



HEGGIES

REPORT 30-1053-R2

Revision 1

**Blast Management Plan
Donaldson Coal Mine**

PREPARED FOR
Donaldson Coal Mine

16 JULY 2007



Blast Management Plan

Donaldson Coal Mine

PREPARED BY:

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DOCUMENT CONTROL

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Appendix A Development Consent conditions



1 INTRODUCTION

This Blast Management Plan has been reviewed in line with Condition 30 in order to meet the requirements of Conditions 24, 25 Parts [(1), (2), (3), (4) and (5)], 26, 27, 28 and 35 in the Donaldson Coal Mine Conditions of Consent.

Reference should also be made to the Noise Management Plan which has been prepared in order to meet the requirements of Conditions 3(2), 13(2), 15, 16, 17, 111, 113, 120 and 121 in the Donaldson Coal Mine Conditions of Consents. For consistency, some of the procedures (eg complaints handling) are common to both the blast and noise management plans.

The mine has been operating since October 1999 when Donaldson Pty Ltd (Donaldson) was granted approval to develop the Donaldson Coal Mine (the Project) as an open-cut mine utilising drill and blast, truck and shovel extractive methods with processing (crushing screening and washing) conducted either at the adjacent Bloomfield Colliery or on-site to produce export coal. The Mine Lease (ML 1461) is located in the Lower Hunter Valley, just west of the Port of Newcastle, NSW and has consent to operate for 11 years.

Heggies Pty Ltd (Heggies) was engaged to review the Blast Management Plan in accordance with the Development Consent Conditions dated 14 October 1999, Blasting; Blasting Design and Management Conditions 30.

30. The Applicant shall revise the Blast Management Plan as necessary and provide an updated plan five years after commencement of mining to the Director-General, the independent noise expert, EOA, DMR, Councils and the Community Consultative Committee

The objectives of the mine Blast Management Plan (BMP) are as follows:

- Identify a monitoring programme
- Detail measures to ensure that airblast and vibration monitoring and control is generally carried out in accordance with the recommendations of Australian Standard AS-2187-1993 (or its latest version) and in terms of Australian and New Zealand Environment and Conservation Council (ANZECC) Guidelines and meet Condition 24 of the revised Development Consent;
- Detail methods to measure weather data as soon as practicable prior to blasting and from that data predict whether noise levels are likely to be increased above the levels expected under prevailing meteorological conditions;
- Detail measures to be taken to minimise disruptions from blasting, including any road closures agreed in accordance with Condition 25, and management of impacts on local traffic and pedestrian movements;
- Specify procedures for ensuring that the occurrence of concurrent blasts with the adjoining coal mine operators is avoided; and
- Identify procedures for notifying landowners/occupiers within 2 km of the site of the general blasting programme and for notifying landowners or occupiers within 500 m of blasting events (or any reduced area approved by the Director-General under Condition 25(5)) prior to blasting occurring.



2 DONALDSON COAL MINE DEVELOPMENT CONSENT CONDITIONS

Attached as **Appendix A** is a copy of the former Department of Urban Affairs and Planning's (now Department of Planning) Development Consent Conditions dated 14 October 1999 and modification dated 26 August 2005.

The Consent nominates hours of operation and mine noise emission criteria in the sections entitled "Operation of Development, Condition No. 3(1)" and revised "Blasting: Condition No.24" respectively as follows:

3. (1) Subject to (2) the approved hours of operation are as follows:

<i>Works</i>	<i>Period</i>	<i>Hours</i>
<i>Construction, including construction of any bunds</i>	<i>Monday to Friday Saturday</i>	<i>7 am to 6 pm 8 am to 1 pm</i>
<i>Mining operations, including mining, haulage of waste to dumps and coal processing</i>	<i>Monday to Friday Saturday, Sunday</i>	<i>24 hours per day 7 am to 6 pm</i>
<i>Road Transportation and stockpiling of coal</i>	<i>7 days per week</i>	<i>24 hours per day</i>
<i>Rail loading of coal</i>	<i>7 days per week</i>	<i>7 am to 10 pm</i>
<i>Maintenance of mobile and fixed plant</i>	<i>7 days per week</i>	<i>24 hours per day</i>
<i>Blasting, not involving closure of John Renshaw Drive</i>	<i>Monday to Saturday</i>	<i>7 am to 5 pm</i>
<i>Blasting, involving closure of John Renshaw Drive</i>	<i>Monday to Saturday</i>	<i>10 am to 2 pm</i>

Notes: Restrictions on Public Holidays are the same as Sundays

And

24. The Applicant shall ensure that air blast overpressure from blasting at the development does not exceed the criteria in Table 3, and the ground vibration level does not exceed the criteria in Table 4, at any residence on privately-owned land or noise sensitive location as defined in the EPA's Industrial Noise Policy.

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

Table 3 Airblast Overpressure Impact Criteria

<i>Peak Particle Velocity (mm/s)</i>	<i>Allowable Exceedance</i>
<i>5</i>	<i>5% of total number of blasts in a 12 month period</i>
<i>10</i>	<i>0%</i>

Table 4 Ground Vibration Impact Criteria



Other Conditions of Consent relevant to blasting are as follows:

Blasting Design and Management:

25. (1) *The Applicant shall not blast within 500 metres of an occupied residence.*

(2) The applicant shall not blast within 500 metres of private lands unless there is a written agreement between the Applicant and the landowner/occupier(s) to the satisfaction of the Director-General which guarantees the safety of persons who might use those lands.

(3) The Applicant shall not blast within 500 metres of public lands unless public access to those areas is prevented at times of blasting.

(4) The Applicant shall not blast within 500 metres of a public road unless the road is closed with the prior written agreement of the Regional Traffic Committee (or in the absence of the Regional Traffic Committee, the Director-General). A copy of any such agreement shall be supplied to the Director-General within 14 days of the agreement.

If determined necessary by the Regional Traffic Committee the applicant shall prepare a Traffic Study to identify upgrading of the surrounding road system commensurate with the additional traffic volumes. The Study shall be prepared in consultation with Councils and the RTA, and to the satisfaction of the Regional Traffic Committee. All recommended traffic management measures and road infrastructure upgrading are to be undertaken at the applicant's expense prior to any closure of John Renshaw Drive. If the study identifies the need for acquisition to enable the works to be undertaken, acquisition shall occur in accordance with the acquisition procedures established under this Consent.

(5) The 500 metre distance may be reduced by the Director-General if a risk analysis undertaken by the Applicant to the Director-General's requirements indicates a lesser distance provides an appropriate level of safety".

28. *The Applicant shall not blast if weather conditions indicate that air blast overpressure levels are likely to be exceeded at residences not owned by the Applicant.*

29. *The Applicant shall report on blasting practices (including any trial blasting), weather data and the results of blast emissions monitoring in the six-monthly environmental monitoring reports and in the AEMR.*

30. *The Applicant shall revise the Blast Management Plan as necessary and provide an updated plan five years after commencement of mining to the Director-General, the independent noise expert, EOA, DMR, Councils and the Community Consultative Committee.*

Blasting Impacts:

31. *Prior to the commencement of blasting, the Applicant shall undertake baseline structural surveys of all buildings and structures within 1.5 km of blasting locations, unless it can be demonstrated to the satisfaction of the Director-General in consultation with DMR that surveys of certain properties are unnecessary because blasting damage is unlikely to occur to those properties. In conducting these structural surveys, the Applicant shall ensure that:*

(i) The surveys are carried out by a technically qualified person, as agreed in consultation with the Director-General and relevant landowners: and

(ii) A copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.



32. *In the event that a landowner or occupier considers that blast emissions from the development may have affected the material condition of the property, the landowner may make a written request to the Director-General for an independent dilapidation assessment. If the Director-General, in consultation with the DMR, is satisfied that an independent investigation is required, the Applicant shall ensure:*

(i) the survey is carried out by a technically qualified person, as agreed in consultation with the Director-General and the relevant landowners or occupiers: and

(ii) a copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.

33. *Where a dilapidation assessment concludes that structural damage has occurred as a result of blast emissions, the Applicant shall undertake immediate preventative and/or remedial measures at its expense.*

Newcastle Herald's Printing Facilities at Holmwood Business Park:

34. *Prior to commencement of mining, the Applicant shall:*

(i) conduct ambient vibration monitoring adjacent to (on the floor) and if required, on the most vibration-sensitive component of the printing facilities in order to establish both the levels of ambient vibration generated by the operation of the Printing Facility itself and that of any other nearby vibration sources:

(ii) provide a detailed report on the monitoring procedures and the monitoring results and findings to the Newcastle Herald upon completion of the survey;

(iii) meet with Herald representatives to discuss the results of the survey and determine whether the initially agreed limit of 0.3 mm/s is appropriate; and

(iv) design initial blasting for compliance with a peak particle velocity vibration criterion of 0.3 mm/s adjacent to or on the Printing Facility, unless a more appropriate limit is mutually agreed.

35. *The Applicant shall monitor the impacts of blasting on the Printing Facility throughout the life of the mine, at a mutually agreed location in or adjacent to the Printing Facility during every blast. The Applicant shall provide results of the monitoring to the Newcastle Herald and provide a summary in the AEMR.*

Hunter Water Corporation Pipelines:

36. *The Applicant shall ensure that blasting is undertaken in a manner that protects the Hunter Water Corporation's pipeline to the satisfaction of the Hunter Water Corporation.*



3 MINE EXTRACTION OPERATIONS

The Project involves recovery of coal from four coal seams (Beresfield, Upper Donaldson, Lower Donaldson and Big Ben) utilising truck and shovel techniques. Mining commenced in the North East corner of the lease and has proceeded to the south and west over the past years.

Overburden is either drilled and blasted or mechanically ripped depending on structural integrity. Removal of the overburden takes place using excavators and trucks in advance of frontend loaders which remove the coal. Coal is transported from the pit to raw coal stockpiles in pit or to the Bloomfield Coal Handling and Preparation Plant.

Drilling and blasting is required for the majority of the overburden material as well as for some of the thicker mid-burdens and occasionally the thicker coal seams. Weathered overburden material is often able to be removed by ripping techniques as will many of the mid-burdens and coal horizons. Blasting is generally programmed to occur from Monday to Saturday between the hours of 7.00 am and 5.00 pm, except where blasting involves the closure of John Renshaw Drive when blasting is restricted to Monday to Saturday between the hours of 10.00 am and 2.00 pm.

Donaldson is contracting the mining operation at Donaldson Coal Mine to Cook's Construction Pty Ltd (Cook's). Management of drilling and blasting operations at the site is the responsibility of Cook's (an ISO 9002 accredited company).

The appropriate provisions within this BMP will be included as appropriate either within Cook's Company Quality Assurance Manual or the Donaldson site specific Quality Assurance Manual and will be subject to the document control and auditing requirements of Cook's Quality Assurance system.



4 OVERVIEW OF BLAST MONITORING METHODOLOGY

4.1 General Procedure

The Programme of Monitoring was developed with reference to the procedures described in AS 2187.2-1993, "*Explosives - Storage, Transport and Use*" and with reference to the ANZECC's "*Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration*", September 1990".

Blast emissions are quantified for blast events conducted at the project site throughout the operational phases of the mine.

In the event that the mines blast monitoring equipment is unavailable for service, due to installation or calibration requirement throughout the monitoring programme, then blast emissions shall be monitored by alternative calibrated instrumentation.

4.2 Blasting Operations

Blasting activities commenced at Donaldson Coal mine on the 15th November 2001. A total of 43 blasts were undertaken at the mine during 2006 compared to 57 blasts in 2005.

Prior to the commencement of blasting, structural surveys of all properties within 1.5km of the blast locations at the mine were completed. A copy of each report was presented to the resident and also kept on file at the mine.

During the life of the mine, monitoring of the blasts will allow the design parameters, such as drilling patterns, maximum charge weights and optimum stemming lengths, to be adjusted appropriately in order to cater for any changes in geological and environmental conditions.



5 BLAST EMISSIONS MANAGEMENT

5.1 Emissions Control

The following control measures have been employed at the Donaldson Coal Mine in order to ensure that the limits set out in the development consent and DECC (formerly EPA) licence are not exceeded.

- Establishment and development of specific site law for the mine (initially using a ten (10) hole trial blasting program and detailed computer modelling) to predict impacts prior to blasting;
- Ensuring blast design are adequate (burden and spacing, stemming, MIC, etc) to confine blast emissions;
- Considerations of explosive loading, initiation hook up and firing;
- Use of experienced blast contractors;
- Monitoring the meteorological conditions prior to blasting; and
- Avoidance of concurrent blasts with adjoining Coal Mines.

5.2 Minimisation of Disruptions due to Blasting

Disruptions caused by temporary road closure will be minimised by:

- Advertising the general period over which closures are expected in the local press.
- Erecting signs advising of upcoming delays along the subject road.
- Contacting and informing relevant regularity bodies including police, RTA and Local Council of the road closure programme and details
- Organising for traffic control measures to be undertaken by skilled and adequately equipped personnel (ie appropriate signage and vehicles).
- Ensuring that personnel directing traffic are in intimate radio contact with mine blasting personnel during blasting events.
- Ensuring that traffic control personnel manage all forms of traffic (including bikes and pedestrians).
- Adherence to the blasting procedures and policies in the Blast Management Plan and Cook's Quality Assurance system.
- The period of road closures to be kept to the minimum required in following the blasting procedures of the Blast Management Plan and Cook's Quality Assurance system.

5.3 Notifying Landowners or Occupiers of Blast Events

On the morning of a blast the Donaldson Coal Environment Manager contacts two representatives of the surrounding community and the project manager of the Catholic Diocese land to advise of planned blasts. The mine environment manager also contacts the shotfirer of the adjoining open cut coal mine prior to the blast to ensure that blasts at the site do not coincide.



6 MONITORING PROTOCOL

6.1 Monitoring Locations

On the 1 May 2001, five permanent blast monitoring stations (measuring peak particle velocity - ppv (mm/s) and Airblast (dB Linear) were installed and commissioned at the five locations described below:

- Fairfax Regional Printing Facility;
- Bartter Poultry Farm – Farm 6 (now owned by Catholic Diocese);
- Weakley's Drive (Chidgey), Beresfield;
- Avalon Estate, Thornton; and
- The Hunter Water Pipeline.

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

Monitoring results from the Bartter have not been included, as the site has been vacated and is now derelict. The Fairfax Regional Printing facility is monitored for ground vibration as required by the development consent.

6.2 Community Information and Complaints

Donaldson Mine will ensure that the local community is kept informed (by way of local newsletters, leaflets, newspaper advertisements and use of the Donaldson Mine website) of the progress of the project, including a 24 hour contact telephone number.

Consultative meetings are used to inform the committee of the general progress of the blast emissions monitoring and to advise of any variation to the blasting programme.

In terms of complaints, Donaldson Mine record details of all complaints received in an up-to-date log book and ensure that a response is provided to the complainant within 24 hours.

If Donaldson Mine's response does not address the complaint to the satisfaction of the complainant within six weeks, Donaldson Mine will refer the matter to an independent mediator (approved by the Director-General) and bear the costs of such mediation. Donaldson Mine will then immediately carry out such works as agreed through the mediation process.

Further, Donaldson Mine will make a report on complaints received available to the Community Consultative Committee, to relevant government agencies and the Councils upon request and include a summary in the Annual Environmental Management Reports (AEMRs). The report includes the number of complaints that have been resolved with or without mediation.

In order to provide information to the public, the mine provides blast emissions monitoring results to the Community Consultative Committee. The results from any environmental monitoring will be contained in AMERs and posted on the Donaldson Coal website.



7 RESULTS OF BLAST MONITORING

A summary of the Peak Particle Velocity monitoring results for blasts undertaken during the AMER 2006 reporting period is presented in **Table 1**. The maximum vibration (peak particle velocity) recorded at any of the sites during the reporting period was 3.22 mm/s, below the applicable criteria (5 mm/s).

Table 1 Summary of Peak Particle Velocity (PPV) Monitoring Results (mm/s).

Sample Site	No Samples Required	No samples collected and analysed	Highest Sample Value	Lowest Sample value	Mean Sample Value
Weakleys Dr (Chidgey)	43	39	0.66	0.03	0.24
Fairfax Printing	43	41	0.58	0.01	0.20
Avalon Estate	43	41	0.75	0.025	0.34
HWC Pipeline	43	41	3.22	0.04	1.16

A summary of the overpressure monitoring results for blasts undertaken during this period is presented in **Table 2**. EPL criteria are applicable at the Weakleys Drive and Avalon Estate monitors. All blasts at these sites recorded blast overpressure below 115 dBL, well within the EPL licence conditions.

Table 2 Summary of Airblast Results (dBL)

Sample Site	No Samples Required	No samples collected and analysed	Highest Sample Value	Lowest Sample value	Mean Sample Value
Weakleys Dr (Chidgey)	43	39	111.8	10	99.17
Avalon Estate	43	41	108.8	88.2	99.20
HWC Pipeline	43	41	115.7	92.2	106.13

Overall the data capture rate during the reporting period has been very good. **Table 3** shows the data capture rate for each of the blast monitoring units during the reporting period. None of the blasts undertaken at Donaldson during the period were too small to trigger the monitors that are some 1100m from the mine. This is an improvement from 2005. **Table 3** considers the data capture rate (%) both with and without the smaller blasts.

Table 3 Summary of Data Capture Rates

Monitoring Location	%Data Capture (including small blasts)	% Data Capture (excluding small blasts)
Chidgey (Weakleys Drive)	90.7	90.7
Fairfax Regional Printing Press	95.3	95.3
McDonnell's (Avalon Estate)	95.3	95.3
Hunter Water Pipeline	95.3	95.3
Overall	94.1	94.1

The main causes for data loss have been equipment failure and vandalism. The data collection methods have been improved by:



- a. A near field “trigger” unit being established on the 17 March 2003 in the pit to ensure that the smaller blasts are not missed. When the monitor’s vibration threshold is triggered it transmits the trigger to the outlying unit;
- b. Detailed reviews of system failures (replacement of faulty components). This includes a monthly test of components in the field and re-calibration and servicing once a year;
- c. Monitors are now interrogated by the automatic scheduler system on a daily basis to detect any failures early and ensure correction prior to a blast; and
- d. The units are upgraded as part of the annual calibration. Each monitor receives the latest software updates each time they are sent for service, repair or calibration.



8 BLAST DESIGN RECORDS AND PREDICTED EMISSION LEVELS

Blast design records are maintained for individual blast events. The purpose of the record is to assist in the design and optimisation of future events, planning and control of blasting emissions and to provide a traceable system of documentation in case of accident or complaint.

The blasting contractor records the blast parameters for each blast event including the location co-ordinates (East, North, RL) of the blast site and the maximum explosive mass (MIC) to be detonated in any 8 ms interval.

The mine reviews and approves the proposed blast design with respect to potential blast emissions based on the current predictive site laws for ground vibration and airblast.

The current 5% site laws for ground vibration and airblast are:

Ground Vibration

$$\text{PVS (5\%)} = 1250(\text{SD}_1)^{-1.53}$$

Airblast

$$\text{SPL(5\%)} = 158.8 - 21.1 \log (\text{SD}_2)$$

where PVS (5%) and SPL (5%) are the levels of ground vibration (Peak Vector Sum - mm/s) and airblast (dBLinear) respectively, above which 5% of the total population (of data points) will lie, assuming that the population has the same statistical distribution as the underlying measured sample.

SD_1 and SD_2 are the ground vibration and airblast scaled distances, where:

$$\text{SD}_1 = \frac{\text{Distance}}{\sqrt{\text{MIC}}} \quad (\text{m.kg}^{-0.5})$$

and,

$$\text{SD}_2 = \frac{\text{Distance}}{3\sqrt{\text{MIC}}} \quad (\text{m.kg}^{-0.33})$$



9 DPI'S OPEN CUT REGULATION, 1999

All requirements under Clauses 25, 26, 27 and 28 of the Open Cut Regulations (1999) have been addressed in the Open Cut Shotfiring and Explosives System controlled by the Donaldson Coal Mine's registered Manager. These systems have been developed in consultation with the Department of Primary Industry (DPI).



10 SUMMARY

This document provides the framework of the Blast Monitoring Programme in accordance with the Development Consent Conditions for the Donaldson Coal Mine.

In accordance with Condition 30 of the Development Consent, this document has been revised at appropriate intervals to incorporate detailed procedures in relation to blast monitor operation, blast approval procedures and blast emissions prediction and site law development, as necessary.

Donaldson Consolidated Consent

DETERMINATION OF A DEVELOPMENT APPLICATION PURSUANT TO SECTION 101(8) OF THE UNAMENDED ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

I, the Minister for Urban Affairs and Planning, pursuant to Section 101(8) of the unamended *Environmental Planning and Assessment Act, 1979* ("the Act") determine the Development Application ("the application") referred to in Schedule 1 by granting consent to the application subject to the Conditions set out in Schedule 2.

The reasons for the imposition of the Conditions are:

1. to minimise the adverse environmental impacts the development may cause; and
2. to provide for environmental monitoring and reporting.

Because of the recognised significance of the locality as an area containing valuable flora and fauna, and because the established vegetation cover provides an extensive and complex fauna habitat, the Approval is specifically conditioned to conserve the ecological features of the area for the long term future.

The Conditions require the Applicant to understand the nature of the existing flora and fauna that prevailed before mining occurred; to pursue a progressive rehabilitation program that attempts to replicate the ecology of the area mined; and to continue to implement a comprehensive rehabilitation strategy for a suitable period after the mine has finished.

Andrew Refshaug
Minister for Urban Affairs and Planning

SIGNED BY MINISTER REFSHAUGE 14 OCTOBER 1999

Sydney,

1999

File No. N97/00147

SCHEDULE 1

Application made by: Donaldson Pty Ltd ("the Applicant").

To: The Minister for Urban Affairs and Planning ("the Minister").

In respect of: Land as shown on the map and table in Schedule 3.

For the following: Construction and operation of an open cut coal mine, including a Coal Preparation Plant, known as Donaldson Coal Mine ("the Development").

Development Application: DA 98/01173 dated 13/2/98 lodged with Maitland Council and DA 118/698/22 dated 19/2/98 lodged with Cessnock Council.

NOTES:

1. To ascertain the date upon which the Consent becomes effective, refer to section 101(9) of the unamended Act. To ascertain the date upon which the Consent is liable to lapse, refer to section 99 of the unamended Act.
2. Reference to the unamended EP&A Act 1979 means the Act in force immediately prior to 1 July 1998.

SCHEDULE 2 - CONDITIONS

Modification of 28 August 2005 in red type

ABBREVIATIONS AND DEFINITIONS

AEMR	Annual Environmental Management Report (Conditions 114-116)
construction	Includes any earthworks or roadworks
Councils	Cessnock, Maitland and Newcastle City Councils (as applicable)
DA area	Area to which the DA applies, as described in the table and map in Schedule 3
Director-General	Director-General of the Department of Urban Affairs and Planning or her nominee
DLWC	Department of Land and Water Conservation
DMR	Department of Mineral Resources
DUAP	Department of Urban Affairs and Planning
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
Lower Hunter Region	Local government areas of Newcastle, Greater Cessnock, Maitland, Lake Macquarie and Port Stephens
NPWS	National Parks and Wildlife Service

OPERATION OF DEVELOPMENT

1. (1) The Applicant shall carry out the development generally in accordance with the:
 - development application DA 98/01173, dated 13 February 1998, lodged with Maitland City Council and DA 118/698/22, dated 19 February 1998, lodged with Cessnock City Council and the accompanying Environmental Impact Statement (EIS) dated 10 February 1998, and prepared by PPK Environment and Infrastructure, as modified by the reports in Schedule 4;
 - submissions to the Commission of Inquiry by the Applicant;
 - *Statement of Environmental Effects titled, Modification to the approved mining area at the Donaldson Open Cut Coal Mine, Beresfield, dated 10 November 2004, and prepared by GSS Environmental; and*
 - conditions of this consent.
- (2) *If there is any inconsistency between the above, either the conditions of this consent, or the most recent document shall prevail to the extent of any inconsistency.*
- (3) Unless otherwise specifically stated, the conditions of this consent do not apply to lot 131 DP 234203 (owned by Steggles Limited at the date of this consent), provided the Deed of Agreement between Steggles Limited and the Applicant (dated 24 February 1999) is in effect.
2. *Except as expressly provided by the Statement of Environmental Effects, dated 10 November 2004, the development shall be restricted as follows:*
 - (i) the mine plan in the EIS shall be reduced such that no mining shall be undertaken in any area identified in accordance with these Conditions as a Conservation Area. This includes the *Tetratheca juncea* Conservation Area (Condition 68); and
 - (ii) the Applicant shall not clear any land or erect any structures within any Conservation Area without approval from the Director-General.
3. (1) Subject to (2) the approved hours of operation are as follows:

Works	Period	Hours
Construction, including construction of any bunds	Monday to Friday	7am to 6pm
	Saturday	8 am to 1pm
Mining operations, including mining, haulage of waste to dumps and coal processing	Monday to Friday	24 hours per day
	Saturday, Sunday	7am to 6pm
Road transportation and stockpiling of coal	7 days per week	24 hours per day
Rail loading of coal	7 days per week	7am to 10pm
Maintenance of mobile and fixed plant	7 days per week	24 hours per day
Blasting, not involving closure of John Renshaw Drive	Monday to Saturday	7am to 5pm
Blasting, involving closure of John Renshaw Drive	Monday to Saturday	10am to 2pm

Table 1: Approved Hours of Operation

Notes: Restrictions on Public Holidays are the same as Sundays.

(2) The Applicant shall submit a report to the Director-General's satisfaction demonstrating that the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6pm to 10pm. If that report does not demonstrate that the noise limits can be met to the Director-General's satisfaction, then the hours of operation for rail loading of coal shall be restricted to 7am to 6pm.

4. The Applicant shall comply with any order of the Director-General to cease activities causing serious or irreversible environmental concerns, until those concerns have been addressed to the satisfaction of the Director-General.

COMMENCEMENT AND DURATION

5. (1) To ensure the employment benefits of this development are realised without delay, the Applicant shall commence mining within two years of the date of this Consent. This does not remove the obligation of the Applicant to comply with any other requirement listed in the Conditions of this Consent.

(2) To minimise potential delays to development on adjoining lands, consent for mining shall lapse 11 years from commencement of mining.

Note: Certain Conditions of this Consent will continue to operate after the Consent for mining operations has lapsed.

6. The Applicant shall notify the Director-General and the Councils in writing of the dates of commencement of:
 - (i) construction works,
 - (ii) mining, and
 - (iii) coal processing operations,
14 days prior to the commencement of such works.
7. No construction or mining shall commence until:
 - (i) the relevant compliance reports in Condition 121 have been completed to the satisfaction of the Director-General; and
 - (ii) the Applicant provides evidence to the Director-General of an agreement with the adjoining Bloomfield mine for the use of rail loading infrastructure.

ENVIRONMENTAL OFFICER

8. The Applicant shall employ an Environmental Officer, whose qualifications are suitable to the Director-General, throughout the life of the mine. The Environmental Officer shall:
 - (i) be responsible for the preparation of the Environmental Management Strategy (Conditions 10-13) and environmental management plans;
 - (ii) be responsible for considering and advising on matters specified in the Conditions of this Consent and compliance with such matters;
 - (iii) be responsible for receiving and responding to complaints in accordance with Condition 113;
 - (iv) facilitate an induction and training program for all persons involved with construction activities, mining and environmental management activities; and
 - (v) have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, to stop work immediately if an adverse impact on the environment is likely to occur.
9. The Applicant shall notify the Director-General, EPA, DLWC, DMR, NPWS, Councils and the Community Consultative Committee (Conditions 107-110) of the name and contact details of the Environmental Officer upon appointment and upon any changes to that appointment.

ENVIRONMENTAL MANAGEMENT STRATEGY

10. The Applicant shall prepare an Environmental Management Strategy (the Strategy) for the development, providing a strategic context for environmental management. All environmental management plans required by the Conditions of this Consent shall be consistent with the Strategy. The Strategy shall be prepared in consultation with the relevant authorities and the Community Consultative Committee and to the satisfaction of the Director-General, prior to commencement of construction.
11. The Strategy shall cover the area of mining, the haul road and rail loading facility, and the Conservation Areas. The Strategy shall include:
 - (i) statutory and other obligations which the Applicant is required to fulfill during construction and mining, including all approvals and consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
 - (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to environmental management, including the Environmental Officer;
 - (iii) overall environmental management objectives and performance outcomes, during construction, mining and decommissioning of the mine, for each of the key environmental elements for which management plans are required under this Consent;
 - (iv) overall ecological and community objectives and a strategy for restoration and management, including habitat areas, creeklines and drainage channels, within the context of those objectives;
 - (v) identification of cumulative environmental impacts and procedures for dealing with these at each stage of the development;
 - (vi) overall objectives and strategies for minimising the impacts of the development on economic productivity;
 - (vii) steps to be taken to ensure that all approvals, plans, and procedures are being complied with;
 - (viii) processes for conflict resolution in relation to the environmental management of the project; and
 - (ix) documentation of the results of consultations undertaken in the development of the Strategy.
12. The Applicant shall make copies of the Environmental Management Strategy available to Councils, EPA, DLWC, NPWS, DMR and the Community Consultative Committee within 14 days of approval by the Director-General.

ENVIRONMENTAL MONITORING AND REPORTING

13. (1) Except as provided in (2), the Applicant shall provide six-monthly monitoring reports on all environmental monitoring required under this Consent for the first three years of the project and for any further period as may be determined necessary by the Director-General. The reports shall contain interpretations of the monitoring data, and summarise exceedances and action taken. The Applicant shall make copies of the monitoring reports available to the Director-General, DLWC, EPA, DMR, Councils and the Community Consultative Committee, and to NPWS where relevant.
- (2) Noise monitoring reports shall be provided six-monthly for the life of the mine, unless the Director-General, on the advice of the independent noise expert (Condition 48) requires more frequent reports.
14. All sampling strategies and protocols undertaken as part of any monitoring program shall include a quality assurance/quality control plan and shall require approval from the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories shall be used for laboratory analysis.

NOISE AND VIBRATION

Noise Limits:

15. *Except as may be expressly provided by a DEC licence under the Protection of the Environment Operations Act 1997, or unless subject to a negotiated agreement in accordance with Condition 23, the Applicant shall ensure that the noise emission from construction or mining operations, when measured or computed at the boundary of any dwelling not owned by the Applicant (or within 30 metres of the dwelling, if the boundary is more than 30 metres from the dwelling), shall not exceed the following noise limits:*

Location	L _{A10} (15 minute) noise limits (dB(A))	
	Daytime	Night-time
Beresfield area (residential)	45	35
Steggles Poultry Farm	50	40
Ebenezer Park Area	46	41
Black Hill Area	40	38
Buchanan and Louth Park Area	38	36
Ashtonfield Area	41	35
Thornton Area	48	40

Table 2: Noise Limits

Note: Daytime is 7am to 10pm Monday – Saturday, and 8am to 10pm Sundays and Public Holidays. Night-time is 10pm to 7am Monday – Saturday, and 10pm to 8am Sundays and Public Holidays.

The noise limits apply for prevailing meteorological conditions (winds up to 3 m/s), except under conditions of temperature inversions.

Noise Management:

Monitoring

16. Prior to 31 October 2005, the Applicant shall prepare a Noise Monitoring Program for the development in consultation with the DEC, and to the satisfaction of the Director-General, which includes a noise monitoring protocol for evaluating compliance with the criteria in condition 15.
17. Deleted.

- 18. Deleted.
- 19. Deleted.
- 20. In the event that a landowner or occupier considers that noise or vibration from the project at their property is in excess of the relevant criteria set out in this Consent, the Applicant shall, upon receipt of a written request and at its own expense immediately undertake direct discussion with the landowners or occupiers affected to determine their concerns. Independent investigations of the noise complaints shall be carried out if the matter is not resolved within six weeks, in accordance with Conditions 48-53.

Noise Acquisition:

- 21. If noise monitoring or independent noise investigations indicate that noise from construction or operation of the mine at the boundary of a dwelling, or within 30 metres of the dwelling where the boundary is more than 30 metres from the dwelling, is in excess of the noise limits set out in this Consent under adverse weather conditions and if appropriate noise control measures cannot be achieved on the mine site, the landowner may request the Applicant in writing to acquire the whole of the property or such part of the property requested by the landowner where subdivision is approved.

Note: Adverse weather conditions means the presence of winds up to 3 metres per second, and/or temperature inversions of up to 4 degrees Celsius per 100 metres.

- 22. Any such request shall be referred to the Director-General for determination in consultation with the independent expert. If the Director-General determines acquisition is necessary, the Applicant shall acquire the property in accordance with Conditions 54-55.

Negotiated agreements:

- 23. If monitoring or independent investigations indicate that noise or dust from the mine is in excess of the criteria set out in this Consent and the affected landowner does not wish to be acquired, the Applicant shall, if requested by the affected landowner, enter into a negotiated agreement. Where a negotiated agreement is required, the Applicant shall, within the time period specified by the Director-General:
 - (i) appoint an independent facilitator, approved by the Director-General;
 - (ii) negotiate a package of benefits for the landowner, which may include undertaking noise reduction measures on the property or at the dwelling(s) or compensation;
 - (iii) pay all reasonable costs of the process; and
 - (iv) report to the Director-General and the EPA on the agreement reached.

BLASTING

Blasting Criteria:

- 24. The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 3, and the ground vibration level does not exceed the criteria in Table 4, at any residence on privately-owned land or noise sensitive location as defined in the EPA's Industrial Noise Policy.

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

Table 3: Airblast Overpressure Impact Assessment Criteria

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

Table 4: Ground Vibration Impact Assessment Criteria

Blasting Design and Management:

25. (1) The Applicant shall not blast within 500 metres of an occupied residence.
 - (2) The Applicant shall not blast within 500 metres of private lands unless there is a written agreement between the Applicant and the landowner/occupier(s) to the satisfaction of the Director-General which guarantees the safety of persons who might use those lands.
 - (3) The Applicant shall not blast within 500 metres of public lands unless public access to those areas is prevented at times of blasting.
 - (4) The Applicant shall not blast within 500 metres of a public road unless the road is closed with the prior written agreement of the Regional Traffic Committee (or in the absence of the Regional Traffic Committee, the Director-General). A copy of any such agreement shall be supplied to the Director-General within 14 days of the agreement.
- If determined necessary by the Regional Traffic Committee the Applicant shall prepare a Traffic Study to identify upgrading of the surrounding road system commensurate with the additional traffic volumes. The Study shall be prepared in consultation with Councils and the RTA, and to the satisfaction of the Regional Traffic Committee. All recommended traffic management measures and road infrastructure upgrading are to be undertaken at the Applicant's expense prior to any closure of John Renshaw Drive. If the study identifies the need for acquisition to enable the works to be undertaken, acquisition shall occur in accordance with the acquisition procedures established under this Consent.
- (5) The 500 metre distance may be reduced by the Director-General if a risk analysis provides an appropriate level of safety.
26. The Applicant shall prepare and implement a Blast Management Plan in consultation with DMR and Councils, prior to the commencement of blasting (including trial blasting). The Applicant shall make copies of the Blast Management Plan available to the independent noise expert (Condition 48), EPA, DMR, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.
 27. The Blast Management Plan shall:
 - (i) provide details of any proposed trial blasting;

- (ii) identify a monitoring program, including locations and justification for selection of locations such as the Steggles Black Hill poultry operations and areas of old underground mine workings;
 - (iii) detail measures to ensure that air blast overpressure and vibration monitoring and control is generally carried out in accordance with the recommendations of Australian Standard AS-2187-1993 (or its latest version) and in terms of ANZECC Guidelines;
 - (iv) detail methods to measure weather data as soon as practicable prior to blasting and from that data predict whether noise levels are likely to be increased above the levels expected under prevailing meteorological conditions;
 - (v) detail measures to be taken to minimise disruptions from blasting, including any road closures agreed in accordance with Condition 25, and management of impacts on local traffic and pedestrian movements;
 - (vi) specify procedures for ensuring that the occurrence of concurrent blasts with the adjoining coal mine operators is avoided; and
 - (vii) identify procedures for notifying landowners/occupiers within 2 km of the site of the general blasting program and for notifying landowners or occupiers within 500m of blasting events (or any reduced area approved by the Director-General under Condition 25(5)) prior to blasting occurring.
28. The Applicant shall not blast if weather conditions indicate that air blast overpressure levels are likely to be exceeded at residences not owned by the Applicant.
29. The Applicant shall report on blasting practices (including any trial blasting), weather data and the results of blast emissions monitoring in the six-monthly environmental monitoring reports and in the AEMR.
30. The Applicant shall revise the Blast Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, the independent noise expert, EPA, DMR, Councils and the Community Consultative Committee.

Blasting Impacts:

31. Prior to the commencement of blasting, the Applicant shall undertake baseline structural surveys of all buildings and structures within 1.5 kilometres of blasting locations, unless it can be demonstrated to the satisfaction of the Director-General in consultation with DMR that surveys of certain properties are unnecessary because blasting damage is unlikely to occur to those properties. In conducting these structural surveys, the Applicant shall ensure that:
- (i) the surveys are carried out by a technically qualified person, as agreed in consultation with the Director-General and relevant landowners; and
 - (ii) a copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.
32. In the event that a landowner or occupier considers that blast emissions from the development may have affected the material condition of their property, the landowner may make a written request to the Director-General for an independent dilapidation assessment. If the Director-General, in consultation with the DMR, is satisfied that an independent investigation is required, the Applicant shall ensure:
- (i) the survey is carried out by a technically qualified person, as agreed in consultation with the Director-General and the relevant landowners or occupiers; and
 - (ii) a copy of any inspection report (including video or photographs, if requested), certified by the person who undertook the inspection, is supplied to the relevant property owner within 14 days of receipt of same.

33. Where a dilapidation assessment concludes that structural damage has occurred as a result of blast emissions, the Applicant shall undertake immediate preventative and/or remedial measures at its expense.

Newcastle Herald's Printing Facilities at Holmwood Business Park:

34. Prior to commencement of mining, the Applicant shall:
- (i) conduct ambient vibration monitoring adjacent to (on the floor) and if required, on the most vibration-sensitive component of the printing facilities in order to establish both the levels of ambient vibration generated by the operation of the Printing Facility itself and that of any other nearby vibration sources;
 - (ii) provide a detailed report on the monitoring procedures and the monitoring results and findings to the Newcastle Herald upon completion of the survey;
 - (iii) meet with Herald representatives to discuss the results of the survey and determine whether the initially agreed limit of 0.3 mm/s is appropriate; and
 - (iv) design initial blasting for compliance with a peak particle velocity vibration criterion of 0.3 mm/s adjacent to or on the Printing Facility, unless a more appropriate limit is mutually agreed.
35. The Applicant shall monitor the impacts of blasting on the Printing Facility throughout the life of the mine, at a mutually agreed location in or adjacent to the Printing Facility during every blast. The Applicant shall provide results of the monitoring to the Newcastle Herald and provide a summary in the AEMR.

Hunter Water Corporation Pipelines:

36. **The Applicant shall ensure that blasting is undertaken in a manner that protects the Hunter Water Corporation's pipeline to the satisfaction of the Hunter Water Corporation.**

AIR QUALITY

Air Quality Criteria:

37. The Applicant shall take all practical steps to manage the mine's operations so that the ambient air quality goals for total suspended particles (TSP) of 90ug/m³ (annual average) and the dust deposition goal of 4gm/m² (annual average) are not exceeded as a result of the development when monitored at any monitoring location specified in the Air Quality Management Plan.

Air Quality Management:

38. The Applicant shall prepare and implement an Air Quality Management Plan, containing strategies to manage the mine's contribution to dust deposition, TSP, PM₁₀ and PM_{2.5} to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Air Quality Management Plan available to the independent expert (Condition 48), EPA, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.
39. The Air Quality Management Plan shall:
- (i) identify potential sources of dust deposition, TSP and fine particulates (PM₁₀ and PM_{2.5}) and specify appropriate monitoring intervals and locations. The purpose of the monitoring is to evaluate, assess and report on these emissions and the ambient impacts with the objective of understanding the mine's contribution to levels of dust deposition, TSP and fine particulates in ambient air around the mine site;
 - (ii) provide the mine's monitoring plan having regard to local meteorology and the relevant Australian Standards, identifying the methodologies to be used, including justification for

- monitoring intervals, weather conditions, seasonal variations, selecting locations, periods and times of measurements;
- (iii) provide the design of any modelling or other studies, including the means for determining the contribution to dust deposition, TSP and fine particulates from the development;
 - (iv) provide details of dust suppression measures for all sources of dust from the development (including the haul road and the rail loading site);
 - (v) provide details of actions to ameliorate impacts if they exceed the relevant criteria; and
 - (vi) provide the design of the reactive management system intended to reduce the day-to-day impacts of dust and fine particulates due to the mine's operation.
40. The Applicant shall ensure the prompt and effective rehabilitation of all disturbed areas as soon as practicable to minimise the generation of dust.
41. The Applicant shall cease offending work at such times when the hourly average wind speed exceeds 5 metres per second and the operations are resulting in visible dust emissions blowing in a direction so as to cross onto public roads or lands not owned by the Applicant.
42. The Applicant shall revise the Air Quality Management Plan as necessary and provide an updated Plan five years after commencement of mining and to the Director-General, independent air quality expert (Condition 48), EPA, Councils and the Community Consultative Committee.

Air Quality Monitoring:

43. The Applicant shall install, maintain and continuously operate a meteorological station in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The meteorological station shall be installed within six weeks of the date of this consent and remain for the life of the mine. The Applicant shall analyse and report the meteorological data on a monthly basis to adequately characterise the site, and shall use the data collected by the wind monitoring and recording station to determine when and how the mine operation is to be modified in accordance with the Air Quality Management Plan and the Conditions of this Consent.
44. The Applicant shall install, maintain and operate dust deposition gauges in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The dust deposition gauges shall be installed and operational within six weeks of the date of this consent and the Applicant shall determine the dust deposition rate in grams/m²/month in each calendar month so that any increases in dust deposition rates can be presented in the AEMR.
45. (1) The Applicant shall install, maintain and operate an air quality monitoring network in accordance with the relevant Australian Standards and to the satisfaction of the EPA. The network shall be installed and operational within six weeks of the date of this consent and in each calendar year the Applicant shall determine the concentrations of TSP in µg/m³ (annual average) and fine particulates (PM₁₀ and PM_{2.5}) in µg/m³ (24 hour average and annual average) so that the contribution of the mine to regional ambient air quality can be presented in the AEMR.
- (2) The Applicant shall also participate in (and if appropriate contribute reasonable funds to) regional air quality studies conducted by or on behalf of the EPA or the Director-General.

Air Quality Acquisition:

46. If dust monitoring or independent dust investigations indicate that dust from operation of the mine at a dwelling is in excess of the criteria set out in this Consent and if appropriate dust control measures cannot be achieved on the mine site, the landowner may request the Applicant in writing to acquire the whole of the property or such part of the property requested by the landowner where subdivision is approved.

47. Any such request shall be referred to the Director-General for determination. If the Director-General determines acquisition is necessary, the Applicant shall acquire the property in accordance with Conditions 54-55.

INDEPENDENT MONITORING OF NOISE, VIBRATION OR DUST

48. The Applicant shall bear the reasonable costs of the appointment by the Director-General of an independent noise and air quality expert(s) and/or mediator to assist in the implementation of the Conditions of this Consent. The independent expert(s) shall:
- (i) receive and advise the Director-General on the Noise, Blast and Air Quality Management Plans;
 - (ii) receive and advise the Director-General on noise and dust monitoring results;
 - (iii) be responsible for, or supervise, the independent investigation of complaints; and
 - (iv) advise the Director-General on the need for acquisition due to noise, vibration or dust.
- The independent expert(s) shall report directly to the Director-General and provide such advice as agreed by the Director-General to the Applicant and the landowner or occupier.
49. In the event that a landowner or occupier considers that noise, vibration and/or dust from the project at their property is in excess of the relevant criteria set out in this Consent the landowner may make a written request to the Applicant for an investigation. If the Director-General, on the advice of the independent expert, is satisfied that an investigation is required, the independent expert shall ensure that:
- (i) direct discussions are undertaken with the landowners or occupiers affected to determine their concerns and to plan and implement an investigation to quantify the impact and determine the sources of the effect;
 - (ii) independent investigations are conducted to quantify the impact and determine the source of the effect; and
 - (iii) a report is submitted to the Director-General, the Applicant and the landowner or occupier.
50. If exceedances are identified, within six weeks or as otherwise directed by the Director-General, the Applicant shall modify the mining activity which may be causing the impacts and/or enter into a negotiated agreement (Condition 23) with the affected landowner.
51. The Applicant shall bear the cost of the independent investigations and make available plans, programs and other information necessary for the independent expert(s) to form an appreciation of the past, present and future works and their effects on noise, vibration and/or dust emissions.
52. Investigations shall be carried out in accordance with a documented Plan. The Plan shall be designed and implemented to measure and/or compute (with appropriate calibration by measurement) the relevant noise, vibration and/or dust levels at the complainant's residence/property boundary emitted by the development.
53. Further independent investigations shall cease if the Director-General, in consultation with the independent expert, is satisfied that the relevant approval levels are not being exceeded and are unlikely to be exceeded in the future.

ACQUISITION PROCEDURE

54. Upon determination of the Director-General in relation to the purchase of a property in accordance with any Conditions of this Consent, the Applicant shall negotiate and purchase the whole of the property (unless the request specifically requests acquisition of only part of the property and subdivision has already been approved) within six months of receipt of notification from the Director-General. The Applicant shall pay the landowners an acquisition price resulting from proper consideration of:

- (i) a sum not less than the current market value of the owner's interest in the land, whosoever is the occupier, having regard to:
 - (a) the existing use and permissible use of the land in accordance with the applicable planning instruments at the date of the written request;
 - (b) the presence of improvements on the land and/or any Council approved building or structure which although substantially commenced at the date of the request is completed subsequent to that date; and
 - (c) as if the land was unaffected by the development proposal.
- (ii) the owner's reasonable compensation for disturbance allowance and relocation within the Lower Hunter Region;
- (iii) the owner's reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price for the land and the terms upon which it is to be acquired; and
- (iv) the purchase price determined by reference to points (i), (ii) and (iii) shall be reduced by the amount of any compensation awarded to a landowner pursuant to the *Mining Act, 1992* or other legislation providing for compensation in relation to coal mining but limited to compensation for dwellings, structures and other fixed improvements on the land, unless otherwise determined by the Director-General in consultation with the DMR.

55. Notwithstanding any other Condition of this Consent, the Applicant may, upon request of the landowner, acquire any property affected by the project during the course of this Consent on terms agreed to between the Applicant and the landowner.

INDEPENDENT VALUATION

56. In the event that the Applicant and the landowner cannot agree within three months upon the acquisition price of the land and/or the terms upon which it is to be acquired under the terms of this Consent, then either party may refer the matter to the Director-General who shall request an independent valuation to determine the acquisition price. The independent valuer shall consider any submissions from the landowner and the Applicant in determining the acquisition price.
57. If the independent valuer requires guidance on any contentious legal, planning or other issues, the independent valuer shall refer the matter to the Director-General, who, if satisfied that there is a need for a qualified panel, shall arrange for the constitution of the panel. The panel shall consist of:
 - (i) the appointed independent valuer;
 - (ii) the Director-General; and/or
 - (iii) the President of the Law Society of NSW or nominee.
 The qualified panel shall, on the advice of the valuer, determine the issue referred to it and advise the valuer.
58. The Applicant shall bear the costs of any independent valuation or survey assessment requested by the Director-General.
59. The Applicant shall, within 14 days of receipt of a valuation by the independent valuer, offer in writing to acquire the relevant land at a price not less than the said valuation.

WATER

Water Management:

60. The Applicant shall prepare and implement a Water Management Plan in consultation with DLWC, Councils, EPA and the Hunter Catchment Management Trust, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Water Management Plan available to the EPA, DLWC, DMR, Councils, the Hunter Catchment Management

Trust and the Community Consultative Committee within 14 days of approval by the Director-General.

61. The Water Management Plan shall include but not be limited to:
- (i) management of the impacts of the development on the quality and quantity of surface and groundwater, including water in dirty water dams and clean water diversion dams;
 - (ii) stormwater and general surface runoff diversion to ensure separate effective management of clean and dirty water;
 - (iii) stormwater management facilities designed to at least a 1:10 year storm design criteria;
 - (iv) identification of any possible adverse effects on water supply sources (both surface and groundwater) of landowners or occupiers from the development, and implementation of mitigation measures as necessary;
 - (v) identification of the fresh quality groundwater zones within the DA area and appropriate protection strategies;
 - (vi) management of the impacts of the development on the quality and quantity of groundwater within 2 kilometres of the boundary of the DA area, with particular attention to mobilisation of salts and contingency plans for managing any adverse impacts;
 - (vii) management of the impacts of the development on the quality and quantity of surface water discharged, including scheduling of mining operations to minimise the area excised from the catchment draining to Woodberry Swamp at any one time;
 - (viii) identification of a defined buffer zone between the mine pit and Four Mile Creek and measures to minimise the risk of blast-induced fractures in the buffer zone to prevent saline seepage from the rehabilitated landform toward Four Mile Creek in the post-mining period;
 - (ix) procedures for the maintenance of drainage systems and water management structures; and
 - (x) development of a strategy for the decommissioning of water management structures, including dirty water dams and clean water diversion dams, and long term management of the final void.
62. The Applicant shall revise the Water Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, EPA, DLWC, DMR, Councils, the Hunter Catchment Management Trust and the Community Consultative Committee.

Water monitoring:

63. The Applicant shall prepare and implement a detailed monitoring program for groundwater and surface water in consultation with the Department, DEC, DPI and the Hunter-Central Rivers Catchment Management Authority, throughout the life of the mine and for a period of at least five years after the completion of mining, or other such period as determined by the Director-General. The results of the monitoring information shall be included in the AEMR (Conditions 114-116).

The monitoring program shall contain:

- (xi) details of proposed monitoring sites, frequency and parameters to be tested;
 - (xii) pre-mining baseline data;
 - (xiii) monitoring of surface water quality to detect any changes in ambient water quality between the mine site and the wetlands;
 - (xiv) monitoring of macroinvertebrates and vegetation in accordance with protocols developed for the Hunter SIGNAL biological assessment criteria, with an assessment of inflows to the wetlands;
 - (xv) monitoring of stream stability, stream bank and bed stability;
 - (xvi) monitoring of the volume and quality of water transfer between the Donaldson and Bloomfield operations; and
 - (xvii) a program for replacement of any monitoring bores destroyed by the development.
64. Prior to 31 October 2005, the Applicant shall revise, and then implement any necessary changes in the monitoring program for groundwater and surface water to the satisfaction of the Director-General.

Water Supply:

65. On request of a landowner whose water supply from licensed bore holes or springs has been determined by DLWC at any time to have been affected by the project, the Applicant shall replace lost water supply with water of an equivalent quality and quantity to meet the landowner's requirements, to the satisfaction of DLWC.

EROSION AND SEDIMENT CONTROL

66. The Applicant shall prepare and implement an Erosion and Sediment Control Plan(s) for the development (including the haul road and the relocation of utilities and services) to the satisfaction of DLWC and submit these Plans to the EPA as part of applications for a licence under the *Protection of the Environment Operations Act*. The Plan(s) shall be prepared prior to the commencement of work in the relevant areas. The Applicant shall make copies of all Erosion and Sediment Control Plan(s) available to the Director-General, Councils and the Community Consultative Committee within 14 days of approval.
67. The Erosion and Sediment Control Plan(s) shall include consideration and management of erosion and sedimentation of watercourses and waterbodies, including Woodberry Swamp.

FLORA AND FAUNA

***Tetratheca juncea* Conservation Area:**

68. Prior to the commencement of construction, the Applicant shall:
- (i) undertake a survey of potential *Tetratheca juncea* habitat in the southwest portion of the site. The survey shall:
 - (a) be undertaken by a suitably qualified botanist, with the assistance of a suitably qualified surveyor, both approved by the Director-General;
 - (b) re-examine the outcomes of previous surveys;
 - (c) be undertaken between the months of August and December (inclusive);
 - (d) record the location of *Tetratheca juncea* clumps on the ground using suitable tags and by using either theodolite and electronic measuring equipment or differential GPS;
 - (e) investigate the occurrence of any native sonicating bee habitat within 500 metres of the *Tetratheca juncea* population; and
 - (ii) establish a Conservation Area for the *Tetratheca juncea* based on the findings of the survey. The Conservation Area shall include a 50 metre buffer. The boundaries of the Conservation Area shall be surveyed and marked by a suitably qualified surveyor, with the assistance of a botanist, using either a theodolite and electronic measuring equipment or differential GPS. No clearing, construction or mining shall commence until the boundary of the Conservation Area has been approved by the Director-General.
69. The Applicant shall prepare a Management Plan for the *Tetratheca juncea* Conservation Area in consultation with NPWS and to the satisfaction of the Director-General, prior to commencement of construction. The Plan shall be consistent with the Flora and Fauna Management Plan (Conditions 76-79); and include measures for fire management. The Applicant shall clearly mark the boundary of the Conservation Area and make provision for signage which specify that no dumping, clearing or other works are permitted in the Conservation Area. Such signage shall be replaced as required. The Applicant shall make copies of the *Tetratheca juncea* Management Plan available to NPWS, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.

BUSHLAND AREA

70. Within six months of this Consent, or as otherwise agreed by the Director-General, the Applicant shall identify a bushland area(s) in the region that will adequately compensate for the impact of the mine on biodiversity, provide compensatory habitat and be managed for the primary purposes of conservation. The area shall be identified in consultation with NPWS and Councils and be to the satisfaction of the Director-General. Identification of the bushland area(s) shall include:
- (i) a detailed assessment of the current characteristics and ecological values of existing ecosystems affected by the mine, including the habitat of threatened species identified in the EIS as possibly occurring in the area and the Spotted Gum Ironbark community;
 - (ii) identification of conservation objectives to be achieved by the establishment of the bushland area(s), with reference to the Regional Biodiversity Strategy and the principles of Ecologically Sustainable Development;
 - (iii) consideration of alternative locations within the region, including, but not limited to, the land proposed as compensatory area in the EIS (ie land adjoining the mine site);
 - (iv) a detailed assessment of appropriate boundaries, size and shape of the bushland area(s), in relation to the characteristics, values and objectives;
 - (v) consideration of appropriate management options necessary to protect the conservation values; and
 - (vi) consideration of opportunities to incorporate cultural heritage conservation into the bushland area(s).
71. In identifying the bushland area(s), the following broad criteria shall be applied:
- (i) a ratio of 2:1 in terms of compensatory area to the area to be directly impacted by mining and associated infrastructure;
 - (ii) the vegetation communities and habitat values of the bushland area(s) are to be broadly representative of the area which will be subject to mining and contain a similar suite of fauna species;
 - (iii) the location of the bushland area(s) will aim to consolidate existing reserves in the lower Hunter Area; and
 - (iv) reserve design criteria, including edge-to-area ratio, size and connectivity shall be taken into account.
72. Upon approval of the identified bushland area(s) by the Director-General, the Applicant shall:
- (i) secure care, control and management of the bushland area(s) prior to the commencement of mining;
 - (ii) retain management and ownership of the land for a minimum of 36 years from the commencement of construction, unless other arrangements are agreed in accordance with Condition 73; and
 - (iii) prepare and implement a Management Plan for that area in consultation with NPWS and to the satisfaction of the Director-General, during the period in which the Applicant is responsible for management. The Management Plan shall be consistent with the Flora and Fauna Management Plan (Conditions 76-79) and consider the integration of cultural conservation objectives and management. The Applicant shall make copies of the Management Plan available to NPWS and the Community Consultative Committee within 14 days of approval by the Director-General.

For the purposes of the Conditions of this Consent, the bushland area(s) approved by the Director-General shall be known as the Bushland Conservation Area until the completion of the period referred to in Condition 72(ii) and any Conditions relating to Conservation Areas shall apply to that area during that period. The Management Plan referred to in Condition 72(iii) shall be referred to as the Bushland Conservation Area Management Plan.

73. The Applicant shall undertake negotiations with the NPWS and Councils to reach agreement on the long term tenure and management status of the Bushland Conservation Area. These negotiations must commence within six months of commencement of construction.
74. Prior to 31 October 2005, the Applicant shall revise the Bushland Conservation Area Management Plan to compensate for the extension of the disturbance area in the vicinity of Weakley's Flat Creek, to the satisfaction of the Director-General, and provide an updated Plan to the DEC, Councils and the Community Consultative Committee.

Flora and Fauna Management:

75. The Applicant shall bear the reasonable costs of the appointment by the Director-General of an independent flora and fauna expert(s) to assist in the implementation of the Conditions of this Consent. The independent expert(s) shall:
- (i) be selected in consultation with the applicant;
 - (ii) assess and advise the Director-General on the Applicant's proposed Conservation Areas and Management Plans for those areas;
 - (iii) assess and advise the Director-General on the Applicant's proposed bushland area(s);
 - (iv) assess and advise the Director-General on the Applicant's proposed Flora and Fauna Management Plan and the Rehabilitation Plan; and
 - (v) assess and advise the Director-General on the Applicant's monitoring of flora and fauna management and rehabilitation.
76. The Applicant shall prepare and implement a Flora and Fauna Management Plan for the mine site (in addition to the management plans for specific Conservation Areas), in consultation with DLWC, NPWS and Councils, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Flora and Fauna Management Plan available to DLWC, NPWS, Councils and the Community Consultative Committee within 14 days of approval by the Director-General.
77. The Flora and Fauna Management Plan shall include but not be limited to:
- (i) additional surveys to more precisely identify the distribution of known and potential nest and roost trees for owl species. The surveys shall:
 - (a) be undertaken by a person experienced in the identification of owl nest and roost trees, approved by the Director-General; and
 - (b) record the location of known and potential nest and roost trees on the ground by marking the tree and by using either theodolite and electronic measuring equipment or differential GPS;
 - (c) a vegetation map delineating major vegetation communities, topographic features and the location of threatened species habitats, including potential and known owl nest and roost trees;
 - (ii) details of measures to manage the impacts of the development, including:
 - (a) restoration of degraded areas;
 - (b) management of invasive weed species and feral animals;
 - (c) establishment of an appropriate hazard reduction regime which is in keeping with the ecological values of the area;
 - (d) revegetation and the provision of compensatory areas of equivalent ecological and habitat value where necessary; and
 - (e) strategies to provide increased security for existing habitats and communities;
 - (iii) details of measures to manage the impacts of environmental management on flora and fauna, including the impact of erosion and sediment control measures and hazard reduction burning;
 - (v) priorities for action and a timetable for all works outlined in the Plan; and

- (vi) a program to monitor flora and fauna impacts on undisturbed portions of the mining lease area and downstream environments (such as the Woodberry Swamp). The program shall extend for the life of the mine and for a period thereafter as approved by the Director-General, and include:
 - (a) justification for monitoring intervals and locations;
 - (b) monitoring of the presence and persistence of native flora and fauna species over time, particularly threatened species; and
 - (c) monitoring the effectiveness of management measures.
78. The Flora and Fauna Management Plan shall also include a Rehabilitation Plan that details the measures to be undertaken to progressively rehabilitate disturbed areas of the mine to replicate the original vegetation cover that existed before mining occurred. The Applicant shall be responsible for the management and monitoring of the rehabilitated mine site until such time as the Director-General agrees that restoration has been successful.
79. The Applicant shall revise the Flora and Fauna Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, NPWS, Councils and the Community Consultative Committee.
80. The Applicant shall participate in (and if appropriate, contribute such reasonable funds as determined by the Director-General in consultation with NPWS) research into the Powerful Owl and Masked Owl habitat requirements in the region, and the habitat requirements and lifecycle of *Tetratheca juncea*.

HERITAGE

Heritage Statutory Requirements:

81. Prior to commencement of construction, the Applicant shall:
- (i) comply with the statutory requirements of NPWS in relation to works affecting Aboriginal sites; and
 - (ii) undertake a targeted archaeological survey of the slopes component within the mining impact area in cooperation with the Aboriginal community. Any Aboriginal sites located will be recorded, the significance of the sites assessed, and management strategies for the sites identified.
82. If, during the course of construction, the Applicant becomes aware of any heritage or archaeological material, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the Heritage Office, and the Local Aboriginal Land Councils. Any necessary permits or consents shall be obtained and complied with prior to recommencement of work.

Aboriginal Heritage Management:

83. Prior to commencement of construction, the Applicant shall establish an Aboriginal Conservation Area along Four Mile Creek and tributaries in accordance with a plan approved by the Director-General. The plan shall include:
- (i) identification of an appropriate boundary and the basis on which the boundary has been selected;
 - (ii) a map at a scale of 1:1000 or larger which clearly delineates the Conservation Area boundary and specific features; and
 - (iii) documentation of consultations with NPWS and Aboriginal community groups in relation to the definition of the Conservation Area.

84. The Applicant shall prepare and implement an Aboriginal Sites Management Plan in consultation with the Aboriginal community, Councils and NPWS, and to the satisfaction of the Director-General, prior to the commencement of construction. The Applicant shall make copies of the Aboriginal Sites Management Plan available to the Director-General, Aboriginal community, Councils and the Community Consultative Committee within 14 days of approval by NPWS.
85. The Management Plan shall include, but not be limited to:
- (i) documentation of consultation with the relevant Aboriginal community groups to identify any outstanding concerns they may have with the project and a clear statement about how these concerns will be addressed, including any action to be taken;
 - (ii) identification of conservation objectives for the site as a whole and for the Conservation Area specifically;
 - (iii) a program to monitor the impacts of the development on the Conservation Area, including justification for monitoring locations and intervals;
 - (iv) strategies to achieve conservation objectives, including an access policy;
 - (v) the provision of fencing to permit faunal movement and the removal of fencing within six months of completion of mining;
 - (vi) further investigations; and
 - (vii) long term management requirements upon completion of mining.
86. The Applicant shall revise the Aboriginal Sites Management Plan as necessary and provide an updated Plan five years after commencement of mining to the Director-General, NPWS, Councils and the Community Consultative Committee.

WASTE

87. The Applicant shall prepare and implement a Waste Management Plan in consultation with EPA, DMR and the Hunter Waste Planning and Management Board, and to the satisfaction of the Director-General, prior to commencement of construction. The Applicant shall make copies of the Waste Management Plan available to Councils and the Community Consultative Committee within 14 days of approval by the Director-General.
88. The Waste Management Plan shall include, but not be limited to the management of the mine site to prevent dumping of waste; and the management and treatment of Potentially Acid Forming waste.
89. The Applicant shall meet the requirements of Councils, EPA and Hunter Water Corporation with respect to water and sewer.

VISUAL AMENITY

Landscaping:

90. The Applicant shall provide a minimum of 50 metres of landscaping between the outer edge of the bund wall and the edge of John Renshaw Drive. The 50 metres may include landscaping within the road verge if agreed by Cessnock Council.
91. The Applicant shall, within three months of the date of this Consent, or within such further period as Councils may require, submit for the Councils' approval a detailed Landscaping Plan covering all land within the proposed mining area (including the haul road and transmission line easements) and road reserve along the frontage to John Renshaw Drive. The Applicant shall engage a suitably qualified person to assist in the landscaping plan.
92. The Landscaping Plan shall be consistent with the Environmental Management Strategy and include:

- (i) provision for the establishment of trees and shrubs and the construction of mounding or bunding along the planned highwall and any other areas identified as necessary by the Councils for the maintenance of satisfactory visual amenity and the re-establishment of flora and fauna habitats and corridors;
 - (ii) appropriate erosion control and sediment control practices for earthworks associated with the landscaping;
 - (iii) details of the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications). Buildings and structures shall be designed and constructed so as to present a neat and orderly appearance and to blend as far as possible with the surrounding landscape; and
 - (iv) details, specifications and staged work programs to be undertaken, including a maintenance program of all landscape works, building materials and cladding.
93. The Applicant shall implement the approved Plan in accordance with Councils' requirements and make copies available to the Community Consultative Committee within 14 days of approval by Councils.
94. The Applicant shall plant screening vegetation on properties at higher elevation and with views across the mine site in the Black Hill area if requested in writing by the landowner, within three months of that request. The species, density and location of the plantings shall be determined in consultation with the landowner.
95. The Applicant shall lodge a landscaping bond with Cessnock Council, to a maximum of \$10,000 at any one time, for landscaping during the life of mine. This bond does not affect rehabilitation works covered by the *Mining Act*.

Lighting:

96. The Applicant shall screen or direct all onsite lighting and vehicle lights away from residences and roadways to the satisfaction of Councils. All screening to be completed prior to commissioning of the coal preparation plant and associated facilities.

HAZARDS, RISKS AND SAFETY

97. The Applicant shall:
- (i) provide adequate fire protection works on site. This shall include one fully equipped fire fighting unit on standby and hazard reduction works at a time determined by the relevant Council, with particular attention to boundaries of adjoining land holdings;
 - (ii) submit an annual report on fire management activities to the local Bush Fire Management Committee; and
 - (iii) ensure that all dangerous goods and materials stored on site are stored in accordance with the relevant Australian standards.

UTILITIES AND SERVICES

98. The Applicant shall consult with affected service authorities and make arrangements satisfactory to those authorities for the protection or relocation of utilities and services (such as transmission lines and pipelines) at the Applicant's expense, prior to any existing utilities or services being affected by mining activity. Relocation of utilities and services shall be conducted in accordance with the relevant Management Plans and the Erosion and Sediment Control Plan(s).

TRANSPORT AND ACCESS

99. Prior to commencement of construction, or as otherwise agreed by the Councils, the Applicant shall design, construct and seal the private haul road and access road to the satisfaction of the Councils, and with consideration of the impact on the fragmentation of fauna habitat and fauna movement.
100. No coal shall be hauled on public roads.
101. The Applicant shall carry out intersection improvements as determined necessary by the Regional Traffic Committee as a result of the development and by such times as directed by the Regional Traffic Committee.
102. If closure of John Renshaw Drive is agreed by the Regional Traffic Committee under Condition 25(4), the Applicant shall:
 - (i) pay \$20,000 to Cessnock City Council to upgrade the alignment and surface of the unsealed western end of Black Hill Road;
 - (ii) provide a water cart and apply water to the unsealed western end of Black Hill Road to the requirements of Cessnock City Council prior to each closure of John Renshaw Drive for blasting; and
 - (iii) prepare a Traffic Management Plan for the approval of the RTA in relating to the closure of John Renshaw Drive during blasting.
103. The Applicant shall provide for signalling of the Bloomfield rail loop to the satisfaction of Freight Corp prior to the commencement of mining.

INITIAL COAL WASHING

104. Upon commencement of coal extraction, the Applicant shall initially make use of the coal preparation plant (CPP) at the adjoining Bloomfield coal mine for up to two years from commencement of mining or such other period as approved by the Director-General. This will allow the Applicant to:
 - (i) trial the washing of Donaldson coal to assist in the determination of its washing characteristics; and
 - (ii) commence the earliest possible coal extraction at Donaldson, and hence hasten project completion.
105. The haulage route for raw coal from the Donaldson pit to the Bloomfield CPP shall be the same as that proposed for haulage of product coal from the proposed Donaldson CPP to the existing Bloomfield rail loading facility up to the point of intersection with the Bloomfield Mine access road, and thence westward along the Bloomfield Mine access road to the CPP, unless otherwise agreed to with the owners of Bloomfield. However, any variation to the route shall be considered to determine whether a modification to this Consent is required to enable the variation.
106. The Applicant shall notify the Director-General within eighteen months of the commencement of mining as to the results of the Bloomfield washery trials.

COMMUNITY INVOLVEMENT

Community Consultative Committee:

107. The Applicant shall establish a Community Consultative Committee which shall be chaired by an independent chairperson approved by the Director-General. Selection of representatives shall be agreed by the Director-General and include (unless otherwise agreed by the Director-General) two representatives from the Applicant (including the Environmental Officer), four community representatives (including a representative of the local Aboriginal Community) and representatives of the local Councils. Representatives from relevant government agencies (including DUAP) may be invited to attend meetings of the Committee as required.

108. The Committee may make comments and recommendations about the implementation of the development. The Applicant shall ensure that the Committee has access to the necessary plans and/or studies for such purposes. The Applicant shall consider the recommendations and comments of the Committee and provide a response to the Committee and the Director-General.
109. The Applicant shall, at its own expense:
- (i) provide appropriate facilities for meetings of the Committee;
 - (ii) nominate a representative to attend all meetings of the Committee;
 - (iii) ensure that the first meeting is held prior to commencement of construction, that meetings are held at least every six months for the first 24 months from the date of the mining lease and at least annually thereafter;
 - (iv) provide to the Committee regular information on the progress of the work and monitoring results;
 - (v) promptly provide to the Committee such other information as the Chairperson of the Committee may reasonably request concerning the environmental performance of the development; and
 - (vi) provide reasonable access for site inspections by the Committee.
110. The Applicant shall establish a trust fund to be managed by the Chairperson of the Committee to facilitate functioning of the Committee, and pay \$2000 per annum to the fund for the duration of mining operations. The payment shall be indexed according to the Consumer Price Index (CPI) at the time of payment. The first payment shall be made by the date of the first Committee meeting.

Community Information:

111. The Applicant shall, in consultation with Councils, ensure that the local community is kept informed (by way of local newsletters, leaflets, newspaper advertisements and community notice boards as appropriate) of the progress of the project, including prior notice of:
- (i) the nature of works proposed for the forthcoming period;
 - (ii) hours of construction;
 - (iii) a 24 hour contact telephone number;
 - (iv) any traffic disruptions and controls;
 - (v) proposed blasting program, and any changes to the program;
 - (vi) work required outside the normal working hours; and
 - (vii) individuals' rights under the Conditions of this Consent (such as the rights for acquisition or independent monitoring) and mechanisms proposed to be used to safeguard the community and individual properties against adverse impacts from the development.
112. The Applicant shall ensure that the AEMR, minutes from Community Consultative Committee meetings and results and interpretation of monitoring required by this Consent are placed on the Internet for public information within 14 days after they are available. The Internet address is to be made publicly available.

Complaints:

113. (1) The Applicant shall record details of all complaints received in an up to date log book, and ensure that a response is provided to the complainant within 24 hours.
- (2) If the Applicant's response does not address the complaint to the satisfaction of the complainant within six weeks, the Applicant shall refer the matter to an independent mediator (approved by the Director-General) and bear the costs of such mediation. The Applicant shall immediately carry out such works as agreed through the mediation process.

(3) The Applicant shall make available a report on complaints received every three months to the Community Consultative Committee and to relevant government agencies and the Councils upon request; and include a summary in the AEMRs. The report shall include the number of complaints that have been resolved with or without mediation.

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

114. The Applicant shall prepare and submit an Annual Environmental Management Report (AEMR) throughout the life of the mine to the satisfaction of the Director-General. The AEMR shall review the performance of the mine against the Environmental Management Strategy and the Conditions of this Consent, and other licences and approvals relating to the mine. To enable ready comparison with the EIS's predictions, diagrams and tables, the report shall include, but not be limited to, the following matters:
- (i) an annual compliance audit of the performance of the project against Conditions of this Consent and statutory approvals;
 - (ii) a review of the effectiveness of the environmental management of the mine in terms of EPA, DLWC, DMR, and the Councils' requirements and provide an explanation of any variance;
 - (iii) results of all environmental monitoring required under this Consent or other approvals, including interpretations and discussion by a suitably qualified person;
 - (iv) identification of trends in monitoring results over the life of the mine;
 - (v) a comparison of the actual impacts with predictions made in the EIS and supporting documents;
 - (vi) a review of the social impact of the mine, including mitigation works and acquisition;
 - (vii) a listing of any variations obtained to approvals applicable to the subject area during the previous year;
 - (viii) the outcome of the water budget for the year, the quantity of water used from water storages and details of discharge of any water from the site;
 - (ix) rehabilitation report; and
 - (x) environmental management targets and strategies for the next year, taking into account identified trends in monitoring results.
115. In preparing the AEMR, the Applicant shall:
- (i) Consult with the Director-General during preparation of each report for any additional requirements;
 - (ii) comply with any requirements of the Director-General or other relevant government agency and with any guidelines current at the time of reporting; and
 - (iii) ensure that the first report is completed and submitted within 12 months of this Consent, or at a date determined by the Director-General in consultation with the DMR and the EPA.
116. The Applicant shall ensure that copies of each AEMR are submitted at the same time to DUAP, EPA, DLWC, NPWS, Councils and the Community Consultative Committee, and made available for public information at Councils within 14 days of submission to these authorities.

Note: The AEMR should be the same document submitted to the DMR as part of its mining lease requirements, and as such should also be prepared in accordance with DMR guidelines.

INDEPENDENT ENVIRONMENTAL AUDIT

117. **At 3 yearly intervals after the commencement of mining and at the completion of mining, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:**
- (i) **be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;**

- (ii) be consistent with *ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing*, or equivalent updated versions of these guidelines;
- (iii) assess the environmental performance of the development, and its effects on the surrounding environment;
- (iv) assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;
- (v) review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; and
- (vi) if necessary, recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.

118. The audit shall:

- a. assess compliance with the requirements of this Consent, licences and approvals;
- b. review the effectiveness of the environmental management of the mine, including any mitigation works;
- c. be carried out at the Applicant's expense; and
- d. be conducted by a duly qualified independent person or team approved by the Director-General in consultation with the Councils.

119. The Director-General may, after assessing compliance in accordance with this Consent and after considering any submission made by the EPA, DLWC, DMR, the Councils or the Community Consultative Committee on the report, notify the Applicant of any reasonable requirements for compliance with this Consent. The Applicant shall comply with those requirements within such time as the Director-General may require.

COMPLIANCE

120. The Applicant shall comply or ensure compliance with all requirements of the Director-General in respect of the implementation of any measures arising from the Conditions of this Consent. The Applicant shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Applicant shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify. If necessary, the Director-General may order the Applicant to cease work until non-compliance has been addressed to her satisfaction.

121. The Applicant shall submit for the approval of the Director-General compliance reports concerning the implementation of Conditions of this Consent as applicable:

- (i) before the commencement of construction works; and
- (ii) before the commencement of mining.

Y2K COMPLIANCE

122. One month prior to the commencement of operation of any automated system, included embedded systems, used for operation, pollution control, monitoring and safety (including fire safety), the Applicant shall provide the Director-General with a report confirming that the system(s) has been tested in accordance with the most recent edition of BSI/DISC PD2000-1 to confirm continuous time and date functionality of that system.

DISPUTE RESOLUTION

123. In the event that the Applicant and an individual, the Councils or a Government agency, other than DUAP, cannot agree on the specification or requirements applicable under this Consent, the matter shall be referred by either party to the Director-General or if not resolved within six months, to the Minister for Urban Affairs and Planning, whose determination of the disagreement shall be final and binding on the parties.

OTHER ISSUES

124. The Applicant shall participate in (including a financial contribution if appropriate, to a maximum of \$10,000) the preparation of a revised Planning Strategy for the Thornton-Beresfield area. Any such financial contribution shall be paid as directed by the Director-General and any amounts not expended in the review upon completion of mining shall be refunded to the Applicant.
125. The Applicant shall provide reasonable funding to Councils for independent counselling services for any landowner within 1.5 kilometres of the mining lease area who may request support on stress-related matters resulting from the development.
126. Within six months of the date of this Consent and in each AEMR thereafter, the Applicant shall report to the Director-General on the number of personnel employed by the mine in construction, mining and environmental management during that reporting period. The report shall compare the employment figures with those predicted in the EIS.

Supplementary Note:

Nothing in these Conditions removes or lessens any obligations by the Applicant under the mining lease or mining legislation in relation to matters covered by these Conditions.

SCHEDULE 4:

Supplementary reports to the EIS:

Title	Author	Date
Amended Mine Plan	Donaldson Projects	August 1998
Air Quality Assessment	Holmes Air Scientists	August 1998
Supplementary Assessment of Flora and Fauna	Gunninah Environmental Consultants	August 1998
Threatened Species Issues - Supplementary Information and Section 5A assessments of significance	Gunninah Environmental Consultants	May 1998
Erosion and Sediment Control Plan	Global Soil Systems	August 1998
Soil and Land Capability Survey Report	Global Soil Systems	August 1998
Supplementary Report on Temporary Closure of John Renshaw Drive During Blasting Operations	Project Planning Associates	August 1998
Supplementary Report on Visual Impacts and Landuse Planning Issues	Mike George Planning	August 1998
Supplementary Noise and Blasting Impact Assessment	Richard Heggie Associates	August 1998
Additional Water Management Studies	Mackie Environmental Research	August 1998