Appendix 6

Noise Monitoring Reports

(No. of pages including blank pages = 188)

Note: A copy of this Appendix is available on the Project CD



DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

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global environmental solutions

Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending June 2013

Report Number Q50 630.01053R1

15 July 2013

Donaldson Coal Pty Ltd PO Box 675 Green Hills 2320

Version: Draft 1

Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending June 2013

2013/2014 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT Report No. 737/09

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Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending June 2013

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Reference	Status	Date	Prepared	Checked	Authorised
Q50 630.01053R1	Draft 1	15 July 2013	Nicholas Vandenberg	Nathan Archer	

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1 INTRODUCTION

Development consent was obtained by Donaldson Coal Pty Ltd for the Donaldson Mine in October 1999 following a Commission of Inquiry. Development Consent number N97/00147 was issued by the Minister for Urban Affairs pursuant to Section 101 of the Environmental Planning and Assessment Act 1979.

Project Approval (Application No. 05_0136) granted by the Minister of Planning was obtained by Donaldson Coal Pty Ltd for Abel Coal Mine in 2008.

Donaldson Coal Pty Ltd has commissioned SLR Consulting Pty Ltd (SLR) to conduct quarterly noise monitoring surveys for the Donaldson Coal Mine and Abel Coal Mine accordance with the Abel Mine Project Noise Monitoring Program, dated 27 May 2008.

The objectives of the noise monitoring survey for this operating quarter were as follows:

- Measure the ambient noise levels at five (5) focus receptor locations (potentially worst affected) surrounding Donaldson Coal Mine and Abel Coal Mine
- Qualify all sources of noise within each of the attended surveys, including estimated contribution or maximum level of individual noise sources.
- Assess the noise emissions of Donaldson Coal Mine and Abel Coal Mine with respect to the limits contained in the Development Consent.

2 DEVELOPMENT CONSENT AND PROJECT APPROVAL

2.1 Donaldson Coal Mine Development Consent Conditions

The Development Consent nominates hours of operation and mine noise emission goals in the Sections entitled "Operation of Development, Condition No. 3(1) and 3(2)", and "Noise and Vibrational Noise Limits: Condition No. 15" as follows:

Works 🖇 🕺	Period.,	Hours
Construction, including Construction of any bunds	Monday to Friday Saturday	7 amto 6 pm 8 amto 1 pm
Mining operations, including > mining, haulage of waste to dumps and coal processing	Monday to Friday Saturday, Sunday	24 hoursper day 7 amto 6 pm
Road Transportation and stockpiling of coal	2 7 daysper week	24 hoursper day
Rail loading of coal 🛒 📉 💒	7 days per week	7 amto 10 pm
Maintenance of mobile and fixed plant	7 daysper week	24 hoursper day
Blasting, not involving closure of John Renshaw Drive	Monday to Saturday	7 amto 5 pm
Blasting, involving closure of John Renshaw Drive	Monday to Saturday	10 amto 2 pm

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

Notes: Restrictions on Public Holidays are the same as Sundays

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- (2) The Applicant shall submit a report to the Director-General's satisfaction demonstrating the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6 pm to 10 pm. 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 7 am to 6 pm."
- 15. 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	LA10(15minute) Noise Limits (dBA)						
	Daytime	1	, Night-time				
Beresfield area (residential)	45	E A State	35				
Steggles Poultry Farm	50	100	··· 40				
Ebenezer Park Area	46		41				
Black Hill Area	40	A A COM	38				
Buchanan and Louth Park Area	38	Stand State	36				
Ashtorfield Area	41		35				
Thornton Area	48	1997 - 19	40				
		· · · · ·					

Sec.

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

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

Other Conditions of Consent relevant to noise are as follows:

- The applicant shall survey and investigate noise reduction measures from plant and equipment and set targets for noise reduction in each Annual Environmental Management "18. Report (AEMR), taking into consideration valid noise complaints received in the previous year. The Report shall also include remedial measures.
- 19. The Applicant shall, revise, the Noise Mahagement Plan as necessary and provide an updated Plan five years after comméncement of mining to the Director-General, the independent noise expert (Condition 48), EPAr, Counsils and the Community Consultative Committee."

2.2 Abel Coal Mine - Project Approval No. Star

Approved Operations

N. 19. 19. The following operations are approved under the Abel Colliery Project Approval:

1 0

- Extraction of up to 4.5 Mtpa of ROM coal from the Abel Underground Coal Mine by bord and pillar methods.
- Transport coal to the existing Bloomfield CHPP by private haul roads.
- Operate the Bloomfield CHPP to process coal extracted from the Abel Coal Mine and the Bloomfield and Donaldson Coal Mines.
- Transportation of product coal from the Bloomfield site by rail via the Bloomfield rail loading facility.

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The PA was modified in June 2010 (05_0136 MOD 1) allowing construction and operation of a downcast ventilation fan. In May 2011 the PA was modified again (05_0136 MOD 2) to allow the construction and operation of an upcast ventilation fan (and associated facilities).

Consent Conditions

The relevant conditions relating to noise from the Abel Coal Mine approval are reproduced below.

Schedule 4

NOISE

Note: These conditions should be read in conjunction, with section 3 of the Statement of Commitments.

Noise Limits

23 The Proponent shall ensure that the noise generated by the Project does not exceed at any privately-owned residence the develop set out in the following table for the monitoring location nearest that residence.

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able 1: Noise	limits dB(A)	×	<u> </u>		
Day	Evening		Night	_	
LAeg(15 minutes)	L Aeg(15 minutes)	L Aeg(15 minutes)	LAI(1 minute)	Location and Locality*	
50	48	^{~*} *4≉•≈•≂	54.5	A Weakleys Dr, Beresfield	
50	48	41	51	B Yarrum Rd, Beresfield	
43	44	[™] (. 38°,	50	C Phoenix Rd, Black Hill	
41	40	36	<i>,</i> 46	D Black Hill School	
41	40 _s .e.s	36 ;	^۲ ــــــــــــــــــــــــــــــــــــ	E Brown Rd, Black Hill	
41	40 🖉 🔬	36	⁶ 46	F Black Hill Rd, Black Hill	
43	4,4 🖉	36	46	G Buchanan Rd, Buchanar	
43	41	36 ·····	» 46	H Mt Vincent Rd, Louth Park	
44	46	¹⁸ - " 38	48	I Lord Howe Dr, Ashtonfield	
49	47 - 27	40	50	J Kilarney St, Avalon Estat	
41	40 ⁻	37	46	K Catholic Diocese (Forme Bartter) K1, K2, K3	
46 <	46	± 40	53	L Kilshanny Ave, Ashtonfield	

Notes:

- To determine compliance with the Leeq (15 minute) limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (ural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECC may accept attemative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable
- To determine compliance with the LA1(1 minute) limit, noise from the project is to be measured at 1 metre from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.

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These limits do not apply if the Proponent has an agreement with the relevant owner s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement

* Revised to list alphabetically

Noise Monitoring

24. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:

(a) be submitted to the Director-General for approval within 6 months of this approval;

(b) be prepared in consultation with the DECC; and

(c) use a combination of attended and unattended monitoring measures to monitor the Ś performance of the project.

2.2.1 Statement of Commitments

3.3 Monitoring

Within 6 months of this approval being granted a Noise Monitoring Program shall be prepared and implemented for the Abel Underground Mine and the Bloomfield CHPP, to the satisfaction of the Director-General. The Noise Monitoring Program shall include a combination of realtime and supplementary attended monitoring measures, and a noise monitoring protocol for evaluating compliance with the noise environmental assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines. ε,

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ni se se se se to to to to to 3 PROCEDURES AND METHODOLOGY

3.1 General Requirements

The operational noise monitoring program was conducted with reference to Development Consent N97/00147 (Donaldson Coal Mine); Project Approval 05 0136 (Abel Coal Mine), and in accordance with Heggie's Report 30-1409-R2; dated 27; May 2008 (Abel Mine Project Noise Monitoring Program) and AS 1055-1997 "Acoustics - Desgription and Measurement of Environmental Noise". $\mathcal{A}^{(n,m,k)}$

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3.2 Monitoring Locations

Baseline and preceding. operational quarterly surveys have been conducted at 11 locations surrounding the Donaldson Mine. and Abel Coal Mine sites. With the experience of these previous surveys, it was decided to concentrate noise monitoring at five (5) focus locations that represent the potentially most noise affected areas from Donaldson Mine and Abel Coal Mine during the June 2013 Quarter. The details of the monitoring locations are contained within Table 1.

γ_{ij} Table 1 Monitoring Locations

Noise Monitoring Location	Description
A	98 Weakleys Drive, Beresfield
D	Black Hill School, Black Hill
F	Lot 684 Black Hill Road, Black Hill
G	156 Buchannan Road, Buchannan
L	17 Kilshanny Ave, Ashtonfield

A map giving the approximate location of the noise monitoring sites is contained within Appendix A.

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3.3 Unattended Continuous Noise Monitoring

Environmental noise loggers were deployed for approximately a seven (7) day period between 17 May 2013 and 25 June 2013 at each of the five (5) nominated locations given in Table 1. All unattended monitoring equipment was programmed to continuously record statistical noise level indices in 15 minute intervals including the LAmax, LA1, LA10, LA90, LA99, LAmin and LAeq. The statistical noise exceedance levels (LAN) are the levels exceeded for N% of the 15 minute interval. The Laso represents the level exceeded for 90% of the interval period and is referred to as the average minimum or background noise level. The Lato is the level exceeded for 10% of the time and is usually referred to as the average maximum noise level. The LAeg is the equivalent continuous sound pressure level and represents the steady sound level which is equal in energy to the fluctuating level over the interval period. The LAmax is the maximum noise Jevel recorded over the interval. Instrument calibration was conducted before and after each measurement survey, with the variation in calibrated levels not exceeding ±0.5 dBA.

3.4 **Operator Attended Noise Monitoring**

1 er den ser Operator attended surveys were conducted at each of the five (5) monitoring locations during daytime, evening and night-time periods, to verify the unattended logging results and to betermine the character and contribution of ambient noise sources. Ś

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3.5 Equipment Operation

The mobile equipment operating on the Donaldson Mine site during the survey period are contained in Appendix B. <.,.

During the survey period the following operations were being undertaken:

Rehabilitation in the east pit area on day work onlys

The only surface equipment operating on the Abel Coal Mine site during the survey periods was a ventilation fan and the Bloomfield Coal Handling and Preparation Plant (CHPP).

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100 OPERATOR ATTENDED NOISE MONITORING 4

4.1 Results of Operator Attended Monitoring

attended noise "measurements" were conducted during the daytime Operator οn Tuesday 18 June 2013 and Wednesday 19 June 2013, during the evening on Tuesday 18 June 2013 and during the night-time on Tuesday 18 June 2013 and Wednesday 19 June 2013. All operator attended noise survey's were conducted using a Brüel & Kjær 2270 Type 1, integrating sound level meter (s/n: 2679354); . Ум. . ŝ ŝ

Results of the operator attended noise measurements are given in Table 2 to Table 6. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

The tables provide the following information:

- Monitoring location.
- Date & start time.
- Wind velocity (m/s) and Temperature (°C) at the measurement location.
- Typical maximum (LAmax) and contributed noise levels.

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

Table 2 Location A, Weakleys Drive, Beresfield

Date/Start Time/Weather	Measurement Description	Primary Noise Descriptor (dB A re 20 μPa)					Description of Noise Emission and Typical Maximum Levels
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dB A
19/06/2013 08:56 W = 1m/sW	Daytime	85	78	73	59	70	Traffic ∼ 69 to 85 Birds ∼ 66
Tem p = 10°C Cloud cover = 5/8	Ambient	Donaldson and Abel mines ~ I naudible					
18/06/2013 19:56 W = 1 m/s S to SE Tem p = 12℃	E vening Am bient	79	75	67	50 ×	-64 -	Traffic ~ 50 to 79 Insects ~ 54 to 55 Construction ~ 45 to 54
Cloud cover = 3/8		Donaldso	on and Ab	el mines ~ l	naudiķie	18 A.	
19/06/2013 00:21 W = 0.5 m/s SE Tem p = 9℃	Night-tim e Am bient	81	73	67	, ⁶⁰ , ⁽¹⁾	***•62 //	Construction ~ 48 to 54 É∵∓raffic ~ 65 to 81 Insects ~ 51 to 53
Cloud cover = 2/8		Donaldso	on and Ab	el mines ~,ł	naudible		

Table 3 Location F, Lot 684 Black Hill Road, Black Hill

Date/Start Time/Weather	Measurement Description	-	Primary Noise Descriptor (α) (dB A re 20 μPa)			Description of Noise Emission and Typical Maximum Levels	
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dB A
18/06/2013 16:45 VV = Calm Tem p = 18°C Cloud cover = 1/8	Daytim e Am bient	75	71 \\ \\	`````65````	5 . 	- ^{3,2} 61	Local Traffic ~ 55 to 75 JRD Traffic ~ 55 to 67 Birds ~ 45 to 54 Other Industry ~ 43
		Donaldso	on and Åbje	el mintes, ^k In	audible		
18/06/2013 18:11 W = 3 m/s SW Tem p = 12°C Cloud cover = 7/8	E vening Am bient	79) 67 19 19 19	53 53	: 'a, 42 :	55	Trees Rustling ~ 51 Plane ~ 51 to 52 Local Traffic ~ 66 to 79 JRD Traffic ~ 51 to 57 Insects ~ 44 Construction ~ 34 to 38
		Dohaldso	and Abe	sl mines ∼l n	audible		
18/06/2013 23:49 W = 0.5 m/s SW Tem p = 9℃ Cloud cover = 2/8	Night-time. Am bient	68 ×	62 4	., 52 *	39	50	JRD Traffic ~ 45 to 68 Insects ~ 40 to 42 Cow~ 48 Car ~ 46 Other Industry ~ 35 to 44
	i i	Donaldso	on and Abe	el mines ~ In	audible		•

Table 4 Location G, 156 Buchannan Road, Buchannan

Date/Start Time/Weather	Measurement Description	Přimary Noise Descriptor γ(dB A rę 20 μPa)					Description of Noise Emission and Typical Maximum Levels
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dB A
18/06/2013 17:45 W = calm Tem p = 16°C	Daytim e Am bient	56	46	44	39	42	Traffic ~ 44 to 42 Insects ~ 43 Operator ~ 46 to 56
Cloud cover = 5/8		Donaldso	on and Ab	el mines ~ l			
18/06/2013 18:03 W = Calm Tem p = 11℃ Cloud cover = 7/8	E vening Am bient	50	45	43	38	41	Insects ~ 43 Traffic ~ 45 Other Industry ~ 36
	/	Donaldso	on and Ab	el mines ~ l	naudible		

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18/06/2013 22:27 W = 0.5 m /s N Tem p = 8°C Cloud cover = 1/8	Night-time Ambient	47	38	35	<30	33	Traffic ~ 37 to 42 Operator ~ 42 to 47 Insects ~ <30 to 32
		Don aldson and Abel mines ~ Inaudible					

Table 5 Location L, 17 Kilshanny Ave, Ashtonfield

Date/Start Time/Weather	Measurement Description	Primary (dBA re:	Noise De 20 µPa)	scriptor	Description of Noise Emission and Typical Maximum Levels		
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dB A
19/06/2013 09:33 Wind: 1 m /s W Tem p = 10°C	Daytim e Ambient	79	61	48	42 ((ेक् ूर्ड 55 ⁸ र्ज्	Construction ~ 38 Local Traffic ~ 72 to 79 Birds ~ 52 to 57 Resident ~ 47 Abel CHPP/Dozer ~ 40
Cloud cover = 5/8		Donaldso	n Mine ~	inaudible	6	8. N.	
		Estimate	d Abel LA	eq Contribut	iioĥ~¢ÔdE	A No.	the second se
18/06/2013 21:31 W = 0.5 m /s SW Tem p = 10℃ Cloud cover = 2/8	Evening Ambient	60	51	46	39 39	* 44	· , Plan`e ~ 33 to 45 Čan`~ 42 to 43 Operator ~ 41 to 43 Dist Traffic ~ 42 Local Traffic ~ 53 to 60 Resident ~ 53 CHPP 38 to 49
		Donaldson Mine - inaudible					
		E stimated Abel LAeq Contribution ~ 43 dBA 🌾					
18/06/2013 22:00 W = 0.5 m/s SW	Night-time Ambient	51	48	×::: •45,-,	1920 (2019) 39 31 (2019)	् े 43	Distant Traffic ~ 41 Insects ~ 34 Trees rustling ~ 45 CHPP ~ 39 to 51
Temp = 10°C Cloud cover = 1/8	Estimate	d, Aþel LA	inaudible eq Contribu 1 Contributi	ijon ~ 42 dE			

Location D, Black Hill School, Black Hill Table 6

Date/Start Time/Weather	Measurement (Description	Primary No (dBA re 20		riptor	Description of Noise Emission and Typical Maximum Levels			
	مربعين مربعين				LA90	LAeq	LAmax – dB A	
19/06/2013 09:51 W = 1 m/s W Tem p = 12℃ Cloud cover = 7/8	Daytin e Ambient	74	- - - - - 69	56	41	55	Train Horn ~ 46 Trees rustling ~ 45 to 48 Birds ~ 43 to 68 Resident ~ 43 to 45 Local Traffic ~ 69 to 74 Plane ~ 46 School AC ~ 40 School Gate ~ 67	
		⁻ Donaldson	and Abel	m in es∼lr	naudible			
18/06/2013 1 9:12 W = 0.5 - 1 m /s SE Tem p = 11 ℃ Cloud cover = 8/8	Evening Ambient	76	69	54	34	55	Distant Traffic ~ 34 to 42 Car ~ 36 Teachers ~ 35 to 41 Local Traffic ~ 40 to 76 Trees rustling ~ 41	
		Donaldson						
18/06/2013 23:29 VV = 0.5 m /s SVV Tem p = 8°C Cloud cover = 3/8	Night-time Ambient	56	42	38	34	36	Distant Traffic ~ 33 to 43 Trees rustling ~ 38 to 41 Dogs Barking ~ 38 Operator ~51 to 56	
Ciouu cover = 3/0		Donaldson	Donaldson and Abelmines ~ Inaudible					

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4.2 Operator Attended Monitoring Summary

4.2.1 Donaldson Mine

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

Donaldson operations were not observed to be audible at any location during the monitoring period.

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

4.2.2 Abel Coal Mine

Noise generated by local and distant traffic was a significant contributor to noise levels at all monitored locations as well as "natural" noises such as birds, insects and leaf sustle. 3. A.A.

- ş Abel operations were observed to be audible at location Liduring the daytime, evening and night-time periods from the Bloomfield CHPP area. Abel project operations were inaudible at all other locations.

The estimated Abel contribution at Location L during the daytime, evening and night-time noise monitoring periods was approximately Laeq 40 dBA 43 dBA and 42 dBA respectively. The measured LA1(1minute) contribution of Abel operations at Location L.was 51 dBA which is less than the LA1(1minute) criteria of 53 dBA.

Based on results and observations from operator attended noise sulveys, an exceedance of 2 dBA was recorded at Location L during the night-time monitoring period

However, section 11.1.3 of the NSW INP states the following:

3

A development will be deemed to be in compliance with a noise consent or licence if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition. ~,< nin se se

Therefore, Abel Coal mine operations are deemed to be in compliance if noise emissions are not more than 2 dB above the consent conditions.



Donaldson Coal Pty Ltd

Quarterly Noise Monitoring

Quarter Ending June 2013

Donaldson and Abel Coal Mines

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5 UNATTENDED CONTINIOUS NOISE MONITORING

5.1 Results of Unattended Continuous Monitoring

Unattended continuous noise monitoring was conducted between 17 May 2013 and 25 June 2013 at each of the five (5) nominated locations given in **Table 1**. ARL Type EL-316, ARL Type EL 215, and SVAN 957 environmental noise loggers were used to monitor the ambient noise levels at each location. Details of the noise loggers used for the unattended continuous noise monitoring are given in **Table 7**.

Table 7	Noise Loggers and Noise Monitoring Locations
---------	--

Location	Noise Logger Serial Number	Date of Logging
A– Weakleys Drive, Beresfield	16-103-494 💉 🗥 📐	17/05/2013 – 2705/2013
F – Black Hill Road, Black Hill	16-203-531 🧟 ్రీరిస్కై	27/05/2013-03/06/2013
G – Buchanan Road, Buchanan	194663 🖉 🖓	
L – Kilshanny Ave, Kilshanny	23816 🕺 🔬	Ŭ Š /ŨĜ/2013-12/06/2013
D. Black Hill School, Black Hill	16-10 3-49 4	27/05/2013 – 28/05/2013
D – Black Hill School, Black Hill	194525 🔬 🖉 🧷	28/05/2013 - 03/06/2013

The unattended ambient noise logger data from each monitoring logation are presented graphically on a daily basis and are attached as **Appendices C1** to **C5**. A summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the results of the unattended continuous noise monitoring is given in **Table 8**. Summary of the results of the res

The ambient noise level data quantifies the overall noise level at a given location independent of its source or character.

The measured ambient noise levels were divided into three periods representing day, evening and night as designated in the NSW Industrial Noise Policy (INP). The day, evening and night periods replace the day and night periods/defined under the Environmental Noise Control Manual (ENCM). However, as the Donaldson conditions of consent are under the ENCM, these periods have also been reported.

Precautions can be taken to minimise influences from extraneous noise sources (eg optimum placement of the loggers away from creeks, trees, houses, etc), however, not all these sources or their effects can be eliminated. This is particularly the case during the warmer times of year when noise from insects, frogs, birds and other animals can become quite prevalent.

Weather data for the subject area during the noise monitoring period was provided by Donaldson Coal. Noise data during periods of any rainfall and/or wind speeds in excess of 5 m/s (approximately 9 knots) were discarded in accordance with INP weather affected data exclusion methodology.

Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending June 2013 Report Number Q50 630.01 053R1 Draft 1 15 July 2013 Page 14

Laastian	Desied	Primary Noise Descriptor (dBA re 20 µPa)						
Location	Period	LA1	LA10	LA90	LAeq			
A	Daytime	59	55	47	55			
Weakleys Drive,	Evening	59	55	46	53			
Beresfield	ENCM Daytime	59	55	47	54			
	Night	55	50	39	49			
F	Daytime	65	57	41	55			
Lot 684 Black	Evening	59	52	41	50			
Hill Road, Black Hill	ENCM Daytime	62	54	38	53			
	Night	56	49 k	41	49			
G	Daytime	49	.42	32	43			
156 Buchanan	Evening	50	ý 46 🐴	í : . <u>.</u> 33	43			
Road, Buchanan	ENCM Daytime	50	<u></u>	···	43			
	Night	48	40	30	42			
	Daytime	57	4 6	33	49			
L	Evening	53 🐇	*~~, ~41, ⁴	33	44			
17 Kilshanny Avie, Ashtonfield	ENCM Daytime	55	- 44	33	47			
	Night	43	~ 38 ^{**} - 2	<30	39			
D	Daytime	59*****	53 **	37	53			
Black Hill	Evening	·56 🔍	47	39	58			
School, Black	ENCM Daytime	Ğ₿, `∧	j : 1 5 0	38	57			
Hill	Night	51 .	<u>ຸ້</u> 45	37	47			
			<u>.</u>					

Table 8 Unattended Continuous Monitoring Ambient Noise Levels (dBA Re 20 µPa)

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

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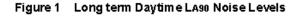
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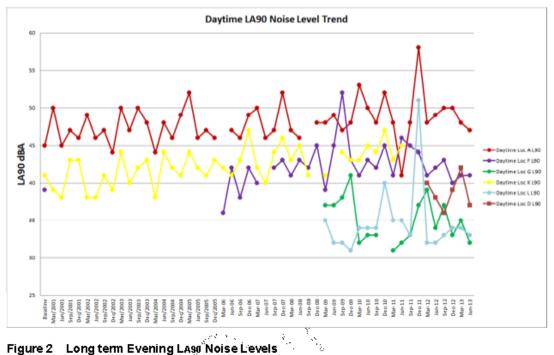
EPA Periods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm , Night 10.00 pm to 7.00 am .

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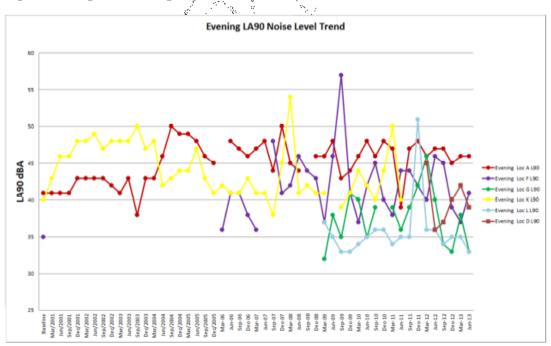
5.2 Long term Unattended Continuous Monitoring Summary for Donaldson Mine and Abel Coal Mine

5.2.1 Ambient Lago Noise Levels









DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

Donaldson Coal PtyLtd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending June 2013 Report Number Q50 630.01 053R1 Draft 1 15 July 2013 Page 16

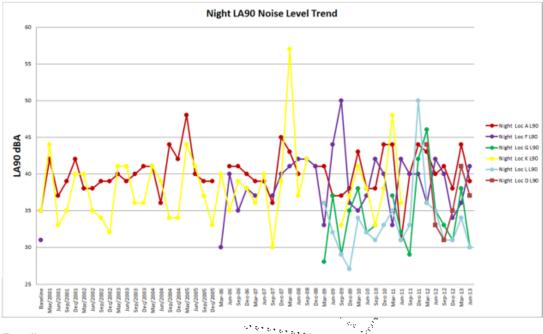


Figure 3 Long term Night-time LA90 Noise Levels

Baseline

The summary of results in **Table8** and **Figure 1**, **Figure 2** and **Figure 3** show that ambient Laso noise levels recorded for the quarter ending June 2013 compared to the levels recorded during the baseline monitoring process at Location A were 2 dBA during the daytime and 2 dBA lower during the evening and the same during the night-time noise survey. Increases of 2 dBA, 6 dBA and 10 dBA were recorded in the daytime, evening and night-time periods at respectively at Location F.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the June 2013 quarter no comparisons can be made.

6

Previous Quarter (March 2013)

A comparison of the current monitoring period with the previous monitoring period shows that Laso noise levels were generally similar (within 3 dBA) or lower than those recorded during March 2013 at Location A, Location G, Location Location D. Increases of 4 dBA and 5 dBA at Location F were recorded respectively during the evening and night-time monitoring periods and remained the same during the daytime.

Decreases of up to 8 dBA in the Lago were recorded at Location G. The dramatic decreases recorded are considered likely to be due to high insect and frog activity during the March 2013 quarter.

Coinciding Period Last Year (June 2012)

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Laso noise levels were generally lower than those recorded in June 2012 at locations A, F, G, L with slight increases (less than 1 dBA) at location L during the day-time period. Laso noise levels at location D decreased by 1 dBA during the daytime, and increased by 3 dBA and 4 dBA during the evening and night-time.

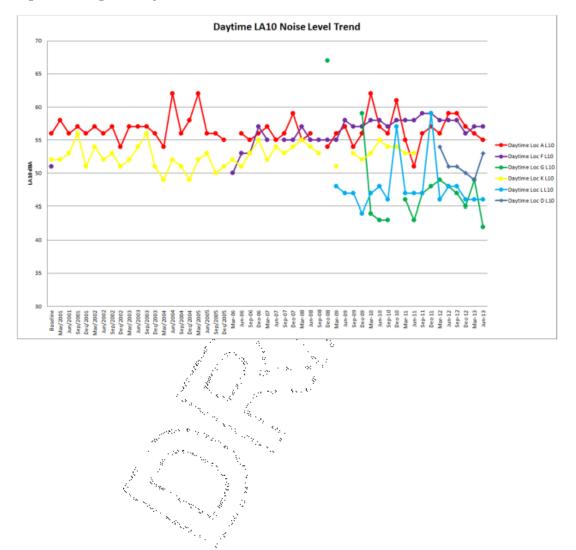
Decreases of up to 7 dBA in the Laso were recorded at Location G. The dramatic decreases recorded are considered likely to be due to high insect and frog activity during the June 2012 quarter.

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5.2.2 Ambient LA10 Noise Comparison

The long term ambient LA10 noise levels collected from each monitoring location are presented graphically in **Figure 4**, **Figure 5** and **Figure 6** for the daytime, evening and night-time periods respectively.

Figure 4 Long term Daytime LA10 Noise Levels



DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

2013/2014 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT Report No. 737/09

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending June 2013

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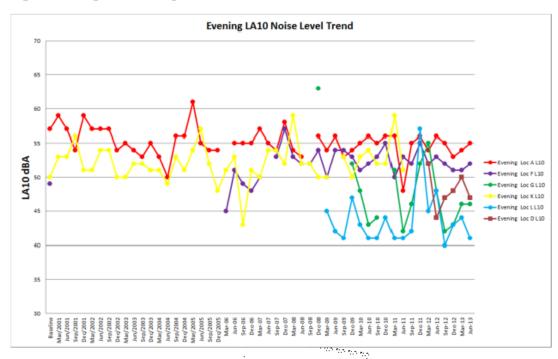
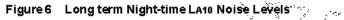
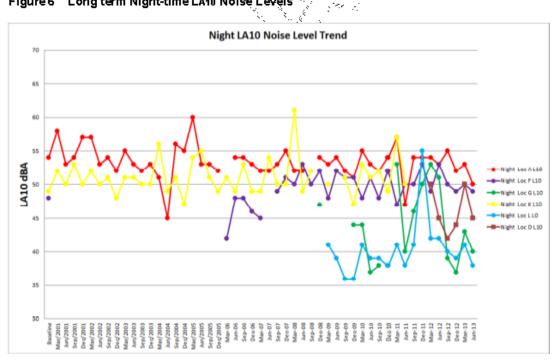


Figure 5 Long term Evening Late Noise Levels





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Baseline

The summary of results in Table 8 and Figure 4, Figure 5 and Figure 6 show that ambient LA10 noise levels recorded for the quarter ending June 2013 were 6 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime, 3 dBA higher during the evening and 2 dBA higher during the night-time period. At Location A Lato noise levels were 1 dBA, 2 dBA and 4 dBA lower during the day, evening and night-timer periods respectively.

Given that no data was available at Locations G, L and D during baseline measurements and no monitoring was conducted at Location K during the June 2013 guarter no comparisons can be made.

Previous Quarter (March 2013)

A comparison of the current monitoring period with the previous monitoring period shows that recorded Lato noise levels at location A, Location F, Location C aged Location L were similar (within 2 dBA) or lower to those recorded in March 2013. At Location D increases of 4 dBA and decreases of 3 dBA and 5 dBA were recorded during the daytime, evening and hight-time monitoring periods. E. Markey

Coinciding Period Last Year (June 2012)

A comparison of the current monitoring period with the coingiding monitoring period last year indicates that Lato noise levels were generally lower than those recorded in June 2012 at location A, F, G and L. Increases of 2 dBA and 3 dBA were recorded during the daytime and evening periods See. S respectively at Location D. .×

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1999

Decreases of up to 9 dBA and 7 dBA in the Lato were recorded at Location G and L respectively. The dramatic decreases recorded are considered likely to be due to high insect and frog activity during the June 2012 guarter. er er er er er bille bille bil

5.3 Discussion

Net 1999. 10 Based on the observations made during the operator attended noise surveys, where noise levels have been observed to increase at Location F, the ambient noise environment is dominated by road traffic or natural noises and not considered to be impacted from the Donaldson or Abel Mine activity.

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SUMMARY OF RESULTS AND FINDINGS 6 Sec. Sec.

SLR were engaged by Donaldson Coal Pty Ltd to conduct quarterly noise monitoring surveys for Program, dated 27 May 2008 Constant Aug Donaldson Coal Mine and Abel Coal Mine in accordance with the Abel Coal Mine Noise Monitoring

The results of the operator-attended noise measurements conducted at five (5) focus locations surrounding the mine site, are included in Table 2 to Table 6. Ċ, Эх.,

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

Abel Mine operations at the CHPP were audible at Location L during the davtime, evening and nighttime periods. Abel operations were not audible at any other locations during all periods and as such it is likely that contributed noise levels from Abel Mine did not exceed noise emission goals (including night-time sleep arousal criteria) and were in compliance with the Abel Mine Project Approval at all locations.

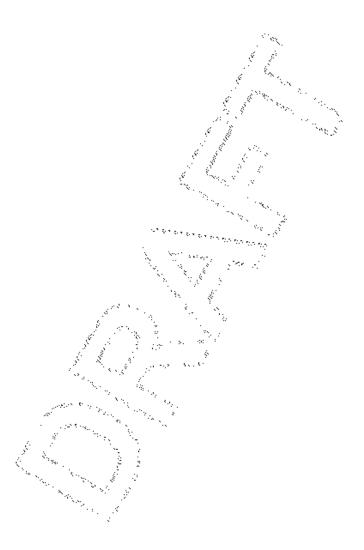
A comparison of ambient Lato and Laso noise levels recorded during the current monitoring period (March 2013), the baseline monitoring period, the last monitoring period (March 2013), and the coinciding monitoring period from last year (June 2012) has been conducted.

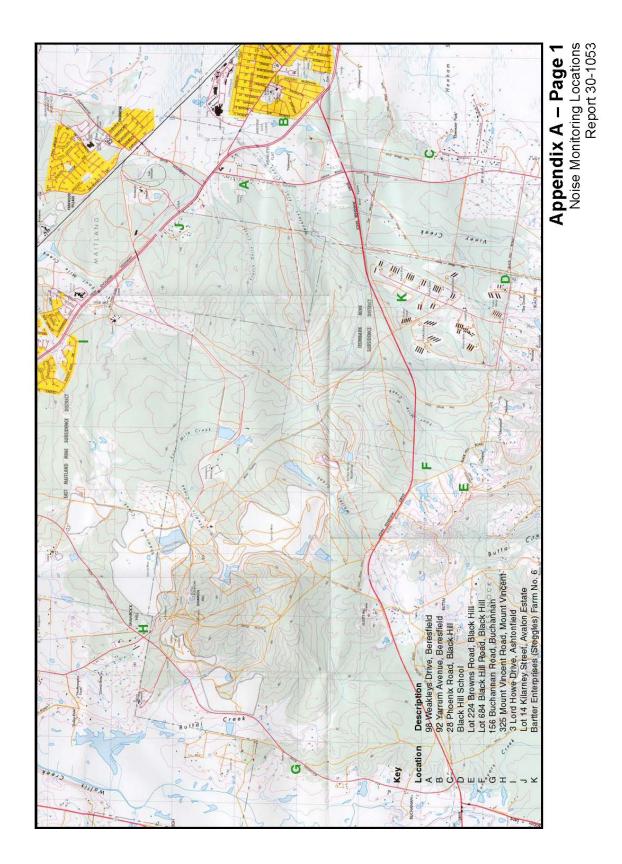
DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

Donaldson Coal PtyLtd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending June 2013 Report Number Q50 630.01 053R1 Draft 1 15 July 2013 Page 20

In summary, where noise levels have risen, the ambient noise environment has been identified to generally contain traffic and natural noise sources or noise from other local mining and earthworks and not noise from Donaldson Mine or Abel Mine activity.





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Appendix B Report Q39 30-1053-R1 Equipment Register Page 1 of 1

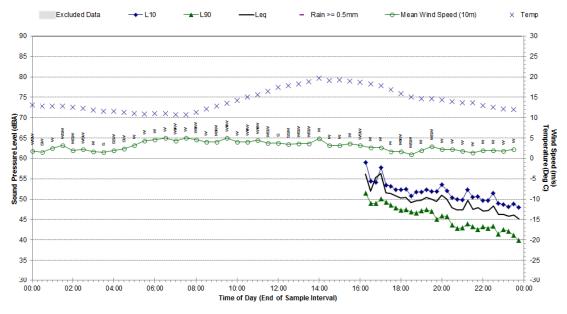
APPENDIX B - EQUIPMENT REGISTER JOB NUMBER: 30-1053 JOB DESCRIPTION: Donaldson Mine Quarterly Monitoring - March 2010

Unit No	Equipment	Description	Serial Number
1	DOZ004	CATERPILLAR D9R	7TL00898
2	DOZ005	CATERPILLAR D10R	3KR01384
3	DOZ006	CATERPILLAR D11N	74Z00717
4	DOZ008	CATERPILLAR D10R	3KR01233
5	DOZ009	CATERPILLAR D10R	AKT00823
6	EXC021	CATERPILLAR 330DL	NBD00168
7	EXC072	HITACHI EX2500	184-00108
8	EXC089	CATERPILLAR 5110B	AAA00311
9	LOD004	CATERPILLAR IT28G	CWAC00351
10	LOD044	KOMATSU WA700	10106
11	LOD149	CATERPILLAR 990II	4FR00394
12	RDT026	CATERPILLAR 777A W/CART	84A01034
13	RDT033	CATERPILLAR 740 W/CART	B1P02699
14	RDT100	CATERPILLAR 785	8GB00596
15	RDT107	CATERPILLAR 785	8GB00320
16	RDT140	CATERPILLAR 785	8GB00333
17	RDT143	CATERPILLAR 785	8GB00374
18	RDT155	CATERPILLAR 785	8GB00152
19	RDT162	CATERPILLAR 785	8GB00258
20	RDT163	CATERPILLAR 785	8GB00259
21	RDT182	CATERPILLAR 785	8GB00494
22	GRD004	CATERPILLAR 16H	6ZJ00678
23	GRD036	CATERPILLAR 16G	93U03039
24	CMP059	AIRMAN COMPRESSOR - STR034	
25	CMP061	SULLAIR COMPRESSOR 185CFM	200610160001
26	CMP062	SULLAIR COMPRESSOR 185CFM	206101100049
27	GEN001	KUBOTA GENERATOR – VEH154	
28	WEL057	LINCOLN SAM400 - VEH154	
29	VEH154	ISUZU NPS300 BOILY TRUCK	
30	STR034	VOLVO FL7 SERVICE TRUCK	YV5FAG6JD560318
31	UTE001	NISSAN PATROL SERVICE UTE	
32	UTE002	NISSAN NAVARA TRAYBACK	

Appendix C1 Statistical Ambient Noise Levels - Location A Page 1 of 6

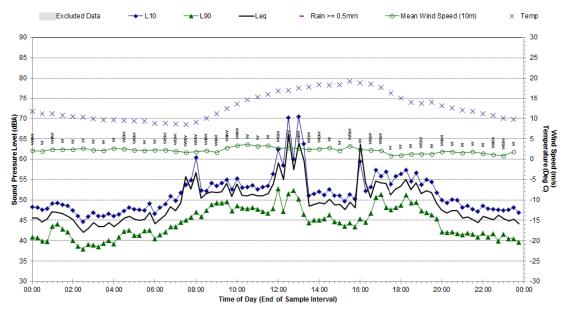
Statistical Ambient Noise Levels

Location A - Friday, 17 May 2013



Statistical Ambient Noise Levels

Location A - Saturday, 18 May 2013



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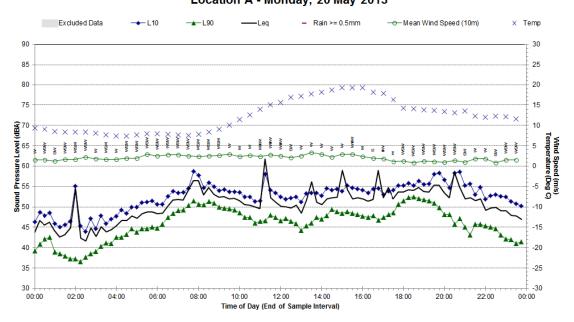
Appendix C1

Statistical Ambient Noise Levels - Location A Page 2 of 6

Location A - Sunday, 19 May 2013 Excluded Data → L10 ____L90 - Rain >= 0.5mm -Leq × Temp 90 30 85 25 80 20 75 15 **8**70 10 VIIIV empe Sure Level (5 R š Ň ş ð ŝ ature (Deg 0 60 SE 55 -5 S punos 50 -10 45 -15 -20 40 35 -25 30 00:00 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 18:00 20:00 22:00 00:00 16:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location A - Monday, 20 May 2013

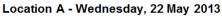


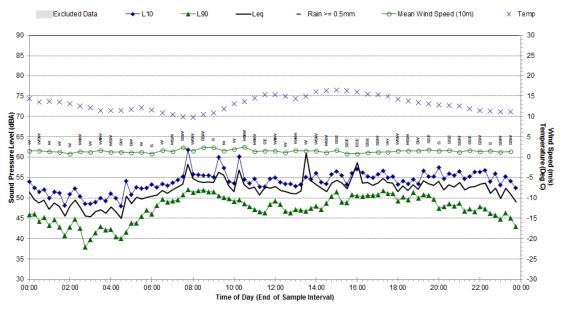
Appendix C1 Statistical Ambient Noise Levels - Location A Page 3 of 6

Location A - Tuesday, 21 May 2013 Excluded Data + L10 ____L90 - Rain >= 0.5mm Leq × Temp 90 30 85 25 80 20 × × × 75 15 × 10 **WINN** | **Bressure Level** (2 aution . Mind * * * * 5 ŝ ş 3 Speed ature 0 (Leg -5 Q Soun -10 45 -15 -20 40 35 -25 -30 02:00 04:00 08:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 06:00 10:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels





Report No. 737/09

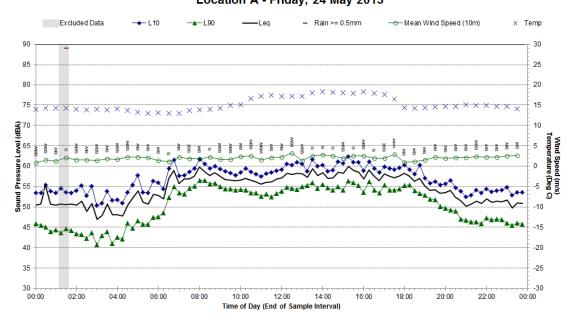
Appendix C1

Statistical Ambient Noise Levels - Location A Page 4 of 6

Location A - Thursday, 23 May 2013 Excluded Data → L10 ____L90 - Rain >= 0.5mm -Leq × Temp 90 30 85 25 20 80 75 15 XX $\times \times \times \times \times \times$ \times \times \times \times \times \times \times \times $\times \times \times \times \times$ × 10 آھ⁷⁰ Cemper **1**65 Mind 5 ŝ - Ř à ŝ 成 ŝ H ŝ 3 ≧ spe sure ature 0 60 55 Log (Deg -5 £ Soun -10 45 -15 40 -20 35 -25 30 00:00 -30 02:00 10:00 12:00 14:00 20:00 22:00 00:00 04:00 06:00 08:00 16:00 18:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location A - Friday, 24 May 2013

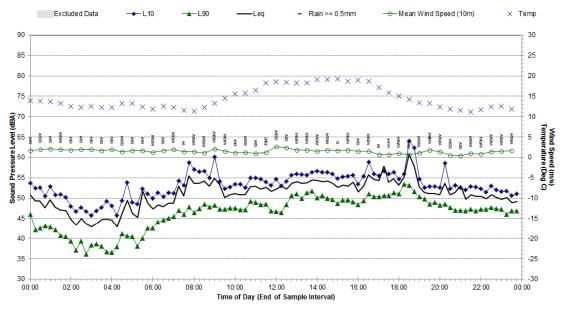


Appendix C1

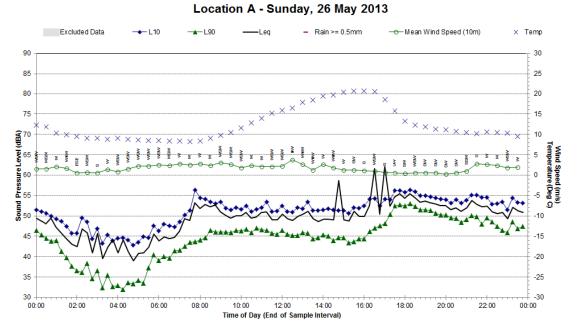
Statistical Ambient Noise Levels - Location A Page 5 of 6

Statistical Ambient Noise Levels

Location A - Saturday, 25 May 2013



Statistical Ambient Noise Levels



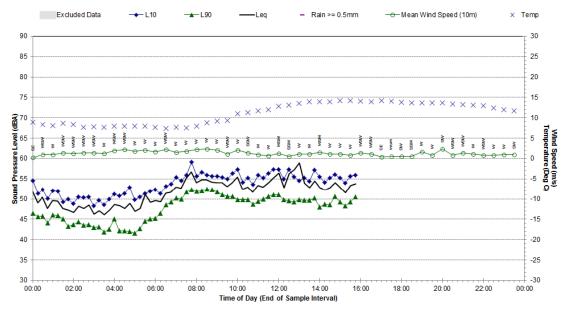
Report No. 737/09

Appendix C1

Statistical Ambient Noise Levels - Location A Page 6 of 6

Statistical Ambient Noise Levels

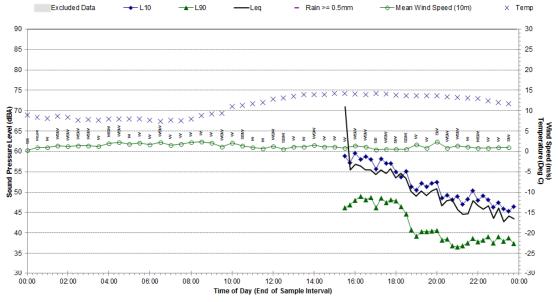
Location A - Monday, 27 May 2013



Appendix C2 Statistical Ambient Noise Levels – Location F Page 1 of 4

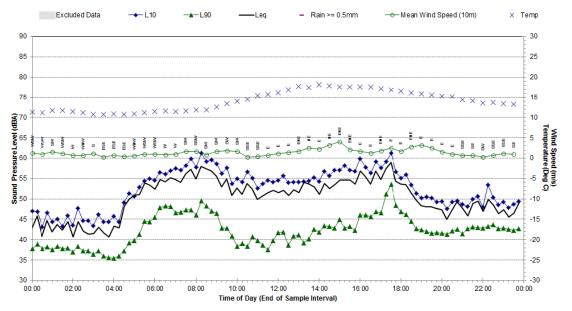
Statistical Ambient Noise Levels

Location F - Monday, 27 May 2013



Statistical Ambient Noise Levels

Location F - Tuesday, 28 May 2013



Report No. 737/09

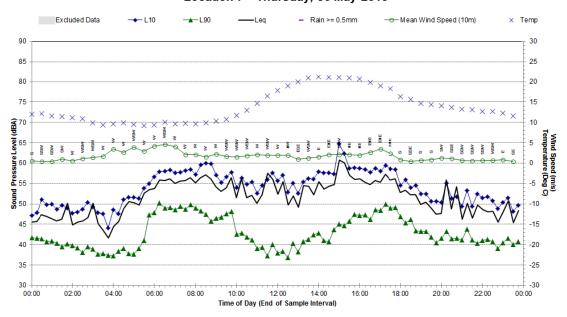
Appendix C2

Statistical Ambient Noise Levels - Location F Page 2 of 4

Location F - Wednesday, 29 May 2013 Excluded Data - Rain >= 0.5mm -Leq × Temp 90 30 85 25 80 20 × 75 15 XX $\times \times \times \times \times$ × × × 10 (¥9)70 Cemper 65 60 55 55 Wind 5 NIGN -WWW 3 ŝ 8 8 M 16 3 ND 3 3 3 2 N š š Ř š 8888 NBS 8 8 NB Speed ature (Deg 0 -5 S **J** 50 -10 45 -15 40 -20 35 -25 30 00:00 -30 02:00 04:00 06:00 08:00 10:00 16:00 20:00 22:00 00:00 12:00 14:00 18:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location F - Thursday, 30 May 2013



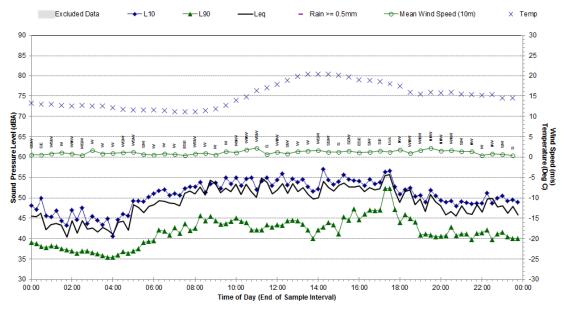
Appendix C2 Statistical Ambient Noise Levels – Location F Page 3 of 4

Location F - Friday, 31 May 2013 Excluded Data + L10 -L90 - Rain >= 0.5mm Leq × Temp 90 30 85 25 80 20 75 15 хx × **€**70 10 **bressure Level (c** 55 aube Mind 5 -ģ 3 ģ ÷ No. 20 3 3 3 ŝ NON 뿞 8 щ Ø ature 0 g -5 Q Sound -10 45 -15 40 -20 35 -25 02:00 04:00 06:00 08:00 12:00 14:00 16:00 18:00 20:00 22:00 10:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels





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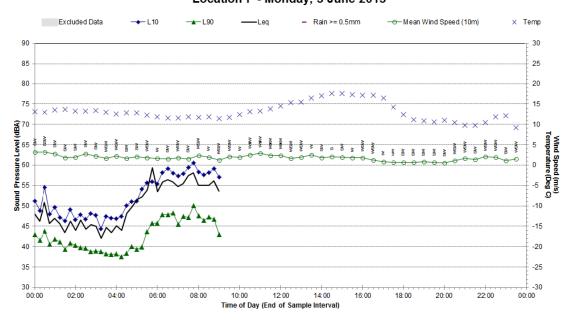
Appendix C2

Statistical Ambient Noise Levels - Location F Page 4 of 4

Location F - Sunday, 2 June 2013 Excluded Data ____L90 - Rain >= 0.5mm -Leq × Temp 90 30 85 25 20 80 75 15 × × × × × × × × × × × $\times \times$ \times \times \times \times \times 10 **8**70 Cemper 65 60 55 55 3 8 3 888 8 5 2 **N** VNIN/ ≧ <u>s</u> B 2 Speed 0 ature (Deg -5 S -10 45 -15 -20 40 35 -25 30 00:00 -30 02:00 08:00 10:00 14:00 22:00 00:00 04:00 06:00 12:00 16:00 18:00 20:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location F - Monday, 3 June 2013



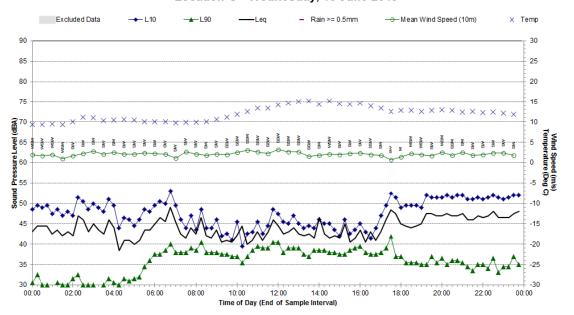
Appendix C3

Statistical Ambient Noise Levels - Location G Page 1 of 4

Location G - Tuesday, 18 June 2013 Excluded Data ____L90 -Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 × bressure Level (1 Mind NBV NBV MBN 5 ÷. ature 0 (Deg C) S/UII) -5 punog 50 -10 45 -15 40 -20 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location G - Wednesday, 19 June 2013



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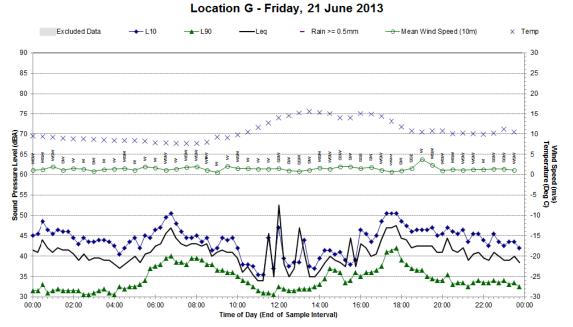
Appendix C3

Statistical Ambient Noise Levels - Location G Page 2 of 4

Location G - Thursday, 20 June 2013 Temp Excluded Data ____L90 —Leg - Rain >= 0.5mm 90 30 85 25 80 20 75 15 (¥8) 70 10 adula 8 65 5 ę ę Ś ð Ň Š > H 볋 sureL 0 ature (Deg C) 60 55 BIG -5 punos 50 -10 45 -15 40 -20 35 -25 **** 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels



Appendix C3

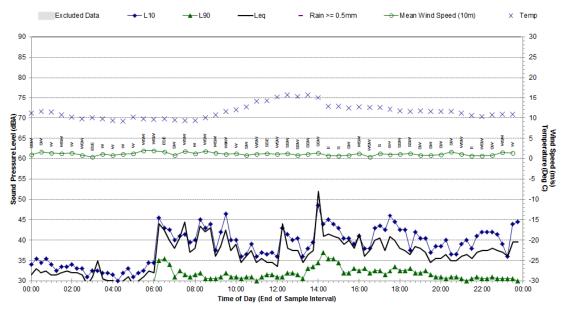
Statistical Ambient Noise Levels - Location G Page 3 of 4

Location G - Saturday, 22 June 2013 Excluded Data ____L90 -Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 **Bressure Level (dBA)** 00 22 22 22 empe Wind 5 No. ð R ÷. 2 2 š ð ŝ 3 ŝ ŝ Speed 0 ature (Deg C) (m/s) -5 punos 50 -10 -15 45 -20 40 35 -25 30 04:00 -30 00:00 02:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels

Location G - Sunday, 23 June 2013



Report No. 737/09

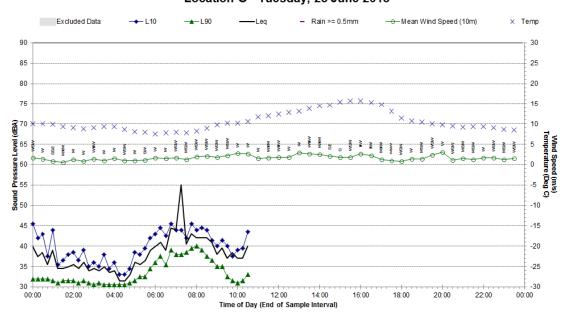
Appendix C3

Statistical Ambient Noise Levels - Location G Page 4 of 4

Location G - Monday, 24 June 2013 Excluded Data ____L90 -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 XX 75 15 10 Tempe Sure Level (5 NBM 3 \$ Ì 3 3 2 N ģ ŝ 2 0 2 ~ N 8 Speed ature (Deg C) 0 60 55 BIG -5 punos 50 -10 45 -15 -20 40 35 -25 4 30 02:00 -30 00:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location G - Tuesday, 25 June 2013



Appendix C4

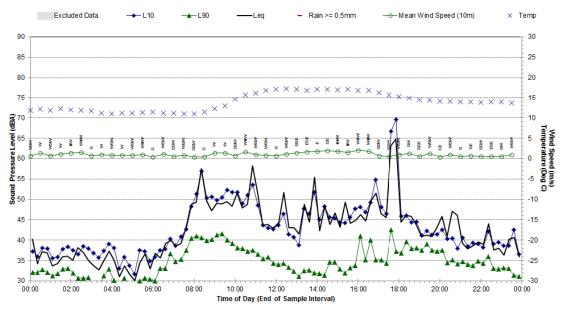
Statistical Ambient Noise Levels - Location L Page 1 of 4

Location L - Wednesday, 5 June 2013 Excluded Data ____L90 -Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 ×× **8**70 10 empe 8 65 Wind 5 Ř 3 š MISS D Ň Ň MOS Dressure Lo l Speed Prature (0 (Deg C) S/W) -5 punog 50 -10 -15 45 40 -20 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels

Location L - Thursday, 6 June 2013



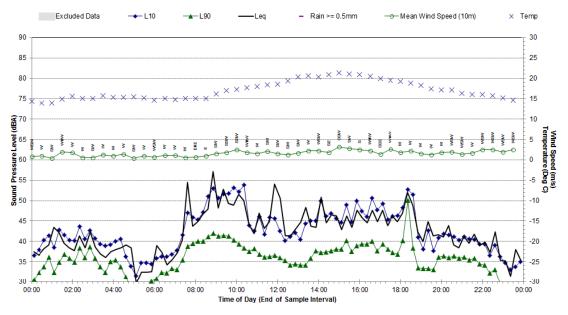
Report No. 737/09

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Statistical Ambient Noise Levels - Location L Page 2 of 4

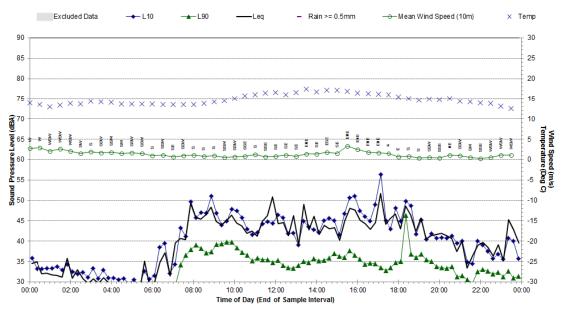
Statistical Ambient Noise Levels

Location L - Friday, 7 June 2013



Statistical Ambient Noise Levels

Location L - Saturday, 8 June 2013



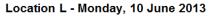
Appendix C4

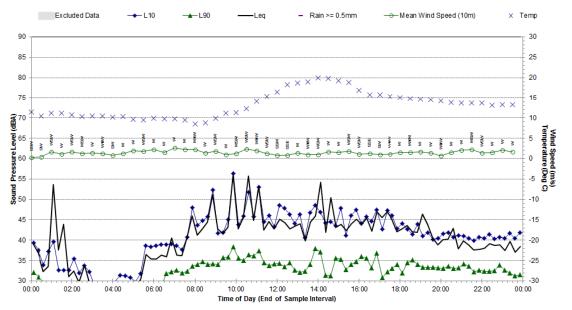
Statistical Ambient Noise Levels - Location L Page 3 of 4

Location L - Sunday, 9 June 2013 Excluded Data ____L90 —Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 × × 75 15 \times \times \times \times \times 10 **Bressure Level (dBA)** 60 55 empe Wind 5 ш -. H 1 # 2 Ş × N NB 8 ₩ á 3 ğ ŝ Ň š ×. No. d Speed (m/s) erature (Deg C) 0 -5 punos 50 -10 45 -15 40 -20 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels





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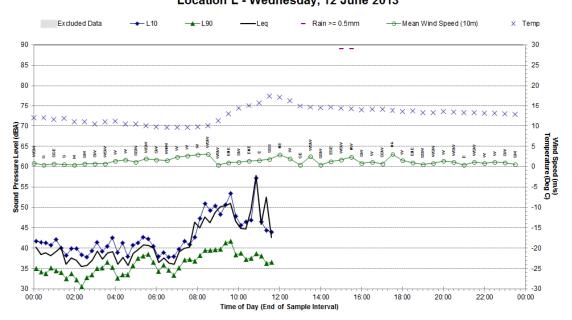
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Location L - Tuesday, 11 June 2013 Excluded Data ____L90 —Leg - Rain >= 0.5mm Temp 90 30 85 25 80 20 75 15 XXV $\times \times \times$ (¥8) 20 10 empe on the second se Wind 5 3 ÷. MBM Man A B A NO. ģ 3 NO 2 N ŝ 3 s s 8 Ň 8 8 Speed ature (Deg C) 0 55 **Jus** -5 punos 50 -10 45 -15 -20 40 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location L - Wednesday, 12 June 2013



Appendix C5

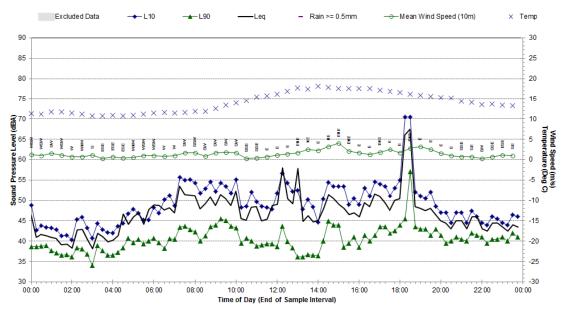
Statistical Ambient Noise Levels - Location D Page 1 of 4

Location D - Monday, 27 May 2013 Excluded Data ____L90 —Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 × × $\times \times \times$ (**RM**) 100 (**DM**) 100 10 × × empe Wind 5 ð 2 2 Þ ş 2 2 š Dressure Lo ature 0 ĝ -5 ŝ punos 50 ***** -10 45 -15 40 -20 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels

Location D - Tuesday, 28 May 2013



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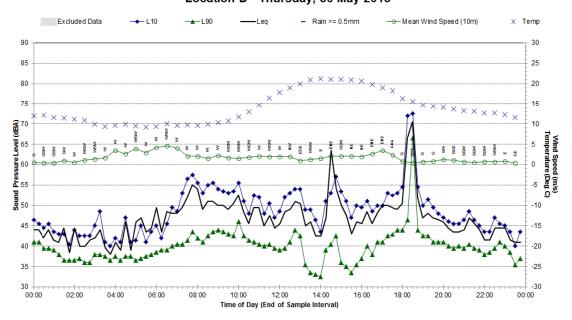
Appendix C5

Statistical Ambient Noise Levels - Location D Page 2 of 4

Location D - Wednesday, 29 May 2013 Excluded Data ____L90 -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 × 75 15 $\times \times$ XX \times \times \times \times \times × × × (¥8) 70 10 empe one Level (Wind 5 Ì ŝ NO 2 2 3 2 > ŝ ŝ 88 8 8 88 Ň 32 M Speed ature (Deg C) 0 60 55 BIG -5 punos 50 -10 -15 45 -20 40 35 -25 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location D - Thursday, 30 May 2013



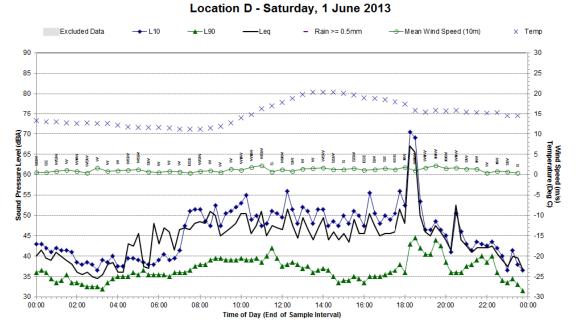
Appendix C5

Statistical Ambient Noise Levels - Location D Page 3 of 4

Location D - Friday, 31 May 2013 Excluded Data ____L90 —Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 × 10 **Bressure Level (dBA)** 60 55 empe Wind 5 ÷ ŝ Ŕ MBM 쁂 VICE ature 0 (Deg C) -5 punos 50 -10 45 -15 40 -20 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

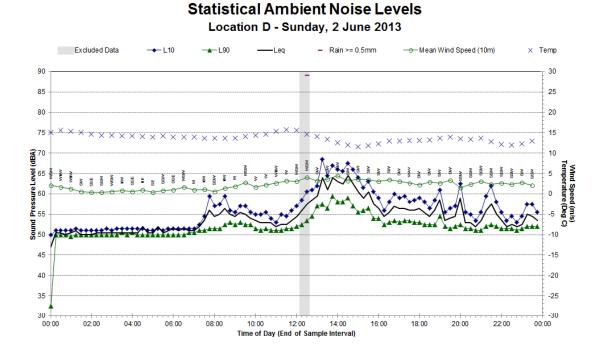
Statistical Ambient Noise Levels



Report No. 737/09

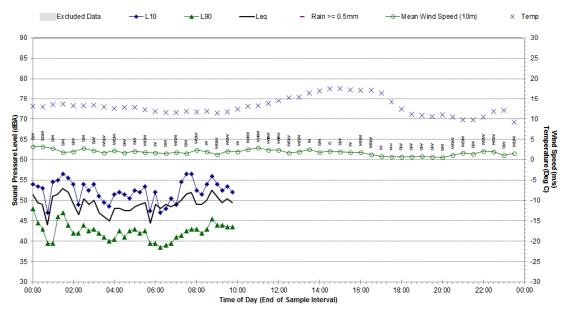
Appendix C5

Statistical Ambient Noise Levels - Location D Page 4 of 4



Statistical Ambient Noise Levels

Location D - Monday, 3 June 2013





global environmental solutions

Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending September 2013

Report Number Q51 630.01053R1

9 January 2014

Donaldson Coal Pty Ltd PO Box 675 Green Hills 2320

Version: Draft 1

DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

> Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending September 2013

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Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending September 2013

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DOCUMENT CONT	rol	N	·

Reference	Status	Date	Prepared	Checked	Authorised
Q51 630.01053R1	Draft 1	9 January 2014	Nicholas Vandenberg	Nathan Archer	

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1 INTRODUCTION

Development consent was obtained by Donaldson Coal Pty Ltd for the Donaldson Mine in October 1999 following a Commission of Inquiry. Development Consent number N97/00147 was issued by the Minister for Urban Affairs pursuant to Section 101 of the Environmental Planning and Assessment Act 1979.

Project Approval (Application No. 05_0136) granted by the Minister of Planning was obtained by Donaldson Coal Pty Ltd for Abel Coal Mine in 2008.

Donaldson Coal Pty Ltd has commissioned SLR Consulting Pty Ltd (SLR) to conduct quarterly noise monitoring surveys for the Donaldson Coal Mine and Abel Coal Mine accordance with the Abel Mine Project Noise Monitoring Program, dated 27 May 2008.

The objectives of the noise monitoring survey for this operating quarter were as follows:

- Measure the ambient noise levels at five (5) focus receptor locations (potentially worst affected) surrounding Donaldson Coal Mine and Abel Coal Mine
- Qualify all sources of noise within each of the attended surveys, including estimated contribution or maximum level of individual noise sources.
- Assess the noise emissions of Donaldson Coal Mine and Abel Coal Mine with respect to the limits contained in the Development Consent.

2 DEVELOPMENT CONSENT AND PROJECT APPROVAL

2.1 Donaldson Coal Mine Development Consent Conditions

The Development Consent nominates hours of operation and mine noise emission goals in the Sections entitled "Operation of Development, Condition No. 3(1) and 3(2)", and "Noise and Vibrational Noise Limits: Condition No. 15" as follows:

Works 🖇 🔬	Period , , , , , , , , , , , , , , , , , , ,	Hours
Construction, including Construction of any bunds	Monday to Friday Saturday	7 amto 6 pm 8 amto 1 pm
Mining operations, including > mining, haulage of waste to dumps and coal processing	, Monday to Friday Saturday, Sunday	24 hoursper day 7 amto 6 pm
Road Transportation and stockpiling of coal	7 daysper week	24 hoursper day
Rail loading of coal 🛒 👘 🖉	7 daysper week	7 amto 10 pm
Maintenance of mobile and fixed plant	< ² 7 daysper week	24 hoursper day
Blasting, not involving closure of John Renshaw Drive	Monday to Saturday	7 amto 5 pm
Blasting, involving closure of John Renshaw Drive	Monday to Saturday	10 amto 2 pm

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

Notes: Restrictions on Public Holidays are the same as Sundays

Appendix 6

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- (2) The Applicant shall submit a report to the Director-General's satisfaction demonstrating the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6 pm to 10 pm. 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 7 am to 6 pm."
- 15. 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	LA10(15minute) Noise Limits (dBA)			
	Daytime	1	, Night-time	
Beresfield area (residential)	45	E A State	35	
Steggles Poultry Farm	50	100	··· 40	
Ebenezer Park Area	46		41	
Black Hill Area	40	A A COM	38	
Buchanan and Louth Park Area	38	Stand State	36	
Ashtorfield Area	41		35	
Thornton Area	48	1997 - 19	40	
		· · · · ·		

Sec.

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

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

Other Conditions of Consent relevant to noise are as follows:

- The applicant shall survey and investigate noise reduction measures from plant and equipment and set targets for noise reduction in each Annual Environmental Management "18. Report (AEMR), taking into consideration valid noise complaints received in the previous year. The Report shall also include remedial measures.
- 19. The Applicant shall, revise, the Noise Mahagement Plan as necessary and provide an updated Plan five years after comméncement of mining to the Director-General, the independent noise expert (Condition 48), EPAr, Counsils and the Community Consultative Committee."

2.2 Abel Coal Mine - Project Approval No. Star

Approved Operations

N. 1. 1. The following operations are approved under the Abel Colliery Project Approval:

1 0

- Extraction of up to 4.5 Mtpa of ROM coal from the Abel Underground Coal Mine by bord and pillar methods.
- Transport coal to the existing Bloomfield CHPP by private haul roads.
- Operate the Bloomfield CHPP to process coal extracted from the Abel Coal Mine and the Bloomfield and Donaldson Coal Mines.
- Transportation of product coal from the Bloomfield site by rail via the Bloomfield rail loading facility.

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The PA was modified in June 2010 (05_0136 MOD 1) allowing construction and operation of a downcast ventilation fan. In May 2011 the PA was modified again (05_0136 MOD 2) to allow the construction and operation of an upcast ventilation fan (and associated facilities).

Consent Conditions

The relevant conditions relating to noise from the Abel Coal Mine approval are reproduced below.

Schedule 4

NOISE

Note: These conditions should be read in conjunction, with section 3 of the Statement of Commitments.

Noise Limits

23 The Proponent shall ensure that the noise generated by the Project does not exceed at any privately-owned residence the develop set out in the following table for the monitoring location nearest that residence. (***** (*****

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Day	limits dB(A) Evening		Night	
LAeg(15 minutes)	L Aeg(15 minutes)	L Aeg(15 minutes)	LA1(1 minute)	Location and Locality*
50	48	·***神*****	54.8	A Weakleys Dr, Beresfield
50	48	41	- Si	B Yarrum Rd, Beresfield
43	44	× 38 , (50	C Phoenix Rd, Black Hill
41	40	36	<i>,</i> 46	D Black Hill School
41	40 3000	、36 ÷	ິ 46	E Brown Rd, Black Hill
41	40 / 1995	36	<u>46</u>	🛛 🖡 Black Hill Rd, Black Hill
43	44 /	° ,36 ≪	46	G Buchanan Rd, Buchana
43	41		° 46	H Mt Vincent Rd, Louth Park
44	46	⁵⁸ - ₂₁ - 38	48	I Lord Howe Dr, Ashtonfiel
49	47	40	50	J Kilarney St, Avalon Esta
41	40	. 37	46	K Catholic Diocese (Form Bartter) K1, K2, K3
46 🤇	46	. 40	53	L Kilshanny Ave, Ashtonfield

Notes:

- To determine compliance with the Leeq (15 minute) limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (ural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the DECC may accept attemative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable
- To determine compliance with the LA1(1 minute) limit, noise from the project is to be measured at 1 metre from the dwelling facade. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECC may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy).
- These limits apply under the relevant meteorological conditions outlined in the assessment procedures in Chapter 5 of the NSW Industrial Noise Policy.

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DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending September 2013 Report Number Q51 630.01053R1 Draft 1 9 January 2014 Page 8

- These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.
 - * Revised to list alphabetically

Noise Monitoring

24. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program must:

- (a) be submitted to the Director-General for approval within 6 months of this approval;
- (b) be prepared in consultation with the DECC; and
 - (c) use a combination of attended and unattended monitoring measures to monitor the performance of the project.

2.2.1 Statement of Commitments

3.3 Monitoring

Within 6 months of this approval being granted a Noise Monitoring Program shall be prepared and implemented for the Abel Underground Mine and the Bloomfield CHPP, to the satisfaction of the Director-General. The Noise Monitoring Program shall include a combination of realtime and supplementary attended monitoring measures, and a noise monitoring protocol for evaluating compliance with the noise environmental assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaidson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines.

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3 PROCEDURES AND METHODOLOGY

3.1 **General Requirements**

The operational noise monitoring program was conducted with reference to Development Consent N97/00147 (Donaldson Coal Mine), Project Approval 05 0136 (Abel Coal Mine), and in accordance with Heggies Report 30-1409-R2 dated 27 May 2008 (Abel Mine Project Noise Monitoring Program) and AS 1055-1997 "Acoustics - Description and Measurement of Environmental Noise".

All acoustic instrumentation employed throughout the monitoring programme has been designed to comply with the requirements of IEC 61672.1-2004 "Electroacoustics - Sound Level Meters -Specifications" and carries current NATA or manufacturer calibration certificates.

3.2 Monitoring Locations

Sec. Baseline and preceding operational quarterly surveys have been conducted at 11 locations surrounding the Donaldson Mine and Abel Coal Mine sites. With the experience of these previous surveys, it was decided to concentrate noise monitoring at (ive (5) focus locations that represent the potentially most noise affected areas from Donaldson Mine and Abel Coal Mine during the September 2013 Quarter. The details of the monitoring locations are contained within Table 1. م 7 ×

Table 1	Monitoring	Locations
1 404 14 1	The second se	

Noise Monitoring Location	Description
A	98 Weakleys Drive, Beresfield
<u> </u>	Black Hill School, Black Hiltons and State
 F	Lot 684 Blåck Hitt Rose; Black Hitt
 	156 Buchannan Road, Buchannan
	17 Kilshanny Ave, Ashtogfield
L	

A map giving the approximate location of the noise monitoring sites is contained within Appendix A.

E. Unattended Continuous/Noise Monitoring 3.3

10.00

Environmental noise loggers were deployed for approximately a seven (7) day period between 20 August 2013 and 6 September 2013 at each of the five (5) nominated locations given in Table 1. All unattended monitoring equipment was programmed to continuously record statistical noise level indices in 15 minute intervals including the LAmax, LA1, LA10, LA90, LA99, LAmin and LAeq. The statistical noise exceedance levels (LAN) are the levels exceeded for N% of the 15 minute interval. The Laso represents the level exceeded for 90% of the interval period and is referred to as the average minimum of background noise evel. The Lato is the level exceeded for 10% of the time and is usually referred to as the average maximum noise level. The Laeq is the equivalent continuous sound pressure level and represents the steady sound level which is equal in energy to the fluctuating level over the interval period. The Lamax is the maximum noise level recorded over the interval. Instrument calibration was conducted before and after each measurement survey, with the variation in calibrated levels not exceeding ±0.5 dBA.

3.4 **Operator Attended Noise Monitoring**

Operator attended surveys were conducted at each of the five (5) monitoring locations during daytime. evening and night-time periods, to verify the unattended logging results and to determine the character and contribution of ambient noise sources.

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3.5 Equipment Operation

The mobile equipment operating on the Donaldson Mine site during the survey period are contained in **Appendix B**.

During the survey period the following operations were being undertaken:

- Moving/rehandling topsoil in the eastern pit.
- Moving/rehandling waste material to west pit.
- Grader and water cart in operation.

The only surface equipment operating on the Abel Coal Mine site during the survey periods was a ventilation fan and the Bloomfield Coal Handling and Preparation Plant (CHPP).

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4 OPERATOR ATTENDED NOISE MONITORING

4.1 Results of Operator Attended Noise Monitoring

Operator attended noise measurements were conducted during the daytime on Wednesday 4 September 2013 and Friday 6 September 2013, during the evening on Thursday 5 September 2013 and during the night-time on Thursday 5 September 2013 and Friday 6 September 2013. All operator attended noise surveys were conducted using a Brüel & Kjær 2270 Type 1, integrating sound level meter (s/n: 2679354).

Results of the operator attended noise measurements are given in **Table 2** to **Table 6**. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

The tables provide the following information:

- Monitoring location.
- Date & start time.
- Wind velocity (m/s) and Temperature (%C) at the measurement location.

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1.00

Typical maximum (LAmax) and contributed noise levels.

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

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Table 2 Location A, Weakleys Drive, Beresfield

Date/Start Time/Weather	Description	, Primary Noise Descriptor (dBA re 20 µPa)				Description of Noise Emission and Typical Maximum Levels	
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA
06/09/2013 09:08 VV = 1m /s VV Tem p = 10°C	Daytim e Am bient	; 61	53	49	44	47	Traffic ~ 40 to 61
Cloud cover = 0/8		Donaldson and Abelmines ~ Inaudible					
05/09/2013 20:44 VV = Calm Tem p = 15°C	n Evening	84	76	69	54	66	Traffic ~ 65 to 84 dBA
Cloud cover = 3/8	Amoleni	Donaldson and Abelmines ~ Inaudible					
06/09/2013 00:47 W = 0.5 m /s SE Tem p = 9°C	Night-tim e Am bient	83	71	58	38	59	Traffic ~ 63 to 81 dBA Trees Rustling ~ 37 dBA Insects ~ 41 to 43 dBA
Cloud cover = 2/8		Donaldso	n and Ab	el mines ~ l	naudible		

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Date/Start Time/Weather		Measurement Description	Primary Noise Descriptor (dB A re 20 μP a)					Description of Noise Emissio and Typical Maximum Levels	
			LAmax	LA1	LA10	LA90	LAeq	LAmax – dB A	
۱ ۱	4/09/2013 13:49 W = 0.5 m/s NE Tem p = 21°C Cloud cover = 0/8	Daytime Ambient	83	73	60	45	60	JRD Traffic ~ 48 to 65 dBA Birds ~ 48 to 68 dBbA Local Traffic ~ 66 to 83 dBA Resident ~ 36 to 51 dBA	
Donaldson and Abelmines ~ Inaudible									
Ì	05/09/2013 19:38 VV = Calm Tem p = 17°C Cloud cover = 0/8	E vening Am bient	82	69	55	49 (58	Local Traffic ~ 79 to 82 dBA Insects ~ 50 to 52 dBA Operator ~ 59 dBA JRD Traffic ~ 40 to 62 dBA Other Industry ~ <40	
			Donaldso	on and Abe	l mines ~ l	naudible, 😳	a		
Ì	05/09/2013 23:49 W = 1 m s N/V Tem p = 9℃ Cloud cover = 0/8	Night-tim e Am bient	70	61	49 V	41 1	**** 48 **	Operator ~ 60 dBA Traftic ~ 56 to 65 dBA Option Undustry ~ 35 to 36 dBA Local Traffic ~ 70 dBA	
<u>`</u>			Donaldso	on and Abe	l mine¢í ~ l	nàudible	۰		
1	Date/Start	tion G, 156 Bu Measurement Description	Primary	Noise Des	×		ал. Ал.		
-				Noise Des 20 µPa)	×	φ	کے L Aeq	Description of Noise Emissi and Typical Maximum Leve LAmax - dBA	
	Date/Start	Measurement	Primary (dB A re	Noise Des 20 µPa) LA1 ⁻¹ 51	criptor	φ	- L'Aeq - J'Aeq - 43	_ and Typical Maximum Leve	
	Date/Start Time/Weather 4/09/2013 15:17 W = 2 m/s SE Tem p = 24°C	Measurement Description	Primary (dB A re LAmax 59	Noise Des 20 µPa) LA1 ⁻¹ 51	Criptor	LA90		and Typical Maximum Leve LAmax - dBA Insects~ 41 dBA Other Industry ~ 38 to 40 dBA Operator ~ 54 dBA Birds ~ 49 to 53 dBA Resideint ~ 45 dBA	
	Date/Start Time/Weather 4/09/2013 15:17 W = 2 m/s SE Tem p = 24°C Cloud cover = 0/8 05/09/2013 21:37 W = Calm Tem p = 11°C	Measurement Description	Primary (dB A re LAmax 59	Noise Des 20 µPa) LA1 ⁻¹ 51	LA10. 47	LA90		and Typical Maximum Leve LAmax - dBA Insects~ 41 dBA Other Industry ~ 38 to 40 dBA Operator ~ 54 dBA Birds ~ 49 to 53 dBA Resideint ~ 45 dBA	
	Date/Start Time/Weather 4/09/2013 15:17 W = 2 m/s SE Tem p = 24°C Cloud cover = 0/8 05/09/2013 21:37 W = Calm	Measurement Description Daytime Ambient E vening	Primary (dB A re LAmax 59 Donaldsy 59	Noise Des 20 µPa) LA1 51	LA10 .	LA90 38 naŭdible 35	43	and Typical Maximum Leve LAmax – dBA Insects~ 41 dBA Other Industry ~ 38 to 40 dBA Operator ~ 54 dBA Birds ~ 49 to 53 dBA Resideint ~ 45 dBA Plane ~ 46 to 51 dBA Resident ~ 50 to 59 dBA Traffic ~ 37 to 48 dBA Insects ~ 40 dBA Air Con ~ 35 dBA	
	Date/Start Time/Weather 4/09/2013 15:17 W = 2 m/s SE Tem p = 24°C Cloud cover = 0/8 05/09/2013 21:37 W = Calm Tem p = 11°C Cloud cover = 7/8 05/09/2013 22:00 W = Calm Tem p = 8°C	Measurement Description Daytime Ambient E vening	Primary (dB A re LAma x 59 Dopnaldso 59 Dopnaldso 59	Noise Des 20 µPa) LA1 51 51 49 49 49	LA10.	LA90 38 naŭdible 35 naudible 34	43	and Typical Maximum Leve LAmax – dBA Insects~ 41 dBA Other Industry ~ 38 to 40 dBA Operator ~ 54 dBA Birds ~ 49 to 53 dBA Resideint ~ 45 dBA Plane ~ 46 to 51 dBA Resident ~ 50 to 59 dBA Traffic ~ 37 to 48 dBA Insects ~ 40 dBA	
	Date/Start Time/Weather 4/09/2013 15:17 W = 2 m/s SE Tem p = 24°C Cloud cover = 0/8 05/09/2013 21:37 W = Calm 05/09/2013 22:00 W = Calm	Measurement Description Daytime Ambient Evening Ambient	Primary (dB A re LAma x 59 Dopnaldso 59 Dopnaldso 59	Noise Des 20 µPa) LA1 ⁻¹ 51 51 49	LA10.	LA90 38 naŭdible 35 naudible 34	43	and Typical Maximum Leve LAmax - dBA Insects~ 41 dBA Other Industry ~ 38 to 40 dBA Operator ~ 54 dBA Birds ~ 49 to 53 dBA Resident ~ 45 dBA Plane ~ 46 to 51 dBA Resident ~ 50 to 59 dBA Traffic ~ 37 to 48 dBA Air Con ~ 35 dBA	

Table 3 Location F, Lot 684 Black Hill Road, Black Hill

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Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending September 2013 Report Num ber Q51 630.01053R1 Draft 1 9 January 2014 Page 12

Date/Start Time/Weather	Measurement Description	Primary Noise Descriptor (dB A re 20 μP a)					Description of Noise Emissior and Typical Maximum Levels	
	Daytim e Am bient	LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA	
4/09/2013 15:43 Wind: 1 m/s SE Temp = 22°C Cloud cover = 0/8		67	59	49	38	47	Birds ~ 42 to 55 dBA Residents ~ 42 to 57 dBA Distant Traffic ~ 39 to 45 dBA Local Traffic ~ 62 to 64 dBA Door Slam ~ 55 dBA Rev tone/Dozer faintly audible in Iulls ~ <30 dBA	
			n Mine ~ ir d Abel LAe					
05/09/2013 21:10 W = 0.5 m/s SW	Evening	68	54	40	36	्रें 43	Traffic∼ 35 to 68 dBA In sects ∼ 36 dBA	
Tem p = 10°C Cloud cover = 2/8	Ambient	Donaldso	n and Abe	l mines∼ir	naudible		ta.	
05/09/2013 22:29 W = Calm Tem p = 10°C	Night-tim e Am bient	58	50	40 ⁽⁴	34	40 *	Träffic ~ 33 to 58 dBA ~ Dog Barking ~ 39 dBA Resident ~ 40 to 51 dBA CHPP Faintly audible in lulls of am bient noise ~ <30 dBA	
Cloud cover = 0/8		Donaldson Mine ~ inaudible						
	tion D, Black I	Estimated	d Abel LA1 ol, Black	Contributio				
	tion D, Black H Measurement Description	Estimated Hill Schoo Primary I (dB A re 2	d Abel LA1 ol, Black Noise Des 20 µPa)	Contributio	<u>o</u> n ~ ≺30 dĘ ````` 	0A 	Description of Noise Emission and Typical Maximum Levels	
Date/Start	Measurement	Estimated Hill Scho Primary I	d Abel LA1 ol, Black Noise Des	Contributio			and Typical Maximum Levels LAmax – dBA	
Date/Start Time/Weather 4/09/2013 14:09 W = 1 m/s SE Temp = 22°C	Measurement	Estimated Hill Schoo Primary I (dB A re 2	d Abel LA1 ol, Black Noise Des 20 µPa)	Contributio	<u>o</u> n ~ ≺30 dĘ ````` 	0A 	and Typical Maximum Levels	
Date/Start Time/Weather 4/09/2013 14:09 W = 1 m/s SE Temp = 22°C	Measurement Description	Estinated Hill School (dB A re 2 LAmax	d Abel LA1 ol, Black Noise Des 20 µPa)	Contributio	on ~ <30 dE	LAeq	and Typical Maximum Levels LAmax – dB A Local Traffic ~ 71 to 80 dBA Birds ~ 44 to 48 dBA Distant Traffic ~ 43 dBA Operator ~ 50 dBA Truck Air release ~ 54 dBA Workmen ~ 70 to 78 dBA Students ~ 51 dBA	
Date/Start Time/Weather 4/09/2013 14:09 W = 1 m/s SE Temp = 22°C Cloud cover = 0/8 5/09/2013 19:19 W = Calm Temp = 17°C	Measurement Description Daytim e Am bient	Estinated Hill Schoo (dB A re 2 LAmax 80 *Donaldso	d Abel LA1 ol, Black Noise Des 20 μΡa) LA1 74 74 68	Contributio	20 ~ <30 dĘ 20 ~ ~ 30 dĘ 20 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	LAeq	and Typical Maximum Levels LAmax – dBA Local Traffic ~ 71 to 80 dBA Birds ~ 44 to 48 dBA Distant Traffic ~ 43 dBA Operator ~ 50 dBA Truck Air release ~ 54 dBA Workmen ~ 70 to 78 dBA	
Date/Start Time/Weather 4/09/2013 14:09 W = 1 m/s SE Temp = 22°C Cloud cover = 0/8 5/09/2013 19:19 W = Calm Temp = 17°C	Daytime Ambient	Estinated Hill Schoo (dB A re 2 LAmax 80 *Donaldso	d Abel LA1 ol, Black Noise Des 20 μPa) LA1	Contributio	20 ~ <30 dĘ 20 ~ ~ 30 dĘ 20 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0 <u>A</u>	and Typical Maximum Levels LAmax – dB A Local Traffic ~ 71 to 80 dBA Birds ~ 44 to 48 dBA Distant Traffic ~ 43 dBA Operator ~ 50 dBA Truck Air release ~ 54 dBA Workm en ~ 70 to 78 dBA Students ~ 51 dBA F3 Traffic ~ 43 to 51 dBA Insects ~ 40 dBA Local Traffic ~ 71 to 79 dBA Resident ~ 44 to 45 dBA	
Date/Start Time/Weather 4/09/2013 14:09 W = 1 m/s SE Tem p = 22°C Cloud cover = 0/8 5/09/2013 19:19 W = Calm	Measurement Description Daytim e Am bient	Estinated Hill Schoo (dB A re 2 LAmax 80 *Donaldso	d Abel LA1 ol, Black Noise Des 20 μΡa) LA1 74 74 68	Contributio	20 ~ <30 dĘ 20 ~ ~ 30 dĘ 20 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0 <u>A</u>	and Typical Maximum Levels LAmax – dB A Local Traffic ~ 71 to 80 dBA Birds ~ 44 to 48 dBA Distant Traffic ~ 43 dBA Operator ~ 50 dBA Truck Air release ~ 54 dBA Workm en ~ 70 to 78 dBA Students ~ 51 dBA F3 Traffic ~ 43 to 51 dBA Insects ~ 40 dBA Local Traffic ~ 71 to 79 dBA	

Table 5 Location L, 17 Killshanny Ave, Ashtonfield

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4.2 Operator Attended Noise Monitoring Summary

4.2.1 Donaldson Mine

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

Donaldson operations were not observed to be audible at any location during the monitoring periods.

Based on results and observations from operator attended noise surveys, it is likely that the contributed noise levels from Donaldson Mine comply with noise emission goals for all periods. $\frac{1}{2}$

4.2.2 Abel Coal Mine

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

Abel operations were observed to be audible at Location L during the daytime and night-time only but remained within the consented noise limits. Abel project operations were maudible at all other locations.

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5 UNATTENDED CONTINUOUS NOISE MONITORING

5.1 Results of Unattended Continuous Noise Monitoring

Unattended continuous noise monitoring was conducted between 20 August 2013 and 6 September 2013 at each of the five (5) nominated locations given in Table 7.

Table 7	Noise Loggers and Noise Monitoring Locations
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Location	Noise Logger Serial Number	Date of Logging
A– Weakleys Drive, Beresfield	01dB DUO (10826), 🗥 🔨	28/08/2013 to 06/09/2013
F – Black Hill Road, Black Hill	16-306-039 💉 🦯	20/08/2013 to 28/08/2013
G – Buchanan Road, Buchanan	01dB DUO (107,67) 🔭 🔨	28/08/2013 to 06/09/2013
L – Kilshanny Ave, Kilshanny	16-301-473 🦯 🔬 🔪	28/08/2013 to 06/09/2013
D – Black Hill School, Black Hill	16-301-473 Š 🕺 Š 👘	20/88/2013 to 28/08/2013
	× 1	The S

The unattended ambient noise logger data from each monitoring location are presented graphically on a daily basis and are attached as Appendices C1 to C5. A summary of the results of the unattended e de la composition de la comp continuous noise monitoring is given in Table 8.

×. The ambient noise level data quantifies the overall noise level at a given location independent of its source or character.

The measured ambient noise levels were divided into three periods representing day, evening and night as designated in the NSW Industrial Noise Policy (INP). The day, evening and night periods replace the day and night periods defined under the Environmental Noise Control Manual (ENCM). However, as the Donaldson conditions of consent are under the ENCM, these periods have also been reported. 35 Ŷ

÷... Precautions can be taken to minimise influences from extraneous noise sources (egoptimum placement of the loggers away from creeks, trees, houses, etc), however, not all these sources or their effects can be eliminated. This is particularly the case, during the warmer times of year when noise from insects, frogs, birds and other animals can become quite prevalent. ۰.

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Weather data for the subject area during the poise monitoring period was obtained from the Cessnock Airport weather station located approximately 25'km east of the project site. Noise data during periods of any rainfall and/or wind speeds in ,excess of 5 m/s (approximately 9 knots) were discarded in accordance with INP weather affected data exclusion methodology.



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Leastion	Deried	Primary Noise Descriptor (dBA re 20 µPa)				
Location	Period	LA1	LA10	L A90	LAeq	
A	Daytime					
Weakleys Drive, Beresfield	Evening	-	N/A*			
Derestield	ENCM Daytime		IN/H			
	Night	-				
F	Daytime	65	56	43	58	
Lot 684 Black	Evening	60	53	43	51	
Hill Road, Black Hill	ENCM Daytime	64	56	42	58	
	Night	57	50 á	40	51	
G	Daytime	51	. 46	_{N.} 34	50	
156 Buchanan Road, Buchanan	Evening	48	\$ 4 ₫ [™] %,	í - <u>. 3</u> 5	54	
Road, Duchanan	ENCM Daytime	50	ूर् ⁷ ू [°] 46	<u>.</u> 34	51	
	Night	42	37 🖉	₹30	42	
	Daytime	58 .	/ 4 9	32	50	
L 17 Kilobanovi	Evening	52 炎	*~~, ~42,	35	45	
17 Kilshanny Ave, Ashtonfield	ENCM Daytime	56 È	46	32	50	
	Night	44	in 39 in 12	<30	44	
D	Daytime	58° × • • •		34	51	
Black Hill	Evening	56	45	32	47	
School, Black	ENCM Daytime	67. °.	30 × 130 ×	32	52	
Hill	Night	51	[*] , ^{\$} , ^{\$} 42	31	51	

Table 8 Unattended Continuous Noise Monitoring Ambient Noise Levels (dBA Re 20 µPa)

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

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EPAPeriods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am. * No data recorded due to logger in alfunction. 1.27 ÷

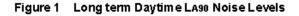
18.10 -..> $s \in \mathbb{R}^{k}$

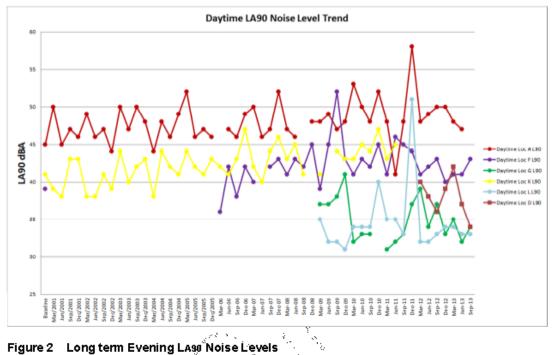
New York

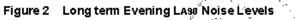
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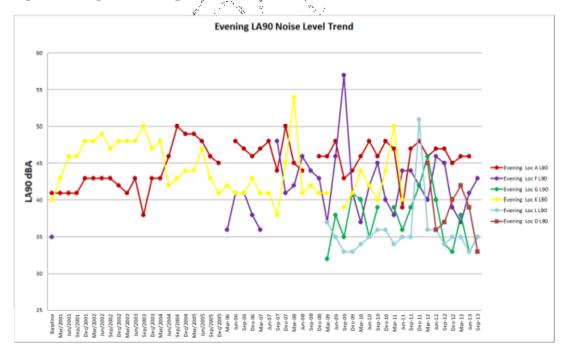
5.2 Long term Unattended Continuous Monitoring Summary for Donaldson Mine and Abel Coal Mine

5.2.1 Ambient Laso Noise Levels









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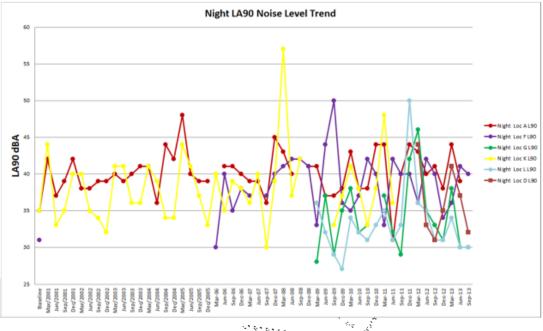


Figure 3 Long term Night-time LA90 Noise Levels

Baseline

The summary of results in Table 8 and Figure 1, Figure 2 and Figure 3 show that ambient Laso noise levels recorded for the quarter ending September 2013 compared to the levels recorded during the baseline monitoring process at Location F were 4 dBA, § dBA and 9 dBA higher during the daytime, evening and night-time periods at respectively.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the September 2013 quarter no comparisons can be made. Due to a logger malfunction at Location A, no comparison can be made.

Previous Quarter (June 2013)

A comparison of the current monitoring period with the previous monitoring period shows that Laso noise levels were generally similar (within 3 dBA) or lower than those recorded during June 2013 at Location F, Location G, Location L, and Location D.

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Decreases of up to & dBA in the Laso were recorded at Location D. Due to a logger malfunction at Location A, no comparison can be made.

Coinciding Period Last Year (September 2012)

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Laso noise levels were generally lower than those recorded in September 2012 at locations F, G, L and D with slight increases (1 dBA) at location L and G during the evening period and at location D during the night-time period.

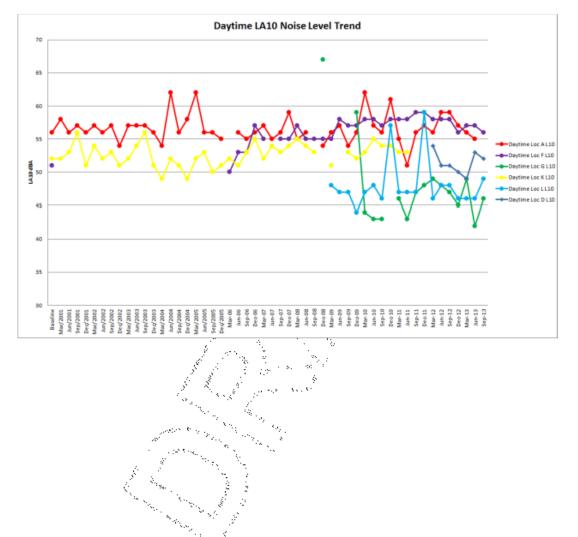
Due to a logger malfunction at Location A, no comparison can be made.

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5.2.2 Ambient La10 Noise Comparison

The long term ambient LA10 noise levels collected from each monitoring location are presented graphically in **Figure 4**, **Figure 5** and **Figure 6** for the daytime, evening and night-time periods respectively.





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DONALDSON COAL PTY LTD Abel Underground Coal Mine Appendix 6

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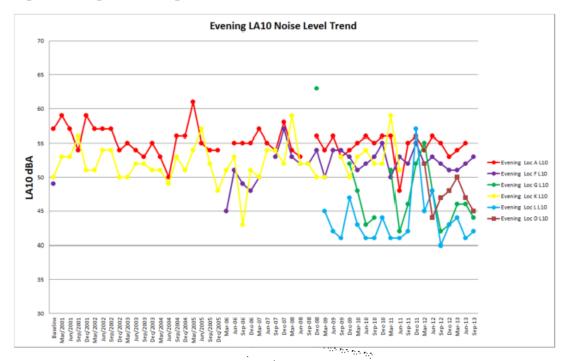
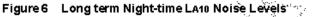
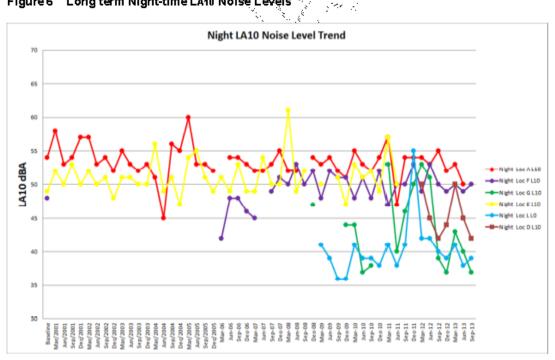


Figure 5 Long term Evening Late Noise Levels





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DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

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Baseline

The summary of results in Table 8 and Figure 4, Figure 5 and Figure 6 show that ambient LA10 noise levels recorded for the quarter ending September 2013 were 5 dBA greater than levels recorded during the baseline monitoring process at Location F during the daytime, 4 dBA higher during the evening and 3 dBA higher during the night-time period.

Given that no data was available at Locations G, L and D during baseline measurements during the September 2013 guarter no comparisons can be made.

Due to a logger malfunction at Location A, no comparison can be made.

Previous Quarter (June 2013)

e es A comparison of the current monitoring period with the previous monitoring period shows that recorded Lato noise levels at Location F, Location L and Location D were similar (within 3 dBA) or lower to those recorded in June 2013. At Location G increases of 4 dBA were recorded during the daytime monitoring period. 11.18

Due to a logger malfunction at Location A, no comparison can be made?

Coinciding Period Last Year (September 2012)

<u>ين</u>، ي A comparison of the current monitoring period with the comparison of the current monitoring period last year indicates that Lato noise levels were generally similar (within 2 dBA) than those recorded in September 2012 at all monitoring locations.

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Due to a logger malfunction at Location A, no comparison can be made.

5.3 Discussion

And seed Based on the observations made during the operator attended hoise surveys, where noise levels have been observed to increase at Location F, the ambient noise environment is dominated by road traffic or natural noises and not considered to be impacted from the Donaldson or Abel Mine activity. tu bu and the term 1. N.

SUMMARY OF RESULTS AND FINDINGS 6

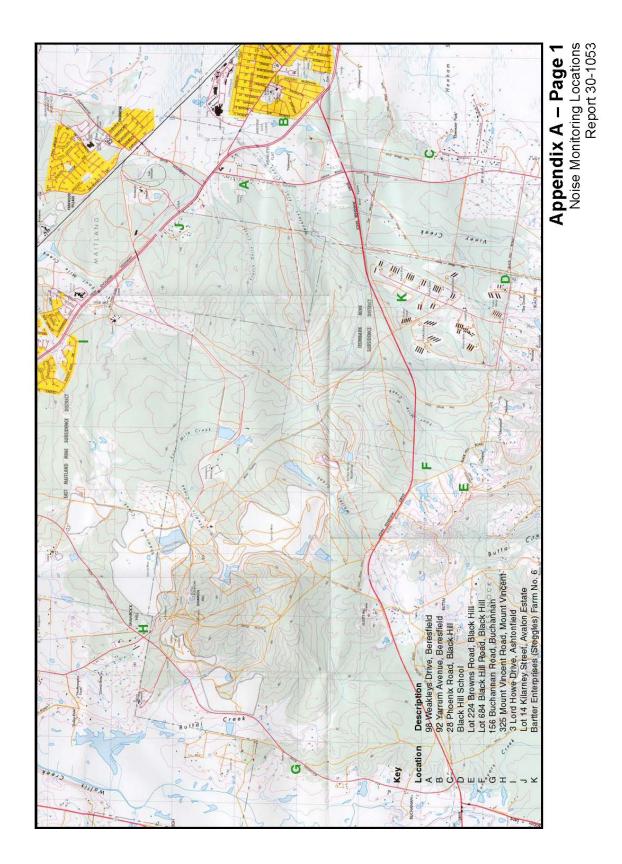
SLR was engaged by Donaldson Coal. Pty Ltd to conduct quarterly noise monitoring surveys for Donaldson Coal Mine and Abel Coal Mine in accordance with the Abel Coal Mine Noise Monitoring 19 19 19 Program, dated 27 May 2008.

The results of the operator-attended noise measurements conducted at five (5) focus locations surrounding the mine site are included in Table 2 to Table 6.

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

Abel Mine operations at the CHRP were audible at Location L during the daytime and night-time periods but remained within the Consented noise limits. Abel operations were not audible at any other locations during all periods and as such it is likely that contributed noise levels from Abel Mine did not exceed noise emission goals (including night-time sleep arousal criteria) and were in compliance with the Abel Mine Project Approval at all locations.

A comparison of ambient Lato and Lago noise levels recorded during the current monitoring period (September 2013), the baseline monitoring period, the last monitoring period (June 2013), and the coinciding monitoring period from last year (September 2012) has been conducted.



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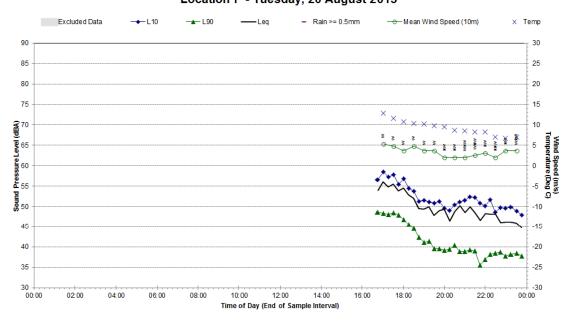
Appendix B Report Q39 30-1053-R1 Equipment Register Page 1 of 1

APPENDIX B - EQUIPMENT REGISTER JOB NUMBER: 30-1053 JOB DESCRIPTION: Donaldson Mine Quarterly Monitoring - March 2010

Unit No	Equipment	Description	Serial Number
1	DOZ004	CATERPILLAR D9R	7TL00898
2	DOZ005	CATERPILLAR D10R	3KR01384
3	DOZ006	CATERPILLAR D11N	74Z00717
4	DOZ008	CATERPILLAR D10R	3KR01233
5	DOZ009	CATERPILLAR D10R	AKT00823
6	EXC021	CATERPILLAR 330DL	NBD00168
7	EXC072	HITACHI EX2500	184-00108
8	EXC089	CATERPILLAR 5110B	AAA00311
9	LOD004	CATERPILLAR IT28G	CWAC00351
10	LOD044	KOMATSU WA700	10106
11	LOD149	CATERPILLAR 990II	4FR00394
12	RDT026	CATERPILLAR 777A W/CART	84A01034
13	RDT033	CATERPILLAR 740 W/CART	B1P02699
14	RDT100	CATERPILLAR 785	8GB00596
15	RDT107	CATERPILLAR 785	8GB00320
16	RDT140	CATERPILLAR 785	8GB00333
17	RDT143	CATERPILLAR 785	8GB00374
18	RDT155	CATERPILLAR 785	8GB00152
19	RDT162	CATERPILLAR 785	8GB00258
20	RDT163	CATERPILLAR 785	8GB00259
21	RDT182	CATERPILLAR 785	8GB00494
22	GRD004	CATERPILLAR 16H	6ZJ00678
23	GRD036	CATERPILLAR 16G	93U03039
24	CMP059	AIRMAN COMPRESSOR - STR034	
25	CMP061	SULLAIR COMPRESSOR 185CFM	200610160001
26	CMP062	SULLAIR COMPRESSOR 185CFM	206101100049
27	GEN001	KUBOTA GENERATOR – VEH154	
28	WEL057	LINCOLN SAM400 - VEH154	
29	VEH154	ISUZU NPS300 BOILY TRUCK	
30	STR034	VOLVO FL7 SERVICE TRUCK	YV5FAG6JD560318
31	UTE001	NISSAN PATROL SERVICE UTE	
32	UTE002	NISSAN NAVARA TRAYBACK	

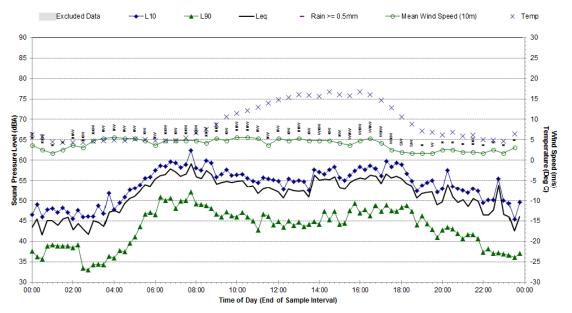
Appendix C1 Statistical Ambient Noise Levels – Location F Page 1 of 5

Statistical Ambient Noise Levels Location F - Tuesday, 20 August 2013



Statistical Ambient Noise Levels

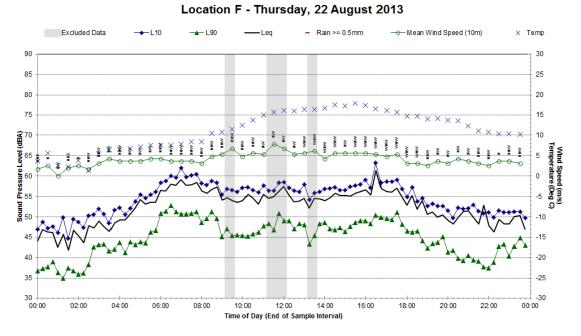
Location F - Wednesday, 21 August 2013



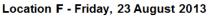
Report No. 737/09

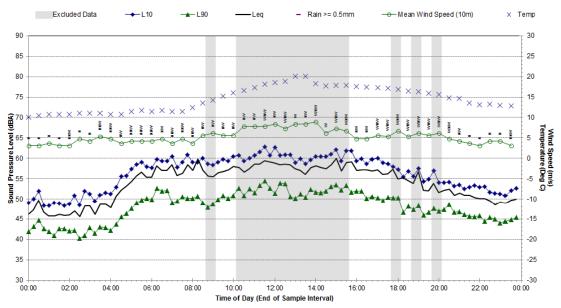
Appendix C1 Statistical Ambient Noise Levels – Location F Page 2 of 5

Statistical Ambient Noise Levels



Statistical Ambient Noise Levels





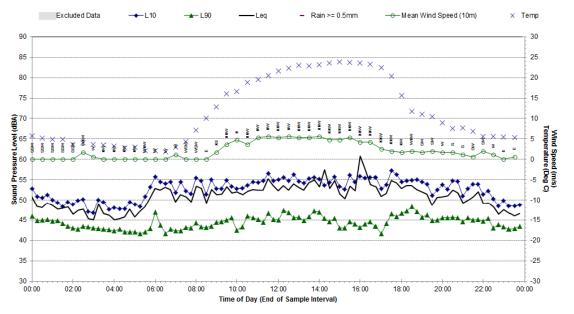
Appendix C1 Statistical Ambient Noise Levels – Location F Page 3 of 5

Location F - Saturday, 24 August 2013 Excluded Data - L90 -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 (**GM**) 100 (**DM**) 100 3 3 1 dilla Wind 5 Dressure Lo Speed ature (Deg 0 S/W) -5 Sound 5 50 -10 45 -15 40 -20 35 -25 30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

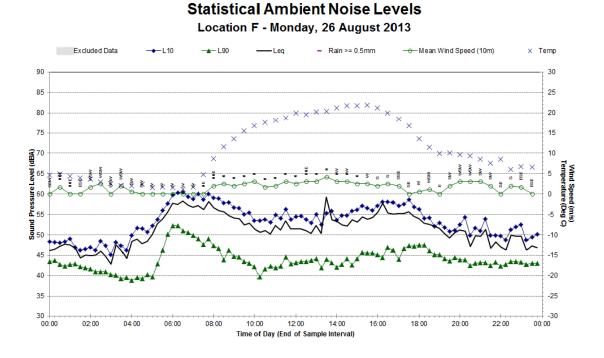
Statistical Ambient Noise Levels

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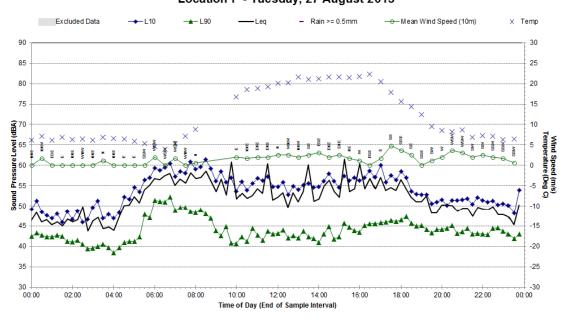


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Statistical Ambient Noise Levels Location F - Tuesday, 27 August 2013



Appendix C1 Statistical Ambient Noise Levels – Location F Page 5 of 5

Location F - Wednesday, 28 August 2013 Excluded Data -Leq - Rain >= 0.5mm × Temp 90 30 85 25 XX × × $\times \times$ 80 20 75 15 10 **Lessure Level (dB4)** 60 55 NO Tempe Wind Speed (m/s) emperature (Deg C) 5 32 8 0 -5 punog 50 -10 -15 45 -20 40 -25 35 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

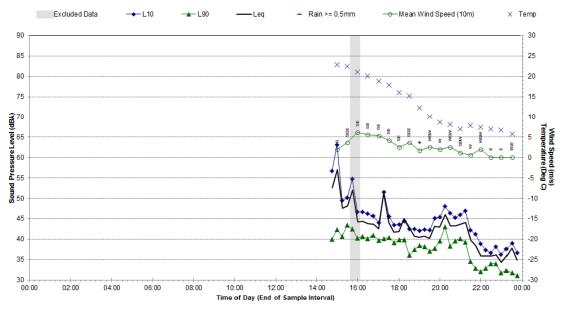
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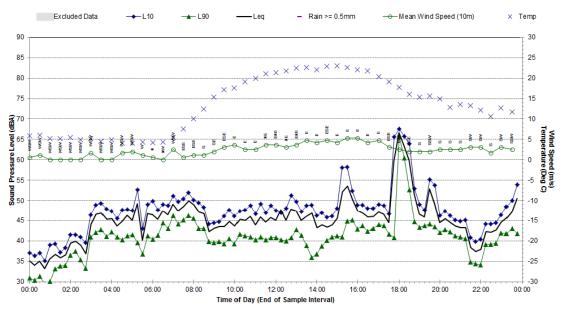
Statistical Ambient Noise Levels - Location G Page 1 of 5

Statistical Ambient Noise Levels

Location G - Wednesday, 28 August 2013



Statistical Ambient Noise Levels Location G - Thursday, 29 August 2013



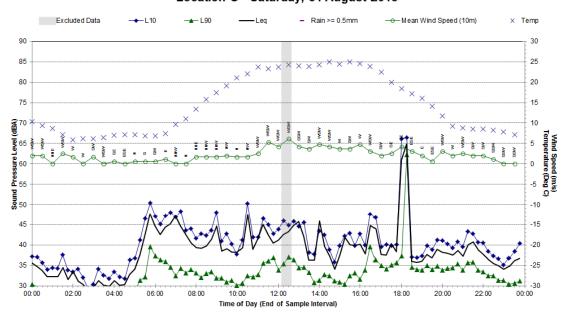
Appendix C2

Statistical Ambient Noise Levels - Location G Page 2 of 5

Location G - Friday, 30 August 2013 Excluded Data -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 -----Ň Tempe **8**65 Wind 5 щ Speed 191 60 0 ature (Deg C) **Sel** 55 (m/s) -5 punos 50 -10 -15 45 -20 40 35 -25 30 00:00 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location G - Saturday, 31 August 2013



Appendix C2

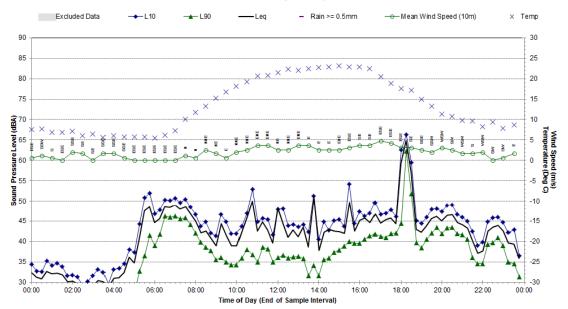
Statistical Ambient Noise Levels - Location G Page 3 of 5

Location G - Sunday, 1 September 2013 Excluded Data - L90 -Lea - Rain >= 0.5mm × Temp 90 30 25 85 80 20 75 15 **€**70 10 empe 8 65 Mind 5 š I Speed I Pressure L 0 g -5 punos 50 S -10 45 -15 -20 40 35 -25 30 02:00 12:00 14:00 20:00 22:00 08:00 10:00 16:00 18:00 00:00 04:00 06:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels Location G - Sunday, 1 September 2013

Statistical Ambient Noise Levels

Location G - Monday, 2 September 2013



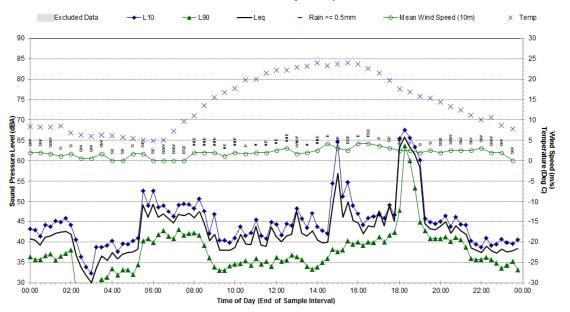
Appendix C2

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Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location G - Wednesday, 4 September 2013



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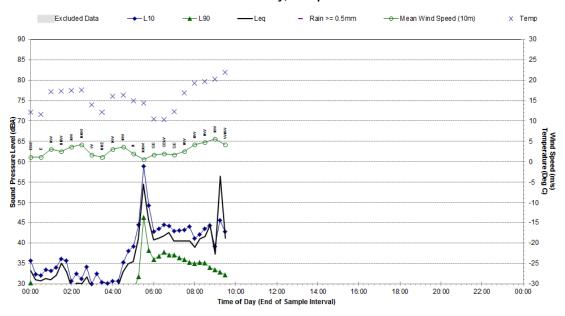
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Location G - Thursday, 5 September 2013 Excluded Data -Leq Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 ≧ Ň Ň ŝ Wind Speed (m/s) Temperature (Deg (8 65 5 ŝ 2 1 and 60 0 **55** -5 2 punos 50 -10 -15 45 40 -20 35 -25 30 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location G - Friday, 6 September 2013



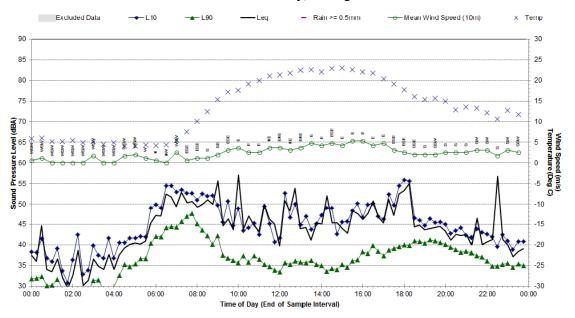
Appendix C3

Statistical Ambient Noise Levels - Location L Page 1 of 5

Location L - Wednesday, 28 August 2013 Excluded Data - Rain >= 0.5mm -Lea × Temp 90 30 85 25 80 20 75 15 **Lessure Level (dB4)** 60 55 10 Wind 5 8 Speed 0 (Deg C) S(UU) -5 punos 50 -10 45 -15 40 -20 35 -25 02:00 22:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location L - Thursday, 29 August 2013



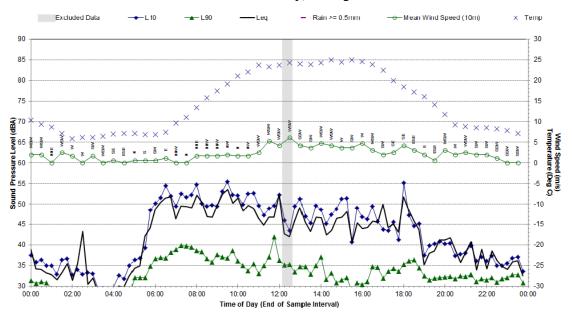
Appendix C3

Statistical Ambient Noise Levels - Location L Page 2 of 5

Location L - Friday, 30 August 2013 Excluded Data Rain >= 0.5mm → Mean Wind Speed (10m) × Temp Lea 90 30 85 25 80 20 15 75 10 -----3 Ň empe Wind 8 65 5 Ш H 3 > -H Speed surel ature 0 60 (Deg C) **55** (m/s) -5 punos 50 -10 -15 45 -20 40 35 -25 --30 00:00 02:00 06:00 08:00 18:00 20:00 04:00 10:00 12:00 14:00 16:00 22:00 Time of Day (End of Sample Interval)

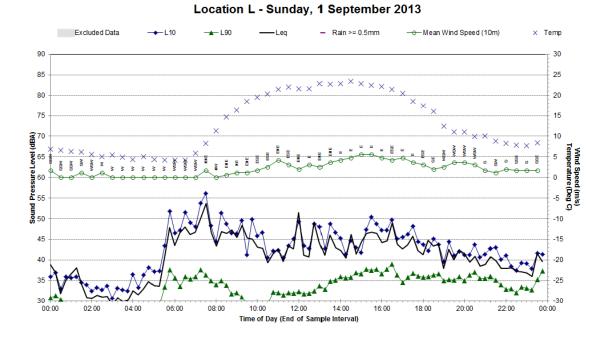
Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location L - Saturday, 31 August 2013



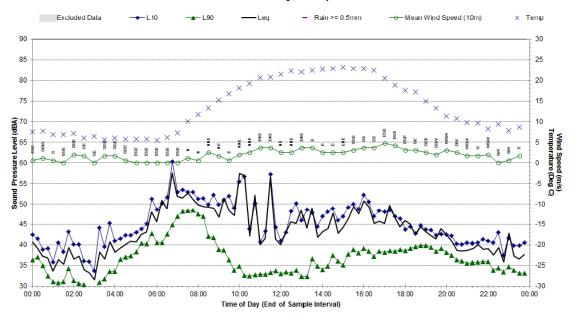
Appendix C3

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Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location L - Monday, 2 September 2013



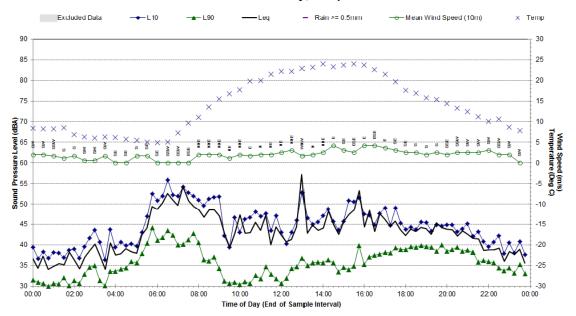
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Statistical Ambient Noise Levels - Location L Page 4 of 5

Location L - Tuesday, 3 September 2013 - Rain >= 0.5mm Excluded Data -Lea × Temp 90 30 85 25 80 20 75 15 10 ö empe 쁥 Wind 5 1 Speed (m/s) erature (Deg C) **a** 60 0 *ě* 55 -5 punos 50 -10 -15 45 -20 40 35 -25 -30 00:00 02:00 06:00 08:00 10:00 16:00 18:00 20:00 22:00 04:00 12:00 14:00 Time of Day (End of Sample Interval)

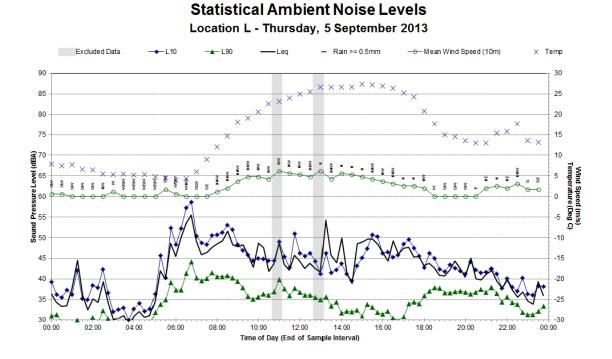
Statistical Ambient Noise Levels

Statistical Ambient Noise Levels Location L - Wednesday, 4 September 2013

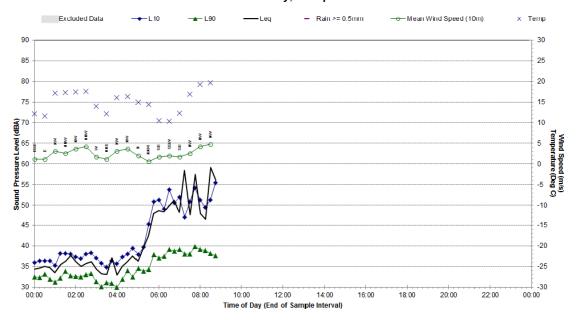


Appendix C3

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Statistical Ambient Noise Levels Location L - Friday, 6 September 2013



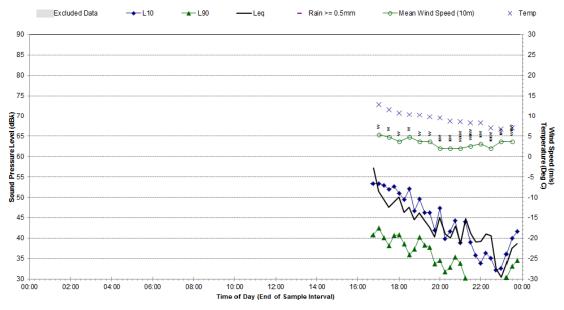
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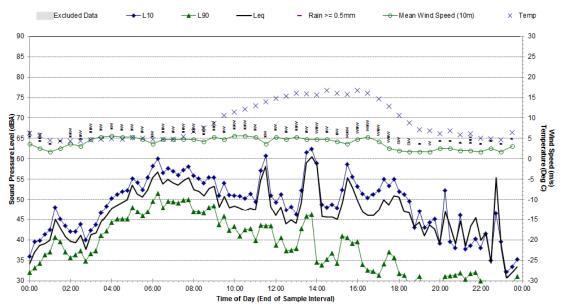
Statistical Ambient Noise Levels - Location D Page 1 of 5

Statistical Ambient Noise Levels

Location D - Tuesday, 20 August 2013



Statistical Ambient Noise Levels Location D - Wednesday, 21 August 2013



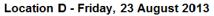
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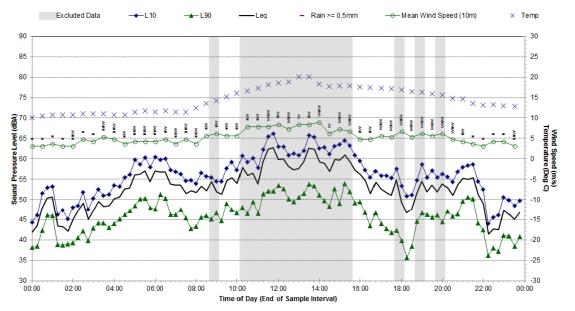
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Location D - Thursday, 22 August 2013 Excluded Data -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 () 70 80 70 10 ŝ ŝ ŝ NH N NIN Tempe Wind 8 65 5 1 Speed (m/s) erature (Deg C) Dressurel 55 0 -5 punos 50 -10 45 -15 40 -20 -25 35 30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Statistical Ambient Noise Levels





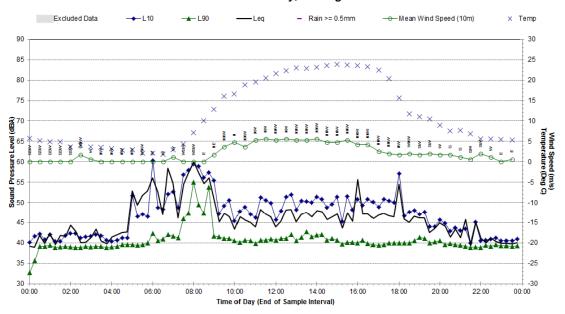
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Statistical Ambient Noise Levels Location D - Saturday, 24 August 2013 Excluded Data -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 (MBA) 70 MIN Ň 2 Cemper Wind 8 65 5 Speed sure ature 0 60 Deg **ä** 55 S(UU) -5 2 Sound -10 -15 45 40 -20 35 -25 30 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels Location D - Sunday, 25 August 2013



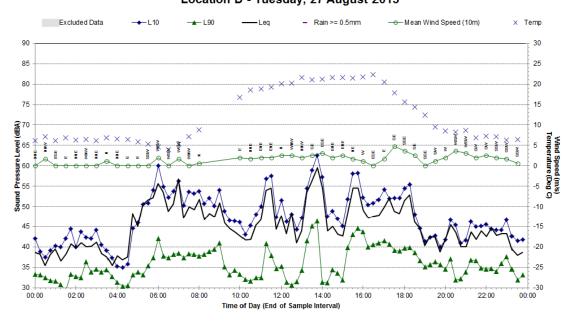
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Excluded Data -Leq - Rain >= 0.5mm × Temp 90 30 85 25 80 20 75 15 10 aduta Wind eve 5 65 1 Speed (m/s) erature (Deg C) Dressure 55 0 -5 punos 50 -10 45 -15 40 -20 -25 35 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels Location D - Monday, 26 August 2013

Statistical Ambient Noise Levels Location D - Tuesday, 27 August 2013



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Excluded Data - Rain >= 0.5mm -**→**-L10 -Leq ——— Mean Wind Speed (10m) × Temp 90 30 85 25 $\times \times \times \times \times$ $_{\times}$ \times \times 80 20 75 15 (¥9)70 10 New MBN 0 Ň NR. Sound Pressure Level (22 20 20 20 20 20 N. empe ŝ Mind 5 × ş 20 3 0 (Deg C) 5 -10 45 -15 -20 40 35 -25 30 -30 00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

Location D - Wednesday, 28 August 2013



global environmental solutions

Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending December 2013

Report Number Q52 630.01053R1

5 February 2014

Donaldson Coal Pty Ltd PO Box 675 Green Hills 2320

Version: Draft 1

DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

> Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013

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Report Number Q52 630.01053R1 Draft 1 5 February 2014 Page 2

Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending December 2013

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(PO Box 447 New Lambton NSW 2305 Australia) T: 61 2 4037 3200 F: 61 2 4037 3201 E: newcastleau@slrconsulting.com www.slrconsulting.com

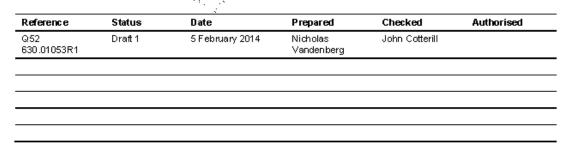
> This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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> SLR Consulting disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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DOCUMENT CONTROL



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1 INTRODUCTION

Development consent was obtained by Donaldson Coal Pty Ltd for the Donaldson Mine in October 1999 following a Commission of Inquiry. Development Consent number N97/00147 was issued by the Minister for Urban Affairs pursuant to Section 101 of the Environmental Planning and Assessment Act 1979.

Project Approval (Application No. 05_0136) granted by the Minister of Planning was obtained by Donaldson Coal Pty Ltd for Abel Coal Mine in 2007

Donaldson Coal Pty Ltd has commissioned SLR Consulting Pty Ltd (SLR) to conduct quarterly noise monitoring surveys for the Donaldson Coal Mine and Abel Coal Mine accordance with the Abel Mine Project Noise Monitoring Program, dated 27 May 2008.

The objectives of the noise monitoring survey for this operating quarter were as follows:

- Measure the ambient noise levels at five (5) focus receptor locations (potentially worst affected) surrounding Donaldson Coal Mine and Abel Coal Mine
- Qualify all sources of noise within each of the attended surveys, including estimated contribution or maximum level of individual noise sources.
- Assess the noise emissions of Donaldson Coal Mine and Abel Coal Mine with respect to the limits contained in the Development Consent.

2 DEVELOPMENT CONSENT AND PROJECT APPROVAL

2.1 Donaldson Coal Mine Development Consent Conditions

The Development Consent nominates hours of operation and mine noise emission goals in the Sections entitled "Operation of Development, Condition No. 3(1) and 3(2)", and "Noise and Vibrational Noise Limits: Condition No. 15" as follows:

Works 🖇	🧞 Period , 👝 🖑	Hours
Construction, including Construction of any bunds	Monday to Friday Saturday	7 amto 6 pm 8 amto 1 pm
Mining operations, including mining, haulage of waste to dumps and coal processing	Monday to Friday Saturday, Sunday	24 hoursper day 7 amto 6 pm
Road Transportation and stockpiling of coal	7 daysper week	24 hoursper day
Rail loading of coal 👔 👘 🛼	🕺 7 daysper week	7 amto 10 pm
Maintenance of mobile and fi	xed 7 daysper week	24 hoursper day
Blasting, not involving closure John Renshaw Drive	e of Monday to Saturday	7 amto 5 pm
Blasting, involving closure of John Renshaw Drive	Monday to Saturday	10 amto 2 pm

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

Notes: Restrictions on Public Holidays are the same as Sundays

Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013

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- (2) The Applicant shall submit a report to the Director-General's satisfaction demonstrating the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6 pm to 10 pm. 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 7 am to 6 pm."
- 15. 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:

LA10(15	minute) Noise Limițs (d	BA)
Daytim	e National Astronomy	Night-time
45	E all the second	35
50	100	40
46		41
40	A A COM	38
38	Stand Stand	36
41		35
48	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	40
	Daytim 45 50 46 40 38 41	50 46 40 38 41

Sec.

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

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

Other Conditions of Consent relevant to noise are as follows:

- The applicant shall survey and investigate noise reduction measures from plant and equipment and set targets for noise reduction in each Annual Environmental Management "18. Report (AEMR), taking into consideration valid noise complaints received in the previous year. The Report shall also include remedial measures.
- 19. The Applicant shall, revise, the Noise Mahagement Plan as necessary and provide an updated Plan five years after comméncement of mining to the Director-General, the independent noise expert (Condition 48), EPAr, Counsils and the Community Consultative Committee."

2.2 Abel Coal Mine - Project Approval No. Star

Approved Operations

N. 1. The following operations are approved under the Abel Colliery Project Approval:

1 0

- Extraction of up to 6.1 Mtpa of ROM coal from the Abel Underground Coal Mine. ٠
- Transport coal to the existing Bloomfield CHPP by private haul roads, or by coal conveyor, or by a combination of both methods.
- Operate the Bloomfield CHPP to process coal extracted from the Abel Coal Mine and the Bloomfield and Donaldson Coal Mines.
- Transportation of product coal from the Bloomfield site by rail via the Bloomfield rail loading facility.

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The PA was modified in June 2010 (05_0136 MOD 1) allowing construction and operation of a downcast ventilation fan. In May 2011 the PA was modified again (05_0136 MOD 2) to allow the construction and operation of an upcast ventilation fan (and associated facilities). In December 2013 the PA was modified again (05_0136 MOD3) to account for the increase in coal extracted including the upgrade of the Bloomfield Coal Handling and Preparation Plant (CHPP).

Consent Conditions

The relevant conditions relating to noise from the Abel Coal Mine approval are reproduced below.

Schedule 4

NOISE

Operational Noise Criteria

1. The Proponent shall ensure that the noise genératéd by the Project does not exceed the criteria in Table 4 at any residence on privately-owned land. ,¥

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8.8

Table 4: Operational Noise Criteria dB(A,

Location	Receiver Area	Day 🖉 Evening	Night	
Location		LAeq(15min) LAeq(15min)	LAeq(15min)	LA1(1min)
Location I	Lord Howe Drive, Ashtronfield	36	36	45
Location K	Catholic Diocese Land	37. 37 [°] ~ 5 [°]	37	45
Location L	Killshanny Avenue, Ashtonfield	40 40	40	47
All other Locations	All other privately- owned Residences	35	35	45

Notes:

To interpret the locations referred to in Table 4, see plan In Appendix 3 (Appendix A).

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions); of the NSW Industrial Noise Policy.

However, these noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement. 1999 1995 - S.S. * »_{2.1}

Construction Noise Griteria

The proponent shall ensure that the noise generated during the construction of the 2. downcast ventilitation shaft as described in EA (MOD3) does not exceed the criteria in N. W. V. Ś 0 Table 5.

	N.N. 1
Table 5: Construction	Noïse Criteria dB(A)

۰.,

Location	Receiver	Day	
	Neceivei	L Aeq(15 minute)	
Location R	281 Lings Road, Buttai	50	
Location S	189 Lings Road, Buttai	43	

Notes:

The criteria in Table 5 apply only whilst the downcast ventilation shaft is being constructed, and for a maximum of 12 weeks from the commencement of construction.

To interpret the locations refered to in Table 5, see plan in Appendix 3 (Appendix A).

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013 Report Number Q52 630.01 053R1 Draft 1 5 February 2014 Page 8

However, these noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.

Rail Noise Criteria

The proponent shall ensure that the noise from rail movements on the Bloomfield Rail Spur does not exceed the limits in Table 6 at any residence on privately owned land.

Table 6: Rail Spur noise criteria dB (A)

Location	Day	Evening Nov. N	light
Location		LAeq(period)	
All privately-owned land	55	45 [°] 100	40
Cumulative Noise C	Criteria		х

4. The proponent shall implement all reasonable, and feasible measures to ensure that the noise generated by the project combined with noise generated by other mines does not exceed the criteria in Table 7 at any residence on privately-owned land. Χ.

Table 7: Cumulative noise criteria dB (A)				
Location	Day	Evening 📜 🛬	Night	
		LAeq(period)		
All privately-owned land	55	45 ····	40	

Notes: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria. а.,

> -00 ķ

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Q.,

Operating Conditions

- 5. The proponent shalk
 - أنعينه العجاجي a. Implement best management practise to minimise the construction, operational, road and rail noise of the project;

12.

- Operate an on-site hoise management system to ensure compliance with the b. relevant conditions of this approval;
- Minimise the noise impacts of the project during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 4);
- d. Only receive and/or dispatch locomotives and rolling stock either on or from the site that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);
- e. Carry out regular monitoring to determine whether the project is complying with the noise criteria and other relevant conditions of approval,

to the satisfaction of the Director-General.

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Noise Management Plan

- The proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
 - a. Be prepared in consultation with the EPA, and be submitted to the Director-General for approval within 6 months of the date of approval of MOD 3;

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- b. Describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
- Describe the proposed noise management system in detail; and
- d. Include a monitoring program that:
 - Uses attended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
 - Evaluates and reports on:
 - o The effectiveness of the on-site noise management system; and
 - Compliance against the noise operating conditions; and
 - Defines what constitutes a noise incident, and includes protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents. les.

Appendix 4

Noise Compliance Assessment

Applicable Meteorological Conditions

- The noise criteria in Tables 4 and 7 are to apply under all metrological conditions a. During periods of rain of hall ways b. Average wind spectation except the following: 1

 - b. Average wind speed at microphone height exceeds 5 m/s;

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c. Wind speeds greater than 3 m/s measured at 10m above ground level; or d. Temperature inversion condition's greater than 3°C/100m.

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n and the The second Determination of metrological conditions . - بد العد ا

2. Except for wind speed at microphone height, the data to be used for determining metrological conditions shall, be that recorded by the meteorological station located on the site, , ,

- 4. . . Compliance monitoring conditions of this approval.
 - Unless otherwise agreed with the director-general, this monitoring is to be carried. out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
 - a. Monitoring locations for the collection of representative noise data;
 - b. Metrological conditions during which collection of noise data is not 🔌 "appropriate
 - .c. Equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - d. Modification to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013

Appendix 5

Statement of Commitments

3. Noise

3.1 Construction Activities

The following noise control measures will be implemented prior to commencement of construction of the Abel Underground Mine or the upgrade of the Bloomfield CHPP.

- 1. Maintain all machinery and equipment in working order,
 - a. No construction activities at the Abel pit top, will, take place on Sundays or Public Holidays;
 - b. Where possible locate noisy site equipment behind structures that act as barriers or at the greatest distance from noise sensitive areas; and
 - c. Orientate equipment so that noise emissions are directed away from noise ус Ц С sensitive areas. "e 3 - ¹.

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3.2 Noise Control Measures

- and the second The following noise control measures will be implemented prior to the mining of a. coal from the Abel underground Mine:
 - i. Orientation of the ventilation fans, away from residential receivers and angle the output parallel, to the ground: 🔬
 - ii. The sound power level of the front end loader to be used near the portal should not exceed 11,3 dBA and will be fitted with a noise sensitive ^ير ب^ر reversing alarm. 📉
- b. The following noise control measures will be implemented prior to the Bloomfield CHPP receiving any ROM coal from Able Underground Mine;
 - i. Noise mitigation works including partial enclosure and noise screening of drives and conveyors of the Bloomfield CHPP to screen residences to the north of the site.

3.2 Monitoring

ilja. ¹. stalinger og Norg Nite 4.4 The Company wilk implement a Noise Monitoring Program for the Abel Underground Mine and the Bloomfield CHPP; to the satisfaction of the Director-General. The Noise Monitoring Program shall include a combination of real-time and supplementary attended monitoring measures, and so noise monitoring protocol for evaluating compliance with the noise environmental, assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines

3.4 Continuous Improvement

The Company shall:

a. Report on these investigations and implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director General.

The operator of the Bloomfield CHPP shall:

b. Investigate ways to reduce the noise generated by the Bloomfield CHPP, including maximum noise levels which may result in sleep disturbance;

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- c. Implement all reasonable and feasible best practice noise mitigation measures on the site; and
- d. Report on these investigations and the implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director-General.

3 PROCEDURES AND METHODOLOGY

3.1 General Requirements

The operational noise monitoring program was conducted with reference to Development Consent N97/00147 (Donaldson Coal Mine), Project Approval 05 0136 (Abéi Coal Mine), and in accordance with Heggies Report 30-1409-R2 dated 27 May 2008 (Abel Mine Project Noise Monitoring Program) and AS 1055-1997 "Acoustics - Description and Measurement of Environmental Noise".

All acoustic instrumentation employed throughout the monitoring programme has been designed to comply with the requirements of IEC 61672.1-2004 # Electroacoustics - "Sound Level Meters -Specifications" and carries current NATA or manufacturer calibration certificates. e S

Monitoring Locations 3.2

ě. Baseline and preceding operational quarterly surveys have been conducted at 11 locations surrounding the Donaldson Mine and Abel Coal Mine sites? With the experience of these previous surveys, it was decided to concentrate noise monitoring at five (5) focus locations that represent the potentially most noise affected areas from Donaldson Mine and Abel Coal Mine during the December 2013 Quarter. The details of the monitoring locations are contained within Table 1. *.,*

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Noise Monitoring Location	Description
A	98 Weakleys Drive, Beresfield
D	∫ Black Hill Schoot, Black Hill
F	َنْ النَّوْتِ الْعَلَى المَعَامَ اللَّهُ المَعَامَ المَعَامَ المَعَامَ المَعَامَ المَعَامَ المَعَامَ المَعَامَ ا
G	ີ 156 Buchannan Road, Buchannan
L	17 Kilshanny Ave, Ashtonfield
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	

#### Table 1 Monitoring Locations

A map giving the approximate location of the noise monitoring sites is contained within Appendix A.

#### 3.3 Unattended Continuous Noise Monitoring

Environmental noise loggers were deployed for approximately a seven (7) day period between 9 December 2013 and 23 December 2013 at each of the five (5) nominated locations given in Table 1. All unattended monitoring equipment was programmed to continuously record statistical noise level indices in 15 minute intervals including the Lamax, LA1, LA10, LA90, LA99, Lamin and Laeq. The statistical noise exceedance levels (LAN) are the levels exceeded for N% of the 15 minute interval. The Laso represents the level exceeded for 90% of the interval period and is referred to as the average minimum or background noise level. The Lato is the level exceeded for 10% of the time and is usually referred to as the average maximum noise level. The LAeq is the equivalent continuous sound pressure level and represents the steady sound level which is equal in energy to the fluctuating level over the interval period. The LAmax is the maximum noise level recorded over the interval. Instrument calibration was conducted before and after each measurement survey, with the variation in calibrated levels not exceeding ±0.5 dBA.

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#### 3.4 Operator Attended Noise Monitoring

Operator attended surveys were conducted at each of the five (5) monitoring locations during daytime, evening and night-time periods, to verify the unattended logging results and to determine the character and contribution of ambient noise sources.

#### 3.5 Equipment Operation

The mobile equipment operating on the Donaldson Mine site during the survey period are contained in Appendix B.

During the survey period the following operations were being undertaken:

- Final rehabilitation of the site including shaping waste material in the west pit.
- Ripping/seeding areas in the eastern area.
- A water cart was available during this time.

The only surface equipment operating on the Abel Coal Mine site during the survey periods was the ventilation fan, the Bloomfield Coal Handling and Preparation Plant (CHPP) and haulage to the CHPP.

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#### OPERATOR ATTENDED NOISE MONITORING 4

#### 4.1 **Results of Operator Attended Noise Monitoring**

Operator attended noise measurements were conducted during the daytime on Monday 9 December 2013 and Monday 16 December 2013; during the evening on Monday 9 December 2013 and during the night-tyme Con Monday 9 December 2013 and Tuesday 10 December 2013. All operator attended norse surveys were conducted using a Bruel & Kjær 2270 Type 1, integrating sound level meter (s/n: 2679354).

Results of the operator attended noise measurements are given in Table 2 to Table 6. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

The tables provide the following information: ... -.,>

- Monitoring location.
- Date & start time. ....
- NAL SALA ^{уу}-..._е, Wind velocity (m/s) and Temperature (°C) at the measurement location.

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Typical maximum (Lamax) and contributed noise levels.

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

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Date/Start Time/Weather	Mea surement Description	Primary Noise Descriptor (dB A re 20 μPa)					Description of Noise Emission and Typical Maximum Levels		
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA		
16/12/2013 14:36 W = 2m/s SE Tem p = 26°C Cloud cover = 0/8	Daytime Ambient	71	61	56	51	54	Traffic∼ 52 to 57 dBA Construction ∼ <30 to 57 dBA Insects ∼ 35 dBA Birds ∼ 45 to 60 dBA Rooster ∼ 62 to 67 dBA		
		Donaldso	Donaldson and Abel mines ~ Inaudible						
09/12/2013 18:00 VV = Calm Tem p = 34°C	Evening Am bient	71	65	59	49	\$6	Traffic∼ 56 to 71 dBA Birds ~ 51 dBA		
Cloud cover = 8/8		Donaldso	on and Ab	oel mines ~ l	naudible	<u> </u>			
10/12/201300:20 W = 3 m/sW Tem p = 27°C Cloud cover = 8/8	Night‡time Ambient	73	64	57	43 (***	*	Traffic ~ 55 to 73 dBA Insects ~ 45 dBA ^Wind ~ 49 dBA Hélicopter ~ 63 to 66 dBA		
0.0000000000000000000000000000000000000		Donaldso	n and Ab	el mines 州	navidible		144 N		
able 3 Locat Date/Start Time/Weather	Measurement Description	Black Hill Road, Blačk Hill Primary Noise Descriptor (dB A re 20 µPa)					Description of Noise Emissior and Typical Maximum Levels		
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA		
09/12/2013 17:22 W = Calm Tem p = 36°C Cloud cover = 7/8	Daytime Ambient	76	69 	61	.» 47°° 10° ج	58 58	JRD Traffic ~ 53 to 65 dBA Insects ~ 40 to 50 dBA Local Traffic ~ 66 to 76 dBA Birds ~ 50 to 56 dBA		
		Donaldso	n and Ab	šel mines ~ I	nàudible				
09/12/2013 18:46 W = 0.5 m /s NE Tem p = 32°C Cloud cover = 8/8	E vening Am bient	میں ج 177 ارجا	72	63 • • • • •	43	61	Traffic ~ 72 to 77 dBA JRD Traffic ~ 55 dBA Birds ~ 48 dBA In sects ~ 45 to 73 dBA Donaldson faintly audible at times ~ 33 to 36 dBA		
		, Estimate Abel Min		son LÀeq(15 ble	imin) Contri	ibution ~ <3	0 dBA		
09/12/2013 23:35 W = Calm Tem p = 27°C Cloud cover = 8/8	Night-tîm e Am bient	68 · .	57 57	**/. * 52	46	50	Insects ~ 47 to 55 dBA Plane ~ 38 dBA JRD Traffic ~ 52 to 68 dBA Other Industry ~ 33 dBA		
	<u>\$`</u>	Donaldso	on and Ak	el mines ~ l	naudible				
			a C						

## Table 2 Location A, Weakleys Drive, Beresfield

Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013 Report Num ber Q52 630.01053R1 Draft 1 5 February 2014 Page 14

#### Date/Start Primary Noise Descriptor Measurement Description of Noise Emission Time/Weather Description (dBAre 20 µPa) and Typical Maximum Levels LAmax – dBA LAeq LA90 I Amax L A1 LA10 Insects ~ 48 dBA 09/12/2013 14:48 Construction works ~ 42 dBA 55 54 47 W = 1 m/s NW Daytime 58 51 Wind ~ 53 dBA Temp=36°C Ambient Other Industry ~ <30 dBA Cloud cover = 2/8 Donaldson and Abel mines ~ Inaudible Birds ~ 42 dBA Insects ~ 38 to 43 dBA 09/12/2013 21:42 ^{en}. 38 Distant Traffic ~ 35 to 40 dBA 54 43 39 36 VV = Calm Tem p = 28℃ Evening Resident ~ 43 dBA Ś Ambient Dog Barking ~ 41 dBA Cloud cover = 8/8 ч. ч. Donaldson and Abel mines ~ Inaudible ^{``.}'38 Hinsects ≈ 38 dBA 09/12/2013 22:00 51 42 40 **3**6 Díštant Traffic ~ 36 to 44 dBA Night-tim e W = 1 m/s WTemp = 28°C Am bient Cloud cover = 8/8 Donaldson and Abel mines * Inaudible Location L, 17 Killshanny Ave, Ashtonfield Table 5 Date/Start Measurement Primary Noise Descriptory Description of Noise Emission Time/Weather Description (dBAre 20 µPa) ×. and Typical Maximum Levels LAmax – dBA LAmax LA1 LA10 LA90 LAeq 2. 1 S.S. 6.4 Traffic∼ 55 to 64 dBA - 10 A. 09/12/2013 15:56 -_37 Plane ~ 46 to 49 dBA **N**22 54 45 67 - 4:4-Wind: Calm Daytime ۰. ۲ Insects ~ 40 to 46 dBA ÷. Temp=36°C Ambient Resident ~ 40 dBA Cloud cover = 5/8 Donaldson and Abel Mines ~ inaudible Ì., ŝ. 100 Dist Traffic ~ 40 to 49 dBA Insects ~ 46 to 50 dBA 09/12/2013 19:52 ,^{er} 57° 49 Resident ~ 48 to 54 dBA 62 5Ź~, 46 W = 0.5 m/s EEvening ÷8. Local Traffic ~ 57 to 61 dBA Dog Barking ~ 50 to 62 dBA -00 Temp=30°C Ambient 1.2 ķ Cloud cover = 7/8 Donaldson and Abel Mines ~ inaudible 4 Insects ~ 41 to 49 dBA $^{\circ}$ Traffic∼ 51 to 68 dBA $\Sigma_{i}$ 09/12/2013 22:27 $\langle x_i \rangle$ Dog Barking ~ 69 to 71 dBA Resident ~ 51 dBA 71., ----61 45 39 48 Night-time W = Calm ۰. Temp=29°C Ambient 👝 Ì, Distant Traffic ~ <33 dBA Cloud cover = 8/8 Donaldson and Abel Mines ~ inaudible 2

#### Table 4 Location G, 156 Buchannan Road, Buchannan

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Date/Start Time/Weather	Measurement Description	Primary Noise Descriptor					Description of Noise Emission and Typical Maximum Levels	
		(dBAre 20 µPa)						
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA	
09/12/2013 16:55 W = Calm Tem p = 36°C Cloud cover = 7/8	Daytim e Am bient	76	70	55	39	56	Traffic∼ 73 to 75 dBA Birds ~ 42 to 56 dBA Insects ~ 40 to 42 dBA Plane ~ 45 dBA	
01000 00101 - 170		Donaldson and Abel mines ~ Inaudible						
09/12/2013 19:19 W = Calm Tem p = 17℃ Cloud cover = 0/8	E vening Am bient	76	72	57	43 . 	57	Local Traffic ~ 72 to 76 dBA Insects ~ <40 dBA Birds ~ 52 to 55 dBA Animals ~ 46 dBA Distant Traffic ~ 46 to 53 dBA Plane ~ 51 to 53 dBA	
		Donaldson and Abel mines ~ Inaudible; South Abel						
09/12/2013 23:55 W = 0.5 m/s W Tem p = 27℃ Cloud cover = 8/8	Night-tim e Am bient	59	47	45 ¢	41	43	Operator ~ 55 dBA Distant Traffic ~ 35 to 36 dBA Hasects ~ 42 to 44 dBA JRD Traffic ~ 35 to 40 dBA Wind ~ 40 dBA	
		Donaldso	n and Ab	elmin⊨es~∖1	naudible 🥢	•		
					19. N. N.			

#### Table 6 Location D, Black Hill School, Black Hill

#### **Operator Attended Noise Monitoring Summary** 4.2

#### 4.2.1 Donaldson Mine

er en en en en totte Noise generated by local and distant traffic was asignificant contributor to noise levels at all monitored locations as well as "natural" noises such as birds, insects and feat rustle.

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No. No. N Donaldson operations were observed to only be 'audible/at Location F during the evening monitoring ر ان ان ÷.-. period.

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

#### 4.2.2 Abel Coal Mine

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

Abel operations were not observed to be audible at any noise monitoring location. 

Due to monitoring results recorded at Location L and Location D compliance can be inferred at Location I and Location Kirespectively. 

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#### 5 UNATTENDED CONTINUOUS NOISE MONITORING

#### 5.1 Results of Unattended Continuous Noise Monitoring

Unattended continuous noise monitoring was conducted between 09 December 2013 and 23 December 2013 at each of the five (5) nominated locations given in Table 7.

Table 7	Noise Loggers and Noise Monitoring Locations
---------	----------------------------------------------

Location	Noise Logger Serial Number	Date of Logging
A– Weakleys Drive, Beresfield	SVAN (23816) 👘 👘 🔨	16/12/2013 to 23/12/2013
F – Black Hill Road, Black Hill	16-203-531 💉 🖉	9/12/2013 to 16/12/2013
G – Buchanan Road, Buchanan	16-203-509 🤞 🐴	9/12/2013 to 16/12/2013
L – Kilshanny Ave, Kilshanny	01dB DUO (10767)	9/12/2013 to 16/12/2013
D – Black Hill School, Black Hill	Svan (23816) 🐧 👘	9/12/2013 to 16/12/2013
	s (j	

The unattended ambient noise logger data from each monitoring location are presented graphically on a daily basis and are attached as Appendices C1 to C5. A summary of the results of the unattended continuous noise monitoring is given in Table 8.

×. The ambient noise level data quantifies the overall noise level at a given location independent of its source or character.

The measured ambient noise levels were divided into three periods representing day, evening and night as designated in the NSW Industrial Noise Policy (INP). The day, evening and night periods replace the day and night periods defined under the Environmental Noise Control Manual (ENCM). However, as the Donaldson conditions of consent are under the ENCM, these periods have also been reported. 35 Ŷ

÷,, Precautions can be taken to minimise influences from extraneous noise sources (eg optimum placement of the loggers away from creeks, trees, houses, etc), however, not all these sources or their effects can be eliminated. This is particularly the case, during the warmer times of year when noise from insects, frogs, birds and other animals can become quite prevalent. 

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Weather data for the subject area during the noise monitoring period was provided by Bloomfield Noise data during periods of any rainfall and/or wind speeds in excess of 5 m/s Colliery. (approximately 9 knots) were discarded in accordance with INP weather affected data exclusion methodology. 

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1 4!	D-d-d	Primary Noise Descriptor (dBA re 20 µP a)					
Location	Period	LA1	LA10	L A90	LAeq		
A WeakleysDrive,	Daytime	57	53	46	52		
	Evening	58	53	45	53		
Beresfield	ENCM Daytime	57	53	46	52		
	Night	57	52	42	51		
F	Daytime	65	56	44	58		
Lot 684 Black	Evening	63	53 _{vila}	41	60		
Hill Road, Black Hill	ENCM Daytime	64	55	43	59		
	Night	56	ِيِّةِ 51	40	53		
G	Daytime	62	. 59	50	58		
156 Buchanan Road, Buchanan	Evening	55	j ş3 👘 👾	44	52		
	ENCM Daytime	58	<u></u>	46	56		
	Night	51	49	43	50		
	Daytime	57	Ś 🧳 🦻	42	50		
	Evening	55 🎸	⁸ ~~, x [*] 48, ⁶	37	48		
17 Kilshanny Ave, Ashtonfield	ENCM Daytime	55	48	38	49		
	Night	46	~ .41	35	43		
D Black Hill School, Black Hill	Daytime	·02····.		41	60		
	Evening	્ 62 ્ર્ય	51	40	56		
	ENCM Daytime	62	53	40	59		
	Night	52	× 46	38	54		

#### Table 8 Unattended Continuous Noise Monitoring Ambient Noise Levels (dBA Re 20 µPa)

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

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EPAPeriods used for the Environmental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm, Night 10.00 pm to 7.00 am.

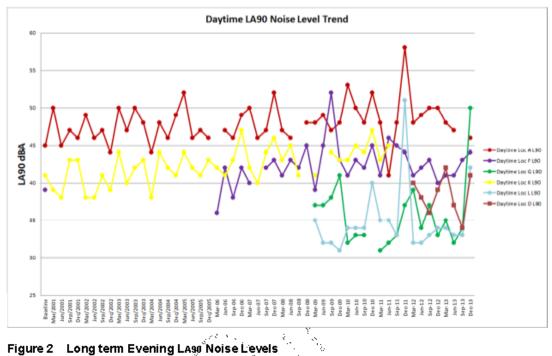
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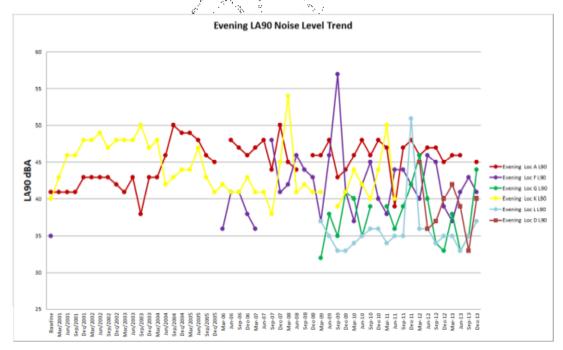
#### 5.2 Long term Unattended Continuous Monitoring Summary for Donaldson Mine and Abel Coal Mine

#### 5.2.1 Ambient Laso Noise Levels

#### Figure 1 Long term Daytime LA90 Noise Levels





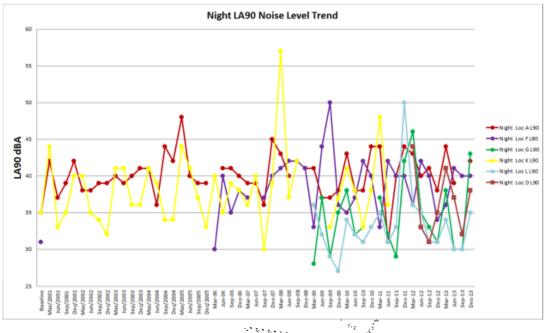


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### Figure 3 Long term Night-time Laso Noise Levels

#### Baseline

The summary of results in Table 8 and Figure 1, Figure 2 and Figure 3 show that ambient Laso noise levels recorded for the quarter ending December 2013 compared to the levels recorded during the baseline monitoring process at Location F were 5 dB, 6 dB and 9 dB higher during the daytime, evening and night-time periods at respectively, and within 3 dB at Location F during the Daytime, evening and night-time periods.

Given that no data was available at Locations D, G and L during baseline measurements and no monitoring was conducted at Location K during the December 2013 quarter no comparisons can be made. S. 18 ...

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# Previous Quarter (September 2013)

A comparison of the current monitoring period with the previous monitoring period shows that Laso noise levels were generally similar (within 3 dB) or lower than those recorded during June 2013 at Location F.

Increases of up to 7 dB in the Lago were recorded at Location D, 16 dB at Location G and 9 dB at Location L. It is considered that this is likely attributed to a higher presence of insects at these locations.

Due to a logger malfunction at Location A during the September 2013 guarter, no comparison can be made.

#### Coinciding Period Last Year (December 2012)

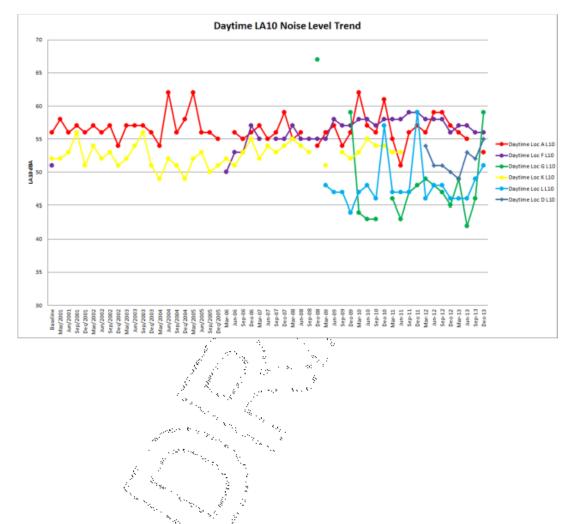
A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Laso noise levels were generally higher than those recorded in December 2012, with increases of up to 4 dB at Location A, 3 dB at Location D, 6 dB at Location F, 17 dB at Location G and 8 dB at Location L.

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#### 5.2.2 Ambient La10 Noise Comparison

The long term ambient LA10 noise levels collected from each monitoring location are presented graphically in **Figure 4**, **Figure 5** and **Figure 6** for the daytime, evening and night-time periods respectively.





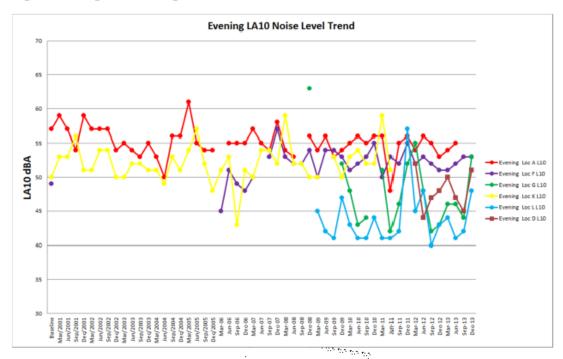
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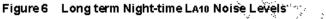
DONALDSON COAL PTY LTD Abel Underground Coal Mine Appendix 6

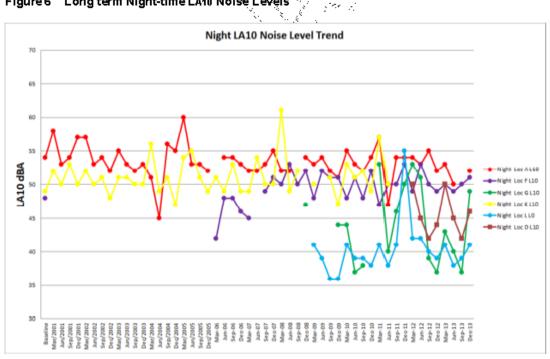
Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending December 2013

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### Figure 5 Long term Evening Late Noise Levels





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#### Baseline

The summary of results in Table 8 and Figure 4, Figure 5 and Figure 6 show that ambient LA10 noise levels recorded for the quarter ending December 2013 were 5 dB greater than levels recorded during the baseline monitoring process at Location F during the daytime and 4 dB higher during the evening and night-time periods. At Location A, decreases of up to 4 dB were recorded during the monitoring period.

Given that no data was available at Locations G. L and D during baseline measurements, no comparisons can be made during the December 2013 guarter.

#### Previous Quarter (September 2013)

A comparison of the current monitoring period with the previous monitoring period shows that recorded Lato noise levels at Location F were similar (within (1) dB) or lower to those recorded in September 2013. Increases of up to 13 dB at Location G, 6 dB at Location L and Location D were 5. A. recorded during the monitoring period.

Due to a logger malfunction at Location A during the September 2013 quarter, no comparison can be made. A REAL PROPERTY AND A REAL 12 Ś

#### Coinciding Period Last Year (December 2012)

e. E A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Lato noise levels were generally similar (withinْ 2 طَا) thän those recorded in September 2012 at Location A and Location F. Increases of up to 14 dB at Location G and 5 dB at Location L and ×... Location D were recorded during the monitoring period. ٦×.

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#### 5.3 Discussion

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Sec. 24 Based on the observations made during the operator attended noise surveys, where noise levels have been observed to increase at each location, the ambient noise environment is dominated by road traffic or natural noises and not considered to be impacted from the Donaldson or Abel Mine activity. ۲. ۲.

#### SUMMARY OF RESULTS AND FINDINGS 6

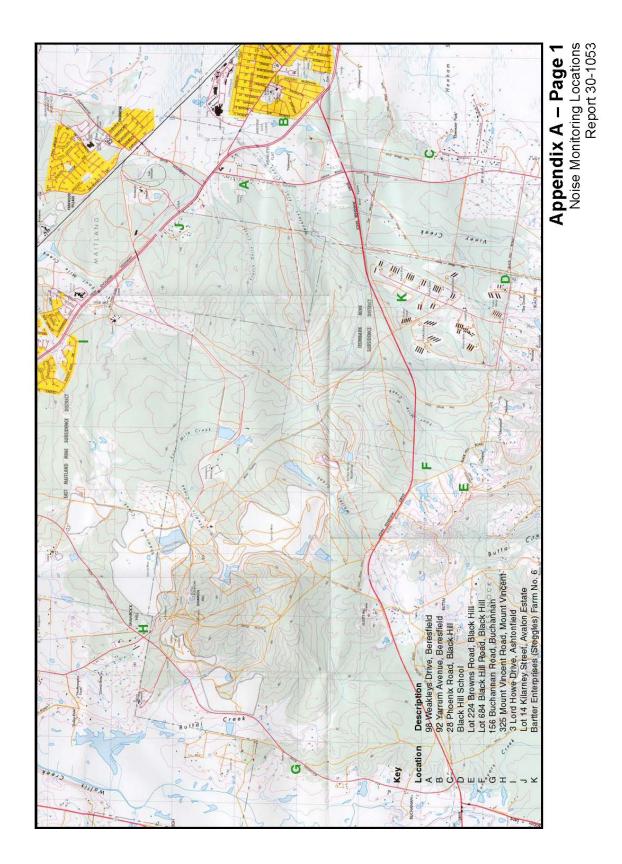
SLR was engaged by Donaldson Coal. Pty. Ltd to conduct quarterly noise monitoring surveys for Donaldson Coal Mine and Abel Coal Mine in accordance with the Abel Coal Mine Noise Monitoring н 197 — Кар Program, dated 27 May 2007. 280 B 4 3

The results of the operator-attended noise measurements conducted at five (5) focus locations surrounding the mine site are included in Table 2 to Table 6.

Based on the results and "observations from operator attended surveys, it is likely that contributed noise levels from Donaldson Mine comply with noise emission goals for all periods. 54

Abel Mine operations at the CHPP, were not audible at Location L during the monitoring period. Abel operations were not audible at any other locations during all periods and as such it is likely that contributed noise levels from Abel Mine did not exceed noise emission goals (including night-time sleep arousal criteria) and were in compliance with the Abel Mine Project Approval at all locations.

A comparison of ambient Lato and Lago noise levels recorded during the current monitoring period (December 2013), the baseline monitoring period, the last monitoring period (September 2013), and the coinciding monitoring period from last year (December 2012) has been conducted.



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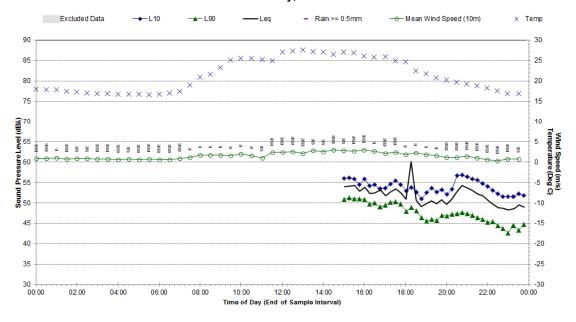
Appendix B Report Q39 30-1053-R1 Equipment Register Page 1 of 1

#### **APPENDIX B - EQUIPMENT REGISTER** JOB NUMBER: 30-1053 JOB DESCRIPTION: Donaldson Mine Quarterly Monitoring - March 2010

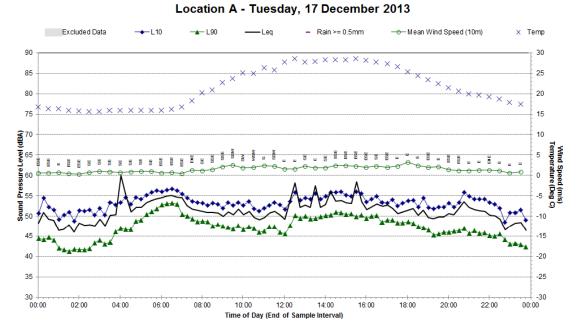
Unit No	Equipment	Description	Serial Number
1	DOZ004	CATERPILLAR D9R	7TL00898
2	DOZ005	CATERPILLAR D10R	3KR01384
3	DOZ006	CATERPILLAR D11N	74Z00717
4	DOZ008	CATERPILLAR D10R	3KR01233
5	DOZ009	CATERPILLAR D10R	AKT00823
6	EXC021	CATERPILLAR 330DL	NBD00168
7	EXC072	HITACHI EX2500	184-00108
8	EXC089	CATERPILLAR 5110B	AAA00311
9	LOD004	CATERPILLAR IT28G	CWAC00351
10	LOD044	KOMATSU WA700	10106
11	LOD149	CATERPILLAR 990II	4FR00394
12	RDT026	CATERPILLAR 777A W/CART	84A01034
13	RDT033	CATERPILLAR 740 W/CART	B1P02699
14	RDT100	CATERPILLAR 785	8GB00596
15	RDT107	CATERPILLAR 785	8GB00320
16	RDT140	CATERPILLAR 785	8GB00333
17	RDT143	CATERPILLAR 785	8GB00374
18	RDT155	CATERPILLAR 785	8GB00152
19	RDT162	CATERPILLAR 785	8GB00258
20	RDT163	CATERPILLAR 785	8GB00259
21	RDT182	CATERPILLAR 785	8GB00494
22	GRD004	CATERPILLAR 16H	6ZJ00678
23	GRD036	CATERPILLAR 16G	93U03039
24	CMP059	AIRMAN COMPRESSOR - STR034	
25	CMP061	SULLAIR COMPRESSOR 185CFM	200610160001
26	CMP062	SULLAIR COMPRESSOR 185CFM	206101100049
27	GEN001	KUBOTA GENERATOR – VEH154	
28	WEL057	LINCOLN SAM400 - VEH154	
29	VEH154	ISUZU NPS300 BOILY TRUCK	
30	STR034	VOLVO FL7 SERVICE TRUCK	YV5FAG6JD560318
31	UTE001	NISSAN PATROL SERVICE UTE	
32	UTE002	NISSAN NAVARA TRAYBACK	

Appendix C1 Statistical Ambient Noise Levels - Location A Page 1 of 4

### Statistical Ambient Noise Levels Location A - Monday, 16 December 2013



# **Statistical Ambient Noise Levels**

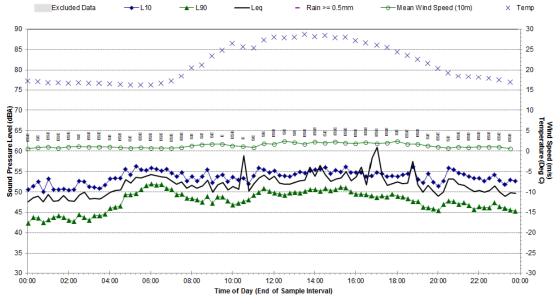


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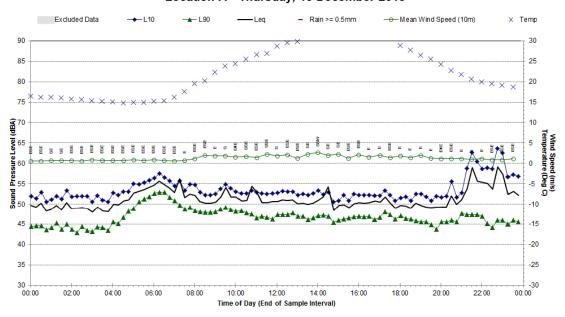
## **Appendix C1**

Statistical Ambient Noise Levels - Location A Page 2 of 4

# Statistical Ambient Noise Levels Location A - Wednesday, 18 December 2013



### Statistical Ambient Noise Levels Location A - Thursday, 19 December 2013



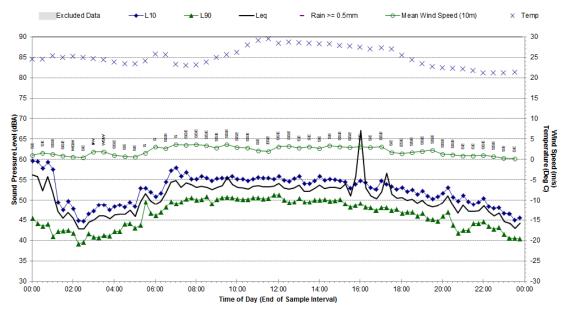
Appendix C1 Statistical Ambient Noise Levels - Location A Page 3 of 4

#### Location A - Friday, 20 December 2013 Excluded Data ←L10 - L90 - Rain >= 0.5mm -Leq × Temp 90 30 × × 85 × 25 × 80 20 75 15 10 **Bressure Level (dBA)** 60 55 MIN adula ~ ŝ ≧ Wind ž 5 8 щ ж X 8 뜅 ature 0 ĝ -5 punos 50 -10 45 -15 40 -20 35 -25 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

## **Statistical Ambient Noise Levels**

Location A - Saturday, 21 December 2013



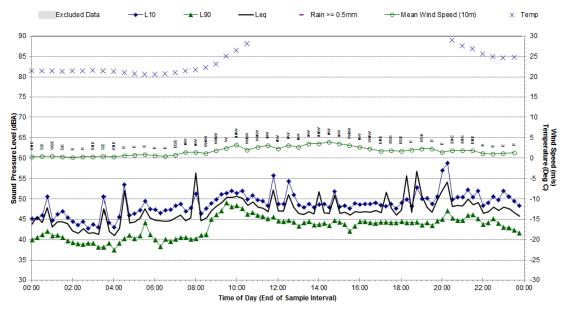
Report No. 737/09

## **Appendix C1**

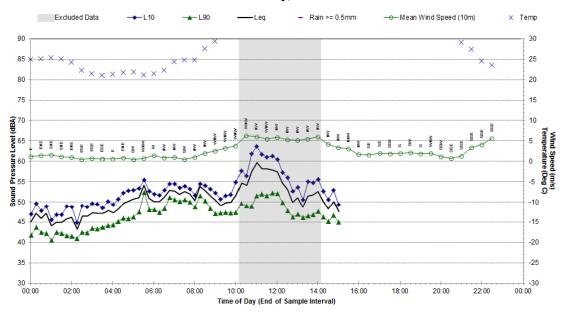
Statistical Ambient Noise Levels - Location A Page 4 of 4

# Statistical Ambient Noise Levels

Location A - Sunday, 22 December 2013

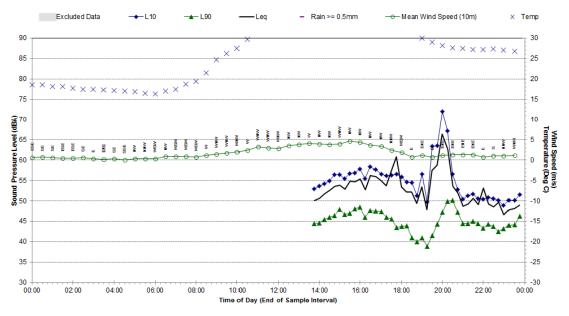


### Statistical Ambient Noise Levels Location A - Monday, 23 December 2013

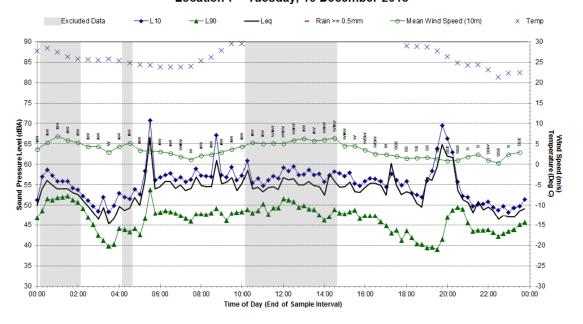


Appendix C2 Statistical Ambient Noise Levels – Location F Page 1 of 4

### **Statistical Ambient Noise Levels** Location F - Monday, 9 December 2013



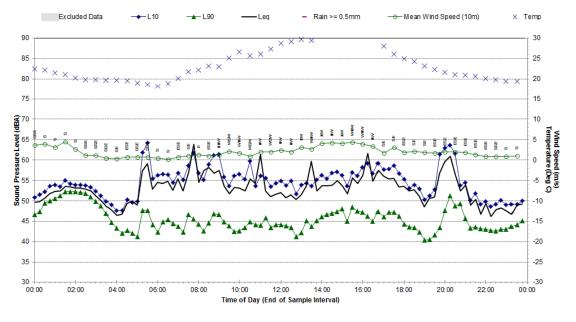
### **Statistical Ambient Noise Levels** Location F - Tuesday, 10 December 2013



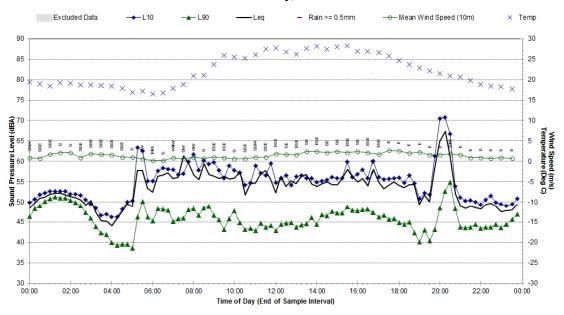
Report No. 737/09

Appendix C2 Statistical Ambient Noise Levels – Location F Page 2 of 4

## **Statistical Ambient Noise Levels** Location F - Wednesday, 11 December 2013



### **Statistical Ambient Noise Levels** Location F - Thursday, 12 December 2013

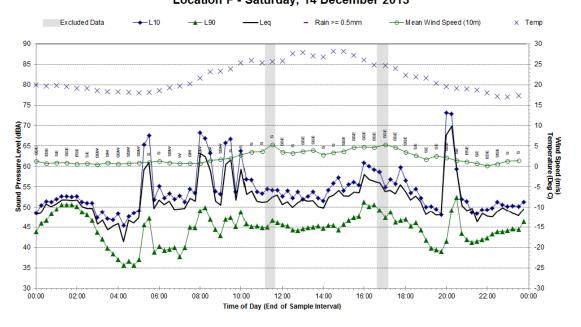


Appendix C2 Statistical Ambient Noise Levels – Location F Page 3 of 4

#### Location F - Friday, 13 December 2013 Excluded Data - L90 - Rain >= 0.5mm Leq × Temp 90 30 х $\times \times \times$ ×х 85 × 25 ××××× × 80 20 X ×х × 75 15 10 **Bressure Level (dBA)** 60 55 Tempe Wind 5 8 8 8 8 88 305 8 8 8 8 28 × .... ш Ř Speed ature (Deg 0 S/W) -5 Ω Sound 50 -10 45 -15 ******** 40 -20 35 -25 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

**Statistical Ambient Noise Levels** 

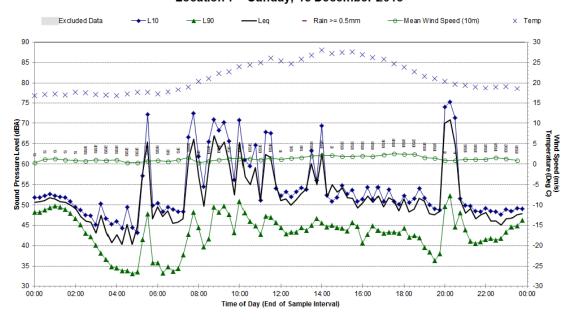
### **Statistical Ambient Noise Levels** Location F - Saturday, 14 December 2013



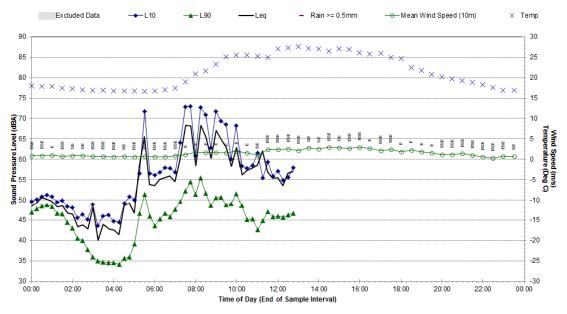
Report No. 737/09

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### Statistical Ambient Noise Levels Location F - Sunday, 15 December 2013



## Statistical Ambient Noise Levels Location F - Monday, 16 December 2013



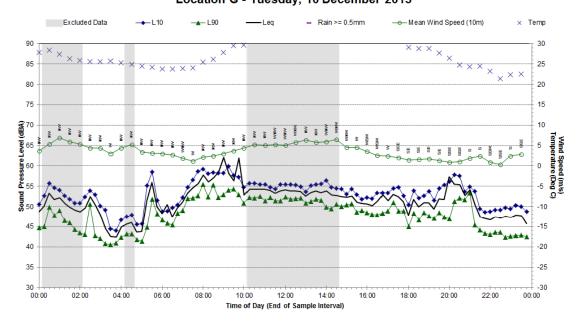
#### Appendix C3

Statistical Ambient Noise Levels - Location G Page 1 of 4

#### Location G - Monday, 9 December 2013 Excluded Data -**L**90 -Leq Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp 90 30 $\times \times \times \times \times \times \times \times$ × 85 25 80 20 × 75 15 70 65 60 60 10 ŝ NIN. NIN N. empe 3 2 ŝ Wind 5 H H 1 Ň 볎 30 H 8 rature (Deg ( 0 S 55 -5 2 punos 50 -10 45 -15 40 -20 -25 35 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

**Statistical Ambient Noise Levels** 

### Statistical Ambient Noise Levels Location G - Tuesday, 10 December 2013

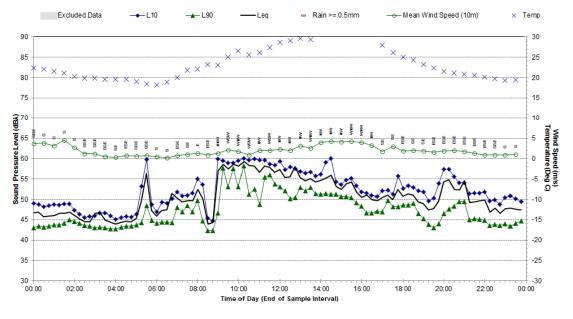


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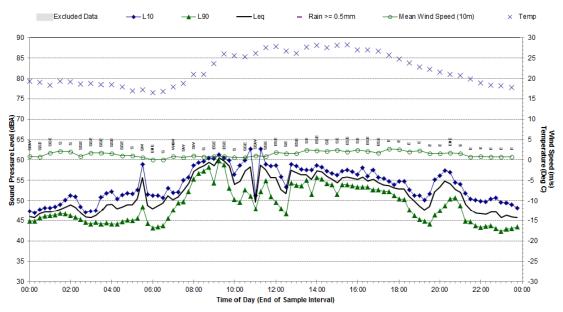
#### Appendix C3

Statistical Ambient Noise Levels - Location G Page 2 of 4

## Statistical Ambient Noise Levels Location G - Wednesday, 11 December 2013

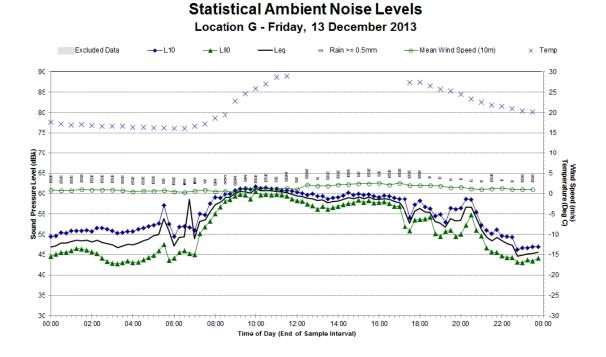


## Statistical Ambient Noise Levels Location G - Thursday, 12 December 2013

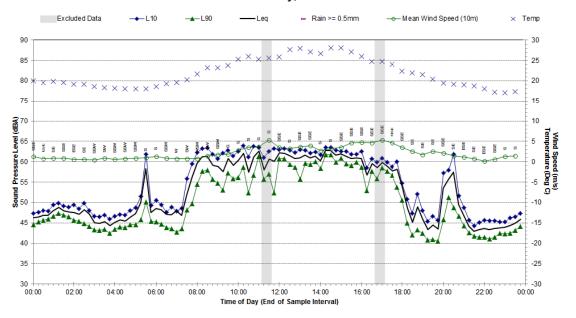


#### Appendix C3

Statistical Ambient Noise Levels - Location G Page 3 of 4



#### Statistical Ambient Noise Levels Location G - Saturday, 14 December 2013

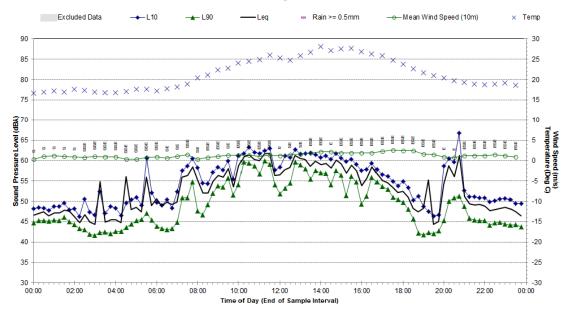


Report No. 737/09

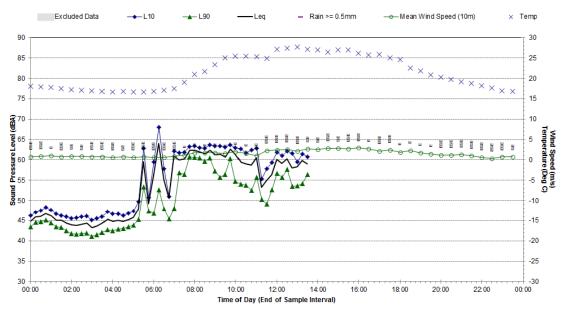
#### Appendix C3

Statistical Ambient Noise Levels - Location G Page 4 of 4

### Statistical Ambient Noise Levels Location G - Sunday, 15 December 2013



## Statistical Ambient Noise Levels Location G - Monday, 16 December 2013



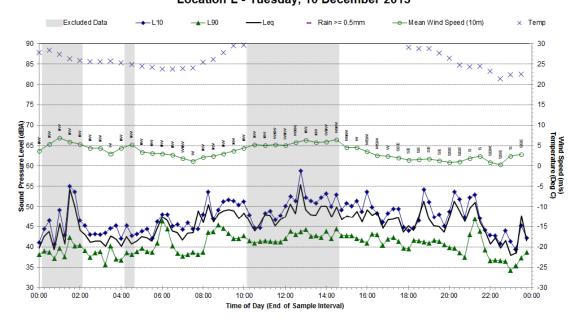
#### Appendix C4

Statistical Ambient Noise Levels - Location L Page 1 of 4

#### Location L - Monday, 9 December 2013 Excluded Data -**L**90 -Leq - Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp 90 30 $\times \times \times \times \times \times \times \times$ × 85 25 80 20 × 75 15 70 65 60 60 10 ŝ M Tempe ≧ Wind ŝ 3 5 H H 1 Ň R ᇥ H н rature (Deg C 0 S 55 -5 õ punos 50 -10 45 -15 40 -20 -25 35 30 +---00:00 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

### Statistical Ambient Noise Levels Location L - Tuesday, 10 December 2013



Report No. 737/09

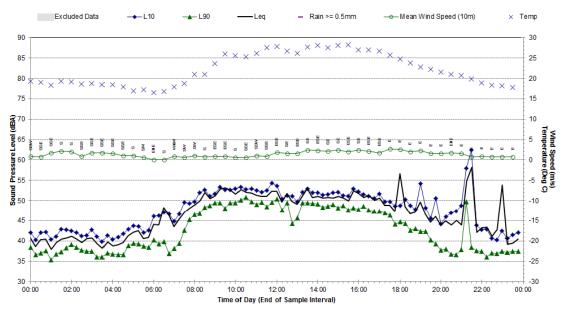
#### Appendix C4

Statistical Ambient Noise Levels - Location L Page 2 of 4

#### Location L - Wednesday, 11 December 2013 Excluded Data 📥 L90 Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp Leq 90 30 × ×× 85 25 ×××× X ××× 80 20 × × 75 15 10 <del>کو</del> 70 ~~~ ŝ Wind : Temper 8 65 5 뷶 ö 8 rature ( 1 and 60 0 Deg **4** 55 (m)s -5 2 punos 50 -10 -15 45 -20 40 35 -25 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

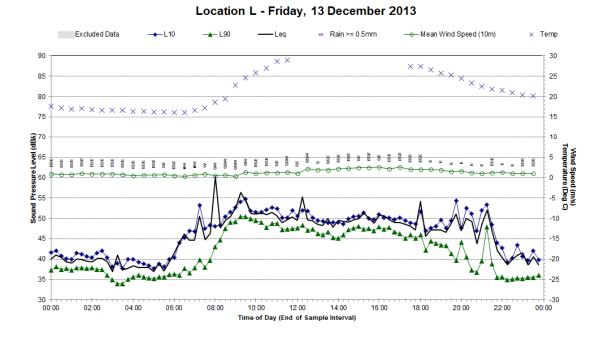
Statistical Ambient Noise Levels

## Statistical Ambient Noise Levels Location L - Thursday, 12 December 2013



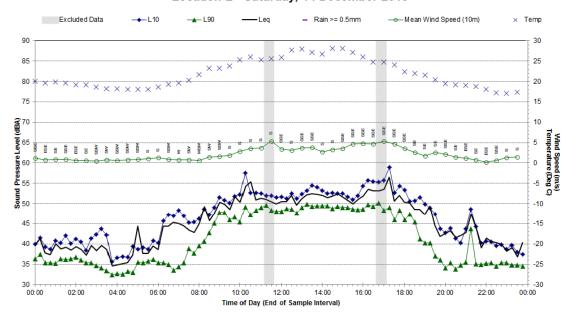
#### Appendix C4

Statistical Ambient Noise Levels - Location L Page 3 of 4



Statistical Ambient Noise Levels

### Statistical Ambient Noise Levels Location L - Saturday, 14 December 2013

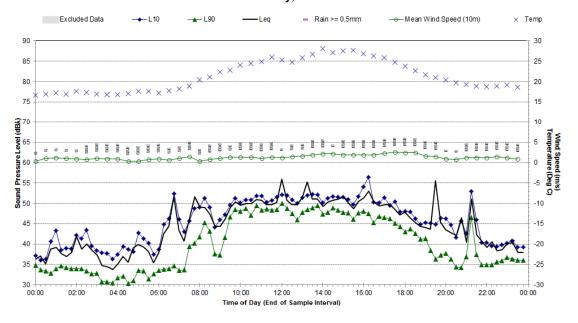


Report No. 737/09

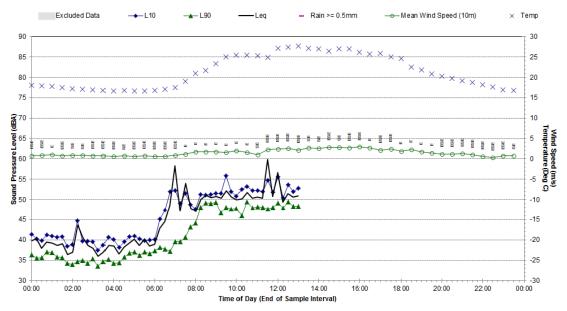
#### Appendix C4

Statistical Ambient Noise Levels - Location L Page 4 of 4

### Statistical Ambient Noise Levels Location L - Sunday, 15 December 2013



## Statistical Ambient Noise Levels Location L - Monday, 16 December 2013



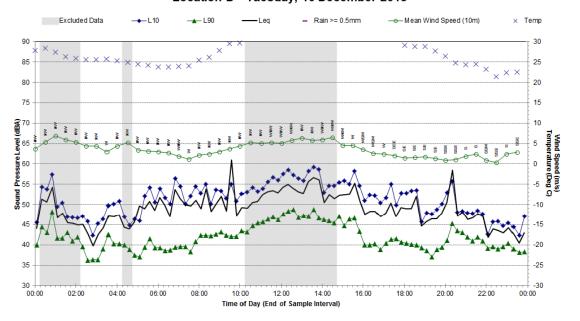
#### Appendix C5

Statistical Ambient Noise Levels - Location D Page 1 of 4

#### Location D - Monday, 9 December 2013 Excluded Data -**L**90 -Leq Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp 90 30 $\times \times \times \times \times \times \times \times$ × 85 25 80 20 75 15 70 65 60 60 10 NIN N empe ≧ ŝ ≧ ≧ Wind S. 3 5 10 H ᇥ 30 H Speed ature 0 S 55 ĝ s/m) -5 2 punos 50 -10 45 -15 40 -20 -25 35 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

**Statistical Ambient Noise Levels** 

### Statistical Ambient Noise Levels Location D - Tuesday, 10 December 2013



Report No. 737/09

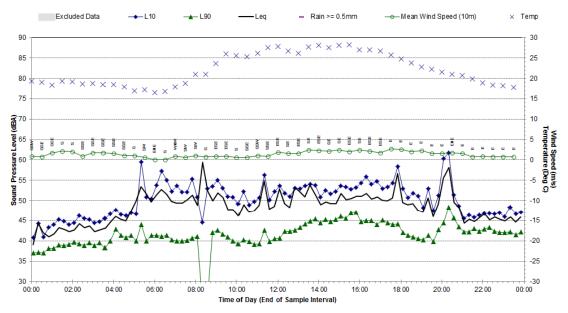
#### Appendix C5

Statistical Ambient Noise Levels - Location D Page 2 of 4

#### Location D - Wednesday, 11 December 2013 Excluded Data 📥 L90 Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp Leq 90 30 × 85 25 ×× ×х × × 80 20 × 75 15 10 **10** 70 Cemper Wind 8 65 5 8 8 8 10 100 Spee o9 Surel 0 ature 0 0 (Deg **2** 55 -5 S punos 50 -10 45 -15 40 -20 35 -25 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sar nole Interval)

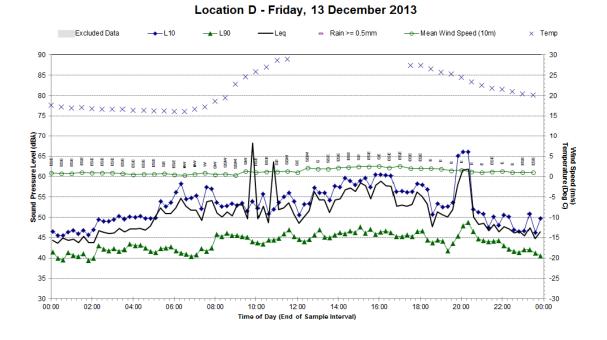
**Statistical Ambient Noise Levels** 

## Statistical Ambient Noise Levels Location D - Thursday, 12 December 2013



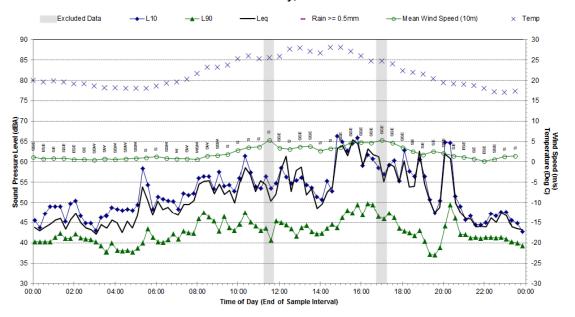
#### Appendix C5

Statistical Ambient Noise Levels - Location D Page 3 of 4



**Statistical Ambient Noise Levels** 

### Statistical Ambient Noise Levels Location D - Saturday, 14 December 2013

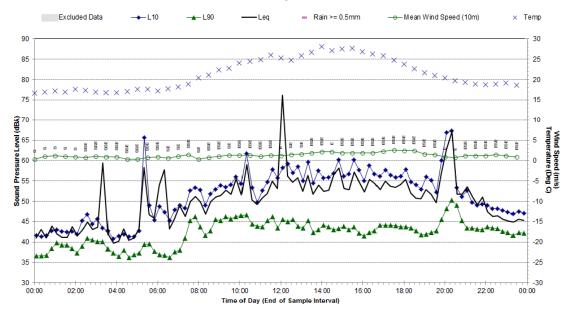


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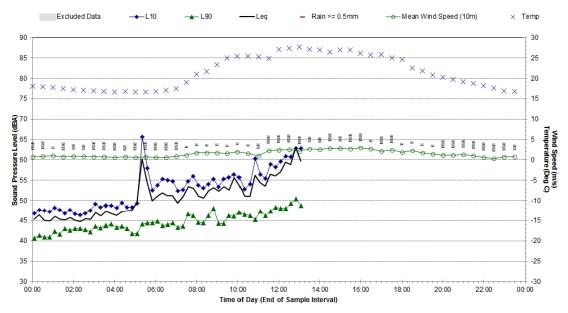
#### Appendix C5

Statistical Ambient Noise Levels - Location D Page 4 of 4

### Statistical Ambient Noise Levels Location D - Sunday, 15 December 2013



## Statistical Ambient Noise Levels Location D - Monday, 16 December 2013





global environmental solutions

Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

Quarter Ending March 2014

Report Number Q53 630.01053-R1

30 April 2014

Donaldson Coal Pty Ltd PO Box 675 Green Hills 2320

Version: Draft 1

# DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

> Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014

#### 2013/2014 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT Report No. 737/09

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# Donaldson and Abel Coal Mines

Quarterly Noise Monitoring

# Quarter Ending March 2014



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(PO Box 447 New Lambton NSW 2305 Australia) T: 61 2 4037 3200 F: 61 2 4037 3201 E: newcastleau@slrconsulting.com www.slrconsulting.com

> This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with the Client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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> SLR Consulting disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Reference	Status	Date	Prepared	Checked	Authorised
Q53 630.01053- R1	Draft 1	30 April 2014	Nicholas Vandenberg	John Cotterill	

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### 1 INTRODUCTION

Development consent was obtained by Donaldson Coal Pty Ltd for the Donaldson Mine in October 1999 following a Commission of Inquiry. Development Consent number N97/00147 was issued by the Minister for Urban Affairs pursuant to Section 101 of the Environmental Planning and Assessment Act 1979.

Project Approval (Application No. 05_0136) granted by the Minister of Planning was obtained by Donaldson Coal Pty Ltd for Abel Coal Mine in 2007.

Donaldson Coal Pty Ltd has commissioned SLR Consulting Pty Ltd (SLR) to conduct quarterly noise monitoring surveys for the Donaldson Coal Mine and Abel Coal Mine accordance with the Abel Mine Project Noise Monitoring Program, dated 27 May 2008.

The objectives of the noise monitoring survey for this operating quarter were as follows:

- Measure the ambient noise levels at five (5) focus receptor locations (potentially worst affected) surrounding Donaldson Coal Mine and Abel Coal Mine
- Qualify all sources of noise within each of the attended surveys, including estimated contribution or maximum level of individual noise sources.
- Assess the noise emissions of Donaldson Coal Mine and Abel Coal Mine with respect to the limits contained in the Development Consent.

### 2 DEVELOPMENT CONSENT PROJECT APPROVAL

#### 2.1 Donaldson Coal Mine Development Consent Conditions

The Development Consent nominates hours of operation and mine noise emission goals in the Sections entitled "Operation of Development, Condition No. 3(1) and 3(2)", and "Noise and Vibrational Noise Limits: Condition No. 15" as follows:

а <i>и</i> јест о (2) пле а	uproveu inngra i	טי טטברמגוטרו מרב מט וטווטאיט.	
Works	J. K.	Period.,	Hours
Construction, incl construction of an	y bunds 👘 👘	Monday to Friday Saturday	7 amto 6 pm 8 amto 1 pm
Mining operations mining, haulage o dumps and coal p	f waste to 👘 👘	Monday to Friday Saturday, Sunday	24 hoursper day 7 amto 6 pm
Road Transportat stockpiling of coal	on and	7 d҉aysper week	24 hoursper day
Rail loading of cờ	st. The st	7 daysper week	7 amto 10 pm
Maintenance of m plant	obile and fixed	, 7 daysper week	24 hoursper day
Blasting, not invol John Renshaw Di		Monday to Saturday	7 amto 5 pm
Blasting, involving John Renshaw Di		Monday to Saturday	10 amto 2 pm

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

Notes: Restrictions on Public Holidays are the same as Sundays

Appendix 6

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- (2) The Applicant shall submit a report to the Director-General's satisfaction demonstrating the noise limits in Condition 15 can be met while rail loading of coal is occurring during the period from 6 pm to 10 pm. 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 7 am to 6 pm."
- 15. 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	LA10(15m	inute) Noise Limits (a	IBA)
Locadon	Daytime		Night-time
Beresfield area (residential)	45	E Participantes	35
Steggles Poultry Farm	50		40 .
Ebenezer Park Area	46		41
Black Hill Area	40	A A CAR	38
Buchanan and Louth Park Area	38 ,		36
Ashtorfield Area	41	N	35
Thornton Area	48	1	40
l hornton Area	48		40

Sec.

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

135

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

Other Conditions of Consent relevant to noise are as follows:

- The applicant shall survey and investigate noise reduction measures from plant and equipment and set targets for noise reduction in each Annual Environmental Management "18. Report (AEMR), taking into consideration valid noise complaints received in the previous year. The Report shall also include remedial measures.
- 19. The Applicant shall, revise, the Noise Mahagement Plan as necessary and provide an updated Plan five years after comméncement of mining to the Director-General, the independent noise expert (Condition 48), EPAr, Counsils and the Community Consultative Committee."

#### 2.2 Abel Coal Mine - Project Approval No. Star

### Approved Operations

The following operations are approved under the Abel Colliery Project Approval:

1 0

- Extraction of up to 6.1 Mtpa of ROM coal from the Abel Underground Coal Mine. ٠
- Transport coal to the existing Bloomfield CHPP by private haul roads, or by coal conveyor, or by a combination of both methods.
- Operate the Bloomfield CHPP to process coal extracted from the Abel Coal Mine and the Bloomfield and Donaldson Coal Mines.
- Transportation of product coal from the Bloomfield site by rail via the Bloomfield rail loading facility.

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The PA was modified in June 2010 (05_0136 MOD 1) allowing construction and operation of a downcast ventilation fan. In May 2011 the PA was modified again (05_0136 MOD 2) to allow the construction and operation of an upcast ventilation fan (and associated facilities). In December 2013 the PA was further modified (05_0136 MOD3) to account for the increase in coal extracted including the upgrade of the Bloomfield Coal Handling and Preparation Plant (CHPP).

#### **Consent Conditions**

The relevant conditions relating to noise from the Abel Coal Mine approval are reproduced below.

Schedule 4

NOISE

#### **Operational Noise Criteria**

1. The Proponent shall ensure that the noise genératéd by the Project does not exceed the criteria in Table 4 at any residence on privately-owned land. ,¥

Ś è

Table 4: Operational Noise Criteria dB(A,
-------------------------------------------

Table 4: Op	erational Noise Criteria	dB(A)	1.00	
	Deseives Assa	Day / Evening	Night	
Location	Receiver Area	LAeq(15min) LAeq(15min)	LAeq(15min)	LA1(1min)
Location I	Lord Howe Drive, Ashtronfield	36	36	45
Location K	Catholic Diocese Land	37. 37° av	37	45
Location L	Killshanny Avenue, Ashtonfield	40 40	40	47
All other Locations	All other privately- owned Residences	35	35	45

Notes:

To interpret the locations referred to in Table 4, see plan In Appendix 3 (Appendix A).

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions); of the NSW Industrial Noise Policy.

However, these noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement. 1999 1995 - S.S. * »_{2.1}

#### Construction Noise Griteria . .

The proponent shall ensure that the noise generated during the construction of the 2. downcast ventilitation shaft as described in EA (MOD3) does not exceed the criteria in No. 1 0 Table 5. `****.

Table 5: Construction Noise Crit	eria dB(A) -

Location	Receiver	Day	
	Receiver	L Aeq(15 minute)	
Location R	281 Lings Road, Buttai	50	
Location S	189 Lings Road, Buttai	43	

Notes:

The criteria in Table 5 apply only whilst the downcast ventilation shaft is being constructed, and for a maximum of 12 weeks from the commencement of construction.

To interpret the locations refered to in Table 5, see plan in Appendix 3 (Appendix A).

Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

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However, these noise criteria do not apply if the Proponent has an Agreement with the relevant landowner to generate higher noise levels, and the proponent has advised the Department in writing of the terms of this agreement.

#### Rail Noise Criteria

The proponent shall ensure that the noise from rail movements on the Bloomfield Rail Spur does not exceed the limits in Table 6 at any residence on privately owned land.

Table 6: Rail Spur noise criteria dB (A)

Location	Day	Evening 👘 🔍	Night
	LAcq(period)		
All privately-owned land	55	45	40
Cumulative Noise (	Criteria		1995 20

4. The proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with noise generated by other mines does not exceed the criteria in Table 7 at any residence on privately-owned land. Υ.

Table 7: Cumulative	noise crite	eria dB (A)		
Location	Day	Evening: 🚬	Night	
	Aeq(period)			
All privately-owned land	55	45 star	40	

Notes: Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including meteorological conditions), of the NSW Industrial Noise Policy. Appendix 4 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria. ÷.,

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#### **Operating Conditions**

- 5. The proponent shalk
  - أنقيحه المحصي a. Implement best management practise to minimise the construction, operational, road and rail noise of the project;

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- Operate an on-site hoise management system to ensure compliance with the b. relevant conditions of this approval;
- Minimise the noise impacts of the project during meteorological conditions under which the noise limits in this consent do not apply (see Appendix 4);
- d. Only receive and/or dispatch locomotives and rolling stock either on or from the site that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL (No. 3142);
- e. Carry out regular monitoring to determine whether the project is complying with the noise criteria and other relevant conditions of approval,

to the satisfaction of the Director-General.

#### Noise Management Plan

- The proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
  - a. Be prepared in consultation with the EPA, and be submitted to the Director-General for approval within 6 months of the date of approval of MOD 3;

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- b. Describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
- Describe the proposed noise management system in detail; and
- d. Include a monitoring program that:
  - Uses attended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
  - Evaluates and reports on:
    - The effectiveness of the on-site noise management system; and
    - Compliance against the noise operating conditions; and
  - Defines what constitutes a noise incident, and includes protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents. ίeγ.

Appendix 4

#### Noise Compliance Assessment

#### Applicable Meteorological Conditions

- 1. The noise criteria in Tables 4 and 7 are to apply under all metrological conditions a. During periods of rain of hall ways b. Average wind spectation except the following: 1

  - b. Average wind speed at microphone height exceeds 5 m/s;

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c. Wind speeds greater than 3 m/s measured at 10m above ground level; or d. Temperature inversion condition's greater than 3°C/100m.

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### n an Tha an Determination of metrological conditions

2. Except for wind speed at microphone height, the data to be used for determining metrological conditions shall, be that recorded by the meteorological station located on the site, , , ÷.

- . . Compliance monitoring conditions of this approval.
  - Unless otherwise agreed with the director-general, this monitoring is to be carried. out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to:
    - a. Monitoring locations for the collection of representative noise data;
    - b. Metrological conditions during which collection of noise data is not 🔌 "appropriate
    - .c. Equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
    - d. Modification to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

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#### Appendix 5

#### Statement of Commitments

#### 3. Noise

#### 3.1 Construction Activities

The following noise control measures will be implemented prior to commencement of construction of the Abel Underground Mine or the upgrade of the Bloomfield CHPP.

- Maintain all machinery and equipment in working order;...
  - No construction activities at the Abel pit top, will, take place on Sundays or Public a. Holidays;
  - b. Where possible locate noisy site equipment behind structures that act as barriers or at the greatest distance from noise sensitive areas; and
  - c. Orientate equipment so that noise emissions are directed away from noise ус Ц С sensitive areas. "e 3 . مانياني

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#### 3.2 Noise Control Measures

- j. S and the second a. The following noise control measures will be implemented prior to the mining of coal from the Abel underground Mine:
  - i. Orientation of the ventilation fans, away from residential receivers and angle the output parallel, to the ground: 🔬
  - ii. The sound power level of the front end loader to be used near the portal should not exceed 11,3 dBA and will be fitted with a noise sensitive ^ير ب^ر reversing alarm. 📉
- b. The following noise control measures will be implemented prior to the Bloomfield CHPP receiving any ROM coal from Able Underground Mine;
  - i. Noise mitigation works including partial enclosure and noise screening of drives and conveyors of the Bloomfield CHPP to screen residences to the north of the site. 14.5

#### 3.2 Monitoring

~ ^____ The Company wilk implement a Noise Monitoring Program for the Abel Underground Mine and the Bloomfield CHPP; to the satisfaction of the Director-General. The Noise Monitoring Program shall include a combination of real-time and supplementary attended monitoring measures, and a noise monitoring protocol for evaluating compliance with the noise environmental, assessment. This plan will be integrated with the monitoring plans for the Tasman, Donaldson and Bloomfield Mines to provide a single integrated Noise Monitoring Program for all 4 mines

#### 3.4 Continuous Improvement

The Company shall:

a. Report on these investigations and implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director General.

The operator of the Bloomfield CHPP shall:

b. Investigate ways to reduce the noise generated by the Bloomfield CHPP, including maximum noise levels which may result in sleep disturbance;

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- c. Implement all reasonable and feasible best practice noise mitigation measures on the site; and
- d. Report on these investigations and the implementation of any new noise mitigation measures on site in the AEMR, to the satisfaction of the Director-General.

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#### 3 PROCEDURES AND METHODOLOGY

#### 3.1 General Requirements

The operational noise monitoring program was conducted with reference to Development Consent N97/00147 (Donaldson Coal Mine), Project Approval 05 0136 (Abéi Coal Mine), and in accordance with Heggies Report 30-1409-R2 dated 27 May 2008 (Abel Mine Project Noise Monitoring Program) and AS 1055-1997 "Acoustics - Description and Measurement of Environmental Noise".

All acoustic instrumentation employed throughout the monitoring programme has been designed to comply with the requirements of IEC 61672.1-2004 # Electroacoustics - "Sound Level Meters -Specifications" and carries current NATA or manufacturer calibration certificates. 

#### Monitoring Locations 3.2

Baseline and preceding operational quarterly surveys have been conducted at 11 locations surrounding the Donaldson Mine and Abel Coal Mine sites. With the experience of these previous surveys, it was decided to concentrate noise monitoring at five (5) focus locations that represent the potentially most noise affected areas from Donaldson Mine and Abel Coal Mine during the March 2014 quarter. The details of the monitoring locations are contained within Table 1. 4 . .

Noise Monitoring Location	Description
D	Black Hill School, Black Hill
F	کَلot 684 Black: Hill Road, Black Hill
G	💉 156 Buchannan Road, Buchannan
	* Lord Howe Drive, Ashtonfield
L	17 Kilshanny Ave, Ashtonfield

#### Table 1 Monitoring Locations

A map giving the approximate location of the noise monitoring sites is contained within Appendix A.

#### 3.3 Unattended Continuous Noise Monitoring

Environmental noise loggers were deployed for a minimum of seven (7) days between 4 March 2014 and 19 March 2014 at each of the five (5) nominated locations given in Table 1. An additional unattended noise logger was positioned at Location J for the purpose of determining compliance with the Rail Noise Criteria.

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All unattended monitoring equipment was programmed to continuously record statistical noise level indices in 15 minute intervals including the Lamax, LA1, LA10, LA90, LA99, Lamin and LAeq. The statistical noise exceedance levels (LAN) are the levels exceeded for N% of the 15 minute interval. The Laso represents the level exceeded for 90% of the interval period and is referred to as the average minimum or background noise level. The LA10 is the level exceeded for 10% of the time and is usually referred to as the average maximum noise level. The LAeq is the equivalent continuous sound pressure level and represents the steady sound level which is equal in energy to the fluctuating level over the interval period. The LAmax is the maximum noise level recorded over the interval. Instrument calibration was conducted before and after each measurement survey, with the variation in calibrated levels not exceeding ±0.5 dBA.

#### 3.4 **Operator Attended Noise Monitoring**

Operator attended surveys were conducted at each of the five (5) monitoring locations during the daytime, evening and night-time periods, to verify the unattenged logging results and to determine the character and contribution of ambient noise sources.

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#### 3.5 Equipment Operations

The mobile equipment operating on the Donaldson Mine site during the survey period are contained in Appendix B. However, no operations at Donaldson Mine were undertaken on the 11th of March. Ľ,

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The only surface equipment operating on the Abel Coal Mine site during the survey periods was the ventilation fan, the Bloomfield Coal Handling and Preparation Plant (CHPP) and haulage to the CHPP.

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## 4 OPERATOR ATTENDED NOISE MONITORING

### 4.1 Results of Operator Attended Noise Monitoring

Operator attended noise measurements were conducted during the daytime on Tuesday 11 March 2014, during the evening on Tuesday 11 March 2014 and during the night-time on Tuesday 11 March 2014 and Wednesday 12 March 2014. All operator attended noise surveys were conducted using a Brüel & Kjær 2270 Type 1, integrating sound level meter (s/n: 2679354).

Results of the operator attended noise measurements are given in **Table 2** to **Table 6**. Ambient noise levels given in the tables include all noise sources such as traffic, insects, birds, and mine operations as well as any other industrial operations.

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The tables provide the following information:

- Monitoring location.
- Date & start time.
- Wind velocity (m/s) and Temperature (°C) at the méasurement location.**
- Typical maximum (LAmax) and contributed noise/levels.

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

Date/Start Time/Weather	Measurement Description	Primary Noise Desc (dBA re 20 µPa)		Description of Noise Emission and Typical Maximum Levels	
		LAmax LA1	LA10 LA90	LAeq	LAmax – dBA
11/03/2014 16:46 VV = 1 m /s E Tem p = 28°C Cloud cover = 1/8	Daytim e Ambient	81; 74	*.62 × 43	60	M1 Traffic ~ 43 to 45 dBA Local Traffic ~ 67 to 81 dBA Birds ~ 47 to 54 dBA School gate ~ 48 to 51 dBA Car Brakes ~ 49 dBA
		Donaldson and Abel r	n ines ~, Inaudible		
11/03/2014 19:27 VV = 0.5 m /s E Tem p = 22°C Cloud cover = 1/8	Evening Ambient	**************************************	57 44	58	Traffic ~ 73 to 80 dBA Dist Traffic ~ 42 to 44 dBA Birds ~ 46 to 60 dBA Plane ~ 47 to 51 dBA Operator ~ 58 dBA
		Donaldson and Abel r	n ines∼Inaudible		
12/03/2014 00:08 W = 1 m /s E Tem p = 17℃ Cloud cover = 1/8	Night-time Ambient	73 59	47 42	49	Insects ~ 41 to 46 dBA Animals ~ 47 to 51 dBA M1 Traffic ~ 38 to 46 dBA Local Traffic ~ 73 dBA Birds ~ 49 to 50 dBA Burnout ~ 46 dBA
		Donaldson and Abel r	n ines∼ Inaudible		

### Table 2 Location D, Black Hill School, Black Hill

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### Table 3 Location F, Lot 684 Black Hill Road, Black Hill

Date/Start Time/Weather	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA
11/03/2014 17:07 W = 2 m/s SE Tem p = 26°C Cloud cover = 1/8	Daytime Ambient	83	77	65	49	64	Local Traffic ~ 71 to 83 dBA Birds ~ 65 dBA JRD Traffic ~ 53 to 64 dBA Truck turning off JRD~ 83 dBA
		Donaldso	on and Abe	elm in es∼ Ir	naudible		
11/03/2014 20:52 W = 1 m/s SE Tem p = 19℃	Evening Ambient	79	69	54	38 .		JRD Traffic ~ 56 to 70 dBA Distant Traffic ~ 44 dBA Insects ~ 41 to 40 dBA
Cloud coiver = 1/8		Donaldso	on and Abe	el mines∼ In	naudible ^{, ý}	Į.	
12/03/2014 00:29 VV = 1 m /sE Tem p = 17°C	Night-time Ambient	68	57	47	.38	46	JRD Traffic 57 to 68 dBA Abel Bang ~ < 35 dBA
Cloud coiver = 1/8		Estimate	d Abel Cor	ntribution ~	<30 dÊA	- 1977 - C	
able 4 Loca Date/Start Time/Weather	tion G, 156 Bu Measurement Description		Noise De	, į		. <u></u>	Description of Noise Emission and Typical Maximum Levels
		LAmax	LA1	LĂ10	LA90	LAeq	LAmax – dBA
11/03/2014 15:33 W = 2 m/s E Temp = 28°C	Daytime Ambient	61	50 _. ,	47	38	×	Wind ~ 41 to 52 dBA Operator ~ 61 dBA Birds ~ 49 dBA
Cloud cover = 1/8		Donaldso	on arid Abe	alum ines ~ Ir	naudible		
11/03/2014 21:43 VV = 1 m /s E Tem p = 19°C Cloud cover = 1/8	Evening Ambient	52	َنْ 48``	47	3174 X 39	44	In sects ∼ 39 to52 dBA Dog Banking ∼ 46 to51 dBA Dist Traffic ∼ 33 to43 dBA Resi ∼ 33 to45 dBA
		Donàidso	n and Abe	elm in és∼lr	naudible		
11/03/2014 22:00 W = 1 m/sE		1	· · ·				

Location I, Lord Howe Drive, Ashtonfield Table 5

Date/Start Time/Weather	Measurement Description	Primary ( (dBA re 2		scriptor	Description of Noise Emission and Typical Maximum Levels		
	S. S.	LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA
11/03/2014 14:55 W = 1 m/s SE Tem p = 29°C Cloud cover = 1/8		67	ें ें ें 61	56	47	53	Dist Traffic ~ 53 dBA Birds ~ 54 to 62 dBA Local Traffic ~ 55 to 56 dBA Lawn Mower ~ 46 dBA Other Industry ~ <35 dBA
		Donaldso	n and Ab	el mines∼ l	naudible		
11/03/2014 18:29 W = 1 m/sE Temp = 24°C Cloud cover = 1/8	Evening Ambient	69	60	55	46	52	DIst Traffic ~ 41 to 49 dBA Birds ~ 55 to 69 dBA Local Traffic ~ 64 to 63 dBA Dog Banking ~ 63 to 66 dBA
Cioda co (6) = 110		Donaldsor	n and Ab				
11/03/2014 23:21 W = 0.5 m /s NE Tem p = 18℃	Night-time Ambient	53	47	44	39	42	Dist Traffic ~ 33 to 52 dBA Insects ~ 43 dBA
Cloud cover = 1/8		Donaldso	n and Ab	el mines ~ l	naudible		

Don aldson and Abel mines ~ Inaudible

SLR Consulting Australia Pty Ltd

Cloud cover = 1/8

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Date/Start Time/Weather	Measurement Description	Primary (dB A re :	Noise De 20 µPa)	scriptor	Description of Noise Emission and Typical Maximum Levels		
		LAmax	LA1	LA10	LA90	LAeq	LAmax – dBA
11/03/2014 15:00 Wind: 1 m/s SE Tem p = 29°C Cloud cover = 1/8	Daytim e Am bient	62	58	46	36	45	Resi Bang ~ 57 dBA Dist Traffic ~ 42 dBA Birds ~ 43 dBA Local Traffic ~ 60 to 62 dBA Plane ~ 39 to 47 dBA Trees rustling ~ 45 to 48 dBA
							Abel faintly audible ~ <30 dBA
		Estimate	d Abel Co	ntribution ~	<30 dBA _	101	
11 /03/2014 18:07 W = 1 m/s E Tem p = 25℃ Cloud cover = 1/8	E vening Am bient	88	69	56 ,	39/** 	2 58 58	Traffic ~ 65 to 88 dBA Resident ~ 60 dBA Dog Barking ~ 53 to 56 dBA Birds ~ 41 dBA • Distant Traffic ~ 35 to 36 dBA Resident ~ 47 to 55 dBA • Trees rustling ~ 41 to 44 dBA • Thesects ~ 43 to 39 dBA
		Donaldso	on and Ab	el mineș ~ l	n áudibl <i>e</i> 👋		
11 /03/2014 22:28 W = 1 m/s E Tem p = 19°C Cloud cover = 1/8	Night-tim e Am bient	52	50	43	* **∴ * 38×	41	Dist Traffic ~ 35 to 47 dBA Local Traffic ~ 43 to 46 dBA Insects ~ 51 dBA Dog Barking ~ 48 to 52 dBA
C1000 C0761 - 170		Donaldso	n and Ab	el mines ~ l	naüdible	· · · ·	

### Table 6 Location L, 17 Killshanny Ave, Ashtonfield

### States as as 88 . A 4.2 Operator Attended Noise Monitoring Summary

### 4.2.1 Donaldson Mine

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

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< 10Donaldson operations were not observed to be audible during the monitoring period. 

### 4.2.2 Abel Coal Mine

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

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Abel operations were only observed to be faintly audible at times at Location L during the daytime period and at Location F during the night-time period.

### 4.3 Compliance Assessment and Discussion of Results Ч. 1. г.)

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### 4.3.1 Operations

Results of the operator compliance assessment are given in Table 7.

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Estimated Abel L Aeq(15minute) Contribution			Consent Conditions LAeq(15minute)			Compliance		
Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
<33	<34	<32	35	35	35	Yes ^{1,2}	Yes ^{1,2}	Yes ^{1,2}
<39	< 30	<30	35	35	35	Yes ^{1,2}	Yes ^{1,2}	Yes
<30	<30	<31	35	35	35	Yes ^{1,2}	Yes ^{1,2}	Yes ^{1,2}
<37	<36	<30	36	×36	· · · ·	Yes ^{1,2}	Yes ^{1,2}	Yes ^{1,2}
<30	< 30	<30	40	× 40			Yes ^{1,2}	Yes³
	LAeq(15) Contribu Oay <33 <39 <30 <37	LAeq(15minute) Contribution           Day         Eve           <33	LAeq(15/minute)           Day         Eve         Night           <33	LAcq(15minute) Contribution         LAcq(15 Day           Day         Eve         Night         Day           <33	LAeq(15minute) Contribution         LAeq(15minute)           Day         Eve         Night         Day         Eve           <33	LAeq(15minute) Contribution         LAeq(15minute)           Day         Eve         Night         Day         Eve         Night           <33	LAeq(15minute) Contribution         LAeq(15minute)           Day         Eve         Night         Day         Eve         Night         Day           <33	LAeq(15minute) Contribution         LAeq(15minute)           Day         Eve         Night         Day         Eve         Night         Day         Eve           <33

### Table 7 Compliance Noise Assessment – Operations

1-Abel operations inaudible/not measurable.

2-Estimated contribution equals LA90 minus 10 dBA.

3-Within 2 dB as per the Industrial Noise Policy.

4 - Mine owned Property

Table 7 indicates that compliance with the consent conditions was achieved at all noise monitoring ۳.5 locations during all periods. ي تر

<. , Noise levels at all monitoring locations during various periods were inaudible over the existing ambient noise levels. Where this is the case, noise levels from the source are typically 10 dB (or more) below the measured Laso noise level. Therefore, subtracting 10 dB from the measured Laso noise level gives an indication of the maximum contribution of Abeli operations at these locations.

### 4.3.2 Sleep Disturbance

 $\gamma_{0}$ Results of the sleep disturbance compliance assessment are given in Table 8.

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### Table 8 Compliance Noise Assessment – Sleep Disturbance

Location	Estimated Abel LA 1(1minute) Contribution	Consent Conditions LA 1(1minute)	Compliance
D – Black Hill School, Black Hill	<ul> <li>30 (1)</li> <li>30 (2)</li> </ul>	45	Yes
F – Black Hill Road, K Black Hill	35	45	Yes
G – Buchanan Road, Buchanan	× 31 ×	45	Yes
I – Lord Howe Drive, Ashtonfield	<30	45	Yes
L – Kilshanny Ave, Ashtonfield	<30	47	Yes

1-Within 2 dBA tolerance as per Chapter 11 of INP.

Table 8 indicates that compliance with the sleep disturbance consent conditions was achieved at all noise monitoring locations during the night-time noise surveys.

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### 5 UNATTENDED CONTINUOUS NOISE MONITORING

### 5.1 Results of Unattended Continuous Noise Monitoring

Unattended continuous noise monitoring was conducted between 4 March 2014 and 19 March 2014 at each of the six (6) monitoring locations given in **Table 9**.

Table 9	Noise Logger and Noise Monitoring Locations
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and Antonio and

Location	Noise Logger Serial Number	Date of Logging
D – Black Hill School, Black Hill	16-306-039 J ^{AI} 🔨	10/03/2014 to 18/03/2014
F – Black Hill Road, Black Hill	SVAN 957 - 2381,6 🏑	10/03/2014 to 18/03/2014
G – Buchanan Road, Buchanan	16-203-509 🧹 [*] ^ 🔨	10/03/2014 to 18/03/2014
I – Lord Howe Drive, Ashtonfield	16-103-494 🦾 🔬 🔪	>10/03/2014 to 11/03/2014
L – Kilshanny Ave, Ashtonfield	01 dB DUO 🍝 10767 🍈 👾	04/03/2014 to 12/03/2014
J – Parish Drive, Thornton	01 dB DŲO – 10826	"12/03/2013 to 19/03/2014

The unattended ambient noise logger data from each monitoring location are presented graphically on a daily basis and are attached as **Appendices C1** to **C5**. A summary of the results of the unattended continuous noise monitoring is given in **Table 10**.

The ambient noise level data quantifies the overall noise level at a given location independent of its source or character.

The measured ambient noise levels were divided into three periods representing day, evening and night as designated in the NSW Industrial Noise Policy (INP). The day, evening and night periods replace the day and night periods defined under the Environmental Noise Control Manual (ENCM). However, as the Donaldson conditions of consent are under the ENCM, these periods have also been reported.

Precautions can be taken to minimise influences from extraneous noise sources (eg optimum placement of the loggers away from creeks, trees, houses, etc), however, not all these sources or their effects can be eliminated. This is particularly the case during the warmer times of year when noise from insects, frogs, birds and other animals can become quite prevalent.

Weather data for the subject area, during the noise monitoring period was provided by Bloomfield Colliery. Noise data during periods of any rainfall and/or wind speeds in excess of 5 m/s (approximately 9 knots) were discarded in accordance with INP weather affected data exclusion methodology.

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l	Destad	Primary Noise Descriptor (dBA re 20 µPa)					
Location	Period ·	LA1	LA10	LA90	LAeq		
D	Daytime	58	51	36	55		
Black Hill School, Black Hill	Evening	56	48	39	50		
	ENCM Daytime	57	49	39	53		
	Night	51	47	40	48		
F	Daytime	64	55	40	59		
Lot 684 Black Hill Road, Black Hill	Evening	61	50 <u>,</u>	35	51		
DIACK HIII	ENCM Daytime	62	ِ 52 ِ َ	37	57		
	Night	57	48	31	51		
G	Daytime	55	48	34	48		
156 Buchanan Road, Buchanan	Evening	53	Š ( 49 ×	í e. j. 39	59		
Duchanan	ENCM Daytime	54 🦯			56		
	Night	, آن 50	47	41	48		
	Daytime	61 🖉 🔬	<u>(</u> 56	43	54		
 40 Magnetic Drive	Evening	5 <u>4</u> *~-	<u></u> 48	39	50		
49 Magnetic Drive, Ashtonfield	ENCM Daytime	60° i 👾	. 54	41	53		
	Night	48	1 44 cz	36	44		
	Daytime	··· ·· ·61	°49,3	33	53		
	Evening	57	^{హాహా} 'కై1	37	54		
17 Kilshanny Ave, Ashtonfield	ENCM Daytime	58	50 × 50	36	54		
	Night	52 [°] ,	` <u>50</u>	37	50		
	Daytime 🛒 🔍	ંકેટ્ર 🕺	46	38	50		
J 220 Deviels Drive	Evening	52	⁶ 49	44	50		
220 Parish Drive, Thornton	ENC M Daytime	ົຼ.52 <i>ີ່</i>	49	40	50		
	Nigkt 🔬 🧳	50 🖇	48	41	47		

### Table 10 Unattended Continuous Noise Monitoring Ambient Noise Levels (dBA Re 20 µPa)

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

EPA Periods used for thre En Viron mental Noise Control Manual (ENCM) Daytime 7.00 am to 10.00 pm , Night 10.00 pm to 7.00 am 2.00 am 2.00 pm to 7.00 pm to 7.

# 5.2 Long term Unattended Continuous Monitoring Summary for Donaldson Mine and Abel Goal Mine

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### 5.2.1 Ambient Lass Noïse Levels

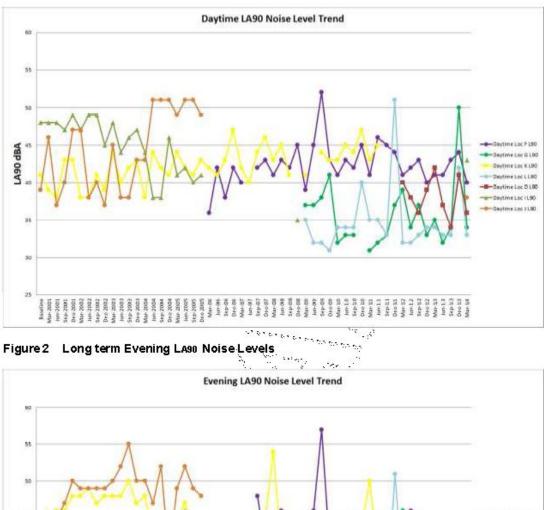
The long term ambient LA90 noise Jèvels collected from each monitoring location are presented graphically in **Figure 1**, **Figure 2** and **Figure 3** for the daytime, evening and night-time periods respectively.

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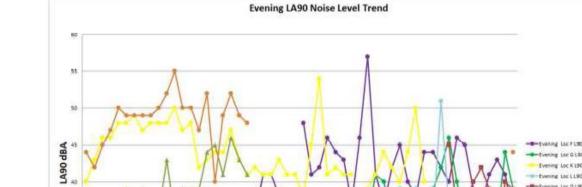
DONALDSON COAL PTY LTD Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014

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### Figure 1 Long term Daytime Laso Noise Levels



Mar 0. Jun 01 Sep 01 Deo 96 Mar 07

5.2

SLR Consulting Australia Pty Ltd

Insuitor Mis 2001. Mis 2001. Sep 2001. Dire 2002. Uno 2002. Mis 2002. Mis 2002. Mis 2003. Mis 2003. Mis 2005. Mis 2005. Mis 2005. Mis 2005. Mis 2005. Sep 20

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-Ivening Loc D L90 -Evening Loc 1190 -fivening Loc J L 90

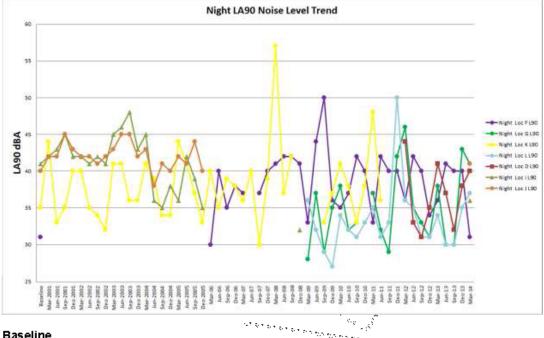
61-10 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52-00 52

DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014

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### Figure 3 Long term Night-time LA90 Noise Levels

### Baseline

The summary of results in Table 10 and Figure 1, Figure 2-and Figure 3 shows that ambient LASO noise levels recorded for the quarter ending March 2014 compared to the levels recorded during the baseline monitoring process were within 1 dB at Location. F during the daytime, evening and night-time periods, and at Location I, noise levels were 4 dB higher during the daytime, 2 dB lower during the evening and 3 dB higher during the night-time period.

Given that no data was available at Locations D. G and L during baseline measurements, no comparisons can be made. ş

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### Previous Quarter (December 2013)

A comparison of the current, monitoring period with the previous monitoring period shows that Laso noise levels were significantly lower than those recorded during December 2013 at Location F. Location G location L and Location D.

Decreases of up to 5²dB in the Laso were recorded at Location D, 16 dB at Location G and 14 dB at Location L. It is considered that this is likely attributed to a lower presence of insects at these locations in particular during the daytime period.

No data was recorded at Location ( and during the previous quarter.

### Coinciding Period Last Year (March 2013)

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Laso noise levels were generally similar or lower than those recorded in March 2013, with decreases of up to 5 dB at Location F, 6 dB at Location D and increases of up to 3 dBA at Location G and Location L

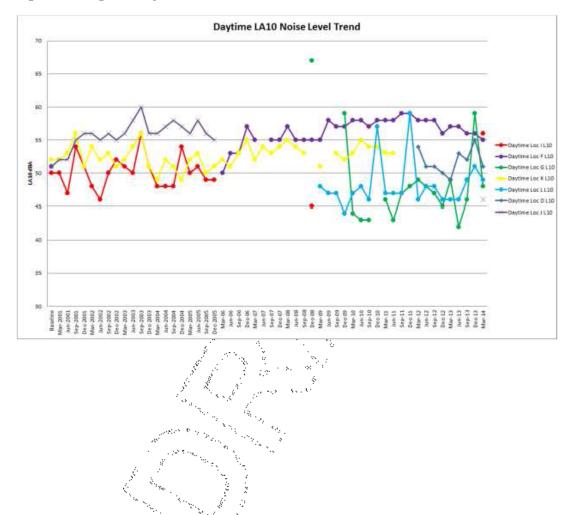
No data was recorded at Location I and during the March 2013 guarter.

Donaldson Coal PtyLtd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014 Report Num ber Q53 630.01053-R1 Draft 1 30 April 2014 Page 21

### 5.2.2 Ambient LA10 Noise Comparison

The long term ambient LA10 noise levels collected from each monitoring location are presented graphically in **Figure 4**, **Figure 5** and **Figure 6** for the daytime, evening and night-time periods respectively.

### Figure 4 Long term Daytime LA10 Noise Levels



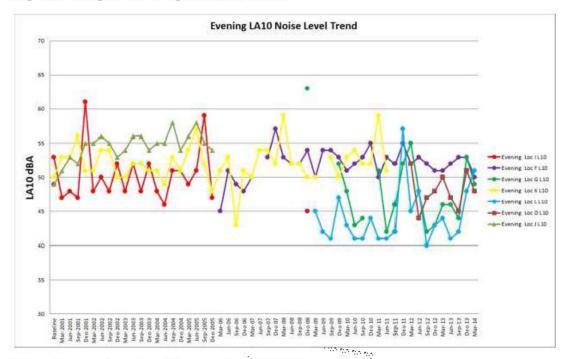
DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

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Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014

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### Figure 5 Long term Evening Late Noise Levels

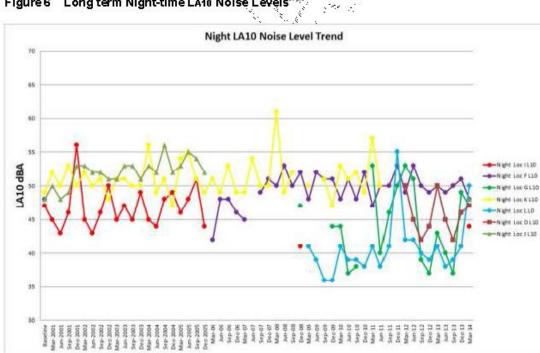


Figure 6 Long term Night-time Late Noise Levels - 1.1

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014

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### Baseline

The summary of results in Table 10 and Figure 4, Figure 5 and Figure 6 show that ambient LA10 noise levels recorded for the quarter ending March 2014 were 4 dB greater than levels recorded during the baseline monitoring process at Location F during the daytime and 1 dB higher during the evening and night-time periods. At Location I, an increase of 6 dB was recorded during the daytime, and a decrease of 5 dB and 3 dB were recorded during the evening and night-time periods respectively.

Given that no data was available at Locations G, L and D during baseline measurements, no comparisons can be made during the March 2014 guarter.

### Previous Quarter (December 2013)

A comparison of the current monitoring period with the previous monitoring period shows that recorded Lato noise levels at Location F and Location D were similar or up to 4 dB lower to those ar Nov Nov recorded in December 2013.

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A decrease of 11 dB was recorded during the daytime at location G, 4 dB during the evening and 2 dB during the night-time. A decrease of 2 dB was recorded at Location L during the daytime and an increase of 3 dB and 9 dB during the evening and night-time period respectively.

Given that no data was recorded at Location I during the December 2013 quarter, no comparison can be made. ÷ 1

### Coinciding Period Last Year (March 2013)

A comparison of the current monitoring period with the coinciding monitoring period last year indicates that Lato noise levels were generally similar (within 3 dB) than these recorded in March 2013 at Location D and Location F.

Increases of up to 9 dB at Location L and \$,dB at Location & were recorded during the monitoring period ×., ^نر : `

Given that no data was recorded at Location I during the March 2013 quarter, no comparison can be made. d,

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### 5.3 Rail Noise Impact

In order to determine compliance with the rail noise criteria, a noise logger was positioned at Location J. The noise logger positioned at this location was capable of recording 1/3 octave band data in 1 second intervals. This, together with the train loading times it was possible to identify a rail pass by, and assess the rail noise contribution against the criteria. Furthermore, only 10 trains were recorded to have passed the monitoring location during the monitoring period.

The maximum resultant noise level for each period from rail traffic at Location J are presented in Table 11.

### Table 11 Calculated Rail Noise Impact

Location	Period	Rail Noise	Criteria L Aeq(Period)	Compliance
Location J	Day	39	55	Yes
	Evening	41	45	Yes
	Night	n/a	40	n/a

The results contained in Table 11 show that compliance with the rail noise criteria was achieved during the March Quarter.

Donaldson Coal Pty Ltd Donaldson and Abel Coal Mines Quarterly Noise Monitoring Quarter Ending March 2014 Report Number Q53 630.01053-R1 Draft 1 30 April 2014 Page 24

## 6 CONCLUSION

SLR was engaged by Donaldson Coal Pty Ltd to conduct quarterly noise monitoring surveys for Donaldson Coal Mine and Abel Coal Mine in accordance with the Abel Coal Mine Noise Monitoring Program, dated 27 May 2007.

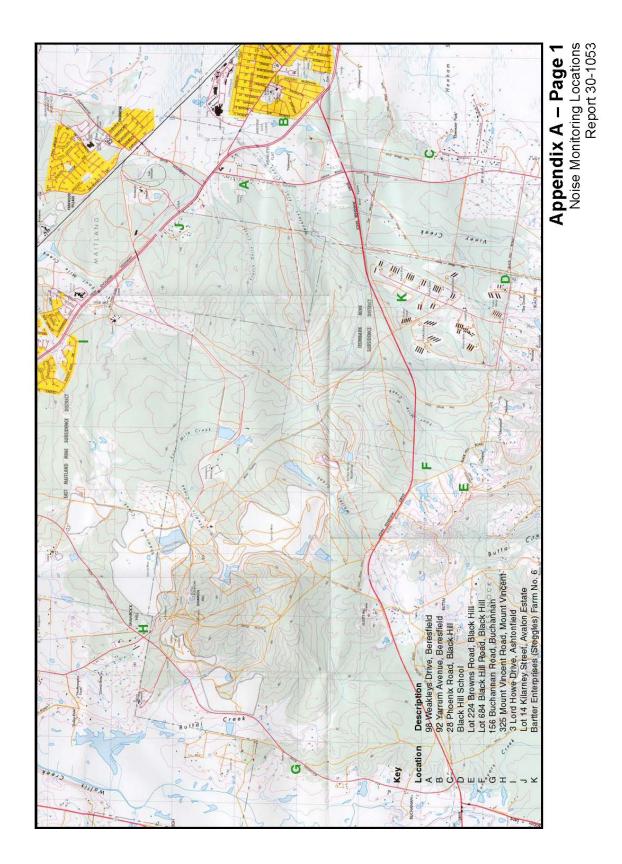
The results of the operator-attended noise measurements conducted at five (5) focus locations surrounding the mine site are included in **Table 2** to **Table 6**.

Based on the results and observations from operator attended surveys, contributed noise levels from Donaldson Mine have been demonstrated to comply with noise emission goals for all periods.

Abel Mine operations at the CHPP were only faintly audible at Location L during the daytime monitoring period. Abel portal operations were only audible at times at location F during the night-time period, and were not observed to be audible at any other locations during the monitoring period and as such contributed noise levels from Abel Mine did not exceed polse emission goals (including night-time sleep arousal criteria) and were in compliance with the Aber Mine *Project Approval* at all locations.

A comparison of ambient Lato and Laso noise levels, recorded during the current monitoring period (March 2014), the baseline monitoring period, the last monitoring period (December 2013), and the coinciding monitoring period from last year (March 2013) has been conducted.

An assessment of the rail noise impact was also undertaken, determining compliance with the criteria stated in **Section 2.2**.



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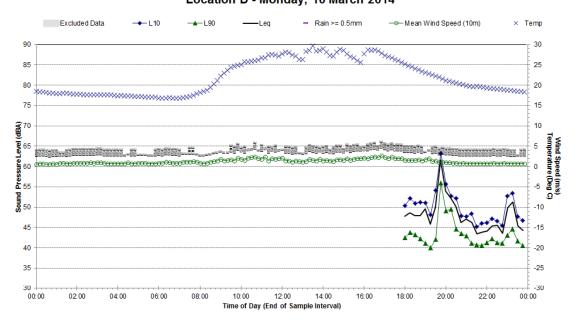
Appendix B Report Q39 30-1053-R1 Equipment Register Page 1 of 1

### **APPENDIX B - EQUIPMENT REGISTER** JOB NUMBER: 30-1053 JOB DESCRIPTION: Donaldson Mine Quarterly Monitoring - March 2010

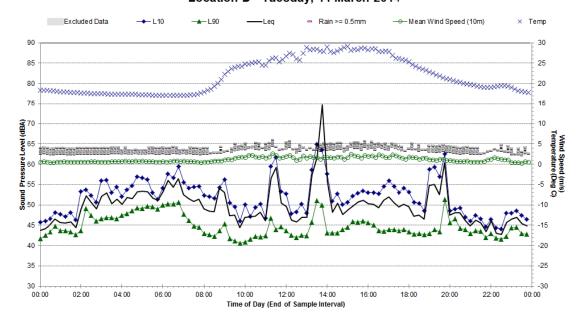
Unit No	Equipment	Description	Serial Number
1	DOZ004	CATERPILLAR D9R	7TL00898
2	DOZ005	CATERPILLAR D10R	3KR01384
3	DOZ006	CATERPILLAR D11N	74Z00717
4	DOZ008	CATERPILLAR D10R	3KR01233
5	DOZ009	CATERPILLAR D10R	AKT00823
6	EXC021	CATERPILLAR 330DL	NBD00168
7	EXC072	HITACHI EX2500	184-00108
8	EXC089	CATERPILLAR 5110B	AAA00311
9	LOD004	CATERPILLAR IT28G	CWAC00351
10	LOD044	KOMATSU WA700	10106
11	LOD149	CATERPILLAR 990II	4FR00394
12	RDT026	CATERPILLAR 777A W/CART	84A01034
13	RDT033	CATERPILLAR 740 W/CART	B1P02699
14	RDT100	CATERPILLAR 785	8GB00596
15	RDT107	CATERPILLAR 785	8GB00320
16	RDT140	CATERPILLAR 785	8GB00333
17	RDT143	CATERPILLAR 785	8GB00374
18	RDT155	CATERPILLAR 785	8GB00152
19	RDT162	CATERPILLAR 785	8GB00258
20	RDT163	CATERPILLAR 785	8GB00259
21	RDT182	CATERPILLAR 785	8GB00494
22	GRD004	CATERPILLAR 16H	6ZJ00678
23	GRD036	CATERPILLAR 16G	93U03039
24	CMP059	AIRMAN COMPRESSOR - STR034	
25	CMP061	SULLAIR COMPRESSOR 185CFM	200610160001
26	CMP062	SULLAIR COMPRESSOR 185CFM	206101100049
27	GEN001	KUBOTA GENERATOR – VEH154	
28	WEL057	LINCOLN SAM400 - VEH154	
29	VEH154	ISUZU NPS300 BOILY TRUCK	
30	STR034	VOLVO FL7 SERVICE TRUCK	YV5FAG6JD560318
31	UTE001	NISSAN PATROL SERVICE UTE	
32	UTE002	NISSAN NAVARA TRAYBACK	

Statistical Ambient Noise Levels - Location D Page 1 of 5

### Statistical Ambient Noise Levels Location D - Monday, 10 March 2014



### Statistical Ambient Noise Levels Location D - Tuesday, 11 March 2014

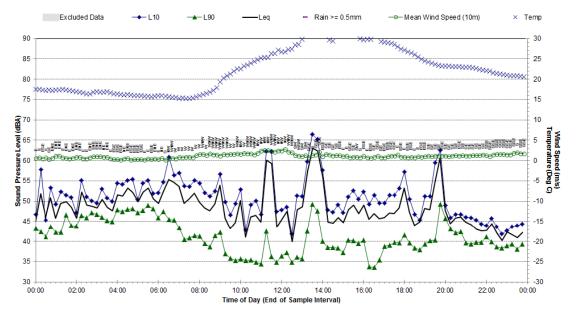


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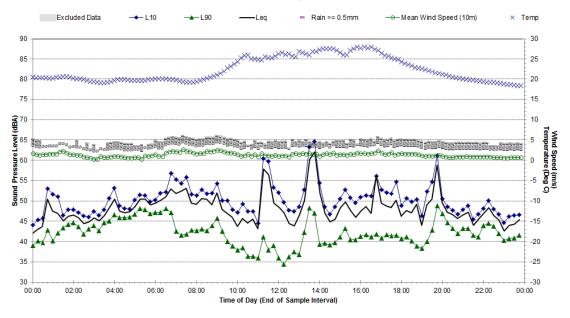
## **Appendix C1**

Statistical Ambient Noise Levels - Location D Page 2 of 5

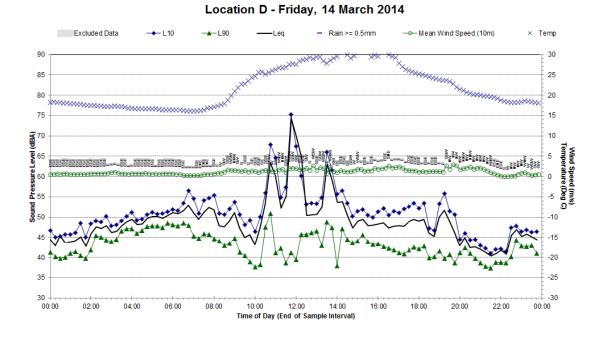
### Statistical Ambient Noise Levels Location D - Wednesday, 12 March 2014



## Statistical Ambient Noise Levels Location D - Thursday, 13 March 2014

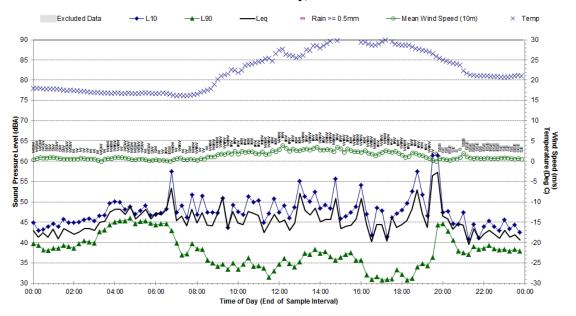


Appendix C1 Statistical Ambient Noise Levels - Location D Page 3 of 5



**Statistical Ambient Noise Levels** 

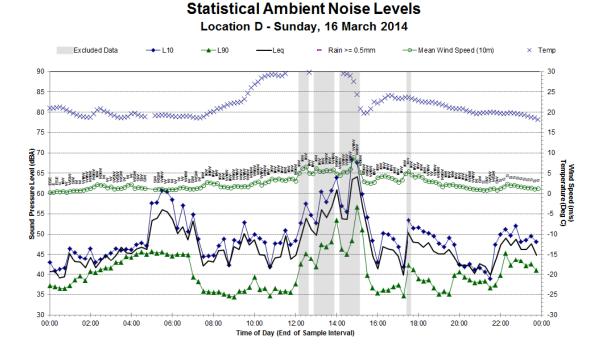
### **Statistical Ambient Noise Levels** Location D - Saturday, 15 March 2014



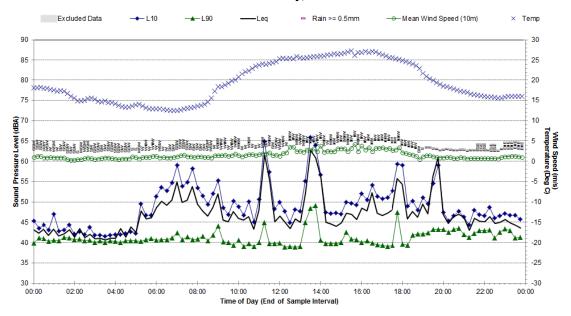
Report No. 737/09

# **Appendix C1**

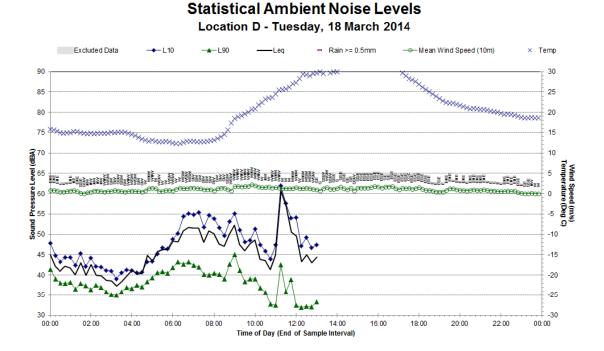
Statistical Ambient Noise Levels - Location D Page 4 of 5



## Statistical Ambient Noise Levels Location D - Monday, 17 March 2014



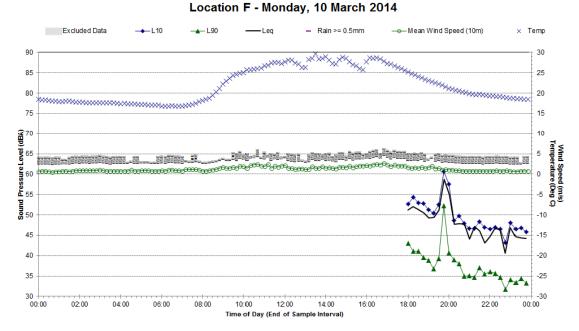
Appendix C1 Statistical Ambient Noise Levels - Location D Page 5 of 5



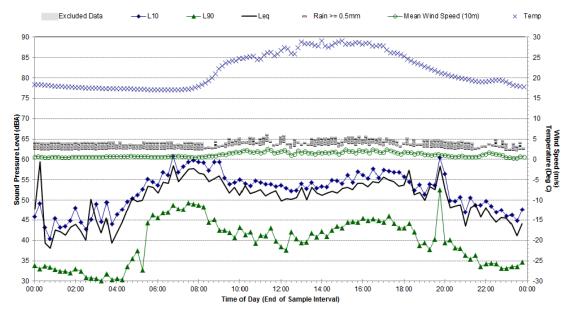
Report No. 737/09

Appendix C2 Statistical Ambient Noise Levels – Location F Page 1 of 5

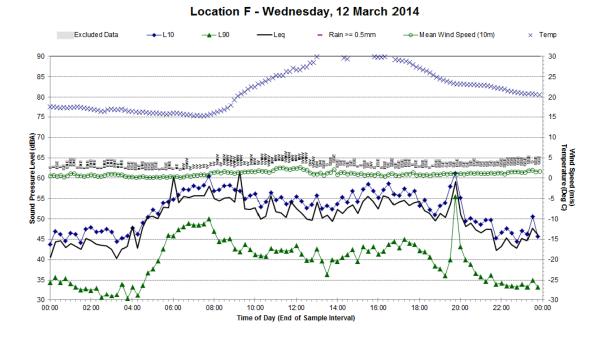
# Statistical Ambient Noise Levels



## Statistical Ambient Noise Levels Location F - Tuesday, 11 March 2014

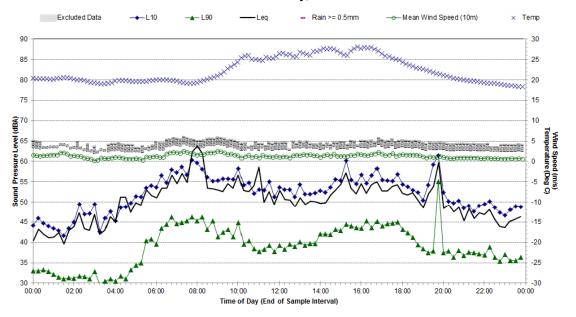


Appendix C2 Statistical Ambient Noise Levels – Location F Page 2 of 5



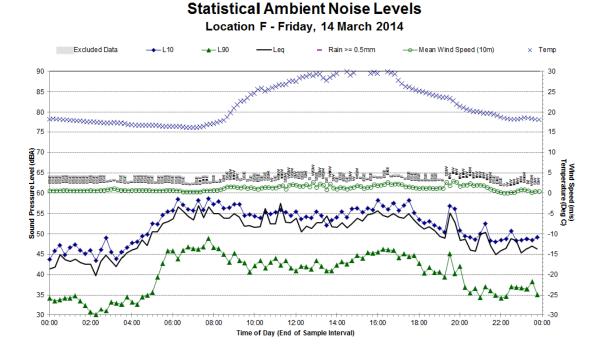
**Statistical Ambient Noise Levels** 

### **Statistical Ambient Noise Levels** Location F - Thursday, 13 March 2014

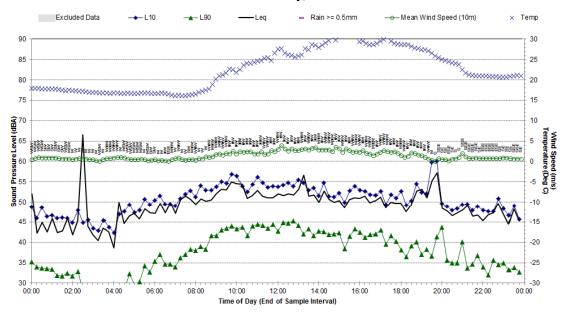


Report No. 737/09

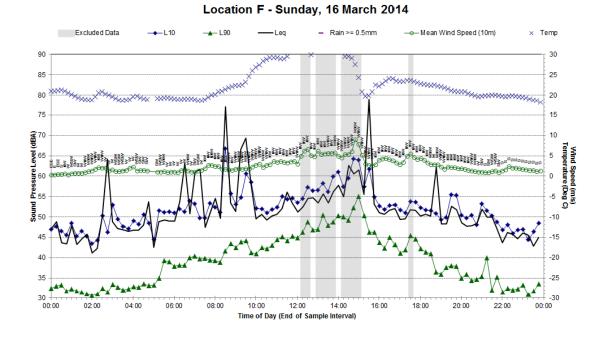
Appendix C2 Statistical Ambient Noise Levels – Location F Page 3 of 5



### Statistical Ambient Noise Levels Location F - Saturday, 15 March 2014

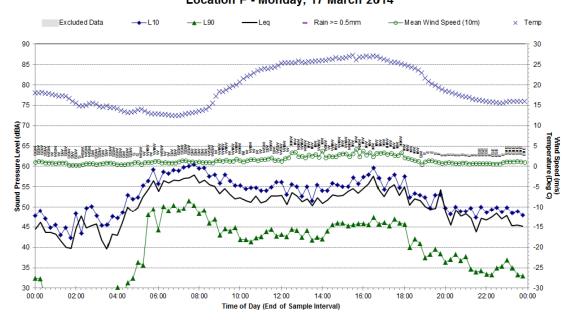


Appendix C2 Statistical Ambient Noise Levels – Location F Page 4 of 5



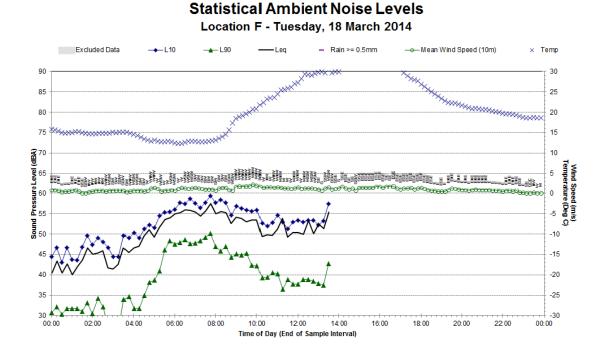
**Statistical Ambient Noise Levels** 

### **Statistical Ambient Noise Levels** Location F - Monday, 17 March 2014



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Appendix C2 Statistical Ambient Noise Levels – Location F Page 5 of 5

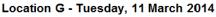


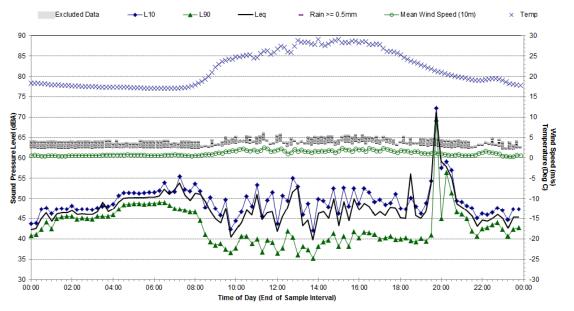
Statistical Ambient Noise Levels - Location G Page 1 of 5

### Location G - Monday, 10 March 2014 Excluded Data -**→**L10 Rain >= 0.5mm × Temp Leq 90 30 XXXXX ≪~ 85 ······ 25 80 20 75 15 10 autition Wind 8 65 5 Son and son an Speed **a** 60 ****************** ature 0 ĝ **2** 55 s/m) -5 2 punos 50 -10 45 -15 40 -20 -25 35 30 + 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

# Statistical Ambient Noise Levels

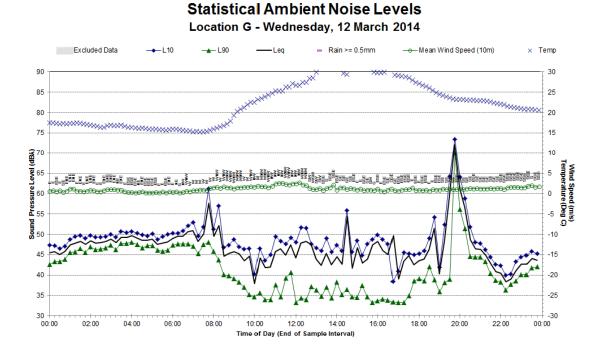




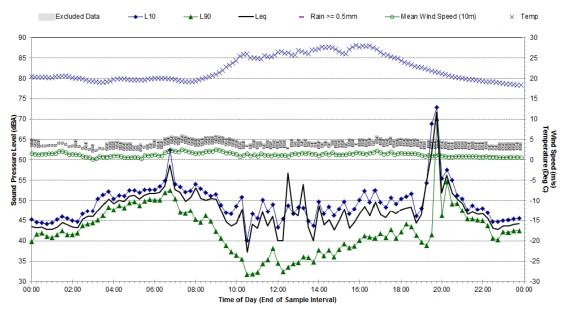
Report No. 737/09

### Appendix C3

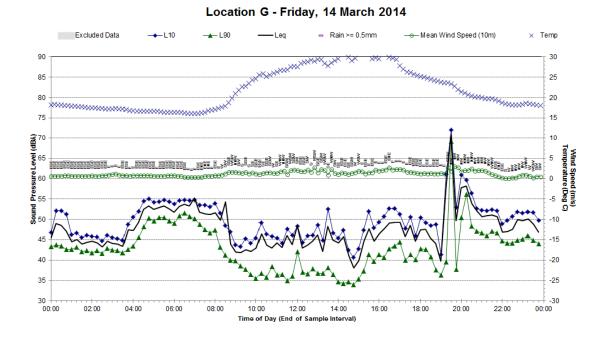
Statistical Ambient Noise Levels - Location G Page 2 of 5



## Statistical Ambient Noise Levels Location G - Thursday, 13 March 2014

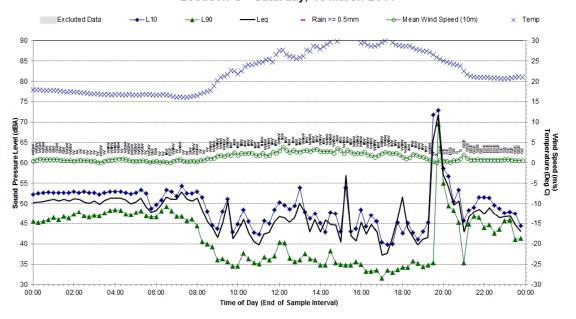


Statistical Ambient Noise Levels - Location G Page 3 of 5



Statistical Ambient Noise Levels

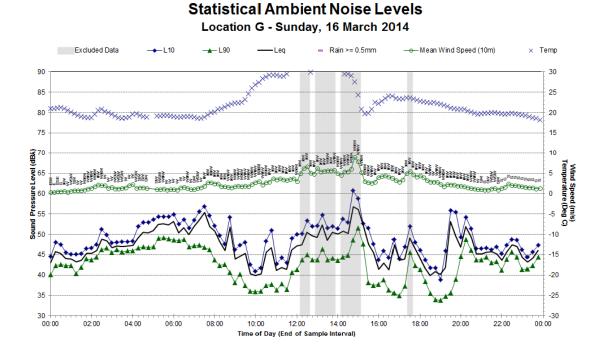
### Statistical Ambient Noise Levels Location G - Saturday, 15 March 2014



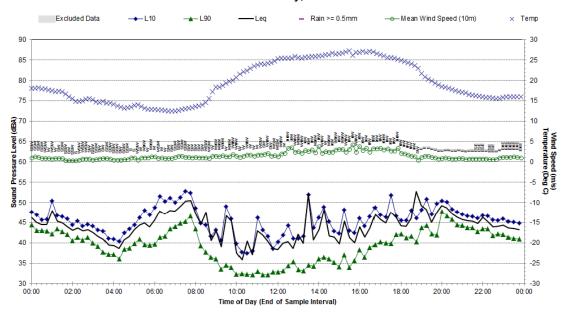
Report No. 737/09

### Appendix C3

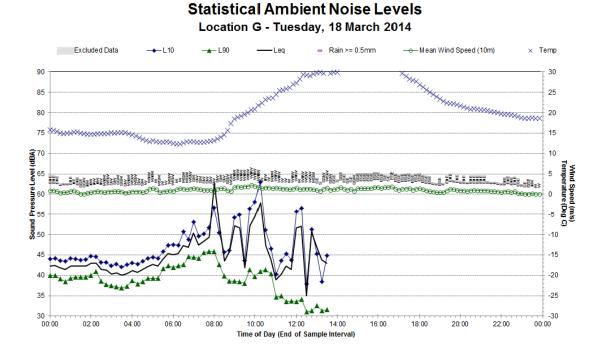
Statistical Ambient Noise Levels - Location G Page 4 of 5



### Statistical Ambient Noise Levels Location G - Monday, 17 March 2014



Statistical Ambient Noise Levels - Location G Page 5 of 5



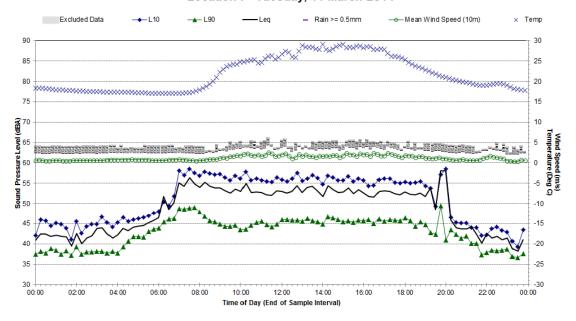
Report No. 737/09

### Appendix C4

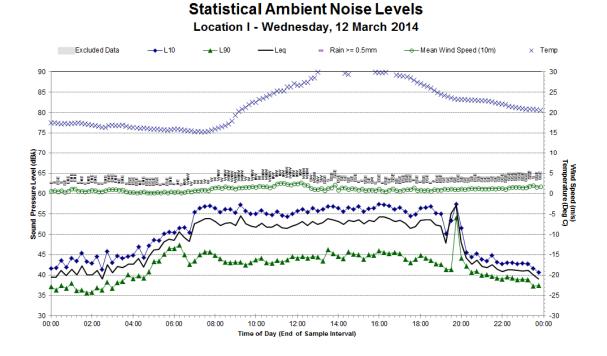
Statistical Ambient Noise Levels - Location I Page 1 of 5

### Statistical Ambient Noise Levels Location I - Monday, 10 March 2014 Excluded Data →_L10 📥 L90 Rain >= 0.5mm × Temp -Leq 90 30 XXXX 85 **** 25 80 20 75 15 10 970 100 100 empe **8** 65 Mind 5 la 10 Spee ature 0 g **2** 55 -5 2 punos 50 -10 45 -15 40 -20 35 -25 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

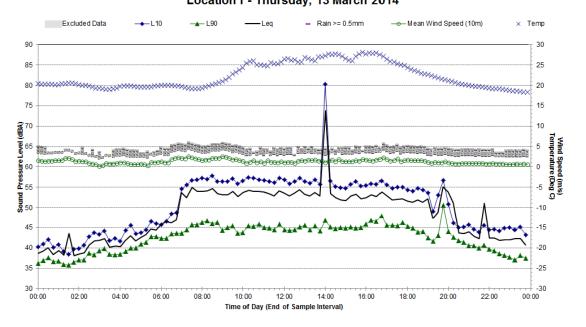
### Statistical Ambient Noise Levels Location I - Tuesday, 11 March 2014



Statistical Ambient Noise Levels - Location I Page 2 of 5



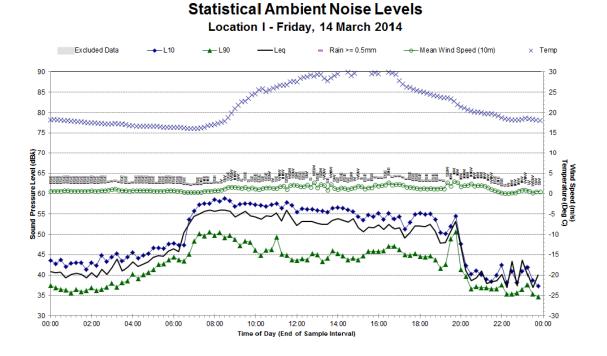
### Statistical Ambient Noise Levels Location I - Thursday, 13 March 2014



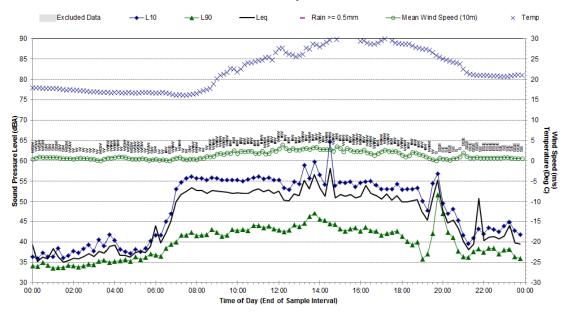
Report No. 737/09

### Appendix C4

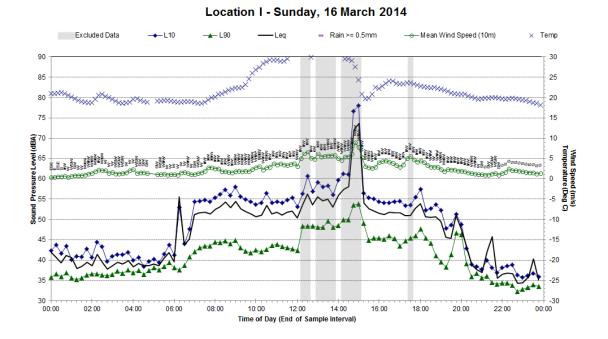
Statistical Ambient Noise Levels - Location I Page 3 of 5



## Statistical Ambient Noise Levels Location I - Saturday, 15 March 2014

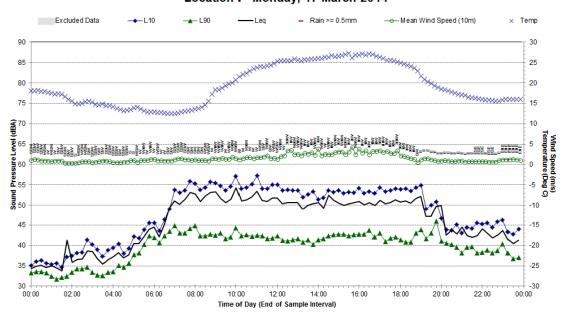


Statistical Ambient Noise Levels - Location I Page 4 of 5



**Statistical Ambient Noise Levels** 

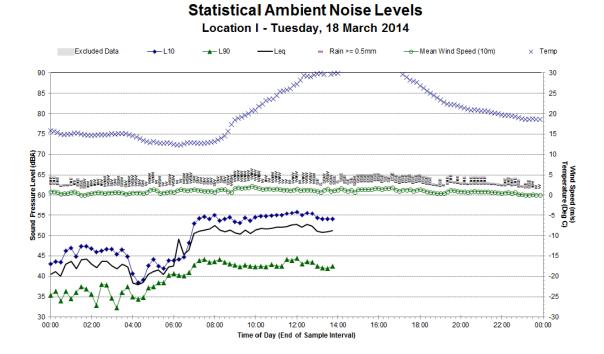
### Statistical Ambient Noise Levels Location I - Monday, 17 March 2014



Report No. 737/09

### Appendix C4

Statistical Ambient Noise Levels - Location I Page 5 of 5

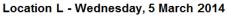


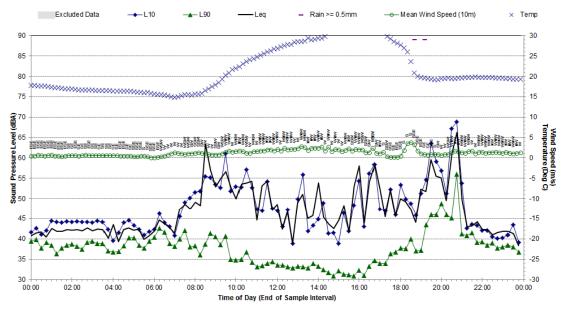
Statistical Ambient Noise Levels - Location L Page 1 of 5

### Location L - Tuesday, 4 March 2014 Excluded Data -**→**L10 Rain >= 0.5mm × Temp Leq 90 30 ~~_~ 85 25 **** 80 20 75 15 10 <del>کو</del> 70 empe Wind 8 65 5 翡 and a second sec rature ( ang 60 0 (Deg **ä** 55 s/m) -5 ā punos 50 -10 45 -15 40 -20 -25 35 30 + 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 Time of Day (End of Sample Interval)

Statistical Ambient Noise Levels

# Statistical Ambient Noise Levels

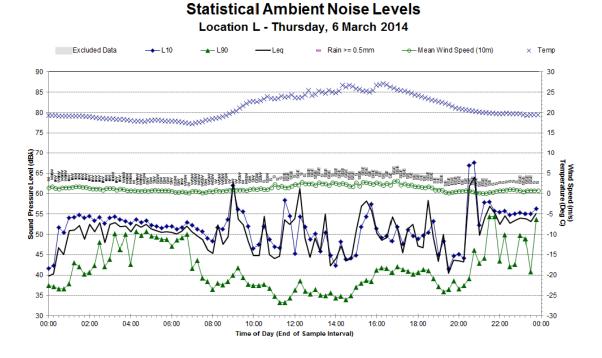




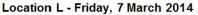
Report No. 737/09

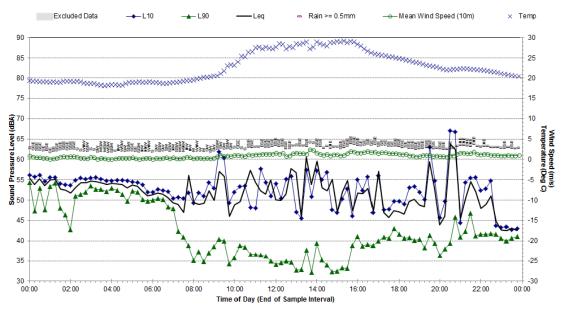
### Appendix C5

Statistical Ambient Noise Levels - Location L Page 2 of 5

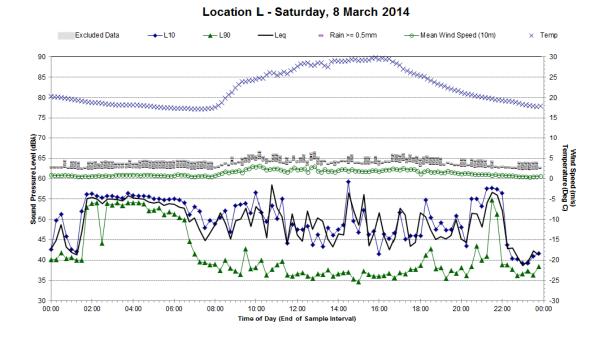


# Statistical Ambient Noise Levels



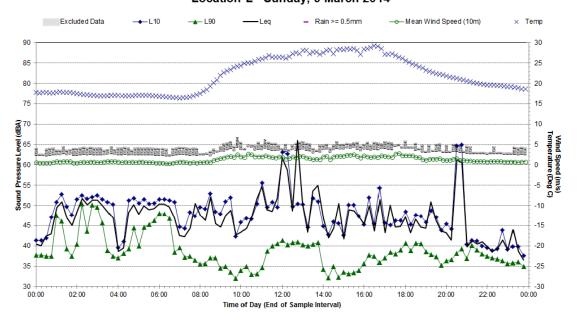


Statistical Ambient Noise Levels - Location L Page 3 of 5



Statistical Ambient Noise Levels

### Statistical Ambient Noise Levels Location L - Sunday, 9 March 2014



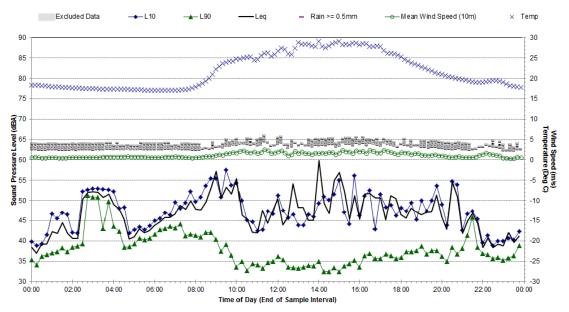
Report No. 737/09

### Appendix C5

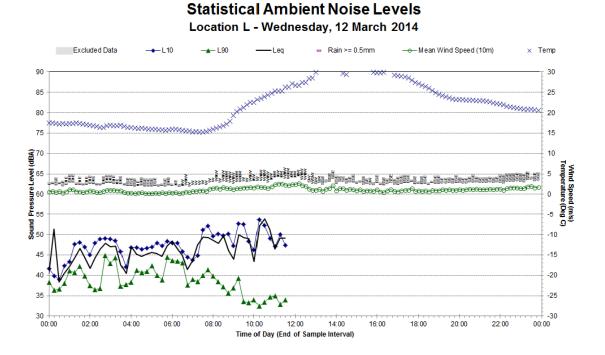
Statistical Ambient Noise Levels - Location L Page 4 of 5

Statistical Ambient Noise Levels Location L - Monday, 10 March 2014 Excluded Data Rain >= 0.5mm -o-Mean Wind Speed (10m) × Temp Leq 90 30 85 25 ***** 80 20 75 15 10 empe sure Level ( Mind 5 BERENDERSER 000000000 CONTRACTOR CON ature 0 (Deg **ä** 55 -5 S punog 50 -10 -15 45 40 -20 -25 35 -30 02:00 04:00 06:00 08:00 10:00 12:00 14:00 16:00 18:00 20:00 22:00 00:00 Time of Day (End of Sample Interval)

## Statistical Ambient Noise Levels Location L - Tuesday, 11 March 2014



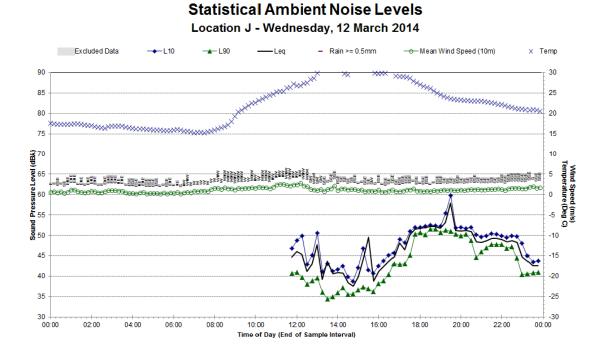
Statistical Ambient Noise Levels - Location L Page 5 of 5



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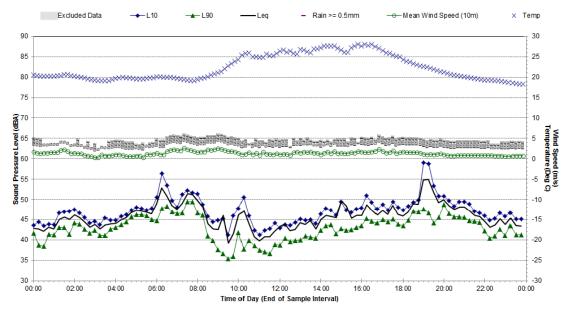
### Appendix C6

Statistical Ambient Noise Levels - Location J Page 1 of 4

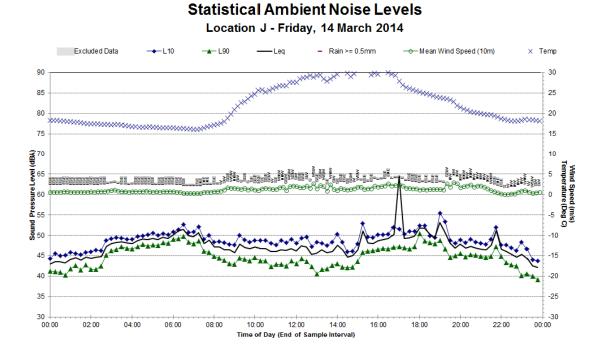


# Statistical Ambient Noise Levels

Location J - Thursday, 13 March 2014

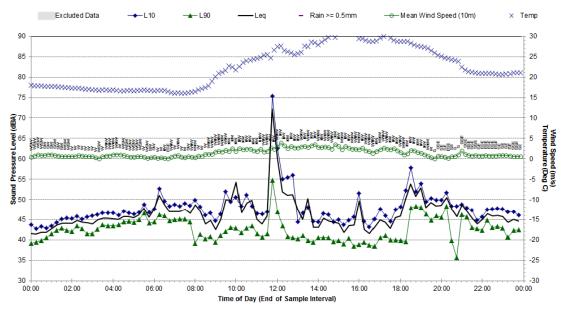


Statistical Ambient Noise Levels - Location J Page 2 of 4



# **Statistical Ambient Noise Levels**

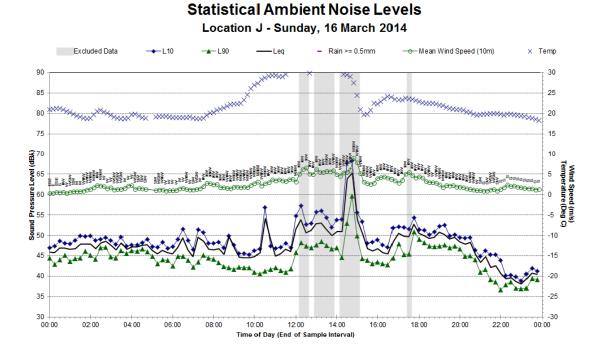
Location J - Saturday, 15 March 2014



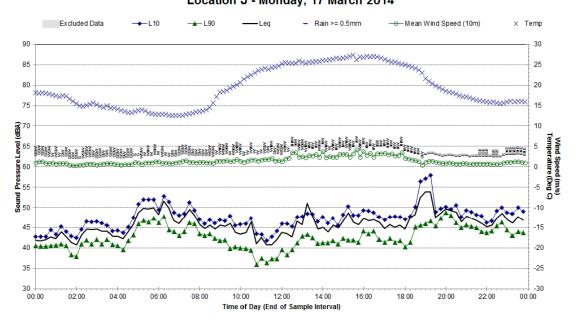
Report No. 737/09

### Appendix C6

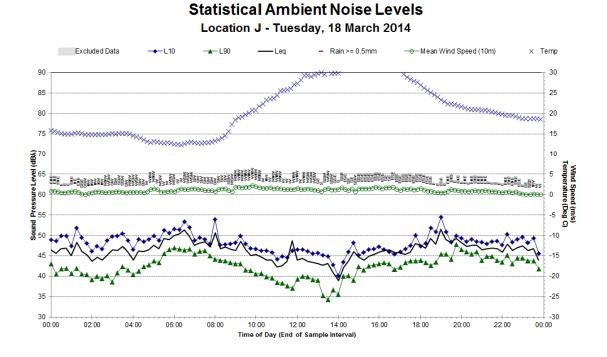
Statistical Ambient Noise Levels - Location J Page 3 of 4



## Statistical Ambient Noise Levels Location J - Monday, 17 March 2014

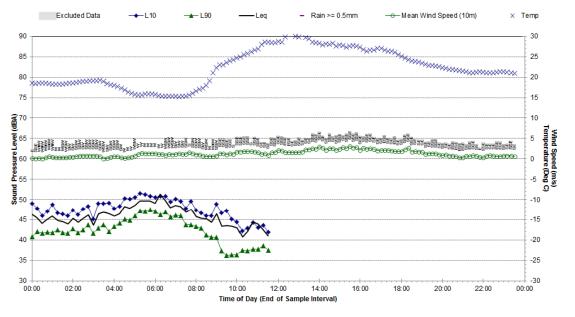


Statistical Ambient Noise Levels - Location J Page 4 of 4



# Statistical Ambient Noise Levels

Location J - Wednesday, 19 March 2014



## DONALDSON COAL PTY LTD

Abel Underground Coal Mine Appendix 6

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