Centennial Coal

Angus Place

2013 ANNUAL ENVIRONMENTAL MANAGEMENT REPORT APPENDICES

Centennial Coal

Angus Place

Appendix 1
Figures

BEN BULLEN STATE FOREST

NEWNES STATE FOREST

ML 1424

TO MUDGEE

CASTLEREAGH HWY

NEUBECKS CREEK

MOUNT PIPER POWER STATION

MOUNT PIPER COAL HAUL ROAD

COXS RIVER

WOLGAN RIVER

CARNE CREEK

DEANES CREEK

VALE OF CLYWDD No. 2

LONG SWAMP

WOLGAN CREEK

WALLERAWANG COAL HAUL ROAD

WOLGAN ROAD

KEROSENE VALE VENTILATION SHAFT

KAARGARO CREEK

CASTLEREAGH HWY

COMMONWEALTH OPEN CUT REHABILITATION SITE

PIPERS FLAT DAM

LIDSDALE

KEROSENE VALE SITE

WALLERAWANG POWER STATION

TO LITHGOW

NOTE:
Other Coal Mines not shown are located within the plan area. Users of this plan should view mine records held at Industry & Investment NSW for full details of coal mines within this Locality.

- Proposed Modification Study Area
- State Forest
- Power Station
- Colliery Holding Boundary
- Lease Boundary

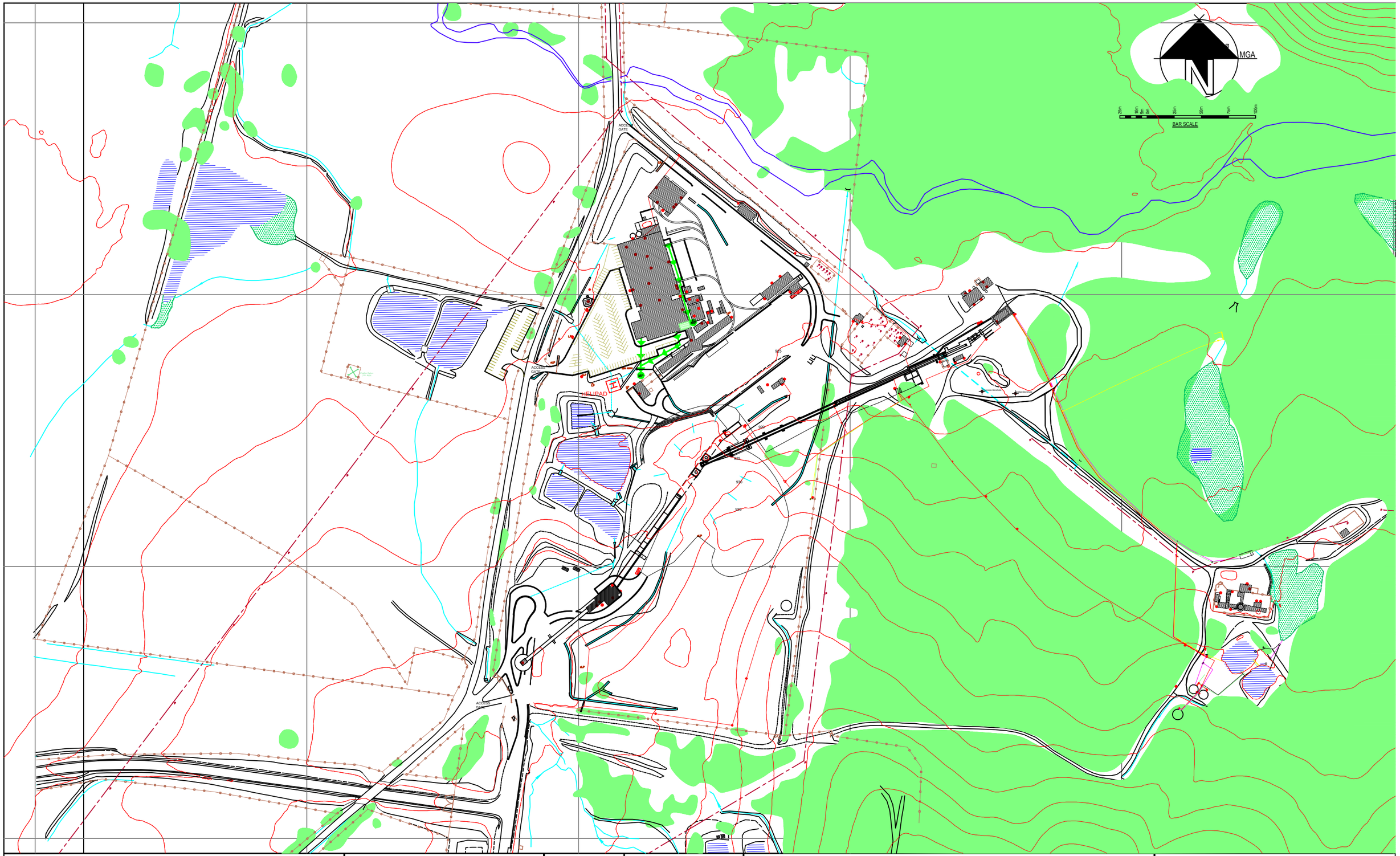
DATE	29 January 2014
SEAM	LITHGOW
DRAWN	Michael Price
REFERENCE	N:\SHARED\PLANS\ANGUSE\nvironmentalAEMR\2014\Angus Place Modification.dwg
SCALE	DIAGRAM ONLY

Angus Place Modification Locality Plan

PLOTFILE No.

Centennial Angus Place

DRG. No. FIGURE 1 A3



LEGEND

DATE	29 January 2014
SEAM	LITHGOW
SCALE	DIAGRAM ONLY
DRAWN	Michael Price
CHECKED by	NA

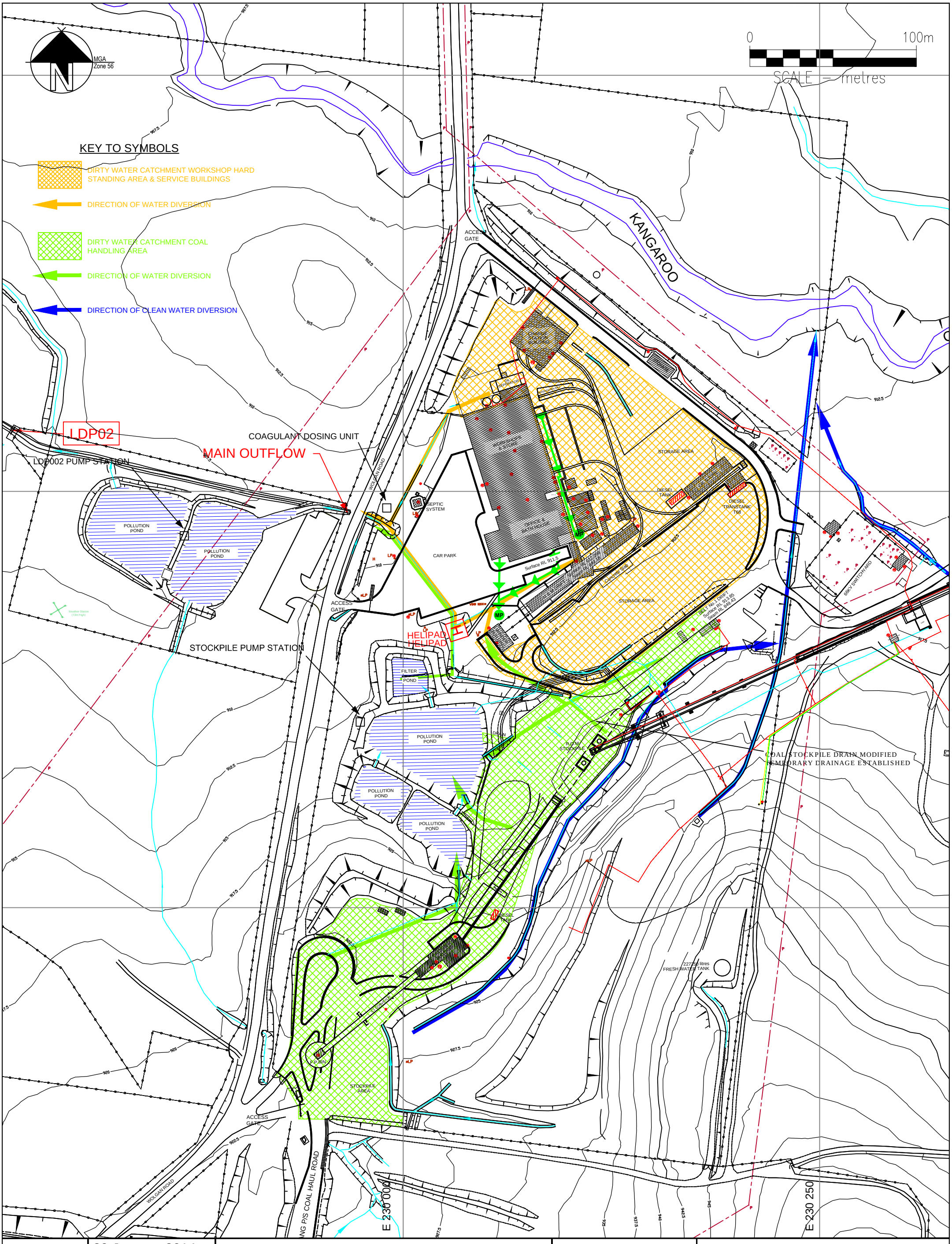
REFERENCE N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2014\Pit Top with Contours_recover.dwg

Angus Place Colliery Pit Top Area with Surface Contours

Centennial Coal
Angus Place

DRG. No. 7255

A3



DATE	29 January 2014
SEAM	LITHGOW
REFERENCE	
N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2014\POLLUTION_CONTROL_2014.dwg	
SCALE	1:2000

SITE FACILITES & WATER POLLUTION CONTROL

PLOTFILE No.

Centennial Angus Place

DRG. No. 7256 A3


ION
DIVERSION
CREEK
MGA Zone 56
N
COAGULANT DOSING UNIT
MAIN OUTFLOW
WOLGAN ROAD
POLLUTION POND
SEPTIC SYSTEM
CAR PARK
CHARGE STATION BUILDING
OIL SEPERATOR
WASHDOWN BAY
WORKSHOPS & STORE
OFFICE & BATH HOUSE
OFFICES
STORAGE
STORAGE AREA
DIESEL TANK
OIL STORE
DIESEL 'TRANSTANK' T68
Surface RL 911.5
M & M DRIFT Surface RL 912.268 Seam RL 849.18
Concrete Slab
STORAGE AREA
BELT No.1 DRIFT Surface RL 913.85 Seam RL 849.43
WIND SOCK
HELIPAD
HELIPAD
WINDER BUILDING
MP
MP
FILTER POND
POLLUTION POND
DRAIN
R.O.M STOCKPILE
POLLUTION POND
POLLUTION POND
DIESEL TANK
CRUSHER BUILDING
C1 CONVEYOR
F.P.BIN
STOCKPILE AREA
227250 litres FRESH WATER TANK
COAL STOCKPILE DRAIN MODIFIED
TEMPORARY DRAINAGE ESTABLISHED
66KV SWITCHYARD
COMPRESSOR BUILDING
NEW COMPRESSOR BUILDING
C103 DRIFT Surface RL 916.00 Seam RL 849.43
HARD STAND STORAGE AREA
FIRE FIGHTING LINE FROM TANKS
UNDERGROUND DEWATERING PIPES
Concrete Borehole
Concrete drop hole
Ballast Borehole
Disused Explosives Magazine
NEW PUMPING INFRASTRUCTURE FOR LDP01
LDP01
WETLAND
WETLAND
WETLAND
SHAFT COMPLEX
AERATING POND
AERATING POND
TANK No.1
TANK No.2

LEGEND

0 50 100

SCALE 1:1000 (@A1)

DATE	21.02.2013
SEAM	LITHGOW
DRAWN	MJP
REFERENCE	N:\SHARED\PLANS\ANG\ Enviro..\AMER\2012\ Pollution_Control2012.dwg
SCALE	1: 1000

SITE FACILITES & WATER POLLUTION CONTROL

FIGURE 4A

PLOTFILE No.

Centennial Angus Place

DRG. No. 6808A A1

LEGEND

(PU) PUMP	(WT) WATER TANK	FLOW INDICATOR	100mm / 4" Ø AIR LINE
(M) METER	VALVE	"INSITU" WATER	150mm / 6" Ø AIR LINE
(HY) FIRE HYDRANT	ONE-WAY VALVE		200mm / 8" Ø AIR LINE
(HR) FIRE HOSE REEL	FILTER		FIRELINE
			150mm / 6" Ø PUMPING LINE
			200mm / 8" Ø PUMPING LINE
			280mm Ø POLY PUMPING LINE

DATE	21.02.2013
SEAM	LITHGOW
REFERENCE	N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2012\Water Management Plan
SCALE	1:10000

IN PIT WATER MANAGEMENT PLAN

PLOTFILE No.

Centennial Coal
Angus Place

DRG. No. 6809 | A0

LD1
Kangaroo Ck
40 M Litres per day limit

NEWCOM COLLIERY
(KEROSENE VALE WORKINGS)
NOTE: WORKINGS DEPICTED ARE REPRESENTATIVE ONLY

Former Newcom Colliery

Angus Place Colliery

Dewatering Bore No.5 Water Site

Dewatering Bore Angus Place Site

Dewatering Bore No.6 Water Site

LD5
15.0 M Litres per day limit

LD4
15.0 M Litres per day limit

Cox's River Catchment

Wolgan River Catchment

Dewatering Bore No.2 Water Site

Dewatering Bore No.4 Water Site

Springvale Colliery

Gravity Tank

No.3 Shaft Borehole Water Site

Renown Colliery (Abandoned)

RENOWN COLLIERY

Lithgow State Mine (Abandoned)

Fernbrook Colliery (Abandoned)

Wallerawang Power Station

LD1
Springvale Ck
10.0 M Litres per day limit

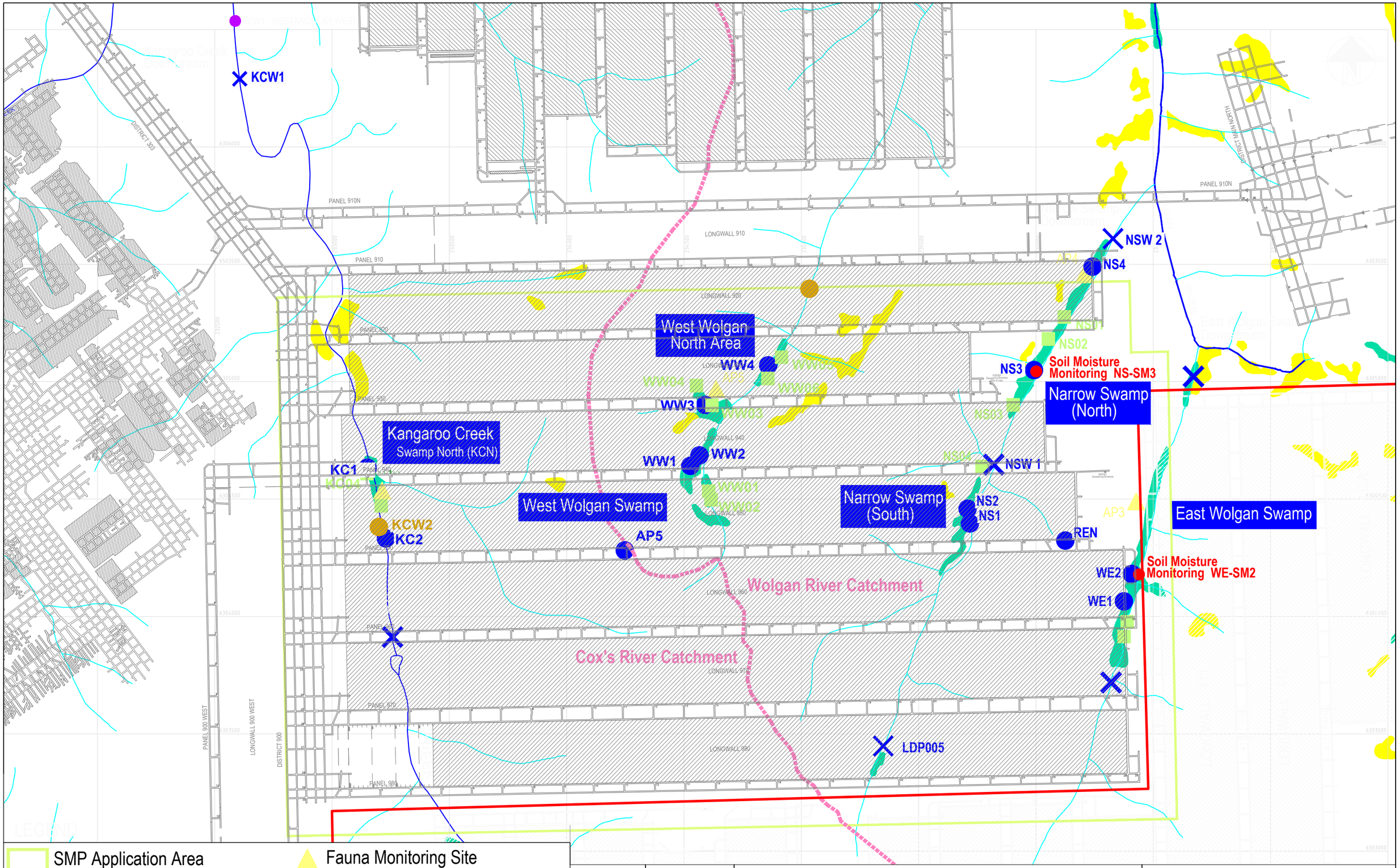
LEGEND

DELTA Portion
Springvale Portion
Existing Water Sites
Lease Boundary
Catchment Watershed Line

DATE	21 February 2013
SEAM	LITHGOW
DRAWN	MJP
REFERENCE	N:\SHARED\Images\Angus\Centennial Delta Water Transfer Scheme
SCALE	DIAGRAM ONLY

Centennial / DELTA Water Transfer Scheme

PLOTFILE No.
Centennial Angus Place
DRG. No. 6810 A0



LEGEND

- SMP Application Area
- Newnes Plateau Shrub Swamp
- Newnes Plateau Hanging Swamp
- Catchment Watershed
- Lease Boundary
- Soil Moisture Monitoring Site
- Fauna Monitoring Site
- Flora Monitoring Site
- Ground Water Monitoring Site
- Surface Water Monitoring Site
- Waterhole Depth Monitoring Site

LOCATION	ANGUS PLACE
SEAM	LITHGOW
DRAWN	MJP
DATE	29 January 2014
SCALE	DIAGRAM

Environmental Monitoring Locations

Centennial Angus Place

DRG No. 6123

LEGEND

- SMP Application Area
- Newnes Plateau Shrub Swamp
- Newnes Plateau Hanging Swamp
- Lease Boundary
- B-120 Installed Subsidence Lines

LOCATION	ANGUS PLACE
SEAM	LITHGOW
DRAWN	MJP
DATE	29 January 2014
SCALE	DIAGRAM

Subsidence Monitoring Locations

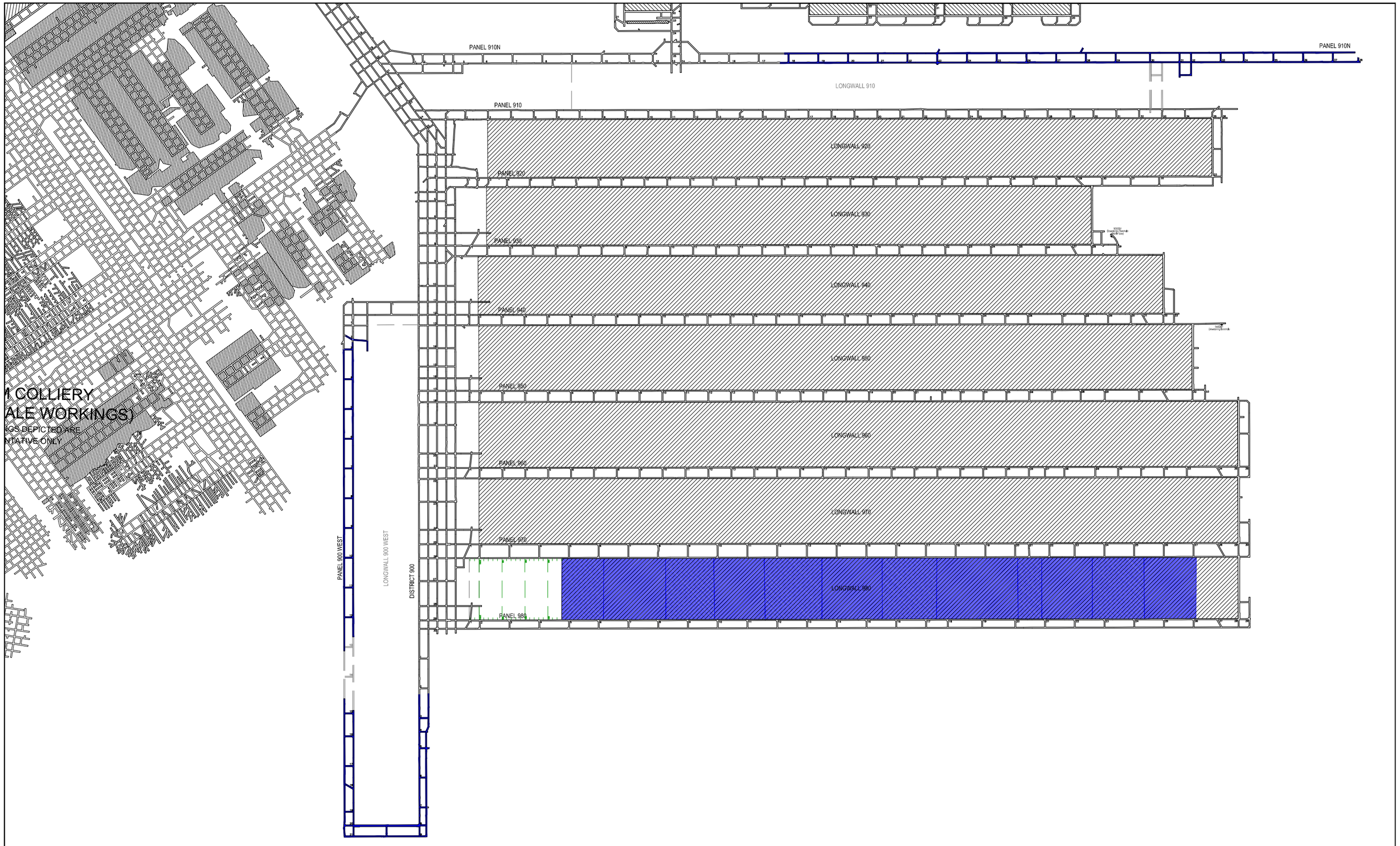
Centennial Angus Place

DRG No. 6125

Centennial Coal

Angus Place

Appendix 2
Angus Place and Kerosene Vale Plans



M COLLIERY
ALE WORKINGS)

NGS DEPICTED ARE
NTATIVE ONLY

LEGEND

2013 Production

DATE	29 January 2014
SEAM	LITHGOW
SCALE	1:15000
DRAWN	Michael Price
CHECKED by	NA

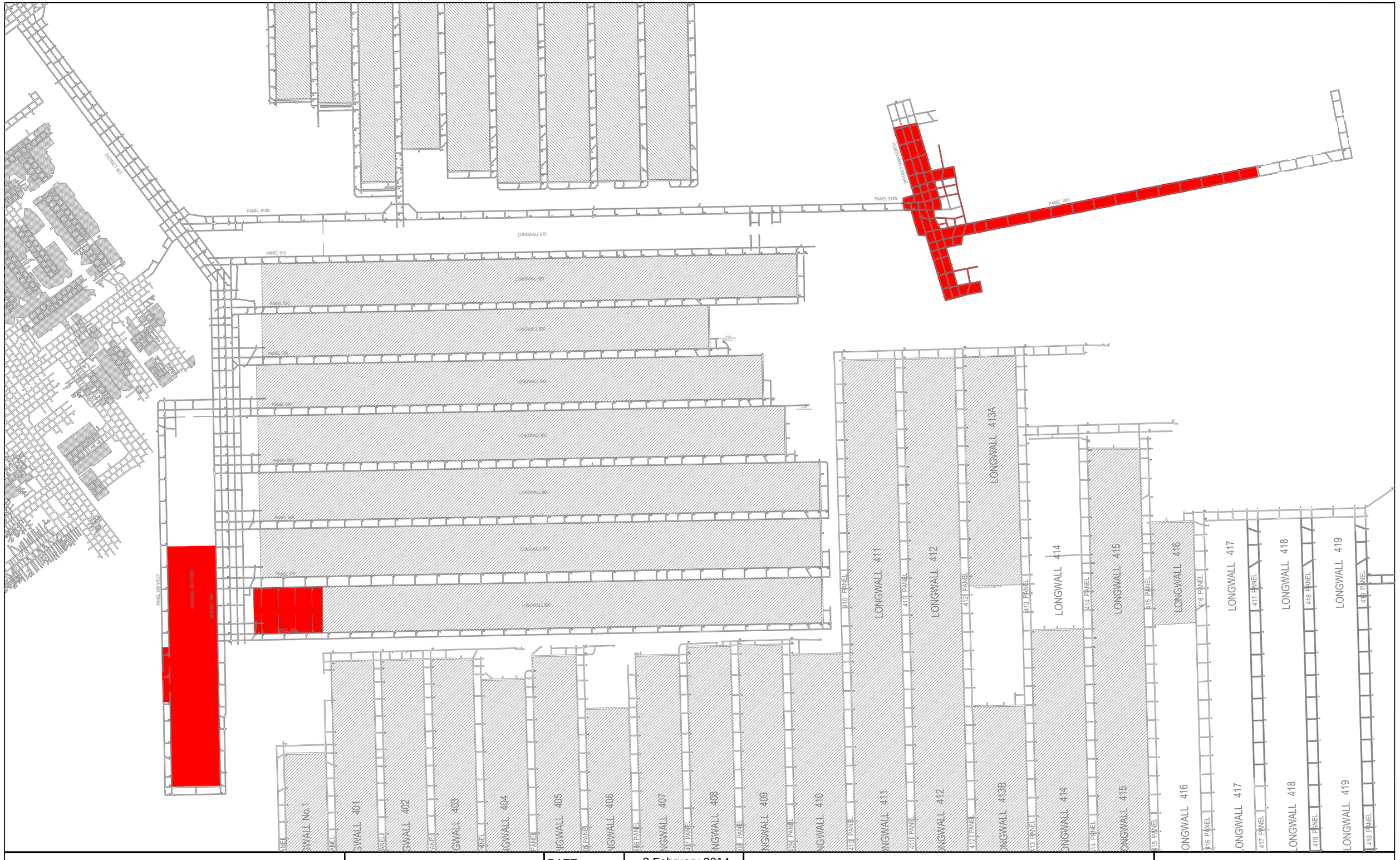
REFERENCE N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2014\Angus Place Production 2014.dwg

ANGUS PLACE COLLIERY
MINE PRODUCTION FOR 2013

Centennial Coal
Angus Place

DRG. No. 7251

A3



LEGEND

Areas of Proposed Mining for 2014

DATE	3 February 2014
SEAM	LITHGOW
SCALE	DIAGRAM ONLY
DRAWN	Allan Mellor
CHECKED by	NA

REFERENCE N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2014\Proposed Mining 2014.dwg

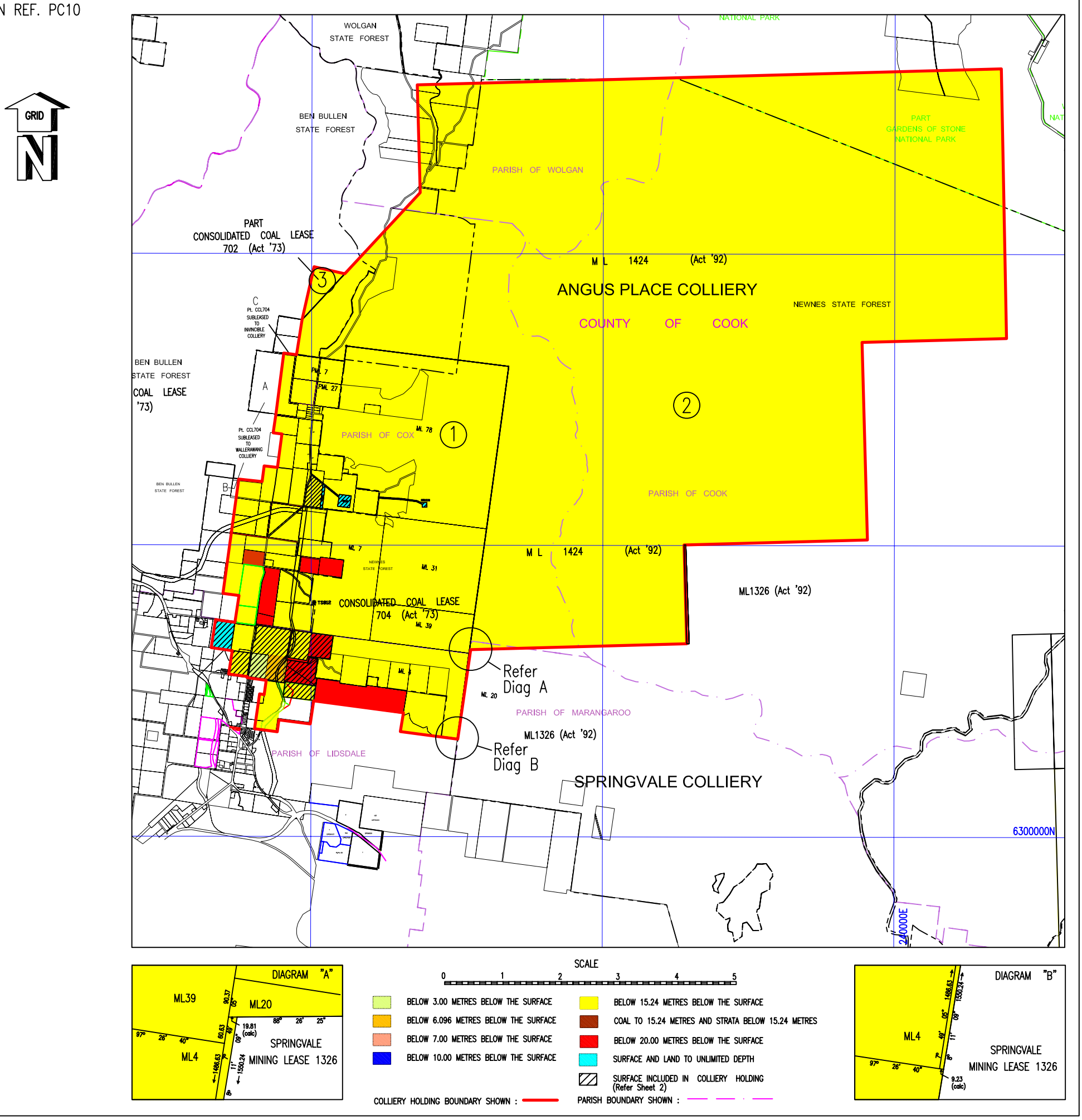
Angus Place Colliery
Proposed Mining 2014

Centennial Coal
Angus Place

DRG. No. 7258

A3

PLAN REF. PC10



DETAILS OF MINING TITLES HELD UNDER THE MINING ACT

PLAN REF	LEASE TYPE	LEASE No	ACT	REGISTERED HOLDER	LEASE DATE	EXPIRY DATE	MINERAL AREA (Ha)		SURFACE AREA	ROYALTY
							LEASE	HOLDING		
1	CONSOLID. COAL LEASE	704	COAL MINING '73	CENTENNIAL SPRINGVALE PTY LIMITED & SPRINGVALE SK KORES PTY LIMITED	2/01/90	8/07/06	2541	2488.53	31.33	CRN
2	MINING LEASE	1424	MINING '92	CENTENNIAL SPRINGVALE PTY LIMITED & SPRINGVALE SK KORES PTY LIMITED	9/02/98	18/08/24	7737	7730.95	NIL	CRN

Application for Renewal lodged 30/06/2005

SUBLEASES BENEFITING CENTENNIAL ANGUS PLACE PTY LIMITED

PLAN REF	LEASE TYPE	LEASE No	ACT	REGISTERED HOLDER	LEASE DATE	EXPIRY DATE	MINERAL AREA (Ha)		SURFACE AREA	ROYALTY
							LEASE	HOLDING		
3	PT. CONS. COAL LEASE	702	MINING '92	COALPAC PTY LTD	26/11/90	24/11/24	2121	25	NIL	CRN+

DETAILS OF AGREEMENTS WITH OTHERS - NOT IN COLLIERY HOLDING

PLAN REF			LESSEE	REG. HOLDER/ LESSOR	DATE OF AGREEMENT	AGREEMENT		REGISTRATION DATE	DESCRIPTION	MINERAL AREA (Ha)	RENT DUE	ROYALTY	REMARKS
						FROM	TO						
	A		WALLERAWANG COLL.	CENTENNIAL SPRINGVALE PTY LIMITED & SPRINGVALE SK KORES PTY LIMITED	05/06/81	20/07/81	EXPIRY OF LEASE	21/07/81	Pt. ML 1014	48.62	NIL	CRN +1.00	SURRENDERED NOW Pt. CCL 704
	B		WALLERAWANG COLL.	CENTENNIAL SPRINGVALE PTY LIMITED & SPRINGVALE SK KORES PTY LIMITED	17/10/84	17/10/84	LEASE INCL. RENEWAL		Pt. PLL 511	3.04	NIL	CRN +0.50	SURRENDERED NOW Pt. CCL 704
	C		COALPAC P/L	CENTENNIAL SPRINGVALE PTY LIMITED & SPRINGVALE SK KORES PTY LIMITED	12/09/83	12/09/83	LEASE INCL. RENEWAL		Pt. ML1441	0.8118	NIL		NOW Pt. CCL 704

PARISHES OF COOK, COX, LIDSDALE and MARANGAROO
COUNTY OF COOK
SHIRE OF LITHGOW
LAND DISTRICT OF LITHGOW

Total Mineral Area = 10244.48ha
Total Surface Area under the Mining Act = 31.33ha
Total Surface Freehold = 142.019ha

I hereby certify that the information shown hereon, to the best of my knowledge and belief is correctly represented.
Signed: _____ Date: ___/___/___
D.J.Wyper – Registered Mining Surveyor Surveying Act 2002

THIS PLAN REPRESENTS THE ANGUS PLACE COLLIERY HOLDING AS REGISTERED AT THE DEPARTMENT OF PRIMARY INDUSTRIES

ANGUS PLACE COLLIERY HOLDING PLAN

Centennial Angus Place

PC10

Plot File PCX1120

CENTENNIAL PTY LTD
ANGUS PLACE COLLIERY

LOCATION OF COLLIERY
LICENCED DISCHARGE POINTS
& WATER MONITORING POINTS

Centennial
Angus Place

LEGEND
Colliery Holding
Coal Transport Roads
005 EPA Licenced Water Discharge Points & Water Monitoring Points
0 0.5 1km
1:30,000

Cox's River Upstream
Cox's River Kangaroo Creek Confluence
Kangaroo Creek Downstream
Kangaroo Creek Upstream
Cox's River Downstream
ANGUS PLACE PIT TOP AREA
002
001
005
003
LDP003 D-S
006
ANGUS PLACE COLLIERY
"HERONSVALE" SITE NEWCOM COLLIERY MINE ENTRIES AND COAL STOCKPILE
LONGWALL 401
LONGWALL 402
LONGWALL 403
LONGWALL 404
LONGWALL 405
LONGWALL 406
LONGWALL 407
LONGWALL 408
LONGWALL 409
LONGWALL 410
LONGWALL 411
LONGWALL 412
200 PANEL
300 PANEL
100 PANEL
Wolgan Valley Road
Wolgan River

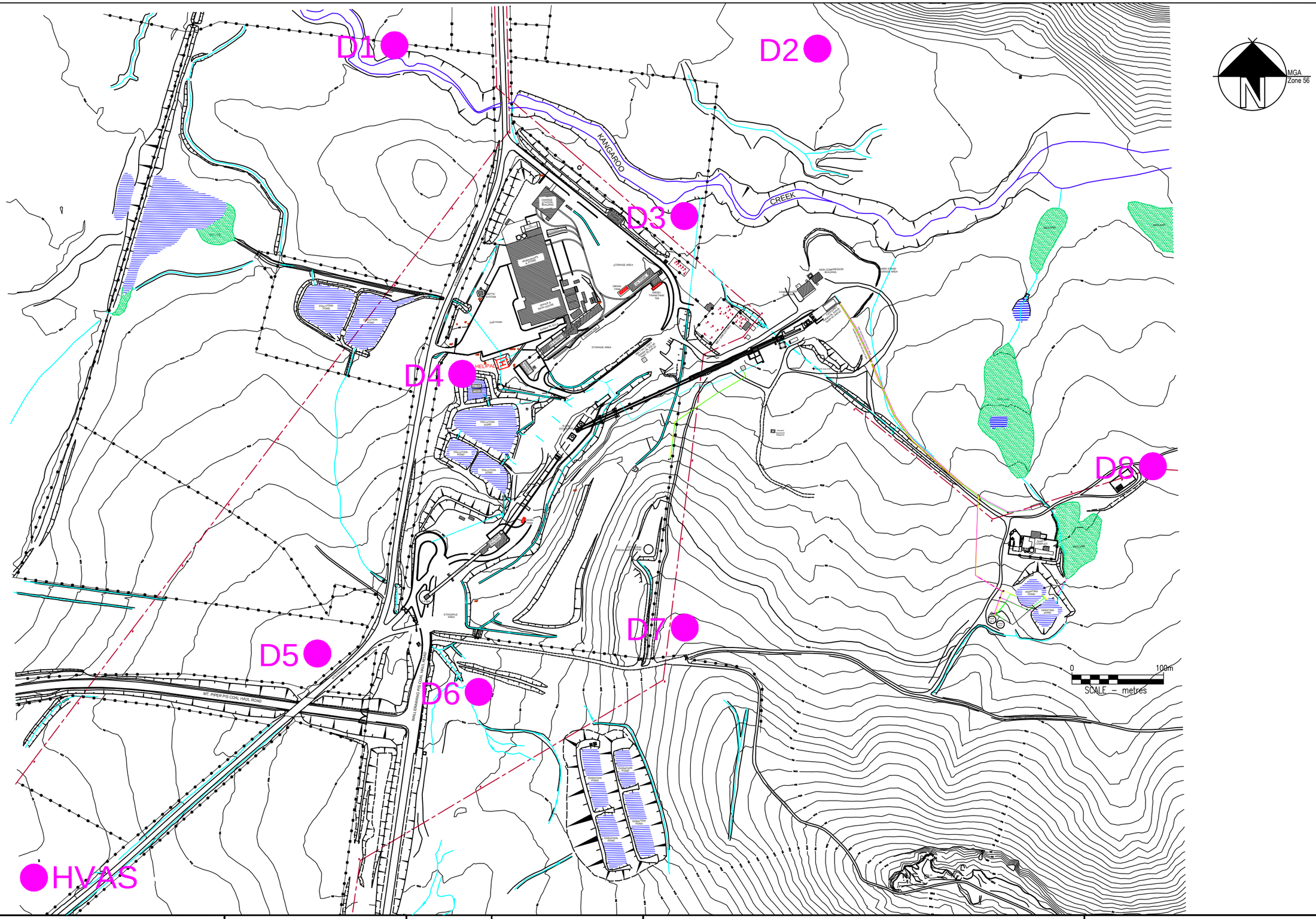
DATE	29 January 2014
DRAWN	Michael Price
REFERENCE	N:\SHARED\PLANS\ANGUS\Environmental\AEMR2014\DISCHARGE_POINTS_with_aerialphoto.dwg
SCALE	1:32000

AERIAL PHOTO OF
ANGUS PLACE COLLIERY
WORKINGS.
LOCATION OF COLLIERY LICENECED
DISCHARGE POINTS &
WATER MONITORING POINTS

PLOTFILE No.

Centennial
Angus Place

DRG. No. 7252 A3



LEGEND

● D7 DUST DEPOSITION GAUGE

DATE	29 January 2014
SEAM	LITHGOW
REFERENCE	
N:\SHARED\PLANS\ANGUS\Environmental\AEMR\2014\DUST_MONITORING_2013.dwg	
SCALE	1:4000

ENVIROMENT DUST MONITORING POINTS

PLOTFILE No.

Centennial Angus Place

DRG. No. 7253

Centennial Coal

Angus Place

Appendix 3
Project Approval

Notice of Modification

Section 75W of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning and Infrastructure, the Planning Assessment Commission modifies the project approval referred to in Schedule 1, subject to the conditions in Schedule 2.

Paul Forward
Member of the Commission

Sydney, 9 December 2013

SCHEDULE 1

The project approval (06_0021) for the Angus Place Coal Project, granted by the Minister for Planning on 13 September 2006.

SCHEDULE 2

1. In the list of DEFINITIONS, insert the following in alphabetical order:

EA Mod 3	Modification application detailed in the letter entitled *S75W Modification Application to PA_0021 for Longwall 980 and 900W*, dated 31 October 2013, including the attachments.

2. In condition 2 of schedule 2, delete all words after "EA – Mod 2;", and insert the following:

(e) EA Mod 3; and
(f) conditions of this approval.

End of Schedule 2

Project Approval

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

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

These conditions are required to:
- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the project.

Frank Sartor MP
Minister for Planning

Signed by Minister Sartor 13 September 2006
Blue text represents MOD 1 August 2011
Red text represents MOD 22 April 2013

Sydney 2006 File No: 9038493

SCHEDULE 1

Project Application:	06_0021
Proponent:	Centennial Angus Place Pty Limited
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Angus Place Coal Project

DEFINITIONS

Adaptive management	Adaptive management includes monitoring subsidence effects and impacts and, based on the results, modifying the mine plan as mining proceeds to ensure that the effects, impacts and/or associated environmental consequences remain within the predicted and/or designated ranges
Annual Review	The Annual Review of operations, as required under condition 3 of schedule 5
BCA	Building Code of Australia
Bore	Any bore or well or excavation or other work connected or proposed to be connected with sources of sub-surface water, and used or proposed to be used or capable of being used to obtain supplies of such water whether the water flows naturally at all times or has to be raised whether wholly or at times by pumping or other artificial means
Built features	Includes any building or work erected or constructed on land, and includes dwellings and infrastructure such as any formed road, street, path, walk, or driveway; and any pipeline, water, sewer, telephone, gas or other service main
CCC	Community Consultative Committee
CEF	Community Enhancement Fund
Conditions of this approval	Conditions contained in Schedules 2 to 5 inclusive
Council	Council of the City of Lithgow
Day	Day is defined as the period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and public holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department, or nominee
DRE	Division of Resources and Energy (within the Department of Trade and Investment, Regional Infrastructure and Services)
EA	Environmental Assessment titled *Angus Place Colliery Proposed Mining and Coal Transport,* dated January 2006; the associated *Response to DEC Submission,* dated 8 March 2006 and the associated *Angus Place – Response to Submissions,* dated 31 March 2006
EA – Mod 1	Environmental Assessment titled *Angus Place Colliery, NSW Modification of Project Approval 06_0021 under Section 75W, Part 3A*, prepared by RPS and dated November 2010 and the associated Response to Submissions, prepared by Centennial Coal and dated April 2011, including its letter of clarification dated 23 May 2011 and the revised Statement of Commitments (see also Appendix 4)
EA – Mod 2	Environmental Assessment titled *Environmental Assessment Angus Place Colliery, Ventilation Facility Project: Modification 2 of Project Approval 06_0021*, dated October 2012, and the associated Response to Submissions, dated December 2012
Environmental consequences	Environmental consequences of Subsidence Impacts, including: damage to infrastructure, buildings and residential dwellings; loss of surface flows to the subsurface; loss of standing pools; adverse water quality impacts; development of iron bacterial mats; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology; ponding; etc
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
Evening	Evening is defined as the period from 6pm to 10pm
Executive Director Mineral Resources	The Executive Director Mineral Resources (or the equivalent position) in the DRE
Existing strategies, plans or programs	Any strategy, plan or program described as existing in the EA referenced in condition 2(c) of schedule 2.
Feasible	Feasible relates to engineering considerations and what is practical to build or carry out
First Workings	Development of main headings, longwall gate roads, related cut throughs and the like
Land	In general, the definition of land is consistent with the definition in the EP&A Act. However, in relation to the noise and air quality conditions in Schedules 3 and 4 it means the whole of a lot, or contiguous lots

	owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Minister	Minister for Planning and Infrastructure
Minor	Small in quantity, size and degree given the relative context
Mitigation	Activities associated with reducing impacts of the project
Modification 1	Modification application 06_0021 MOD 1
Mod 1 Statement of Commitments	The Proponent's commitments for the implementation of Modification 1, as set out in Appendix 4
Mod 2 Statement of Commitments	The Proponent's commitments for the implementation of Mod 2, as set out in Appendix 6
Negligible	Small and unimportant, such as not worth considering
Night	Night is defined as the period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and public holidays
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
Privately-owned land	Land that is not owned by a public agency, or a mining company or its subsidiary
Project	The project described in the EAs listed in condition 2 of schedule 2
Proponent	Centennial Angus Place Pty Limited, or its successors in title
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Reasonable costs	The costs agreed between the Department and the Proponent for obtaining independent experts to review the adequacy of any aspects of an extraction plan
Rehabilitation	The treatment or management of land disturbed by the development for the purpose of establishing a safe, stable and non polluting environment, including the remediation of impacts
ROM	Run-of-mine
Safe, serviceable & repairable	Safe means no danger to users who are present, serviceable means available for its intended use, and repairable means damaged components can be repaired economically
SCA	Sydney Catchment Authority
Second Workings	Extraction of coal from longwall panels, mini-wall panels or pillar extraction
Site	Land to which the project application applies, including any land subject to an existing consent for the Angus Place Coal Mine
SMP	Subsidence Management Plan
Subsidence	The totality of subsidence effects and impacts and their associated environmental consequences
Subsidence effects	Deformation of the ground mass due to mining, being all mining-induced ground movements, including both vertical and horizontal displacement, tilt, strain and curvature
Subsidence impacts	Physical changes to the ground and its surface caused by Subsidence Effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface depressions or troughs
Trial Mining Area	The Trial Mining Area as shown in Appendix 5

TABLE OF CONTENTS

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

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

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
   (a) EA;
   (b) EA – Mod 1;
   (c) Mod 1 Statement of Commitments;
   (d) EA – Mod 2; and
   (e) conditions of this approval.

   Note: The general layout of the project is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and
   (b) the implementation of any actions or measures contained in these documents.

Limits on Approval

5. This approval lapses on 18 August 2024.

6. The Proponent shall not extract more than 4.0 million tonnes of ROM coal per calendar year from the project by underground mining methods.

6A. The Proponent shall not extract more than 500,000 tonnes of ROM coal from the Trial Mining Area (as shown in Appendix 5).

Surrender of Consents

7. Within 6 months of the date of this approval, the Proponent shall surrender all existing consents for the Angus Place Coal Mine to the satisfaction of the Director-General.

   Note: This approval will apply to all components of the Angus Place Coal Mine from the date of approval.

Structural Adequacy

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

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

Demolition

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

Operation of Plant and Equipment

10. The Proponent shall ensure that all plant and equipment used at the site are:
    (a) maintained in a proper and efficient condition; and

(b) operated in a proper and efficient manner.

Community Enhancement Contribution

11. Within 6 months of the date of this approval, and for 2 years thereafter, the Proponent shall pay Council $25,000 (ie. a total of $75,000), for improvements to Wolgan Road between the entrance of the mine and the old Castlereagh Highway at Lidsdale. If Council has not carried out these enhancement works within 2 years of final payment, the Proponent may retrieve the funds from Council.

12. Within 6 months of the date of this approval, the Proponent shall establish a Community Enhancement Fund of at least $30,000 to fund projects of benefit to the local community. The Proponent shall consult with Council and the CCC regarding distribution of monies from the fund.

13. Within six months of the approval of Modification 1, the Proponent shall enter into a Voluntary Planning Agreement with Council to pay Council $68,000 for expenditure on local Lidsdale projects, in accordance with Centennial's formal letter of offer to Council, dated 4 May 2011.

Continuation of Existing Management Plans

14. The Proponent shall continue to implement existing strategies, plans or programs that apply to existing activities on the site until they are replaced by an equivalent strategy, plan or program approved under this approval.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

ACQUISITION UPON REQUEST

1. Upon receiving a written request for acquisition from the landowner of the land listed in Table 1, the Proponent shall acquire the land in accordance with the procedures in conditions 7-9 of schedule 4:

Table 1: Land subject to acquisition upon request

Land
Mason (east)

Note: For more information on the references to land used in this condition, see the 'Property Details' figure of the EA.

2. While the land listed in condition 1 is privately-owned, the Proponent shall implement all practicable measures to ensure that the impacts of the project comply with the predictions in the EA, to the satisfaction of the Director-General.

Note: The noise predictions in the EA are 48dB(A) day time, 45dB(A) evening time and 37dB(A) night time, under the meteorological conditions specified in the notes to condition 17.

SUBSIDENCE

Performance Measures – Natural and Heritage Features, etc

3. The Proponent shall ensure that underground mining does not cause any exceedances of the performance measures in Table 1A, to the satisfaction of the Director-General.

Table 1A: Subsidence Impact Performance Measures

Water	
Natural watercourses.	No greater environmental consequences than predicted in EA – Mod 1.
Biodiversity	
Threatened species, populations or their habitats; endangered ecological communities, including Newnes Plateau Shrub Swamps.	Negligible environmental consequences.
Land	
Cliffs and pagodas.	Negligible subsidence impacts and environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing that in total do not impact more than 0.5% of the total face area of such cliffs within any longwall mining domain).
Forestry operations.	As specified or agreed by Forests NSW.
Aboriginal heritage features	
Sites that may be determined to hold "special significance" as a result of studies required for extraction plans.	Negligible subsidence impacts or environmental consequences.
Other Aboriginal heritage sites	Less than 10% of Aboriginal heritage sites within any longwall mining domain are affected by subsidence impacts.

Notes:

1) The Proponent will be required to define more detailed performance indicators for each of these performance measures in the various management plans that are required under this approval (see condition 3C(g) below).

2) The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of approval of Modification 1.

3A. The Proponent shall ensure that underground mining does not cause any exceedances of the performance measures in Table 1B, to the satisfaction of the Executive Director Mineral Resources.

Table 1B: Subsidence Impact Performance Measures

Built features	
66 kV transmission line.	Always safe and serviceable. Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired, unless the owner agrees otherwise in writing.
Other built features, including powerlines, forest access roads and tracks, water pipelines and other public infrastructure.	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repaired or replaced, or else fully compensated.
Public safety	
Public safety	No additional risk.

Notes:
1) The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans (see condition 3C(g) below).
2) The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of approval of Modification 1.
3) Requirements regarding "safe" or "serviceable" do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.
4) Compensation required under this condition includes any compensation payable under the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992.

3B. Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 1B is to be settled by the Executive Director Mineral Resources. The Executive Director Mineral Resources may seek the advice of the Mine Subsidence Board on the matter. Any decision by the Executive Director Mineral Resources shall be final and not subject to further dispute resolution under this approval.

Extraction Plans

3C. The Proponent shall prepare and implement Extraction Plan/s for the second workings in Longwalls 910 and 900W to the satisfaction of the Director-General. Each Extraction Plan must:

(a) be prepared by a team of suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;
(b) be approved by the Director-General before the Proponent carries out any of the second workings covered by the plan;
(c) include detailed plans of existing and proposed first and second workings and any associated surface development;
(d) include detailed performance indicators for each of the performance measures in Tables 1A and 1B;
(e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;
(f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1A and 1B, and remediate any impacts and/or environmental consequences;
(g) include the following to the satisfaction of the Executive Director Mineral Resources:
- a Coal Resource Recovery Plan that demonstrates effective recovery of the available resource;
- a Subsidence Monitoring and Reporting Program to:
  - provide data to assist with the management of the risks associated with subsidence;
  - validate the subsidence predictions;
  - analyse the relationship between the subsidence effects and impacts under the plan and any ensuing environmental consequences; and
  - report the outcomes of collected subsidence monitoring data and analysis of that data;

- a Built Features Management Plan, which has been prepared in consultation with the owner/s of potentially affected feature/s, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings;
- a Public Safety Management Plan to ensure that mining-related activities do not impact public safety in the mining area; and
- appropriate revisions to the Rehabilitation Management Plan required under condition 37; and

(h) include:

- appropriate revisions to the Site Water Management Plan required by conditions 8-13, which has been prepared in consultation with EPA, SCA and NOW, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on surface water resources and groundwater resources;
- appropriate revisions to the Flora and Fauna Management Plan required by condition 24, which has been prepared in consultation with OEH and DRE, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna;
- a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general; and
- a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for Aboriginal heritage, to manage the potential environmental consequences of the proposed second workings on Aboriginal heritage sites or values; and

(i) include a program to collect sufficient baseline data for future Extraction Plans.

Note: A Subsidence Management Plan approved by DRE prior to 31 March 2012 is taken to satisfy the requirements of this condition.

3D. The Proponent shall ensure that the management plans required under conditions 8-13, 24, 36 and 37 include:

(a) an assessment of the potential environmental consequences of the impacts identified in the Extraction Plan, incorporating any relevant information that has been obtained since this approval;

(b) a detailed description of the measures that would be implemented to remediate predicted impacts; and

(c) a contingency plan that expressly provides for adaptive management.

First Workings

3E. Subject to condition 3E1, the Proponent may carry out first workings within the underground mining area, other than in accordance with an approved extraction plan, provided that DRE is satisfied that the first workings are designed to remain long term stable and non-subsiding in the long term, except insofar as they may be impacted by approved second workings.

Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with negligible resulting direct subsidence impacts.

Trial Mining

3E1. The Proponent shall not undertake underground mining operations within the Trial Mining Area, other than first workings which are generally in accordance with those shown in Appendix 5.

Payment of Reasonable Costs

3F. The Proponent shall pay all reasonable costs incurred by the Department to engage independent experts to review the adequacy of any aspect of an Extraction Plan.

SURFACE AND GROUND WATER

Pollution of Waters

5. Except as may be expressly provided by an EPA Environment Protection Licence, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997* during the carrying out of the project.

Discharge Limits

6. Except as may be expressly provided by a EPA Environment Protection Licence, the Proponent shall ensure that the discharges from any licensed discharge points comply with the limits in Table 2:

Table 2: Discharge Limits

Pollutant	Units of measure	100 percentile concentration limit
pH	pH	6.5 ≤ pH ≤ 8.5
Non-filterable residue	mg/litre	NFR ≤ 30
Oil and Grease	mg/litre	10

Note: This condition does not authorise the pollution of waters by any other pollutants.

Water Resource Impacts

7. The Proponent shall ensure that the project does not result in any significant:
   (a) reduction in pumping yield in privately-owned groundwater bores;
   (b) reduction in surface flows and groundwater baseflow to upland swamps (Newnes Plateau Shrub Swamps) and wetlands; and
   (c) reduction in surface flows and groundwater baseflow to waterbodies including Kangaroo Creek, Wolgan River, Lambs Creek and Coxs River,

   to the satisfaction of the Director-General.

   Note: The respective sub-plans of the Site Water Management Plan (see condition 8 below) must include quantifiable impact assessment criteria for these water resource impacts, as well as measures to monitor, investigate and mitigate the impacts.

Site Water Management Plan

8. The Proponent shall prepare (and following approval implement) a Site Water Management Plan for the project, to the satisfaction of the Director-General. The Plan shall be prepared in consultation with EPA and SCA, and be submitted to the Director-General within 12 months of the date of this approval. The Plan must include:
   (a) a Water Balance;
   (b) an Erosion and Sediment Control Plan;
   (c) a Surface Water Monitoring Program;
   (d) a Ground Water Monitoring Program;
   (e) a Surface and Ground Water Response Plan; and
   (f) a strategy for decommissioning water management structures on the site.

9. The Water Balance shall:
   (a) include details of all water extracted, dewatered, transferred, used and/or discharged by the mine; and
   (b) provide for the annual re-calculation of the water balance and its reporting in the Annual Review.

10. The Erosion and Sediment Control Plan shall:
   (a) be consistent with the requirements of the Department of Housing's *Managing Urban Stormwater: Soils and Construction* manual;
   (b) identify activities that could cause soil erosion and generate sediment;
   (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
   (d) describe the location, function, and capacity of erosion and sediment control structures; and
   (e) describe what measures would be implemented to maintain the structures over time.

11. The Surface Water Monitoring Program shall include:
   (a) detailed baseline data on surface water flows (including ground water baseflows) and quality in waterbodies and wetlands above the mine;
   (b) surface water impact assessment criteria;
   (c) a program to monitor surface water flows (including ground water baseflows) and quality;
   (d) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria; and
   (e) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.

11A. The Proponent shall revise the Surface Water Monitoring Program to provide for the establishment by 31 October 2011 of a program for investigating and monitoring water quality and aquatic ecosystems in the Kangaroo Creek / Coxs River system upstream and downstream of the project's licensed water discharge points, in consultation with EPA and SCA and to the satisfaction of the Director-General.

11B. By 31 October 2012, the Proponent shall report on this program of investigations and propose:
(a) water quality criteria to be applied to any groundwater (minewater) discharged from the mine to the Kangaroo Creek / Coxs River catchment that will protect water quality and aquatic ecosystems within the catchment, having appropriate regard to relevant ANZECC water quality guidelines and SCA's "neutral or beneficial impact" test;
(b) measures to treat, transfer or re-use any groundwater (minewater) that does not meet these criteria; and
(c) a timeline to implement these measures,
to the satisfaction of the Director-General.

12. The Ground Water Monitoring Program shall include:
(a) detailed baseline data on ground water levels and quality, based on statistical analysis;
(b) ground water impact assessment criteria;
(c) a program to monitor the volume and quality of ground water seeping into the underground mine workings;
(d) a program to monitor regional ground water levels and quality; and
(e) a protocol for the investigation, notification and mitigation of identified exceedances of the ground water impact assessment criteria.

13. The Surface and Ground Water Response Plan shall include:
(a) the procedures that would be followed in the event of any exceedance of the surface or ground water impact assessment criteria, or other identified impact on surface or ground water; and
(b) measures to mitigate, remediate and/or compensate any identified impacts.

AIR QUALITY

Impact Assessment Criteria

14. The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality criteria listed in Tables 3, 4, and 5 at any residence on, or more than 25 percent of, privately-owned land.

Table 3: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	30 µg/m^3

Table 4: Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM_{10})	24 hour	50 µg/m^3

Table 5: Long term impact assessment criteria for deposited dust

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

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

Odour

15. Except as may be expressly provided by an EPA Environmental Protection Licence, the Proponent shall not cause or permit the emission of offensive odour beyond the site.

Air Quality Monitoring Program

16. The Proponent shall prepare (and following approval implement) an Air Quality Monitoring Program for the project, to the satisfaction of the Director-General. The program must include an air monitoring protocol for evaluating compliance with the air quality criteria in this approval. The program shall be prepared in consultation with EPA, and be submitted to the Director-General within 6 months of the date of this approval.

NOISE

Impact Assessment Criteria

17. From no later than 28 February 2007, the Proponent shall ensure that the noise generated by the project, including the Proponent's operation of the haul road to the Wallerawang power station, does not exceed the noise impact assessment criteria presented in Table 6 at any residence on privately-owned land.

Table 6: Noise impact assessment criteria dB(A) $L_{Aeq(15\ minute)}$

Land	Day	Evening	Night
Sharpe	42	38	36
Mason (West) and other Wolgan Road rural properties	41	37	35
Lidsdale village residents	44	40	35

Notes:

a) For more information on the references to land in this condition, see 'Property Details' figure of the EA.

b) The noise criteria do not apply where the Proponent and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and EPA.

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

d) The noise emission limits identified in the above table apply under meteorological conditions of:

- *Wind speeds of up to 3 m/s at 10 metres above ground level; or*
- *Temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.*

Land Acquisition Criteria

18. If, after 31 August 2007, the noise generated by the project, including the operation of the haul road to the Wallerawang power station, exceeds the criteria in Table 7, the Proponent shall, upon receiving a written request for acquisition from the landowner (excluding the landowners listed in Table 1), acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.

Table 7: Land acquisition criteria dB(A) $L_{Aeq(15\ minute)}$

Land	Day	Evening	Night
Sharpe, Mason (West) and other Wolgan Road rural properties	44	40	40
Lidsdale village residents	47	43	43

Note: The notes under Table 6 also apply to Table 7.

Operating Hours – Wallerawang Power Station Haul Road

19. The Proponent shall not use the Wallerawang power station haul road at night.

Note: Night is defined as the period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and public holidays.

Additional Noise Mitigation Measures

20. Upon receiving a written request from a landowner in Table 8 (unless that landowner has acquisition rights and has requested acquisition), the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the land in consultation with the landowner. These additional mitigation measures must be reasonable and feasible. If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.

Table 8: Land subject to additional noise mitigation

Property
Mason (east)
Sharpe

Continuous Improvement

21. The Proponent shall:
    (a) implement all reasonable and feasible best practice noise mitigation measures;
    (b) investigate ways to reduce the noise generated by the project, including noise generated from use of the Wallerawang power station haul road; and
    (c) report on these investigations and the implementation and effectiveness of these measures in the Annual Review,
    to the satisfaction of the Director-General.

Noise Monitoring Program

22. The Proponent shall prepare (and following approval implement) a Noise Monitoring Program for the project, to the satisfaction of the Director-General. This program must include a combination of attended and unattended noise monitoring, and a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this approval. The program shall be prepared in consultation with EPA, and be submitted to the Director-General within 6 months of the date of this approval.

METEOROLOGICAL MONITORING

23. Within 6 months of the date of this approval, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the project in accordance with the requirements in *Approved Methods for Sampling of Air Pollutants in New South Wales*, and to the satisfaction of the EPA and the Director-General.

FAUNA AND FLORA

Flora and Fauna Management Plan

24. The Proponent shall prepare (and following approval implement) a Flora and Fauna Management Plan for the project, to the satisfaction of the Director-General. The Plan shall be submitted to the Director-General within 12 months of the date of this approval. The Plan must include:
    (a) baseline data of the existing habitat on site;
    (b) detailed procedures to:
        - clear vegetation on site;
        - control weeds;
        - control access to environmentally sensitive areas on site;
        - manage any potential conflicts between flora and fauna and Aboriginal heritage;
    (c) a flora and fauna monitoring program; and
    (d) procedures for monitoring, reviewing, and implementing the plan.

***Persoonia hindii* Management and Research Program**

24A. The Proponent shall prepare and implement a *Persoonia hindii* Management and Research Program. This Program must:

(a) be prepared in consultation with OEH and Forests NSW by suitably qualified and experienced persons whose appointment has been approved by the Director-General;
(b) be submitted for approval to the Director-General prior to the commencement of construction activities for Mod – 2 that involve clearing of *Persoonia hindii* stems (ramets);
(c) include a timetable to undertake surveys and mapping of *Persoonia hindii* to establish its distribution and population across the Newnes Plateau;
(d) include measures for the translocation of all stems of *Persoonia Hindii* found in the area of disturbance associated with the widening of access tracks/roads to the Mod – 2 ventilation facilities, to nearby areas with similar physical and biological habitat features;
(e) include trials to assess whether such translocated *Persoonia hindii* stems can be successfully returned to their original locations as a component of the rehabilitation of these areas;
(f) include a study of the rhizomatous habit of *Persoonia hindii* and how this may affect the success of the species in translocation and/or re-colonising disturbed areas;
(g) include a monitoring program to study the *Persoonia hindii* stems before and after translocation;
(h) include a monitoring program to measure the ability of the residual *Persoonia hindii* population along the disturbed areas of the ventilation facilities access tracks/roads and construction site to regenerate;
(i) include short and long-term goals to measure the effectiveness of the Program; and
(j) provide for the transfer of information obtained as a result of implementing the Program to OEH, Forests NSW and the Department.

Note: The requirement to undertake a Persoonia hindii Management and Research Program may be implemented in conjunction with a similar requirement arising from approval of the Springvale Colliery Bore 8 modification (DA 11/92 Mod 3).

Mod – 2 Vegetation Offsets

24B. By the end of December 2016, the Applicant shall, to the satisfaction of the Director-General:

(a) provide an area that is suitable in its vegetation types and extent to satisfactorily offset the residual impacts of clearing approximately 15 hectares of native vegetation associated with the construction and use of the Mod – 2 ventilation facilities and their supporting surface infrastructure and access tracks/roads, including the residual impacts on *Persoonia hindii*; and
(b) make suitable arrangements to manage, protect and provide long-term security for this area, consistent with the relevant NSW Offsets policy.

In determining a suitable residual offset, the Director-General will have regard to the outcomes of the *Persoonia hindii* Management and Research Program, particularly the success of translocation and/or regeneration, and the Proponent's success in implementing the Rehabilitation Management Plan.

TRAFFIC AND TRANSPORT

Transport of Coal

25. The Proponent shall not cause any coal truck movements on public roads, except in the event of emergencies with the prior approval of the Director-General, Council or EPA.

26. The Proponent shall maintain the surface of the haul road to Wallerawang power station to minimise the generation of noise and dust impacts, to the satisfaction of the Director-General.

Coal Conveyor

27. Within 18 months of the date of this approval, the Proponent shall provide the Director-General with a report on the feasibility of installing the previously approved conveyor from the coal mine to the Wallerawang power station. The report shall include:

(a) cost-benefit analyses for both the conveyor and continued road haulage options, including analysis of economic, social and environmental considerations; and
(b) a long term strategy for continued coal haulage, including detailed justification for the proposed coal haulage method/s.

Parking

28. The Proponent shall provide:

(a) in accordance with Council's parking codes, provide sufficient vehicle parking on-site for all project and visitor-related traffic;

(b) within 6 months of approval of Modification 1, provide a sealed car park of a minimum of 40 parking spaces on-site to the west of Wolgan Road and additional signage directing contractors to this car park,

in consultation with Council and to the satisfaction of the Director-General.

VISUAL IMPACT

Haul Road Landscaping

29. The Proponent shall prepare (and following approval implement) a Landscape Plan for the Wallerawang power station haul road, to the satisfaction of the Director-General. The Plan shall provide for the establishment and maintenance of reasonable and feasible landscaping measures to minimise the visual impacts of the haul road. The Plan shall be prepared in consultation with Council, and be submitted to the Director-General within 12 months of the date of this approval.

Note: The Landscaping Plan should focus on those areas of the haul road that are visible from residential and other public areas.

Lighting Emissions

30. The Proponent shall:
(a) take all practicable measures to mitigate off-site lighting impacts from the project; and
(b) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*,
to the satisfaction of the Director-General.

GREENHOUSE GAS

31. The Proponent shall:
(a) monitor the greenhouse gas emissions generated by the project;
(b) investigate ways to reduce greenhouse gas emissions generated by the project; and
(c) report on these investigations in the Annual Review,
to the satisfaction of the Director-General.

WASTE MINIMISATION

32. The Proponent shall minimise the amount of waste generated by the project to the satisfaction of the Director-General.

HAZARDS MANAGEMENT

Spontaneous Combustion

33. The Proponent shall take the necessary measures to prevent, as far as is practical, spontaneous combustion on the site.

Dangerous Goods

34. The Proponent shall ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant *Australian Standards*, particularly *AS1940* and *AS1596*, and the *Dangerous Goods Code*.

BUSHFIRE MANAGEMENT

35. The Proponent shall:
(a) ensure that the project is suitably equipped to respond to any fires on-site; and
(b) assist the Rural Fire Service, Forests NSW, and emergency services as much as possible if there is a fire on-site during the project.

MINE CLOSURE STRATEGY

36. The Proponent shall prepare a Mine Closure Strategy for the project, to the satisfaction of the Director-General. The Strategy shall be prepared in consultation with Council, DRE, SCA and EPA, and be submitted to the Director-General at least 3 years prior to the cessation of mining. The Plan must:
(a) define the objectives and criteria for mine closure;
(b) investigate options for the future use of the site, including the pit top and surface facilities area;

(c) investigate ways to minimise the adverse socio-economic effects associated with mine closure, including reduction in local employment levels;
(d) define a strategy for the ongoing management of water flow into the underground mine workings;
(e) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
(f) describe how the performance of these measures would be monitored over time.

REHABILITATION

37. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, to the satisfaction of the Director-General and Executive Director Mineral Resources. This plan must be:
(a) submitted to the Director-General for approval prior to the commencement of secondary extraction in either of longwalls 900W or 910;
(b) prepared in consultation with DRE, Forests NSW, OEH, NOW, SCA and Council; and
(c) prepared in accordance with the relevant DRE guideline.

Mod – 2 Ventilation Facilities

38. The Proponent shall prepare and implement a Construction Environmental Management Plan to the satisfaction of the Director-General. This Plan must:
(a) be prepared by a suitably qualified and experienced person/s;
(b) be approved by the Director-General prior to the commencement of vegetation clearance or ground disturbance activities caused by construction of the Mod – 2 ventilation facilities and their supporting surface infrastructure and access tracks/roads; and
(c) identify environmental impacts and potential impacts of these activities and describe measures to mitigate and manage these impacts, including impacts associated with:
- noise emissions;
- visual amenity;
- night lighting;
- Aboriginal cultural heritage;
- air quality;
- traffic management;
- public safety;
- bushfire management;
- waste and hazardous materials management;
- vegetation removal (including identification of tree hollows, provision for their salvage (where feasible), and provision for their relocation and/or replacement in adjacent woodland); and
- erosion and sediment control.

Mod – 2 Ventilation Facilities – Rehabilitation

39. The Proponent shall prepare and implement a Ventilation Facilities Rehabilitation Management Plan to rehabilitate areas of disturbance caused by construction of the Mod – 2 ventilation facilities and their supporting surface infrastructure and access tracks/roads, to the satisfaction of DRE. This Plan must:
(a) be prepared in consultation with the Department, OEH and Forests NSW;
(b) be submitted to the Executive Director Mineral Resources for approval, prior to 1 August 2013;
(c) describe how the performance of the rehabilitation would be monitored and assessed;
(d) describe measures for soil erosion and sediment control;
(e) provide for progressive rehabilitation of temporarily disturbed areas and final rehabilitation following decommissioning of these facilities, including re-establishment of *Persoonia hindii*: and
(f) include a timetable for the implementation of the components of the Plan.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in schedule 3 identify that impacts generated by the project are greater than the impact assessment criteria in schedule 3, except where this is predicted in the EA, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of mine-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.

INDEPENDENT REVIEW

2. If a landowner (excluding mine owned properties) considers the project to be exceeding the impact assessment criteria in schedule 3, except where this is predicted in the EA, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land.

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

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

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

   to the satisfaction of the Director-General.

   If the additional monitoring referred to above subsequently determines that the project is complying with the relevant criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

   If the Proponent is unable to finalise an agreement with the landowner, then the Proponent or landowner may refer the matter to the Director-General for resolution.

   If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).

   If the measures referred to in (a) do not achieve compliance with the noise land acquisition criteria in schedule 3, and the Proponent cannot secure a written agreement with the landowner to allow these exceedances within 3 months, then the Proponent shall, upon receiving a written request from the landowner, acquire the landowner's land in accordance with the procedures in conditions 7-9 below.

5. If the independent review determines that the relevant criteria in schedule 3 are being exceeded, but that the project and another project/mine are responsible for this exceedance, then the Proponent shall, together with the relevant project/mine:
   (a) take all practicable measures, in consultation with the landowner, to ensure that the relevant criteria are complied with; and
   (b) conduct further monitoring to determine whether these measures ensure compliance; or
   (c) secure a written agreement with the landowner to allow exceedances of the relevant criteria in schedule 3,

   to the satisfaction of the Director-General.

   If the Proponent is unable to finalise an agreement with the landowner and/or other project/s, then the Proponent or landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 3).

6. If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the Director-General for resolution.

   If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

LAND ACQUISITION

7. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:
   (a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the:
      - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
      - presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 20 of schedule 3;
   (b) the reasonable costs associated with:
      - relocating within the Lithgow local government area, or to any other local government area determined by the Director-General;
      - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
   (c) reasonable compensation for any disturbance caused by the land acquisition process.

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

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

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

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

8. The Proponent shall bear the costs of any valuation or survey assessment requested by the independent valuer, or the Director-General and the costs of determination referred above.

9. If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:
   (a) be submitted for approval to the Director-General within 6 months of this approval;
   (b) provide the strategic framework for the environmental management of the project;
   (c) identify the statutory approvals that apply to the project;
   (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
   (e) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the course of the project;
      - respond to any non-compliance;
      - respond to emergencies; and
   (f) include:
      - copies of any strategies, plans and programs approved under the conditions of this approval; and
      - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Management Plan Requirements

2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:
   (a) detailed baseline data;
   (b) a description of:
      - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
      - any relevant limits or performance measures/criteria;
      - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;
   (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
   (d) a program to monitor and report on the:
      - impacts and environmental performance of the project;
      - effectiveness of any management measures (see c above);
   (e) a contingency plan to manage any unpredicted impacts and their consequences;
   (f) a protocol for managing and reporting any:
      - incidents;
      - complaints;
      - non-compliances with statutory requirements; and
      - exceedances of the impact assessment criteria and/or performance criteria; and
   (g) a protocol for periodic review of the plan.

Annual Review

3. By the end of December 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:
   (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year;
   (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the
      - the relevant statutory requirements, limits or performance measures/criteria;
      - the monitoring results of previous years; and
      - the relevant predictions in the EA;
   (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
   (d) identify any trends in the monitoring data over the life of the project;

(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
(f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

4. Within 3 months of:
(a) the submission of an annual review under Condition 3 above;
(b) the submission of an incident report under Condition 6 below;
(c) the submission of an audit under Condition 8 below; and
(d) any modification to the conditions of this approval (unless the conditions require otherwise),
the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

Community Consultative Committee

5. The Proponent shall maintain and operate a Community Consultative Committee (CCC) for the project in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), and to the satisfaction of the Director-General.

Notes:
- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval;*
- *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community; and*
- *With the approval of the Director-General, this CCC may be combined with other CCCs operated by the Proponent in the area.*

REPORTING

Incident Reporting

6. The Proponent shall notify the Director-General and any other relevant agencies of any incident caused or contributed to by the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.

Regular Reporting

7. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the Director-General.

INDEPENDENT ENVIRONMENTAL AUDIT

8. Prior to 31 December 2013, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
(b) include consultation with the relevant agencies;
(c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); and
(d) recommend appropriate measures or actions to improve the environmental performance and rehabilitation of the project while on care and maintenance or following mine closure.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.

9. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

10. Prior to 31 December 2011, the Proponent shall:

(a) make copies of the following publicly available on its website:

- the monitoring results of the project, reported in accordance with the specifications in any approved plans or programs required under the conditions of this or any other approval;
- a complaints register, which is to be updated on a monthly basis;
- minutes of CCC meetings;
- the documents referred to in condition 2 of schedule 2;
- all relevant statutory approvals for the project;
- all approved strategies, plans and programs required under the conditions of this approval;
- the annual reviews required under this approval;
- any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;
- any other matter required by the Director-General; and

(b) keep this information up-to-date,

to the satisfaction of the Director-General.

APPENDIX 1
SCHEDULE OF LAND

Lot	DP	County	Parish
7	751634	Cook	Cook
13a	751666	Cook	Wolgan
173	751666	Cook	Wolgan
40	751666	Cook	Wolgan
3	722335	Cook	Wolgan
34	751666	Cook	Wolgan
39	751666	Cook	Wolgan
33	751666	Cook	Wolgan
10d	751666	Cook	Wolgan
11c	751666	Cook	Wolgan
40	751636	Cook	Cox
7002	1026540	Cook	Cox
51	751636	Cook	Cox
56	751636	Cook	Cox
63	751636	Cook	Cox
62	751636	Cook	Cox
71	751636	Cook	Cox
72	751636	Cook	Cox
73	751636	Cook	Cox
74	751636	Cook	Cox
75	751636	Cook	Cox
76	751636	Cook	Cox
77	751636	Cook	Cox
78	751636	Cook	Cox
79	751636	Cook	Cox
60	751636	Cook	Cox
358	44086	Cook	Cox
24	751636	Cook	Cox
248	751636	Cook	Cox
1	751636	Cook	Cox
A	418163	Cook	Cox
B	418163	Cook	Cox
C	418163	Cook	Cox
26	751636	Cook	Cox
54	751636	Cook	Cox
55	751636	Cook	Cox
350	751636	Cook	Cox
340	751636	Cook	Cox
1	542432	Cook	Cox
2	542432	Cook	Cox
3	542432	Cook	Cox
25	751636	Cook	Cox
2	751636	Cook	Cox
6	751636	Cook	Cox
15	751636	Cook	Cox
1	825887	Cook	Cox
2	825887	Cook	Cox
41	751636	Cook	Cox
20	827626	Cook	Cox
21	827626	Cook	Cox
22	827626	Cook	Cox
23	827626	Cook	Cox
24	827626	Cook	Cox
25	827626	Cook	Cox
26	827626	Cook	Cox
27	827626	Cook	Cox
4	751636	Cook	Cox
43	751636	Cook	Cox
34	751636	Cook	Cox
5	751636	Cook	Cox
354	751636	Cook	Cox
1	260621	Cook	Cox
2	260621	Cook	Cox
3	260621	Cook	Cox
4	260621	Cook	Cox

Lot	DP	County	Parish
5	260621	Cook	Cox
31	751636	Cook	Cox
33	751636	Cook	Cox
28	751636	Cook	Cox
1	552422	Cook	Cox
2	552422	Cook	Cox
1	732119	Cook	Cox
2	732119	Cook	Cox
57	751636	Cook	Cox
32	751636	Cook	Cox
351	751636	Cook	Cox
1	65810	Cook	Lidsdale
1	860363	Cook	Cox
101	1033592	Cook	Cox
100	1033592	Cook	Cox
2	860363	Cook	Lidsdale
1	568265	Cook	Lidsdale
11	864305	Cook	Lidsdale
16	855844	Cook	Lidsdale
5	115922	Cook	Wolgan
1	523671	Cook	Lidsdale
2	523671	Cook	Lidsdale
1	652799	Cook	Lidsdale
406	751651	Cook	Lidsdale
51	751651	Cook	Lidsdale
15	751651	Cook	Lidsdale
418	751651	Cook	Lidsdale
419	751651	Cook	Lidsdale
2	609683	Cook	Lidsdale
403	751651	Cook	Lidsdale
404	751651	Cook	Lidsdale
405	751651	Cook	Lidsdale
176	751651	Cook	Lidsdale
5	829137	Cook	Lidsdale
16	855844	Cook	Lidsdale
17	855844	Cook	Lidsdale
12	864305	Cook	Lidsdale
30	751651	Cook	Lidsdale
173	666814	Cook	Lidsdale
1	386554	Cook	Lidsdale
2	386554	Cook	Lidsdale
40	751651	Cook	Lidsdale
43	751651	Cook	Lidsdale
1	52865	Cook	Lidsdale
2541-3090		Cook	Cox
1	651723	Cook	Cox
359	44086	Cook	Cox
2	722335	Cook	Wolgan
7003	1026540	Cook	Cox
Newnes State Forest		Cook	Cook

LOTS WITHIN COLLIERY HOLDING

Lot	DP
359	44086
2	732119
1	732119
2	860363
3	545089
29	827626
1	651723
1	597541
700	1067040
1	825124
1	568265
2	1139982
1	1139982
4	1139982
3	1139982
2	722335
7006	1055080
5	115922
101	1033592
40	751636
7003	1026540
11	751636
100	1033592
52	751636
7001	1055079
7318	1149348
7300	1139065

KEROSENE VALE STOCKPILE AREA

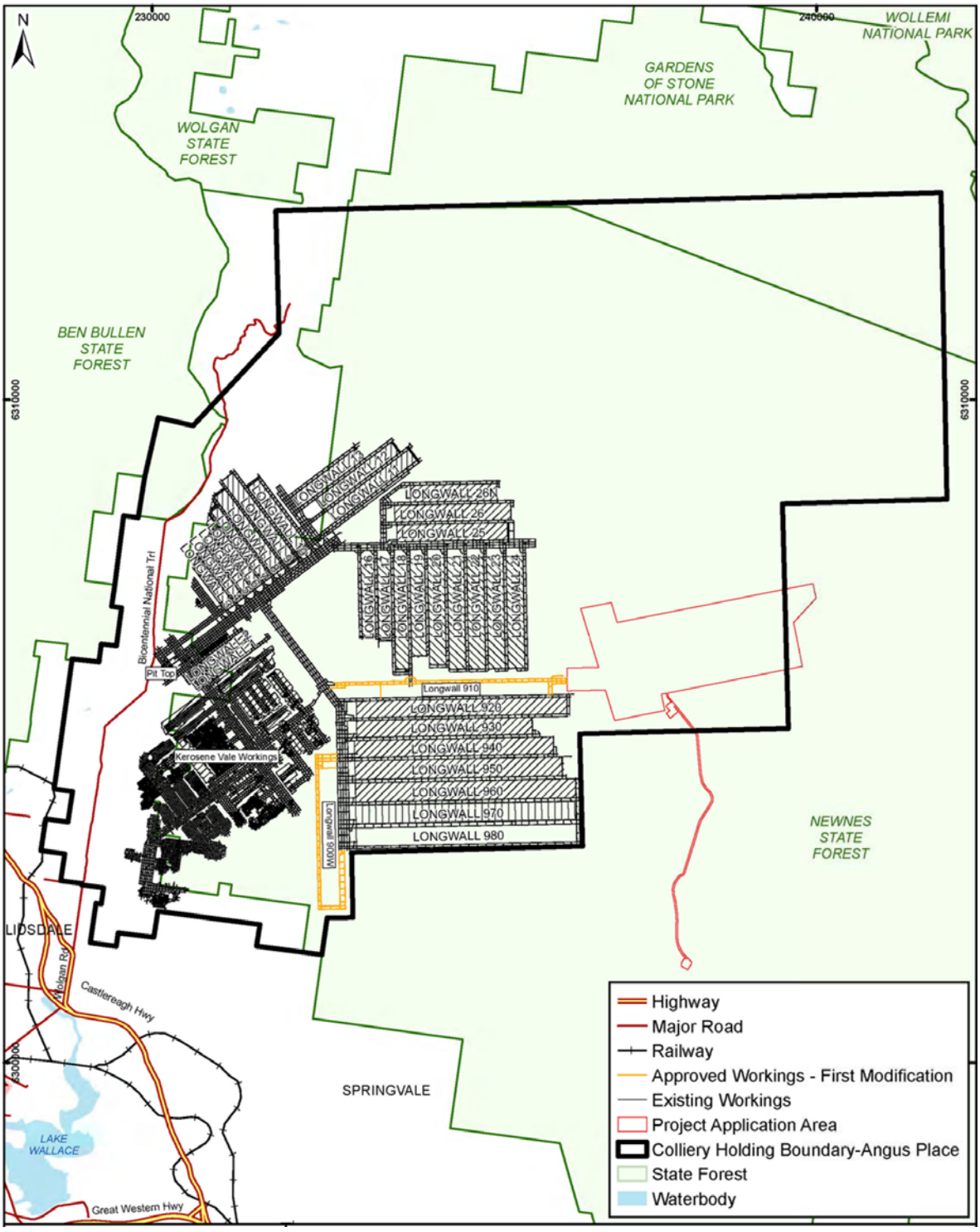
Lot	DP
4	1139982
1	386554
1	1139982
2	1139982

Parts of Ben Bullen State Forest
Parts of Newnes State Forest

MINING AUTHORITIES

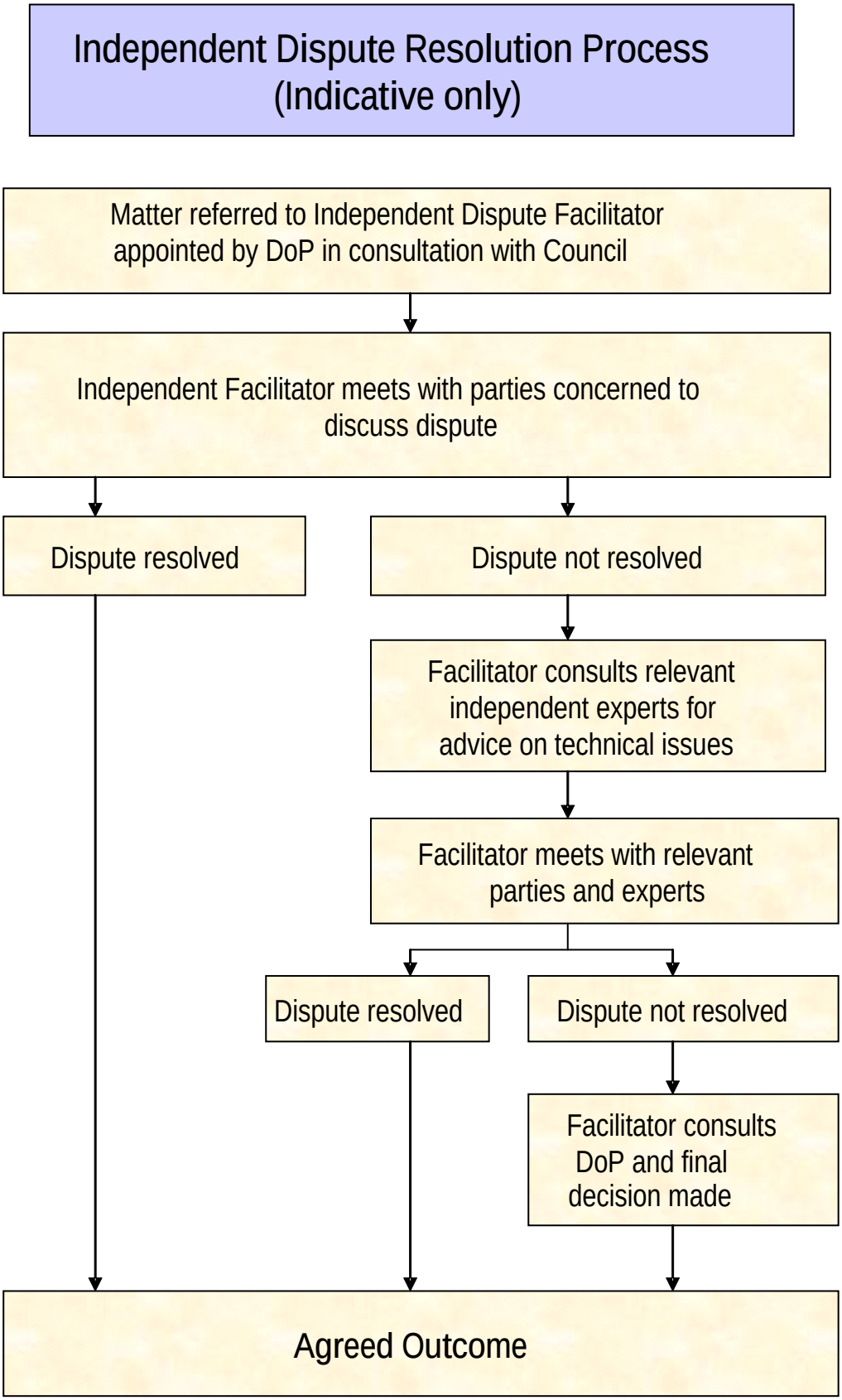
Consolidated Coal Lease 704
Mining Lease 1424
Sublease Area of Consolidated Coal Lease 702
Part lease transfer ML1326
Exploration Licence 6856
Exploration Licence 6293

APPENDIX 2
ANGUS PLACE COAL PROJECT PLAN



The Project includes the lands within the Colliery Holding Boundary and those areas where the red outline of the Mod 2 “Project Application Area” extends beyond the Colliery Holding Boundary.

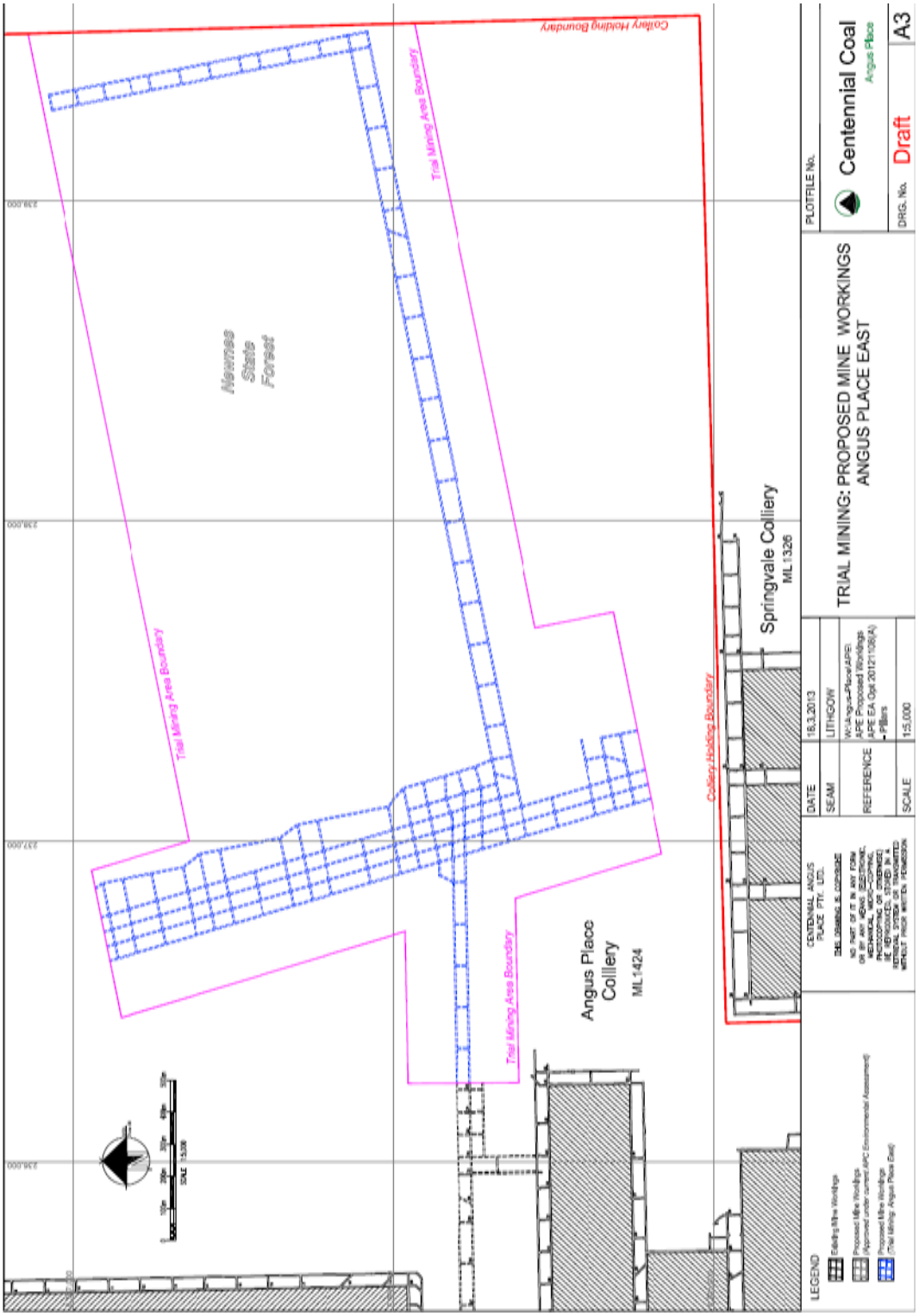
APPENDIX 3
INDEPENDENT DISPUTE RESOLUTION PROCESS



APPENDIX 4
MOD 1 STATEMENT OF COMMITMENTS

Desired Outcome	Action
1. Rehabilitation	
To ensure that any land disturbed due to exploration or mining activities is rehabilitated to an appropriate standard.	▪ A Rehabilitation Strategy as set out in Appendix 7.6 and revised in relation to the measures identified for the rehabilitation of areas of construction for the dewatering bore at Longwall 910 and its associated infrastructure that have been withdrawn from the proposals of the EA will be developed for approval by the Director-General I&I NSW prior to commencement of Longwalls 910 and 900 west and within 12 months of the date of approval.
2.Cultural Heritage	
To minimise impacts on aboriginal heritage.	Within 6 months of obtaining approval, the Environmental Management Plan will be revised to require ongoing liaison with Aboriginal Community as per the DECCW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 during the proposed works, should any matters relating to Aboriginal heritage occur.
3.Surface Water	
To improve understanding of water quality impacts from approved license discharge points on the receiving environment.	▪ Within 6 months of obtaining approval review the Site Water Management Plan that takes into account mitigation measures identified in Appendix 7.3 Surface Water Assessment. ▪ Continue to assess the wider catchment areas and specific downstream influences of approved licensed discharge points. Angus Place has extended its current aquatic monitoring suite aiming to achieve ANZECC trigger levels for high risk parameters.
4. General	
To ensure the existing management plans, procedures and protocols are reviewed to include the measures identified in Table 6.1.	▪ Within 6 months of obtaining approval relevant management plans (Table 6.1) will be reviewed and updated as required.
To ensure the proper and orderly management of car parking during operations.	▪ Within 6 months of approval the formalisation of the western car park in accordance with AS2890.1:2004 will be investigated and constructed to provide a minimum of 40 car parking spaces. ▪ In consultation with Lithgow City Council, additional signage will be installed to direct contractors to the contractor car park within 6 months of obtaining approval.
To confirm that the 910 dewatering bore and its associated infrastructure (new track, widening of track, powerline and pipeline) are withdrawn from the proposed modifications.	▪ Approval for the dewatering bore at Longwall 910 and its associated infrastructure (new track, widening of track, powerline and pipeline) is no longer sought by Centennial.

APPENDIX 5
TRIAL MINING AREA



APPENDIX 6
MOD 2 STATEMENT OF COMMITMENTS

FLORA AND FAUNA

1. A *Persoonia hindii* Management Plan will be developed. This plan will:

    a. Include the direct management actions and mitigation measures identified in Section 9.3.4 of this EA.

    b. Include consultation with relevant stakeholders, including OEH, Forests NSW and the NSW Botanic Gardens.

2. Centennial Angus Place commits to study the rhizomatous spreading potential of *P. hindii*. It is proposed to undertake this study as part of the Project regarding any *P. hindii* plants approved for removal.

3. The existing Flora and Fauna Management Plan will be updated to include the management actions identified in Section 9.3.4 of this EA.

SURFACE WATER

4. The existing Site Water Management Plan will be updated to include the management actions identified in Section 9.4.4 of this EA.

5. A Construction Environmental Management Plan will be developed and implemented. This plan will include measures to minimise impacts to surface water systems, including sediment and erosion controls.

GROUNDWATER

6. The existing Groundwater Management Plan will be updated to include the management actions identified in Section 9.5.4 of this EA.

REHABILITATION

7. Rehabilitation will be implemented in accordance with the existing Rehabilitation Strategy.

SOILS AND LAND RESOURCES

8. The Construction Environmental Management Plan will include sediment and erosion controls.

9. The existing Site Water Management Plan will be updated to include the management actions in Section 9.7.4 of this EA.

10. The Rehabilitation Strategy will be updated to include the management actions in Section 9.6 and 9.7.4 of this EA.

GREENHOUSE GASES

11. The existing Energy Savings Action Plan and Energy Efficiency Opportunities strategies will continue to be implemented.

12. Centennial Angus Place Pty Ltd will participate, where required, in strategies to reduce greenhouse gas emissions identified by Centennial Angus Place Pty Ltd.

AIR QUALITY

13. The Construction Environmental Management Plan will include measures such as dust suppression and limits to plant use.

14. Dust monitoring will continue under the existing Environmental Monitoring Program.

15. Air quality management measures will be further investigated to decrease air quality impacts from the project in conjunction with other site practices.

16. The diesel generator will be maintained in accordance with the manufacturer's maintenance requirements to ensure that emissions from it are mitigated on the occasions when it is needed.

17. The vegetative buffer provided by the existing forest will be maintained to mitigate odour from the Ventilation Facility during its operation.

NOISE

18. The existing Noise Monitoring Program will be updated to include management actions identified in Section 9.10 of this EA.

19. The Construction Environmental Management Plan will include noise management and mitigation measures.

BUSHFIRE

20. The existing Bushfire Management Procedure and Management of Bushfire Assets Procedure will be updated to include the management actions identified in Section 9.11.1 of this EA.

VISUAL

21. The Construction Environmental Management Plan will include measures to minimise the visual impacts of the construction phase of the project.

RECREATION

22. The Construction Environmental Management Plan will include measures to minimise impacts to recreational users of the Newnes State Forest during construction. This will include installation of appropriate signage.

TRAFFIC

23. A Construction Traffic Management Plan will be prepared and implemented in consultation with Forests NSW and Lithgow City Council that includes the management actions identified in Section 9.14.4 of this EA.

SUBSIDENCE

24. A Wolgan River Monitoring Program will be developed and implemented. It will include:

    a. Pre and post mining inspections of the Wolgan River.

    b. Photographic monitoring of the Wolgan River prior to mining.

c. Annual inspections and reporting of the condition of the Wolgan River for a period of 5 years post mining.

25. Appropriate impact management and mitigation plans will be developed for infrastructure within the Project Application Area.

26. Existing management plans will be updated to take into consideration potential subsidence impacts from the project.

HERITAGE

27. Cultural Heritage Management Arrangements as identified in Section 9.17.4 of the EA will be included in the Construction Environmental Management Plan.

28. Recommendation 4 within the Cultural Heritage Impact Assessment is amended to reflect the following:

    In the unlikely event that skeletal remains are identified.
    - Work must cease immediately in the vicinity of the remains and the areas cordoned off.
    - The Proponent will need to contact the local NSW Police.
    - Police will make an initial assessment if the remains are part of a crime scene or possible Aboriginal remains.
    - If remains are thought to be Aboriginal the local police will contact the OEH to determine if remains are Aboriginal or not.

AGRICULTURE

29. An agreement will be entered into with Forests NSW for the temporary use of the land required for the project.

30. An Occupation Permit and/or Mining Lease will be established for the Project Application Area prior to the operational phase of the project.

OTHER HAZARDS

31. Where required, all management plans will be updated to include the management actions identified in Section 9.20.3 of this EA.

32. The Construction Environmental Management Plan will take into consideration public safety, hazardous materials management and waste management activities.

OTHER APPROVALS

33. Centennial Angus Place Pty Ltd will obtain all necessary approvals to carry out and complete the project.

34. Centennial Angus Place will ensure a section 91 licence is obtained under the *Threatened Species Conservation Act 1995* for the implementation of the *Persoonia hindii* Management Plan.

35. Centennial Angus Place will complete the MOP addendum to the satisfaction of DRE prior to any surface disturbance.

Centennial Coal

Angus Place

Appendix 4
Angus Place Environment Protection Licence

Environment Protection Licence

Licence - 467

Licence Details	
Number:	467
Anniversary Date:	01-January

Licensee

SPRINGVALE SK KORES PTY LIMITED

CENTENNIAL SPRINGVALE PTY LIMITED

PO BOX 42

WALLERAWANG NSW 2845

Premises

ANGUS PLACE COLLIERY

WOLGAN ROAD

LIDSDALE NSW 2790

Scheduled Activity

Coal Works

Mining for Coal

Fee Based Activity	Scale
Coal works	> 2000000-5000000 T handled
Mining for coal	> 3500000-5000000 T produced

Region

South - Bathurst

Lvl 2, 203-209 Russell Street
BATHURST NSW 2795

Phone: (02) 6332 7600

Fax: (02) 6332 7630

PO Box 1388 BATHURST

NSW 2795

Environment Protection Licence

Licence - 467

Environment Protection Licence

Licence - 467

Environment Protection Licence

Licence - 467

Information about this licence

Dictionary

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

Responsibilities of licensee

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

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

Variation of licence conditions

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

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

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

Duration of licence

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

Licence review

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

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

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

Environment Protection Licence

The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

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

Transfer of licence

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

Public register and access to monitoring data

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

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

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

This licence is issued to:

SPRINGVALE SK KORES PTY LIMITED
CENTENNIAL SPRINGVALE PTY LIMITED
PO BOX 42
WALLERAWANG NSW 2845

subject to the conditions which follow.

Environment Protection Licence

Licence - 467

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

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

Scheduled Activity	Fee Based Activity	Scale
Coal Works	Coal works	> 2000000 - 5000000 T handled
Mining for Coal	Mining for coal	> 3500000 - 5000000 T produced

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
ANGUS PLACE COLLIERY
WOLGAN ROAD
LIDSDALE
NSW 2790
ANGUS PLACE COLLIERY HOLDING AS IDENTIFIED ON PLAN TITLED 'FIGURE 2: ANGUS PLACE COLLIERY - MINING AREA' SUBMITTED TO THE EPA ON 17 AUGUST 2009

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

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

Environment Protection Licence

Licence - 467

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

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

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
7	Dust Monitoring		Point labelled Dust Gauge 1 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
8	Dust Monitoring		Point labelled Dust Gauge 2 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
9	Dust Monitoring		Point labelled Dust Gauge 3 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
10	Dust Monitoring		Point labelled Dust Gauge 4 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
11	Dust Monitoring		Point labelled Dust Gauge 5 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
12	Dust Monitoring		Point labelled Dust Gauge 6 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
13	Dust Monitoring		Point labelled Dust Gauge 7 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
14	Dust Monitoring		Point labelled Dust Gauge 8 - Figure 1 of Angus Place Colliery Air Quality Monitoring Program, March 2007.
15	PM10 and TSP Monitoring		In paddock in vicinity of Dust Gauge No. 5 (licence point No. 11)

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

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

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	V notch weir structure labelled "001" on plan titled "Figure 1 Aerial Photo of Angus Place Workings. Location of Colliery Licenced Dischargw Discharge Points" dated 9 November 2011.

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2	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	Drain from final settling pond to Cox's Creek, Western Side, Wolgan Road; labelled as '002' on plan titled 'Figure 2: Angus Place Colliery - Mining Area' submitted on 17 August 2009
3	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Overflow from the Kerosene Vale site, west of the Haul Road from sediment dam, labelled '003'; on plan titled 'Figure 2: Angus Place Colliery - Mining Area' submitted on 17 August 2009
5	Discharge to utilisation area		Irrigation area (2.5-3 ha) located adjacent to aeration ponds (Figure 1 of licence variation application - EPA ref. BTF9956)

3 Limit Conditions

L1 Pollution of waters

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

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

L2.4 Water and/or Land Concentration Limits

POINT 1

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10

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pH	pH		6.5-8.5	6.5-9.0
Total suspended solids	milligrams per litre			30

POINT 2

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH		6.5-8.5		6.5-9.0
Total suspended solids	milligrams per litre				30

POINT 3

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre		30		50
Turbidity	nephelometric turbidity units				50

L2.5 The limits specified under Condition L2.4 for the sediment basin identified as EPA licence discharge points 2 and 3 do not apply when the discharge occurs within five (5) days after a rainfall event measured at the premises which exceeds;

- a total of 44 millimetre of rainfall over any consecutive 5 day period.

Note: A 44mm rainfall depth is defined by the publication "Managing Urban Stormwater: Soils and Construction" (Landcom 2006) as the rainfall depth in millimetres for a 95th percentile 5 day rainfall event for the Central Tablelands consistent with the storage capacity (recommended minimum design criteria) for Type D sediment retention basins for mines and quarries (Vol 2E of Landcom 2008).

L2.6 The concentration limit for Total Suspended Solids (TSS) under condition L2.4 is deemed not to have been breached where:

1. the sample complies with the turbidity limit at the time of the discharge, and
2. the EPA is advised within 3 working days of completion of the TSS testing, of any TSS results above the licence limit.

Note: The purpose of this condition is to expedite the assessment and subsequent discharge of the clarified water from the sediment basins. The correlation between TSS and turbidity will be subject to ongoing review based on the test results.

L3 Volume and mass limits

L3.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
a) liquids discharged to water; or;
b) solids or liquids applied to the area;
must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of Measure	Volume/Mass Limit
1	kilolitres per day	2000

L4 Noise limits

Note: The above noise limits were established under project approval 06_0021 by the Department of Planning.

L4.1 Noise from the premises must not exceed:
a) 42 dB(A) LAeq(15 minute) during the day (7am to 6pm); and
b) 38 dB(A) LAeq(15 minute) during the evening (6pm to 10pm); and
c) at all other times 36 dB(A) LAeq (15 minute), except as expressly provided by this licence at the Sharpe residence;

d) 41 dB(A) LAeq(15 minute) during the day (7am to 6pm); and
e) 37 dB(A) LAeq(15 minute) during the evening (6pm to 10pm); and
f) at all other times 35 dB(A) LAeq (15 minute), except as expressly provided by this licence at the Mason (west) residence and other Wolgan road properties; and

g) 44 dB(A) LAeq(15 minute) during the day (7am to 6pm); and
h) 40 dB(A) LAeq(15 minute) during the evening (6pm to 10pm); and
i) at all other times 35 dB(A) LAeq (15 minute), except as expressly provided by this licence at Lidsdale village residences.

Where LAeq means the equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.

L4.2 Noise from the premises is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 m of a dwelling (rural situations) where the dwelling is more than 30 m from the boundary, to determine compliance with condition L6.1.

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

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

L4.3 The noise emission limits identified in this licence apply under meteorological conditions of:
a) wind speeds of up to 3 m/s at 10 metres above ground level; or
b) temperature inversion conditions of up to 3oC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

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

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O4 Effluent application to land

O4.1 The quantity of effluent applied to the utilisation area(s) must not exceed the capacity of the utilisation area(s) to effectively utilise the effluent.

For the purpose of this condition, “effectively utilise” includes the ability of the soil to absorb the nutrient, salt and hydraulic loads and the applied organic material without causing harm to the environment.

O4.2 Effluent application to the utilisation area(s) must not occur in a manner that causes surface run-off from the utilisation area(s).

O4.3 Spray from effluent application to the utilisation area(s) must not drift beyond the boundary of the utilisation area(s) to which it has been applied.

O5 Other operating conditions

O5.1 The transport of coal from the premises is to be only undertaken via the roads identified as “Wallerawang Coal Haul Road” and Mount Piper Coal Haul Road” as identified on the plan titled “Figure 9: Location Of Areas Disturbed By Mine Operations” attached to the Licence Information Form submitted to the EPA dated 14 November 1999.

O5.2 In the event that condition O5.1 is not complied with, the Licensee must notify the Bathurst Office of the EPA as soon as practicable after becoming aware that condition O5.1 is not being complied with and provide:

a) The reason(s) as to why condition O5.1 could not be complied with;
b) Details of the alternative coal transport route(s), and;
c) The anticipated length of time before compliance with condition O5.1 is achieved.

O5.3 The sediment basins identified as EPA identification no. (licence discharge points) 2 and 3 under condition P1.2 must be drained or pumped out within 5 days following rainfall in order to maintain each basins design storage capacity.

O5.4 Water discharged to comply with condition O5.3 may only be discharge from sediment basins to waters via licence discharge points 2 and 3 where the water complies with the discharge limit specified under condition L2.4 for licence discharge points 2 and 3.

O5.5 The licensee must undertake maintenance to desilt all sediment basins to retain their design storage capacities.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

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M2 Requirement to monitor concentration of pollutants discharged

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

M2.2 Air Monitoring Requirements

POINT 7,8,9,10,11,12,13,14

Pollutant	Units of measure	Frequency	Sampling Method
Particulates - Deposited Matter	grams per square metre per month	Monthly	Special Method 1

POINT 15

Pollutant	Units of measure	Frequency	Sampling Method
PM10	micrograms per cubic metre	Special Frequency 1	AS/NZS 3580.9.6:2003
Total suspended particles	micrograms per cubic metre	Special Frequency 1	AS/NZS 3580.9.3:2003

M2.3 Water and/ or Land Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Once a month (min. of 4 weeks)	Grab sample
Oil and Grease	milligrams per litre	Once a month (min. of 4 weeks)	Grab sample
pH	pH	Once a month (min. of 4 weeks)	Grab sample
Total suspended solids	milligrams per litre	Once a month (min. of 4 weeks)	Grab sample
Turbidity	nephelometric turbidity units	Once a month (min. of 4 weeks)	Grab sample

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample

Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample
pH	pH	Monthly during discharge	Grab sample
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample
Turbidity	nephelometric turbidity units	Monthly during discharge	Grab sample

POINT 3

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Monthly during discharge	Grab sample
Oil and Grease	milligrams per litre	Monthly during discharge	Grab sample
pH	pH	Monthly during discharge	Grab sample
Total suspended solids	milligrams per litre	Monthly during discharge	Grab sample
Turbidity	nephelometric turbidity units	Monthly during discharge	Grab sample

M2.4 For the purposes of the table(s) above Special Method 1 means Australian Standard 3580.10.1.2003.

M2.5 For the purposes of the table(s) above Special Frequency 1 means the collection of samples over 2 months per year (a total of 10 x 6 day sampling periods).

M3 Testing methods - concentration limits

M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

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

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M4 Weather monitoring

M4.1 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period at the same time each day.

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until 3 months after:
a) the date of the issue of this licence or
b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

M7 Requirement to monitor volume or mass

M7.1 For each discharge point or utilisation area specified below, the licensee must monitor:
a) the volume of liquids discharged to water or applied to the area;
b) the mass of solids applied to the area;

c) the mass of pollutants emitted to the air;
at the frequency and using the method and units of measure, specified below.

POINT 1

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Weir structure and level sensor

POINT 5

Frequency	Unit of Measure	Sampling Method
Weekly during any discharge	kilolitres per week	By Calculation (volume flow rate or pump capacity multiplied by operating time)

Note: In the event of failure of the sampling method specified for LDP001, the licensee must continue to undertake monitoring using the sampling method specified for LDP005 and LDP016.

6 Reporting Conditions

R1 Annual return documents

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

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

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

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

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

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

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than

60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.8 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

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

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

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

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

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any

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

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

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 Control of water discharged via LDP1

U1.1 • The licensee must prepare and submit to the EPA for review, a report identifying all reasonable and feasible options for either the cessation of the discharge of groundwater generated by the licensee (as a result of mine dewatering activities) to the environment or, for treating the groundwater generated by the licensee (as a result of mine dewatering activities) prior to discharge to the environment.
• The objective of the option study is to reduce salinity levels and salt load discharged into the Coxs River Catchment by the licensee. Any option(s) identified for treating groundwater prior to discharge to the Coxs River Catchment must be capable of treating all mine water generated by the premises (ground and surface water) to achieve an electircal conductivity (EC) of 350 microsiemens per centimetre in the treated water prior to the treated water being discharged to the Coxs River or any of its tributaries. Where appropriate, the treatment of other pollutants in the discharge must be assessed.
• The licensee must identify the preferred option and detail a timetable for the implementation of this option in this report.
• Where the option study proposes a water treatment option that involves another party, such as the owner of the Wallerawang Power Station, the option must be developed in consultation and agreement with that party.

Completion Date: This report must be submitted to the Central West (Bathurst) Office of the EPA by 1 July 2014.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Ms Debbie Maddison

Environment Protection Authority

(By Delegation)

Date of this edition: 23-February-2000

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End Notes

1	Licence varied by notice V/M upgrade, issued on 08-Jul-2000, which came into effect on 08-Jul-2000.
2	Licence varied by notice 1010099, issued on 24-Jul-2001, which came into effect on 18-Aug-2001.
3	Licence varied by notice 1013571, issued on 05-Apr-2002, which came into effect on 05-Apr-2002.
4	Licence varied by Change of contact details, issued on 16-Apr-2002, which came into effect on 16-Apr-2002.
5	Licence varied by notice 1017483, issued on 16-May-2002, which came into effect on 29-May-2002.
6	Licence transferred through application 141589, approved on 21-Nov-2002, which came into effect on 07-Aug-2002.
7	Licence varied by notice 1046436, issued on 03-May-2005, which came into effect on 28-May-2005.
8	Licence varied by notice 1063850, issued on 31-Aug-2006, which came into effect on 31-Aug-2006.
9	Licence varied by notice 1064877, issued on 13-Oct-2006, which came into effect on 13-Oct-2006.
10	Licence varied by notice 1071577, issued on 17-Jul-2007, which came into effect on 17-Jul-2007.
11	Licence transferred through application 145029, approved on 20-Jul-2007, which came into effect on 07-Jun-2007.
12	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
13	Licence varied by notice 1103003, issued on 09-Sep-2009, which came into effect on 09-Sep-2009.
14	Licence varied by notice 1109300, issued on 17-Feb-2010, which came into effect on 17-Feb-2010.
15	Licence varied by notice 1124602, issued on 09-May-2011, which came into effect on 09-May-2011.
16	Licence varied by notice 1501017 issued on 23-Aug-2011
17	Licence varied by notice 1501416 issued on 19-Dec-2011
18	Licence varied by notice 1504860 issued on 20-Mar-2012
19	Licence varied by notice 1512943 issued on 21-May-2013

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20	Licence varied by notice 1515230 issued on 29-Jul-2013

Centennial Coal

Angus Place

Appendix 5
Angus Place NSW Office of Water Bore Licences

NSW Government
DEPARTMENT OF WATER AND ENERGY
Contact: Mr Wayne Conners
Phone: (02) 9895 7028
Fax: (02) 9895 7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL601829

Centennial Angus Place Pty Ltd
C/- Tony Seibel – Barnes
PO Box 42
Wallerawang NSW 2845

14 August 2007

Dear Sir/Madam

Subject: Monitoring Bore Licence

Please find enclosed your license. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the license is issued.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of Water and Energy

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL601829

New South Wales Government

Centennial Angus Place Pty Ltd
C/- Tony Seibel - Barnes
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL601829
DATE LICENSE VALID FROM
13-Aug-2007
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 27380445450 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

Department of Water and Energy

CONDITIONS STATEMENT REFERRED TO ON 10BL601829 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 13-Aug-2007

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW THE DEPARTMENT OF WATER AND ENERGY OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY THE DEPARTMENT OF WATER AND ENERGY.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH THE DEPARTMENT OF WATER AND ENERGY, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW Government
DEPARTMENT OF WATER AND ENERGY
Contact: Mr Wayne Conners
Phone: (02) 9895.7814
Fax: (02) 9895 7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL603236

Centennial Angus Pty Ltd
P.O. Box 42,
WALLERAWANG, NSW. 2845.

Attention: Mr Iain Hornshaw

28th August, 2009.

Dear Mr Hornshaw,

MONITORING BORE LICENCE
Newnes State Forest (AP1PR to AP6PR)

Please find enclosed your license. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the license is issued.

Please show the license to the Driller so that he is aware of any conditions affecting the construction of the bore. The Driller must have a current Driller's License issued by this Department.

Condition (2) of the license applies whether the bore is successful or not and it is the Driller's responsibility to supply the information. Three copies of the Form 'A' for recording details of the bore are attached and these should be forwarded to the Driller. One copy will be returned to you when completed by the Driller. This must then be returned to this office together with details of any water analysis and pumping tests carried out.

The Form 'A' requests a sketch of the location of bore site together with the portion number and boundaries. This sketch is required even though you may have already indicated the site to the Department.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of Water and Energy

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL603236

NSW Government
Department of Water & Energy

Centennial Angus Pty Ltd
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL603236
DATE LICENSE VALID FROM
28-Aug-2009
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 27380445450 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

Department of Water and Energy

CONDITIONS STATEMENT REFERRED TO ON 10BL603236 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 28-Aug-2009

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO THE DEPARTMENT OF WATER AND ENERGY:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW THE DEPARTMENT OF WATER AND ENERGY OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY THE DEPARTMENT OF WATER AND ENERGY.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY THE DEPARTMENT OF WATER AND ENERGY THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY THE DEPARTMENT OF WATER AND ENERGY.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH THE DEPARTMENT OF WATER AND ENERGY, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW GOVERNMENT | Office of Water

Contact: Mr Wayne Conners
Phone: 02.9895.7814
Fax: 02.9895.7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL603802

Centennial Angus Pty Limited
P.O. Box 42,
WALLERAWANG, NSW. 2845.

Attention: Mr Iain Hornshaw

3rd March, 2010.

Dear Mr Hornshaw,

MONITORING BORE LICENCE

Newnes State Forest AP8PR – AP12PR

Please find enclosed your license. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the license is issued.

Please show the license to the Driller so that he is aware of any conditions affecting the construction of the bore. The Driller must have a current Driller's License issued by this Department.

Condition (2) of the license applies whether the bore is successful or not and it is the Driller's responsibility to supply the information. Three copies of the Form 'A' for recording details of the bore are attached and these should be forwarded to the Driller. One copy will be returned to you when completed by the Driller. This must then be returned to this office together with details of any water analysis and pumping tests carried out.

The Form 'A' requests a sketch of the location of bore site together with the portion number and boundaries. This sketch is required even though you may have already indicated the site to the Department.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of
Environment, Climate Change and Water NSW

NSW Office of Water

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957759

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL603802

Office of Water

Centennial Angus Pty Limited
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL603802
DATE LICENSE VALID FROM
03-Mar-2010
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL603802 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 03-Mar-2010

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW GOVERNMENT | Office of Water

Contact: John Galea
Phone: 02 4729 8122
Fax: 02 4729 8141
Email: john.galea@water.nsw.gov.au

Centennial Coal
Angus Place Colliery
P O Box 42
WALLERAWANG NSW 2845

Our ref: 10BL604512
File No:
Your Ref:

15 February 2011

Dear Madam/Sir

Subject: Groundwater Monitoring Bore Licence – Angus Place Colliery

Please find enclosed your licence. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the licence is issued.

Please show the license to the Driller so that he is aware of any conditions affecting the construction of the bore. The Driller must have a current Driller's License issued by this Department.

Condition (2) of the license applies whether the bore is successful or not and it is the Driller's responsibility to supply the information. Three copies of the Form 'A' for recording details of the bore are attached and these should be forwarded to the Driller. One copy will be returned to you when completed by the Driller. This must then be returned to this office together with details of any water analysis and pumping tests carried out.

The Form 'A' requests a sketch of the location of bore site together with the portion number and boundaries. This sketch is required even though you may have already indicated the site to the Department.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

John Galea
Senior Licensing Officer
Licensing South

NSW Office of Water

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL604512

Centennial Coal
Angus Place Colliery
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL604512
DATE LICENSE VALID FROM
14-Feb-2011
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL604512 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 14-Feb-2011

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW GOVERNMENT | Office of Water

Contact: John Galea
Phone: 02 4729 8122
Fax: 02 4729 8141
Email: john.galea@water.nsw.gov.au

Centennial Coal
Angus Place Colliery
P O Box 42
WALLERAWANG NSW 2845

Our ref: 10BL604512
File No:
Your Ref:

15 February 2011

Dear Madam/Sir

Subject: Groundwater Monitoring Bore Licence – Angus Place Colliery

Please find enclosed your licence. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the licence is issued.

Please show the license to the Driller so that he is aware of any conditions affecting the construction of the bore. The Driller must have a current Driller's License issued by this Department.

Condition (2) of the license applies whether the bore is successful or not and it is the Driller's responsibility to supply the information. Three copies of the Form 'A' for recording details of the bore are attached and these should be forwarded to the Driller. One copy will be returned to you when completed by the Driller. This must then be returned to this office together with details of any water analysis and pumping tests carried out.

The Form 'A' requests a sketch of the location of bore site together with the portion number and boundaries. This sketch is required even though you may have already indicated the site to the Department.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

John Galea
Senior Licensing Officer
Licensing South

NSW GOVERNMENT | Office of Water

Angus Place Pty Limited
P.O. Box 42,
WALLERAWANG, NSW. 2845.

Attention: Ms Edwina White

Contact: Mr Wayne Conners
Phone: 02.8838.7531
Fax: 02.9895.7255
Email: wayne.conners@water.nsw.gov.au

Our ref: 10BL604709

22nd June, 2011.

Dear Ms White,

MONITORING BORE LICENCE

Angus Place Colliery – Wolgan Road, Lidsdale – Newnes State Forest

Please find enclosed your license. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the license is issued.

Please show the license to the Driller so that he is aware of any conditions affecting the construction of the bore. The Driller must have a current Driller's License issued by this Department.

Condition (2) of the license applies whether the bore is successful or not and it is the Driller's responsibility to supply the information. Three copies of the Form 'A' for recording details of the bore are attached and these should be forwarded to the Driller. One copy will be returned to you when completed by the Driller. This must then be returned to this office together with details of any water analysis and pumping tests carried out.

The Form 'A' requests a sketch of the location of bore site together with the portion number and boundaries. This sketch is required even though you may have already indicated the site to the Department.

Your attention is drawn to conditions 11 and 12.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

NSW Office of Water

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL604709

Office of Water

Angus Place Pty Limited
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL604709
DATE LICENSE VALID FROM
22-Jun-2011
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL604709 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 22-Jun-2011

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW Office of Water

Sydney South Coast Region
Po Box 3720
10 Valentine Avenue
Parramatta NSW 2124
Phone: (02) 88387537

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL605132

Department of Primary Industries
Office of Water

Centennial Fassifern Pty Limited
C/- Springvale Coal Pty Ltd
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL605132
DATE LICENSE VALID FROM
18-Apr-2012
DATE LICENSE VALID TO
PERPETUITY
FEE
$0.00

ABN 47661556763 GST NIL

LOCATION OF WORKS

ortion(s) or Lot/Section/DP	PARISH	COUNTY
32//751636	Cox	Cook
56//751636	Cox	Cook
57//751636	Cox	Cook
7002//1026540	Cox	Cook
Ben Bullen State	Cox	Cook
		Forest
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Monitoring Bore

ONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

NSW Office of Water

CONDITIONS STATEMENT REFERRED TO ON 10BL605132 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 18-Apr-2012

(1) THE LICENCE SHALL LAPSE IF THE WORK IS NOT COMMENCED AND COMPLETED WITHIN THREE YEARS OF THE DATE OF THE ISSUE OF THE LICENCE.

(2) THE LICENSEE SHALL WITHIN TWO MONTHS OF COMPLETION OR AFTER THE ISSUE OF THE LICENSE IF THE WORK IS EXISTING, FURNISH TO NSW OFFICE OF WATER:-

(A) DETAILS OF THE WORK SET OUT IN THE ATTACHED FORM "A" (MUST BE COMPLETED BY A DRILLER).

(B) A PLAN SHOWING ACCURATELY THE LOCATION OF THE WORK, IN RELATION TO PORTION AND PROPERTY BOUNDARIES.

(C) A ONE LITRE WATER SAMPLE FOR ALL LICENCES OTHER THAN THOSE FOR STOCK, DOMESTIC, TEST BORES AND FARMING PURPOSES.

(D) DETAILS OF ANY WATER ANALYSIS AND/OR PUMPING TESTS.

(3) THE LICENSEE SHALL ALLOW NSW OFFICE OF WATER OR ANY PERSON AUTHORISED BY IT, FULL AND FREE ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TEST OF THE WORKS AND ITS FITTINGS AND SHALL CARRY OUT ANY WORK OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR THE CONTROL OF THE WATER EXTRACTED AND FOR THE PROTECTION OF THE QUALITY AND THE PREVENTION FROM POLLUTION OR CONTAMINATION OF SUB-SURFACE WATER.

(4) IF DURING THE CONSTRUCTION OF THE WORK, SALINE OR POLLUTED WATER IS ENCOUNTERED ABOVE THE PRODUCING AQUIFER, SUCH WATER SHALL BE SEALED OFF BY:-

(A) INSERTING THE APPROPRIATE LENGTH(S) OF CASING TO A DEPTH SUFFICIENT TO EXCLUDE THE SALINE OR POLLUTED WATER FROM THE WORK.

(B) CEMENTING BETWEEN THE CASING(S) AND THE WALLS OF THE BORE HOLE FROM THE BOTTOM OF THE CASING TO GROUND LEVEL.

ANY DEPARTURE FROM THESE PROCEDURES MUST BE APPROVED BY THE DEPARTMENT BEFORE UNDERTAKING THE WORK.

(5) (A) THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER IF A FLOWING SUPPLY OF WATER IS OBTAINED. THE BORE SHALL THEN BE LINED WITH CASING AND CEMENTED AND A SUITABLE CLOSING GEAR SHALL BE ATTACHED TO THE BOREHEAD AS SPECIFIED BY NSW OFFICE OF WATER.

(B) IF A FLOWING SUPPLY OF WATER IS OBTAINED FROM THE WORK, THE LICENSEE SHALL ONLY DISTRIBUTE WATER FROM THE BORE HEAD BY A SYSTEM OF PIPE LINES AND SHALL NOT DISTRIBUTE IT IN DRAINS, NATURAL OR ARTIFICIAL CHANNELS OR DEPRESSIONS.

(6) IF A WORK IS ABANDONED AT ANY TIME THE LICENSEE SHALL NOTIFY NSW OFFICE OF WATER THAT THE WORK HAS BEEN ABANDONED AND SEAL OFF THE AQUIFER BY:-

(A) BACKFILLING THE WORK TO GROUND LEVEL WITH CLAY OR CEMENT AFTER WITHDRAWING THE CASING (LINING); OR

(B) SUCH METHODS AS AGREED TO OR DIRECTED BY NSW OFFICE OF WATER.

(7) THE LICENSEE SHALL NOT ALLOW ANY TAILWATER/DRAINAGE TO DISCHARGE INTO OR ONTO:-

- ANY ADJOINING PUBLIC OR CROWN ROAD;
- ANY OTHER PERSONS LAND;
- ANY CROWN LAND;
- ANY RIVER, CREEK OR WATERCOURSE;
- ANY NATIVE VEGETATION AS DESCRIBED UNDER THE NATIVE VEGETATION CONSERVATION ACT 1997;
- ANY WETLANDS OF ENVIRONMENTAL SIGNIFICANCE.

(8) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER TAKEN BY MEANS OF THE LICENSED WORK SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE REASONABLE PASSAGE OF FLOOD WATERS FLOWING INTO OR FROM A RIVER.

(9) IF THE BORE AUTHORISED BY THIS LICENSE IS LINED WITH STEEL OR PLASTIC CASING THE INSIDE DIAMETER OF THAT CASING SHALL NOT EXCEED 220 MM.

(10) WATER SHALL NOT BE PUMPED FROM THE BORE AUTHORISED BY THIS LICENSE FOR ANY PURPOSE OTHER THAN GROUNDWATER INVESTIGATION.

(11) SUBJECT TO CONDITION (12) THE LICENSEE SHALL WITHIN TWO MONTHS OF THE DATE OF COMPLETION OF THE BORE AUTHORISED BY THE LICENSE,

(1) BACKFILL IT WITH CLAY OR CEMENT TO GROUND LEVEL, AFTER WITHDRAWING ANY CASING(LINING), OR:-
(2) RENDER IT INEFFECTIVE BY ANY OTHER MEANS ACCEPTABLE TO THE DEPARTMENT.

(12) CONDITION (11) SHALL HAVE NO FORCE OR EFFECT IF:-

(1) AT THE RELEVANT TIME THERE IS WITH NSW OFFICE OF WATER, AN APPLICATION IN RESPECT OF WHICH THE DEPARTMENT HAS NOT MADE A DECISION TO CONVERT THE GROUNDWATER INVESTIGATION BORE INTO A PRODUCTION BORE; OR
(2) THE LICENSEE HAS COMPLETED THE BORE FOR THE PURPOSE OF MEASURING WATER LEVELS OR WATER QUALITY BY THE ADDITION OF CASING WITH A DIAMETER NOT EXCEEDING 220MM.

End Of Conditions

NSW Government
DEPARTMENT OF WATER AND ENERGY
Contact: Mr Wayne Conners
Phone: (02) 9895 7028
Fax: (02) 9895 7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL601852

Centennial Angus Place Pty Ltd
P O Box 42
WALLERAWANG NSW 2575

Att: Tony Seibel - Barnes

10 September 2007

Dear Sir,

Subject: Bore Licence – Bore Hole 930

Please find enclosed your licence. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the licence is issued.

Your attention is drawn to conditions (1) and (2) in relation to the preparation and development of a groundwater management plan and an annual groundwater management report.

Please be advised that a yearly charge attaches to the water usage of this Licence. This charge is made by State Water and an account is issued for the period of 1 July to 30 June each year.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of Water and Energy

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL601852

New South Wales Government

Centennial Angus Place Pty Ltd
C/- Tony Seibel - Barnes
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL601852
DATE LICENSE VALID FROM
04-Sep-2007
DATE LICENSE VALID TO
03-Sep-2012
FEE
$151.00 PAID

ABN 27380445450 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Mining Dewatering (groundwater)

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

Department of Water and Energy

CONDITIONS STATEMENT REFERRED TO ON 10BL601852 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 04-Sep-2007

(1) THE LICENCE HOLDER MUST DEVELOP AND PROVIDE TO THE DEPARTMENT A GROUNDWATER MANAGEMENT PLAN (GMP):

A) SHOWING THAT ONLY THE MINIMUM LEVELS OF MINE SITE DEWATERING NEEDED FOR SAFE MINING OPERATIONS ARE INTENDED TO BE EXTRACTED.

B) DETAILING MONITORING, REMEDIATION AND CONTINGENCY MEASURES, AND MINE WATER DISCHARGE SCENARIOS AND CRITERIA.

C) PROVIDING LONGTERM WATER BALANCE CALCULATIONS FOR THE SITE TO SHOW THAT THE PROPOSED VOLUMES AND RATES OF GROUNDWATER EXTRACTION ARE SUSTAINABLE.

D) DEMONSTRATING THAT SURFACE AND SUBSURFACE MINING OPERATIONS WILL BE CONDUCTED IN A MANNER WHICH MINIMISES POTENTIAL IMPACTS ON GROUNDWATER FLOW AND QUALITY, AQUIFER INTEGRITY, GROUNDWATER-DEPENDANT ECOSYSTEMS AND OTHER OFF-SITE WATER RELATED IMPACTS.

(2) THE LICENCE HOLDER MUST SUBMIT A REPORT TO THE DEPARTMENT (THE ANNUAL GROUNDWATER MANAGEMENT REPORT OR ANNUAL REPORT) EACH YEAR AFTER THE COMMENCEMENT OF THIS LICENCE, WHICH WILL INCLUDE:

A) ALL RAW WATER MONITORING DATA, AN INTERPRETATION OF THAT DATA AND A DISCUSSION OF TRENDS IDENTIFIED IN THE DATA AND THEIR THE IMPLICATIONS.

B) ALL GROUNDWATER EXTRACTION DATA (VOLUMES AND RATES) TAKEN BY THE WORKS, THE EXTENT OF AQUIFER DEPRESSURISATION AND THE SALINITY IMPACTS, COMPARED WITH PREDICTIONS OF AQUIFER PERFORMANCE MADE IN THE ENVIRONMENTAL IMPACT STATEMENT(S) OR SIMILAR PROJECT DOCUMENTS.

C) AN OVERALL COMPARISON OF GROUNDWATER PERFORMANCE WITH PREDICTIONS FOR THE LIFE OF THE MINE PROVIDED IN THE DEVELOPMENT APPLICATION AND SUPPORTING DOCUMENTATION.

D) WATER RELATED ACTIVITIES PERFORMED AND THE LEVEL OF COMPLIANCE WITH THE GMP, AND AN OUTLINE OF PROPOSED ADAPTIVE OR REMEDIATION ACTIONS.

(3) AFTER REVIEWING THE ANNUAL REPORT, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME.

(4) ON COMPLETION OF MINING OPERATIONS THE LICENCE HOLDER MUST ENGAGE AN INDEPENDENT EXPERT, APPROVED BY THE DEPARTMENT, TO UNDERTAKE AN AUDIT OF THE GROUNDWATER CONDITIONS, ALL MONITORING RECORDS AND ANY RELATED IMPACTS.

(5) AFTER REVIEWING THE AUDIT REPORT/S, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME, IN ORDER TO RESTORE ANY GROUNDWATER SYSTEMS OR GROUNDWATER-DEPENDENT ECOSYSTEMS DETRIMENTALLY IMPACTED BY MINING ACTIVITIES.

(6) THE LICENSEE MUST INSTALL TO THE SATISFACTION OF THE DEPARTMENT AN APPLIANCE(S) TO MEASURE THE QUANTITY OF WATER EXTRACTED FROM THE WORKS:

A) THE APPLIANCE(S) SHALL BE MAINTAINED IN GOOD WORKING ORDER. WHEN REQUESTED, THE LICENSEE MUST SUPPLY A TEST CERTIFICATE AS TO THE CURRENT ACCURACY OF THE APPLIANCE(S) FURNISHED BY THE MANUFACTURER OR BY SOME PERSON DULY QUALIFIED.

B) A RECORD OF ALL WATER EXTRACTED FROM THE WORKS SHALL BE MAINTAINED AND SUPPLIED TO THE DEPARTMENT UPON REQUEST.

(7) THE LOCATION OF THE LICENSED WORKS SHOWN ON PLANS RETAINED BY THE DEPARTMENT SHALL NOT BE ALTERED WITHOUT PRIOR WRITTEN APPROVAL.

(8) THE LICENSEE SHALL ALLOW THE DEPARTMENT OR ANY PERSON AUTHORISED BY IT ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TESTING OF THE WORKS.

(9) THE LICENSEE SHALL CARRY OUT ANY WORKS OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE MANAGEMENT OF THE WATER EXTRACTED, THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR FOR THE PROTECTION OF SURFACE AND/OR GROUNDWATER RESOURCES.

(10) TAILWATER DRAINAGE SHALL NOT BE ALLOWED TO DISCHARGE ONTO ADJOINING ROADS, CROWN LAND OR OTHER LANDS, OR INTO ANY RIVER AS DEFINED UNDER THE WATER ACT, OR ANY GROUNDWATER AQUIFER, BY SURFACE OR SUB-SURFACE DRAINS OR PIPES OR ANY OTHER MEANS WITHOUT AN APPROPRIATE APPROVAL.

(11) ANY WATER EXTRACTED FROM THE WORKS SHALL NOT BE DISCHARGED INTO ANY WATERCOURSE OR SOURCE OF GROUNDWATER EXECEPT IN COMPLIANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT (1997).

(12) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER FROM THE WORKS AUTHORISED BY THIS LICENSE SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE FREE PASSAGE OF FLOODWATERS FLOWING IN, TO OR FROM A RIVER OR LAKE.

(13) THE DEPARTMENT SHALL HAVE THE RIGHT DURING THE CURRENCY OF THIS LICENSE TO REVIEW AND VARY AT ANY TIME THE VOLUMETRIC ALLOCATION OR THE RATE AT WHICH THIS ALLOCATION IS TAKEN.

(14) THE LICENCE HOLDER MUST USE THE WATER EXTRACTED FROM THE WORK ONLY ON SUCH LAND AND FOR SUCH PURPOSES AS APPROVED BY THE DEPARTMENT. THE VOLUME AND USE OF SUCH WATER MUST BE DISCLOSED IN THE ANNUAL GROUNDWATER MANAGEMENT REPORT.

(15) THE VOLUME OF GROUNDWATER EXTRACTED FROM THE WORKS AUTHORISED BY THIS LICENCE, AND BY LICENCE(S) 10BL601851, SHALL NOT EXCEED 2,523 MEGALITRES (ML) IN ANY 12 MONTH PERIOD COMMENCING 1ST JULY. (THIS IS REFERRED TO AS THE "GROUNDWATER-ONLY ALLOCATION").

(16) THIS IS A SPECIAL PURPOSE (MINE DE-WATERING) LICENCE. AS SUCH, THE LICENCE, INCLUDING THE VOLUMETRIC GROUNDWATER ALLOCATION, IS NOT TRANSFERRABLE AND THE LICENCE WILL BE LAPSED AT THE CONCLUSION OF MINING OPERATIONS.

End Of Conditions

NSW Government
DEPARTMENT OF WATER AND ENERGY
Contact: Mr Wayne Conners
Phone: (02) 9895 7028
Fax: (02) 9895 7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL601851

Centennial Angus Place Pty Ltd
P O Box 42
WALLERAWANG NSW 2575

Att: Tony Seibel - Barnes

10 September 2007

Dear Sir,

Subject: Bore Licence – Bore Hole 940

Please find enclosed your licence. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the licence is issued.

Your attention is drawn to conditions (1) and (2) in relation to the preparation and development of a groundwater management plan and an annual groundwater management report.

Please be advised that a yearly charge attaches to the water usage of this Licence. This charge is made by State Water and an account is issued for the period of 1 July to 30 June each year.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of Water and Energy

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL601851

New South Wales Government

Centennial Angus Place Pty Ltd
C/- Tony Seibel - Barnes
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL601851
DATE LICENSE VALID FROM
04-Sep-2007
DATE LICENSE VALID TO
03-Sep-2012
FEE
$151.00 PAID

ABN 27380445450 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
Newnes State Forest	Cook	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Bore	Mining Dewatering (groundwater)

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

Department of Water and Energy

CONDITIONS STATEMENT REFERRED TO ON 10BL601851 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 04-Sep-2007

(1) THE LICENCE HOLDER MUST DEVELOP AND PROVIDE TO THE DEPARTMENT A GROUNDWATER MANAGEMENT PLAN (GMP):

A) SHOWING THAT ONLY THE MINIMUM LEVELS OF MINE SITE DEWATERING NEEDED FOR SAFE MINING OPERATIONS ARE INTENDED TO BE EXTRACTED.

B) DETAILING MONITORING, REMEDIATION AND CONTINGENCY MEASURES, AND MINE WATER DISCHARGE SCENARIOS AND CRITERIA.

C) PROVIDING LONGTERM WATER BALANCE CALCULATIONS FOR THE SITE TO SHOW THAT THE PROPOSED VOLUMES AND RATES OF GROUNDWATER EXTRACTION ARE SUSTAINABLE.

D) DEMONSTRATING THAT SURFACE AND SUBSURFACE MINING OPERATIONS WILL BE CONDUCTED IN A MANNER WHICH MINIMISES POTENTIAL IMPACTS ON GROUNDWATER FLOW AND QUALITY, AQUIFER INTEGRITY, GROUNDWATER-DEPENDANT ECOSYSTEMS AND OTHER OFF-SITE WATER RELATED IMPACTS.

(2) THE LICENCE HOLDER MUST SUBMIT A REPORT TO THE DEPARTMENT (THE ANNUAL GROUNDWATER MANAGEMENT REPORT OR ANNUAL REPORT) EACH YEAR AFTER THE COMMENCEMENT OF THIS LICENCE, WHICH WILL INCLUDE:

A) ALL RAW WATER MONITORING DATA, AN INTERPRETATION OF THAT DATA AND A DISCUSSION OF TRENDS IDENTIFIED IN THE DATA AND THEIR THE IMPLICATIONS.

B) ALL GROUNDWATER EXTRACTION DATA (VOLUMES AND RATES) TAKEN BY THE WORKS, THE EXTENT OF AQUIFER DEPRESSURISATION AND THE SALINITY IMPACTS, COMPARED WITH PREDICTIONS OF AQUIFER PERFORMANCE MADE IN THE ENVIRONMENTAL IMPACT STATEMENT(S) OR SIMILAR PROJECT DOCUMENTS.

C) AN OVERALL COMPARISON OF GROUNDWATER PERFORMANCE WITH PREDICTIONS FOR THE LIFE OF THE MINE PROVIDED IN THE DEVELOPMENT APPLICATION AND SUPPORTING DOCUMENTATION.

D) WATER RELATED ACTIVITIES PERFORMED AND THE LEVEL OF COMPLIANCE WITH THE GMP, AND AN OUTLINE OF PROPOSED ADAPTIVE OR REMEDIATION ACTIONS.

(3) AFTER REVIEWING THE ANNUAL REPORT, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME.

(4) ON COMPLETION OF MINING OPERATIONS THE LICENCE HOLDER MUST ENGAGE AN INDEPENDENT EXPERT, APPROVED BY THE DEPARTMENT, TO UNDERTAKE AN AUDIT OF THE GROUNDWATER CONDITIONS, ALL MONITORING RECORDS AND ANY RELATED IMPACTS.

(5) AFTER REVIEWING THE AUDIT REPORT/S, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME, IN ORDER TO RESTORE ANY GROUNDWATER SYSTEMS OR GROUNDWATER-DEPENDENT ECOSYSTEMS DETRIMENTALLY IMPACTED BY MINING ACTIVITIES.

(6) THE LICENSEE MUST INSTALL TO THE SATISFACTION OF THE DEPARTMENT AN APPLIANCE(S) TO MEASURE THE QUANTITY OF WATER EXTRACTED FROM THE WORKS:

A) THE APPLIANCE(S) SHALL BE MAINTAINED IN GOOD WORKING ORDER. WHEN REQUESTED, THE LICENSEE MUST SUPPLY A TEST CERTIFICATE AS TO THE CURRENT ACCURACY OF THE APPLIANCE(S) FURNISHED BY THE MANUFACTURER OR BY SOME PERSON DULY QUALIFIED.

B) A RECORD OF ALL WATER EXTRACTED FROM THE WORKS SHALL BE MAINTAINED AND SUPPLIED TO THE DEPARTMENT UPON REQUEST.

(7) THE LOCATION OF THE LICENSED WORKS SHOWN ON PLANS RETAINED BY THE DEPARTMENT SHALL NOT BE ALTERED WITHOUT PRIOR WRITTEN APPROVAL.

(8) THE LICENSEE SHALL ALLOW THE DEPARTMENT OR ANY PERSON AUTHORISED BY IT ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TESTING OF THE WORKS.

(9) THE LICENSEE SHALL CARRY OUT ANY WORKS OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE MANAGEMENT OF THE WATER EXTRACTED, THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR FOR THE PROTECTION OF SURFACE AND/OR GROUNDWATER RESOURCES.

(10) TAILWATER DRAINAGE SHALL NOT BE ALLOWED TO DISCHARGE ONTO ADJOINING ROADS, CROWN LAND OR OTHER LANDS, OR INTO ANY RIVER AS DEFINED UNDER THE WATER ACT, OR ANY GROUNDWATER AQUIFER, BY SURFACE OR SUB-SURFACE DRAINS OR PIPES OR ANY OTHER MEANS WITHOUT AN APPROPRIATE APPROVAL.

(11) ANY WATER EXTRACTED FROM THE WORKS SHALL NOT BE DISCHARGED INTO ANY WATERCOURSE OR SOURCE OF GROUNDWATER EXECEPT IN COMPLIANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT (1997).

(12) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER FROM THE WORKS AUTHORISED BY THIS LICENSE SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE FREE PASSAGE OF FLOODWATERS FLOWING IN, TO OR FROM A RIVER OR LAKE.

(13) THE DEPARTMENT SHALL HAVE THE RIGHT DURING THE CURRENCY OF THIS LICENSE TO REVIEW AND VARY AT ANY TIME THE VOLUMETRIC ALLOCATION OR THE RATE AT WHICH THIS ALLOCATION IS TAKEN.

(14) THE LICENCE HOLDER MUST USE THE WATER EXTRACTED FROM THE WORK ONLY ON SUCH LAND AND FOR SUCH PURPOSES AS APPROVED BY THE DEPARTMENT. THE VOLUME AND USE OF SUCH WATER MUST BE DISCLOSED IN THE ANNUAL GROUNDWATER MANAGEMENT REPORT.

(15) THE VOLUME OF GROUNDWATER EXTRACTED FROM THE WORKS AUTHORISED BY THIS LICENCE, AND BY LICENCE(S) 10BL601852, SHALL NOT EXCEED 2,523 MEGALITRES (ML) IN ANY 12 MONTH PERIOD COMMENCING 1ST JULY. (THIS IS REFERRED TO AS THE "GROUNDWATER-ONLY ALLOCATION").

(16) THIS IS A SPECIAL PURPOSE (MINE DE-WATERING) LICENCE. AS SUCH, THE LICENCE, INCLUDING THE VOLUMETRIC GROUNDWATER ALLOCATION, IS NOT TRANSFERRABLE AND THE LICENCE WILL BE LAPSED AT THE CONCLUSION OF MINING OPERATIONS.

End Of Conditions

NSW Government
DEPARTMENT OF WATER AND ENERGY
Contact: Mr Wayne Conners
Phone: (02) 9895 7028
Fax: (02) 9895 7255
Email: wayne.conners@dnr.nsw.gov.au

Our ref: 10BL601838

Centennial Angus Place Pty Ltd
P O Box 42
WALLERAWANG NSW 2575

Att: Tony Seibel - Barnes

10 September 2007

Dear Sir,

Subject: Bore Licence – Collector System

Please find enclosed your licence. Your attention is drawn to the nature and description of the work, terms, limitations and conditions under which the licence is issued.

Your attention is drawn to conditions (1) and (2) in relation to the preparation and development of a groundwater management plan and an annual groundwater management report.

Please be advised that a yearly charge attaches to the water usage of this Licence. This charge is made by State Water and an account is issued for the period of 1 July to 30 June each year.

Yours sincerely

Wayne Conners
Senior Licensing Officer
Compliance and Licensing Division

Department of Water and Energy

Sydney South Coast Region
P O Box 3720
10 Valentine Ave
Parramatta NSW 2124
Phone: (02) 98957814

BORE LICENSE CERTIFICATE
UNDER SECTION 115 OF THE WATER ACT, 1912

10BL601838

New South Wales Government

Centennial Angus Place Pty Ltd
C/- Tony Seibel - Barnes
P O Box 42
Wallerawang NSW 2845

LICENSE NUMBER
10BL601838
DATE LICENSE VALID FROM
04-Sep-2007
DATE LICENSE VALID TO
03-Sep-2012
FEE
$151.00 PAID

ABN 27380445450 GST NIL

LOCATION OF WORKS

Portion(s) or Lot/Section/DP	PARISH	COUNTY
340//751636	Cox	Cook

TYPE OF WORKS	PURPOSE(S) FOR WHICH WATER MAY BE USED
Collecter System	Mining Dewatering (groundwater)

CONDITIONS APPLYING TO THIS LICENSE ARE

As shown on the attached Condition Statement

ORIGINAL

Department of Water and Energy

CONDITIONS STATEMENT REFERRED TO ON 10BL601838 ISSUED UNDER PART V OF THE WATER ACT, 1912 ON 04-Sep-2007

(1) THE LICENCE HOLDER MUST DEVELOP AND PROVIDE TO THE DEPARTMENT A GROUNDWATER MANAGEMENT PLAN (GMP):

A) SHOWING THAT ONLY THE MINIMUM LEVELS OF MINE SITE DEWATERING NEEDED FOR SAFE MINING OPERATIONS ARE INTENDED TO BE EXTRACTED.

B) DETAILING MONITORING, REMEDIATION AND CONTINGENCY MEASURES, AND MINE WATER DISCHARGE SCENARIOS AND CRITERIA.

C) PROVIDING LONGTERM WATER BALANCE CALCULATIONS FOR THE SITE TO SHOW THAT THE PROPOSED VOLUMES AND RATES OF GROUNDWATER EXTRACTION ARE SUSTAINABLE.

D) DEMONSTRATING THAT SURFACE AND SUBSURFACE MINING OPERATIONS WILL BE CONDUCTED IN A MANNER WHICH MINIMISES POTENTIAL IMPACTS ON GROUNDWATER FLOW AND QUALITY, AQUIFER INTEGRITY, GROUNDWATER-DEPENDANT ECOSYSTEMS AND OTHER OFF-SITE WATER RELATED IMPACTS.

(2) THE LICENCE HOLDER MUST SUBMIT A REPORT TO THE DEPARTMENT (THE ANNUAL GROUNDWATER MANAGEMENT REPORT OR ANNUAL REPORT) EACH YEAR AFTER THE COMMENCEMENT OF THIS LICENCE, WHICH WILL INCLUDE:

A) ALL RAW WATER MONITORING DATA, AN INTERPRETATION OF THAT DATA AND A DISCUSSION OF TRENDS IDENTIFIED IN THE DATA AND THEIR THE IMPLICATIONS.

B) ALL GROUNDWATER EXTRACTION DATA (VOLUMES AND RATES) TAKEN BY THE WORKS, THE EXTENT OF AQUIFER DEPRESSURISATION AND THE SALINITY IMPACTS, COMPARED WITH PREDICTIONS OF AQUIFER PERFORMANCE MADE IN THE ENVIRONMENTAL IMPACT STATEMENT(S) OR SIMILAR PROJECT DOCUMENTS.

C) AN OVERALL COMPARISON OF GROUNDWATER PERFORMANCE WITH PREDICTIONS FOR THE LIFE OF THE MINE PROVIDED IN THE DEVELOPMENT APPLICATION AND SUPPORTING DOCUMENTATION.

D) WATER RELATED ACTIVITIES PERFORMED AND THE LEVEL OF COMPLIANCE WITH THE GMP, AND AN OUTLINE OF PROPOSED ADAPTIVE OR REMEDIATION ACTIONS.

(3) AFTER REVIEWING THE ANNUAL REPORT, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME.

(4) ON COMPLETION OF MINING OPERATIONS THE LICENCE HOLDER MUST ENGAGE AN INDEPENDENT EXPERT, APPROVED BY THE DEPARTMENT, TO UNDERTAKE AN AUDIT OF THE GROUNDWATER CONDITIONS, ALL MONITORING RECORDS AND ANY RELATED IMPACTS.

(5) AFTER REVIEWING THE AUDIT REPORT/S, THE DEPARTMENT MAY REQUIRE THE LICENCE HOLDER TO TAKE PARTICULAR MEASURES OR PERFORM PARTICULAR WORK WITHIN A SPECIFIED TIME FRAME, IN ORDER TO RESTORE ANY GROUNDWATER SYSTEMS OR GROUNDWATER-DEPENDENT ECOSYSTEMS DETRIMENTALLY IMPACTED BY MINING ACTIVITIES.

(6) THE LICENSEE MUST INSTALL TO THE SATISFACTION OF THE DEPARTMENT AN APPLIANCE(S) TO MEASURE THE QUANTITY OF WATER EXTRACTED FROM THE WORKS:

A) THE APPLIANCE(S) SHALL BE MAINTAINED IN GOOD WORKING ORDER. WHEN REQUESTED, THE LICENSEE MUST SUPPLY A TEST CERTIFICATE AS TO THE CURRENT ACCURACY OF THE APPLIANCE(S) FURNISHED BY THE MANUFACTURER OR BY SOME PERSON DULY QUALIFIED.

B) A RECORD OF ALL WATER EXTRACTED FROM THE WORKS SHALL BE MAINTAINED AND SUPPLIED TO THE DEPARTMENT UPON REQUEST.

(7) THE LOCATION OF THE LICENSED WORKS SHOWN ON PLANS RETAINED BY THE DEPARTMENT SHALL NOT BE ALTERED WITHOUT PRIOR WRITTEN APPROVAL.

(8) THE LICENSEE SHALL ALLOW THE DEPARTMENT OR ANY PERSON AUTHORISED BY IT ACCESS TO THE WORKS, EITHER DURING OR AFTER CONSTRUCTION, FOR THE PURPOSE OF CARRYING OUT INSPECTION OR TESTING OF THE WORKS.

(9) THE LICENSEE SHALL CARRY OUT ANY WORKS OR ALTERATIONS DEEMED NECESSARY BY THE DEPARTMENT FOR THE MANAGEMENT OF THE WATER EXTRACTED, THE PROTECTION AND PROPER MAINTENANCE OF THE WORKS, OR FOR THE PROTECTION OF SURFACE AND/OR GROUNDWATER RESOURCES.

(10) TAILWATER DRAINAGE SHALL NOT BE ALLOWED TO DISCHARGE ONTO ADJOINING ROADS, CROWN LAND OR OTHER LANDS, OR INTO ANY RIVER AS DEFINED UNDER THE WATER ACT, OR ANY GROUNDWATER AQUIFER, BY SURFACE OR SUB-SURFACE DRAINS OR PIPES OR ANY OTHER MEANS WITHOUT AN APPROPRIATE APPROVAL.

(11) ANY WATER EXTRACTED FROM THE WORKS SHALL NOT BE DISCHARGED INTO ANY WATERCOURSE OR SOURCE OF GROUNDWATER EXECEPT IN COMPLIANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT (1997).

(12) WORKS USED FOR THE PURPOSE OF CONVEYING, DISTRIBUTING OR STORING WATER FROM THE WORKS AUTHORISED BY THIS LICENSE SHALL NOT BE CONSTRUCTED OR INSTALLED SO AS TO OBSTRUCT THE FREE PASSAGE OF FLOODWATERS FLOWING IN, TO OR FROM A RIVER OR LAKE.

(13) THE DEPARTMENT SHALL HAVE THE RIGHT DURING THE CURRENCY OF THIS LICENSE TO REVIEW AND VARY AT ANY TIME THE VOLUMETRIC ALLOCATION OR THE RATE AT WHICH THIS ALLOCATION IS TAKEN.

(14) THE LICENCE HOLDER MUST USE THE WATER EXTRACTED FROM THE WORK ONLY ON SUCH LAND AND FOR SUCH PURPOSES AS APPROVED BY THE DEPARTMENT. THE VOLUME AND USE OF SUCH WATER MUST BE DISCLOSED IN THE ANNUAL GROUNDWATER MANAGEMENT REPORT.

(15) THE VOLUME OF GROUNDWATER EXTRACTED FROM THE WORKS AUTHORISED BY THIS LICENCE, AND BY LICENCE(S) N/A, SHALL NOT EXCEED 2,701 MEGALITRES (ML) IN ANY 12 MONTH PERIOD COMMENCING 1ST JULY. (THIS IS REFERRED TO AS THE "GROUNDWATER-ONLY ALLOCATION").

(16) THIS IS A SPECIAL PURPOSE (MINE DE-WATERING) LICENCE. AS SUCH, THE LICENCE, INCLUDING THE VOLUMETRIC GROUNDWATER ALLOCATION, IS NOT TRANSFERRABLE AND THE LICENCE WILL BE LAPSED AT THE CONCLUSION OF MINING OPERATIONS.

End Of Conditions

Centennial Coal

Angus Place

Appendix 6
Risk Assessment

Step	Potential Incident	Current Controls	L	MRC	RR	Recommended Control	Bow Tie Extension
	inadequate training & not appropriately inspecting & isolating) Resulting in: industrial issues or injury to personnel or OHS issues or prosecution under OHSA &/or CMHSA or reputational damage.	team 1.15.f. Systems in place managed the risk to ALARP GM HSEC					
2. Environment & Community (E&C)	There is a risk to Angus Place from ::: E&C - breach of environmental license conditions ::: Caused by: failures of people (including numbers of personnel & skills) or failures of plant (including infrastructure, adverse weather) or procedural failures (including inadequate procedures, lack of &/or inadequate training) Resulting in: reputational damage.	2.1.a. Environmental Officer 2.1.b. Sediment removal program on a Work order system 2.1.c. Water Sampling. 2.1.d. Audits. 2.1.e. Control discharge system at LDP02 in 2011 2.1.f. Environment Management System. 2.1.g. U/G de-watering system - upgraded and pumps clean water to surface. 2.1.h. Surface filtration ponds. 2.1.i. Upgrading stage one of the stock pile water drainage completed in 2010 2.1.j. Completed upgrade of Solcenic oil transfer system in 2008 2.1.k. Automated coagulant system in place in 2011 2.1.l. FMEA completed on water management system in 2011 2.1.m. Self bunded diesel tanks in 2011 2.1.n. Banlaw servicing system introduced in 2011 2.1.o. Inspections 2.1.p. Acid dosing system implemented at LPD01 in 2011 2.1.q. Compliance database.	**B** (D)	4 (L)	14 (S)	24. Investigate increaed capacity of the dams at licence discharge points 25. Civil engineering survey of dam walls integrity 26. Make CY 2014 budget provision for Capital works resulting from environmental investigations	

Step	Potential Incident	Current Controls	L	MRC	RR	Recommended Control	Bow Tie Extension
		2.1.r. Sediment basin study completed in 2012 2.1.s. Implemented water clarifier unit at LDP03 in 2012 2.1.t. Implemented pump system at LPD02 to prevent overflow and pump water underground in 2012					
	There is a risk to Angus Place from ::: E&C - breach of development consent conditions. There is a risk that the site may breach its development consent conditions due to ::: Caused by: failures of people (including numbers of personnel & skills) or failures of plant (including infrastructure, adverse weather) or procedural failures (including inadequate procedures, lack of &/or inadequate training) Resulting in: reputational damage.	2.2.a. Environmental Management System. 2.2.b. Environmental Officer appointed. 2.2.c. External Audit completed in 2011 2.2.d. Internal audit completed in 2011 2.2.e. Noise and dust monitoring in place 2.2.f. Compliance database. 2.2.g. Noise reduction strategies investigated for trucks	**C** (D)	4 (L)	18 (M)	27. Implement noise reduction strategy - Traffic light system	
	There is a risk to Angus Place from ::: Ground water aquifer interference effects beyond approved limits ::: Caused by: pillar &/or longwall extraction Resulting in: loss of production or suspension of pillar &/or longwall extraction due to alleged effects upon ground water.	2.3.a. Subsidence monitoring in place. 2.3.b. Ground Water monitoring in place.including piezometers in all exploration bore holes 2.3.c. Swamp fauna and vegetation monitoring in place. 2.3.d. Approved SMP in place. 2.3.e. Inspections and reporting	**D** (D)	4 (R)	21 (L)		
	There is a risk to Angus Place from ::: E&C - spill hazardous materials (including hydrocarbons) :::	2.4.a. Trained and competent personnel. 2.4.b. Environmental Management System in place.	**C** (D)	5 (L)	22 (L)		

Step	Potential Incident	Current Controls	L	MRC	RR	Recommended Control	Bow Tie Extension
	Caused by: failures of people (including numbers of personnel & skills) or failures of plant (including infrastructure, adverse weather) or failures of procedures (including training). Resulting in: Non-compliance against license discharge or Public reputational damage.	2.4.c. Inspection program in place. 2.4.d. Fit for purpose equipment. 2.4.e. Designed storage facilities. 2.4.f. Spill Kits on site. 2.4.g. Oil water separator, hay baits, booms etc installed 2.4.h. Completed installation of site access boom gates 2.4.i. Completed upgrade of Solcenic oil transfer system. 2.4.j. Banlaw servicing system in troduced in 2011 2.4.k. Self bunded diesel tanks in 2011					
	There is a risk to Angus Place from ::: E&C - soil contamination including hydrocarbons leaching ::: Caused by: failures of people (including numbers of personnel & skills) or failures of plant (including infrastructure, adverse weather) or failures of procedures (including training). Resulting in: .	2.5.a. Consultants completed phase one survey of surface in 2009 2.5.b. Concrete hard stand area 2.5.c. Oil and grease monitoring 2.5.d. Self bunded diesel tanks in 2011 2.5.e. Environmental Management System in place. 2.5.f. Phase 2 environmental assessments for kerosene vale and vale of clywdd 2 collieries completed 2011 2.5.g. Completed in 2012 additional studies of recommended from phase 2 environmental assessments undertaken in 2011 for Kerosene Vale and Vales Clwydd Collieries. 2.5.h. Completed in 2012 phase 2 environmental assessments for commonwealth and Angus Place pit top	**B** (D)	3 (F)	9 (H)	28. Contaminated site assessment to be completed for Kerosene Vale	
	There is a risk to Angus Place from ::: E&C - subsidence effects on natural	2.6.a. Subsidence Management Plan and associated documents (specifying inspections,	**D** (Op)	4 (R)	21 (L)		

Step	Potential Incident	Current Controls	L	MRC	RR	Recommended Control	Bow Tie Extension
	surface features are greater than predicted for example effects on flora, fauna, strata &/or mine services including effects on ventilation from water ingress through cracks. ::: Caused by: failures of people (including skills of consultants & known geology) or failures of plant (including computer models & known geology) or failures of procedures (including training & survey) Resulting in: loss of production or suspension of pillar &/or longwall extraction due to alleged effects upon ground water.	monitoring etc) 2.6.b. Environmental Monitoring. 2.6.c. Geotech mapping carried out 2.6.d. CCC in place. 2.6.e. revised subsidence predictions were peer reviewed 2010					
	There is a risk to Angus Place from ::: E&C - subsidence effects on man made surface features are greater than predicted for example on transmission towers and power reticulation, etc. ::: Caused by: failures of people (including skills of consultants & known geology) or failures of plant (including computer models & known geology) or failures of procedures (including training & survey). Resulting in: loss of production or suspension of pillar &/or longwall extraction due to alleged effects upon ground water.	2.7.a. Subsidence Management Plan and associated documents (specifying inspections, monitoring etc) 2.7.b. Environmental Monitoring. 2.7.c. Geotech mapping carried out 2.7.d. CCC in place. 2.7.e. revised subsidence predictions were peer reviewed	**D** (Op)	5 (F)	24 (L)		
	There is a risk to Angus Place from ::: E&C - noise impacts on neighbors are greater than predicted ::: Caused by: failures (real or perceived) of people (including numbers of personnel &	2.8.a. Few local neighbors to pit top-mine is in remote area 2.8.b. Silencers fitted to new mine fan. 2.8.c. Baffle fitted to C301 coal discharge. 2.8.d. Run surface conveyors at	**C** (IF)	4 (L)	18 (M)	27. Implement noise reduction strategy - Traffic light system	

Step	Potential Incident	Current Controls	L	MRC	RR	Recommended Control	Bow Tie Extension
	skills) or failures (real or perceived) of plant (including infrastructure) or failures (real or perceived) of procedures (including training). Resulting in: .	reduced speed during low demand. 2.8.e. CCC in place. 2.8.f. Noise mitigation measures installed at neighbouring property in 2009 2.8.g. 65 tonne truck contractor engaged from 1 April 2011 2.8.h. Haul Road maintenance program in place from 2012					
	There is a risk to Angus Place from ::: E&C - airborne dust impacts on neighbors are greater than predicted ::: Caused by: failures (real or perceived) of people (including numbers of personnel & skills) or failures (real or perceived) of plant (including infrastructure) or failures (real or perceived) of procedures (including training). Resulting in: .	2.9.a. Environmental Management System in place. 2.9.b. Few local neighbors to pit top-mine is in remote area 2.9.c. Prevailing winds away from neighours. 2.9.d. Dust monitoring program. 2.9.e. Covered conveyors. 2.9.f. Dust suppression processes in the mine. 2.9.g. Natural wet coal 2.9.h. Coal haulage trucks procedures includes tarps 2.9.i. Completed in 2012 dust pollution reduction program for Angus Place	**D** (D)	4 (L)	21 (L)		
	There is a risk to Angus Place from ::: E&C - visual impact(s) on neighbours are greater than predicted ::: Caused by: changes / upgrades to existing surface facilities Resulting in: reputational damage.	2.10.a. Approved DA in place. 2.10.b. Few local neighbors to pit top-mine is in remote area	**E** (D)	5 (F)	25 (L)		
3. Legislation	There is a risk to Angus Place from	3.1.a. HSEC alert system in Lotus Notes.	**D** (D)	4 (L)	21 (L)		

Centennial Coal

Angus Place

Appendix 7
Environmental Monitoring Results

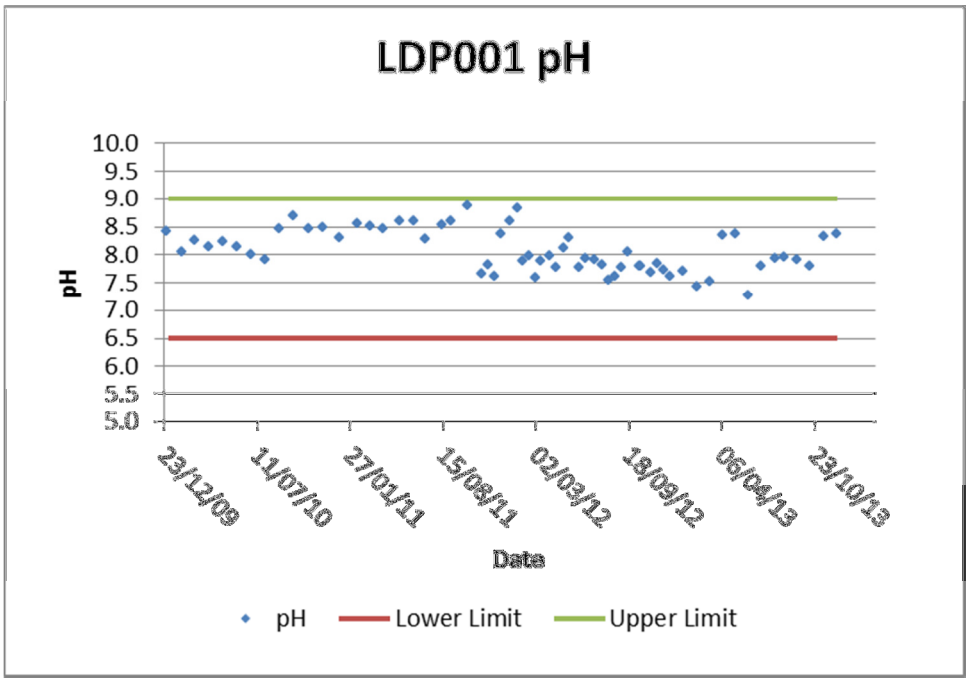


Figure 1 pH results at LDP001

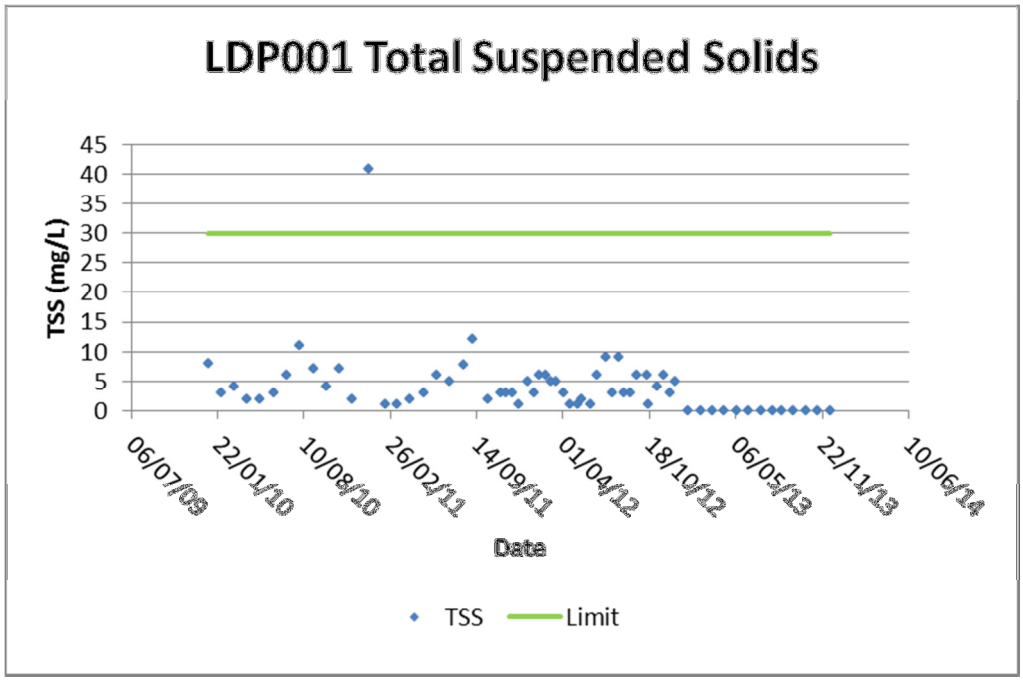


Figure 2 TSS Results at LDP001

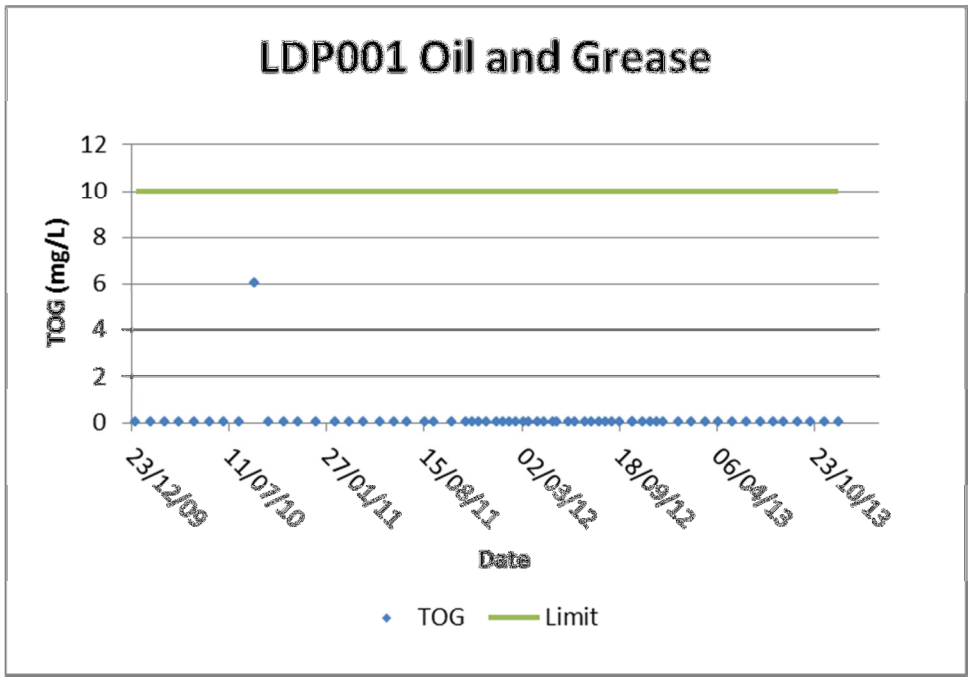


Figure 3 Oil and Grease Results at LDP001

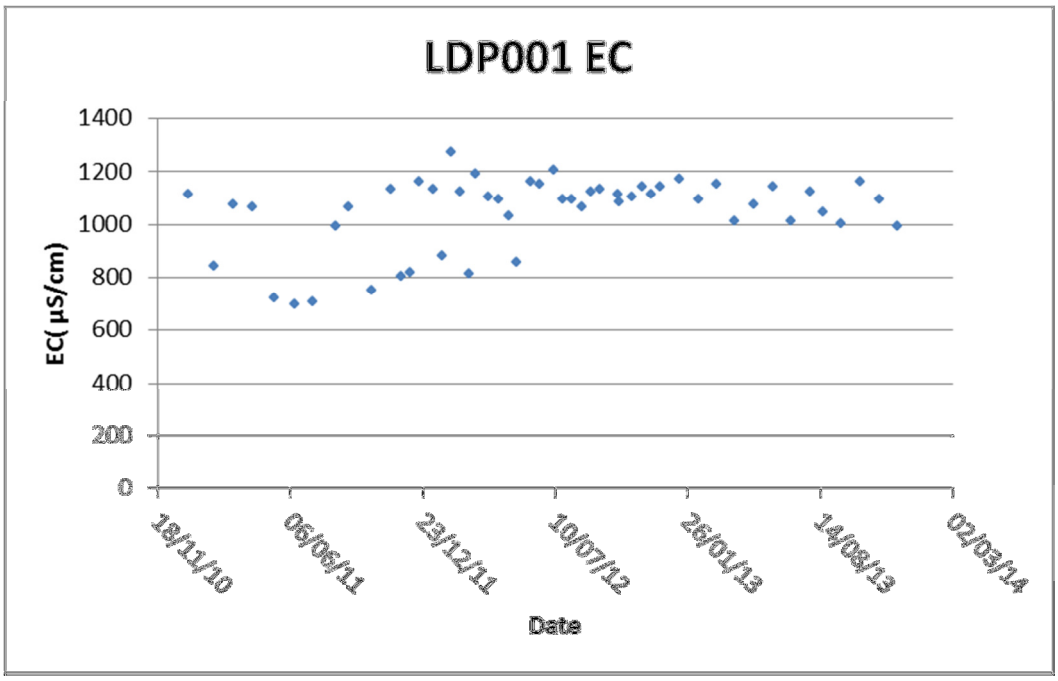


Figure 4 EC Results at LDP001

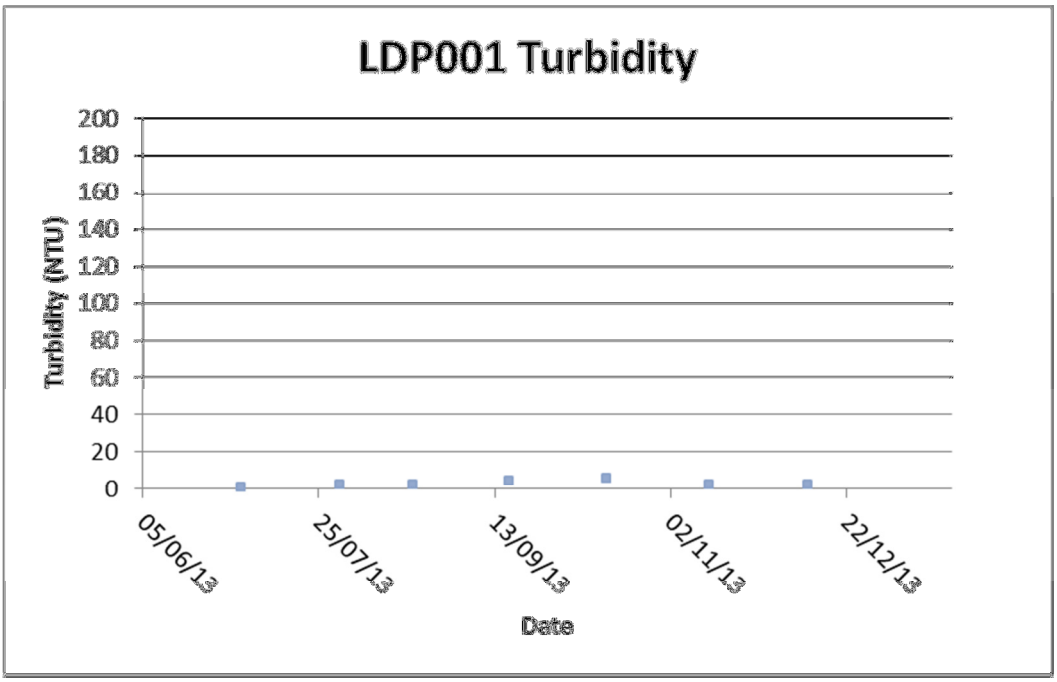


Figure 5 Turbidity Results at LDP001

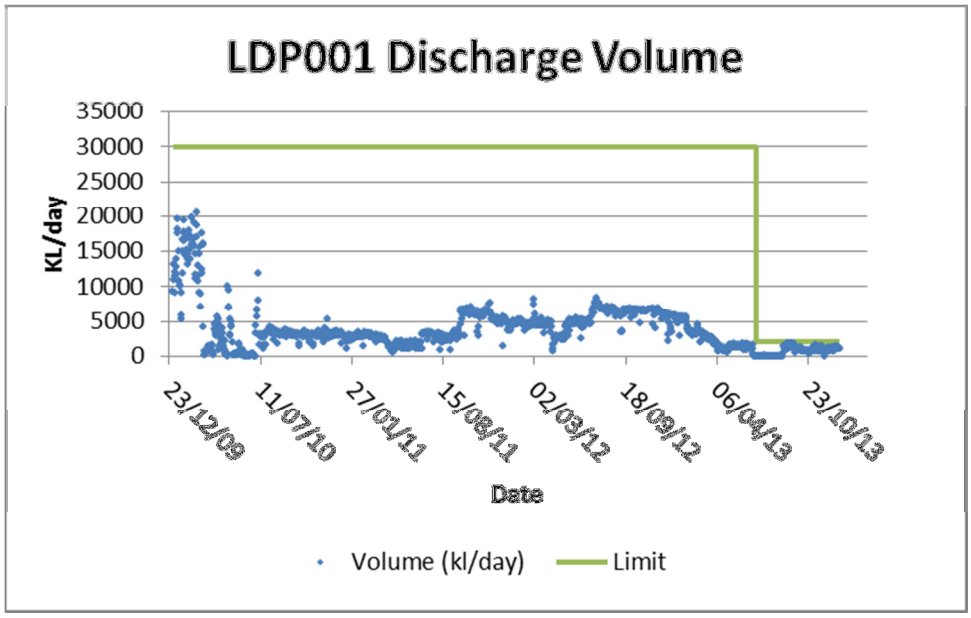


Figure 6 Volume Discharge through LDP001

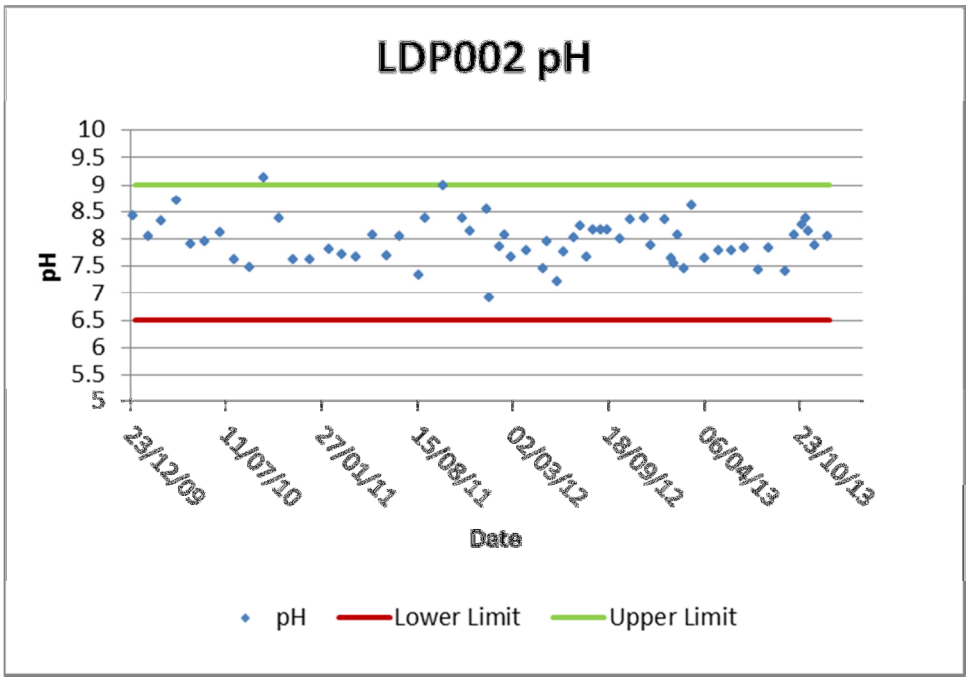


Figure 7 pH Results at LDP002

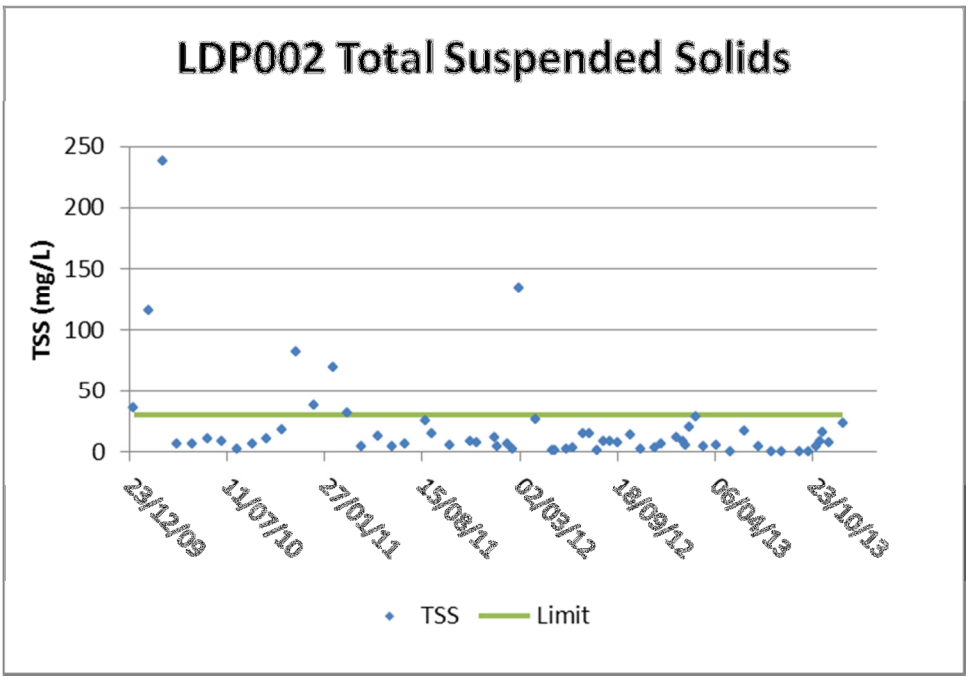


Figure 8 TSS Results at LDP002

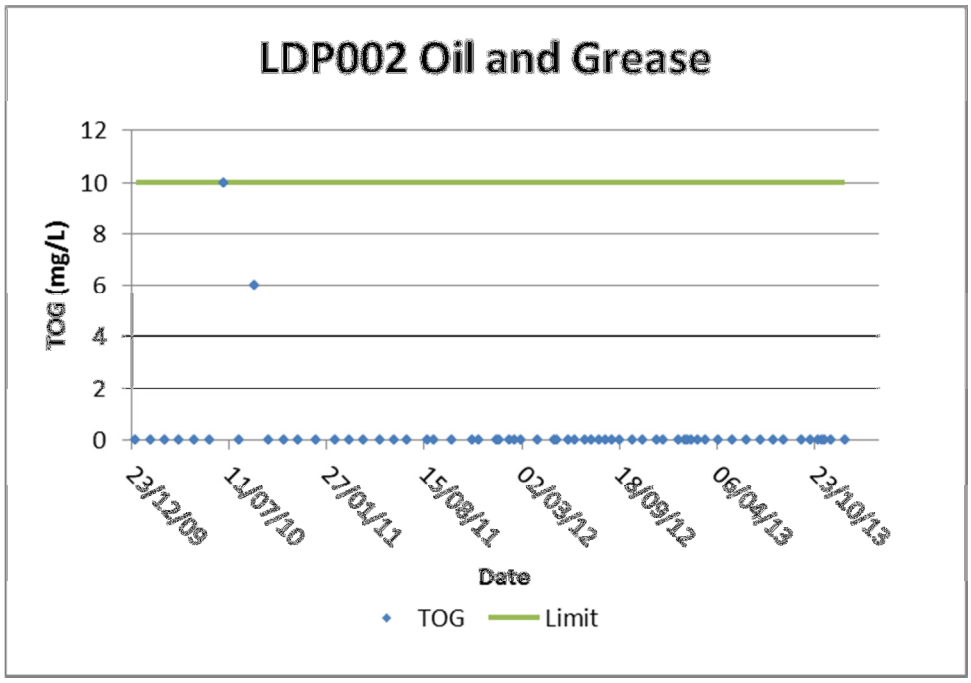


Figure 9 Oil and Grease Results at LDP002

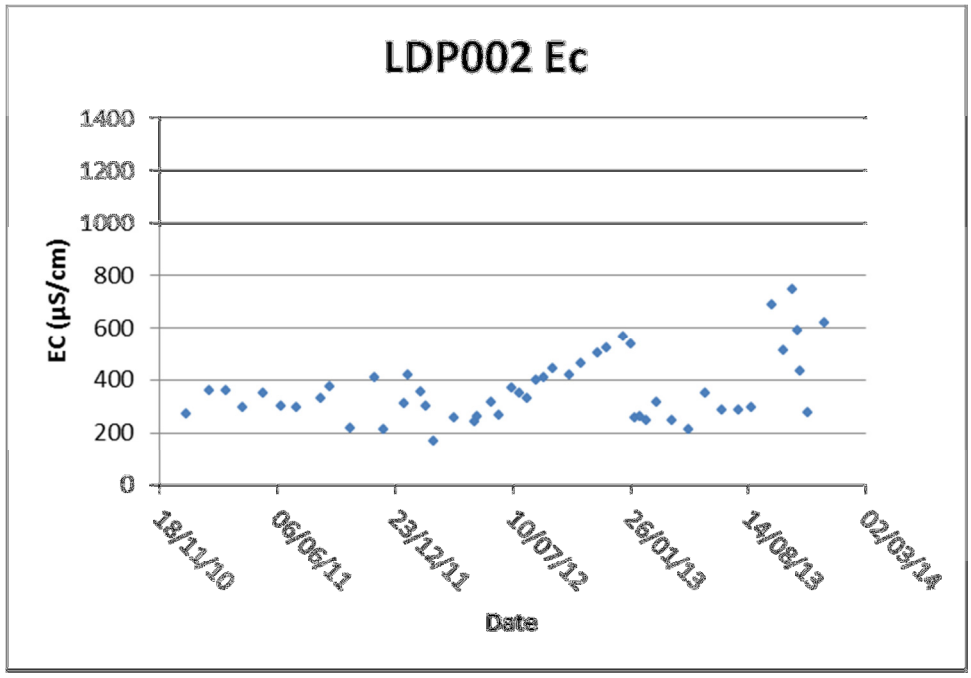


Figure 10 EC Results at LDP002

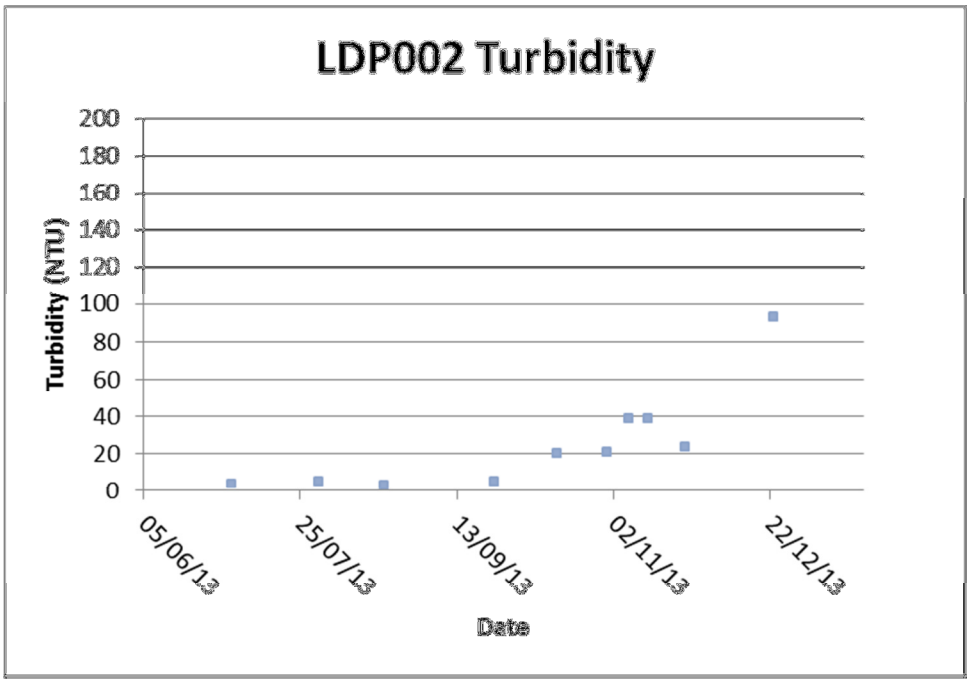


Figure 11 Turbidity Results at LDP002

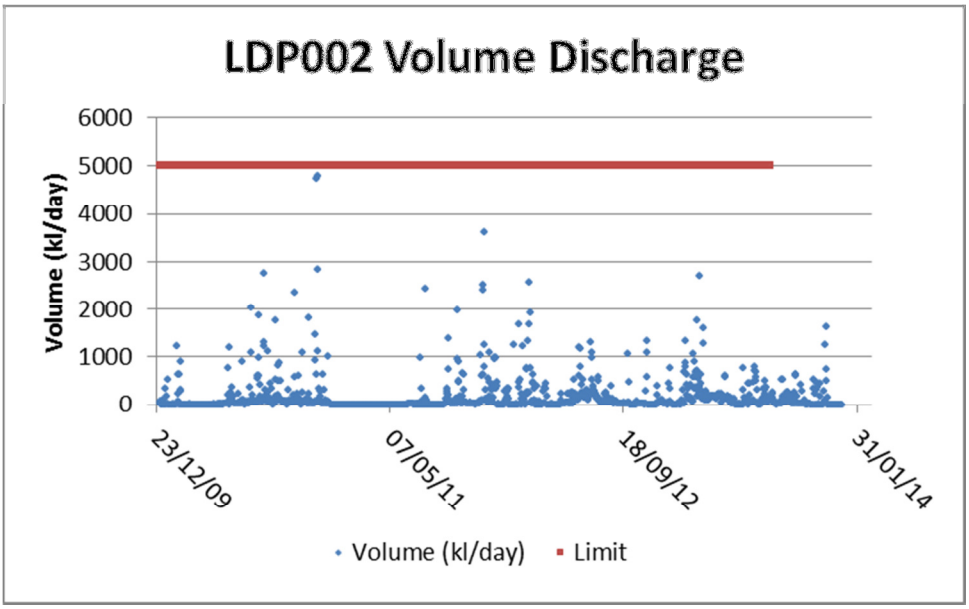


Figure 12 Volume Discharge through LDP002

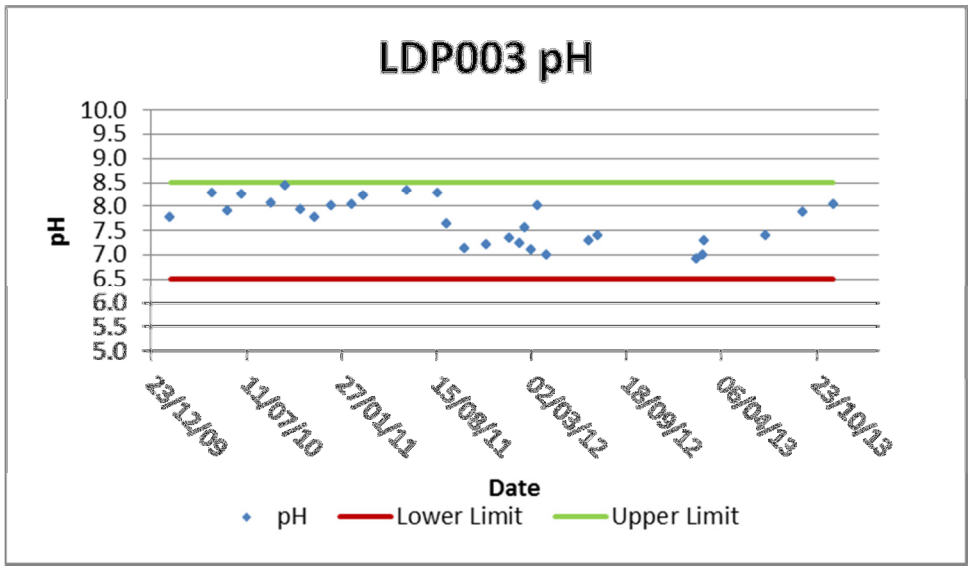


Figure 13 pH Results at LDP003

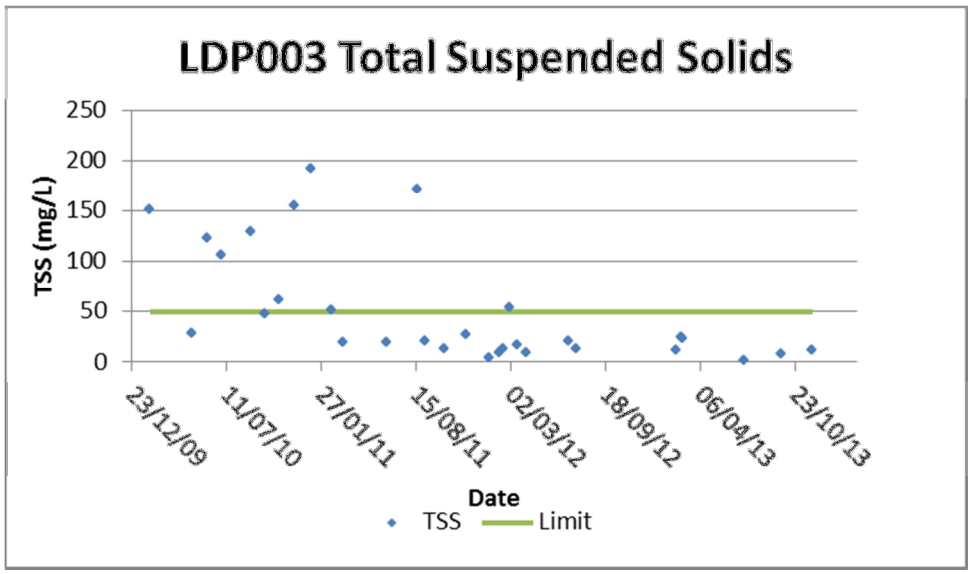


Figure 14 TSS Results at LDP003

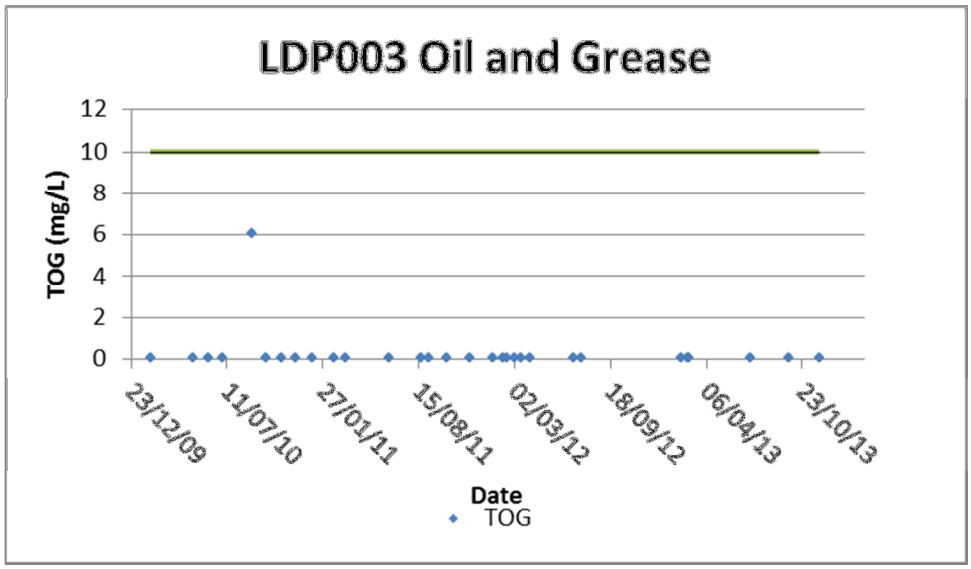


Figure 15 Oil and Grease Results at LDP003

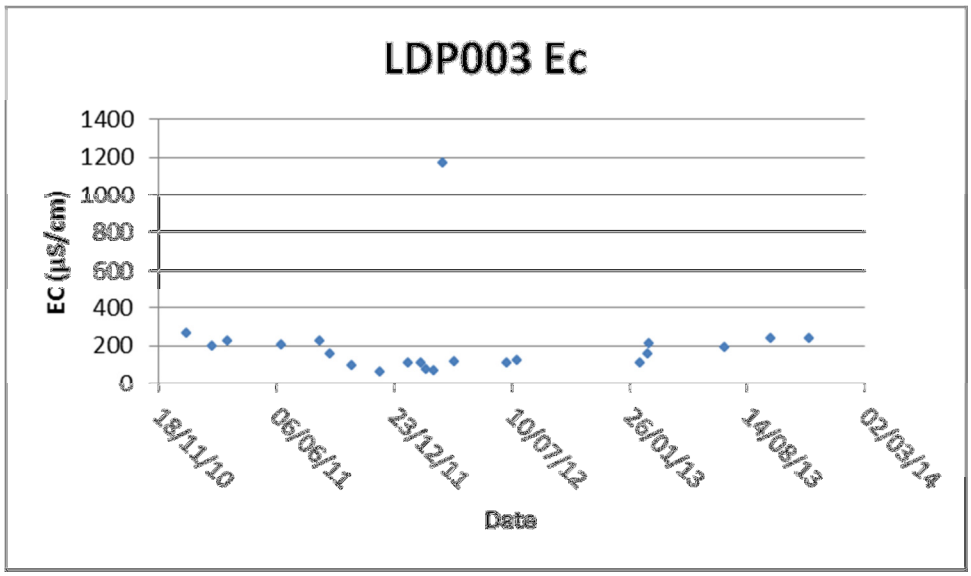


Figure 16 EC Results at LDP003

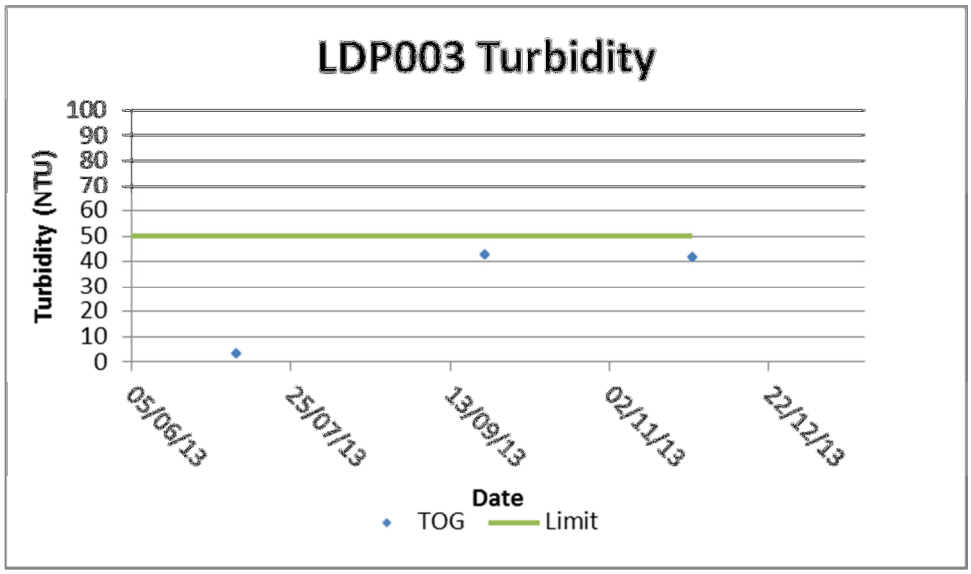


Figure 17 Turbidity Results at LDP003

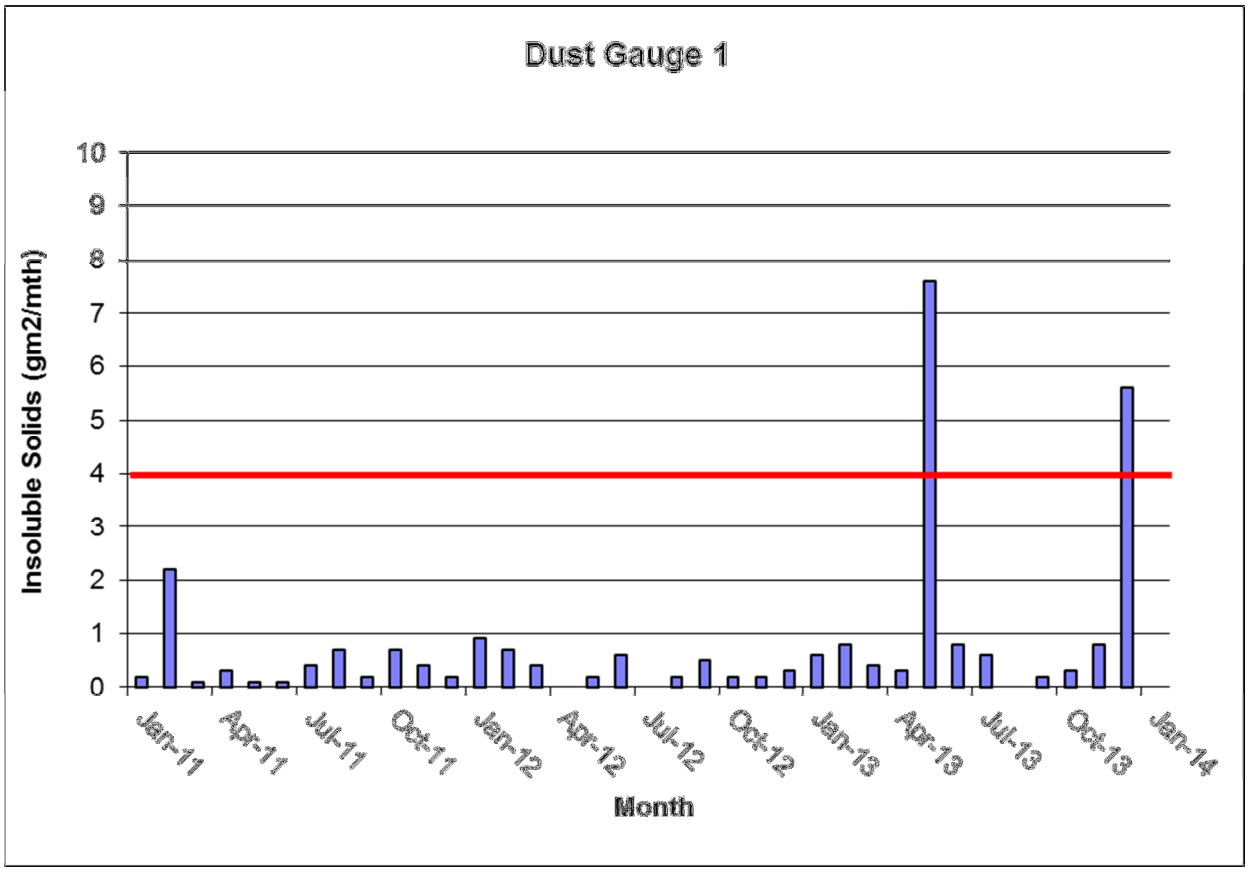


Figure 18 Dust Gauge 1 Results

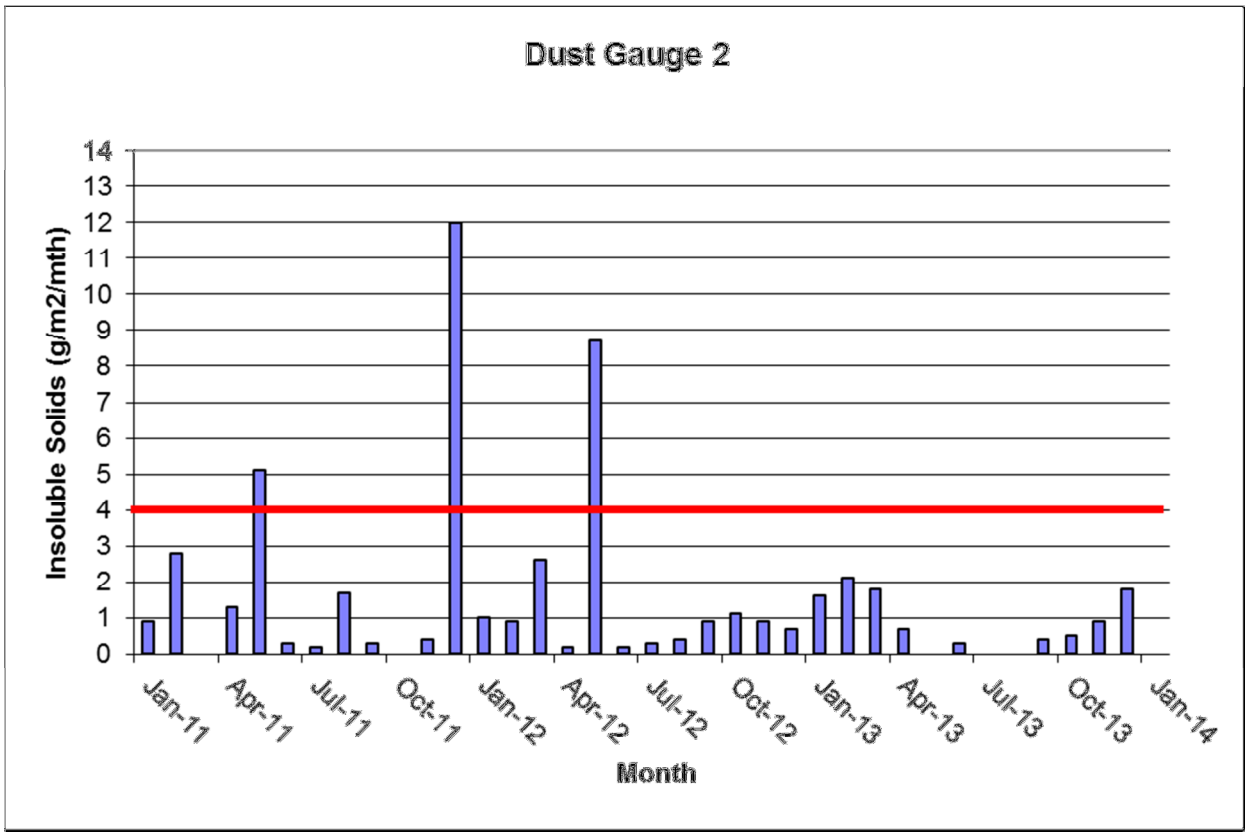


Figure 19 Dust Gauge 2 Results

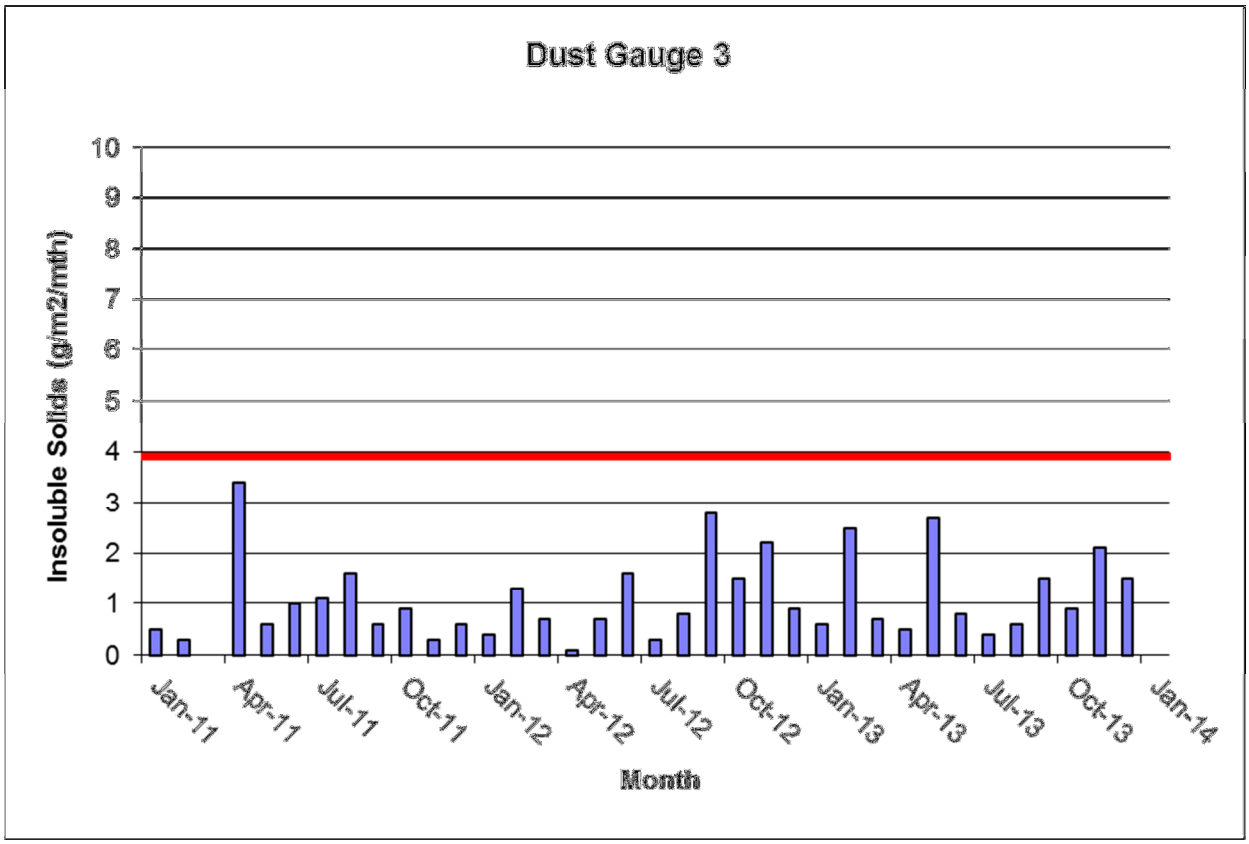


Figure 20 Dust Gauge 3 Results

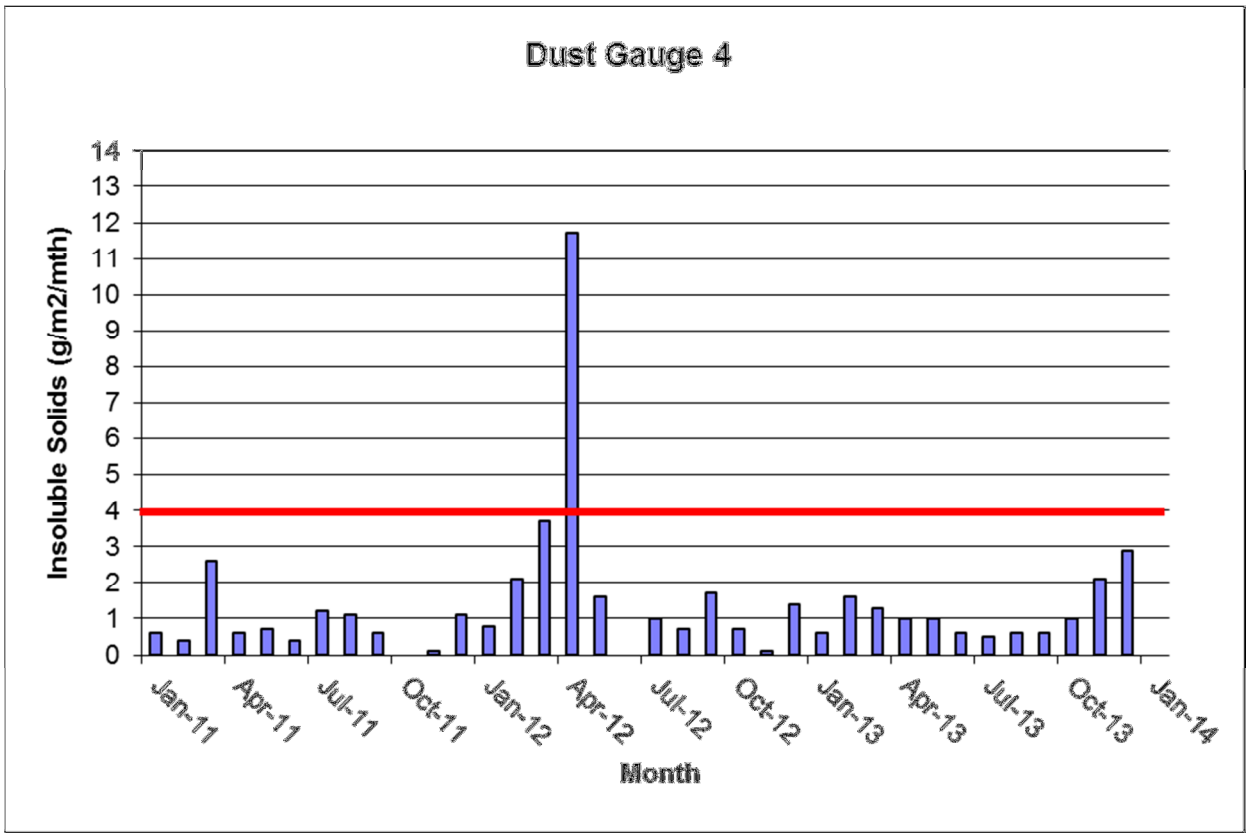


Figure 21 Dust Gauge 4 Results

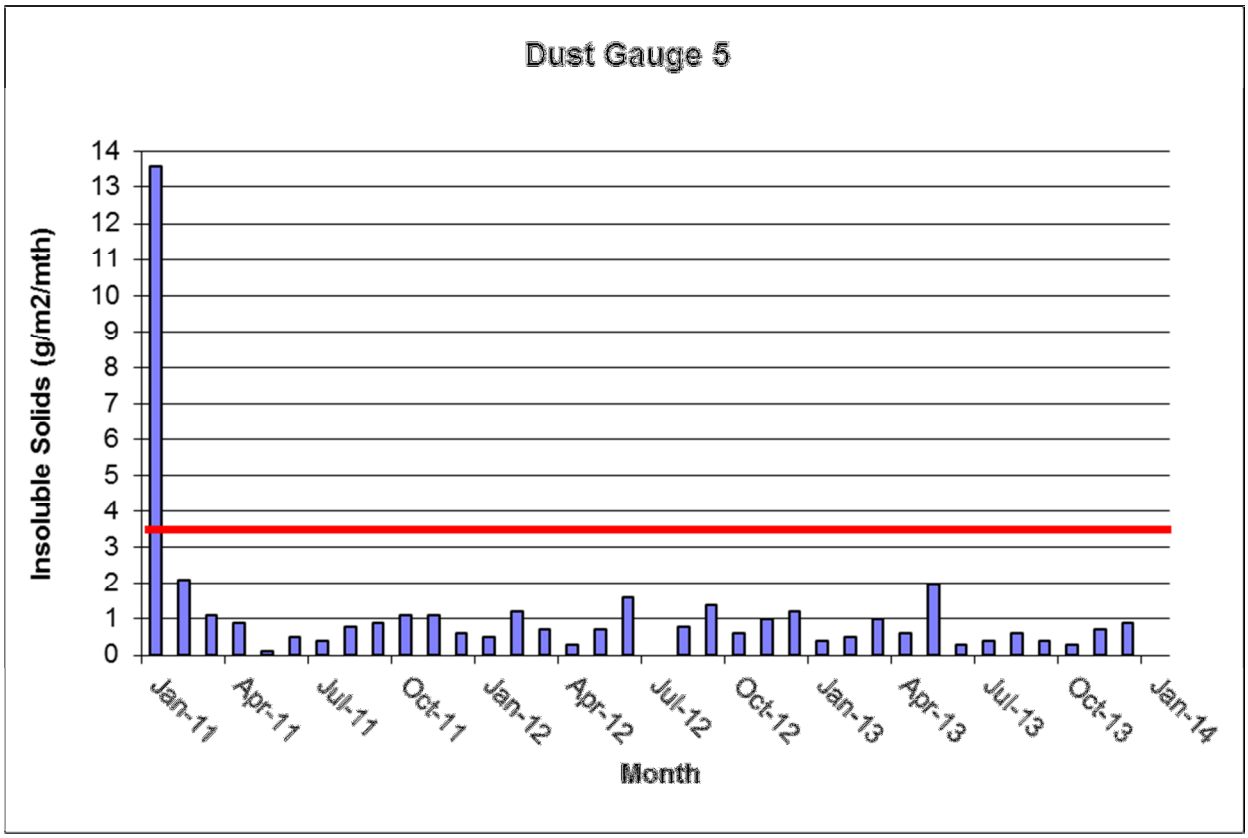


Figure 22 Dust Gauge 5 Results

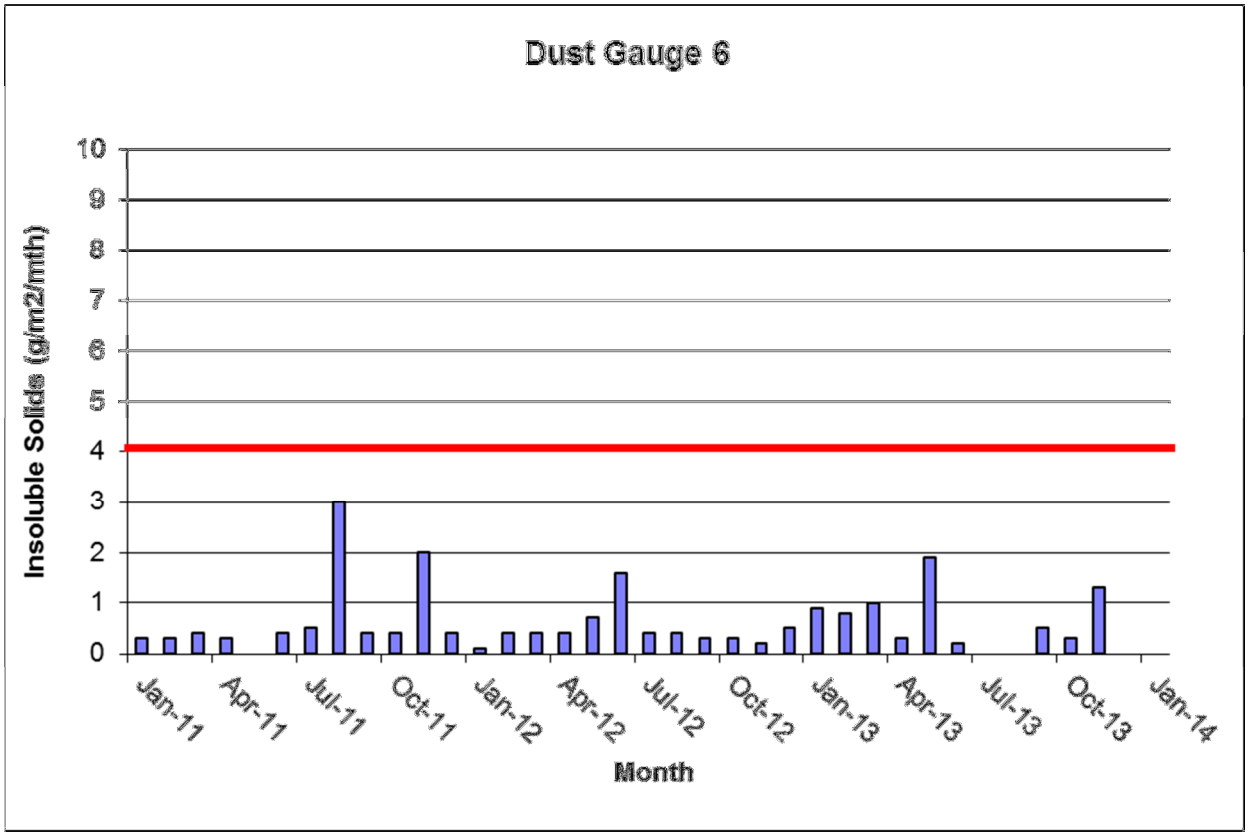


Figure 23 Dust Gauge 6 Results

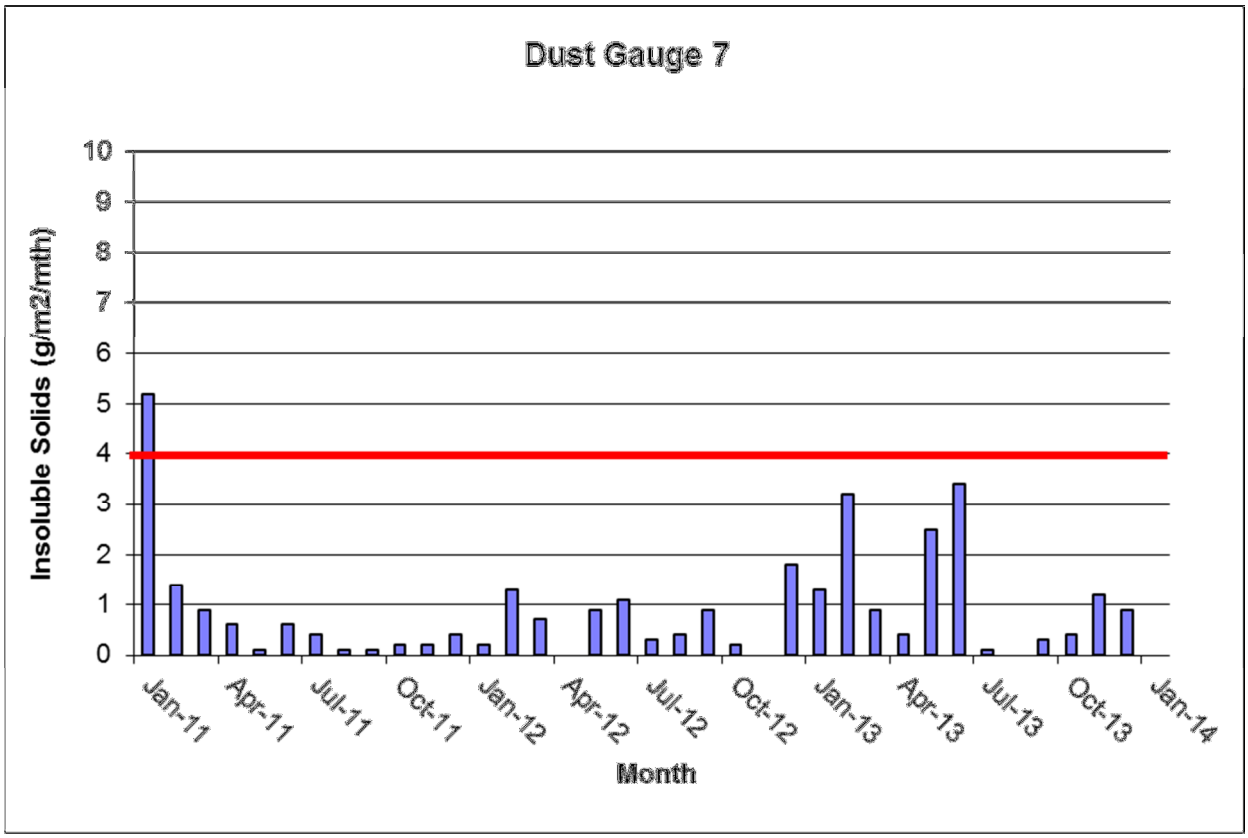


Figure 24 Dust Gauge 7 Results

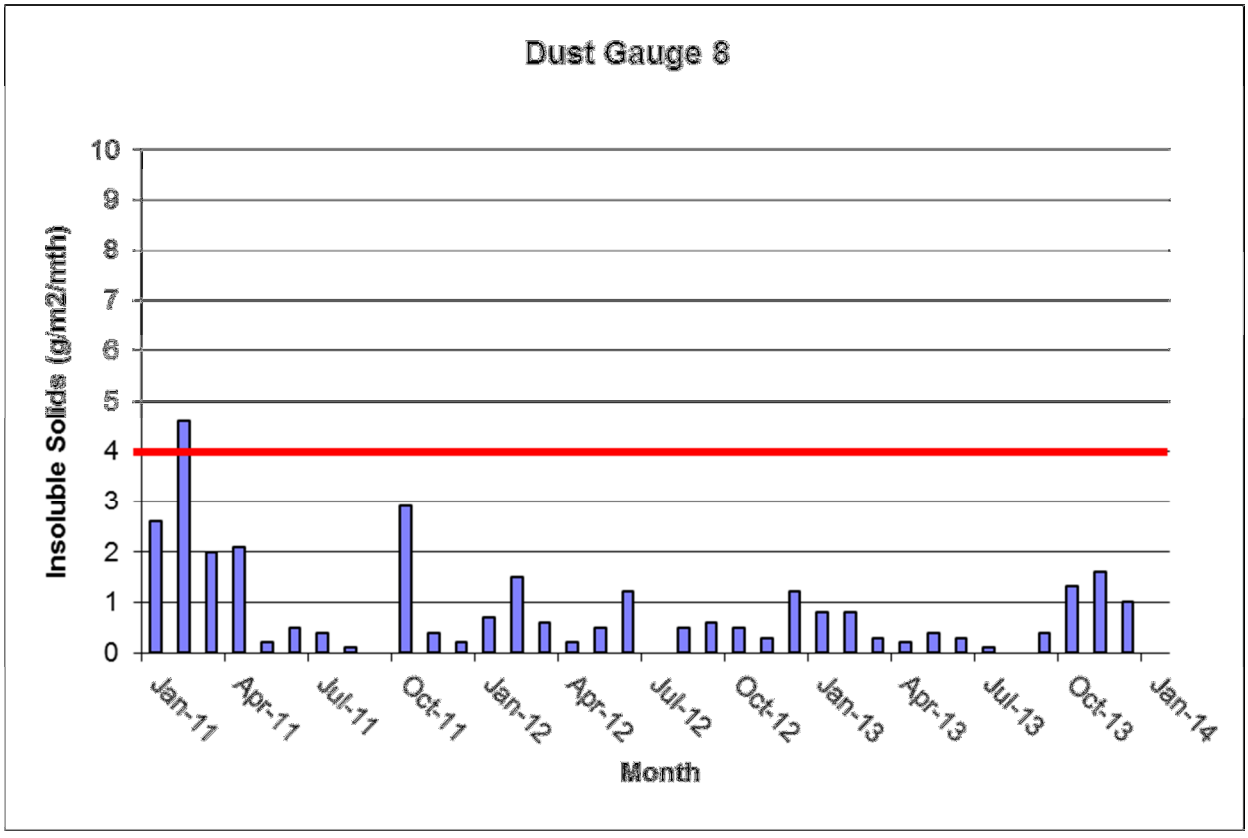


Figure 25 Dust Gauge 8 Results

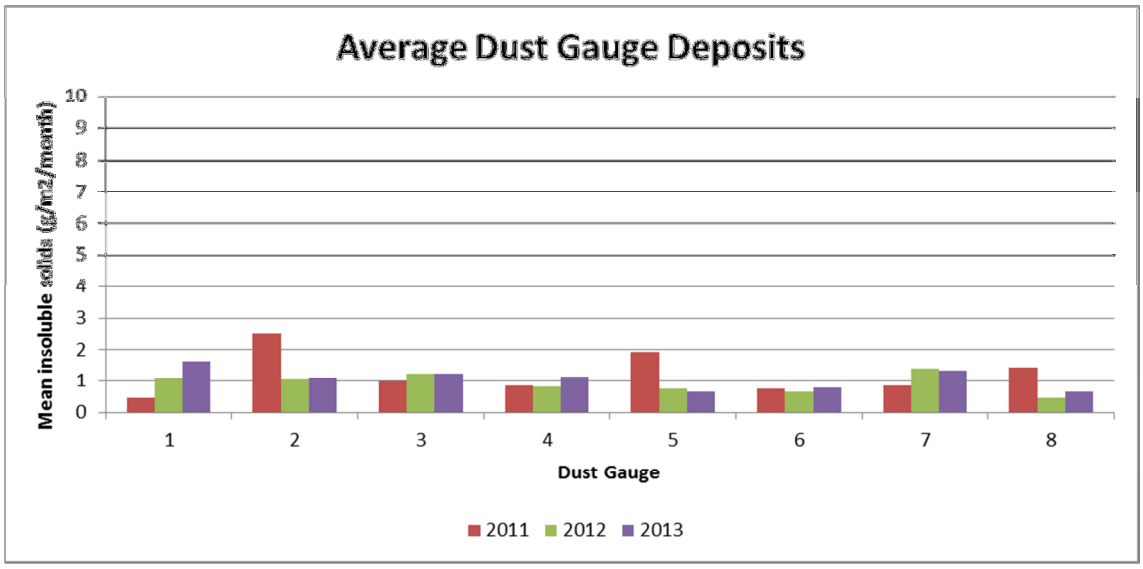


Figure 26 Comparison Mean Dust Gauge Results 2011-2013

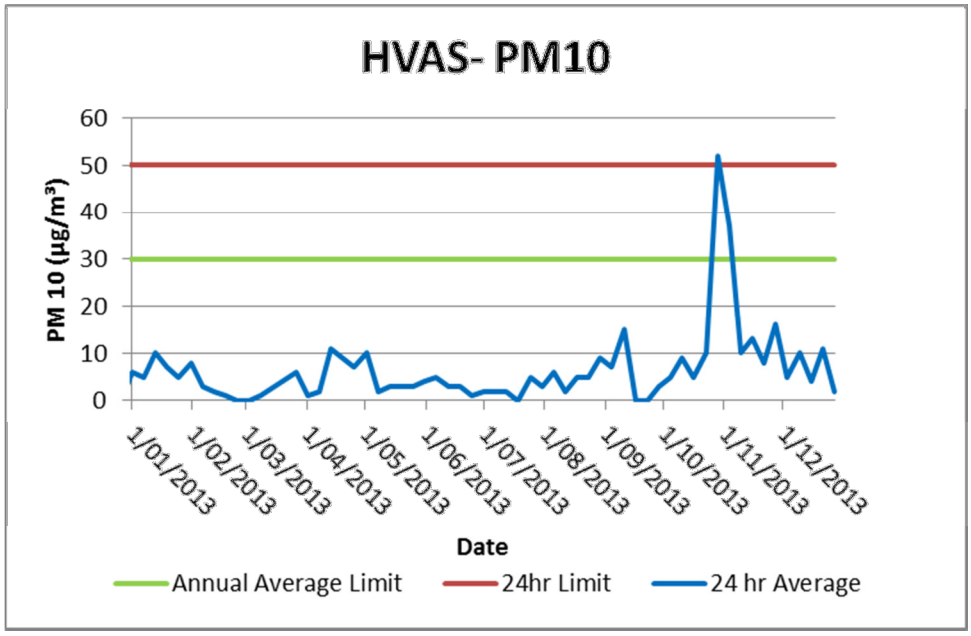


Figure 27 HVAS PM_{10} Results

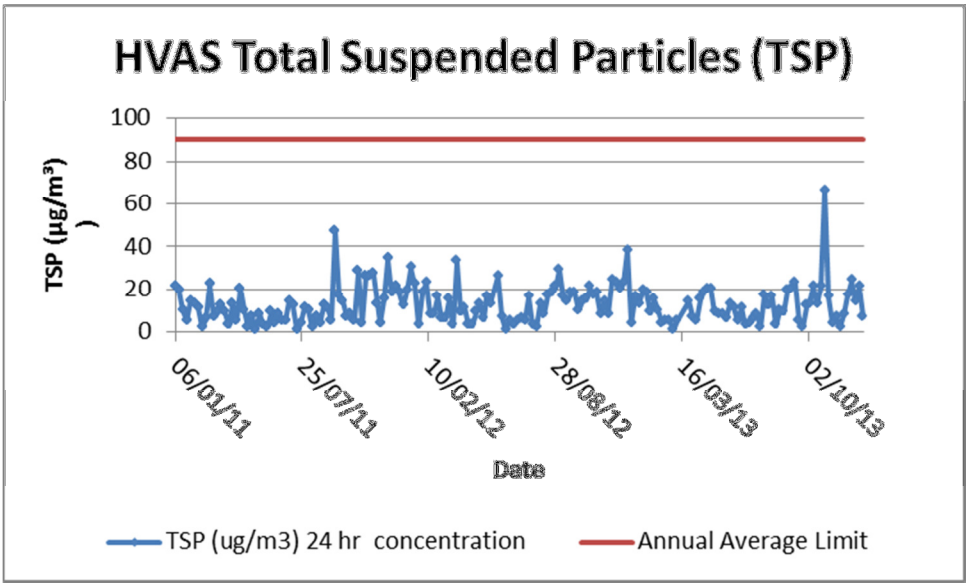


Figure 28 HVAS TSP Results

Table 1 Noise monitoring results from during 2013

	Limit	Quarter ending April 2013	Quarter ending July 2013	Quarter ending October 2013	Quarter ending January 2014
Day					
Sharpe	42	41	44	34	<30
Mason	41	40	41	32	<30
Neubeck	44	40	41	34	<30
Evening					
Sharpe	38	38	39	30	33
Mason	37	38	36	30	35
Neubeck	40	37	41	34	<30
Night					
Sharpe	36	34	<30	<30	35
Mason	35	30	<30	<30	30
Neubeck	35	<30	<30	<30	<30

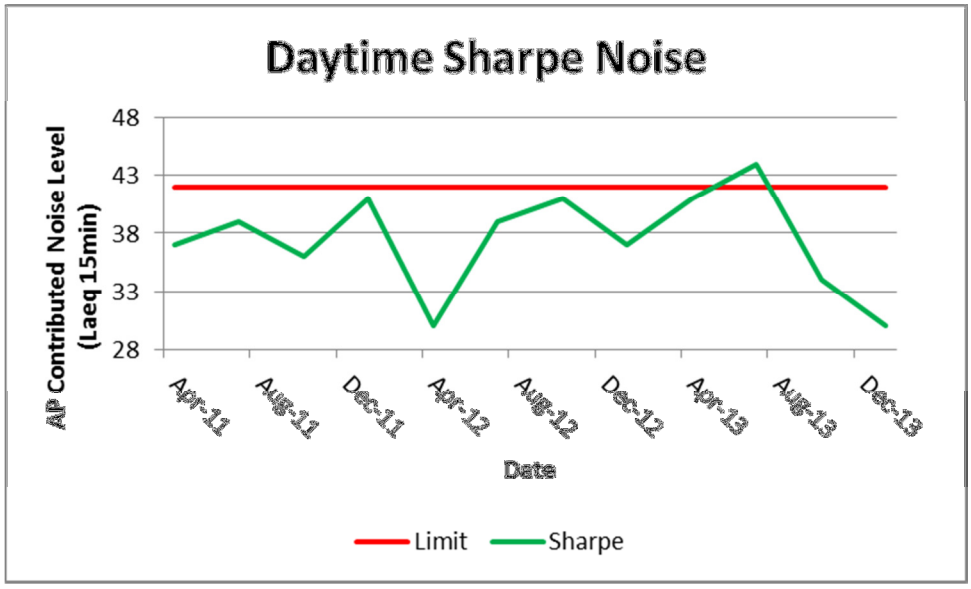


Figure 29: Daytime Noise Levels Sharpe

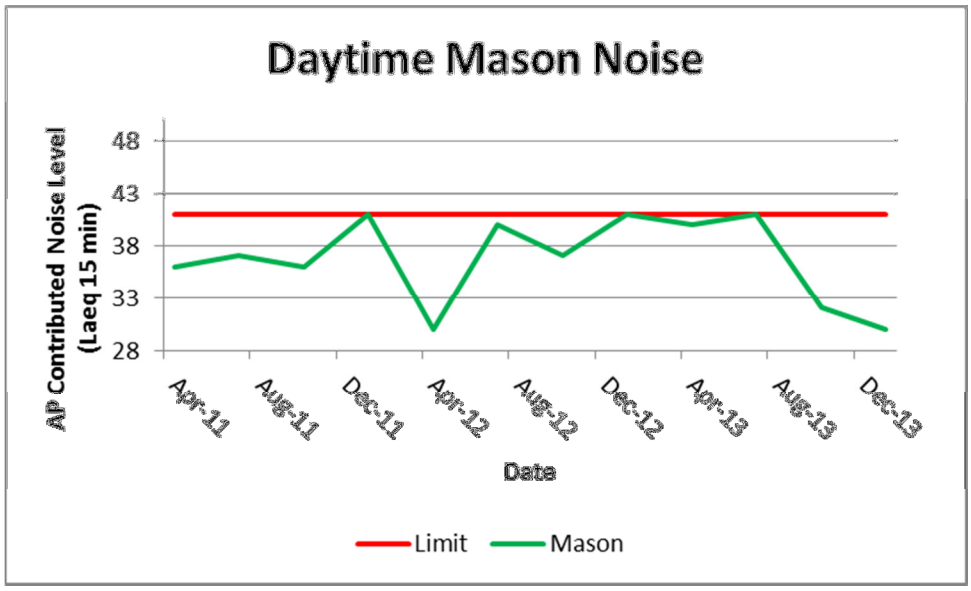


Figure 30: Daytime Noise Levels Mason

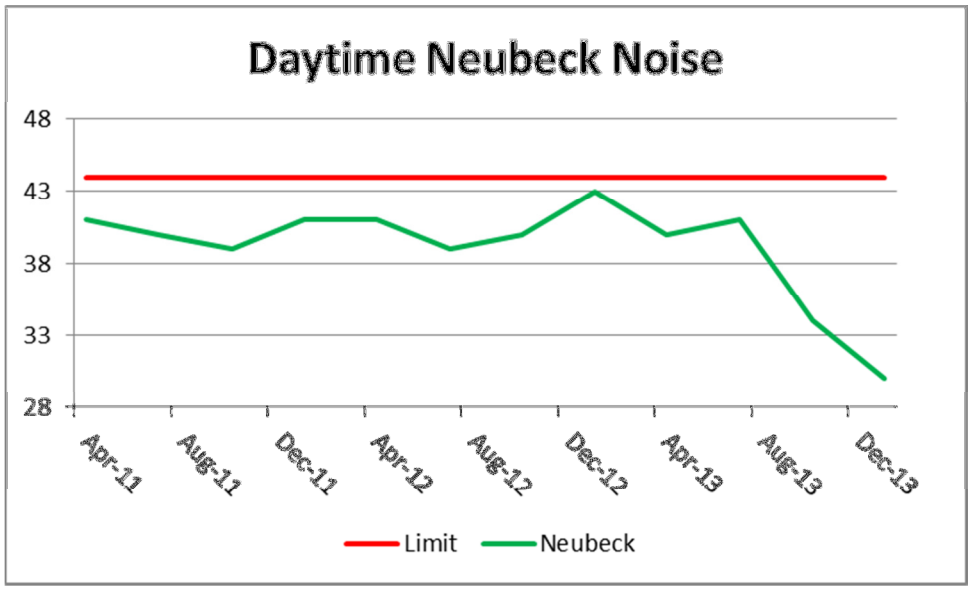


Figure 31:Daytime Noise Level Neubeck

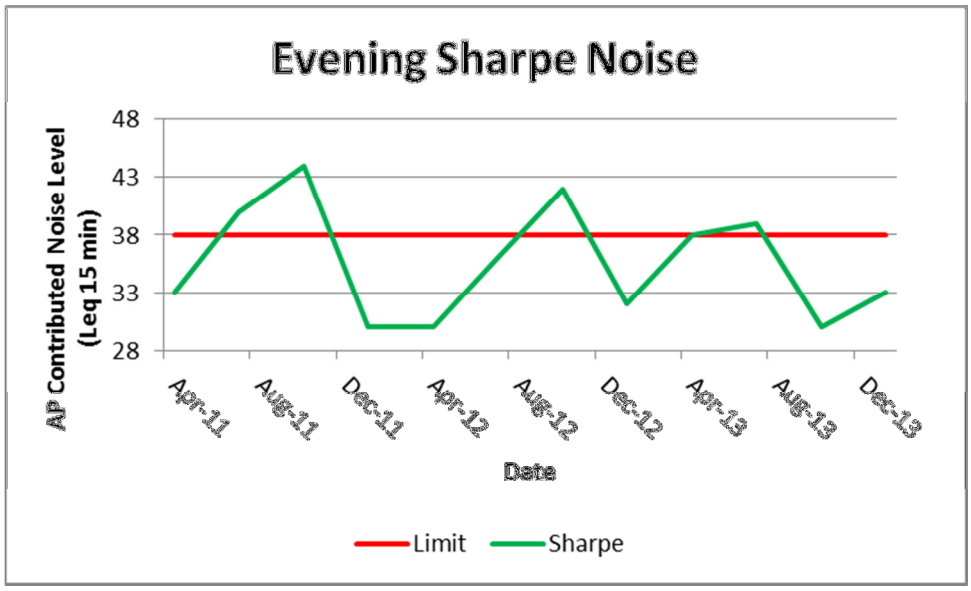


Figure 32: Evening Noise Level Sharpe

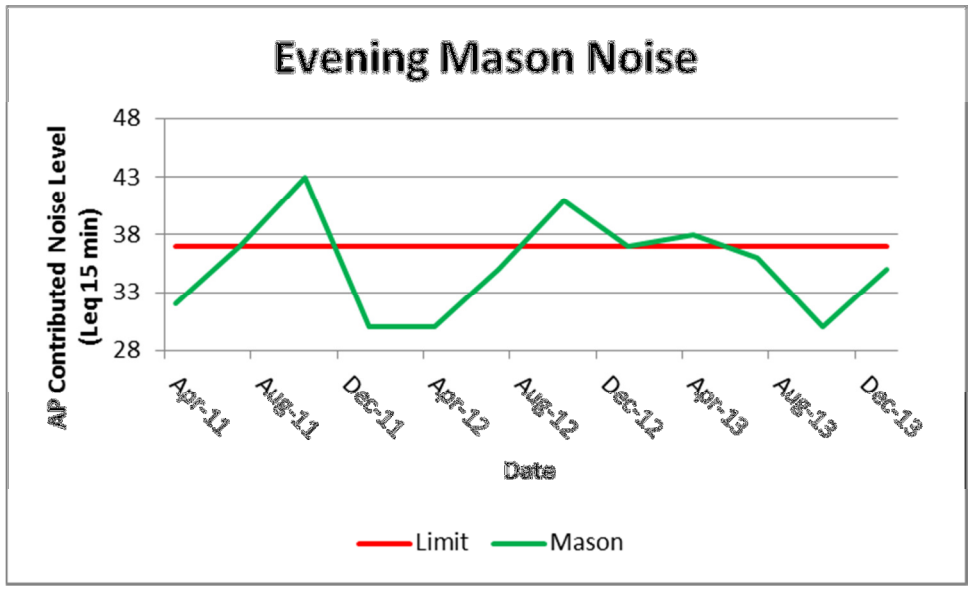


Figure 33: Evening Noise Level Mason

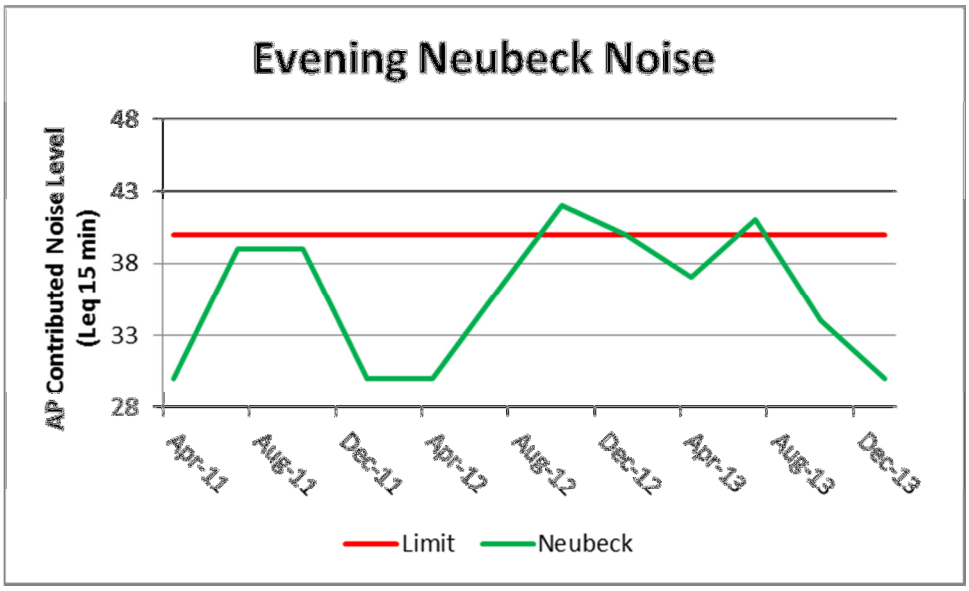


Figure 34: Evening Noise Level Neubeck

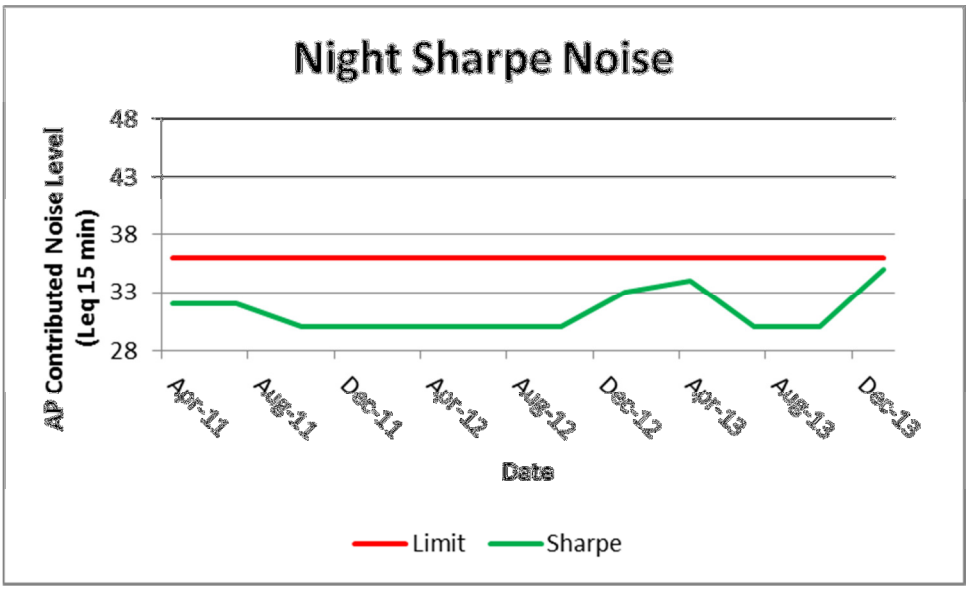


Figure 35: Night Noise Level Sharpe

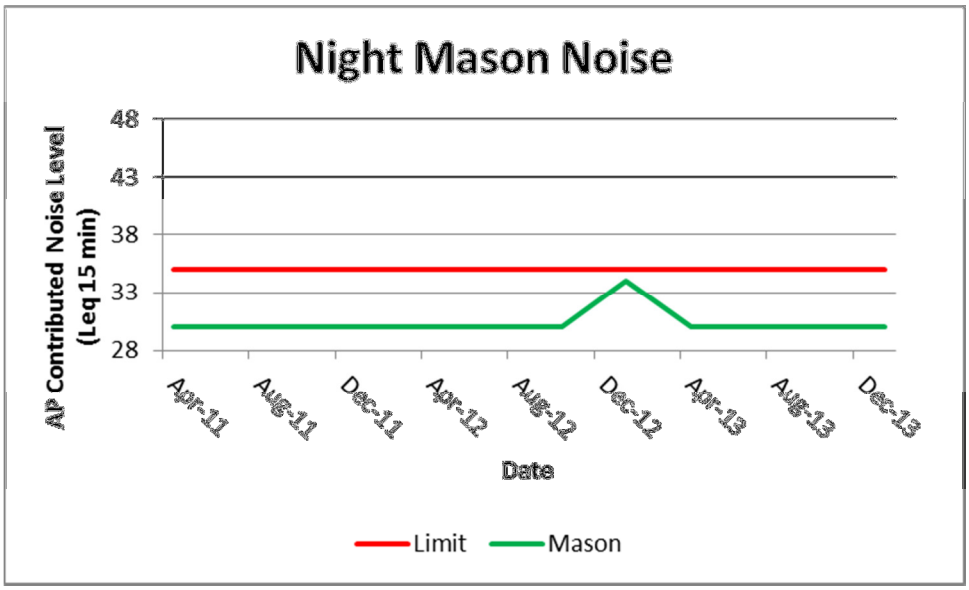


Figure 36: Night Noise Level Mason

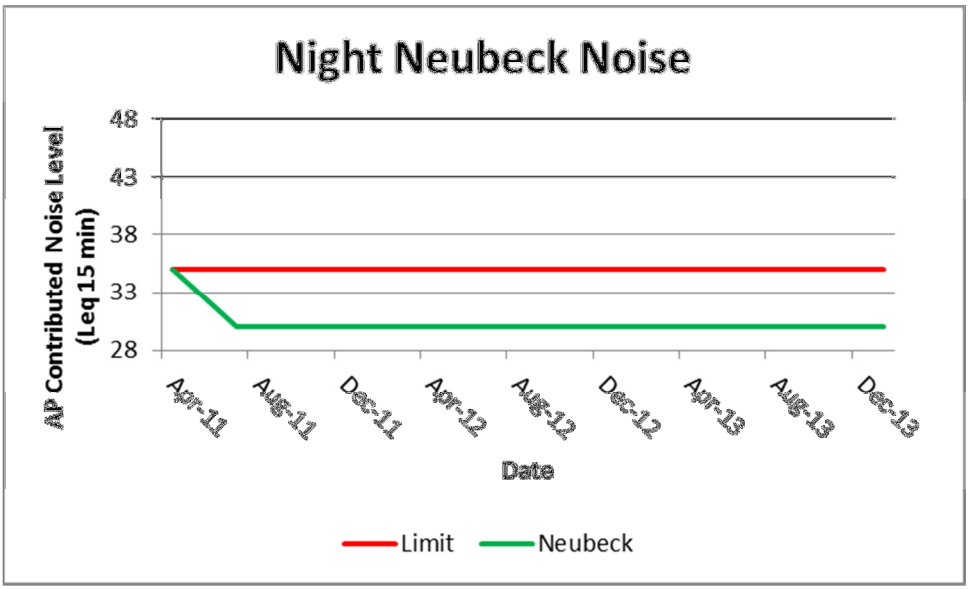
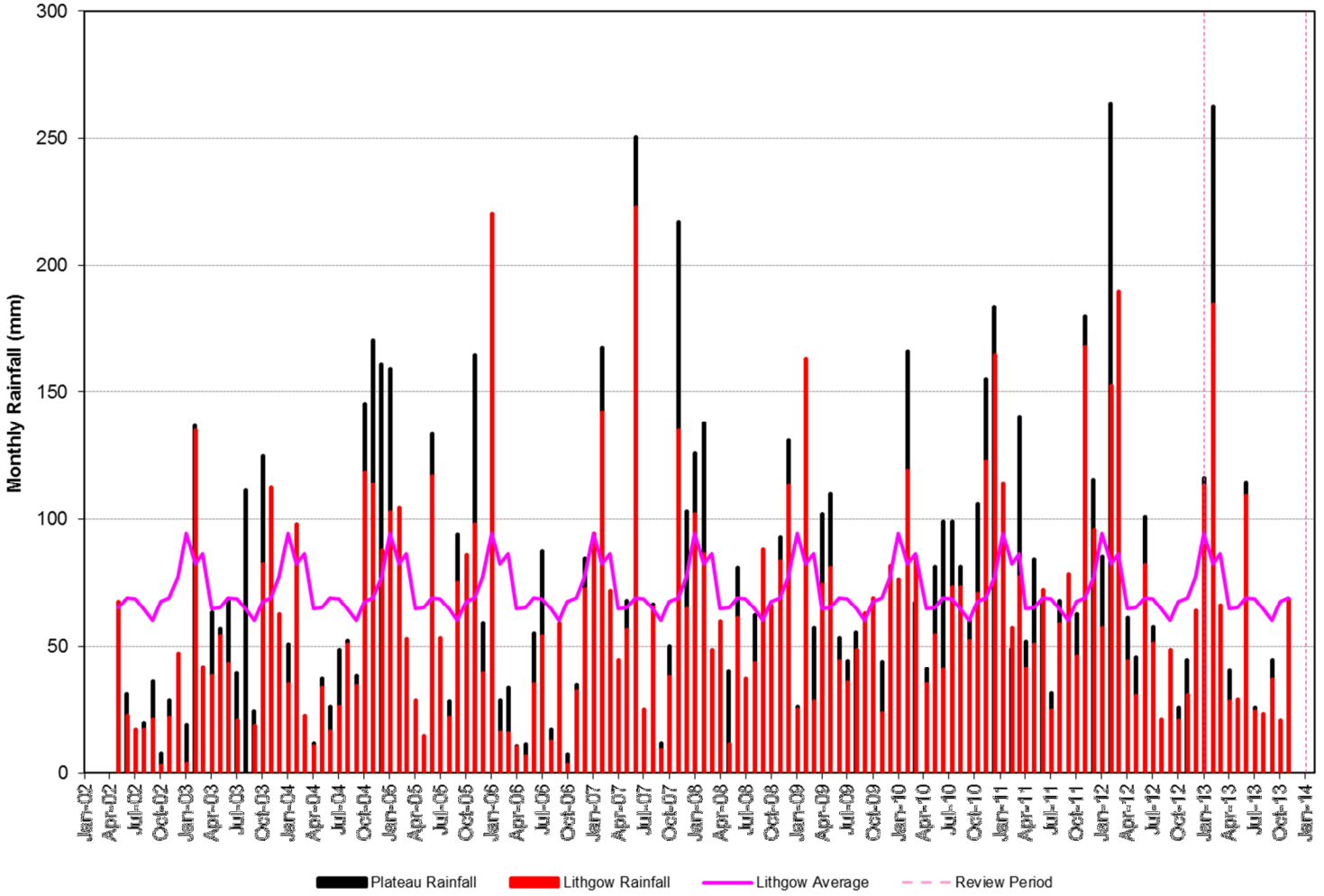


Figure 37: Night Noise Level Neubeck

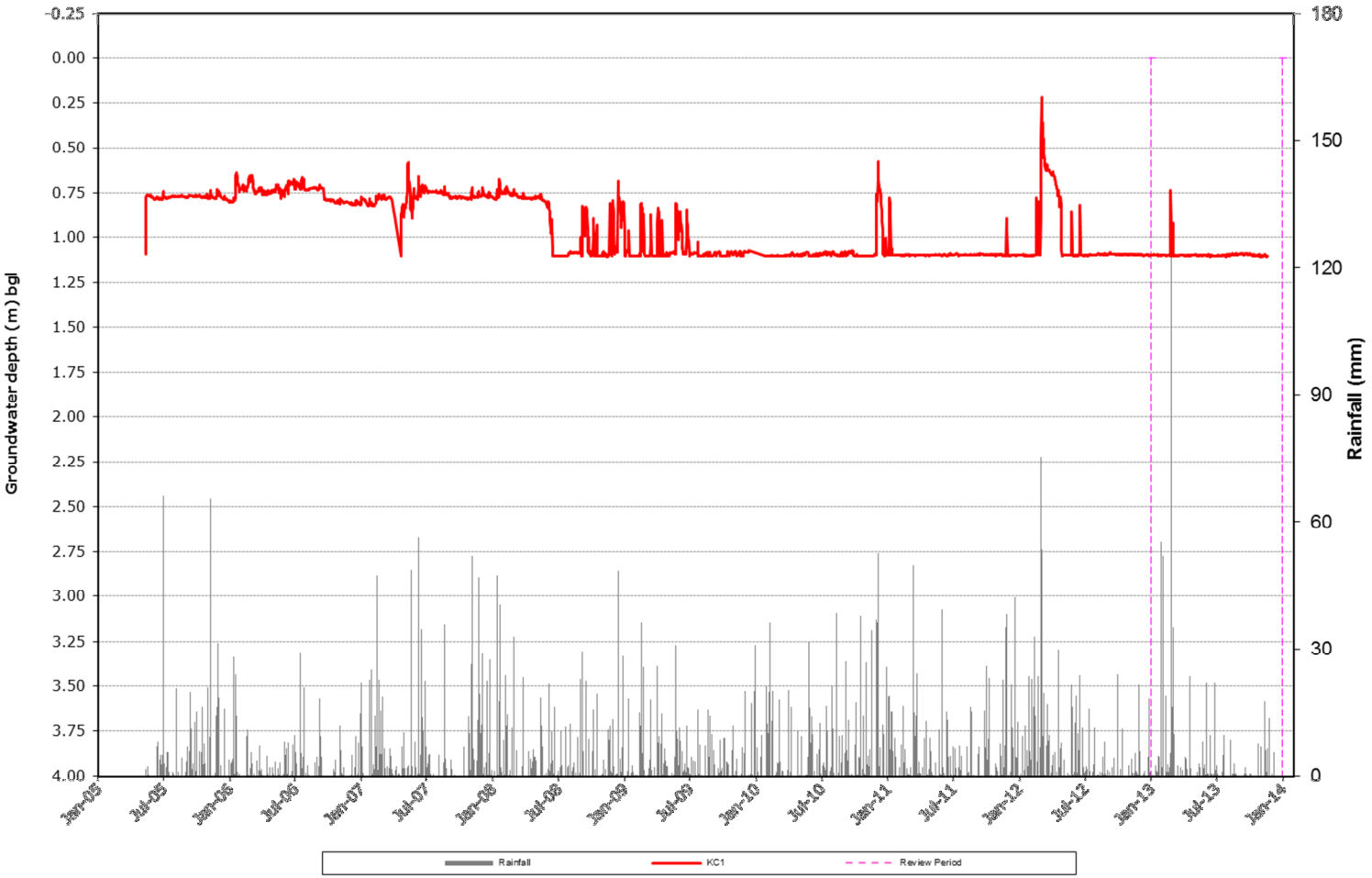
Centennial Coal

Angus Place

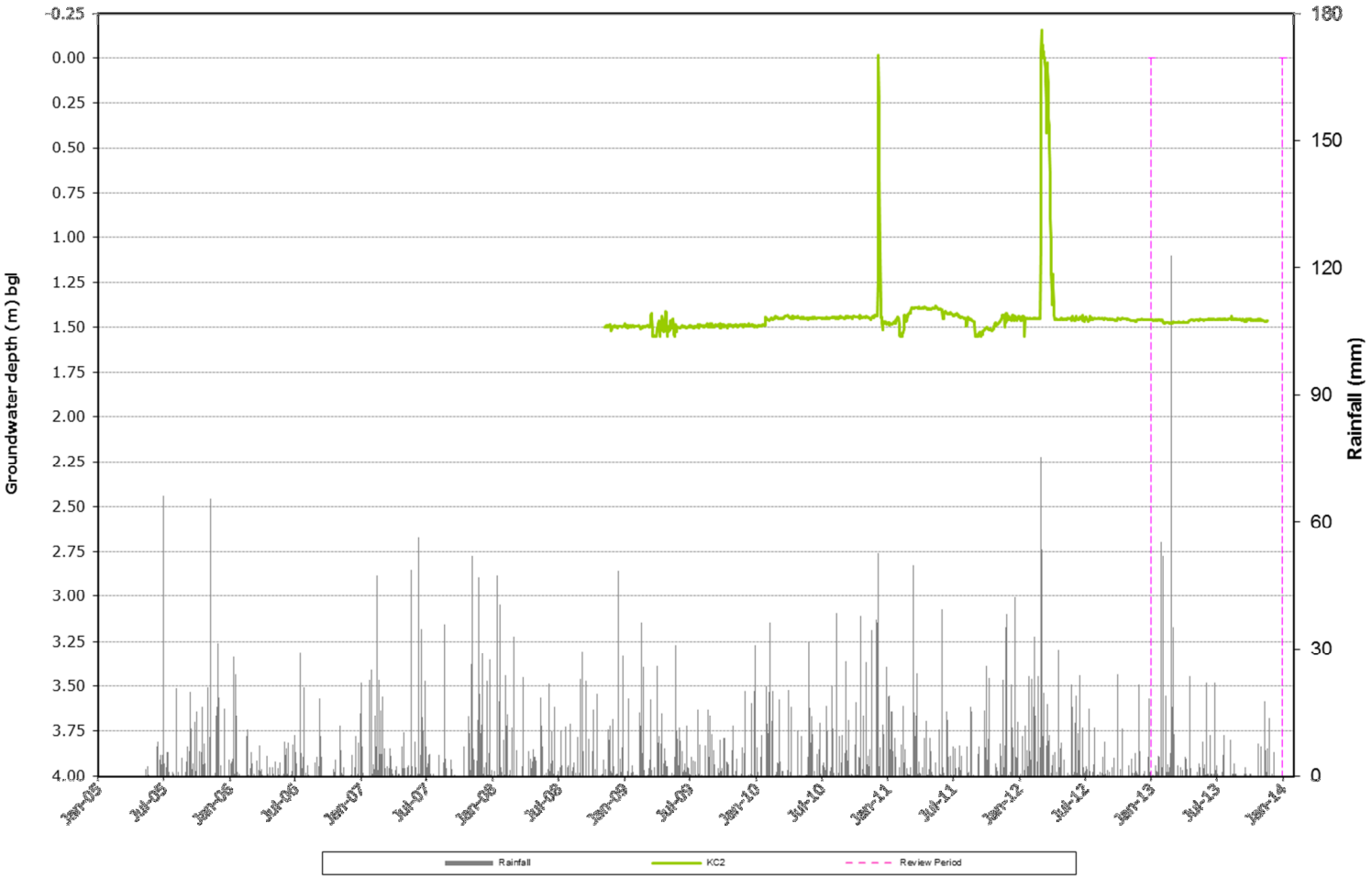
Appendix 8
Newnes State Forest Results



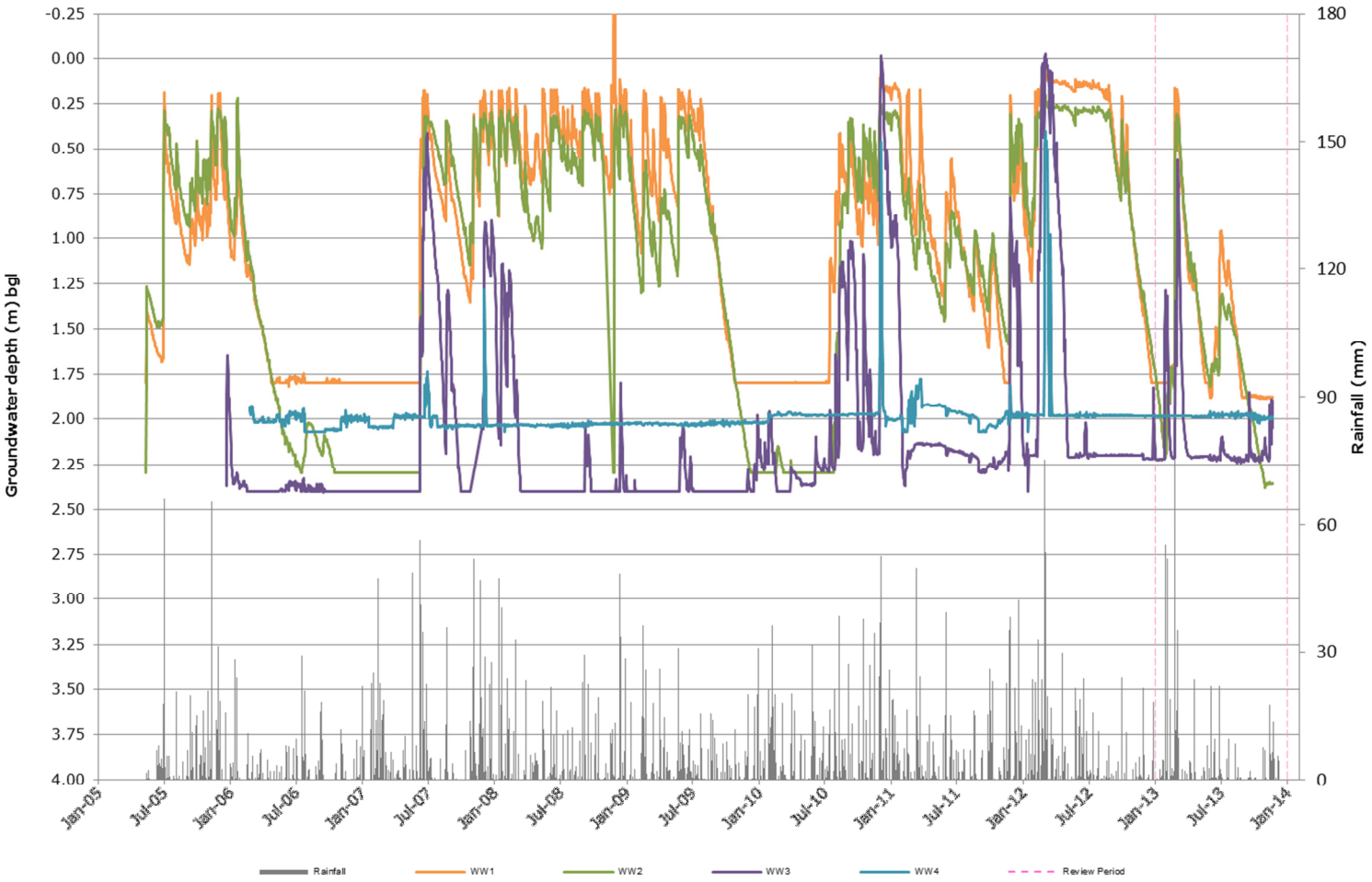
Graph 1: Rainfall on the Newnes Plateau since 2002



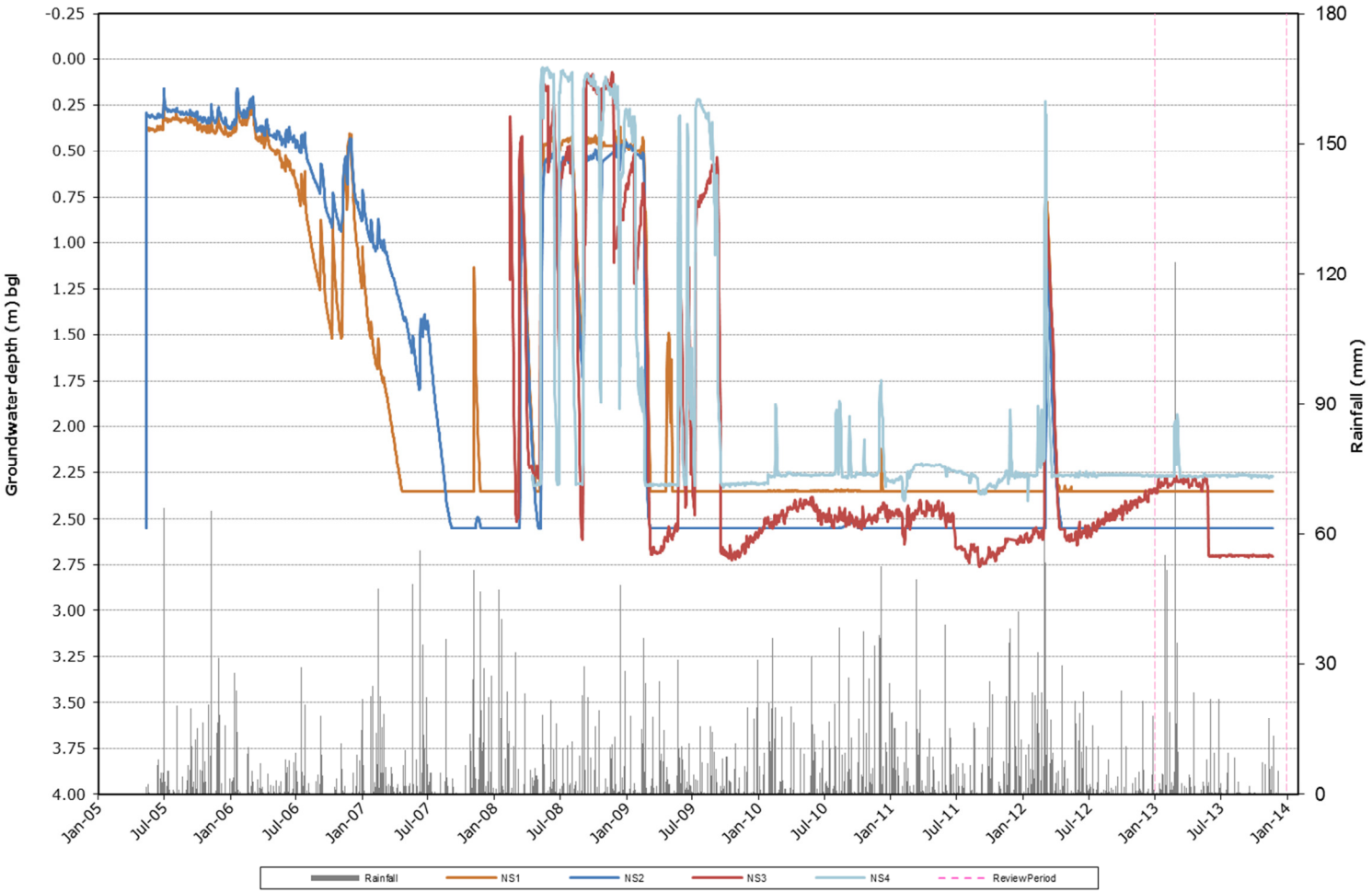
Graph 2 KC1 Groundwater Depths 2005-2013



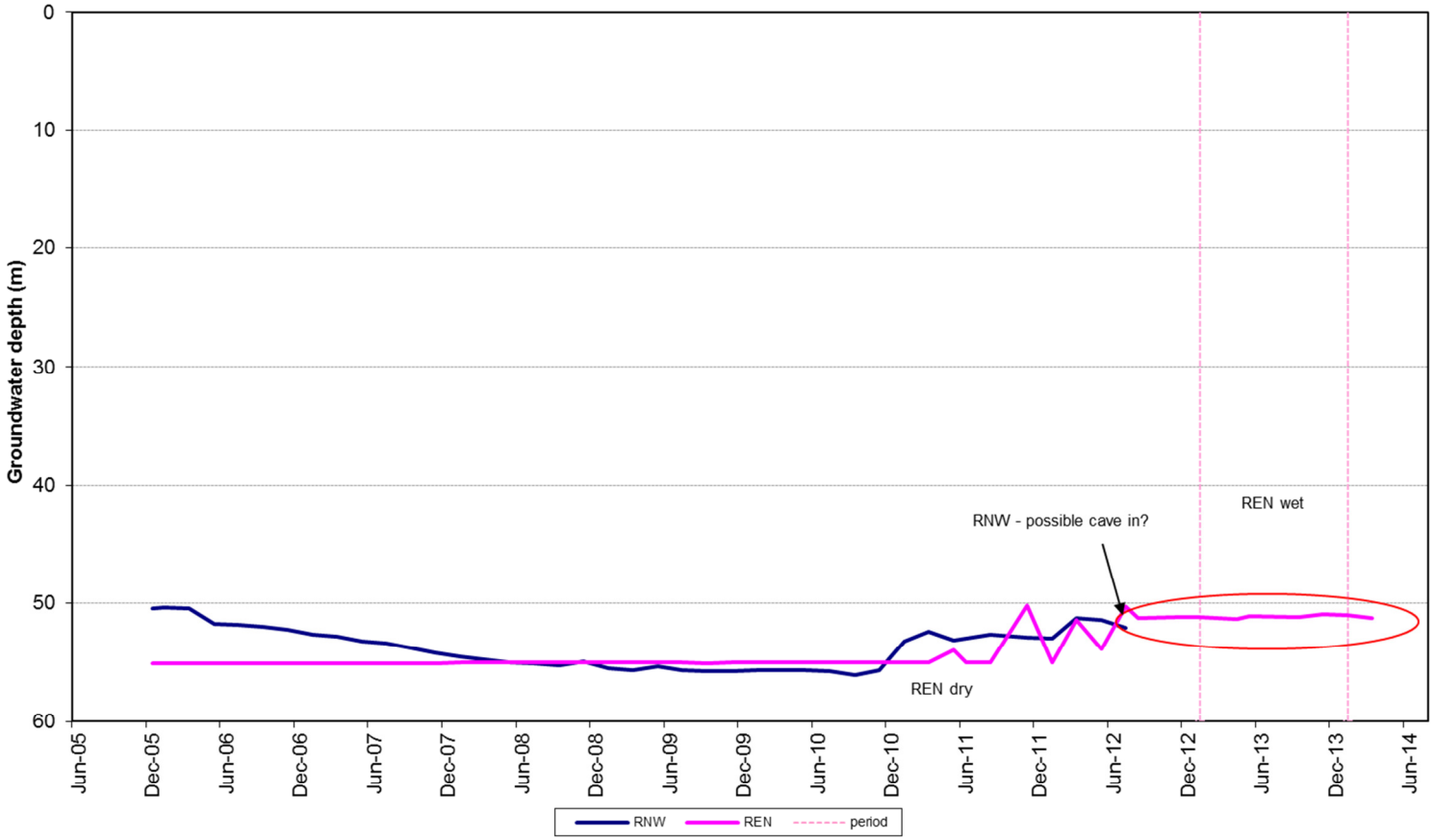
Graph 3 KC2 Groundwater Height above instrument 2009-2013



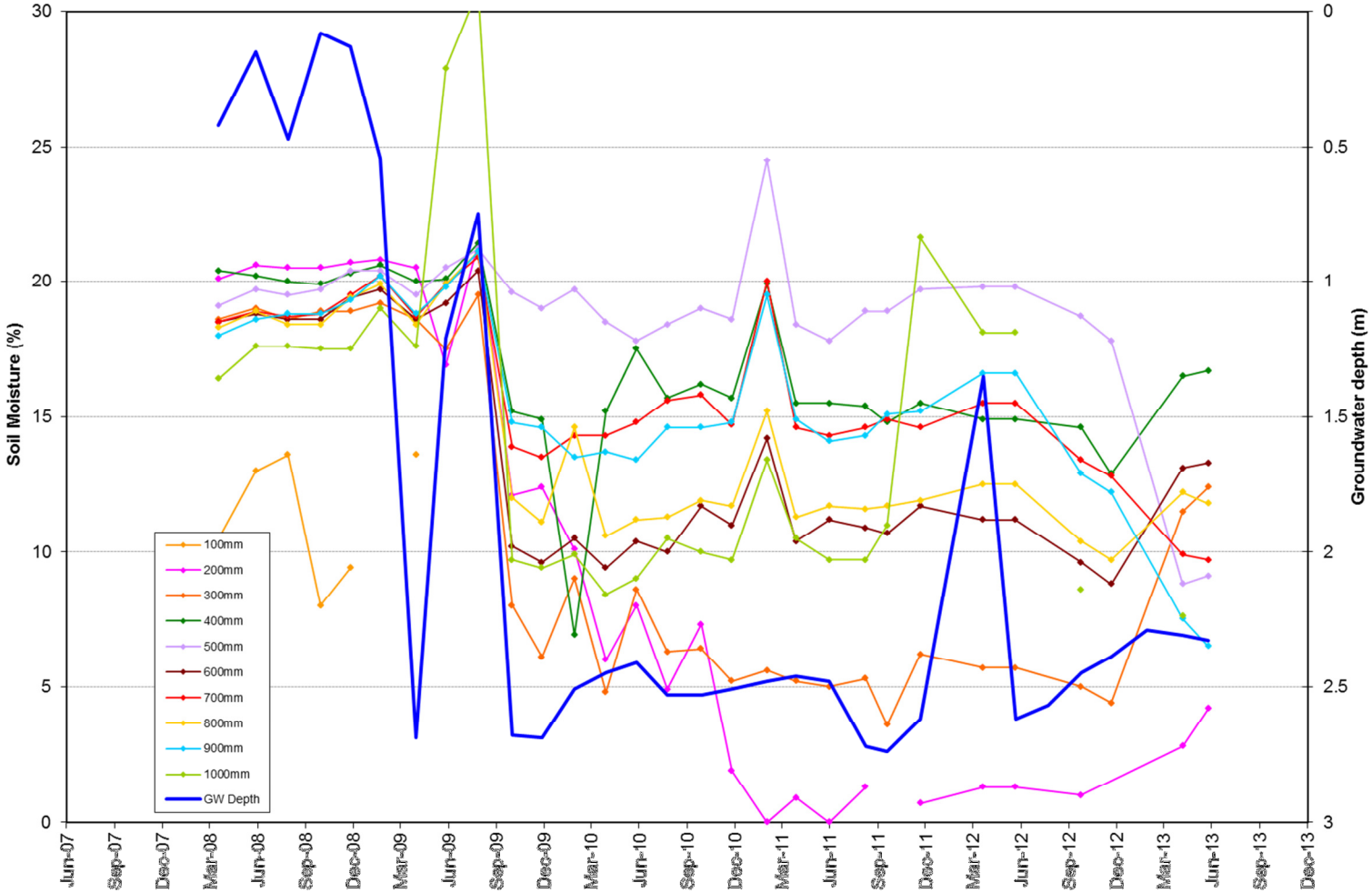
Graph 4 West Wolgan Piezometers 2005-2013



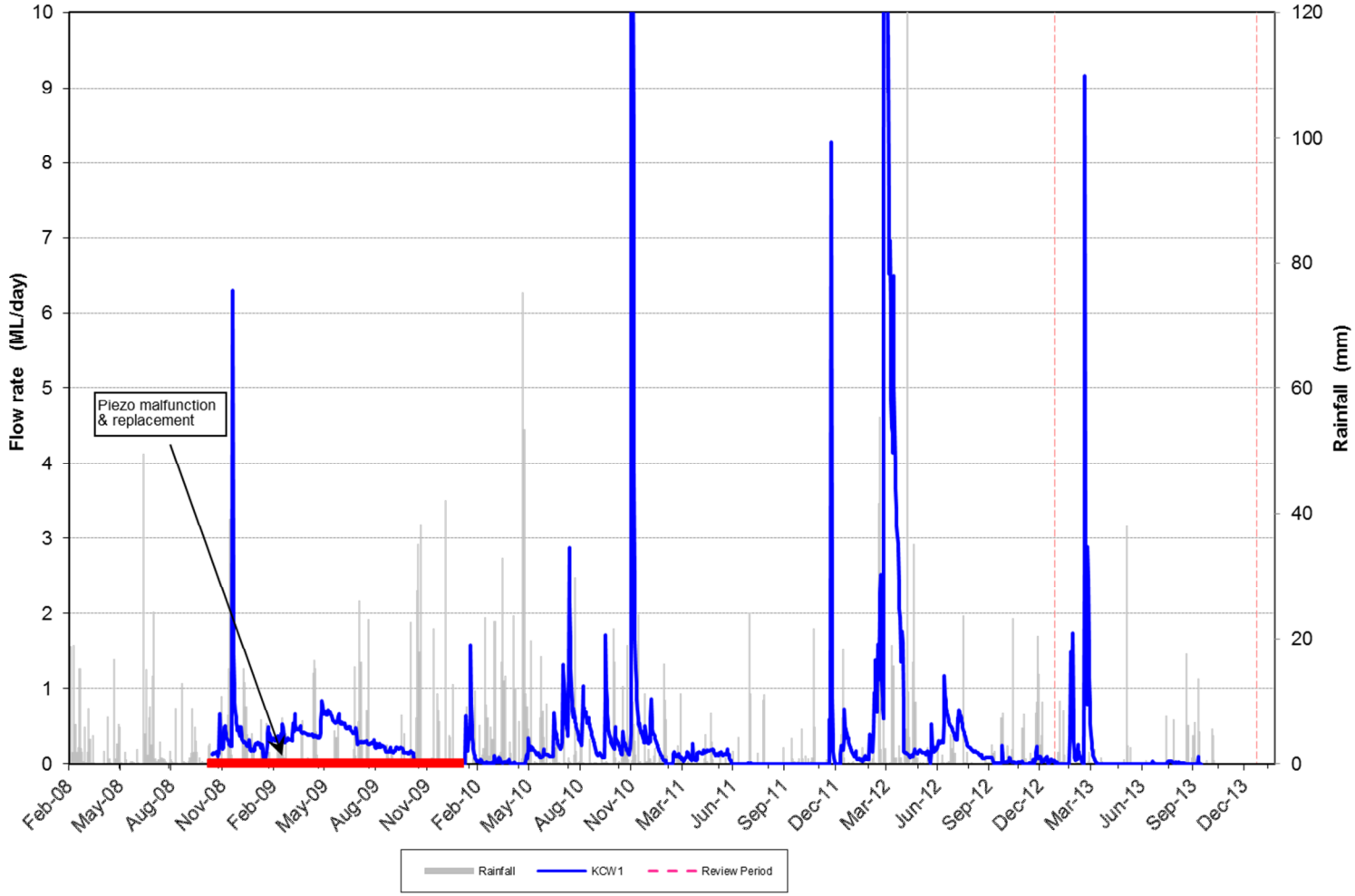
Graph 5 Narrow Swamp Piezometers 2005-2013



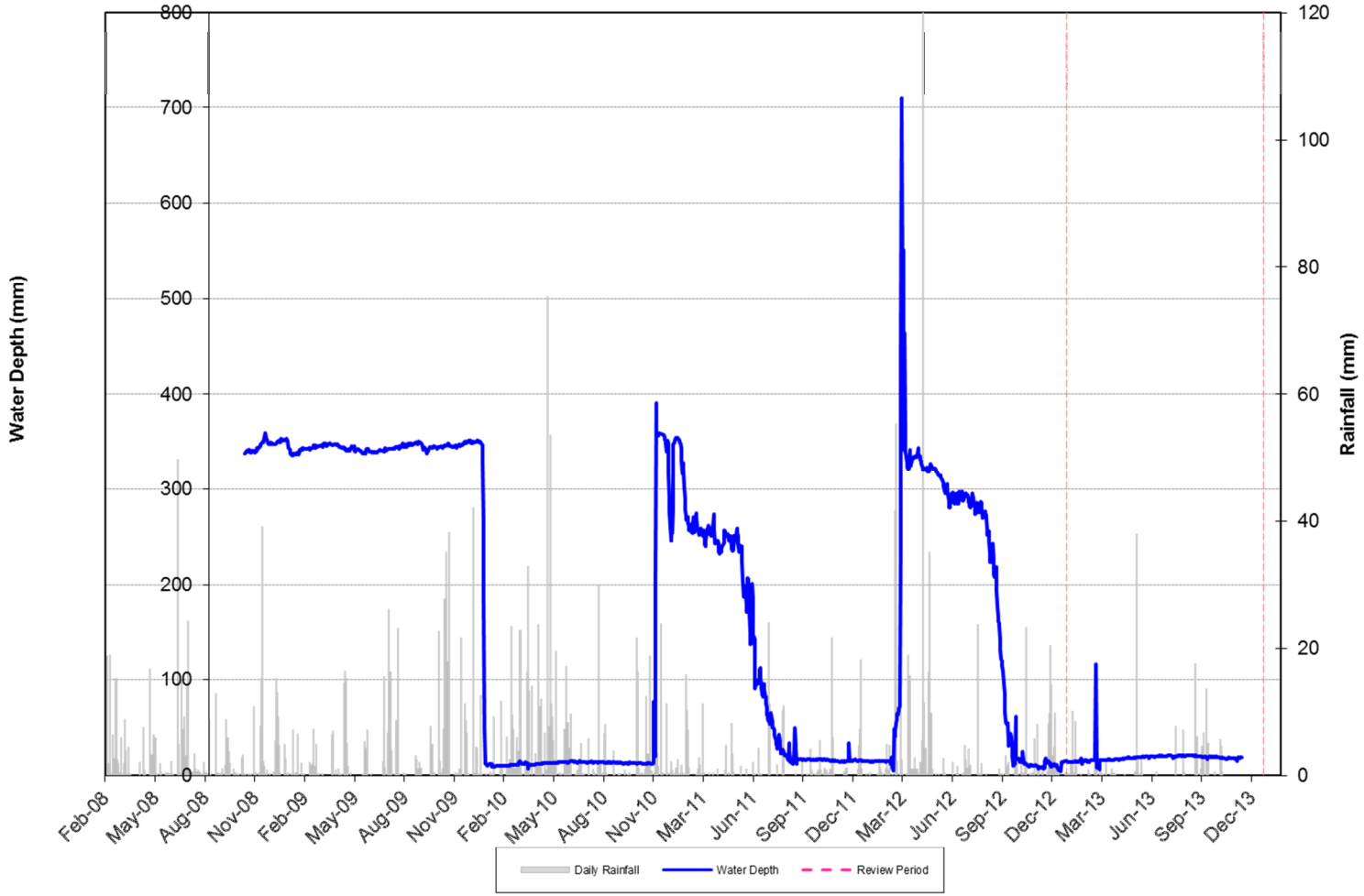
Graph 6 Ridge Piezometers 2006-2013



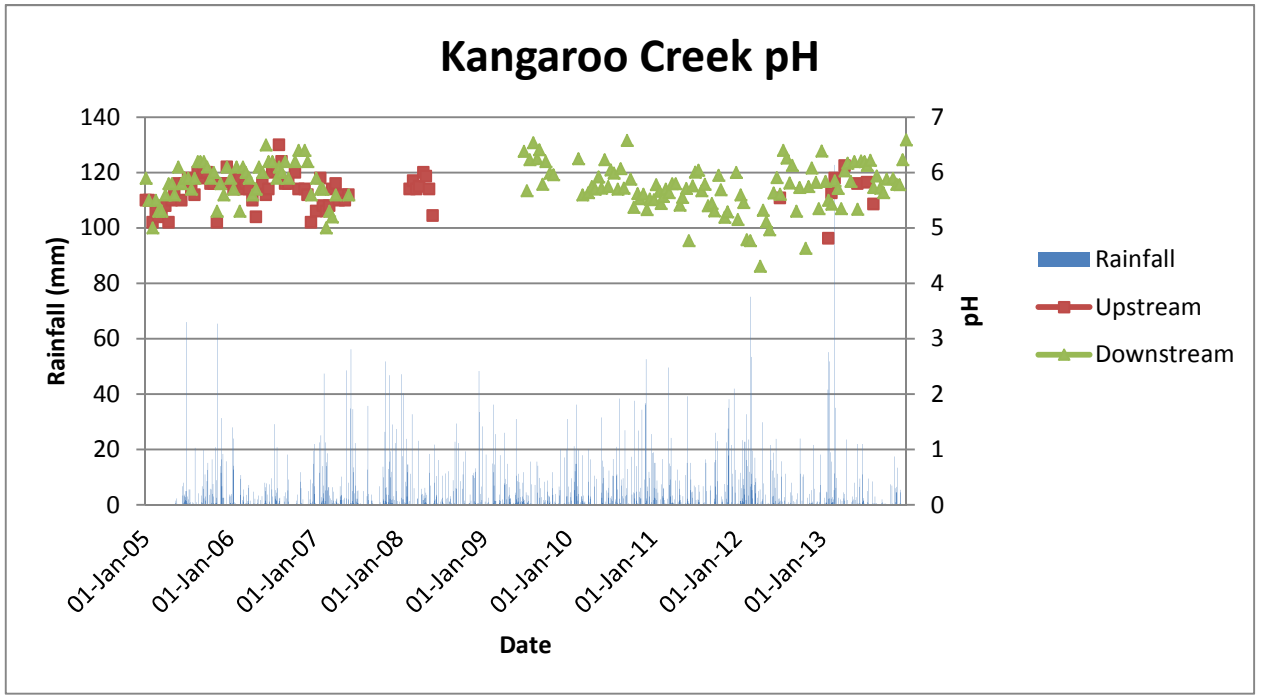
Graph 7 Narrow Swamp Soil Moisture Monitoring



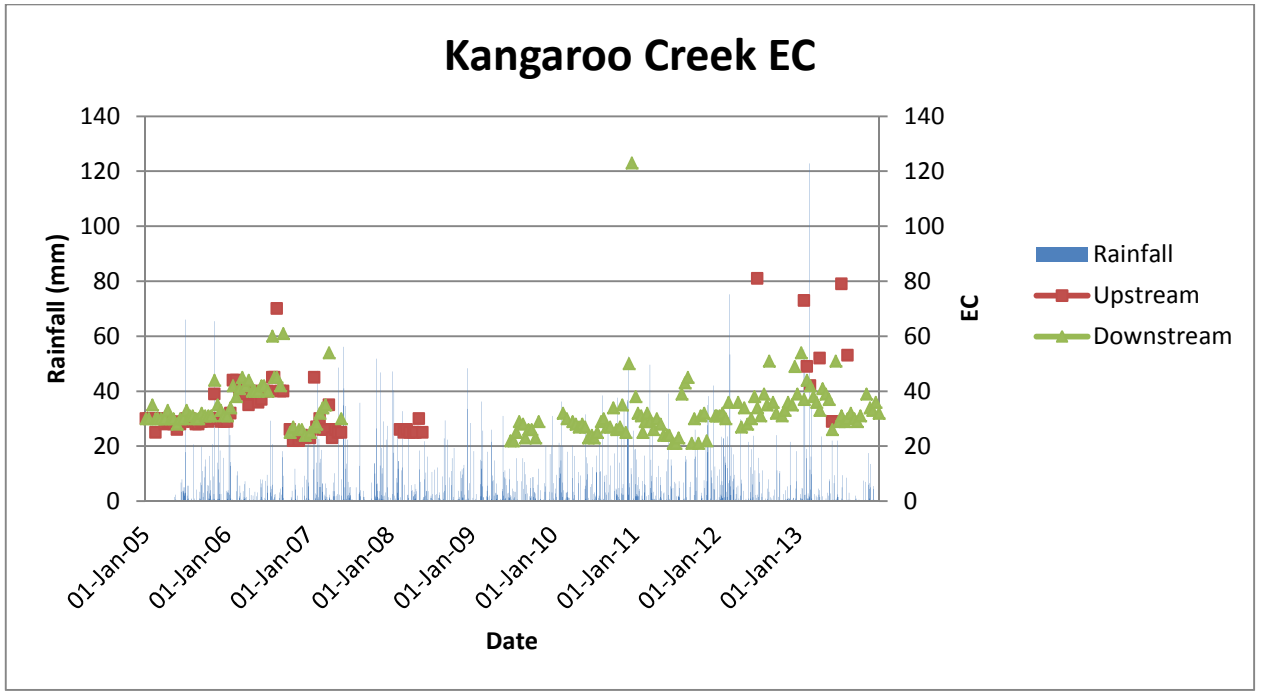
Graph 8 Kangaroo Creek Flow Monitoring



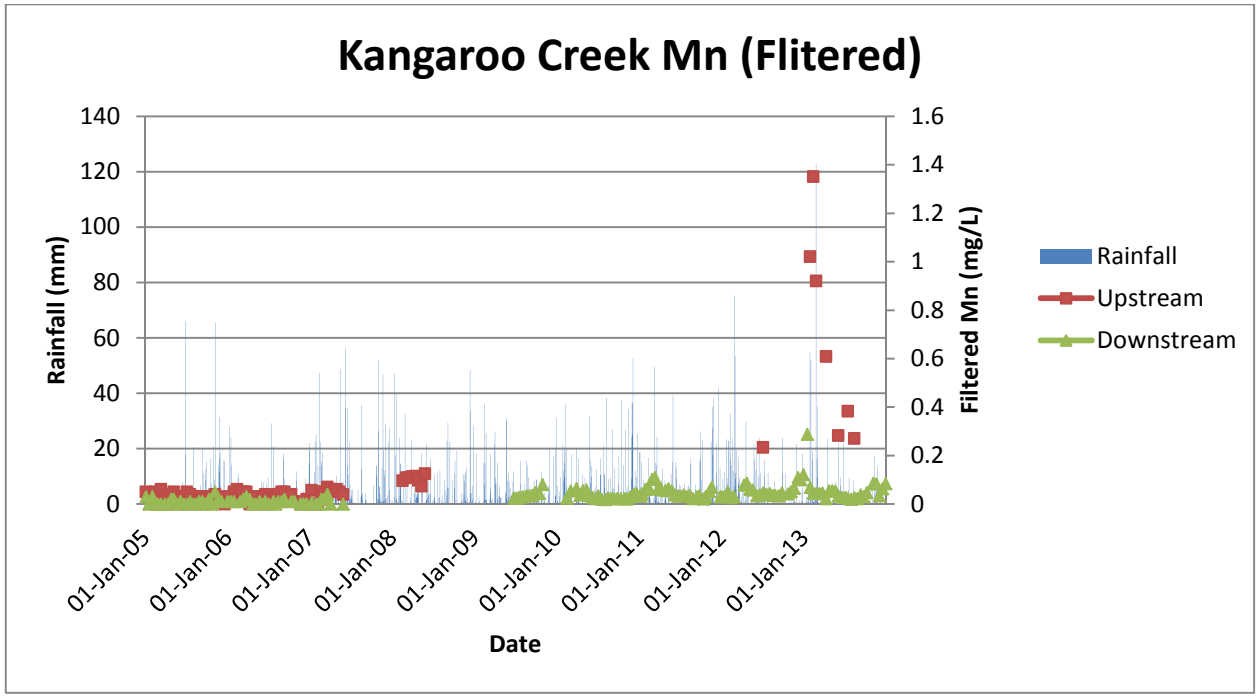
Graph 9 Kangaroo Creek Waterhole



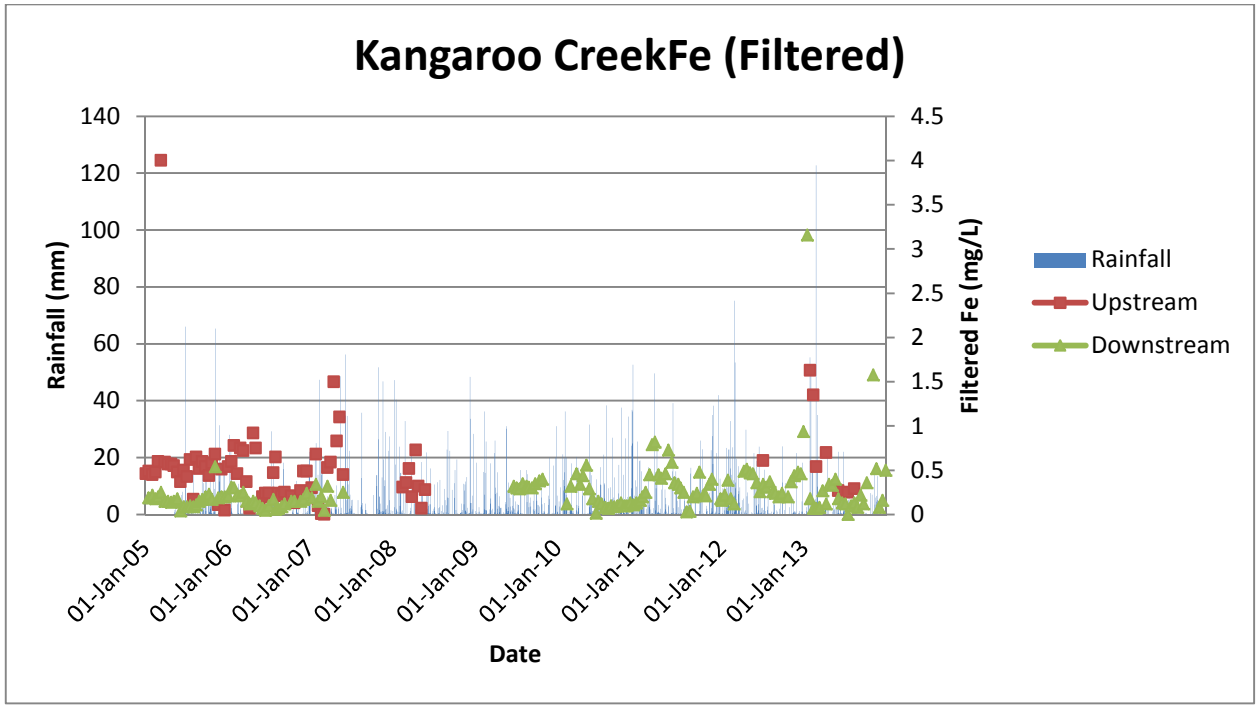
Graph 10 Kangaroo Creek pH



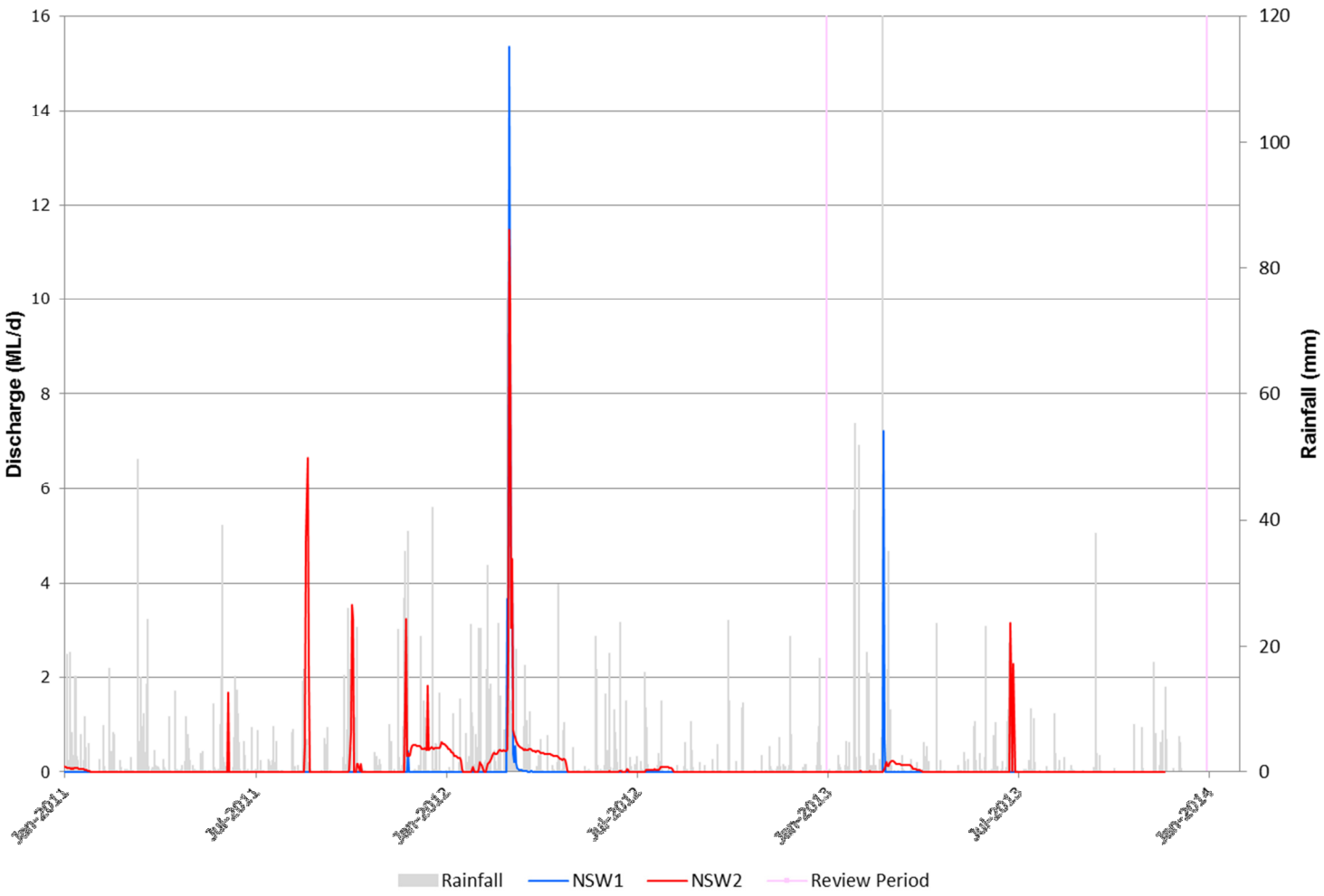
Graph 11 Kangaroo Creek EC



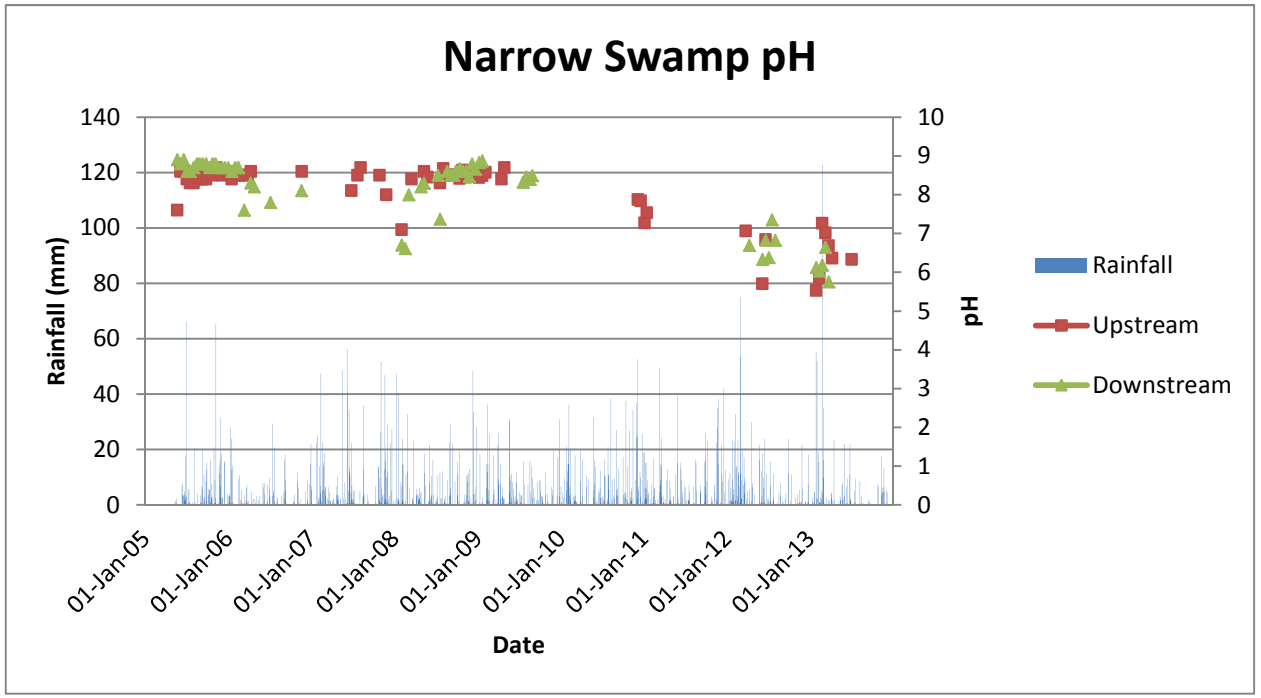
Graph 12 Kangaroo Creek Manganese Filterable



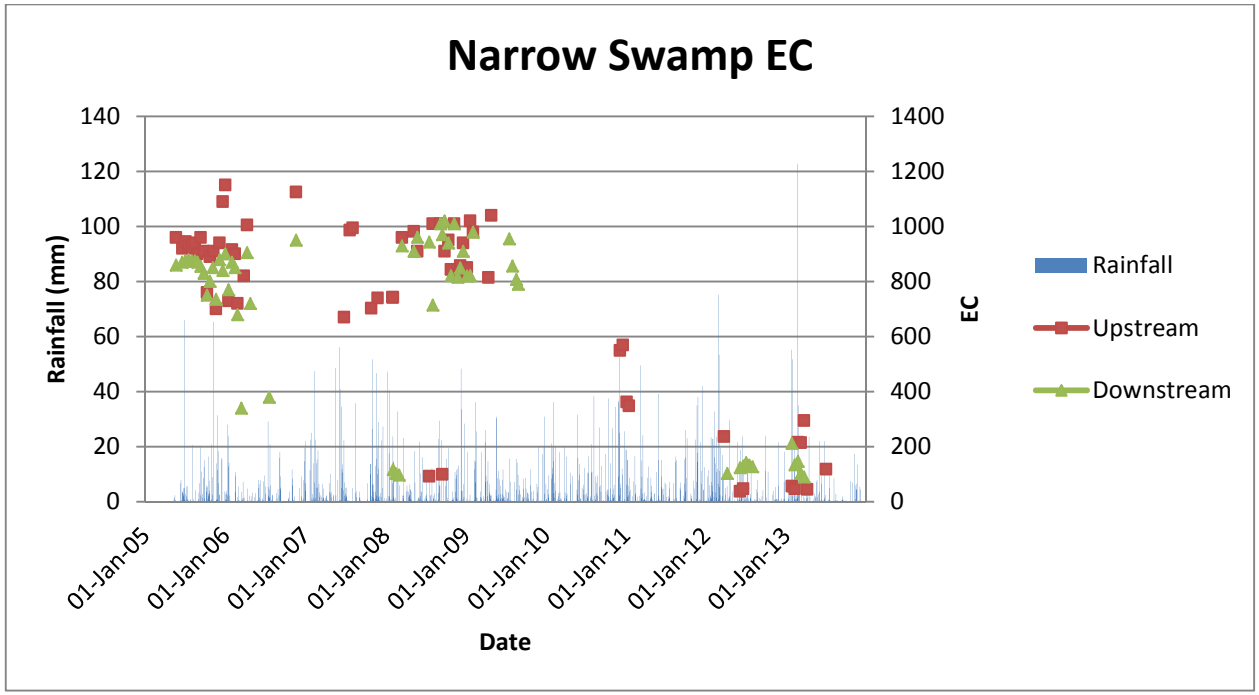
Graph 13 Kangaroo Creek Iron Filterable



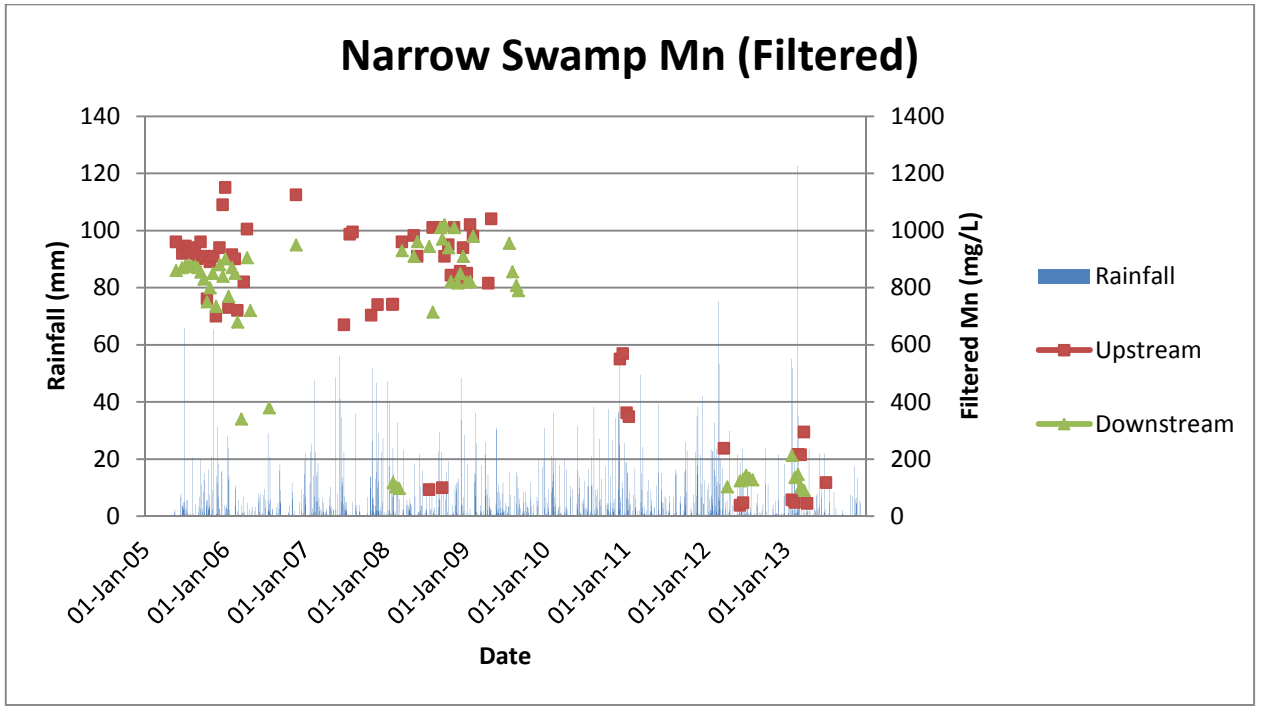
Graph 14 Narrow Swamp Flow Monitoring



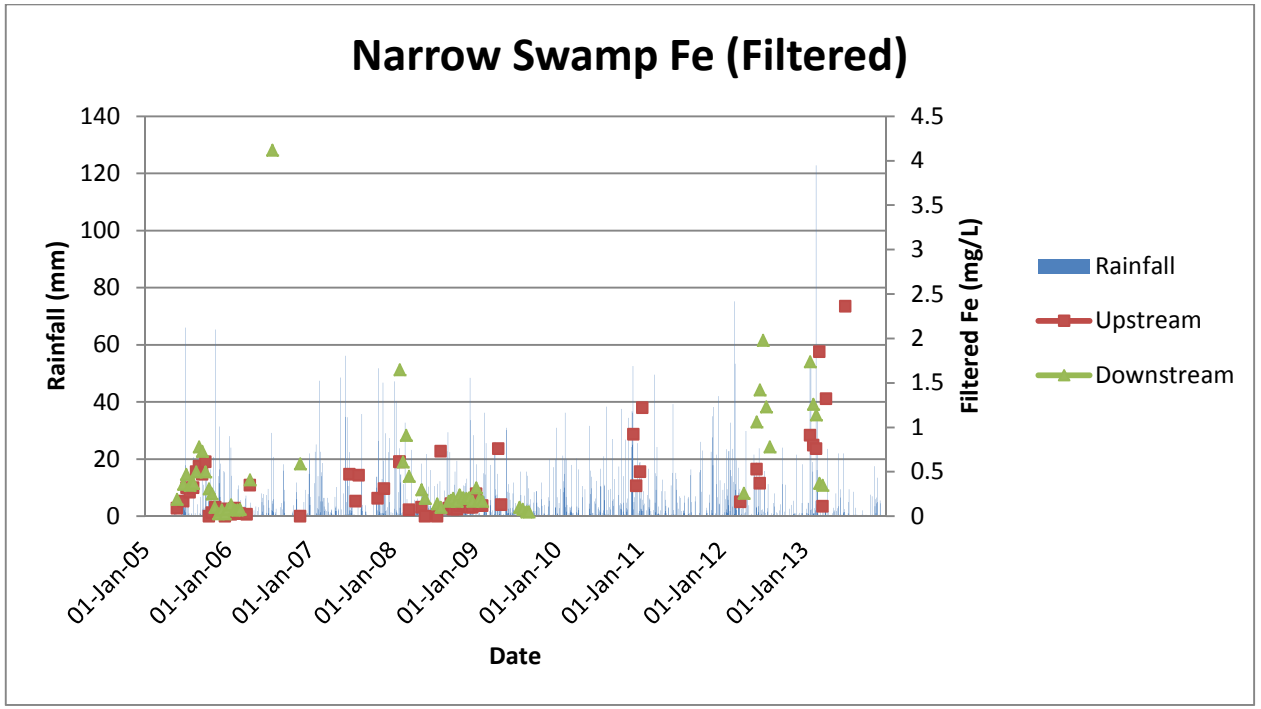
Graph 15 Narrow Swamp pH



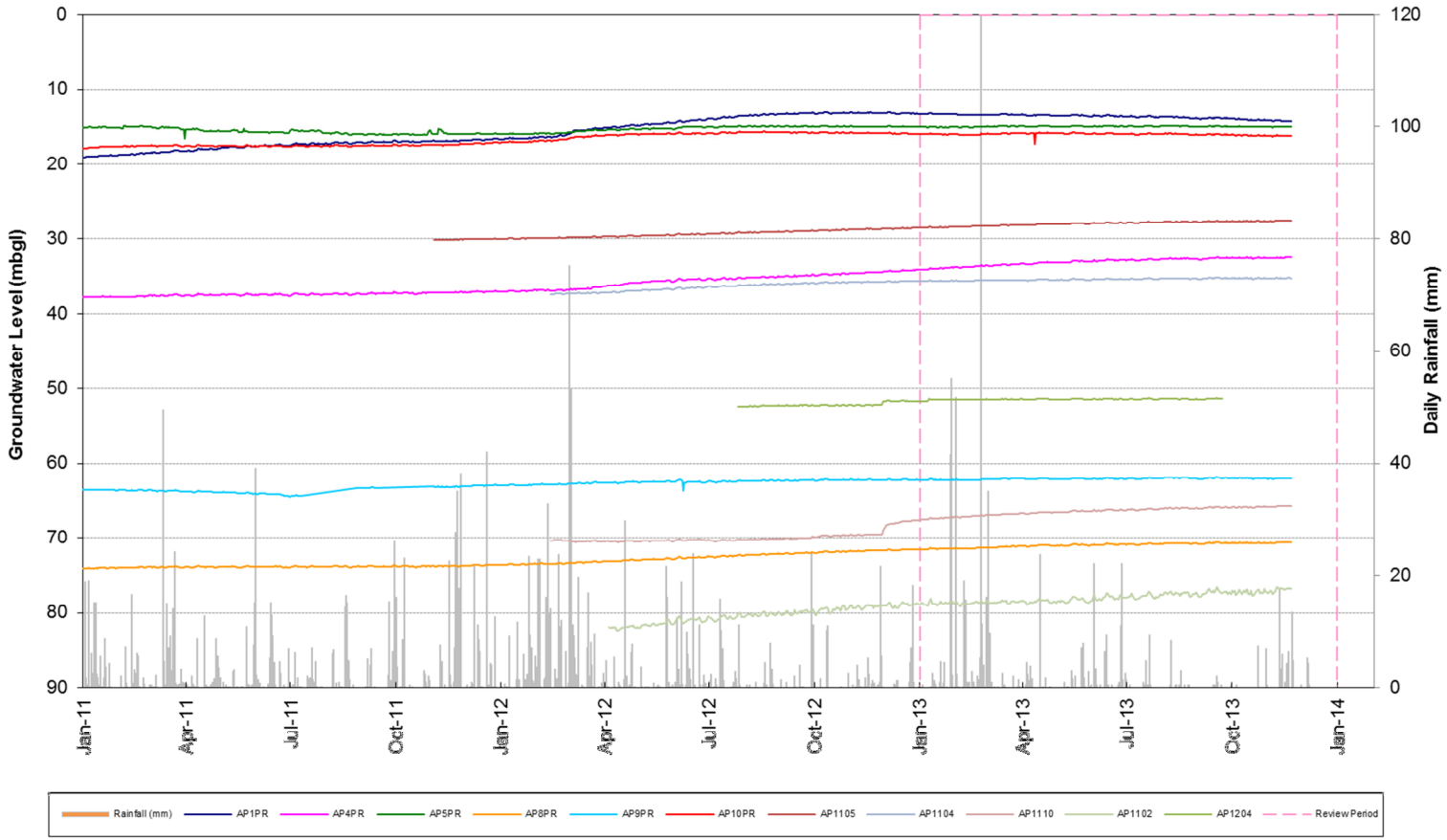
Graph 16 Narrow Swamp EC



Graph 17 Narrow Swamp Filterable Manganese



Graph 18 Narrow Swamp Filterable Iron

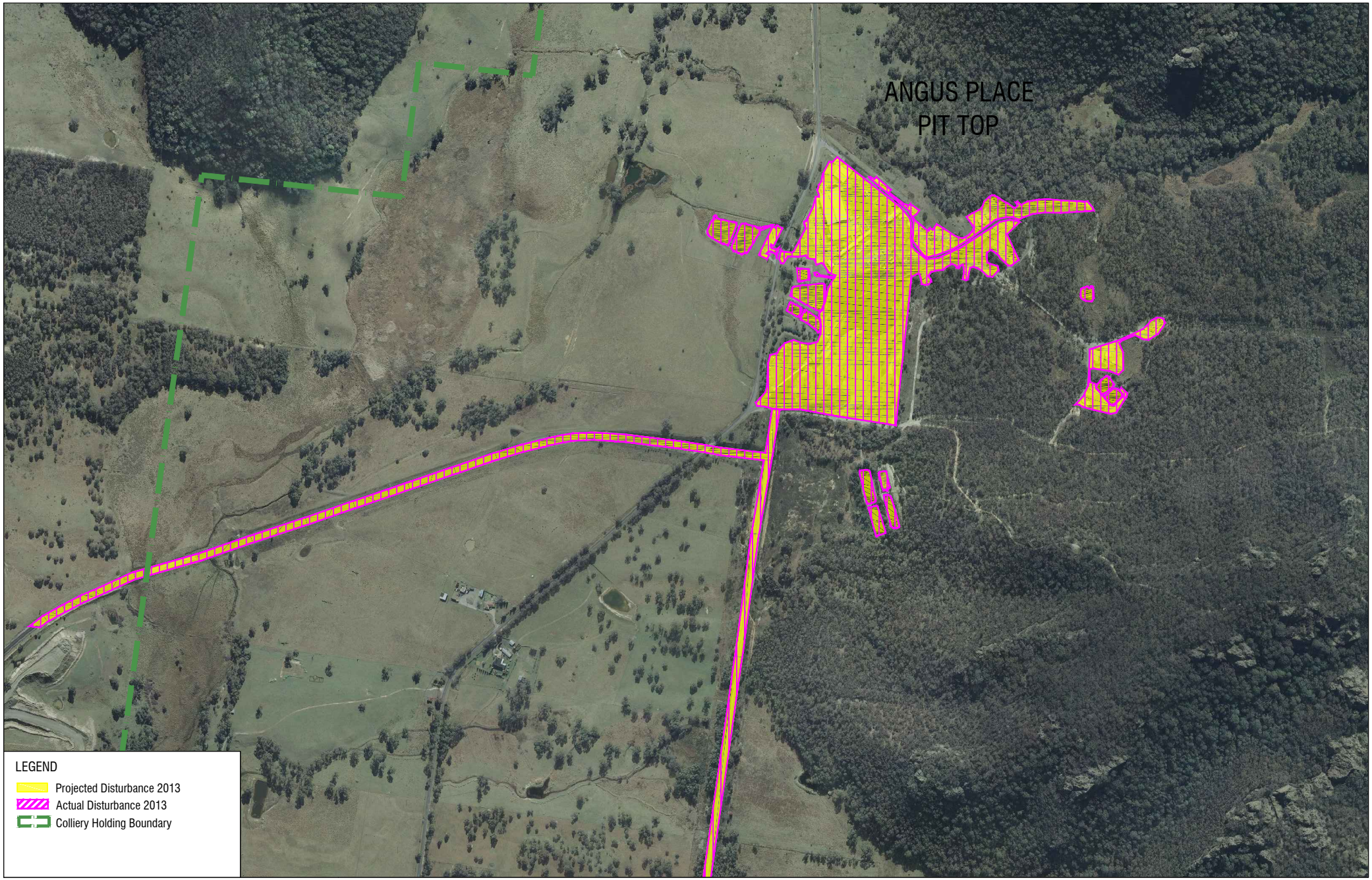


Graph 19 Multi-Level Piezometers

Centennial Coal

Angus Place

Appendix 9
Rehabilitation and Closure Plans



Amended As Built Domains_140207.dwg

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Date:	07.02.2014
Drawn by:	KC
Scale:	1:10 000
Sheet Size:	A4
Projection:	(GDA94) MGA Zone 56

N

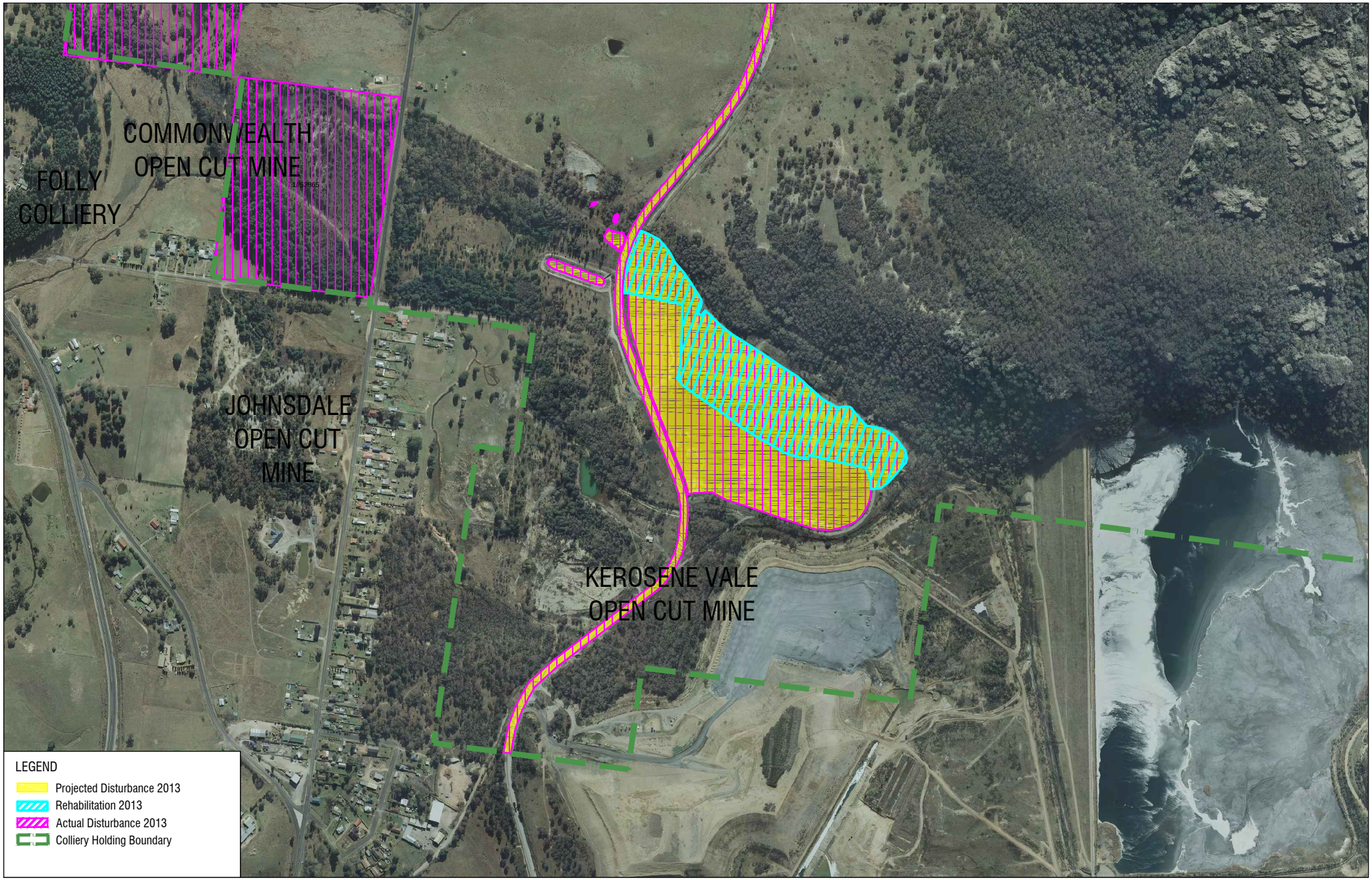
0.0 200 400 m

Centennial Angus Place Colliery

Angus Place 2013 AEMR

Angus Place - Pit Top and Haul Roads

FIGURE 4



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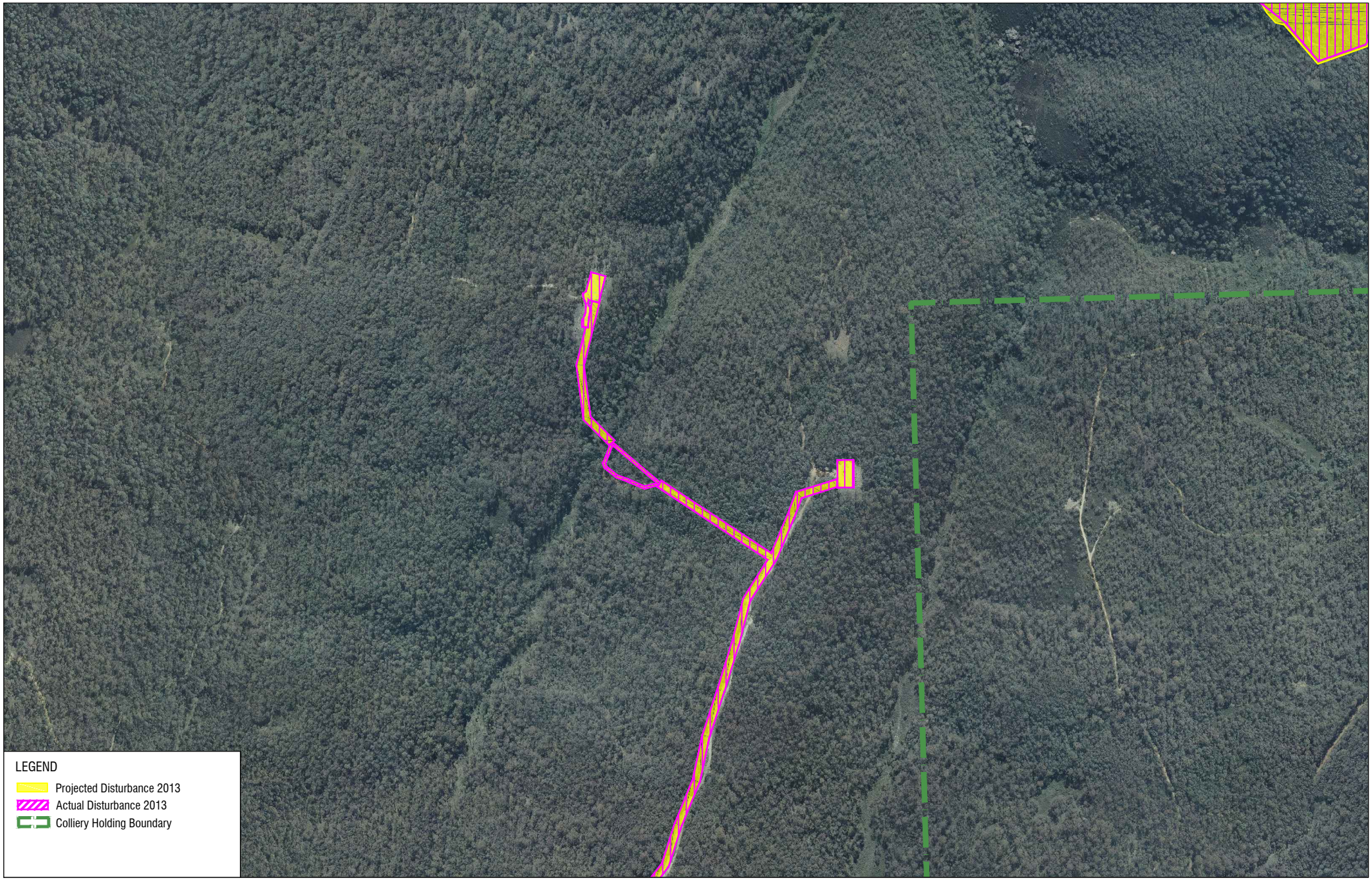
Centennial Angus Place Colliery

Angus Place 2013 AEMR

Kerosene Vale

FIGURE 5



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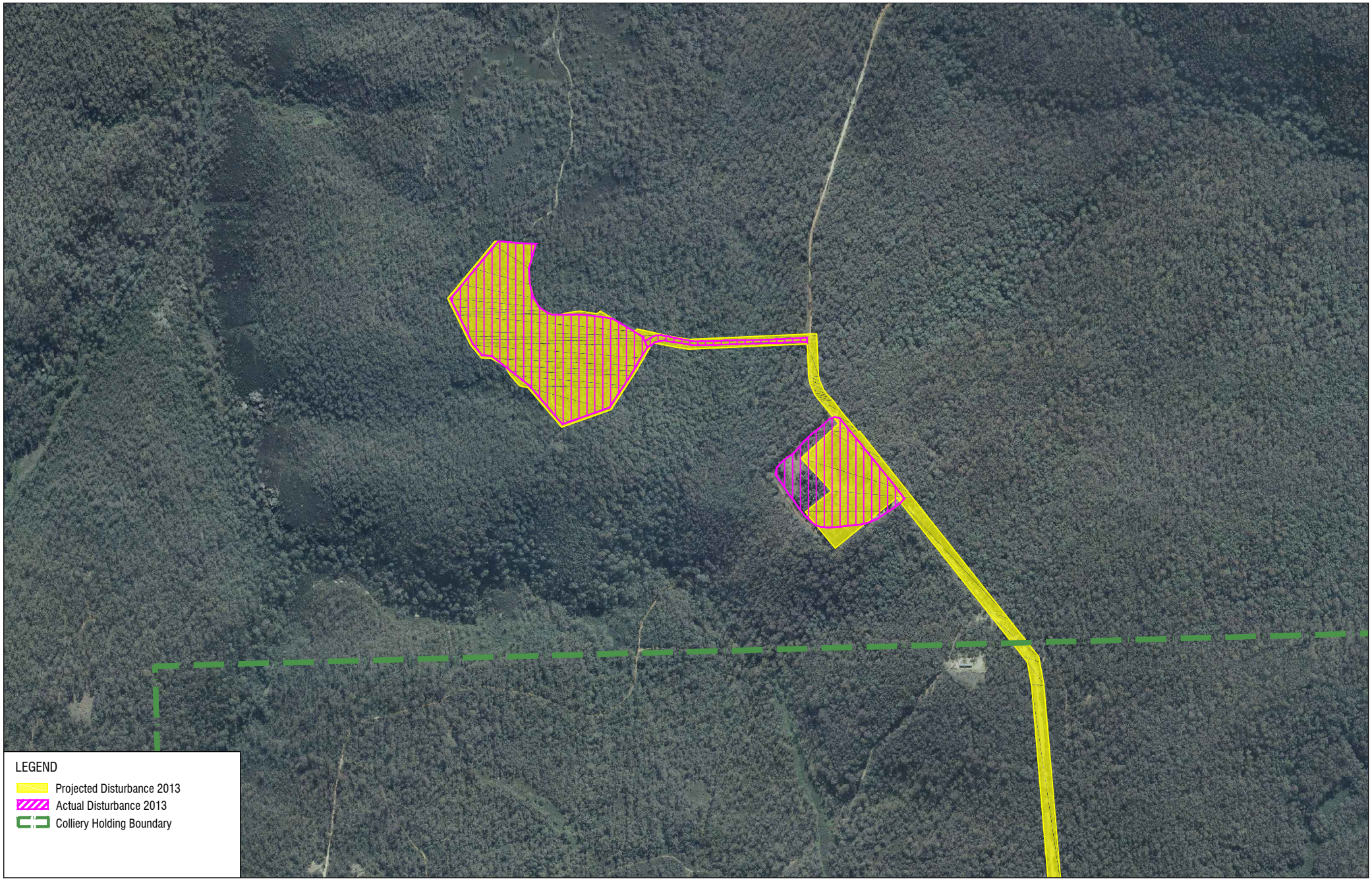
Centennial Angus Place Colliery

Angus Place 2013 AEMR

Angus Place - 930 and 940 Dewatering Bore Facilities

FIGURE 3



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Centennial Angus Place Colliery

Angus Place 2013 AEMR

Angus Place - Ventilation Facility and Substation

FIGURE 1

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Projection:	(GDA94) MGA Zone 56

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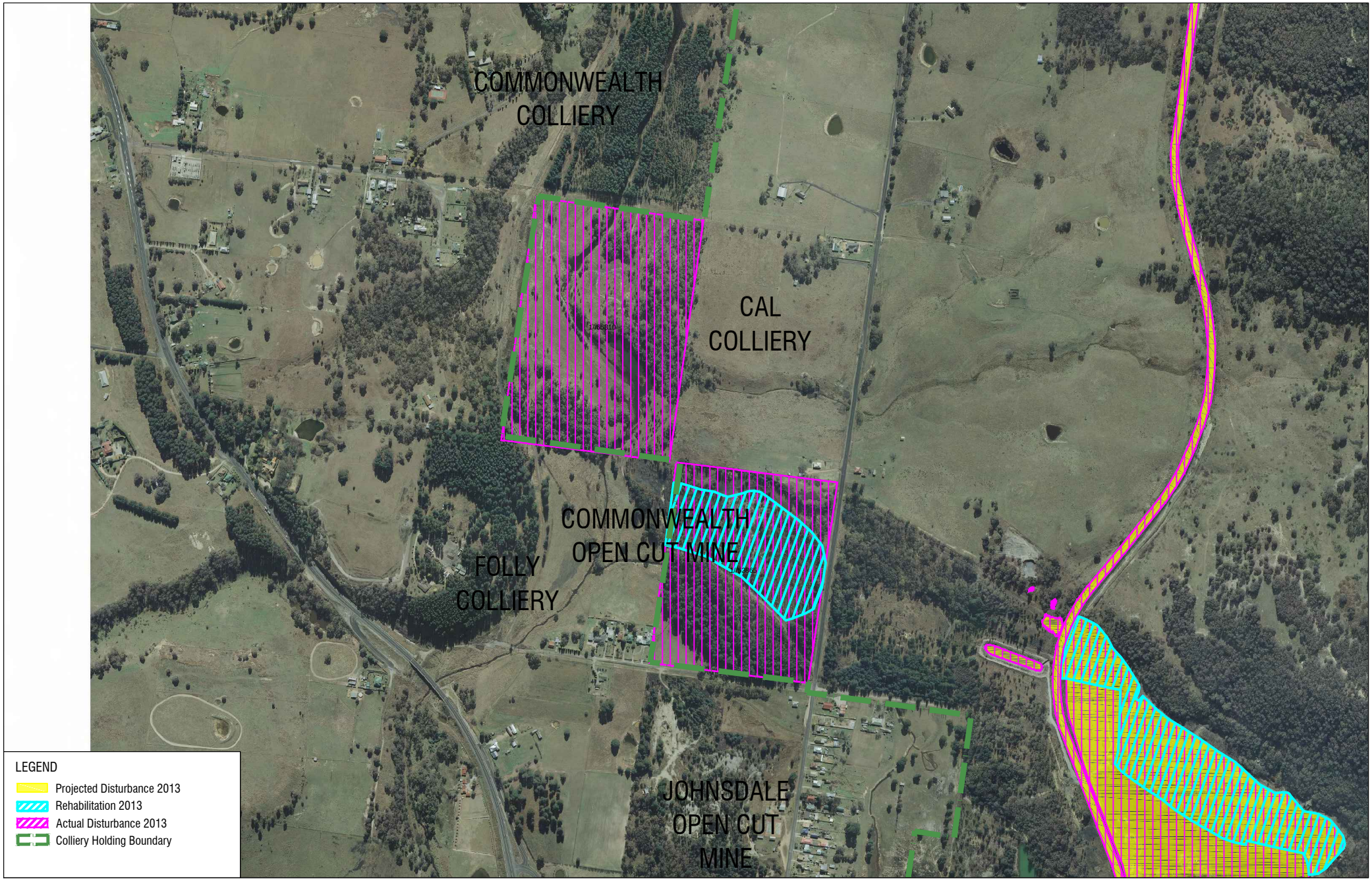
0.0 200 400 m

Centennial Angus Place Colliery

Angus Place 2013 AEMR

Angus Place - Switchyard

FIGURE 2



Amended As Built Domains_140207.dwg

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Date:	07.02.2014
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Sheet Size:	A4
Projection:	(GDA94) MGA Zone 56

N

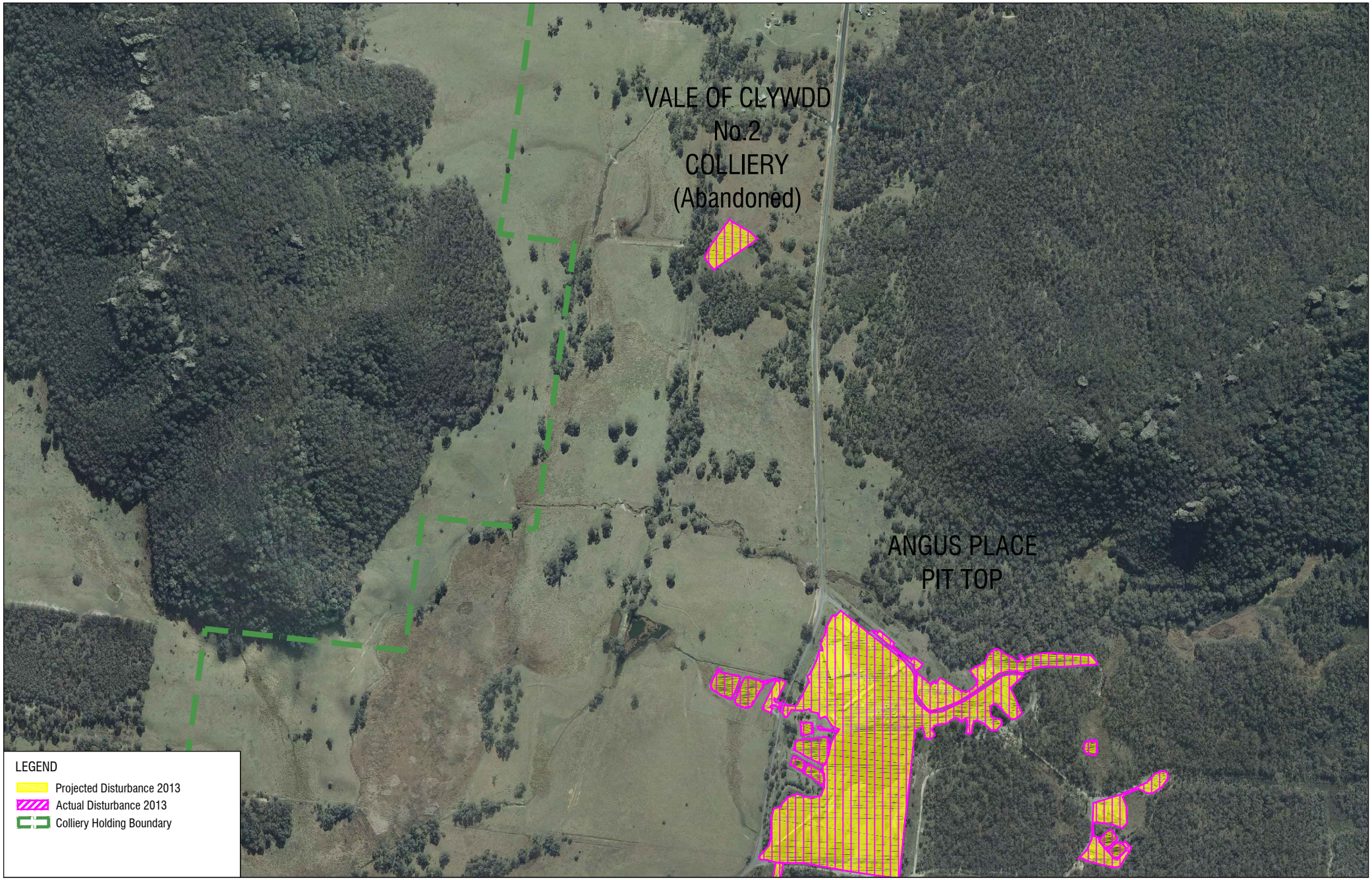
0.0 200 400 m

Centennial Angus Place Colliery

Angus Place 2013 AEMR

Commonwealth Colliery

FIGURE 6



Amended As Built Domains_140207.dwg

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Project No:	630.10764
Date:	07.02.2014
Drawn by:	KC
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Sheet Size:	A4
Projection:	(GDA94) MGA Zone 56

N

0.0 200 400 m

Centennial Angus Place Colliery

Angus Place 2013 AEMR

Vale of Clywdd No.2 Colliery

FIGURE 7

Centennial Coal

Angus Place

Appendix 10
Rehabilitation Cost Estimates

NSW GOVERNMENT Trade & Investment

Rehabilitation Cost Estimate Submission Form
ESU-F02

This form must be used to submit a rehabilitation cost estimate as described in the Rehabilitation Cost Estimate Guidelines (ESG 1)

Mine/project details	
Mine/project name:	Angus Place Colliery
Mine/project location:	5 km north of the village of Lidsdale, and 15 km northwest of the city of Lithgow.
Title(s):	ML 1326, ML 1424, CCL 702, CCL 704
Titleholder:	ML 1326 Centennial Springvale Pty Limited and Springvale SK Kores Pty Limited ML 1424 Centennial Springvale Pty Limited and Springvale SK Kores Pty Limited CCL 702 Coalpac Pty Limited CCL 704 Centennial Springvale Pty Limited and Springvale SK Kores Pty Limited
Operator:	Centennial Angus Place Pty Limited

Contact details			
Contact name:	Natalie Conroy	Position/title:	Environmental Officer
Contact company:	Angus Place Colliery		
Contact address:	PO Box 42 Wallerawang NSW 2845		
Telephone:	(02) 6354 8938	Mobile:	0467 708 799
Facsimile:	(02) 6355 1493	Email:	natalie.conroy@centennialcoal.com.au

Rehabilitation cost estimate details

Trigger for submission of a Rehabilitation Cost Estimate (tick a box):

☐ Title grant ☐ Title renewal ☐ Title transfer ☐ Title expiry ☐ Title cancellation

☐ Titleholder request ☐ Department request ☐ New or amended MOP/POP ☒ AEMR ☐ SMP

☐ Exploration activity application – Category 3 ☐ Exploration activity notification (SDN) – Category 2

NB: An RCE must included with SDN's if the cost of fulfilling rehabilitation obligations on the authorisation/title is predicted to be greater than security deposit already held by DRE for the authorisation/title. New or amended MOP/POP/SMP or Category 3 exploration activity applications must also be accompanied by a completed submission form (ESU-F01) which is available on the website.

Name of plan the estimate is based on:	Angus Place Colliery July 2013 to May 2015 Mine Operation Plan			
Methodology:	☒ Department's Rehabilitation Cost Schedules ☐ Other			
Stage of disturbance:	☐ Maximum disturbance within a MOP/PPOP/REF/SDN period ☒ Snapshot of current disturbance			
Period covered by the estimation:	Start date	01/07/2013	End date	31/05/2015
Intended date of next review:	01/2015			
Current security held by the Department:	$7,186,515.54			
Total of this rehabilitation cost estimate:	$7,186,515.54			

Supporting documentation

- One hard copy, and one electronic copy of the Rehabilitation Cost Estimate

Certification

I certify that the information contained in this application is true.

Name:	Natalie Conroy	Signature:	……
Position/title:	Environmental Officer	Date:	

Lodgment by mail

The Administration Officer
Environmental Sustainability Unit
Trade & Investment
PO Box 344
Hunter Region Mail Centre
NSW 2310

Lodgment by email

minres.environment@industry.nsw.gov.au (note that there is currently a 5MB size limit for lodgement by email)

Lodgment in person

MAITLAND	516 High Street Maitland NSW 2320
SINGLETON	1 Civic Avenue Singleton NSW 2330
WOLLONGONG	84 Crown Street Wollongong NSW 2500
ORANGE	161 Kite Street Orange NSW 2800
BROKEN HILL	32 Sulphide Street Broken Hill NSW 2880

Enquiries

Phone: (02) 4931 6605
Fax: (02) 4931 6790
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Web: www.resources.nsw.gov.au

Office Use Only	
Date Received	Trim Reference: PUB12/113
Receiving Officer	Referred to

Centennial Coal

Angus Place

Appendix 11
Noise Monitoring Reports

10 April 2013

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Centennial Angus Place Pty Ltd
Wolgan Road
Lidsdale NSW 2790

Attention: Natalie Conroy

Dear Natalie

Angus Place Quarterly Monitoring
Quarter Ending April 2013

1 Introduction

SLR Consulting Australia Pty Ltd (SLR Consulting) has been engaged by Centennial Angus Place to conduct quarterly noise compliance monitoring for the quarter ending April 2013 for the Angus Place Colliery.

The purpose of this assessment was to determine the noise contribution from Angus Place operations including the Wallerawang Haul Road, in accordance with the Angus Place Project Approval 06_0021 (PA) and the Environment Protection Licence (EPL) No. 467.

2 Relevant Noise Criteria

2.1 PA Noise Limits

The Angus Place PA states the following in regards to noise emissions:

> *The Proponent shall ensure that the noise generated by the project, including the Proponent's operation of the haul road to the Wallerawang power station, does not exceed the noise impact assessment criteria presented in Table 1 at any residence on privately owned land.*

SLR Consulting Australia Pty Ltd Level 1, 14 Watt Street Newcastle NSW 2300 Australia
(PO Box 1768 Newcastle NSW 2300 Australia)
T: 61 2 4908 4500 F: 61 2 4908 4501 E: newcastleau@slrconsulting.com www.slrconsulting.com
ABN 29 001 584 612

Table 1 Noise Impact Assessment Criteria dBA $L_{Aeq(15minute)}$, *(PA Table 6)*

Land	Day	Evening	Night
Sharpe	42 dBA	38 dBA	36 dBA
Mason (West) and other Wolgan Road rural properties	41 dBA	37 dBA	35 dBA
Lidsdale village residents	44 dBA	40 dBA	35 dBA

Notes: a) For more information on the references to land in this condition, see 'Property Details' figure of the EA.
b) The noise criteria do not apply where the Proponent and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and DEC.
c) Noise from the project is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the LAeq(15 minute) noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
d) The noise emission limits identified in the above table apply under meteorological conditions of:
- Wind speeds of up to 3 m/s at 10 metres above ground level; or
- Temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

Section 11.1.3 of the NSW Industrial Noise Policy (INP) provides the following guidance when determining compliance with noise conditions;

> *A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or license condition.*

Therefore, Angus Place Colliery operations are deemed to be in compliance if measured noise emissions are not more than 2dB above the consent conditions.

The Environmental Assessment for the Project Approval used the methods specified in the NSW INP to predict noise levels from the development. The noise assessment predicted noise levels from prevailing weather conditions, as determined from previous studies and in accordance with the INP. Section 3.2 (INP Assessment of Prevailing Weather Conditions) within the *Transportation Noise Impact Assessment* report by Heggies Pty Ltd in 2003 analysed meteorological data from Mount Piper Power Station and identified prevailing weather conditions for Angus Place. The results are presented in **Table 2**. The Mount Piper meteorological station is located approximately 5 km west of Angus Place and is representative of weather in the area.

Table 2 Prevailing Wind Conditions in accordance with NSW INP

Season	Winds ± 45° ≤3 m/s with Frequency of Occurrence ≥30%		
	Daytime	Evening	Night
Annual	-	SW, WSW, W	SW, WSW, W
Summer	-	SW, WSW, W	SW, WSW, W
Autumn	-	SSW,SW,WSW,W	SSW,SW,WSW,W
Winter	-	SW,WSW,W	SW,WSW
Spring	-	SW,WSW,W	SW,WSW,W

Table 2 identifies predominant wind directions ranging from westerly to south-south-westerly for wind speeds less than 3 m/s (within the wind speed range set in the Approval Conditions).

2.2 Land Acquisition Criteria

The Angus Place PA states the following in regards to land acquisition noise criteria:

> *If, after 31 August 2007, the noise generated by the project, including the operation of the haul road to the Wallerawang power station, exceeds the criteria in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner (excluding the landowners listed in Table 1), acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.*

Table 3 Land Acquisition Criteria dB(A) $L_{Aeq(15minute)}$, (PA Table 7)

Land	Day	Evening	Night
Sharpe, Mason (West) and other Wolgan Road rural properties	44 dBA	40 dBA	40 dBA
Lidsdale village residents	47 dBA	43 dBA	43 dBA

2.3 Haul Road Inspection

In addition to noise monitoring, the Angus Place Noise Management Plan (NMP) requires a visual and aural inspection of site activities and inspections of the Wallerawang Haul Road. Ongoing work continues to be undertaken regarding the maintenance of the haul road surface.

3 Quarterly Operator Attended Noise Monitoring

3.1 Methodology

Noise measurements and assessments in this report have been prepared in accordance with Australian Standard AS 1055-1997 "*Description and Measurement of Environmental Noise*" Part 1, 2 and 3 and with reference to the INP, Environmental Noise Control Manual (ENCM) and the current Angus Place Noise Monitoring Program (NMP) dated May 2007.

The objectives of the noise monitoring assessment were as follows:

- Measure the noise contribution from Angus Place operations including the Wallerawang Haul Road at the Sharpe, Mason and Neubeck St, Lidsdale residential locations.
- Ascertain all sources of noise within each of the noise surveys, including estimated contribution or maximum level of each source.
- Assess the noise emissions of Angus Place operations, including the Wallerawang Haul Road in relation to the PA/EPL limits for the site and with regard to wind speed and direction during the noise surveys.

3.2 Quarterly Attended Noise Monitoring Locations

Operator attended noise surveys were conducted at the location provided in **Table 4** to determine the character and contribution of noise sources, including Angus Place surface operations and haul road noise, in relation to the total ambient noise level. An aerial photograph showing the approximate locations of the noise monitoring locations is provided in **Appendix A**.

Table 4 Monitoring Locations

Location	Description
R1	Sharpe Residence
R2	Mason Residence
R3	20 Neubeck St, Lidsdale

3.3 Compliance Monitoring Results

Operator attended noise measurements were conducted during the day and evening periods on Monday 11 March 2013 and during the night-time on Monday 11 March 2013 and Tuesday 12 March 2013. Weather conditions during these surveys were sunny with temperatures of 25°C to 16°C and with winds from the north-east during the day and evening, and winds from the west to north east during the night-time.

A summary of the operator attended measurements, including the estimate contribution of noise sources, is contained within **Table 5**, **Table 6** and **Table 7**.

Table 5 Attended Noise Survey Results Location R1 – Sharpe Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 42 LAeq(15minute) 44 LAeq(15minute)	11/03/13 14:56 24°C NE 2.5 m/s	71	59	51	41	49	Local Traffic ~ 53 to 59 Birds ~ 71 Residents ~ 49 to 52 Dog ~ 65 AP Haul Truck ~ 53 Coal Loading ~ 44 Mt Piper Haul Road ~ 47
Evening 38 LAeq(15minute) 40 LAeq(15minute)	11/03/13 19:15 20°C NE 1.8 m/s	76	64	48	37	52	Operator ~ 53 Resident ~ 45 to 71 Insects ~ 36 to 45 Birds ~ 37 to 51 Local Traffic ~ 76 Coal Loading ~ 43 to 51 AP Haul Truck ~ 54
Night 36 LAeq(15minute) 40 LAeq(15minute)	12/03/13 00:17 16°C W 1 m/s	76	65	40	33	52	Insects ~ Local Traffic ~ 73 to 76 Operator ~ 40 to 44 AP operations ~ 34

Table 6 Attended Noise Survey Results Location R2 – Mason Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 41 LAeq(15minute) 44 LAeq(15minute)	11/03/13 16:44 25°C NE 2 m/s	60	53	47	38	44	Insects ~ 39 Birds ~ 45 to 54 Trees Rustling ~ 39 to 41 Plane ~ 43 to 51 Animal ~ 43 to 44 Operator ~ 50 Local Traffic ~ 42 Dozer ~ 30 Coal Loading ~ 41 to 43 AP Haul Truck ~ 57
Evening 37 LAeq(15minute) 40 LAeq(15minute)	11/03/13 19:32 19°C NE 2 m/s	57	53	52	38	48	Operator ~ 48 Insects ~ 46 to 52 Birds ~ 41 to 57 Plane ~ 54 Trees Rustling ~ 38 Animal ~ 44 Coal Loading ~ 39 to 47 AP Haul Truck ~ 56 AP Hum ~ 33
Night 35 LAeq(15minute) 40 LAeq(15minute)	11/03/13 23:59 16°C W 0.5 m/s	49	43	39	32	36	Traffic ~ 49 Insects ~ 36 to 42 Animals ~ 40 to 42 AP Operations ~ 30

Table 7 Attended Noise Survey Results Location R3 – Lidsdale Village, Neubeck St

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 44 LAeq(15minute) 47 LAeq(15minute)	11/03/13 15:38 22°C NE 2.5 m/s	57	50	44	36	41	Local Traffic ~ 40 to 46 Birds ~ 45 to 53 Dogs ~ 42 Bang ~ 43 AP Haul Truck ~ 56
Evening 40 LAeq(15minute) 43 LAeq(15minute)	11/03/13 19:54 19°C NE 3 m/s	50	47	42	37	40	Insects ~ 34 to 39 Local Traffic ~ 43 Plane ~ 56 Ash depository truck ~ 42 Other industry ~ 34 AP Haul Truck ~ 56
Night 35 LAeq(15minute) 43 LAeq(15minute)	11/03/13 23:11 16°C NE 1 m/s	51	42	41	36	39	Insects ~ 38 to 41 Traffic ~ 43 to 51 Other Industry ~ <30 Birds ~ 38 Dog ~ 33

Noise Monitoring Observations

Noise contributions at the Sharpe, Mason and Neubeck Street receivers were observed to be from the following noise sources:

3.3.1 Wallerawang Haul Road

Noise emissions from the Wallerawang Haul Road typically contribute to the overall ambient noise levels at the Sharpe, Mason and Neubeck Street Residences during the day and evening periods.

An analysis of the haul truck passby noise levels at each location, with respect to the direction of travel is displayed in **Table 8** for each period. No truck movements were recorded during the night-time operator attended noise surveys. The Wallerawang haul road truck log is contained in **Appendix B**, and details of the calculated noise contributions are provided in **Appendix C**.

Table 8 Haul Truck Pass by Analysis – March 2013

Receiver	Period	$L_{Aeq(15minute)}$ for Truck Movements to Wallerawang from Angus Place	$L_{Aeq(15minute)}$ for Truck Movements to Angus Place from Wallerawang	$L_{Aeq(15minute)}$ for Truck Movements to and from Angus Place and Wallerawang	Total $L_{Aeq(15minute)}$ Wallerawang Haul Road Contribution
Sharpe	Day	34 dBA	32 dBA	33 dBA	**38 dBA**
	Evening	31 dBA	31 dBA	32 dBA	**36 dBA**
Mason	Day	37 dBA	30 dBA		**38 dBA**
	Evening	32 dBA	35 dBA	-	**37 dBA**
Neubeck St	Day	35 dBA	31 dBA	37 dBA	**40 dBA**
	Evening	34 dBA	34 dBA	-	**37 dBA**

3.3.2 Angus Place Site Operations

Noise emissions from Angus Place site operations contribute to the overall ambient noise levels at the Sharpe and Mason residences. Angus place site operations would not be considered a noise contributor at the Neubeck Street residence.

Truck Loading from Coal Bin

Noise generated by trucks being loaded from the overhead storage bin was audible at the Sharpe and Mason residence generating maximum noise levels up to 51 dBA and 47 dBA respectively.

Bulldozer on Coal Stockpile

The bulldozer working the stockpile was only audible at the Mason residence during the daytime operator attended noise surveys generating maximum noise levels of up to 36 dBA.

3.4 Noise Compliance Assessment

The contributions from both Angus Place Colliery and Wallerawang Haul Road have been calculated from the attended noise monitoring results and are summarised in **Table 9.**

Table 9 Component Ranking and Overall Angus Place Noise Contribution

Daytime (7:00 am – 6:00 pm) 11 March 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 - Sharpe	37 dBA	38 dBA	41 dBA	42 dBA	Yes
R2 - Mason	35 dBA	38 dBA	40 dBA	41 dBA	Yes
R3 - Neubeck	-	40 dBA	40 dBA	44 dBA	Yes
Evening (6:00 pm – 10:00 pm) 11 March 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 – Sharpe	34 dBA	36 dBA	38 dBA	38 dBA	Yes
R2 – Mason	33 dBA	37 dBA	38 dBA	37 dBA	Yes[3]
R3 - Neubeck	-	37 dBA	37 dBA	40 dBA	Yes
Night time (10:00 pm – 7:00 am) 11 & 12 March 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[2]**			
R1 - Sharpe	34 dBA	-	34 dBA	36 dBA	Yes
R2 - Mason	30 dBA	-	30 dBA	35 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	35 dBA	Yes

Note: 1 - Where the estimated contribution is < x dBA, the Angus Place contributed noise level, the sum of the operation and the haul road, is calculated using 'x-1' dBA.
2 - Haul Road does not operate during the night time
3 Within 2 dBA tolerance as per Chapter 11 of the INP.

The analysis of the results of the March 2013 operator attended noise monitoring has shown that the Angus Place noise emissions meet the PA noise limits at all residential monitoring locations during the day, evening and night-time periods. However, a 2 dBA exceedance of the criteria was recorded at the Mason residence during the evening.

However, section 11.1.3 of the NSW Industrial Noise Policy (INP) states the following:

> *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.*

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

4 Unattended Noise Monitoring

An ARL EL-316 environmental noise logger (S/N 16-301-473) was deployed at monitoring location R4 adjacent the Angus Place pit top on Monday 11 March 2013 and retrieved on Tuesday 12 March 2013. The unattended noise logger was programmed to continuously record statistical noise level indices in 15 minute intervals including the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{A99}, L_{Amin} and L_{Aeq}.

During logger deployment it was noted that noise from Angus Place surface operations dominated the ambient noise levels at this location.

A summary of the daily and overall noise levels for the monitoring period is provided in **Table 10**. Results are also displayed graphically in **Appendix D**.

Table 10 Unattended Noise Monitoring Results – R4 Angus Place

Location	Period	LA1	LA10	RBL (LA90)	LAeq
R4 – Angus Place	Daytime	56	54	49	53
	Evening	59	56	49	54
	Night	57	55	45	52

Notes: Daytime 7.00 am - 6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 7.00 am, On Sundays and Public Holidays, Daytime 8.00 am -6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 8.00 am.
The RBL is the Rating Background Level as described by the NSW INP.
The overall LAeq is the logarithmically averaged equivalent continuous noise level.
The median LA10 is the middle LA10 noise level when sorted in ascending or descending order.
The median LA1 is the middle LA1 noise level when sorted in ascending or descending order.

5 Conclusion

An assessment of noise emissions from Angus Place operations, inclusive of the Wallerawang Haul Road has been conducted by SLR Consulting for the quarter ending April 2013. Operator attended noise measurements were conducted at Sharpe, Mason and Neubeck Street Residences during the day, evening and night-time periods on Monday 11 March 2013 and Tuesday 12 March 2013.

The assessment and analysis of the results of the March 2013 operator attended noise monitoring has shown that Angus Place noise emission levels meet the PA noise limits at all operator attended monitoring locations during the day, evening and night-time noise monitoring periods.

I trust the preceding meets your current requirements. If you have any questions or would like any further information please do not hesitate to contact me on (02) 4908 4500 or email nvandenberg@slrconsulting.com

Yours sincerely

Nicholas Vandenberg
Technical Officer – Noise and Vibration

NOISE MONITORING LOCATIONS

DATE	3.4.2007
SEAM	SURFACE
DRAWN	ADM
REFERENCE	N:\SHARED\PLANS\ANGUS Environmental\Figure1 Noise Monitoring Locations
SCALE	DIAGRAM ONLY

Figure 1 : Noise Monitoring Locations

● Attended
■ Unattended

PLOTFILE No.

Centennial Angus Place

DRG. No.

WALLERAWANG HAUL ROAD TRUCK LOG

Angus Place Colliery Transactions at Wallerawang Power Station

On: 11-Mar-2013

Angus Place

Incoming Date/Time	Outgoing Date/Time	Truck Rego	Nett Weight(Tonnes)
11/03/13 07:08:00	11/03/13 07:11:39	BS 34 HK	46.60
11/03/13 07:09:59	11/03/13 07:12:45	BR 65 PD	49.85
11/03/13 07:12:12	11/03/13 07:15:48	NV 46 HB	50.90
11/03/13 07:21:37	11/03/13 07:25:05	NV 87 GG	43.75
11/03/13 07:27:16	11/03/13 07:30:23	BS 34 HK	49.95
11/03/13 07:31:53	11/03/13 07:35:46	BR 65 PD	49.55
11/03/13 07:33:45	11/03/13 07:37:00	NV 46 HB	51.70
11/03/13 07:38:38	11/03/13 07:41:51	NV 87 GG	45.80
11/03/13 07:46:10	11/03/13 07:49:17	BS 34 HK	50.05
11/03/13 07:52:15	11/03/13 07:55:23	BR 65 PD	49.80
11/03/13 07:53:49	11/03/13 07:58:01	NV 46 HB	50.55
11/03/13 07:55:58	11/03/13 08:01:18	NV 87 GG	44.95
11/03/13 08:06:11	11/03/13 08:09:00	BS 34 HK	50.40
11/03/13 08:10:52	11/03/13 08:14:39	BR 65 PD	49.20
11/03/13 08:14:27	11/03/13 08:17:43	BT 07 FL	50.95
11/03/13 08:17:10	11/03/13 08:21:27	NV 46 HB	50.95
11/03/13 08:19:37	11/03/13 08:23:30	NV 87 GG	46.45
11/03/13 08:21:09	11/03/13 08:24:37	BR 49 TC	49.80
11/03/13 08:24:53	11/03/13 08:28:35	BS 34 HK	51.00
11/03/13 08:30:33	11/03/13 08:33:53	BR 65 PD	49.65
11/03/13 08:33:52	11/03/13 08:37:05	BT 07 FL	50.90
11/03/13 08:37:20	11/03/13 08:43:13	NV 46 HB	51.65
11/03/13 08:38:37	11/03/13 08:43:58	NV 87 GG	45.80
11/03/13 08:41:41	11/03/13 08:50:40	BR 49 TC	49.25
11/03/13 08:44:52	11/03/13 08:47:44	BS 34 HK	51.10
11/03/13 08:50:41	11/03/13 08:53:58	BR 65 PD	49.55
11/03/13 08:53:39	11/03/13 08:56:51	BT 07 FL	51.35
11/03/13 08:59:41	11/03/13 09:03:23	NV 46 HB	51.70
11/03/13 09:00:27	11/03/13 09:04:51	NV 87 GG	45.80
11/03/13 09:02:37	11/03/13 09:05:32	BS 34 HK	50.85
11/03/13 09:06:27	11/03/13 09:09:50	BR 49 TC	49.70
11/03/13 09:09:19	11/03/13 09:12:57	BR 65 PD	49.60
11/03/13 09:13:55	11/03/13 09:17:06	BT 07 FL	51.10
11/03/13 09:19:27	11/03/13 09:22:39	NV 46 HB	51.75
11/03/13 09:20:13	11/03/13 09:23:49	NV 87 GG	46.00
11/03/13 09:31:00	11/03/13 09:33:54	BS 34 HK	50.15
11/03/13 09:34:41	11/03/13 09:37:55	BR 49 TC	49.75
11/03/13 09:36:18	11/03/13 09:39:27	BR 65 PD	49.95
11/03/13 09:39:08	11/03/13 09:42:01	BT 07 FL	51.05
11/03/13 09:41:11	11/03/13 09:44:23	NV 46 HB	50.60
11/03/13 09:42:02	11/03/13 09:45:33	NV 87 GG	45.95
11/03/13 09:50:26	11/03/13 09:53:21	BS 34 HK	50.60
11/03/13 09:55:23	11/03/13 10:01:22	BR 49 TC	49.95
11/03/13 09:56:18	11/03/13 10:00:07	BR 65 PD	49.50
11/03/13 09:58:21	11/03/13 10:02:05	BT 07 FL	50.35
11/03/13 10:00:19	11/03/13 10:03:07	NV 46 HB	51.40
11/03/13 10:01:11	11/03/13 10:12:42	NV 87 GG	46.10
11/03/13 10:09:03	11/03/13 10:11:58	BS 34 HK	50.15
11/03/13 10:16:04	11/03/13 10:19:55	BR 65 PD	49.30
11/03/13 10:19:03	11/03/13 10:21:59	BT 07 FL	50.70
11/03/13 10:25:13	11/03/13 10:28:41	NV 46 HB	51.30
11/03/13 10:27:05	11/03/13 10:30:07	BS 34 HK	50.60

Angus Place Colliery Transactions at Wallerawang Power Station

On: 11-Mar-2013

11/03/13 10:28:28	11/03/13 10:31:53	NV 87 GG	46.25
11/03/13 10:35:49	11/03/13 10:40:37	BR 65 PD	48.60
11/03/13 10:38:35	11/03/13 10:41:33	BT 07 FL	50.30
11/03/13 10:42:51	11/03/13 10:46:30	NV 46 HB	51.70
11/03/13 10:45:03	11/03/13 10:47:55	BS 34 HK	51.00
11/03/13 10:46:33	11/03/13 10:50:15	NV 87 GG	44.80
11/03/13 10:49:44	11/03/13 10:54:41	BR 49 TC	49.00
11/03/13 10:58:24	11/03/13 11:01:14	BT 07 FL	50.35
11/03/13 10:59:23	11/03/13 11:02:21	BR 65 PD	49.20
11/03/13 11:01:25	11/03/13 11:04:52	NV 46 HB	51.35
11/03/13 11:03:46	11/03/13 11:06:34	BS 34 HK	50.45
11/03/13 11:05:33	11/03/13 11:09:28	NV 87 GG	44.85
11/03/13 11:10:50	11/03/13 11:14:04	BR 49 TC	48.75
11/03/13 11:16:15	11/03/13 11:19:09	BT 07 FL	51.15
11/03/13 11:18:59	11/03/13 11:22:15	BR 65 PD	49.75
11/03/13 11:22:05	11/03/13 11:25:24	NV 46 HB	51.75
11/03/13 11:24:19	11/03/13 11:27:13	BS 34 HK	50.55
11/03/13 11:25:29	11/03/13 11:30:08	NV 87 GG	45.65
11/03/13 11:29:23	11/03/13 11:32:21	BR 49 TC	47.95
11/03/13 11:34:32	11/03/13 11:37:21	BT 07 FL	50.05
11/03/13 11:37:08	11/03/13 11:40:47	BR 65 PD	49.10
11/03/13 11:41:20	11/03/13 11:45:39	NV 46 HB	46.35
11/03/13 11:42:45	11/03/13 11:46:33	BS 34 HK	50.40
11/03/13 11:45:25	11/03/13 11:49:06	NV 87 GG	42.85
11/03/13 11:48:22	11/03/13 11:53:39	BR 49 TC	48.55
11/03/13 11:52:50	11/03/13 11:55:34	BT 07 FL	49.95
11/03/13 11:56:26	11/03/13 11:59:30	BR 65 PD	48.85
11/03/13 12:02:13	11/03/13 12:08:28	NV 46 HB	50.45
11/03/13 12:03:34	11/03/13 12:06:34	BS 34 HK	50.45
11/03/13 12:05:11	11/03/13 12:09:18	NV 87 GG	45.55
11/03/13 12:09:08	11/03/13 12:12:13	BR 49 TC	48.55
11/03/13 12:12:10	11/03/13 12:16:32	BT 07 FL	50.00
11/03/13 12:21:53	11/03/13 12:24:43	BS 34 HK	50.70
11/03/13 12:23:38	11/03/13 12:27:20	NV 87 GG	44.60
11/03/13 12:27:15	11/03/13 12:32:29	BR 49 TC	48.45
11/03/13 12:32:56	11/03/13 12:35:59	BT 07 FL	50.10
11/03/13 12:39:10	11/03/13 12:47:35	BS 34 HK	50.05
11/03/13 12:40:55	11/03/13 12:43:58	NV 87 GG	43.05
11/03/13 12:47:32	11/03/13 12:50:15	BR 49 TC	47.55
11/03/13 12:52:09	11/03/13 12:55:03	BT 07 FL	49.60
11/03/13 12:53:59	11/03/13 12:57:09	BR 65 PD	48.40
11/03/13 12:56:26	11/03/13 13:00:17	NV 46 HB	49.55
11/03/13 12:57:40	11/03/13 13:01:44	NV 87 GG	44.70
11/03/13 13:05:43	11/03/13 13:08:41	BR 49 TC	47.90
11/03/13 13:21:22	11/03/13 13:24:33	BT 07 FL	50.10
11/03/13 13:22:40	11/03/13 13:26:41	BR 65 PD	48.95
11/03/13 13:24:13	11/03/13 13:27:39	NV 46 HB	49.60
11/03/13 13:26:31	11/03/13 13:30:10	NV 87 GG	43.25
11/03/13 13:27:22	11/03/13 13:31:02	BR 49 TC	48.40
11/03/13 13:29:40	11/03/13 13:38:20	BS 34 HK	49.65
11/03/13 13:40:29	11/03/13 13:43:33	BT 07 FL	50.35
11/03/13 13:42:21	11/03/13 13:47:15	BR 65 PD	48.65
11/03/13 13:45:49	11/03/13 13:48:23	BR 49 TC	48.10
11/03/13 13:55:17	11/03/13 13:58:12	BS 34 HK	50.95
11/03/13 13:59:28	11/03/13 14:02:30	BT 07 FL	50.40

Angus Place Colliery Transactions at Wallerawang Power Station

On: 11-Mar-2013

11/03/13 14:03:39	11/03/13 14:07:18	BR 65 PD	48.60
11/03/13 14:06:29	11/03/13 14:10:05	BR 49 TC	48.05
11/03/13 14:15:59	11/03/13 14:18:41	BS 34 HK	50.05
11/03/13 14:19:42	11/03/13 14:22:51	BT 07 FL	50.40
11/03/13 14:22:45	11/03/13 14:25:29	BR 65 PD	49.25
11/03/13 14:25:29	11/03/13 14:29:41	NV 46 HB	51.10
11/03/13 14:28:14	11/03/13 14:31:15	NV 87 GG	43.60
11/03/13 14:33:38	11/03/13 14:36:16	BS 34 HK	50.80
11/03/13 14:37:38	11/03/13 14:40:39	BR 49 TC	48.00
11/03/13 14:40:04	11/03/13 14:42:59	BT 07 FL	50.10
11/03/13 14:41:58	11/03/13 14:44:32	BR 65 PD	48.85
11/03/13 14:45:48	11/03/13 14:48:30	NV 46 HB	50.00
11/03/13 14:47:43	11/03/13 14:50:50	NV 87 GG	45.60
11/03/13 14:51:10	11/03/13 14:53:33	BS 34 HK	50.20
11/03/13 14:56:02	11/03/13 14:59:01	BR 49 TC	45.75
11/03/13 14:59:05	11/03/13 15:02:07	BT 07 FL	49.95
11/03/13 15:01:32	11/03/13 15:05:12	BR 65 PD	48.85
11/03/13 15:04:11	11/03/13 15:07:12	NV 46 HB	50.75
11/03/13 15:06:39	11/03/13 15:10:29	NV 87 GG	44.60
11/03/13 15:08:31	11/03/13 15:11:34	BS 34 HK	50.00
11/03/13 15:13:56	11/03/13 15:16:48	BR 49 TC	47.60
11/03/13 15:21:18	11/03/13 15:25:10	BR 65 PD	49.25
11/03/13 15:22:50	11/03/13 15:26:11	NV 46 HB	50.90
11/03/13 15:24:28	11/03/13 15:27:58	NV 87 GG	46.00
11/03/13 15:26:55	11/03/13 15:29:14	BS 34 HK	50.70
11/03/13 15:33:17	11/03/13 15:36:40	BR 49 TC	47.75
11/03/13 15:39:18	11/03/13 15:41:46	BR 65 PD	48.45
11/03/13 15:43:15	11/03/13 15:46:48	NV 46 HB	49.35
11/03/13 15:44:04	11/03/13 15:47:33	NV 87 GG	45.55
11/03/13 15:46:23	11/03/13 15:48:46	BS 34 HK	50.60
11/03/13 15:49:45	11/03/13 15:52:37	BT 07 FL	50.00
11/03/13 15:53:32	11/03/13 15:56:13	BR 49 TC	47.20
11/03/13 15:55:47	11/03/13 15:58:38	BR 65 PD	47.95
11/03/13 16:00:45	11/03/13 16:03:48	NV 46 HB	50.70
11/03/13 16:02:04	11/03/13 16:05:10	NV 87 GG	44.10
11/03/13 16:05:03	11/03/13 16:07:49	BS 34 HK	50.10
11/03/13 16:08:55	11/03/13 16:11:42	BT 07 FL	50.65
11/03/13 16:10:53	11/03/13 16:13:44	BR 49 TC	47.55
11/03/13 16:13:48	11/03/13 16:16:24	BR 65 PD	50.25
11/03/13 16:18:45	11/03/13 16:21:51	NV 46 HB	46.10
11/03/13 16:19:44	11/03/13 16:25:14	NV 87 GG	45.80
11/03/13 16:27:30	11/03/13 16:30:16	BT 07 FL	50.05
11/03/13 16:28:04	11/03/13 16:28:04	BS 34 HK	51.10
11/03/13 16:30:11	11/03/13 16:32:55	BR 49 TC	47.55
11/03/13 16:32:24	11/03/13 16:34:58	BR 65 PD	49.45
11/03/13 16:36:33	11/03/13 16:39:40	NV 46 HB	51.10
11/03/13 16:39:11	11/03/13 16:42:36	NV 87 GG	44.95
11/03/13 16:42:19	11/03/13 16:44:35	BS 34 HK	50.65
11/03/13 16:46:31	11/03/13 16:49:35	BT 07 FL	51.45
11/03/13 16:47:35	11/03/13 16:50:11	BR 49 TC	48.70
11/03/13 16:51:27	11/03/13 16:53:45	BR 65 PD	50.55
11/03/13 16:54:39	11/03/13 17:00:38	NV 46 HB	51.05
11/03/13 16:58:52	11/03/13 17:03:51	NV 87 GG	45.80
11/03/13 17:03:11	11/03/13 17:06:05	BS 34 HK	50.65
11/03/13 17:04:44	11/03/13 17:07:39	BT 07 FL	50.45

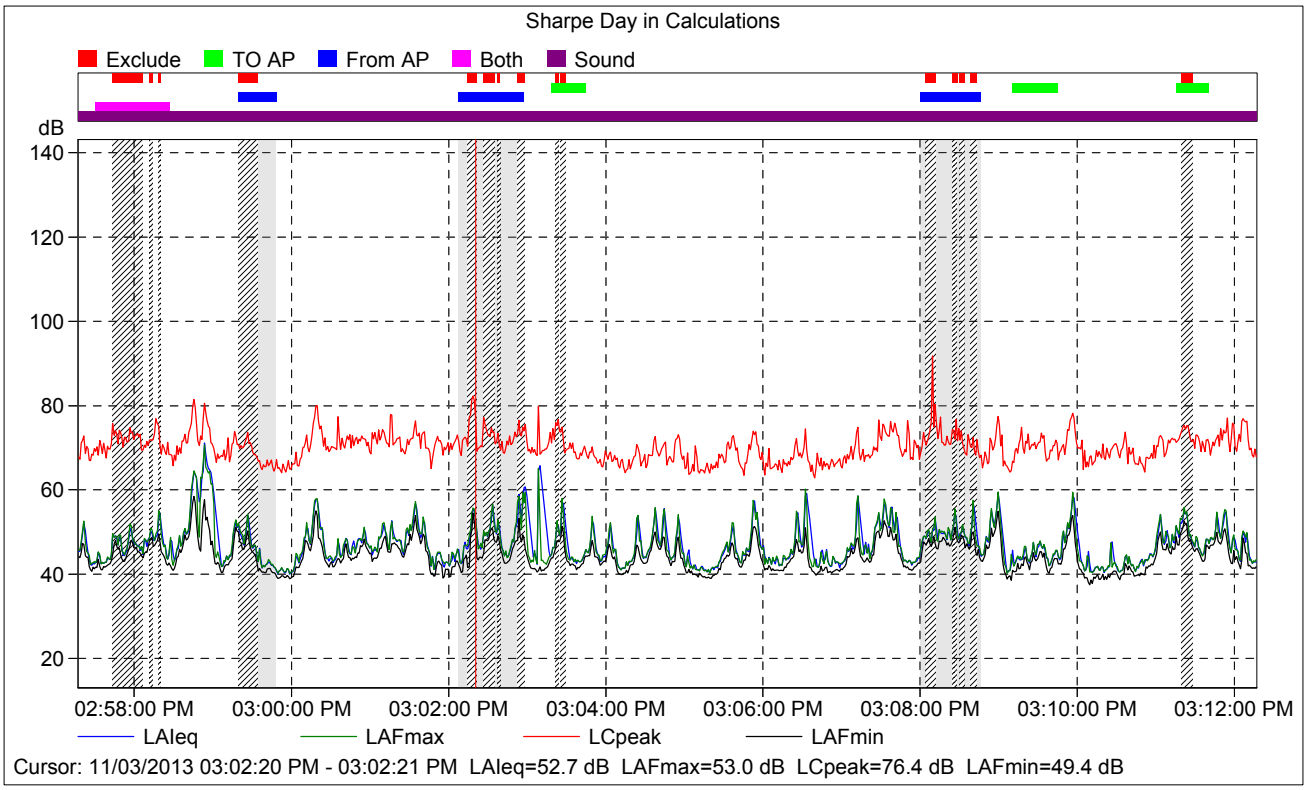
Angus Place Colliery Transactions at Wallerawang Power Station

On: 11-Mar-2013

11/03/13 17:06:43	11/03/13 17:18:09	BR 49 TC	48.95
11/03/13 17:09:39	11/03/13 17:12:28	BR 65 PD	50.10
11/03/13 17:16:15	11/03/13 17:19:32	NV 46 HB	50.70
11/03/13 17:17:41	11/03/13 17:21:36	NV 87 GG	44.40
11/03/13 17:20:23	11/03/13 17:23:01	BS 34 HK	49.65
11/03/13 17:23:00	11/03/13 17:26:58	BT 07 FL	50.40
11/03/13 17:27:28	11/03/13 17:32:22	BR 65 PD	49.30
11/03/13 17:31:56	11/03/13 17:34:41	BR 49 TC	47.35
11/03/13 17:37:11	11/03/13 17:40:27	NV 46 HB	51.25
11/03/13 17:39:42	11/03/13 17:43:35	NV 87 GG	46.60
11/03/13 17:40:28	11/03/13 17:44:16	BS 34 HK	48.75
11/03/13 17:43:15	11/03/13 17:50:16	BT 07 FL	50.55
11/03/13 17:48:55	11/03/13 17:54:22	BR 65 PD	50.55
11/03/13 17:50:06	11/03/13 17:53:39	BR 49 TC	46.70
11/03/13 17:56:16	11/03/13 17:59:22	NV 46 HB	50.75
11/03/13 17:58:34	11/03/13 18:02:02	NV 87 GG	43.35
11/03/13 18:08:10	11/03/13 18:11:00	BR 49 TC	47.50
11/03/13 18:10:41	11/03/13 18:13:30	BR 65 PD	46.00
11/03/13 18:16:37	11/03/13 18:19:31	NV 87 GG	45.35
11/03/13 18:25:21	11/03/13 18:30:21	BR 49 TC	45.20
11/03/13 18:29:23	11/03/13 18:32:21	BR 65 PD	49.80
11/03/13 18:34:14	11/03/13 18:37:03	NV 87 GG	45.90
11/03/13 18:45:21	11/03/13 18:47:58	BR 49 TC	47.90
11/03/13 18:51:59	11/03/13 18:54:53	BR 65 PD	49.45
11/03/13 18:53:18	11/03/13 18:56:28	NV 87 GG	46.45
11/03/13 19:04:57	11/03/13 19:10:41	BR 49 TC	48.30
11/03/13 19:10:35	11/03/13 19:13:13	BR 65 PD	49.60
11/03/13 19:11:53	11/03/13 19:15:33	NV 87 GG	45.05
11/03/13 19:27:06	11/03/13 19:30:52	BR 49 TC	47.55
11/03/13 19:35:35	11/03/13 19:38:28	BR 65 PD	48.80
11/03/13 19:38:19	11/03/13 19:41:25	NV 87 GG	44.70
11/03/13 19:46:52	11/03/13 19:51:12	BR 49 TC	48.95
11/03/13 19:53:54	11/03/13 19:56:49	BR 65 PD	49.65
11/03/13 19:55:25	11/03/13 19:58:31	NV 87 GG	44.80
11/03/13 20:07:57	11/03/13 20:14:17	BR 49 TC	47.45
11/03/13 20:12:27	11/03/13 20:15:29	BR 65 PD	48.15
11/03/13 20:13:55	11/03/13 20:17:09	NV 87 GG	47.05
11/03/13 20:30:45	11/03/13 20:35:03	BR 49 TC	47.65
11/03/13 20:33:01	11/03/13 20:37:00	BR 65 PD	47.80
11/03/13 20:35:01	11/03/13 20:38:15	NV 87 GG	47.00
11/03/13 20:49:43	11/03/13 20:53:50	BR 49 TC	40.40
11/03/13 20:53:05	11/03/13 20:55:36	BR 65 PD	49.45
11/03/13 20:54:04	11/03/13 20:57:31	NV 87 GG	44.90
11/03/13 21:09:07	11/03/13 21:13:08	BR 49 TC	42.65
		Total	**10030.25 Tonnes**
		Total	**10030.25 Tonnes**
		Total number	**206**

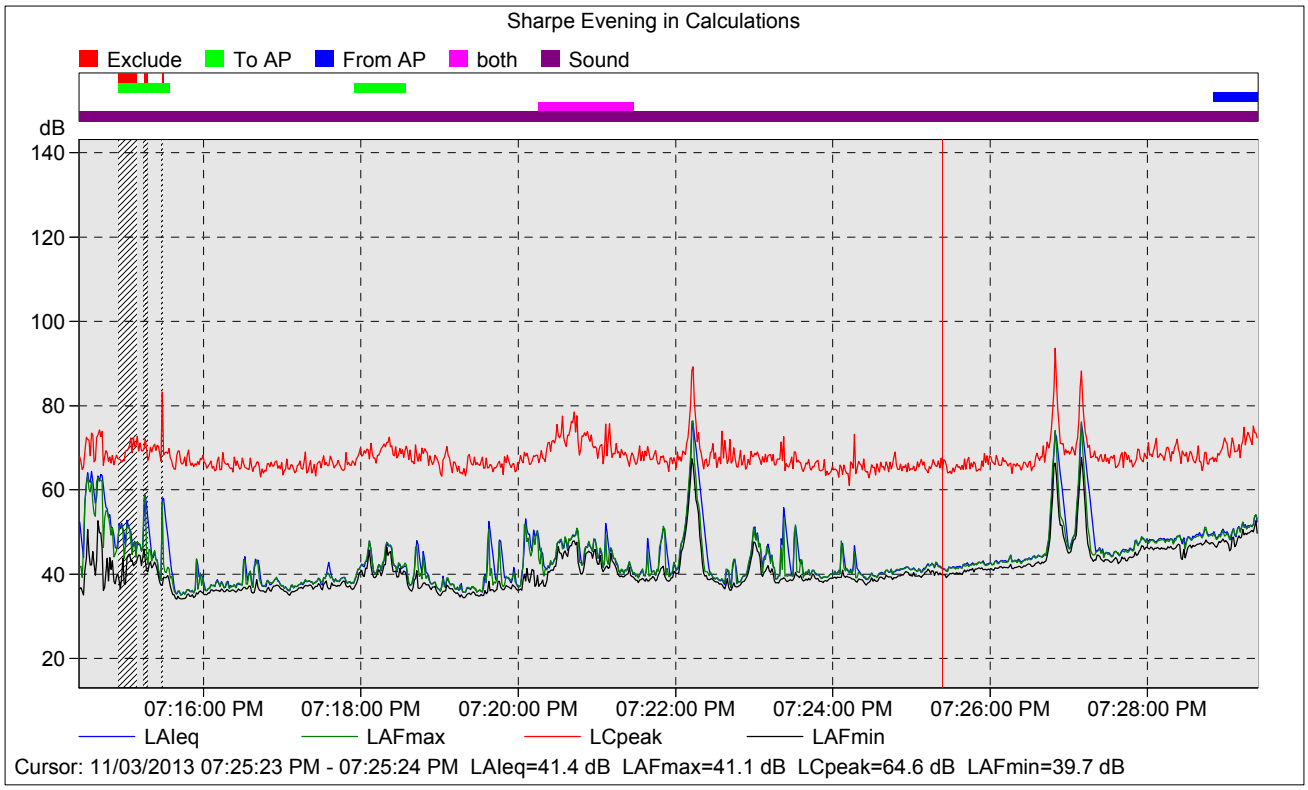
Total	**10030.25 Tonnes**
Total	**10030.25 Tonnes**
Total number	**206**

ATTENDED NOISE MEASUREMENT RESULTS


Sharpe Day in Calculations
Exclude
TO AP
From AP
Both
Sound
dB
140
120
100
80
60
40
20
02:58:00 PM
03:00:00 PM
03:02:00 PM
03:04:00 PM
03:06:00 PM
03:08:00 PM
03:10:00 PM
03:12:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 11/03/2013 03:02:20 PM - 03:02:21 PM LAIeq=52.7 dB LAFmax=53.0 dB LCpeak=76.4 dB LAFmin=49.4 dB

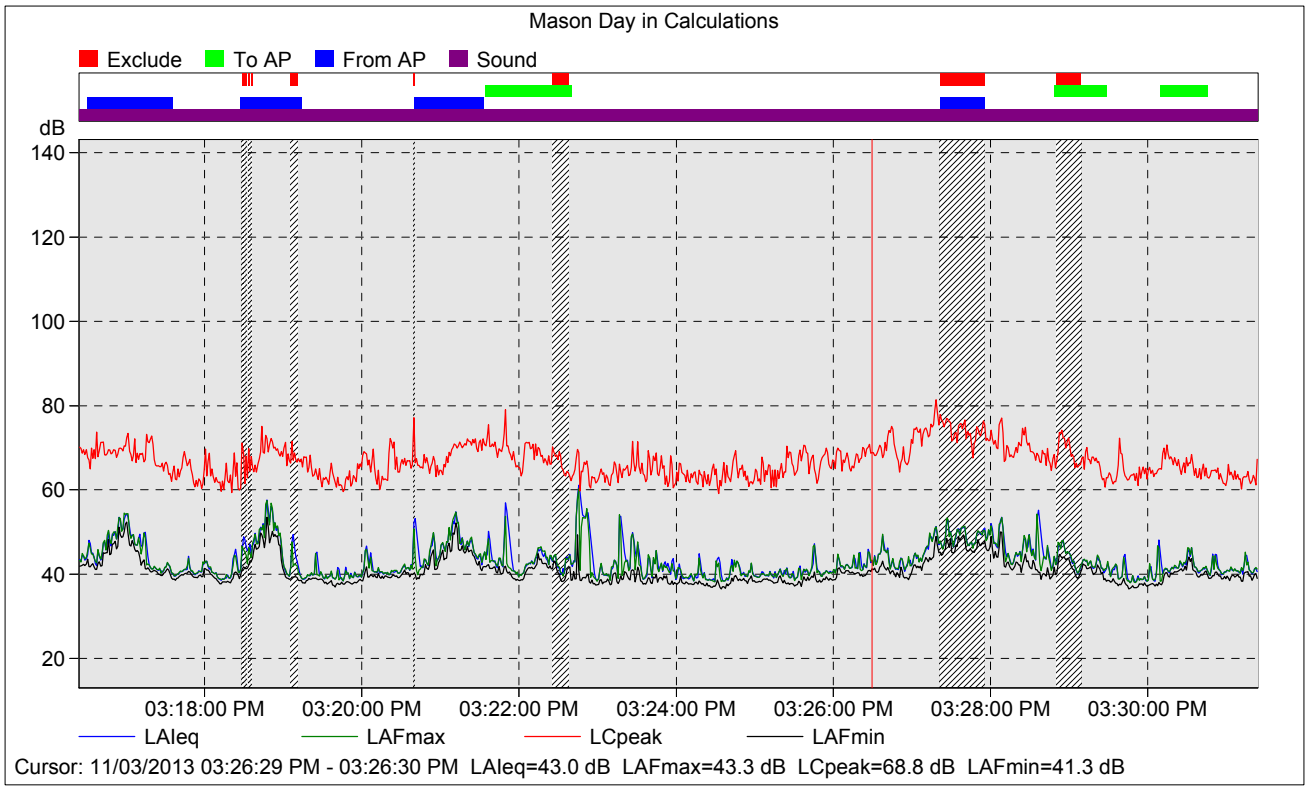
Sharpe Day in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 02:57:17 PM	0.0	70.6	37.5	48.3	0:13:16
Exclude	11/03/2013 02:57:43 PM	0.0	59.3	41.5	50.0	0:01:44
(All) Exclude	11/03/2013 02:57:43 PM	0.0	59.3	41.5	50.0	0:01:44
(All) TO AP	11/03/2013 03:03:18 PM	0.0	53.2	40.2	45.0	0:01:10
(All) From AP	11/03/2013 02:59:34 PM	0.0	52.2	40.1	46.2	0:01:06
(All) Both	11/03/2013 02:57:30 PM	0.0	50.3	41.0	45.1	0:00:29
(All) Sound	11/03/2013 02:57:17 PM	0.0	70.6	37.5	48.3	0:13:16
Exclude	11/03/2013 02:57:43 PM	0.0	51.8	43.0	46.9	0:00:23
Exclude	11/03/2013 02:58:11 PM	0.0	50.9	47.7	49.0	0:00:03
Exclude	11/03/2013 02:58:18 PM	0.0	55.0	47.5	51.2	0:00:02
Exclude	11/03/2013 02:59:19 PM	0.0	54.1	42.7	48.3	0:00:15
Exclude	11/03/2013 03:02:14 PM	0.0	55.7	41.5	52.0	0:00:07
Exclude	11/03/2013 03:02:26 PM	0.0	56.6	44.9	50.5	0:00:09
Exclude	11/03/2013 03:02:37 PM	0.0	52.9	47.6	49.7	0:00:02
Exclude	11/03/2013 03:02:52 PM	0.0	59.3	47.6	52.9	0:00:06
Exclude	11/03/2013 03:03:21 PM	0.0	52.6	46.2	49.2	0:00:03
Exclude	11/03/2013 03:03:25 PM	0.0	57.9	46.0	51.9	0:00:04
Exclude	11/03/2013 03:08:04 PM	0.0	53.5	46.6	49.1	0:00:08
Exclude	11/03/2013 03:08:24 PM	0.0	55.5	47.8	51.5	0:00:04
Exclude	11/03/2013 03:08:30 PM	0.0	51.7	47.7	49.5	0:00:04
Exclude	11/03/2013 03:08:38 PM	0.0	57.5	45.2	50.7	0:00:05
Exclude	11/03/2013 03:11:19 PM	0.0	55.8	46.8	51.5	0:00:09
TO AP	11/03/2013 03:03:18 PM	0.0	49.2	41.0	44.0	0:00:19
TO AP	11/03/2013 03:09:10 PM	0.0	47.8	40.2	44.0	0:00:35
TO AP	11/03/2013 03:11:15 PM	0.0	53.2	43.0	47.4	0:00:16
From AP	11/03/2013 02:59:34 PM	0.0	45.8	40.1	41.6	0:00:14
From AP	11/03/2013 03:02:07 PM	0.0	52.2	40.3	45.8	0:00:27
From AP	11/03/2013 03:08:00 PM	0.0	51.0	42.9	47.7	0:00:25
Both	11/03/2013 02:57:30 PM	0.0	50.3	41.0	45.1	0:00:29
Sound	11/03/2013 02:57:17 PM	0.0	70.6	38.9	48.7	0:08:46
Sound	11/03/2013 03:07:17 PM	0.0	59.4	37.5	47.3	0:04:30



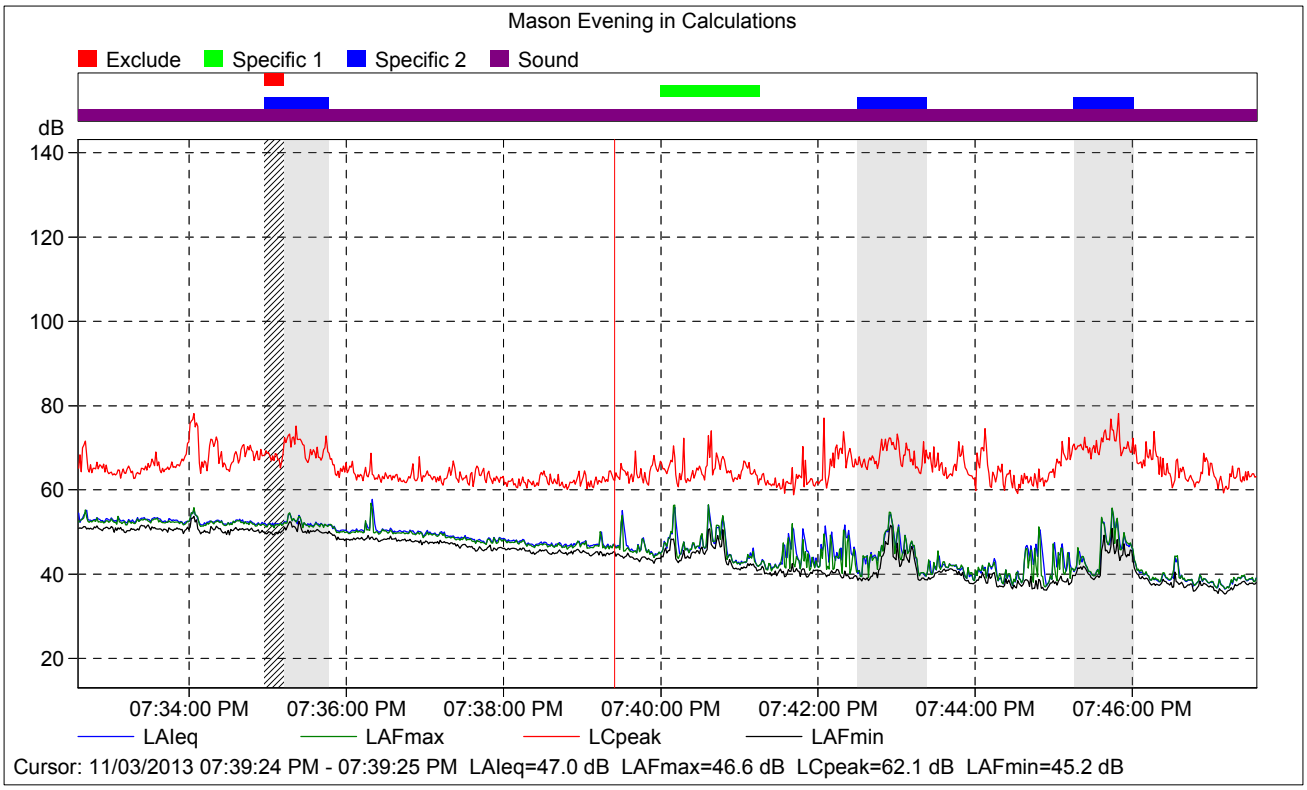
Sharpe Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 07:14:25 PM	0.0	76.3	34.0	51.9	0:14:41
Exclude	11/03/2013 07:14:55 PM	0.0	58.7	36.5	47.8	0:00:18
(All) Exclude	11/03/2013 07:14:55 PM	0.0	58.7	36.5	47.8	0:00:18
(All) To AP	11/03/2013 07:15:09 PM	0.0	47.9	37.2	42.7	0:01:00
(All) From AP	11/03/2013 07:28:50 PM	0.0	54.0	45.5	49.7	0:00:34
(All) both	11/03/2013 07:20:15 PM	0.0	50.9	37.1	44.3	0:01:13
(All) Sound	11/03/2013 07:14:25 PM	0.0	76.3	34.0	51.9	0:14:41
Exclude	11/03/2013 07:14:55 PM	0.0	51.6	36.5	45.8	0:00:14
Exclude	11/03/2013 07:15:14 PM	0.0	58.7	40.8	51.9	0:00:03
Exclude	11/03/2013 07:15:28 PM	0.0	57.2	37.3	50.2	0:00:01
To AP	11/03/2013 07:15:09 PM	0.0	47.7	37.3	43.1	0:00:21
To AP	11/03/2013 07:17:55 PM	0.0	47.9	37.2	42.6	0:00:39
From AP	11/03/2013 07:28:50 PM	0.0	54.0	45.5	49.7	0:00:34
both	11/03/2013 07:20:15 PM	0.0	50.9	37.1	44.3	0:01:13
Sound	11/03/2013 07:14:25 PM	0.0	76.3	34.0	50.0	0:09:41
Sound	11/03/2013 07:24:24 PM	0.0	76.1	37.3	54.1	0:05:00



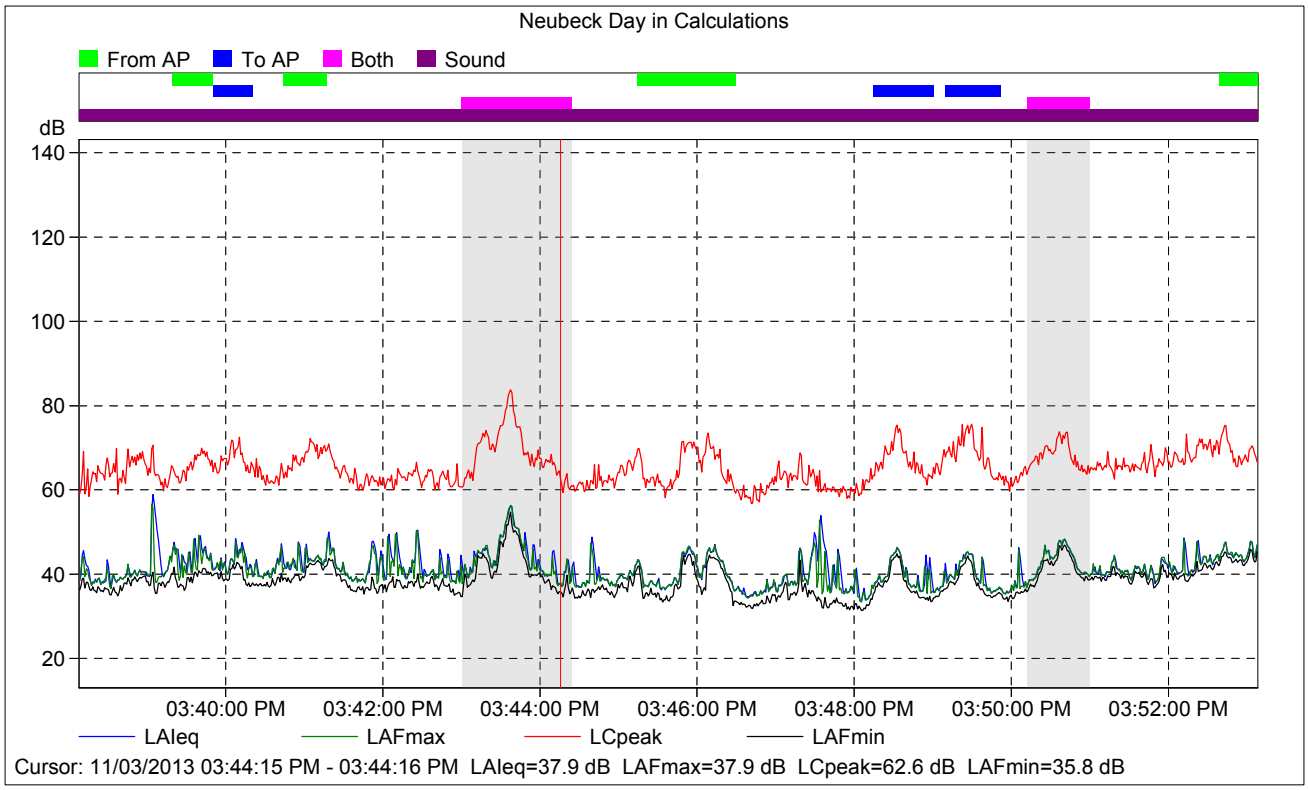
Mason Day in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 03:16:24 PM	0.0	60.2	36.5	43.5	0:13:42
Exclude	11/03/2013 03:18:28 PM	0.0	53.3	38.2	45.9	0:01:18
(All) Exclude	11/03/2013 03:18:28 PM	0.0	53.3	38.2	45.9	0:01:18
(All) To AP	11/03/2013 03:21:34 PM	0.0	53.7	37.5	42.0	0:01:50
(All) From AP	11/03/2013 03:16:30 PM	0.0	57.4	38.5	47.2	0:02:34
(All) Sound	11/03/2013 03:16:24 PM	0.0	60.2	36.5	43.5	0:13:42
Exclude	11/03/2013 03:18:28 PM	0.0	46.6	41.0	42.9	0:00:02
Exclude	11/03/2013 03:18:31 PM	0.0	44.5	41.2	42.0	0:00:01
Exclude	11/03/2013 03:18:33 PM	0.0	46.2	42.1	44.2	0:00:01
Exclude	11/03/2013 03:18:35 PM	0.0	43.9	43.1	43.6	0:00:01
Exclude	11/03/2013 03:19:05 PM	0.0	47.6	38.8	40.5	0:00:06
Exclude	11/03/2013 03:20:39 PM	0.0	50.7	40.2	45.3	0:00:01
Exclude	11/03/2013 03:22:25 PM	0.0	44.7	38.2	41.5	0:00:13
Exclude	11/03/2013 03:27:21 PM	0.0	53.3	44.4	48.1	0:00:34
Exclude	11/03/2013 03:28:50 PM	0.0	47.9	39.0	43.6	0:00:19
To AP	11/03/2013 03:21:34 PM	0.0	53.7	38.5	42.3	0:00:53
To AP	11/03/2013 03:28:49 PM	0.0	44.5	38.3	41.7	0:00:21
To AP	11/03/2013 03:30:10 PM	0.0	46.3	37.5	41.5	0:00:36
From AP	11/03/2013 03:16:30 PM	0.0	54.4	39.0	46.7	0:01:05
From AP	11/03/2013 03:18:27 PM	0.0	57.4	38.5	48.9	0:00:36
From AP	11/03/2013 03:20:40 PM	0.0	54.7	38.8	46.2	0:00:53
From AP		---	---	---	---	0:00:00
Sound	11/03/2013 03:16:24 PM	0.0	60.2	36.5	43.8	0:09:35
Sound	11/03/2013 03:26:24 PM	0.0	54.2	36.5	42.9	0:04:07



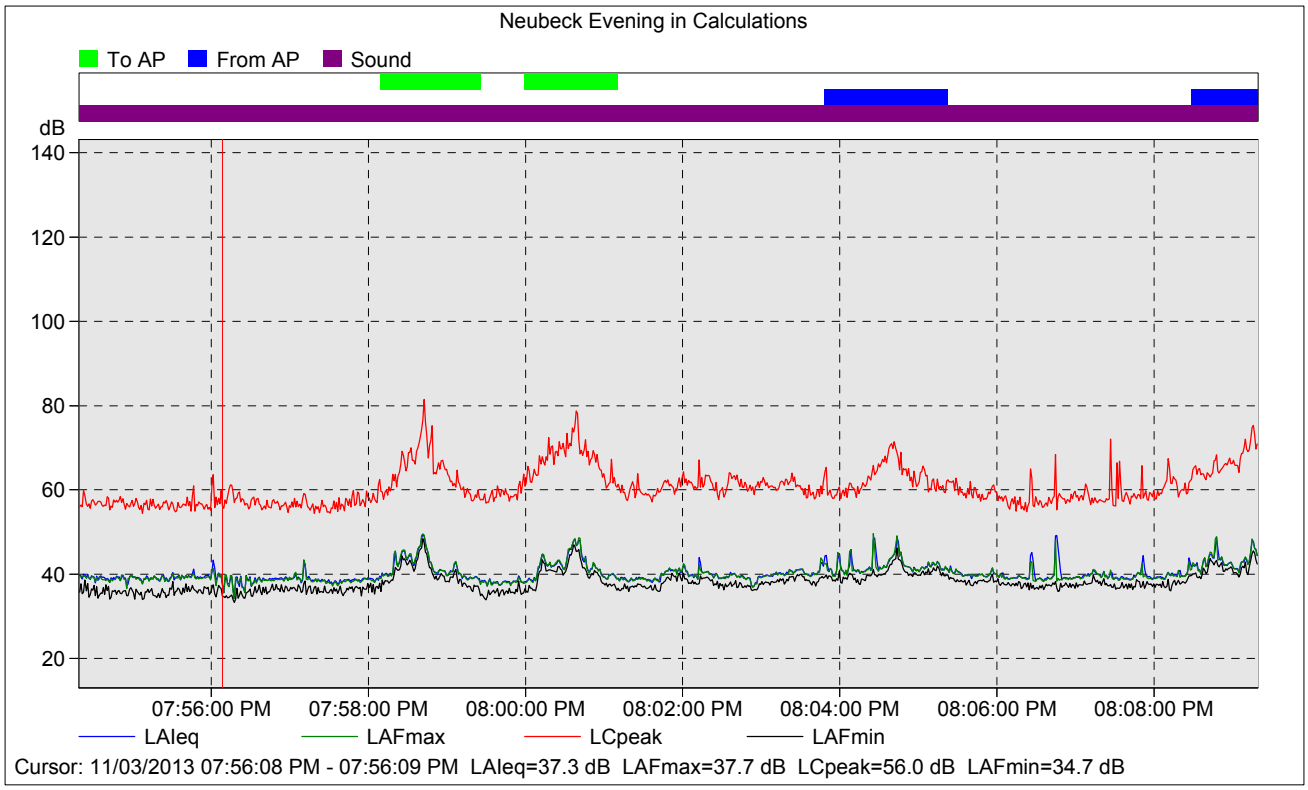
Mason Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 07:32:35 PM	0.0	56.8	35.3	47.5	0:14:45
Exclude	11/03/2013 07:34:57 PM	0.0	52.1	49.3	50.7	0:00:15
(All) Exclude	11/03/2013 07:34:57 PM	0.0	52.1	49.3	50.7	0:00:15
(All) Specific 1	11/03/2013 07:39:59 PM	0.0	56.4	40.7	46.7	0:01:16
(All) Specific 2	11/03/2013 07:35:12 PM	0.0	55.7	38.4	48.1	0:02:13
(All) Sound	11/03/2013 07:32:35 PM	0.0	56.8	35.3	47.5	0:14:45
Exclude	11/03/2013 07:34:57 PM	0.0	52.1	49.3	50.7	0:00:15
Specific 1	11/03/2013 07:39:59 PM	0.0	56.4	40.7	46.7	0:01:16
Specific 2	11/03/2013 07:35:12 PM	0.0	54.5	49.6	51.4	0:00:34
Specific 2	11/03/2013 07:42:30 PM	0.0	54.6	38.4	45.6	0:00:53
Specific 2	11/03/2013 07:45:15 PM	0.0	55.7	38.7	46.4	0:00:46
Sound	11/03/2013 07:32:35 PM	0.0	56.8	38.4	48.8	0:09:45
Sound	11/03/2013 07:42:35 PM	0.0	55.7	35.3	42.8	0:05:00



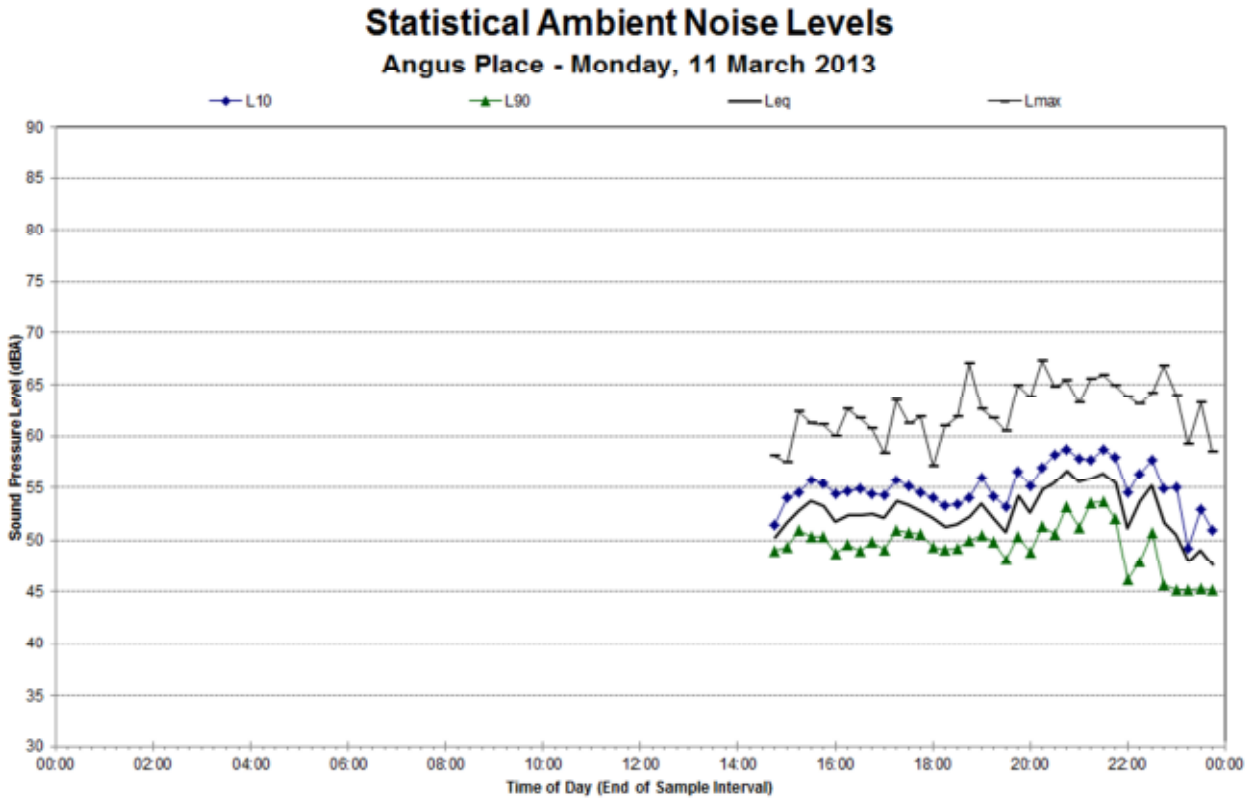
Neubeck Day in Calculations

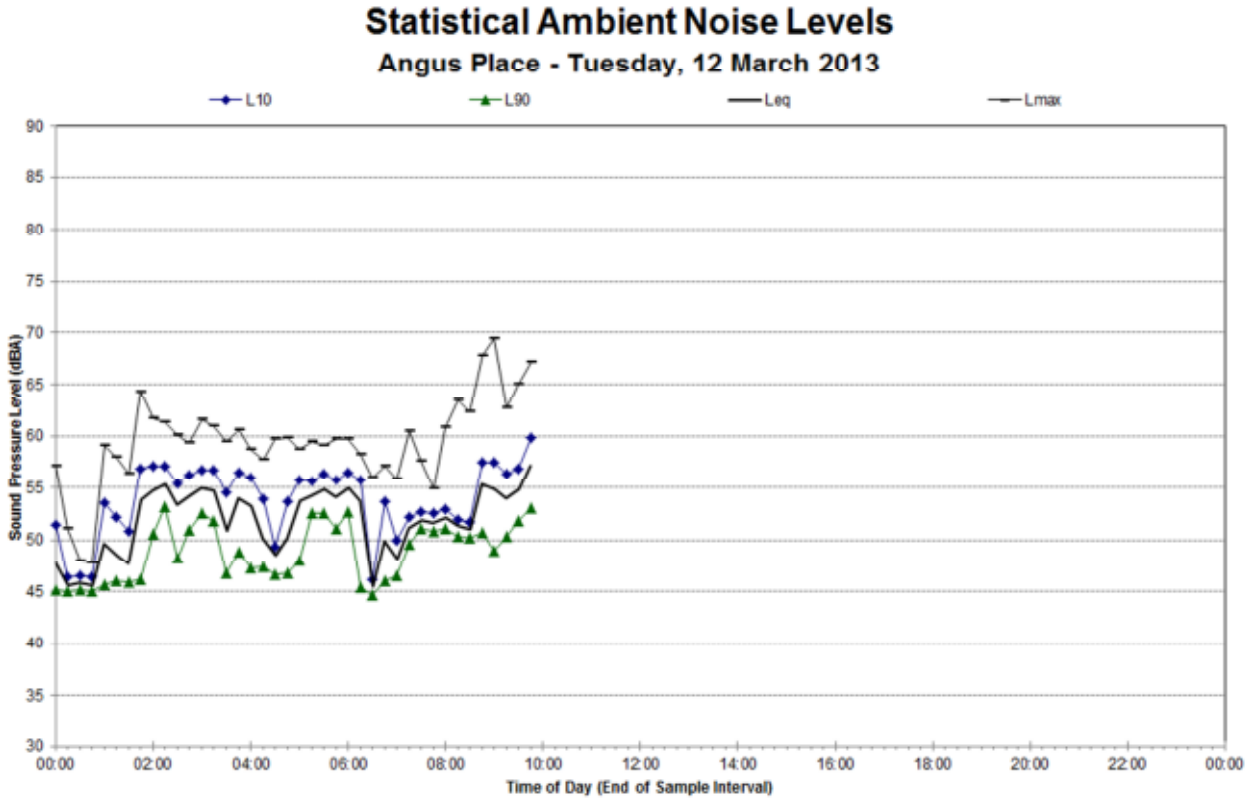
Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 03:38:08 PM	0.0	56.6	31.4	41.4	0:15:00
(All) From AP	11/03/2013 03:39:19 PM	0.0	49.2	32.5	42.1	0:02:48
(All) To AP	11/03/2013 03:39:50 PM	0.0	47.5	33.4	40.4	0:01:58
(All) Both	11/03/2013 03:43:00 PM	0.0	56.2	34.6	45.2	0:02:12
(All) Sound	11/03/2013 03:38:08 PM	0.0	56.6	31.4	41.4	0:15:00
From AP	11/03/2013 03:39:19 PM	0.0	49.2	36.1	41.5	0:00:31
From AP	11/03/2013 03:40:44 PM	0.0	47.3	37.9	41.8	0:00:33
From AP	11/03/2013 03:45:14 PM	0.0	46.8	32.5	41.1	0:01:15
From AP	11/03/2013 03:52:39 PM	0.0	47.8	42.0	44.5	0:00:29
To AP	11/03/2013 03:39:50 PM	0.0	47.5	37.0	41.5	0:00:30
To AP	11/03/2013 03:48:14 PM	0.0	46.3	33.4	40.0	0:00:46
To AP	11/03/2013 03:49:09 PM	0.0	45.3	34.4	40.0	0:00:42
Both	11/03/2013 03:43:00 PM	0.0	56.2	34.6	46.0	0:01:24
Both	11/03/2013 03:50:12 PM	0.0	48.1	36.1	43.3	0:00:48
Sound	11/03/2013 03:38:08 PM	0.0	56.6	31.4	41.5	0:10:00
Sound	11/03/2013 03:48:08 PM	0.0	48.2	31.8	41.3	0:05:00



Neubeck Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	11/03/2013 07:54:19 PM	0.0	49.6	33.3	39.9	0:15:00
(All) To AP	11/03/2013 07:58:09 PM	0.0	49.5	34.8	42.1	0:02:28
(All) From AP	11/03/2013 08:03:48 PM	0.0	49.6	37.6	42.0	0:02:25
(All) Sound	11/03/2013 07:54:19 PM	0.0	49.6	33.3	39.9	0:15:00
To AP	11/03/2013 07:58:09 PM	0.0	49.5	34.8	42.1	0:01:17
To AP	11/03/2013 07:59:59 PM	0.0	48.6	35.7	42.1	0:01:11
From AP	11/03/2013 08:03:48 PM	0.0	49.6	37.6	41.4	0:01:34
From AP	11/03/2013 08:08:28 PM	0.0	48.9	38.9	42.8	0:00:51
Sound	11/03/2013 07:54:19 PM	0.0	49.5	33.3	39.6	0:10:00
Sound	11/03/2013 08:04:19 PM	0.0	49.6	35.8	40.5	0:05:00


Statistical Ambient Noise Levels
Angus Place - Monday, 11 March 2013
L10
L90
Leq
Lmax
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
Angus Place - Tuesday, 12 March 2013
L10
L90
Leq
Lmax
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)

2 July 2013

630.01942 QR21 20130701.docx

Centennial Angus Place Pty Ltd
Wolgan Road
Lidsdale NSW 2790

Attention: Natalie Conroy

Dear Natalie

Angus Place Quarterly Monitoring
Quarter Ending July 2013

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Centennial Angus Place to conduct quarterly noise compliance monitoring for the quarter ending July 2013 for the Angus Place Colliery.

The purpose of this assessment was to determine the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road, in accordance with the Angus Place Project Approval 06_0021 (PA) and the Environment Protection Licence (EPL) No. 467.

2 Relevant Noise Criteria

2.1 PA Noise Limits

The PA states the following in regards to noise emissions:

> *The Proponent shall ensure that the noise generated by the project, including the Proponent's operation of the haul road to the Wallerawang power station, does not exceed the noise impact assessment criteria presented in Table 1 at any residence on privately owned land.*

SLR Consulting Australia Pty Ltd Level 1, 14 Watt Street Newcastle NSW 2300 Australia
(PO Box 1768 Newcastle NSW 2300 Australia)
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ABN 29 001 584 612

Table 1 Noise Impact Assessment Criteria dBA $L_{Aeq(15minute)}$, *(PA Table 6)*

Land	Day	Evening	Night
Sharpe	42 dBA	38 dBA	36 dBA
Mason (West) and other Wolgan Road rural properties	41 dBA	37 dBA	35 dBA
Lidsdale village residents	44 dBA	40 dBA	35 dBA

Notes: a) For more information on the references to land in this condition, see 'Property Details' figure of the EA.
b) The noise criteria do not apply where the Proponent and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and DEC.
c) Noise from the project is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the LAeq(15 minute) noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
d) The noise emission limits identified in the above table apply under meteorological conditions of:
- Wind speeds of up to 3 m/s at 10 metres above ground level; or
- Temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

Section 11.1.3 of the NSW Industrial Noise Policy (INP) provides the following guidance when determining compliance with noise conditions;

> *A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or license condition.*

Therefore, Angus Place Colliery operations are deemed to be in compliance if measured noise emissions are not more than 2dB above the consent conditions.

The Environmental Assessment utilised in setting conditions for the PA used the methods specified in the NSW INP to predict noise levels from the development. The noise assessment predicted noise levels from prevailing weather conditions, as determined from previous studies and in accordance with the INP. Section 3.2 (INP Assessment of Prevailing Weather Conditions) within the *Transportation Noise Impact Assessment* report by Heggies Pty Ltd in 2003 analysed meteorological data from Mount Piper Power Station and identified prevailing weather conditions for Angus Place. The results are presented in **Table 2**. The Mount Piper meteorological station is located approximately 5 km west of Angus Place and is representative of weather in the area.

Table 2 Prevailing Wind Conditions in accordance with NSW INP

Season	Winds ± 45° ≤3 m/s with Frequency of Occurrence ≥30%		
	Daytime	Evening	Night
Annual	-	SW, WSW, W	SW, WSW, W
Summer	-	SW, WSW, W	SW, WSW, W
Autumn	-	SSW,SW,WSW,W	SSW,SW,WSW,W
Winter	-	SW,WSW,W	SW,WSW
Spring	-	SW,WSW,W	SW,WSW,W

Table 2 identifies predominant wind directions ranging from westerly to south-south-westerly for wind speeds less than 3 m/s (within the wind speed range set in the PA).

2.2 Land Acquisition Criteria

The PA states the following in regards to land acquisition noise criteria:

> *If, after 31 August 2007, the noise generated by the project, including the operation of the haul road to the Wallerawang power station, exceeds the criteria in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner (excluding the landowners listed in Table 1), acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.*

Table 3 Land Acquisition Criteria dB(A) $L_{Aeq(15minute)}$, (PA Table 7)

Land	Day	Evening	Night
Sharpe, Mason (West) and other Wolgan Road rural properties	44 dBA	40 dBA	40 dBA
Lidsdale village residents	47 dBA	43 dBA	43 dBA

2.3 Haul Road Inspection

In addition to noise monitoring, the Angus Place Noise Management Plan (NMP) dated May 2007, requires a visual and aural inspection of site activities and inspections of the Wallerawang Haul Road. Ongoing work continues to be undertaken regarding the maintenance of the haul road surface.

3 Quarterly Operator Attended Noise Monitoring

3.1 Methodology

Noise measurements and assessments in this report have been prepared in accordance with Australian Standard AS 1055-1997 "*Description and Measurement of Environmental Noise*" Part 1, 2 and 3 and with reference to the INP, Environmental Noise Control Manual (ENCM) and the NMP.

The objectives of the noise monitoring assessment were as follows:

- Measure the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road at the Sharpe, Mason and Neubeck St, Lidsdale residential locations.
- Ascertain all sources of noise within each of the noise surveys, including estimated contribution or maximum level of each source.
- Assess the noise emissions of Angus Place operations, including the Wallerawang Haul Road in relation to the PA/EPL limits for the site and with regard to wind speed and direction during the noise surveys.

3.2 Quarterly Attended Noise Monitoring Locations

Operator attended noise surveys were conducted at the location provided in **Table 4** to determine the character and contribution of noise sources, including Angus Place Colliery pit top operations and haul road noise, in relation to the total ambient noise level. An aerial photograph showing the approximate locations of the noise monitoring locations is provided in **Appendix A**.

Table 4 Monitoring Locations

Location	Description
R1	Sharpe Residence
R2	Mason Residence
R3	20 Neubeck St, Lidsdale

3.3 Compliance Monitoring Results

Operator attended noise measurements were conducted during the day, evening and night-time periods on Tuesday 25 June 2013 and Wednesday 26 June 2013. Weather conditions during these surveys were cloudy with periods of rain, and temperatures between 8°C and 12°C. Wind conditions were generally from the south-east during the day, evening and night-time monitoring periods.

A summary of the operator attended measurements, including the estimate contribution of noise sources, is contained within **Table 5**, **Table 6** and **Table 7**.

Table 5 Attended Noise Survey Results Location R1 – Sharpe Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 42 LAeq(15minute) 44 LAeq(15minute)	26/06/13 12:33 12°C ESE 2.1 m/s	64	56	51	40	47	Birds ~ 55 Plane ~ 45 to 51 Traffic ~ 58 to 64 Resident ~ 47 AP Haul Truck ~ 54 Dozer ~ 48
Evening 38 LAeq(15minute) 40 LAeq(15minute)	26/06/13 18:04 9°C SE 2 m/s	78	67	48	32	54	Resident ~ 41 to 50 Cow ~ 36 Insects ~ 32 Operator ~ 44 Traffic ~ 38 to 78 Coal Loading ~ 33 to 38 AP Haul Truck ~ 52
Night 36 LAeq(15minute) 40 LAeq(15minute)	25/06/13 23:02 8°C SE 1.5 m/s	83	74	52	34	59	Dog Barking ~ 49 Traffic ~ 76 to 83 Car on Haul Road ~ 40 to 43 Trees rustling ~ 45 Stick Falling ~ 54 Other Industry ~ 34

Table 6 Attended Noise Survey Results Location R2 – Mason Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		LAmax	LA1	LA10	LA90	LAeq	
Day 41 LAeq(15minute) 44 LAeq(15minute)	26/06/13 12:54 12°C SE 3 m/s	69	63	50	39	50	Birds ~ 69 Traffic ~ 42 to 44 Trees Rustling ~ 41 Dozer ~ 38 AP Haul Truck ~ 56
Evening 37 LAeq(15minute) 40 LAeq(15minute)	26/06/13 18:25 8°C SE 0.5 m/s	51	47	42	31	38	Traffic ~ 38 to 41 Cow ~ 34 Insects ~ 31 Plane ~ 51 AP Dozer ~ 46
Night 35 LAeq(15minute) 40 LAeq(15minute)	26/06/13 01:45 8°C SE 1 m/s	49	40	33	<30	32	Other Industry ~ <30 to 32 Resident ~ 32 to 39 Traffic ~ 45 to 49 Operator ~ 43 Distant Traffic ~ 30 to 34

Table 7 Attended Noise Survey Results Location R3 – Lidsdale Village, Neubeck St

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		LAmax	LA1	LA10	LA90	LAeq	
Day 44 LAeq(15minute) 47 LAeq(15minute)	26/06/13 13:19 12°C ESE 3 m/s	62	52	46	37	43	Resident ~ 39 to 48 Birds ~ 44 to 47 Traffic ~ 38 to 62 Bang ~ 39 Dog Barking ~ 46 Other Industry ~ 36 AP Haul Truck ~ 51
Evening 40 LAeq(15minute) 43 LAeq(15minute)	25/06/13 19:56 8°C SE 2.8 m/s	55	50	48	42	45	Trees rustling ~ 42 to 50 Distant Traffic ~ 46 Power station ~ 42 Train Horn ~ 45 other Industry ~ 46 Ash depository truck ~ 49 AP Haul Truck ~ 55
Night 35 LAeq(15minute) 43 LAeq(15minute)	26/06/13 00:04 8°C SE 1 m/s	54	46	44	41	43	Other Industry ~ 40 Insects ~ 43 to 47 Traffic ~ 43 Operator ~ 44 to 54

Noise Monitoring Observations

Noise contributions at the Sharpe, Mason and Neubeck Street receivers were observed to be from the following noise sources:

3.3.1 Wallerawang Haul Road

Noise emissions from the Wallerawang Haul Road typically contribute to the overall ambient noise levels at the Sharpe, Mason and Neubeck Street Residences during the day and evening periods.

An analysis of the haul truck passby noise levels at each location, with respect to the direction of travel is displayed in **Table 8** for each period. No truck movements were recorded during the night-time operator attended noise surveys. The Wallerawang haul road truck log is contained in **Appendix B**, and details of the calculated noise contributions are provided in **Appendix C**.

Table 8 Haul Truck Pass by Analysis – June 2013

Receiver	Period	$L_{Aeq(15minute)}$ for Truck Movements to Wallerawang from Angus Place	$L_{Aeq(15minute)}$ for Truck Movements to Angus Place from Wallerawang	$L_{Aeq(15minute)}$ for Truck Movements to and from Angus Place and Wallerawang	Total $L_{Aeq(15minute)}$ Wallerawang Haul Road Contribution
Sharpe	Day	38 dBA	41 dBA	39 dBA	44 dBA
	Evening	35 dBA	36 dBA	-	39 dBA
Mason	Day	31 dBA	<30 dBA	42 dBA	40 dBA
	Evening	31 dBA	<30 dBA	-	32 dBA
Neubeck St	Day	41 dBA	33 dBA	37 dBA	41 dBA
	Evening	37 dBA	33 dBA	36 dBA	41 dBA

3.3.2 Angus Place Site Operations

Noise emissions from Angus Place site operations generally contribute to the overall ambient noise levels at the Sharpe and Mason residences. Angus place site operations would not be considered a noise contributor at the Neubeck Street residence. During the night-time period, Angus Place site operations were not audible at any residential location during the monitoring period.

Truck Loading from Coal Bin

Noise generated by trucks being loaded from the overhead storage bin was audible at the Sharpe residence generating maximum noise levels up to 38 dBA and not audible at the Mason Residence.

Bulldozer on Coal Stockpile

The bulldozer working the stockpile was audible at both the Sharpe and Mason residence during the daytime and evening operator attended noise surveys generating maximum noise levels of up to 48 dBA and 46 dBA respectively.

3.4 Noise Compliance Assessment

The contributions from both Angus Place Colliery and Wallerawang Haul Road have been calculated from the attended noise monitoring results and are summarised in **Table 9.**

Table 9 Component Ranking and Overall Angus Place Noise Contribution

Daytime (7:00 am – 6:00 pm) 26 June 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 - Sharpe	32 dBA	44 dBA	44 dBA	42 dBA	Yes[3]
R2 - Mason	31 dBA	40 dBA	41 dBA	41 dBA	Yes
R3 - Neubeck	-	41 dBA	41 dBA	44 dBA	Yes
Evening (6:00 pm – 10:00 pm) 25 & 26 June 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 – Sharpe	31 dBA	39 dBA	39 dBA	38 dBA	Yes[3]
R2 – Mason	33 dBA	32 dBA	36 dBA	37 dBA	Yes
R3 - Neubeck	-	41 dBA	41 dBA	40 dBA	Yes[3]
Night time (10:00 pm – 7:00 am) 25 & 26 June 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[2]**			
R1 - Sharpe	<30 dBA	-	<30 dBA	36 dBA	Yes
R2 - Mason	<30 dBA	-	<30 dBA	35 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	35 dBA	Yes

Note: 1 - Where the estimated contribution is < x dBA, the Angus Place contributed noise level, the sum of the operation and the haul road, is calculated using 'x-1' dBA.
2 - Haul Road does not operate during the night time
3 Within 2 dBA tolerance as per Chapter 11 of the INP.

The analysis of the results of the June 2013 operator attended noise monitoring has shown that the Angus Place noise emissions meet the PA noise limits at all residential monitoring locations during the day, evening and night-time periods. However, an exceedance was recorded at Sharpe during the daytime and evening and at Neubeck during the evening.

However, section 11.1.3 of the NSW Industrial Noise Policy (INP) states the following:

> *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.*

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

4 Unattended Noise Monitoring

A SVAN 954 environmental noise logger (S/N 23816) was deployed at monitoring location R4 adjacent the Angus Place pit top on Tuesday 25 June 2013 and retrieved on Wednesday 26 June 2013. The unattended noise logger was programmed to continuously record statistical noise level indices in 15 minute intervals including the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{A99}, L_{Amin} and L_{Aeq}.

During logger deployment it was noted that noise from Angus Place surface operations dominated the ambient noise levels at this location.

A summary of the daily and overall noise levels for the monitoring period is provided in **Table 10**. Results are also displayed graphically in **Appendix D**.

Table 10 Unattended Noise Monitoring Results – R4 Angus Place

Location	Period	LA1	LA10	RBL (LA90)	LAeq
R4 – Angus Place	Daytime	63	59	47	73
	Evening	61	58	52	65
	Night	59	57	48	67

Notes: Daytime 7.00 am - 6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 7.00 am, On Sundays and Public Holidays, Daytime 8.00 am -6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 8.00 am.
The RBL is the Rating Background Level as described by the NSW INP.
The overall LAeq is the logarithmically averaged equivalent continuous noise level.
The median LA10 is the middle LA10 noise level when sorted in ascending or descending order.
The median LA1 is the middle LA1 noise level when sorted in ascending or descending order.

5 Conclusion

An assessment of noise emissions from Angus Place operations, inclusive of the Wallerawang Haul Road has been conducted by SLR for the quarter ending July 2013. Operator attended noise measurements were conducted at Sharpe, Mason and Neubeck Street Residences during the day, evening and night-time periods on Tuesday 25 June 2013 and Wednesday 26 June 2013.

The assessment and analysis of the results of the June 2013 operator attended noise monitoring has shown that Angus Place noise emission levels meet the PA noise limits at all monitoring locations during the day, evening and night-time noise monitoring periods.

I trust the preceding meets your current requirements. If you have any questions or would like any further information please do not hesitate to contact me on (02) 4908 4500 or email nvandenberg@slrconsulting.com

Yours sincerely

Nicholas Vandenberg
Project Consultant – Noise and Vibration

NOISE MONITORING LOCATIONS

DATE	3.4.2007
SEAM	SURFACE
DRAWN	ADM
REFERENCE	N:\SHARED\PLANS\ANGUS Environmental\Figure1 Noise Monitoring Locations
SCALE	DIAGRAM ONLY

Figure 1 : Noise Monitoring Locations

● Attended
■ Unattended

PLOTFILE No.

Centennial Angus Place

DRG. No.

WALLERAWANG HAUL ROAD TRUCK LOG

Angus Place Colliery Transactions at Wallerawang Power Station

On: 25-Jun-2013 and 26-Jun-2013

Angus Place

Incoming Date/Time	Outgoing Date/Time	Truck Rego	Nett Weight(Tonnes)
25/06/13 07:08:11	25/06/13 07:12:58	BT 07 FL	50.40
25/06/13 07:15:06	25/06/13 07:17:24	BR 65 PD	48.90
25/06/13 07:16:12	25/06/13 07:19:45	BT 06 FL	38.80
25/06/13 07:19:26	25/06/13 07:23:07	NV 48 HB	49.75
25/06/13 07:20:56	25/06/13 07:24:06	BI 32 GE	39.00
25/06/13 07:23:34	25/06/13 07:26:39	NV 87 GG	46.00
25/06/13 07:25:15	25/06/13 07:28:21	NV 46 HB	51.35
25/06/13 07:29:16	25/06/13 07:32:45	BT 07 FL	48.95
25/06/13 07:30:40	25/06/13 07:33:48	AQ 05 LL	43.80
25/06/13 07:36:26	25/06/13 07:38:36	BR 65 PD	48.45
25/06/13 07:39:58	25/06/13 07:43:52	BT 06 FL	38.45
25/06/13 07:42:47	25/06/13 07:46:34	NV 48 HB	50.35
25/06/13 07:45:36	25/06/13 07:49:07	BI 32 GE	41.85
25/06/13 07:48:29	25/06/13 07:51:38	NV 87 GG	45.85
25/06/13 07:49:40	25/06/13 07:52:25	NV 46 HB	50.55
25/06/13 07:53:32	25/06/13 07:56:37	BT 07 FL	49.70
25/06/13 07:55:17	25/06/13 08:00:01	AQ 05 LL	44.80
25/06/13 08:00:16	25/06/13 08:02:32	BR 65 PD	49.30
25/06/13 08:02:54	25/06/13 08:06:47	BT 06 FL	38.85
25/06/13 08:08:08	25/06/13 08:16:46	NV 48 HB	49.45
25/06/13 08:11:14	25/06/13 08:15:00	BI 32 GE	38.85
25/06/13 08:12:25	25/06/13 08:15:49	NV 87 GG	45.75
25/06/13 08:15:01	25/06/13 08:19:03	NV 46 HB	51.40
25/06/13 08:17:33	25/06/13 08:20:48	BT 07 FL	48.90
25/06/13 08:18:58	25/06/13 08:21:52	AQ 05 LL	40.70
25/06/13 08:23:29	25/06/13 08:25:46	BR 65 PD	48.55
25/06/13 08:24:36	25/06/13 08:28:25	BT 06 FL	38.95
25/06/13 08:31:27	25/06/13 08:34:35	BI 32 GE	34.45
25/06/13 08:32:16	25/06/13 09:02:12	NV 87 GG	46.30
25/06/13 08:35:54	25/06/13 08:39:08	NV 48 HB	50.60
25/06/13 08:40:33	25/06/13 08:43:42	NV 46 HB	51.00
25/06/13 08:44:43	25/06/13 08:47:47	BT 07 FL	49.15
25/06/13 08:45:53	25/06/13 08:49:30	AQ 05 LL	42.70
25/06/13 08:48:58	25/06/13 08:51:08	BR 65 PD	49.05
25/06/13 08:51:33	25/06/13 08:55:33	BT 06 FL	38.35
25/06/13 08:53:26	25/06/13 08:57:09	BI 32 GE	35.45
25/06/13 08:57:43	25/06/13 09:08:56	NV 48 HB	49.75
25/06/13 08:59:54	25/06/13 09:27:32	NV 46 HB	51.35
25/06/13 09:05:54	25/06/13 09:09:38	BR 49 TC	47.95
25/06/13 09:08:42	25/06/13 09:12:11	BT 07 FL	49.05
25/06/13 09:10:12	25/06/13 09:13:29	AQ 05 LL	46.35
25/06/13 09:12:52	25/06/13 09:15:35	BR 65 PD	49.55
25/06/13 09:20:45	25/06/13 09:24:11	BT 06 FL	39.75
25/06/13 09:22:27	25/06/13 09:26:28	BI 32 GE	44.45
25/06/13 09:25:59	25/06/13 09:28:55	BR 49 TC	48.80
25/06/13 09:28:40	25/06/13 09:32:26	BT 07 FL	49.35
25/06/13 09:29:49	25/06/13 09:33:39	AQ 05 LL	42.80
25/06/13 09:33:45	25/06/13 09:35:56	BR 65 PD	49.30
25/06/13 09:39:56	25/06/13 09:42:34	NV 87 GG	43.80
25/06/13 09:42:19	25/06/13 09:46:17	BT 06 FL	36.75
25/06/13 09:43:50	25/06/13 09:47:52	BI 32 GE	37.80
25/06/13 09:46:37	25/06/13 09:49:24	NV 46 HB	51.15

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On: 25-Jun-2013 and 26-Jun-2013

25/06/13 09:53:26	25/06/13 09:57:25	BR 49 TC	47.75
25/06/13 09:54:31	25/06/13 09:58:30	AQ 05 LL	43.75
25/06/13 09:57:18	25/06/13 09:59:27	BR 65 PD	48.10
25/06/13 09:59:16	25/06/13 10:02:06	NV 87 GG	46.05
25/06/13 10:01:38	25/06/13 10:05:29	BT 06 FL	41.85
25/06/13 10:03:28	25/06/13 10:07:05	BI 32 GE	36.45
25/06/13 10:05:08	25/06/13 10:09:34	NV 46 HB	50.25
25/06/13 10:12:50	25/06/13 10:16:41	BT 07 FL	48.45
25/06/13 10:15:30	25/06/13 10:21:49	BR 49 TC	47.30
25/06/13 10:16:25	25/06/13 10:22:35	AQ 05 LL	43.95
25/06/13 10:21:46	25/06/13 10:24:04	BR 65 PD	48.30
25/06/13 10:23:38	25/06/13 10:26:53	NV 87 GG	44.30
25/06/13 10:27:21	25/06/13 10:31:08	BT 06 FL	40.60
25/06/13 10:29:23	25/06/13 10:32:30	BI 32 GE	39.55
25/06/13 10:30:49	25/06/13 10:34:45	NV 46 HB	49.90
25/06/13 10:33:38	25/06/13 10:37:10	BT 07 FL	48.85
25/06/13 10:37:36	25/06/13 10:41:00	BR 49 TC	47.40
25/06/13 10:38:56	25/06/13 10:41:48	AQ 05 LL	42.60
25/06/13 10:40:58	25/06/13 10:43:09	BR 65 PD	48.60
25/06/13 10:45:56	25/06/13 10:48:50	NV 87 GG	44.25
25/06/13 10:48:31	25/06/13 10:52:24	BT 06 FL	37.15
25/06/13 10:49:46	25/06/13 10:53:36	BI 32 GE	33.85
25/06/13 10:54:54	25/06/13 10:58:37	NV 46 HB	49.90
25/06/13 10:58:46	25/06/13 11:01:48	BT 07 FL	47.55
25/06/13 11:00:58	25/06/13 11:04:32	BR 49 TC	45.20
25/06/13 11:02:36	25/06/13 11:06:03	AQ 05 LL	45.80
25/06/13 11:04:34	25/06/13 11:06:48	BR 65 PD	47.20
25/06/13 11:10:31	25/06/13 11:13:36	NV 48 HB	49.95
25/06/13 11:11:21	25/06/13 11:14:22	NV 87 GG	43.55
25/06/13 11:13:19	25/06/13 11:18:04	BT 06 FL	40.40
25/06/13 11:15:25	25/06/13 11:19:27	BI 32 GE	38.10
25/06/13 11:17:03	25/06/13 11:20:12	NV 46 HB	51.50
25/06/13 11:22:10	25/06/13 11:25:07	BT 07 FL	48.70
25/06/13 11:24:19	25/06/13 11:27:31	BR 49 TC	47.70
25/06/13 11:26:01	25/06/13 11:29:14	AQ 05 LL	42.85
25/06/13 11:28:38	25/06/13 11:31:15	BR 65 PD	47.85
25/06/13 11:31:42	25/06/13 11:34:48	NV 48 HB	50.10
25/06/13 11:33:02	25/06/13 11:35:44	NV 87 GG	44.10
25/06/13 11:37:34	25/06/13 11:41:07	BT 06 FL	38.20
25/06/13 11:39:48	25/06/13 11:43:12	BI 32 GE	40.85
25/06/13 11:43:09	25/06/13 11:46:07	NV 46 HB	50.10
25/06/13 11:45:28	25/06/13 11:53:31	BT 07 FL	49.25
25/06/13 11:47:55	25/06/13 11:51:10	BR 49 TC	48.10
25/06/13 11:49:30	25/06/13 11:52:43	AQ 05 LL	44.40
25/06/13 11:51:47	25/06/13 11:54:13	BR 65 PD	48.15
25/06/13 11:55:47	25/06/13 12:00:21	NV 48 HB	49.85
25/06/13 11:56:31	25/06/13 11:59:20	NV 87 GG	45.05
25/06/13 11:59:02	25/06/13 12:04:29	BT 06 FL	38.75
25/06/13 12:04:45	25/06/13 12:08:18	BI 32 GE	40.30
25/06/13 12:06:07	25/06/13 12:12:51	NV 46 HB	50.80
25/06/13 12:08:32	25/06/13 12:11:58	BR 49 TC	47.45
25/06/13 12:13:08	25/06/13 12:16:10	AQ 05 LL	44.05
25/06/13 12:16:52	25/06/13 12:19:54	BT 07 FL	49.05
25/06/13 12:19:48	25/06/13 12:22:53	BR 65 PD	48.30
25/06/13 12:21:42	25/06/13 12:24:56	NV 48 HB	49.10

Angus Place Colliery Transactions at Wallerawang Power Station

On: 25-Jun-2013 and 26-Jun-2013

25/06/13 12:23:06	25/06/13 12:27:42	BI 32 GE	38.85
25/06/13 12:28:56	25/06/13 12:32:10	BR 49 TC	47.40
25/06/13 12:32:22	25/06/13 12:35:37	NV 46 HB	51.35
25/06/13 12:33:58	25/06/13 12:36:56	AQ 05 LL	41.90
25/06/13 12:36:36	25/06/13 12:39:44	BT 07 FL	49.20
25/06/13 12:39:19	25/06/13 12:41:21	BR 65 PD	49.70
25/06/13 12:42:30	25/06/13 12:45:58	NV 48 HB	50.10
25/06/13 12:44:48	25/06/13 12:48:04	BI 32 GE	41.00
25/06/13 12:47:26	25/06/13 12:50:43	NV 87 GG	43.00
25/06/13 12:49:37	25/06/13 12:53:41	BR 49 TC	47.65
25/06/13 12:52:42	25/06/13 12:55:50	NV 46 HB	50.00
25/06/13 12:53:51	25/06/13 12:57:10	BT 06 FL	39.10
25/06/13 12:56:32	25/06/13 12:59:31	BT 07 FL	48.50
25/06/13 12:58:52	25/06/13 13:01:48	BR 65 PD	47.00
25/06/13 13:01:06	25/06/13 13:01:39	NV 48 HB	48.40
25/06/13 13:04:08	25/06/13 13:07:25	BI 32 GE	42.85
25/06/13 13:06:42	25/06/13 13:09:25	NV 87 GG	43.75
25/06/13 13:10:15	25/06/13 13:13:39	NV 46 HB	50.30
25/06/13 13:16:29	25/06/13 13:20:02	BT 06 FL	37.00
25/06/13 13:18:21	25/06/13 13:21:13	BR 49 TC	47.40
25/06/13 13:20:56	25/06/13 13:23:27	BT 07 FL	49.00
25/06/13 13:21:46	25/06/13 13:25:35	AQ 05 LL	44.20
25/06/13 13:24:45	25/06/13 13:27:21	BR 65 PD	48.05
25/06/13 13:26:39	25/06/13 13:29:34	NV 48 HB	48.65
25/06/13 13:31:44	25/06/13 13:35:41	BI 32 GE	40.75
25/06/13 13:33:59	25/06/13 13:37:14	NV 87 GG	45.45
25/06/13 13:37:21	25/06/13 13:40:55	BT 06 FL	39.25
25/06/13 13:40:31	25/06/13 13:43:54	BT 07 FL	48.85
25/06/13 13:42:26	25/06/13 13:46:01	AQ 05 LL	43.50
25/06/13 13:44:59	25/06/13 13:47:45	BR 65 PD	48.20
25/06/13 13:47:32	25/06/13 13:50:37	NV 48 HB	49.65
25/06/13 13:51:01	25/06/13 13:54:17	BI 32 GE	40.30
25/06/13 13:53:53	25/06/13 13:56:29	NV 87 GG	44.55
25/06/13 13:56:12	25/06/13 13:59:52	BT 06 FL	40.10
25/06/13 13:59:34	25/06/13 14:02:34	BT 07 FL	47.15
25/06/13 14:02:42	25/06/13 14:05:28	AQ 05 LL	43.40
25/06/13 14:05:23	25/06/13 14:08:07	BR 65 PD	48.25
25/06/13 14:07:47	25/06/13 14:11:07	BR 49 TC	46.50
25/06/13 14:09:35	25/06/13 14:12:15	NV 48 HB	49.40
25/06/13 14:12:04	25/06/13 14:14:39	NV 46 HB	50.80
25/06/13 14:15:23	25/06/13 14:19:20	BI 32 GE	41.85
25/06/13 14:17:43	25/06/13 14:20:40	NV 87 GG	46.80
25/06/13 14:18:49	25/06/13 14:22:28	BT 06 FL	38.90
25/06/13 14:20:28	25/06/13 14:23:35	BT 07 FL	48.50
25/06/13 14:22:23	25/06/13 14:25:17	AQ 05 LL	44.25
25/06/13 14:24:48	25/06/13 14:27:27	BR 65 PD	47.80
25/06/13 14:27:26	25/06/13 14:31:26	BR 49 TC	47.20
25/06/13 14:29:18	25/06/13 14:32:44	NV 48 HB	48.45
25/06/13 14:32:13	25/06/13 14:35:35	NV 46 HB	51.40
25/06/13 14:34:49	25/06/13 14:38:45	BI 32 GE	43.10
25/06/13 14:35:43	25/06/13 14:39:57	NV 87 GG	44.45
25/06/13 14:37:38	25/06/13 14:41:10	BT 06 FL	39.35
25/06/13 14:40:36	25/06/13 14:43:48	BT 07 FL	49.25
25/06/13 14:42:41	25/06/13 14:46:19	AQ 05 LL	46.90
25/06/13 14:45:45	25/06/13 14:49:13	BR 65 PD	48.25

Angus Place Colliery Transactions at Wallerawang Power Station

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25/06/13 14:47:37	25/06/13 14:50:37	BR 49 TC	47.25
25/06/13 14:49:44	25/06/13 14:53:02	NV 48 HB	48.50
25/06/13 14:52:36	25/06/13 15:03:58	NV 46 HB	49.90
25/06/13 14:55:41	25/06/13 15:00:28	BI 32 GE	40.60
25/06/13 14:56:35	25/06/13 15:01:21	BR 72 ZC	41.85
25/06/13 14:58:58	25/06/13 15:02:24	NV 87 GG	43.55
25/06/13 15:00:56	25/06/13 15:04:56	BT 06 FL	39.45
25/06/13 15:03:26	25/06/13 15:11:28	BT 07 FL	45.35
25/06/13 15:38:55	25/06/13 15:42:38	BS 00 WE	41.50
25/06/13 15:43:35	25/06/13 15:46:38	AQ 05 LL	47.50
25/06/13 15:45:40	25/06/13 15:48:07	BR 65 PD	49.60
25/06/13 15:46:36	25/06/13 15:50:00	BI 16 GE	43.10
25/06/13 15:48:08	25/06/13 15:51:49	NV 48 HB	49.95
25/06/13 15:50:05	25/06/13 15:53:58	BR 49 TC	47.85
25/06/13 15:52:18	25/06/13 15:54:58	NV 87 GG	47.45
25/06/13 15:53:59	25/06/13 15:56:52	NV 46 HB	51.40
25/06/13 15:56:20	25/06/13 15:59:29	BT 07 FL	49.00
25/06/13 15:58:16	25/06/13 16:01:32	BS 00 WE	40.50
25/06/13 16:01:02	25/06/13 16:03:47	AQ 05 LL	43.05
25/06/13 16:03:16	25/06/13 16:05:51	BR 65 PD	47.70
25/06/13 16:05:30	25/06/13 16:09:21	BI 16 GE	44.40
25/06/13 16:08:15	25/06/13 16:11:10	NV 48 HB	49.55
25/06/13 16:09:42	25/06/13 16:12:18	NV 87 GG	42.65
25/06/13 16:12:26	25/06/13 16:15:49	BR 49 TC	47.35
25/06/13 16:14:14	25/06/13 16:18:58	NV 46 HB	49.50
25/06/13 16:18:14	25/06/13 16:21:20	BT 07 FL	48.70
25/06/13 16:19:17	25/06/13 16:23:01	BS 00 WE	40.70
25/06/13 16:20:25	25/06/13 16:24:09	AQ 05 LL	44.15
25/06/13 16:22:52	25/06/13 16:25:17	BR 65 PD	48.15
25/06/13 16:26:21	25/06/13 16:29:54	BI 16 GE	44.05
25/06/13 16:28:50	25/06/13 16:32:36	NV 48 HB	49.30
25/06/13 16:35:34	25/06/13 16:38:54	NV 87 GG	43.35
25/06/13 16:37:44	25/06/13 16:41:10	BR 49 TC	46.55
25/06/13 16:40:21	25/06/13 16:43:35	NV 46 HB	49.85
25/06/13 16:43:24	25/06/13 16:46:56	BT 07 FL	49.05
25/06/13 16:45:52	25/06/13 16:49:42	BS 00 WE	41.05
25/06/13 16:52:20	25/06/13 16:55:59	AQ 05 LL	45.70
25/06/13 16:53:18	25/06/13 16:56:47	BR 65 PD	47.60
25/06/13 16:54:26	25/06/13 16:57:57	BI 16 GE	44.25
25/06/13 16:56:42	25/06/13 17:00:02	NV 48 HB	50.80
25/06/13 16:57:41	25/06/13 17:00:41	NV 87 GG	44.10
25/06/13 16:58:57	25/06/13 17:01:33	BR 49 TC	49.55
25/06/13 17:02:44	25/06/13 17:06:34	NV 46 HB	51.45
25/06/13 17:06:02	25/06/13 17:10:06	BT 07 FL	50.05
25/06/13 17:09:11	25/06/13 17:13:11	BS 00 WE	41.45
25/06/13 17:11:48	25/06/13 17:15:00	AQ 05 LL	45.10
25/06/13 17:13:55	25/06/13 17:17:52	BR 65 PD	49.35
25/06/13 17:15:52	25/06/13 17:20:18	BI 16 GE	48.25
25/06/13 17:18:28	25/06/13 17:23:06	NV 48 HB	50.75
25/06/13 17:20:13	25/06/13 17:24:37	NV 87 GG	46.35
25/06/13 17:22:41	25/06/13 17:27:26	BR 49 TC	47.85
25/06/13 17:24:59	25/06/13 17:28:18	NV 46 HB	51.20
25/06/13 17:30:10	25/06/13 17:33:24	BT 07 FL	49.90
25/06/13 17:33:03	25/06/13 17:37:14	BS 00 WE	42.10
25/06/13 17:36:32	25/06/13 17:40:23	AQ 05 LL	45.60

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On: 25-Jun-2013 and 26-Jun-2013

25/06/13 17:37:52	25/06/13 17:41:19	BR 65 PD	49.20
25/06/13 17:39:44	25/06/13 17:43:00	BI 16 GE	48.80
25/06/13 17:41:09	25/06/13 17:45:32	NV 48 HB	50.50
25/06/13 17:42:16	25/06/13 17:46:17	NV 87 GG	45.00
25/06/13 17:45:34	25/06/13 17:50:14	BR 49 TC	48.15
25/06/13 17:48:00	25/06/13 17:51:12	NV 46 HB	51.00
25/06/13 17:53:59	25/06/13 17:57:03	AQ 05 LL	43.45
25/06/13 17:58:12	25/06/13 18:00:25	BR 65 PD	47.50
25/06/13 18:00:10	25/06/13 18:03:00	BI 16 GE	48.80
25/06/13 18:03:26	25/06/13 18:06:51	NV 48 HB	50.80
25/06/13 18:16:02	25/06/13 18:18:22	BR 65 PD	48.75
25/06/13 18:18:59	25/06/13 18:22:06	BI 16 GE	49.10
25/06/13 18:23:09	25/06/13 18:26:23	NV 48 HB	50.45
25/06/13 18:33:31	25/06/13 18:36:00	BR 65 PD	50.05
25/06/13 18:37:49	25/06/13 18:41:27	BI 16 GE	50.75
25/06/13 18:43:38	25/06/13 18:46:54	NV 48 HB	50.50
25/06/13 18:51:26	25/06/13 18:53:55	BR 65 PD	49.80
25/06/13 18:57:04	25/06/13 18:59:58	BI 16 GE	50.60
25/06/13 19:03:22	25/06/13 19:07:37	NV 48 HB	50.80
25/06/13 19:09:56	25/06/13 19:12:26	BR 65 PD	49.95
25/06/13 19:16:05	25/06/13 19:19:26	BI 16 GE	49.60
25/06/13 19:24:26	25/06/13 19:28:14	NV 48 HB	49.35
25/06/13 19:28:41	25/06/13 19:30:59	BR 65 PD	49.95
25/06/13 19:35:52	25/06/13 19:38:45	BI 16 GE	49.95
25/06/13 19:44:42	25/06/13 19:48:06	NV 48 HB	49.75
25/06/13 19:46:42	25/06/13 19:49:23	BR 65 PD	50.00
25/06/13 19:54:22	25/06/13 19:57:05	BI 16 GE	50.20
25/06/13 20:04:40	25/06/13 20:08:32	NV 48 HB	49.95
25/06/13 20:06:19	25/06/13 20:09:15	BR 65 PD	50.05
25/06/13 20:14:02	25/06/13 20:16:56	BI 16 GE	49.60
25/06/13 20:25:21	25/06/13 20:27:56	BR 65 PD	49.20
25/06/13 20:31:58	25/06/13 20:35:03	BI 16 GE	49.65
25/06/13 20:44:54	25/06/13 20:47:22	BR 65 PD	49.10
25/06/13 20:49:13	25/06/13 20:53:07	NV 48 HB	51.00
25/06/13 20:51:25	25/06/13 20:54:05	BI 16 GE	50.10
25/06/13 21:06:05	25/06/13 21:09:07	BR 65 PD	50.00
25/06/13 21:09:15	25/06/13 21:13:00	NV 48 HB	49.95
25/06/13 21:11:15	25/06/13 21:14:09	BI 16 GE	50.20
25/06/13 21:29:18	25/06/13 21:33:06	NV 48 HB	50.65
25/06/13 21:31:20	25/06/13 21:34:18	BI 16 GE	50.45
		Total	**11928.45 Tonnes**
		Total	**11928.45 Tonnes**
		Total number	**257**

Incoming Date/Time	Outgoing Date/Time	Truck Rego	Nett Weight(Tonnes)
26/06/13 07:09:31	26/06/13 07:16:15	BS 34 HK	49.70
26/06/13 08:25:48	26/06/13 08:28:33	BS 34 HK	49.10
26/06/13 10:26:40	26/06/13 10:30:38	NV 48 HB	49.45
26/06/13 10:27:57	26/06/13 10:31:42	BT 06 FL	40.05
26/06/13 10:29:07	26/06/13 10:32:52	BR 49 TC	48.05
26/06/13 10:30:52	26/06/13 10:34:04	BT 07 FL	49.20
26/06/13 10:32:11	26/06/13 10:34:57	BR 65 PD	49.30
26/06/13 10:34:04	26/06/13 10:36:44	NV 87 GG	45.20
26/06/13 10:35:11	26/06/13 10:38:39	BI 32 GE	40.80

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On: 25-Jun-2013 and 26-Jun-2013

26/06/13 10:37:50	26/06/13 10:41:11	BI 16 GE	43.55
26/06/13 10:43:00	26/06/13 10:46:37	AQ 05 LL	45.45
26/06/13 10:48:19	26/06/13 10:51:25	NV 48 HB	49.95
26/06/13 10:49:47	26/06/13 10:53:19	BT 06 FL	36.35
26/06/13 10:50:46	26/06/13 10:54:20	BR 72 ZC	42.55
26/06/13 10:52:43	26/06/13 10:57:10	BS 34 HK	46.35
26/06/13 10:56:04	26/06/13 10:59:31	BR 49 TC	48.45
26/06/13 10:57:32	26/06/13 11:01:19	BT 07 FL	49.45
26/06/13 11:10:11	26/06/13 11:13:50	BS 00 WE	41.45
26/06/13 11:12:55	26/06/13 11:15:46	BR 65 PD	49.60
26/06/13 11:13:59	26/06/13 11:17:05	NV 87 GG	44.80
26/06/13 11:15:11	26/06/13 11:19:14	BI 32 GE	36.95
26/06/13 11:16:46	26/06/13 11:20:13	BI 16 GE	41.95
26/06/13 11:19:12	26/06/13 11:23:18	AQ 05 LL	43.15
26/06/13 11:22:29	26/06/13 11:26:14	NV 48 HB	48.70
26/06/13 11:25:25	26/06/13 11:29:37	BT 06 FL	39.60
26/06/13 11:27:34	26/06/13 11:31:47	BR 72 ZC	43.00
26/06/13 11:29:28	26/06/13 11:32:35	BS 34 HK	48.85
26/06/13 11:32:10	26/06/13 11:36:14	BR 49 TC	48.80
26/06/13 11:38:10	26/06/13 11:40:17	BT 07 FL	49.55
26/06/13 11:39:12	26/06/13 11:43:12	BS 00 WE	41.20
26/06/13 11:40:07	26/06/13 11:42:22	BR 65 PD	48.55
26/06/13 11:41:58	26/06/13 11:44:45	NV 87 GG	44.05
26/06/13 11:44:32	26/06/13 11:47:39	BI 32 GE	39.00
26/06/13 11:46:27	26/06/13 11:49:12	BI 16 GE	42.35
26/06/13 11:47:56	26/06/13 11:51:42	AQ 05 LL	44.80
26/06/13 11:49:23	26/06/13 11:53:48	NV 48 HB	50.55
26/06/13 11:53:20	26/06/13 11:56:21	BR 72 ZC	42.05
26/06/13 11:55:20	26/06/13 11:58:10	BS 34 HK	48.50
26/06/13 11:56:36	26/06/13 12:01:30	BT 06 FL	42.30
26/06/13 11:57:55	26/06/13 12:02:40	BR 49 TC	47.95
26/06/13 12:00:33	26/06/13 12:03:46	BT 07 FL	48.35
26/06/13 12:02:29	26/06/13 12:04:48	BR 65 PD	49.05
26/06/13 12:04:12	26/06/13 12:08:42	BS 00 WE	41.20
26/06/13 12:06:57	26/06/13 12:09:56	NV 87 GG	45.70
26/06/13 12:09:10	26/06/13 12:12:27	BI 32 GE	40.25
26/06/13 12:11:04	26/06/13 12:14:27	BI 16 GE	42.90
26/06/13 12:12:00	26/06/13 12:16:00	AQ 05 LL	45.85
26/06/13 12:15:32	26/06/13 12:18:27	BR 72 ZC	42.05
26/06/13 12:17:02	26/06/13 12:20:56	BS 34 HK	48.40
26/06/13 12:23:32	26/06/13 12:27:32	BR 49 TC	47.50
26/06/13 12:26:49	26/06/13 12:30:15	BT 07 FL	49.25
26/06/13 12:27:57	26/06/13 12:31:23	BR 65 PD	48.95
26/06/13 12:29:36	26/06/13 12:33:19	NV 48 HB	49.65
26/06/13 12:32:08	26/06/13 12:36:38	BS 00 WE	41.50
26/06/13 12:34:29	26/06/13 12:38:04	NV 87 GG	41.85
26/06/13 12:36:41	26/06/13 12:40:05	BI 32 GE	38.25
26/06/13 12:38:02	26/06/13 12:41:19	BI 16 GE	43.10
26/06/13 12:40:02	26/06/13 12:43:26	AQ 05 LL	44.70
26/06/13 12:41:13	26/06/13 12:44:47	BR 72 ZC	43.30
26/06/13 12:44:06	26/06/13 12:46:20	BS 34 HK	50.00
26/06/13 12:45:31	26/06/13 12:49:02	BR 49 TC	48.10
26/06/13 12:48:18	26/06/13 12:51:10	BT 07 FL	48.75
26/06/13 12:49:49	26/06/13 12:51:58	BR 65 PD	48.70
26/06/13 12:51:25	26/06/13 12:54:46	NV 48 HB	48.90

Angus Place Colliery Transactions at Wallerawang Power Station

On: 25-Jun-2013 and 26-Jun-2013

26/06/13 12:55:15	26/06/13 12:58:35	BS 00 WE	41.25
26/06/13 12:57:13	26/06/13 13:00:12	NV 87 GG	45.05
26/06/13 12:59:47	26/06/13 13:03:11	BT 06 FL	35.70
26/06/13 13:04:25	26/06/13 13:07:31	BI 32 GE	40.10
26/06/13 13:06:39	26/06/13 13:10:12	BI 16 GE	42.00
26/06/13 13:08:57	26/06/13 13:12:10	AQ 05 LL	43.50
26/06/13 13:10:17	26/06/13 13:13:46	BR 72 ZC	42.25
26/06/13 13:11:13	26/06/13 13:14:47	BS 34 HK	48.40
26/06/13 13:13:20	26/06/13 13:16:18	BR 49 TC	48.10
26/06/13 13:26:30	26/06/13 13:29:29	BT 07 FL	48.45
26/06/13 13:29:01	26/06/13 13:31:33	BR 65 PD	48.10
26/06/13 13:30:39	26/06/13 13:34:34	NV 48 HB	48.65
26/06/13 13:33:09	26/06/13 13:36:28	BS 00 WE	41.30
26/06/13 13:35:05	26/06/13 13:38:11	NV 87 GG	45.00
26/06/13 13:38:56	26/06/13 13:42:55	BT 06 FL	38.80
26/06/13 13:42:01	26/06/13 13:44:48	BI 16 GE	23.90
26/06/13 13:42:47	26/06/13 13:47:15	AQ 05 LL	43.05
26/06/13 13:44:02	26/06/13 13:48:16	BR 49 TC	46.55
26/06/13 13:46:42	26/06/13 13:49:43	BR 72 ZC	42.45
26/06/13 13:49:06	26/06/13 13:51:39	BS 34 HK	49.35
26/06/13 13:50:55	26/06/13 13:54:17	BI 32 GE	37.70
26/06/13 13:53:29	26/06/13 13:56:35	BT 07 FL	47.90
26/06/13 13:55:07	26/06/13 13:58:49	NV 48 HB	48.90
26/06/13 13:58:55	26/06/13 14:02:30	BT 06 FL	38.95
26/06/13 14:01:35	26/06/13 14:04:21	BI 16 GE	40.75
26/06/13 14:03:56	26/06/13 14:06:51	AQ 05 LL	43.95
26/06/13 14:06:15	26/06/13 14:09:45	BR 72 ZC	41.55
26/06/13 14:08:24	26/06/13 14:11:03	BR 65 PD	47.80
26/06/13 14:10:29	26/06/13 14:13:42	BI 32 GE	35.95
26/06/13 14:13:24	26/06/13 14:16:49	BT 07 FL	48.70
26/06/13 14:15:30	26/06/13 14:19:18	NV 48 HB	49.50
26/06/13 14:17:23	26/06/13 14:20:43	BT 06 FL	37.70
26/06/13 14:18:35	26/06/13 14:21:54	BI 16 GE	41.15
26/06/13 14:24:09	26/06/13 14:30:45	AQ 05 LL	43.90
26/06/13 14:27:52	26/06/13 14:31:39	BR 72 ZC	40.60
26/06/13 14:30:01	26/06/13 14:32:39	BR 65 PD	48.75
26/06/13 14:31:11	26/06/13 14:34:22	BI 32 GE	38.55
26/06/13 14:33:37	26/06/13 14:36:26	NV 87 GG	44.20
26/06/13 14:36:43	26/06/13 14:38:41	BS 34 HK	47.30
26/06/13 14:38:10	26/06/13 14:41:27	BS 00 WE	41.70
26/06/13 14:40:04	26/06/13 14:43:15	BT 07 FL	48.75
26/06/13 14:42:18	26/06/13 14:45:13	NV 48 HB	49.40
26/06/13 14:43:13	26/06/13 14:46:22	BT 06 FL	37.90
26/06/13 14:45:56	26/06/13 14:48:59	BI 16 GE	42.60
26/06/13 14:46:45	26/06/13 14:50:29	AQ 05 LL	43.75
26/06/13 14:49:41	26/06/13 14:52:24	BR 65 PD	48.65
26/06/13 14:51:34	26/06/13 14:54:39	BI 32 GE	43.55
26/06/13 14:52:29	26/06/13 14:55:36	NV 87 GG	44.25
26/06/13 14:54:53	26/06/13 14:57:38	BS 34 HK	49.90
26/06/13 14:55:57	26/06/13 14:59:11	BS 00 WE	41.65
26/06/13 14:58:33	26/06/13 15:01:35	BT 07 FL	48.60
26/06/13 15:00:54	26/06/13 15:04:11	NV 48 HB	48.30
26/06/13 15:02:12	26/06/13 15:14:10	BT 06 FL	40.45
26/06/13 15:03:48	26/06/13 15:06:57	BI 16 GE	44.05
26/06/13 15:07:51	26/06/13 15:10:58	AQ 05 LL	44.45

Angus Place Colliery Transactions at Wallerawang Power Station

On: 25-Jun-2013 and 26-Jun-2013

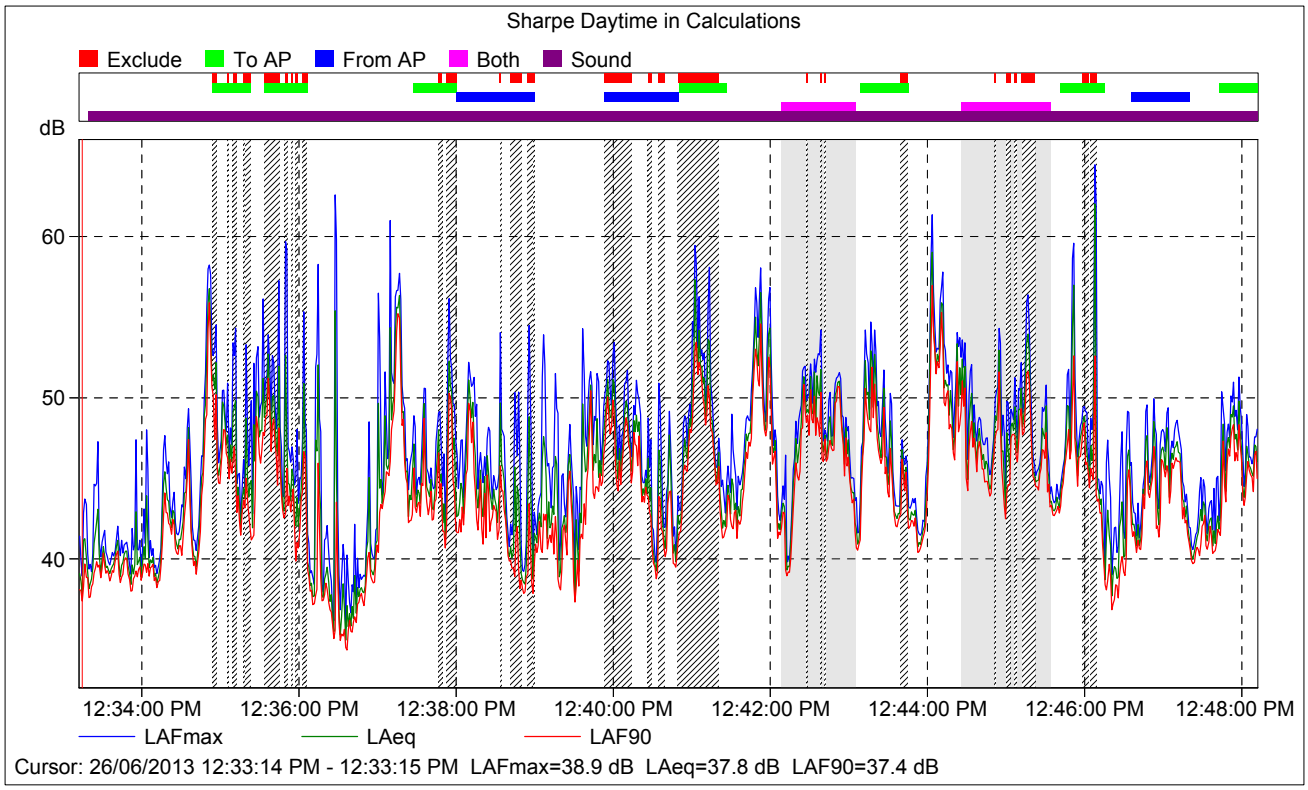
26/06/13 15:10:17	26/06/13 15:12:36	BR 65 PD	48.50
26/06/13 15:13:31	26/06/13 15:16:44	BS 90 BH	37.55
26/06/13 15:15:34	26/06/13 15:18:53	BI 32 GE	41.25
26/06/13 15:16:54	26/06/13 15:21:39	NV 87 GG	45.05
26/06/13 15:19:34	26/06/13 15:22:26	BS 34 HK	48.65
26/06/13 15:21:33	26/06/13 15:25:25	BS 00 WE	41.60
26/06/13 15:22:50	26/06/13 15:26:18	BT 07 FL	48.05
26/06/13 15:24:51	26/06/13 15:28:01	BR 72 ZC	41.05
26/06/13 15:25:52	26/06/13 15:32:25	NV 48 HB	49.45
26/06/13 15:32:13	26/06/13 15:34:58	BI 16 GE	40.30
26/06/13 15:33:03	26/06/13 15:36:25	AQ 05 LL	43.90
26/06/13 15:34:04	26/06/13 15:37:25	BR 65 PD	48.50
26/06/13 15:35:29	26/06/13 15:40:03	BT 06 FL	42.90
26/06/13 15:37:00	26/06/13 15:41:14	BS 90 BH	37.05
26/06/13 15:38:31	26/06/13 15:42:28	BI 32 GE	43.15
26/06/13 15:40:58	26/06/13 15:44:05	NV 87 GG	44.70
26/06/13 15:42:46	26/06/13 15:45:20	BS 34 HK	48.35
26/06/13 15:44:18	26/06/13 15:47:48	BS 00 WE	41.10
26/06/13 15:46:59	26/06/13 15:49:41	BT 07 FL	48.20
26/06/13 15:49:33	26/06/13 15:52:08	BR 72 ZC	41.90
26/06/13 15:51:12	26/06/13 15:53:54	BI 16 GE	40.20
26/06/13 15:53:20	26/06/13 15:57:25	AQ 05 LL	43.05
26/06/13 16:04:17	26/06/13 16:07:16	BR 65 PD	47.35
26/06/13 16:05:24	26/06/13 16:08:26	BT 06 FL	38.10
26/06/13 16:08:20	26/06/13 16:12:28	BI 32 GE	40.00
26/06/13 16:09:19	26/06/13 16:10:17	BS 90 BH	36.15
26/06/13 16:13:31	26/06/13 16:16:16	NV 87 GG	43.65
26/06/13 16:15:29	26/06/13 16:18:15	BS 34 HK	48.30
26/06/13 16:17:27	26/06/13 16:21:36	BS 00 WE	40.50
26/06/13 16:20:38	26/06/13 16:23:43	BT 07 FL	47.75
26/06/13 16:26:34	26/06/13 16:29:18	BR 72 ZC	40.75
26/06/13 16:28:40	26/06/13 16:32:02	BI 16 GE	41.50
26/06/13 16:30:54	26/06/13 16:35:19	NV 48 HB	47.60
26/06/13 16:31:48	26/06/13 16:37:56	AQ 05 LL	47.00
26/06/13 16:33:56	26/06/13 16:36:56	BR 65 PD	47.30
26/06/13 16:35:20	26/06/13 16:38:44	BT 06 FL	38.70
26/06/13 16:37:27	26/06/13 16:40:20	BS 90 BH	38.45
26/06/13 16:42:29	26/06/13 16:45:05	NV 87 GG	43.30
26/06/13 16:44:07	26/06/13 16:47:59	BS 34 HK	49.30
26/06/13 16:47:25	26/06/13 16:51:03	BS 00 WE	41.25
26/06/13 16:49:29	26/06/13 16:52:23	BT 07 FL	48.50
26/06/13 16:50:57	26/06/13 16:53:43	BR 72 ZC	42.05
26/06/13 16:53:06	26/06/13 16:56:25	BI 16 GE	42.75
26/06/13 16:56:23	26/06/13 16:59:35	NV 48 HB	49.10
26/06/13 16:58:43	26/06/13 17:01:13	BR 65 PD	47.70
26/06/13 17:00:21	26/06/13 17:03:19	AQ 05 LL	44.95
26/06/13 17:05:15	26/06/13 17:11:43	BS 90 BH	37.25
26/06/13 17:08:27	26/06/13 17:12:57	NV 87 GG	44.65
26/06/13 17:10:38	26/06/13 17:13:46	BS 34 HK	50.45
26/06/13 17:12:57	26/06/13 17:16:52	BS 00 WE	41.90
26/06/13 17:15:16	26/06/13 17:18:20	BT 07 FL	49.45
26/06/13 17:16:06	26/06/13 17:19:46	BR 72 ZC	35.05
26/06/13 17:17:48	26/06/13 17:20:45	BI 16 GE	46.10
26/06/13 17:22:21	26/06/13 17:26:02	NV 48 HB	50.80
26/06/13 17:24:54	26/06/13 17:27:27	BR 65 PD	49.40

Angus Place Colliery Transactions at Wallerawang Power Station

On: 25-Jun-2013 and 26-Jun-2013

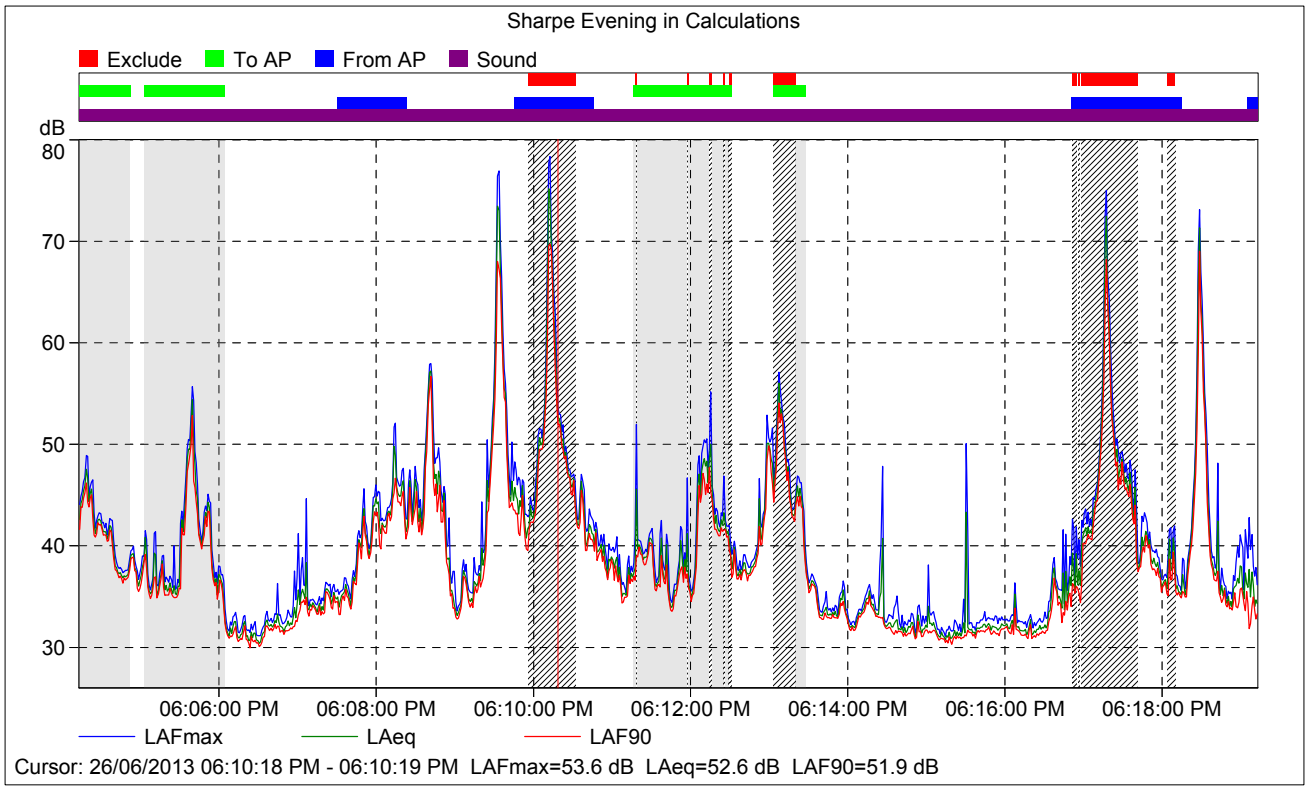
26/06/13 17:26:25	26/06/13 17:29:02	AQ 05 LL	45.50
26/06/13 17:28:29	26/06/13 17:32:04	BS 90 BH	38.70
26/06/13 17:30:22	26/06/13 17:34:43	NV 87 GG	43.90
26/06/13 17:34:04	26/06/13 17:37:01	BS 34 HK	50.85
26/06/13 17:35:30	26/06/13 17:39:05	BS 00 WE	42.40
26/06/13 17:37:55	26/06/13 17:40:50	BT 07 FL	50.90
26/06/13 17:39:26	26/06/13 17:42:00	BR 72 ZC	43.55
26/06/13 17:41:18	26/06/13 17:44:04	BI 16 GE	49.40
26/06/13 17:43:30	26/06/13 17:47:01	NV 48 HB	49.70
26/06/13 17:46:14	26/06/13 17:49:08	BR 65 PD	48.00
26/06/13 17:47:50	26/06/13 17:55:09	AQ 05 LL	46.05
26/06/13 17:49:50	26/06/13 17:52:53	NV 87 GG	44.05
26/06/13 17:52:50	26/06/13 17:56:25	BS 34 HK	50.05
26/06/13 17:56:18	26/06/13 17:59:51	BS 00 WE	41.30
26/06/13 17:59:04	26/06/13 18:01:36	BI 16 GE	48.35
26/06/13 18:04:04	26/06/13 18:07:05	NV 48 HB	49.70
26/06/13 18:06:29	26/06/13 18:08:58	BR 65 PD	48.55
26/06/13 18:13:52	26/06/13 18:16:39	BS 90 BH	39.60
26/06/13 18:16:27	26/06/13 18:19:17	BI 16 GE	47.40
26/06/13 18:23:19	26/06/13 18:27:03	NV 48 HB	49.60
26/06/13 18:25:31	26/06/13 18:28:26	BR 65 PD	49.60
26/06/13 18:32:01	26/06/13 18:36:24	BS 90 BH	38.60
26/06/13 18:42:56	26/06/13 18:46:47	NV 48 HB	50.00
26/06/13 18:45:06	26/06/13 18:47:36	BR 65 PD	48.95
26/06/13 18:51:15	26/06/13 18:55:02	BS 90 BH	39.85
26/06/13 19:02:54	26/06/13 19:06:36	NV 48 HB	50.35
26/06/13 19:04:57	26/06/13 19:07:55	BR 65 PD	50.00
26/06/13 19:09:51	26/06/13 19:13:54	BS 90 BH	41.80
26/06/13 19:22:35	26/06/13 19:26:11	NV 48 HB	48.05
26/06/13 19:24:44	26/06/13 19:27:20	BR 65 PD	48.45
26/06/13 19:28:41	26/06/13 19:34:15	BS 90 BH	40.20
26/06/13 19:41:53	26/06/13 19:45:32	NV 48 HB	50.85
26/06/13 19:44:10	26/06/13 19:46:45	BR 65 PD	49.25
26/06/13 19:49:13	26/06/13 19:52:39	BS 90 BH	40.65
26/06/13 20:01:14	26/06/13 20:04:43	NV 48 HB	50.10
26/06/13 20:04:00	26/06/13 20:06:18	BR 65 PD	50.25
26/06/13 20:08:14	26/06/13 20:11:25	BS 90 BH	41.85
26/06/13 20:21:03	26/06/13 20:24:28	NV 48 HB	50.35
26/06/13 20:23:16	26/06/13 20:25:44	BR 65 PD	49.25
26/06/13 20:26:40	26/06/13 20:29:49	BS 90 BH	40.60
26/06/13 20:40:13	26/06/13 20:43:31	NV 48 HB	50.80
26/06/13 20:43:09	26/06/13 20:45:24	BR 65 PD	48.75
26/06/13 20:45:22	26/06/13 20:48:39	BS 90 BH	41.35
26/06/13 21:08:33	26/06/13 21:12:06	NV 48 HB	50.70
26/06/13 21:11:21	26/06/13 21:14:04	BR 65 PD	48.75
26/06/13 21:13:22	26/06/13 21:16:28	BS 90 BH	40.60
26/06/13 21:33:20	26/06/13 21:40:58	NV 48 HB	49.90
26/06/13 21:34:52	26/06/13 21:39:02	BS 90 BH	41.70
		Total	**9961.20 Tonnes**
		Total	**9961.20 Tonnes**
		Total number	**222**

ATTENDED NOISE MEASUREMENT RESULTS


Sharpe Daytime in Calculations
Exclude
To AP
From AP
Both
Sound
dB
60
50
40
12:34:00 PM
12:36:00 PM
12:38:00 PM
12:40:00 PM
12:42:00 PM
12:44:00 PM
12:46:00 PM
12:48:00 PM
LAFmax
LAeq
LAF90
Cursor: 26/06/2013 12:33:14 PM - 12:33:15 PM LAFmax=38.9 dB LAeq=37.8 dB LAF90=37.4 dB

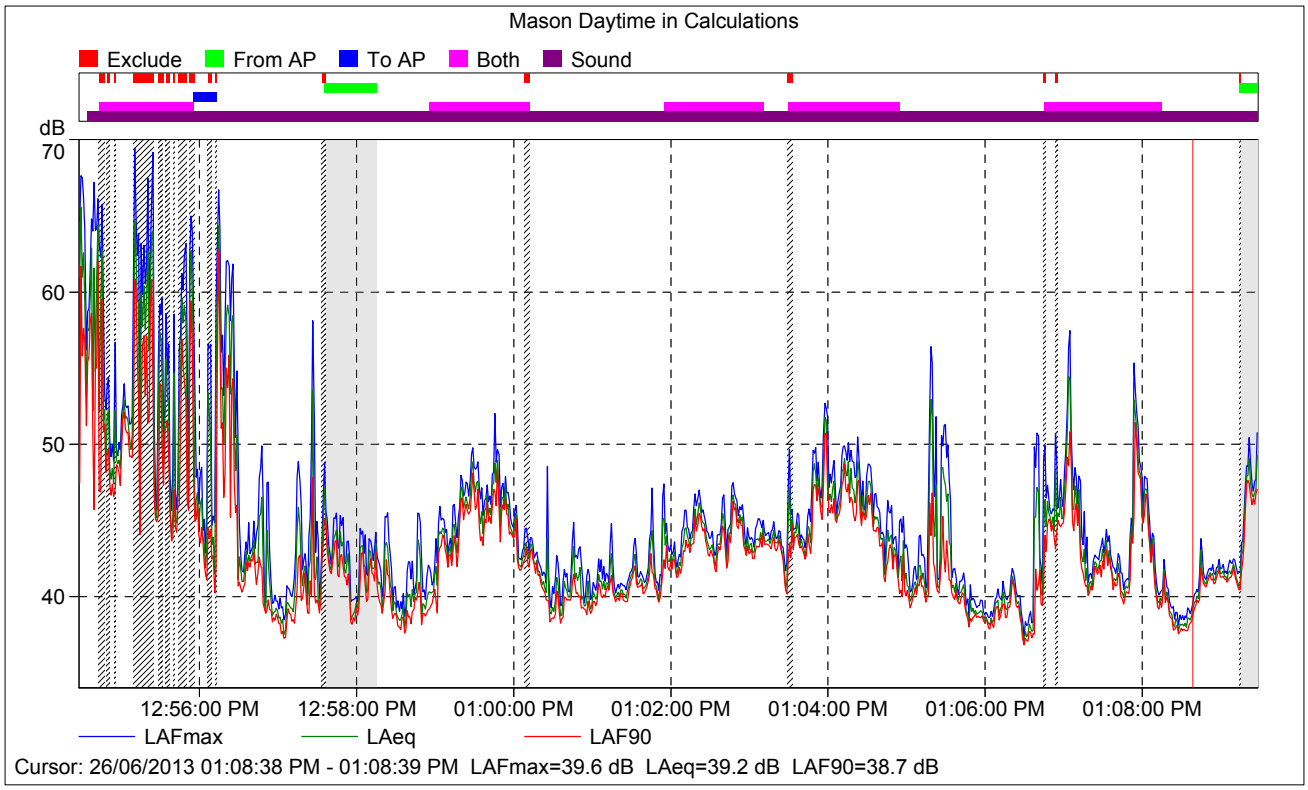
Sharpe Daytime in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	26/06/2013 12:33:12 PM	0.0	62.6	34.1	46.9	0:12:27
Exclude	26/06/2013 12:34:54 PM	0.0	64.4	37.9	49.3	0:02:33
Unmarked	26/06/2013 12:33:12 PM	0.0	43.7	37.2	39.8	0:00:07
(All) Exclude	26/06/2013 12:34:54 PM	0.0	64.4	37.9	49.3	0:02:33
(All) To AP	26/06/2013 12:34:57 PM	0.0	59.6	39.2	47.1	0:02:22
(All) From AP	26/06/2013 12:38:00 PM	0.0	52.2	37.5	45.0	0:01:57
(All) Both	26/06/2013 12:42:08 PM	0.0	54.3	38.8	47.9	0:01:47
(All) Sound	26/06/2013 12:33:19 PM	0.0	62.6	34.1	47.0	0:12:20
Exclude	26/06/2013 12:34:54 PM	0.0	54.5	46.7	51.4	0:00:03
Exclude	26/06/2013 12:35:05 PM	0.0	50.9	45.7	47.7	0:00:01
Exclude	26/06/2013 12:35:09 PM	0.0	54.3	44.7	49.5	0:00:03
Exclude	26/06/2013 12:35:17 PM	0.0	46.2	43.4	44.3	0:00:01
Exclude	26/06/2013 12:35:19 PM	0.0	53.3	41.6	46.0	0:00:04
Exclude	26/06/2013 12:35:33 PM	0.0	57.3	44.4	49.8	0:00:12
Exclude	26/06/2013 12:35:49 PM	0.0	59.7	42.6	50.7	0:00:02
Exclude	26/06/2013 12:35:54 PM	0.0	46.9	43.2	45.6	0:00:01
Exclude	26/06/2013 12:35:57 PM	0.0	48.0	39.7	43.0	0:00:02
Exclude	26/06/2013 12:36:02 PM	0.0	55.3	41.5	47.8	0:00:04
Exclude	26/06/2013 12:37:46 PM	0.0	49.0	46.2	48.0	0:00:01
Exclude	26/06/2013 12:37:48 PM	0.0	47.1	44.4	45.2	0:00:01
Exclude	26/06/2013 12:37:52 PM	0.0	56.2	41.4	48.9	0:00:08
Exclude	26/06/2013 12:38:33 PM	0.0	54.0	45.2	49.7	0:00:01
Exclude	26/06/2013 12:38:41 PM	0.0	50.3	37.9	42.5	0:00:09
Exclude	26/06/2013 12:38:54 PM	0.0	54.5	38.2	45.7	0:00:04
Exclude	26/06/2013 12:38:59 PM	0.0	42.9	39.3	41.6	0:00:01
Exclude	26/06/2013 12:39:53 PM	0.0	53.4	44.1	48.6	0:00:21
Exclude	26/06/2013 12:40:26 PM	0.0	48.7	41.7	44.9	0:00:03
Exclude	26/06/2013 12:40:34 PM	0.0	50.9	40.5	44.5	0:00:05
Exclude	26/06/2013 12:40:49 PM	0.0	59.4	40.8	50.5	0:00:31
Exclude	26/06/2013 12:42:27 PM	0.0	49.8	48.2	49.0	0:00:01
Exclude	26/06/2013 12:42:38 PM	0.0	54.2	50.1	51.8	0:00:01
Exclude	26/06/2013 12:42:41 PM	0.0	48.0	46.9	47.7	0:00:01
Exclude	26/06/2013 12:43:39 PM	0.0	47.4	42.6	45.3	0:00:06
Exclude	26/06/2013 12:44:51 PM	0.0	49.9	47.4	48.9	0:00:01
Exclude	26/06/2013 12:45:00 PM	0.0	49.8	43.9	46.8	0:00:03
Exclude	26/06/2013 12:45:06 PM	0.0	51.2	46.0	48.5	0:00:02
Exclude	26/06/2013 12:45:12 PM	0.0	56.4	44.7	50.6	0:00:10
Exclude	26/06/2013 12:45:58 PM	0.0	49.5	44.7	47.6	0:00:05
Exclude	26/06/2013 12:46:04 PM	0.0	64.4	43.3	55.5	0:00:05
To AP	26/06/2013 12:34:57 PM	0.0	50.5	41.4	46.2	0:00:17
To AP	26/06/2013 12:35:45 PM	0.0	48.1	40.5	44.1	0:00:12
To AP	26/06/2013 12:37:27 PM	0.0	50.6	40.5	45.0	0:00:23
To AP	26/06/2013 12:41:20 PM	0.0	47.5	41.1	43.7	0:00:06
To AP	26/06/2013 12:43:08 PM	0.0	54.7	41.0	48.5	0:00:31
To AP	26/06/2013 12:45:41 PM	0.0	59.6	39.2	48.5	0:00:24
To AP	26/06/2013 12:47:43 PM	0.0	51.3	41.3	46.9	0:00:29
From AP	26/06/2013 12:38:00 PM	0.0	52.2	37.5	45.0	0:00:45
From AP	26/06/2013 12:40:14 PM	0.0	51.1	38.4	44.8	0:00:27
From AP	26/06/2013 12:46:35 PM	0.0	49.9	40.2	45.2	0:00:45
Both	26/06/2013 12:42:08 PM	0.0	52.7	38.8	47.9	0:00:54
Both	26/06/2013 12:44:25 PM	0.0	54.3	42.2	47.9	0:00:53
Sound	26/06/2013 12:33:19 PM	0.0	62.6	34.1	46.6	0:07:59
Sound	26/06/2013 12:43:19 PM	0.0	61.3	36.7	47.6	0:04:21



Sharpe Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	26/06/2013 06:04:13 PM	0.0	76.9	29.8	50.4	0:13:07
Exclude	26/06/2013 06:09:56 PM	0.0	78.3	34.9	60.2	0:01:53
(All) Exclude	26/06/2013 06:09:56 PM	0.0	78.3	34.9	60.2	0:01:53
(All) To AP	26/06/2013 06:04:13 PM	0.0	55.7	33.4	42.6	0:02:57
(All) From AP	26/06/2013 06:07:30 PM	0.0	52.1	31.6	41.7	0:01:57
(All) Sound	26/06/2013 06:04:13 PM	0.0	76.9	29.8	50.4	0:13:07
Exclude	26/06/2013 06:09:56 PM	0.0	78.3	41.4	63.6	0:00:36
Exclude	26/06/2013 06:11:18 PM	0.0	51.9	38.8	45.5	0:00:01
Exclude	26/06/2013 06:11:57 PM	0.0	46.7	36.9	41.2	0:00:01
Exclude	26/06/2013 06:12:14 PM	0.0	55.2	44.8	49.3	0:00:02
Exclude	26/06/2013 06:12:25 PM	0.0	46.9	41.3	43.2	0:00:01
Exclude	26/06/2013 06:12:29 PM	0.0	42.0	38.8	40.0	0:00:02
Exclude	26/06/2013 06:13:03 PM	0.0	57.1	42.1	50.2	0:00:17
Exclude	26/06/2013 06:16:51 PM	0.0	42.6	35.7	38.5	0:00:02
Exclude	26/06/2013 06:16:54 PM	0.0	41.9	35.7	39.2	0:00:01
Exclude	26/06/2013 06:16:56 PM	0.0	40.6	35.1	37.5	0:00:01
Exclude	26/06/2013 06:16:58 PM	0.0	75.0	36.1	59.0	0:00:43
Exclude	26/06/2013 06:18:04 PM	0.0	41.9	34.9	39.2	0:00:06
To AP	26/06/2013 06:04:13 PM	0.0	48.9	36.1	42.3	0:00:39
To AP	26/06/2013 06:05:02 PM	0.0	55.7	33.7	43.4	0:01:02
To AP	26/06/2013 06:11:16 PM	0.0	50.5	33.4	41.6	0:01:08
To AP	26/06/2013 06:13:20 PM	0.0	46.9	38.1	44.2	0:00:08
From AP	26/06/2013 06:07:30 PM	0.0	52.1	32.9	42.6	0:00:53
From AP	26/06/2013 06:09:45 PM	0.0	48.2	39.1	43.3	0:00:25
From AP	26/06/2013 06:16:53 PM	0.0	43.2	34.1	38.2	0:00:31
From AP	26/06/2013 06:19:05 PM	0.0	42.8	31.6	35.8	0:00:08
Sound	26/06/2013 06:04:13 PM	0.0	76.9	29.8	50.7	0:09:00
Sound	26/06/2013 06:14:13 PM	0.0	73.1	30.2	49.8	0:04:07


Mason Daytime in Calculations
Exclude
From AP
To AP
Both
Sound
dB
70
60
50
40
12:56:00 PM
12:58:00 PM
01:00:00 PM
01:02:00 PM
01:04:00 PM
01:06:00 PM
01:08:00 PM
LAFmax
LAeq
LAF90
Cursor: 26/06/2013 01:08:38 PM - 01:08:39 PM LAFmax=39.6 dB LAeq=39.2 dB LAF90=38.7 dB

Mason Daytime in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
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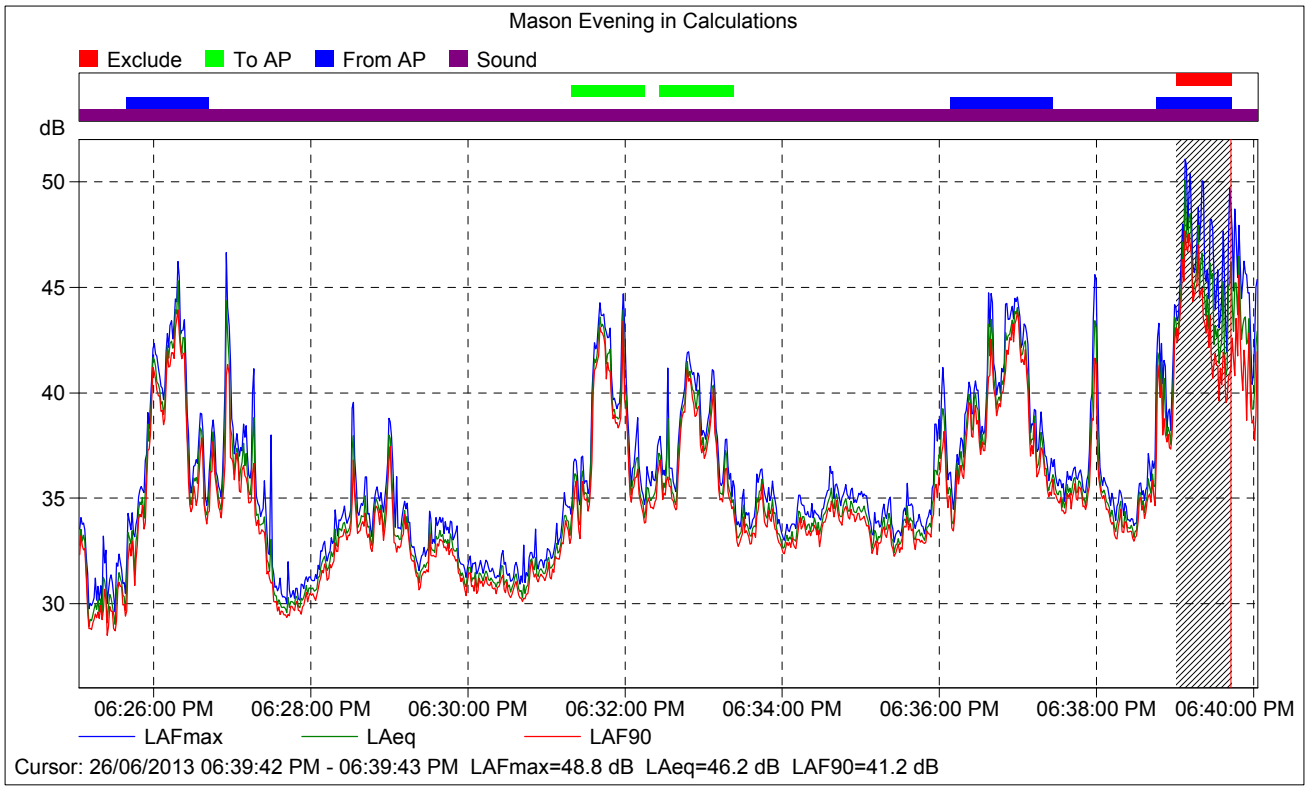
Unmarked	26/06/2013 12:54:28 PM	0.0	67.6	47.3	61.8	0:00:06
(All) Exclude	26/06/2013 12:54:43 PM	0.0	69.4	40.2	57.6	0:01:00
(All) From AP	26/06/2013 12:57:36 PM	0.0	50.8	38.1	44.0	0:00:52
(All) To AP	26/06/2013 12:55:56 PM	0.0	53.5	40.1	44.7	0:00:13
(All) Both	26/06/2013 12:54:47 PM	0.0	57.5	38.7	46.0	0:05:50
(All) Sound	26/06/2013 12:54:34 PM	0.0	67.2	36.5	47.0	0:13:54
Exclude	26/06/2013 12:54:43 PM	0.0	65.7	46.6	58.9	0:00:04
Exclude	26/06/2013 12:54:49 PM	0.0	54.4	48.9	52.0	0:00:02
Exclude	26/06/2013 12:54:55 PM	0.0	56.7	46.9	52.2	0:00:01
Exclude	26/06/2013 12:55:09 PM	0.0	69.4	51.0	61.3	0:00:05
Exclude	26/06/2013 12:55:15 PM	0.0	69.2	49.5	61.0	0:00:10
Exclude	26/06/2013 12:55:28 PM	0.0	59.7	45.3	55.6	0:00:04
Exclude	26/06/2013 12:55:34 PM	0.0	58.6	47.9	54.0	0:00:03
Exclude	26/06/2013 12:55:40 PM	0.0	58.6	46.6	54.7	0:00:01
Exclude	26/06/2013 12:55:44 PM	0.0	63.2	45.7	57.6	0:00:06
Exclude	26/06/2013 12:55:52 PM	0.0	65.0	46.8	60.2	0:00:04
Exclude	26/06/2013 12:56:06 PM	0.0	56.6	42.9	52.0	0:00:03
Exclude	26/06/2013 12:56:12 PM	0.0	59.2	40.2	54.2	0:00:01
Exclude	26/06/2013 12:57:33 PM	0.0	48.8	41.1	45.4	0:00:03
Exclude	26/06/2013 01:00:08 PM	0.0	44.5	41.8	43.1	0:00:04
Exclude	26/06/2013 01:03:29 PM	0.0	49.6	42.2	45.5	0:00:04
Exclude	26/06/2013 01:06:44 PM	0.0	49.9	40.3	45.5	0:00:02
Exclude	26/06/2013 01:06:53 PM	0.0	50.7	42.9	46.9	0:00:02
Exclude	26/06/2013 01:09:14 PM	0.0	41.6	40.3	40.9	0:00:01
From AP	26/06/2013 12:57:36 PM	0.0	45.6	38.1	42.3	0:00:39
From AP	26/06/2013 01:09:15 PM	0.0	50.8	41.5	47.0	0:00:13
To AP	26/06/2013 12:55:56 PM	0.0	53.5	40.1	44.7	0:00:13
Both	26/06/2013 12:54:47 PM	0.0	55.7	43.5	49.2	0:00:33
Both	26/06/2013 12:58:55 PM	0.0	52.0	38.7	45.3	0:01:13
Both	26/06/2013 01:01:55 PM	0.0	47.5	41.1	44.0	0:01:16
Both	26/06/2013 01:03:33 PM	0.0	52.7	40.8	46.3	0:01:21
Both	26/06/2013 01:06:46 PM	0.0	57.5	38.8	45.8	0:01:27
Sound	26/06/2013 12:54:34 PM	0.0	67.2	37.1	48.0	0:09:05
Sound	26/06/2013 01:04:34 PM	0.0	57.5	36.5	43.9	0:04:49



Mason Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	26/06/2013 06:25:03 PM	0.0	48.7	28.3	36.9	0:14:18
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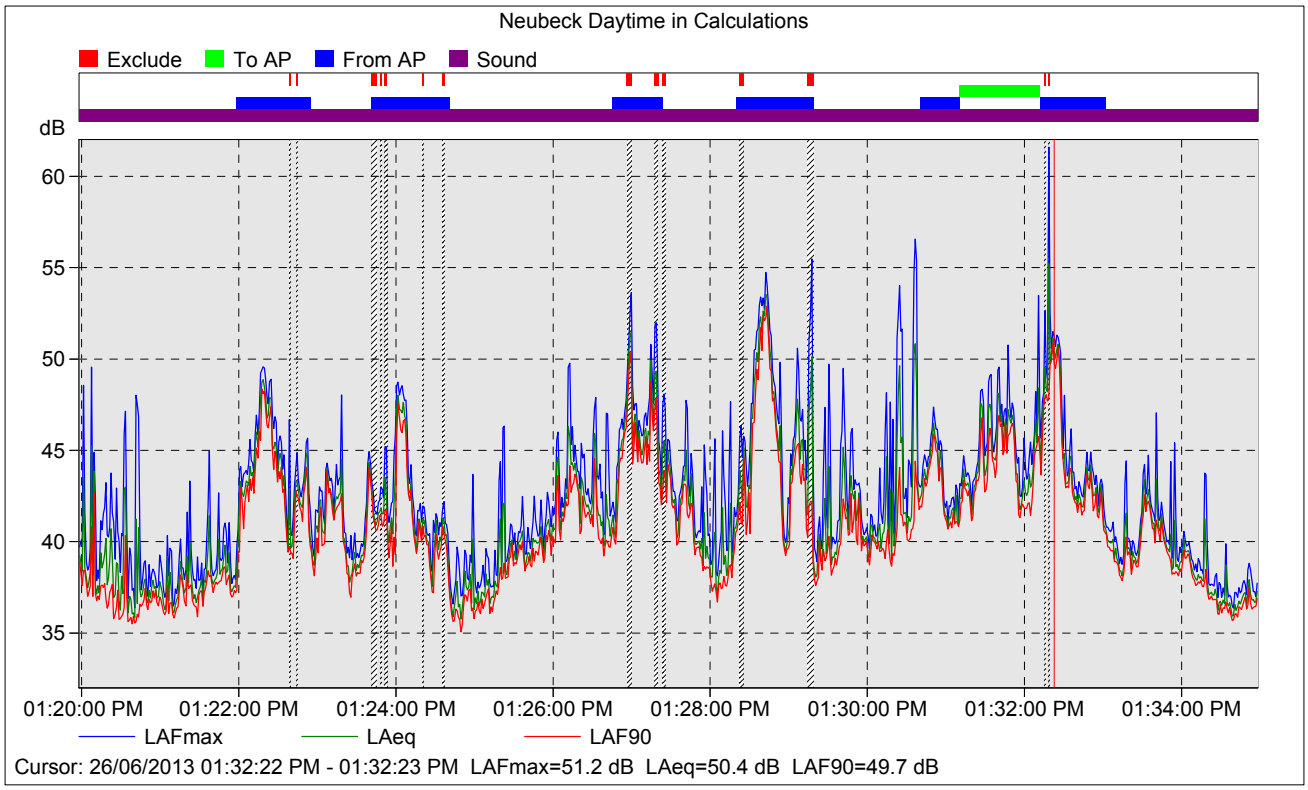
(All) To AP	26/06/2013 06:31:19 PM	0.0	44.7	32.8	38.7	0:01:53
(All) From AP	26/06/2013 06:25:39 PM	0.0	46.2	29.4	39.8	0:02:37
(All) Sound	26/06/2013 06:25:03 PM	0.0	48.7	28.3	36.9	0:14:18
Exclude	26/06/2013 06:39:01 PM	0.0	51.1	39.1	45.4	0:00:42
To AP	26/06/2013 06:31:19 PM	0.0	44.7	32.8	39.3	0:00:56
To AP	26/06/2013 06:32:26 PM	0.0	41.9	34.2	38.0	0:00:57
From AP	26/06/2013 06:25:39 PM	0.0	46.2	29.4	39.4	0:01:03
From AP	26/06/2013 06:36:08 PM	0.0	44.7	33.3	40.0	0:01:18
From AP	26/06/2013 06:38:45 PM	0.0	44.2	36.8	40.5	0:00:16
Sound	26/06/2013 06:25:03 PM	0.0	46.6	28.3	36.0	0:10:00
Sound	26/06/2013 06:35:03 PM	0.0	48.7	32.0	38.6	0:04:18



Neubeck Daytime in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	26/06/2013 01:19:58 PM	0.0	56.6	34.8	43.0	0:14:28
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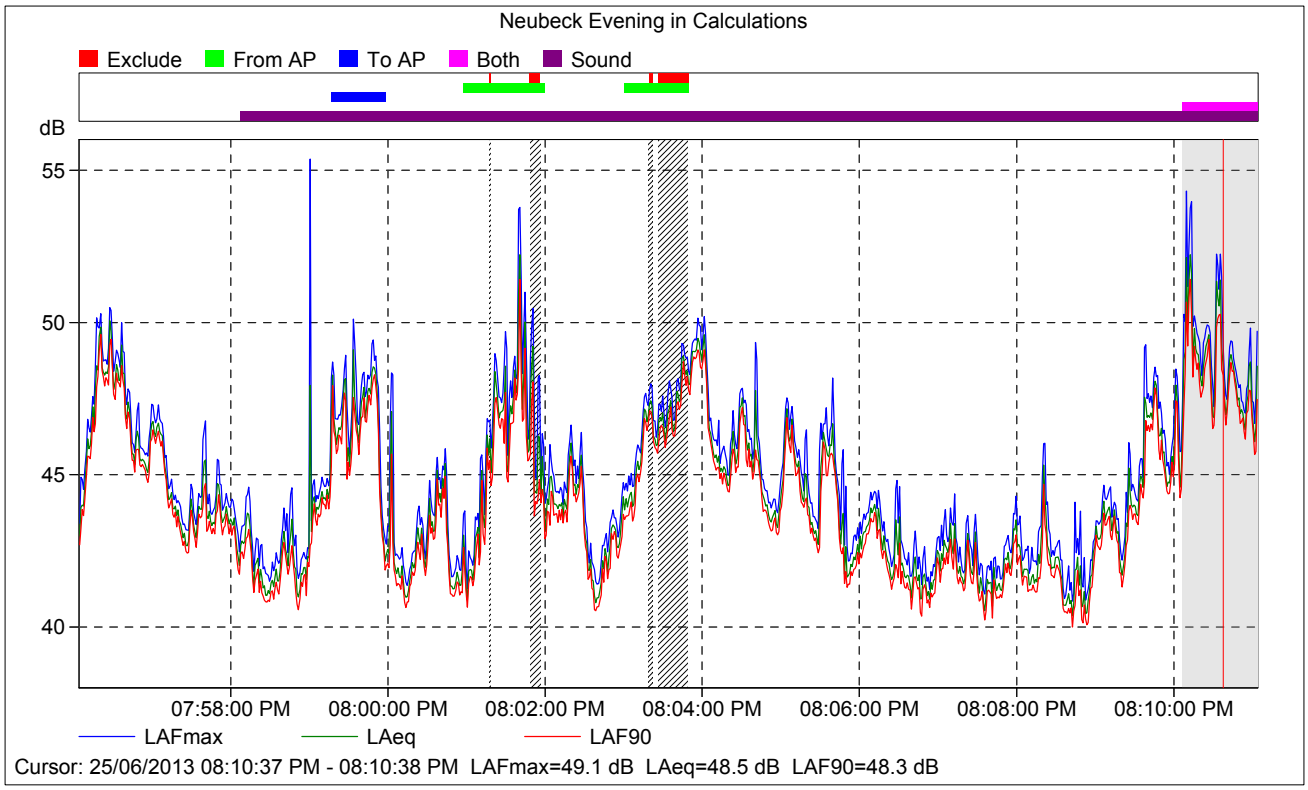
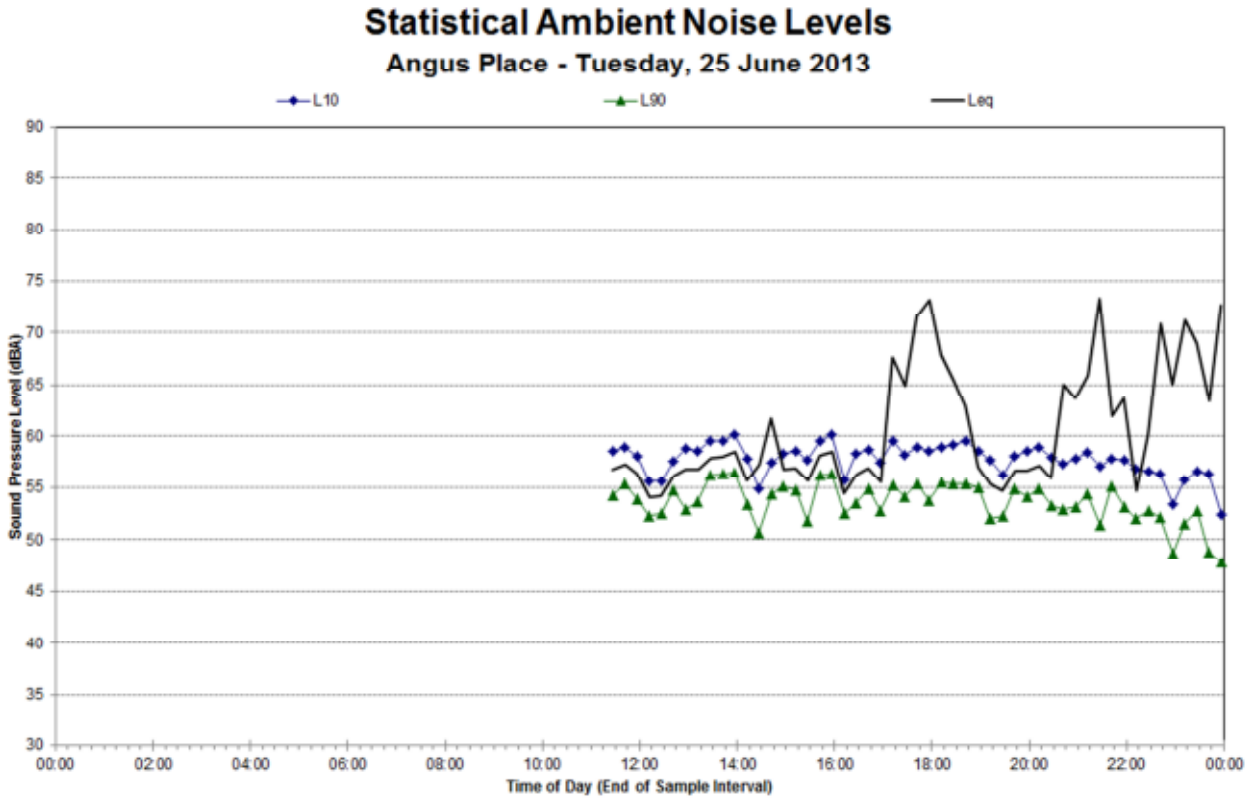
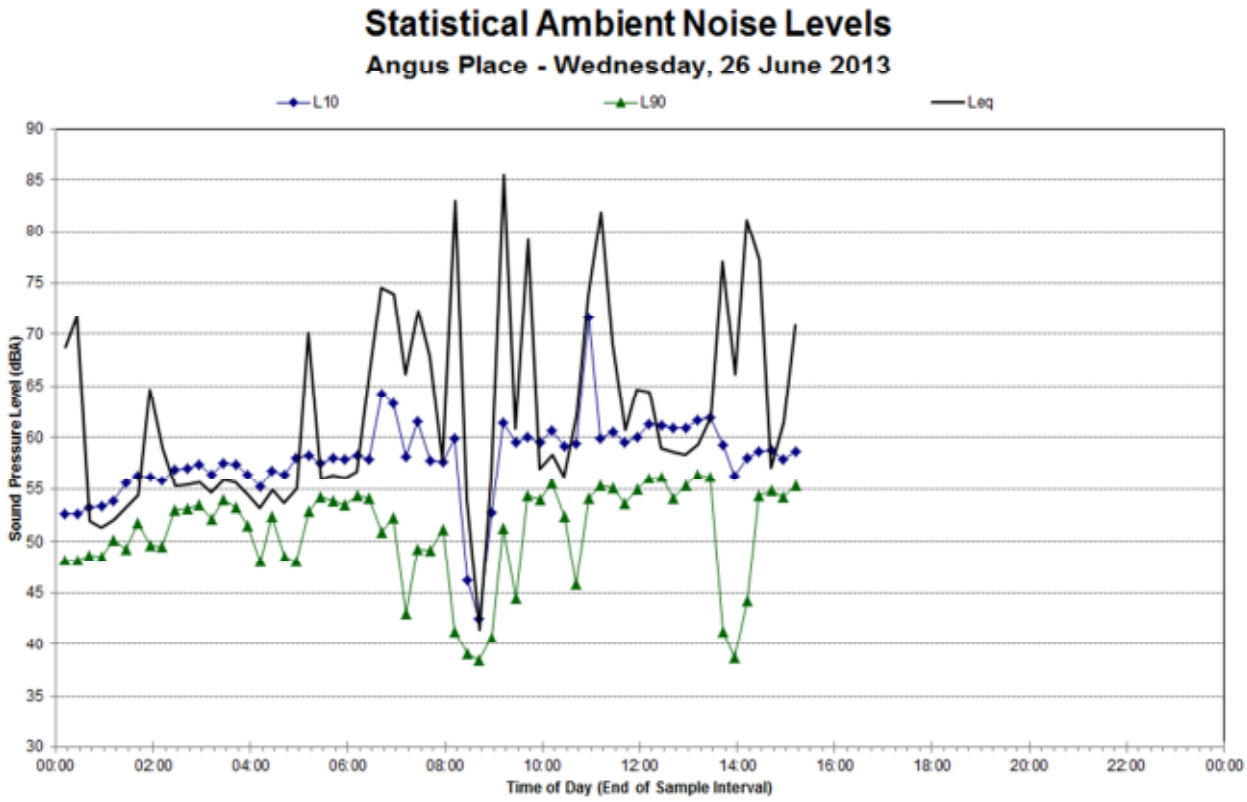
(All) To AP	26/06/2013 01:31:10 PM	0.0	53.5	40.9	45.0	0:01:02
(All) From AP	26/06/2013 01:21:58 PM	0.0	54.7	36.9	45.4	0:04:25
(All) Sound	26/06/2013 01:19:58 PM	0.0	56.6	34.8	43.0	0:14:28
Exclude	26/06/2013 01:22:38 PM	0.0	46.7	39.6	42.9	0:00:01
Exclude	26/06/2013 01:22:44 PM	0.0	44.9	42.2	43.3	0:00:01
Exclude	26/06/2013 01:23:41 PM	0.0	43.2	40.5	41.7	0:00:04
Exclude	26/06/2013 01:23:48 PM	0.0	43.0	41.2	41.8	0:00:01
Exclude	26/06/2013 01:23:51 PM	0.0	45.2	41.5	43.0	0:00:02
Exclude	26/06/2013 01:24:20 PM	0.0	42.0	40.7	41.2	0:00:01
Exclude	26/06/2013 01:24:35 PM	0.0	42.2	40.1	41.2	0:00:02
Exclude	26/06/2013 01:26:56 PM	0.0	53.6	47.1	50.5	0:00:04
Exclude	26/06/2013 01:27:17 PM	0.0	52.0	44.8	48.5	0:00:03
Exclude	26/06/2013 01:27:23 PM	0.0	48.1	42.3	44.9	0:00:03
Exclude	26/06/2013 01:28:22 PM	0.0	46.4	40.4	43.1	0:00:03
Exclude	26/06/2013 01:29:14 PM	0.0	55.5	38.3	46.9	0:00:05
Exclude	26/06/2013 01:32:15 PM	0.0	52.6	47.7	49.6	0:00:01
Exclude	26/06/2013 01:32:18 PM	0.0	61.6	47.8	55.2	0:00:01
To AP	26/06/2013 01:31:10 PM	0.0	53.5	40.9	45.0	0:01:02
From AP	26/06/2013 01:21:58 PM	0.0	49.6	37.2	44.5	0:00:55
From AP	26/06/2013 01:23:45 PM	0.0	48.7	36.9	42.8	0:00:50
From AP	26/06/2013 01:26:45 PM	0.0	50.8	39.7	45.5	0:00:31
From AP	26/06/2013 01:28:20 PM	0.0	54.7	39.0	47.8	0:00:51
From AP	26/06/2013 01:30:40 PM	0.0	47.4	40.6	43.5	0:00:30
From AP	26/06/2013 01:32:12 PM	0.0	52.5	40.3	46.0	0:00:48
Sound	26/06/2013 01:19:58 PM	0.0	54.7	34.8	42.8	0:09:30
Sound	26/06/2013 01:29:58 PM	0.0	56.6	35.5	43.4	0:04:58



Neubeck Evening in Calculations

Name	Start time	Overload [%]	LAFmax [dB]	LAFmin [dB]	LAeq [dB]	Duration
Total	25/06/2013 07:56:04 PM	0.0	55.4	39.5	45.1	0:14:25
Exclude	25/06/2013 08:01:17 PM	0.0	50.5	43.4	47.2	0:00:35
Unmarked	25/06/2013 07:56:04 PM	0.0	50.5	41.6	45.8	0:02:03
(All) Exclude	25/06/2013 08:01:17 PM	0.0	50.5	43.4	47.2	0:00:35
(All) From AP	25/06/2013 08:00:57 PM	0.0	53.8	40.6	46.2	0:01:16
(All) To AP	25/06/2013 07:59:16 PM	0.0	50.1	41.6	46.9	0:00:42
(All) Both	25/06/2013 08:10:06 PM	0.0	54.3	45.4	48.8	0:00:58
(All) Sound	25/06/2013 07:58:07 PM	0.0	55.4	39.5	45.0	0:12:22
Exclude	25/06/2013 08:01:17 PM	0.0	46.8	45.3	46.2	0:00:01
Exclude	25/06/2013 08:01:48 PM	0.0	50.5	43.4	46.8	0:00:08
Exclude	25/06/2013 08:03:19 PM	0.0	48.0	46.6	47.3	0:00:03
Exclude	25/06/2013 08:03:26 PM	0.0	49.3	45.8	47.4	0:00:23
From AP	25/06/2013 08:00:57 PM	0.0	53.8	40.6	46.5	0:00:53
From AP	25/06/2013 08:03:00 PM	0.0	47.7	43.3	45.5	0:00:23
To AP	25/06/2013 07:59:16 PM	0.0	50.1	41.6	46.9	0:00:42
Both	25/06/2013 08:10:06 PM	0.0	54.3	45.4	48.8	0:00:58
Sound	25/06/2013 07:58:07 PM	0.0	55.4	40.0	44.5	0:09:25
Sound	25/06/2013 08:08:07 PM	0.0	54.3	39.5	46.2	0:02:57


Statistical Ambient Noise Levels
Angus Place - Tuesday, 25 June 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
Angus Place - Wednesday, 26 June 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)

8 October 2013

630.01942 QR22 20130930.docx

Centennial Angus Place Pty Ltd
Wolgan Road
Lidsdale NSW 2790

Attention: Natalie Conroy

Dear Natalie

Angus Place Quarterly Monitoring
Quarter Ending October 2013

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Centennial Angus Place to conduct quarterly noise compliance monitoring for the quarter ending October 2013 for the Angus Place Colliery.

The purpose of this assessment was to determine the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road, in accordance with the Angus Place Project Approval 06_0021 (PA) and the Environment Protection Licence (EPL) No. 467.

2 Relevant Noise Criteria

2.1 PA Noise Limits

The PA states the following in regards to noise emissions:

> *The Proponent shall ensure that the noise generated by the project, including the Proponent's operation of the haul road to the Wallerawang power station, does not exceed the noise impact assessment criteria presented in Table 1 at any residence on privately owned land.*

SLR Consulting Australia Pty Ltd 10 Kings Road New Lambton NSW 2305 Australia
(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**
ABN 29 001 584 612

Table 1 Noise Impact Assessment Criteria dBA $L_{Aeq(15minute)}$ (PA Table 6)

Land	Day	Evening	Night
Sharpe	42 dBA	38 dBA	36 dBA
Mason (West) and other Wolgan Road rural properties	41 dBA	37 dBA	35 dBA
Lidsdale village residents	44 dBA	40 dBA	35 dBA

Notes: a) For more information on the references to land in this condition, see 'Property Details' figure of the EA.
b) The noise criteria do not apply where the Proponent and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and DEC.
c) Noise from the project is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the LAeq(15 minute) noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
d) The noise emission limits identified in the above table apply under meteorological conditions of:
- Wind speeds of up to 3 m/s at 10 metres above ground level; or
- Temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

Section 11.1.3 of the NSW Industrial Noise Policy (INP) provides the following guidance when determining compliance with noise conditions;

> *A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or license condition.*

Therefore, Angus Place Colliery operations are deemed to be in compliance if measured noise emissions are not more than 2dB above the consent conditions.

The Environmental Assessment, utilised in setting conditions for the PA, used the methods specified in the NSW INP to predict noise levels from the development. The noise assessment predicted noise levels from prevailing weather conditions, as determined from previous studies and in accordance with the INP. Section 3.2 (INP Assessment of Prevailing Weather Conditions) within the *Transportation Noise Impact Assessment* report by Heggies Pty Ltd in 2003 analysed meteorological data from Mount Piper Power Station and identified prevailing weather conditions for Angus Place. The results are presented in **Table 2.**

Table 2 Prevailing Wind Conditions in accordance with the NSW INP as per EA

Season	Winds ± 45° ≤3 m/s with Frequency of Occurrence ≥30%		
	Daytime	Evening	Night
Annual	-	SW, WSW, W	SW, WSW, W
Summer	-	SW, WSW, W	SW, WSW, W
Autumn	-	SSW,SW,WSW,W	SSW,SW,WSW,W
Winter	-	SW,WSW,W	SW,WSW
Spring	-	SW,WSW,W	SW,WSW,W

Table 2 identifies predominant wind directions ranging from westerly to south-south-westerly for wind speeds less than 3 m/s (within the wind speed range set in the PA).

2.2 Land Acquisition Criteria

The PA states the following in regards to land acquisition noise criteria:

> *If, after 31 August 2007, the noise generated by the project, including the operation of the haul road to the Wallerawang power station, exceeds the criteria in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner (excluding the landowners listed in Table 1), acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.*

Table 3 Land Acquisition Criteria dBA $L_{Aeq(15minute)}$ (PA Table 7)

Land	Day	Evening	Night
Sharpe, Mason (West) and other Wolgan Road rural properties	44 dBA	40 dBA	40 dBA
Lidsdale village residents	47 dBA	43 dBA	43 dBA

2.3 Haul Road Inspection

In addition to noise monitoring, the Angus Place Noise Management Plan (NMP) dated May 2007, requires a visual and aural inspection of site activities and inspections of the Wallerawang Haul Road. Ongoing work continues to be undertaken regarding the maintenance of the haul road surface.

3 Quarterly Operator Attended Noise Monitoring

3.1 Methodology

Noise measurements and assessments in this report have been prepared in accordance with Australian Standard AS 1055-1997 "*Description and Measurement of Environmental Noise*" Part 1, 2 and 3 and with reference to the INPand the NMP.

The objectives of the noise monitoring assessment were as follows:

- Measure the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road at the Sharpe, Mason and Neubeck St, Lidsdale residential locations.
- Ascertain all sources of noise within each of the noise surveys, including estimated contribution or maximum level of each source.
- Assess the noise emissions of Angus Place operations, including the Wallerawang Haul Road, in relation to the PA/EPL limits for the site and with regard to wind speed and direction during the noise surveys.

3.2 Quarterly Attended Noise Monitoring Locations

Operator attended noise surveys were conducted at the locations provided in **Table 4** to determine the character and contribution of noise sources, including Angus Place Colliery pit top operations and haul road noise, in relation to the total ambient noise level. An aerial photograph showing the approximate locations of the noise monitoring locations is provided in **Appendix A**.

Table 4 Monitoring Locations

Location	Description
R1	Sharpe Residence
R2	Mason Residence
R3	20 Neubeck St, Lidsdale

3.3 Compliance Monitoring Results

Operator attended noise measurements were conducted during the day, evening and night-time periods on Tuesday 24 September 2013. Weather conditions during these surveys were clear skies with temperatures ranging between 18°C and 10°C. Wind conditions were generally from the south-west during all monitoring periods.

A summary of the operator attended measurements, including the estimated contribution of noise sources, is contained within **Table 5**, **Table 6** and **Table 7**.

Table 5 Attended Noise Survey Results Location R1 – Sharpe Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 42 LAeq(15minute) 44 LAeq(15minute)	24/09/13 17:00 18°C SW 4 m/s	64	56	48	36	46	Traffic ~ 49 dBA Mt Piper ~ 44 to 52 dBA Birds ~ 42 to 50 dBA AP Haul Trucks ~ 41 dBA
Evening 38 LAeq(15minute) 40 LAeq(15minute)	24/09/13 19:46 13°C SW 2 m/s	73	56	47	35	48	Goose ~ 50 dBA Insects ~ 36 dBA Traffic ~ 72 dBA Plane ~ 44 to 47 dBA Mt Piper ~ 50 dBA Coal Loading ~ <30 dBA AP Haul Trucks ~ 44 dBA
Night 36 LAeq(15minute) 40 LAeq(15minute)	24/09/13 22:46 13°C SW 1.2 m/s	81	77	66	38	64	Traffic ~ 74 to 81 dBA Goose ~ 40 dBA Dog Barking ~ 52 dbA Mt Piper ~ 48 dBA

Table 6 Attended Noise Survey Results Location R2 – Mason Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 41 LAeq(15minute) 44 LAeq(15minute)	24/09/13 17:19 17°C SW 2.5 m/s	70	56	44	37	46	Birds ~ 41 to 55 dBA Trees Rustling ~ 39 to 40 dBA Traffic ~ 45 to 46 dBA Resident ~ 42 dBA Local Traffic ~ 70 dBA Mt Piper ~ 41 dBA AP Haul Truck ~ 46 dBA
Evening 37 LAeq(15minute) 40 LAeq(15minute)	24/09/13 20:04 13°C SW 1.6 m/s	46	43	38	31	35	Traffic ~ 38 dBA Insects ~ 31 to 33 dBA Mt Piper ~ 38 to 45 dBA Coal Loading ~ <30 AP Haul Truck ~ 43 dBA
Night 35 LAeq(15minute) 40 LAeq(15minute)	24/09/13 23:05 10°C E 1.2 m/s	48	44	39	33	36	Traffic ~ 39 to 48 dBA Other Industry ~ 33 dBA Insects ~ 33 to 34 dBA Operator ~ 43 dBA Mt Piper ~ 40 dBA

Table 7 Attended Noise Survey Results Location R3

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 44 LAeq(15minute) 47 LAeq(15minute)	24/09/13 17:42 16°C SW 1.4 m/s	61	57	46	39	45	Plane ~ 41 dBA Dog Barking ~ 61 dBA Other Industry ~ 39 to 41 dBA Traffic ~ 46 to 55 dBA Birds ~ 48 to 61 dBA Resident ~ 43 dBA AP Haul Truck ~ 46 dBA
Evening 40 LAeq(15minute) 43 LAeq(15minute)	24/09/13 20:25 13°C SW 2.4 m/s	52	47	43	39	42	Insects ~ 36 dBA Distant Traffic ~ 43 dBA Dog Barking ~ 52 dBA Other Industry ~ 39 to 41 dBA AP Haul Truck ~ 48 dBA
Night 35 LAeq(15minute) 43 LAeq(15minute)	24/09/13 23:49 10°C SE 1.4 m/s	50	49	47	43	45	Dog Barking ~ 47 to 50 dBA Other Industry ~ 40 to 43 dBA

3.4 Noise Monitoring Observations

Noise contributions at the Sharpe, Mason and Neubeck Street receivers were observed to be from the following noise sources:

3.4.1 Wallerawang Haul Road

Noise emissions from the Wallerawang Haul Road typically contribute to the overall ambient noise levels at the Sharpe, Mason and Neubeck Street Residences during the day and evening periods.

An analysis of the haul truck passby noise levels at each location, with respect to the direction of travel is displayed in **Table 8** for each period. No truck movements were recorded during the night-time operator attended noise surveys. The Wallerawang haul road truck log is contained in **Appendix B**.

Table 8 Haul Truck Pass by Analysis – September 2013

Receiver	Period	$L_{Aeq(15minute)}$ for Truck Movements to Wallerawang from Angus Place	$L_{Aeq(15minute)}$ for Truck Movements to Angus Place from Wallerawang	$L_{Aeq(15minute)}$ for Truck Movements to and from Angus Place and Wallerawang	Total $L_{Aeq(15minute)}$ Wallerawang Haul Road Contribution
Sharpe	Day	<30 dBA	32 dBA	-	34 dBA
	Evening	-	<30 dBA	-	<30 dBA
Mason	Day	<30 dBA	31 dBA	-	31 dBA
	Evening	<30 dBA	<30 dBA	-	<30 dBA
Neubeck St	Day	<30 dBA	<30 dBA	30 dBA	34 dBA
	Evening	33 dBA	<30 dBA	-	34 dBA

3.4.2 Angus Place Site Operations

Noise emissions from Angus Place site operations typically contribute to the overall ambient noise levels at the Sharpe and Mason residences however, during the September monitoring period, noise generated from Angus Place was generally not audible at any of the residential receivers.. Angus place site operations would not be considered a noise contributor at the Neubeck Street residence.

Truck Loading From Coal Bin

Noise generated by trucks being loaded from the overhead storage bin was faintly audible at both the Sharpe and Mason residences, during lulls of ambient background noise, generating noise levels less than 30 dBA.

Bulldozer on Coal Stockpile

The bulldozer working the stockpile was not audible at both the Sharpe and Mason residence throughout the monitoring period.

3.5 Noise Compliance Assessment

The contributions from both Angus Place Colliery and Wallerawang Haul Road have been calculated from the attended noise monitoring results and are summarised in **Table 9**.

Table 9 Component Ranking and Overall Angus Place Noise Contribution

Daytime (7:00 am – 6:00 pm) 24 September 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 - Sharpe	<30 dBA	34 dBA	34 dBA	42 dBA	Yes
R2 - Mason	<30 dBA	31 dBA	32 dBA	41 dBA	Yes
R3 - Neubeck	-	34 dBA	34 dBA	44 dBA	Yes
Evening (6:00 pm – 10:00 pm) 24 September 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 – Sharpe	<30 dBA	<30 dBA	30 dBA	38 dBA	Yes
R2 – Mason	<30 dBA	<30 dBA	30 dBA	37 dBA	Yes
R3 - Neubeck	-	34 dBA	34 dBA	40 dBA	Yes
Night time (10:00 pm – 7:00 am) 24 September 2013					
Location	**Contributed Noise Level LAeq(15minute)**		**Angus Place Contributed Noise Level LAeq(15minute) Colliery + Haul Road**	**Criteria LAeq(15minute)**	**Compliance**
	Colliery[1]	**Haul Road[2]**			
R1 - Sharpe	<30 dBA	-	<30 dBA	36 dBA	Yes
R2 - Mason	<30 dBA	-	<30 dBA	35 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	35 dBA	Yes

Note: 1 - Where the estimated contribution is < x dBA, the Angus Place contributed noise level, the sum of the operation and the haul road, is calculated using 'x-1' dBA.
2 - Haul Road does not operate during the night time.

The analysis of the results of the September 2013 operator attended noise monitoring has shown that the Angus Place noise emissions meet the PA noise limits at all residential monitoring locations during the day, evening and night-time periods.

4 Unattended Noise Monitoring

An ARL 316 environmental noise logger (S/N 16-203-531) was deployed at monitoring location R4 adjacent the Angus Place pit top on Tuesday 24 September 2013 and retrieved on Wednesday 25 September 2013. The unattended noise logger was programmed to continuously record statistical noise level indices in 15 minute intervals including the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{A99}, L_{Amin} and L_{Aeq}.

During logger deployment it was noted that noise from Angus Place surface operations dominated the ambient noise levels at this location.

A summary of the daily and overall noise levels for the monitoring period is provided in **Table 10**. Results are also displayed graphically in **Appendix C**.

Table 10 Unattended Noise Monitoring Results – R4 Angus Place

Location	Period	LA1	LA10	RBL (LA90)	LAeq
R4 – Angus Place	Daytime	56	51	43	54
	Evening	58	56	51	55
	Night	59	57	50	55

Notes: Daytime 7.00 am - 6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 7.00 am, On Sundays and Public Holidays, Daytime 8.00 am -6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 8.00 am.
The RBL is the Rating Background Level as described by the NSW INP.
The overall LAeq is the logarithmically averaged equivalent continuous noise level.
The median LA10 is the middle LA10 noise level when sorted in ascending or descending order.
The median LA1 is the middle LA1 noise level when sorted in ascending or descending order.

5 Conclusion

An assessment of noise emissions from Angus Place operations, inclusive of the Wallerawang Haul Road, has been conducted by SLR for the quarter ending October 2013. Operator attended noise measurements were conducted at Sharpe, Mason and Neubeck Street Residences during the day, evening and night-time periods on Tuesday 24 September 2013.

The assessment and analysis of the results of the September 2013 operator attended noise monitoring has shown that Angus Place noise emission levels were in compliance with the PA noise limits at all monitoring locations during the day, evening and night-time noise monitoring periods.

I trust the preceding meets your current requirements. If you have any questions or would like any further information please do not hesitate to contact me on (02) 4037 2300 or email nvandenberg@slrconsulting.com.

Yours sincerely

Nicholas Vandenberg
Project Consultant – Noise and Vibration

NOISE MONITORING LOCATIONS

DATE	3.4.2007
SEAM	SURFACE
DRAWN	ADM
REFERENCE	N:\SHARED\PLANS\ANGUS Environmental\Figure1 Noise Monitoring Locations
SCALE	DIAGRAM ONLY

Figure 1 : Noise Monitoring Locations

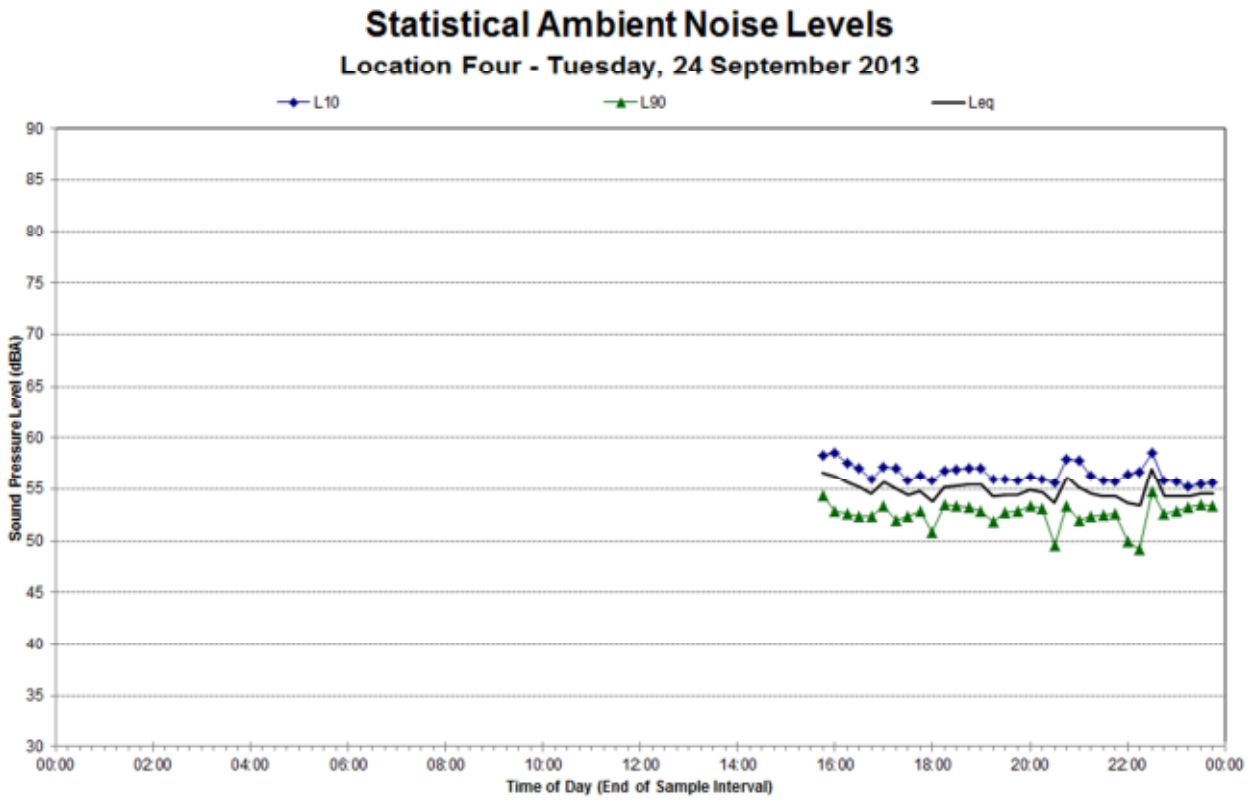
● Attended
■ Unattended

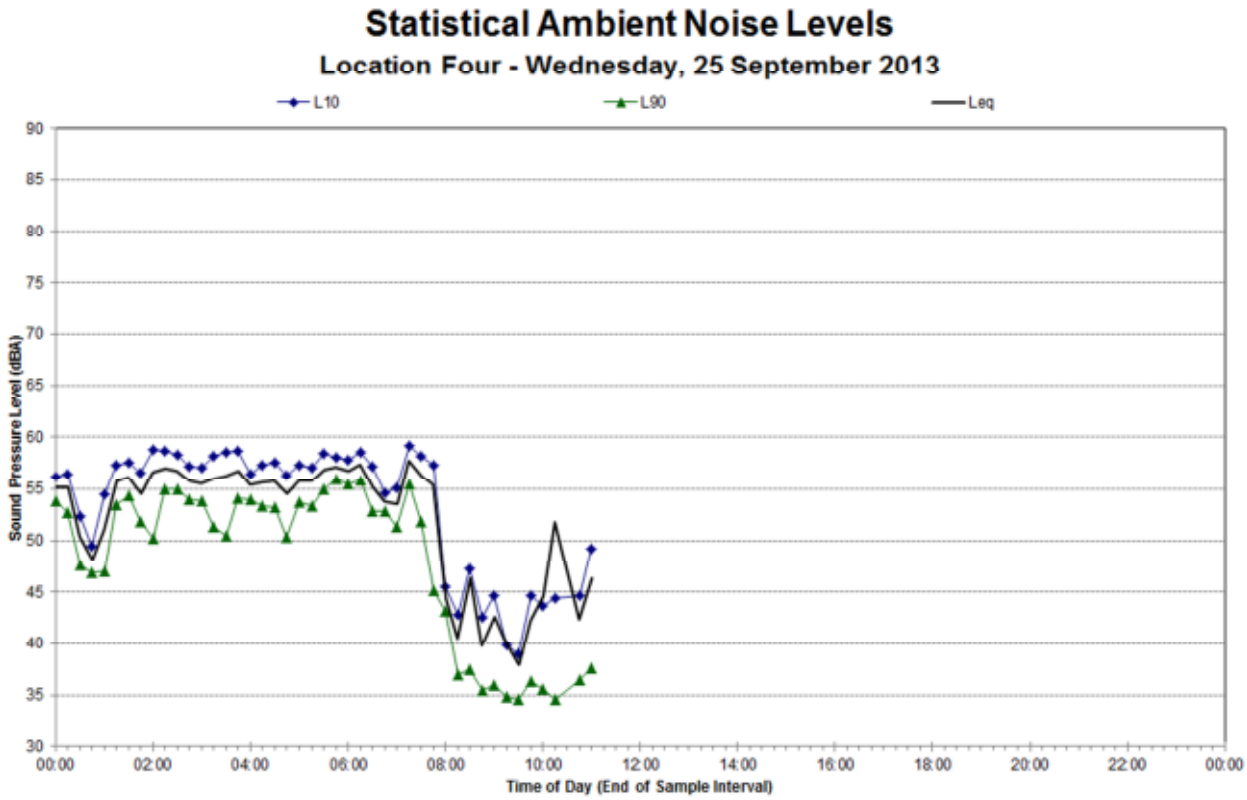
PLOTFILE No.

Centennial Angus Place

DRG. No.

WALLERAWANG HAUL ROAD TRUCK LOG


Statistical Ambient Noise Levels
Location Four - Tuesday, 24 September 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
Location Four - Wednesday, 25 September 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)

6 January 2014

630.01942 QR23 20131216.docx

Centennial Angus Place Pty Ltd
Wolgan Road
Lidsdale NSW 2790

Attention: Natalie Conroy

Dear Natalie

Angus Place Quarterly Monitoring
Quarter Ending January 2014

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Centennial Angus Place to conduct quarterly noise compliance monitoring for the quarter ending January 2014 for the Angus Place Colliery.

The purpose of this assessment was to determine the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road, in accordance with the Angus Place Project Approval 06_0021 (PA) and the Environment Protection Licence (EPL) No. 467.

2 Relevant Noise Criteria

2.1 PA Noise Limits

The PA states the following in regards to noise emissions:

> *The Proponent shall ensure that the noise generated by the project, including the Proponent's operation of the haul road to the Wallerawang power station, does not exceed the noise impact assessment criteria presented in Table 1 at any residence on privately owned land.*

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ABN 29 001 584 612

Table 1 Noise Impact Assessment Criteria dBA $L_{Aeq(15minute)}$ (PA Table 6)

Land	Day	Evening	Night
Sharpe	42 dBA	38 dBA	36 dBA
Mason (West) and other Wolgan Road rural properties	41 dBA	37 dBA	35 dBA
Lidsdale village residents	44 dBA	40 dBA	35 dBA

Notes: a) For more information on the references to land in this condition, see 'Property Details' figure of the EA.
b) The noise criteria do not apply where the Proponent and the affected landowner have reached a negotiated agreement in regard to noise, and a copy of the agreement has been forwarded to the Director-General and DEC.
c) Noise from the project is to be measured at the most affected point or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the LAeq(15 minute) noise limits in the above table. Where it can be demonstrated that direct measurement of noise from the project is impractical, the DECCW may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
d) The noise emission limits identified in the above table apply under meteorological conditions of:
- Wind speeds of up to 3 m/s at 10 metres above ground level; or
- Temperature inversion conditions of up to 3ºC/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.

Section 11.1.3 of the NSW Industrial Noise Policy (INP) provides the following guidance when determining compliance with noise conditions;

> *A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or license condition.*

Therefore, Angus Place Colliery operations are deemed to be in compliance if measured noise emissions are not more than 2 dB above the consent conditions.

The Environmental Assessment (EA), utilised in setting conditions for the PA, used the methods specified in the NSW INP to predict noise levels from the development. The noise assessment predicted noise levels from prevailing weather conditions, as determined from previous studies and in accordance with the INP. Section 3.2 (INP Assessment of Prevailing Weather Conditions) within the *Transportation Noise Impact Assessment* report by Heggies Pty Ltd in 2003 analysed meteorological data from Mount Piper Power Station and identified prevailing weather conditions for Angus Place. The results are presented in **Table 2.**

Table 2 Prevailing Wind Conditions in accordance with the NSW INP as per EA

Season	Winds ± 45° ≤3 m/s with Frequency of Occurrence ≥30%		
	Daytime	Evening	Night
Annual	-	SW, WSW, W	SW, WSW, W
Summer	-	SW, WSW, W	SW, WSW, W
Autumn	-	SSW,SW,WSW,W	SSW,SW,WSW,W
Winter	-	SW,WSW,W	SW,WSW
Spring	-	SW,WSW,W	SW,WSW,W

Table 2 identifies predominant wind directions ranging from westerly to south-south-westerly for wind speeds less than 3 m/s (within the wind speed range set in the PA).

2.2 Land Acquisition Criteria

The PA states the following in regards to land acquisition noise criteria:

> *If, after 31 August 2007, the noise generated by the project, including the operation of the haul road to the Wallerawang power station, exceeds the criteria in Table 3, the Proponent shall, upon receiving a written request for acquisition from the landowner (excluding the landowners listed in Table 1), acquire the land in accordance with the procedures in conditions 7-9 of schedule 4.*

Table 3 Land Acquisition Criteria dBA $L_{Aeq(15minute)}$ (PA Table 7)

Land	Day	Evening	Night
Sharpe, Mason (West) and other Wolgan Road rural properties	44 dBA	40 dBA	40 dBA
Lidsdale village residents	47 dBA	43 dBA	43 dBA

2.3 EPL Noise Limits

The noise limits contained in EPL 467 are as those established in the PA and detailed in **Section 2.1** and **Section 2.2.**

2.4 Haul Road Inspection

In addition to noise monitoring, the Angus Place Noise Management Plan (NMP) dated May 2007, requires a visual and aural inspection of site activities and inspections of the Wallerawang Haul Road. Ongoing work continues to be undertaken regarding the maintenance of the haul road surface.

3 Quarterly Operator Attended Noise Monitoring

3.1 Methodology

Noise measurements and assessments in this report have been prepared in accordance with Australian Standard AS 1055-1997 "*Description and Measurement of Environmental Noise*" Part 1, 2 and 3 and with reference to the INP and the NMP.

The objectives of the noise monitoring assessment were as follows:

- Measure the noise contribution from Angus Place Colliery operations including the Wallerawang Haul Road at the Sharpe, Mason and Neubeck St, Lidsdale residential locations.
- Ascertain all sources of noise within each of the noise surveys, including estimated contribution or maximum level of each source.
- Assess the noise emissions of Angus Place operations, including the Wallerawang Haul Road, in relation to the PA/EPL limits for the site and with regard to wind speed and direction during the noise surveys.

3.2 Quarterly Attended Noise Monitoring Locations

Operator attended noise surveys were conducted at the locations provided in **Table 4** to determine the character and contribution of noise sources, including Angus Place Colliery pit top operations and haul road noise, in relation to the total ambient noise level. An aerial photograph showing the approximate locations of the noise monitoring locations is provided in **Appendix A**.

Table 4 Monitoring Locations

Location	Description
R1	Sharpe Residence
R2	Mason Residence
R3	20 Neubeck St, Lidsdale

3.3 Compliance Monitoring Results

Operator attended noise measurements were conducted during the day, evening and night-time periods on Thursday 12 December 2013. Weather conditions during these surveys were clear skies with temperatures ranging between 15°C and 28°C. Wind conditions were generally from the calm with a breeze from various degrees.

A summary of the operator attended measurements, including the estimated contribution of noise sources, is contained within **Table 5**, **Table 6** and **Table 7**.

Table 5 Attended Noise Survey Results Location R1 – Sharpe Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 42 LAeq(15minute) 44 LAeq(15minute)	12/12/13 14:45 28°C NW 0.5 m/s	66	58	49	31	46	Traffic ~ 50 to 66 dBA Traffic on Haul Road ~ <30 Mt Piper ~ 33 to 39 dBA Birds ~ <30 to 55 dBA Resident ~ 40 dBA AP Faintly Audible ~ <30
Evening 38 LAeq(15minute) 40 LAeq(15minute)	12/12/13 19:53 21°C Calm	69	54	47	35	46	Birds ~ 40 dBA Resident ~ 41 to 45 dBA Animals ~ 45 to 47 dBA Traffic ~ 69 dBA Operator ~ 61 dBA Coal Loading ~ <30 dBA
Night 36 LAeq(15minute) 40 LAeq(15minute)	12/12/13 22:46 15°C Calm	83	75	61	35	61	Traffic ~ 75 to 83 dBA Coal Loading ~ 30 dBA CHPP ~ 35 to 36 dBA

Table 6 Attended Noise Survey Results Location R2 – Mason Residence

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 41 LAeq(15minute) 44 LAeq(15minute)	12/12/13 15:03 28°C SE 0.8 m/s	57	44	39	31	36	Birds ~ <30 to 57 dBA Plane ~ 45 dBA Traffic ~ 39 to 47 dBA Mt Piper ~ 35 to 37 dBA Operator ~ 45 dBA AP faintly audible ~ <30 dBA
Evening 37 LAeq(15minute) 40 LAeq(15minute)	12/12/13 20:12 21°C N 1 m/s	57	48	41	35	39	Birds ~ 39 to 57 dBA Mt Piper ~ 37 to 45 dBA Traffic ~ 42 dBA Car on Haul road ~ 42 dBA Mt Piper ~ 37 to 45 dBA Coal Loading ~ 41 to 46 dBA CHPP ~ 32 to 42 dBA
Night 35 LAeq(15minute) 40 LAeq(15minute)	12/12/13 22:47 15°C Calm	55	52	48	31	43	Birds ~ 34 dBA Operator ~ 42 dBA Traffic ~ 44 to 55 dBA Mt Piper ~ 34 dBA Birds/ Insects ~ 31 dBA Other Industry ~ 33 dBA AP operations ~ <30 dBA

Table 7 Attended Noise Survey Results Location R3 – Neubeck Street, Lidsdale

Period PA Limit Land Acquisition Criteria	Date/Start Time/ Weather	Primary Noise Descriptor (dBA re 20 μPa)					Description of Noise Emissions and Typical Maximum Noise Levels (dBA)
		L_{Amax}	LA1	LA10	LA90	LAeq	
Day 44 LAeq(15minute) 47 LAeq(15minute)	12/12/13 15:24 28°C E 1.9 m/s	67	51	43	38	43	Other Industry ~ <33 dBA Traffic ~ 45 dBA Birds ~ 35 to 67 dBA Operator ~ 42 dBA
Evening 40 LAeq(15minute) 43 LAeq(15minute)	12/12/13 20:32 21°C Calm	64	62	61	56	59	Insects ~ 57 to 63 dBA Ash depository Truck~ 38 to 46 dBA Distant Traffic ~ 40 dBA Dog Barking ~ 46 dBA Other Industry ~ <30 to 32 dBA
Night 35 LAeq(15minute) 43 LAeq(15minute)	12/12/13 23:49 15°C E 0.8 m/s	54	45	38	33	36	Other Industry ~ <30 to 33 dBA Traffic ~ 43 to 54 dBA

3.4 Noise Monitoring Observations

Noise contributions at the Sharpe, Mason and Neubeck Street receivers were observed to be from the following noise sources:

3.4.1 Wallerawang Haul Road

Typically noise emissions from the Wallerawang Haul Road contribute to the overall ambient noise levels during the day and evening periods at all monitoring locations. However, during the December monitoring period, no coal trucks were operating on the Wallerawang Haul Road as Wallerawang Power Station has stopped accepting coal from Angus Place Colliery and is not foreseen to change in the future.

3.4.2 Angus Place Site Operations

Noise emissions from Angus Place site operations typically contribute to the overall ambient noise levels at the Sharpe and Mason residences however, during the December monitoring period, noise generated from Angus Place was only faintly audible during lulls of ambient background noise during the daytime period and audible during the evening and night-time periods. Angus place site operations would not be considered a noise contributor at the Neubeck Street residence.

Truck Loading From Coal Bin

Noise generated by trucks being loaded from the overhead storage bin was faintly audible at both the Sharpe residence, during lulls of ambient background noise, however was clearly audible at the Mason residence during the evening generating noise levels up to 46 dBA.

Bulldozer on Coal Stockpile

The bulldozer working the stockpile was not audible at either the Sharpe and Mason residence throughout the monitoring period.

3.5 Noise Compliance Assessment

The contributions from both Angus Place Colliery and Wallerawang Haul Road have been calculated from the attended noise monitoring results and are summarised in **Table 8**.

Table 8 Component Ranking and Overall Angus Place Noise Contribution

Daytime (7:00 am – 6:00 pm) 12 December 2013					
Location	**Contributed Noise Level $L_{Aeq(15minute)}$**		**Angus Place Contributed Noise Level $L_{Aeq(15minute)}$ Colliery + Haul Road**	**Criteria $L_{Aeq(15minute)}$**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 - Sharpe	<30 dBA	-	<30 dBA	42 dBA	Yes
R2 - Mason	<30 dBA	-	<30 dBA	41 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	44 dBA	Yes
Evening (6:00 pm – 10:00 pm) 12 December 2013					
Location	**Contributed Noise Level $L_{Aeq(15minute)}$**		**Angus Place Contributed Noise Level $L_{Aeq(15minute)}$ Colliery + Haul Road**	**Criteria $L_{Aeq(15minute)}$**	**Compliance**
	Colliery[1]	**Haul Road[1]**			
R1 – Sharpe	33 dBA	-	33 dBA	38 dBA	Yes
R2 – Mason	35 dBA	-	35 dBA	37 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	40 dBA	Yes
Night time (10:00 pm – 7:00 am) 12 December 2013					
Location	**Contributed Noise Level $L_{Aeq(15minute)}$**		**Angus Place Contributed Noise Level $L_{Aeq(15minute)}$ Colliery + Haul Road**	**Criteria $L_{Aeq(15minute)}$**	**Compliance**
	Colliery[1]	**Haul Road[2]**			
R1 - Sharpe	35 dBA	-	35 dBA	36 dBA	Yes
R2 - Mason	30 dBA	-	30 dBA	35 dBA	Yes
R3 - Neubeck	-	-	<30 dBA	35 dBA	Yes

Note: 1 - Where the estimated contribution is < x dBA, the Angus Place contributed noise level, the sum of the operation and the haul road, is calculated using 'x-1' dBA.
2 - Haul Road does not operate during the night time.

The analysis of the results of the December 2013 operator attended noise monitoring has shown that the Angus Place noise emissions meet the PA noise limits at all residential monitoring locations during the day, evening and night-time periods.

4 Unattended Noise Monitoring

An ARL 316 environmental noise logger (S/N 16-306-047) was deployed at monitoring location R4 adjacent the Angus Place pit top on Thursday 12 December 2013 and retrieved on Friday 13 December 2013. The unattended noise logger was programmed to continuously record statistical noise level indices in 15 minute intervals including the L_{Amax}, L_{A1}, L_{A10}, L_{A90}, L_{A99}, L_{Amin} and L_{Aeq}.

During logger deployment it was noted that noise from Angus Place surface operations dominated the ambient noise levels at this location.

A summary of the daily and overall noise levels for the monitoring period is provided in **Table 9**. Results are also displayed graphically in **Appendix B**.

Table 9 Unattended Noise Monitoring Results – R4 Angus Place

Location	Period	LA1	LA10	RBL (LA90)	LAeq
R4 – Angus Place	Daytime	57	54	49	52
	Evening	57	56	49	54
	Night	57	55	47	54

Notes: Daytime 7.00 am - 6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 7.00 am, On Sundays and Public Holidays, Daytime 8.00 am -6.00 pm; Evening 6.00 pm - 10.00 pm; Night-time 10.00 pm - 8.00 am.
The RBL is the Rating Background Level as described by the NSW INP.
The overall LAeq is the logarithmically averaged equivalent continuous noise level.
The median LA10 is the middle LA10 noise level when sorted in ascending or descending order.
The median LA1 is the middle LA1 noise level when sorted in ascending or descending order.

5 Conclusion

An assessment of noise emissions from Angus Place operations, inclusive of the Wallerawang Haul Road, has been conducted by SLR for the quarter ending January 2013. Operator attended noise measurements were conducted at Sharpe, Mason and Neubeck Street Residences during the day, evening and night-time periods on Thursday 12 December 2013.

The assessment and analysis of the results of the December 2013 operator attended noise monitoring has shown that Angus Place noise emission levels were in compliance with the PA noise limits at all monitoring locations during the day, evening and night-time noise monitoring periods.

I trust the preceding meets your current requirements. If you have any questions or would like any further information please do not hesitate to contact me on (02) 4037 2300 or email nvandenberg@slrconsulting.com.

Yours sincerely

Nicholas Vandenberg
Project Consultant – Noise and Vibration

NOISE MONITORING LOCATIONS

DATE	3.4.2007
SEAM	SURFACE
DRAWN	ADM
REFERENCE	N:\SHARED\PLANS\ANGUS Environmental\Figure1 Noise Monitoring Locations
SCALE	DIAGRAM ONLY

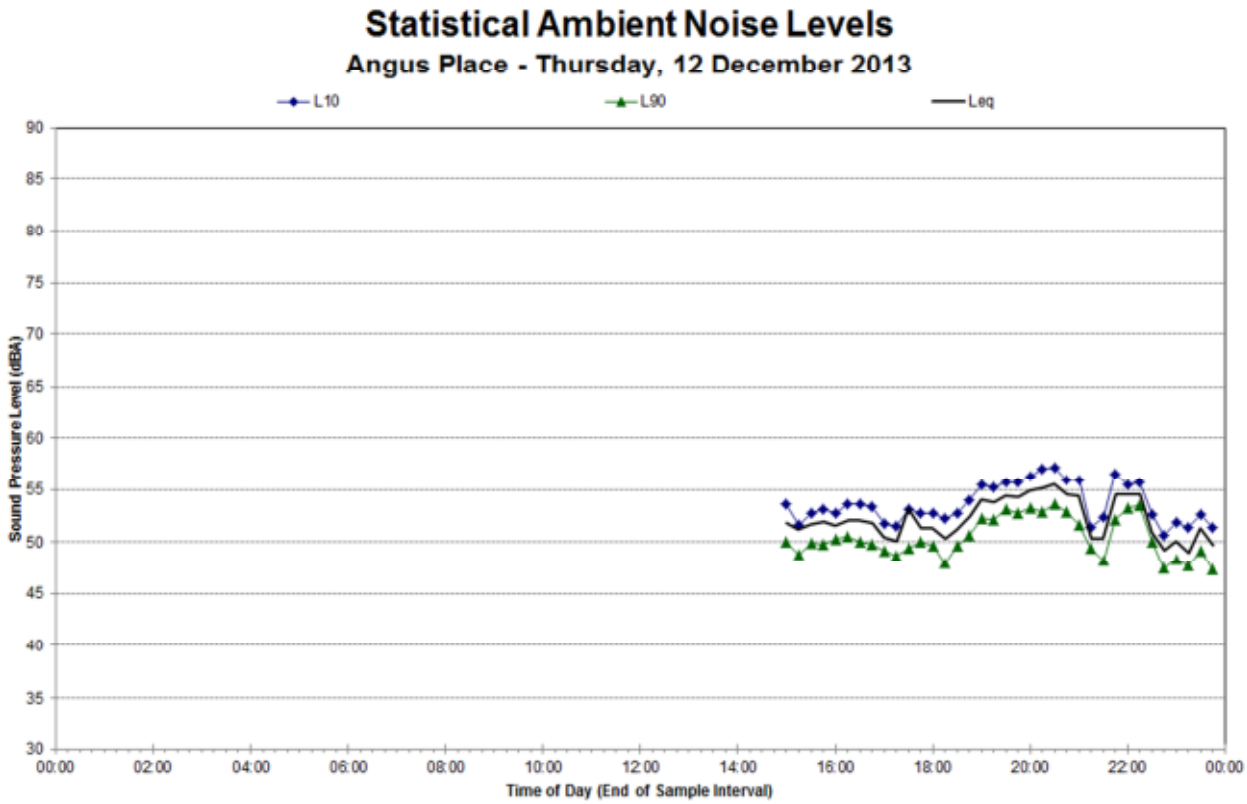
Figure 1 : Noise Monitoring Locations

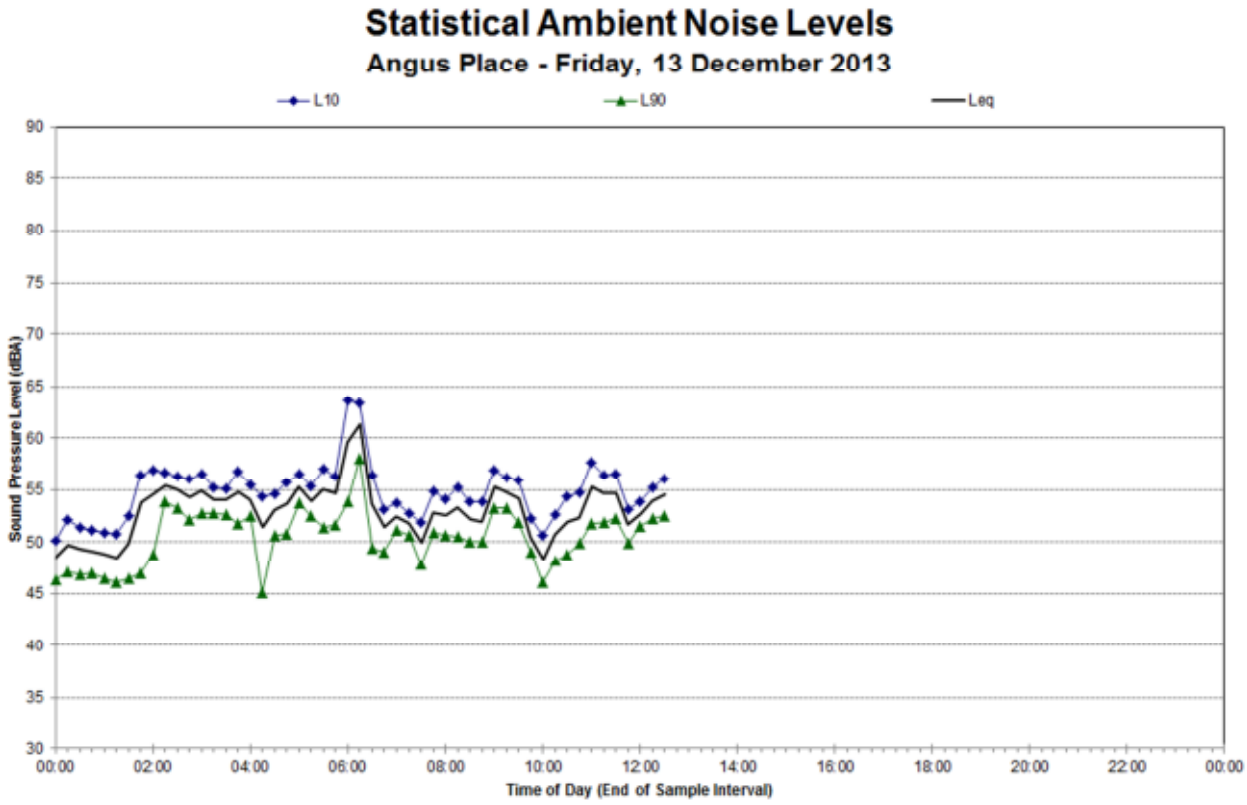
● Attended
■ Unattended

PLOTFILE No.

Centennial Angus Place

DRG. No.


Statistical Ambient Noise Levels
Angus Place - Thursday, 12 December 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)


Statistical Ambient Noise Levels
Angus Place - Friday, 13 December 2013
L10
L90
Leq
Sound Pressure Level (dBA)
90
85
80
75
70
65
60
55
50
45
40
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
00:00
Time of Day (End of Sample Interval)