

**NAMOI MINING PTY LTD**

(ABN 24 071 158 373)

**ANNUAL ENVIRONMENTAL  
MANAGEMENT REPORT**

FOR THE

**SUNNYSIDE COAL MINE  
(ML 1624)**

01 December 2009 – 30 November 2010



## Namoi Mining Pty Ltd

# Annual Environmental Management Report for the Sunnyside Coal Mine (ML 1624)

MOP Commencement Date **15-10-2008** – MOP Completion Date **31-09-2015**  
AEMR Commencement Date **01-12-2009** – AEMR Completion Date **30-11-2010**

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## APPENDICES

Appendix 1	PA 06_0308
Appendix 2	Environment Protection Licence 12957
Appendix 3	Compliance Review <ul style="list-style-type: none"><li>• PA 06_0308 (Table A3-1)</li><li>• Environment Protection Licence 12957 (Table A3-2)</li><li>• ML 1624 (Table A3-3)</li></ul>
Appendix 4	Dust Monitoring Results
Appendix 5	Groundwater Monitoring Data
Appendix 6	Blast Monitoring Results
Appendix 7	Noise Monitoring Results
Appendix 8	Meteorological Data

# **1 INTRODUCTION AND OBJECTIVES**

## **1.1 Scope**

### **1.1.1 Introduction and Period of Reporting**

This is the second Annual Environmental Management Report (AEMR) produced for the Sunnyside Coal Mine, and it has been prepared in accordance with Conditions 4 and 5 of Mining Lease (ML 1624) (Mining Act 1992) and Condition 5 (Schedule 5) of PA 06\_0308. The AEMR generally follows the format identified in the Department of Primary Industries - Mineral Resources (DPI-MR) document entitled "*Guidelines to the Mining, Rehabilitation and Environmental Management Process*" Version 3, dated January 2006.

Though primarily covering the period from 1 December 2009 to 30 November 2010 (the reporting period), where relevant the AEMR provides information on historical aspects of the operation and longer term trends in environmental monitoring results.

The Sunnyside Coal Mine is located within the Gunnedah Shire, approximately 15 km west of Gunnedah (Figure 1).

### **1.1.2 The Company**

Sunnyside Coal Mine is owned by Namoi Mining Pty Ltd (NMPL) and operated by Whitehaven Coal Mining Pty Ltd. Both companies are wholly owned subsidiaries of Whitehaven Coal Limited (WCL), a publicly listed company which has several coal mining interests in the Gunnedah region of NSW.

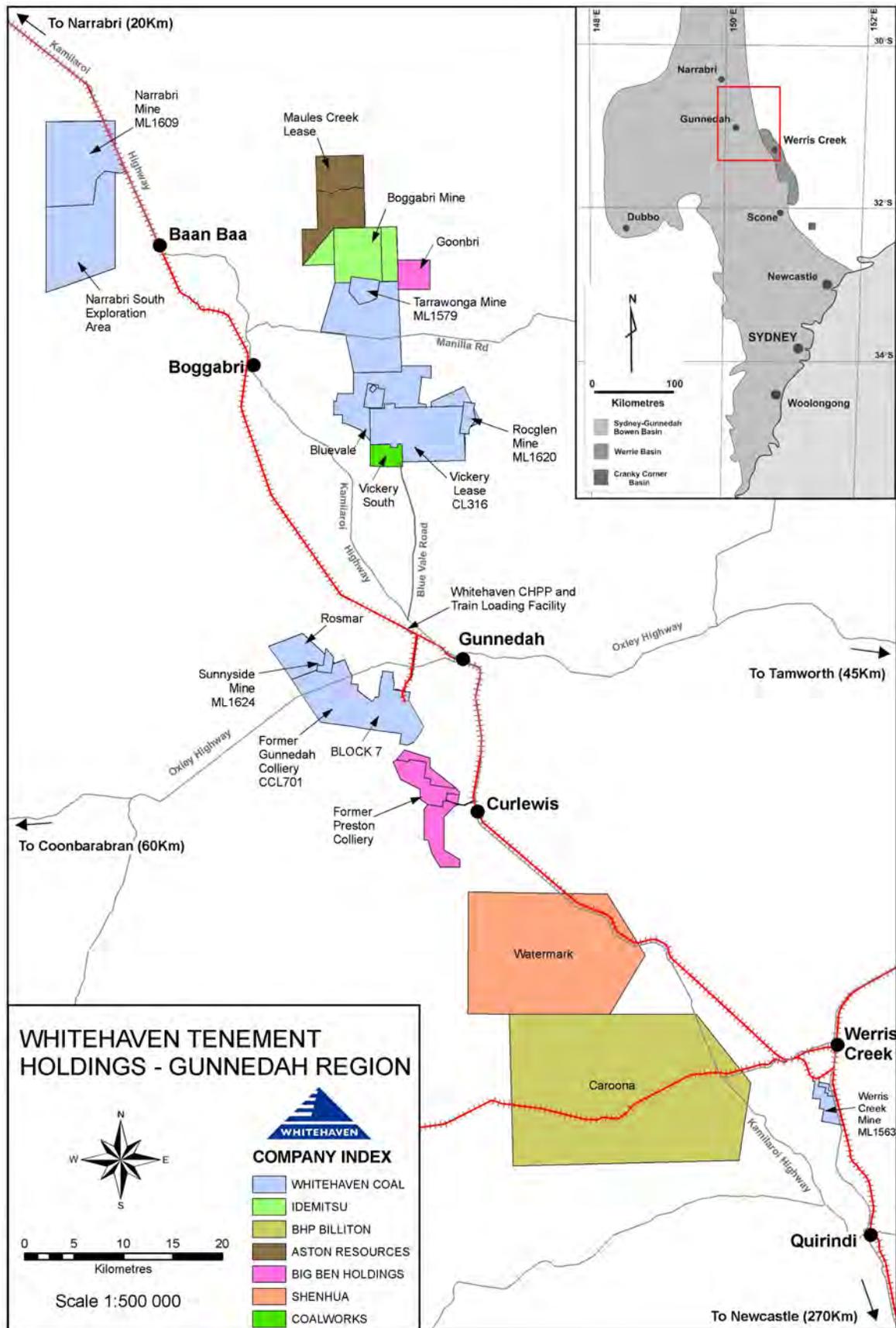


Figure 1 - Locality Plan

WCL's coal mining assets are as follows:

- Tarrawonga Coal Mine, 42km north-west of Gunnedah, owned by Tarrawonga Coal Pty Ltd which is a joint venture between WCL (70%) and Idemitsu Boggabri Coal (30%);
- Canyon Coal Mine (formerly Whitehaven Coal Mine), 10km south of Tarrawonga, 100% owned by WCL, operating since 2000 and ceased production in mid-2009;
- Rocglen Coal Mine, 28km north of Gunnedah, 100% owned by WCL, which commenced July 2008;
- Whitehaven Rail Siding and CHPP, 6km north-west of Gunnedah, 100% owned by WCL;
- Werris Creek Coal Mine, 4km south of Werris Creek, 100% owned by WCL;
- Narrabri Underground Coal Mine, 30km south-southeast of Narrabri, 70% owned by subsidiary company Narrabri Coal Pty Ltd;
- 100% ownership of the Bonshaw exploration project near Ashford;
- 100% ownership of the former Gunnedah Colliery through Namoi Mining Pty Ltd; and
- 100% ownership of the former Vickery Mine Site, located 20km north of Gunnedah.

WCL is also actively pursuing other prospective tenements with a view of maintaining a long-term presence in the Gunnedah Basin.

### **1.1.3 Background and History of the Sunnyside Coal Mine**

The Sunnyside Coal Mine was developed after substantial investigations were undertaken under Exploration Licence 5831, granted in December 1996 and renewed in June 2006 and May 2008. Following completion of relevant assessments and studies, the Department of Planning provided approval to the development via Project Approval (PA) 06\_0308 on the 24<sup>th</sup> September 2008. Environment Protection Licence (EPL) 12957 was granted on the 15<sup>th</sup> December 2008.

The Project Approval provided for the extraction of approximately 7 million tonnes of ROM coal, at a maximum rate of 1 million tonnes per year. The consent allowed for the crushing and screening of ROM coal at the mine site prior to transport to the Whitehaven Siding Coal Handling and Preparation Plant (CHPP) near Gunnedah.

Over the life of the approved mine, a total area of approximately 116 ha will be disturbed for mining and associated activities within ML 1624.

The external boundary of ML 1624 corresponds to the area referred to in PA 06\_0308 and covers an area of approximately 234 ha.

#### **1.1.4 Products and Markets**

The Hoskissons Coal Seam within the Sunnyside Mine can be described as a medium volatile bituminous coal. Overall, the coal is 9 metres thick subdivided into two run-of-mine coal plies. These plies are as follows:

- Low Ash (12%) lower section (4 metres); and
- High Ash (25 to 30%) upper section (5 metres).

The lower section of the seam is typically medium to low in ash (~12%) and is crushed and screened into two products (1/ -15mm fine fraction; 2/ +15 to -50mm coarse fraction). The coarse product is typically marketed as a domestic 'coking' coal, whereas the fine product is bypassed at the Gunnedah CHPP and combined with other Whitehaven Group coals for cargos of export thermal shipments.

The upper section of coal is high in ash and is washed at the Gunnedah CHPP to produce a 15% ash coal at good yields (70 to 75%). This coal is also combined with other Whitehaven Group coals for cargos of export thermal shipments.

#### **1.1.5 Operational and Environmental Management**

##### **1.1.5.1 *Contacts***

The management personnel responsible for operational and environmental performance at the Sunnyside Coal Mine and their relevant contact details are as follows:

- Mr Des George, Manager Mining Engineering - retains overall responsibility for all activities and performance at the mine. Contact: 0409 600 596.

- Mr Casper Dieben, General Manager, Operations - oversees Open Cut Operations for the Whitehaven Group. Contact: 0407 123 958.
- Mr Danny Young, Environmental Manager – oversees day to day environmental and rehabilitation performance across the site. Contact: (02) 6741 9316, 0427 497 710.

Mining operations are undertaken by Whitehaven Coal Mining Pty Ltd personnel. The day-to-day operational responsibilities are allocated to the Project Manager, Mr Michael Clark. Contact: (02) 6741 9200.

#### **1.1.5.2      *Support Personnel***

In addition to the personnel identified in Section 1.1.5.1, Sunnyside Coal Mine utilises specialist assistance as and when required. Specialist environmentally-based or related companies or consultants involved in activities at the mine during the reporting period included:

- ALS Acirl Pty Ltd;
- Geoff Cunningham Natural Resource Consultants;
- Countrywide Ecological Services;
- Orica Blasting Limited;
- Land and Property Management - Soil Services; and
- Greg Ward Earthmoving.

All mining and environmental management activities are undertaken generally in accordance with the MOP, management plans and procedures prepared in satisfaction of Sunnyside's Mining Lease, Environment Protection Licence (EPL 12957), Project Approval and the relevant legislation.

#### **1.1.6      Corporate Occupational Health, Safety and Environmental Policy**

WCL has a documented Health, Safety and Environmental policy which states:

*Whitehaven intends to conduct business in a way that maintains a safe and healthy workplace for its employees, contractors, visitors and the surrounding community and will protect the environment in all stages of exploration, mining, processing and train loading.*

*Whitehaven aims to:*

- *Achieve zero injuries and occupational illnesses.*
- *Achieve zero equipment damage.*
- *Achieve zero environmental incidents.*

*Whitehaven will strive to achieve these goals by:*

- *Ensuring health, safety and environment is considered in all planning and work activities.*
- *Involve employees through regular communication, consultation and training.*
- *Identifying and controlling all potential hazards in the workplace through hazard identification and risk analysis.*
- *Ensuring all incidents are reported, controlled and learning's applied and shared.*
- *Providing effective injury management and rehabilitation for all employees.*
- *Seeking continuous improvement in performance by taking into account employee & community concerns and advances in health, safety and environment.*
- *Complying with legislative and other requirements and providing necessary training and resources.*

*Whitehaven will ensure the availability of human, financial and physical resources to maintain and implement the Health and Safety Management System.*

*Responsibilities of people employed at Whitehaven Coal:*

*All persons employed by Whitehaven have a personal responsibility to comply with this policy and associated Health, Safety & Environment systems. No work is to be undertaken without a clear understanding of a safe method that minimizes the risk of injury, equipment damage and environmental harm.*

*Whitehaven employees shall:*

- *Work in a healthy, safe and environmentally responsible manner.*

- *Encourage others to work in a healthy, safe and environmentally responsible manner.*
- *Promptly report incidents, unsafe practices or conditions and environmental concerns as they become apparent.*
- *Co-operate with Management in the support of promotion of health and safety responsible environmental management in the work place.*

*This policy applies to all mines operated by Whitehaven Coal Limited and its subsidiaries.*

## **1.2 Approval Status**

### **1.2.1 Leases, Licences and Approvals**

Table 1 identifies the leases, licences and approvals in place for the Sunnyside Coal Mine at the end of the reporting period, the issuing / responsible Authority, dates of issue, duration (where limited) and relevant comments. The list is presented chronologically according to the date of issue.

Reviews of compliance/performance with the conditions identified in PA 06\_0308 (Appendix 1), EPL 12957 (Appendix 2), and ML 1624, are presented in Appendix 3, Tables A3-1, A3-2 and A3-3 respectively.

**Table 1 - Tenements, Licences and Approvals**

<b>Issuing / Responsible Authority</b>	<b>Type of Lease, Licence, Approval</b>	<b>Date of Issue</b>	<b>Expiry</b>	<b>Comments</b>
Department of Mineral Resources* <sup>1</sup>	Exploration Licence (EL 5183)	23 <sup>rd</sup> December 1996 (Renewed 8 <sup>th</sup> June 2005 and 6 <sup>th</sup> May 2008)	22 <sup>nd</sup> December 2010	Approval for exploration
Minister for Planning	Project Approval (PA) 06_0308 (Appendix 1)	24 <sup>th</sup> September 2008	5 <sup>th</sup> November 2015 (7 years from the grant of the ML)	Approval for the Mine
Department of Environment and Climate Change* <sup>2</sup>	Environment Protection Licence No. 12957 (Appendix 2)	15 <sup>th</sup> December 2008	Nil Anniversary date: 15 <sup>th</sup> December Next review: 18 <sup>th</sup> August 2014	Approval for Mining for Coal and Coal Works to 2 Mtpa.
Department of Primary Industries (DPI) * <sup>1</sup>	ML 1624	5 <sup>th</sup> November 2008	5 <sup>th</sup> November 2029	Approval of open cut
Department of Water and Energy (DWE)*	Water Licence 90BL254961 90BL253767 90BL253768 90BL253769 90BL254686 90BL254687 90BL254688 90BL254689 90BL254690	27 <sup>th</sup> April 2009 09 <sup>th</sup> Feb 2007 09 <sup>th</sup> Feb 2007 09 <sup>th</sup> Feb 2007 26 <sup>th</sup> Mar 2008 26 <sup>th</sup> Mar 2008 26 <sup>th</sup> Mar 2008 26 <sup>th</sup> Mar 2008 26 <sup>th</sup> Mar 2008	27 <sup>th</sup> April 2014 Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity Perpetuity	Mining Test Test Test Monitoring Monitoring Monitoring Monitoring Monitoring
* <sup>1</sup> Now, Industry and Investment NSW (I & I NSW)				
* <sup>2</sup> Now, Department of Environment, Climate Change and Water (DECCW)				
* <sup>3</sup> Now, NSW Office of Water (NOW)				

## 1.2.2 Amendments to Leases, Licences and Approvals

No amendments have been made to any leases, licences or approvals during the reporting period.

## 1.3 Actions Requested at Previous AEMR Review

The previous year's AEMR review identified the requirements listed in Table 2 for inclusion in future AEMRs.

Table 2 - I&I AEMR Review Issues/Considerations

No.	Issue/Observation	Action to be completed
1	Rehab Plans	Proposed yearly rehab to be outlined in plans.
2	Tyres	Should any tyres be buried in accordance with the EPA approval, please make a statement in the AEMR that the location of the tyres is recorded.

In response to the issues identified above, the rehabilitation plan included in this AEMR clearly identifies the extent of rehabilitation proposed for the following year. Additionally, the AEMR includes a discussion on the management of used tyres in Section 2.6.5.

The DoP in their assessment of last year's AEMR requested additional detail be provided as to how the site continues to manage and mitigate noise from the operation on surrounding residences. This detail is included in discussion on noise monitoring over the reporting period (see Section 3.10.3).

## **2 SUMMARY OF OPERATIONS**

### **2.1 Exploration, Resources / Reserves and Mine Life**

#### **2.1.1 Exploration**

Exploration in the current year has focused on the presence of intrusions/faulting in front of the current highwall. Twenty drillholes were undertaken to identify the extent of intruded coal. A ground magnetic survey was undertaken to identify the potential extent of the intrusions.

#### **2.1.2 Resources and Reserves**

Regionally, the Sunnyside Coal Mine lies in the Mullaley sub-basin of the central Gunnedah Coalfield. Coal extraction is from the Hoskissons Seam, part of the Late Permian Black Jack Group. Two major coal seams occur at Mining Lease 1624, namely the Hoskissons Seam and the underlying Melville Seam.

The Hoskissons Seam generally ranges in thickness from 6m to 9m and consists of two main plies. An upper high-ash ply (25 to 30% ash) and a lower low-ash ply (~12% ash). The depth of weathering extends approximately 20 to 35 metres below the surface, with the depth to the top of the Hoskissons Seam extending from the base of weathering in the north to approximately 80m below surface in the south. Seam rolls, minor faults, igneous dykes and sills also affect opencut operations.

A resource estimate in August 2009 shows there are 11.38 million tonnes of open cut coal within ML1624. A mineable reserve of approximately 3.0 million tonnes of recoverable coal and 2.8 million tonnes of marketable coal was estimated in August 2009 to exist in the current opencut consent area. A resource and reserve statement will be undertaken in this financial year.

#### **2.1.3 Estimated Mine Life**

Based on an average production rate of 0.8Mtpa or below, the mine life is approximately 4 years, as specified in the MOP (approved September 2008).

## 2.2 Land Preparation

Land preparation activities undertaken at the Sunnyside Coal Mine during the reporting period were conducted in accordance with commitments identified in Section 3 of the MOP and included:

- Mining and waste emplacement in an area formally comprising Community 1 – Cleared Cropland and Pastureland Community.
- Stripping of topsoil, subsoil and friable overburden over an area of approximately 7.1ha. Soil stripped during the reporting period comprised Soil Mapping Unit 1 (SMU 1) as described in the current MOP.
- During the reporting period, a total of 14,200m<sup>3</sup> topsoil and subsoil was stripped and stockpiled. Existing stockpile locations are shown on Plan 3.

Table 3, the “Production and Waste Summary”, shows that at the end of the reporting period, 12,140m<sup>3</sup> of topsoil and subsoil had been replaced for rehabilitation purposes.

**Table 3 - Production and Waste Summary**

	Cumulative Production			
	Start of Reporting period (up to 01/12/09)	During Reporting period (1/12/09 to 30/11/10)	Cumulative Total at End of Reporting period	Cumulative Total at End of next Reporting period (estimated)
Soil Stripped (m <sup>3</sup> )	136,976	14,560	151,536	164,604
Soil Used/spread (m <sup>3</sup> )	0	12,140	12,140	37,140
Waste Rock (m <sup>3</sup> )	1,564,701	2,420,164	3,984,865	6,484,865
ROM Coal (t)*	111,817	298,492	410,309	807,094
Processing Waste (t)**	11,747	39,479	51,226	151,226
Product (t)	77,629	243,024	320,653	620,653

\* ROM Coal is total production at the mine site. The difference between ROM Coal and final Product is related to changes in stockpile volumes both at the mine and the CHPP during the Reporting period.

\*\* Sunnyside waste produced at Whitehaven CHPP.

Soil removal activities are generally undertaken in up to 2 x 50m wide strips in advance of competent overburden and coal extraction activities.

## **2.3 Construction**

Construction activities over the reporting period comprised establishment of the coal bin, which was transferred from the former Canyon Coal Mine ROM pad area. Construction of the permanent coal crushing facility also commenced during the reporting period and will be completed during the next AEMR period.

## **2.4 Mining**

### **2.4.1 Mining Method**

All mining during the reporting period was undertaken by open cut methods using the techniques identified in the MOP, namely:

- Topsoil and subsoil removal by open bowl scraper;
- Friable overburden removal by scraper;
- Drilling and blasting the underlying competent overburden;
- Overburden (and interburden) removal by bulldozers and/or excavator and dump trucks, with the overburden placed in waste emplacements.
- Coal extraction by excavator loading into haul trucks for transport to the ROM stockpile.

All coal was assessed in pit and depending on the quality was classified into “high ash” and “low ash” for stockpiling. The in-pit classification determines the form of subsequent processing undertaken on-site or off-site.

During the reporting period, 2,420,164 bcm of friable and competent overburden was removed to produce 298,492t ROM coal at an average overburden:coal stripping ratio of 8:1 (See Table 3).

Plan 4 presents the status of mine and infrastructure development as of 30<sup>th</sup> November 2010 and includes the limit of mining at the commencement of the reporting period.

At the end of the reporting period, the open cut, which was developed as a series of approximately 8 x 50 m wide strips, covered an area of approximately 400m x 400m. Mining activities were undertaken in areas formerly identified as Community 1 – Cleared Cropland and Pastureland Community.

## **2.4.2 Mining Constraints**

Day to day mining activities at the Sunnyside Coal Mine are primarily constrained by economic considerations which, in turn, are determined to a large extent by factors beyond the Company's control (i.e. coal price and demand). Economic factors determine the overburden:coal stripping ratio and hence the lateral extent of mining undertaken.

Other constraints to mining operations at the Sunnyside Coal Mine have included or continue to include:

- The presence of a high ash ply (Ply C) within the Hoskissons Coal Seam which has to be selectively mined and placed in the waste emplacement.
- The potential presence of faulting within the seam structure which may influence the sequence and possibly the method of mining;
- The potential for an uneven coal seam floor which could potentially complicate vehicular access to the coal;
- Restricted operating hours, as per PA 06\_0308.

## **2.4.3 Mining Equipment**

Table 4 presents a list of mining equipment in use at the Sunnyside Coal Mine at the end of the reporting period, together with its principal function(s).

A crushing plant/loading bin and a 600 kVA diesel generator will be installed as part of the coal loader, and will be completed by mid February 2011.

**Table 4 - Mining Equipment**

<b>Item (or equivalent)</b>	<b># on site</b>	<b>Function</b>
Excavator (Hitachi EX1800)	1	Overburden and coal excavation
Volvo IT Front-End Loader	1	Coal excavation and loading
CAT 785 Rear Dump Truck (150t capacity)	3	Overburden and coal haulage
Drilling rig (intermittent)	1	Overburden drilling
Blasting truck (intermittent)	1	Blasting campaigns
CAT 657 Scraper	Up to 3	Soil and overburden removal
CAT D10T and CAT D11R Bulldozer	2	Overburden removal and ancillaries
CAT 14G Grader	1	Ancillaries
16 kL Water Truck	1	Dust suppression
Lighting Plants	4	Lighting
100 kVA Diesel Generator	1	Electricity generation (for site services)

#### **2.4.4 Hours of Operations**

Sunnyside is permitted to undertake mining operations between 7:00am to 10:00pm each Monday to Friday and 7:00am to 6:00pm on Saturdays, with the exception of public holidays. In the initial stages of the Sunnyside Mine, one production shift was utilised on weekdays (7:00am to 5:00pm) and generally an 8 hour overtime production shift on Saturdays. During this reporting period production was extended out to the permitted approved hours to 10:00pm during weekdays.

Maintenance crews have generally worked 12 hours shifts (6:00am to 6:00pm) up to 7 days per week.

Coal transportation from the mine site is permitted to be undertaken between the hours of 7:00am to 6:00pm Monday to Friday (or between 7:00am to 8:00pm during Eastern Summer Time) and 7:00am to 4:00pm on Saturdays. Coal transportation is not permitted on Sundays and public holidays.

Blasting activities were carried out between 10:00am and 5:00pm Monday to Friday and 10:00am to 2:00pm on Saturdays (except public holidays).

The above hours of operation are consistent with the permitted hours of operation identified in Project Approval PA 06\_0308.

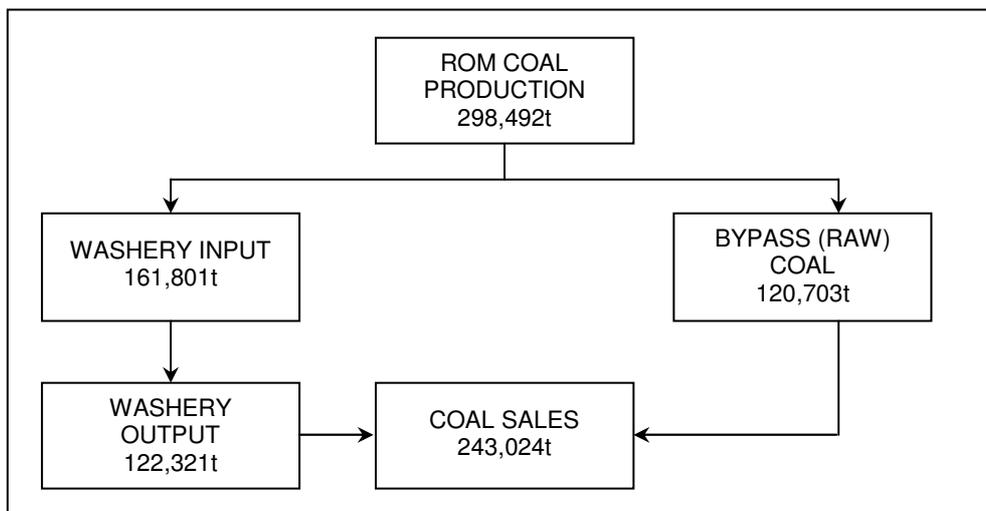
## 2.5 Processing

### 2.5.1 Outline of Processing Activities

With the exception of coal crushing to <150 mm, no coal processing was undertaken within the DA Area.

During the reporting period, Sunnyside coal was transported to the Whitehaven Siding CHPP (Figure 2) where 57% was washed and 43% was by-passed (unwashed) for despatch to domestic and export markets.

Figure 2 presents a schematic of coal movements and washery inputs, outputs and yields for the reporting period. The figure shows that during the reporting period, a total of 298,492 tonnes of ROM coal was produced at the Sunnyside site, producing 120,703 tonnes by-pass coal (i.e. crushed product coal not requiring washing), and 122,321 tonnes of washed product (at an average yield of 75% from the plant).



**Figure 2 - Coal Movement and Production Summary  
(2009/2010 Reporting Period)**

### 2.5.2 Changes or Additions to the Process or Facilities

No significant changes to process or facilities occurred over the reporting period. The only addition was the establishment of the coal bin for loading purposes, which removed the requirement for loading of trucks with Front End Loader.

## **2.6 Waste Management**

### **2.6.1 Introduction**

Wastes produced from the Sunnyside Coal Mine during the reporting period remain unchanged from those identified in the original EIS and are comprised of:

- General domestic-type wastes from on-site buildings and routine maintenance consumables;
- Oils and grease;
- Sewage;
- Overburden and interburden;
- Mine equipment tyres; and
- Coarse and fine coal rejects from any coal preparation undertaken (at the Whitehaven CHPP).

The following sub-sections identify the management procedures adopted for each of these wastes throughout the reporting period.

### **2.6.2 Domestic Type Wastes**

All general wastes were collected on-site and placed into large storage receptacles on a daily basis. An industrial waste collector collected this waste on a fortnightly basis. Sunnyside maintains a recycling program for office and general recyclables (paper, cardboard, bottles, cans etc) at the site office and crib room, as well as scrap steel, timber and waste oils from the workshop.

### **2.6.3 Oil Containment and Disposal**

Waste oils from maintenance activities were pumped from equipment to bulk storage tanks contained within a bunded area (also see Section 2.9.2). When breakdown maintenance was undertaken away from this location, oil was pumped from the equipment to a tank on the service truck from which it was subsequently transferred to the bulk storage tank.

Waste oil stored at the maintenance workshop was collected and disposed of by a licensed contractor on an intermittent basis, approximately once every three months.

Runoff from the concrete vehicle and equipment wash pad was directed to an oil separator and containment system for subsequent pump out and disposal.

#### **2.6.4 Sewage Treatment and Disposal**

Effluent from the sewage and ablutions facilities at the Sunnyside Coal Mine was managed through the Council-approved septic system, with pump outs undertaken by a licensed waste disposal contractor on an as-needs-basis.

#### **2.6.5 Mine Equipment Tyres**

No tyres were disposed of at the mine during the reporting period. When tyre disposal in pit is undertaken, records will be maintained as to how many tyres are disposed of and the disposal area will be recorded via GPS.

#### **2.6.6 Overburden and Interburden**

Overburden materials at the Sunnyside Coal Mine comprise weathered conglomerates and siltstone with some fracturing. The overburden is cast into the mined-out areas by blasting or removed from above the coal seam by a combination of dozer pushing and excavator loading and hauling using dump trucks. Interburden removal to enable lower coal ply excavation is undertaken by excavator and dump truck.

During the reporting period, all overburden and interburden was blasted / pushed / dumped within areas nominated in the MOP.

## **2.6.7 Processing Plant Residues**

### **2.6.7.1 *Physical and Chemical Characteristics***

The coarse and fine rejects produced from washing Sunnyside coal comprise a mixture of coal and non-coal materials, e.g. sedimentary rocks such as shale, mudstone or claystone, and sand, silts and clays which either occur naturally within the coal seam or represent overburden or interburden materials which dilute the coal during its extraction.

### **2.6.7.2 *Reject Handling and Disposal Procedures***

**Coarse Reject** – No coarse reject produced at the Whitehaven CHPP was disposed of at the Sunnyside Mine during the reporting period. Reject is currently being disposed of at Tarrawonga Mine, which is owned by Whitehaven.

**Fine Reject** – Pumped to a series of five fine reject ponds within the Whitehaven CHPP balloon loop and a further 2 ponds on the eastern side of the CHPP for consolidation. The ponds are encircled by bunding and drains to contain fine reject in the event of a pond failure. Following consolidation, the fine reject is excavated and transported to the former Gunnedah Colliery for use in final landform development and emplacement in the former Melville Pit Void.

### **2.6.7.3 *Monitoring and Management of Containment Facilities***

Routine management and monitoring of reject material at the Whitehaven Siding is undertaken by Whitehaven Coal personnel under the direction of the Plant Manager. Inspections of the reject ponds at the Whitehaven CHPP are undertaken by officers of Industry and Investment NSW (I & I NSW), the statutorily responsible Authority.

## **2.8 Stockpile Capacity**

All ROM coal produced at the Sunnyside Coal Mine is delivered to high ash or low ash ROM stockpiles. ROM stockpile capacity at the Sunnyside Coal Mine totals

100,000t. Average stockpile volume during the reporting period was 35,000 m<sup>3</sup> with volumes ranging from 10,745 m<sup>3</sup> (at commencement) to 59,220 m<sup>3</sup>.

## **2.9 Water Management**

### **2.9.1 Objectives**

The Sunnyside Coal Mine lies within the catchment of the Namoi River. The majority of the surface water runoff flows northwards across the mine site. It then flows into Coochoonah Creek which flows north-west within a constructed waterway paralleling Coochoonah Lane. From there, it flows into Rock Well Creek then into Native Cat Creek which continues to flow north-west for 6km. Runoff then flows northwards within Collygra Creek where it flows across a floodplain area before flowing into the Namoi River some 25km north of the Mine Site. The remainder of the mine's surface water flows south into Coochoonah Creek ultimately flowing into the Namoi River to the north. The design of sediment detention basins within the disturbed area of the mine limits the opportunity for discharge of runoff from mine-disturbed area, i.e. after appropriate detention time to satisfy licensed discharge criteria.

Two wet weather discharge points are nominated in the current EPL 12957. These are Storage Dam 3 (EPL ID No. 9) and Storage Dam 4 (EPL ID No. 10). Two ambient monitoring points are also nominated on the EPL for water quality monitoring during discharge events. These are Coochoonah Creek Upstream (CCUS – EPL ID No. 11) and Coochoonah Creek Downstream (CCDS – EPL ID No. 12).

The management of water at the Sunnyside Coal Mine is undertaken with the following objectives.

- i. To ensure sufficient quantities of water can be obtained through the capture of “dirty” water, harvesting of “clean” water, and extraction/harvesting of groundwater to meet the requirements of dust suppression on the mine site.
- ii. To ensure the segregation of “dirty” water from “clean” water, with “dirty” water directed to and detained in sediment basins which, on discharge, flow to storage dams. “Clean” water, comprising clarified water originating from the sediment basins and run-on water collected in accordance with the

Company's harvestable right, will be directed to and/or collected in storage dams.

- iii. To ensure the treatment and separation of "contaminated" water from the workshop and wash bay area by diversion to an oil separating unit, with clarified water reporting to sediment basins.
- iv. To ensure segregation of "pit" water from surface flows by collection in isolated pit dewatering dams.
- v. To maximise the use of "dirty" and "pit" water for dust suppression purposes and minimise the necessity to harvest "clean" run-on water.
- vi. To minimise the volume of water discharged from the mine site, but, should the discharge of water prove necessary, ensure sufficient settlement time is provided prior to discharge such that suspended sediment within the water meets the water quality criteria as specified in the EPL 12957.
- vii. To minimise erosion and sedimentation from all active and rehabilitated areas of the mine site.
- viii. To monitor the effectiveness of surface water controls and ensure all relevant surface and groundwater quality criteria are met.
- ix. To monitor the impact on groundwater level, quality and availability.
- x. To minimise any impacts on the availability of surface water or groundwater to surrounding residents and landholders.
- xi. To establish a method of assessing the level of impact on groundwater supply attributable to the mine.

## 2.9.2 Surface Water Management

Water within the Project Approval area is nominally classified either as "clean", "dirty", "contaminated" or "pit water" depending on the source of the flow and its potential for physical or chemical contamination.

All sediment basins, storage dams and associated banks and drains have been designed and constructed by Department of Lands – Soil Services personnel.

**"Clean water"** comprises surface runoff from catchments undisturbed or relatively undisturbed by mining or related activities and rehabilitated catchments. Within the Project Approval area, clean surface water flows either flow to natural drainage lines and hence off-site or are collected by diversion banks and directed to the storage

dams for use on-site. All water flowing from sediment basins ultimately flows to storage dams to provide a final “polishing” storage prior to potential off-site discharge.

**“Dirty water”** comprises surface runoff from disturbed catchments such as the active mine area and overburden emplacement, ROM and product coal stockpiles, soil and subsoil stockpiles and rehabilitated areas (until stabilised), all of which could contain sediments.

Dirty water originating from surface runoff is collected by catch banks located down slope of the potential sources of pollution and directed to the sediment basins. Water collecting within the sediment basins is used for dust suppression in addition to waters in the storage dams to avoid potential for off-site water discharge.

Sediment basins have been designed to meet the requirements of the 90% 5 day event of the Urban Stormwater Guide. The Site Water Management Plan provides further details regarding storage capacity. Sediment levels in all sediment basins remain very low due to the limited run-off which occurred during the reporting period. Sediment basins are either cleaned out once their capacity is reduced by 25% or supplementary structures are installed to provide the required storage volume. In the event of structure replacement, the contents of the former structure will be allowed to dry prior to being capped and rehabilitated.

The principal components of the “clean” and “dirty” water management systems in place at the end of the reporting period are shown on Plan 4.

**“Contaminated Water Management”** comprises runoff water which could potentially contain hydrocarbons. One 68,000 L self bunded diesel fuel tank is maintained adjacent to the Sunnyside workshop area. This ensures that in the event of a leak from the tanks, there is sufficient capacity to adequately store the full complement of diesel from those tanks. An additional concrete bund has been installed adjacent to the workshop to house other oils and lubricants in a safe and efficient manner. Any associated spills within the bund then report to an oil separating unit for disposal by an appropriately licensed contractor. Waters potentially contaminated with hydrocarbons from the workshop area are also diverted to the oil separator, with

clean water used for dust suppression purposes. Spill kits are also maintained on the mine site.

The likelihood of localised spills of fuel or oil external to bunded areas is kept to a minimum by the adoption of the above practice. In the event that localised spills do occur, immediate action would be undertaken to ensure appropriate clean-up and minimisation of harm.

“**Pit Water**” comprises water contained within the open cut sump or pumped to the void water dam for containment and use for dust suppression across the site.

### **2.9.3 Discharges**

No discharge events occurred during the reporting period.

### **2.9.4 Water Sources, Demand and Use**

Within the Project Approval Area and immediate vicinity of Sunnyside Coal Mine, surface water resources are limited to a number of ephemeral drainage lines which flow for a short period after substantial rainfall, farm dams, water storage dams and a series of interlinked sediment basins as shown on Plans 3 and 4.

Water is required on the mine site primarily for dust suppression purposes, with minor quantities required for potable, toilet and ablutions purposes. Where practicable, water collected on-site is retained or reused, with water for dust suppression sourced from a combination of on-site water harvesting, inflows from the exposed coal seam, overburden and interburden, and groundwater extraction. Water for potable, toilet and ablutions purposes is trucked to the site from Gunnedah.

During the reporting period, a total of approximately 31.17ML was used on the mine site and at the processing facility, generally for dust suppression purposes. The approximate volumes obtained from the various sources are as follows:

- 25 ML from groundwater sourced under licence from the production bore located on the “Werona” property; and

- 6.17 ML from surface water storages.

During the reporting period:

- (i) 25 ML of water was pumped from the licensed bore;
- (ii) There was negligible groundwater seepage into the pit; and
- (iii) All surface water utilised was from onsite sediment basins and storage dams.

The above water use is approximately half of the use predicted in the EA for the mine which indicated a water requirement of approximately 75-100ML per year for dust suppression and processing requirements, and generally consistent with water use from the previous AEMR period. This is attributable to lower production levels than initially modelled (1/3 of maximum production) as well as above average rainfall over the reporting period.

### 2.9.5 Stored Water

Table 5 presents an estimate of the volume of stored water at the beginning and end of the reporting period.

**Table 5 - Stored Water**

	Volumes Held (m <sup>3</sup> )		Storage Capacity at the end of the Reporting period (m <sup>3</sup> )
	Start of Reporting period	At end of Reporting period	
Clean Water (in Storage Dams)	7,600	6,300	30,400
Dirty Water (in Sediment Basins)	7,800	10,700	31,200
Controlled Discharge Water (salinity trading schemes)	N/A*	N/A*	N/A*
Pit Water	1,000	0	29,200

\* N/A = Not applicable for the Sunnyside Coal Mine

### 2.9.6 Groundwater Management

Inflows into the open cut result from a combination of:

- Direct rainfall runoff and infiltration through the emplaced overburden which flows down-dip to the open cut sump(s); and

- Inflows from the exposed coal seam.

As noted in Section 2.9.4, during the reporting period, a negligible amount of water was produced in the pit from rainfall and groundwater seepage. Any water produced was used for dust suppression purposes.

Contamination of groundwater is controlled by the management of chemical, oil and grease spills and storage, with:

- Vehicle maintenance carried out in designated areas;
- Any spills being cleaned up; and
- Fuels, oil and greases being stored within a bunded area, constructed in accordance with AS 1240-2004 (also see Section 2.9.2) and/or DECCW requirements.

Groundwater from surrounding bores, as well as the mine production bore, is monitored on a regular basis to detect and assess any changes in groundwater quality or level that may be attributable to the mine (see Section 3.4.2).

## **2.10 Hazardous and Explosive Material Management**

No explosive materials are retained within the Sunnyside Mine Site. Orica Mining Services has a storage facility located between the Tarrawonga and Canyon sites which removes the requirement for on-site storage.

Mixing of nitropril with distillate to produce an explosive is undertaken on the day of each blast using a purpose built explosives mixer and in a quantity adequate only for that particular blast.

Materials Safety Data Sheets (MSDS) are retained on-site for all hazardous materials, independent of the quantity. Additionally, all contractors are required to supply MSDS sheets for any hazardous goods they may bring onto the site.

## **2.11 Infrastructure Management**

Management of infrastructure (e.g. buildings, roads, generators and pumps) and other facilities not specified elsewhere within this AEMR is undertaken on an as-needs basis or in accordance with Statutory requirements in order to maintain them in an operationally efficient, safe, neat and tidy condition, and one which does not result in the direct or indirect generation of unacceptable environmental impacts.

## **2.12 Product Transport**

Approximately 279,720 tonnes of coal was transported from the mine over the reporting period. This equated to an average of 19 truck loads per day in coal transport. Product coal from the CHPP is transported by train to the Port of Newcastle.

## **3 ENVIRONMENTAL MANAGEMENT AND PERFORMANCE**

The following sub-sections document the implementation and effectiveness of the various control strategies adopted at the Sunnyside Coal Mine, together with monitoring data for the reporting period. Existing monitoring sites are shown in Figure 3. Life of mine monitoring data will be included in future AEMRs, where relevant, to allow for discussion on longer-term trends. A risk identification matrix and the relevant Environmental Management procedures are identified in the Sunnyside Coal Mine MOP.

### **3.1 Air Pollution**

#### **3.1.1 Criteria**

The air quality criteria applicable to the Sunnyside Coal Mine are specified in PA 06\_0308 Schedule 3, Tables 7, 8 & 9 (Appendix 1), which is summarised below.

- Acceptable mean annual increase in deposited dust – 2 g/m<sup>2</sup>/month.
- Mean annual dust deposition (all sources) – 4 g/m<sup>2</sup>/month.
- Mean annual Total Suspended Particulate (TSP) matter (all sources) concentration – 90 µg/m<sup>3</sup>.
- Mean annual PM<sub>10</sub> particulate level – 30 µg/m<sup>3</sup>.
- 24 hour average PM<sub>10</sub> particulate level – 50 µg/m<sup>3</sup>.

Notwithstanding the diversity of the criteria identified above, routine air quality monitoring at the Sunnyside Coal Mine is required for deposited dust and PM<sub>10</sub> particulates. Monitoring of deposited dust is undertaken on a monthly basis whilst PM<sub>10</sub> levels are monitored every 6 days.

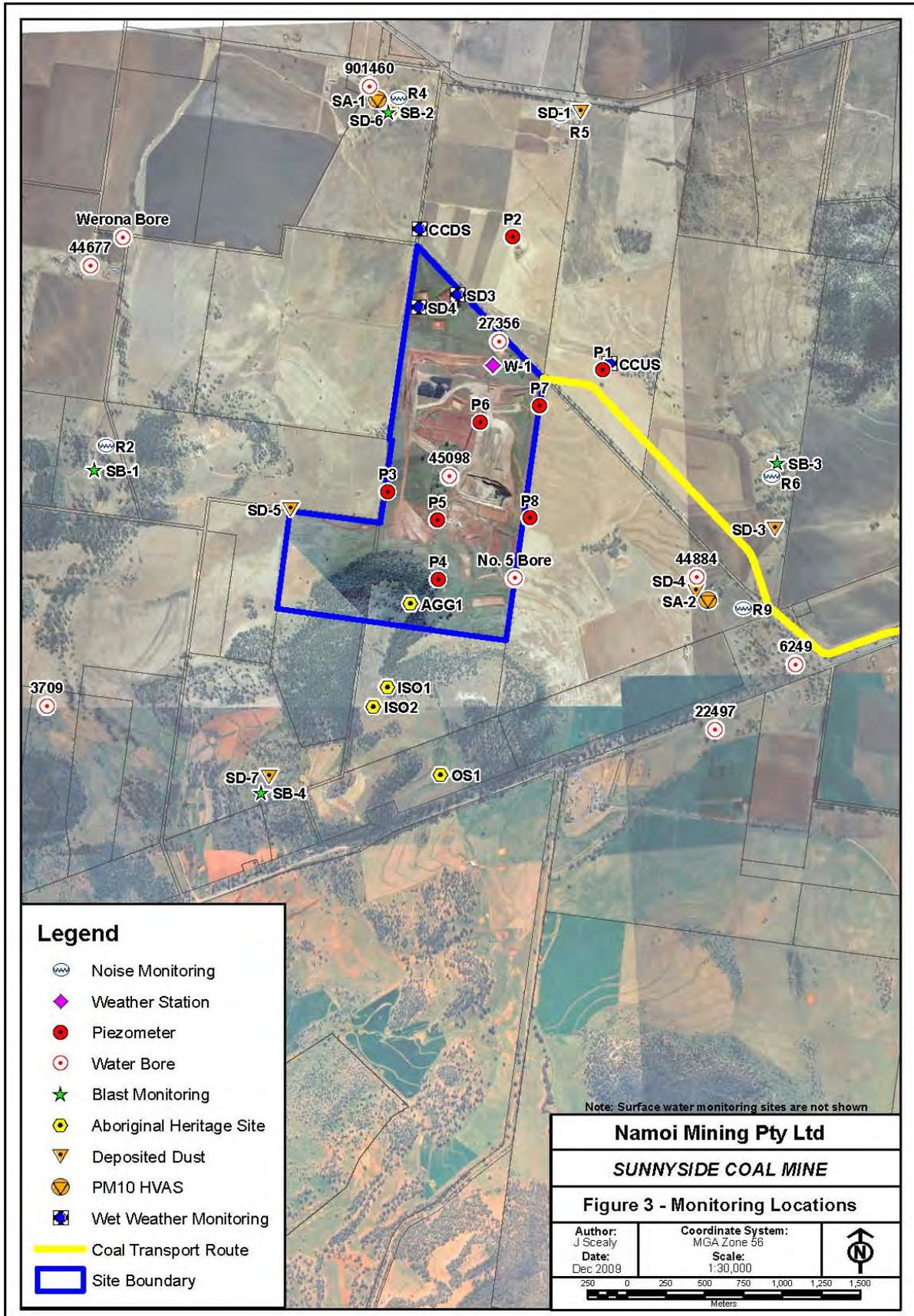


Figure 3 - Monitoring Locations

### 3.1.2 Control Procedures

In order to satisfy the criteria identified above, Sunnyside Coal Mine employs a range of air pollution control measures including:

- Use of trunks, branches and litter from clearing for mine site rehabilitation. No materials are burnt;
- Limiting groundcover removal in advance of mining consistent with operational requirements. Under normal operational circumstances, a maximum of 100 m is prepared in advance of mining;
- Groundcover removal as part of the topsoil removal activities, rather than prior to topsoil removal;
- Where practicable, limiting soil stripping activities to periods when there is sufficient soil moisture to prevent significant dust lift-off and avoiding periods of high winds;
- Soil stripping using open bowl scrapers, thereby eliminating the dust generated from elevated scrapers;
- Application of water to exposed surfaces, with emphasis on those areas subject to frequent vehicle / equipment movements which may cause dust generation and dispersal;
- Use of water injection on the drilling rig;
- Use of imported aggregates for blast hole stemming;
- Water application at the crusher;
- Cessation of coal processing activities during periods of concurrent high winds and temperatures which cause coal dust dispersal, independent of water applications. This situation did not arise during the reporting period;
- ROM coal pad watering;
- Progressive shaping and rehabilitation of areas once they are no longer required for mining purposes;
- Speed limit restrictions on all vehicles and equipment on the mine site;
- Equipment exhaust positioning to avoid exhausts impinging on the ground and causing dust lift-off; and
- Use of covers on all product coal trucks. Toll is the principal contractor engaged in the haulage of coal from the Sunnyside Mine to the CHPP. All Toll

vehicles and those operated by its contractors are fitted with roll-over tarpaulins.

### 3.1.3 Dust Monitoring

Table 6 presents a summary of the deposited dust monitoring data presented in Appendix 4. A graphical representation of the total insoluble solids and ash content data for each of the sites monitored during the reporting period is also included in Appendix 4. Figure 3 identifies the locations of the various deposited dust gauges maintained during the reporting period.

**Table 6 - Deposited Dust Monitoring Data  
(December 2009 to November 2010)**

Site (see Figure 3)	Property Name	Mean Total Insoluble Solids (g/m <sup>2</sup> /month)	Mean Ash (g/m <sup>2</sup> /month)
SD-1	FERNDALE	3.1	1.0
SD-3	PLAINVIEW	1.7	1.2
SD-4	LILYDALE	1.1	0.7
SD-5	IVANHOE	2.7	1.1
SD-6	ILLILI	1.8	1.1
SD-7	INNISVALE	1.2	0.7

A review of Table 6 and Appendix 4 shows that;

- The mean annual total insoluble solids (deposited dust) criterion was satisfied at all monitoring locations during the reporting period. An additional monitor was installed in November 2010 at “Woodlawn” and results from this monitor will be added in the next AEMR.
- The mean ash content (i.e. the mineralogical component of the total deposited dust measured and that component possibly attributable to mining-related activities) percentage across the sites was as follows: SD-1 (32%), SD-3 (70%), SD-4 (63%), SD-5 (41%), SD-6 (61%) and SD-7 (58%).

Sunnyside Coal Mine has one High Volume Air Sampler (HVAS - PM<sub>10</sub>) located at the property “Illili”, to the north-west of the mine site, and one HVAS unit on the

“Lilydale” property, to the east of the mine site. Each sampler runs for 24 hours every 6 days, with filter papers sent to an accredited laboratory for analysis.

In general, the PM<sub>10</sub> results have indicated compliance with the annual average criteria for both sites, as indicated in Figure 4 and Figure 5. However the 24hr limit was exceeded at both “Illili” and “Lilydale” during December 2009. “Lilydale” recorded 67µg/m<sup>3</sup> on the 8<sup>th</sup> of December 2009 and “Illili” recorded 109µg/m<sup>3</sup> and 70µg/m<sup>3</sup> on the 8<sup>th</sup> and 14<sup>th</sup> of December 2009. These exceedances are directly related to a number of bushfires which occurred in the region during early December 2009. These fires also caused elevated PM<sub>10</sub> levels at monitoring locations at other mines in the area that are operated by WCL. Despite these exceedances, it is noteworthy that the annual average PM<sub>10</sub> level declined at both monitoring points as compared to last year. The full data set for PM<sub>10</sub> monitoring is contained within Appendix 4.

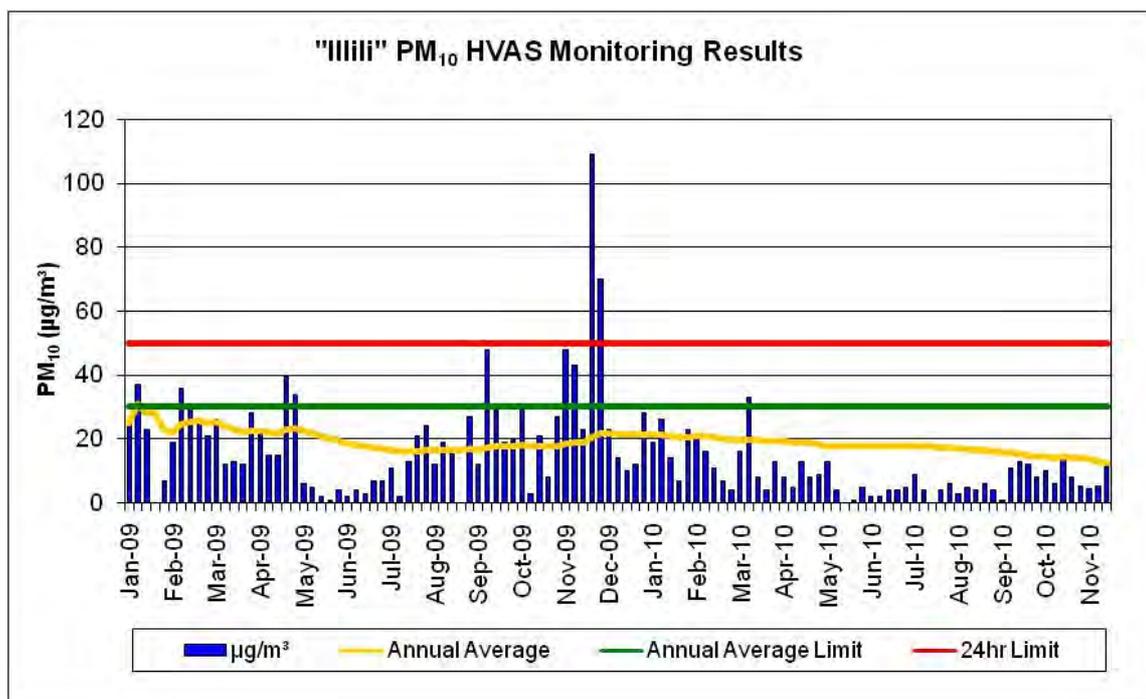


Figure 4 – “Illili” HVAS PM<sub>10</sub> Data  
January 2009 – November 2010

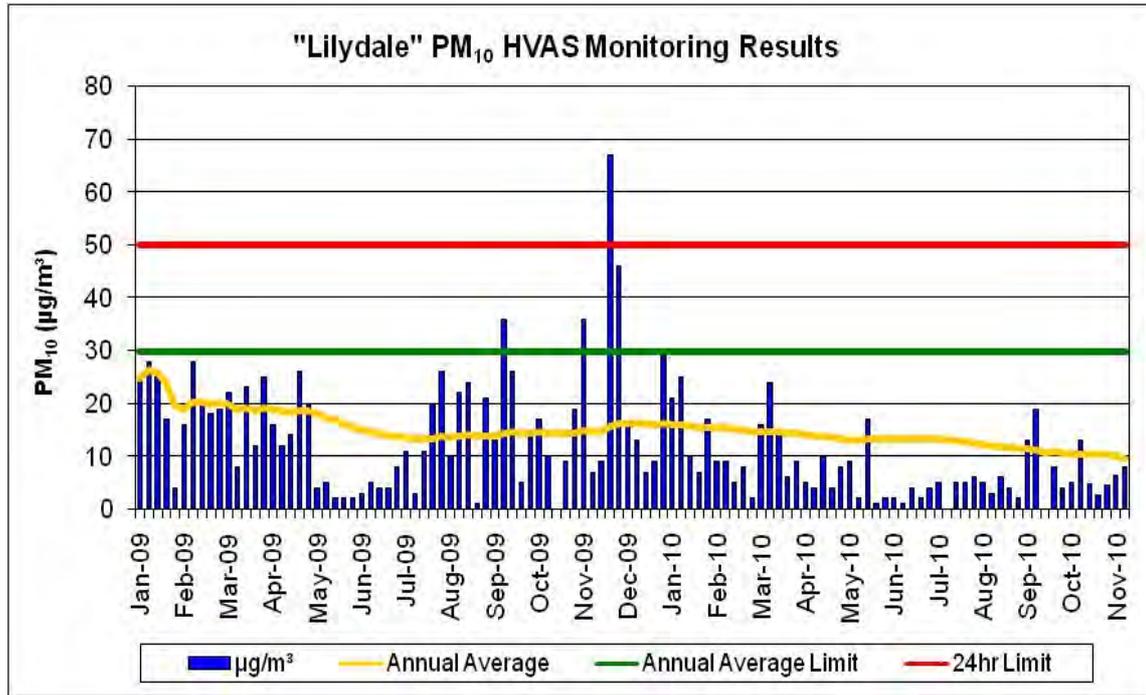


Figure 5 – “Lilydale” HVAS PM<sub>10</sub> Data  
January 2009 – November 2010

## 3.2 Erosion and Sedimentation

### 3.2.1 Management

Methods for the management of erosion and sediment control at the Sunnyside Coal Mine are presented in the MOP and Site Water Management Plan prepared in accordance with PA 06\_0308.

Control of erosion and sediment generation is achieved primarily through the implementation of water management controls identified in Section 2.9.2 and shown on Plan 4 as well as water usage for dust suppression which ensures adequate storage capacity is available within the various water containment structures to receive inflows. Additional measures which assist in the control of erosion and sedimentation include:

- Minimising the extent of disturbance consistent with operational requirements. Where possible, a maximum of 2 x 50 m is generally disturbed in advance of mining;
- Revegetation of long-term subsoil and topsoil stockpiles, areas shaped to their final landform and areas no longer required for mining-related purposes;

- Undertaking soil management activities generally in accordance with the soil stripping and stockpiling recommendations from Geoff Cunningham Natural Resource Consultants; and
- Installation of contour banks and rock-lined waterways on the final landform following soil application.

Soil stockpiles have been placed in gently sloping or near flat areas surrounded by grassland which effectively reduces the runoff velocity, and hence erosive potential, from any run-on waters. However, NMPL is aware of the potential for stockpile erosion and will adopt stockpile protective procedures to minimise impacts as required over the remaining life of the mine. All soil stockpiles on the Sunnyside site have, or will be, sown to cover crops on completion (and when weather conditions permit) to aid in stabilisation.

### **3.2.2 Performance**

The effectiveness of the procedures for erosion and sedimentation management are assessed visually as part of routine mine operations and supervision undertaken by Sunnyside Coal Mine personnel, with any ameliorative works initiated as and when required.

During the reporting period, all necessary controls were in place and operating as per design. The mine had good pasture establishment on soil stockpiles and storage dam/sediment basin banks and drainage lines (Plate 1).



**Plate 1 - Established Pasture in Drainage Line**

### **3.3 Surface Water Pollution**

#### **3.3.1 Management**

The prevention of surface water pollution is achieved through the management of surface water as presented in Section 2.9.2.

#### **3.3.2 Performance**

Surface water management controls have operated well throughout the reporting period, with all water being contained onsite.

Sunnyside Coal Mine has a schedule to undertake surface water monitoring on a quarterly basis, in addition to any wet weather discharge monitoring. Above average rainfall during this reporting period has provided adequate storage of water to undertake quarterly surface water monitoring, as required. Quarterly surface water results are shown below in Table 7.

**Table 7 - Surface Water monitoring results**

Date	Sample Location	pH	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Organic Carbon (TOC) (mg/L)	Grease & Oil (mg/L)
29/12/2009	CC Downstream	6.8	95	19	13	
4/3/2010	SB5	7.85	412	30	6	<5
4/3/2010	SB2	8.3	554	17	<1	8
4/3/2010	SD4	8.08	321	12	<1	<5
24/5/2010	SB2	8.14	586	30	2	7
24/5/2010	SD4	8.11	351	9	2	6
11/8/2010	SD4	7.82	312	26	<1	<5
15/11/2010	SD4	7.81	186	56	3	<5
15/11/2010	SD3	7.54	166	140	3	<5

The quarterly monitoring results show that water quality within onsite storages and downstream of the Sunnyside mine site was generally good, with the exception of marginally elevated Total Suspended Solids within SD4 and SD3, with 56mg/L and 140mg/L recorded in November 2010. These elevated levels were due to high rainfall resulting in surface runoff, however all runoff was contained within the storages on site. As a consequence, there was no impact from operations on sediment loads in downstream water bodies.

### **3.4 Groundwater Pollution**

#### **3.4.1 Management**

With the exception of fuels and oils, no materials occur, or are retained on the mine site which are likely to be a source of groundwater pollution.

The methods for management of potential pollutants are summarised in Section 2.9.6. Ongoing monitoring to assess trends in groundwater chemistry will enable assessment of potential contaminants to groundwater, with particular emphasis on heavy metals, and major cations and anions. Groundwater monitoring requirements are identified in Table 8.



- Monitoring site 3709 has not been sampled to date due to site access issues. The “Ivanhoe” property does not have permanent residents, and as such, the access points are generally locked and inaccessible. It is proposed to contact the landowner to verify if they wish to have monitoring of their bore undertaken and determine appropriate access arrangements.
- Access was granted to site 22497 after arrangements with the property owner in early December 2009. Previously access had been restricted with no resident at the property. Quarterly monitoring commenced on the 21<sup>st</sup> December 2009 and will be maintained throughout the next reporting period.
- Monitoring site 44677 was unable to be sampled due to the bore being fully sealed.
- SWL results were unavailable at sites 44884, 27356, No 5 Entry and Werona during some monitoring events due to the bore holes being covered by pumps.
- 901460 was not sampled over the period as it was not accessible due to it been equipped with a windmill.
- Water level data loggers, which store SWL data at 12 hourly intervals, have been installed in P2 and P3, and are monitored by Geoterra Pty Ltd.

Groundwater sampling and analysis was conducted by ALS Acirl Pty Ltd during the reporting period.

A review of the groundwater monitoring results presented in Appendix 5 shows the following trends:

#### **Groundwater levels**

- Groundwater levels have remained relatively consistent at all monitoring locations with the exception of P5 which showed a 2.5m drop in SWL between December 2009 and May 2010, before being destroyed by mining, which is expected due to its close proximity to the pit.
- Monitoring location P7 has experienced a recharge of 1.6m since December 2009, which is most likely due to the above average rainfall over the period.
- Ongoing monitoring will provide a more robust trend in standing water level over time.

### **Groundwater quality**

- The water in most bores is generally neutral in pH.
- The water in all bores can be described as fresh to brackish.
- Water quality has been compared to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) (ANZECC) guidelines. Water quality is generally within the guidelines for stock watering purposes.
- Based on the monitoring data available to date, water quality appears relatively consistent since monitoring commenced.

## **3.5 Contaminated or Polluted Land**

Prior to mining, the Project Approval Area was a greenfields site. Discussion with landowners during the preparation of the EA revealed that no environmentally harmful products had been used on their landholding nor had there been any disposal of potential environmental contaminants. This situation has remained unchanged throughout the life of the mine to-date and consequently there is no reason to expect that contaminated lands would be present within the Project Approval Area.

## **3.6 Threatened Flora**

Investigations into the occurrence of threatened flora within the Project Approval Area were undertaken as part of the Environmental Assessment by Geoff Cunningham Natural Resource Consultants Pty Ltd in 2007 following field surveys in October and December 2006. The investigation identified no significant impact on threatened flora species, endangered ecological communities, endangered flora populations or critical habitat as a consequence of the development, either because they do not exist in the area or avoidance is possible due to project design.

Investigations identified a remnant of the White Box Yellow Box Blakely's Red Gum Woodland endangered ecological community within the study area but concluded that it would not be affected in any significant manner by the mine.

A remnant of the Native Vegetation on Cracking Clay Soils of the Liverpool Plains endangered ecological community was also identified within the study area. It was noted that a small section of this community would be temporarily affected by the Coochoonah Lane re-alignment but the community would be rehabilitated and enhanced following rehabilitation after mining ceases. It was assessed that this action, due to its temporary impact and final environmental enhancement, would not require approval under the Commonwealth EPBC Act.

Much of the area has been cleared in the past and most of this cleared area has been cultivated. The vegetation on the cleared areas has been invaded by introduced species. The establishment of the mine site does not involve clearing of native vegetation and as such no biodiversity offsets are required.

The initial flora quadrat establishment and monitoring was undertaken in June 2010 by Geoff Cunningham Natural Resource Consultants Pty Ltd. This monitoring will become more refined upon approval of the Rehabilitation and Landscape Management Plan which is currently being reviewed by the DoP. The vegetation communities present at Sunnyside include:

- **Community 1** – Cleared Cropland and Pastureland Community;
- **Community 2** – Regenerating Grasslands Community;
- **Community 3** – Bare Disturbed Land with Minimal Vegetation Cover;
- **Community 4** – *Atalaya hemiglauca* [Whitewood] Community;
- **Community 5** – Dry Scrub Community of the Rocky Scarp;
- **Community 6** – *Eucalyptus dealbata* [Tumbledown Gum] – *Geijera parviflora* [Wilga] – *Callitris glaucophylla* [White Cypress Pine] Community;
- **Community 7** – *Eucalyptus albens* [White Box] Community;
- **Community 8** – *Eucalyptus populnea* subsp. *bimbil* [Bimble Box] – *Eucalyptus melliodora* [Yellow Box] - *Eucalyptus albens* [White Box] Woodland Community; and
- **Community 9** - Degraded *Austrostipa aristiglumis* [Plains Grass] Grassland.

The mine is located wholly within Community 1 and therefore a single quadrat was established within the mine site to monitor ground cover and other vegetation changes in the area.

Additional quadrats will be established on the mined area once rehabilitation is complete.

### 3.7 Threatened Fauna

Investigations into the occurrence of threatened fauna within the Project Approval Area were undertaken by Kevin Mills and Associates as part of the Environment Assessment, following surveys conducted in September 2006. These investigations identified that the proposed development was unlikely to significantly affect any of the threatened species, fauna populations or communities listed under the *Threatened Species Conservation Act 1995*, or their habitats.

It was also concluded that development of the mine was not likely to have a significant impact on any matter of national environmental significance listed under the *Environment Protection and Biodiversity Conservation Act 1999*. Referral to the Commonwealth Minister for the Environment for assessment and approval was therefore not warranted.

The area surrounding the mine site supports a viable Koala population. NMPL has committed to a number of measures to minimise the impacts on this population, including:

- Relocating the southern section of Coocooboonah Lane to avoid disturbing remnant Koala habitat;
- Erecting a Koala-proof fence around the active mine area;
- Minimising clearing and utilising local tree species for revegetation with an emphasis on Koala feed trees. This has commenced with 80 White Box and 80 Yellow Box trees established in the area of koala corridor enhancement on the mine site.

The initial fauna quadrat establishment was undertaken in November 2010 by Dr Leong Lim (Countrywide Ecological Services). This monitoring will become more refined with approval of the Rehabilitation and Landscape Management Plan which is currently being reviewed by the DoP. Due to rehabilitation only being in the very early stages at the site, only two grassland monitoring plots were established. Within the next reporting period two woodland plots will be established and two rehabilitation plots will be established once rehabilitation areas are further developed.

Further detail on the success of rehabilitation will be provided in subsequent AEMRs.

## **3.8 Weeds**

### **3.8.1 Management**

Weed management within the ML area involves general observations and targeted inspections to determine levels of weed infestation. Weed control is undertaken by contractors or Whitehaven's own qualified personnel. All persons involved with weed control hold required chemical handling certificates.

### **3.8.2 Performance**

Sunnyside Coal Mine has not experienced any major weed issues during the reporting period. Minor ongoing weed management comprised spot spraying of Bathurst Burr, Galvanised Burr, Mexican Poppy and general weeds along the haul road and around the office facilities. Spot spraying of Prickly Pear was undertaken in the south-western corner of the mine lease.

## **3.9 Blasting**

### **3.9.1 Blast Criteria and Control Procedures**

#### **3.9.1.1 *Blast Criteria***

Blasting criteria for the Sunnyside Coal Mine is nominated in Project Approval PA 06\_0308 (Appendix 1), and Condition L7 of Environment Protection Licence 12957 (Appendix 2) and specify that:

- Blasting must only be carried out between 10:00 am and 5:00 pm, Monday to Friday, 10:00am to 2:00pm on Saturdays and at no time on Sundays or Public Holidays.
- The overpressure level from blasting operations must not:
  - (a) exceed 115dB (Lin Peak) for more than 5% of the total number of blasts over each reporting period; and
  - (b) exceed 120dB (Lin Peak) at any time.

at any residence on privately-owned land.

- Ground vibration peak particle velocity from the blasting operations must not:
  - (a) exceed 5mm/s for more than 5% of the total number of blasts during each reporting period; and
  - (b) exceed 10mm/s at any time,

at any residence on privately-owned land.

PA 06\_0308 also specifies that the mine shall not carry out more than:

- (a) 2 blasts a day; and
- (b) 5 blasts a week, averaged over a 12 month period.

### **3.9.1.2      *Control Procedures***

Flyrock, air vibration, ground vibration and dust from blasting are controlled using a combination of design and operational methods which are detailed in the MOP and/or documented blasting procedures.

## **3.9.2      Performance**

During the reporting period, a total of 10 blasts were initiated. There were no instances of peak overpressure exceeding 115.0 dBL or ground vibration peak particle velocity exceeding 5mm/s.

The maximum recorded peak overpressure recorded during the reporting period was 114.8 dBL at “Illili” on the 17<sup>th</sup> April 2010 and 23<sup>rd</sup> June 2010.

The maximum recorded ground vibration during the Reporting period was 2.39 mm/s recorded at “Plain View” on the 17<sup>th</sup> April 2010. This is well inside the consent criteria of 5 mm/s.

All blast monitoring results for the reporting period, including the time of initiation has been included in Appendix 6.

## 3.10 Operational Noise

### 3.10.1 Criteria

#### 3.10.1.1 *EPA Criteria*

The EPA-nominated noise emission criteria, identified in Environment Protection Licence 12957 as applicable to the Sunnyside Coal Mine, are as follows.

L6.1 *Noise from the premises must not exceed:*

- (a) *an  $L_{10(15\text{minute})}$  noise emission criterion of 40 dB(A) during initial construction period; and*
- (b) *an  $L_{Aeq(15\text{ minute})}$  noise emission criterion of 35 dB(A) at all times (day, evening and night time periods).*

L6.2 (Provides definitions)

L6.3 *The noise emission limits identified in this licence apply under all meteorological conditions except:*

- (a) *during rain and wind speeds (at 10m height) greater than 3m/s; and*
- (b) *under "non-significant weather conditions".*

L6.4 *The noise limits set by condition L6.1 of the licence do not apply where a current legally binding agreement exists between the licensee and the occupant of a residential property that:*

- a) *agrees to an alternative noise limit for that property; or*
- b) *provides an alternative means of compensation to address noise impacts from the premises.*

*A copy of any agreement must be provided to the EPA before the licensee can take advantage of the agreement.*

#### 3.10.1.2 *Consent Criteria*

Noise emission criteria nominated in Project Approval PA 06\_0308 (Condition Schedule 3(2) and Schedule 3(3)) is as follows:

3(2) *The Proponent shall ensure that the noise generated during the construction of the project does not exceed the level set out in Table 1.*

Table 1: Construction noise impact assessment criterion dB(A)

<b>Day/Evening</b> <i>L<sub>A10(15 minute)</sub></i>	<b>Land</b>
40	Any residence on, or more than 25% of, any privately owned land (except at "Lilydale")

- 3(3) The Proponent shall ensure that the noise generated during mining operations and other activities on the site does not exceed the level set out in Table 2:

Table 2: Operational noise impact assessment criterion dB(A)

<b>Day</b> <i>L<sub>Aeq(15 minute)</sub></i>	<b>Land</b>
35	Any residence on, or more than 25% of, any privately owned land (except at "Lilydale")

However, if the Proponent has a written negotiated noise agreement with the landowner of any land, and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 or Table 2 on that land in accordance with the negotiated noise agreement.

- 3(6) The Proponent shall implement all reasonable and feasible measures to ensure that the traffic noise generated by the project combined with the traffic noise generated by other mines does not exceed the level in Table 4:

<b>Day/Evening</b> <i>L<sub>A1eq(1 hour)</sub></i>	<b>Road</b>
55	Any residence adjacent to Torrens Road

Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECC's Environmental Criteria for Road Traffic Noise.

### 3.10.2 Control Procedures

Control of noise generation and propagation on the Sunnyside Coal Mine site is by a combination of general source and propagation path methods including, where practical:

- Installation and maintenance of appropriate mufflers on plant and equipment;
- Where operationally feasible, scheduling activities to minimise operation of equipment in exposed locations when winds are blowing towards residences;

- Equipment removal or replacement;
- Changing operational procedures;
- Restricting hours of operations;
- Enclosure of fixed items of plant, eg generators;
- Bunding close to noise sources to create obstructions to the propagation path;
- On-going site road maintenance using the mine-based grader; and
- Regular equipment maintenance.

Sunnyside Coal Mine also regularly liaises with the majority of surrounding neighbours to seek feedback not only on noise, but on all mining activities. Any issues raised are investigated and appropriate measures are implemented to alleviate further impacts.

### **3.10.3 Operational Noise Monitoring**

#### **3.10.3.1 *Introduction***

The Noise Monitoring Program details the requirements for attended noise monitoring for construction, transport and operational noise associated with the Sunnyside Coal Mine. The noise monitoring sites are identified on Figure 3.

The following sub-sections present a summary of the outcomes of each monitoring event. Copies of all monitoring reports are presented in Appendix 7.

#### **3.10.3.2 *February 2010 Noise Monitoring***

On the 23<sup>rd</sup> February 2010 attended noise monitoring was undertaken at “Illili” (R4), “Ferndale” (R5), “Plain View” (R6), “Lilydale” (R9) and “Glendower” (R15). “Ivanhoe” (R2) was not recorded as the property is not permanently occupied and access is generally unavailable. Spectrum Acoustics reported that:

- $L_{Aeq}$  noise levels (all sources) during the day were 37 dB(A) at “Illili”, 49 dB(A) at “Ferndale”, 45 dB(A) at “Plain View” and 51 dB(A) at “Glendower”. “Lilydale” was not recorded due to access to the property being locked. Mine noise was at the limit of 35 dB(A) at “Plain View” and below the criterion of 35 dB(A) or inaudible at all other monitoring locations.

- $L_{Aeq}$  noise levels (all sources) during the evening were 36 dB(A) at “Illili”, 44 dB(A) at “Ferndale”, 41 dB(A) at “Plain View”, 40 dB(A) at “Lilydale” and 40 dB(A) at “Glendower”. Mine noise was above criteria at 37 dB(A) at “Ferndale”, with all other sites being below criteria or inaudible.

The elevated noise at “Ferndale” was mainly due to emissions from haul trucks and a dozer. There was no temperature inversion at the time of monitoring. Wind was from the south east which may have influenced noise levels at the “Ferndale” monitor.

In addition to the site noise monitoring, traffic noise from the transport trucks was measured at the “Roslyn” property on Torrens Lane, near the CHPP, over a one hour period. The noise levels from 11 trucks (6 full, 4 empty and a water cart) passing the site were measured between 7.45 am and 8.45 am on 12<sup>th</sup> March 2010. The measured  $L_{eq}$  noise level from mine vehicles was 49.7 dB(A), below the noise criterion of 55 dB(A)  $L_{eq}$  (1 hour).

### **3.10.3.3**      *May 2010 Noise Monitoring*

On the 14<sup>th</sup> May 2010 attended noise monitoring was undertaken at “Illili” (R4), “Ferndale” (R5), “Plain View” (R6), “Lilydale” (R9) and “Glendower” (R15). “Ivanhoe” (R2) was not recorded as the property is not permanently occupied and access is generally unavailable. Spectrum Acoustics reported that:

- $L_{Aeq}$  noise levels (all sources) during the day were 40 dB(A) at “Illili”, 53 dB(A) at “Ferndale”, 41 dB(A) at “Plain View”, 46 dB(A) at “Lilydale” and 41 dB(A) at “Glendower”. Mine noise was above criteria at 38 dB(A) at “Ferndale” and below the criterion of 35 dB(A) or inaudible at all other monitoring locations.
- $L_{Aeq}$  noise levels (all sources) during afternoon were 36 dB(A) at “Illili”, 37 dB(A) at “Ferndale”, 43 dB(A) at “Plain View”, 53 dB(A) at “Lilydale” and 36 dB(A) at “Glendower”. Mine noise was below criteria or inaudible at all sites.
- $L_{Aeq}$  noise levels (all sources) during evening were 36 dB(A) at “Illili”, 36 dB(A) at “Ferndale”, 40 dB(A) at “Plain View”, 40 dB(A) at “Lilydale” and 33 dB(A) at “Glendower”. Mine noise was above criteria at “Plain View” being 40 dB(A), and was also above criteria at “Lilydale”, being 37 dB(A). “Illili” and “Ferndale” both recorded 35 dB(A), with all other monitors below criteria or inaudible.

The noise at “Ferndale”, which was variable in level, was mainly the result of emissions from haul trucks and a dozer. On review of the weather station details it

was confirmed that a temperature inversion was present at the time of monitoring on the morning of the 14<sup>th</sup> May (7:35am). Mine noise at “Plain View” and “Lilydale” was from trucks, engine revs, dozers, horns and dumping noise. Again, at the time of monitoring (6:30pm – 6:50pm), inversion conditions were experienced which would have contributed to the noise exceedances at these sites. As “Lilydale” is a mine owned property, noise compliance criteria does not apply. Further details are provided Appendix 7.

Additionally on the 14<sup>th</sup> May 2010, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CHPP. Several vehicles passed along Torrens Lane going into and out of the CHPP but no coal haulage trucks were present. The noise levels from eight light vehicles and two heavy vehicles passing the site were measured. Over the approximate 1 hour monitoring period the measured Leq noise level from vehicles on Torrens Lane was of 44 dB(A). This is below the noise criterion for a local road of 55 dB(A) Leq (1 hour).

#### **3.10.3.4 August 2010 Noise Monitoring**

On the 30<sup>th</sup> and 31<sup>st</sup> August 2010 attended noise monitoring was undertaken at “Illili” (R4), “Ferndale” (R5), “Plain View” (R6), “Woodlawn” (R7) “Lilydale” (R9) and “Glendower” (R15). “Ivanhoe” (R2) was not recorded as the property is not permanently occupied and access is generally unavailable. Spectrum Acoustics reported that:

- L<sub>Aeq</sub> noise levels (all sources) during the day were 35 dB(A) at “Illili”, 47 dB(A) at “Ferndale”, 39 dB(A) at “Plain View”, 38 dB(A) at “Woodlawn”, 39 dB(A) at “Lilydale” and 38 dB(A) at “Glendower”. Mine noise was below criteria or inaudible at all monitoring locations.
- L<sub>Aeq</sub> noise levels (all sources) during the evening were 34 dB(A) at “Illili”, 34 dB(A) at “Ferndale”, 32 dB(A) at “Plain View”, 33 dB(A) at “Woodlawn”, 43 dB(A) at “Lilydale” and 38 dB(A) at “Glendower”. Mine noise was below criteria or inaudible at all monitoring locations.

Additionally on the 31<sup>st</sup> August 2010, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CHPP. A total of 31 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 13 full and 14 empty coal haulage trucks, 2 full trucks transporting waste from road works on the access road, 1 garbage truck and 1 water cart. Over the approximate 1 hour

monitoring period the measured Leq noise level from vehicles on Torrens Lane was 56 dB(A). This was slightly higher than the noise criterion for a local road of 55 dB(A) Leq (1 hour). As a marginal exceedance only, no additional action was taken as a consequence of the noise monitoring, albeit the result was closely monitored at the next monitoring round to confirm ongoing compliance.

### **3.10.3.5**      *November 2010 Noise Monitoring*

On the 3<sup>rd</sup> and 4<sup>th</sup> November 2010 attended noise monitoring was undertaken at “Illili” (R4), “Ferndale” (R5), “Plain View” (R6), “Lilydale” (R9) and “Glendower” (R15). “Ivanhoe” (R2) was not recorded as the property is not permanently occupied and access is generally unavailable. Spectrum Acoustics reported that:

- L<sub>Aeq</sub> noise levels (all sources) during the day were 57 dB(A) at “Illili”, 43 dB(A) at “Ferndale”, 40 dB(A) at “Plain View”, 38 dB(A) at “Lilydale” and 49 dB(A) at “Glendower”. Mine noise was below criteria or inaudible at all monitoring locations.
- L<sub>Aeq</sub> noise levels (all sources) during the evening were 52 dB(A) at “Illili”, 42 dB(A) at “Ferndale”, 50 dB(A) at “Plain View”, 41 dB(A) at “Lilydale” and 35 dB(A) at “Glendower”. Mine noise was below criteria or inaudible at all monitoring locations.

On the 4<sup>th</sup> November 2010 traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CHPP. Over a one hour period, a total of 11 heavy vehicles travelled along Torrens Lane. These consisted of 7 full and 4 empty coal haulage trucks. The measured Leq noise level from vehicles on Torrens Lane was 53 dB(A) Leq (1 hour). This is in compliance with the noise criterion for a local road of 55 dB(A) Leq (1 hour).

As a consequence of monitoring over the reporting period, the potential for inversion impacts on noise propagation was realised at “Ferndale”, “Lilydale” and “Plain View” during February and May 2010 measurements. “Lilydale” is project related and noise criteria does not apply at this property. With regard to the noise exceedances at “Plain View” and “Ferndale”, the property holders have not raised any concerns with regard to noise levels. Concern has, however, been raised by the residents of the “Glendower” property. Whilst noise monitoring during the reporting period has indicated compliance at the property, the residents have indicated that they have experienced noise impacts from the mine. It has been identified that the most likely

noise source is haul trucks travelling to the ROM pad. The Company has initiated the possibility of a private agreement with the residents and discussions are ongoing.

Sunnyside has taken actions to limit noise impacts through avoiding, where possible, dumping in exposed locations under adverse conditions. Sunnyside has also implemented a revised procedure of communications between dump trucks and excavators during loading procedures. This has involved the installation of a buzzer system in the cabins of the equipment rather than the application of audible horns which can impact on surrounding receivers. It is also expected that over the next AEMR period, when more in-pit space is available, a greater capacity for in-pit dumping during inversion events will further minimise potential for ongoing noise impacts.

### **3.11 Visual, Light**

#### **3.11.1 Management**

Light from the Sunnyside Coal Mine is visible from the Oxley Highway, Quia Road and Coocooboonah Lane, particularly during the winter months. The most affected residences are "Lilydale" (project related), "Ferndale", "Illili", "Glendower" and "Plain View". General lighting at night is restricted to the workshop and office facilities. There are currently four lighting plants in use. These plants run within the operating hours of up to 10pm Monday to Friday and 6pm on Saturdays. The lights are generally directed away from surrounding residences. No issues or complaints have been received by the mine in regards to the use of lighting plants to date.

Management / minimisation of local and more distant visual impacts are achieved by:

- Undertaking activities in accordance with the various management plans applicable to the mine, all of which incorporate safeguards which indirectly reduce visual impact;
- Minimising the extent of land disturbance / clearing in advance of mining;
- Construction of amenity bunds on the northern and eastern boundaries of the mine site;
- Progressive rehabilitation of disturbed areas; and

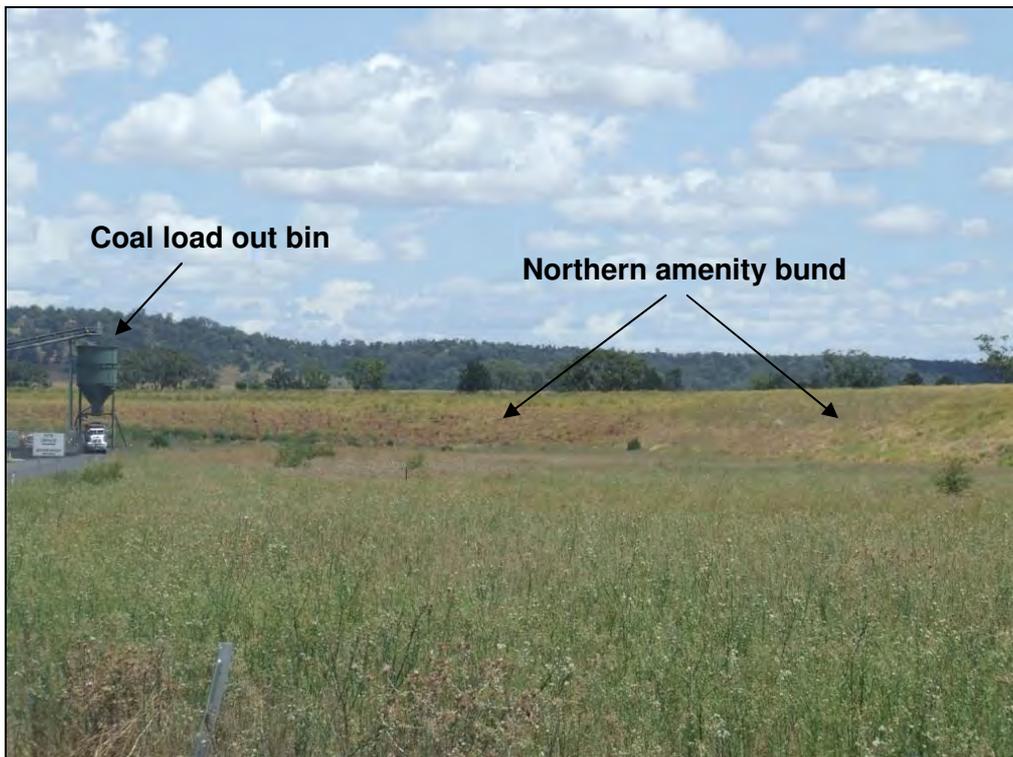
- Sympathetic positioning and direction of lights to avoid impacting on local residences.

### **3.11.2 Performance**

Sunnyside Coal Mine did not receive any complaints during the reporting period which related to visual or light impacts.

The eastern amenity bund was designed to reduce the visual impacts at the “Lilydale” property to the east of the mine. Although “Lilydale” is mine owned the bund provides an effective screen to all residences east of the mine.

The northern amenity bund (Plate 2) continues to reduce visual impacts from Coocooboonah Lane. The bund has established pasture and reduces impact from the coal stockpile and the coal load out bin.



**Plate 2 - Northern Amenity Bund**

All practicable measures are taken to minimise impacts on surrounding landholders, whilst ensuring safe operations at the mine site, and Sunnyside Coal Mine will

endeavour to address any issues or concerns which may be raised by landholders in the future.

## **3.12 Aboriginal Heritage Management**

### **3.12.1 Sites Management and Performance**

An assessment of the cultural heritage of the mine site was conducted by Archaeological Surveys and Reports Pty Ltd (ASR). Prior to the investigation, ASR contacted the Red Chief Local Aboriginal Land Council (LALC) and Bigundi Biame Gunnedarr Traditional People to arrange for site officers to assist in the survey. A representative from each group was present for the site survey conducted on the 12<sup>th</sup> September 2006 and the coal transport route survey on the 7<sup>th</sup> December 2006. The ASR assessment was used in the preparation of the Environmental Assessment for the mine, undertaken by R.W. Corkery & Co. Pty Ltd on behalf of Namoi Mining Pty.

Four sites were recorded during the investigation, as detailed in Table 9. Only one site (AGG1) was recorded within the mine site while the three isolated artefact sites were identified to the south of the mine site.

**Table 9 - Aboriginal Artefacts**

<b>Site Name</b>	<b>Site Type</b>	<b>Site Description/Comments</b>
Sunnyside AGG1	Axe Grinding Groove	Axe grinding groove at the rim of a cliff-like scarp (beside a small water-filled natural depression in the rock). Dimensions: 28cm (L) x 6cm (W) x 2cm (D). Located approximately 150m from the southern side of the open cut area.
Sunnyside ISO1	Isolated Artefact	Flake with possible retouch to one margin located on the bank beside the upper reaches of a dry creek (on a vehicle track). Dimensions: 21 x 12 x 3mm
Sunnyside ISO2	Isolated Artefact	Proximal fragment of a flake located on the bank beside the upper reaches of a dry creek. Dimensions: 22 x 22 x 5mm.
Sunnyside OS1	Artefact Scatter	Artefact scatter of at least ten artefacts in a lozenge-shaped area of 30 x 8m, on the upper slopes downslope of a contour bank downslope of a saddle. Artefact types: flakes and flaked pieces, including a backed blade.
Source: Modified after ASR (2007) – EA SCSC Part 7		

All Aboriginal Heritage sites are managed in accordance with the Sunnyside Coal Mine Aboriginal Cultural Heritage Management Plan, prepared in accordance with Condition 3(32) of PA 06\_0308. The specific management measures for each of the identified sites are as follows:

### **AGG1**

Although the site will not be directly impacted upon by mining operations and associated facilities, there is some potential for indirect impact from fly-rock as the site is located approximately 150 m from the extent of open cut operations.

In consultation with the relevant Aboriginal groups, it was determined that the site requires measures to ensure it is not damaged from flyrock. This has been achieved by the covering of the site with a straw blanket.

### **Sites ISO1, ISO2 and OS1**

Each of these artefact sites are located outside the site boundary and more than 500m from any mining related activity. On this basis no specific protection mechanisms are considered necessary.

In the event that additional protective measures are required in the future, Sunnyside Coal Mine will initiate such actions in consultation with local Aboriginal groups and the DECCW.

## **3.12.2 Consultation**

Sunnyside Coal Mine, through the soil stripping contractor, regularly consults with representatives of the local Aboriginal community. In accordance with the agreement with the representative aboriginal groups, notification of planned topsoil stripping is provided by the soil stripping contractor directly to the nominated Aboriginal site monitors approximately 2 to 3 days in advance of planned activities.

Given that pre-stripping (separate stripping of topsoil, subsoil and friable overburden) is undertaken well in advance of mining and the soil stripping contractor is also engaged in other activities on the mine site, the flexibility exists to delay topsoil stripping activities should the situation ever arise in the future where monitors are temporarily unavailable.

During the reporting period, no cultural material of significance was identified during soil stripping activity. To date, the measures in place to protect Aboriginal Cultural Heritage are considered satisfactory, with all measures identified in the EA and consent criteria in place. No additional Aboriginal Cultural Heritage items have been discovered during the operation of the mine over the reporting period.

### **3.13 Natural Heritage**

There are no features of Natural Heritage within the Project Approval Area and hence, no specific management procedures are required.

### **3.14 Spontaneous Combustion**

#### **3.14.1 Management**

Sunnyside Coal Mine is located within the Hoskissons Coal Seam which has been mined for over 120 years with a number of reported outbreaks of spontaneous combustion. Tests have confirmed that coal from the Sunnyside Coal Mine has the potential to spontaneously combust. On this basis, a Spontaneous Combustion Management Plan has been developed to prevent and manage spontaneous combustion issues.

In the event of spontaneous combustion, Sunnyside Coal Mine personnel are present within the area of the ROM coal stockpiles during work hours and are trained to watch for indications of spontaneous combustion. Any incident would be followed by excavation to identify the source and extinguishment through water saturation.

#### **3.14.2 Performance**

There were no incidents of spontaneous combustion during the reporting period.

## **3.15 Bushfire Management**

### **3.15.1 Management**

Sunnyside Coal Mine is located within an area of cleared agricultural land. The mine maintains fire fighting equipment as well as earthmoving equipment and a water truck which could be used in the control of fires. Sunnyside personnel also liaise with the local (Coocoofoonah) Rural Fire Service, as required.

### **3.15.2 Performance**

There have been no bushfire incidents on or adjacent to the mine site since development commenced.

## **3.16 Mine Subsidence**

Mine subsidence is not an issue with open cut mines and hence it is not an issue with the Sunnyside Coal Mine.

## **3.17 Hydrocarbon Contamination**

### **3.17.1 Management**

It is Sunnyside Coal Mine's objective that:

- All bulk hydrocarbons, i.e. fuel, oils, grease etc (both new and waste) retained at the mine be contained within bunded areas within the contained water management system as described in Section 2.9.2.
- All fixed or portable equipment incorporate self-contained bunding;
- Hydrocarbon-contaminated materials be disposed of appropriately; and
- Minor spillages, if occurring, are cleaned up and the contaminated soil either bio-remediated or transferred off-site to an appropriately licensed waste disposal area.

Major spillages, if occurring, would be treated in the mine's Hydrocarbon Management Plan.

### 3.17.2 Performance

Sunnyside Coal Mine's procedures for hydrocarbon management have been effective throughout the reporting period with:

- No surface or groundwater contamination evident or reported by landowners;  
and
- No requirement for off-site disposal of contaminated materials.

### 3.17.3 Greenhouse Gas Emissions

#### Diesel Consumption

During the reporting period, a total of 1,964,305 litres of diesel fuel was used on site for mining related activity. Assuming an energy content of diesel fuel of 38.6MJ/L, and using Table 3 of the "National Greenhouse Accounts (NGA) Factors" – November 2008, the estimated direct – scope 1, Greenhouse Gas Emissions including all CO<sub>2</sub> and non CO<sub>2</sub> gases are as follows.

**Table 10 - GHG Emissions - Diesel Fuel**

	<b>Diesel Fuel Usage kL</b>	<b>Emission Factor T CO<sub>2</sub>-e/kL</b>	<b>Equivalent Tonnes</b>
<b>GHG 2009/10</b>	1964	2.7	5,302

The site does not utilise electricity from the power grid, but via a number of diesel powered gensets. The emissions associated with diesel consumption by the gensets are included in the table above.

#### Explosives

During the reporting period, a total of 1,728 t of explosives was used at Sunnyside Coal Mine. Assuming a conversion factor of 0.1778, it is estimated that blasting at the mine yielded 307 equivalent tonnes of CO<sub>2</sub>.

#### Fugitive Emissions

ROM coal production is used to estimate fugitive emission factors. Based on 298,492 tonnes of ROM coal production during the reporting period and a conversion factor of 0.045 (from Table 8 of the "National Greenhouse Accounts (NGA) Factors" –

November 2008), it is estimated that 13,432 tonnes of CO<sub>2</sub> were emitted during the reporting period.

#### Summary

A summary of calculated total CO<sub>2</sub> equivalent tonnes/year for the reporting period is provided in Table 11.

**Table 11 - GHG Emissions Summary**

<b>Source</b>	<b>Calculated Total CO<sub>2</sub> Equivalent tonnes/year</b>
Diesel	5,302
Explosives	307
Fugitive Emissions	13,432
<b>TOTAL</b>	<b>19,041</b>

The potential for reducing greenhouse gas emissions at Sunnyside is related predominantly to consumption of diesel use by plant and equipment. Methods are in place at site to maximise efficiency from the mining fleet through regular maintenance scheduling and, where possible, minimising the gradient and length of loaded haul runs for the operating dump trucks.

Sunnyside Coal Mine is committed to a reduction in emission levels as a result of operations at the mine site. As part of this process, the mine continues to operate a newer fleet of new Caterpillar rear dump trucks which burn less diesel fuel as compared to older trucks with the same capacity. Fuel burn during the reporting period was approximately 6.5 litres/tonne ROM coal as compared to 20 litres/tonne ROM coal in the previous reporting period which was skewed by higher tonnages of overburden and lower volumes of coal associated with the start-up of the mine.

In addition to this, the coal haulage contractor, Toll Resources continues to utilise a fleet of purpose built B-Doubles with the prime movers specifically engineered to comply with emission and noise criteria. This includes being speed limited to 94km/hr which has been determined as the optimum operating speed in terms of operational and fuel efficiency.

The Whitehaven Group has recently registered with the Commonwealth's Energy Efficiency Opportunities Program, which requires the completion of an Assessment

and Reporting Schedule, and subsequent identification of energy efficiency improvements. As part of this process, the Sunnyside operation will be reviewed and reported against for energy efficiency improvements over the life of the Assessment and Reporting Schedule.

### **3.18 Methane Drainage / Ventilation**

Methane drainage / ventilation are not of relevance to open cut mines and hence are not an issue at Sunnyside Coal Mine.

### **3.19 Public Safety**

#### **3.19.1 Management**

The Sunnyside Coal Mine is located wholly on NMPL owned land in a relatively remote area. The northern boundary of the mine site is adjacent to Coocooboonah Lane, an unsealed road used by local traffic only. The site is fenced and appropriate signs have been installed. The access gate is locked when the mine is not operating.

Visitors to the mine are required to report to the mine office and unauthorised personnel are not permitted to move around the mine area unaccompanied. Procedures are in place with respect to blasting to ensure the area around each blast site is clear of personnel and that all surrounding residents are advised in advance of proposed blasts.

#### **3.19.2 Performance**

The procedures in place have been effective throughout the reporting period.

### **3.20 Feral Animal Control**

Feral animals are not a significant land management issue on Sunnyside Coal Mine's landholding and are limited to isolated occurrences of foxes, hares and rabbits.

In view of the low frequency of occurrence, and in the absence of an extensive programme by all surrounding landowners, no broad scale feral animal control programme was considered warranted during the reporting period.

In accordance with prior commitments, Sunnyside Coal will continue to monitor feral animal occurrences and implement necessary control programmes if and when necessary.

### **3.21 Land Capability**

All land currently disturbed by mining is classified as Land Capability Class II and III with the remaining areas to be disturbed over the life of the approved mine primarily comprising the same classes as well as Class VII.

On completion of all mining activities, the successful rehabilitation of areas of disturbance and the relinquishment of the mining leases, the land affected by mining within the Project Approval area will, in the main, be returned to a classification similar to that prior to mining. Sections of the waste emplacement will be returned to Class IV whilst the depression formed by the re-shaped final void will be Class VIII.

### **3.22 Meteorological Monitoring**

#### **3.22.1 Introduction**

The Sunnyside meteorological station, shown on Figure 3, has been operating continuously since 2007 recording 15 minute wind speed, wind direction, temperatures, humidity and rainfall.

Daily meteorological data for is presented in Appendix 8.

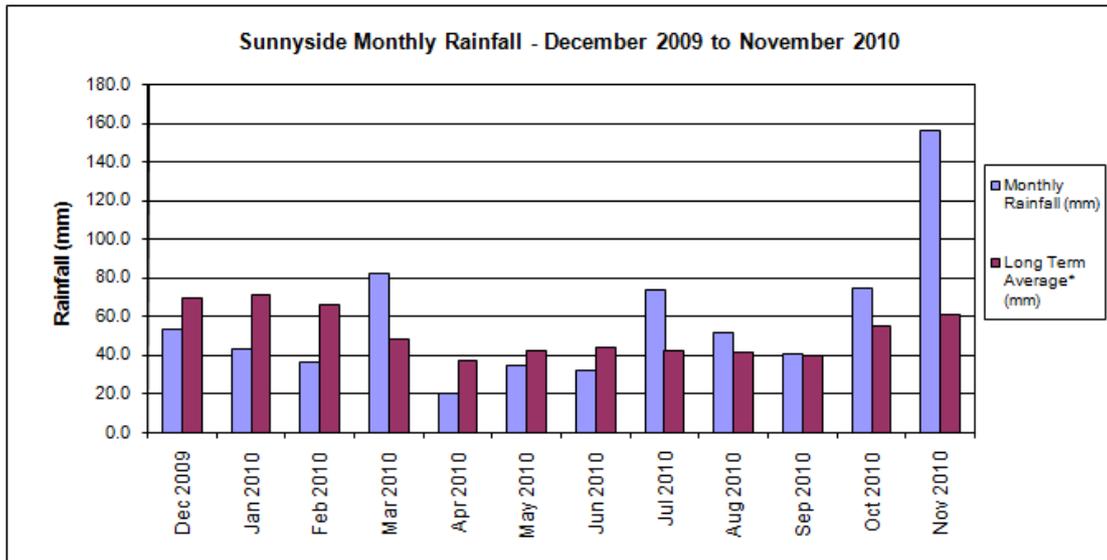
#### **3.22.2 Rainfall**

Rainfall data from the previous 12 months is presented in Table 12 and Figure 6. Full station data is presented in Appendix 8.

**Table 12 - Rainfall Data  
(December 2009 – November 2010)**

Month	Monthly Rainfall Reporting period	Long Term Average Rainfall* <sup>1</sup>	Raindays Reporting period	Long Term Average Raindays* <sup>1</sup>
December 2009	53.6	68.6	10	7
January 2010	43.2	71.3	11	6.5
February 2010	36.6	66.5	7	6.1
March 2010	82.0	48.1	7	4.7
April 2010	20.6	37.7	5	4.3
May 2010	34.8	42.4	6	5.1
June 2010	32.0	43.9	16	6.3
July 2010	73.8	42.7	14	6.3
August 2010	52.0	41.3	18	6.2
September 2010	41.0	39.9	15	5.8
October 2010	74.8	55.4	10	6.9
November 2010	156	61.3	12	6.8
<b>TOTAL</b>	<b>700.4</b>	<b>619.1</b>	<b>131</b>	<b>72</b>

\*<sup>1</sup>Gunnedah Pool (Station 055 023) averages from 1876-2010.



**Figure 6 - Monthly Rainfall Data**

A review of Table 12 and Figure 6 shows that the total rainfall at the mine during the reporting period was 700.4mm. This is considered to be an underestimate of total rainfall as comparisons to the onsite manual rain gauge and BOM data indicated much higher rainfall during the months of December 2009 – February 2010. It is believed that the weather station may have not recorded rainfall accurately due to a blockage in the rain gauge.

The total rainfall recorded at the site was 81.3mm higher than the annual average rainfall for Gunnedah and 289mm higher than the previous reporting period. Below average rainfall was recorded for 6 months of the year. However, as discussed above it is believed that recorded rainfall for December 2009 – February 2010 was less than that recorded at the BOM station which indicated above average rainfall for these months. Above average falls occurred in March, and more notably the second half of the year being July, August, September, October, and November. November rainfall was 156mm, more than twice the long term average for that month.

A high number of rain days occurred during the reporting period, where it exceeded the annual average by 59 days. Monthly rain day averages was exceeded in every month, with more rain days occurring in the second half of 2010.

### 3.22.3 Temperature

Average maximum and minimum temperatures for the reporting period are presented in Table 13 together with long-term monthly averages for Gunnedah Pool (Bureau of Meteorology Station 055023).

**Table 13 - Average Monthly Temperatures  
(December 2009 – November 2010)**

Month	Average Daily Temperature			
	Reporting period (°C)		Station 055023 (Gunnedah Pool)* (°C)	
	Min	Max	Min	Max
December 2009	19.0	32.9	16.8	33.0
January 2010	19.2	33.6	18.3	34.0
February 2010	18.0	28.8	18.1	32.9
March 2010	16.6	29.7	15.8	30.7
April 2010	12.1	26.0	11.4	26.4
May 2010	6.7	21.4	7.1	21.3
June 2010	4.7	17.1	4.3	17.6
July 2010	5.2	16.8	3.0	16.9
August 2010	4.1	17.0	4.2	18.9
September 2010	7.7	21.2	7.0	22.8
October 2010	11.4	24.2	10.7	26.7
November 2010	14.5	26.2	14.1	30.3

\* Gunnedah Pool (Station 055 023) averages from 1876-2010.

Table 13 shows that:

- Average minimum temperatures at the mine site were above the Gunnedah average for the majority of the reporting year, except for February 2010, May 2010 and August 2010 which were similar to the Gunnedah averages.
- Average maximum temperatures were similar to Gunnedah averages for 7 months of the year. Lower than average temperatures were recorded in February, August, September, October and November 2010.

### **3.22.4 Wind Speed and Direction**

Fifteen minute average wind speed and direction data is collected from the meteorological station as it, together with operational records and environmental monitoring results, can be used to assess the environmental effects or consequences of specific activities undertaken at the mine or in surrounding areas.

Monthly wind roses are presented in Appendix 8, and show the following:

- The predominant wind direction during the reporting period was from the east/south-east.
- Wind speeds were generally in the range of 1-5m/s, with gusts greater than 5m/s.
- Westerly winds, often at speeds greater than 5m/s, were more prevalent in August 2010.

### **3.22.5 Inversions**

Sunnyside's meteorological station is fitted with temperature sensors at 2m and 10m intervals to assist in the determination of inversion conditions. Meteorological data was used to identify inversion conditions which were present during recorded noise exceedances in May 2010 (see Section 3.10.3).

## 4 COMMUNITY RELATIONS

### 4.1 Environmental Complaints

Sunnyside Coal Mine maintains a designated complaints line, with messages checked on a daily basis (seven days/week) by the Environmental Manager. In the event of a complaint, details pertaining to the complainant, complaint and action taken are recorded on a "Complaints Form".

Two complaints were received during the reporting period in relation to operations at Sunnyside Coal Mine. Both complaints were received during Community Consultative Committee (CCC) meetings. No complaints were received via the designated complaints line. The nature of the complaints, details and responses to each complaint are presented in Table 14.

**Table 14 - Complaints Summary**

<b>Date/Time of Complaint</b>	<b>Complainant</b>	<b>Nature of Complaint</b>	<b>Investigation</b>	<b>Action Taken / Follow-up</b>
9 <sup>th</sup> June 2010 3:00pm	Stephen Benham (GSC rep Sunnyside CCC) on behalf of an undisclosed complainant.	Concern about Toll trucks cornering too quickly at the Coocoboona Lane/Oxley Highway intersection resulting in the trucks not remaining within the dedicated acceleration lane.	Matter referred to Leigh Lamey (Toll HSE Compliance Officer). Leigh advised that matter would be raised at next round of toolbox talks and Whitehaven would be advised when toolbox talks were completed.	Toolbox talks completed and copies of attendance records provided to Sunnyside Project Manager.
8 <sup>th</sup> September 2010 3:00pm	Andrew Kennedy (community representative on Sunnyside CCC) on behalf of the "Glendower" residents.	Concern regarding ongoing noise from the mine site, particularly at night with the extended operating hours.	A meeting was held with the "Glendower" residents on 13 <sup>th</sup> September 2010 to discuss their concerns. At the time of their complaint it was identified that haul trucks to the ROM pad were most likely the noise source.	As a means of addressing their concern the option of a private agreement in relation to noise levels was raised and discussions are ongoing.

Any complaints that are made are reported to the Community Consultative Committee and documented in the AEMR as shown above. Last reporting period, three complaints were recorded, compared to two for this reporting period. It is evident from the infrequent nature of complaints received that there are not any systemic issues of concern for the Sunnyside operation.

## **4.2 Employment Status, Demography and Socio-Economic Contributions**

### **4.2.1 Employment Status and Demography**

During the reporting period, the mine had an average of 8 full-time and 6 permanent casual personnel. Additional personnel were employed by contractors in the haulage of coal from the mine site back to the Whitehaven CHPP. All mine related employees reside in the Gunnedah area.

### **4.2.2 Social and Economic Contributions**

In addition to direct and indirect employment, and the purchase of goods and services from local suppliers, the Whitehaven Group continues to support the local community. Namoi Mining Pty Ltd has contributed over \$150,000 to the community during the reporting period. Whitehaven also contributes to the annual maintenance of the haul roads for this mine.

Whitehaven also contributes to the provision of cadetships and vacation work to a number of young students from the regional area who study at various universities.

As members of the Gunnedah / Boggabri area community, mine-related employees also contribute socially and economically through their involvement in community sporting, educational and social organisations and expenditure of a component of their disposable income.

## **4.3 Community Liaison**

In accordance with Condition 9 of Schedule 5 of PA 06\_0308 a Community Consultative Committee (CCC) was formed in January 2009. The committee, which meets on a quarterly basis, comprises representatives of Gunnedah Shire Council, Sunnyside Coal Mine and the community and is chaired by Mr Michael Broekman.

During the reporting period meetings were held on the 9<sup>th</sup> December 2009, 10<sup>th</sup> March 2010, 9<sup>th</sup> June 2010 and 8<sup>th</sup> September 2010.

Sunnyside Mine representatives and Whitehaven's Community Liaison Officers (1 x full time, 1 x part time) continue to maintain regular personal contact with the neighbours in the vicinity of the mine. These contacts not only provide a means of information dissemination, but also enable Whitehaven to ascertain and address any potential issues which may arise from time to time.

Community organisations and other local businesses and institutions regularly identify an interest with activities occurring at the mine site. In this regard, and to maintain links with those business and community members, information is provided as required, and on occasion, guided tours of the facility have been undertaken.

## **5 REHABILITATION**

### **5.1 Buildings**

No further removal of buildings was undertaken over the reporting period. The former “Sunnyside” residence remains on an adjacent property for future use by that landholder.

### **5.2 Rehabilitation of Disturbed Land**

#### **5.2.1 Objectives**

Sunnyside Coal Mine’s rehabilitation/land use objectives for the mine site are as follows:

##### **(a) Areas affected by mining – short term**

- (i) Stabilising all earthworks, drainage lines and disturbed areas that are no longer required for mine related activities; and
- (ii) Reducing the visibility of mining activities from adjacent properties and the local road network.

##### **(b) Areas affected by mining – long term**

- (i) Creating a low maintenance, geotechnically stable and safe landform which is commensurate with the agricultural and nature conservation land uses on and around the mine site;
- (ii) Blending of the final landform with the surrounding topography such that the visual impact of the post-mining landform is minimised; and
- (iii) Re-establishing 100ha of agricultural land over the areas disturbed by the mine with approximately 16ha of land rehabilitated to a woodland vegetation community.

**(c) Areas to be unaffected by mining**

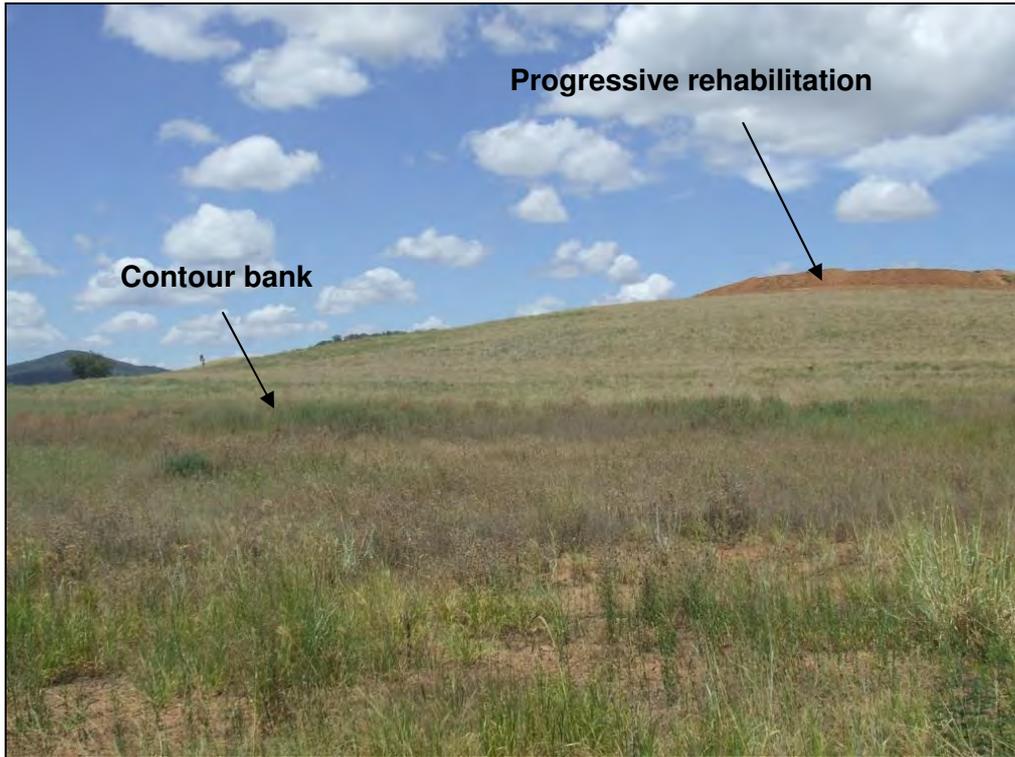
- (i) Stock exclusion through fencing of the entire mining lease. This includes areas disturbed and rehabilitated with native vegetation and existing agricultural land fenced to exclude stock and allowed to naturally revegetate.

**5.2.2 Achievements During the Reporting Period**

Table 15 and Table 16 present a Rehabilitation Summary and listing of maintenance activities as required in the DMR Guidelines. Areas disturbed during the previous reporting period now have well established grass cover, as shown in Plate 3. Rehabilitation works have commenced on the lower batter of the waste emplacement, as identified Plate 4. In addition to this, works have commenced on providing for enhancements to the koala habitat in the area, with ripping of tree lines undertaken and initial plantings of koala feed tree species (160 White Box and Yellow Box trees).



**Plate 3 - Established Pasture on Northern Drainage Line**



**Plate 4 - Pasture Establishment on Lower Batter of Waste Emplacement**

Table 15 - Rehabilitation Summary

	Area Affected (hectares)		
	This Report Period (as of 30.11.10)	Last Report Period (30.11.09)	Cumulative Next Report Period (estimated)
<b>A: MINE LEASE AREA</b>			
<b>A1 Mine Lease(s) Area</b>			
<b>B: DISTURBED AREAS</b>			
<b>B1 Infrastructure area</b> (other disturbed areas to be rehabilitated at closure including facilities, roads)	11.8	9.9	11.8
<b>B2: Active Mining Area</b> (excluding items B3 - B5 below)	26.3	18.9	32.9
<b>B3 Waste emplacements,</b> (active/unshaped/in or out-of-pit)	16.8	31	16.8
<b>B4 Tailings emplacements,</b> (active/unshaped/uncapped)	N/A	N/A	N/A
<b>B5 Shaped waste emplacement</b> (awaits final vegetation)	1.6	4	3
<b>ALL DISTURBED AREAS</b>	56.5	63.8	64.5
<b>C REHABILITATION PROGRESS</b>			
<b>C1 Total Rehabilitated area*</b> (except for maintenance)	14.38**	N/A	25.3
<b>D: REHABILITATION ON SLOPES</b>			
<b>D1 10 to 18 degrees</b>	2.4	0	0
<b>D2 Greater than 18 degrees</b>	0	0	0
<b>E: SURFACE OF REHABILITATED LAND</b>			
<b>E1 Pasture and grasses</b>	14.38**	0	25.3
<b>E2 Native forest/ecosystems*</b>	0	0	0
<b>E3 Plantations and crops</b>	0	0	0
<b>E4 Other</b> (include non vegetative outcomes)	0	0	0

F1

F2

\* Areas with established tube stock are considered to be "native forest/ecosystem" and contribute to the Total Rehabilitated Area. "Pasture and Grasses" includes areas with recently planted tube stock that are not yet established.

\*\* Includes area for northern and eastern amenity bunds

**Table 16 - Maintenance Activities on Rehabilitated Land**

NATURE OF TREATMENT	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report period	Next period	
<b>Additional erosion control works</b> (drains re-contouring, rock protection)	Nil	Nil	
<b>Re-covering</b> (detail - further topsoil, subsoil sealing etc)	Nil	Nil	
<b>Soil treatment</b> (detail - fertilizer, lime, gypsum etc)	Nil	Nil	
<b>Treatment/Management</b> (detail - grazing, cropping, slashing etc)	Nil	Nil	
<b>Re-seeding/Replanting</b> (detail - species density, season etc)	Nil	Nil	
<b>Adversely Affected by Weeds</b> (detail - type and treatment)	2	6	
<b>Feral animal control</b> (detail - additional fencing, trapping, baiting etc)	Nil	Nil	

### 5.3 Rehabilitation Monitoring and Performance

As rehabilitation only commenced on site during this reporting period, it is not possible to undertake any significant monitoring of rehabilitation efforts. This will take place over time as rehabilitation becomes established and can be compared to control plots established over the reporting period.

In terms of the rehabilitation that was completed this period, a good cover was achieved on the reshaped waste emplacement as a consequence of the above average rainfall. Initial tree planting in these areas will take place during the Autumn/Winter period.

## **6 CONTINUOUS IMPROVEMENT AND TARGET INITIATIVES**

### **6.1 Objectives**

Namoi Mining Pty Ltd has an ongoing commitment to environmental management and aims to minimise any adverse impacts on the physical, biological, cultural and socio-economic environment in the area of the mine and in surrounding areas.

Improvements in environmental management will be achieved through the effective implementation of the operational and monitoring aspects of the Mining Operations Plan, which in turn, will incorporate relevant aspects of various management plans and monitoring programs prepared in accordance with the Mine's Project Approval.

### **6.2 Achievements to Date**

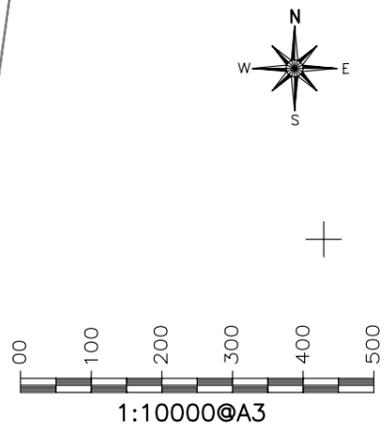
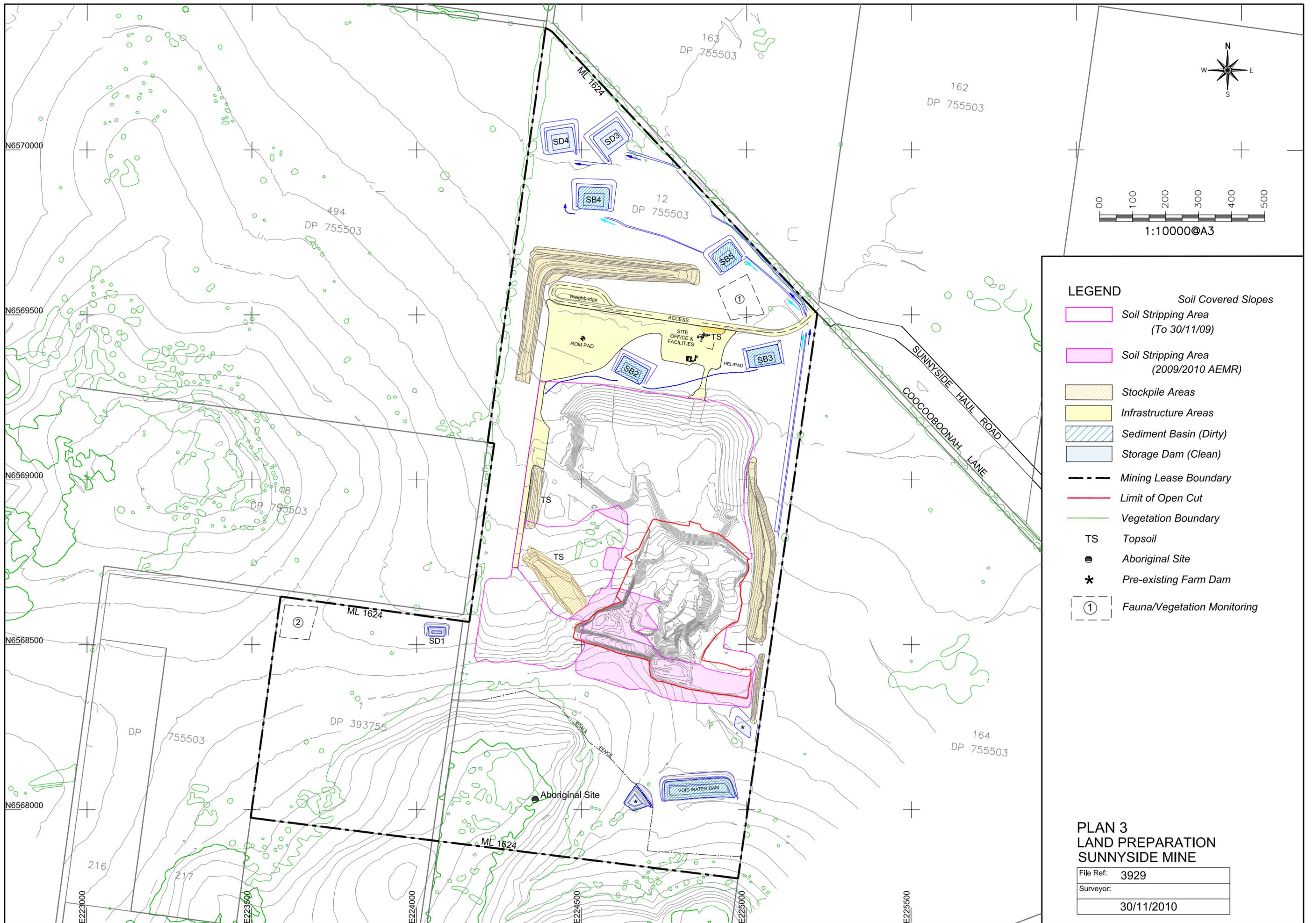
Achievements at the mine over this reporting period have included:

- The continued implementation of a working environmental management program and the establishment of culture of environmental awareness / responsibility within all levels of the workforce;
- Routine implementation of all relevant aspects of approved management plans;
- Inclusion of the operation into the Whitehaven Group Energy Efficiency Opportunities Program and the requirement to investigate efficiency measures;
- The establishment and maintenance of an open and honest relationship with the neighbours, community in general, regulatory authorities, Local Government and other groups such as the local Aboriginal community;
- Demonstration of adequate surface water controls, with no discharge from site despite above average rainfalls over the period;
- Commencement of initial rehabilitation of the lower slopes of the rehabilitated waste emplacement;
- Commencement of koala habitat enhancement, with establishment of rip-lines and initial plantings of koala feed tree species; and

- Implementation of monthly site environmental inspection to allow identification of any issues requiring attention.

### **6.3 Targets and Goals**

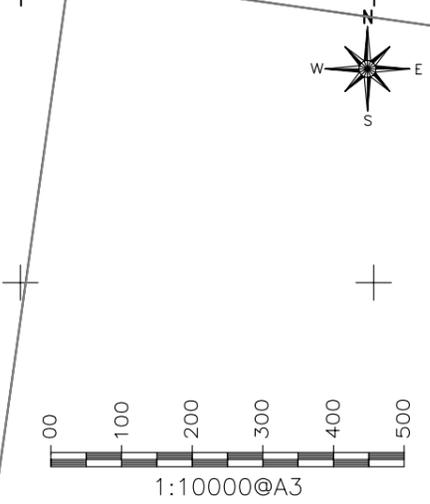
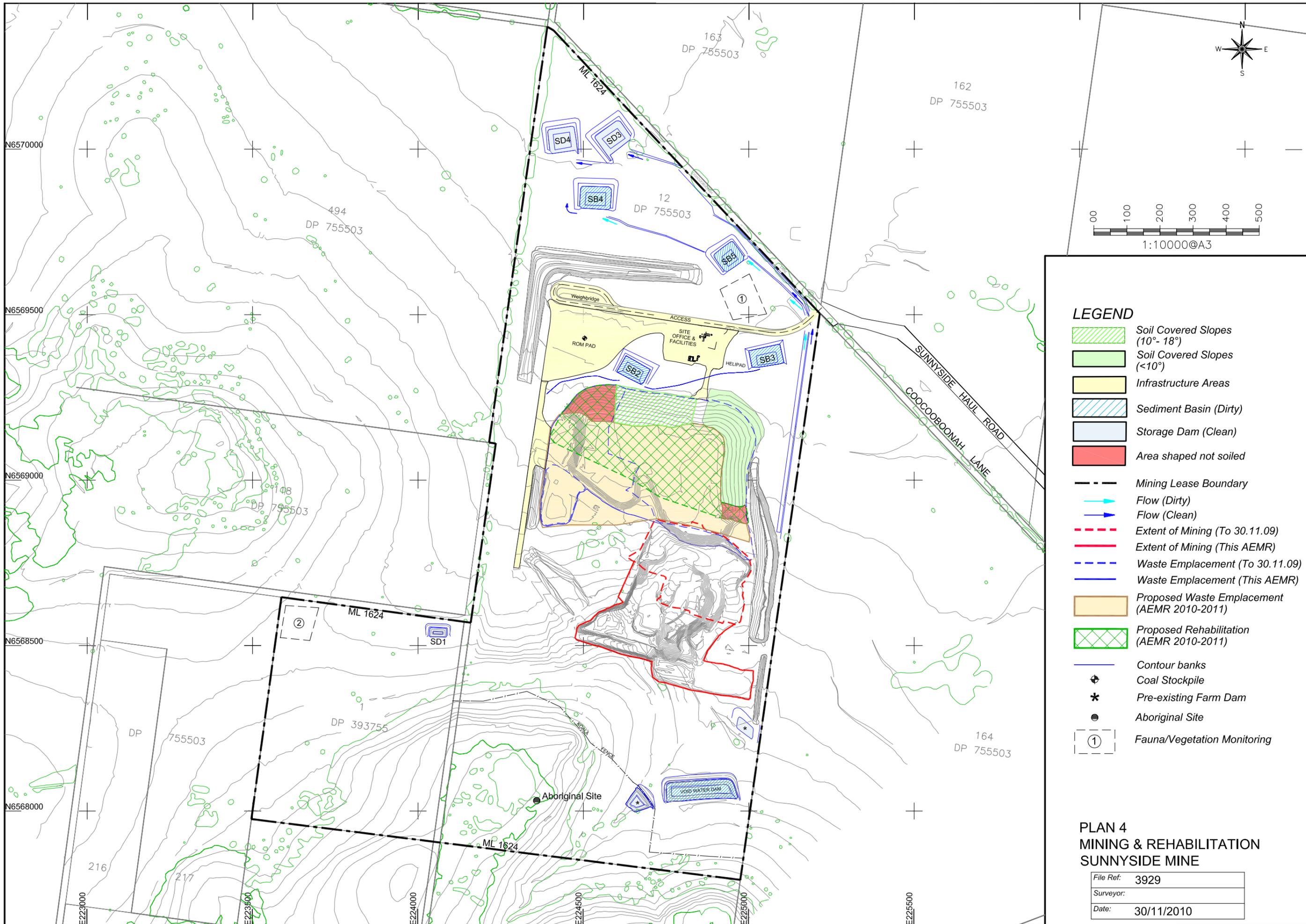
- The ongoing development of rehabilitation of the reshaped out of pit overburden emplacement;
- Approval to the submitted Rehabilitation and Landscape Management Plan;
- Continued community liaison, support and involvement / education in the mines activities;
- Compliance with all relevant conditions of the lease, licences and consents;
- Ongoing development of the koala habitat enhancement area; and
- Improved outcomes relating to noise impacts to minimise effects on surrounding neighbours;
- Commencement of woodland establishment on the rehabilitated waste emplacement.



- LEGEND**
- Soil Stripping Area (To 30/11/09)
  - Soil Stripping Area (2009/2010 AEMR)
  - Stockpile Areas
  - Infrastructure Areas
  - Sediment Basin (Dirty)
  - Storage Dam (Clean)
  - Mining Lease Boundary
  - Limit of Open Cut
  - Vegetation Boundary
  - TS Topsoil
  - Aboriginal Site
  - \* Pre-existing Farm Dam
  - ① Fauna/Vegetation Monitoring

**PLAN 3  
LAND PREPARATION  
SUNNYSIDE MINE**

File Ref:	3929
Surveyor:	
	30/11/2010



- LEGEND**
- Soil Covered Slopes (10°- 18°)
  - Soil Covered Slopes (<10°)
  - Infrastructure Areas
  - Sediment Basin (Dirty)
  - Storage Dam (Clean)
  - Area shaped not soiled
  - Mining Lease Boundary
  - Flow (Dirty)
  - Flow (Clean)
  - Extent of Mining (To 30.11.09)
  - Extent of Mining (This AEMR)
  - Waste Emplacement (To 30.11.09)
  - Waste Emplacement (This AEMR)
  - Proposed Waste Emplacement (AEMR 2010-2011)
  - Proposed Rehabilitation (AEMR 2010-2011)
  - Contour banks
  - + Coal Stockpile
  - \* Pre-existing Farm Dam
  - Aboriginal Site
  - ① Fauna/Vegetation Monitoring

**PLAN 4  
MINING & REHABILITATION  
SUNNYSIDE MINE**

File Ref:	3929
Surveyor:	
Date:	30/11/2010

# Appendix 1

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PA 06\_0308

# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent and/or minimise adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.



The Honourable Kristina Keneally MP  
Minister for Planning

24/9/08

Sydney

2008

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### SCHEDULE 1

<b>Application No:</b>	06_0308
<b>Proponent:</b>	Namoi Mining Pty Limited
<b>Approval Authority:</b>	Minister for Planning
<b>Land:</b>	See Appendix 1
<b>Project:</b>	Sunnyside Coal Project

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## DEFINITIONS

AEMR	Annual Environmental Management Report
AgQuip	The AgQuip Festival, held at Blackjack Road, generally during the 3 <sup>rd</sup> week in August
BCA	Building Code of Australia
CCC	Community Consultative Committee
CHPP	Coal handling and preparation plant
Council	Gunnedah Shire Council
Day	The period from 7am to 6pm on Monday to Saturday
DECC	Department of Environment and Climate Change
Department	Department of Planning
Director-General	Director-General of Department of Planning, or delegate
DPI	Department of Primary Industries
DWE	Department of Water and Energy
EA	Environmental Assessment prepared for Namoi Mining Pty Limited entitled <i>Environmental Assessment Sunnyside Coal Project via Gunnedah and Specialist Consultant Studies Compendium, Volumes 1 &amp; 2 (April 2008)</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>
Evening	The period from 6pm to 10pm
Land	The whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Material harm to the environment	Material harm to the environment as defined in <i>Protection of the Environment Operations Act 1997</i>
Mining operations	The removal and emplacement of overburden and the extraction, processing and transportation of coal on and from the site
Minister	Minister for Planning, or delegate
Privately-owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary)
Proponent	Namoi Mining Pty Limited or any other person or persons who rely on this approval to carry out the project that is subject to this approval
Project	The Sunnyside Coal Project described in the EA
Reasonable and Feasible	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements. Feasible relates to engineering corrections and what is practical to build
RTA	Roads and Traffic Authority
ROM	Run-of-mine
Site	Land to which the project application applies (see Appendix 1 and 2)
Statement of Commitments	The Proponent's Final Statement of Commitments for Site Operations and Management in Appendix 3

## **SCHEDULE 2 ADMINISTRATIVE CONDITIONS**

### **Obligation to Minimise Harm to the Environment**

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

### **Terms of Approval**

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) Sunnyside Coal Project Response to Public and Government Agency Submissions (June 2008);
  - (c) Sunnyside Coal Project Supplementary Response to Submissions (July 2008);
  - (d) Statement of Commitments (see Appendix 3); and
  - (e) conditions of this approval.

*Notes:*

- *The general layout of the project is shown in Figure 1 of Appendix 2; and*
- *The Statement of Commitments is reproduced in Appendix 3.*

3. If there is any inconsistency between the above documents, the latter document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable and feasible requirements of the Director-General arising from the Department's assessment of:
  - (a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with the conditions of this approval; and
  - (b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.

### **Limits on Approval**

5. Mining operations may take place on the site for 7 years from the grant of the mining lease for the project.

*Note: Under this Approval, the Proponent is required to rehabilitate the site to the satisfaction of the Director-General and DPI. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.*

6. The Proponent shall not extract more than 1 million tonnes of ROM coal a year from the site.
7. The Proponent shall use the coal transport route shown in Figure 2 of Appendix 2 to transport all coal from the site to the Whitehaven Siding CHPP.

### **Hours of Operation**

8. Construction activities may take place only between 7 am to 6 pm each Monday to Friday and 7 am to 4 pm on Saturdays, and not on Public Holidays.
9. Mining operations may take place only between 7 am to 10 pm each Monday to Friday and 7 am to 6 pm on Saturdays, and not on Public Holidays.
10. Transport of coal may take place only between 7 am to 6 pm Monday to Friday (or between 7 am to 8 pm during Eastern Summer Time) and between 7 am to 4 pm on Saturdays, and not on Public Holidays.

*Note: See condition 39 of Schedule 3.*

### **Management Plans / Monitoring Programs**

11. With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.

### **Structural Adequacy**

12. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

*Notes:*

- *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

### **Demolition**

13. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

### **Operation of Plant and Equipment**

14. The Proponent shall ensure that all plant and equipment used on site is:
- (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

### **Community Enhancement Funds**

15. By 31 November 2008, and on each anniversary of that date until and including 2012, the Proponent shall provide development contributions of \$100,000 per annum to the Gunnedah Shire Council for expenditure by the Council on community enhancement projects.

## SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

### ACQUISITION OF AFFECTED PROPERTIES

#### Acquisition Upon Request

1. Upon receiving a written request for acquisition from the owner of "Lilydale", the Proponent shall acquire the land in accordance with the procedures in conditions 8-10 of schedule 4.

### NOISE

*Note: These conditions must be read in conjunction with Section 8 of the Statement of Commitments.*

#### Construction Noise Impact Assessment Criteria

2. The Proponent shall ensure that the noise generated during the construction of the project does not exceed the level set out in Table 1.

*Table 1: Construction noise impact assessment criterion dB(A)*

<b>Day/Evening</b>	<b>Land</b>
<b><math>L_{A10(15\text{ minute})}</math></b>	
40	Any residence on, or more than 25% of, any privately owned land (except at "Lilydale")

#### Operational Noise Impact Assessment Criteria

3. The Proponent shall ensure that the noise generated during mining operations and other activities on the site does not exceed the level set out in Table 2:

*Table 2: Operational noise impact assessment criterion dB(A)*

<b>Day/Evening</b>	<b>Land</b>
<b><math>L_{Aeq(15\text{ minute})}</math></b>	
35	Any residence on, or more than 25% of, any privately owned land (except at "Lilydale")

#### Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- These limits apply under meteorological conditions of:
  - wind speeds of 3 m/s at 10 metres above ground level; or
  - up to 3°C/100 m temperature inversion strength for all receivers, plus a 2 m/s source-to-receiver component drainage flow wind at 10 metres above ground level for those receivers where applicable.

However, if the Proponent has a written negotiated noise agreement with the landowner of any land, and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 or Table 2 on that land in accordance with the negotiated noise agreement.

## Land Acquisition Criteria

4. If the noise generated by the project exceeds the level in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 8-10 of schedule 4.

Table 3: Land acquisition criterion dB(A)

<b>Day/Evening</b>	<b>Land</b>
<b><math>L_{Aeq(15\text{ minute})}</math></b>	
40	Any residence on, or more than 25% of, any privately owned land (except at "Lilydale")

Note: Noise generated by the project is to be measured in accordance with the notes presented below Table 1.

## Additional Operational Noise Mitigation Measures

5. Upon receiving a written request from the landowner of:
- "Illili", "Ferndale", or
  - any residence on privately owned land where noise generated by the project exceeds 37 dB(A)  $L_{Aeq(15\text{ minute})}$ ,

the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.

These additional mitigation measures must be reasonable and feasible.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Within 3 months of this approval, the Proponent shall notify all applicable landowners of their entitlements under this condition.

## Traffic Noise Impact Assessment Criteria

6. The Proponent shall implement all reasonable and feasible measures to ensure that the traffic noise generated by the project combined with the traffic noise generated by other mines does not exceed the level in Table 4:

Table 4: Traffic noise criterion dB(A)

<b>Day/Evening</b>	<b>Road</b>
<b><math>L_{Aeq(1\text{ hour})}</math></b>	
55	Any residence adjacent to Torrens Road

Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECC's Environmental Criteria for Road Traffic Noise.

## Additional Traffic Noise Mitigation Measures

7. If the traffic noise generated by the project exceeds the criterion in Table 4, the Proponent shall, upon receiving a written request from any landowner adjacent to Torrens Road, implement noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.

These additional mitigation measures must be reasonable and feasible.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Within 3 months of this approval, the Proponent shall notify all applicable landowners of their entitlements under this condition.

## Continuous Improvement

8. The Proponent shall:
- (a) implement all reasonable and feasible best practice noise mitigation measures;
  - (b) investigate ways to reduce the noise generated by the project, including off-site road noise; and
  - (c) report on these investigations and the implementation and effectiveness of these measures in the AEMR,
- to the satisfaction of the Director-General.

## Monitoring

9. The Proponent shall prepare and implement a detailed Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- (a) be prepared in consultation with DECC;
  - (b) be submitted to the Director-General for approval prior to carrying out any development on site; and
  - (c) include:
    - attended monitoring measures; and
    - a noise monitoring protocol for evaluating compliance with the noise impact assessment and land acquisition criteria in this approval.

## BLASTING AND VIBRATION

*Note: These conditions should be read in conjunction with section 8 of the Statement of Commitments.*

### Airblast Overpressure Limits

10. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 5 at any residence on privately-owned land.

*Table 5: Airblast overpressure impact assessment criteria*

<b>Airblast overpressure level (dB(Lin Peak))</b>	<b>Allowable exceedance</b>
115	5% of the total number of blasts in a 12 month period
120	0%

*Note: The overpressure values in Table 5 apply when the measurements are performed with equipment having a lower cut-off frequency of 2 Hz or less. If the instrumentation has a higher cut-off frequency a correction of 5 dB should be added to the measured value. Equipment with a lower cut-off frequency exceeding 10 Hz should not be used.*

### Ground Vibration Impact Assessment Criteria

11. The Proponent shall ensure that the ground vibration level from blasting, or any other activity at the project does not exceed the levels in Table 6 at any residence on privately-owned land.

*Table 6: Ground vibration impact assessment criteria*

<b>Peak particle velocity (mm/s)</b>	<b>Allowable exceedance</b>
5	5% of the total number of blasts in a 12 month period
10	0%

### **Blasting Hours**

12. The Proponent shall carry out blasting on site only between 10 am and 5 pm each Monday to Friday and 10 am and 2 pm on Saturdays (excepting Public Holidays).

### **Blasting Frequency**

13. The Proponent shall not carry out more than:
  - (a) 2 blasts a day; and
  - (b) 5 blasts a week, averaged over any 12 month period; on site.

### **Property Inspections**

14. At least 2 months before carrying out any blasting on the site, the Proponent shall advise all landowners within 2 km of proposed blasting activities, and any other landowner nominated by the Director-General, that they are entitled to a property inspection to establish the baseline condition of the property.
15. If the Proponent receives a written request for a property inspection from any such landowner, the Proponent shall:
  - (a) commission a suitably qualified person, whose appointment has been approved by the Director-General, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and
  - (b) give the landowner a copy of this property inspection report.

*Note: It is preferable for the property inspection to be carried out prior to the commencement of blasting activities on the site, and the Proponent should facilitate this occurring wherever possible.*

### **Property Investigations**

16. If any landowner within 2 km of proposed blasting activities, or any other landowner nominated by the Director-General, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request:
  - (a) commission a suitably qualified person whose appointment has been approved by the Director-General to investigate the claim and prepare a property investigation report; and
  - (b) give the landowner a copy of the report.

If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Director-General.

If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.

### **Monitoring**

17. Prior to the commencement of blasting, the Proponent shall prepare and implement a detailed Blast Monitoring Program for the project, in consultation with the DECC and to the satisfaction of the Director-General.

### **AIR QUALITY**

*Note: These conditions must be read in conjunction with Section 11 of the Statement of Commitments.*

### **Impact Assessment Criteria**

18. The Proponent shall ensure that dust emissions generated by the project do not cause additional exceedances of the criteria listed in Tables 7 to 9 at any residence on privately owned land, or on more than 25 percent of any privately-owned land.

Table 7: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m <sup>3</sup>
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	30 µg/m <sup>3</sup>

Table 8: Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	50 µg/m <sup>3</sup>

Table 9: Long term impact assessment criterion for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

## Monitoring

19. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:
- be submitted to the Director-General prior to the commencement of construction activities;
  - be prepared in consultation with the DECC; and
  - use a combination of high volume samplers and dust deposition gauges to monitor the performance of the project.

## METEOROLOGICAL MONITORING

Note: This condition must be read in conjunction with Section 11 of the Statement of Commitments

20. During the project, the Proponent shall ensure there is a suitable continuously operating meteorological station on site that complies with the requirements in *Approved Methods for Sampling of Air Pollutants in New South Wales* (DECC, 2007), or its latest version.

## WATER MANAGEMENT

Note: These conditions must be read in conjunction with Section 7 & 10 of the Statement of Commitments.

### Discharge

21. Except as may be expressly provided for by an EPL, or in accordance with section 120 of the *Protection of the Environment Operations Act 1997*, the Proponent shall not discharge any mine water from the site.

### Water Management Plan

22. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction activities (not including public road upgrades other than the realignment of Coochooboonah Lane) in consultation with the DECC and DWE by suitably qualified expert/s whose appointment/s have been approved by the Director-General and include a:
- Site Water Balance;
  - Erosion and Sediment Control Plan;
  - Surface Water Monitoring Plan;
  - Groundwater Monitoring Program; and
  - Groundwater Contingency Plan.

### **Site Water Balance**

23. The Site Water Balance must:
- (a) include details of:
    - sources and security of water supply;
    - water use on site;
    - water management on site;
    - off-site water transfers;
    - reporting procedures;
  - (b) describe measures to minimise water use by the project; and
  - (c) be reviewed and recalculated each year using the most recent water monitoring data.

### **Erosion and Sediment Control**

24. The Erosion and Sediment Control Plan must:
- (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction* manual (Landcom, 2004), or its latest version;
  - (b) identify activities that could cause soil erosion and generate sediment;
  - (c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters;
  - (d) describe the location, function, and capacity of erosion and sediment control structures; and
  - (e) describe what measures would be implemented to monitor and maintain the structures over time.

### **Surface Water Monitoring Program**

25. The Surface Water Monitoring Program must include:
- (a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project;
  - (b) surface water impact assessment criteria;
  - (c) a program to monitor the impact of the project on surface water flows and quality; and
  - (d) procedures for reporting the results of this monitoring.

### **Groundwater Monitoring Program**

26. The Groundwater Monitoring Program must include:
- (a) further development of the regional and local groundwater model;
  - (b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality (including at any privately owned bores in the vicinity of the site);
  - (c) groundwater impact assessment criteria;
  - (d) a program to monitor the impact of the project on groundwater levels, yield and quality; and
  - (e) procedures for reporting the results of this monitoring.

### **Groundwater Contingency Plan**

27. The Groundwater Contingency Plan must:
- (a) provide measures to mitigate any impacts of the mine on the quality or quantity of groundwater supplies available on privately-owned land;
  - (b) establish trigger levels, benchmarks and contingency criteria; and
  - (c) provide for negotiated agreements with affected landowners, including compensation where mining impacts result in increased extraction costs for landowners.

## **LANDSCAPE MANAGEMENT**

### **Koala Habitat**

*Note: This condition must be read in conjunction with Sections 2, 9 and 18 of the Statement of Commitments.*

28. The Proponent shall implement the Koala habitat management and enhancement actions described in the EA (shown conceptually in Figure 6 in Appendix 4) in consultation with the DECC and to the satisfaction of the Director-General.

*Note: Conditions 29 – 31 must be read in conjunction with Section 17 of the Statement of Commitments.*

## **Rehabilitation**

29. The Proponent shall rehabilitate the site to the satisfaction of the Director-General and DPI.

### **Rehabilitation and Landscape Management Plan**

30. The Proponent shall prepare and implement a detailed Rehabilitation and Landscape Management Plan for the site to the satisfaction of the Director-General and DPI. This plan must:
- (a) be prepared in consultation with DECC, DWE and Council by suitably qualified expert/s whose appointment/s have been approved by the Director-General; and
  - (b) be submitted to the Director-General and DPI for approval by 1 March 2009;
  - (c) include:
    - the rehabilitation objectives for the site;
    - a description of how the rehabilitation of the site would be integrated with the landscape of the surrounding area;
    - detailed performance and completion criteria for the rehabilitation of the site;
    - a detailed description of the measures that would be implemented to achieve the performance and completion criteria for each site, including the procedures to be implemented for
      - protection and enhancement of koala habitat;
      - progressively rehabilitating the areas disturbed by mining operations;
      - restoration of agricultural land suitability;
      - revegetating the site;
      - protecting and/or enhancing areas in the vicinity of the disturbance area;
      - conserving and re-using any topsoil;
      - controlling weeds and feral pests;
      - controlling access; and
      - bushfire management.
    - a program to monitor the performance of the rehabilitation against the stated objectives, performance and completion criteria;
    - a description of the potential risks to successful rehabilitation, and a description of the contingency measures that would be implemented to minimise these risks; and
    - details of who is responsible for monitoring, reviewing and implementing the plan.

### **Mine Closure Plan**

31. At least 2 years prior to the cessation of mining operations on the site the Proponent shall prepare a Mine Closure Plan. This plan must:
- (a) define the objectives and criteria for mine closure;
  - (b) investigate options for the future use of the site;
  - (c) provide a detailed methodology for decommissioning the site's storage dams;
  - (d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels;
  - (e) describe the measures that would be implemented to minimise or manage the on-going environmental effects of the project; and
  - (f) describe how the performance of these measures would be monitored over time.

## **HERITAGE**

*Note: These conditions must be read in conjunction with Section 12 of the Statement of Commitments.*

### **Aboriginal Cultural Heritage Management Plan**

32. The Proponent shall not destroy any known Aboriginal objects (as defined in the *National Parks and Wildlife Act 1974*) without the written approval of the Director-General.
33. The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General prior to the commencement of construction activities (not including public road upgrades other than the realignment of Coocooboonah Lane);
  - (b) be prepared in consultation with the DECC and the local Aboriginal community;

- (c) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site; and
- (d) describe the measures that would be implemented to protect Aboriginal sites on site, or if any new Aboriginal objects or skeletal remains are discovered during the project.

## **TRANSPORT**

*Note: These conditions must be read in conjunction with Section 2 of the Statement of Commitments.*

### **Monitoring of Coal Transport**

34. The Proponent shall keep records of the amount of coal transported from the site each year, and include these records in the AEMR.

### **Traffic Management**

35. Prior to transporting any coal off-site, the Proponent shall:
- (a) construct a realignment of Coochooboonah Lane to the satisfaction of the landowner and Council;
  - (b) upgrade the intersection of Coochooboonah Lane and the Oxley Highway to the satisfaction of the RTA and Council;
  - (c) upgrade the intersection of the Oxley Highway and Blackjack Road to the satisfaction of the RTA and Council;
  - (d) upgrade the section of Blackjack Road to be used for coal transport to the satisfaction of Council;
  - (e) upgrade the intersection of Blackjack Road and Quia Road to the satisfaction of Council;
  - (f) upgrade the section of Quia Road to be used for coal transport to the satisfaction of Council;
  - (g) upgrade the intersection of Quia Road and Farrar Road to the satisfaction of Council;
  - (h) upgrade the intersection of Quia Road and Torrens Road to the satisfaction of Council; and
  - (i) upgrade Torrens Road to the satisfaction of Council.
36. Prior to carrying out any development on site, the Proponent shall prepare, and subsequently implement, a Construction Traffic Management Plan for the project to the satisfaction of the RTA and Council.
37. Within 6 months of this approval the Proponent shall enter into an agreement with Council for the maintenance of the section of the Oxley Highway between Coochooboonah Lane and Blackjack Road.
38. Prior to transporting coal from the site the Proponent shall construct 2 bus stops on the Oxley Highway to the satisfaction of Council.
39. Notwithstanding condition 10 of Schedule 2, the Proponent shall ensure no coal is transported from the site during AgQuip.

## **VISUAL IMPACT**

### **Visual Amenity**

40. The Proponent shall minimise the visual impacts of the project to the satisfaction of the Director-General.

### **Lighting Emissions**

41. The Proponent shall ensure that:
- (a) no outdoor lights shine above the horizontal; and
  - (b) all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*.

## **GREENHOUSE GAS**

### **Energy Savings Action Plan**

42. The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be prepared in accordance with the *Guidelines for Energy Savings Action Plans* (DEUS, 2005), or its latest version;
  - (b) include consideration of energy use by mobile equipment;
  - (c) be submitted to the Director-General for approval within 3 months of this approval; and
  - (d) include a program to monitor the effectiveness of measures to reduce energy use on site.

## **WASTE**

### **Waste Minimisation**

43. The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General for approval prior to commencing of construction;
  - (b) identify the various waste streams of the project;
  - (c) describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project;
  - (d) ensure irrigation of treated wastewater is undertaken in accordance with *Environmental Guidelines: Use of Effluent by Irrigation* (DEC, 2004), or its latest version; and
  - (e) include a program to monitor the effectiveness of these measures.

## **SCHEDULE 4 ADDITIONAL PROCEDURES**

### **NOTIFICATION OF LANDOWNERS**

1. Within 1 month of this approval, the Proponent shall notify the owner of "Lilydale" in writing that he/she has the right to require the Proponent to acquire their land at any stage during the project.
2. If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria in schedule 3, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3. However, no notification is required if the impact is predicted in the EA or where an agreement has been negotiated with a landowner that excludes the requirement for ongoing notification of such impacts.

### **INDEPENDENT REVIEW**

3. If a landowner considers the project to be exceeding the impact assessment criteria in schedule 3, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:

- (a) consult with the landowner to determine his/her concerns;
- (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to:
  - determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and
  - identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and
- (c) give the Director-General and landowner a copy of the independent review.

If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

4. If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:
  - (a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and
  - (b) conduct further monitoring to determine whether these measures ensure compliance; or
  - (c) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.

If further monitoring under paragraph (b) determines that the project is complying with the relevant criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.

5. If further monitoring under condition 4(b) determines that measures implemented under condition 4(a) have not achieved compliance with the land acquisition criteria in schedule 3, and the Proponent cannot then secure within 3 months a written agreement with the landowner under condition 4(c) to allow these exceedances, then the Proponent shall, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures in conditions 7-9 below.
6. If:
  - (a) the landowner disputes the results of the independent review; or
  - (b) the Proponent is unable to secure a written agreement under condition 4(c) with the landowner then (subject to condition 5) either the Proponent or the landowner may refer the matter to the Director-General for resolution.

Where matters referred to the Director-General under this condition cannot be resolved by the Director-General within 28 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

## **LAND ACQUISITION**

7. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:
  - (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the:
    - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
    - presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in conditions 5 and 7 of schedule 3;
  - (b) the reasonable costs associated with:
    - relocating within the Gunnedah local government area, or to any other local government area determined by the Director-General;
    - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
  - (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.

The appointed valuer is to provide a full report and explanation of the determination and proposed terms to the Proponent, landowner and the Director-General.

Within 14 days of receiving the independent valuer's determination, the Proponent shall make a written offer to purchase the land at a price not less than the independent valuer's determination.

If the landowner refuses to accept this offer within 6 months of the date of the Proponent's offer, the Proponent's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.

8. The Proponent shall bear the costs of any valuation or survey assessment requested by the independent valuer, or the Director-General and the costs of determination referred above.
9. If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.

## SCHEDULE 5

### ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING AND REPORTING

*Note: This schedule must be read in conjunction with section 18 of the Statement of Commitments.*

#### ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General prior to the commencement of construction activities, and:
  - (a) provide the strategic context for environmental management of the project;
  - (b) identify the statutory requirements that apply to the project;
  - (c) describe in general how the environmental performance of the project would be monitored and managed;
  - (d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the project;
    - respond to any non-compliance;
    - manage cumulative impacts; and
    - respond to emergencies; and
  - (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project.

#### ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General within 6 months of this approval and consolidate the various monitoring requirements in schedule 3 of this approval into a single document.

#### REPORTING

##### Incident Reporting

3. As soon as practicable, and in any event within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.
4. Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:
  - (a) describes the date, time, and nature of the exceedance/incident;
  - (b) identifies the cause (or likely cause) of the exceedance/incident;
  - (c) describes what action has been taken to date; and
  - (d) describes the proposed measures to address the exceedance/incident.

##### Annual Reporting

5. Within 12 months of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General and to all relevant agencies. This report must:
  - (a) identify the standards and performance measures that apply to the project;
  - (b) describe the works carried out in the last 12 months;
  - (c) describe the works that would be carried out in the next 12 months;
  - (d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
  - (e) include a summary of the monitoring results for the project during the past year;
  - (f) include an analysis of these monitoring results against the relevant:
    - impact assessment criteria/limits;
    - monitoring results from previous years; and

- predictions in the EA;
- (g) identify any trends in the monitoring results over the life of the project;
- (h) identify any non-compliance during the previous year; and
- (i) describe what actions were, or are being, taken to ensure compliance.

#### **INDEPENDENT ENVIRONMENTAL AUDIT**

6. Within 2 years of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
- (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the project and assess whether it is complying with the relevant requirements of this approval and any relevant mining lease or EPL (including any strategy, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,
  - (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

*Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of water, noise management and mine rehabilitation.*

7. Within 6 weeks of the completing of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.
8. Within 3 months of submitting the audit report to the Director-General, the Proponent shall review, and if necessary revise the strategies/plans/programs required under this approval to the satisfaction of the Director-General.

#### **COMMUNITY CONSULTATIVE COMMITTEE**

9. Within 3 months of this approval, the Proponent shall establish a Community Consultative Committee (CCC) for the project. This CCC must be established and operated in accordance with the *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007)*, or its latest version, and to the satisfaction of the Director-General.

#### **ACCESS TO INFORMATION**

10. Within 3 months of the approval of any strategy/plan/ program required under this approval (or any subsequent revision of these strategies/plans/ programs), or the completion of the audits or AEMRs required under this approval, the Proponent shall:
- (a) provide a copy of the relevant document/s to the relevant agencies and CCC; and
  - (b) put a copy of the relevant document/s on its website.
11. During the project, the Proponent shall:
- (a) make a summary of all monitoring results required under this approval publicly available at the mine and on its website; and
  - (b) update these results on a regular basis (at least every three months).

**APPENDIX 1  
SCHEDULE OF PROJECT LAND**

<b><i>Parish</i></b>	<b><i>Land Title Reference</i></b>
<i>Gill</i>	<i>Lot 1 DP 393755 Lot 12 DP 755503 Lot 16 DP 7555031 Lot 162 DP 755503 Various Road Reserves</i>

APPENDIX 2  
PROJECT MAPS

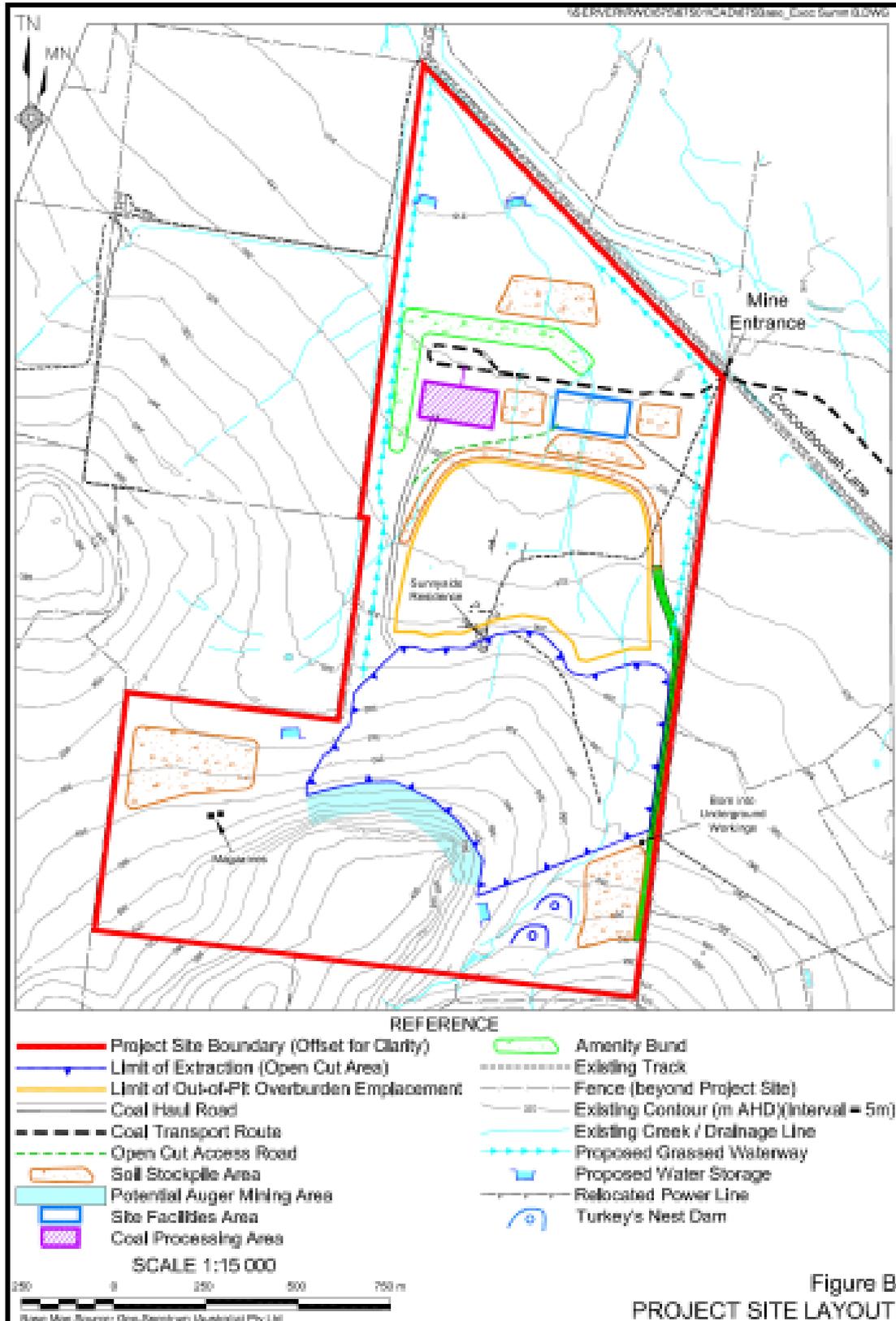


Figure 1: Project Layout

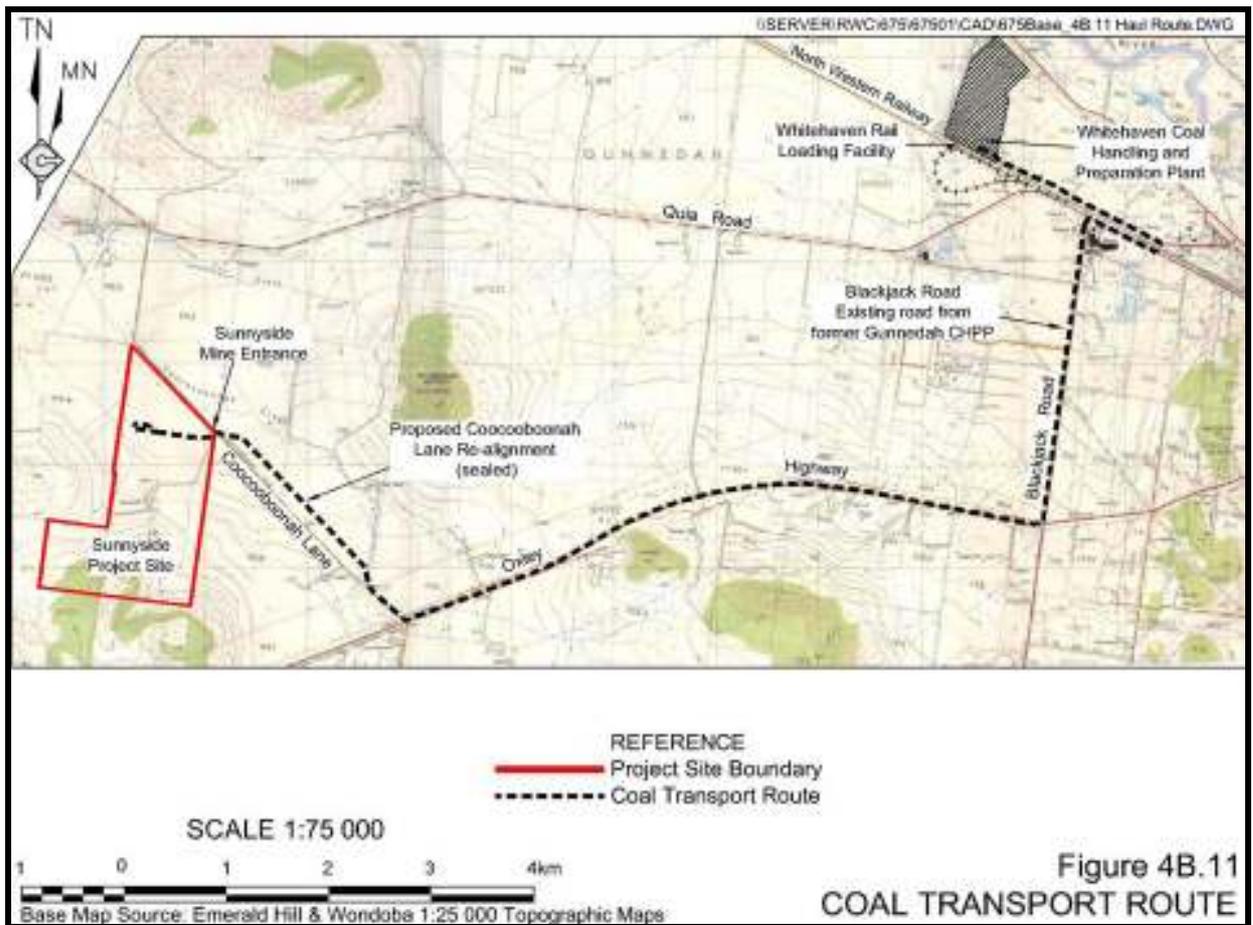


Figure 2: Coal transport route

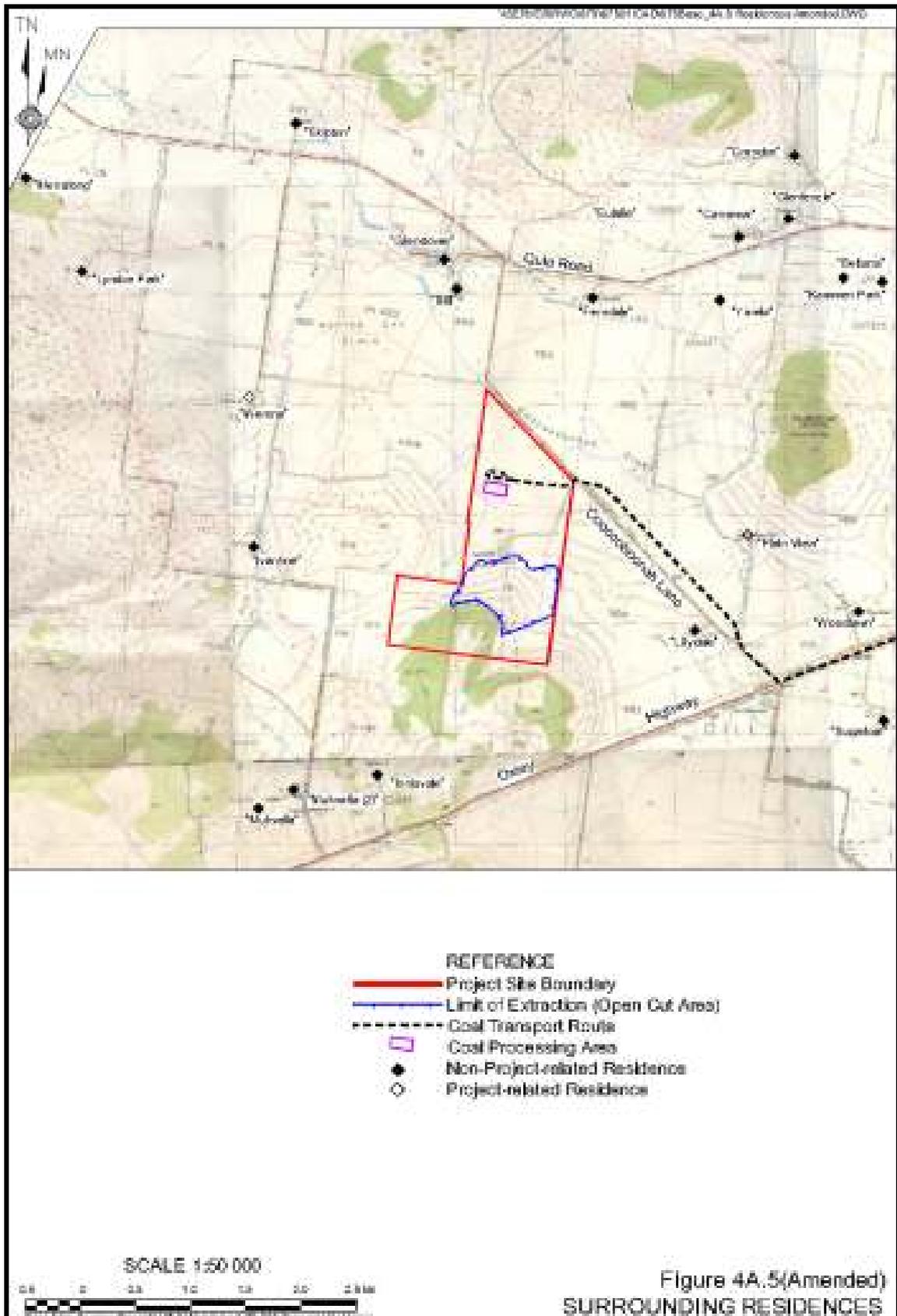
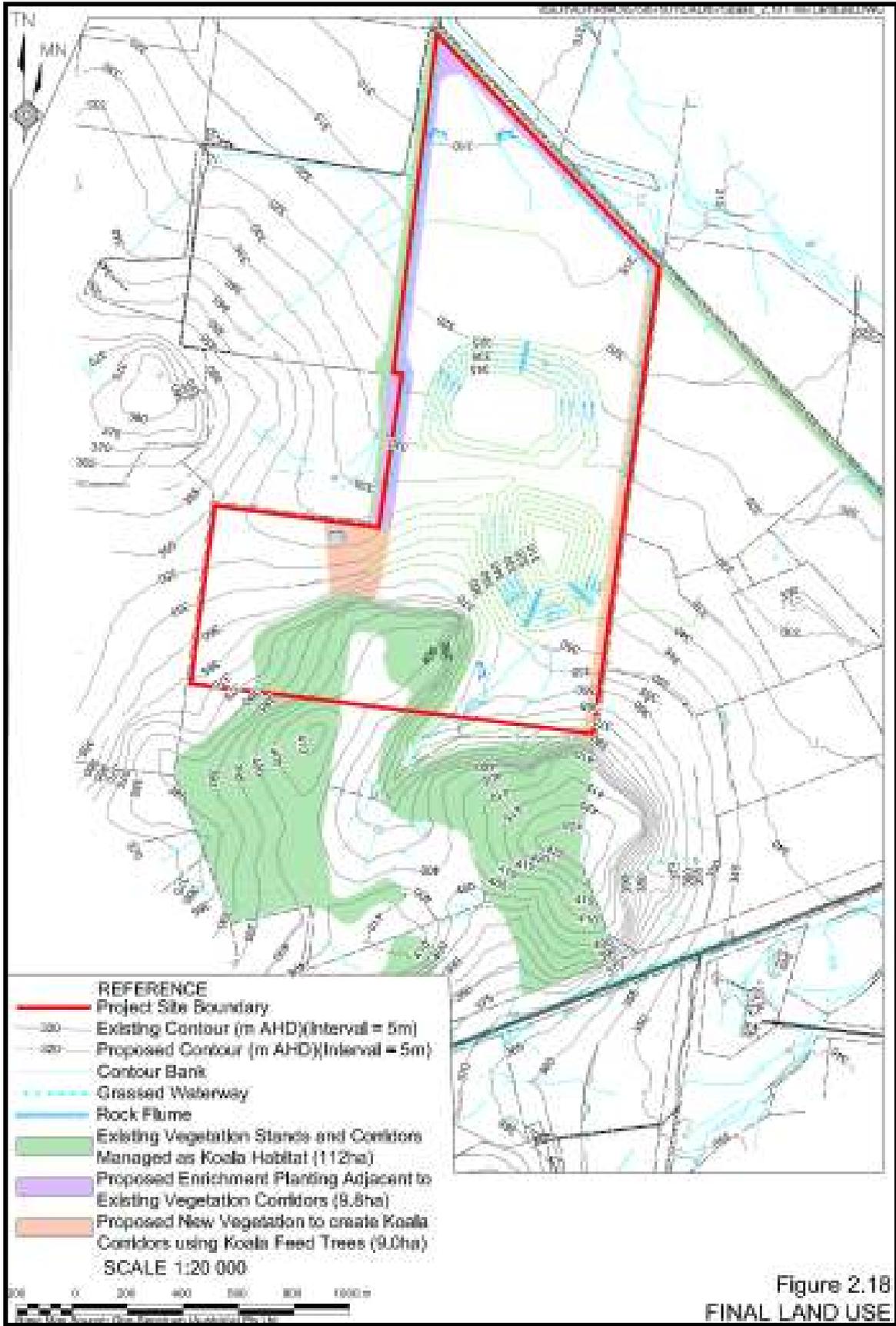


Figure 3: Residences in proximity to the site



**Figure 4:** Conceptual final land-use showing Koala habitat protection and enhancement areas

**APPENDIX 3  
STATEMENT OF COMMITMENTS**

Desired Outcome	Action	Timing	
<b>1. General Project Development</b>			
Operate the Project to ensure that all component activities are undertaken in a responsible and proactive manner	1.1	All activities will be subject to the Mining, Rehabilitation and Environmental Management Process managed by the Department of Primary Industries – Mineral Resources.	Ongoing.
	1.2	Operate the mine with comprehensive systems to manage and monitor groundwater, surface water, noise, blasting, air quality, visibility, Aboriginal heritage, flora, fauna, traffic, visual and socio-economic aspects.	Ongoing.
	1.3	Apply for a Mining Lease with boundaries generally coincident with the Project Site.	Late 2007.
	1.4	Obtain all necessary certifications for all buildings constructed or relocated on site from Gunnedah Shire Council.	Mid 2008.
	1.5	Seek approval from Gunnedah Shire Council to install a septic system on site.	Prior to Project commencement.
	1.6	Undertake all rehabilitation and site decommissioning within 12 months of the end of mining. This would include re-instating Coochooboonah Lane to its pre-mining alignment	Approximately December 2013.
	1.7	Implement management strategies to minimise the likelihood of spontaneous combustion.	Ongoing.
	1.8	Construct the out-of-pit overburden emplacement in a manner that would ensure the initial emplaced overburden would form an acoustic barrier around the operating area within the emplacement.	During Year 1 of mining operations.
	1.9	Undertake a geological and geotechnical assessment prior to any auger mining to confirm it is both safe and economic to proceed.	During mining operations.
	1.10	Direct surface runoff water around the final void.	Ongoing.
	1.11	Potable water would be transported from Gunnedah to supplement rainwater collected off site buildings and stored in tanks. Ablutions water would be transported from Gunnedah.	Ongoing.

Desired Outcome	Action	Timing	
<b>1. General Project Development</b>			
Operate the Project to ensure that all component activities are undertaken in a responsible and proactive manner (Cont'd).	1.12	Operational water will initially be supplied from water within the Gunnedah Coal Mine N° 5 Entry underground workings. This will eventually augment the pit groundwater inflow and water drawn from the various sedimentation and fresh water dams that would form part of the site surface water management system.	Ongoing.
	1.13	Power will be predominantly generated on site by diesel powered generators.	Ongoing.
	1.14	There will be capacity to store 68 000L of diesel and 10 000L of oil on site in self-bunded fuel tanks.	Ongoing.
	1.15	An Environment Protection Licence to be applied for.	Mid 2008.
	1.16	RTA approval to be sought for proposed roadworks along the Oxley Highway.	Mid 2008.
	1.17	Road Construction Permit to be applied for from Gunnedah Shire Council prior to modifications and other roadworks associated with re-alignment of Coccooboonah Lane and public road intersections along the coal transport route.	Mid 2008.
	1.18	A Water Licence be applied for and granted before installation and operation of a water bore into the Gunnedah N° 5 Colliery workings.	Mid 2008.
	1.19	A licence be applied and granted from WorkCover for the installation of explosives magazine within the Project Site area.	Mid 2008.
<b>2. Traffic and Transport</b>			
	2.1	Ensure all trucks transporting coal are well maintained and that drivers act in a courteous manner at all times.	Ongoing.
	2.2	Avoid loading trucks that are unroadworthy or not carrying covers.	Ongoing.
	2.3	Ensure all truck drivers operate in accordance with a Transport Policy and Code of Conduct.	Ongoing.

Desired Outcome	Action	Timing
<b>2. Traffic and Transport (cont'd)</b>		
	2.4 Contact all potentially affected landowners and surrounding residents prior to initial construction and the commencement of any upgrading works to inform / discuss the proposed works.	Prior to initial construction and ongoing.
	2.5 Liaise routinely with local residents to ensure their satisfaction with all aspects of changed traffic conditions.	Ongoing.
	2.6 Relocate part of Coccoofoonah Lane to avoid disturbing remnant Koala habitat. RTA requested changes will result in approximately three trees being removed.	Prior to mining commencing.
	2.7 Upgrade parts of the proposed coal transport route beyond Coccoofoonah Lane and various intersections to improve traffic flow and safety aspects.	Prior to coal transportation.
	2.8 The truck fleet will consist of a mix of standard 28t capacity semi-trailers and 40t capacity B-Double vehicles.	Ongoing.
	2.9 Develop a Road Maintenance and Capital Improvement Agreement with Gunnedah Shire Council.	Prior to mining commencing.
	2.10 Erect appropriate road signage.	Prior to coal transportation.
	2.11 Ensure all employees and contractors are regularly informed about the safe driving requirements to and from the Project Site.	Ongoing.
	2.12 Transport all oversize loads with all necessary permits.	During transport of oversize loads (primarily during site establishment).
	2.13 Erect a blast board at the Project Site entrance and update at least 24 hours prior to each blast.	Prior to initial blast.

Desired Outcome	Action	Timing	
<b>3. Operating Hours – Site Establishment</b>			
Management of construction activities in accordance with the approved operating hours.	3.1	Undertake on-site construction within the hours of: 7.00am to 6.00pm / Monday to Friday, 7.00am to 4.00pm / Saturday.	During site establishment.
	3.2	Undertake coal transport route construction within the hours of: 7:00am to 6:00pm / Monday to Friday with the contingency to extend to 8.00pm if light and seasonal conditions permit, 7.00am to 4.00pm / Saturday	During site establishment.
<b>4. Operating Hours – Operations</b>			
Management of operating hours of work in accordance with the approved consent conditions	4.1	Undertake vegetation clearing / soil removal within the hours: 7.00am to 6.00pm Monday to Friday with a contingency to extend operations to 8.00pm if light and seasonal conditions permit. Saturday activity would be between 7.00am and 4.00pm with contingency to extend through to 6.00pm	During vegetation clearing and soil removal.
	4.2	Undertake drilling within the hours: 7.00am to 8.00pm / Monday to Friday and 7.00am to 6.00pm Saturday.	During drilling.
	4.3	Undertake blasting within the hours: 10.00am to 5.00pm / Monday to Friday and 10.00am to 2.00pm Saturday	During blasting.
	4.4	Undertake overburden / interburden removal and placement within the hours 7.00am to 10.00pm Monday to Friday and 7.00am to 4.00pm Saturday.	During overburden / interburden removal and placement.
	4.5	Undertake internal transport of coal product to ROM stockpile within the hours 7.00am to 10.00pm Monday to Friday and 7.00am to 4.00pm Saturday.	During internal transport of coal.
	4.6	Undertake on-site processing within the hours 7.00am to 10.00pm Monday to Friday and 7.00am to 6.00pm Saturday.	Ongoing.
	4.7	Undertake coal transport to Whitehaven CHPP and Rail Loading Facility within the hours 7.00am to 6.00pm Monday to Friday with contingency to extend to 8.00pm light and seasonal conditions permitting.	During coal transport.
	4.8	Undertake maintenance within the hours: 24 hours over 7 days.	During maintenance.
	4.9	Undertake rehabilitation within the hours: 7.00am to 6.00pm / Monday to Friday and 7.00am to 4.00pm Saturday.	During rehabilitation.

Desired Outcome	Action	Timing
<b>5. Waste Management</b>		
Minimisation of general waste creation and maximisation of recycling wherever possible.	5.1 Place all paper and general wastes originating from the Site Facilities Area, together with routine maintenance consumables from the daily servicing of equipment in garbage bins located adjacent to the various buildings.	Continuous.
Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	5.2 Collect general waste bins and place contents in large waste skip bins positioned adjacent to the heavy vehicle maintenance building to await removal by licensed contractor.	Daily - wastebins. As required – skip bins.
	5.3 Collect industrial waste regularly.	Fortnightly.
	5.4 Collect waste oils and grease and pump to bulk storage tanks.	As required.
	5.5 Store waste oils and grease at the maintenance workshop for collection by a licensed waste recycling contractor.	Bi-monthly.
	5.6 Collect all parts and packaging and transfer to the maintenance workshop for disposal or recycling.	As required.
	5.7 Install adequate toilet and ablution facilities within the mine facilities area for the site workforce and visitors.	During site establishment.
	5.8 Direct sewage to a bio-cycle (or equivalent system) with effluent irrigation to land – to be approved by Gunnedah Shire Council.	Ongoing following installation.
	5.9 Store potentially hydrocarbon-contaminated water in the oil/water separator for regular removal from site by a licensed contractor.	As required.
	5.10 Assemble all proposed waste management practices in a Waste Management Plan.	Within 6 months of the start of site establishment.
	<b>6. Safety and Security</b>	
To protect the safety of employees (including contractors), visitors to the mine, the public as well as local land owners and land users.	6.1 Ensure compliance with statutory regulations and maintain awareness of changes.	Ongoing.
	6.2 Eliminate or control safety and health hazards in the work environment.	Ongoing.
	6.3 Provide relevant occupational health and safe working practices and job training.	Ongoing.
	6.4 Conduct regular safety meetings and provide open forum for input from all employees.	Ongoing.
	6.5 Provide effective emergency arrangements for all employees and general public protection.	Ongoing.
	6.6 Undertake regular employee assessment and counselling if required.	Ongoing.

Desired Outcome	Action	Timing
<b>6. Safety and Security (cont'd)</b>		
	6.7 Ensure all contractors adopt the NMPL's policy objectives and maintain safety standards at all times while working on the premises.	Ongoing.
To protect the safety of employees (including contractors), visitors to the mine, the public as well as local land owners and land users. (Cont'd)	6.8 Develop an Occupational Health and Safety Management System and Major Hazard Management System to be approved by the Chief Inspector of Coal Mines.	Prior to mining and Ongoing.
	6.9 Erect and maintain all boundary fencing encompassing the Project Site.	During site establishment.
	6.10 Install lockable mine entrance gate.	During site establishment.
	6.11 Erect appropriate security fencing signs at key locations in and around the Project Site.	During site establishment.
	6.12 Erect advisory truck traffic warning signage prior to intersection of private sections of the proposed coal transport route along the re-aligned Coochoonah Lane.	During site establishment.
	6.13 Ensure all equipment complies with Mine Design Guidelines (MDG15).	Prior to commencement of operations.
	6.14 Submit Mining Operations Plan to the Department of Primary Industries.	Prior to commencement of operations.
<b>7. Groundwater</b>		
Access to groundwater resources within the N <sup>o</sup> 5 underground as a supplementary water source for mine operations.	7.1 Obtain all necessary approvals and construct a groundwater bore (see <b>Figure A</b> ) to withdraw water collected in the void of the Gunnedah N <sup>o</sup> 5 underground workings.	During site establishment.
Prevention of groundwater contamination.	7.2 Control dirty or contaminated surface water within surface structures (see Commitments in Section 10).	Ongoing.
	7.3 Refuel the mining fleet within designated areas of the Project surface facilities.	Ongoing.
	7.4 Undertake all maintenance works requiring the use of oils, greases and lubricants within designated areas of the Project surface facilities.	Ongoing.
	7.5 Direct all water from wash-down areas and workshops, except some mobile equipment to oil / water separators and containment systems.	Ongoing.
	7.6 Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and a capacity to contain a minimum 110% of the largest storage tank capacity.	Prior to mining and Ongoing.

Desired Outcome	Action	Timing
<b>7. Groundwater (Cont'd)</b>		
Prevention of groundwater contamination. (Cont'd)	7.7 Construct two turkey's nest dams for the storage of any surplus open cut pit inflows (rather than direct placement into underground workings).	Ongoing.
	7.8 Preferentially use water in the two turkey's nest dams for on-site dust suppression (rather than placing water from these dams underground).	Ongoing.
	7.9 Construct a suitable bore and install appropriate pumping equipment to place diluted pit water (from Turkey's Nest Dam N° 2) into the N° 5 underground workings. (All bores would be licenced by DWE).	Prior to the completion of construction of Turkey's Nest Dam N° 2.
	7.10 Pump water to the N° 5 underground workings only from the second turkey's nest dam (to ensure only diluted water is placed underground). This would occur in the event of excessive wet weather when the second turkey's nest dam is approaching its capacity.	As required.
Preparation of a contingency plan in the event that the availability or quality of groundwater is reduced for local groundwater users.	7.11 Undertake remedial action if the available groundwater for existing groundwater users is reduced by over 15% due to mine activities.	As required.
Implement a groundwater monitoring program to confirm predictions and to identify emerging issues.	7.12 Implement the water monitoring programme outlined in Section 4B.1.6.1 including ongoing review and modification as required.	Before commencement of Project and ongoing throughout life of Project.
	7.13 Develop contingency measures identified to address any impacts identified by monitoring.	Ongoing.
	7.14 Include relevant data in the Sunnyside Mine Annual Environmental Management Report (AEMR)	Annually.
	7.15 Prepare a monitoring report at the conclusion of mining to outline changes in the local groundwater system.	At conclusion of mining.
	7.16 Establish and maintain a coverage of piezometers to the satisfaction of DWE in the vicinity of the open pit and the Project Site.	Within 12 months after the commencement of mining operations.

Desired Outcome	Action	Timing
<b>8. Noise and Vibration</b>		
Noise generated by site establishment, construction and operational activities does not exceed DECC nominated criteria nor significantly impact on neighbouring landowners and/or residents.	8.1 Seal the re-aligned Coo-coo-boonah Lane and all other upgraded road sections.	Prior to commencement of coal transportation.
	8.2 Regularly maintain all roads comprising the proposed coal transport route under a contribution plan with Gunnedah Shire Council.	Ongoing.
	8.3 Avoid all noisy activities occurring concurrently during construction particularly before 9.00am when the affects of local inversions may be noticeable.	During construction.
	8.4 Construct the out-of-pit overburden emplacement to provide an acoustic barrier between the open cut and Non-Project-related residences.	During emplacement construction in Year 1.
	8.5 Construct the amenity bund around the coal processing area to act as an acoustic barrier.	At commencement of overburden stripping.
	8.6 Adhere strictly to hours of operation, including transport activities, enforced by Mine Management.	Ongoing.
	8.7 Use equipment with lower sound power levels in preference to more noisy equipment.	Ongoing.
	8.8 Regularly service all equipment used on site to ensure the power sound levels remain at or below the levels used in the modelling to assess generated noise levels and compliance with the criteria.	Ongoing.
	8.9 Ensure that bulldozers either operate in first gear when reversing on the out-of-pit emplacement (and demonstrating compliance with noise criteria) <b>or</b> suspends operations (when compliance is not achieved with noise criteria).	During adverse weather conditions, particularly during periods of temperature inversions.
	8.10 Manage scraper operations through seasonal / daily programming to avoid operations during inversion conditions and, when necessary to reduce the number of scrapers operating from two to one when noise monitoring demonstrates the $L_{Aeq(15\text{ minute})}$ criteria of 35dB(A) is or will be exceeded.	Under inversion conditions or as required.
	8.11 Confine operations to lower levels of the in-pit overburden emplacement to mitigate noise exceedances under adverse wind conditions, i.e. avoid operations on elevated section of the overburden emplacements during inversions and SSW winds.	Under adverse wind conditions or as required.

Desired Outcome	Action	Timing
<b>8. Noise and Vibration (cont'd)</b>		
Noise generated by site establishment, construction and operational activities does not exceed DECC nominated criteria nor significantly impact on neighbouring landowners and/or residents.	8.12 Fit mid frequency broadband reversing beepers to mobile mining equipment, decreasing sound power levels by 2dB(A) to 3dB(A).	At start of Project.
	8.13 Ensure the on-site road network is well maintained to limit body noise from empty trucks travelling on internal roads.	Ongoing.
	8.14 Maintain dialogue with neighbours and local community to ensure any concerns over construction, operational or transport noise are addressed.	Ongoing.
	8.15 Establish a noise monitoring program, in consultation with the DECC, prior to the commencement of the Project, designed to initially validate the predictions arising from the modelling and then record noise levels against the Project noise criteria.	Prior to construction.
	8.16 Document all proposed noise management strategies formally in a Noise Management Plan.	Prior to construction and mining activity.
	8.17 Monitor construction noise near "Lilydale" when the realignment of Coocooboonah Lane is being undertaken.	During construction.
	8.18 Conduct operational noise monitoring monthly for the first six months of mining operations, reverting to quarterly for the remainder of the year.	Ongoing.
	8.19 Instruct all truck drivers to avoid the use of engine brakes when approaching the Project Site entrance and coal transport route intersections and to be mindful when accelerating.	During inductions and ongoing.
	8.20 Adhere strictly to approved hours of coal transportation.	Ongoing.
	8.21 Ensure all blasts are designed to comply with blast limits specified in the Environment Protection Licence.	All blasts.
8.22 Install a blast monitor at all residences within a 2km radius of the active blasting area to monitor blast parameters.	Ongoing.	

Desired Outcome	Action	Timing
<b>9. Flora and Fauna</b>		
	8.23 Use aggregates for blast hole stemming to prevent venting of explosion gases.	During blasting. Ongoing.
	8.24 Use average size blasts (MIC 960kg) when within the range of 150m to 210m of axe grinding groove (AGGI).	When mining near axe grinding groove.
	9.1 Re-align Coochoonah Lane to avoid removal of Koala habitat.	Prior to off-site coal transportation.
	9.2 Erect fencing to exclude livestock from Koala habitat areas.	Prior to topsoil removal.
	9.3 Erect a Koala-proof fence around the active mine area.	Progressively, as required.
	9.4 Restrict speeds of all vehicles on the Project Site to 40kph.	Entire mine life.
	9.5 Utilise local tree species in revegetation of disturbed areas with an emphasis on Koala feed trees.	During rehabilitation.
	9.6 Re-establish a small area of the Endangered ecological community Native Vegetation on Cracking Clay Soils of the Liverpool Plains.	After Coochoonah Lane is re-established in pre-mining location.
	9.7 Undertake clearing so the extent is minimised and consistent with operational requirements.	Ongoing.
	9.8 Clearly define all areas to be cleared.	Ongoing.
	9.9 Transfer soil material and biomass removed beyond the first 18 to 24 months of mining directly to an active rehabilitation area, where practicable.	Ongoing.
	9.10 Undertake progressive rehabilitation of all disturbed areas.	Ongoing.
	9.11 Control noxious weeds at all times.	Ongoing.
	9.12 Adopt a strategy to rehabilitate specific areas of the Project Site to native vegetation, create and / or improve habitat corridors on and adjacent to the Project Site, and protect areas of native vegetation from agricultural activities on NMPL land external to the Project Site.	Ongoing.
	9.13 Maintain, expand and / or create several Koala habitat corridors to promote the linkage of remnant vegetation in the local area.	Ongoing.

Desired Outcome	Action	Timing	
<b>9. Flora and Fauna (cont'd)</b>			
	9.14	Conserve the existing native vegetation on the Project Site during the life of the proposal and in the final landform.	Ongoing.
	9.15	Carry out, where possible, tree removal, especially the mature trees in late spring and early autumn to avoid spring nesting birds and over-wintering bats.	Ongoing.
	9.16	Undertake inspections of mature trees for nesting birds and roosting bats prior to each clearing campaign where mature tree with hollows are to be removed.	Prior to clearing.
	9.17	Relocate any nesting and roosting hollows, as well as nests, used by listed threatened species to appropriate locations nearby.	Prior to clearing.
	9.18	Bury all stumps, branches and tree trunks from felled timber within the overburden emplacements.	Ongoing.
	9.19	Commence post-mining rehabilitation of the Box Cut area as soon as possible. Re-establish the connectivity of habitat corridor along Coochooona Lane. Commence post-mining establishment of the Koala habitat corridors between Coochooona Lane and the remnant woodlands south of the Project Site as soon as practicable to re-establish and enhance the connectivity of local Koala habitat corridors.	As early as possible during mining activity.
	9.20	Include a vertebrate pest control program as part of the mining operation and management plan.	Ongoing.
	9.21	Avoid the clearing of native vegetation along the road shoulders where the proposed coal transport route utilizes public roads.	Ongoing.
<b>10. Surface Water</b>			
Prevention of discharge of dirty, saline or contaminated water from the Project Site.	10.1	Securely store all hydrocarbon products in accordance with the approved Hydrocarbon Management Plan.	Ongoing.
	10.2	Refuel all of the NMPL's mining fleet within designated areas of the Project surface facilities.	Ongoing.
	10.3	Direct all water from wash-down areas and workshops to oil/water separators and containment systems.	Ongoing.

Desired Outcome	Action	Timing	
<b>10. Surface Water (cont'd)</b>			
Prevention of discharge of dirty, saline or contaminated water from the Project Site.	10.4	Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110% of the largest storage tank capacity.	Ongoing.
	10.5	Construct catchment banks / drains directing sediment-laden water to sediment basins.	Prior to commencing activities in relevant catchment.
	10.6	Maintain groundcover on all land that is not being used for processing facilities, administration / maintenance facilities, roads, mining activities and the overburden emplacement.	Ongoing.
	10.7	Add flocculants to dirty water within the sediment basins, if required, to expedite the settlement process.	Ongoing.
	10.8	Implement the monitoring program nominated in the Environment Protection Licence to enable appropriate auditing and management.	Ongoing.
	10.9	Record any periods when elevated levels of sediment occur in water discharged from site.	As required.
	10.10	Enlarge the sediment basins or construct additional sediment basins, if required, to capture a minimum of a 5 day 90%ile storm event.	As required. Ongoing.
Minimisation of erosion and sedimentation.	10.11	Construct an additional storage dam downstream, if required. This dam would become the new site discharge point and monitoring location.	As required. Ongoing.
	10.12	Implement a 3-phase remedial action plan in the event of a major hydrocarbon spill.	As required. Ongoing.
Adequate water is available for site dust suppression.	10.13	Prepare an annual review of the water balance for management of surface and pit water.	Annually.
<b>11. Air Quality</b>			
Site activities are undertaken without exceeding DECC air quality criteria or goals.	11.1	Fence off all land which is not to be disturbed to encourage natural regeneration.	At start of mining.
	11.2	Establish ground cover on disturbed areas and emplacement area as soon as possible.	Ongoing.
	11.3	Undertake soil stripping at a time when there is sufficient soil moisture to prevent significant lift-off of dust.	Ongoing.
	11.4	Avoid stripping soil in periods of high wind.	Ongoing.
	11.5	Use water application for dust suppression to increase soil moisture should stripping occur during periods of high wind or low soil moisture.	As required.

Desired Outcome	Action	Timing
<b>11. Air Quality (cont'd)</b>		
	11.6 Utilise water injection on the drill rigs or alternatively fit them with dust collectors.	Ongoing.
	11.7 Use aggregates for blast hole stemming to prevent venting of explosion gases.	Ongoing.
	11.8 Conduct blasting both before the establishment, and after the break up of low-level atmospheric temperature inversions.	As required.
	11.9 Avoid ripping of softer overburden material during periods of high wind.	As required.
	11.10 Spray low moisture coal with water prior to excavation to raise moisture content to >6%.	As required.
	11.11 Minimise clearing ahead of construction activities.	Ongoing.
	11.12 Water cleared areas regularly during construction activities.	During construction.
	11.13 Minimise clearing ahead of road construction.	During construction.
	11.14 Water active construction areas regularly.	Ongoing.
Site activities are undertaken without exceeding DECC air quality criteria or goals. (Cont'd)	11.15 Restrict truck speeds on roads under construction to <50kph.	During construction.
	11.16 Apply water to the coal at the feed hopper, crusher and all conveyor transfer and discharge points at the rate of approximately 2.0L/t coal processed.	Ongoing.
	11.17 Temporarily cease operation in the event of protracted dry periods, high winds and significant dust generation and dispersal towards the surrounding residences.	As required.
	11.18 Minimise the extent of clearing / site preparation in advance of mining.	Ongoing.
	11.19 Clearly define any access or haul roads and restrict vehicles and equipment to those roads.	Ongoing.
	11.20 Routinely apply water with or without chemical dust suppressants.	Ongoing.
	11.21 Progressively rehabilitate areas of disturbance including topsoil and subsoil stockpiles.	Ongoing.
	11.22 Install bund walls and wind breaks as required.	Ongoing.
	11.23 Regularly water haul roads.	Ongoing.
	11.24 Avoid coal being loaded above the truck body sides.	Ongoing.

Desired Outcome	Action	Timing
<b>11. Air Quality (cont'd)</b>		
	11.25 Cover all trucks carrying product coal from the mine with approved covers and securely fix the tailgates to prevent windblown dust emission or spillages.	Ongoing.
	11.26 Fit all earthmoving equipment on-site with exhaust controls which satisfy NSW DECC emission requirements.	Prior to commencing site activity. Ongoing.
	11.27 Ensure all equipment is properly maintained to ensure no unacceptable exhaust emissions occur and commit to the removal of any vehicle or item of mobile equipment from on-site activities which is observed not to comply with NSW DECC guidelines.	Ongoing.
	11.28 Direct the exhausts of all equipment upwards or to the side so as not to impinge on the ground and cause dust lift-off.	Ongoing.
	11.29 Undertake an air quality monitoring program to demonstrate compliance with the nominated goals specified in the Environment Protection Licence. <ul style="list-style-type: none"> <li>•1 Deposited dust at selected residences and strategic locations surrounding the Project Site.</li> <li>•2 Continuous wind speed and direction at the Project Site weather station.</li> <li>•3 PM<sub>10</sub> dust at a residence nearby six day cycle.</li> </ul> Refer Section 4B.5.8.	Ongoing.  Monthly / Ongoing  Continuous.  Six day cycle.
	11.30 Avoid burning vegetation.	Ongoing.
	11.31 Use water injection or dust collectors during drilling.	During drilling.
Site activities are undertaken without exceeding DECC air quality criteria or goals. (Cont'd)	11.32 Avoid ripping softer overburden material during periods of high wind.	Ongoing.
	11.33 Establish and maintain a dust monitoring program in line with recommended locations.	Ongoing.
	11.34 Install and maintain an automatic weather station within the Project Site.	Established
Minimise Greenhouse Gas Emissions wherever possible.	11.35 Adopt strategies to reduce GHG environs as nominated in EA Section 4B.5.5.4.	Ongoing.
Avoidance of accumulation of coal dust in domestic water tanks.	11.36 Install first flush devices on the domestic water tanks at "Werona", "Ivanhoe", "Mulwalla", "Mulwalla (2)", "Innisvale", "Sugarloaf", "Lilydale", "Woodlawn", "Plain View", "Illili", "Glendower", "Ferndale" and "Eulalie".	Prior to recovery of coal.

Desired Outcome	Action	Timing
<b>12. Aboriginal Heritage</b>		
Provide appropriate protection to identified Aboriginal artefacts.	12.1 Undertake medium sized blasts when open cut pit is near axe grinding groove.	As required.
	12.2 Cover axe grinding groove with straw bales to prevent possible fly rock damage when blasting is nearby.	As required.
Minimise potential to impact upon unidentified Aboriginal artefacts.	12.3 Invite Aboriginal monitors to site for all soil stripping and ground disturbance activities. Manage any sites detected in accordance with the relevant acts.	Ongoing.
	12.4 Cease work at any area if further Aboriginal objects are uncovered during the course of the Project, and contact the NSW DECC for advice.	Ongoing.
Employees who are sensitive and respectful of possible identified Aboriginal sites and artefacts.	12.5 Conduct a Cultural Heritage Awareness Induction Course for staff, contractors and any heritage monitors working on the Project Site to help raise awareness and ameliorate any impact on heritage sites during site establishment and subsequent mining activities.	During induction of employees/contractors.
<b>13. Visibility</b>		
Restriction of vantage points of Project activities from neighbouring residences and public roads.	13.1 Minimise cleared or non-vegetated areas by progressively rehabilitating the Project Site.	Ongoing.
	13.2 Design the overburden emplacements to as much as possible, replicate existing topographic features.	During planning and design.
	13.3 Minimise the extent of land disturbance / clearing in advance of mining.	Ongoing.
	13.4 Implement air quality controls as identified in Section 4B.5.5.	Ongoing.
	13.5 Maintain the mine and associated areas of disturbance in a clean and tidy condition at all times.	Ongoing.
	13.6 Construct amenity bund around coal processing area to provide visual screening.	At start of Project.
The operation of the Siding Springs Observatory is not affected by Project operations.	13.7 Use a maximum of six lighting plants for night-time activities.	Ongoing.
	13.8 Position and direct floodlights to minimise emissions.	Ongoing.
Ongoing communication with neighbours.	13.9 Maintain regular communications with those residents whose visual amenity is affected by the Project and implement any reasonable additional controls to further reduce the impact on their visual amenity.	Ongoing.

Desired Outcome	Action	Timing	
<b>14. Soils, Land Capability and Agricultural Suitability</b>			
Maintenance of soil value for rehabilitation and minimisation of soil loss through erosion.	14.1	Strip topsoil from each SMU to a depth of 15cm. Stockpile topsoil for later retrieval and spreading over specific areas during the first 18 to 24 months of mine operations. Beyond this period, Project Site topsoil would be typically directly transferred onto sections of the final landform.	Ongoing.
	14.2	Strip subsoil from each SMU to a depth of 50cm below the topsoil. Stockpiles would be available for re-spreading as areas become available for rehabilitation.	Ongoing.
	14.3	Strip further subsoil to bedrock and segregate each SMU.	Ongoing.
	14.4	Place higher alkalinity soils over the surface of the overburden emplacement to provide neutralising capacity in the event pockets of acid forming rock are encountered.	Ongoing.
	14.5	Install erosion protection around stockpiles of this material with direct transfer from source to sink commenced as soon as practicable.	Ongoing.
	14.6	Topsoil stockpiles not exceed 2m in height and where practicable, be maintained as windrows in preference to larger structures.	Ongoing.
	14.7	Seed any stockpiles with a non-persistent cover crop as soon as possible after they have been established to reduce erosion potential and assist in the maintenance of the biological viability of the soil.	Ongoing.
	14.8	Subsoil stockpiles to generally not exceed 3m in height and typically be placed in larger stockpiles than the topsoil.	Ongoing.
	14.9	Maintain and regularly reconcile with rehabilitation requirements an inventory of soil resources present on the Project Site, ie. both in stockpiles and awaiting stripping.	Ongoing.
	14.10	Utilise water management structures to divert surface water flow away from soil stockpile areas to reduce the potential for erosion.	Ongoing.
	14.11	Place silt-stop fencing or similar immediately downslope of stockpiles where required, until stable vegetation cover is established.	Ongoing.
	14.12	Monitor erosion from soil stockpiles or rehabilitated surfaces throughout the life of the Project with remedial works undertaken should erosion be observed.	Ongoing.

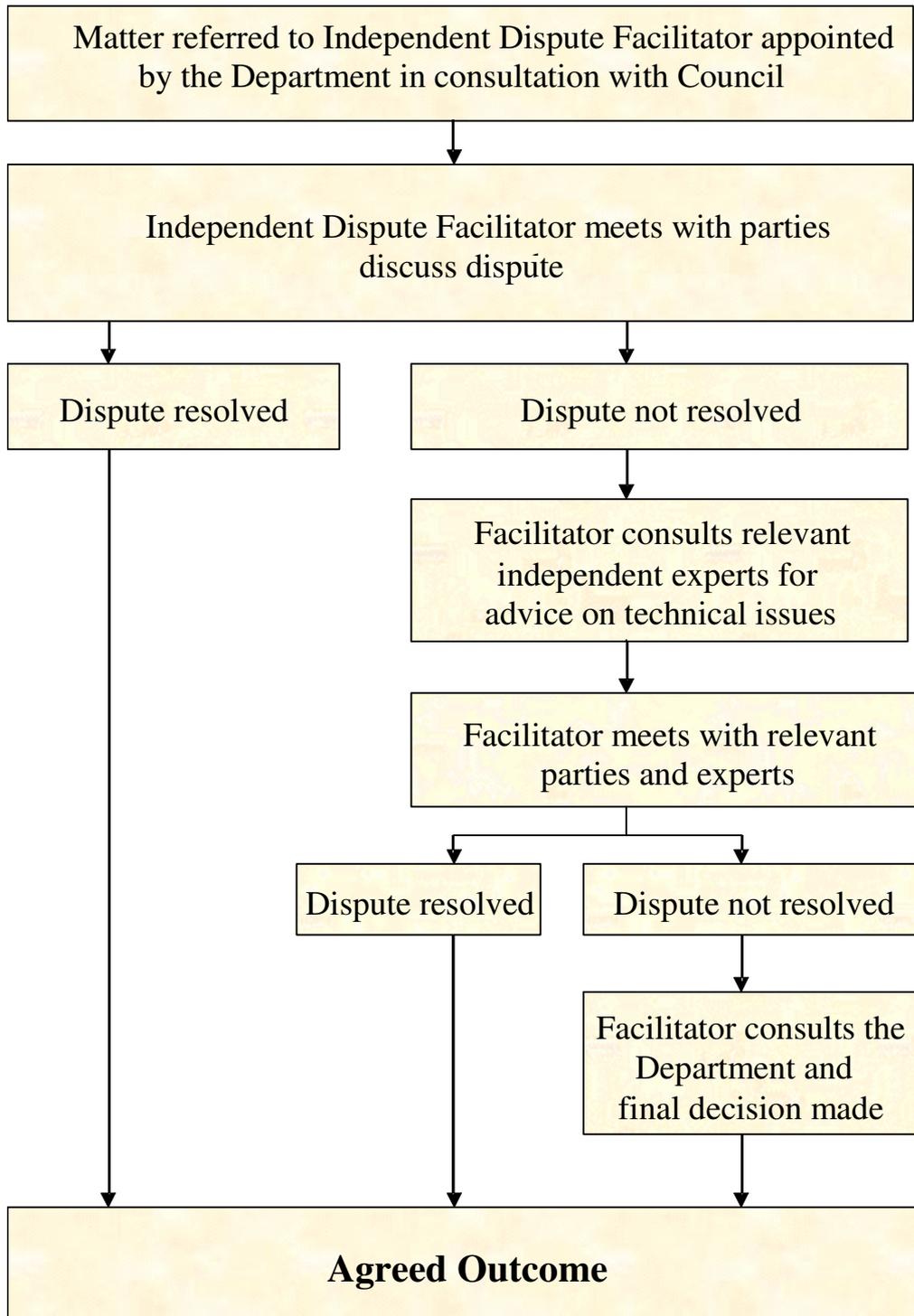
Desired Outcome	Action	Timing
<b>14. Soils, Land Capability and Agricultural Suitability (cont'd)</b>		
	14.13 Undertake all clearing and topsoil stripping in campaigns on an as-needs basis.	Ongoing.
<b>15. Bushfire Controls</b>		
Avoid fire initiation.	15.1 Clear vegetation away from blast (>20m).	During blasting.
	15.2 Remove all coal from open cut around blast.	As required. Ongoing
	15.3 Undertake blast design by qualified personnel.	Ongoing.
	15.4 Undertake refuelling within designated fuel bays or within cleared area of the Project Site.	Ongoing.
	15.5 Turn vehicle engines off during refuelling.	Ongoing.
	15.6 Enforce no smoking policy in designated areas of the Project Site.	Ongoing.
	15.7 Maintain fire extinguishers within all site vehicles.	Ongoing.
	15.8 Regularly inspect and water stockpiles.	Ongoing.
	15.9 Control stockpile height and volume to limit the duration coal is retained in stockpiles.	Ongoing.
	15.10 Maintenance of housekeeping by mine management.	Ongoing.
	15.11 Ensure water cart is available to assist in extinguishing any fire ignited.	Ongoing.
<b>16. Socio-Economic</b>		
	16.1 Implement a policy which encourages employment of local district personnel with training and certification of suitable local persons provided.	During recruitment and induction. Ongoing.
	16.2 Provide a local induction kit to any new workers (from outside the district) including contact details for community groups and services throughout the region.	New arrivals. Ongoing.
	16.3 Inform Gunnedah Council of the predicted increase of population based on employment at the Project.	During recruitment. Ongoing.
	16.4 Establish a community enhancement fund to the value of \$500,000.	Five equal annual payments commencing within 3 months of the receipt of Project Approval.

Desired Outcome	Action	Timing	
<b>17. Rehabilitation</b>			
Ensure ongoing viable landuse post-mining.	17.1	Stabilise earthworks, drainage lines and disturbed areas no longer required for mine-related activities in order to minimise erosion and the associated generation of sediment-laden water, and to reduce the visibility of activities from adjacent properties and the local road network.	Ongoing.
	17.2	Provide a low maintenance, geotechnically and safe landform which is commensurate with a variety of agricultural land uses and / or nature conservation.	Ongoing.
	17.3	Blend the created landforms with the surrounding land fabric as far as practicable.	Ongoing.
	17.4	Utilise native tree, shrub and grass species and / or pasture species comparable with either the existing vegetation communities or those which occurred in the area prior to mining and agriculture-related disturbance.	Ongoing.
	17.5	Rehabilitate out-of-pit emplacement with agricultural pasture species and incorporate random tree plantings.	Ongoing.
<b>18. Management Plans</b>			
Develop and implement a series of Management Plans to assist with appropriate control of potentially impacting activities.	18.1	Mining Operations Plan.	Prior to commencement of any site activities.
	18.2	Koala Management Plan.	Prior to commencing site activities.
	18.3	Vegetation Management Plan.	Prior to commencing site activities.
	18.4	Blast Monitoring Plan.	Prior to blasting commencing and ongoing.
	18.5	Surface Water Management Plan.	Already produced and to be updated prior to site activities.
	18.6	Waste Management Plan.	Within 6 months of the start of site establishment.
	18.7	Spontaneous Combustion Monitoring Plan.	Within 6 months of the start of mining operations.
	18.8	Hydrocarbon Management Plan.	Prior to commencing site activities.
	18.9	Mine Closure Plan.	At least 2 years prior to mine closure.

Desired Outcome	Action	Timing
<b>18. Management Plans (cont'd)</b>		
	18.10 Prepare a Traffic Management Plan to ensure appropriate procedures are in place for public traffic during the realignment of Coocooboonah Lane and intersection upgrades – for submission with Section 138 permit applications to Gunnedah Shire Council and RTA.	Prior to commencement of the realignment of Coocooboonah Lane and intersection upgrades.
	18.11 Construction Noise Management Plan.	Prior to commencement of site activities.
	18.12 Operations Noise Management Plan.	Prior to commencing Project Operations stage.
	18.13 Traffic Noise Management Plan.	Prior to commencement of coal transportation.
	18.14 Air Quality Monitoring Plan.	Prior to commencing site activities.
	18.15 Groundwater Management Plan	Within 6 months of the start of mining operations.
	18.16 Archaeological Site Management Plan.	Prior to blasting commencing.
	18.17 Bushfire Management Plan.	Prior to commencing site activities.

APPENDIX 4  
INDEPENDENT DISPUTE RESOLUTION PROCESS

**Independent Dispute Resolution Process  
(Indicative only)**



## Appendix 2

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# ENVIRONMENT PROTECTION LICENCE 12957

# Environment Protection Licence

Licence - 12957

**Licence Details**

Number:	12957
Anniversary Date:	15-December
Review Due Date:	18-Aug-2014

**Licensee**

NAMOI MINING PTY. LTD.  
PO BOX 600  
GUNNEDAH NSW 2380

**Licence Type**

Premises

**Premises**

Sunnyside Coal Project  
259 Coccooboonah Lane  
GUNNEDAH NSW 2380

**Scheduled Activity**

Mining for coal  
Coal works

**Fee Based Activity**

Mining for coal  
Coal works

**Scale**

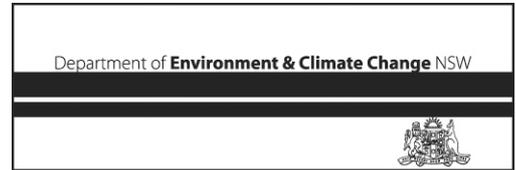
> 500000 - 2000000 T produced  
0 - 2000000 T loaded

**Region**

North West - Armidale  
Level 1, NSW Govt Offices, 85 Faulkner Street  
ARMIDALE NSW 2350  
Phone: 02 6773 7000  
Fax: 02 6772 2336  
  
PO Box 494 ARMIDALE  
NSW 2350

# Environment Protection Licence

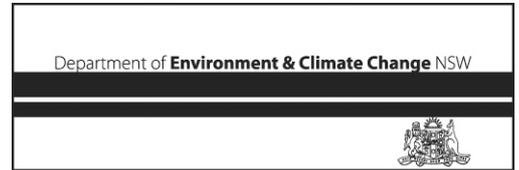
Licence - 12957



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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees.

# Environment Protection Licence

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The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

## Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

## Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

## This licence is issued to:

<b>NAMOI MINING PTY. LTD.</b>
<b>PO BOX 600</b>
<b>GUNNEDAH NSW 2380</b>

subject to the conditions which follow.

## 1 Administrative conditions

### A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2.  
Construction of surface infrastructure including but not limited to access roads, intersection and surface facilities prior to mining

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises

# Environment Protection Licence

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specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity
Mining for coal
Coal works

Fee Based Activity	Scale
Mining for coal	> 500000 - 2000000 T produced
Coal works	0 - 2000000 T loaded

A1.3 The licensee must not carry on any scheduled activities until the scheduled development works are completed, except as elsewhere provided in this licence.

## A2 Premises to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
<b>Sunnyside Coal Project</b>
<b>259 Coocooboonah Lane</b>
<b>GUNNEDAH</b>
<b>NSW</b>
<b>2380</b>
<b>LOT 1 DP 393755; LOTS 12, 162 DP 755503 LOT 16 DP 755031</b>

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## **A3 Other activities**

A3.1 Not applicable.

## **A4 Information supplied to the EPA**

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- (a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
- (b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

## **2 Discharges to air and water and applications to land**

### **P1 Location of monitoring/discharge points and areas**

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

*Air*

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
1	Ambient Air Monitoring		Deposited dust location labelled 'SD1' on property Ferndale identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.
2	Ambient Air Monitoring		Deposited dust location labelled 'SD3' on property PlainView identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 Dec 2008.
3	Ambient Air Monitoring		Deposited dust location labelled 'SD4' on property Lilydale identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.
4	Ambient Air Monitoring		Deposited dust location labelled 'SD5' on property Ivanhoe identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.
5	Ambient Air Monitoring		Deposited dust location labelled 'SD6' on property Illili identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.

# Environment Protection Licence



Licence - 12957

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
6	Ambient Air Monitoring		Deposited dust location labelled 'SD7' on property Innisvale identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.
7	Ambient Air Monitoring		PM10 location labelled 'SA1' on property Illili identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.
8	Ambient Air Monitoring		PM10 location labelled 'SA2' on property Lilydale identified on Figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, 10 December 2008" submitted to DECC in email dated 12 December 2008.

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

P1.3 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

*Water and land*

EPA identification no.	Type of monitoring point	Type of discharge point	Description of location
9	Wet weather discharge  Discharge water quality monitoring	Wet weather discharge  Discharge water quality monitoring	Discharge point from Storage Dam 3 located on northern side of premises labelled "SD3" on figure titled "Proposed Wet Weather Discharge Monitoring Points" submitted with licence variation application dated 14 May 2009.
10	Wet weather discharge  Discharge water quality monitoring	Wet weather discharge  Discharge water quality monitoring	Discharge point from Storage Dam 4 located on northern side of premises labelled "SD4" on figure titled "Proposed Wet Weather Discharge Monitoring Points" submitted with licence variation application dated 14 May 2009.
11	Ambient water quality monitoring		Monitoring point on Coochooboonah Creek upstream of project site labelled "CCUS" on figure titled "Proposed Wet Weather Discharge Monitoring Points" submitted with licence variation application dated 14 May 2009.
12	Ambient water quality monitoring		Monitoring point on Coochooboonah Creek downstream of project site labelled "CCDS" on figure titled "Proposed Wet Weather Discharge Monitoring Points" submitted with licence variation application dated 14 May 2009.

P2 The following point(s) in the table are identified in this licence for the purpose of the monitoring of weather parameters at the point.

EPA identification number	Type of Monitoring Point	Description of Location
W1	Weather analysis	Weather monitoring station on Sunnyside labelled as W1 in figure titled "Sunnyside Coal Mine - Air Quality Monitoring Network and Sunnyside Meteorological Station, dated 10 December 2008"



### 3 Limit conditions

#### L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

#### L2 Load limits

L2.1 Not applicable.

L2.2 Not applicable.

#### L3 Concentration limits

L3.1 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.

#### *Water and Land*

#### POINTS 9,10

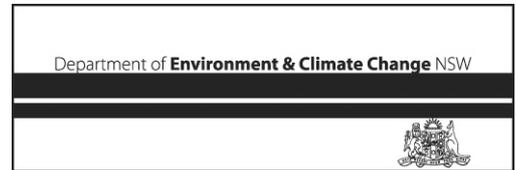
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit
Oil and Grease	milligrams per litre	-	-	-	10
pH	pH	-	-	-	6.5 - 8.5
Total suspended solids	milligrams per litre	-	-	-	50

L3.4 The Total Suspended Solids concentration limits specified for Points 9 and 10 may be exceeded for water discharged provided that:

- (a) the discharge occurs solely as a result of rainfall measured at the premises that exceeds 38.4 millimetres over any consecutive 5 day period immediately prior to the discharge occurring; and

# Environment Protection Licence

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- (b) all practical measures have been implemented to dewater all sediment dams within 5 days of rainfall such that they have sufficient capacity to store run off from a 38.4 millimetre, 5 day rainfall event.

Note: 38.4 mm equates to the 5 day 90%ile rainfall depth for Gunnedah sourced from Table 6.3a Managing Urban Stormwater: Soils and Construction Volume 1: 4<sup>th</sup> edition, March 2004.

## L4 Volume and mass limits

- L4.1 Not applicable.

## L5 Waste

- L5.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.
- L5.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

## L6 Noise Limits

- L6.1 Noise from the premises must not exceed:

- (a) an  $L_{10(15\text{ minute})}$  noise emission criterion of 40 dB(A) during initial construction period; and
- (b) an  $L_{Aeq(15\text{ minute})}$  noise emission criterion of 35 dB(A) at all times (day, evening and night time periods);

### L6.2 Definitions

$L_{Aeq(15\text{ minute})}$  is the equivalent continuous noise level- the level of noise equivalent to the energy-average of noise levels occurring over a measures period (i.e. 15 minutes).

$L_{A1(1\text{ minute})}$  is the A-weighted sound pressure level that is exceeded for 1 per cent of the time over a 1 minute measurement period.

Day time is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and public holidays.

Evening is defined as the period from 6pm to 10pm.

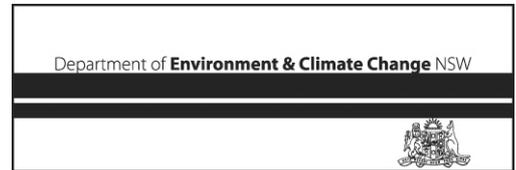
Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

Initial Construction Period is limited to a maximum of a 6 month period from commencement of construction activities on the premises.

### Notes

# Environment Protection Licence

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To determine compliance with the LAeq (15 minute) noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30m of a dwelling where the dwelling is more than 30m from the boundary, over a period of 15 minutes using "FAST" response on the sound level meter.

To determine compliance with  $L_{A1(1\text{ minute})}$  noise limits, noise from the project is to be measured at 1 metre from the dwelling façade.

Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Policy).

The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

- L6.3 The noise emission limits identified in this licence apply under all meteorological conditions except:
- during rain and wind speeds (at 10m height) greater than 3m/s; and
  - under "non-significant weather conditions".

Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.

- L6.4 The noise limits set by condition L6.1 of the licence do not apply where a current legally binding agreement exists between the licensee and the occupant of a residential property that:

- agrees to an alternative noise limit for that property; or
- provides an alternative means of compensation to address noise impacts from the premises.

A copy of any agreement must be provided to the EPA before the licensee can take advantage of the agreement.

## L7 Blasting limits

- L7.1 The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- L7.2 The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- L7.3 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.
- L7.4 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

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## L8 Hours of Operation

- L8.1 Construction activities covered by this licence must only be carried out between the hours of 0700 to 1800 hrs Monday to Friday and between 0700 and 1600 hrs Saturday and at no time on Sundays and Public Holidays.
- L8.2 Mining operations covered by this licence (other than transport of coal from the premises and blasting) must only be carried out between the hours of 0700 and 2200 hrs Monday to Friday, and 0700 and 1800 hrs Saturday, and at no time on Sundays and Public Holidays.
- L8.3 Transportation of coal from the premises must only be carried out between the hours of 0700 and 1800 (Eastern Standard Time) hrs Monday to Friday, and 0700 and 2000 hrs (Eastern Summer Time) Monday to Friday, and 0700 to 1600 hrs on Saturdays, and at no time on Sundays and Public Holidays.
- L8.4 Blasting in or on the premises must only be carried out between the hours of 1000 and 1700 hours Monday to Friday, and 1000 and 1400 hrs on Saturdays, and no time on Sundays and Public Holidays.
- L8.5 Conditions L8.1, L8.2, L8.3 and L8.4 do not apply to the delivery of material, and mining operation, if required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances notification must be provided to the EPA and affected residents as soon as practicable.
- L8.6 The hours of operation specified in conditions L8.1, L8.2, L8.3 and L8.4 may be varied with written consent if the EPA is satisfied that the amenity of the residents in the locality will not be adversely affected.

## L9 Extraction limits

- L9.1 The maximum tonnage of extraction of ROM coal at the premises during the reporting period must not exceed 1 million tonnes.

## 4 Operating conditions

### O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- (a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- (b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.



## **O2 Maintenance of plant and equipment**

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- (a) must be maintained in a proper and efficient condition; and
  - (b) must be operated in a proper and efficient manner.

## **O3 Dust**

- O3.1 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.
- O3.2 Trucks transporting coal from the premises must be covered immediately after loading to prevent wind blown emissions and spillage. The covering must be maintained until immediately before unloading the trucks.

# **5 Monitoring and recording conditions**

## **M1 Monitoring records**

- M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.
- M1.2 All records required to be kept by this licence must be:
- (a) in a legible form, or in a form that can readily be reduced to a legible form;
  - (b) kept for at least 4 years after the monitoring or event to which they relate took place; and
  - (c) produced in a legible form to any authorised officer of the EPA who asks to see them.
- M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
- (a) the date(s) on which the sample was taken;
  - (b) the time(s) at which the sample was collected;
  - (c) the point at which the sample was taken; and
  - (d) the name of the person who collected the sample.

## **M2 Requirement to monitor concentration of pollutants discharged**

- M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

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## POINTS 1,2,3,4,5,6

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Continuous	AM-19

## POINTS 7,8

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Continuous	AM-18

## POINTS 9,10

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Special Frequency 1	In situ
Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
Total organic carbon	milligrams per litre	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	In situ

## POINTS 11,12

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Special Frequency 2	In situ
Oil and Grease	milligrams per litre	Special Frequency 2	Grab sample
Total organic carbon	milligrams per litre	Special Frequency 2	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample
pH	pH	Special Frequency 2	In situ

### Note:

Water monitoring requirements will be included as part of a licence variation following completion of construction works of the approved site water management plan as documented in the report "*Site Water Management Plan for the Sunnyside Coal Mine, Namoi Mining Pty. Ltd., 8/8/2008*"

## M3 Testing methods - concentration limits

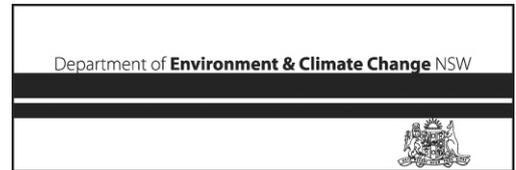
M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:

- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
- if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
- if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The Protection of the Environment Operations (Clean Air) Regulation 2002 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

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**M3.2** Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

For the purposes of the table(s) above Special Frequency 1 means the collection of samples as soon as practicable after each discharge commences and in any case not more than 12 hours after each discharge commences.

For the purposes of the table(s) above Special Frequency 2 means the collection of samples quarterly (in the event of a flow during the quarter) at a time when there is flow and as soon as practicable after each wet weather discharge from points 9 and 10 commences and in any case not more than 12 hours after each discharge commences.

Note: Groundwater monitoring points have not been formally included in the licence. However, the licensee is required to undertake groundwater monitoring in accordance with a Department of Planning approved Water Management Plan required under Schedule 3, condition 2 Project Approval 06-0308 dated 24 May 2008. The licensee has submitted the document "*Site Water Management Plan for the Sunnyside Coal Mine, Namoi Coal Mining Pty Ltd, 2008.*" This document has been approved by Planning following consultation by the licensee with the EPA. The results of this monitoring are required to be reported in the Annual Environmental Management Report (AEMR) and submitted to the EPA under the conditions of approval.

## **M4 Recording of pollution complaints**

**M4.1** The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

**M4.2** The record must include details of the following:

- (a) the date and time of the complaint;
- (b) the method by which the complaint was made;
- (c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- (d) the nature of the complaint;
- (e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- (f) if no action was taken by the licensee, the reasons why no action was taken.

**M4.3** The record of a complaint must be kept for at least 4 years after the complaint was made.

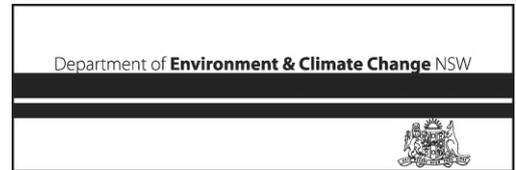
**M4.4** The record must be produced to any authorised officer of the EPA who asks to see them.

## **M5 Telephone complaints line**

**M5.1** The licensee must operate during its operating hours a telephone complaints line for the purpose

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of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

- M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M5.3 Conditions M5.1 and M5.2 do not apply until 3 months after:
- the date of the issue of this licence or
  - if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

## M6 Requirement to monitor volume or mass

- M6.1 Not applicable.

Note:

Volume monitoring requirements will be included as part of a licence variation following completion of construction works of the approved site water management plan as documented in the report "Site Water Management Plan for the Sunnyside Coal Mine, Namoi Mining Pty. Ltd., 8/8/2008"

## M7 Requirement to monitor weather

- M7.1 For each monitoring point specified in the table below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

### Point W1

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm	Continuous	1 hour	AM-4
Wind speed @ 10 metres	m/s	Continuous	15 minute	AM-2 & AM-4
Wind direction @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4
Temperature @ 2 metres	°C	Continuous	15 minute	AM-4
Temperature @ 10 metres	°C	Continuous	15 minute	AM-4
Sigma theta @ 10 metres	°	Continuous	15 minute	AM-2 & AM-4
Solar radiation	W/m <sup>2</sup>	Continuous	15 minute	AM-4
Additional requirements - Siting - Measurement				AM-1 & AM-4 AM-2 & AM-4
.	.	.	.	.
.	.	.	.	.

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## M8 Noise and Blast Monitoring

M8.1 For each monitoring point specified below, the Licensee must monitor the noise or vibration parameter specified in Column 1. The Licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns.

### POINTS: R2, R4, R5, and R6

Parameter	Units of measure	Frequency	Sampling Method
Ambient Noise	L <sub>Aeq</sub> (15 minute) L <sub>Amax</sub> L <sub>A10</sub> L <sub>A90</sub> L <sub>Amin</sub>	Frequency of monitoring as detailed in the document "Noise Monitoring Program for the Sunnyside Coal Project, incorporating a Noise Management Protocol and Noise Monitoring Program, Namoi Mining Pty. Ltd, dated 1/8/08"	Type 1 Noise Meter –Attended monitoring as detailed in the document "Noise Monitoring Program for the Sunnyside Coal Project, incorporating a Noise Management Protocol and Noise Monitoring Program, Namoi Mining Pty. Ltd, dated 1/8/08"

M8.2 To determine compliance with condition(s) L7.1, L7.2, L7.3 and L7.4:

- Airblast overpressure and ground vibration levels must be measured and electronically recorded at receptors R1, R2, R4 and R6 - for all blasts carried out in or on the premises; and
- Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.

M8.3 For the purpose of conditions M8.1 and M8.2, the noise monitoring locations are described as:

EPA No.	Identification	Description of Location
R1		Property 'Innisvale' residence
R2		Property 'Ivanhoe' residence
R4		Property 'Illili' residence
R5		Property "Ferndale" residence
R6		Property 'Plain View' residence

Note: The location, frequency of monitoring and the parameters to be monitored may be varied by the EPA once the variability of the noise impact is established.

## 6 Reporting conditions



## R1 Annual return documents

### What documents must an Annual Return contain?

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- (a) a Statement of Compliance; and
  - (b) a Monitoring and Complaints Summary.
- A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

### Period covered by Annual Return

- R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

- R1.3 Where this licence is transferred from the licensee to a new licensee:
- (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
  - (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

- R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
- (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
  - (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

### Deadline for Annual Return

- R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

### Notification where actual load can not be calculated

- R1.6 Not applicable.

### Licensee must retain copy of Annual Return

- R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.



## **Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary**

R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- (a) the licence holder; or
- (b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.9 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

## **R2 Notification of environmental harm**

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

## **R3 Written report**

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- (a) where this licence applies to premises, an event has occurred at the premises; or
- (b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,

and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

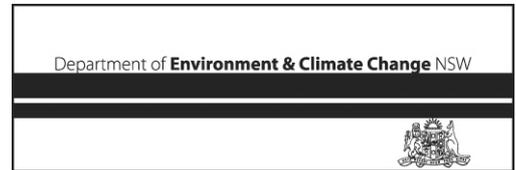
R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- (a) the cause, time and duration of the event;
- (b) the type, volume and concentration of every pollutant discharged as a result of the event;
- (c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- (d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- (e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;

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- (f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- (g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## R4 Blast reporting

- R4.1 The licensee must report any exceedence of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedence becomes known to the licensee or to one of the licensee's employees or agents.
- R4.2 The results of the blast monitoring required by condition M8.2 must be submitted to the EPA at the end of each reporting period.

## General conditions

### G1 Copy of licence kept at the premises

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

## Pollution studies and reduction programs

## Special conditions

## Dictionary

### General Dictionary

In this licence, unless the contrary is indicated, the terms below have the following meanings:

# Environment Protection Licence



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<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 1998.
<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time

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<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>TSP</b>	Means total suspended particles
<b>TSS</b>	Means total suspended solids
<b>Type 1 substance</b>	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
<b>Type 2 substance</b>	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements

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**utilisation area**

Means any area shown as a utilisation area on a map submitted with the application for this licence

**waste**

Has the same meaning as in the Protection of the Environment Operations Act 1997

**waste type**

Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Stephen O'Donoghue

Environment Protection Authority

(By Delegation)

Date of this edition - 18-Aug-2009

## End Notes

- 1 Licence varied by notice 1103274, issued on 18-Aug-2009, which came into effect on 18-Aug-2009.

## Appendix 3

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### COMPLIANCE REVIEWS

- PA 06\_0308 (Table A3-1)
- Environment Protection Licence  
No 12957 (Table A3-2)
- ML 1624 (Table A3-3)

**TABLE A3.1**  
**Compliance Review – PA 06\_0308**

Condition	Conditional Requirement	Compliance	Comments
<b>Schedule 2: Administrative Conditions</b>			
1.	The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Yes	Activities on site are undertaken on the basis of minimising harm to the environment.
2.	The Proponent shall carry out the project generally in accordance with the: a) EA; b) Sunnyside Coal Project Response to Public and government Agency Submissions Government Agency Submissions (June 2008); c) Sunnyside Coal Project Supplementary Response to Submissions (July 2008) d) Statement of Commitments (see Appendix 3); and e) Conditions of this approval.	Yes	The activities on site were being undertaken in accordance with the nominated documents.
3.	If there is an inconsistency between the above documents, the latter document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	Not Applicable	
4.	The Proponent shall comply with any reasonable and feasible requirements of the Director-General arising from the Departments assessment of: (a) any reports, plans, programs, strategies or correspondence that are submitted in accordance with the conditions of this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs, strategies or correspondence.	Yes	Any requests by the Department have been addressed.
5.	Mining operations may take place on the site for 7 years from the grant of the mining lease for the project. <i>Note: Under this Approval, the Proponent is required to rehabilitate the site to the satisfaction of the Director-General and DPI. Consequently this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been rehabilitated to a satisfactory standard.</i>	Not Yet Applicable	
6.	The Proponent shall not extract more than 1 million tonnes of ROM coal a year from the site.	Yes	During the reporting period 298,492 tonnes of ROM coal was extracted.
7.	The Proponent shall use the coal transport route shown in Figure 2 of Appendix 2 to transport all coal from the site to the Whitehaven Siding CHPP.	Yes	As per condition.
8.	Construction activities may take place only between 7 am to 6 pm each Monday to Friday and 7 am to 4pm on Saturdays, and not on Public Holidays.	Yes	All construction activities were undertaken within the hours set out in this condition.

Condition	Conditional Requirement	Compliance	Comments
9.	Mining operations may take place only between 7 am to 10 pm each Monday to Friday and 7 am to 6 pm on Saturdays, and not on Public Holidays.	Yes	As per condition.
10.	Transport of coal may take place only between 7 am to 6 pm Monday to Friday (or between 7 am to 8 pm during Eastern Summer Time) and between 7 am to 4 pm on Saturdays, and not on Public Holidays.	Yes	As per condition.
11.	With the approval of the Director-General, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.	Not Yet Applicable	
12.	The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. <i>Notes:</i> <ul style="list-style-type: none"> <li>Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.</li> <li>Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	Yes	As per condition.
13.	The Proponent shall ensure that all demolition work is carried out in accordance with <i>Australian Standard 2601-2001: The Demolition of Structures</i> , or its latest version.	Not Yet Applicable	No demolition works during Reporting Period.
14.	The Proponent shall ensure that all plant and equipment used on site is: <ul style="list-style-type: none"> <li>(a) maintained in a proper and efficient condition; and</li> <li>(b) operated in a proper and efficient manner.</li> </ul>	Yes	All plant and equipment maintained in a proper and efficient manner.
15.	By 31 November 2008, and on each anniversary of that date until and including 2012, the Proponent shall provide development contributions of \$100,000 per annum to the Gunnedah Shire Council for expenditure by the Council on community enhancement projects.	Yes	As per condition.
<b>Schedule 3: Specific Environmental Conditions</b>			
1.	Upon receiving a written request for acquisition from the owner of "Lilydale", the Proponent shall acquire the land in accordance with the procedures in conditions 8-10 of schedule 4.	Not Applicable	Property purchased at commencement of the project.
2.	The Proponent shall ensure that the noise generated during the construction of the project does not exceed the level set out in Table 1. <ul style="list-style-type: none"> <li>Over the day/evening limit of 40 LA10(15 minute), for any residences on, or more than 25% of, any privately owned land (except at "Lilydale")</li> </ul>	Yes	As per condition.

Condition	Conditional Requirement	Compliance	Comments
3.	<p>The Proponent shall ensure that the noise generated during mining operations and other activities on the site does not exceed the level set out in Table 2:</p> <ul style="list-style-type: none"> <li>Over the day/evening limit of 35 LAeq(15 minute), for any residences on, or more than 25% of, any privately owned land (except at "Lilydale")</li> </ul> <p>However, if the Proponent has a written negotiated noise agreement with the landowner of any land, and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 or Table 2 on that land in accordance with the negotiated noise agreement.</p>	No	See Section 3.10.3 for details regarding exceedances.
4.	<p>If the noise generated by the project exceeds the level in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 8-10 of schedule 4.</p> <ul style="list-style-type: none"> <li>Over the day/evening limit of 40 LAeq(15 minute), for any residences on, or more than 25% of, any privately owned land (except at "Lilydale")</li> </ul>	Not Applicable	No written requests received to date.
5.	<p>Upon receiving a written request from the landowner of:</p> <p>(a) "Illili", "Ferndale", or</p> <p>(b) any residence on privately owned land where noise generated by the project exceeds 37 dB(A) LAeq(15 minute), the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner. These additional mitigation measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>Within 3 months of this approval, the Proponent shall notify all applicable landowners of their entitlements under this condition.</p>	Not Applicable	No written requests received to date.
6.	<p>The Proponent shall implement all reasonable and feasible measures to ensure that the traffic noise generated by the project combined with the traffic noise generated by other mines does not exceed the level in Table 4:</p> <ul style="list-style-type: none"> <li>Over the day/evening limit of 55 LAeq(1 hour), for any residence adjacent to Torrens Road</li> </ul> <p><i>Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECC's Environmental Criteria for Road Traffic Noise.</i></p>	No	See Section 3.10.3 for details regarding exceedances.

Condition	Conditional Requirement	Compliance	Comments
7.	<p>If the traffic noise generated by the project exceeds the criterion in Table 4, the Proponent shall, upon receiving a written request from any landowner adjacent to Torrens Road, implement noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner.</p> <p>These additional mitigation measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p>Within 3 months of this approval, the Proponent shall notify all applicable landowners of their entitlements under this condition.</p>	Not yet applicable	No written requests received to date.
8.	<p>The Proponent shall:</p> <p>(a) implement all reasonable and feasible best practice noise mitigation measures;</p> <p>(b) investigate ways to reduce the noise generated by the project, including off-site road and rail noise and;</p> <p>(c) report on these investigations and the implementation and effectiveness of these measures in the AEMR, to the satisfaction of the Director-General.</p>	Yes	Amenity bunds constructed to minimise noise impacts. Noise exceedances initiated investigation and a consultant was approached to provide noise reduction recommendations (no recommendations received to date). See Section 3.10.3 for further details on noise mitigation initiatives.
9.	<p>The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <p>(a) be prepared in consultation with the DECC;</p> <p>(b) be submitted to the Director-General for approval prior to carrying out any development on site; and</p> <p>(c) include:</p> <ul style="list-style-type: none"> <li>• attended monitoring measures; and</li> <li>• a noise monitoring protocol for evaluating compliance with the noise impact assessment and</li> </ul>	Yes	Plan approved by DG – 20 <sup>th</sup> October 2008.
10.	<p>The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 5 and any residence on privately-owned land.</p> <ul style="list-style-type: none"> <li>• 115dB<sub>L</sub>, Allowable exceedances: 5% of the total number of blasts in a 12 month period.</li> <li>• 120dB<sub>L</sub> at any time.</li> </ul>	Yes	No exceedance. See Section 3.9 and Appendix 6.

Condition	Conditional Requirement	Compliance	Comments
11.	<p>The Proponent shall ensure that the ground vibration level from blasting, or any other activity at the project does not exceed the criteria in Table 6 at any residence on privately-owned land.</p> <ul style="list-style-type: none"> <li>• 5mm/s, Allowable exceedances: 5% of the total number of blasts in a 12 month period.</li> <li>• 10mm/s at any time.</li> </ul>	Yes	All ground vibration levels at non-project-related residences were less than 5mm/s. See Section 3.9 and Appendix 6.
12.	The Proponent shall carry out blasting on site only between 10 am and 5 pm each Monday to Friday and 10am and 2 pm on Saturdays (excepting Public Holidays).	Yes	As per condition. See Appendix 6.
13.	The Proponent shall not carry out more than: <ul style="list-style-type: none"> <li>(a) 2 blasts a day; and</li> <li>(b) 5 blasts a week, averaged over any 12 month period on site.</li> </ul>	Yes	As per condition. See Appendix 6.
14.	At least 2 months before carrying out any blasting on the site, the Proponent shall advise all landowners within 2 km of proposed blasting activities, and any other landowner nominated by the Director-General that they are entitled to a property inspection to establish the baseline condition of the property.	Yes	As per condition.
15.	<p>If the Proponent receives a written request for a property inspection from any such landowner, the Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) commission a suitably qualified person, whose appointment has been approved by the Director-General, to inspect and report on the condition of any building or structure on the land, and recommend measures to mitigate any potential blasting impacts; and</li> <li>(b) give the landowner a copy of this property inspection report.</li> </ul> <p><i>Note: It is preferable for the property inspection to be carried out prior to the commencement of blasting activities on the site, and the Proponent should facilitate this occurring wherever possible.</i></p>	Yes	As per condition.
16.	<p>If any landowner within 2 km of proposed blasting activities, or any other landowner nominated by the Director-General, claims that his/her property, including vibration-sensitive infrastructure such as water supply or underground irrigation mains, has been damaged as a result of blasting at the project, the Proponent shall within 3 months of receiving this request:</p> <ul style="list-style-type: none"> <li>(a) commission a suitably qualified person whose appointment has been approved by the Director-General to investigate the claim and prepare a property investigation report; and</li> <li>(b) give the landowner a copy of the report. If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then the Proponent shall repair the damage to the satisfaction of the Director-General. If the Proponent or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.</li> </ul>	Yes	Claims of blast related damage at the "Mulwalla" property investigated and a structural engineer engaged to assess property. Assessment report provided by structural engineer did not indicate blast related damage. Copy of report provided to "Mulwalla" residents.

Condition	Conditional Requirement	Compliance	Comments
17.	Prior to the commencement of blasting, the Proponent shall prepare and implement a detailed Blast Monitoring Program for the project, in consultation with the DECC and to the satisfaction of the Director-General.	Yes	Approved by DG – 20 <sup>th</sup> October 2008.
18.	<p>The Proponent shall ensure that dust emissions generated by the project do not cause additional exceedances of the criteria listed in Tables 7 to 9 at any residence on privately owned land, or on more than 25 percent of any privately-owned land.</p> <ul style="list-style-type: none"> <li>• Total suspended particulate (TSP) matter – Annual average: 90µg/m<sup>3</sup></li> <li>• Particulate matter &lt;10 µm(PM10) – Annual average: 30 µg/m<sup>3</sup></li> <li>• Particulate matter &lt;10 µm(PM10) – 24 hour period - 50 µg/m<sup>3</sup></li> <li>• Deposited dust – Annual average: <ul style="list-style-type: none"> <li>○ Maximum increase in deposited dust level – 2 g/m<sup>2</sup>/month</li> <li>○ Maximum total deposited dust level – 4 g/m<sup>2</sup>/month</li> </ul> </li> </ul>	No	See Section 3.1.3 for details regarding exceedances of the 24 hour PM <sub>10</sub> limit at “Illilli” and “Lilydale” due to surrounding bushfires over early December.
19.	<p>The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program must:</p> <ol style="list-style-type: none"> <li>(a) be submitted to the Director-General prior to the commencement of construction activities;</li> <li>(b) be prepared in consultation with the DECC; and</li> <li>(c) use a combination of high volume samplers and dust deposition gauges to monitor the performance of the project.</li> </ol>	Yes	Approved by DG – 20 <sup>th</sup> October 2008.
20.	During the project, the Proponent shall ensure there is a suitable continuously operating meteorological station on site that complies with the requirements in <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> (DECC, 2007), or its latest version.	Yes	As per condition. See Section 3.22 and Appendix 8 for meteorological data.
21.	Except as may be expressly provided for by an EPL, or in accordance with section 120 of the <i>Protection of the Environment Operations Act 1997</i> , the Proponent shall not discharge any mine water from the site.	Yes	No discharges during the reporting period.
22.	<p>The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General for approval prior to the commencement of construction activities (not including public road upgrades other than the realignment of Coochoonah Lane) in consultation with the DECC and DWE by suitably qualified expert/s whose appointment/s have been approved by the Director-General and include a:</p> <ol style="list-style-type: none"> <li>(a) Site Water Balance;</li> <li>(b) Erosion and Sediment Control Plan;</li> <li>(c) Surface Water Monitoring Plan;</li> <li>(d) Groundwater Monitoring Program; and</li> <li>(e) Groundwater Contingency Plan.</li> </ol>	Yes	Approved by DG – 20 <sup>th</sup> October 2008.

Condition	Conditional Requirement	Compliance	Comments
23.	<p>The Site Water Balance must:</p> <p>(a) include details of:</p> <ul style="list-style-type: none"> <li>• sources and security of water supply;</li> <li>• water use on site;</li> <li>• water management on site;</li> <li>• off-site water transfers;</li> <li>• reporting procedures;</li> </ul> <p>(b) describe measures to minimise water use by the project; and</p> <p>(c) be reviewed and recalculated each year using the most recent water monitoring data.</p>	Yes	As per condition.
24.	<p>The Erosion and Sediment Control Plan must:</p> <p>(a) be consistent with the requirements of <i>Managing Urban Stormwater: Soils and Construction</i> manual (Landcom, 2004), or its latest version;</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for transport of sediment to downstream waters;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p> <p>(e) describe what measures would be implemented to monitor and maintain the structures over time.</p>	Yes	As per condition.
25.	<p>The Surface Water Monitoring Program must include:</p> <p>(a) detailed baseline data on surface water flows and quality in creeks and other waterbodies that could be affected by the project;</p> <p>(b) surface water impact assessment criteria;</p> <p>(c) a program to monitor the impact of the project on surface water flows and quality; and</p> <p>(d) procedures for reporting the results of this monitoring.</p>	Yes	As per condition.
26.	<p>The Groundwater Monitoring Program must include:</p> <p>(a) further development of the regional and local groundwater model;</p> <p>(b) detailed baseline data to benchmark the natural variation in groundwater levels, yield and quality (including at any privately owned bores in the vicinity of the site);</p> <p>(c) groundwater impact assessment criteria;</p> <p>(d) a program to monitor the impact of the project on groundwater levels, yield and quality; and</p> <p>(e) procedures for reporting the results of this monitoring.</p>	Yes	As per condition.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
27.	The Groundwater Contingency Plan must: (a) provide measures to mitigate any impacts of the mine on the quality or quantity of groundwater supplies available on privately-owned land; (b) establish trigger levels, benchmarks and contingency criteria; and (c) provide for negotiated agreements with affected landowners, including compensation where mining impacts result in increased extraction costs for landowners.	Yes	As per condition.
28.	The Proponent shall implement the Koala habitat management and enhancement actions described in the EA (shown conceptually in Figure 6 in Appendix 4) in consultation with the DECC and to the satisfaction of the Director-General.	Yes	Rip lines installed in proposed enrichment planting areas and koala feed tree corridors. Planting of 80 Whitebox and 80 Yellowbox within the enrichment area on the north-eastern boundary.
29.	The Proponent shall rehabilitate the site to the satisfaction of the Director-General and DPI.	Not yet applicable	

Condition	Conditional Requirement	Compliance	Comments
30.	<p>The Proponent shall prepare and implement a detailed Rehabilitation and Landscape Management Plan for the site to the satisfaction of the Director-General and DPI. This plan must:</p> <ul style="list-style-type: none"> <li>(a) be prepared in consultation with DECC, DWE and Council by suitably qualified expert/s whose appointment/s have been approved by the Director-General; and</li> <li>(b) be submitted to the Director-General and DPI for approval by 1 March 2009;</li> <li>(c) include: <ul style="list-style-type: none"> <li>• <input type="checkbox"/> the rehabilitation objectives for the site;</li> <li>• a description of how the rehabilitation of the site would be integrated with the landscape of the surrounding area;</li> <li>• detailed performance and completion criteria for the rehabilitation of the site;</li> <li>• a detailed description of the measures that would be implemented to achieve the performance and completion criteria for each site, including the procedures to be implemented for <ul style="list-style-type: none"> <li>- protection and enhancement of koala habitat;</li> <li>- progressively rehabilitating the areas disturbed by mining operations;</li> <li>- restoration of agricultural land suitability;</li> <li>- revegetating the site;</li> <li>- protecting and/or enhancing areas in the vicinity of the disturbance area;</li> <li>- conserving and re-using any topsoil;</li> <li>- controlling weeds and feral pests;</li> <li>- controlling access; and</li> <li>- bushfire management.</li> </ul> </li> <li>• a program to monitor the performance of the rehabilitation against the stated objectives,</li> <li>• performance and completion criteria;</li> <li>• a description of the potential risks to successful rehabilitation, and a description of the contingency measures that would be implemented to minimise these risks;</li> <li>• and details of who is responsible for monitoring, reviewing and implementing the plan.</li> </ul> </li> </ul>	No	The Plan has been completed and is currently pending approval from DG and DPI.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
31.	At least 2 years prior to the cessation of mining operations on the site the Proponent shall prepare a Mine Closure Plan. This plan must: (a) define the objectives and criteria for mine closure; (b) investigate options for the future use of the site; (c) provide a detailed methodology for decommissioning the site's storage dams; (d) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local and regional employment levels; (e) describe the measures that would be implemented to minimise or manage the on-going environmental effects of the project; and (f) describe how the performance of these measures would be monitored over time.	Not yet applicable	Mine Closure Plan was developed as part of the Rehabilitation and Landscape Management Plan which is currently awaiting approval from DoP.
32.	The Proponent shall not destroy any known Aboriginal objects (as defined in the <i>National Parks and Wildlife Act 1974</i> ) without the written approval of the Director-General.	Yes	As per condition.
33.	The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be submitted to the Director-General prior to the commencement of construction activities (not including public road upgrades other than the realignment of Coocooboonah Lane); (b) be prepared in consultation with the DECC and the local Aboriginal community; (c) include a protocol for the ongoing consultation and involvement of Aboriginal communities in the conservation and management of Aboriginal heritage on site; and (d) describe the measures that would be implemented to protect Aboriginal sites on site, or if any new Aboriginal objects or skeletal remains are discovered during the project.	Yes	Approved by DG – 20 <sup>th</sup> October 2008
34.	The Proponent shall keep records of the amount of coal transported from the site each year, and include these records in the AEMR.	Yes	As per condition. See Section 2.12.

Condition	Conditional Requirement	Compliance	Comments
35.	<p>Prior to transporting any coal off-site, the Proponent shall:</p> <p>(a) construct a realignment of Coocooboonah Lane to the satisfaction of the landowner and Council;</p> <p>(b) upgrade the intersection of Coocooboonah Lane and the Oxley Highway to the satisfaction of the RTA and Council;</p> <p>(c) upgrade the intersection of the Oxley Highway and Blackjack Road to the satisfaction of the RTA and Council;</p> <p>(d) upgrade the section of Blackjack Road to be used for coal transport to the satisfaction of Council;</p> <p>(e) upgrade the intersection of Blackjack Road and Quia Road to the satisfaction of Council;</p> <p>(f) upgrade the section of Quia Road to be used for coal transport to the satisfaction of Council;</p> <p>(g) upgrade the intersection of Quia Road and Farrar Road to the satisfaction of Council;</p> <p>(h) upgrade the intersection of Quia Road and Torrens Road to the satisfaction of Council; and</p> <p>(i) upgrade Torrens Road to the satisfaction of Council.</p>	<p>Yes</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>NMPL received approval from RTA and Council to commence haulage prior to upgrade of the Oxley Highway/Coocooboonah Lane intersection and Oxley Highway/Blackjack Road intersection. All transport route upgrades have been completed.</p>
36.	<p>Prior to carrying out any development on site, the Proponent shall prepare, and subsequently implement, a Construction Traffic Management Plan for the project to the satisfaction of the RTA and Council.</p>	Yes	As per condition.
37.	<p>Within 6 months of this approval the Proponent shall enter into an agreement with Council for the maintenance of the section of the Oxley Highway between Coocooboonah Lane and Blackjack Road.</p>	No	Road Maintenance Agreement finalised August 2009.
38.	<p>Prior to transporting coal from the site the Proponent shall construct 2 bus stops on the Oxley Highway to the satisfaction of Council.</p>	Yes	As per condition.
39.	<p>Notwithstanding condition 10 of Schedule 2, the Proponent shall ensure no coal is transported from the site during AgQuip.</p>	Yes	As per condition.
40.	<p>The Proponent shall minimise the visual impacts of the project to the satisfaction of the Director-General</p>	Yes	As per condition (eg. cover crop establishment, amenity bund construction). See Section 3.11.2
41.	<p>The Proponent shall ensure that:</p> <p>(a) no outdoor lights shine above the horizontal; and</p> <p>(b) all external lighting associated with the project complies with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i>.</p>	Yes	As per condition.

Condition	Conditional Requirement	Compliance	Comments
42.	The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in accordance with the <i>Guidelines for Energy Savings Action Plans (DEUS, 2005)</i> , or its latest version; (b) include consideration of energy use by mobile equipment; (c) be submitted to the Director-General for approval within 3 months of this approval; and (d) include a program to monitor the effectiveness of measures to reduce energy use on site.	No	Approved by DG – July 2009.
43.	The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be submitted to the Director-General for approval prior to commencing of construction; (b) identify the various waste streams of the project; (c) describe what measures would be implemented to reuse, recycle, or minimise the waste generated by the project; (d) ensure irrigation of treated wastewater is undertaken in accordance with <i>Environmental Guidelines :Use of Effluent by Irrigation (DEC, 2004)</i> , or its latest version; and (e) include a program to monitor the effectiveness of these measures.	Yes	Approved by DG – 28 <sup>th</sup> October 2008.
<b>Schedule 4: Additional Procedures</b>			
1.	Within 1 month of this approval, the Proponent shall notify the owner of “Lilydale” in writing that he/she has the right to require the Proponent to acquire their land at any stage during the project.	Not Applicable	See Condition 3(1).
2.	If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria in schedule 3, then the Proponent shall notify the Director- General and the affected landowners and/or existing or future tenants (including tenants of mine owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3. However, no notification is required if the impact is predicted in the EA or where an agreement has been negotiated with a landowner that excludes the requirement for ongoing notification of such impacts.	Yes	As per condition.

Condition	Conditional Requirement	Compliance	Comments
3.	<p>If a landowner considers the project to be exceeding the impact assessment criteria in schedule 3, except where this is predicted in the EA, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land. If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Director-General's decision:</p> <ul style="list-style-type: none"> <li>(a) consult with the landowner to determine his/her concerns;</li> <li>(b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to: <ul style="list-style-type: none"> <li>o determine whether the project is complying with the relevant impact assessment criteria in schedule 3;</li> <li>o and identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</li> </ul> </li> <li>(c) give the Director-General and landowner a copy of the independent review.</li> </ul> <p>If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>	Not Yet Applicable	No requests from adjoining landowners.
4.	<p>If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) take all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and</li> <li>(b) conduct further monitoring to determine whether these measures ensure compliance; or</li> <li>(c) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.</li> </ul> <p>If further monitoring under paragraph (b) determines that the project is complying with the relevant criteria, then the Proponent may discontinue the independent review with the approval of the Director-General.</p>	Not Yet Applicable	

Condition	Conditional Requirement	Compliance	Comments
5.	If further monitoring under condition 4(b) determines that measures implemented under condition 4(a) have not achieved compliance with the land acquisition criteria in schedule 3, and the Proponent cannot then secure within 3 months a written agreement with the landowner under condition 4(c) to allow these exceedances, then the Proponent shall, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures in conditions 7-9 below.	Not Yet Applicable	
6.	If: (a) the landowner disputes the results of the independent review; or (b) the Proponent is unable to secure a written agreement under condition 4(c) with the landowner then (subject to condition 5) either the Proponent or the landowner may refer the matter to the Director-General for resolution.  Where matters referred to the Director-General under this condition cannot be resolved by the Director-General within 28 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.	Not Yet Applicable	
<b>Schedule 5: Environmental Management, Monitoring, Auditing and Reporting</b>			
1.	The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must be submitted to the Director-General prior to the commencement of construction activities, and: (a) provide the strategic framework for environmental management of the project; (b) identify the statutory requirements that apply to the project; (c) describe in general how the environmental performance of the project would be monitored and managed; (d) describe the procedures that would be implemented to: <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance;</li> <li>• manage cumulative impacts; and</li> <li>• respond to emergencies; and</li> </ul> (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project.	Yes	Approved by DG – 20 <sup>th</sup> October 2008.

Condition	Conditional Requirement	Compliance	Comments
2.	The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program must be submitted to the Director-General within 6 months of this approval and consolidate the various monitoring requirements in schedule 3 of this approval into a single document.	No	To be completed during next reporting period.
3.	As soon as practicable, and in any event within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.	No	DECCW and DoP and the affected residents are notified as soon as possible after detecting an exceedance.
4.	<p>Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:</p> <ul style="list-style-type: none"> <li>(a) describe the date, time and nature of the exceedance/incident;</li> <li>(b) identifies the cause (or likely cause) of the exceedance/incident;</li> <li>(c) describes what action has been taken to date; and</li> <li>(d) describes the proposed measures to address the exceedance/incident.</li> </ul>	No	Written notification provided as soon as possible on detecting an exceedance.
5.	<p>Within 12 months of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General and to all relevant agencies. This report must:</p> <ul style="list-style-type: none"> <li>(a) identify the standards and performance measures that apply to the project;</li> <li>(b) describe the works carried out in the last 12 months;</li> <li>(c) describe the works that would be carried out in the next 12 months;</li> <li>(d) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;</li> <li>(e) include a summary of the monitoring results for the project during the past year;</li> <li>(f) include an analysis of these monitoring results against the relevant: <ul style="list-style-type: none"> <li>o impact assessment criteria/limits;</li> <li>o monitoring results from previous years; and</li> <li>o predictions in the EA;</li> </ul> </li> <li>(g) identify any trends in the monitoring results over the life of the project;</li> <li>(h) identify any non-compliance during the previous year; and</li> <li>(i) describe what actions were, or are being, taken to ensure compliance.</li> </ul>	Yes	As per condition.

Condition	Conditional Requirement	Compliance	Comments
6.	<p>Within 2 years of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <ul style="list-style-type: none"> <li>(a) include consultation with the relevant agencies;</li> <li>(b) assess the environmental performance of the project and assess whether it is complying with the relevant requirements in this approval and any associated EPL or Mining Lease (including any strategy, plan or program required under these approvals);</li> <li>(c) review the adequacy of strategies, plans or programs required under these approvals; and, if appropriate,</li> <li>(d) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.</li> </ul> <p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in the fields of water, noise management and mine rehabilitation.</i></p>	Yes	Audit approved by DG on 3/11/10 to be completed in early Feb 2011.
7.	<p>Within 6 weeks of the completing of this audit, or as otherwise directed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.</p>	Not Yet Applicable	
8.	<p>Within 3 months of submitting the audit report to the Director-General, the Proponent shall review, and if necessary revise the strategies/plans/programs required under this approval to the satisfaction of the Director-General.</p>	Not Yet Applicable	
9.	<p>Within 3 months of this approval, the Proponent shall establish a Community Consultative Committee (CCC) for the project. This CCC must be established and operated in accordance with the <i>Guideline for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007)</i>, or its latest version, and to the satisfaction of the Director-General.</p>	Yes	Sunnyside Community Consultative Committee established in January 2009.
10.	<p>Within 3 months of the approval of any strategy/plan/program required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or AEMRs required under this approval, the Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) provide a copy of the relevant document/s to the relevant agencies and CCC; and</li> <li>(b) put a copy of the relevant document/s on its website.</li> </ul>	Yes	All relevant documentation available on the Whitehaven website. AEMR also provided to relevant agencies and CCC.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
11.	During the project, the Proponent shall: (a) make a summary of all monitoring results required under this approval publicly available at the mine and on its website; and (b) update these results on a regular basis (at least every three months).	Yes	Data provided on website in CCC monitoring reports and AEMR.

**TABLE A3.2**  
**Compliance Review – Environment Protection Licence 12957**

Condition	Conditional Requirement	Compliance	Comments
A1.2	Carry out of the scheduled development work at specified premises at a scale not exceeding >500,000 – 2,000,000t. Coal works: 0 – 2,000,000 t loaded	Yes	ROM coal production in 2009/2010 reporting period = 298,492 tonnes Coal loaded within specified limits.
A1.3	The licensee must not carry on any scheduled activities until the scheduled development works are completed, except as elsewhere provided in this licence.	Yes	As per condition.
A4.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence. In this condition the reference to "the licence application" includes a reference to: (a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; (b) and the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.	Yes	As per condition.
L1.1	Comply with Section 120 of the POEO Act 1997 (re pollution of waters).	Yes	All efforts are maintained to ensure compliance with Section 120.
L3.1	Comply with concentration limits: Oil & Grease 10 mg/L pH 6.5 – 8.5 TSS 50 mg/L	Not Yet Applicable	Nil discharge during reporting period.
L3.4	The Total Suspended Solids concentration limits specified may be exceeded for water discharged provided that: (a) the discharge occurs solely as a result of rainfall measured at the premises that exceeds 38.4 millimetres over any consecutive 5 day period immediately prior to the discharge occurring; and (b) all practical measures have been implemented to dewater all sediment dams within 5 days of rainfall such that they have sufficient capacity to store run off from a 38.4 millimetres, 5 day rainfall event.  Note: 38.4 mm equates to the 5 day 90%ile rainfall depth for Gunnedah sourced from Table 6.3a Managing Urban Stormwater: Soils and Construction Volume 1: 4th edition, March 2004.	Not yet applicable	Nil discharge during reporting period.

Condition	Conditional Requirement	Compliance	Comments
L5.1	The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	Yes	As per condition.
L5.2	This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.	Yes	As per condition.
L6.1	Ensure noise compliance: (a) $L_{Aeq(15min)}$ criterion of 35dB(A) at all times (day, evening and night time periods); and (b) $L_{10(15 min)}$ criterion of 40dB(A) during initial construction period.	No	See Section 3.10.3 for details regarding exceedances.
L6.3	The noise emission limits identified in this licence apply under all meteorological conditions except: (a) during rain and wind speeds (at 10m height) greater than 3m/s; and (b) under "non-significant weather conditions".	Yes	As per condition.
L6.4	The noise limits set by condition L6.1 of the licence do not apply where a current legally binding agreement exists between the licensee and the occupant of a residential property that: (a) agrees to an alternative noise limit for that property; or (b) provides an alternative means of compensation to address noise impacts from the premises. A copy of any agreement must be provided to the EPA before the licensee can take advantage of the agreement.	Not Applicable	No legally binding agreements in place.
L7.1	The overpressure level from blasting operations at the premises must not exceed 115dB(Lin Peak) for more than 5% of total number of blasts over reporting period.	Yes	See Appendix 6. No exceedances during reporting period.
L7.2	The overpressure level from blasting operations at the premises must not exceed 120dB(Lin Peak) at any time.	Yes	See Appendix 6. No exceedances during reporting period.
L7.3	Ground vibration peak particle velocity from blasting operations must not exceed 5mm/s for more than 5% of the total number of blasts during each reporting period.	Yes	See Appendix 6. No exceedances during reporting period.
L7.4	Ground vibration peak particle velocity from blasting operations must not exceed 10mm/s at any time.	Yes	See Appendix 6. No exceedances during reporting period.

Condition	Conditional Requirement	Compliance	Comments
L8.1	Construction activities covered by this licence must only be carried out between the hours of 0700 to 1800 hrs Monday to Friday and between 0700 and 1600 hrs Saturday and at no time on Sundays and Public Holidays.	Yes	As per condition.
L8.2	Mining operations covered by this licence (other than transport of coal from the premises and blasting) must only be carried out between the hours of 0700 and 2200 hrs Monday to Friday, and 0700 and 1800 hrs Saturday, and at no time on Sundays and Public Holidays.	Yes	As per condition.
L8.3	Transportation of coal from the premises must only be carried out between the hours of 0700 and 1800 (Eastern Standard Time) hrs Monday to Friday, and 0700 and 2000 hrs (Eastern Summer Time) Monday to Friday, and 0700 to 1600 hrs on Saturdays, and at no time on Sundays and Public Holidays.	Yes	As per condition.
L8.4	Blasting in or on the premises must only be carried out between the hours of 1000 and 1700 hours Monday to Friday, and 1000 and 1400 hrs on Saturdays, and no time on Sundays and Public Holidays.	Yes	As per condition.
L8.5	Conditions L8.1, L8.2, L8.3 and L8.4 do not apply to the delivery of material, and mining operation, if required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances notification must be provided to the EPA and affected residents as soon as practicable.	Not yet applicable	
L8.6	The hours of operation specified in conditions L8.1, L8.2, L8.3 and L8.4 may be varied with written consent if the EPA is satisfied that the amenity of the residents in the locality will not be adversely affected.	Not yet applicable	
L9.1	The maximum tonnage of extraction of ROM coal at the premises during the reporting period must not exceed 1 million tonnes.	Yes	ROM coal during reporting period – 298,492 tonnes
O1.1	Carry out licensed activities in a competent manner, i.e. (a) processing, handling, movement and storage of materials and substances; and (b) treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Yes  Yes	As per licence condition.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity must: (a) be maintained in a proper and efficient condition; and (b) be operated in a proper and efficient manner.	Yes	All plant and equipment is closely monitored and regularly serviced by Sunnyside Coal Mine personnel.
O3.1	Minimise or prevent emission of dust from the premises.	Yes	Dust emissions are minimised (unable to “prevent” dust emission) principally through watering and progressive rehabilitation.
O3.2	Ensure all trucks cover their loads after loading to prevent wind blown emissions and spillage. The covering must be maintained until immediately before unloading the trucks.	Yes	All trucks are required to use tarpaulins in the transport of coal.
M1.1	Record and retain monitoring results required as per this licence.	Yes	Monitoring records maintained as per condition.
M1.2	Keep all monitoring records associated with this licence: (a) in a legible form; (b) for at least 4 years; (c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Yes	As per condition.
M1.3	Keep the following records in respect to samples required: (a) sampling date; (b) sampling time; (c) sampling location; and (d) sample collector's name.	Yes Yes Yes Yes	As per condition.
M2.1	Monitor the concentration of each pollutant specified using the sampling method, units and frequency specified.	Yes	As per condition.
M3.1	Monitor air pollutants in accordance with the Approved Methods publication or as approved by EPA.	Yes	Test method used refers to the EPA approved publication “Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.”
M3.2	Monitor pollutants discharged to waters in accordance with the Approved Methods publication or as approved by EPA.	Not Yet Applicable	No discharges during the reporting period. The Site Water Management Plan sets out the requirements for monitoring discharge events.
M4.1	Keep a legible record of all complaints re pollution arising from licenced activity.	Yes	Complaints register maintained by Environmental Manager.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
M4.2	Keep the following records of complaints. (a) date and time of complaint; (b) method complaint made; (c) any personal details of complainant; (d) nature of complaint; (e) licensee's action in response, any follow-up contact; and (f) if no action – reason why.	Yes Yes Yes Yes Yes Yes	Complaints records are compiled in accordance with the condition.
M4.3	Keep records of complaints for 4 years.	Yes	All records have been kept to date.
M4.4	Present records to EPA upon request.	Yes	All records would be made available to the EPA upon request.
M5.1	Operate telephone complaints line for receipt of complaints from the public.	Yes	Sunnyside Coal Mine operates a complaints hotline on telephone No. 0427 106 384.
M5.2	Notify the public of the complaints telephone line number.	Yes	Complaints hotline advertised in local press.
M7.1	Monitor meteorological conditions as specified.	Yes	As per condition.
M8.1	For monitoring points specified, monitor noise or vibration parameter utilising sampling method, units and frequency as directed.	Yes	As per condition.
M8.2	To determine compliance with condition L7.1 (a) Airblast overpressure and ground vibration levels must be measured and electronically recorded at receptors R1, R2, R4 and R6 - for all blasts carried out in or on the premises; and (b) Instrumentation used to measure the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.	Yes	As per condition.
R1.1	Complete and supply Annual Return to EPA comprising: (a) Statement of Compliance; (b) Monitoring & Complaints Summary.	Yes	First Annual Return submitted on the 2/2/2010 for the period 15/12/2008 to 14/12/2009. Next Annual Return due in February 2011.
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below	Yes	First Annual Return submitted on the 2/2/2010 for the period 15/12/2008 to 14/12/2009. Next Annual Return due in February 2011.

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
R1.3	Where this licence is transferred from the licensee to a new licensee: (a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and (b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.	Not Yet Applicable	
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: (a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or (b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	Not Yet Applicable	
R1.5	Provide EPA with Annual Return no later than 60 days after end of each reporting period.	Yes	First Annual Return submitted on the 2/2/2010 for the period 15/12/2008 to 14/12/2009.
R1.7	Retain copy of Annual Return for 4 years.	Yes	As per condition
R1.8	Certify the Statement of Compliance within the Annual Return and sign the Monitoring and Complaints Summary by: (a) licence holder; or (b) approved person.	Yes	As per condition
R2.1	Notify EPA of threatening or harmful incidents as soon as practicable by phoning EPA's Pollution Line service.	Not Yet Applicable	No incidents during reporting period.
R2.2	Provide written details of the incident to EPA within 7 days of incident.	Not Yet Applicable	No incidents during reporting period.
R3.1	Upon an EPA officer suspecting that an event is causing or likely to cause environmental harm: (a) at the premises; or (b) in connection with vehicles or plant associated with the licenced activities; a request may be made for a written report of the event.	Not Yet Applicable	No requests received from EPA during Reporting Period (or to date).
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Not Yet Applicable	No requests received from EPA during reporting period (or to date).

<b>Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
R3.3	The report may be required to include: (a) event cause, time and duration; (b) type, volume and concentration of every pollutant discharged; (c) contact details of employees or agents of licensee who witnessed event; (d) contact details of any other persons witnessing the event; (e) the action taken and follow-up contact with complainants in relation to event; (f) mitigation measures proposed to prevent recurrence; (g) any other relevant matters.	Not Yet Applicable	No requests received from EPA during reporting period (or to date).
R3.4	EPA may request further details – must be supplied within specified time.	Not Yet Applicable	No requests received from EPA during reporting period (or to date).
R4	Report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable after the exceedance becomes known.	Not Yet Applicable	No exceedances of blasting limits recorded.
G1.1	Retain a copy of this licence at premises to which the licence applies.	Yes	Retained in the Sunnyside Site Office.
G1.2	Produce licence to EPA officer upon request.	Not Yet Applicable	Sunnyside Coal Mine personnel would produce the licence upon request.
G1.3	Make licence available for inspection by any employee or agent of licensee working at premises.	Yes	Licence is located in Sunnyside Site Office if required. Sunnyside Coal Mine personnel would produce the licence upon request.

**TABLE A3-3**  
**Compliance Review – ML 1624**

Relevant Condition	Conditional Requirement	Compliance	Comments
1	Service of notice on landholders within 3 months of granting of mining lease.	Not Applicable.	NMPL only landholders on mining lease.
2	Implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development.	Yes	As per condition.
3	Prepare and submit a MOP in accordance with DG's guidelines.	Yes	Initial MOP lodged with DPI and accepted on the 25 <sup>th</sup> September 2008. MOP period ends September 2015.
4	Lodge an annual Environmental Management Report with DG annually.	Yes	This is the second AEMR since commencement of the mine in 2008.
5.	Prepare the EMR in accordance with requirements in the Mining Lease.	Yes	Prepared in accordance with the requirements.
6	Submit additional environmental reports as directed by the DG.	Not Yet Applicable	No directions issued.
7	Rehabilitate disturbed land to a sustainable/agreed end land use to the satisfaction of the DG.	Not Yet Applicable	No significant rehabilitation complete at this stage.
8	Prepare a Subsidence Management Plan prior to commencing underground mining, in accordance with specified requirements	Not Applicable	Open cut operation
9	(a) Ensure that at least 10 competent people are efficiently employed on the lease area on each day week day except Sunday or any week day that is a public holiday, OR (b) Expend on operations an amount of not less than \$175,000 per annum whilst the lease is in force.	Yes	As per condition.
10	Comply with any direction given by an Environmental Officer of the Department in regard to non-compliance with the Act or any condition of this lease.	Not Yet Applicable	No direction received during reporting period.
11	Provide an exploration report, within a period of 28 days after each anniversary of the date this lease has effect. The report must be to the satisfaction of the DG and contain the specified requirements.	No	Report has been submitted and was accepted in February 2011.

Relevant Condition	Conditional Requirement	Compliance	Comments
15(a)	Ensure that ground vibration peak particle velocity generated by any blasting does not exceed 10mm/sec and does not exceed 5mm/sec in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises.	Yes	No exceedances recorded. See Appendix 6.
15(b)	Ensure that blast overpressure noise level generated by any blasting does not exceed 120 dB (linear) and does not exceed 115 dB (linear) more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises.	Yes	No exceedances recorded. See Appendix 6.
16	Carry out operations in a manner that ensures the safety of persons and stock.	Yes	As per condition.
17(a)	Advise DWE Regional hydrogeologist of intention to drill exploration holes 28 days prior to commencement.	No	Drilling during the reporting period commenced with short notice and therefore notification at least 28 days prior to drilling was not possible. Future drilling will be adequately planned including notification to DWE.
17(b)	All exploration drill holes must be completed to the satisfaction of the Director General in relation to:- <ul style="list-style-type: none"> <li>• adequate marking/survey</li> <li>• sealed to prevent collapse</li> <li>• sealed with cement plugs to prevent discharge of groundwaters</li> <li>• if meets gas, it is plugged to prevent escape</li> <li>• if meets artesian or sub-artesian flow is sealed to prevent contamination of aquifer</li> <li>• once no longer used, is sealed according to Department guidelines</li> <li>• once no longer used, the land is left in a clean, tidy and stable condition.</li> </ul>	Yes	As per condition.
18	Operations must be carried out so as not to cause or aggravate air pollution, water pollution or soil contamination or erosion.	Yes	As per Air Quality and Site Water Management Plans.
19	Operations must not interfere with transmission lines, communication lines, pipelines or any other utility, without prior written approval of the DG and subject to any conditions he may stipulate.	Yes	As per condition.

<b>Relevant Condition</b>	<b>Conditional Requirement</b>	<b>Compliance</b>	<b>Comments</b>
20	Activities must not interfere with or damage fences and gates must be closed or left open in accordance with landholder requirements.	Yes	As per condition.
21(a)	Operations must not affect any road unless in accordance with the MOP or written approval of Director General.	Yes	As per condition.
21(b)	Leaseholder must pay to the authority responsible for the road the cost incurred in fixing any damage to the roads caused by the operations.	Yes	Agreement in place with GSC.
22	Access tracks kept to a minimum and positioned so as not to cause unnecessary damage. Temporary tracks to be ripped, topsoiled and revegetated when no longer required.	Yes	As per condition.
23(a)	Trees must not be felled without the consent of the landholder who is entitled to the use of the timber.	Yes	As per condition.
23(b)	Trees must not be felled on the lease area except where it directly obstructs or prevents the carrying out of operations.	Yes	As per condition.
23(c)	Timber from Crown land within the lease area must not be used until all relevant approvals have been obtained.	Yes	As per condition.
25	Comply with direction of Director General if notice is issued with regard to resource recovery	Not Yet Applicable	No notice issued.
27	Provision of Security of \$3,175,000 to the Minister to ensure fulfilment of lease conditions.	Yes	As per condition.
31	Make every reasonable attempt, and demonstrate attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum title(s).	Not Yet Applicable	

## Appendix 4

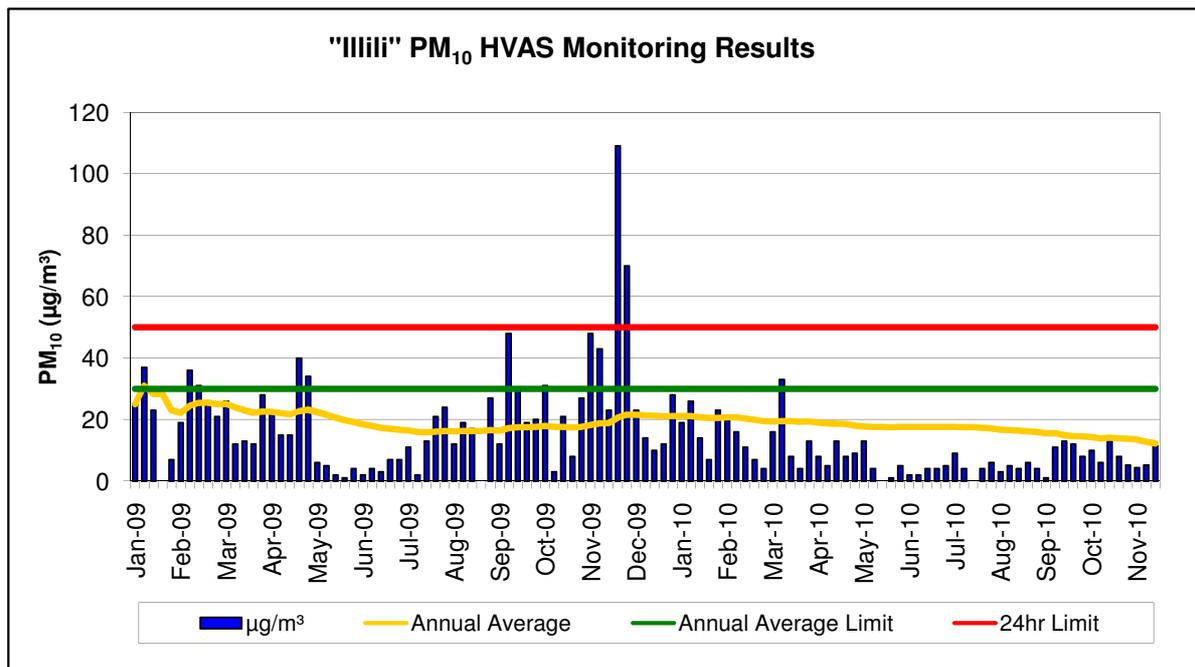
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# DUST MONITORING RESULTS

PM10 - SA1 "Illili"

Date	mg/paper	µg/m <sup>3</sup>	Annual Average	Annual Average	24hr Limit
24/01/2009	37.4	25	25.00	30	50
30/01/2009	56.5	37	31.00	30	50
5/02/2009	34.9	23	28.33	30	50
11/02/2009			28.33	30	50
17/02/2009	11.3	7	23.00	30	50
23/02/2009	28.7	19	22.20	30	50
1/03/2009	55.5	36	24.50	30	50
7/03/2009	49.3	31	25.43	30	50
13/03/2009	41.3	26	25.50	30	50
19/03/2009	33.6	21	25.00	30	50
25/03/2009	41.3	26	25.10	30	50
31/03/2009	18.8	12	23.91	30	50
6/04/2009	20.1	13	23.00	30	50
12/04/2009	18.9	12	22.15	30	50
18/04/2009	45	28	22.57	30	50
24/04/2009	34.6	22	22.53	30	50
30/04/2009	24.2	15	22.06	30	50
6/05/2009	23.5	15	21.65	30	50
12/05/2009	64.7	40	22.67	30	50
18/05/2009	55.2	34	23.26	30	50
24/05/2009	21.7	6	22.40	30	50
30/05/2009	19	5	21.57	30	50
5/06/2009	3.1	2	20.68	30	50
11/06/2009	2.1	1	19.83	30	50
17/06/2009	6.7	4	19.17	30	50
23/06/2009	5.5	2	18.48	30	50
29/06/2009	3.7	4	17.92	30	50
5/07/2009	4.6	3	17.37	30	50
11/07/2009	12	7	17.00	30	50
17/07/2009	11.4	7	16.66	30	50
23/07/2009	17.8	11	16.47	30	50
29/07/2009	2.6	2	16.00	30	50
4/08/2009	20.7	13	15.91	30	50
10/08/2009	33.4	21	16.06	30	50
16/08/2009	39	24	16.29	30	50
22/08/2009	19.2	12	16.17	30	50
28/08/2009	28.6	19	16.25	30	50
3/09/2009	27.6	17	16.27	30	50
9/09/2009	<0.1	<1	16.27	30	50
15/09/2009	42.6	27	16.55	30	50
21/09/2009	19.2	12	16.44	30	50
27/09/2009	75.6	48	17.23	30	50
3/10/2009	47.6	30	17.54	30	50
9/10/2009	30.5	19	17.57	30	50
15/10/2009	31.1	20	17.63	30	50
21/10/2009	48.7	31	17.93	30	50
27/10/2009	5.5	3	17.60	30	50
2/11/2009	32.7	21	17.67	30	50
8/11/2009	12.4	8	17.47	30	50
14/11/2009	42.6	27	17.67	30	50
20/11/2009	75.4	48	18.29	30	50
26/11/2009	65.6	43	18.78	30	50
2/12/2009	36.5	23	18.86	30	50
8/12/2009	161.7	109	20.60	30	50
14/12/2009	107.8	70	21.53	30	50
20/12/2009	36	23	21.56	30	50
26/12/2009	21.3	14	21.42	30	50
1/01/2010	15.3	10	21.21	30	50
7/01/2010	18.9	12	21.05	30	50
13/01/2010	42.6	28	21.17	30	50
19/01/2010	30.4	19	21.14	30	50
25/01/2010	39.6	26	21.15	30	50
31/01/2010	20.8	14	20.76	30	50
6/02/2010	10.3	7	20.49	30	50
12/02/2010	34.4	23	20.53	30	50
18/02/2010	31.1	20	20.75	30	50
24/02/2010	24.2	16	20.70	30	50

Date	mg/paper	µg/m <sup>3</sup>	Annual Average	Annual Average	24hr Limit
26/03/2010	50.8	33	19.55	30	50
1/04/2010	11.6	8	19.48	30	50
7/04/2010	6.7	4	19.33	30	50
13/04/2010	20.6	13	19.35	30	50
19/04/2010	12.8	8	19.02	30	50
25/04/2010	8.4	5	18.73	30	50
1/05/2010	20.9	13	18.70	30	50
7/05/2010	13.3	8	18.58	30	50
13/05/2010	14.2	9	18.07	30	50
19/05/2010	20.4	13	17.72	30	50
25/05/2010	7	4	17.68	30	50
31/05/2010	0	0	17.60	30	50
6/06/2010	1	1	17.58	30	50
12/06/2010	9	5	17.65	30	50
18/06/2010	3.8	2	17.62	30	50
24/06/2010	3.2	2	17.62	30	50
30/06/2010	5.9	4	17.62	30	50
6/07/2010	6	4	17.63	30	50
12/07/2010	8	5	17.60	30	50
18/07/2010	14.1	9	17.63	30	50
24/07/2010	6.9	4	17.52	30	50
30/07/2010	0.1	0	17.48	30	50
5/08/2010	7	4	17.33	30	50
11/08/2010	8.9	6	17.08	30	50
17/08/2010	4.6	3	16.73	30	50
23/08/2010	8.2	5	16.62	30	50
29/08/2010	6.4	4	16.37	30	50
4/09/2010	8.9	6	16.18	30	50
10/09/2010	7.1	4	15.98	30	50
16/09/2010	1.7	1	15.56	30	50
22/09/2010	17.9	11	15.54	30	50
28/09/2010	20	13	14.97	30	50
4/10/2010	18.9	12	14.67	30	50
10/10/2010	12.9	8	14.49	30	50
16/10/2010	16.6	10	14.33	30	50
22/10/2010	9.8	6	13.92	30	50
28/10/2010	22.4	14	14.10	30	50
3/11/2010	13.1	8	13.89	30	50
9/11/2010	8.4	5.2	13.84	30	50
15/11/2010	7.1	4.4	13.47	30	50
21/11/2010	8.4	5.2	12.77	30	50
27/11/2010	18.7	11.5	12.25	30	50

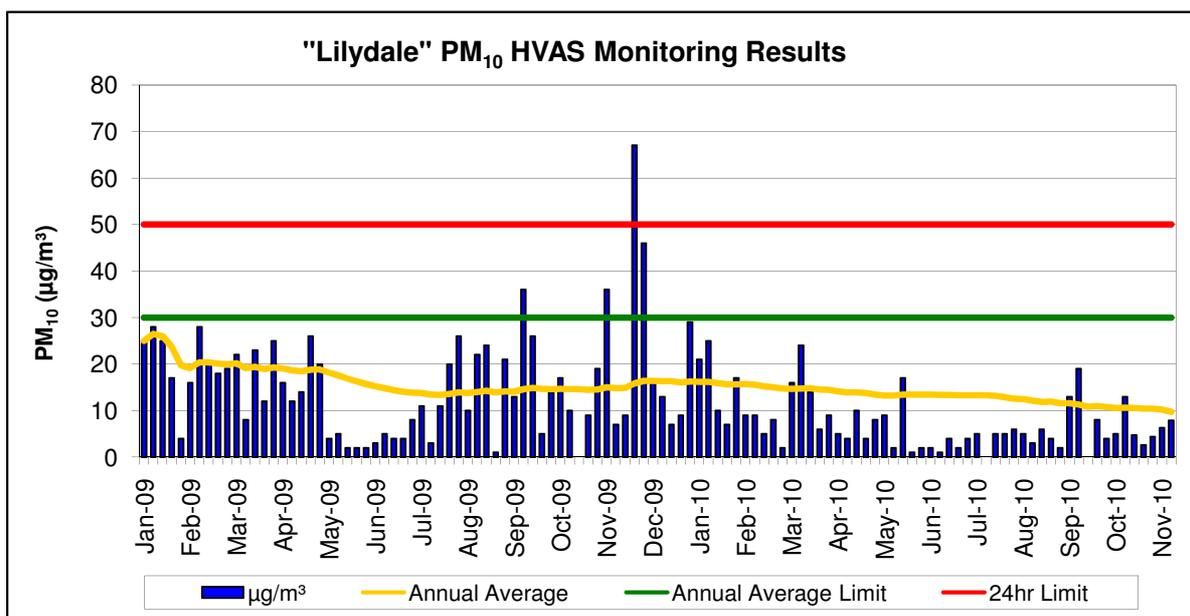


**PM10 - SA2 "Lilydale"**

Date	mg/paper	µg/m <sup>3</sup>	Annual	Annual	24hr Limit
24/01/2009	36.9	25	25.00	30	50
30/01/2009	42.3	28	26.50	30	50
5/02/2009	37.7	25	26.00	30	50
11/02/2009	27.1	17	23.75	30	50
17/02/2009	6.8	4	19.80	30	50
23/02/2009	25.2	16	19.17	30	50
1/03/2009	42.7	28	20.43	30	50
7/03/2009	31.1	20	20.38	30	50
13/03/2009	28.5	18	20.11	30	50
19/03/2009	30.2	19	20.00	30	50
25/03/2009	34.5	22	20.18	30	50
31/03/2009	13	8	19.17	30	50
6/04/2009	37.1	23	19.46	30	50
12/04/2009	19	12	18.93	30	50
18/04/2009	40.2	25	19.33	30	50
24/04/2009	24.8	16	19.13	30	50
30/04/2009	19.6	12	18.71	30	50
6/05/2009	22.5	14	18.44	30	50
12/05/2009	41.9	26	18.84	30	50
18/05/2009	31.9	20	18.90	30	50
24/05/2009	13	4	18.19	30	50
30/05/2009	17	5	17.59	30	50
5/06/2009	3.5	2	16.91	30	50
11/06/2009	4	2	16.29	30	50
17/06/2009	3.4	2	15.72	30	50
23/06/2009	6.6	3	15.23	30	50
29/06/2009	4.1	5	14.85	30	50
5/07/2009	6.9	4	14.46	30	50
11/07/2009	6	4	14.10	30	50
17/07/2009	13.1	8	13.90	30	50
23/07/2009	17.1	11	13.81	30	50
29/07/2009	4.7	3	13.47	30	50
4/08/2009	17.8	11	13.39	30	50
10/08/2009	31.7	20	13.59	30	50
16/08/2009	41.1	26	13.94	30	50
22/08/2009	16.5	10	13.83	30	50
28/08/2009	33.9	22	14.05	30	50
3/09/2009	38.2	24	14.32	30	50
9/09/2009	1.2	1	13.97	30	50
15/09/2009	32.5	21	14.15	30	50
21/09/2009	20.6	13	14.12	30	50
27/09/2009	57.3	36	14.64	30	50
3/10/2009	41.5	26	14.91	30	50
9/10/2009	8.8	5	14.68	30	50
15/10/2009	21.4	14	14.67	30	50
21/10/2009	27.1	17	14.72	30	50
27/10/2009	16.3	10	14.62	30	50
2/11/2009	*	*	14.62	30	50
8/11/2009	14.7	9	14.50	30	50
14/11/2009	29.2	19	14.59	30	50
20/11/2009	55.8	36	15.02	30	50
26/11/2009	12.5	7	14.86	30	50
2/12/2009	13.6	9	14.92	30	50
8/12/2009	99.9	67	15.89	30	50
14/12/2009	71.2	46	16.44	30	50
20/12/2009	24.8	16	16.43	30	50
26/12/2009	20.8	13	16.37	30	50
1/01/2010	10.9	7	16.37	30	50
7/01/2010	14.3	9	16.08	30	50
13/01/2010	43.2	29	16.30	30	50
19/01/2010	33	21	16.25	30	50
25/01/2010	38.5	25	16.25	30	50
31/01/2010	15.9	10	15.95	30	50
6/02/2010	10.6	7	15.65	30	50
12/02/2010	25.7	17	15.65	30	50
18/02/2010	13.3	9	15.73	30	50
24/02/2010	12.7	9	15.62	30	50

Date	mg/paper	µg/m <sup>3</sup>	Annual	Annual	24hr Limit
20/03/2010	24.7	16	14.72	30	50
26/03/2010	36.7	24	14.75	30	50
1/04/2010	21.9	14	14.85	30	50
7/04/2010	9.2	6	14.57	30	50
13/04/2010	14.6	9	14.52	30	50
19/04/2010	8.2	5	14.18	30	50
25/04/2010	6.9	4	13.98	30	50
1/05/2010	16.1	10	13.95	30	50
7/05/2010	6.2	4	13.78	30	50
13/05/2010	12.5	8	13.48	30	50
19/05/2010	14.3	9	13.30	30	50
25/05/2010	3	2	13.27	30	50
31/05/2010	26.8	17	13.47	30	50
6/06/2010	2.4	1	13.45	30	50
12/06/2010	3.1	2	13.45	30	50
18/06/2010	3.9	2	13.45	30	50
24/06/2010	1.6	1	13.42	30	50
30/06/2010	6.9	4	13.40	30	50
6/07/2010	3.4	2	13.37	30	50
12/07/2010	6.8	4	13.37	30	50
24/07/2010	8	5	13.36	30	50
30/07/2010	0.4	0	13.31	30	50
5/08/2010	7.9	5	13.20	30	50
11/08/2010	7.4	5	12.95	30	50
17/08/2010	9.3	6	12.61	30	50
23/08/2010	7.4	5	12.53	30	50
29/08/2010	5	3	12.20	30	50
4/09/2010	8.6	6	11.90	30	50
10/09/2010	5.9	4	11.95	30	50
16/09/2010	3	2	11.63	30	50
22/09/2010	20.6	13	11.63	30	50
28/09/2010	29.1	19	11.34	30	50
4/10/2010	0.5	0	10.90	30	50
10/10/2010	12.9	8	11.00	30	50
16/10/2010	6.6	4	10.83	30	50
22/10/2010	8.1	5	10.62	30	50
28/10/2010	19.5	13	10.67	30	50
3/11/2010	7.7	4.7	10.57	30	50
9/11/2010	4.3	2.6	10.46	30	50
15/11/2010	7.1	4.4	10.46	30	50
21/11/2010	10.3	6.3	10.25	30	50
27/11/2010	12.9	7.9	9.77	30	50

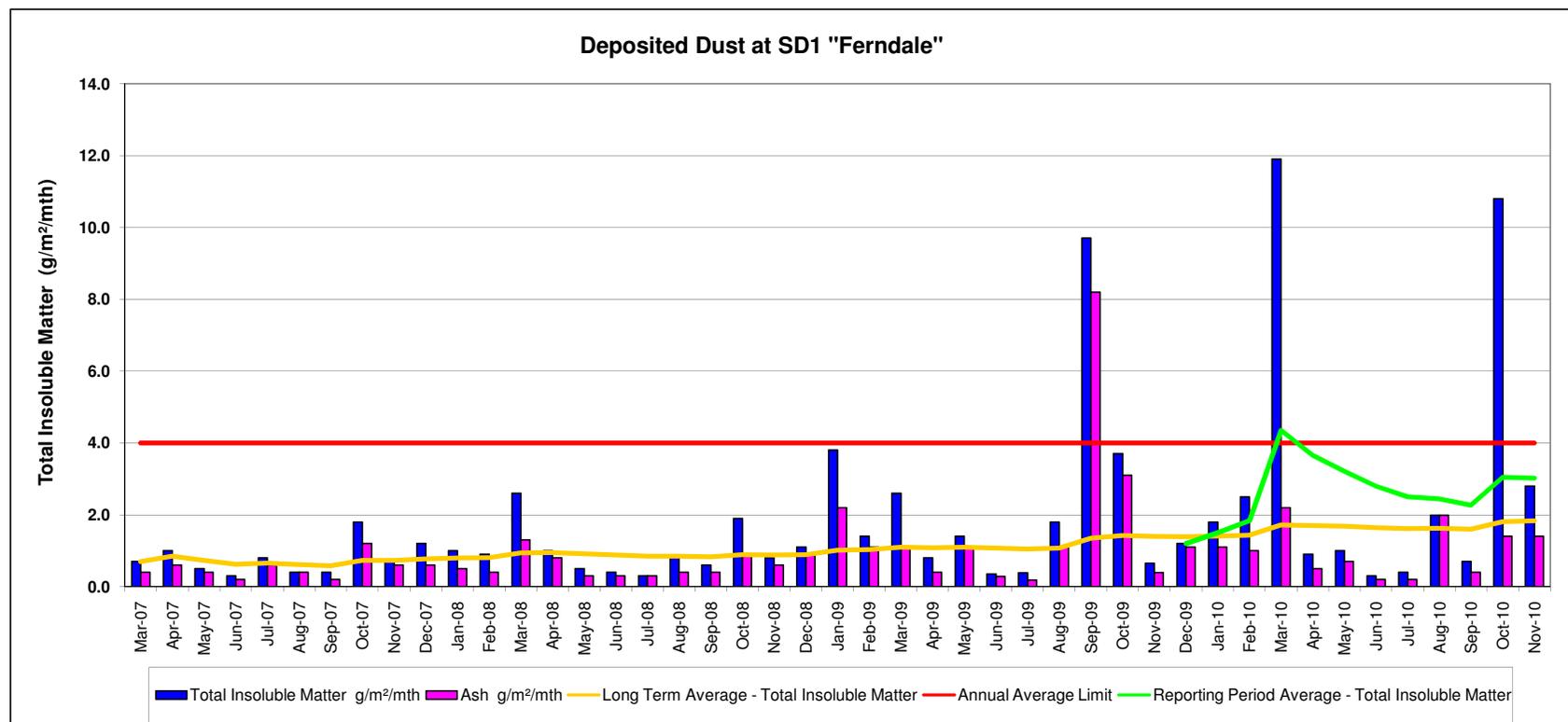
\* No result - power turned off



## Deposited Dust - SD1 "Ferndale"

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
26519.01	SD1 - Ferndale	03-Apr-07	Mar-07	Client	1620	440	0.7		0.7	4.0	0.4	
26630.01	SD1 - Ferndale	02-May-07	Apr-07	Client	1550	375	1.0		0.9	4.0	0.6	
26959.01	SD1 - Ferndale	05-Jun-07	May-07	Client	1555	1170	0.5		0.7	4.0	0.4	
27233.01	SD1 - Ferndale	02-Jul-07	Jun-07	Client	1600	1310	0.3		0.6	4.0	0.2	
27530.01	SD1 - Ferndale	03-Aug-07	Jul-07	Client	1225	215	0.8		0.7	4.0	0.6	
27819.01	SD1 - Ferndale	04-Sep-07	Aug-07	Client	1400	1145	0.4		0.6	4.0	0.4	
28118.01	SD1 - Ferndale	05-Oct-07	Sep-07	Client	0915	60	0.4		0.6	4.0	0.2	
28397.01	SD1 - Ferndale	02-Nov-07	Oct-07	Client	1415	825	1.8		0.7	4.0	1.2	
28661.01	SD1 - Ferndale	05-Dec-07	Nov-07	Client	940	1075	0.7		0.7	4.0	0.6	
28922.01	SD1 - Ferndale	02-Jan-08	Dec-07	Client	1645	2110	1.2		0.8	4.0	0.6	
29223.01	SD1 - Ferndale	04-Feb-08	Jan-08	Client	1545	1375	1.0		0.8	4.0	0.5	
29524.01	SD1 - Ferndale	05-Mar-08	Feb-08	Client	-	1635	0.9		0.8	4.0	0.4	
29772.01	SD1 - Ferndale	04-Apr-08	Mar-08	Client	1405	165	2.6		0.9	4.0	1.3	
30054.01	SD1 - Ferndale	08-May-08	Apr-08	Client	1545	330	1.0		1.0	4.0	0.8	
30385.01	SD1 - Ferndale	03-Jun-08	May-08	Client	0835	770	0.5		0.9	4.0	0.3	
30659.01	SD1 - Ferndale	09-Jul-08	Jun-08	Client	0845	670	0.4		0.9	4.0	0.3	
30901.01	SD1 - Ferndale	04-Aug-08	Jul-08	Client	1545	455	0.3		0.9	4.0	0.3	
31209.01	SD1 - Ferndale	02-Sep-08	Aug-08	Client	0800	510	0.8		0.9	4.0	0.4	
31526.01	SD1 - Ferndale	03-Oct-08	Sep-08	Client	1020	815	0.6		0.8	4.0	0.4	
31774.01	SD1 - Ferndale	05-Nov-08	Oct-08	Client	1050	1160	1.9		0.9	4.0	0.9	
32022.01	SD1 - Ferndale	02-Dec-08	Nov-08	Client	1115	1760	0.8		0.9	4.0	0.6	
32517.01	SD1 - Ferndale	06-Jan-09	Dec-08	Client	0950	1005	1.1		0.9	4.0	0.9	
32245.01	SD1 - Ferndale	03-Feb-09	Jan-09	Client	1051	300	3.8		1.0	4.0	2.2	
32862.01	SD1 - Ferndale	03-Mar-09	Feb-09	Client	1024	1200	1.4		1.0	4.0	1.1	
2600 1005 - 00	SD1 - Ferndale	02-Apr-09	Mar-09	ALS	1105	50	2.6		1.1	4.0	1.1	Insects
2600 1016 - 00	SD1 - Ferndale	04-May-09	Apr-09	ALS	1035	350	0.8		1.1	4.0	0.4	Insects
2600 1035 - 01	SD1 - Ferndale	03-Jun-09	May-09	ALS	1420	600	1.4		1.1	4.0	1.1	
2600 1040 - 02	SD1 - Ferndale	06-Jul-09	Jun-09	ALS	1455	600	0.3		1.1	4.0	0.3	Insects
2600 1052 - 01	SD1 - Ferndale	03-Aug-09	Jul-09	ALS	1658	400	0.4		1.0	4.0	0.2	Insects, Bird Droppings
2600 1063 - 00	SD1 - Ferndale	01-Sep-09	Aug-09	ALS	0916	10	1.8		1.1	4.0	1.1	Insects
2600 1099 - 01	SD1 - Ferndale	30-Sep-09	Sep-09	ALS	1244	1100	9.7		1.4	4.0	8.2	Dust storm 23/9, Insects, Bird Droppings
2600 1129 - 00	SD1 - Ferndale	04-Nov-09	Oct-09	ALS	1047	700	3.7		1.4	4.0	3.1	Insects
2600 1204 - 116	SD1 - Ferndale	02-Dec-09	Nov-09	ALS	1021	10	0.6		1.4	4.0	0.4	Insects, Plant Material
2600 1222 - 116	SD1 - Ferndale	31-Dec-09	Dec-09	ALS	900	2200	1.2	1.2	1.4	4.0	1.1	
2600 1234 - 000	SD1 - Ferndale	02-Feb-10	Jan-10	ALS	1230	2100	1.8	1.5	1.4	4.0	1.1	Insects, Plant Material
2600 1247 - 000	SD1 - Ferndale	04-Mar-10	Feb-10	ALS	1005	2000	2.5	1.8	1.4	4.0	1.0	Insects,One Frog
2600 1260 - 000	SD1 - Ferndale	01-Apr-10	Mar-10	ALS	950	900	11.9	4.4	1.7	4.0	2.2	Insects,Plant Material
2600 1268 - 000	SD1 - Ferndale	29-Apr-10	Apr-10	ALS	1230	100	0.9	3.7	1.7	4.0	0.5	Insects,Plant Material
2600 1277 - 000	SD1 - Ferndale	27-May-10	May-10	ALS	1335	40	1.0	3.2	1.7	4.0	0.7	Insects,Plant Material
2600 1288 - 778	SD1 - Ferndale	24-Jun-10	Jun-10	ALS	1330	300	0.3	2.8	1.6	4.0	0.2	Insects,Plant Material

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
26001289-879	SD1 - Ferndale	22-Jul-10	Jul-10	ALS	1430	800	0.4	2.5	1.6	4.0	0.2	Insects, Plant Material
2600-1309-912	SD1 - Ferndale	23-Aug-10	Aug-10	ALS	1150	1800	2.0	2.4	1.6	4.0	2.0	Insects, Plant Material
2600-1319	SD1 - Ferndale	22-Sep-10	Sep-10	ALS	1150	1000	0.7	2.3	1.6	4.0	0.4	Insects, Plant Material
2600-1340-17	SD1 - Ferndale	22-Oct-10	Oct-10	ALS	1055	2500	10.8	3.0	1.8	4.0	1.4	dead frog in bottle
1002974-001	SD1 - Ferndale	23-Nov-10	Nov-10	ALS	1055	2500	2.8	3.0	1.8	4.0	1.4	N/A

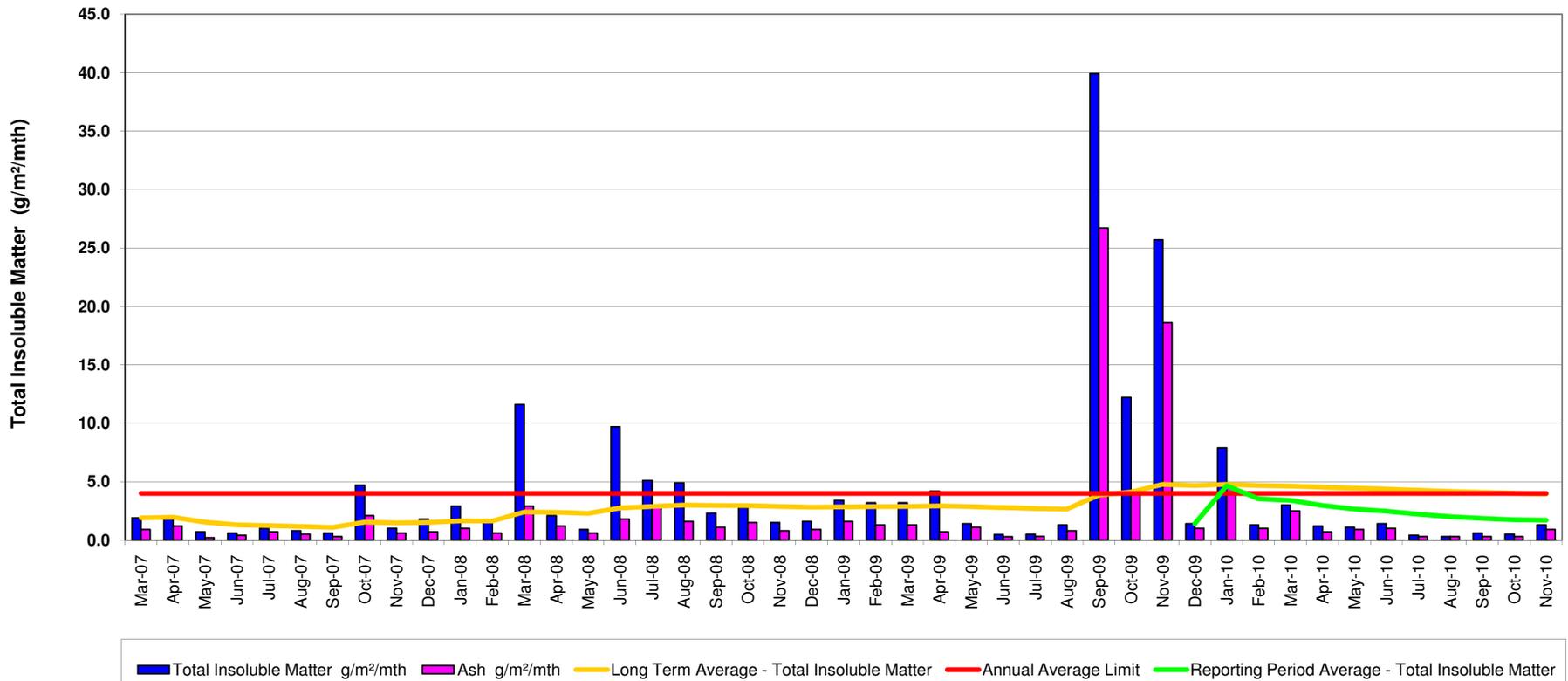


Deposited Dust - SD3 "Plainview"

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
26519.03	SD3 - Plainview	03-Apr-07	Mar-07	Client	1630	660	1.9		1.9	4.0	0.9	
26630.03	SD3 - Plainview	02-May-07	Apr-07	Client	1715	400	2.0		2.0	4.0	1.2	
26959.03	SD3 - Plainview	05-Jun-07	May-07	Client	1645	1255	0.7		1.5	4.0	0.2	
27233.03	SD3 - Plainview	02-Jul-07	Jun-07	Client	1650	1400	0.6		1.3	4.0	0.4	
27530.03	SD3 - Plainview	03-Aug-07	Jul-07	Client	1400	165	1.0		1.2	4.0	0.7	
27819.03	SD3 - Plainview	04-Sep-07	Aug-07	Client	1505	1300	0.8		1.2	4.0	0.5	
28118.03	SD3 - Plainview	05-Oct-07	Sep-07	Client	0830	80	0.6		1.1	4.0	0.3	
28397.03	SD3 - Plainview	02-Nov-07	Oct-07	Client	1515	870	4.7		1.5	4.0	2.1	
28661.03	SD3 - Plainview	05-Dec-07	Nov-07	Client	0830	1290	1.0		1.5	4.0	0.6	
28922.03	SD3 - Plainview	02-Jan-08	Dec-07	Client	1730	2235	1.8		1.5	4.0	0.7	
29223.03	SD3 - Plainview	04-Feb-08	Jan-08	Client	1635	1535	2.9		1.6	4.0	1.0	
29524.03	SD3 - Plainview	05-Mar-08	Feb-08	Client	0810	2070	1.6		1.6	4.0	0.6	
29772.03	SD3 - Plainview	04-Apr-08	Mar-08	Client	1510	325	11.6		2.4	4.0	2.9	
30054.03	SD3 - Plainview	08-May-08	Apr-08	Client	1730	500	2.1		2.4	4.0	1.2	
30385.03	SD3 - Plainview	03-Jun-08	May-08	Client	1025	950	0.9		2.3	4.0	0.6	
30659.03	SD3 - Plainview	09-Jul-08	Jun-08	Client	1100	790	9.7		2.7	4.0	1.8	
30901.03	SD3 - Plainview	04-Aug-08	Jul-08	Client	1625	590	5.1		2.9	4.0	3.0	
31209.03	SD3 - Plainview	02-Sep-08	Aug-08	Client	0910	570	4.9		3.0	4.0	1.6	
31526.03	SD3 - Plainview	03-Oct-08	Sep-08	Client	1150	930	2.3		3.0	4.0	1.1	
31774.03	SD3 - Plainview	05-Nov-08	Oct-08	Client	1140	1250	2.8		3.0	4.0	1.5	
32022.03	SD3 - Plainview	02-Dec-08	Nov-08	Client	1245	2070	1.5		2.9	4.0	0.8	
32517.03	SD3 - Plainview	06-Jan-09	Dec-08	Client	1347	1580	1.6		2.8	4.0	0.9	
32245.02	SD3 - Plainview	03-Feb-09	Jan-09	Client	1208	585	3.4		2.8	4.0	1.6	
32862.03	SD3 - Plainview	03-Mar-09	Feb-09	Client	1142	1410	3.2		2.9	4.0	1.3	
2600 1005 - 00	SD3 - Plainview	02-Apr-09	Mar-09	ALS	1115	50	3.2		2.9	4.0	1.3	Insects
2600 1016 - 00	SD3 - Plainview	04-May-09	Apr-09	ALS	1045	300	4.2		2.9	4.0	0.7	Insects
2600 1035 - 01	SD3 - Plainview	03-Jun-09	May-09	ALS	1330	600	1.4		2.9	4.0	1.1	
2602 1040 - 02	SD3 - Plainview	06-Jul-09	Jun-09	ALS	1420	600	0.5		2.8	4.0	0.3	Insects, Plant Material
2601 1052 - 01	SD3 - Plainview	03-Aug-09	Jul-09	ALS	1708	450	0.5		2.7	4.0	0.3	Insects, Plant Material, Bird Droppings
2600 1063 - 00	SD3 - Plainview	01-Sep-09	Aug-09	ALS	0824	10	1.3		2.7	4.0	0.8	Insects, Plant Material
2600 1063 - 00	SD3 - Plainview	30-Sep-09	Sep-09	ALS	1222	1200	39.9		3.9	4.0	26.7	Insects, Bird Droppings,
2600 1129 - 00	SD3 - Plainview	04-Nov-09	Oct-09	ALS	1141	300	12.2		4.1	4.0	4.0	Dust storm - 23/9, sample contamination
2600 1204 - 116	SD3 - Plainview	02-Dec-09	Nov-09	ALS	0932	100	25.7		4.8	4.0	18.6	Insects, Bird Droppings, Plant Material
2600 1222 - 116	SD3 - Plainview	31-Dec-09	Dec-09	ALS	819	2000	1.4	1.4	4.7	4.0	1	Insects
2600 1234 - 000	SD3 - Plainview	02-Feb-10	Jan-10	ALS	1145	2400	7.9	4.7	4.8	4.0	4.7	Insects, Plant Material
2601 1247 - 000	SD3 - Plainview	04-Mar-10	Feb-10	ALS	1120	2200	1.3	3.5	4.7	4.0	1	Insects
2600 1260 - 000	SD3 - Plainview	01-Apr-10	Mar-10	ALS	925	900	3	3.4	4.6	4.0	2.5	Insects,Plant Material
2600 1268 - 000	SD3 - Plainview	29-Apr-10	Apr-10	ALS	1130	100	1.2	3.0	4.5	4.0	0.7	Insects,Plant Material
2600 1277 - 000	SD3 - Plainview	27-May-10	May-10	ALS	1300	50	1.1	2.7	4.4	4.0	0.9	Insects,Plant Material
2600 1288 - 778	SD3 - Plainview	24-Jun-10	Jun-10	ALS	1405	300	1.4	2.5	4.4	4.0	1	Plant Material
26001289-879	SD3 - Plainview	22-Jul-10	Jul-10	ALS	1510	800	0.4	2.2	4.3	4.0	0.3	Insects
2600-1309-912	SD3 - Plainview	23-Aug-10	Aug-10	ALS	1325	1800	0.3	2.0	4.2	4.0	0.3	Insects

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
2600-1319	SD3 - Plainview	22-Sep-10	Sep-10	ALS	1325	900	0.6	1.9	4.1	4.0	0.3	Insects, Plant Material
2600-1340-17	SD3 - Plainview	22-Oct-10	Oct-10	ALS	1250	2500	0.5	1.7	4.0	4.0	0.3	N/A
1002974-002	SD3 - Plainview	23-Nov-10	Nov-10	ALS	1250	2500	1.3	1.7	4.0	4.0	0.9	N/A

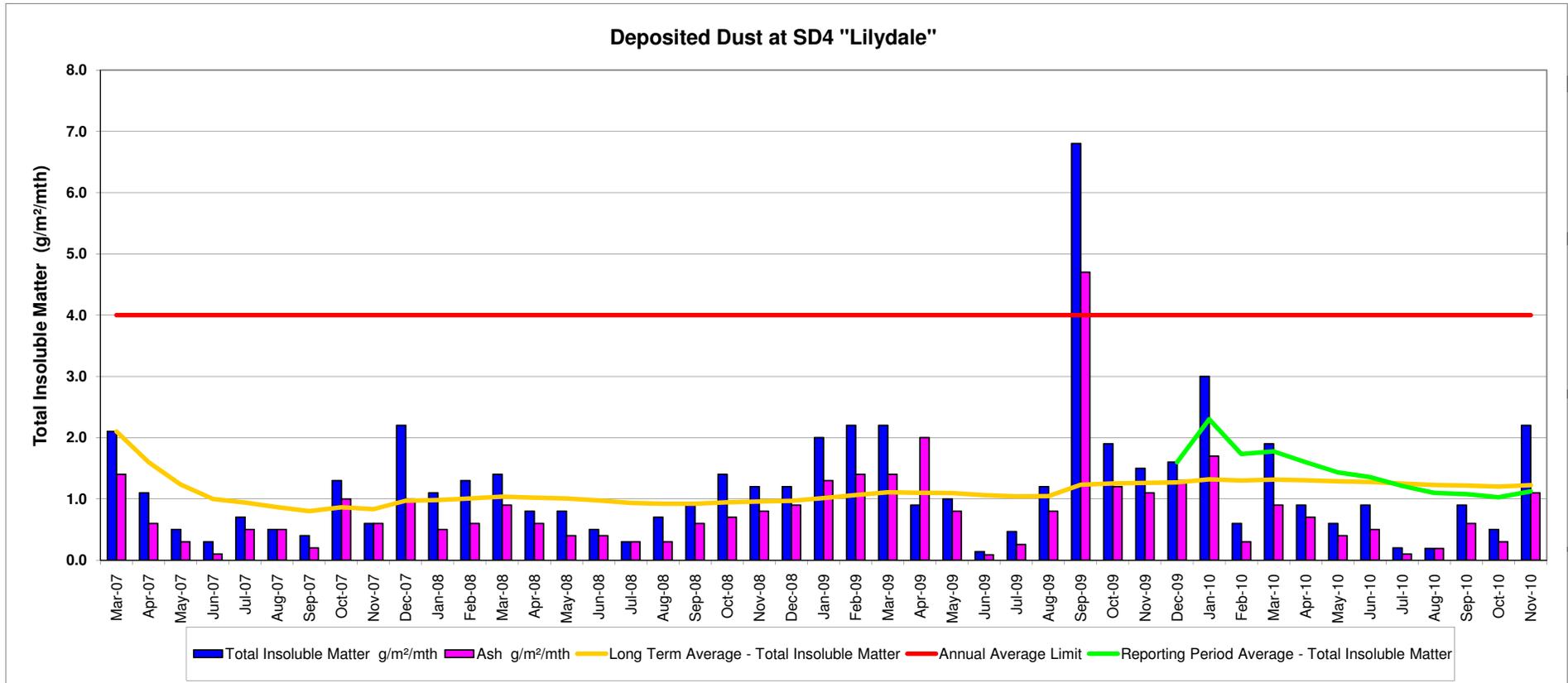
Deposited Dust at SD3 "Plainview"



Deposited Dust - SD4 "Lilydale"

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
26519.04	SD4 - Lilydale	03-Apr-07	Mar-07	Client	1635	365	2.1		2.1	4.0	1.4	
26630.04	SD4 - Lilydale	02-May-07	Apr-07	Client	1705	405	1.1		1.6	4.0	0.6	
26959.04	SD4 - Lilydale	05-Jun-07	May-07	Client	1640	1180	0.5		1.2	4.0	0.3	
27233.04	SD4 - Lilydale	02-Jul-07	Jun-07	Client	1645	1360	0.3		1.0	4.0	0.1	
27530.04	SD4 - Lilydale	03-Aug-07	Jul-07	Client	1345	115	0.7		0.9	4.0	0.5	
27819.04	SD4 - Lilydale	04-Sep-07	Aug-07	Client	1500	1190	0.5		0.9	4.0	0.5	
28118.04	SD4 - Lilydale	05-Oct-07	Sep-07	Client	0840	65	0.4		0.8	4.0	0.2	
28397.04	SD4 - Lilydale	02-Nov-07	Oct-07	Client	1505	640	1.3		0.9	4.0	1.0	
28661.04	SD4 - Lilydale	05-Dec-07	Nov-07	Client	0840	1240	0.6		0.8	4.0	0.6	
28922.04	SD4 - Lilydale	02-Jan-08	Dec-07	Client	1720	2075	2.2		1.0	4.0	1.0	
29223.04	SD4 - Lilydale	04-Feb-08	Jan-08	Client	1625	1510	1.1		1.0	4.0	0.5	
29524.04	SD4 - Lilydale	05-Mar-08	Feb-08	Client	0820	1740	1.3		1.0	4.0	0.6	
29772.04	SD4 - Lilydale	04-Apr-08	Mar-08	Client	1500	140	1.4		1.0	4.0	0.9	
30054.04	SD4 - Lilydale	08-May-08	Apr-08	Client	1725	355	0.8		1.0	4.0	0.6	
30385.04	SD4 - Lilydale	03-Jun-08	May-08	Client	1020	915	0.8		1.0	4.0	0.4	
30659.04	SD4 - Lilydale	09-Jul-08	Jun-08	Client	1050	670	0.5		1.0	4.0	0.4	
30901.04	SD4 - Lilydale	04-Aug-08	Jul-08	Client	1615	465	0.3		0.9	4.0	0.3	
31209.04	SD4 - Lilydale	02-Sep-08	Aug-08	Client	0900	525	0.7		0.9	4.0	0.3	
31526.04	SD4 - Lilydale	03-Oct-08	Sep-08	Client	1135	785	0.9		0.9	4.0	0.6	
31774.04	SD4 - Lilydale	05-Nov-08	Oct-08	Client	1130	1030	1.4		0.9	4.0	0.7	
32022.04	SD4 - Lilydale	02-Dec-08	Nov-08	Client	1235	1895	1.2		1.0	4.0	0.8	
32517.04	SD4 - Lilydale	06-Jan-09	Dec-08	Client	1338	1090	1.2		1.0	4.0	0.9	
32245.03	SD4 - Lilydale	03-Feb-09	Jan-09	Client	1151	125	2.0		1.0	4.0	1.3	
32862.04	SD4 - Lilydale	03-Mar-09	Feb-09	Client	1127	1090	2.2		1.1	4.0	1.4	
2600 1005 - 00	SD4 - Lilydale	02-Apr-09	Mar-09	ALS	1036	50	2.2		1.1	4.0	1.4	Insects
2600 1016 - 00	SD4 - Lilydale	04-May-09	Apr-09	ALS	1109	250	0.9		1.1	4.0	2.0	Insects
2600 1035 - 01	SD4 - Lilydale	03-Jun-09	May-09	ALS	1325	500	1.0		1.1	4.0	0.8	
2603 1040 - 02	SD4 - Lilydale	06-Jul-09	Jun-09	ALS	1415	650	0.1		1.1	4.0	0.1	Insects, Plant Material
2602 1052 - 01	SD4 - Lilydale	03-Aug-09	Jul-09	ALS	1635	450	0.5		1.0	4.0	0.3	
2600 1063 - 00	SD4 - Lilydale	01-Sep-09	Aug-09	ALS	0830	10	1.2		1.0	4.0	0.8	Insects
2600 1063 - 00	SD4 - Lilydale	30-Sep-09	Sep-09	ALS	1139	900	6.8		1.2	4.0	4.7	Dust storm 23/9
2600 1129 - 00	SD4 - Lilydale	04-Nov-09	Oct-09	ALS	1127	600	1.9		1.3	4.0	1.2	Insects, Bird Dropping, Plant Material
2600 1204 - 116	SD4 - Lilydale	02-Dec-09	Nov-09	ALS	0925	15	1.5		1.3	4.0	1.1	Insects, Plant Material
2600 1222 - 116	SD4 - Lilydale	31-Dec-09	Dec-09	ALS	8:30	2200	1.6	1.6	1.3	4.0	1.3	
2600 1234 - 000	SD4 - Lilydale	02-Feb-10	Jan-10	ALS	11:25	2200	3.0	2.3	1.3	4.0	1.7	Insects, Plant Material
2602 1247 - 000	SD4 - Lilydale	04-Mar-10	Feb-10	ALS	11:15	1800	0.6	1.7	1.3	4.0	0.3	Insects, Bird droppings, Plant Material
2600 1260 - 000	SD4 - Lilydale	01-Apr-10	Mar-10	ALS	915	800	1.9	1.8	1.3	4.0	0.9	Insects, Plant Material
2600 1268 - 000	SD4 - Lilydale	29-Apr-10	Apr-10	ALS	1115	75	0.9	1.6	1.3	4.0	0.7	Insects, Bird Droppings, Plant Material,
2600 1277 - 000	SD4 - Lilydale	27-May-10	May-10	ALS	1245	50	0.6	1.4	1.3	4.0	0.4	Plant Material
2600 1288 - 778	SD4 - Lilydale	24-Jun-10	Jun-10	ALS	1415	200	0.9	1.4	1.3	4.0	0.5	Insects, Plant Material
26001289-879	SD4 - Lilydale	22-Jul-10	Jul-10	ALS	15:00	600	0.2	1.2	1.3	4.0	0.1	Insects
2600-1309-912	SD4 - Lilydale	23-Aug-10	Aug-10	ALS	10:05	1800	0.2	1.1	1.2	4.0	0.2	Insects

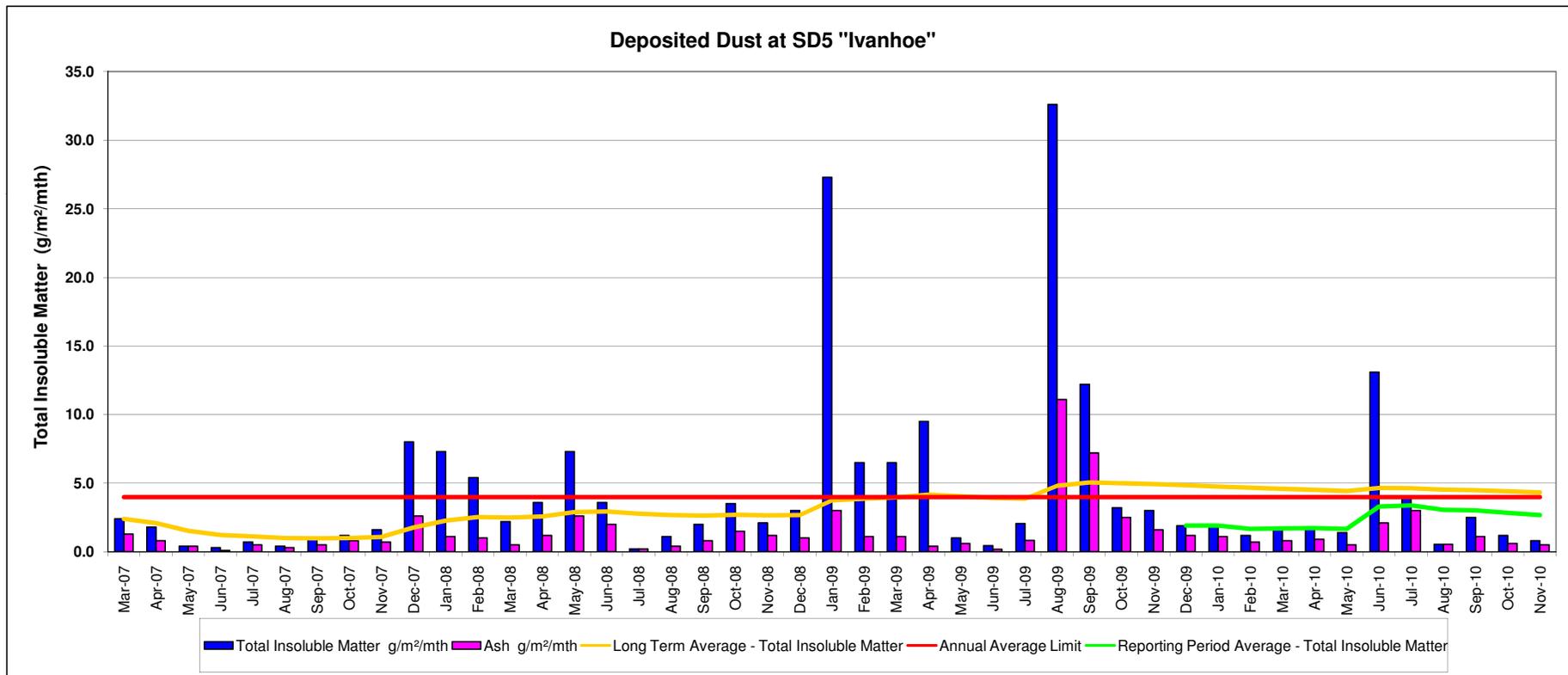
Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
2600-1319	SD4 - Lilydale	22-Sep-10	Sep-10	ALS	10:05	800	0.9	1.1	1.2	4.0	0.6	Insects
2600-1340-17	SD4 - Lilydale	22-Oct-10	Oct-10	ALS	12:15	2500	0.5	1.0	1.2	4.0	0.3	dead frog in bottle
1002974-003	SD4 - Lilydale	23-Nov-10	Nov-10	ALS	12:15	2500	2.2	1.1	1.2	4.0	1.1	N/A



## Deposited Dust - SD5 "Ivanhoe"

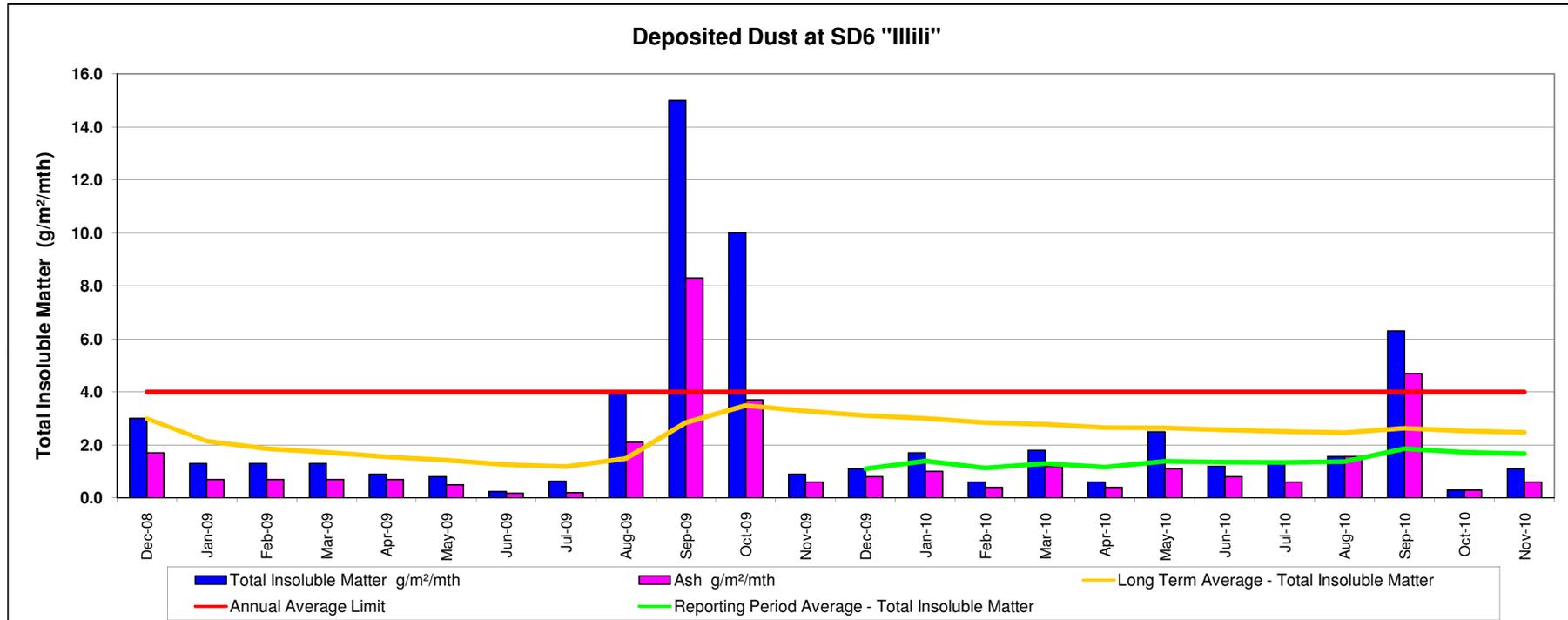
Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
26519.05	SD5 - Ivanhoe	03-Apr-07	Mar-07	Client	1655	410	2.4		2.4	4.0	1.3	
26630.05	SD5 - Ivanhoe	02-May-07	Apr-07	Client	1445	430	1.8		2.1	4.0	0.8	
26959.05	SD5 - Ivanhoe	05-Jun-07	May-07	Client	1625	1345	0.4		1.5	4.0	0.4	
27233.05	SD5 - Ivanhoe	02-Jul-07	Jun-07	Client	1630	1570	0.3		1.2	4.0	0.1	
27530.05	SD5 - Ivanhoe	03-Aug-07	Jul-07	Client	1330	185	0.7		1.1	4.0	0.5	
27819.05	SD5 - Ivanhoe	04-Sep-07	Aug-07	Client	1440	1325	0.4		1.0	4.0	0.3	
28118.05	SD5 - Ivanhoe	05-Oct-07	Sep-07	Client	0905	80	0.9		1.0	4.0	0.5	
28397.05	SD5 - Ivanhoe	02-Nov-07	Oct-07	Client	1450	830	1.2		1.0	4.0	0.8	
28661.05	SD5 - Ivanhoe	05-Dec-07	Nov-07	Client	0920	1545	1.6		1.1	4.0	0.7	
28922.05	SD5 - Ivanhoe	02-Jan-08	Dec-07	Client	1705	2265	8.0		1.8	4.0	2.6	
29223.05	SD5 - Ivanhoe	04-Feb-08	Jan-08	Client	1610	1330	7.3		2.3	4.0	1.1	
29524.05	SD5 - Ivanhoe	05-Mar-08	Feb-08	Client	0940	1415	5.4		2.5	4.0	1.0	
29772.05	SD5 - Ivanhoe	04-Apr-08	Mar-08	Client	1425	155	2.2		2.5	4.0	0.5	
30054.05	SD5 - Ivanhoe	08-May-08	Apr-08	Client	1635	480	3.6		2.6	4.0	1.2	
30385-05	SD5 - Ivanhoe	03-Jun-08	May-08	Client	931	1060	7.3		2.9	4.0	2.6	
30659.05	SD5 - Ivanhoe	09-Jul-08	Jun-08	Client	1015	695	3.6		2.9	4.0	2.0	
30901.05	SD5 - Ivanhoe	04-Aug-08	Jul-08	Client	1600	375	0.2		2.8	4.0	0.2	
31209.05	SD5 - Ivanhoe	02-Sep-08	Aug-08	Client	0830	535	1.1		2.7	4.0	0.4	
31526.05	SD5 - Ivanhoe	03-Oct-08	Sep-08	Client	1100	865	2.0		2.7	4.0	0.8	
31774.05	SD5 - Ivanhoe	05-Nov-08	Oct-08	Client	1114	1060	3.5		2.7	4.0	1.5	
32022.05	SD5 - Ivanhoe	02-Dec-08	Nov-08	Client	1145	2030	2.1		2.7	4.0	1.2	
32517.05	SD5 - Ivanhoe	06-Jan-09	Dec-08	Client	1321	1395	3.0		2.7	4.0	1.0	
32245.04	SD5 - Ivanhoe	03-Feb-09	Jan-09	Client	1130	375	27.3		3.8	4.0	3.0	
32862.05	SD5 - Ivanhoe	03-Mar-09	Feb-09	Client	1100	1550	6.5		3.9	4.0	1.1	
2600 1005 - 00	SD5 - Ivanhoe	02-Apr-09	Mar-09	ALS	1044	150	6.5		4.0	4.0	1.1	Insects, Bird droppings
2600 1016 - 00	SD5 - Ivanhoe	04-May-09	Apr-09	ALS	1120	300	9.5		4.2	4.0	0.4	Insects,
2600 1035 - 01	SD5 - Ivanhoe	03-Jun-09	May-09	ALS	1345	600	1.0		4.1	4.0	0.6	Insects, plant material
2604 1040 - 02	SD5 - Ivanhoe	06-Jul-09	Jun-09	ALS	1520	700	0.4		3.9	4.0	0.2	
2603 1052 - 01	SD5 - Ivanhoe	03-Aug-09	Jul-09	ALS	1642	450	2.1		3.9	4.0	0.8	Insects, Bird Droppings
2600 1063 - 00	SD5 - Ivanhoe	01-Sep-09	Aug-09	ALS	0847	10	32.6		4.8	4.0	11.1	Insects, Bird Droppings, Plant Material
2600 1063 - 00	SD5 - Ivanhoe	30-Sep-09	Sep-09	ALS	1206	1100	12.2		5.1	4.0	7.2	Dust storm 23/9, sample contamination
2600 1129 - 00	SD5 - Ivanhoe	04-Nov-09	Oct-09	ALS	1113	600	3.2		5.0	4.0	2.5	Insects, Plant Material
2600 1204 - 116	SD5 - Ivanhoe	02-Dec-09	Nov-09	ALS	1000	100	3		4.9	4.0	1.6	Insects, Bird Droppings, Plant Material
2600 1222 - 116	SD5 - Ivanhoe	31-Dec-09	Dec-09	ALS	10:35	2500	1.9	1.9	4.9	4.0	1.2	Insects, Plant Material
2600 1234 - 000	SD5 - Ivanhoe	02-Feb-10	Jan-10	ALS	12:00	300	1.9	1.9	4.8	4.0	1.1	Insects, Bird droppings, Plant Material
2603 1247 - 000	SD5 - Ivanhoe	04-Mar-10	Feb-10	ALS	10:45	1800	1.2	1.7	4.7	4.0	0.7	Insects
2600 1260 - 000	SD5 - Ivanhoe	06-Apr-10	Mar-10	ALS	930	1000	1.8	1.7	4.6	4.0	0.8	Insects, Bird droppings
2600 1268 - 000	SD5 - Ivanhoe	29-Apr-10	Apr-10	ALS	1150	100	1.8	1.7	4.5	4.0	0.9	Insects,Plant Material
2600 1277 - 000	SD5 - Ivanhoe	27-May-10	May-10	ALS	1310	50	1.4	1.7	4.4	4.0	0.5	Insects,Plant Material
2600 1288 - 778	SD5 - Ivanhoe	24-Jun-10	Jun-10	ALS	1350	300	13.1	3.3	4.7	4.0	2.1	Insects,Plant Material, Bird Droppings
26001289-879	SD5 - Ivanhoe	22-Jul-10	Jul-10	ALS	14:45	800	4	3.4	4.6	4.0	3	Insects, Bird Droppings

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
2600-1309-912	SD5 - Ivanhoe	23-Aug-10	Aug-10	ALS	11:00	1800	0.6	3.1	4.5	4.0	0.6	Insects, Bird Droppings
2600-1319	SD5 - Ivanhoe	22-Sep-10	Sep-10	ALS	11:00	900	2.5	3.0	4.5	4.0	1.1	Insects
2600-1340-17	SD5 - Ivanhoe	22-Oct-10	Oct-10	ALS	11:50	2500	1.2	2.9	4.4	4.0	0.6	N/A
1002974-004	SD5 - Ivanhoe	23-Nov-10	Nov-10	ALS	11:50	2500	0.8	2.7	4.3	4.0	0.5	N/A



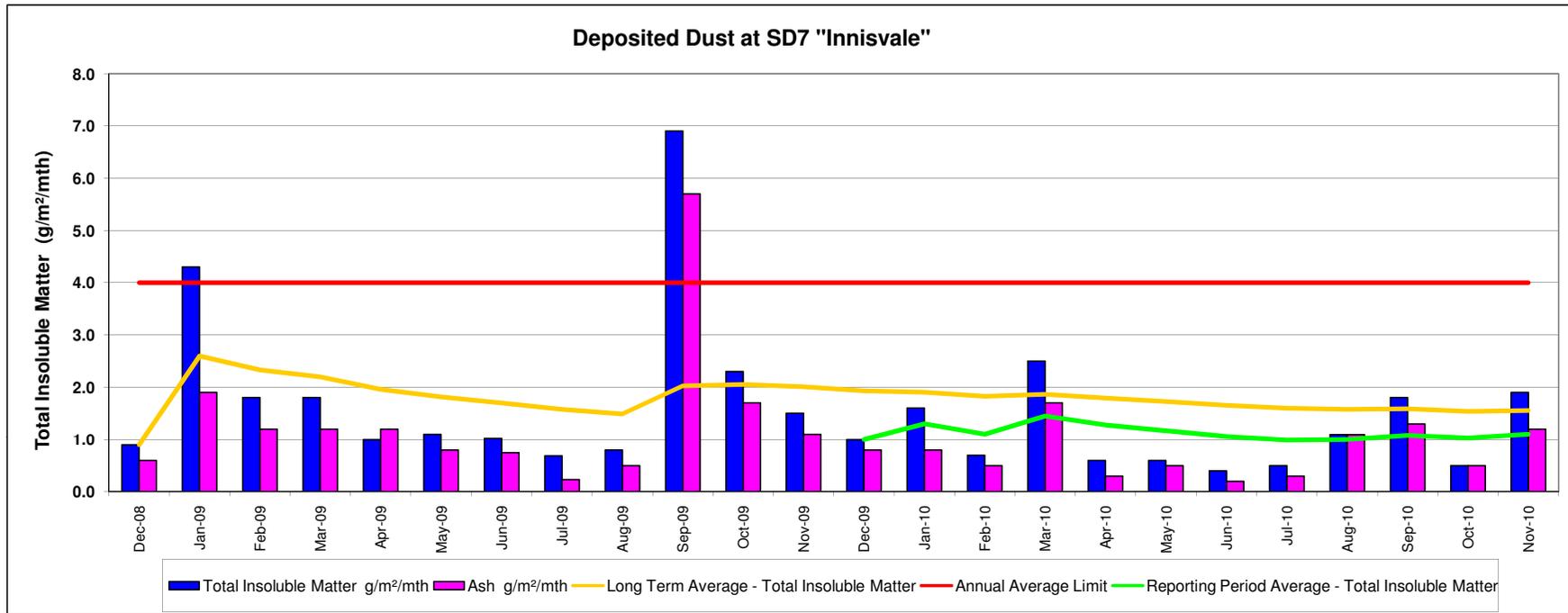
Deposited Dust - SD6 "IIIIII"

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
32517.06	SD6 - IIIII	06-Jan-09	Dec-08	Client	1219	1090	3.0		3.0	4.0	1.7	
32245.05	SD6 - IIIII	03-Feb-09	Jan-09	Client	1104	210	1.3		2.2	4.0	0.7	
32862.06	SD6 - IIIII	03-Mar-09	Feb-09	Client	1030	1425	1.3		1.9	4.0	0.7	
2600 1005 - 00	SD6 - IIIII	02-Apr-09	Mar-09	ALS	1055	50	1.3		1.7	4.0	0.7	Insects, Bird droppings
2600 1016 - 00	SD6 - IIIII	04-May-09	Apr-09	ALS	1130	300	0.9		1.6	4.0	0.7	Insects, Bird droppings
2600 1035 - 01	SD6 - IIIII	03-Jun-09	May-09	ALS	1400	700	0.8		1.4	4.0	0.5	Plant material
2605 1040 - 02	SD6 - IIIII	06-Jul-09	Jun-09	ALS	1440	650	0.2		1.3	4.0	0.2	Insects, Plant Material
2604 1052 - 01	SD6 - IIIII	03-Aug-09	Jul-09	ALS	1653	350	0.6		1.2	4.0	0.2	Insects, Plant Material
2600 1063 - 00	SD6 - IIIII	01-Sep-09	Aug-09	ALS	0902	20	4.0		1.5	4.0	2.1	
2600 1063 - 00	SD6 - IIIII	30-Sep-09	Sep-09	ALS	1236	1200	15.0		2.8	4.0	8.3	Dust storm 23/9, contamination
2600 1129 - 00	SD6 - IIIII	04-Nov-09	Oct-09	ALS	1057	700	10.0		3.5	4.0	3.7	Insects, Plant Material
2600 1204 - 116	SD6 - IIIII	02-Dec-09	Nov-09	ALS	0940	20	0.9		3.3	4.0	0.6	Insects
2600 1222 - 116	SD6 - IIIII	31-Dec-09	Dec-09	ALS	8:51	2400	1.1	1.1	3.1	4.0	0.8	Insects, Bird Droppings
2600 1234 - 000	SD6 - IIIII	02-Feb-10	Jan-10	ALS	12:20	2100	1.7	1.4	3.0	4.0	1.0	Insects, Plant Material
2604 1247 - 000	SD6 - IIIII	04-Mar-10	Feb-10	ALS	10:20	2200	0.6	1.1	2.9	4.0	0.4	Insects
2600 1260 - 000	SD6 - IIIII	01-Apr-10	Mar-10	ALS	940	1000	1.8	1.3	2.8	4.0	1.2	Insects, Plant Material
2600 1268 - 000	SD6 - IIIII	29-Apr-10	Apr-10	ALS	1215	100	0.6	1.2	2.7	4.0	0.4	Insects, Plant Material
2600 1277 - 000	SD6 - IIIII	27-May-10	May-10	ALS	1330	50	2.5	1.4	2.6	4.0	1.1	Insects, Bird Droppings, Plant
2600 1288 - 778	SD6 - IIIII	24-Jun-10	Jun-10	ALS	1340	300	1.2	1.4	2.6	4.0	0.8	Insects, Plant Material
26001289-879	SD6 - IIIII	22-Jul-10	Jul-10	ALS	14:35	800	1.3	1.4	2.5	4.0	0.6	Insects, Bird Droppings
2600-1309-912	SD6 - IIIII	23-Aug-10	Aug-10	ALS	11:35	1800	1.6	1.4	2.5	4.0	1.6	Insects, Bird Droppings
2600-1319	SD6 - IIIII	22-Sep-10	Sep-10	ALS	11:35	900	6.3	1.9	2.6	4.0	4.7	Insects, Plant Material
2600-1340-17	SD6 - IIIII	22-Oct-10	Oct-10	ALS	11:15	2500	0.3	1.7	2.5	4.0	0.3	N/A
1002974-005	SD6 - IIIII	23-Nov-10	Nov-10	ALS	11:15	2500	1.1	1.7	2.5	4.0	0.6	N/A



## Deposited Dust - SD7 "Innisvale"

Sample Number	Sample Location	Sample Date	Sample Month	Sampler	Time: (d)	Volume Collected (ml)	Total Insoluble Matter g/m <sup>2</sup> /mth	Reporting Period Average - Total Insoluble Matter	Long Term Average - Total Insoluble Matter	Annual Average Limit	Ash g/m <sup>2</sup> /mth	Comment
32517.07	SD7 - Innisvale	06-Jan-09	Dec-08	Client	1400	975	0.9		0.9	4.0	0.6	
32245.06	SD7 - Innisvale	03-Feb-09	Jan-09	Client	1238	200	4.3		2.6	4.0	1.9	
32862.07	SD7 - Innisvale	03-Mar-09	Feb-09	Client	1158	1495	1.8		2.3	4.0	1.2	
2600 1005 - 00	SD7 - Innisvale	02-Apr-09	Mar-09	ALS	1025	50	1.8		2.2	4.0	1.2	Insects
2600 1016 - 00	SD7 - Innisvale	04-May-09	Apr-09	ALS	1215	300	1.0		2.0	4.0	1.2	
2600 1035 - 01	SD7 - Innisvale	03-Jun-09	May-09	ALS	1305	800	1.1		1.8	4.0	0.8	
2606 1040 - 02	SD7 - Innisvale	06-Jul-09	Jun-09	ALS	1405	750	1.0		1.7	4.0	0.7	Insects, Plant Material
2605 1052 - 01	SD7 - Innisvale	03-Aug-09	Jul-09	ALS	1625	350	0.7		1.6	4.0	0.2	
2600 1063 - 00	SD7 - Innisvale	01-Sep-09	Aug-09	ALS	0815	20	0.8		1.5	4.0	0.5	Insects, Plant Material
2600 1063 - 00	SD7 - Innisvale	30-Sep-09	Sep-09	ALS	1126	1000	6.9		2.0	4.0	5.7	Insects, Plant Material
2600 1129 - 00	SD7 - Innisvale	04-Nov-09	Oct-09	ALS	1155	400	2.3		2.1	4.0	1.7	Plant Material
2600 1204 - 116	SD7 - Innisvale	02-Dec-09	Nov-09	ALS	0910	10	1.5		2.0	4.0	1.1	Insects, Plant Material
2600 1222 - 116	SD7 - Innisvale	31-Dec-09	Dec-09	ALS	8:05	2000	1.0	1	1.9	4.0	0.8	Insects
2600 1234 - 000	SD7 - Innisvale	02-Feb-10	Jan-10	ALS	11:15	2200	1.6	1.3	1.9	4.0	0.8	Insects, Plant Material
2605 1247 - 000	SD7 - Innisvale	04-Mar-10	Feb-10	ALS	11:30	1200	0.7	1.1	1.8	4.0	0.5	Insects
2600 1260 - 000	SD7 - Innisvale	01-Apr-10	Mar-10	ALS	905	800	2.5	1.5	1.9	4.0	1.7	Bird Droppings, Plant Material
2600 1268 - 000	SD7 - Innisvale	29-Apr-10	Apr-10	ALS	1105	75	0.6	1.3	1.8	4.0	0.3	Insects, Plant Material
2600 1277 - 000	SD7 - Innisvale	27-May-10	May-10	ALS	1235	50	0.6	1.2	1.7	4.0	0.5	Insects
2600 1288 - 778	SD7 - Innisvale	24-Jun-10	Jun-10	ALS	1420	300	0.4	1.1	1.7	4.0	0.2	Insects, Plant Material
26001289-879	SD7 - Innisvale	22-Jul-10	Jul-10	ALS	15:20	700	0.5	1.0	1.6	4.0	0.3	Plant Material
2600-1309-912	SD7 - Innisvale	23-Aug-10	Aug-10	ALS	13:00	1800	1.1	1.0	1.6	4.0	1.1	Plant Material
2600-1319	SD7 - Innisvale	22-Sep-10	Sep-10	ALS	13:00	800	1.8	1.1	1.6	4.0	1.3	Insects, Plant Material
2600-1340-17	SD7 - Innisvale	22-Oct-10	Oct-10	ALS	13:05	2500	0.5	1.0	1.5	4.0	0.5	N/A
1002974-006	SD7 - Innisvale	23-Nov-10	Nov-10	ALS	13:05	2500	1.9	1.1	1.6	4.0	1.2	N/A



## Appendix 5

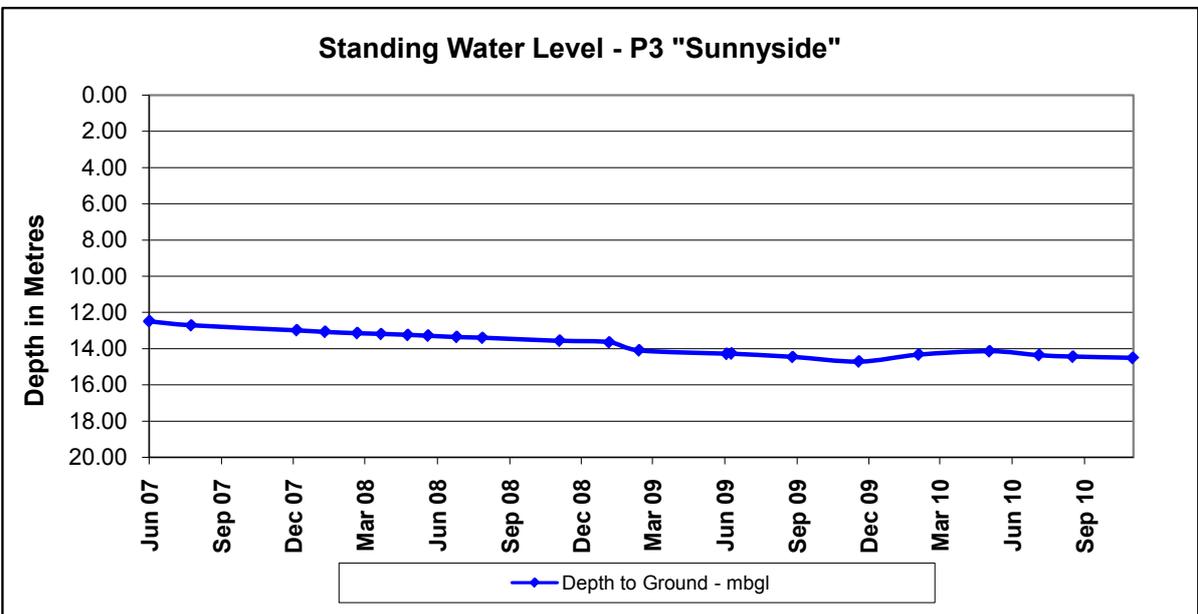
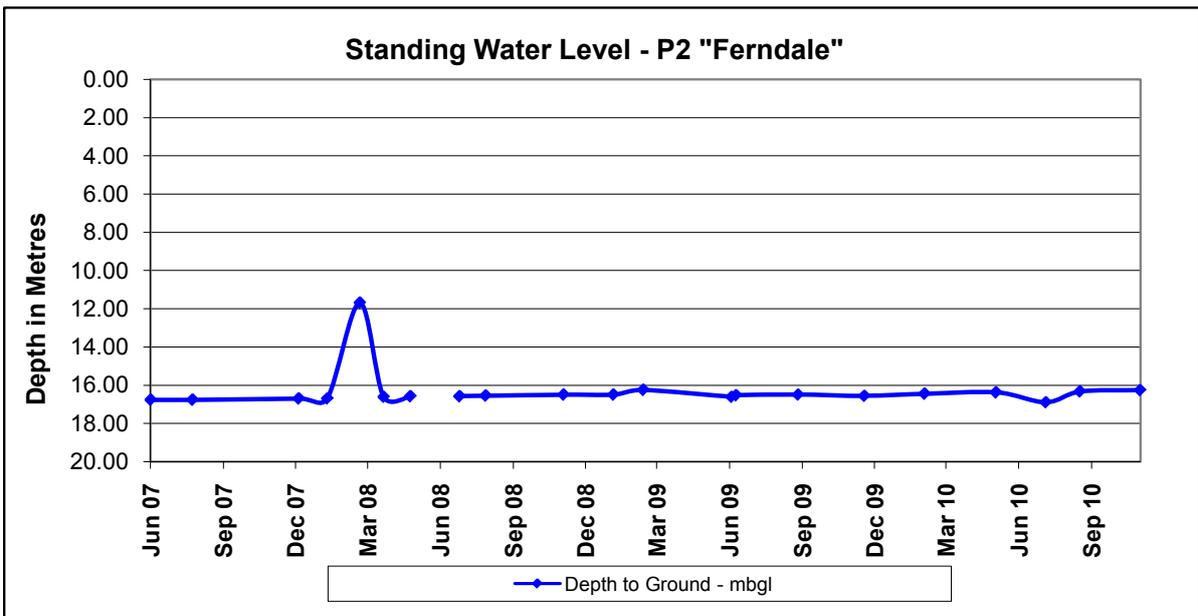
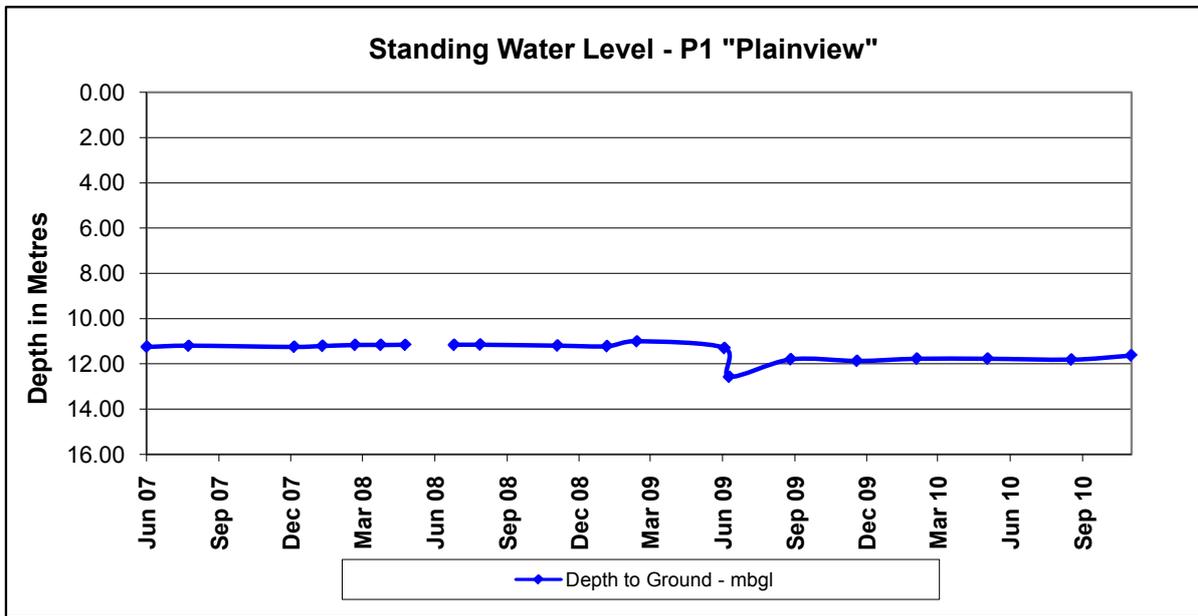
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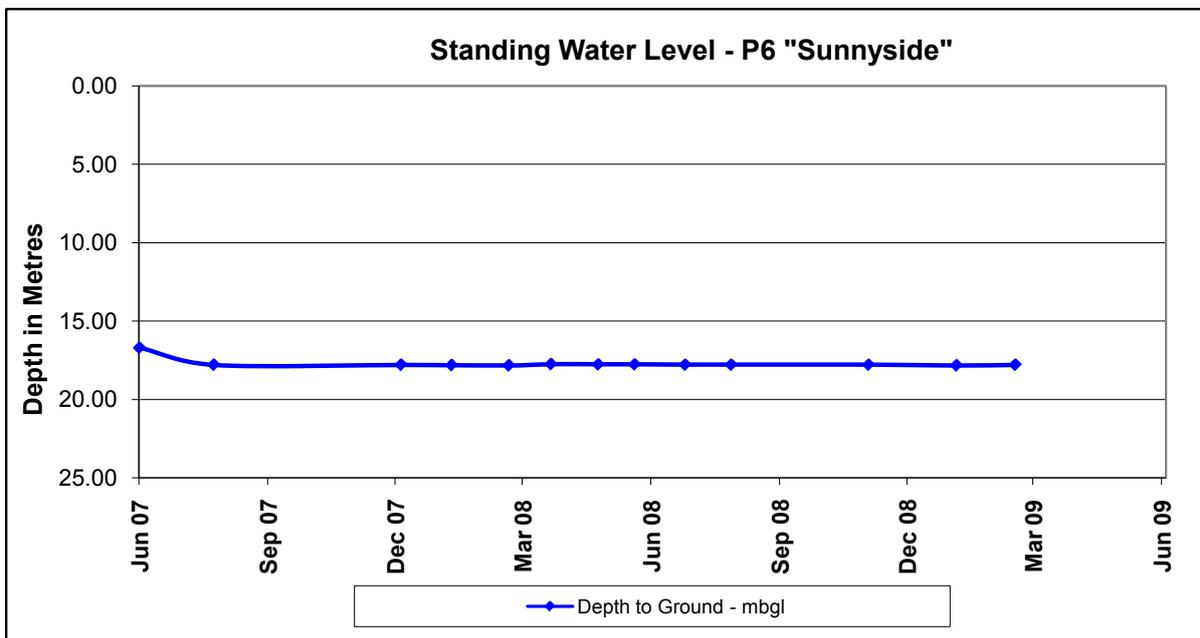
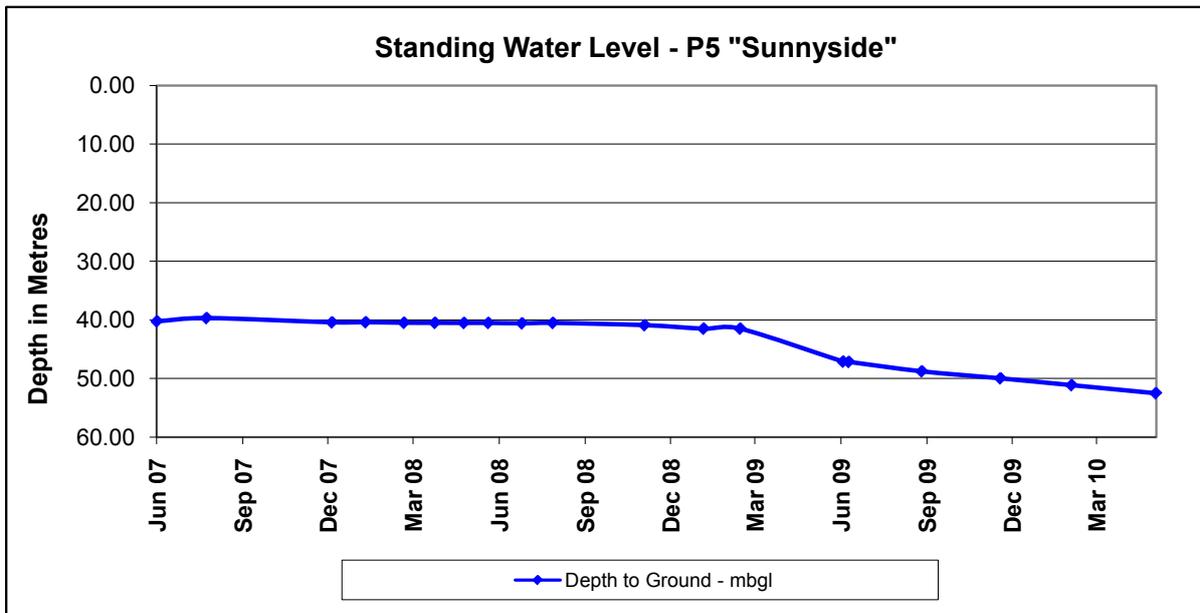
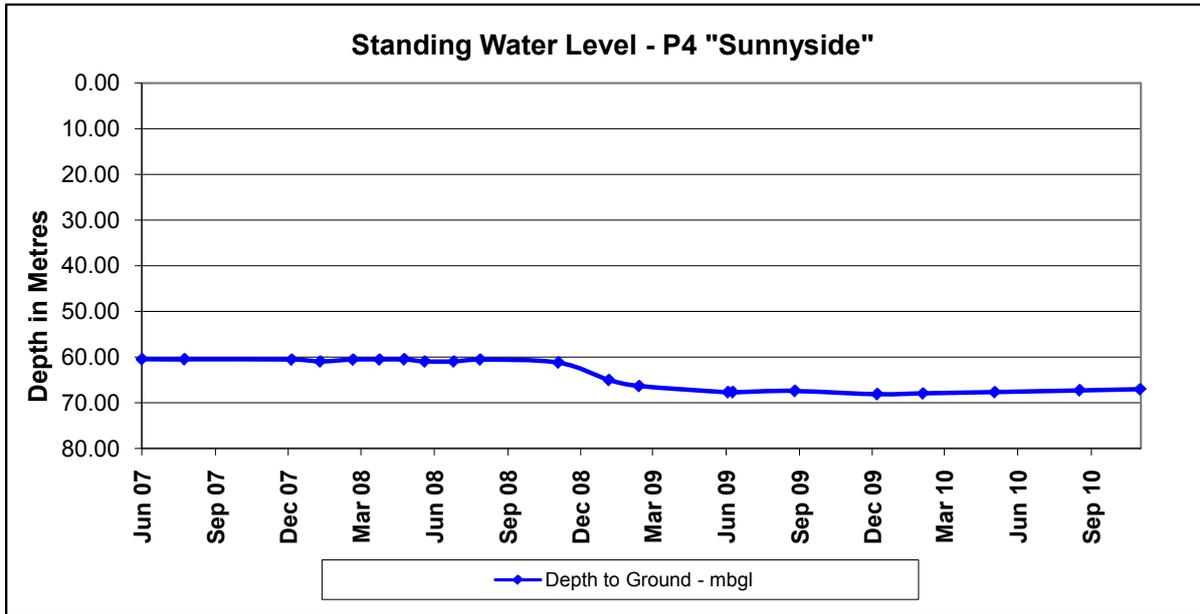
# GROUNDWATER MONITORING DATA

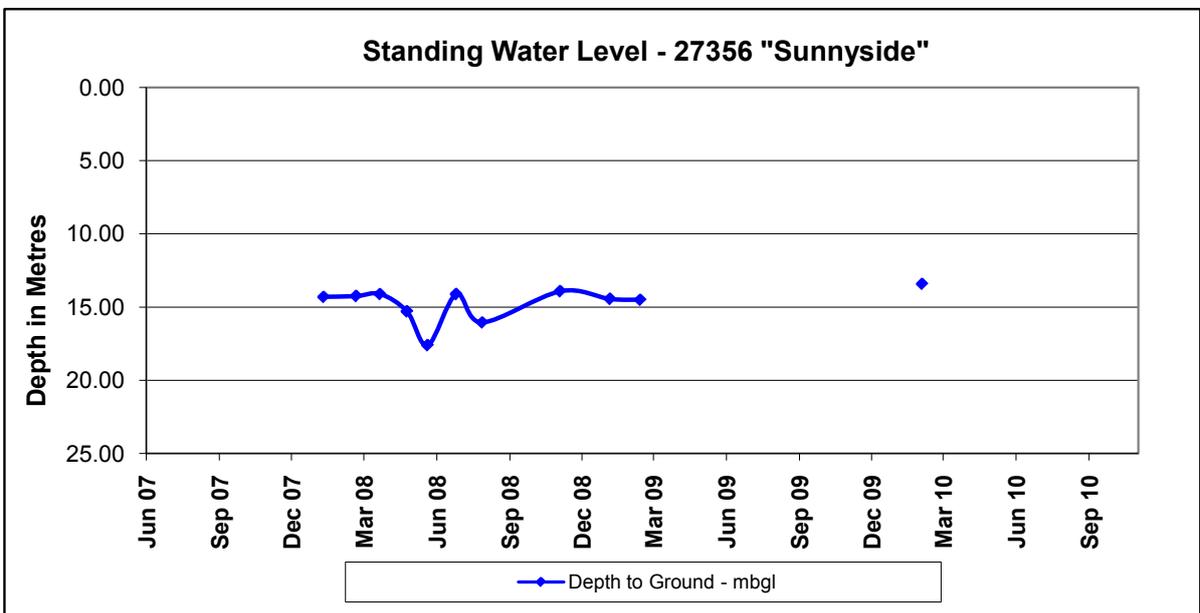
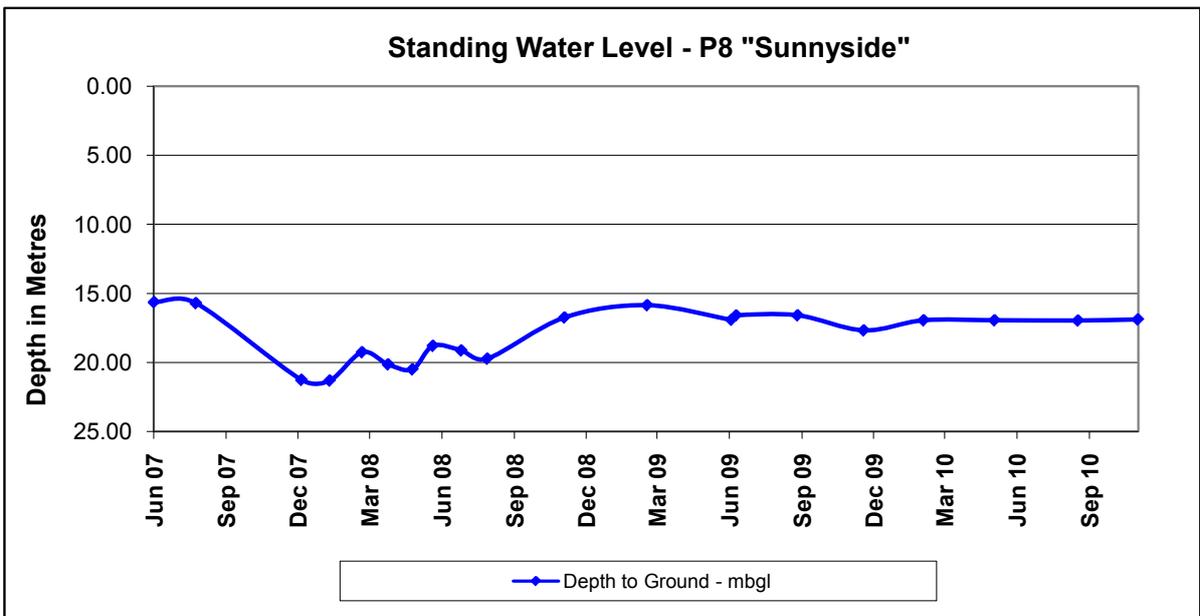
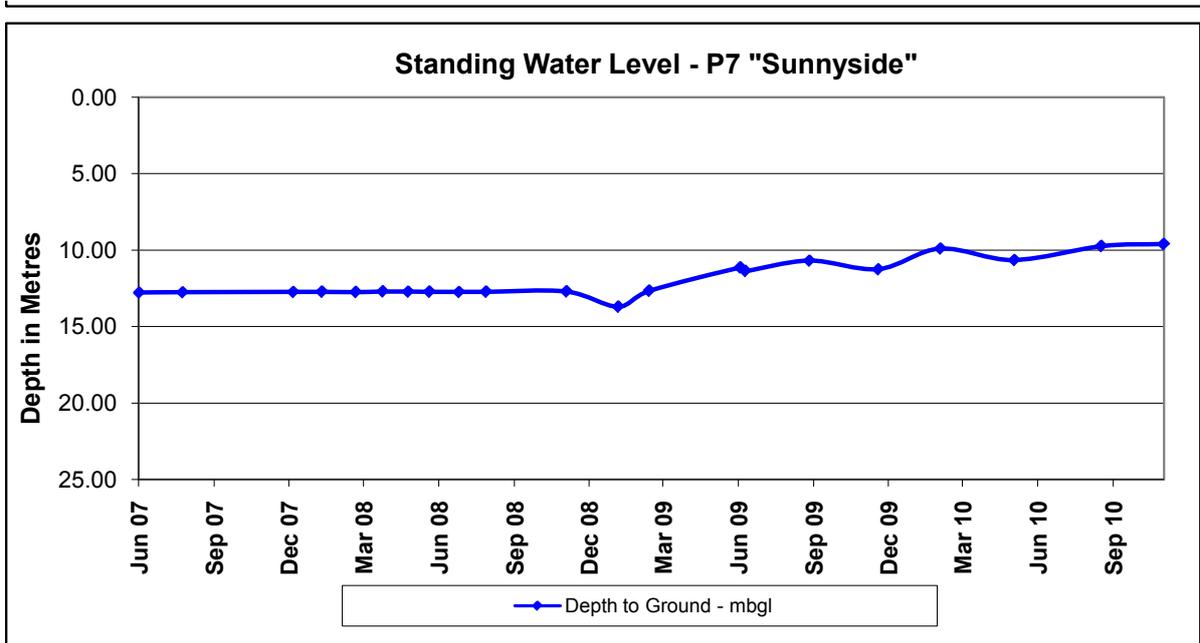


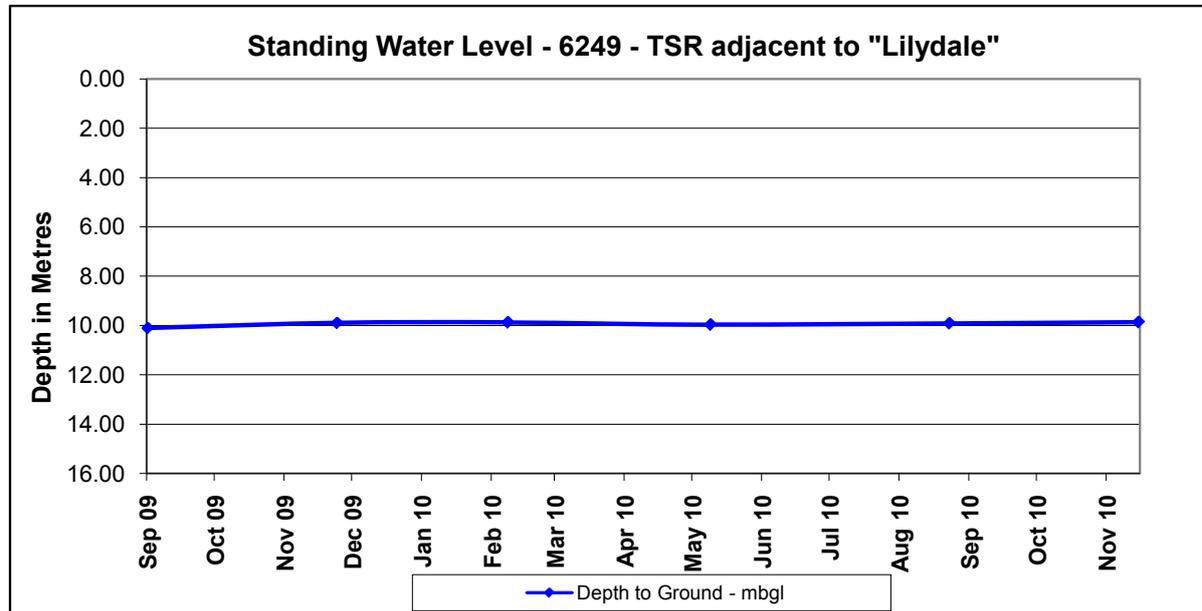
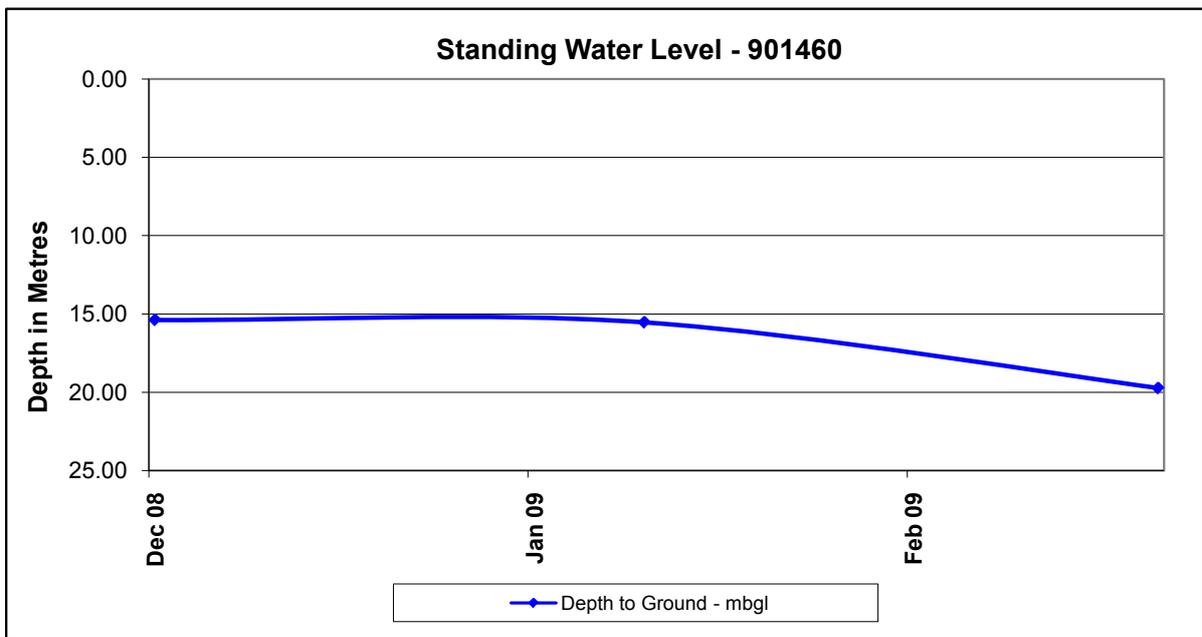
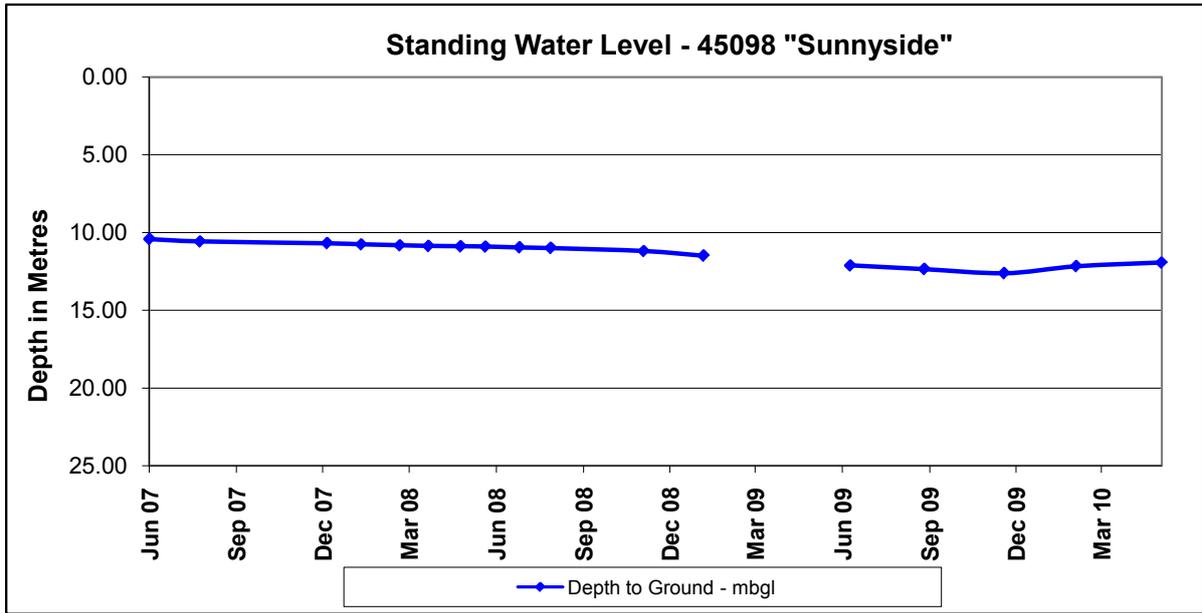


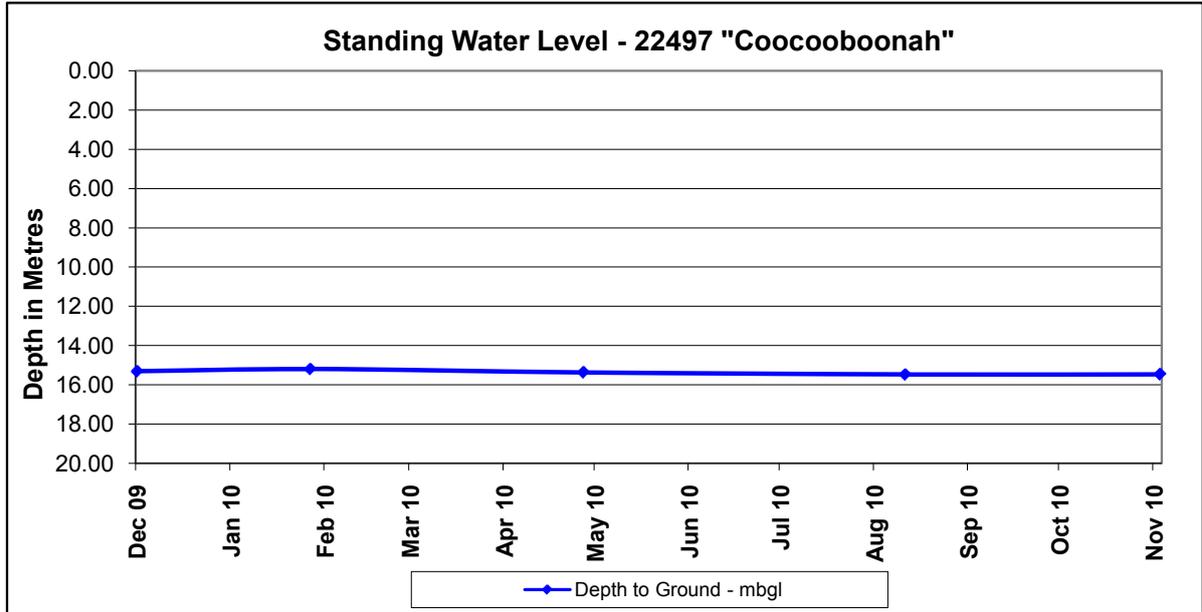












## Appendix 6

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# BLAST MONITORING RESULTS

**Sunnyside Coal Mine**  
**Environmental Blast Monitoring**

Consent Criteria = 5mm/s and 115 dbL

SHOT NO.	DATE	MONITOR LOCATION	PEAK GROUND PRESSURE (mm/s)	PEAK OVERPRESSURE (dbL)	TIME
1	18/Nov/08	Ivanhoe	0.91	110.7	1:44:48 PM
1	18/Nov/08	Plain View	0.86	107.8	1:44:58 PM
1	18/Nov/08	Illilli	0.56	107.4	1:42:25 PM
2	25/Nov/08	Innisvale	0.40	103.2	3:10:59 PM
2	25/Nov/08	Plain View	DNT	DNT	DNT
2	25/Nov/08	Illilli	0.61	105.5	3:10:48 PM
3	28/Nov/08	Ivanhoe	0.65	96.7	9:59:16 AM
3	28/Nov/08	Plain View	0.50	112.3	9:59:16 AM
3	28/Nov/08	Illilli	1.24	100.9	9:59:07 AM
4	28/Jan/09	Illilli	0.10	112.0	9:59:26 AM
4	28/Jan/09	Ivanhoe	DNT	DNT	DNT
4	28/Jan/09	Plain View	DNT	DNT	DNT
5	09/Mar/09	Ivanhoe	0.28	109.4	2:04:23 PM
5	09/Mar/09	Innisvale	0.33	109.7	2:04:29 PM
6	06/Apr/09	Illilli	0.35	97.4	1:53:19 PM
6	06/Apr/09	Ivanhoe	DNT	DNT	DNT
6	06/Apr/09	Plain View	DNT	DNT	DNT
7	11/Jun/09	Innisvale	0.30	97.0	12:21:02 PM
7	11/Jun/09	Ivanhoe	0.53	99.6	12:20:57 PM
7	11/Jun/09	Plain View	0.53	109.3	12:12:21 AM
8	18/Jun/09	Illilli	0.35	106.7	2:58:16 PM
8	18/Jun/09	Ivanhoe	0.37	96.4	2:57:20 PM
8	18/Jun/09	Plain View	DNT	DNT	DNT
9/10	21/Aug/09	Innisvale	0.61	111.0	10:06:36 AM
9/10	21/Aug/09	Ivanhoe	0.97	111.8	10:07:46 AM
9/10	21/Aug/09	Plain View	0.51	111.5	10:06:49 AM
11	24/Nov/09	Innisvale	DNT	DNT	DNT
11	24/Nov/09	Ivanhoe	DNT	DNT	DNT
11	24/Nov/09	Plain View	DNT	DNT	DNT
11	24/Nov/09	Illilli	0.43	109.6	12:11:41 PM
12	18/Dec/09	Innisvale	1.09	101.9	12:07:40 PM
12	18/Dec/09	Ivanhoe	1.70	107.0	12:05:20 PM
12	18/Dec/09	Plain View	1.16	101.9	12:05:34 PM
12	18/Dec/09	Illilli	0.05*	114.1	12:05:50 PM
13	11/Feb/10	Innisvale	DNT	DNT	DNT
13	11/Feb/10	Ivanhoe	DNT	DNT	DNT
13	11/Feb/10	Plain View	0.91	107.4	12:06:42 PM
13	11/Feb/10	Illilli	0.41	106.5	12:05:52 PM
14	17/Apr/10	Innisvale	0.96	108.6	12:01:29 PM
14	17/Apr/10	Ivanhoe	2.04	110.1	11:57:36 AM
14	17/Apr/10	Plain View	2.39	96.3	12:03:38 PM
14	17/Apr/10	Illilli	0.61	114.8	11:59:07 AM
15	23/Jun/10	Innisvale	1.10	102.4	12:13:47 PM
15	23/Jun/10	Ivanhoe	1.54	114.1	12:13:59 PM
15	23/Jun/10	Plain View	DNT	DNT	DNT
15	23/Jun/10	Illilli	0.09	114.8	12:15:17 PM

SHOT NO.	DATE	MONITOR LOCATION	PEAK GROUND PRESSURE (mm/s)	PEAK OVERPRESSURE (dBL)	TIME
16	09/Jul/10	Innisvale	0.42	100.8	10:04:11 AM
16	09/Jul/10	Ivanhoe	DNT	DNT	DNT
16	09/Jul/10	Plain View	1.11	103.2	10:04:27 AM
16	08/Jul/10	Illili	1.60	99.1	10:04:29 AM
17	12/Aug/10	Innisvale	DNT	DNT	DNT
17	12/Aug/10	Ivanhoe	DNT	DNT	DNT
17	12/Aug/10	Plain View	0.18	110.3	11:57:01 AM
17	12/Aug/10	Illili	0.52	108.0	11:56:56 AM
18	01/Sep/10	Innisvale	0.52	101.4	11:59:00 AM
18	01/Sep/10	Ivanhoe	0.53	103.6	12:02:42 PM
18	01/Sep/10	Plain View	DNT	DNT	DNT
18	01/Sep/10	Illili	DNT	DNT	DNT
20	30/Sep/10	Innisvale	0.58	105.6	12:00:08 PM
20	30/Sep/10	Ivanhoe	0.83	86.6	12:04:38 PM
20	30/Sep/10	Plain View	1.20	92.5	12:00:53 PM
20	30/Sep/10	Illili	0.47	87.5	11:58:03 AM
21	22/Nov/10	Innisvale	0.66	108.4	15:04:15 PM
21	22/Nov/10	Ivanhoe	No access to property - monitor not set		
21	22/Nov/10	Plain View	DNT	DNT	DNT
21	22/Nov/10	Illili	0.45	107.9	15:05:12 PM
22	24/Nov/10	Innisvale	DNT	DNT	DNT
22	24/Nov/10	Plain View	0.76	100.2	12:14:40 PM
22	24/Nov/10	Illili	DNT	DNT	DNT
22	24/Nov/10	Ivanhoe	DNT	DNT	DNT

\* Orica believes the monitor was triggered by something other than the blast. This assumption is based on the high overpressure and very low ground pressure

## Appendix 7

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# NOISE MONITORING DATA



March 8 2010

Ref: 06248/3461

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

## RE: FEBRUARY 2010 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Tuesday 23<sup>rd</sup> February 2010. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

### NOISE CRITERIA

The following is an extract from the Sunnyside NMP:

#### Impact Assessment Criteria

7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

#### Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe <sup>1</sup>
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

<sup>1</sup> Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, both during the day time of 23<sup>rd</sup> February 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10

pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 23 February 2010 (Morning)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	7:24 am	37	2.0m/s NE	Insects (35), traffic (30) <b>SCM (30)</b>
Ferndale	7:07 am	49	2.0m/s NE	Insects (49), <b>SCM inaudible</b>
Plain View	8:05 am	45	2.0m/s NE	Insects (44), <b>SCM (35)</b>
Lilydale				No access to property*

\*Gates to this property were locked. The property is mine owned.

Table 3 SCM Noise Monitoring Results – 23 February 2010 (Afternoon)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	3:30 pm	36	3.0m/s NW	Birds & insects (33), wind (33), <b>SCM inaudible</b>
Ferndale	3:59 pm	44	2.5m/s NW	Birds (43), <b>SCM (37)</b>
Plain View	3:10 pm	41	3.5m/s NW	Birds (40), <b>SCM (31)</b>
Lilydale	4:45 pm	40	2.5m/s NW	Birds & insects (48), wind (33), <b>SCM inaudible</b>

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM exceeded the noise criterion of 35 dB(A) at Ferndale during the afternoon monitoring period.

The noise at Ferndale was mainly the result of emissions from haul trucks and a dozer.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah.

In addition to the site noise monitoring, traffic noise from the transport trucks was measured at the “Roslyn” property on Torrens Lane, near the CPP. The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to Roslyn, at the same distance from the road as the façade of the residence. The noise levels from 11 trucks (6 full, 4 empty and a water cart) passing the site were measured between 7.45 pm and 8.45 am on Friday March 12.

Over the approximate 1 hour monitoring period the measured Leq noise level from mine vehicles was of 49.7 dB(A). This is below the noise criterion for a local road of 55 dB(A) Leq (1 hour).

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

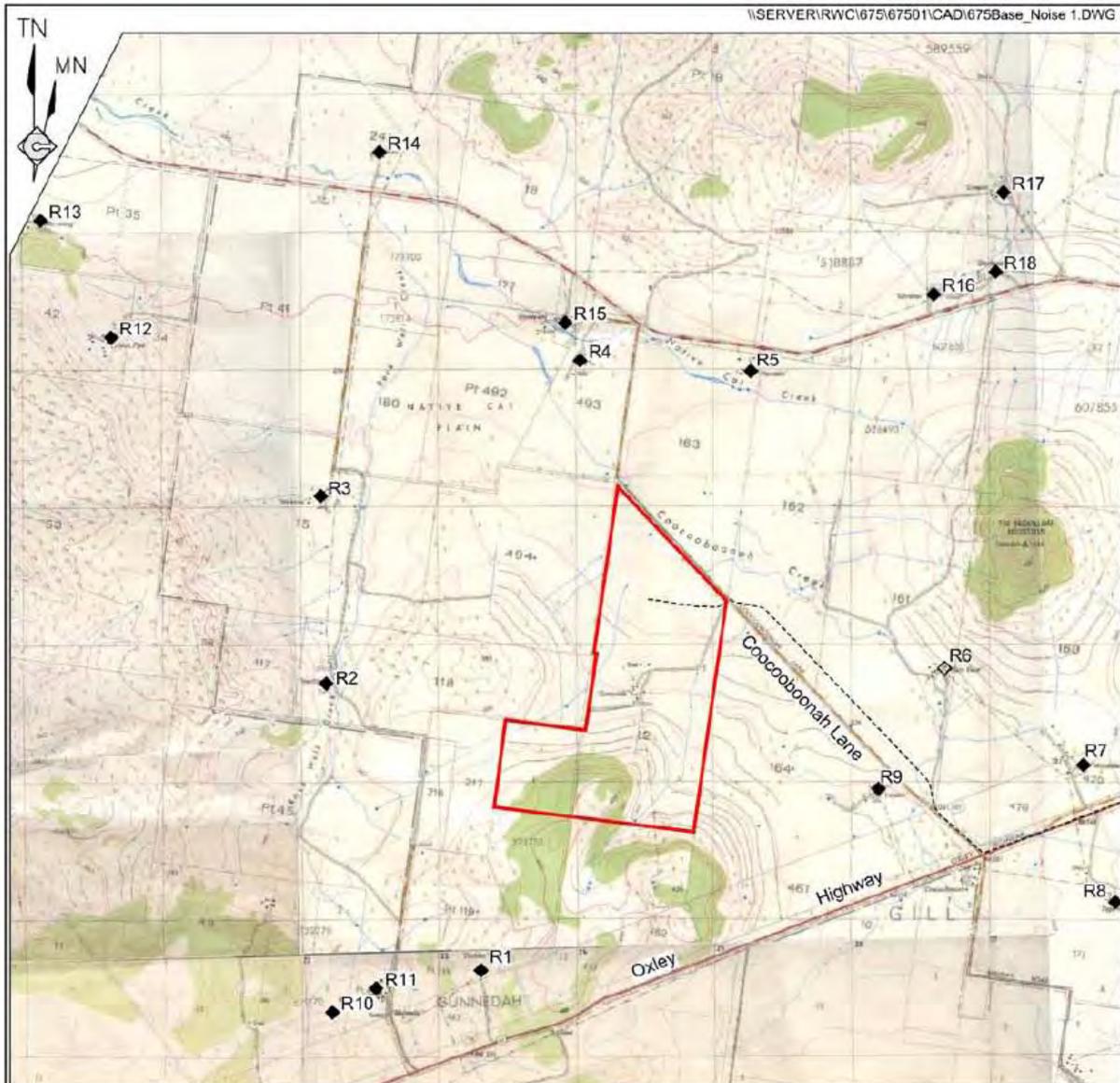
Review:



Ross Hodge  
Acoustical Consultant



Neil Pennington  
Acoustical Consultant



REFERENCE  
— Project Site Boundary  
 ..... Coal Transport Route  
 R1◆ Residence

SCALE 1:50 000  
 0.5 0 0.5 1.0 1.5 2.0 2.5 km

Figure 1  
**PROJECT SITE AND NOISE  
 RECEIVER LOCATIONS**

Figure Prepared by R.W. Corkery & Co. Pty Ltd





8 March 2010

Ref: 06248/3462

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: FEBRUARY 23 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENPOWER”**

This letter report presents the results of attended noise compliance monitoring conducted at “Glendower” on behalf of Sunnyside Coal Mine (SCM) on Tuesday 23 February 2010.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R15: Glendower

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, both during the day time of 23<sup>rd</sup> February 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the  $L_1$  (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2				
SCM Noise Monitoring Results at Glendower – 23 February 2010				
Day	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
23 February	7:43 am	51	2.0m/s NE	Birds/ insects(51), SCM inaudible
23 February	4:29 pm	40	2.5m/s NW	Birds & insects (38), wind (33), SCM (31)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

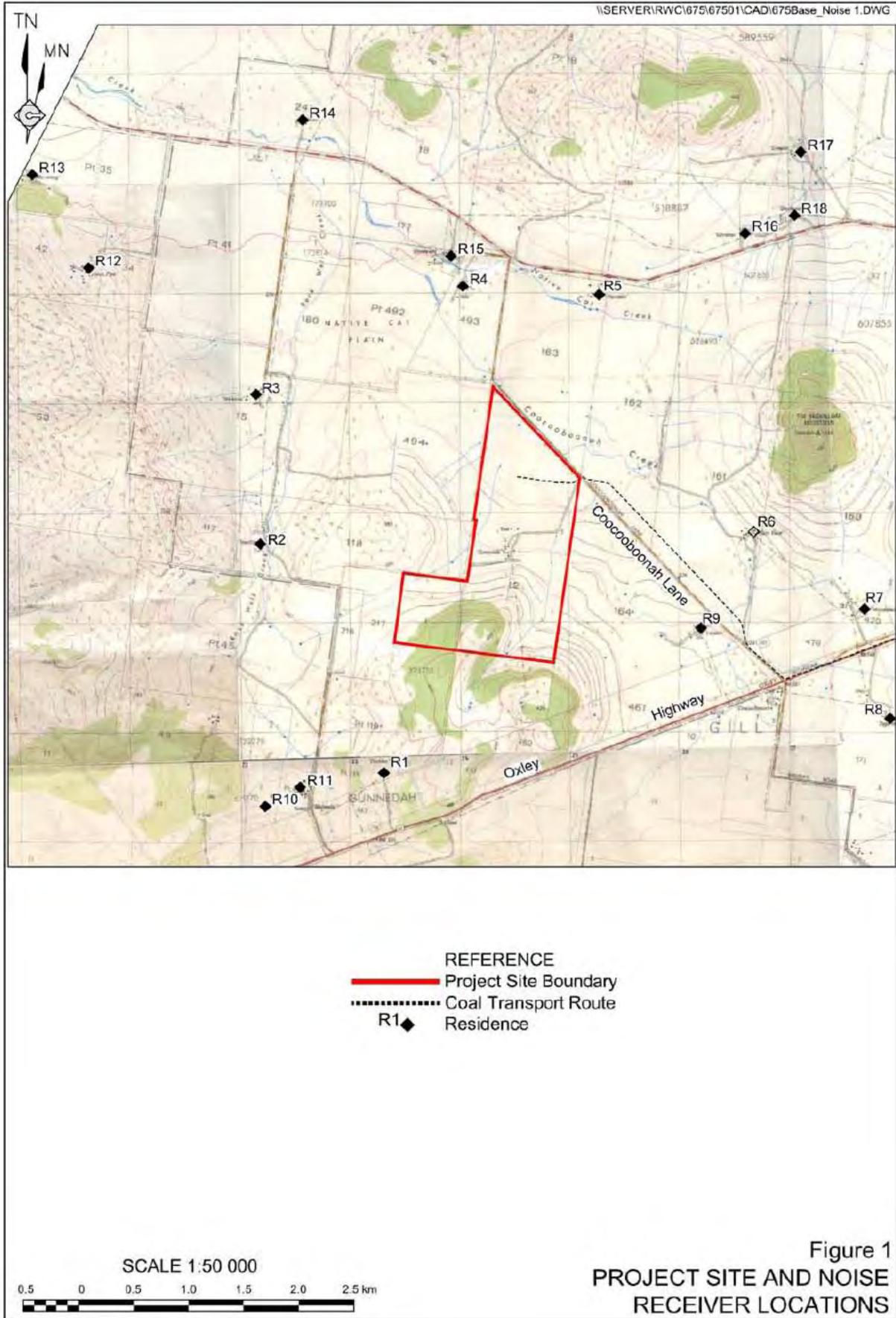
Review:



Ross Hodge  
Acoustical Consultant



Neil Pennington  
Acoustical Consultant





May 17 2010

Ref: 06248/3551

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: MAY 2010 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE**

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Friday 14<sup>th</sup> May 2010. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

<b>Location</b>	<b>Day</b> $L_{Aeq(15\text{ minute})}$	<b>Evening</b> $L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

*Table 1: Impact assessment criteria dB(A)*

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

*Notes:*

- *To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.*



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe <sup>1</sup>
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

<sup>1</sup> Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 “Sound Level Meters”. Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over three monitoring surveys, two during the day time and one during the evening of 14<sup>th</sup> May 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær “Evaluator” software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Tables 2, 3 and 4**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10

pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 14 May 2010 (Morning)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	8:37 am	40	Calm	Birds & insects (40), <b>SCM (28)</b>
Ferndale	7:35 am	53	Calm	Traffic (53), birds & insects (41), <b>SCM (38)</b>
Plain View	8:17 am	41	Calm	Birds & insects (39), traffic (34), <b>SCM (32)</b>
Lilydale	8:00 am	46	Calm	Traffic (45), <b>SCM (34)</b> , birds & insects (33)

Table 3 SCM Noise Monitoring Results – 14 May 2010 (Afternoon)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	3:20 pm	36	<0.5m/s SSW	Birds & insects (36), <b>SCM (&lt;25)</b>
Ferndale	4:40 pm	37	<0.5m/s SSW	Birds & insects (34), <b>SCM (32)</b> , traffic (32)
Plain View	3:40 pm	43	<0.5m/s SSW	Birds (43), traffic (30), <b>SCM (&lt;20)</b>
Lilydale	3:20 pm	53	<0.5m/s SSW	Birds & insects (53), traffic (38), <b>SCM inaudible</b>

Table 4 SCM Noise Monitoring Results – 14 May 2010 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	7:28 pm	36	<0.2m/s W	<b>SCM (35)</b> , insects (30)
Ferndale	7:49 pm	36	<0.2m/s W	<b>SCM (35)</b> , insects (28)
Plain View	6:50 pm	40	<0.2m/s W	<b>SCM (40)</b> , insects (31)
Lilydale	6:30 pm	40	<0.2m/s W	<b>SCM (37)</b> , birds & insects (36), traffic (31)

The results shown in Tables 2, 3 and 4 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM were in excess of the noise criterion of 35 dB(A) at Ferndale during the morning monitoring period and Plane View and Lilydale during the evening. Lilydale is a mine owned property.

The noise at Ferndale was mainly the result of emissions from haul trucks and a dozer. It was noted as being variable in level. At Plane View and Lilydale the mine noise was from trucks, engine revs, dozers, horns and dumping noise.

Data for the 15 minute Leq noise levels were analysed using the “Evaluator” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah.

In addition to the site noise monitoring, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CPP. The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The monitoring was carried out over an approximately one and a half hour period from 1.30 pm on Friday May 14<sup>th</sup>. Several vehicles passed along Torrens Lane going into and out of the mine but no coal haulage trucks were present. The noise levels from eight light vehicles and two heavy vehicles passing the site were measured.

Over the approximate 1 hour monitoring period the measured Leq noise level from vehicles on Torrens Lane was of 44 dB(A). This is below the noise criterion for a local road of 55 dB(A) Leq (1 hour).

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

**SPECTRUM ACOUSTICS PTY LIMITED**

Author:

Review:



Ross Hodge  
Acoustical Consultant



Neil Pennington  
Acoustical Consultant

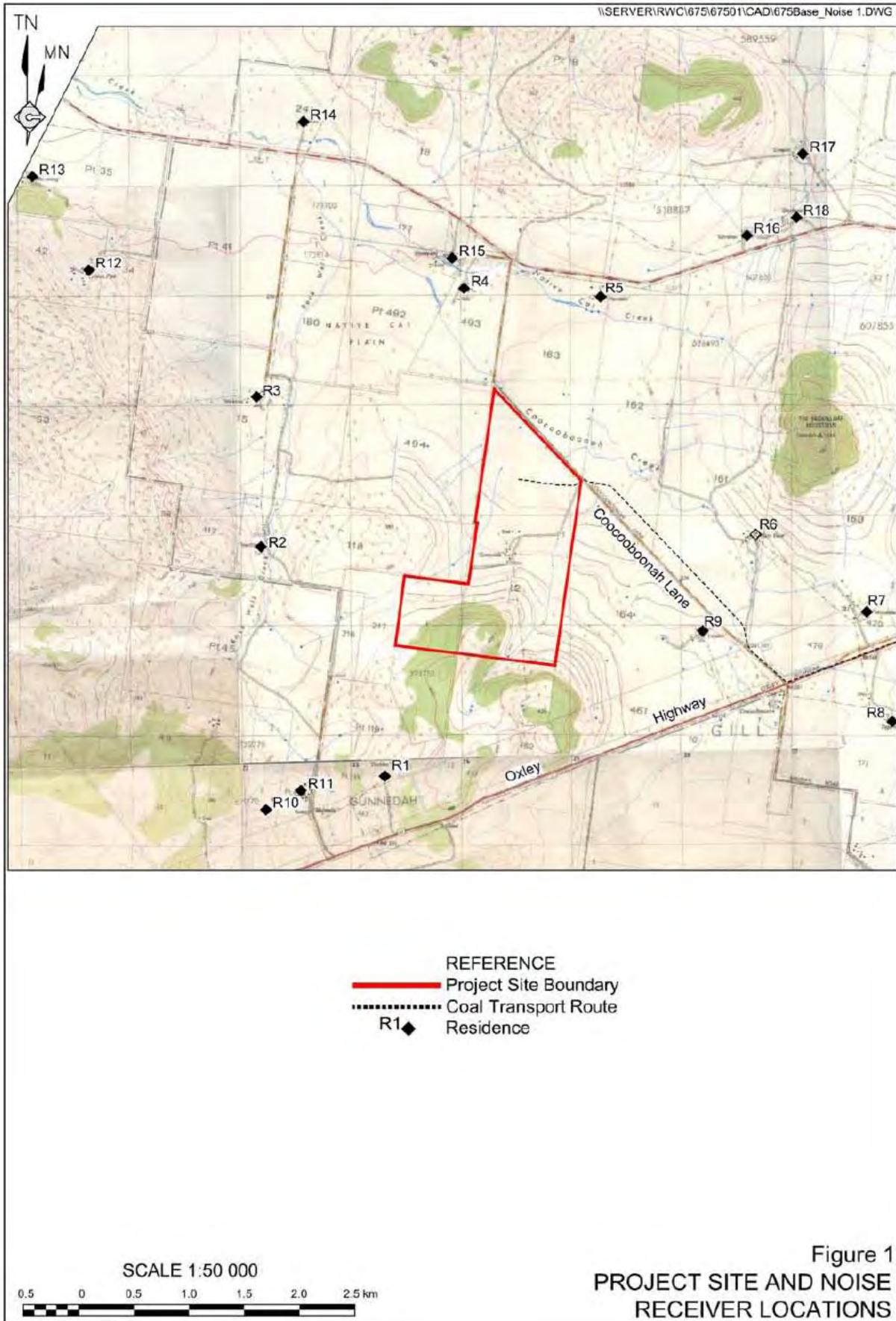


Figure 1  
**PROJECT SITE AND NOISE  
 RECEIVER LOCATIONS**

Figure Prepared by R.W. Corkery & Co. Pty Ltd



18 May 2010

Ref: 06248/3552

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: MAY 14 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENOWER”**

This letter report presents the results of attended noise compliance monitoring conducted at “Glendower” on behalf of Sunnyside Coal Mine (SCM) on Friday 14<sup>th</sup> May, 2010.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq}(15 \text{ minute})$	$L_{Aeq}(15 \text{ minute})$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the  $L_{Aeq}(15 \text{ minute})$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

Noise measurement location for the attended noise survey are listed below (and shown in the attached figure):

Location R15: Glendower

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over three monitoring surveys, two during the day time and one during the evening of 14<sup>th</sup> May 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the Leq (15 min), Lmax, L1, L10, L90 and Lmin percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq(15\text{ min})}$**  for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute Leq noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2				
SCM Noise Monitoring Results at Glendower – 14 May 2010				
Day	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
14 May	7:15 am	41	Calm	Domestic noise (39), birds/ insects (37), SCM (30)
14 May	4:20 pm	36	<0.5m/s SSW	Birds & insects (35), SCM (30)
14 May	7:10 pm	33	<0.2m/s W	SCM (32), insects (26)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

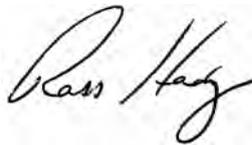
Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

**SPECTRUM ACOUSTICS PTY LIMITED**

Author:

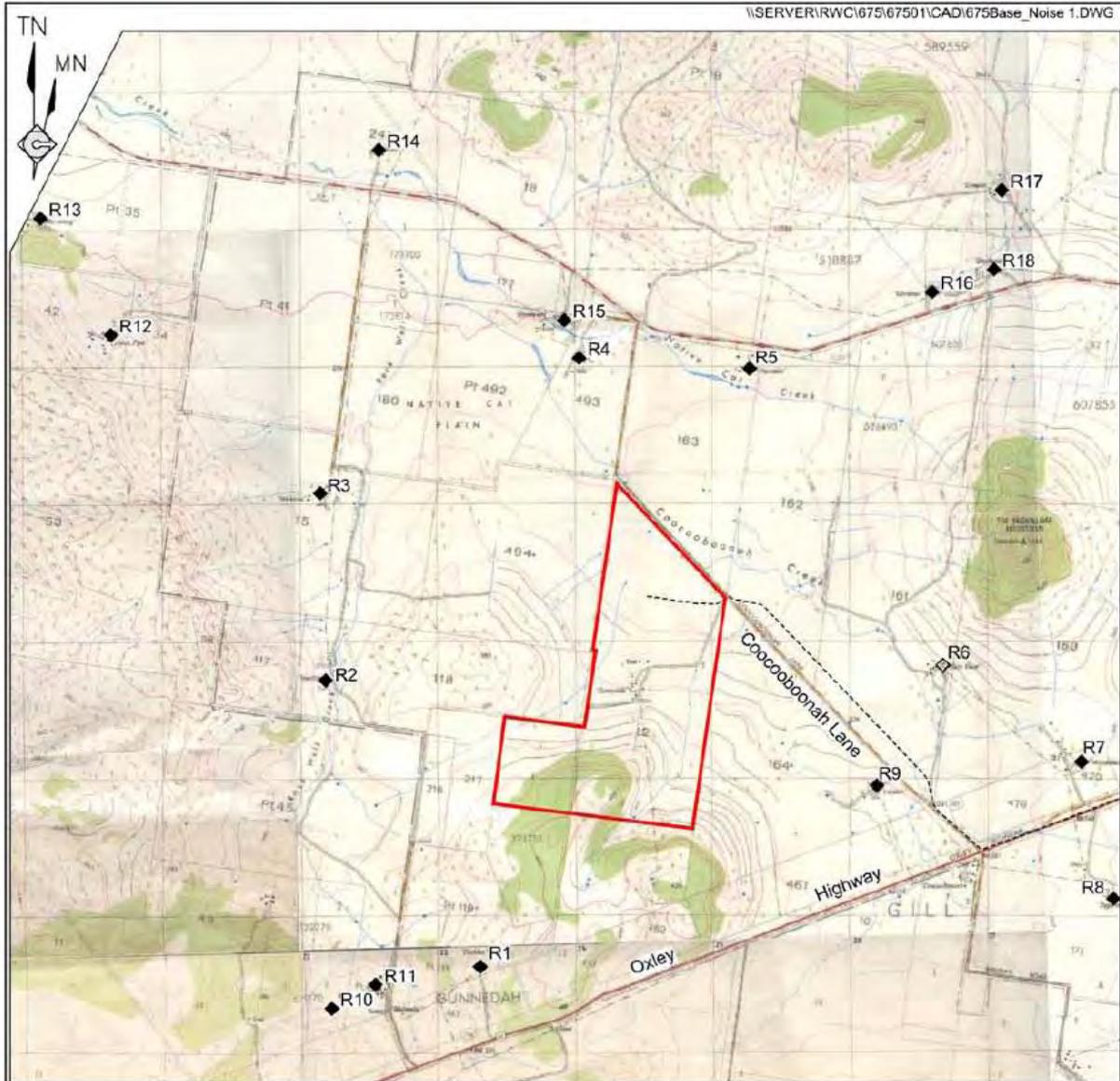


**Ross Hodge**  
Acoustical Consultant

Review:



**Neil Pennington**  
Acoustical Consultant

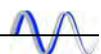


REFERENCE  
— Project Site Boundary  
 ..... Coal Transport Route  
 R1◆ Residence

SCALE 1:50 000  
 0.5 0 0.5 1.0 1.5 2.0 2.5 km

Figure 1  
**PROJECT SITE AND NOISE  
 RECEIVER LOCATIONS**

Figure Prepared by R.W. Corkery & Co. Pty Ltd





September 5 2010

Ref: 06248/3660

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: AUGUST 2010 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE**

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Monday 30<sup>th</sup> and Tuesday 31<sup>st</sup> August 2010. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

## NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe <sup>1</sup>
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

<sup>1</sup> Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the day time and one during the evening of 30<sup>th</sup> August 2010. Farming activity at Ferndale during the day of 30<sup>th</sup> August meant that a valid noise measurement was not possible. The daytime measurement was, therefore, made in the morning of 31<sup>st</sup> August.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Tables 2 and 3**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the

mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 30 August 2010 (Day)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	4:36 pm	35	Calm	Birds & insects (32), <b>SCM (32)</b>
Ferndale	8:45 am	47	1.3m/s NE	Birds (45), traffic (43), <b>SCM inaudible</b>
Plain View	4:17 pm	39	Calm	Birds & insects (34), <b>SCM (34)</b> , traffic (33)
Lilydale	4:00 pm	39	Calm	Birds & insects (38), <b>SCM (30)</b> , traffic (28)

Table 3 SCM Noise Monitoring Results – 30 August 2010 (Evening)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	8:00 pm	34	<0.5m/s ESE	Dogs (32), frogs (32), <b>SCM inaudible</b>
Ferndale	8:35 pm	34	Calm	Frogs (34), <b>SCM inaudible</b>
Plain View	7:40 pm	32	<0.5m/s ESE	Traffic (32), <b>SCM (&lt;20)</b>
Lilydale	7:20 pm	43	<0.5m/s ESE	Frogs (43), traffic (35), <b>SCM inaudible</b>

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) Leq (15 min) at any monitoring location at any time.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah.

In addition to the site noise monitoring, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CPP. The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The monitoring was carried out over a one hour period from 9.15 am on Tuesday August 31. A total of 31 heavy vehicles travelled along Torrens Lane during the

monitoring period. These consisted of 13 full and 14 empty coal haulage trucks, 2 full trucks transporting waste from road works on the access road, 1 garbage truck and 1 water cart.

The measured Leq noise level from vehicles on Torrens Lane was of **56 dB(A) Leq (1 hour)**. This is marginally higher than the noise criterion for a local road of 55 dB(A) Leq (1 hour).

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:

Review:



Ross Hodge  
Acoustical Consultant



Neil Pennington  
Acoustical Consultant

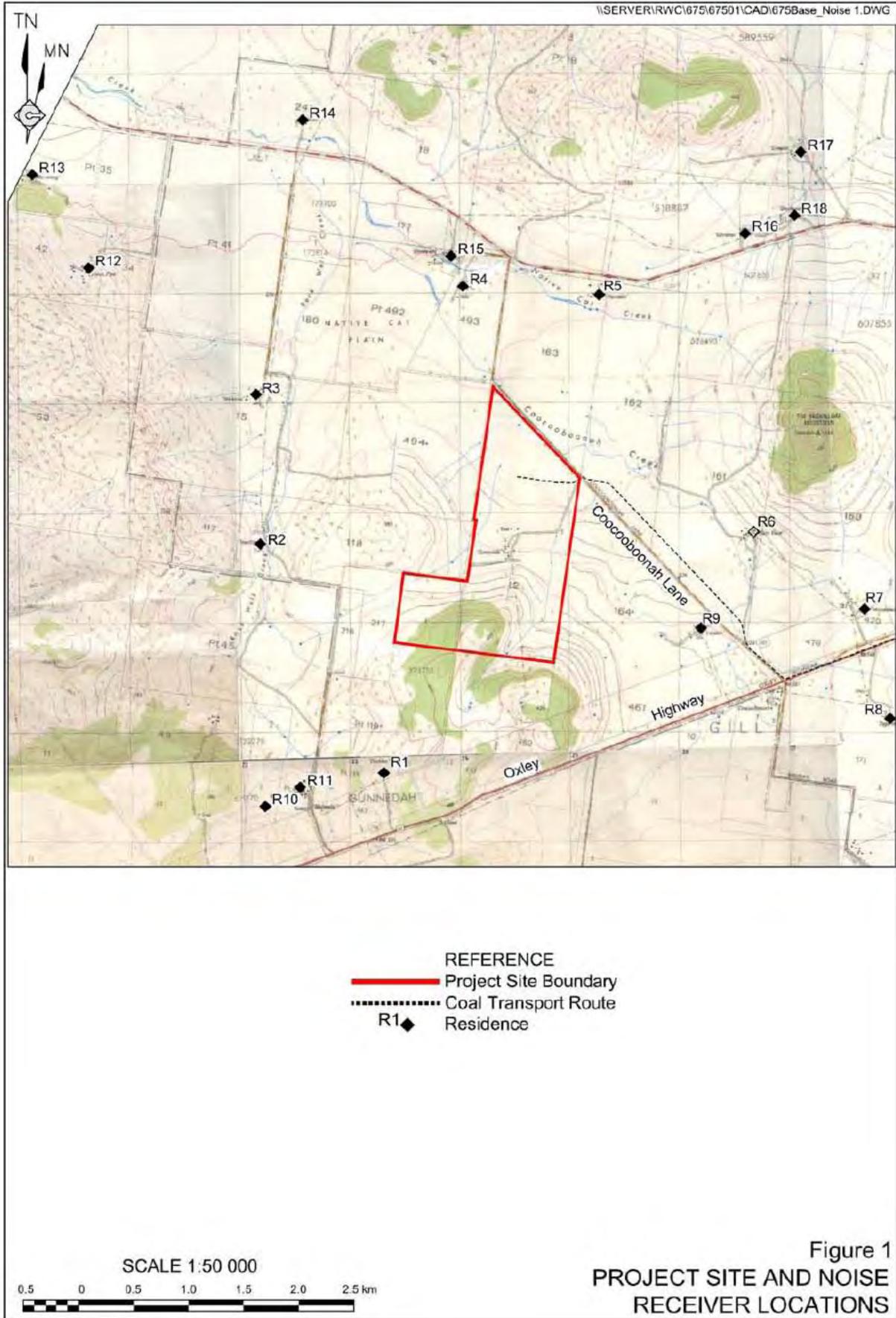


Figure Prepared by R.W. Corkery & Co. Pty Ltd



5 September 2010

Ref: 06248/3661

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: AUGUST 30 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENOWER” AND  
“WOODLAWN”**

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” and “Woodlawn” properties on behalf of Sunnyside Coal Mine (SCM) on Monday 30<sup>th</sup> August, 2010.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq}(15 \text{ minute})$	$L_{Aeq}(15 \text{ minute})$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

**Notes:**

- To determine compliance with the  $L_{Aeq}(15 \text{ minute})$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

Noise measurement location for the attended noise survey are listed below (and shown in the attached figure):

Location R15: Glendower

Location R7: Woodlawn

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the day time and one during the evening of 30<sup>th</sup> August 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the  $L_1$  (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 30 August 2010				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Woodlawn	3:40 pm	38	Calm	Traffic (36), birds/ insects (34), <b>SCM barely audible</b>
Glendower	4:54 pm	38	Calm	Birds & insects (37), traffic (30), <b>SCM (28)</b>
Woodlawn	7:02 pm	33	<0.5m/s ESE	Traffic (33), frogs (20), <b>SCM inaudible</b>
Glendower	8:17 pm	38	Calm	Frogs (38), <b>SCM (est. &lt;25)</b>

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at either Glendower or Woodlawn.

Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:



Ross Hodge  
Acoustical Consultant

Review:



Neil Pennington  
Acoustical Consultant

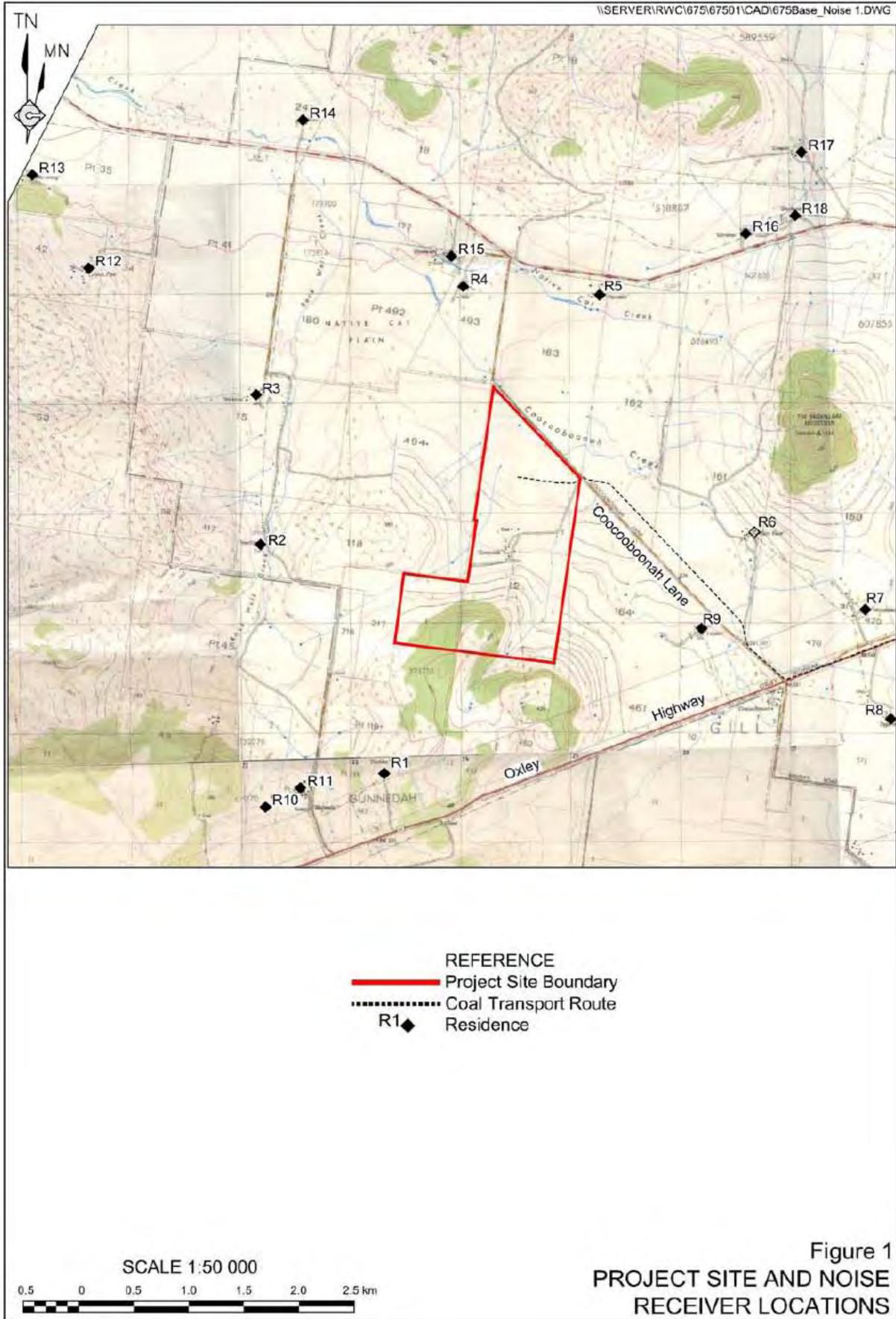


Figure Prepared by R.W. Corkery & Co. Pty Ltd



November 8 2010

Ref: 06248/3758

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: NOVEMBER 2010 ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE**

This letter report presents the results of attended noise compliance monitoring conducted for the Sunnyside Coal Mine (SCM) on Wednesday 3rd and Thursday 4th November 2010. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.
- To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).

## NOISE MONITORING LOCATIONS

Noise measurement locations for the attended noise survey are listed below (and shown in the attached figure):

Location R2:	Ivanhoe <sup>1</sup>
Location R4:	Illili
Location R5:	Ferndale
Location R6:	Plain View
Location R9:	Lilydale

<sup>1</sup> Gates at the entrance to Ivanhoe were locked and access was not possible. No monitoring was, therefore, undertaken at this residence.

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the evening of 3rd November and a second during the day of 4th November, 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Tables 2** and **3**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison but are available on request. Note that the mine does not operate at night (i.e. between 10

pm and 7 am) and, therefore, the L1 (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2 SCM Noise Monitoring Results – 3 November 2010 (Evening)				
Location	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
Illili	8:10 pm	52	0.3m/s E	Insects (52), <b>SCM (30)</b>
Ferndale	8:52 pm	42	Calm	Birds & insects (41), <b>SCM (35)</b>
Plain View	7:35 pm	50	0.2m/s E	Birds & insects (50), traffic (40), <b>SCM (30)</b>
Lilydale	7:15 pm	41	0.3m/s E	Birds (40), traffic (35), <b>SCM barely audible</b>

Table 3 SCM Noise Monitoring Results – 4 November 2010 (Day)				
Location	Time	dB(A),Leq	Wind speed/ direction	Identified Noise Sources
Illili	8:57 pm	57	1.0m/s E	Birds (57), traffic (35), <b>SCM (32)</b>
Ferndale	9:33 pm	43	1.6m/s NE	Birds & insects (42), traffic (35), <b>SCM (30)</b>
Plain View	8:35 pm	40	1.4m/s E	Birds & insects (37), traffic (37), <b>SCM barely audible</b>
Lilydale	8:15 pm	38	0.4m/s E	Birds & insects (36), traffic (35), <b>SCM (&lt;30)</b>

The results shown in Tables 2 and 3 indicate that, under the operational and atmospheric conditions at the time, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) Leq (15 min) at any monitoring location at any time.

Data for the 15 minute Leq noise levels were analysed using the “*Evaluator*” software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

The product coal from the Sunnyside mine is transported by road trucks to the Whitehaven CPP, near Gunnedah.

In addition to the site noise monitoring, traffic noise was measured at the “Roslyn” property on Torrens Lane, near the CPP. The transport of coal from Sunnyside is carried out on a relatively sporadic basis, and trucks using this route do not travel at the regular intervals that are associated with other Whitehaven projects in the area.

The sound level meter was set up in the paddock adjacent to “Roslyn”, at the same distance from the road as the façade of the residence. The monitoring was carried out over a one hour period from 10.05 am on Thursday 4th November. A total of 11 heavy vehicles travelled along Torrens Lane during the monitoring period. These consisted of 7 full and 4 empty coal haulage trucks.

The measured Leq noise level from vehicles on Torrens Lane was of **53 dB(A) Leq (1 hour)**. This is in compliance with the noise criterion for a local road of 55 dB(A) Leq (1 hour).

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

**SPECTRUM ACOUSTICS PTY LIMITED**

Author:

Review:



Ross Hodge  
Acoustical Consultant



Neil Pennington  
Acoustical Consultant

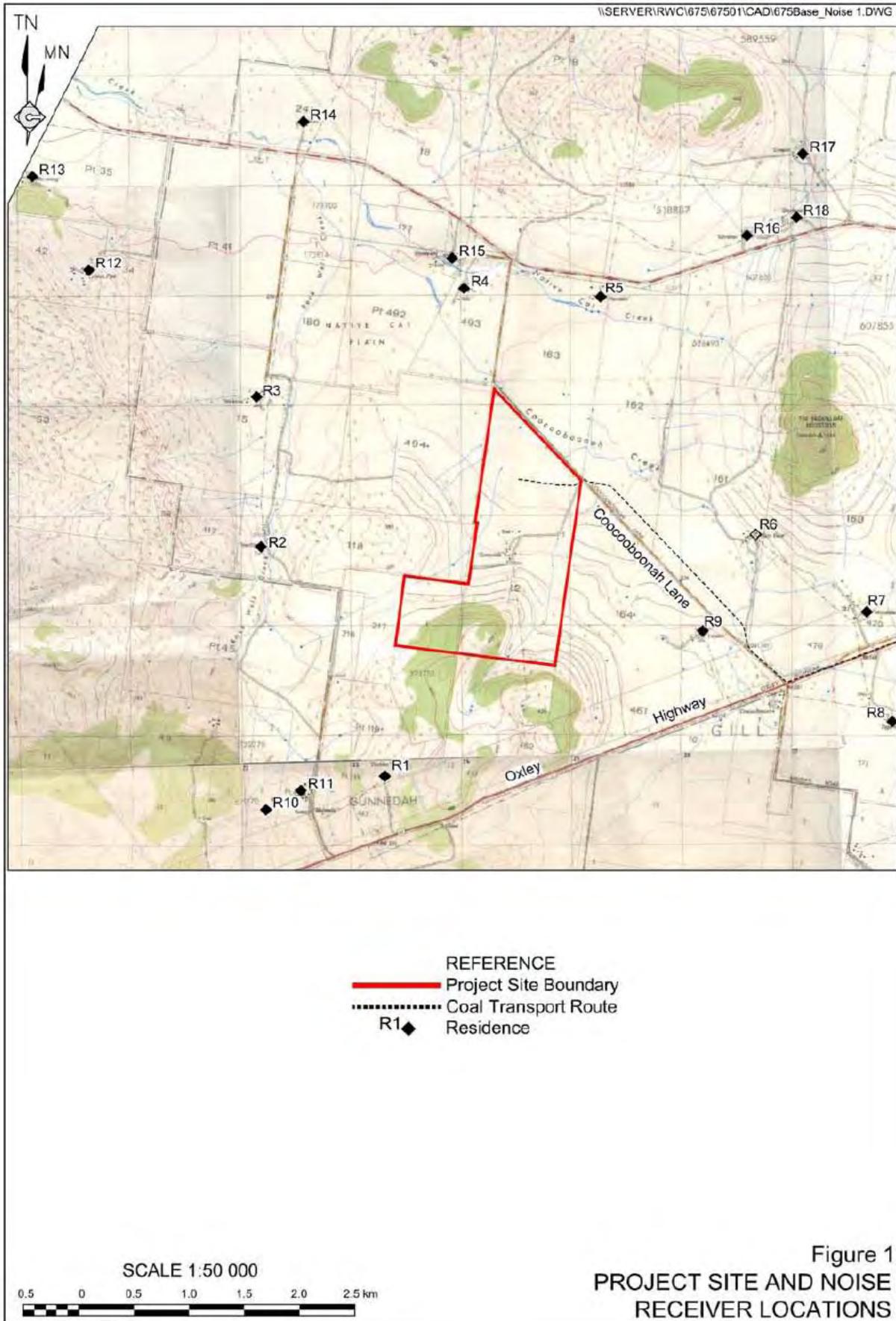


Figure 1  
**PROJECT SITE AND NOISE  
 RECEIVER LOCATIONS**

Figure Prepared by R.W. Corkery & Co. Pty Ltd



8 November 2010

Ref: 06248/3759

Mr Danny Young  
Whitehaven Coal Pty Ltd  
PO Box 600  
GUNNEDAH NSW 2380

**RE: NOVEMBER ATTENDED NOISE MONITORING RESULTS – SUNNYSIDE MINE – “GLENLOWER”**

This letter report presents the results of attended noise compliance monitoring conducted at the “Glendower” property on behalf of Sunnyside Coal Mine (SCM) on Wednesday 3rd and Thursday 4th November 2010. Noise monitoring was carried out in accordance with the conditions of the SCM Noise Monitoring Programme (NMP) as detailed below.

**NOISE CRITERIA**

The following is an extract from the Sunnyside NMP:

**Impact Assessment Criteria**

- 7. Ensure that the noise generated by the Project does not exceed the noise impact assessment criteria set out in Table 1 at any residence on privately-owned land, or on more than 25 percent of any privately-owned land.

Location	Day	Evening
	$L_{Aeq(15\text{ minute})}$	$L_{Aeq(15\text{ minute})}$
All privately owned residences	35	35

Table 1: Impact assessment criteria dB(A)

If a written negotiated noise agreement with any landowner has been reached and a copy of this agreement has been forwarded to the Department and DECC, then the Proponent may exceed the noise limits in Table 1 in accordance with the negotiated noise agreement.

Notes:

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  noise limits, noise from the Project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.



- *These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.*
- *To determine compliance with the  $L_{A1(1\text{ minute})}$  noise limits, noise from the Project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the Project is impractical, the Department and DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).*

## NOISE MONITORING LOCATIONS

The noise measurement location for the attended noise survey is listed below (and shown in the attached figure):

Location R15: Glendower

## NOISE MEASUREMENTS

Noise emission levels were measured with a Brüel & Kjær Type 2260 or 2250 Precision Sound Analyser. These instruments have Type 1 characteristics as defined in AS1259-1982 "Sound Level Meters". Calibration of the instrument was confirmed with a Brüel & Kjær Type 4231 Sound Level Calibrator prior to and at the completion of measurements.

Meteorological data used in this report was obtained from a hand held weather station with measurements made at approximately 2m above ground level.

Noise levels were measured over two monitoring surveys, one during the evening of 3rd November and a second during the day of 4th November, 2010.

## RESULTS

The measured noise levels, over 1 second intervals, were analysed using Brüel & Kjær "Evaluator" software. The software enables the contributions of the mine and other significant noise sources to the overall to be quantified.

In keeping with requirements of the SCM Noise Monitoring Programme noise levels were recorded for each of the  $L_{eq}$  (15 min),  $L_{max}$ ,  $L_1$ ,  $L_{10}$ ,  $L_{90}$  and  $L_{min}$  percentiles. As shown in Table 1, the noise criterion for the operational phase of the SCM project is **35 dB(A)  $L_{eq}$  (15 min)** for all operating times.

The results shown in **Table 2**, below, represent the total 15 minute  $L_{eq}$  noise level for all noise sources and the relative contributions of each. This is the compliance criterion for the operation of the mine. Levels for the other percentiles are not shown as they have no compliance criteria for comparison, but are available on request. Note that the mine does not operate at night (i.e. between 10 pm and 7 am) and, therefore, the  $L_1$  (1 min) (which is the standard measure of sleep disturbance) does not apply.

Noise from SCM is shown in bold type. Where noise from SCM is listed as inaudible, this means the maximum levels from the mine were at least 10 dB below the minimum level during the measurement and not measurable.

Table 2				
SCM Noise Monitoring Results – 3 & 4 November 2010 - Glendower				
Date	Time	dB(A),Leq (15 min)	Wind speed/ direction	Identified Noise Sources as dB(A) Leq (15 min)
3 November	8:33 pm	35	0.4m/s E	SCM (33), birds & insects (31)
4 November	9:15 am	49	1.2m/s E	Birds (49), traffic (35), SCM (32)

The results shown in Table 2 indicate that, under the operational and atmospheric conditions at the time of both monitoring periods, noise emissions from the operations at SCM did not exceed the noise criterion of 35 dB(A) at the monitoring location at Glendower.

Data for the 15 minute Leq noise levels were analysed using the "Evaluator" software. These analyses showed the noise did not contain any tonal, impulsive or low frequency components as per definitions in the NSW Industrial Noise Policy.

We trust this report fulfils your requirements at this time, however, should you require additional information or assistance please contact the undersigned on 4954 2276.

Yours faithfully,

SPECTRUM ACOUSTICS PTY LIMITED

Author:



Ross Hodge  
Acoustical Consultant

Review:



Neil Pennington  
Acoustical Consultant

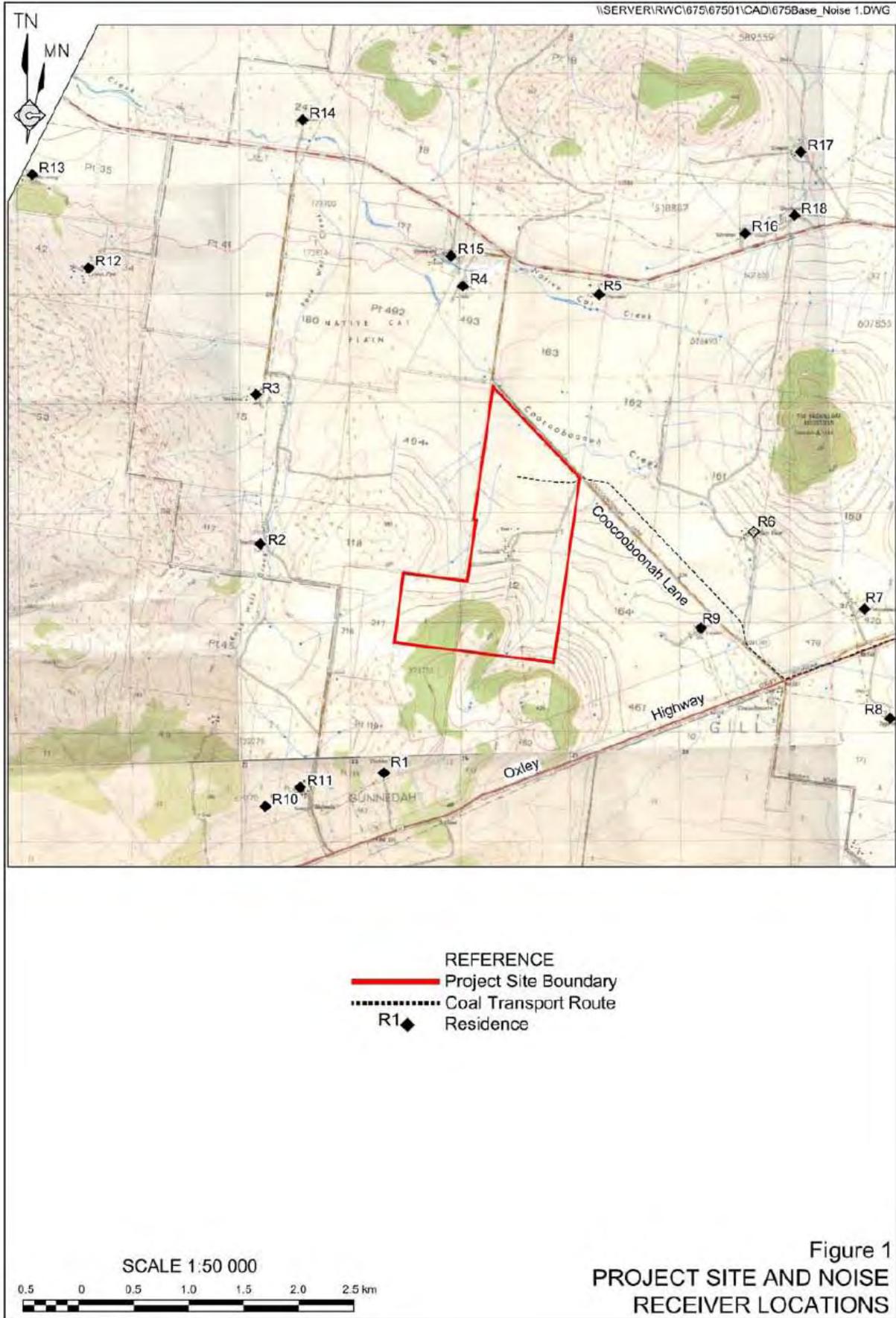


Figure 1  
**PROJECT SITE AND NOISE  
 RECEIVER LOCATIONS**

Figure Prepared by R.W. Corkery & Co. Pty Ltd

## Appendix 8

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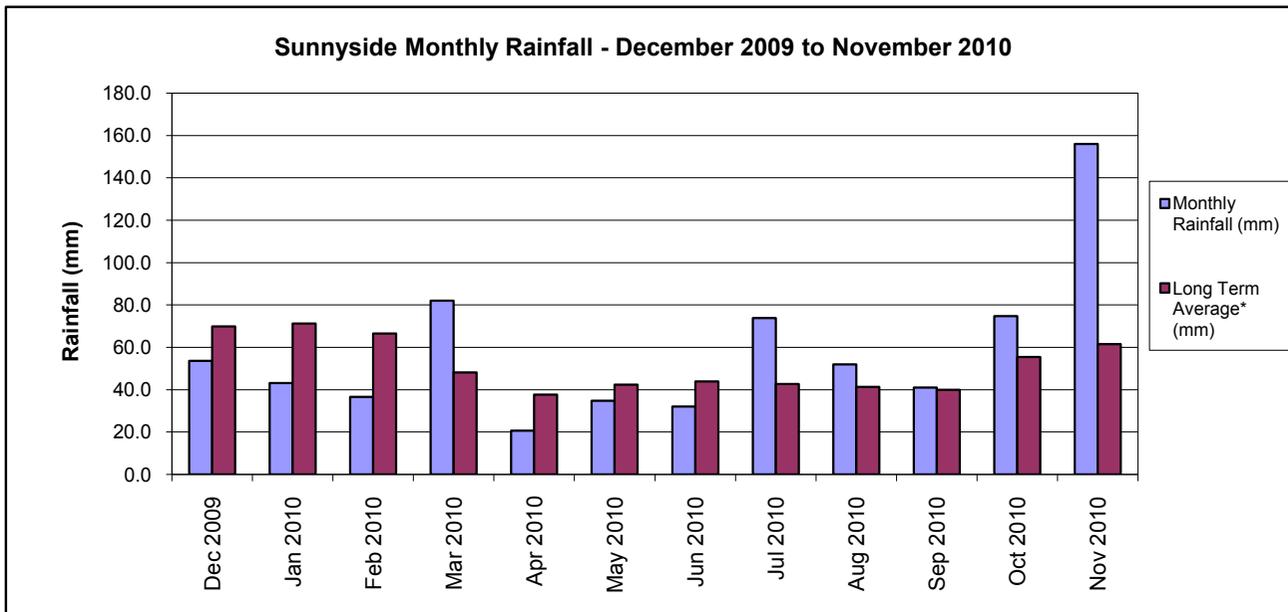
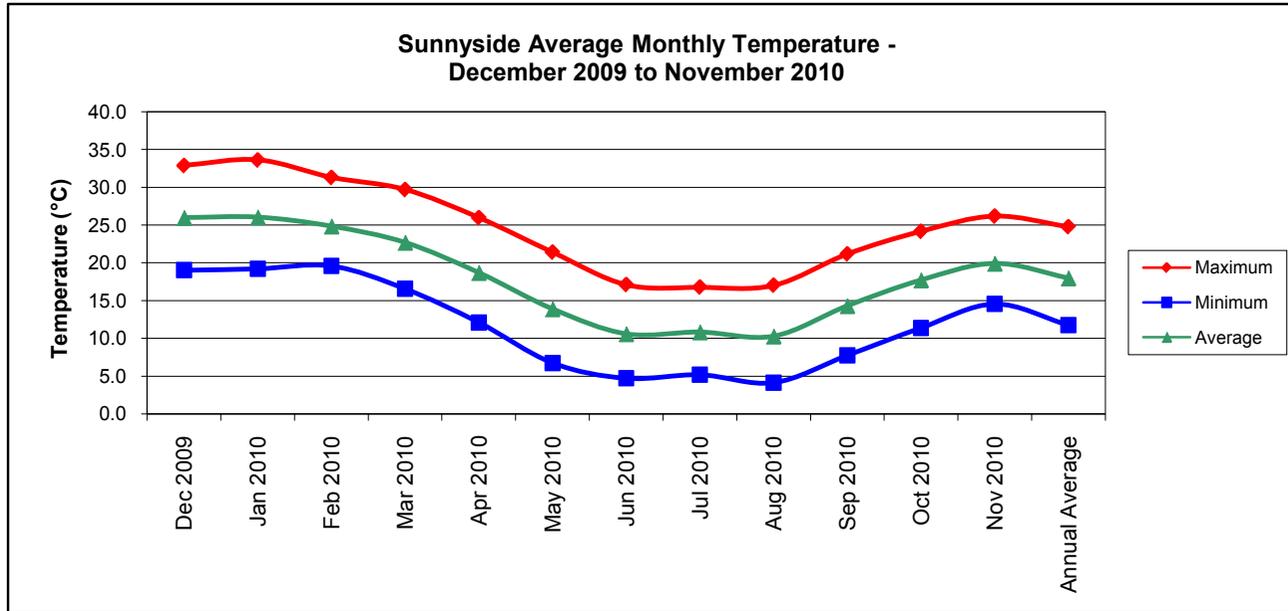
# METEOROLOGICAL DATA

**Sunnyside Coal Mine Average Monthly Results**

Month	Minimum Air Temp (°C)	Average Air Temp(°C)	Maximum Air Temp (°C)	Minimum Relative Humidity (%)	Average Relative Humidity(%)	Maximum Relative Humidity (%)	Minimum Wind Speed (m/s)	Average Wind Speed (m/s)	Maximum Wind Speed (m/s)
Dec 2009	19.0	26.0	32.9	31	48	69	0.4	3.6	8.2
Jan 2010	19.2	26.0	33.6	37	58	80	0.1	2.2	6.9
Feb 2010	19.6	24.8	31.3	42	63	81	0.4	2.3	5.5
Mar 2010	16.6	22.7	29.7	40	61	81	0.4	2.2	5.5
Apr 2010	12.1	18.7	26.0	40	64	86	0.1	1.4	4.7
May 2010	6.7	13.9	21.4	43	66	86	0.0	1.1	4.5
Jun 2010	4.7	10.6	17.1	50	73	89	0.0	1.3	4.5
Jul 2010	5.2	10.8	16.8	53	76	90	0.0	1.3	4.3
Aug 2010	4.1	10.3	17.0	47	74	90	0.0	1.8	5.8
Sep 2010	7.7	14.3	21.2	49	73	90	0.1	1.3	4.9
Oct 2010	11.4	17.7	24.2	49	70	87	0.1	1.7	4.9
Nov 2010	14.6	19.9	26.2	48	70	88	0.4	3.8	8.3
<b>Annual Average</b>	<b>11.8</b>	<b>18.0</b>	<b>24.8</b>	<b>44</b>	<b>66</b>	<b>85</b>	<b>0.2</b>	<b>2.0</b>	<b>5.7</b>
<b>Minimum</b>	<b>4.1</b>	<b>10.3</b>	<b>16.8</b>	<b>31</b>	<b>48</b>	<b>69</b>	<b>0.0</b>	<b>1.1</b>	<b>4.3</b>
<b>Maximum</b>	<b>19.6</b>	<b>26.0</b>	<b>33.6</b>	<b>53</b>	<b>76</b>	<b>90</b>	<b>0.4</b>	<b>3.8</b>	<b>8.3</b>

Month	Monthly Rainfall (mm)	Long Term Average* (mm)	Cumulative Rainfall (mm)	Number of Rain Days
Dec 2009	53.6	69.8	53.6	10
Jan 2010	43.2	71.3	96.8	11
Feb 2010	36.6	66.6	133.4	7
Mar 2010	82.0	48.1	215.4	7
Apr 2010	20.6	37.7	236.0	5
May 2010	34.8	42.4	270.8	6
Jun 2010	32.0	43.9	302.8	16
Jul 2010	73.8	42.7	376.6	14
Aug 2010	52.0	41.3	428.6	18
Sep 2010	41.0	39.9	469.6	15
Oct 2010	74.8	55.4	544.4	10
Nov 2010	156.0	61.5	700.4	12
<b>Total</b>	<b>700.4</b>	<b>620.6</b>	<b>700.4</b>	<b>131</b>

\* Long term average is from Gunnedah Pool (Station 055023) 1877 - 2010



Daily Summary			December 2009			Sunnyside Weather Station				
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Dec/09	14.9	19.4	25.9	32	54	68	0.4	0.9	6.2	10.3
02/Dec/09	13.2	19.9	26.4	25	44	65	0.0	2.7	6.2	8.5
03/Dec/09	13.8	22.8	32.8	18	40	68	0.0	0.0	2.1	6.3
04/Dec/09	14.1	25.9	35.9	20	33	49	0.0	0.0	2.9	6.7
05/Dec/09	19.6	28.5	37.4	12	28	62	0.0	0.0	4.1	9.4
06/Dec/09	16.1	27.8	37.8	12	31	65	0.0	0.0	2.4	6.7
07/Dec/09	17.1	30.6	40.3	13	33	72	0.0	0.0	4.2	10.3
08/Dec/09	20.8	32.3	42.3	13	20	28	0.0	0.0	5.7	14.3
09/Dec/09	20.3	30.0	38.6	15	25	45	0.0	0.0	4.6	12.5
10/Dec/09	18.7	27.5	33.9	20	31	47	0.0	0.0	2.9	8.0
11/Dec/09	20.7	25.9	31.9	13	30	52	0.0	0.4	5.0	8.5
12/Dec/09	15.6	25.1	34.2	14	26	47	0.0	0.0	2.5	7.2
13/Dec/09	16.2	27.9	37.4	13	24	44	0.0	0.0	2.0	5.4
14/Dec/09	21.8	28.6	38.0	22	45	67	0.0	0.9	5.8	11.2
15/Dec/09	21.6	29.4	38.3	21	46	68	0.0	0.4	4.1	9.4
16/Dec/09	21.5	30.3	38.4	22	43	76	0.0	0.0	2.5	6.3
17/Dec/09	22.6	30.7	37.7	13	33	72	0.0	0.0	4.5	9.4
18/Dec/09	20.2	25.4	30.8	33	54	84	3.2	0.0	4.1	8.9
19/Dec/09	18.5	25.7	33.8	17	52	88	0.0	0.0	2.1	5.8
20/Dec/09	20.1	26.0	32.6	33	48	65	0.0	0.0	4.4	7.2
21/Dec/09	21.1	26.0	34.9	29	49	67	4.4	0.4	2.9	9.8
22/Dec/09	17.1	21.6	28.4	40	71	90	17.2	0.0	3.8	10.3
23/Dec/09	16.7	27.3	35.2	24	48	85	0.0	0.0	1.8	6.3
24/Dec/09	21.4	28.4	34.1	28	43	65	0.0	0.0	2.1	4.9
25/Dec/09	23.4	27.7	32.1	40	54	76	0.0	0.0	3.4	7.6
26/Dec/09	20.8	22.4	24.3	75	85	90	22.4	0.0	2.3	6.7
27/Dec/09	20.6	23.3	28.8	65	84	92	3.6	0.0	3.0	7.2
28/Dec/09	20.4	21.5	22.4	83	90	93	0.6	0.0	1.6	7.2
29/Dec/09	21.1	23.2	25.9	68	76	83	0.8	2.7	5.6	7.6
30/Dec/09	19.8	21.7	24.6	68	78	86	0.4	2.7	5.7	8.9
31/Dec/09	20.5	22.5	24.9	61	74	84	0.6	0.0	1.9	5.4
<b>Average</b>	<b>19.0</b>	<b>26.0</b>	<b>32.9</b>	<b>31</b>	<b>48</b>	<b>69</b>		<b>0.4</b>	<b>3.6</b>	<b>8.2</b>
<b>Maximum</b>	<b>23.4</b>	<b>32.3</b>	<b>42.3</b>	<b>83</b>	<b>90</b>	<b>93</b>	<b>22.4</b>	<b>2.7</b>	<b>6.2</b>	<b>14.3</b>
<b>Minimum</b>	<b>13.2</b>	<b>19.4</b>	<b>22.4</b>	<b>12</b>	<b>20</b>	<b>28</b>	<b>0.0</b>	<b>0.0</b>	<b>1.6</b>	<b>4.9</b>
<b>Total</b>							<b>53.6</b>			

**Daily Summary                      January 2010                      Sunnyside Weather Station**

<b>Date</b>	<b>Min Temp (°C)</b>	<b>Ave Temp (°C)</b>	<b>Max Temp (°C)</b>	<b>Min RH (%)</b>	<b>Ave RH (%)</b>	<b>Max RH (%)</b>	<b>Rain (mm)</b>	<b>Min WS (m/s)</b>	<b>Ave WS (m/s)</b>	<b>Max WS (m/s)</b>
01/Jan/10	19.8	20.6	22.3	81	89	93	0.2	0.0	0.8	2.7
02/Jan/10	19.6	22.5	28.2	72	89	94	1.0	0.0	2.3	6.7
03/Jan/10	21.2	24.9	31.0	53	74	90	0.2	0.0	2.2	9.4
04/Jan/10	18.8	25.1	32.7	40	65	85	0.2	0.0	2.9	6.7
05/Jan/10	19.7	25.1	32.3	43	63	77	0.0	0.0	2.1	7.6
06/Jan/10	21.1	25.1	31.2	49	69	85	0.0	0.0	2.2	8.5
07/Jan/10	20.9	25.8	32.6	40	60	79	2.0	0.0	2.0	7.6
08/Jan/10	19.6	26.3	32.2	35	58	83	0.0	0.4	2.6	4.9
09/Jan/10	20.1	27.3	34.6	36	57	79	0.0	0.0	0.9	3.1
10/Jan/10	19.9	28.4	36.6	31	54	86	0.0	0.0	1.5	8.5
11/Jan/10	23.4	29.5	37.8	33	53	74	0.0	0.0	1.6	5.4
12/Jan/10	22.9	29.9	37.7	32	54	79	0.0	0.0	1.3	5.4
13/Jan/10	22.1	30.5	39.1	28	50	78	5.8	0.0	2.4	8.9
14/Jan/10	21.3	26.4	35.1	37	65	85	9.6	0.0	2.5	9.4
15/Jan/10	21.2	26.6	33.3	42	65	84	0.0	0.0	3.0	7.2
16/Jan/10	21.5	25.2	32.2	46	67	83	0.6	0.0	2.5	12.1
17/Jan/10	18.9	25.9	34.3	40	60	79	0.0	0.0	3.5	8.0
18/Jan/10	13.6	20.8	25.9	27	38	57	0.0	0.0	5.1	10.3
19/Jan/10	9.2	18.2	25.8	27	47	76	0.0	0.0	3.3	7.6
20/Jan/10	9.3	21.6	33.3	19	46	79	0.0	0.0	1.6	5.4
21/Jan/10	14.0	26.2	39.3	21	44	76	0.0	0.0	0.3	1.8
22/Jan/10	16.8	28.7	38.1	25	45	73	0.0	0.0	1.0	4.5
23/Jan/10	17.8	28.9	37.8	26	43	68	0.0	0.0	1.3	4.5
24/Jan/10	19.6	28.9	38.1	28	49	74	0.0	0.0	1.6	4.9
25/Jan/10	20.4	29.3	37.4	25	46	74	0.0	0.0	2.1	6.3
26/Jan/10	19.9	29.3	38.3	24	45	66	0.0	0.0	2.7	7.2
27/Jan/10	22.4	28.5	35.2	28	48	78	0.6	0.0	1.6	7.6
28/Jan/10	20.0	27.1	36.8	29	57	87	8.2	0.0	2.2	10.7
29/Jan/10	20.7	24.7	30.3	48	68	87	0.0	0.0	1.3	6.7
30/Jan/10	20.1	25.8	32.1	39	57	75	0.0	1.3	4.6	8.5
31/Jan/10	20.3	24.5	31.4	44	66	89	14.8	0.0	2.7	5.8
<b>Average</b>	<b>19.2</b>	<b>26.0</b>	<b>33.6</b>	<b>37</b>	<b>58</b>	<b>80</b>	<del> </del>	<b>0.1</b>	<b>2.2</b>	<b>6.9</b>
<b>Maximum</b>	<b>23.4</b>	<b>30.5</b>	<b>39.3</b>	<b>81</b>	<b>89</b>	<b>94</b>	<b>14.8</b>	<b>1.3</b>	<b>5.1</b>	<b>12.1</b>
<b>Minimum</b>	<b>9.2</b>	<b>18.2</b>	<b>22.3</b>	<b>19</b>	<b>38</b>	<b>57</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>1.8</b>
<b>Total</b>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<b>43.2</b>	<del> </del>	<del> </del>	<del> </del>

Daily Summary			February 2010			Sunnyside Weather Station				
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Feb/10	19.9	24.3	29.0	41	57	77	0.0	0.0	3.7	7.2
02/Feb/10	19.7	24.2	29.4	39	54	66	0.0	1.8	5.8	9.8
03/Feb/10	20.8	25.6	31.2	45	58	70	0.0	3.1	4.7	7.2
04/Feb/10	21.2	26.7	33.7	34	55	76	1.2	0.0	2.5	6.3
05/Feb/10	20.5	25.5	32.1	43	69	91	16.4	0.0	1.0	4.9
06/Feb/10	20.2	23.3	27.1	67	82	92	17.0	0.0	2.9	4.9
07/Feb/10	22.4	24.4	29.4	58	77	88	1.4	0.0	3.2	5.4
08/Feb/10	21.5	25.6	30.7	41	66	87	0.2	0.0	2.4	4.5
09/Feb/10	17.9	25.5	33.2	39	62	83	0.0	0.0	1.9	5.8
10/Feb/10	20.4	26.2	33.1	42	61	78	0.0	0.0	1.6	4.5
11/Feb/10	19.7	26.7	37.5	25	59	83	0.0	0.0	1.0	3.1
12/Feb/10	19.3	27.0	35.1	35	59	84	0.0	0.0	2.1	6.3
13/Feb/10	22.1	28.4	34.8	35	54	77	0.0	0.0	1.9	5.4
14/Feb/10	21.0	25.5	31.2	50	69	92	0.2	0.0	3.1	8.9
15/Feb/10	21.1	23.7	30.0	44	80	94	0.0	0.0	1.1	5.4
16/Feb/10	16.7	24.2	32.6	37	62	91	0.2	0.0	1.3	4.9
17/Feb/10	18.2	24.0	30.6	45	62	75	0.0	0.0	2.9	5.8
18/Feb/10	18.3	22.6	27.7	42	56	69	0.0	3.6	5.5	7.2
19/Feb/10	17.0	23.1	30.6	37	56	71	0.0	0.0	3.4	5.8
20/Feb/10	17.8	24.0	32.7	31	59	82	0.0	0.0	0.8	2.7
21/Feb/10	17.6	25.2	33.5	33	58	86	0.0	0.0	0.5	3.6
22/Feb/10	18.2	25.7	33.9	33	59	82	0.0	0.0	1.1	6.3
23/Feb/10	19.5	20.2	21.4	70	74	79	0.0	0.0	0.9	1.8
24/Feb/10	-	-	-	-	-	-	0.0	0.0	0.3	5.4
25/Feb/10	-	-	-	-	-	-	-	-	-	-
26/Feb/10	-	-	-	-	-	-	-	-	-	-
27/Feb/10	-	-	-	-	-	-	-	-	-	-
28/Feb/10	-	-	-	-	-	-	-	-	-	-
<b>Average</b>	19.6	24.8	31.3	42	63	81		0.4	2.3	5.5
<b>Maximum</b>	22.4	28.4	37.5	70	82	94	17.0	3.6	5.8	9.8
<b>Minimum</b>	16.7	20.2	21.4	25	54	66	0.0	0.0	0.3	1.8
<b>Total</b>							36.6			

Missing data due to power failure

Daily Summary			March 2010			Sunnyside Weather Station				
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Mar/10	18.8	21.4	24.3	63	72	90	0.0	0.0	4.3	8.5
02/Mar/10	16.8	19.4	23.0	50	62	74	0.0	3.1	5.7	8.0
03/Mar/10	17.2	22.4	29.7	43	59	73	0.2	2.7	4.7	6.7
04/Mar/10	17.9	24.6	33.0	35	58	78	0.0	0.0	1.8	4.5
05/Mar/10	18.7	20.8	24.3	58	79	91	30.2	0.0	1.2	3.1
06/Mar/10	19.9	24.8	32.2	50	76	91	0.2	0.0	0.5	1.8
07/Mar/10	20.7	24.1	31.5	52	78	92	14.4	0.0	0.5	4.5
08/Mar/10	19.3	23.4	27.6	68	79	88	0.0	0.0	2.2	8.0
09/Mar/10	12.9	21.0	29.2	36	64	91	1.4	0.0	1.1	4.9
10/Mar/10	14.1	21.4	28.9	36	65	90	0.0	0.0	1.9	8.5
11/Mar/10	17.0	21.1	27.1	43	61	77	0.0	2.7	6.1	8.0
12/Mar/10	15.0	20.8	27.7	35	54	68	0.0	1.8	4.5	6.3
13/Mar/10	15.2	20.3	27.4	38	63	80	0.0	1.8	5.4	8.5
14/Mar/10	15.2	21.0	28.3	40	63	82	0.0	0.9	4.0	6.7
15/Mar/10	15.0	20.7	28.7	39	60	80	0.0	0.0	1.2	4.0
16/Mar/10	13.8	21.8	29.4	26	56	85	0.0	0.0	2.3	5.8
17/Mar/10	12.7	22.6	31.2	19	49	84	0.0	0.0	1.9	4.9
18/Mar/10	17.2	23.8	31.4	20	46	73	0.0	0.0	1.7	4.9
19/Mar/10	13.1	22.8	31.7	32	52	82	0.0	0.0	0.7	2.7
20/Mar/10	14.6	24.4	34.7	24	48	81	0.0	0.0	0.6	3.1
21/Mar/10	14.0	24.4	33.7	30	49	75	0.0	0.0	1.1	3.6
22/Mar/10	15.7	25.2	34.7	29	50	77	0.0	0.0	1.0	6.3
23/Mar/10	18.6	25.2	33.2	28	51	77	0.0	0.0	1.6	4.5
24/Mar/10	15.7	24.2	32.6	28	51	82	0.0	0.0	1.2	4.5
25/Mar/10	18.1	24.4	32.1	34	53	75	0.0	0.0	1.1	3.6
26/Mar/10	16.1	24.2	33.1	33	54	76	0.0	0.0	0.9	5.4
27/Mar/10	17.1	25.3	34.0	28	50	76	0.0	0.0	0.6	4.9
28/Mar/10	21.1	26.1	30.1	43	53	67	0.0	0.0	0.9	4.9
30/Mar/10	18.4	19.6	23.2	61	85	91	35.4	0.0	1.8	6.7
31/Mar/10	17.4	19.5	23.6	66	79	89	0.2	0.0	3.1	6.3
<b>Average</b>	<b>16.6</b>	<b>22.7</b>	<b>29.7</b>	<b>40</b>	<b>61</b>	<b>81</b>	<b>X</b>	<b>0.4</b>	<b>2.2</b>	<b>5.5</b>
<b>Maximum</b>	<b>21.1</b>	<b>26.1</b>	<b>34.7</b>	<b>68</b>	<b>85</b>	<b>92</b>	<b>35.4</b>	<b>3.1</b>	<b>6.1</b>	<b>8.5</b>
<b>Minimum</b>	<b>12.7</b>	<b>19.4</b>	<b>23.0</b>	<b>19</b>	<b>46</b>	<b>67</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>	<b>1.8</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>82.0</b>	<b>X</b>	<b>X</b>	<b>X</b>

Daily Summary April 2010 Sunnyside Weather Station

Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Apr/10	14.9	19.7	26.6	41	67	86	0.0	0.0	2.0	4.9
02/Apr/10	11.8	19.3	26.8	39	65	90	0.0	0.0	1.6	4.5
03/Apr/10	15.2	20.3	26.7	35	59	79	0.0	0.4	3.0	4.9
04/Apr/10	15.2	19.5	25.9	40	61	78	0.0	1.3	4.0	6.3
05/Apr/10	14.3	19.5	26.8	45	63	79	0.0	0.0	1.5	4.9
06/Apr/10	16.6	19.0	23.7	57	77	90	8.8	0.0	1.4	4.0
07/Apr/10	17.5	19.3	22.2	73	85	91	4.4	0.0	0.8	6.7
08/Apr/10	18.2	21.0	27.2	46	77	92	0.0	0.0	1.0	4.9
09/Apr/10	11.3	18.9	26.3	40	71	91	0.0	0.0	0.3	3.6
10/Apr/10	14.6	20.2	27.1	47	72	90	0.0	0.0	0.9	5.4
11/Apr/10	15.0	20.0	27.8	54	75	92	0.2	0.0	1.5	6.3
12/Apr/10	13.7	16.7	21.9	30	56	87	0.0	0.0	2.6	6.7
13/Apr/10	5.3	15.9	25.8	22	53	87	0.0	0.0	1.0	4.0
14/Apr/10	12.2	17.9	26.6	34	59	79	0.0	0.0	0.4	3.1
15/Apr/10	9.0	17.2	27.1	33	64	88	0.0	0.0	0.5	2.7
16/Apr/10	11.8	19.6	27.1	24	54	82	0.0	0.0	1.8	4.5
17/Apr/10	13.3	20.3	27.2	35	59	82	0.0	0.0	1.8	4.9
18/Apr/10	12.9	20.9	28.8	36	60	85	0.0	0.0	1.5	4.0
19/Apr/10	15.2	22.0	28.2	39	60	83	0.0	0.0	1.3	4.5
20/Apr/10	13.6	21.0	27.4	35	58	84	0.0	0.0	1.7	4.5
21/Apr/10	16.4	21.7	28.3	34	54	71	0.0	0.0	1.4	3.6
22/Apr/10	12.6	21.3	29.2	35	58	86	0.0	0.0	0.8	2.2
23/Apr/10	11.8	20.1	29.1	36	62	87	0.0	0.0	0.4	2.7
24/Apr/10	12.5	19.8	28.6	39	64	86	0.0	0.0	1.6	6.3
25/Apr/10	10.3	16.8	21.1	59	76	89	7.0	0.0	1.7	8.0
26/Apr/10	6.8	13.6	21.2	37	67	89	0.0	0.0	1.3	6.7
27/Apr/10	4.3	13.7	21.7	46	71	91	0.0	0.0	0.1	1.8
28/Apr/10	5.8	15.3	24.7	28	64	90	0.2	0.0	0.4	2.7
29/Apr/10	5.9	15.0	24.2	38	63	89	0.0	0.0	1.6	7.2
30/Apr/10	5.5	15.3	24.6	35	63	90	0.0	0.0	0.9	4.9
<b>Average</b>	<b>12.1</b>	<b>18.7</b>	<b>26.0</b>	<b>40</b>	<b>64</b>	<b>86</b>	<del>0.0</del>	<b>0.1</b>	<b>1.4</b>	<b>4.7</b>
<b>Maximum</b>	<b>18.2</b>	<b>22.0</b>	<b>29.2</b>	<b>73</b>	<b>85</b>	<b>92</b>	<b>8.8</b>	<b>1.3</b>	<b>4.0</b>	<b>8.0</b>
<b>Minimum</b>	<b>4.3</b>	<b>13.6</b>	<b>21.1</b>	<b>22</b>	<b>53</b>	<b>71</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>1.8</b>
<b>Total</b>	<del>0.0</del>	<del>0.0</del>	<del>0.0</del>	<del>0.0</del>	<del>0.0</del>	<del>0.0</del>	<b>20.6</b>	<del>0.0</del>	<del>0.0</del>	<del>0.0</del>

## Daily Summary                      May 2010                      Sunnyside Weather Station

Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/May/10	11.5	17.8	26.6	37	62	80	0.0	0.0	1.0	4.5
02/May/10	9.3	16.8	27.1	36	65	86	0.0	0.0	0.6	3.6
03/May/10	11.4	19.3	26.2	41	60	81	0.0	0.0	0.8	4.9
04/May/10	10.9	18.5	25.6	37	59	80	0.0	0.0	0.9	3.1
05/May/10	7.1	14.3	24.7	39	68	91	0.0	0.0	2.0	8.5
06/May/10	2.3	11.9	20.7	31	58	85	0.0	0.0	1.1	4.5
07/May/10	1.4	12.5	22.4	30	59	88	0.0	0.0	0.7	4.0
08/May/10	1.5	12.4	24.9	26	60	88	0.0	0.0	0.3	2.2
09/May/10	5.5	14.4	25.6	30	60	82	0.0	0.0	0.7	2.7
10/May/10	5.5	13.6	25.0	34	62	82	0.0	0.0	0.5	3.1
11/May/10	5.7	15.7	25.8	33	59	86	0.0	0.0	2.3	8.9
12/May/10	5.1	12.7	19.1	27	44	67	0.0	0.0	1.7	9.4
13/May/10	-0.2	9.9	20.7	23	54	83	0.0	0.0	0.9	4.0
14/May/10	1.3	10.9	21.5	33	60	85	0.0	0.0	0.6	3.1
15/May/10	1.8	11.7	22.4	30	61	89	0.0	0.0	0.7	3.1
16/May/10	3.8	13.9	22.4	30	56	85	0.0	0.0	1.1	4.0
17/May/10	6.6	13.4	17.7	47	64	84	0.0	0.0	0.3	3.1
18/May/10	4.6	11.7	19.9	42	69	89	0.0	0.0	0.5	3.1
19/May/10	4.5	12.8	21.2	44	69	92	0.0	0.0	1.4	4.9
20/May/10	8.2	13.5	21.6	43	67	84	0.0	0.0	0.3	2.2
21/May/10	8.8	14.5	22.1	39	65	81	0.0	0.0	1.0	5.4
22/May/10	5.3	13.1	19.4	47	68	91	0.0	0.0	2.5	5.8
23/May/10	8.1	14.4	21.9	39	64	86	0.0	0.0	1.7	3.6
24/May/10	9.8	15.6	19.4	51	65	80	0.0	0.0	0.4	2.2
25/May/10	10.7	15.0	17.6	73	86	92	12.8	0.0	0.8	5.4
26/May/10	11.1	13.3	16.2	71	86	93	4.4	0.0	1.3	4.5
27/May/10	9.5	14.7	20.6	54	75	93	0.0	0.0	2.4	6.7
28/May/10	8.6	14.4	19.9	53	74	87	1.4	0.0	0.9	2.7
29/May/10	10.6	13.5	15.4	82	88	92	14.2	0.0	2.8	6.7
30/May/10	8.4	10.7	12.5	76	87	94	0.4	0.0	2.4	6.3
31/May/10	10.4	13.7	17.9	60	82	93	1.6	0.0	0.6	2.7
<b>Average</b>	<b>6.7</b>	<b>13.9</b>	<b>21.4</b>	<b>43</b>	<b>66</b>	<b>86</b>	<b>X</b>	<b>0.0</b>	<b>1.1</b>	<b>4.5</b>
<b>Maximum</b>	<b>11.5</b>	<b>19.3</b>	<b>27.1</b>	<b>82</b>	<b>88</b>	<b>94</b>	<b>14.2</b>	<b>0.0</b>	<b>2.8</b>	<b>9.4</b>
<b>Minimum</b>	<b>-0.2</b>	<b>9.9</b>	<b>12.5</b>	<b>23</b>	<b>44</b>	<b>67</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>2.2</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>34.8</b>	<b>X</b>	<b>X</b>	<b>X</b>

Daily Summary			June 2010		Sunnyside Weather Station					
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Jun/10	7.4	13.4	19.9	50	75	92	0.2	0.0	0.8	2.2
02/Jun/10	9.7	12.6	15.0	83	88	91	9.4	0.0	1.1	4.9
03/Jun/10	12.8	14.3	18.1	66	81	89	1.4	0.0	2.9	5.4
04/Jun/10	11.7	15.3	19.6	60	77	87	0.0	0.4	3.4	7.6
05/Jun/10	10.1	14.1	19.7	47	70	88	0.0	0.0	2.2	4.5
06/Jun/10	6.9	10.5	15.8	50	71	86	0.0	0.0	2.3	5.8
07/Jun/10	3.4	10.1	17.6	41	71	91	0.0	0.0	0.9	5.4
08/Jun/10	3.5	9.5	19.1	39	73	91	0.2	0.0	0.3	2.7
09/Jun/10	1.3	8.5	16.6	41	71	91	0.2	0.0	2.4	8.0
10/Jun/10	0.7	7.1	14.4	43	71	92	0.0	0.0	1.6	6.7
11/Jun/10	-1.3	6.2	14.3	49	74	91	0.0	0.0	1.0	4.0
12/Jun/10	0.9	8.6	15.7	43	66	87	0.2	0.0	0.9	3.1
13/Jun/10	-0.8	8.4	17.1	48	70	90	0.0	0.0	0.8	3.1
14/Jun/10	2.7	11.4	19.2	48	71	92	0.0	0.0	1.6	4.9
15/Jun/10	7.7	12.9	19.6	41	63	80	0.0	0.0	1.4	3.1
16/Jun/10	4.5	12.5	19.6	36	63	85	0.0	0.0	0.7	2.2
17/Jun/10	4.4	10.7	13.2	73	86	92	7.2	0.0	0.8	4.9
18/Jun/10	5.3	11.6	17.5	49	79	94	0.2	0.0	0.7	6.3
19/Jun/10	0.3	8.4	16.7	49	74	92	0.2	0.0	0.8	4.0
20/Jun/10	3.9	10.8	18.8	50	76	92	0.0	0.0	1.0	4.9
21/Jun/10	2.8	11.2	19.3	46	74	93	0.2	0.0	1.5	4.9
22/Jun/10	10.1	14.0	19.3	53	71	83	2.6	0.0	3.1	5.4
23/Jun/10	7.7	13.6	19.7	46	66	85	0.0	0.0	2.8	4.9
24/Jun/10	10.6	13.9	17.9	54	67	77	0.0	0.0	1.1	3.1
25/Jun/10	10.8	14.8	20.3	50	69	84	0.2	0.0	0.6	3.1
26/Jun/10	8.9	12.9	16.0	77	86	91	9.0	0.0	1.5	4.9
27/Jun/10	2.5	8.1	14.1	45	67	86	0.2	0.0	1.0	6.3
28/Jun/10	-1.5	4.6	13.0	42	77	92	0.0	0.0	0.3	2.7
29/Jun/10	-2.5	3.8	12.9	47	77	91	0.4	0.0	0.2	1.8
30/Jun/10	-3.4	3.9	13.4	41	75	91	0.2	0.0	0.3	4.0
<b>Average</b>	<b>4.7</b>	<b>10.6</b>	<b>17.1</b>	<b>50</b>	<b>73</b>	<b>89</b>	<b>X</b>	<b>0.0</b>	<b>1.3</b>	<b>4.5</b>
<b>Maximum</b>	<b>12.8</b>	<b>15.3</b>	<b>20.3</b>	<b>83</b>	<b>88</b>	<b>94</b>	<b>9.4</b>	<b>0.4</b>	<b>3.4</b>	<b>8.0</b>
<b>Minimum</b>	<b>-3.4</b>	<b>3.8</b>	<b>12.9</b>	<b>36</b>	<b>63</b>	<b>77</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>1.8</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>32.0</b>	<b>X</b>	<b>X</b>	<b>X</b>

**Daily Summary                      July 2010                      Sunnyside Weather Station**

<i>Date</i>	<i>Min Temp (°C)</i>	<i>Ave Temp (°C)</i>	<i>Max Temp (°C)</i>	<i>Min RH (%)</i>	<i>Ave RH (%)</i>	<i>Max RH (%)</i>	<i>Rain (mm)</i>	<i>Min WS (m/s)</i>	<i>Ave WS (m/s)</i>	<i>Max WS (m/s)</i>
01/Jul/10	-0.7	6.5	13.9	49	75	90	0.0	0.0	0.0	0.9
02/Jul/10	6.2	7.7	9.5	80	86	91	2.2	0.0	0.1	2.2
03/Jul/10	3.6	8.2	13.7	49	75	92	0.0	0.0	2.1	5.8
04/Jul/10	-1.2	7.4	16.1	51	74	91	0.2	0.0	0.7	3.1
05/Jul/10	3.9	11.2	18.0	41	67	89	0.0	0.0	0.7	2.7
06/Jul/10	6.6	11.7	16.6	52	75	91	4.4	0.0	1.9	6.3
07/Jul/10	4.4	9.4	13.8	67	80	91	0.0	0.0	1.3	4.9
08/Jul/10	7.4	12.4	17.3	54	72	89	0.0	0.0	4.0	6.3
09/Jul/10	5.9	11.8	18.4	43	72	89	0.0	0.0	3.3	5.8
10/Jul/10	5.9	12.1	20.5	44	71	86	0.0	0.0	0.7	2.7
11/Jul/10	9.4	13.4	16.6	60	80	88	0.4	0.0	0.6	4.5
12/Jul/10	11.4	13.6	16.2	82	89	92	1.4	0.0	0.1	1.8
13/Jul/10	10.4	16.0	21.3	58	78	93	1.6	0.0	0.3	3.6
14/Jul/10	6.7	12.9	16.8	49	75	92	17.0	0.0	4.3	9.8
15/Jul/10	3.6	9.0	14.5	46	72	87	0.0	0.0	2.5	8.5
16/Jul/10	0.0	6.7	15.3	43	73	92	0.0	0.0	0.6	3.1
17/Jul/10	0.2	8.1	18.2	37	71	91	0.2	0.0	0.5	2.7
18/Jul/10	0.6	9.1	20.3	42	76	91	0.0	0.0	0.8	5.8
19/Jul/10	5.6	9.6	14.3	69	86	91	1.8	0.0	0.3	2.2
20/Jul/10	3.1	8.7	15.4	57	79	92	0.2	0.0	0.2	2.2
21/Jul/10	-0.2	7.8	15.4	50	73	91	0.0	0.0	1.4	4.5
22/Jul/10	3.4	9.6	16.9	29	62	88	0.0	0.0	1.0	2.7
23/Jul/10	3.4	10.6	17.3	49	69	87	0.0	0.0	2.1	5.4
24/Jul/10	4.4	11.1	18.4	47	70	87	0.0	0.0	0.5	2.7
25/Jul/10	6.9	12.0	19.6	41	70	88	0.0	0.0	0.4	3.1
26/Jul/10	3.6	11.2	18.4	40	71	92	0.0	0.0	2.3	7.2
27/Jul/10	7.3	13.2	19.8	40	63	78	0.0	0.0	1.9	4.0
28/Jul/10	11.4	12.7	14.0	66	87	93	12.6	0.0	1.2	4.0
29/Jul/10	10.2	13.4	16.7	83	91	94	8.2	0.0	0.4	4.5
30/Jul/10	8.4	14.2	18.3	76	90	94	9.6	0.0	0.1	1.3
31/Jul/10	8.6	14.3	18.5	64	86	94	14.0	0.0	2.5	7.6
<b>Average</b>	<b>5.2</b>	<b>10.8</b>	<b>16.8</b>	<b>53</b>	<b>76</b>	<b>90</b>	<b>X</b>	<b>0.0</b>	<b>1.3</b>	<b>4.3</b>
<b>Maximum</b>	<b>11.4</b>	<b>16.0</b>	<b>21.3</b>	<b>83</b>	<b>91</b>	<b>94</b>	<b>17.0</b>	<b>0.0</b>	<b>4.3</b>	<b>9.8</b>
<b>Minimum</b>	<b>-1.2</b>	<b>6.5</b>	<b>9.5</b>	<b>29</b>	<b>62</b>	<b>78</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>73.8</b>	<b>X</b>	<b>X</b>	<b>X</b>

Daily Summary			August 2010			Sunnyside Weather Station				
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Aug/10	2.7	10.0	17.3	49	77	93	2.0	0.0	1.9	11.2
02/Aug/10	3.7	8.2	13.6	48	72	88	0.4	0.0	3.0	8.0
03/Aug/10	7.1	11.6	17.0	56	70	80	0.4	0.0	3.5	7.2
04/Aug/10	2.2	9.6	18.2	42	73	92	0.2	0.0	0.8	5.4
05/Aug/10	2.6	9.4	16.5	44	71	92	0.2	0.0	1.2	5.4
06/Aug/10	1.4	7.9	14.7	44	70	90	0.0	0.0	2.2	6.7
07/Aug/10	-0.7	6.5	15.9	40	72	91	0.0	0.0	0.4	3.1
08/Aug/10	-1.1	6.8	17.1	34	70	89	0.2	0.0	0.4	3.6
09/Aug/10	0.2	11.8	20.7	40	62	89	0.4	0.0	1.1	4.0
10/Aug/10	12.3	14.2	15.8	67	87	92	2.4	0.0	1.4	6.7
11/Aug/10	5.5	10.6	14.7	61	78	92	16.4	0.0	3.8	7.2
12/Aug/10	7.4	9.4	11.7	69	81	87	0.8	0.0	6.2	8.9
13/Aug/10	4.6	10.2	19.4	48	75	92	1.4	0.0	1.2	4.0
14/Aug/10	1.2	8.9	18.2	44	77	93	0.0	0.0	1.0	5.8
15/Aug/10	7.7	12.8	19.1	36	63	80	0.0	0.0	3.4	10.3
16/Aug/10	2.9	10.9	18.0	44	69	90	0.0	0.0	2.1	7.2
17/Aug/10	1.3	7.8	17.8	34	71	92	0.0	0.0	0.5	2.2
18/Aug/10	2.6	14.4	22.9	40	62	86	0.0	0.0	1.4	6.7
19/Aug/10	13.3	14.6	19.4	62	87	93	12.6	0.0	3.4	8.9
20/Aug/10	3.9	12.2	17.6	41	70	93	0.4	0.0	1.9	7.2
21/Aug/10	1.8	7.4	15.7	41	70	91	0.0	0.0	0.6	3.1
22/Aug/10	1.1	8.4	15.4	41	71	90	0.0	0.0	0.3	1.8
23/Aug/10	8.1	10.2	12.2	55	88	93	12.0	0.0	0.9	4.9
24/Aug/10	7.6	10.4	13.8	65	84	93	0.6	0.0	0.0	0.0
25/Aug/10	7.4	11.1	15.0	58	76	92	0.6	0.0	1.8	7.2
26/Aug/10	4.2	9.7	15.7	53	77	91	0.8	0.0	3.9	10.3
27/Aug/10	5.4	11.1	16.4	48	72	92	0.0	0.0	3.6	8.9
28/Aug/10	2.7	9.2	16.0	47	73	91	0.0	0.0	0.8	3.6
29/Aug/10	1.7	9.9	19.6	43	72	91	0.2	0.0	0.8	3.1
30/Aug/10	3.0	11.2	20.5	35	70	91	0.0	0.0	0.5	2.7
31/Aug/10	4.0	12.3	21.9	42	71	90	0.0	0.0	1.4	5.8
<b>Average</b>	<b>4.1</b>	<b>10.3</b>	<b>17.0</b>	<b>47</b>	<b>74</b>	<b>90</b>	<b>X</b>	<b>0.0</b>	<b>1.8</b>	<b>5.8</b>
<b>Maximum</b>	<b>13.3</b>	<b>14.6</b>	<b>22.9</b>	<b>69</b>	<b>88</b>	<b>93</b>	<b>16.4</b>	<b>0.0</b>	<b>6.2</b>	<b>11.2</b>
<b>Minimum</b>	<b>-1.1</b>	<b>6.5</b>	<b>11.7</b>	<b>34</b>	<b>62</b>	<b>80</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>52.0</b>	<b>X</b>	<b>X</b>	<b>X</b>

Daily Summary			September 2010			Sunnyside Weather Station				
Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Sep/10	5.6	14.0	23.3	45	73	91	0.0	0.0	1.8	7.2
02/Sep/10	9.8	17.8	25.1	55	75	90	1.4	0.0	1.9	6.7
03/Sep/10	13.7	17.8	23.3	64	81	91	8.2	0.0	2.6	5.8
04/Sep/10	13.8	17.9	22.0	68	82	91	8.4	0.0	3.3	7.2
05/Sep/10	14.3	14.6	14.8	87	88	88	0.0	2.7	3.5	4.5
06/Sep/10	4.8	13.3	18.7	41	62	92	0.0	0.0	1.6	4.0
07/Sep/10	2.8	10.8	18.3	45	68	92	0.0	0.0	1.0	3.6
08/Sep/10	3.6	10.9	20.2	38	70	90	0.0	0.0	0.5	2.7
09/Sep/10	5.5	12.5	16.8	55	81	93	8.8	0.0	0.4	2.2
10/Sep/10	7.1	16.0	22.4	45	76	93	1.6	0.0	3.4	9.8
11/Sep/10	2.9	11.0	20.3	42	72	92	0.0	0.0	0.7	4.5
12/Sep/10	3.1	13.0	21.1	41	70	92	0.2	0.0	0.4	3.1
13/Sep/10	12.0	15.0	20.8	58	78	89	1.0	0.0	0.6	4.0
14/Sep/10	11.6	16.0	22.3	61	83	92	9.0	0.0	1.0	5.4
15/Sep/10	6.4	12.2	18.7	48	74	92	0.2	0.0	2.1	8.0
16/Sep/10	4.0	10.5	16.7	53	72	91	0.0	0.0	1.6	6.3
17/Sep/10	3.3	9.5	15.8	40	68	88	0.0	0.0	0.9	4.5
18/Sep/10	0.9	10.0	17.1	46	71	91	0.0	0.0	0.9	4.0
19/Sep/10	6.8	11.0	14.4	66	80	92	0.6	0.0	0.2	3.6
20/Sep/10	10.4	15.0	20.7	60	76	91	0.4	0.0	0.8	4.0
21/Sep/10	12.6	18.2	25.1	45	68	84	0.0	0.0	1.1	4.5
22/Sep/10	11.2	17.1	24.2	50	71	91	0.0	0.0	1.8	4.9
23/Sep/10	8.7	16.6	25.4	48	79	93	0.2	0.0	0.5	5.8
24/Sep/10	8.4	15.9	25.3	42	75	93	0.2	0.0	0.4	2.7
25/Sep/10	6.5	16.0	25.9	35	65	90	0.0	0.0	0.6	2.7
26/Sep/10	7.3	15.5	25.6	31	68	91	0.0	0.0	0.4	1.8
27/Sep/10	9.1	17.0	26.5	52	76	92	0.6	0.0	1.0	8.0
28/Sep/10	11.3	17.9	24.4	41	66	93	0.2	0.0	0.7	4.5
29/Sep/10	7.6	13.6	19.6	36	52	79	0.0	0.0	3.4	7.6
30/Sep/10	7.2	12.6	20.6	32	59	80	0.0	0.0	1.4	4.5
<b>Average</b>	<b>7.7</b>	<b>14.3</b>	<b>21.2</b>	<b>49</b>	<b>73</b>	<b>90</b>	<b>0.1</b>	<b>0.1</b>	<b>1.3</b>	<b>4.9</b>
<b>Maximum</b>	<b>14.3</b>	<b>18.2</b>	<b>26.5</b>	<b>87</b>	<b>88</b>	<b>93</b>	<b>9.0</b>	<b>2.7</b>	<b>3.5</b>	<b>9.8</b>
<b>Minimum</b>	<b>0.9</b>	<b>9.5</b>	<b>14.4</b>	<b>31</b>	<b>52</b>	<b>79</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>1.8</b>
<b>Total</b>							<b>41.0</b>			

## Daily Summary                      October 2010                      Sunnyside Weather Station

Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Oct/10	8.6	15.7	21.7	46	64	80	0.0	0.0	0.5	2.7
02/Oct/10	13.1	15.8	18.6	57	67	76	0.0	0.0	1.7	4
03/Oct/10	13.1	15.3	19	70	83	89	12.6	0.0	2.8	5.4
04/Oct/10	12.6	18.4	24.8	56	74	88	0.6	0.0	2.9	4.9
05/Oct/10	13.5	19.7	26.2	52	70	88	0.0	0.0	2.1	5.4
06/Oct/10	13.9	19.5	27.4	42	70	88	0.0	0.0	1.0	3.6
07/Oct/10	12	18.1	23.8	52	71	92	0.0	0.0	1.5	5.4
08/Oct/10	8.8	17.9	25.2	55	70	90	0.0	0.0	1.0	4
09/Oct/10	14.1	18.1	22.9	50	69	80	0.0	0.0	1.8	4
10/Oct/10	12.9	17.3	22.3	47	61	78	0.0	2.2	4.3	6.3
11/Oct/10	13	18.5	24.6	48	60	80	0.0	0.0	3.3	5.8
12/Oct/10	11.2	19.7	27.1	43	64	84	0.0	0.0	1.1	3.6
13/Oct/10	13.9	19.1	23.4	50	66	83	0.0	0.0	0.3	1.8
14/Oct/10	15.5	18.9	24.3	64	78	87	0.0	0.0	0.5	4
15/Oct/10	11.8	17.9	21.1	71	85	92	16.2	0.0	3.9	10.7
16/Oct/10	3.3	9.5	14.6	40	66	88	0.4	0.0	5.1	10.7
17/Oct/10	0.2	10.3	19.6	45	69	91	0.0	0.0	1.6	4.5
18/Oct/10	3.4	15.0	23.8	40	63	92	0.0	0.0	1.1	5.4
19/Oct/10	5.9	16.6	24.9	30	60	90	0.0	0.0	1.4	4.5
20/Oct/10	11.5	18.6	27.5	34	63	83	0.0	0.0	0.5	4
21/Oct/10	10.7	18.6	26.7	42	70	90	4.0	0.0	0.7	4
22/Oct/10	11.7	16.6	23.8	55	81	91	12.2	0.0	0.6	2.7
23/Oct/10	9.7	18.9	28.1	37	72	93	2.2	0.0	0.9	7.6
24/Oct/10	12.8	15.7	17.4	79	87	92	24.6	0.0	0.8	4
25/Oct/10	12.9	16.9	22.3	55	74	88	0.2	0.0	1.7	4.5
26/Oct/10	12.3	18.2	26.2	41	74	92	1.8	0.0	0.4	2.2
27/Oct/10	9.9	18.5	28.5	31	67	92	0.0	0.0	0.5	3.6
28/Oct/10	13.8	20.8	28.5	35	63	79	0.0	0.0	3.0	5.4
29/Oct/10	14.3	20.8	29	43	67	87	0.0	0.0	1.1	3.6
30/Oct/10	14.1	22.0	28.3	44	64	89	0.0	0.0	2.3	6.7
31/Oct/10	18.7	22.5	27.9	52	64	80	0.0	0.0	2.4	6.3
<b>Average</b>	<b>11.4</b>	<b>17.7</b>	<b>24.2</b>	<b>49</b>	<b>70</b>	<b>87</b>	<b>X</b>	<b>0.1</b>	<b>1.7</b>	<b>4.9</b>
<b>Maximum</b>	<b>18.7</b>	<b>22.5</b>	<b>29.0</b>	<b>79</b>	<b>87</b>	<b>93</b>	<b>24.6</b>	<b>2.2</b>	<b>5.1</b>	<b>10.7</b>
<b>Minimum</b>	<b>0.2</b>	<b>9.5</b>	<b>14.6</b>	<b>30</b>	<b>60</b>	<b>76</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>1.8</b>
<b>Total</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>74.8</b>	<b>X</b>	<b>X</b>	<b>X</b>

## Daily Summary

November 2010

## Sunnyside Weather Station

Date	Min Temp (°C)	Ave Temp (°C)	Max Temp (°C)	Min RH (%)	Ave RH (%)	Max RH (%)	Rain (mm)	Min WS (m/s)	Ave WS (m/s)	Max WS (m/s)
01/Nov/10	12.4	16.3	22.1	69	82	92	9.8	-	-	-
02/Nov/10	5.9	13.5	20.7	34	68	93	0.2	-	-	-
03/Nov/10	5.9	15.8	25.6	34	65	92	0.0	-	-	-
04/Nov/10	11.2	18.3	26	34	60	84	0.0	0.0	3.2	7.2
05/Nov/10	12.4	15.3	19.5	63	73	90	8.4	0.0	3.4	8.5
06/Nov/10	12.3	17.4	23.1	50	66	81	0.0	3.1	5.9	9.4
07/Nov/10	12.7	19.6	28.6	40	62	87	7.0	2.7	5.3	7.6
08/Nov/10	15	21.1	28.8	43	69	86	3.2	1.8	4.2	9.8
09/Nov/10	16.5	22.1	29.8	44	69	91	1.2	0.0	4.0	7.2
10/Nov/10	15.7	23.0	29.2	46	67	90	0.0	0.0	2.0	4.0
11/Nov/10	16.9	19.5	23.8	57	82	92	44.2	0.0	2.6	5.8
12/Nov/10	15	22.6	30.8	41	69	87	0.0	0.0	2.3	9.8
13/Nov/10	20.1	24.6	30.2	49	68	86	0.0	0.0	4.7	10.3
14/Nov/10	18.2	23.8	28.5	50	68	83	0.0	0.0	2.4	6.3
15/Nov/10	19.3	21.2	23.6	68	84	93	22.0	0.0	1.9	4.5
16/Nov/10	16.8	21.3	27.4	52	79	93	15.4	0.0	2.8	8.0
17/Nov/10	15.4	19.6	24.9	59	75	89	1.6	0.0	4.4	11.6
18/Nov/10	16.1	20.8	25.8	46	69	87	0.0	0.4	3.8	8.0
19/Nov/10	12.8	19.3	25.8	55	75	93	0.0	0.0	1.7	4.5
20/Nov/10	14.4	20.5	27.6	43	63	78	0.0	0.0	2.5	5.8
21/Nov/10	13.7	20.0	27.5	30	60	85	0.0	0.0	4.0	8.5
22/Nov/10	13.8	20.3	26.2	44	62	87	0.0	0.4	6.0	11.6
23/Nov/10	16.1	19.6	24.6	48	60	71	0.0	0.0	6.2	13.9
24/Nov/10	-	-	-	-	-	-	-	-	-	-
25/Nov/10	-	-	-	-	-	-	-	-	-	-
26/Nov/10	-	-	-	-	-	-	-	-	-	-
27/Nov/10	-	-	-	-	-	-	-	-	-	-
28/Nov/10	-	-	-	-	-	-	-	-	-	-
29/Nov/10	17.6	22.0	28.8	47	73	91	24.0	0.0	5.5	9.8
30/Nov/10	17.9	20.4	25.9	59	83	92	19.0	0.0	4.5	10.3
<b>Average</b>	<b>14.6</b>	<b>19.9</b>	<b>26.2</b>	<b>48</b>	<b>70</b>	<b>88</b>	<b>156.0</b>	<b>0.4</b>	<b>3.8</b>	<b>8.3</b>
<b>Maximum</b>	<b>20.1</b>	<b>24.6</b>	<b>30.8</b>	<b>69</b>	<b>84</b>	<b>93</b>	<b>44.2</b>	<b>3.1</b>	<b>6.2</b>	<b>13.9</b>
<b>Minimum</b>	<b>5.9</b>	<b>13.5</b>	<b>19.5</b>	<b>30</b>	<b>60</b>	<b>71</b>	<b>0.0</b>	<b>0.0</b>	<b>1.7</b>	<b>4.0</b>
<b>Total</b>										

Missing data due to power failure