developed. These Plans and Standards detail relevant control measures, management strategies, monitoring requirements, reporting procedures and performance expectations/criteria.

SP Solutions Pty Limited conducts annual Broad Brush Risk Assessments at Baal Bone, with the 2006 review completed in October. Being a Broad Brush Risk Assessment this review tends to focus on high level health, safety, environmental and community issues. In conjunction with Baal Bone's EMS review (outlined below) the Colliery is also commissioning a full community / environmental examination and assessment of all potential risks associated with its operations. Baal Bone has tentatively scheduled SP Solutions to complete this risk assessment review in March 2007. This will in turn facilitate development of an updated Aspects and Impacts Register.

A full review of Baal Bone's EMS together with all related management plans, standards and operating procedures commenced in late January 2007 and subject to the receipt of the Risk Assessment Report, should be completed by May 2007.

It should be noted that this Section of the AEMR does necessarily provide a comprehensive description of each individual environmental control mechanism that is currently employed at Baal Bone; this level of detail is available in the Mining Operations Plan (MOP) for Baal Bone's Underground and Open Cut Operations (July 2006).

Rather, this Section will focus on providing a succinct review of the performance and/or modification of key control measures throughout the 2006 reporting period. Also included is a review of significant activities undertaken or actions completed throughout the year, a summary of monitored data (as applicable), a discussion regarding the level of compliance achieved; together with an overview of initiatives proposed and actions planned for the 2007 reporting period.

3.1 Air Pollution

3.1.1 Wind Speed and Direction

The Ben Bullen Range (and State Forest) provides reasonable shelter from winds with the exception of those from the north-west which have a clear fetch of approximately 12km upwind of the site. However, strong winds from the southwest and southeast may funnel through the gaps in the Ben Bullen Range and along the valleys.

Wind speed and direction at Baal Bone is comparable to the wind conditions from the Lithgow (Birdwood Street) Weather Station. Seasonal wind roses for this weather station are found in **Figure 3.1**.

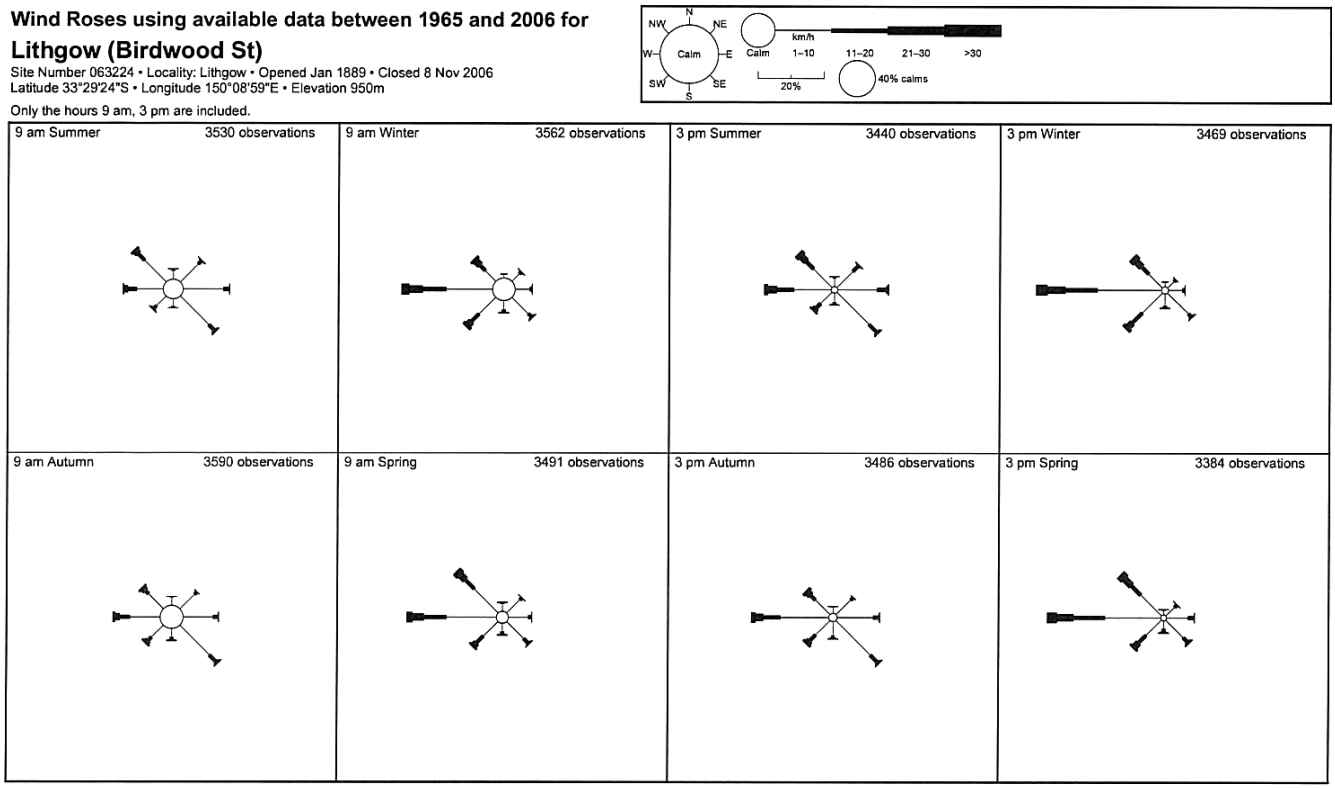

Figure 3.1 Historic Wind Roses for the Lithgow Weather Station (Birdwood Street)

3.1.2 Dust Monitoring and Sample Locations

Monthly dust fall-out monitoring is carried out in accordance with Australian Standard AS3580.10.1 and EPA Licence requirements. Baal Bone has engaged Ecowise Environmental Pty Limited, a NATA Accredited laboratory, to undertake monthly sampling, monitoring and analysis.

Baal Bone maintains a network of 4 dust deposition gauges to monitor dust levels around site and in the vicinity of our nearest neighbour, these are:

- Sample Location DM1 (EPA Monitoring Point No. 7)
- Sample Location DM2 (EPA Monitoring Point No. 8)
- Sample Location DM3 (EPA Monitoring Point No. 9)
- Sample Location DM4 (EPA Monitoring Point No. 10)

Location of these gauges are illustrated on **Figure 3.6**.

3.1.2 Modifications to the Dust Monitoring Network

There has been no change to any location of Ball Bone Colliery's dust fallout monitoring network during the reporting period.

3.1.3 Review and Interpretation of Dust Monitoring Results

Levels of *Total Solid Particles* were monitored in accordance with EPL 765 and the EPA Guideline of 4.0g/m^2/month has been adopted as a reasonable maximum level. Results of dust fallout monitoring conducted during the 2006 reporting period are illustrated graphically in **Figures 3.2 – 3.5** below.

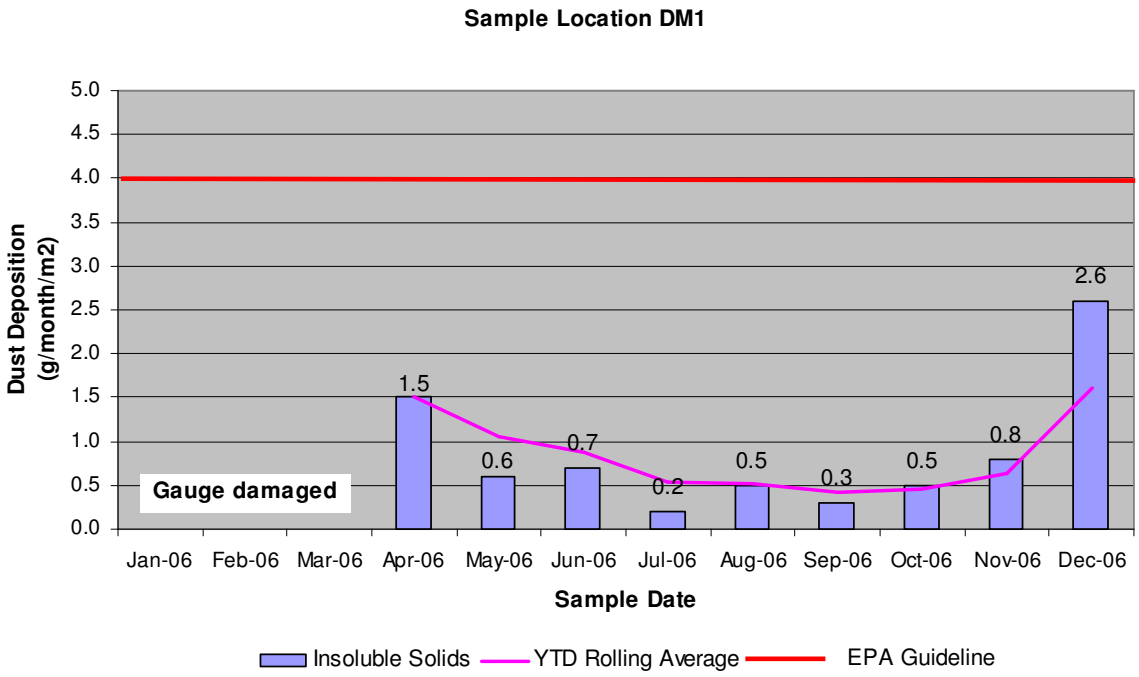

Figure 3.2. Monthly dust deposition results for Sample Location DM1

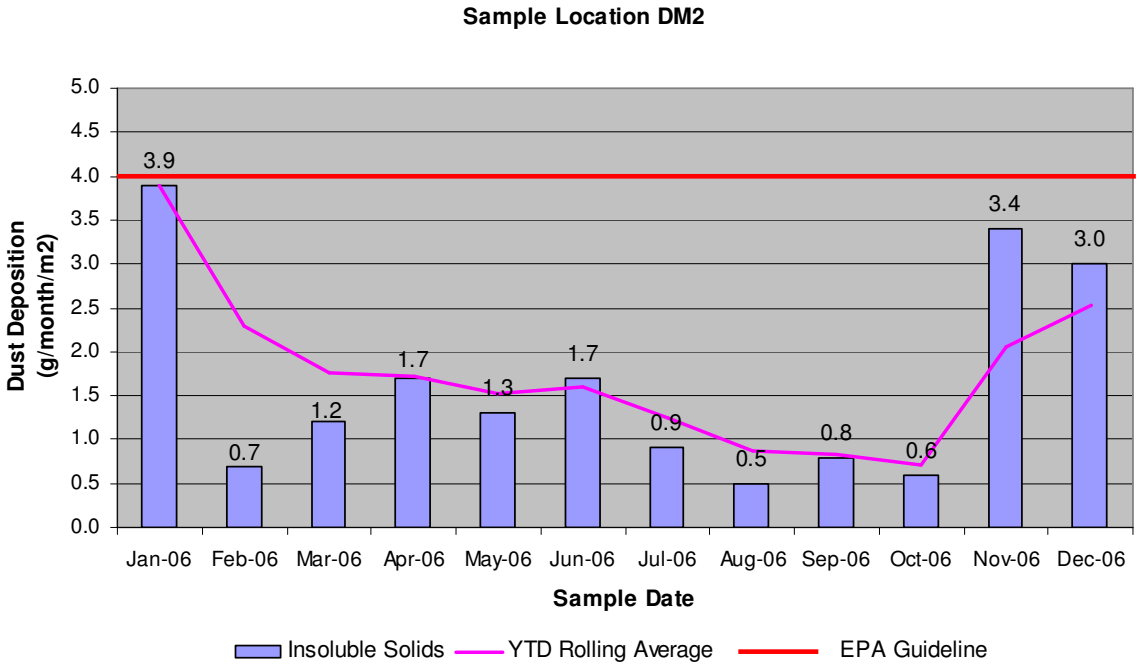

Figure 3.3. Monthly dust deposition results for Sample Location DM2

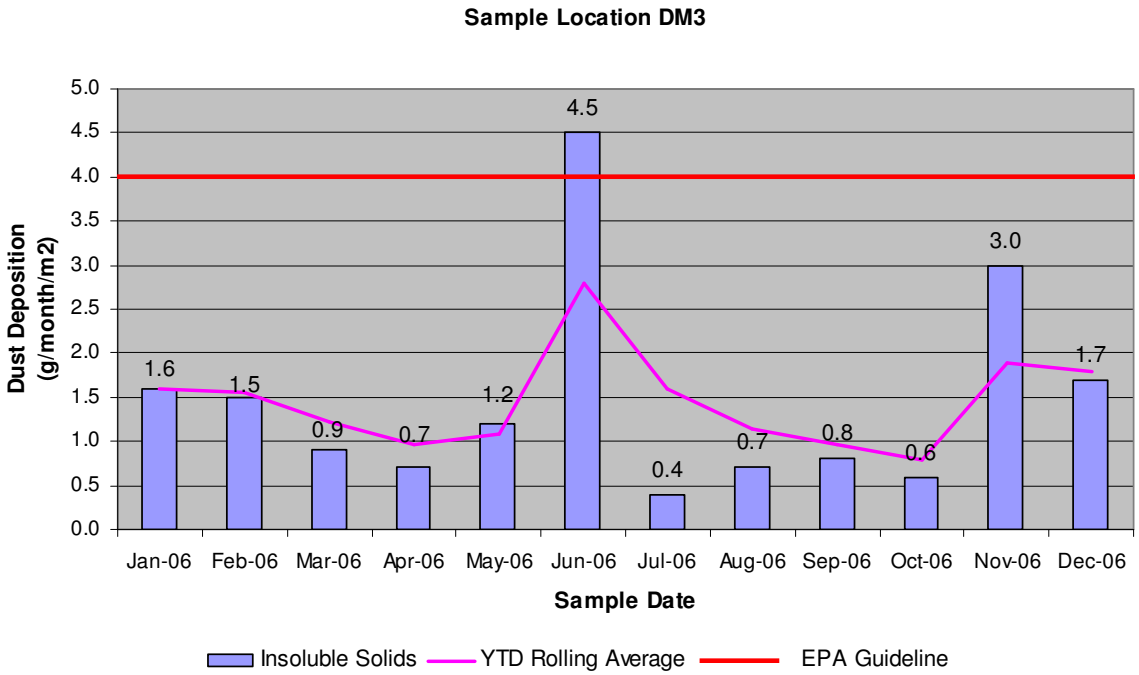

Figure 3.4. Monthly dust deposition results for Sample Location DM3

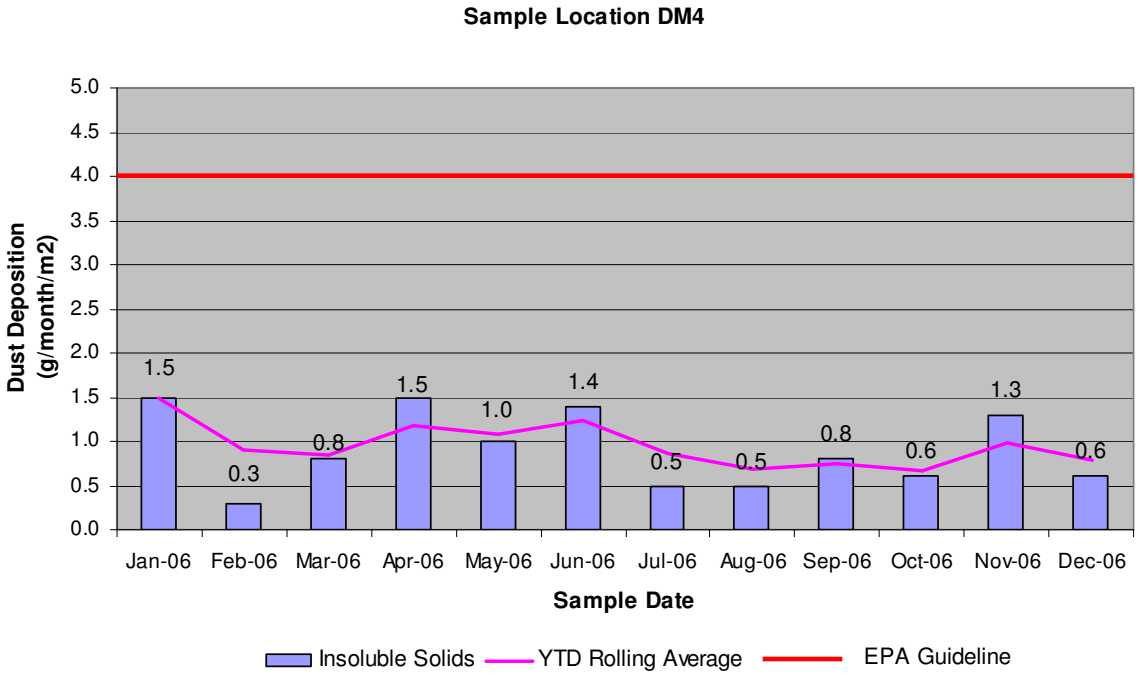

Figure 3.5. Monthly dust deposition results for Sample Location DM4

All four dust deposition gauges were sampled monthly during the reporting period. However, three sets of monthly data for DM1 were not obtained due to the gauge being damaged by livestock. With the notable exception of the June reading for DM3, all other monthly concentrations of *Total Solid Particles* were generally well below the EPA Guideline, based on AS 3580.10.1-1991, which suggests that the annual dust deposition average should not exceed 4.0g/m^2/month or increase by more than 2.0g/m^2/month (refer to YTD Rolling Average in **Figures 3.2 - 3.5**).

The basis of the relatively high June reading for DM3 (4.5 g/m^2/month) remains unclear, particularly as concentrations for May and July were 1.2 and 0.4 g/m^2/month respectively. Dry soil conditions coupled with relatively strong westerly winds (**Figure 3.1**) are the most feasible explanation, however only preliminary site activities were being undertaken in the northern open cut area during this period.

No other abnormal or unseasonal spikes were recorded during the reporting period.

3.2 Erosion and Sediment Control

In non-active areas of the mining lease, there have been negligible levels of erosion and sedimentation. Low stocking rates has ensured the maintenance of a satisfactory level of ground cover, even in the current dry conditions.

As discussed in Section 2, all active surface mining and rehabilitation areas fall within Baal Bone's Surface Water Management System which is subdivided into "clean water" and "dirty water" systems. Features of the "clean water" system includes upslope diversion banks, levee banks, lined channels and drains and reed beds within the Ben Bullen Creek; features of the

"dirty water" system include graded contour banks, containment bunds, primary arrestor/grit traps, sediment dams, water treatment plant and settlement dams.

The dirty water system is incorporated into Baal Bone's process water circuit. This is a closed circuit which provides water for the CHPP, in addition to water for dust suppression, fire fighting and general underground operations. Water from this circuit is reused and is not discharged from site

The Overshot Dam is located on the Colliery's northern boundary and is the final point of containment for the clean water system. It also provides an additional opportunity for settlement and/or other treatment if required. The discharge from the Overshot Dam is a Licenced Discharge point that is noted on EPL 765.

3.2.1 Activities During the Reporting Period

Rehabilitation activities in both the southern and northern open cut areas are progressing well, with approximately 41 ha shaped and covered in the south pit and a similar area nearing completion in the north pit area.

An as constructed survey of the southern open cut area was completed in September 2006, and in association with the Soil Conservation Service (SCS) a final surface water management plan for this portion of the site was completed in October. This plan includes 5,713m of graded banks, with 414m of rock lined drains. The SCS have subsequently commenced construction of these works in mid-February 2007.

A similar exercise will be carried out for the northern open cut area in Q2 2007.

Design of a substantial grade stabilisation structure in the Ben Bullen Creek has also been commenced and preliminary consultation has been initiated with NSW Fisheries in this regard. Final design will be incorporated into a full natural channel design plan for the restoration of Ben Bullen Creek which is scheduled to commence in late February 2007.

During the Reporting Period the Box Cut Sediment Dam was removed by the advancing open cut operations. Whilst this was an EPA Licenced discharge point it had not been utilised for a considerable period of time as the Box Cut precinct was no longer an active underground mining area. All seepage and runoff collected in the Box Cut sump, which previously discharged through the Box Cut sediment dam, is now returned to the Dirty Water Dam and is incorporated into the process water circuit.

In Q1 2007 Baal Bone will also be seeking approval from DEC to remove the location of this licenced discharge point from EPL 765. Preliminary discussions have been held with DEC in this regard.

3.3 Surface Water

Baal Bone has engaged Ecowise Environmental Pty Limited, a NATA Accredited laboratory, to undertake monthly sampling, monitoring and analysis of a range of surface and subsurface waters.

Baal Bone maintains a network of 7 licenced Discharge and Monitoring Points in accordance with EPL 765 (viz. LD1, LD2, LD3, LD5, LD6, LDP1 and WMP1) (**Figure 3.6** and **Figure 3.7**). In addition, another 28 monitoring points are located throughout the site and the data obtained is used to assist internal management and planning decisions.

A description of discharge and monitoring sites, analyses conducted, frequency of sampling and concentration limits (where applicable) are shown in **Table 3.1** below.

Table 3.1. Baal Bone Colliery Water Monitoring Locations and Monthly Analysis

NB: Monitoring points highlighted in yellow indicate Licenced Discharge and Monitoring Points.

Sample Name	Sample Location	Frequency	Pollutants Analysed	EPL Limits
BBPOT	Potable water from female toilets in Administration	Monthly	pH, TSS	
BBBH	Potable water from Washery bathroom	Monthly	pH, TSS	
BB Open Cut	REA 5 leachate dam	Monthly	EC, Hardness, Iron, oil & grease, pH, Sulphate, TSS	
BBWMP1	Upstream quality monitoring	Monthly during discharge	EC, Iron, oil & grease, pH, Sulphate, TSS	NA
BBDW	Dirty water dam	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBBC	Box cut sump	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBLD5 Upstream	Jews Creek	Monthly	EC, Iron, pH, Sulphates, TSS	
BBLD5	Box Cut sediment dam discharge	Monthly during discharge	EC, oil & grease, sulfate, iron, TSS, pH	Oil & grease, pH, TSS, iron
BBBC Sed Dam	Box Cut sediment dam	Monthly	EC, Iron, oil & grease, pH, Sulphates, TSS	
BBLDP1	Overshot dam	Monthly during discharge	EC, oil & grease, sulfate, iron, TSS, pH	Oil & grease, pH, TSS, iron
BBJ	Jews Creek confluence	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBLD1	Upstream quality monitoring	Monthly during discharge	EC, oil & grease, sulfate, iron, TSS, pH	NA

Sample Name	Sample Location	Frequency	Pollutants Analysed	EPL Limits
BBPRW	Process water dam	Monthly	EC, Hardness, Iron, oil & grease, pH, Sulphate, TSS	
BBH9	Below ROM stockpile	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBLD3	Southern mine dewatering bores discharge	Monthly during discharge	EC, oil & grease, sulfate, iron, TSS, pH	Oil & grease, pH, TSS
BBLW19 Borehole	South bore sump	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBLD6	Northern mine dewatering bore discharge	Monthly during discharge	EC, oil & grease, sulfate, iron, TSS, pH	pH, TSS, iron
BBLW19 Sed Dam	North bore dam	Monthly	EC, Iron, oil & grease, pH, Sulphate, TSS	
BBJCH	Jews Creek headwater	Monthly	EC, Iron, pH, Sulphates	
BBJ 19 Pipe	Flowline from south bore	Monthly	Not sampled in reporting period	
BBJ 19 Pipe 1	Below culvert on Gap Road	Monthly	EC, Iron, pH, Sulphates, TSS	
BBJ 19 Pipe 2	Below culvert on Gap Road	Monthly	Not sampled in reporting period	
BBJ 21	Culvert on south bore access track	Monthly	Not sampled in reporting period	
BBJ 23	Culvert on south bore access track	Monthly	EC, Iron, pH, Sulphates, TSS	
BBPit 1	Pit-top grit trap/oil separator (eastern)	Monthly	COD, EC, MBAS, oil & grease (sozhlet), pH, sulphates, TSS	
BBPit 2	Pit-top grit trap/oil separator (western)	Monthly	Not sampled in reporting period	
BBLD2	STP to transpiration bed	Monthly during discharge	BOD, Faecal Coliforms, Nitrogen, Oil & grease, Phosphorous, TSS, pH	
BBMW 3	Washery makeup water bore	6 Monthly	Depth to ground, EC, MBAS, oil & grease, pH	
BBN 113 - Pipe 1	Ben Bullen State Forest 33° 15' 50" Lat 150° 04' 50" Long GPS Co-ords	Quarterly	Depth to ground	
BBN 113 - Pipe 2	Ben Bullen State Forest	Quarterly	Depth to ground	
BBN 113 - Pipe 3	Ben Bullen State Forest	Quarterly	Depth to ground	
BBN 129	Ben Bullen State Forest 33° 16' 03" Lat 150° 05' 14" Long GPS Co-ords	Quarterly	Depth to ground, EC, Iron, oil & grease, pH, Sulphates	
BBN 134 - Pipe 1	Ben Bullen State Forest 33° 14' 36" Lat	Quarterly	Depth to ground	

Sample Name	Sample Location	Frequency	Pollutants Analysed	EPL Limits
	150° 05' 58" Long GPS Co-ords			
BBN 134 - Pipe 2	Located in Ben Bullen State Forest	Quarterly	Depth to ground, EC, Iron, oil & grease, pH, Sulphates	
BBN 135	Ben Bullen State Forest 33° 14' 55" Lat 150° 05' 57" Long GPS Co-ords	Quarterly	Depth to ground, EC, Iron, oil & grease, pH, Sulphates	

BOD – Biochemical Oxygen Demand
COD – Chemical Oxygen Demand
EC – Electrical Conductivity
MBAS – Metheleyne Blue Active Substances
TSS – Total Suspended Solids

3.3.2 Interpretation and Review of Monitoring Results

Monitoring results for Baal Bone's seven licenced Discharge and Monitoring Points as required by EPL 765 are discussed below. Where available, samples were taken *monthly during discharge* in accordance with the EPL. However due to the continuing dry conditions discharges at many sites were minimal, with most of the water reused or recycled on site, and samples were not regularly available for collection. **Table 3.2** summarises the locations and months during which samples from the licenced Discharge and Monitoring Points were collected.

Results of these samples are tabulated below in **Table 3.3;** graphic interpretation of these results where the Licenced Discharge and Monitoring Points have Concentration Limits is included in **Figures 3.8 - 3.11**.

Table 3.2. Baal Bone's Licenced Discharge and Monitoring Points – samples available for collection in 2007

EPA Point	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BBLD1	No	Yes	No	No	No	No	No	No	No	No	No	No
BBLD2	No	No	Yes	No	No	No	No	No	Yes	No	No	Yes
BBLD3	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes
BBLD5	No	No	No	No	No	No	No	No	No	No	No	No
BBLD6	No	Yes	No	No	No	No	No	No	No	No	No	No
BBLDP1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
BBWMP1	Yes	No	No	No	No	No	No	No	No	No	No	No

Table 3.3. Results of Samples Recorded for DEC Licenced Discharge and Monitoring Points

EPA Point	Month	Electrical Conductivity uS/cm	Oil & Grease mg/L	Sulphate mg/L	Iron mg/L	TSS mg/L	pH
BBLD1	Feb	1100	<2	610	0.12	<2	8.1
BBLD2	Mar	270	NA	N/A	N/A	69	7.0
	Sept	230	NA	N/A	N/A	16	8.6
	Dec	290	NA	N/A	N/A	94	7.8
BBLD3	Jan	1600	<2	340	3.2	6	6.7
	Feb	1650	<2	670	2.1	4	6.7
	Mar	1670	<2	650	2.0	5	6.7
	Apr	1640	<2	320	0.15	3	6.6
	Dec	1280	<2	310	0.12	6	7.8
BBLD6	Feb	1540	<2	220	0.25	<2	7.3
BBLDP1	Jan	690	<2	240	1.0	6	6.7
	Feb	800	<2	450	1.1	16	7.0
	Mar	820	<2	240	0.15	4	7.6
	Apr	760	<2	280	0.50	12	7.1
	May	690	<2	160	0.40	7	7.2
	Jun	660	<2	220	0.10	5	7.3
	Jul	770	<2	130	<0.05	<2	7.4
	Aug	720	<2	320	0.70	20	7.7
BBWMP1	Jan	60	<2	4	16	110	7.2

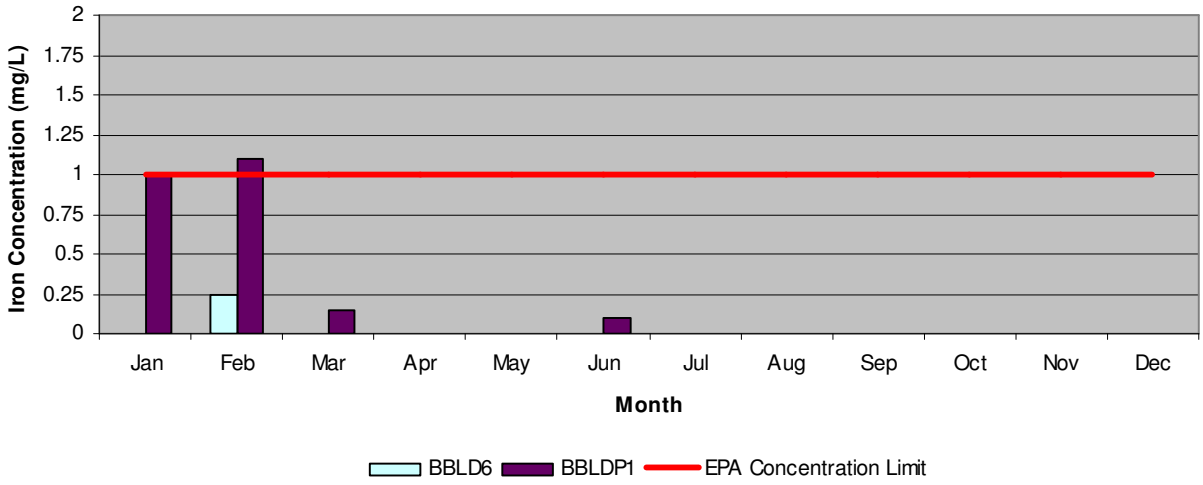

Figure 3.8. Total Iron Levels of Samples Recorded in Relation to EPL Concentration Limit of 1.0mg/L.

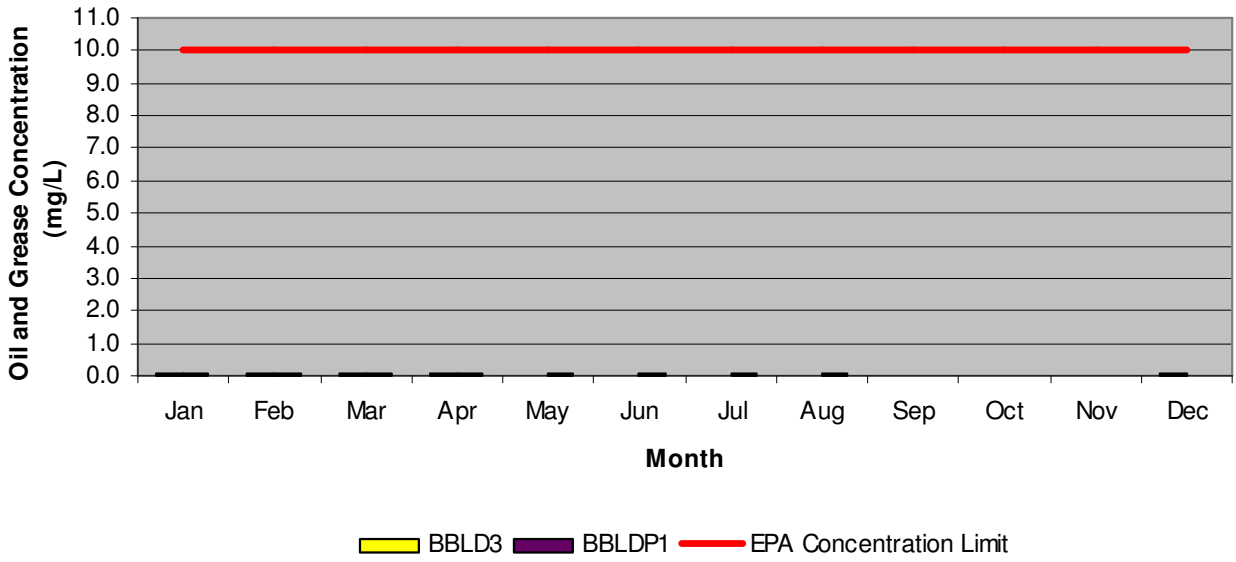

Figure 3.9. Oil and Grease Levels of Samples Recorded in Relation to EPL Concentration Limit of 10mg/L.

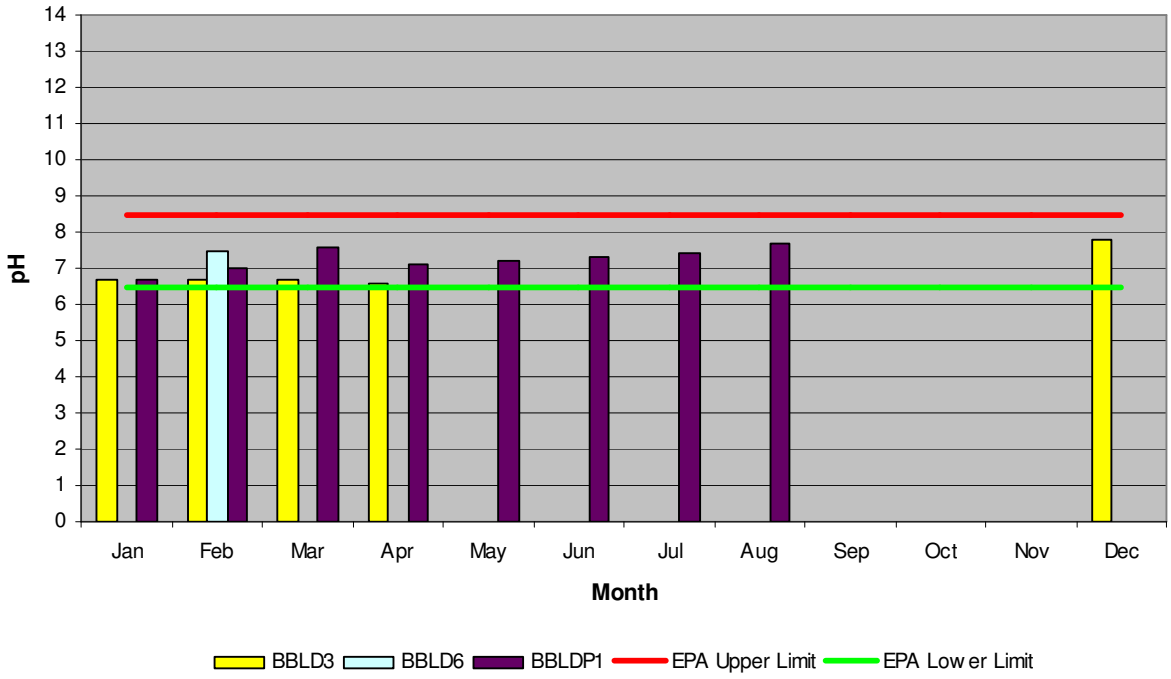

Figure 3.10. pH Levels of Samples Recorded in Relation to EPL Range of 6.5-8.5.

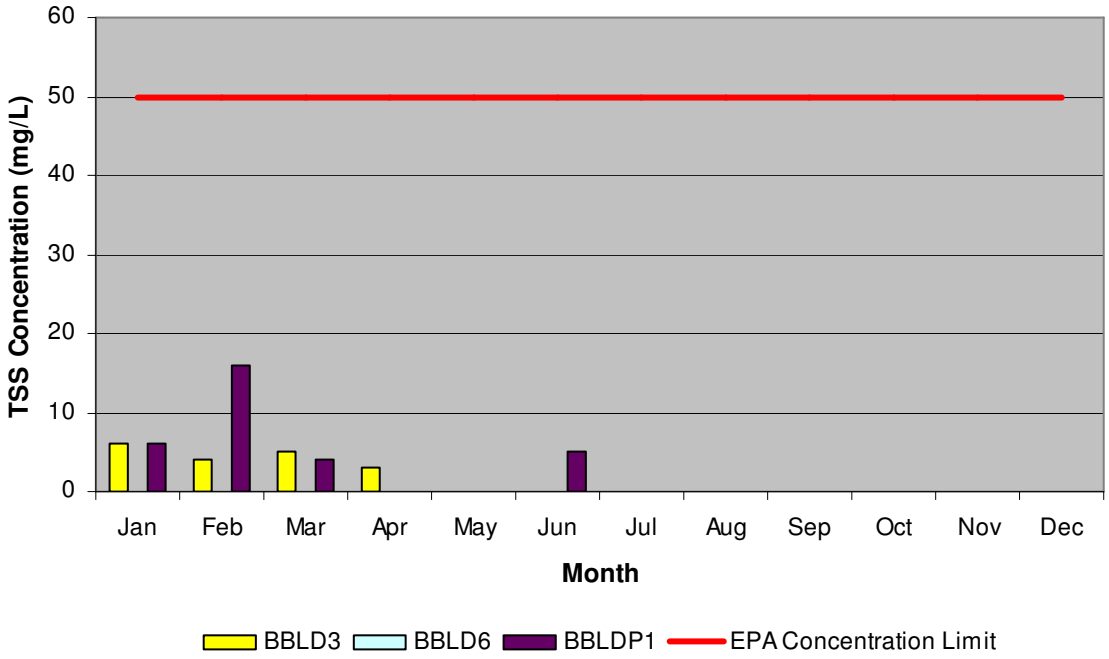

Figure 3.11. TSS Levels of Samples Recorded in Relation to EPL Concentration Limit of 50mg/L.

With the notable exception of one Total Iron level for Monitoring Point LDP1 all samples recorded were within EPL Concentration Limits. A summary of monitoring results for EPL discharge and monitoring points with specified Concentration Limits can be found below:

- LDP1 result for February (1.1mg/L) was the sample with the highest concentration of iron present; this slightly above the EPL Concentration Limit of 1mg/L. The exact cause for this reading remains unknown as no extraordinary activities occurred on site during February. Concurrent monitoring immediately downstream of LDP1, at the confluence with Jews Creek, returned Iron levels of 0.12mg/L for the same period.
- all samples returned oil and grease concentration levels of <2mg/L, which is well below the EPL Concentration Limit of 10mg/L;
- all samples returned pH results that were within the upper and lower EPL Limits (8.5 and 6.5 respectively); and
- all samples returned TSS results well below the EPL Limit of 50mg/L.

3.4 Ground Water and Pollution

Baal Bone Colliery currently has six bores licenced with Dept. Natural Resources; these are summarised in **Table 3.4**.

Table 3.4 Licenced Bores

Licence Number	Expiry Date	Location
80BL236132	Perpetuity	South mine dewatering bore (South Bore 1)
80BL236134	Perpetuity	South mine dewatering bore (South Bore 2)
80BL239077	Renewal Pending	North mine dewatering bore
80BL136703	13/01/2008	Main Washery water make-up bore – located adjacent to UC1 drivehead
80BL135509	Renewal Pending	Washery make-up water augmentation & dust suppression for haul roads – located adjacent to rail loop
80BL127440	02/06/2008	Original potable water supply – located adjacent to southern boundary of site. No longer in use.

It should be noted that licenced bore 80BL127440 is no longer in use and will not be renewed upon expiry in 2008.

Previously, the main Washery water make-up bore was 80BL136703, however with the continued dry conditions the north and south mine dewatering bores (80BL239077, 80BL236132 and 80BL236134) have been rerouted for use as Washery make-up. Bore 80BL135509 was also used for Washery make-up water for a short period; however the supply proved to be too unreliable and its use has since been discontinued.

No new piezometers were drilled during the reporting period. However, Baal Bone is currently preparing a Subsidence Management Plan (SMP) for the proposed extension of the mine into Longwall Blocks 29 – 31. In association with this process a Hydrogeological Assessment of the application area was completed by Ian Forster of Connell Wagner Pty Limited in October 2006. This report recommended the installation of five shallow piezometers to gather background data and to monitor subsidence effects on local groundwater regimes. It is proposed to begin installation of these in Q1 2007. Approval from Forests NSW and licences from Dept. Natural Resources will be obtained in due course.

Baal Bone currently monitors three active piezometers in the vicinity of previous workings; these are monitored quarterly for analytes including pH, EC, iron, sulfates, oil & grease and depth to ground. A further five piezometers have subsequently been blocked or otherwise destroyed by subsidence.

Piezometer monitoring will be included in a full review of water monitoring procedures to be undertaken in Q1 2007.

3.4.1 Ground Water Extraction

EPL 765 imposes volumetric limits on two of Baal Bones Licenced Discharge Points. LD5 from the Box Cut Sediment Dam is limited to a maximum of 20 ML/day and LD6 from the north mine dewatering bore is limited to 12 ML/day.

During the reporting period no water was discharged from LD5 and an average of 1.15 ML/day was discharged from LD6. The theoretical maximum capacity of the existing pump at LD6 limits discharge to a maximum of 5.8 ML/day. During the 2006 reporting period, LD6 discharged a total of 419.1 ML.

Bore Licences 80BL136703 and 80BL135509 as issued by Dept. Natural Resources impose a maximum extraction limit of 750 ML/year. As stated previously, the yield from Bore 80BL135509 has proven to be unreliable and its use has since been discontinued. Bore 80BL136703 has a maximum reliable yield of around 0.5 ML/day, which if used 24 hours, 7 days a week would extract a total of 182.5 ML/year.

During the reporting period, the south mine dewatering bores (80BL236132 and 80BL236134) discharged a total of 668.8 ML, with a large portion of this being reused in the process water circuit.

3.5 Contaminated Land

Known contaminated or polluted lands at Baal Bone are limited to those affected by hydrocarbons. Hydrocarbon contamination is discussed in Section 3.17.

There were no environmental incidents recorded or additional areas of contaminated land identified during the reporting period.

3.6 Threatened Flora

3.6.1 Floral Studies

Over the past 25 years Baal Bone Colliery has undertaken numerous floral and faunal studies within the lease to satisfy various planning and approval requirements, and in accordance with its Cultural and Natural Heritage Management program.

From the floral surveys undertaken to date there have been no endangered species found, however 2 vulnerable species and 1 species of regional significance have been identified in the area around Baal Bone. These include Capertee Stringybark *(Eucalyptus cannonnii)*, Clandulla Geebung *(Persoonia marginata)* and Blue Devil *(Eryngium vesiculosum)* respectively.

Potential habitat for both *E. cannonnii* and *P. marginata* are isolated to areas north of the current lease area and whilst they will not be affected by mining activities on site, Baal Bone has developed a Biodiversity and Land Management Plan to ensure that site operations (in particular vegetation clearing and ground disturbing activities) do not potentially impact on these species. This Plan is scheduled for review in Q2 2007.

In conjunction with planning and permitting activities for the LW29-31 extension of the mine several ecological studies and environmental assessments were completed during the reporting period.

In October 2006, OzArk Environmental & Heritage Management Pty Limited conducted an Ecological Assessment of an area proposed for the construction of a ventilation shaft and transmission line. This assessment was commissioned specifically to accompany an application to Forests NSW for an extension to Baal Bone's Occupation Permit to allow for exploratory and confirmation drilling in the area. This survey did not locate any individuals or populations of threatened flora species known or having the potential to occur within the Lithgow LGA.

A full Environmental Assessment (EA) of this area is currently being undertaken to accompany an application under Part 3A of the EP&A Act for the construction and operation of the proposed ventilation shaft and fan. This EA should be finalised by late February 2007.

Gingra Ecological Surveys (Roger Lembit) also undertook a Flora Assessment and Baseline Survey of the LW 29-31 SMP application area in December 2006. The field survey did not reveal any populations of threatened plant species within the application area.

3.6.2 Copper-Wing Butterfly Project

The Purple Copper Butterfly (*Paralucia spinifera)* is found in the Bathurst, Hartley and Oberon areas, and is listed as a vulnerable species. Baal Bone Colliery's operations are not present in the area where the butterfly is found. However, in association with the Lithgow and Oberon Landcare Association (LOLA) and the Hawkesbury-Nepean Catchment Management Authority (HNCMA) Baal Bone and through its parent organisation Xstrata Coal NSW (XCN), Baal Bone is supporting a conservation project at the old Hermitage Colliery site in Lithgow. The project involves the cultivation of a stand of *Bursaria spinosa* (spp. *lasiophylla*) which is the butterfly's core habitat.

It also includes the development of a Butterfly Interpretative Trail in the area adjoining the Community Nursery on land that has been made available by XCN. Support for this project will continue in 2007.

3.7 Threatened Fauna

During the reporting period Mount King Ecological Surveys (Martin Denny) undertook both a Terrestrial Fauna Assessment and Baseline Survey (Spring 2005 and Summer 2006) of the SMP application area in December 2006.

Four threatened species are known to occur in or close to LW 29-31 SMP Application Area, these include the Gang-gang Cockatoo *(Callocephalon fimbriatum),* Brown Treecreeper *(Climacteris picumnus),* Turquoise Parrot *(Neophema pulchella)* and the Squirrel Glider *(Petaurus norfolcensis).*

The expected impact upon these four species, along with twenty six other threatened species identified with the potential to occur in the area, was assessed using the 7-part test of significance. In all cases it was concluded that the development would not significantly affect threatened species.

3.8 Weeds

A comprehensive weed management campaign has been organised for 2007. A full land management review of the Baal Bone site was undertaken by Land Asset Management Pty Limited in January 2007, with a report and recommendations due by the end of the month.

A spraying program targeting Blackberry, St John's Wort, Sweet Briar and some isolated Blue Heliotrope will be initiated in Autumn 2007.

3.9 Blasting

3.9.1 Blast Criteria

EPL 765 imposes the following limits on blasting operations at Baal Bone:

a. air blast overpressure must not exceed 115dB (Lin Peak) for more than 5% of the blasts in the reporting period, and 120dB (Lin Peak) at any time
b. the ground vibration peak particle velocity from blasting operations must not exceed 5mm/sec for more than 5% of the total blasts and 10mm/sec at any time.

3.9.2 Blast Monitoring

In accordance with EPL 765, air blast overpressure and vibration levels were measured at a location one metre from the nearest residential boundary (*Blue Rocks* homestead) for all blasts carried out (**PLAN 1**). This monitoring was undertaken by Roche Blasting Services (RBS); RBS were also responsible for setting and firing all shots during the reporting period.

Trigger levels for the blast and vibration monitor were set at 0.5mm/sec and 100dB. The instrumentation used meets the requirements of AS 2187.2 1993. Monitoring results for blasts that triggered monitoring equipment at Blue Rocks are tabulated in **Table 3.5**.

Table 3.5 Blasting Operations that triggered Noise and Vibration Monitoring at Blue Rocks Residence

Blast	Date	Vibration (mm/sec)	Pressure (dBL)
BB039	25/01/2006	0.11	72.2
BB048	30/03/2006	1.16	114.3
BB049	12/04/2006	0.91	112.7
BB051	23/05/2006	1.06	103.7
BB052	26/05/2006	0.87	114.1
BB053	2/06/2006	0.77	102.2
BB057	28/06/2006	0.83	114.9
BB059	13/07/2006	0.77	110.7
BB064	22/08/2006	1.10	109.3
BB065	1/09/2006	1.11	108.0
BB066	8/09/2006	1.29	112.7
BB067	14/09/2006	1.15	113.2
BB068	21/09/2006	1.08	110.5
BB069	5/10/2006	1.17	108.6
BB070	18/10/2006	0.88	110.6
BB071	26/10/2006	0.62	117.4
BB072	27/10/2006	0.68	109.1
BB074	29/11/2006	0.98	118.6
BB075	29/11/2006	0.98	118.5

3.9.3 Review of Blast Monitoring Results.

During the 2006 reporting period, 43 blasts occurred in the Baal Bone Open Cut precincts. Nineteen of these triggered activation of the monitoring equipment adjacent to the boundary with *Blue Rocks;* of these only 3 blasts registered above 115dBL. The maximum limit of 120dBL at this monitoring point was not exceeded at any time.

Ground vibration peak particle velocity was less than 1.3 mm/sec for all blasts, which is well below the EPL limits of 5mm/sec (periodic) and 10mm/sec (at any time).

3.10 Operational Noise

During the reporting 2006 period there were two noise related complaints, neither of which related to operational activities on site. Further details are contained in Section 4.1.

3.11 Visual, Stray Light

All lighting associated with the CHPP and the UC1 conveyor/ROM stockpile has been designed and constructed so as to minimise glare and stray light. No complaints have been received during the reporting period in this respect.

One anonymous complaint was made directly to DEC in Bathurst with regards to lights from haul trucks operating at night on a stockpile in the north open cut. Baal Bone was not made aware of this complaint for some time, by which stage it was difficult to ascertain the exact circumstances behind the complaint. However, operations in the open cut area have since been amended to limit haul truck and dozer activity on high stockpiles at night.

3.12 Aboriginal and European Heritage

3.12.1 Aboriginal Heritage

In December 2006 OzArk Environmental Heritage and Management Pty Limited conducted extensive archaeological surveys of the proposed LW 29-31 extraction area, together with the proposed ventilation fan site and transmission corridor. These Indigenous Heritage Assessment Reports will be used to prepare an EA for the ventilation fan; to prepare an REF for the application area, and to prepare a Subsidence Management Plan (SMP) for the extraction area.

These surveys were undertaken in conjunction with representatives from the Bathurst Local Aboriginal Land Council and the Warrabinga Native Title Claimants Aboriginal Corporation. The Wiriadjuri Native Title Party and the Gundungurra Tribal Aboriginal Corporation were also consulted during the survey.

As a result of these surveys one potential rockshelter was identified, although there was no surface evidence of Indigenous occupation. Further archaeological investigation of this site will be required, with management options to be canvassed in the Survey Report due in late January 2006. Management strategies will also be discussed in the SMP.

There was also one isolated artefact recorded in the SMP study area. However, it has been assessed as being a one-off drop artefact of overall low significance. No further archaeological assessment in relation to this site was considered necessary.

At several other times throughout the year, representatives of the Bathurst Local Aboriginal Land Council have assisted Baal Bone with surveys prior to small scale earth disturbing activities such as installation of piezometers. No other artefacts or Indigenous sites were recorded as a result of these assessments.

3.12.2 European Heritage

No European Heritage Sites have been identified within the Baal Bone mining lease.

3.13 Natural Heritage

No natural heritage sites have been identified within the Baal Bone mining lease. However, the Gardens of Stone National Park lies approximately 5 kilometres northeast of the Colliery and the Blue Mountains World Heritage Area is located approximately 80 kilometres to the southeast of the Colliery.

The Ben Bullen State Forest covers much of the lease area; it is anticipated that this will be gazetted as a State Conservation Area at some time in the future.

3.14 Spontaneous Combustion

No spontaneous combustion events occurred in 2006.

Baal Bone has a Spontaneous Combustion Management Plan for the ROM stockpile. The plan principally involves regulating the duration of ROM storage on the stockpile to reduce residence time and therefore potential oxidation, and monitoring of internal stockpile temperatures.

3.15 Bushfire Management

There was no outbreak of bushfire during the reporting period at Baal Bone Colliery.

In the event of a bushfire with the adjacent State Forest, Forests NSW would assume responsibility for all fire fighting and emergency response activities. During 2006 an agreement was been reached between Forests NSW and Baal Bone regarding use of the Colliery's helipad, first aid room and process water dam in emergency situations.

In the event that a bushfire is ignited on company owned land or where bushfire poses a threat to the mining operations, the Baal Bone's Emergency Response Procedure will be activated.

In addition, site management will ensure that:

- all boundary roads around the land within the Colliery freehold land are maintained in a condition suitable for use as fire breaks and access tracks during an emergency situation;
- a water cart at the Washery and another at the Open Cut can assist in fire fighting activities;
- main access road and helipad are maintained suitable for use by emergency services;
- dams, voids and any other areas that may be utilised as watering points can be accessed by fire fighting equipment;
- portable radios are used at the time of emergency solely by the emergency response team who are trained and are provided with protective clothing;
- site earthmoving equipment can be utilised; and
- emergency phone, fire extinguishers and fire depots are located at strategic locations around the surface facilities.

In Q2 2007 a bushfire risk assessment and management strategies workshop will be conducted; this will form the basis upon which a formal Bushfire Management Plan can be developed in conjunction with Forests NSW. This Plan will include the identification and management of bushfire hazard areas, in addition to procedures required for the prevention and suppression of bushfire on the site.

3.16 Mine Subsidence

3.16.1 Current Approvals

Baal Bone currently holds a Section 138 approval (dated 9th May 2005) for extraction of LW's 25-28. This is supported by a *Subsidence and Environmental Plan and Monitoring Procedures for LW's 25-28* that received approval from the Principal Subsidence Engineer (DPI – Minerals) on 4th July 2006.

3.16.2 LW 25 Survey Monitoring

A distributed array of points along the edge of the Wolgan escarpment at the eastern (start) end of LW 25 was established and monitored during the extraction of LW24. Prior to extraction of LW 25 a dedicated subsidence monitoring survey line was also established to include many of the previously monitored array points in addition to other selected localised rock features in the vicinity of the escarpment (see Drawing No. **BBM_LW2428SubsMonitoring.dwg** and Drawing No. **BBLW25 AA Line.dwg**).

Two pre-mining surveys were conducted on 13th and 27th June 2006 in order to confirm baseline conditions. All surveys were undertaken in three dimensions, with an accuracy of better than 10mm.

A photographic portfolio was also established to record the condition of the escarpment prior to the commencement of mining of LW25.

Concurrent with commencement of extraction, an intensive twice weekly subsidence monitoring survey was initiated on 27th July 2006. Following approval of the Principal Subsidence Engineer, survey monitoring of the subsidence line was discontinued on 19th September 2006, at which time the face line had advanced 435m (in a westwards direction).

In conjunction with the survey monitoring, the surveyors also completed visual assessments of the areas adjacent to the subsidence line. Where observed, relevant aspects such as cracking location and width, public safety and/or infrastructure implications (eg. fire trail), changes to vegetation communities and/or the condition of flowlines were noted on the survey report.

3.16.3 Results and Action Responses

Action responses, as detailed in the Plan, were based on 3 trigger levels that related to categories of subsidence movements in either of three dimensions. During the monitoring period, a single Trigger Level 1 (the lowest) was invoked as a consequence of two results obtained in survey No. 9, conducted on 29th August 2006. This trigger related to a suspected westward movement of stations A14 and A15 (at the goaf edge) in excess of 120mm.

The Principal Subsidence Engineer was immediately notified and a resurvey undertaken in accordance with the action responses detailed in the Plan. This resurvey (No. 10) confirmed that movements were consistent with the levels previously obtained in survey No. 8. It was

concluded that the spurious reading obtained for A14 and A15 in survey No. 9 were most likely due to anomalous GPS readings and/or high winds affecting the accuracy of visual readings.

In an attempt to increase the level of accuracy obtained from the GPS system, additional residence time was subsequently allowed on each of the monitoring stations. No further anomalies were identified during the remained of the survey monitoring.

Baal Bone has collated a large quantity of subsidence data from its previous twenty eight longwall panels. The results of the subsidence survey monitoring for LW 25 have been consistent with previous experience and with the predictions provided by Ken Mills of Strata Control Technology Operations Pty Limited (SCT). Within three months of the completion of LW25 a full report detailing monitoring procedures and results will be submitted to the Principal Subsidence Engineer.

No abnormal or unexpected impacts resulting from the extraction of LW 25 have been visually identified to date, however a full review will be completed at the conclusion of extraction (expected in March 2007). Where required, rehabilitation and/or restoration of affected areas shall be undertaken and the results of this review will be included in the report to the Principal Subsidence Engineer.

3.16.4 Subsidence Management Planning for LW's 29-31

As discussed previously, Baal Bone is currently preparing a Part 5 application and comprehensive SMP for the proposed extraction of LW's 29-31. As part of this process an initial Interagency, stakeholder and community information and consultation meeting was held at Baal Bone on 30th November 2006. This was attended by most of the relevant stakeholders and included representatives from the Colong Foundation for Wilderness and the Blue Mountains Conservation Society.

A formal subsidence impacts Risk Assessment Workshop, facilitated by Hawcroft Miller Swan was conducted at Baal Bone on 5th December 2006. This process involved a team of people with wide ranging experience and included members of Baal Bone staff, specialist consultants and Forests NSW as the major surface land holder.

It is expected that a Part 5 application for the extraction of LW's 29-31 will be lodged by mid-March 2007, with the SMP to be lodged by the end of March 2007.

3.17 Hydrocarbon Contamination

3.17.1 Hydrocarbon Contamination Assessment

A Preliminary Assessment of Hydrocarbon Contamination at Baal Bone Colliery was conducted by HLA Environsciences Pty Ltd (HLA), with field work commencing in September 2004 and the report being finalised in April 2006. This assessment included a comprehensive soil and ground water investigation, sampling and monitoring program.

This assessment identified localised contamination from the Underground Storage Tank (UST) at the pit-top area. HLA recommended regular pressure testing of the vessel and associated pipe work to monitor the structural integrity of the system; it also recommends ongoing groundwater monitoring to confirm the extent and level of contamination.

Minor surface contamination was also recorded for areas around both of Baal Bone's Above Surface Tanks (AST). AST 1 is redundant and is located adjacent to the CHPP Diesel Workshop; AST 2 is located adjacent to the product stockpiles and is currently in operation.

The report recommends removal of AST 1 and remediation of residual contamination in the vicinity of the workshop. Various alternatives are offered for the augmentation and upgrading of AST 2.

Further investigation and confirmation monitoring as recommended in the report will be initiated in Q1 2007. Remediation options as proposed in the report are currently being examined and will be selectively and progressively implemented on a priority basis, commencing in Q3 2007.

3.17.1 Hydrocarbon Audit

A Hydrocarbon Audit of the Baal Bone Colliery was conducted by Umwelt Australia Pty Limited in July 2006. A final report remains pending; however the draft report indicates a generally satisfactory level of management.

In addition to endorsing the recommendation contained in the HLA Report, other areas noted for improvement include provision of refresher training relating to incident reporting and the use of spill kits; improvements in the area of oil drum storage, handling and disposal; and improvements in the oil storage and dispensing systems in the pit-top workshop.

Following receipt of the final Report (due in February 2007), an action plan will be developed to progressively implement the recommendations of this audit.

3.18 Methane Drainage and Ventilation

During the reporting period, monthly gas bag samples from the underground ventilation system were analysed by Coal Mines Technical Services, a NATA accredited company.

Results from the sampling completed throughout the reporting period confirm non-detectable levels of methane at Baal Bone Colliery (<0.01%). Consequently, methane drainage and ventilation is required at Baal Bone.

3.19 Public Safety

Fences are in place around the mining lease area, with boundary gates locked and maintained in correct working order. All access points onto the mine area are signposted to warn the public of Baal Bone Colliery's mining operations and of the risks involved. Warning signs have also

been erected along public tracks in the Ben Bullen State Forest warning of mine subsidence and prohibiting entry to unauthorised persons.

A boom gate and flashing light system is installed at the intersection of the main mine entry road and the haul road to the southern open cut area. This haul road is currently used by the CHPP to haul to the coarse reject emplacement in the southern open cut void.

Security ("man proof") fencing is placed all around the open cut workings. During blasting activities, sentries are posted at all access points to prevent unauthorised entry into the blast zone.

All employees and contractors who enter the mining operations or workshop areas are inducted and must be suitably trained. All visitors must sign in and accompanied by an employee or staff member of the mine if they have not been inducted by the Safety and Training Superintendent.

No incidents relating to public safety have been recorded during the reporting period.

A fully automated entry gate will be installed on the main mine access road during 2007. Entry will be restricted to those holding valid swipe cards; an intercom system will permit access to authorised visitors as required.

3.20 Other Issues and Risks

3.20.1 Reportable Incidents

Pursuant to Xstrata's Categorisation of incidents, any incident that falls into the categories below must be reported to the Group Environment and Community Manager, the General Manager for Open Cut or Underground Operations (depending on the type of incident) and the Chief Operating Officer.

Category I: An incident that has caused negligible, reversible environmental impact, requiring very minor or no remediation. For example, exceeding EPL Limits or a hydrocarbon spill >20L.

Category II: An incident that has caused minor, reversible environmental impact, requiring minor remediation. For example, Hydrocarbon spill >20L but <205L AND contained on site.

Category III: An incident that has caused moderate, reversible environmental impact with short-term effect, requiring moderate remediation. For example, illegal discharge offsite that causes local but reversible damage. Also, a hydrocarbon spill <205L that was not contained readily or a spill of any amount of hydrocarbon into public waterways.

Category IV: An incident that has cause serious environmental impact, with medium-term effect, requiring significant remediation. For example, an incident that requires a remediation program over 1-12 months.

Category V: An incident that has caused disastrous environmental impact, with long-term effect, requiring major remediation. For example, an incident that requires a long-term remediation program over 12 months.

There were no reportable incidents, fines or penalties recorded during the reporting period

3.20.2 Audits Conducted During the Reporting Period

In an order to assess our environmental performance at Baal Bone and to plan and implement a process of continual improvement, the following internal audits were completed during the reporting period:

- Hydrocarbon Management Audit, conducted by Umwelt Australia Pty Limited in June 2006
- Pipelines Audit, conducted by Umwelt Australia Pty Limited in September 2006
- Consent Compliance Audit, conducted by Hansen Bailey Consultants in October 2006
- Mining Operations Plan Audit, conducted by Umwelt Australia Pty Limited in December 2006.

There were no external audits of Baal Bone's operations during the reporting period.

SECTION 4.0: COMMUNITY RELATIONS

4.1 Environmental Complaints

In accordance with Baal Bone Health, Safety, Environment and Community (HSEC) Standard (SSTD 1.08.1 Community Complaints), Baal Bone Colliery has a comprehensive procedure in place to document and respond to community complaints in a timely manner and to maintain a comprehensive complaints database.

Consistent with the Mine's Environmental Protection Licence, Baal Bone maintains a 24 hour telephone complaints line and answering service for the purposes of receiving and responding to any complaints from members of the public in relation to activities conducted within the Baal Bone Colliery.

Under the site EMS, a procedure and training module is in place that deals with the correct handling and reporting of complaints. Upon receipt of a complaint, the following details are obtained from the complainant:

- Date of complaint;
- Notification method;
- Date of incident;
- Name of complainant;
- Contact details of complainant;
- Type of complaint;
- Actions taken;
- Persons notified; and
- Details of follow up actions taken, if required.

Following the receipt of a complaint, a thorough investigation of the complaint is undertaken and the complainant advised of the results of the investigation. Any action to be taken to prevent a recurrence is undertaken as soon as practicable.

Baal Bone recorded three complaints during the reporting period; two of these complaints related to concurrent issues. Details of these are as follows:

COMPLAINT No. 1

Date: 6th January 2006

Nature of Complaint: Traffic and Noise

Details of Complaint: Mr Brian Emmott, a resident of Cullen Bullen, contacted the Operations Manager to outline his objection to the engine brake noise and speed of a number of the trucks travelling through the township of Cullen Bullen.

Mr Emmott identified four trucks in particular that in his opinion where failing to observe the required protocol whilst approaching and travelling through Cullen Bullen.

Actions Taken:

Mr Emmott was not specific as to registration number of the vehicles involved or to the name of the haulage company; he only gave a vague description of the vehicles.

The CHPP Manager was contacted in an attempt to identify the vehicles in question from the descriptions given. He confirmed that all drivers had been inducted as to the standards and expectations of trucks travelling through the township.

The drivers who could be best identified from the description given were contacted. They were made aware of their responsibility whilst operating from Baal Bone Colliery. If further infringements were identified appropriate action as specified in Baal Bone's Truck Management Plan would be invoked.

COMPLAINT No. 2

Date: 16th May 2006

Nature of Complaint: Noise and Water

Details of Complaint: Complaint was made directly to DEC in Bathurst who referred it to Baal Bone. The complaint was lodged by Mr Digby MacPhee, a downstream landholder from Baal Bone. His complaint related to alleged open cut blasting at night and of water quality issues in Jews Creek.

Actions Taken:

Despite numerous efforts, contact was finally made with the complainant on the 23rd May 2006. It was explained to him that blasting at night is not undertaken for obvious reasons; this was confirmed with Roche's Project Manager.

Mr MacPhee also claimed the water in Jews Creek is acidic and the iron levels were high as a result of Baal Bone's discharges. The water sampling records were reviewed and there was no data to confirm his allegation. Water in Jews Creek is systematically monitored both upstream and downstream of the mine.

It has subsequently been revealed that Mr MacPhee has subdivided his land and sees the mine as a threat to realising full value for the blocks. An invitation was extended to Mr MacPhee to visit Baal Bone and to see the work that was being done to rehabilitate the area. This invitation was accepted and an inspection was undertaken on 15th June 2006.

COMPLAINT No. 3

Date:	29th November 2006
Nature of Complaint:	Blast dust
Details of Complaint:	A complaint was received from Mr Digby MacPhee regarding a dust cloud resulting from a blast at the open cut on 29th November 2006.
Actions Taken:	The complaint was investigated with Roche's Project Manager and substantiated on 30th November 2006. Extenuating factors included the fact that the blast was a larger than normal (due to a delay caused by a drill rig breakdown), excessively dry sub soil conditions and a last minute change in wind direction. Noise and ground vibration readings were reviewed and were within EPA licence limits. Roche were instructed to review and update their blasting procedures accordingly. Roche was also asked to notify the complainant at least 24 hours prior to all future blasts. Mr MacPhee was contacted and the circumstances behind the blast were discussed. He was assured that a blast of this size was unlikely to occur again and that in future he would be notified of all blasts 24 hours in advance. He appeared to accept the explanation and concur with the actions taken.

4.2 Community Liaison

4.2.1 Community Initiatives

During 2006 the following community involvement initiatives were implemented:

- Restoration of the Cullen Bullen Historic Cemetery;
- Upgrade of lift facilities at the Coleman House;
- Sponsorship of a livestock judging competition at Portland Agricultural Show;
- Donation of steel to the Portland RSL;
- Donation of fire equipment to the Cullen Bullen and Capertree Rural Fire Service Brigades;
- Upgrade of outdoor facilities at the Lithgow Preschool;
- Donation to Lithgow Christian Fellowship to provide Christmas lunch and Christmas hampers to the underprivileged in Lithgow
- Visit by children from the Cullen Bullen Public School to the CHPP.

Planned community involvement activities for 2007 include:

- Investigations regarding the installation of school zone flashing lights on the Castlereagh Highway outside Cullen Bullen Public School;
- Support of both the Ironfest and Portland art and cultural festivals;
- Repairs to the recreational area at the Portland Aged Care Facility;
- Donation to the Zig Zag Public School to assist with library resources
- Donation to assist with the visit of the Life Education Van to Capertee, Cullen Bullen and Wallerawang Primary Schools;
- Mine open day in Spring 2007 to focus on rehabilitation works (contingent upon weather conditions and the completion of seeding works in Autumn)

4.2.2 Community Consultative Committee

The Baal Bone Colliery Community Consultative Committee (CCC) has been established to provide a formal conduit for exchange of information and views between the local community and Baal Bone's Management Team.

Membership of the current Baal Bone CCC include:

- Ray Blackley (Resident)
- Barbara Milne (Resident)
- Gary Wallace (Lithgow City Council)
- Robyn Hollis (Cullen Bullen Public School)
- David McLean (Operations Manager)
- Tony King (Environment and Community Coordinator)
- Mark Bulkeley (Safety and Training Superintendent)

The CCC met at Baal Bone on the 9th November 2006. Agenda items included:

- Health and Safety update
- Environmental update, including:
    - current underground operations in Longwalls 25-28, including subsidence monitoring regime
    - proposed south-east extension into Longwalls 29-31, including estimated completion date
    - open cut operations, including estimated completion date
- Open cut rehabilitation, including:
    - recent developments and landform completion in southern area
    - proposed biosolids application and procedure
    - risk-based approach to progressive native seeding
- General Business
    - complaints/community issues of concern
    - effectiveness of current Haulage Management Plan
    - recent works at old Cullen Bullen Cemetery
    - proposed visit by Cullen Bullen School to Washery
    - proposed mine open day in 2007

The Baal Bone CCC is scheduled to meet again on 26th April 2007.

4.2.3 Baal Bone Newsletter

Baal Bone Colliery circulates a periodic community newsletter titled *The Baal Bone News* to approximately 150 neighbouring residents, to selected locations in Lithgow, Wallerawang and Portland, in addition to all Baal Bone employees and contractors.

The newsletter provides topical information regarding the mine's operational progress, environment and safety performance, and other areas of general interest.

The next edition of *The Baal Bone News* is scheduled for distribution in March 2007.

SECTION 5.0: REHABILITATION (in this AEMR period)

5.1 Buildings

No buildings were renovated or removed during the reporting period.

5.2 Rehabilitation of Disturbed Land

5.2.1 Final Landuse and Landform Design

The objective for the rehabilitation of mined land at Baal Bone Colliery is to return the site to a condition where its landform, soils, hydrology, flora and fauna are self-sustaining, and compatible with the surrounding land fabric.

The proposed end land use for the site includes a combination of grazing and bushland/wildlife habitat. The stated land use combination is compatible with adjoining lands. The overriding principle is to create the most beneficial future use of rehabilitated land, which can be sustained in view of the range of limiting factors. The post-mining landscape will be dominated by Class VI (grazing land) and Class VII (bushland).

5.2.2 Status of Land Shaping and Rehabilitation Works

During the reporting period approximately 4,000,000 m^3 of overburden and waste rock was generated as a result of the open cut operations, with approximately 500,000 m^3 being supplied as coarse reject from the CHPP.

This material has been strategically placed around in and around the disturbed areas in both the northern and southern open cut pits to create the final design landform. Drainage paths, contour drains, ridgelines, and emplacements are being shaped in undulating informal profiles in keeping with natural landforms of the surrounding environment.

The total volume of topsoil and subsoil materials (aka. freedig) removed by the open cut operations during the reporting period were approximately 723,522 m^3. In addition to the material that has already been respread over shaped areas, a further 413,880 m^3 of freedig has also been stockpiled at various locations around the site for use in future rehabilitation works at mine closure.

Land shaping activities are generally progressing ahead of the schedule proposed in the MOP, with approximately 42 ha shaped and covered in the south pit and a similar area nearing completion in the north pit area. Surface stormwater drainage works and soil amelioration are scheduled for completion in early and mid 2007 on the north and south pits respectively; with seeding works to be undertaken concurrent with favourable soil moisture conditions in Q2 or Q3 2007.

Current rehabilitation status at the end of the reporting period is shown on **PLAN 1**. A summary of rehabilitation works at the start of the MOP period (July 2006), an estimate for the end of the MOP period (Jul 2009) and actual rehabilitation completed during 2006 AEMR reporting period are detailed in **Table 5.1**.

Table 5.1 Summary of Rehabilitation Performance

	Area Affected/Rehabilitated (hectares)		
	Start of MOP	**End of AEMR Reporting Period**	**End of MOP Period**
A: MINE LEASE AREA			
A1 Mine Lease(s) Area	5002 ha		
B: DISTURBED AREAS			
B1 Infrastructure area (other disturbed areas to be rehabilitated at closure including facilities, roads)	64.05ha	64.05ha	49.38ha
B2: Active Surface Mining Area (excluding items B3 - B5 below)	15.25 ha	42.00 ha	Nil
B3 Waste emplacements (dozer push and dumps in N and S) (active/unshaped/in or out-of-pit)	62.05 ha	29.85 ha	30.8 ha
B4 Tailings emplacements (REA 5) (active/unshaped/uncapped)	5.88 ha	5.88 ha	4.02 ha
B5 Shaped waste emplacement (awaits final vegetation)	93.77 ha	45.00 ha	7.05 ha
ALL DISTURBED AREAS	241.0 ha	204.73 ha	91.25 ha
C REHABILITATION PROGRESS			
C1 Total Rehabilitated area (except for maintenance)	41.9 ha	82.5ha	211.85ha
D: REHABILITATION ON SLOPES			
D1 10 to 18 degrees	6.25 ha	6.25 ha	14.75 ha
D2 Greater than 18 degrees	2.5 ha	2.5 ha	16.0 ha
E: SURFACE OF REHABILITATED LAND			
E1 Pasture and grasses	Nil	Nil	Nil
E2 Native forest/ecosystems	41.9 ha	41.9 ha*	252.45 ha
E3 Plantations and crops	Nil	Nil	Nil
E4 Other (include non-vegetative outcomes)	Nil	Nil	Nil

* an additional 40.6ha has been reshaped and prepared during the reporting period, but due to the prolonged drought this area has not yet been seeded.

5.2.3 Surface Stormwater Drainage

An "as constructed" survey of the southern open cut area was completed in September 2006, and in association with the Soil Conservation Service (SCS) a revised surface water management plan for this portion of the site was completed in October (Drawing No. **BBOCS1006.dwg**).

This plan includes substantially more drainage works that were originally proposed in Roche's and Xstrata's Rehabilitation Plans. This revised Plan features 5,713m of graded banks, with 414m of rock lined drains. The SCS have subsequently commenced construction of these works in mid-February 2007.

A similar exercise will be carried out for the northern open cut area in Q2 2007. It is however expected that the surface drainage network will not be as intensive due to the flatter grades and generally shorter slope lengths in this area.

5.2.4 Stabilisation and Restoration of Ben Bullen Creek

Design of a substantial grade stabilisation structure in the Ben Bullen Creek has been commenced and preliminary consultation has been initiated with NSW Fisheries in this regard. Final design of this structure will be incorporated into a full natural channel design plan for the restoration of Ben Bullen Creek which is scheduled to commence in late February 2007.

When completed this natural channel design plan, to be produced by Natural Resource Assessments Pty Limited (NRA), will supersede the current but now outdated Surface Water Management Plan originally produced by Umwelt Australia Pty Limited.

Final concurrence for the Ben Bullen Creek restoration plan will be obtained from Dept. Natural Resources and Dept. Primary Industries – NSW Fisheries.

5.2.5 Soil Amelioration

A comprehensive agronomic soil analysis of the freedig covering material has been undertaken through the Soil Conservation Service Soils Laboratory in Scone. The results confirm that the material is generally of a sandy clay loam texture, with high to spontaneous dispersion in most cases, as evidenced by EAT classes of 2(1) and 2(2). All samples exhibited a low to moderate cation exchange capacity, with a corresponding low level of chemical fertility. Aluminium toxicity has the potential to be problematic as the pH was in the range 5.5 – 6.7 and many samples returned a high level of exchangeable aluminium.

It is recommended that in order to ameliorate the high dispersion percentage and to reduce the erodibility of the freedig material, gypsum needs to be incorporated at a rate of 5,000kg/ha across the site. Agricultural lime will also need to be included at a rate of between 2,000 – 2,500kg/ha as this will assist with both longer term dispersion amelioration and pH adjustment, thereby reducing potential for aluminium toxicity.

A Grower 12 type chemical fertiliser (20:20:40) at a rate of 250kg/ha is recommended for areas that are to be seeded with a predominantly exotic or improved pasture mix, and a low analysis

organic type fertiliser (eg. Dynamic Lifter) at a rate of 250kg/ha is recommended for areas seeded with a predominantly native mix.

5.2.6 Revegetation Species

A review of the proposed species list was undertaken in October 2006 and a much more comprehensive series of lists were developed to better reflect range of micro-climates on the site (refer Drawing No. **BBOCS1006b.dwg**), and to replicate the diverse nature of the endemic vegetation communities of the area; particularly those associated with the adjacent Ben Bullen State Forest.

The amended list attempts to recreate several full and diverse vegetation communities in all dimensions and includes a wider range of native grasses and groundcovers, together with a more robust range of shrub and understorey species. Habitat species for the endangered Purple Copper Butterfly have also been included. Refer **Figure 5.2**.

Revegetation of high risk and erosion prone areas such as steep slopes and some overland flowlines will be initially stabilised with a mix of quick growing, introduced pasture species, interspersed with a selection of native shrubs and small trees.

A riparian mix has also been selected that includes a range of macrophytes and other water plants to provide natural bioremediation and bioretention of pollutants, as well as habitat and food sources for aquatic life. This species list will be validated as part of the natural channel design plan being prepared for Ben Bullen Creek.

A temporary cover crop of oats was sown on a portion of the southern open cut rehabilitation area in May 2006; no permanent seeding operations took place during the 2006 reporting period due to the continued dry conditions.

5.2.7 Final Voids

Three dimensional modelling completed in late 2006 confirms that a further 4.73Mt of coarse reject can be placed in the southern open cut void. Based on current production rates this area should provide sufficient waste storage capacity for the remainder of the life of mine (including the proposed LW's 29-31 and the Cullen Valley panels). As illustrated on **PLAN 1**, it is intended to retain this area for use as an active reject emplacement area.

Final rehabilitation of this area will occur concurrent with mine closure. Approximately 178,000 m^3 of freedig covering material has been stockpiled in readiness.

Some adjustment may also be required to the final void proposed in the MOP for the northern open cut area. Baal Bone has decided to seal, but retain access to the audits existing within the Box Cut area so as to not sterilise potential northern underground coal resources.

An amended design for this area is currently being undertaken by Roche and XCN. Representations to DPI-MR will be made in due course regarding an agreed rehabilitation outcome for this area.

5.3 Other Infrastructure

The only "other infrastructure" rehabilitated during the reporting period was the drill pads associated with resource confirmation and exploratory drilling completed in the second half of 2006. Activities included the removal of all rubbish, filling and covering sumps, and respreading forest litter back over the disturbed areas. Works shall be completed to the satisfaction of Forests NSW.

No rehabilitation of any other infrastructure was undertaken during the reporting period.

It is anticipated that during the 2007 reporting period that several adits in the Box Cut area will be sealed and that additional safety fencing will be erected in the vicinity of REA 5 and the Box Cut highwall area.

5.4 Rehabilitation Trials and Research

There has not been any rehabilitation trials or research carried out at Baal Bone during the reporting period. However, due to the documented lack of fertile topsoil material at Baal Bone, there is a current proposal to trial the use of biosolids as an ameliorant and soil conditioner.

The exact area for the trail remains undecided; however it will most probably be within the southern open cut precinct on an area that complies with EPA Guidelines for the application of biosolid material.

Approximately 2,000 wet tonnes of biosolid material can be made available to Baal Bone and soil analysis conducted by Sydney Water suggests that an application rate of approximately 100 wet tonnes per hectare will achieve beneficial results for an improved pasture mix.

However, as the majority of the Baal Bone rehabilitation area will be seeded with native species the aim of this trial is to determine the optimum level of response in relation to varying levels of biosolid material. Accordingly it is envisaged that a series of three quadrats approximately 250 m x 250 m will be surveyed and used to assess the results from 50, 75 and 100 wet tonnes per hectare.

Subject to the completion of all surface water drainage works and other preparatory activities, it is hoped to initiate the biosolids trail in late Q2 2007.

5.5 Further Development of the Final Rehabilitation Plan

5.5.1 Mine Closure Plan

Following revision of the MOP in July 2006 to include both underground and open cut operations, it was determined that a detailed Mine Closure Plan needs to be developed for the Baal Bone site. Preparation of a Mine Closure Plan will assist Baal Bone to make appropriate financial provisions for the eventual closing, decommissioning and relinquishment of the site.

To this end, mine closure planning has commenced, with discussions underway between Baal Bone and several qualified consultants. The scope of the proposed Mine Closure Plan will include options for final land use and confirmation of rehabilitation objectives via community and stakeholder consultation, removal and/or retention of infrastructure within the Baal Bone mining lease area for possible use by others, utilisation and/or incorporation of final voids, treatment and/or containment of contaminated land and hazardous material, together with an assessment of decommissioning and rehabilitation cost, plus ongoing environmental monitoring and maintenance requirements.

5.5.2 Rehabilitation Security Deposit

DPI-MR introduced a new Rehabilitation Security Deposit Policy in November 2005 for implementation from 1st July 2006. The new policy aims to encourage progressive rehabilitation through the regular review of rehabilitation liabilities, mainly through titleholders providing DPI-MR with an estimate of rehabilitation costs. The guidelines request that the titleholder's rehabilitation cost estimate is provided as a component of all AEMRs from 1st July 2006 (DPI-MR, 2006).

Xstrata Coal calculates security deposits as a "snapshot of current disturbance." That is, if the mine were to close tomorrow, what would the rehabilitation and decommissioning liability for the mine be? The "snapshot" method identifies any proposed variations in rehabilitation liabilities between the time of the "snapshot" and the next AEMR reporting period. These variations are reviewed every AEMR reporting period.

In 2004, GSS Environmental Pty Limited calculated Baal Bone Colliery's rehabilitation liability to be $12,569,112. A review of this estimate was undertaken in October 2006 which identified the current rehabilitation cost estimate (liability) to be $12,532,588; a decrease of only $36,524 from the original sum predicted in 2004.

Significant rehabilitation works have been completed since the 2004 estimate and this should have seen the rehabilitation liability reduced by several million dollars. However, a number of factors have led to a general increase in the estimated mine liability. These factors are listed below (GSS Environmental, 2006):

- the initial estimate was not conducted in as much detail and many items of infrastructure were not included in the initial costing;
- the estimation of rates was not as accurate as the current estimate;
- the initial estimate did not include the demolition and removal of buildings and some major pieces of equipment; and
- changes in contingency rates made to comply with new requirements listed in the DPI-MR guidelines (DPI-MR, 2006).

With an increased degree of accuracy it is reasonable to expect that the October 2006 estimate of $12,532,588 will be close to the current "snapshot" or close tomorrow cost scenario at the end of the reporting period. However, these and all other potential closure costs will be thoroughly examined and updated as part of the Mine Closure Planning exercise.

SECTION 6.0: ACTIVTIES PROPOSED IN THE NEXT AEMR PERIOD

6.1 Operations and Systems

Projects and targets for the 2007 reporting period include the following:

- Extraction of LW26 and commencement of LW27;
- Completion of open cut mining operations, with subsequent rehabilitation of all open cut affected lands;
- Approval of Part 3A application for the construction and operation of a ventilation fan for LW's 29-31;
- Approval of Part 5 application for the extraction of LW's 29-31, including the preparation and approval of the SMP;
- Cessation of supply of "nut-coal" to Baal Bone's Nowra customers;
- Completion of the current contract to supply Mount Piper;
- Full review and update of Baal Bone's EMS, including all associated Management Plans and Procedures;
- Preparation of Mine Closure Plan;
- Third party audit of Baal Bone's Haulage Consent;
- Internal Xstrata Core Hazard Audit.

6.2 Rehabilitation

It is expected that the majority of the rehabilitation works on both the north and south open cut precincts should be completed during the 2007 reporting period. Contingent upon climatic conditions at the time, it is anticipated that some final seeding work may be held back to Autumn 2008 in an attempt to reduce the risk of failure.

It should also be noted that the southern void area will be maintained as a coarse and fine reject emplacement area for the remainder of the life of mine. Whilst it may be progressively or temporarily rehabilitated if the opportunity arises, final rehabilitation will be completed concurrent with mine closure. Similarly, the general underground infrastructure areas including the pit-top administration, bathhouses, workshops, conveyors, CHPP and rail loop will not be rehabilitated until after mine closure.

Anticipated rehabilitation works to be completed within 2007 AEMR reporting period include the following:

- Completion of final landform in north and south open cut areas and covered with freedig material;
- Installation of all required surface water management structures, including graded banks and rock lined chutes;
- Soil amelioration with gypsum and agricultural lime, and seeding with appropriate species mixes;

- Planning and progressive restoration of the Ben Bullen Creek in the north and south open cut precincts using a natural channel design philosophy.

6.3 Community Relations

Community Relation projects for the 2007 AEMR reporting period include the following:

- Preparation of two community newsletters;
- Hosting of two CCC meetings;
- Conducting a mine Open Day to highlight open cut rehabilitation works;
- Continued support for Copper Winged Butterfly project in association with LOLA and HNCMA
- Investigations regarding the installation of school zone flashing lights on the Castlereagh Highway outside Cullen Bullen Public School;
- Support of both the Ironfest and Portland art and cultural festivals;
- Repairs to the recreational area at the Portland Aged Care Facility;
- Donation to the Zig Zag Public School to assist with library and school resources
- Donation to assist with the visit of the Life Education Van to Capertee, Cullen Bullen and Wallerawang Primary Schools.

6.4 MOP Review

Following a thorough review of 2006 site operations, combined with the results of the MOP Audit conducted in December 2006 and together with a review of likely activities scheduled for 2007, Baal Bone have identified several areas within the current MOP that will require amendment.

These principally relate to the following aspects:

- a delay in the underground mining sequence as a result of poor roof conditions in late 2006
- probable extension of life of mine due to proposed underground operation in LW's 29-31; Baal Bone has also recently acquired the Cullen Valley underground lease with an estimated reserve of 8.0MT
- subsequent retention of the southern open cut void to cater for fine and coarse reject storage for extended life of mine, together with an amendment to the rehabilitation program for this area
- possible alterations to the final void in the northern open cut area to maintain/facilitate potential access into the lease's northern underground reserves.

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