
APPENDIX A

GLOSSARY OF TERMS

GLOSSARY

Most environments are affected by environmental noise which continuously varies, largely as a result of road traffic. To describe the overall noise environment, a number of noise descriptors have been developed and these involve statistical and other analysis of the varying noise over sampling periods, typically taken as 15 minutes. These descriptors, which are demonstrated in the graph overleaf, are here defined.

Maximum Noise Level (L_{Amax}) – The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.

L_{A1} – The L_{A1} level is the noise level which is exceeded for 1% of the sample period. During the sample period, the noise level is below the L_{A1} level for 99% of the time.

L_{A10} – The L_{A10} level is the noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below the L_{A10} level for 90% of the time. The L_{A10} is a common noise descriptor for environmental noise and road traffic noise.

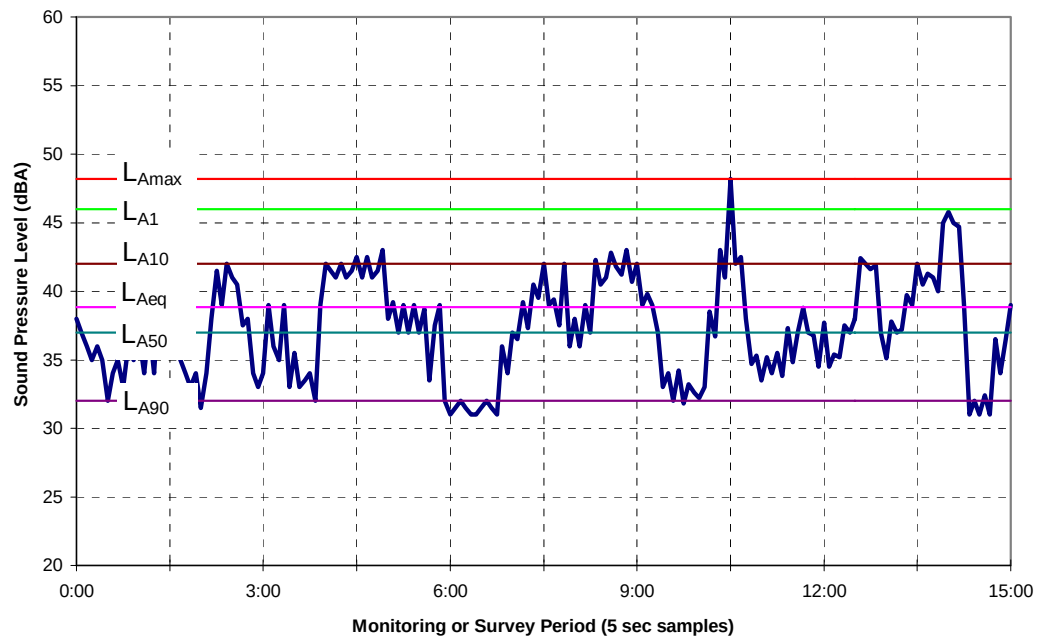
L_{Aeq} – The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise which contains the same energy as the varying noise environment. This measure is also a common measure of environmental noise and road traffic noise.

L_{A50} – The L_{A50} level is the noise level which is exceeded for 50% of the sample period. During the sample period, the noise level is below the L_{A50} level for 50% of the time.

L_{A90} – The L_{A90} level is the noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below the L_{A90} level for 10% of the time. This measure is commonly referred to as the background noise level.

ABL – The Assessment Background Level is the single figure background level representing each assessment period (daytime, evening and night time) for each day. It is determined by calculating the 10th percentile (lowest 10th percent) background level (L_{A90}) for each period.

RBL – The Rating Background Level for each period is the median value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period – daytime, evening and night time.



APPENDIX B

PREDICTED NOISE LEVELS

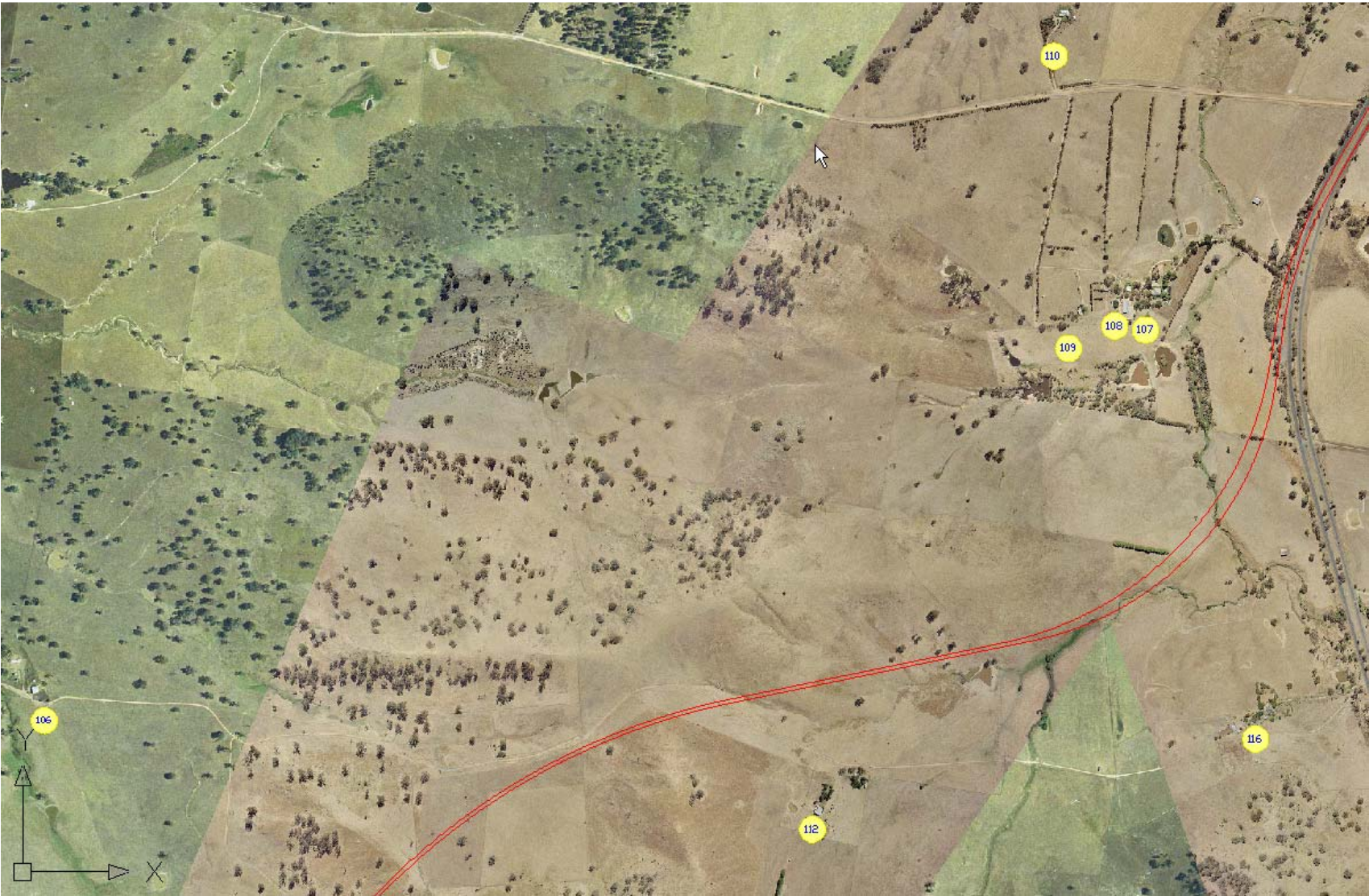
Receiver No.	Description	Predicted Night Time Noise L _{Aeq,9hr} dBA								
		Noise at Hume Highway Facade		Noise at Bypass Facade						
		Hume Hwy 2011	Hume Hwy 2011, with bypass	Hume Hwy 2011 - <u>Future Existing</u>	Hume Hwy 2011 – with bypass	Bypass 2011	Hume Hwy + Bypass Noise 2011	Hume Hwy 2021 – with bypass	Bypass 2021	Hume Hwy + Bypass Noise <u>2021</u>
102	Near Dunraven	44	32	44	32	48	48	33	49	49
103	Near Dunraven	43	31	43	31	47	47	32	48	48
105	Dunraven House	41	29	41	29	44	44	30	45	45
106	Structure only	-	-	-	-	-	-	-	-	-
107	SpringValley1	55	43	52	40	54	54	41	55	55
108	SpringValley2	53	42	50	39	52	53	40	53	54
109	SpringValley3	52	40	49	37	51	51	38	52	52
110		44	32	44	32	42	42	33	43	43
111	Structure only	-	-	-	-	-	-	-	-	-
112	Structure only	-	-	-	-	-	-	-	-	-
113	Donnington	59	47	59	47	<30	47	48	<30	48
114		56	44	56	44	<30	44	45	<30	45
115		55	44	47	36	19	36	37	20	37
116	Mt Raven Snow	56	45	50	39	52	52	40	53	53
117	(Dunraven residence)	54	42	46	34	55	55	35	56	56
118		59	48	56	45	47	49	46	48	50
119		63	51	60	48	47	50	49	48	51
120		61	50	58	47	44	49	48	45	50
121	School Gate	65	53	62	50	44	51	51	45	52
122		64	52	61	49	43	50	50	44	51
123		65	53	57	45	36	46	46	37	47
124		63	51	63	51	35	52	52	36	53
125		52	40	52	40	52	53	41	53	54
126		54	43	54	43	51	52	44	52	53
127		54	43	54	43	48	49	44	49	50
128		60	48	52	40	44	45	41	45	46
129		58	46	58	46	44	48	47	45	49
130		56	44	56	44	43	47	45	44	48

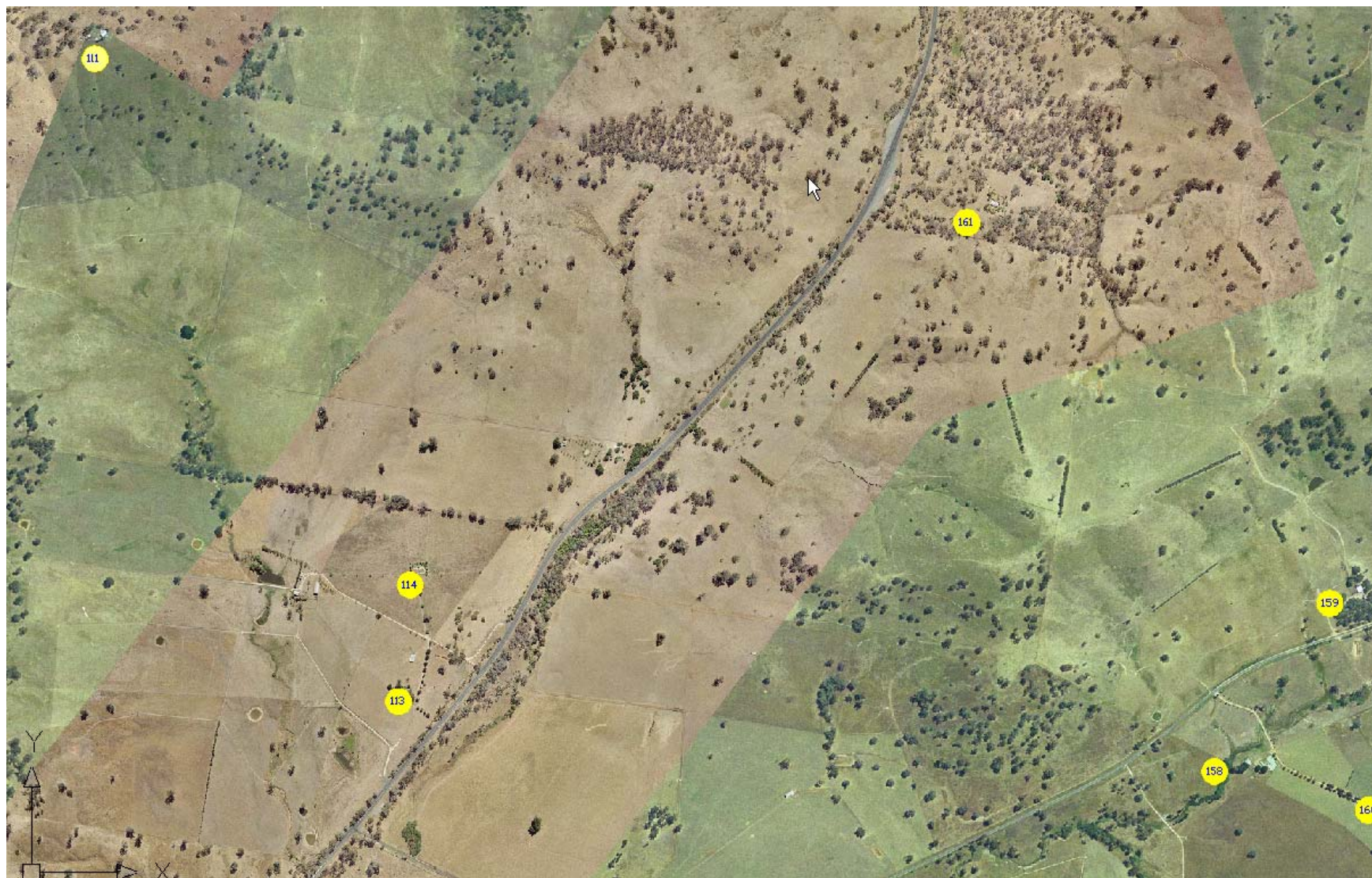
Receiver No. Description		Predicted Night Time Noise L _{Aeq,9hr} dBA								
		Noise at Hume Highway Facade		Noise at Bypass Facade						
				Hume Hwy 2011 - <u>Future Existing</u>	Hume Hwy 2011 – with bypass	Bypass 2011	Hume Hwy + Bypass Noise 2011	Hume Hwy 2021 – with bypass	Bypass 2021	Hume Hwy + Bypass <u>Noise 2021</u>
131	Goldenberg	55	43	55	43	43	46	44	44	47
132		56	44	56	44	44	47	45	45	48
133		54	42	54	42	43	46	43	44	47
134		55	43	55	43	43	46	44	44	47
135		57	46	57	46	43	48	47	44	49
136		54	43	54	43	42	45	44	43	46
137		57	45	57	45	42	47	46	43	48
138		63	51	63	51	43	52	52	44	53
139		63	51	63	51	42	52	52	43	53
140		59	47	59	47	41	48	48	42	49
141		67	55	67	55	41	55	56	42	56
142		67	55	67	55	41	55	56	42	56
143		59	47	59	47	40	48	48	41	49
144		60	49	60	49	40	49	50	41	50
145		58	46	58	46	40	47	47	41	48
146		56	44	56	44	40	46	45	41	47
147		56	44	56	44	40	46	45	41	47
148		56	44	56	44	40	46	45	41	47
149		56	45	56	45	40	46	46	41	47
150		55	43	55	43	41	45	44	42	46
151		54	42	54	42	41	44	43	42	45
152		54	42	54	42	39	44	43	40	45
153		54	42	54	42	36	43	43	37	44
154		56	45	56	45	38	46	46	39	47
155		57	45	57	45	38	46	46	39	47
156		57	45	57	45	37	46	46	38	47
157		61	49	61	49	38	49	50	39	50
158		<30	<30	<30	<30	<30	<30	<30	<30	<30
159		<30	<30	<30	<30	<30	<30	<30	<30	<30
160		<30	<30	<30	<30	<30	<30	<30	<30	<30
161		54	43	54	43	<30	43	44	<30	44

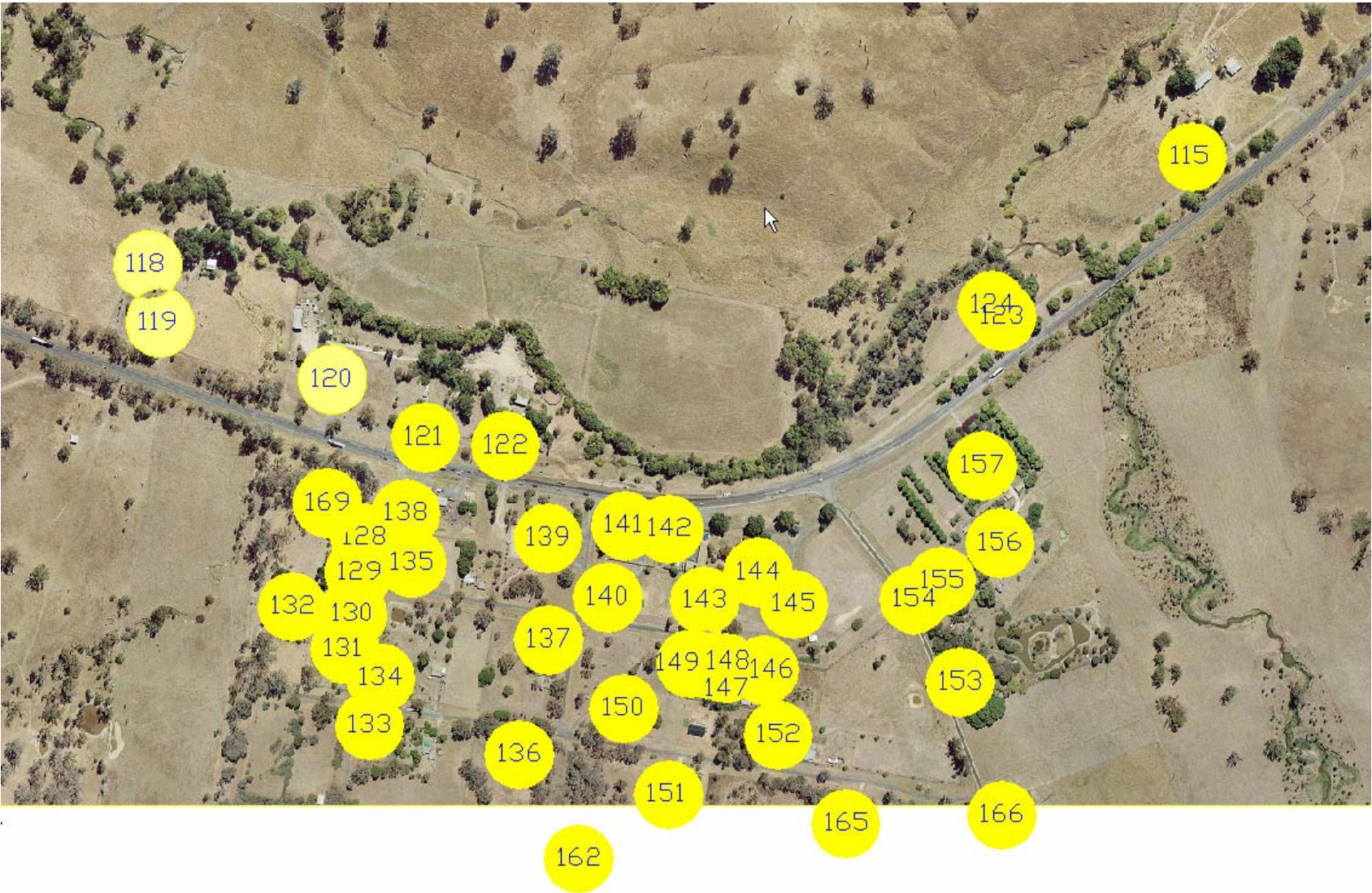
Receiver No.	Description	Predicted Night Time Noise L _{Aeq,9hr} dBA								
		Noise at Hume Highway Facade		Noise at Bypass Facade						
		Hume Hwy 2011	Hume Hwy 2011, with bypass	Hume Hwy 2011 - <u>Future</u> <u>Existing</u>	Hume Hwy 2011 – with bypass	Bypass 2011	Hume Hwy + Bypass Noise 2011	Hume Hwy 2021 – with bypass	Bypass 2021	Hume Hwy + Bypass <u>Noise</u> <u>2021</u>
162		52	40	52	40	41	44	41	42	45
163		48	36	48	36	36	39	37	37	40
164		48	36	48	36	41	43	37	42	44
165		53	41	53	41	38	43	42	39	44
166		51	39	51	39	0	39	40	0	40
167		48	36	48	36	0	36	37	0	37
168	Lynch St Marks	55	43	55	43	53	53	44	54	54
169	Church	63	51	63	51	43	52	52	44	53

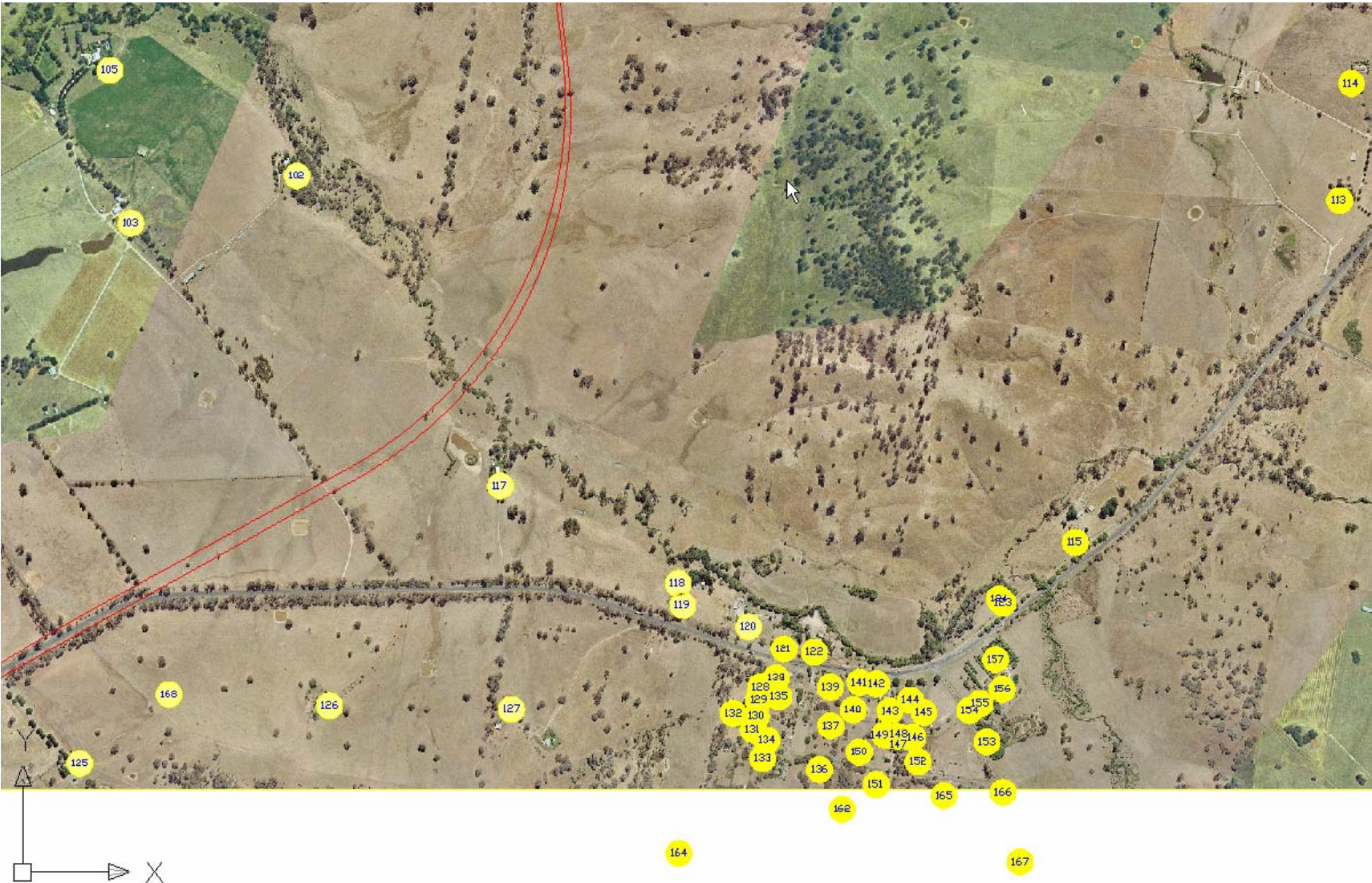
APPENDIX C

RECEIVER LOCATIONS





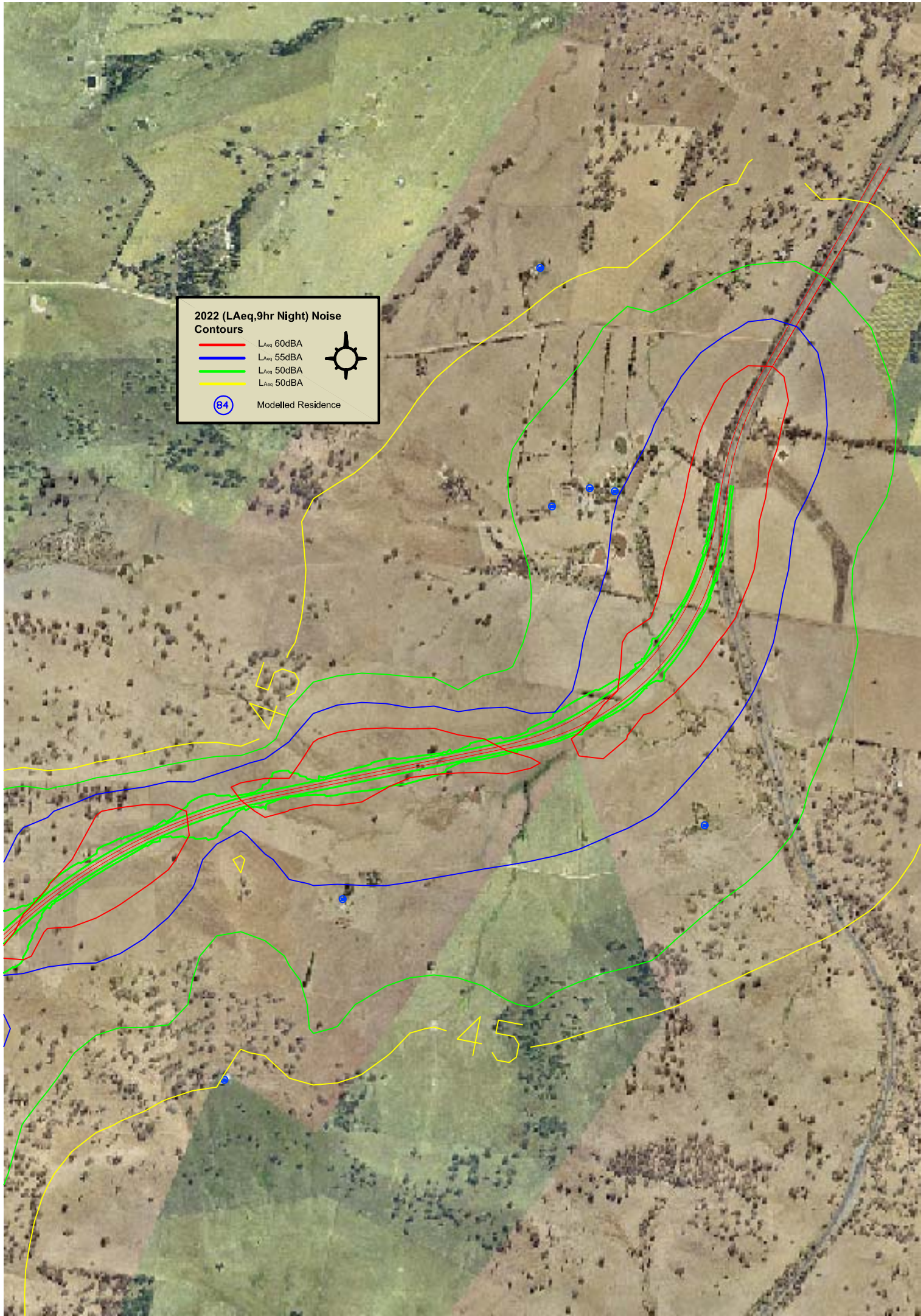




APPENDIX D

NOISE CONTOURS







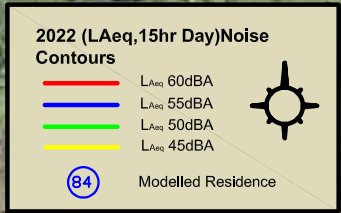
2022 (LAeq,9hr Night) Noise Contours

—	L _{Aeq} 60dBA
—	L _{Aeq} 55dBA
—	L _{Aeq} 50dBA
—	L _{Aeq} 50dBA

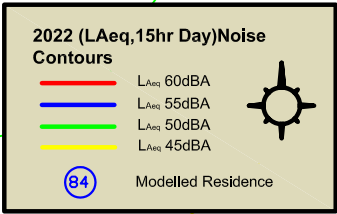
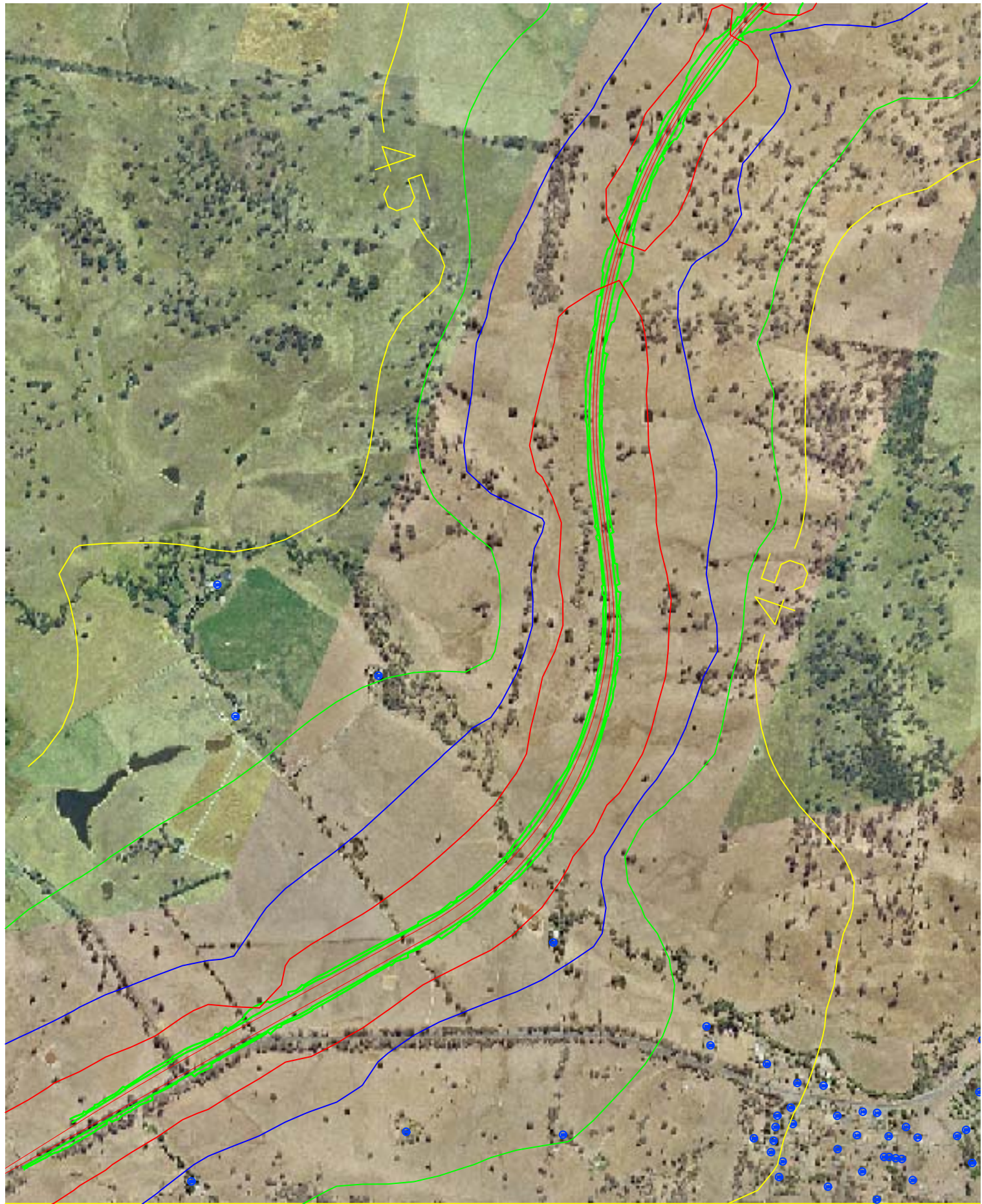
84

Modelled Residence





45

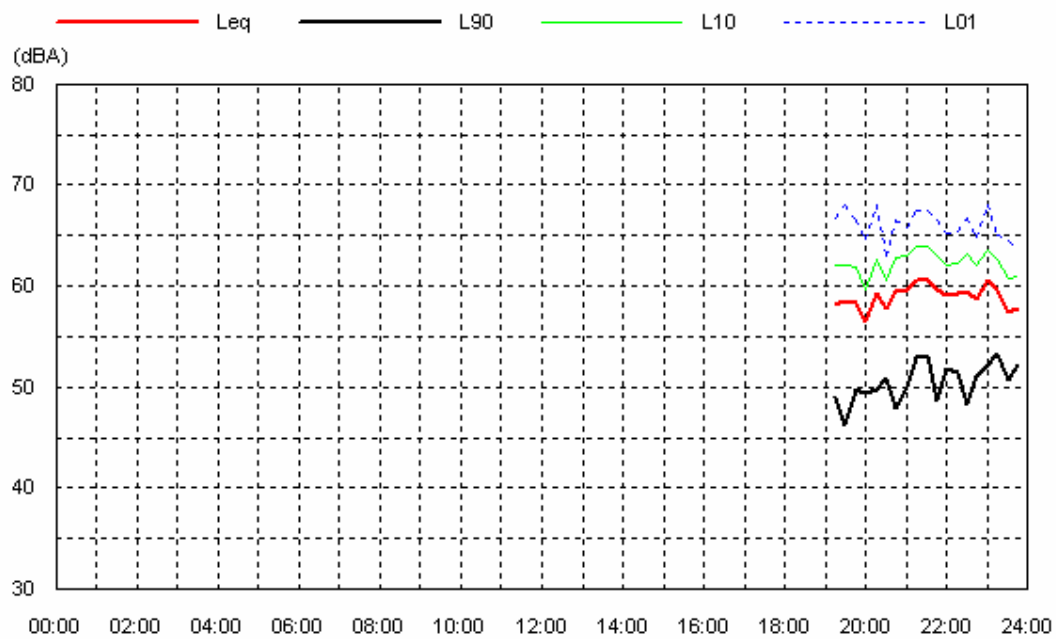


APPENDIX E

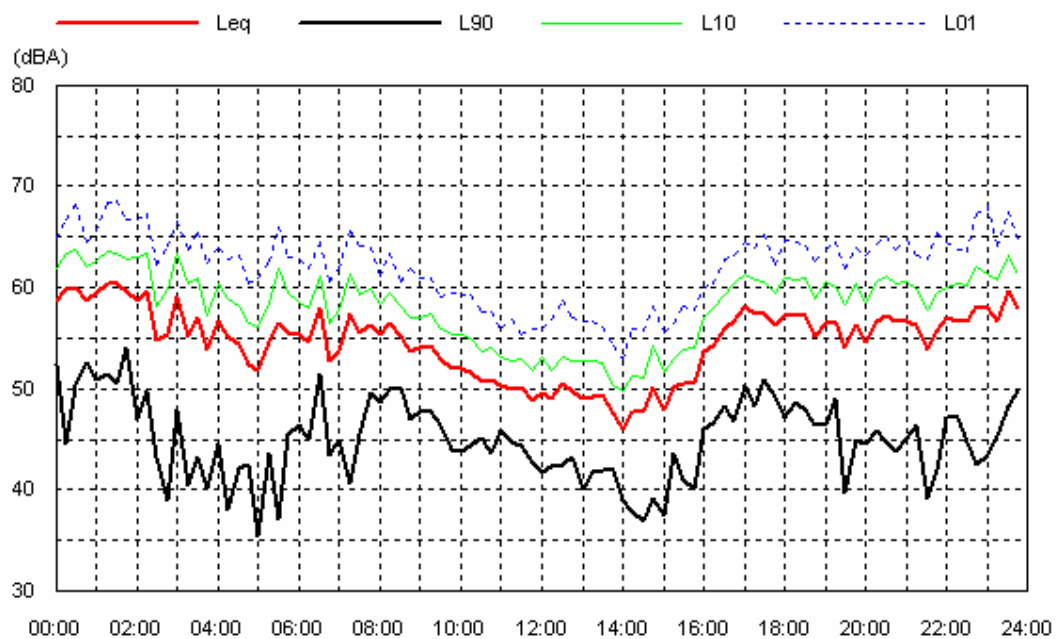
NOISE MEASUREMENT RESULTS

Location: B

Thu 29 May 08

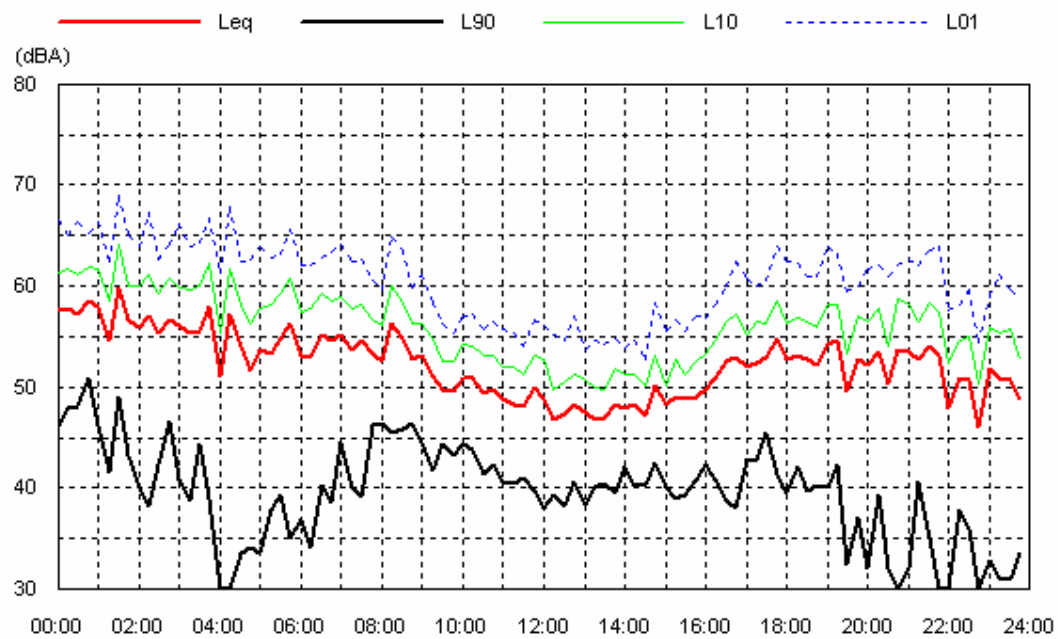


Fri 30 May 08

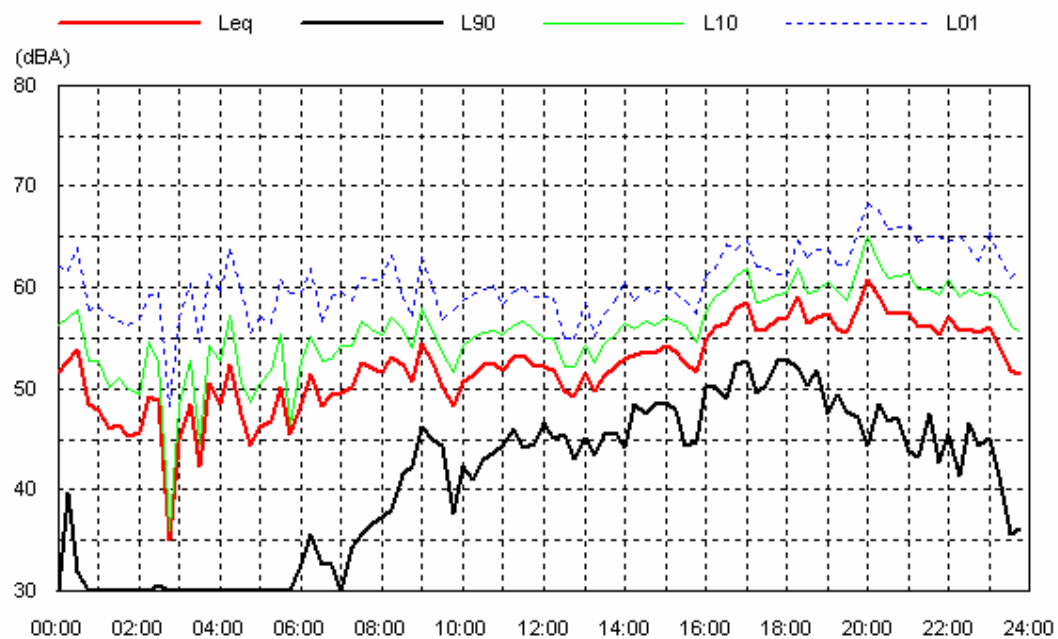


Location: B

Sat 31 May 08

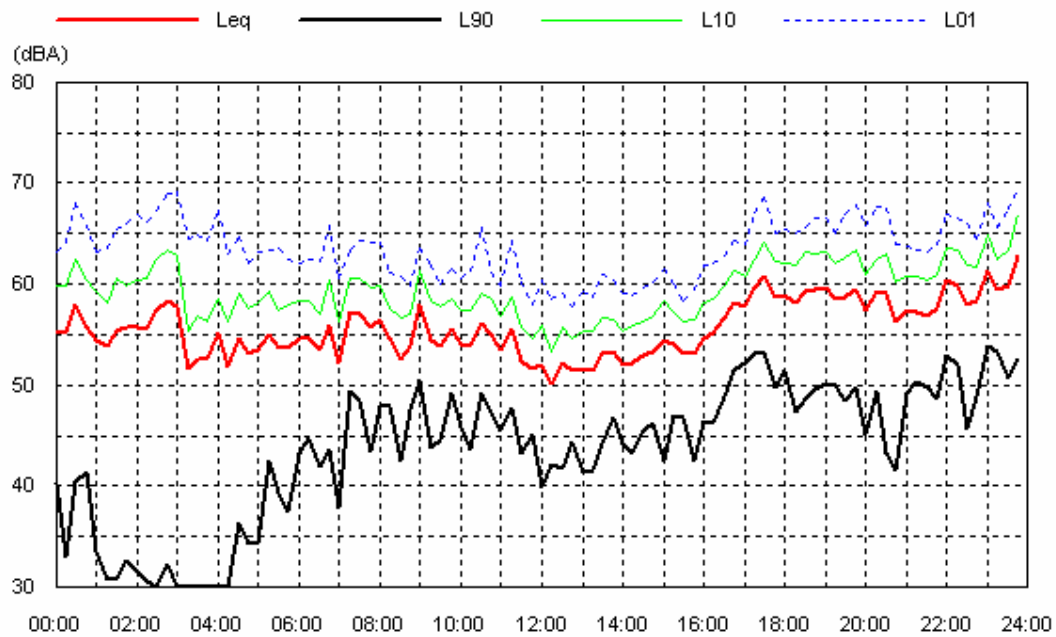


Sun 01 Jun 08

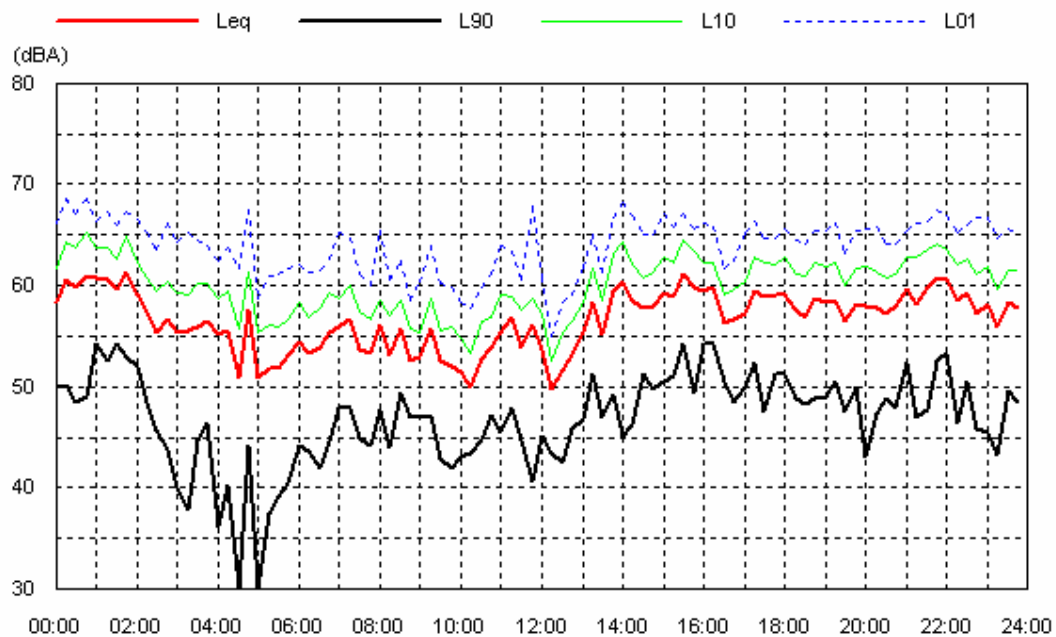


Location: B

Mon 02 Jun 08

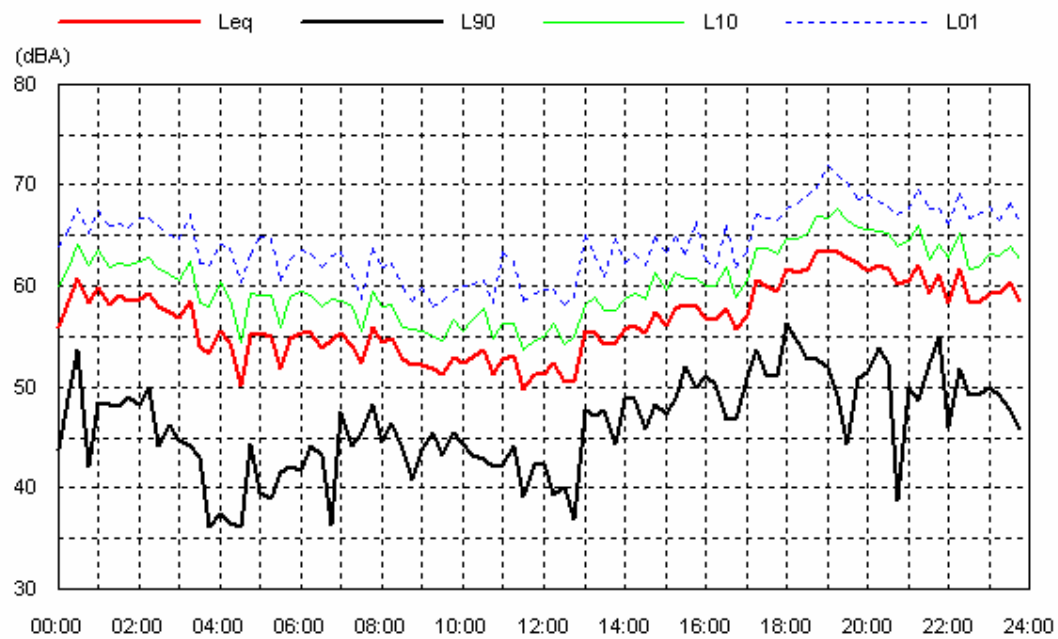


Tue 03 Jun 08

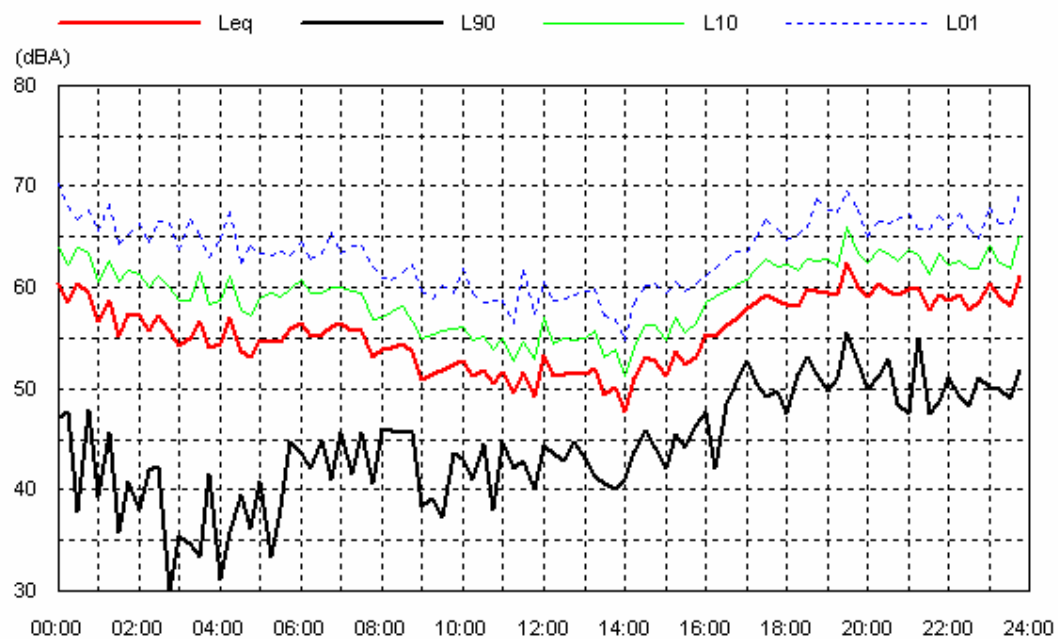


Location: B

Wed 04 Jun 08

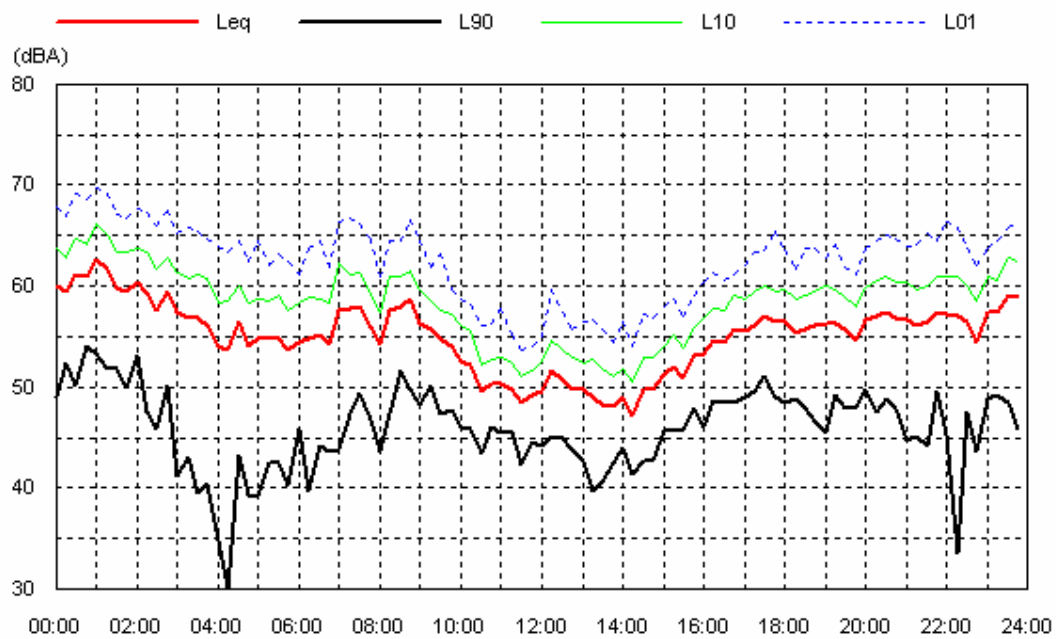


Thu 05 Jun 08

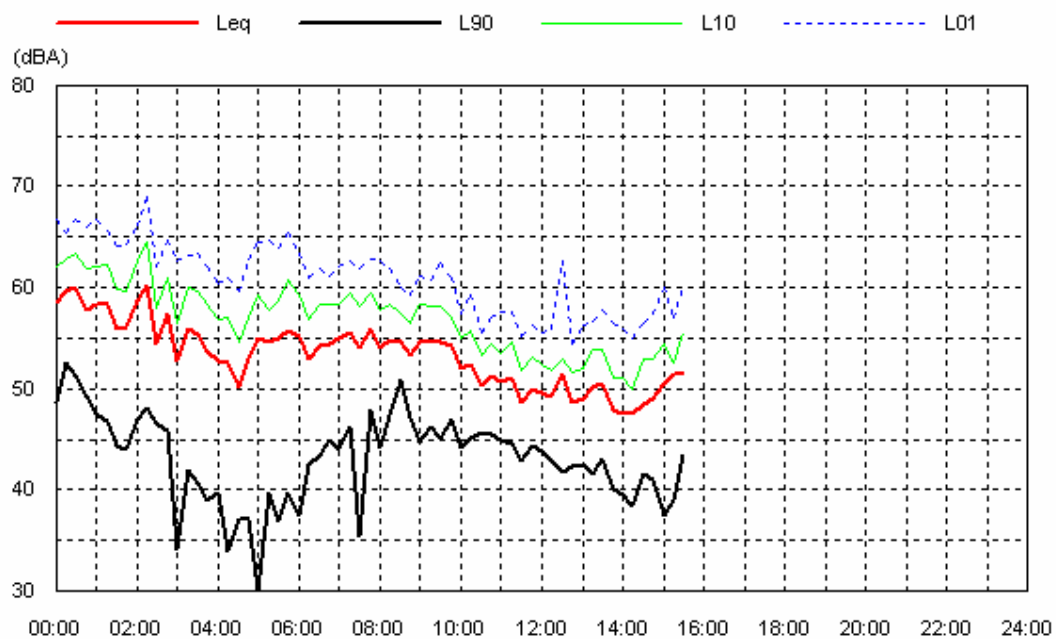


Location: B

Fri 06 Jun 08



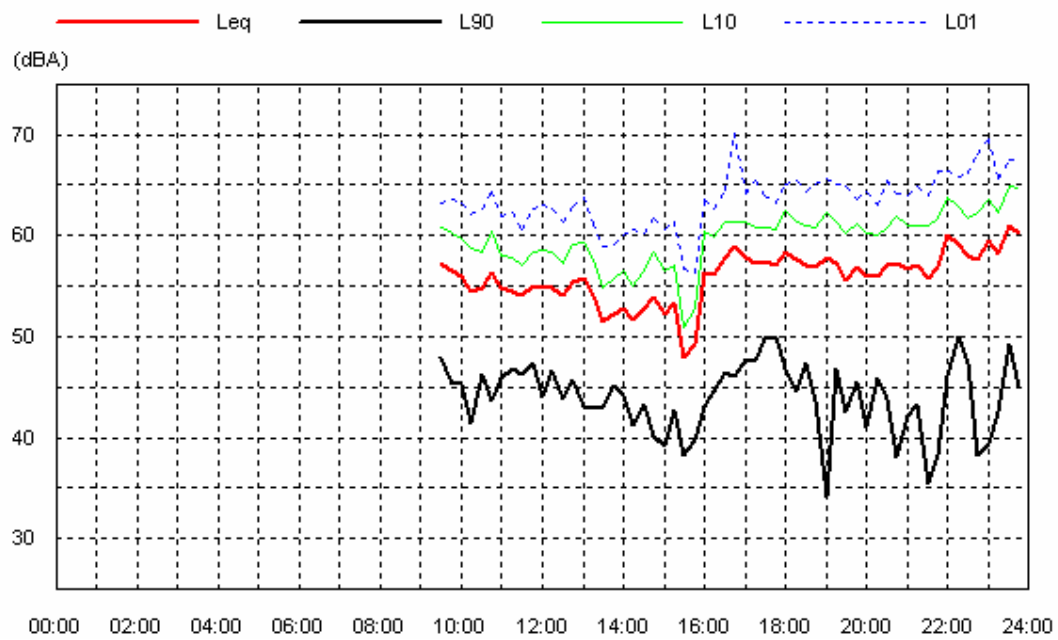
Sat 07 Jun 08



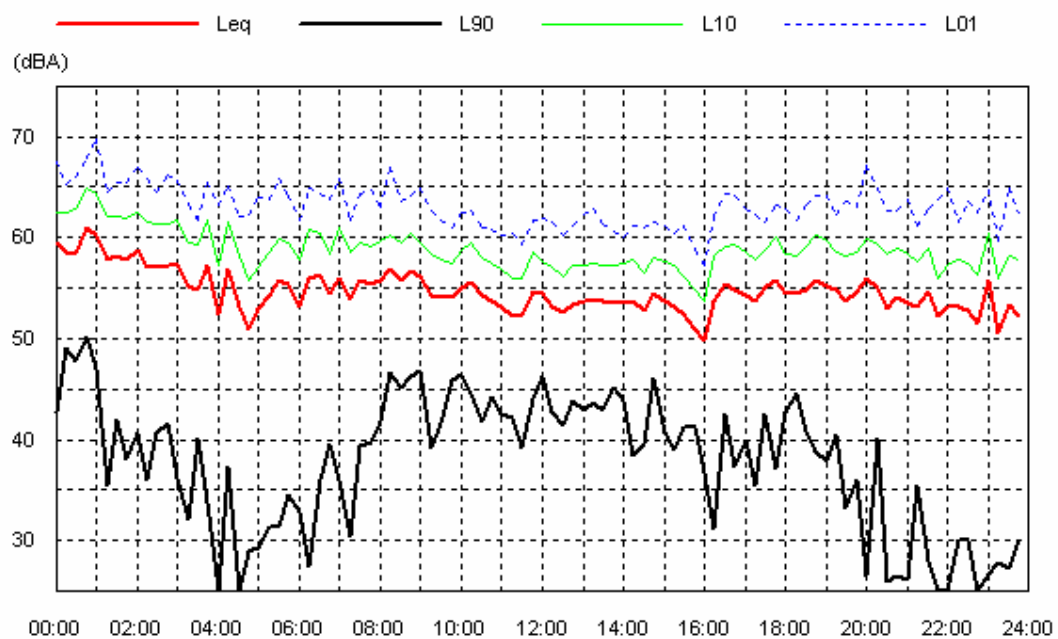
Location: C

Data shaded: Wind; Rain

Fri 30 May 08



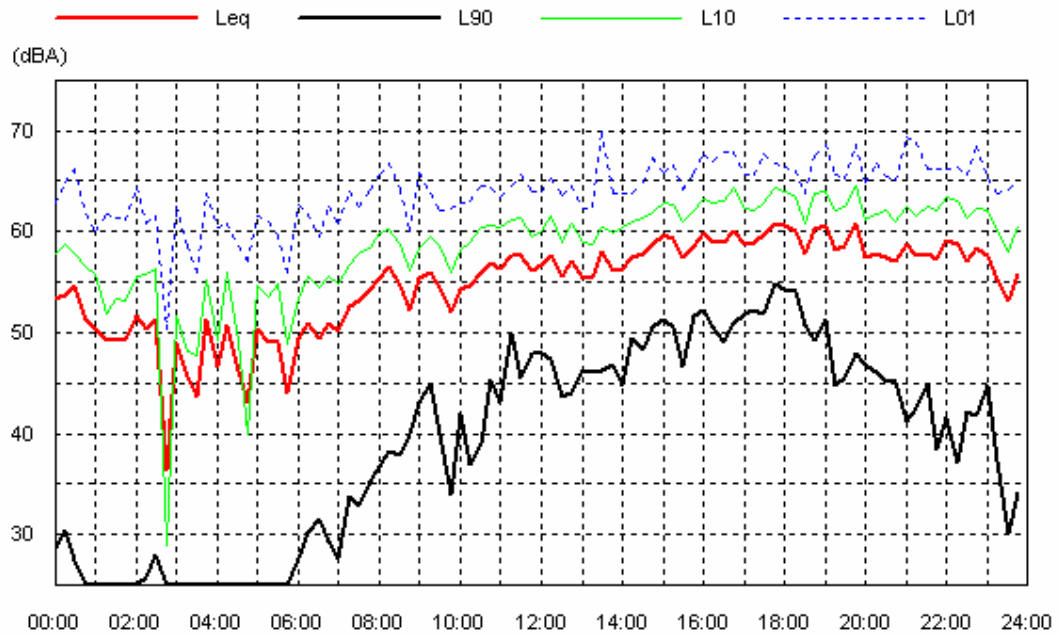
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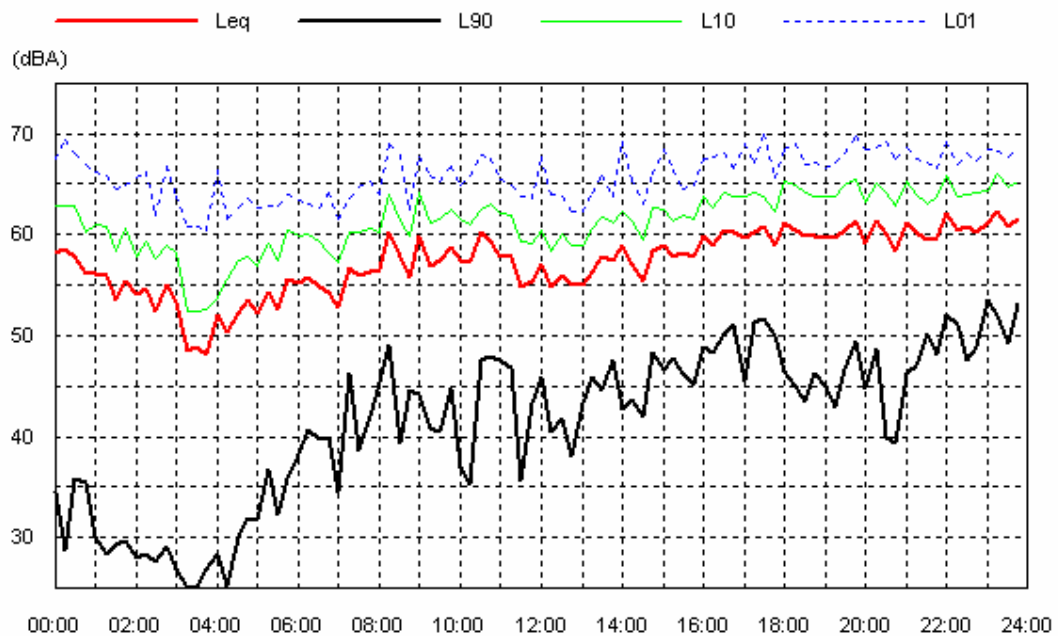
Location: C

Data shaded: Wind; Rain

Sun 01 Jun 08



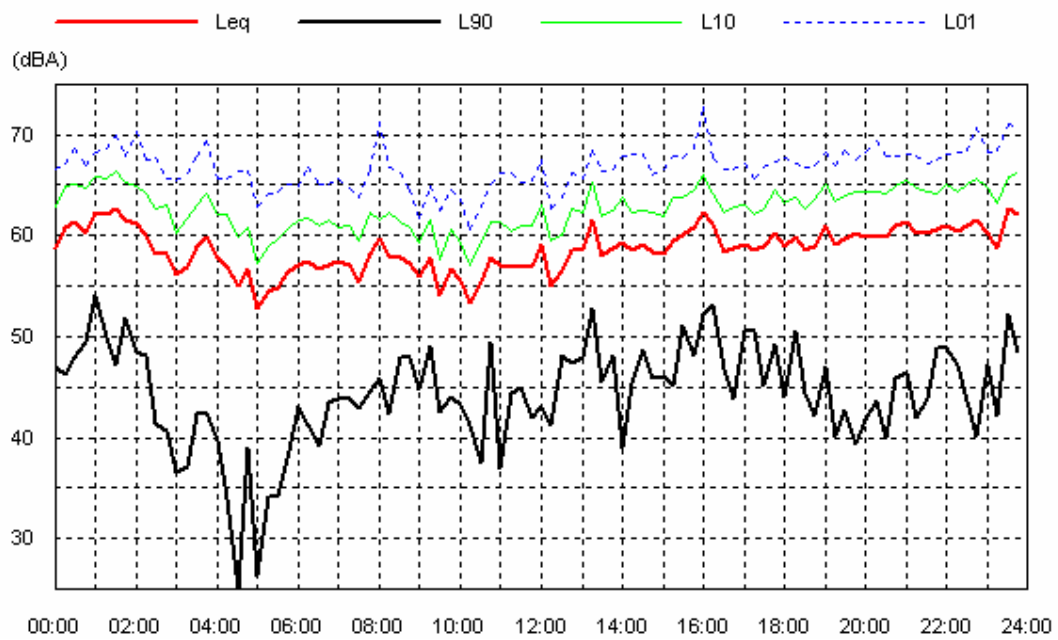
Mon 02 Jun 08



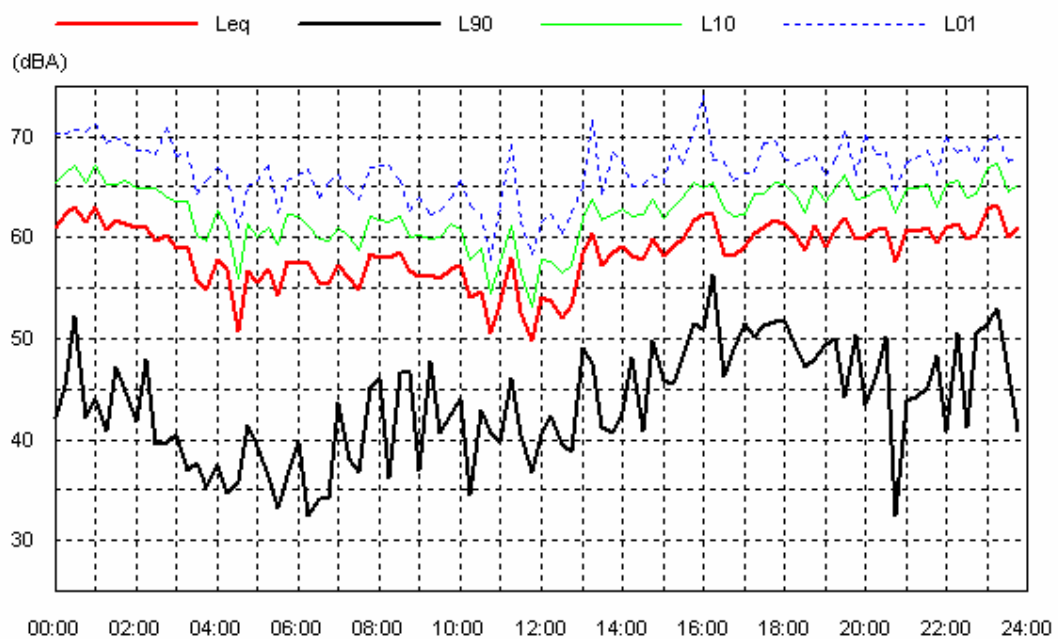
Location: C

Data shaded: Wind; Rain

Tue 03 Jun 08



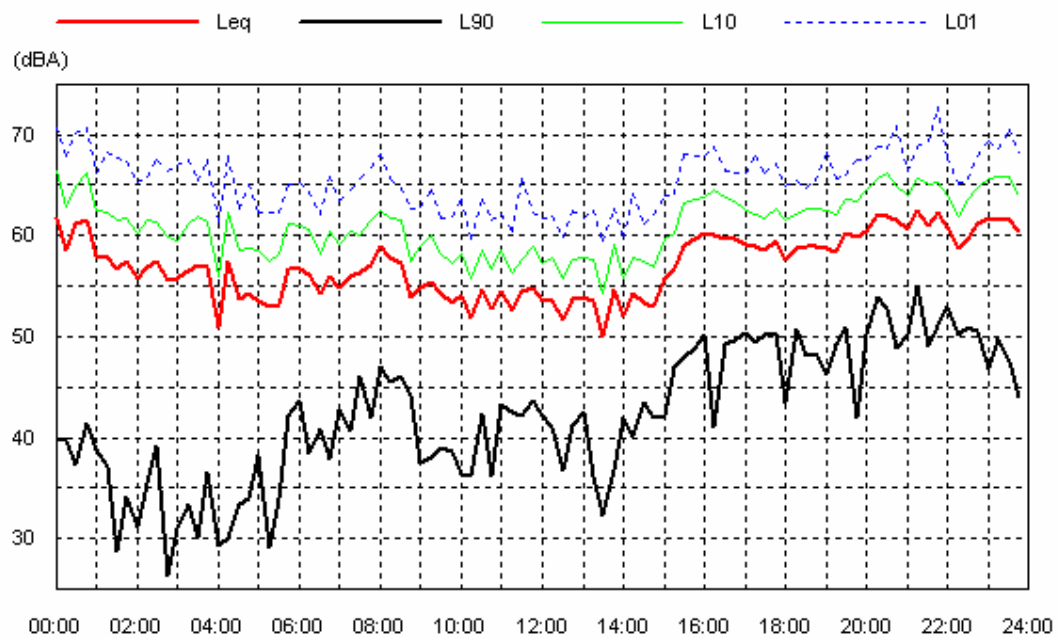
Wed 04 Jun 08



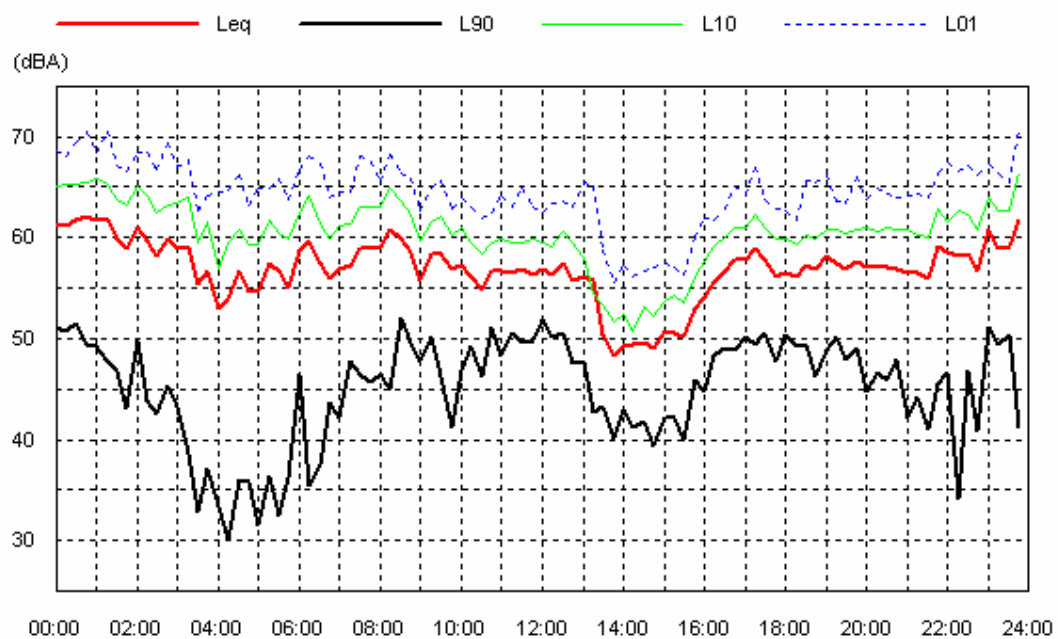
Location: C

Data shaded: Wind; Rain

Thu 05 Jun 08



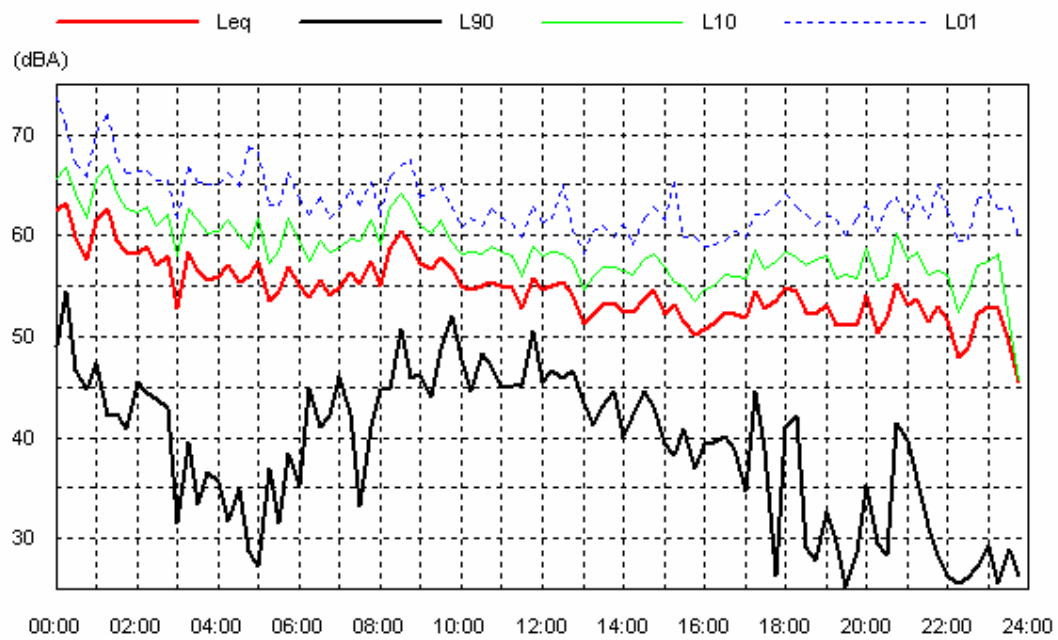
Fri 06 Jun 08



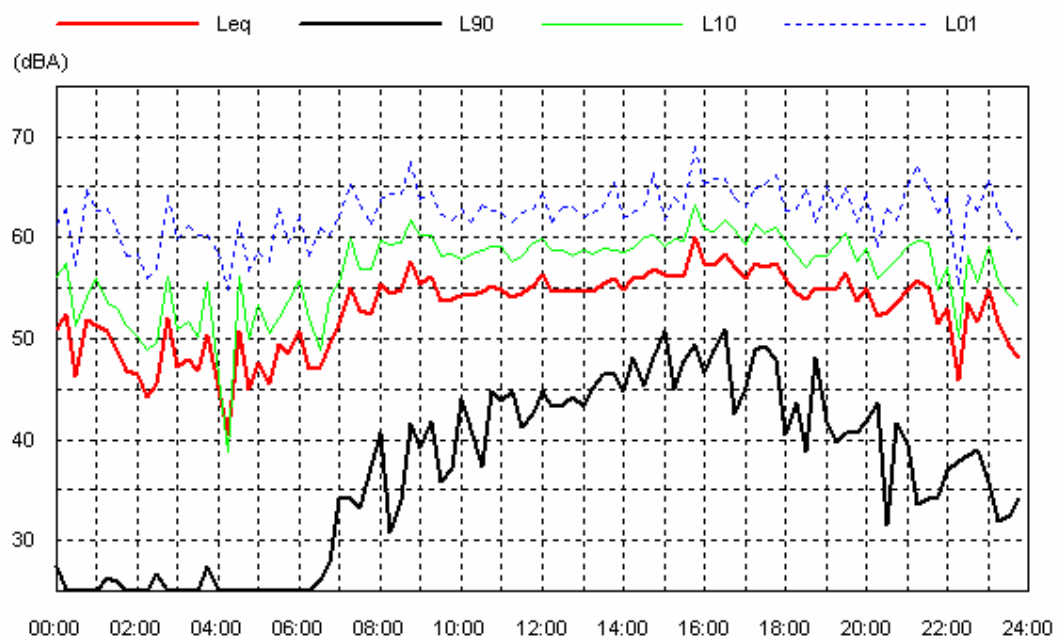
Location: C

Data shaded: Wind; Rain

Sat 07 Jun 08



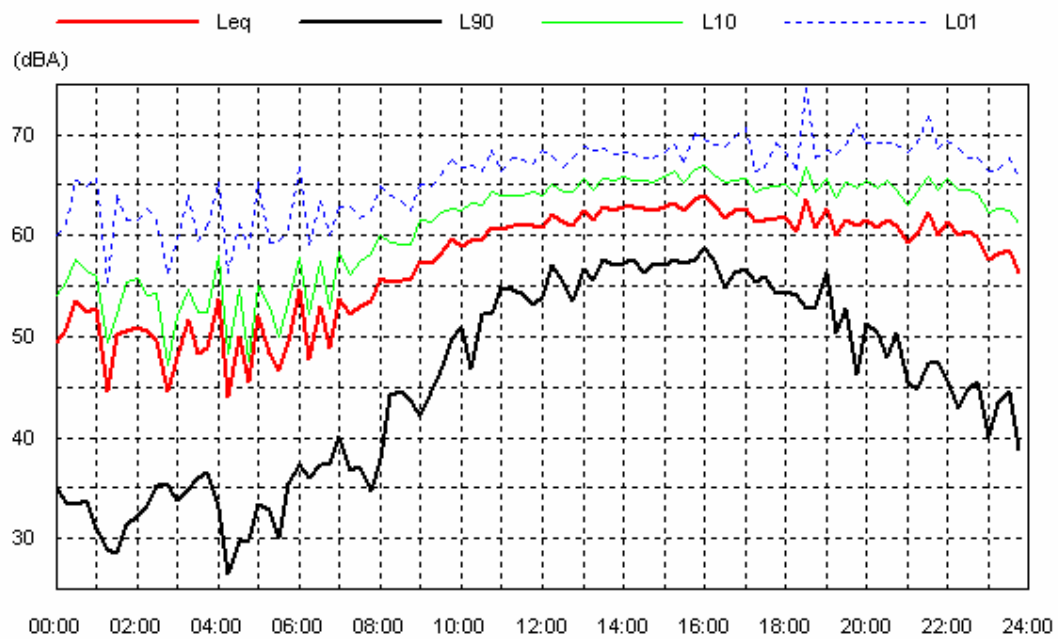
Sun 08 Jun 08



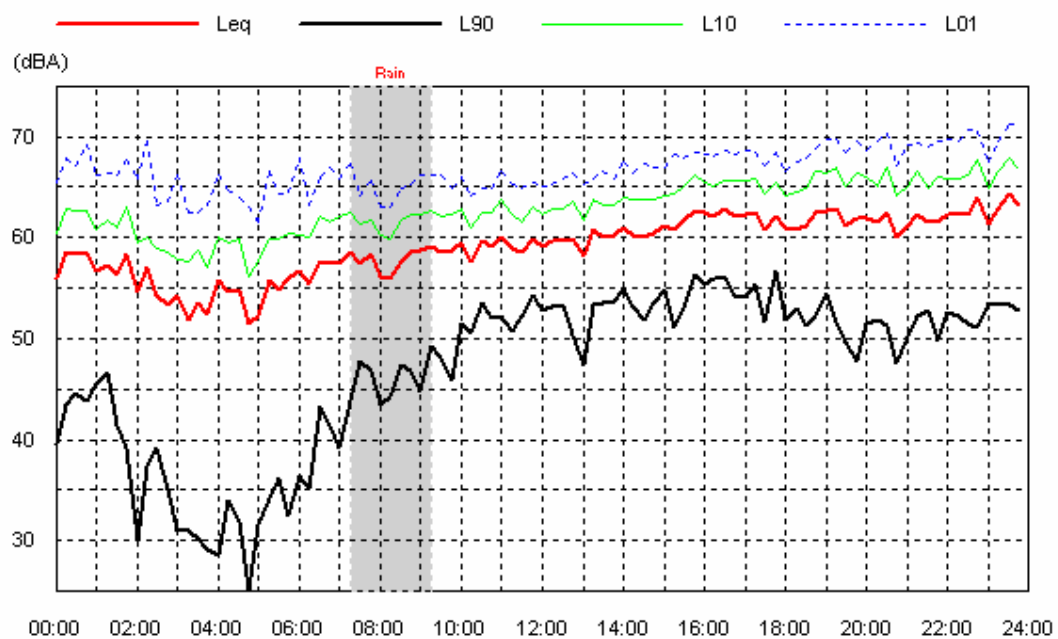
Location: C

Data shaded: Wind; Rain

Mon 09 Jun 08



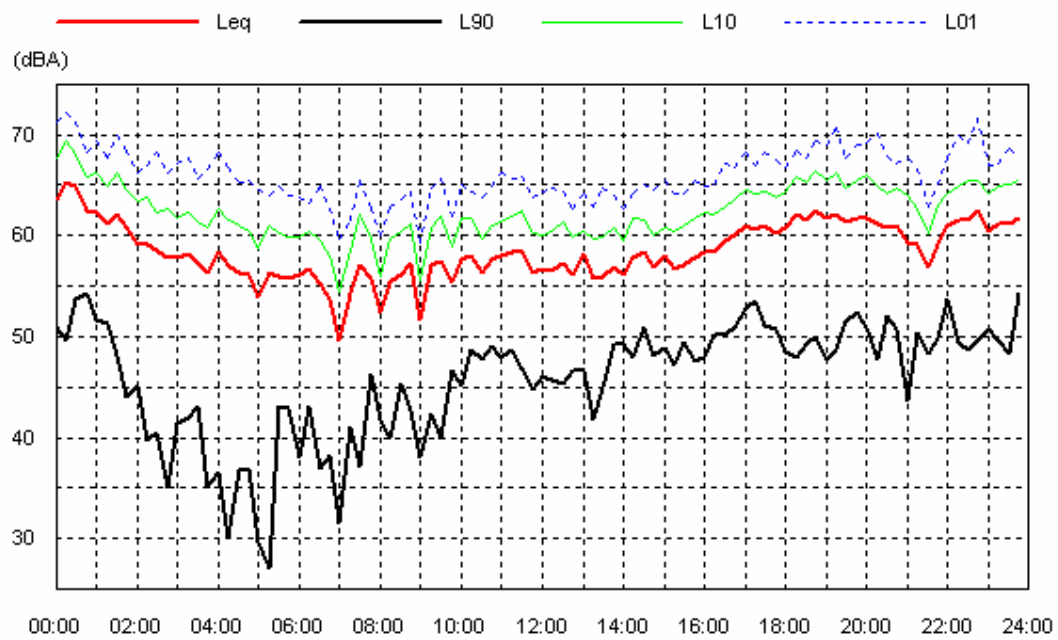
Tue 10 Jun 08



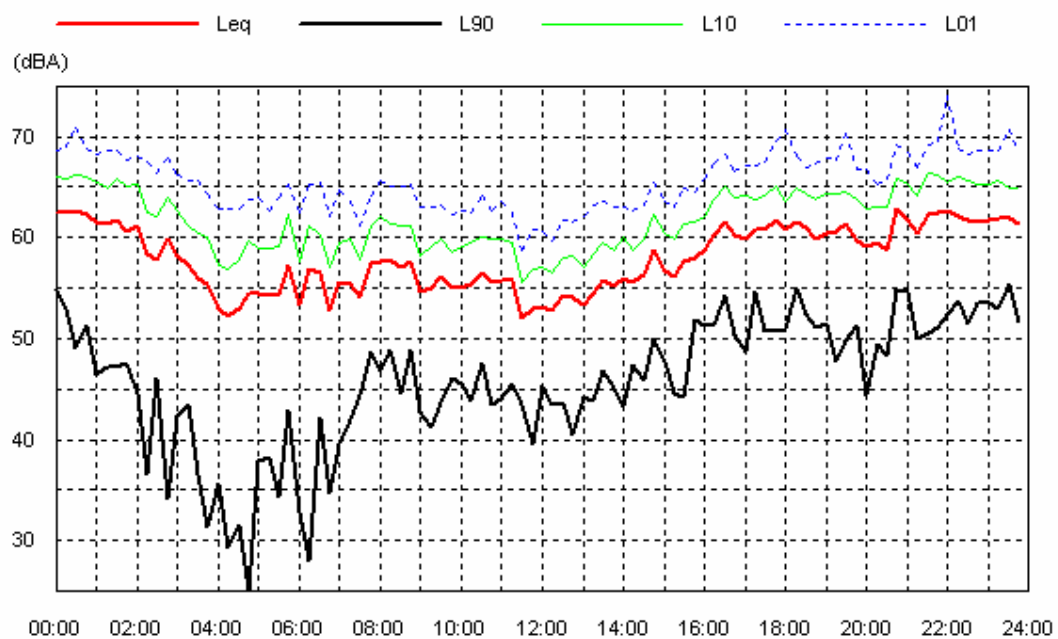
Location: C

Data shaded: Wind; Rain

Wed 11 Jun 08



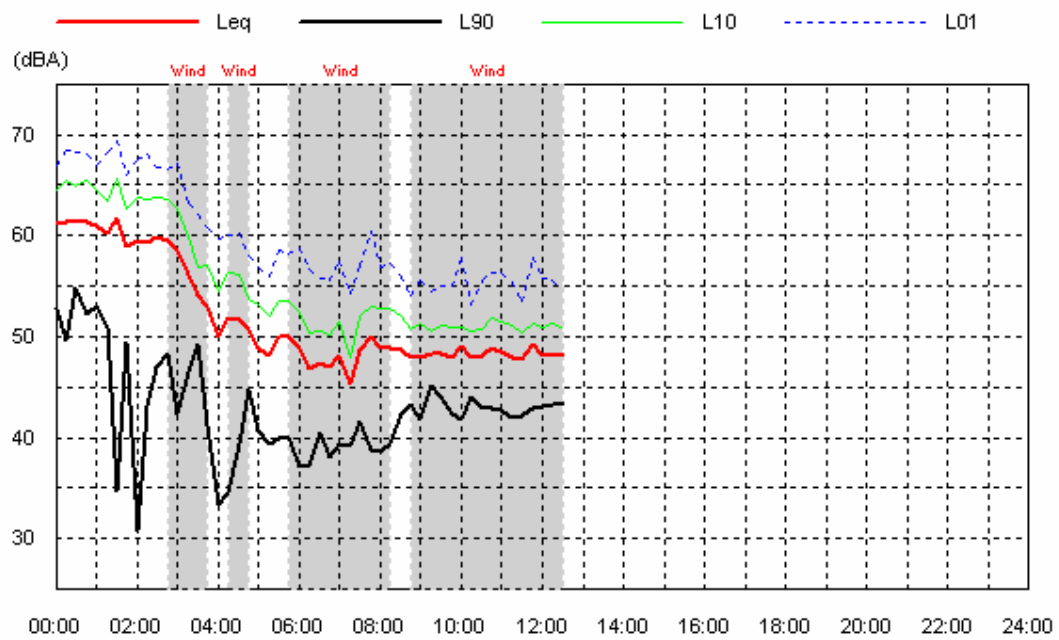
Thu 12 Jun 08



Location: C

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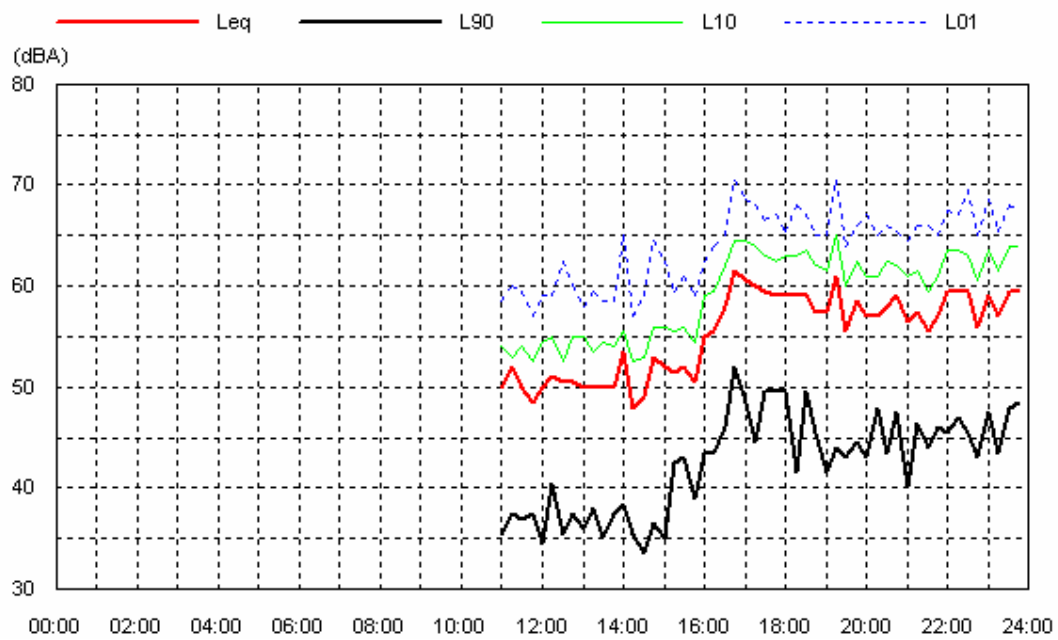
Fri 13 Jun 08



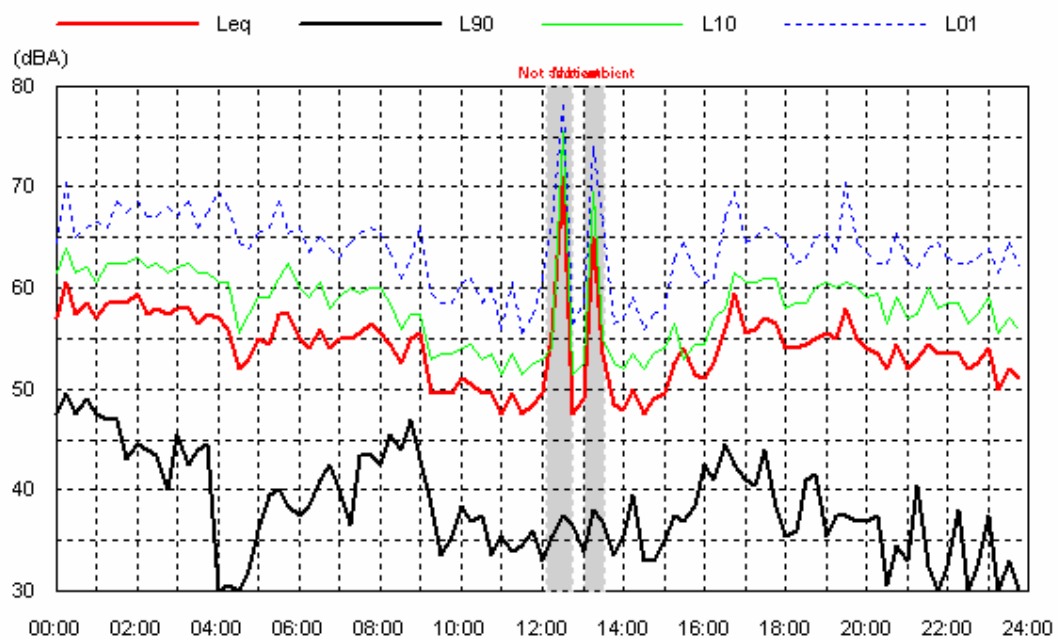
Location: D

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Fri 30 May 08



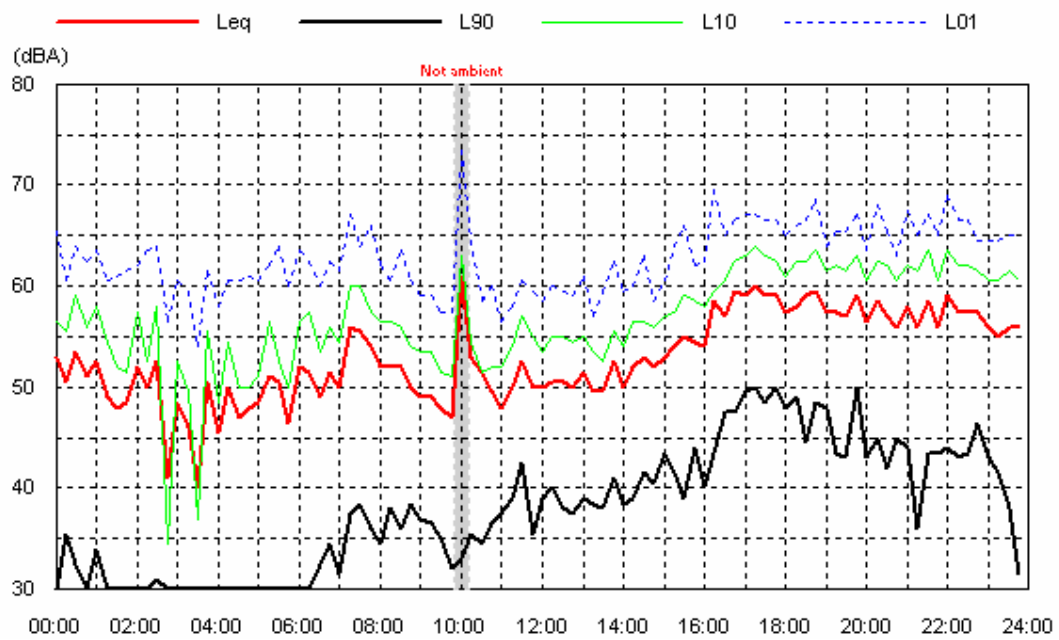
Sat 31 May 08



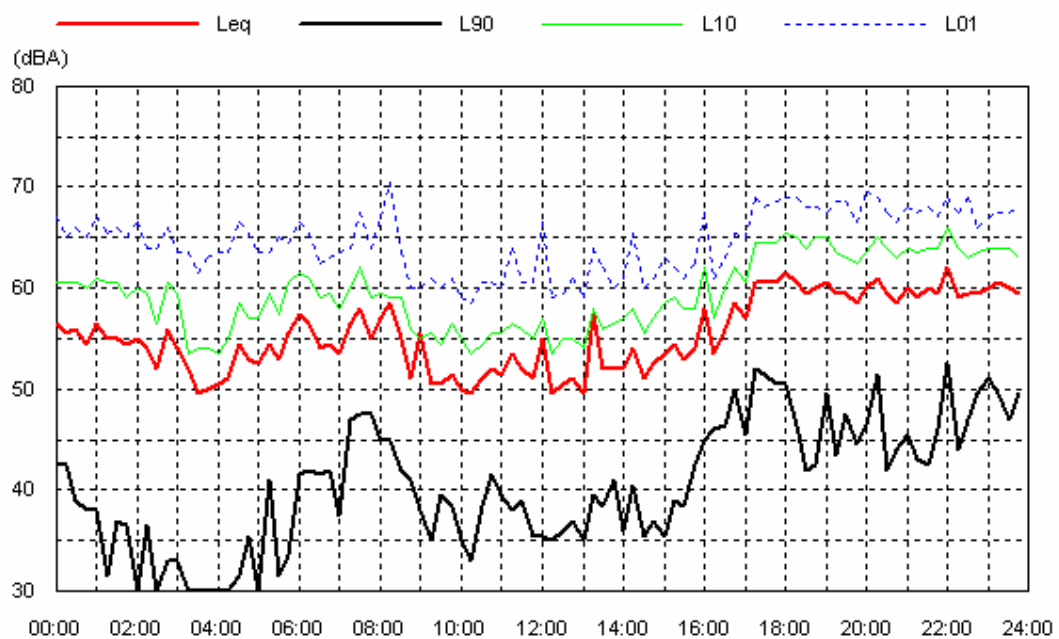
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Sun 01 Jun 08



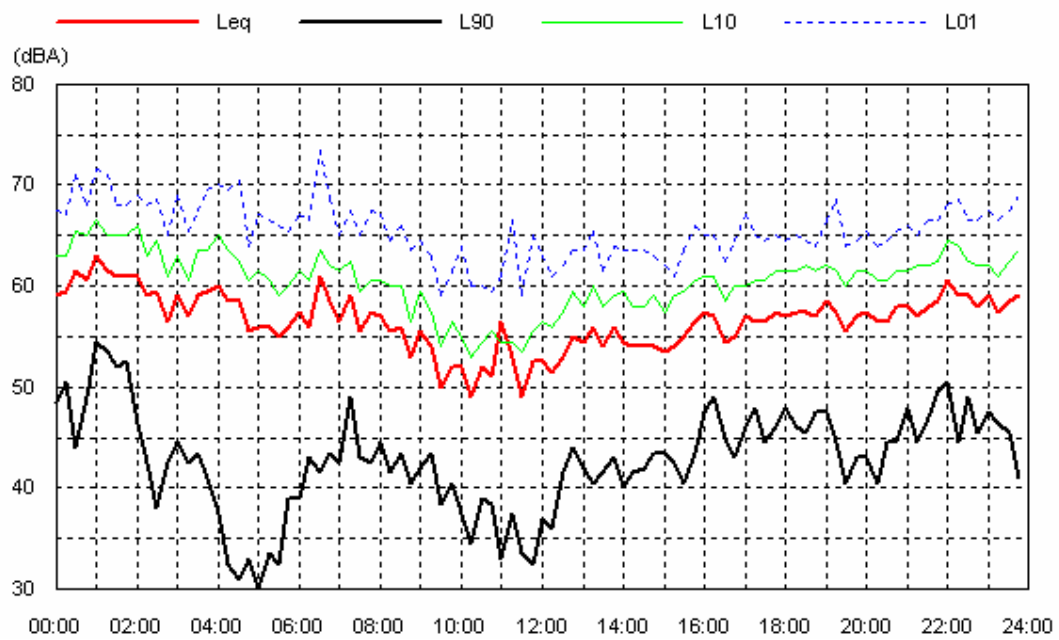
Mon 02 Jun 08



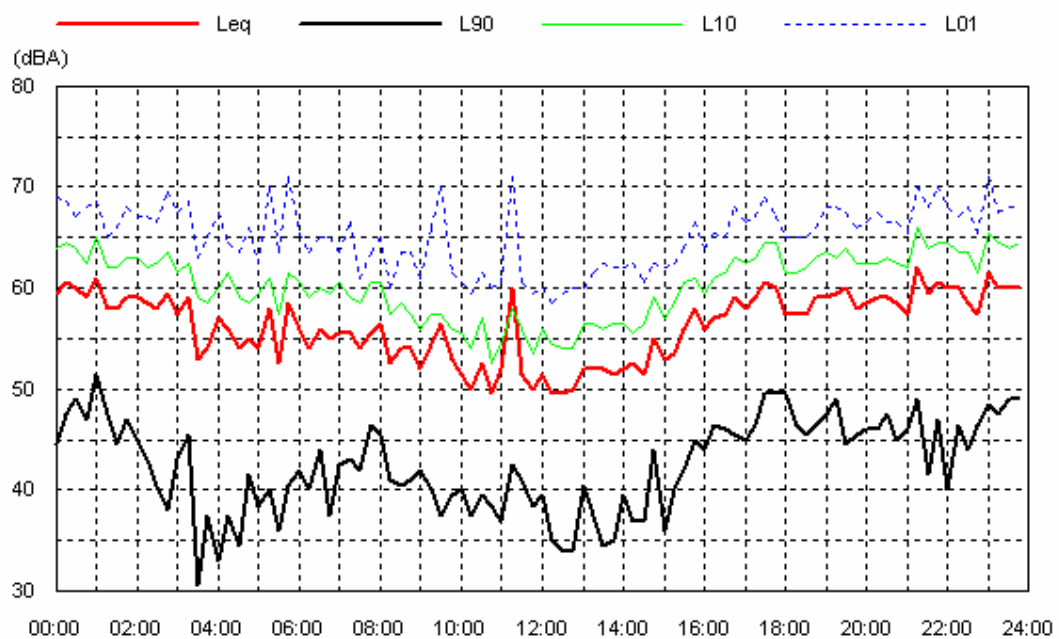
Location: D

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Tue 03 Jun 08



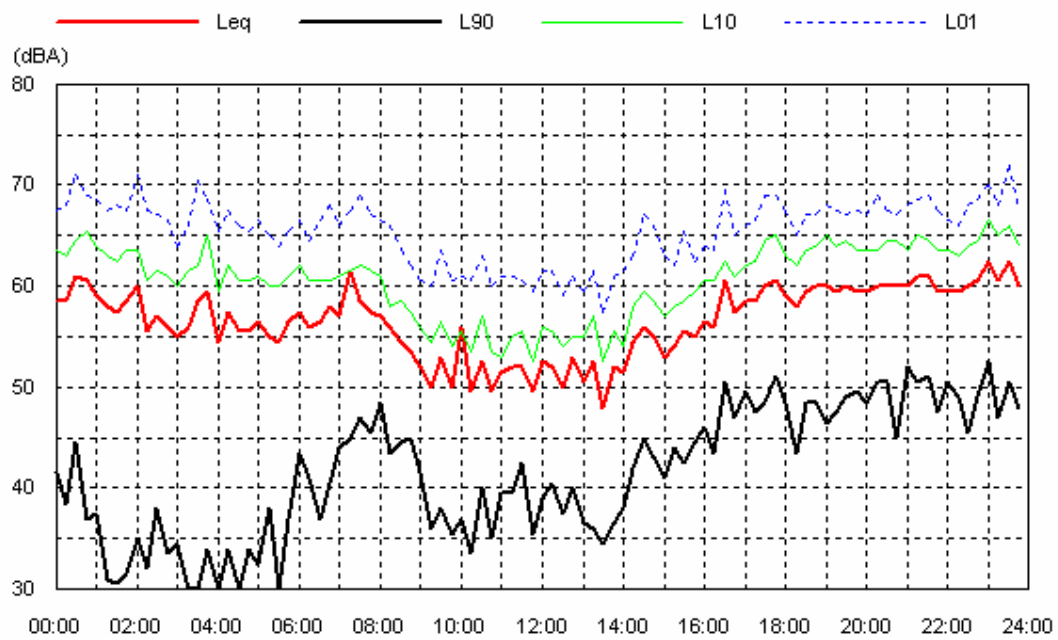
Wed 04 Jun 08



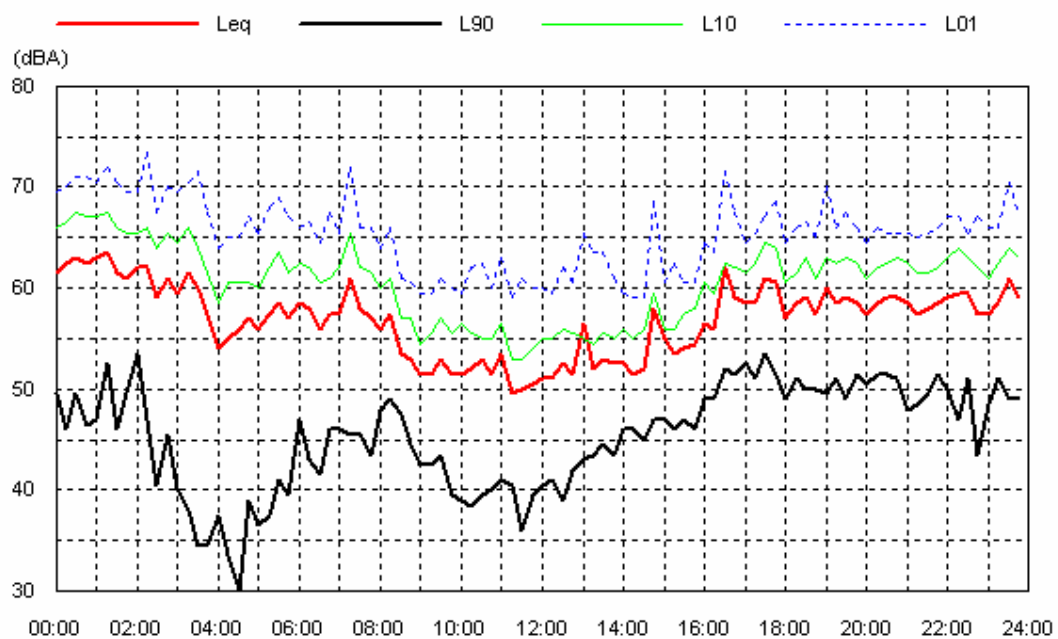
Location: D

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Thu 05 Jun 08



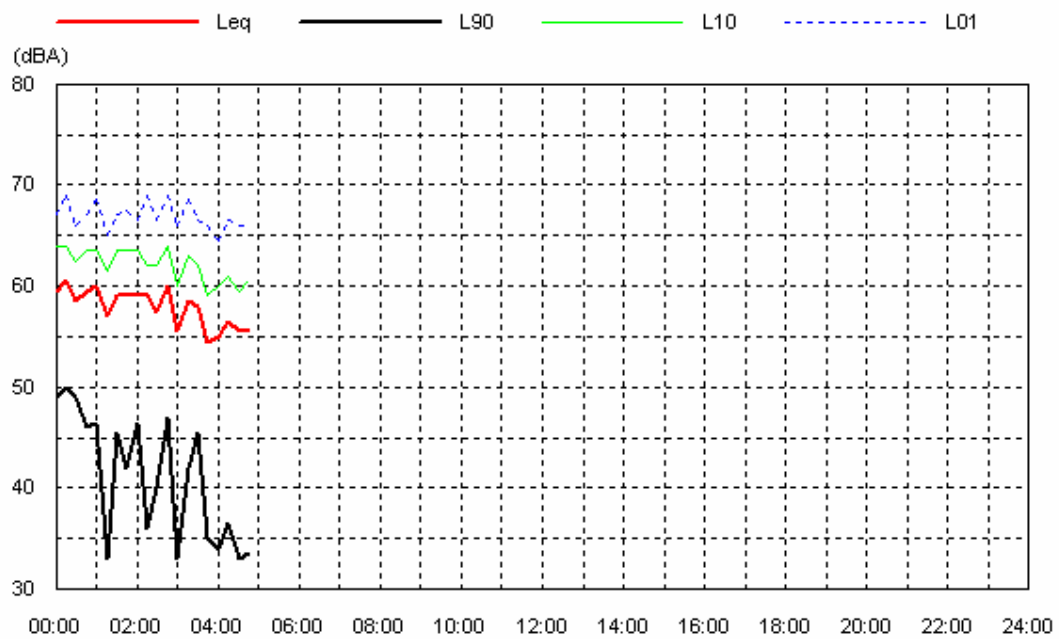
Fri 06 Jun 08



Location: D

Data shaded: Not ambient

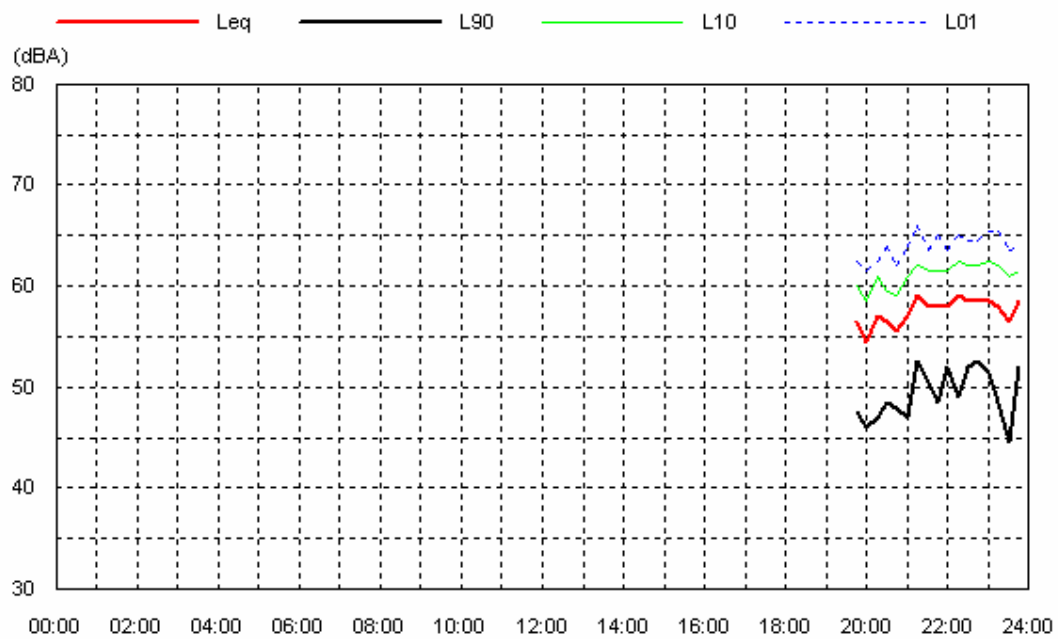
Sat 07 Jun 08



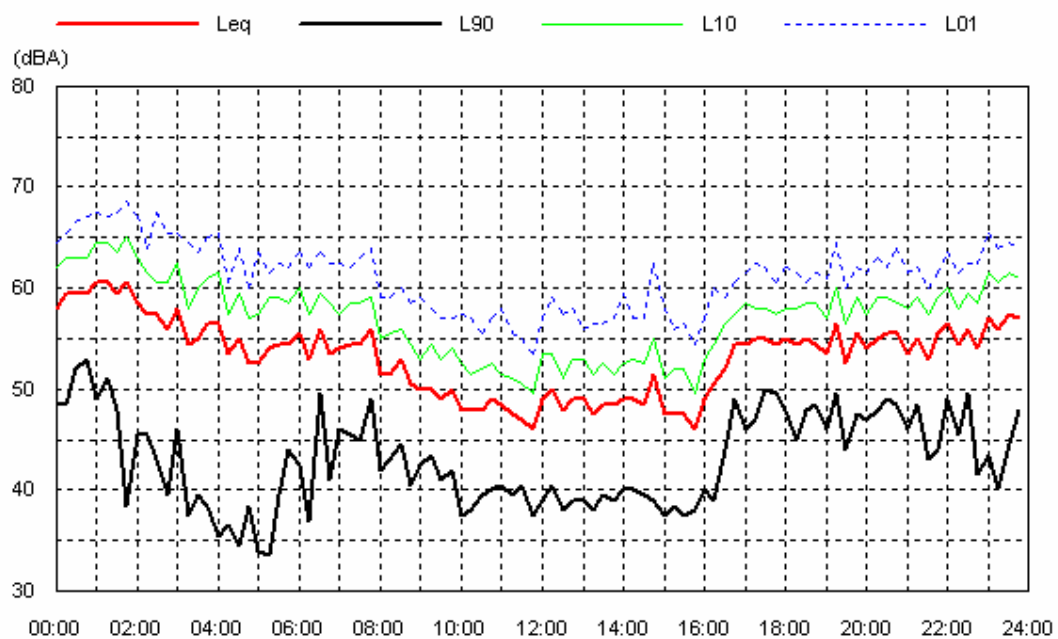
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Thu 29 May 08



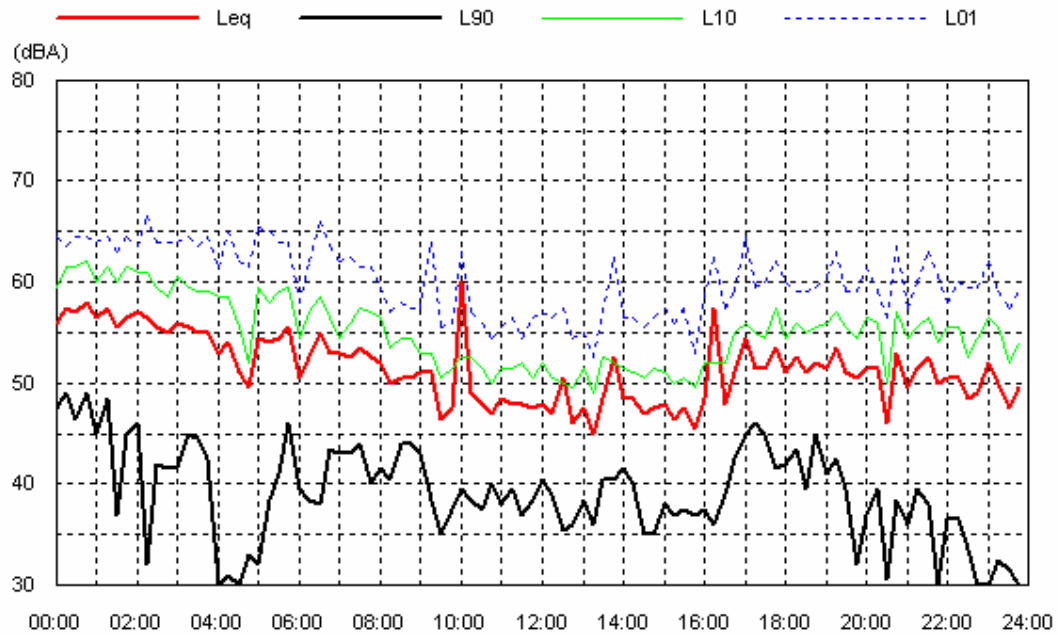
Fri 30 May 08



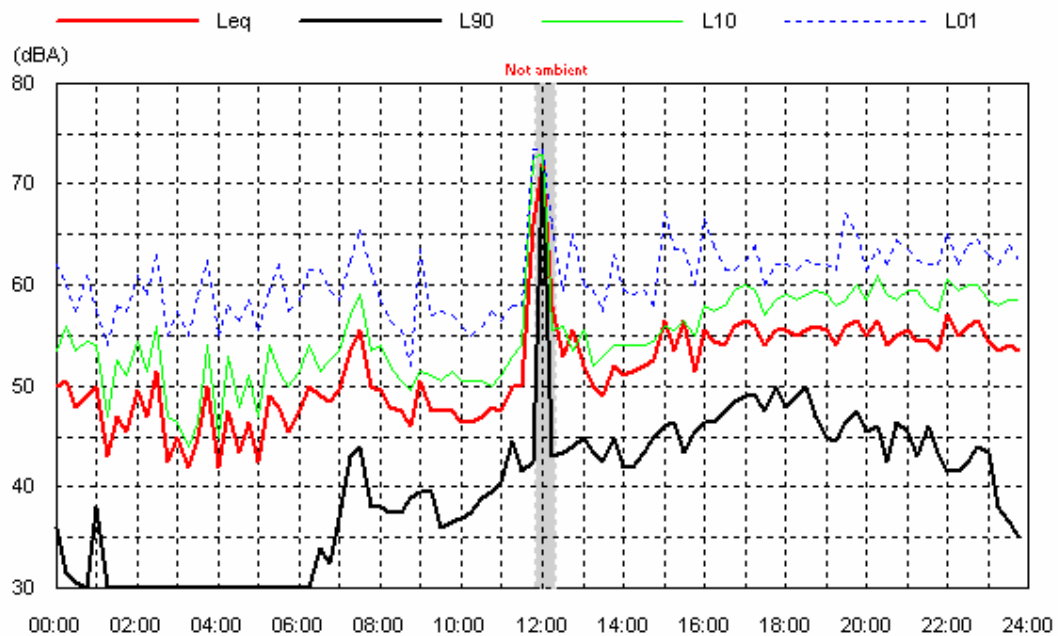
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Sat 31 May 08



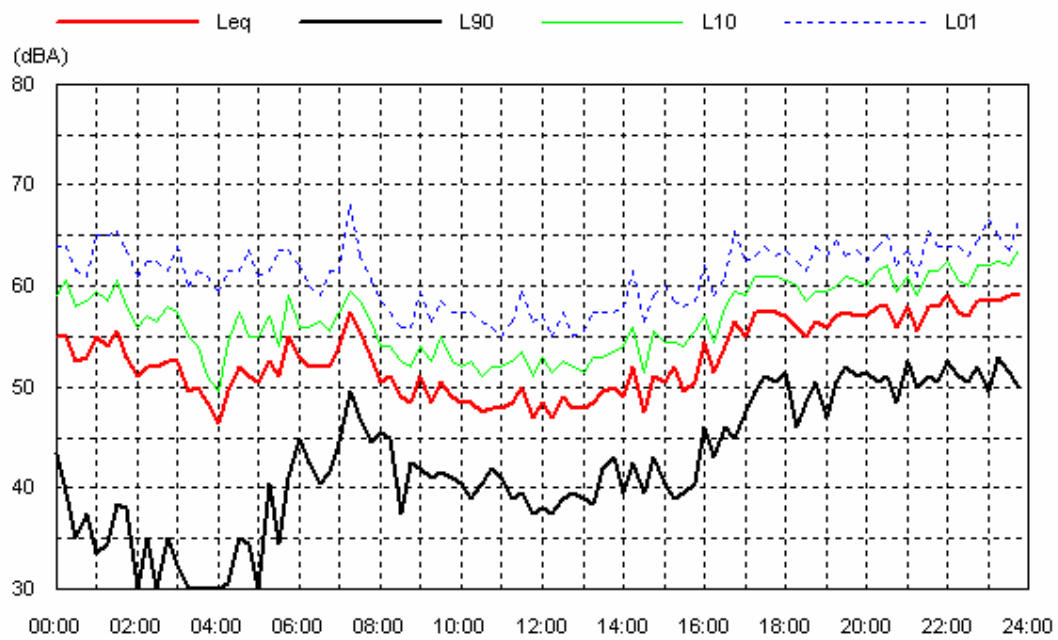
Sun 01 Jun 08



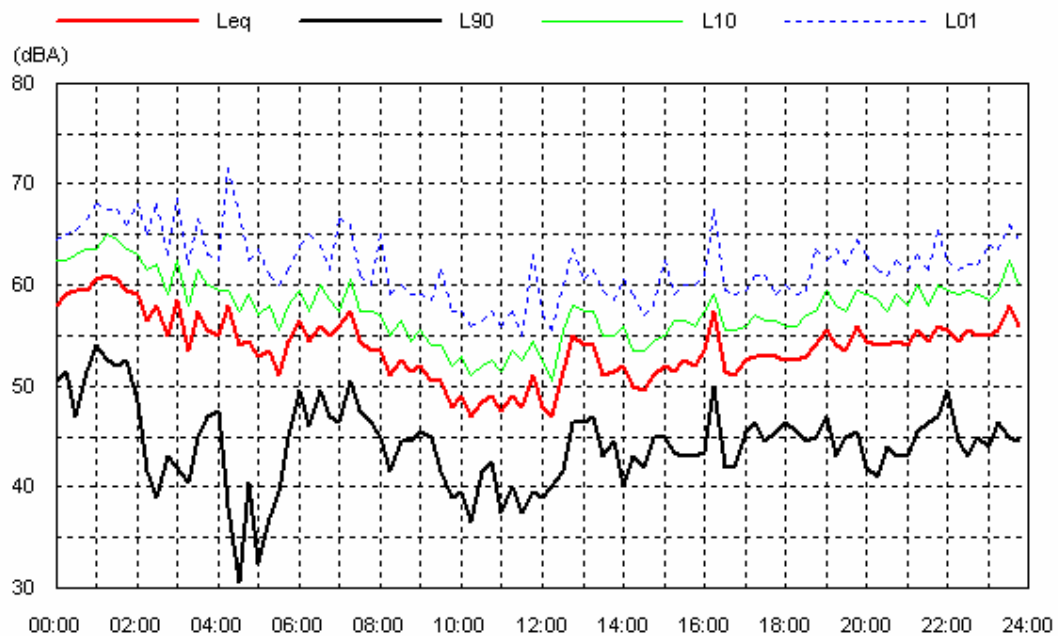
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Mon 02 Jun 08



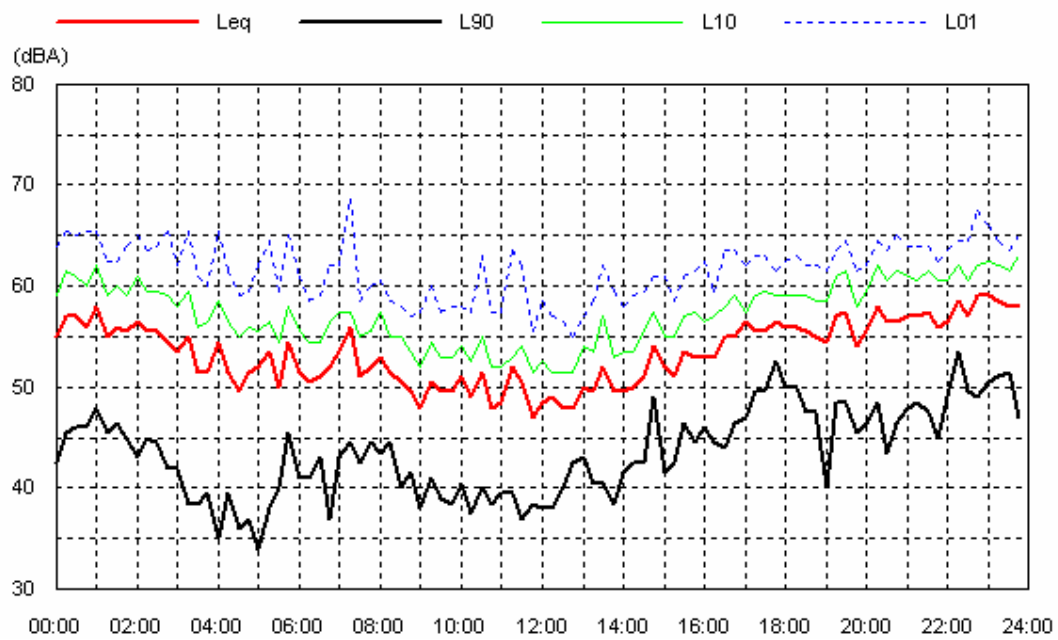
Tue 03 Jun 08



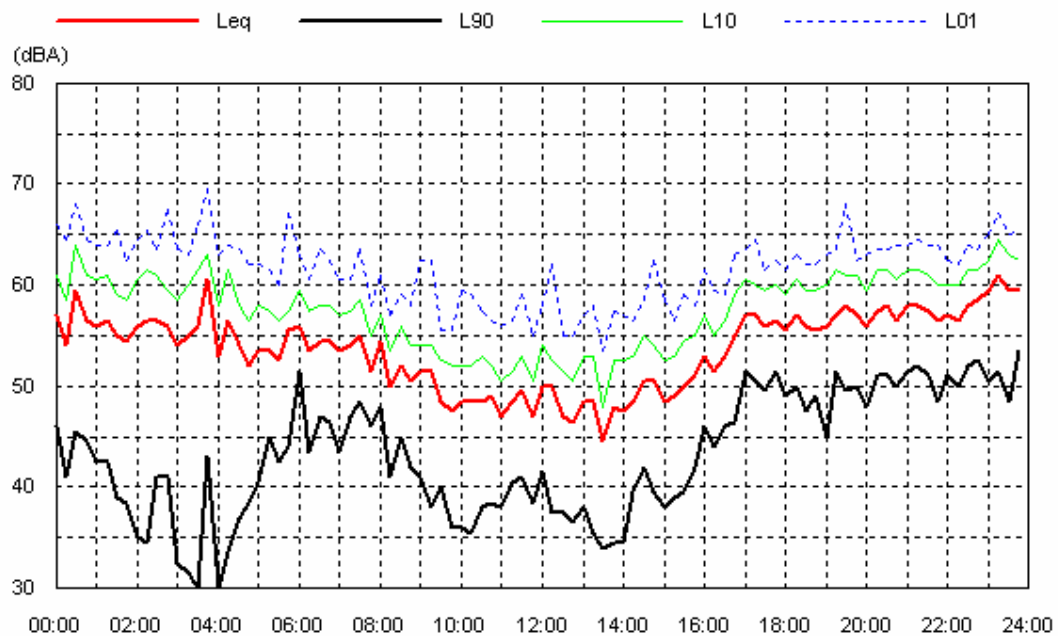
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Wed 04 Jun 08



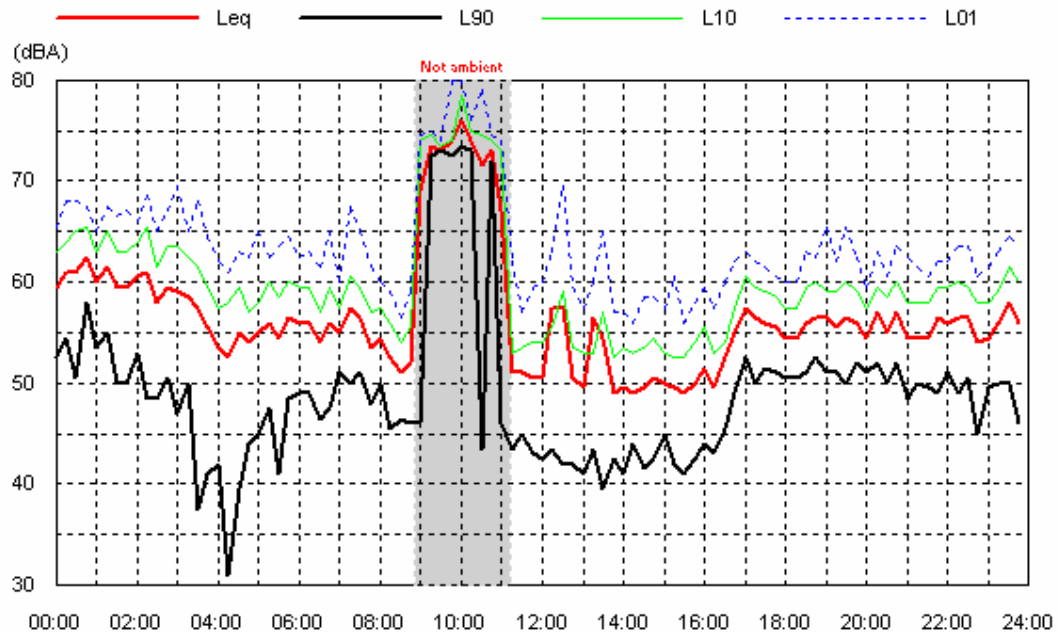
Thu 05 Jun 08



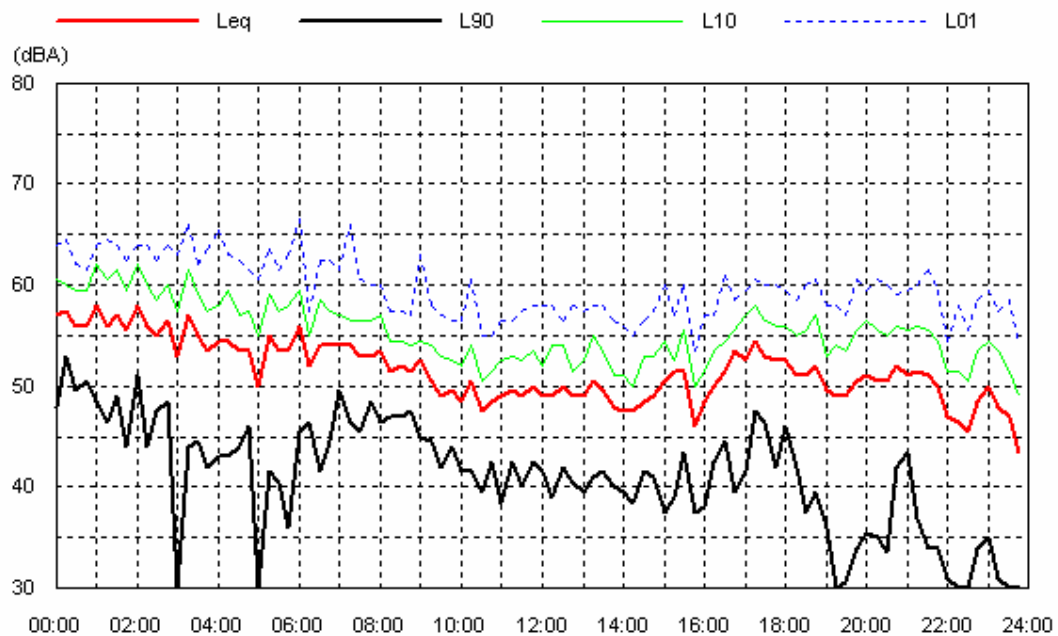
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Fri 06 Jun 08



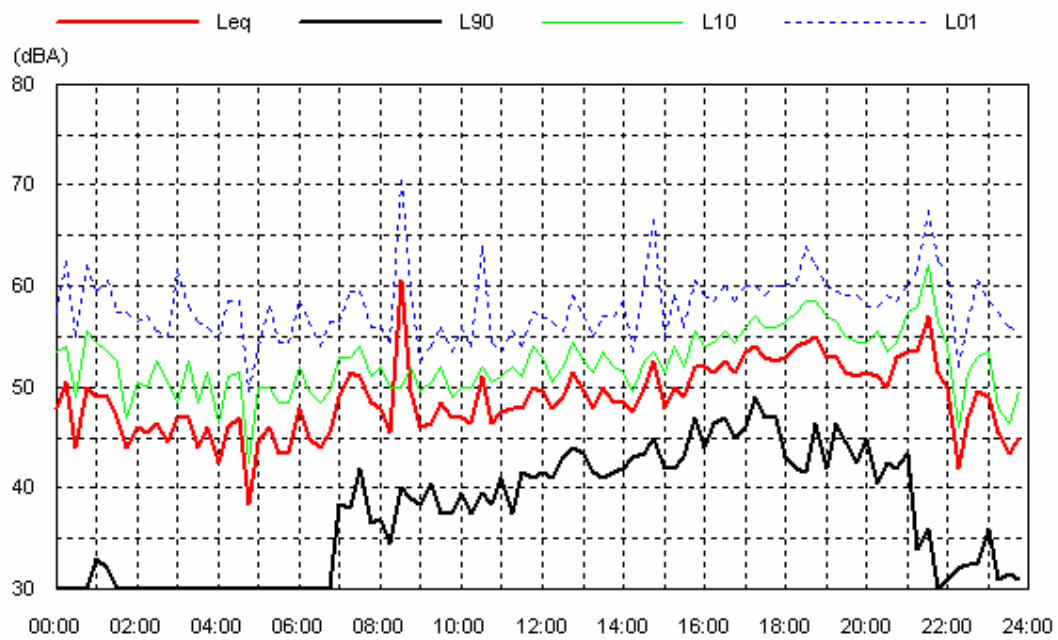
Sat 07 Jun 08



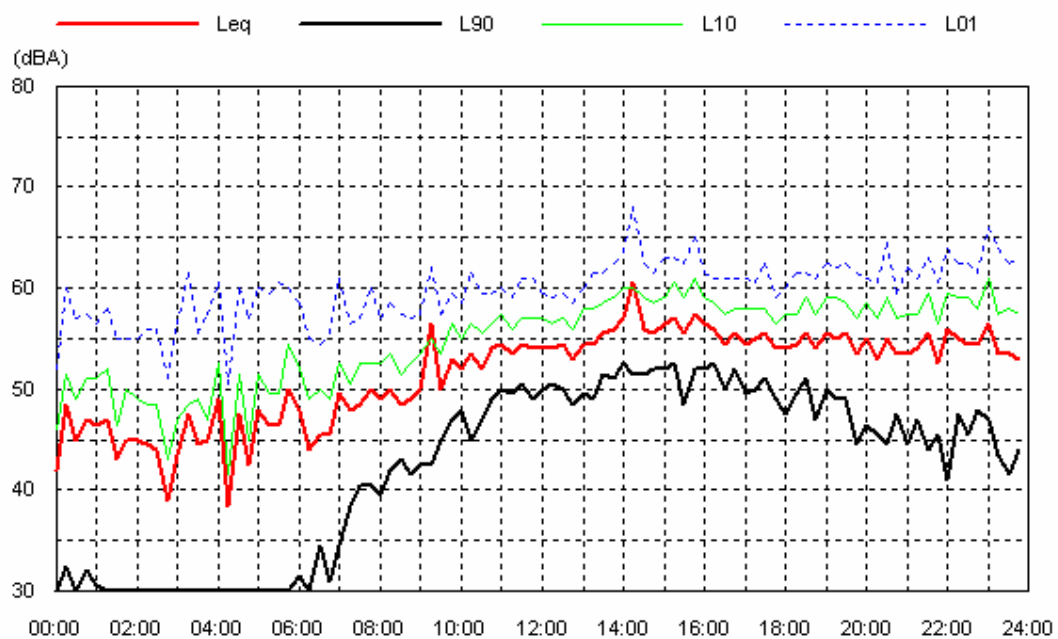
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Sun 08 Jun 08



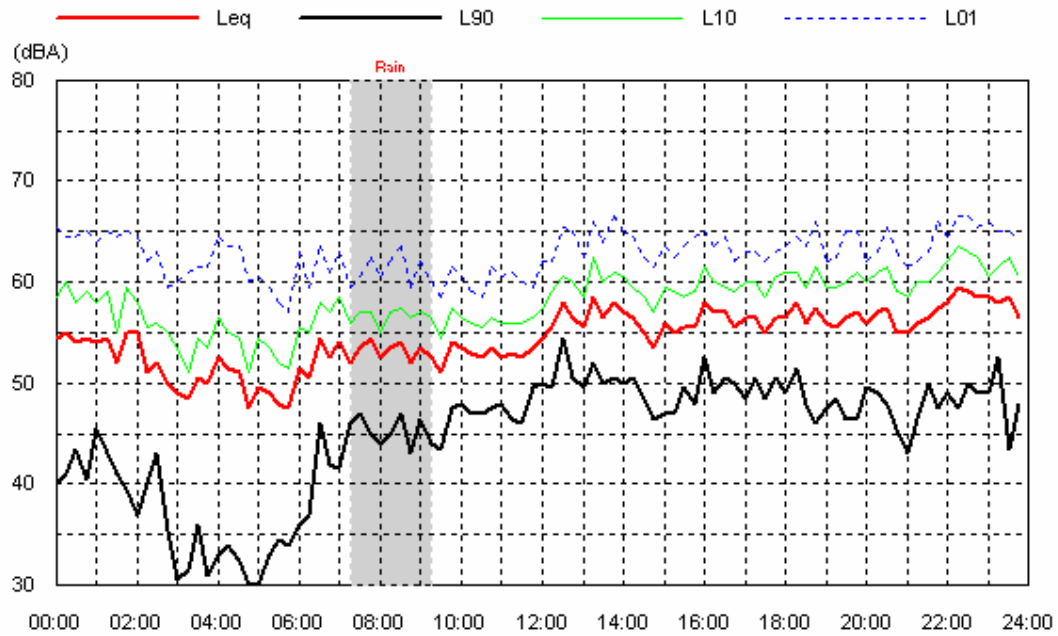
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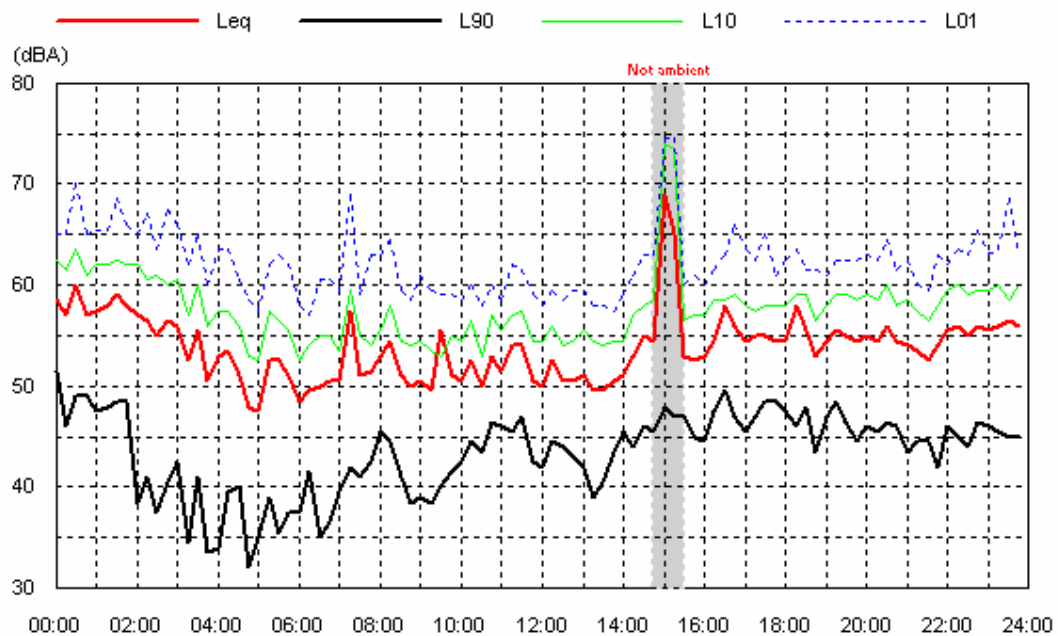
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Tue 10 Jun 08



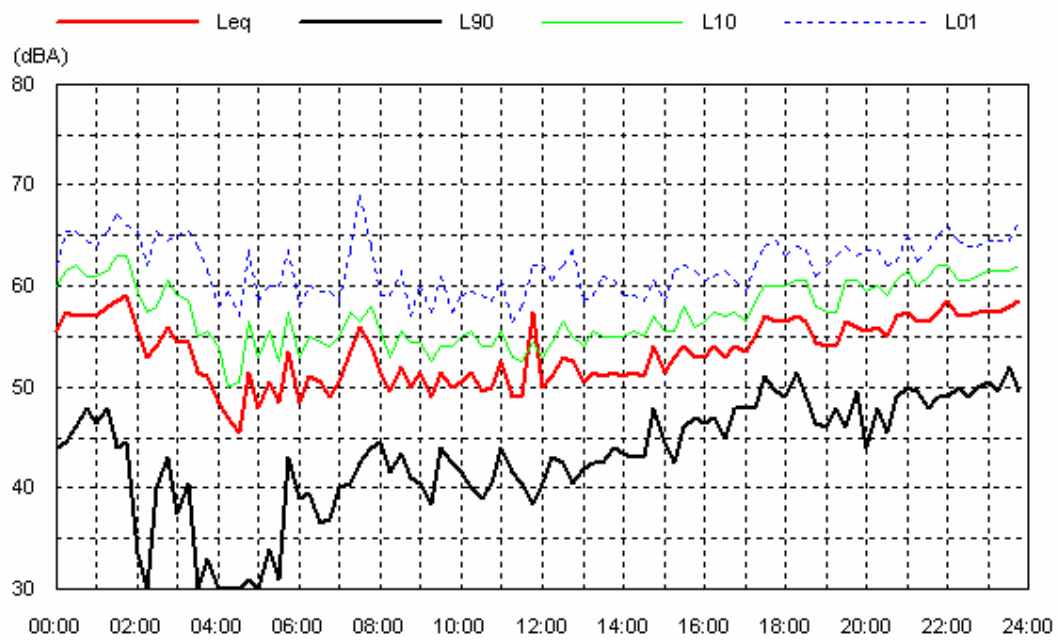
Wed 11 Jun 08



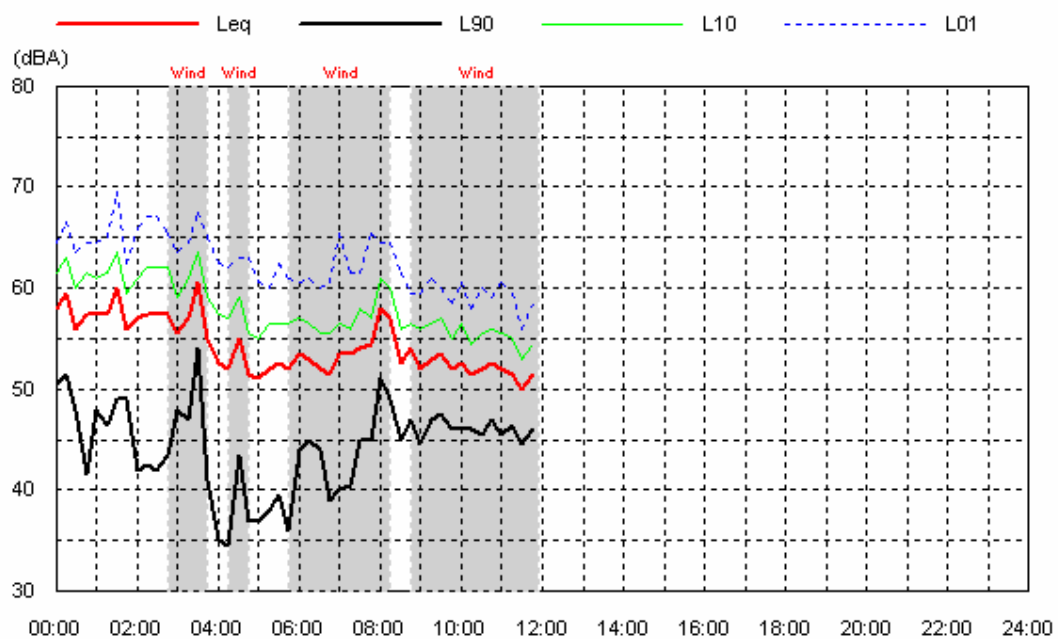
Location: Corner of Hay and Dickson Street (Location E)

Data shaded: Not ambient; Wind; Rain

Thu 12 Jun 08



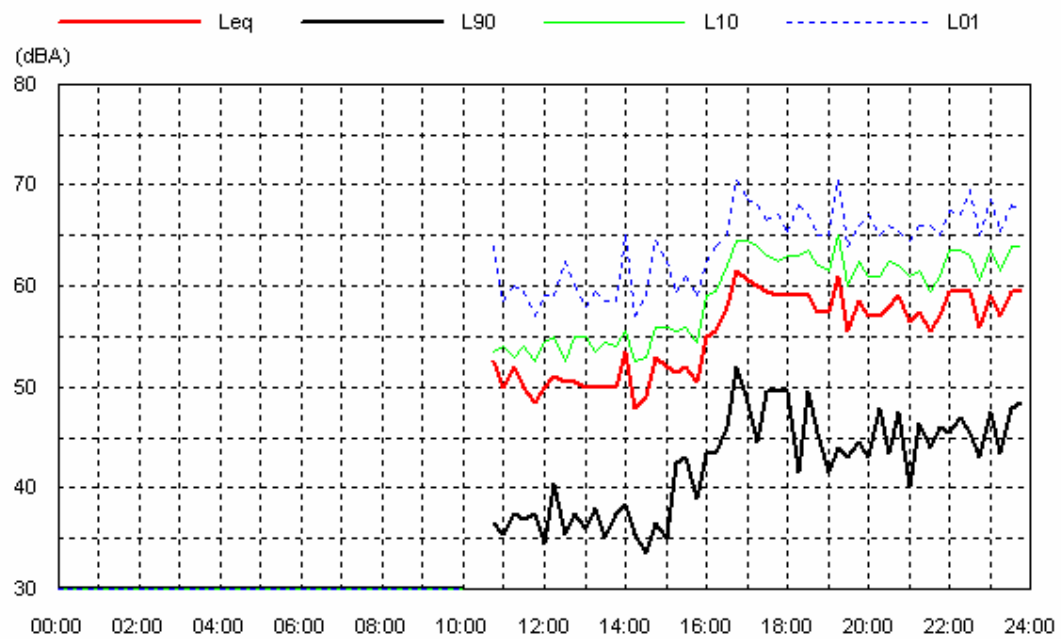
Fri 13 Jun 08



Location: Woomargama Public School (Location F)

Data shaded: Not ambient

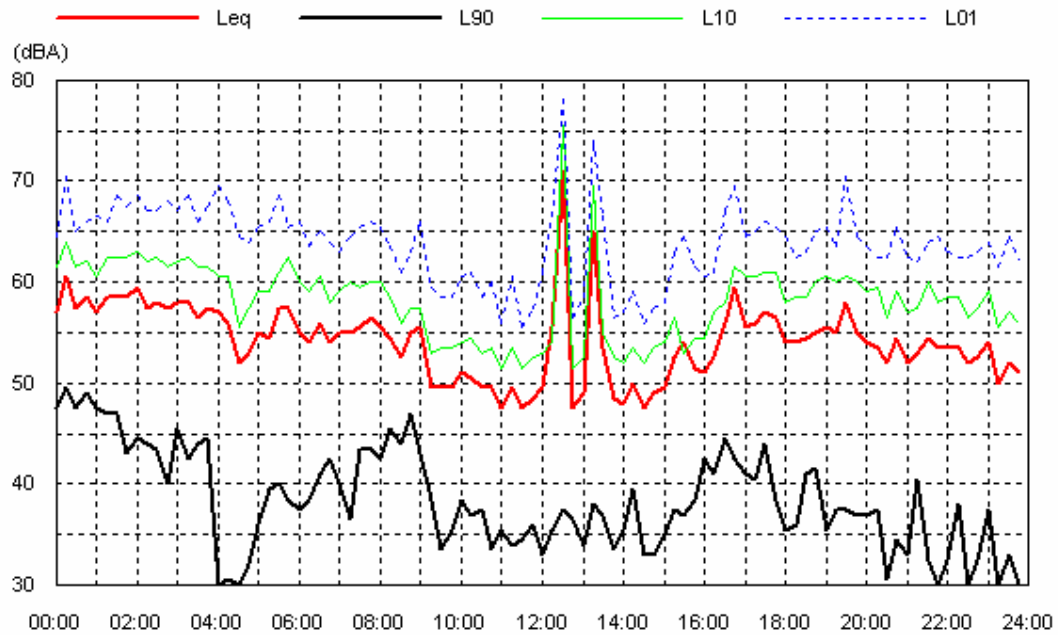
Fri 30 May 08



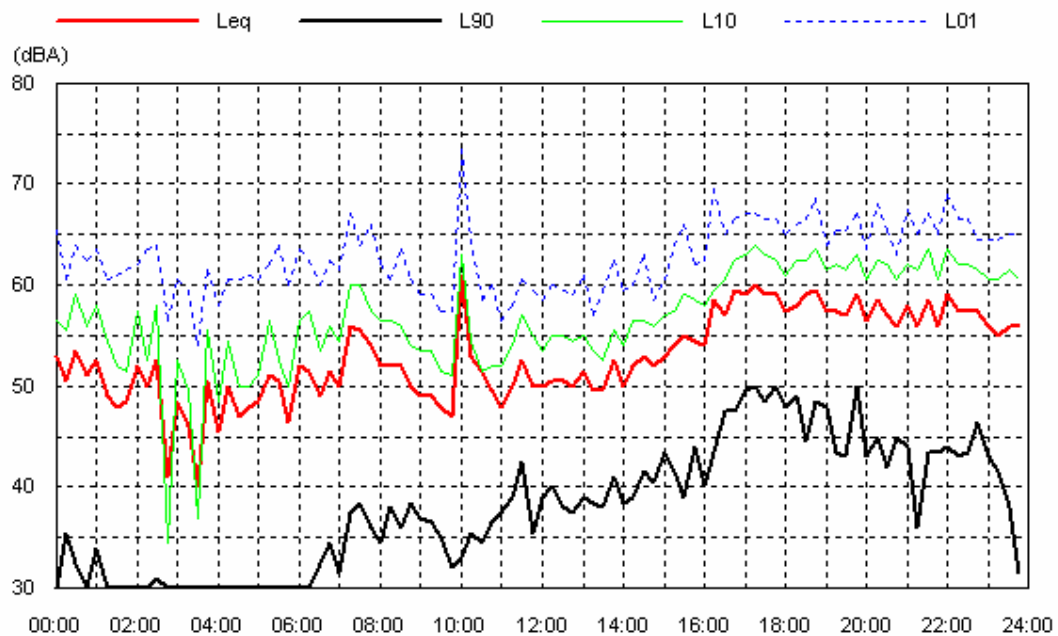
Location: Woomargama Public School (Location F)

Data shaded: Not ambient

Sat 31 May 08



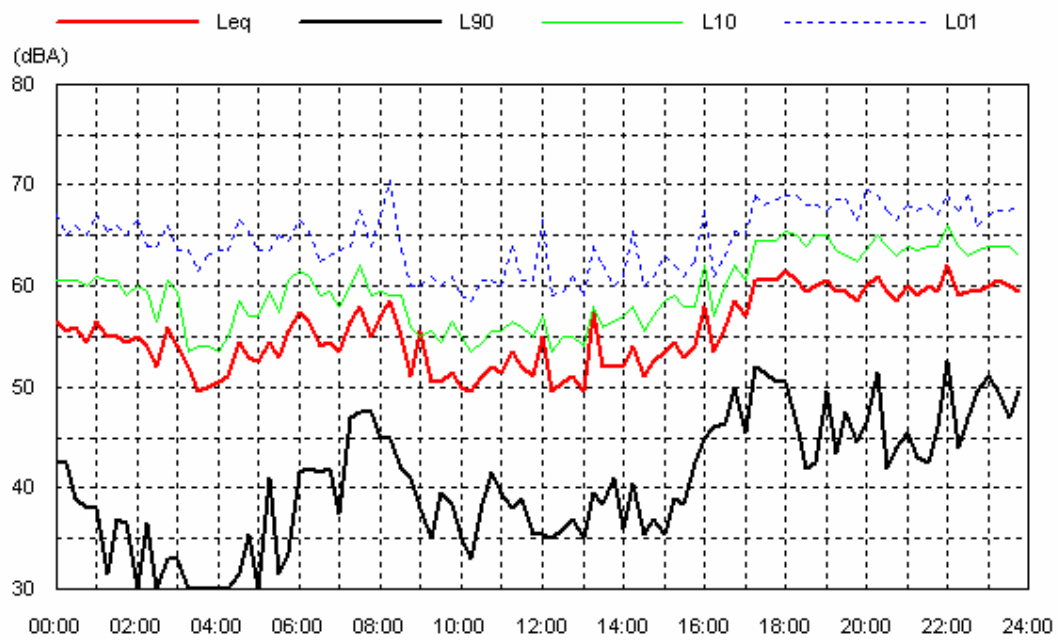
Sun 01 Jun 08



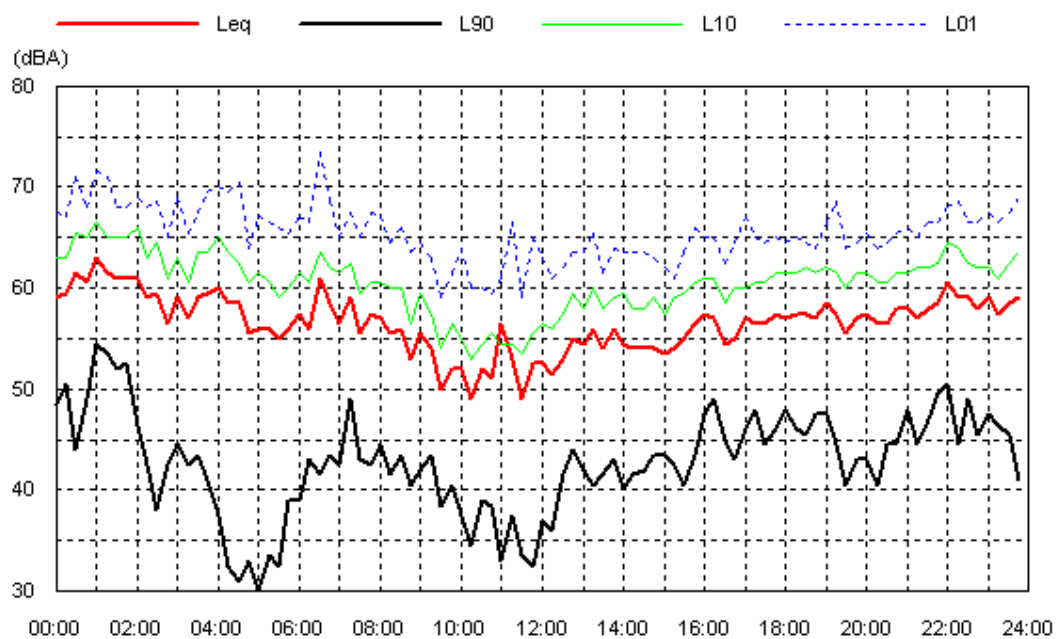
Location: Woomargama Public School (Location F)

Data shaded: Not ambient

Mon 02 Jun 08



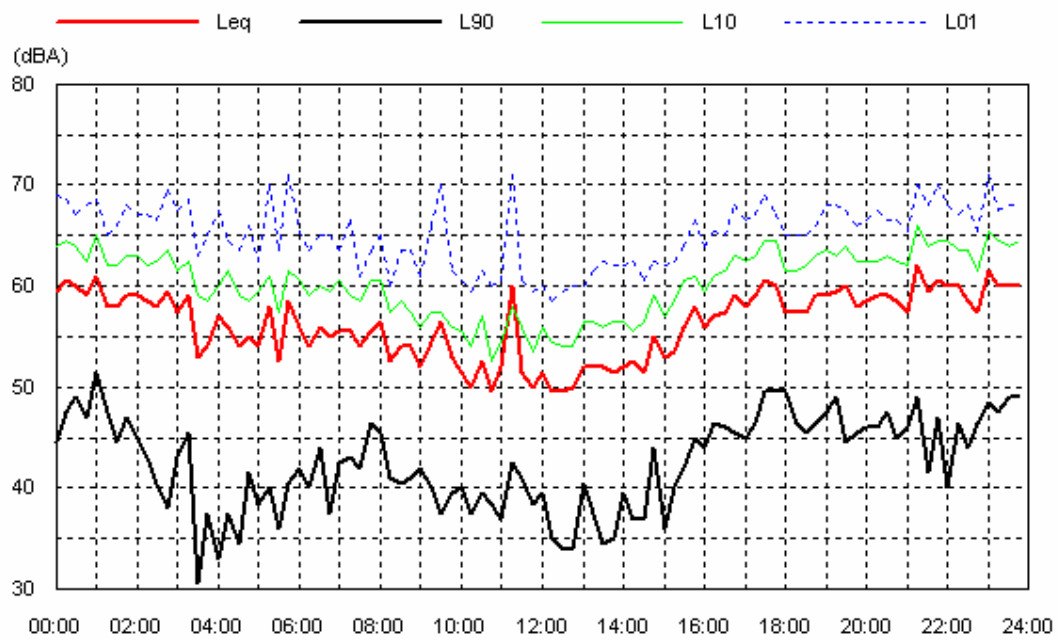
Tue 03 Jun 08



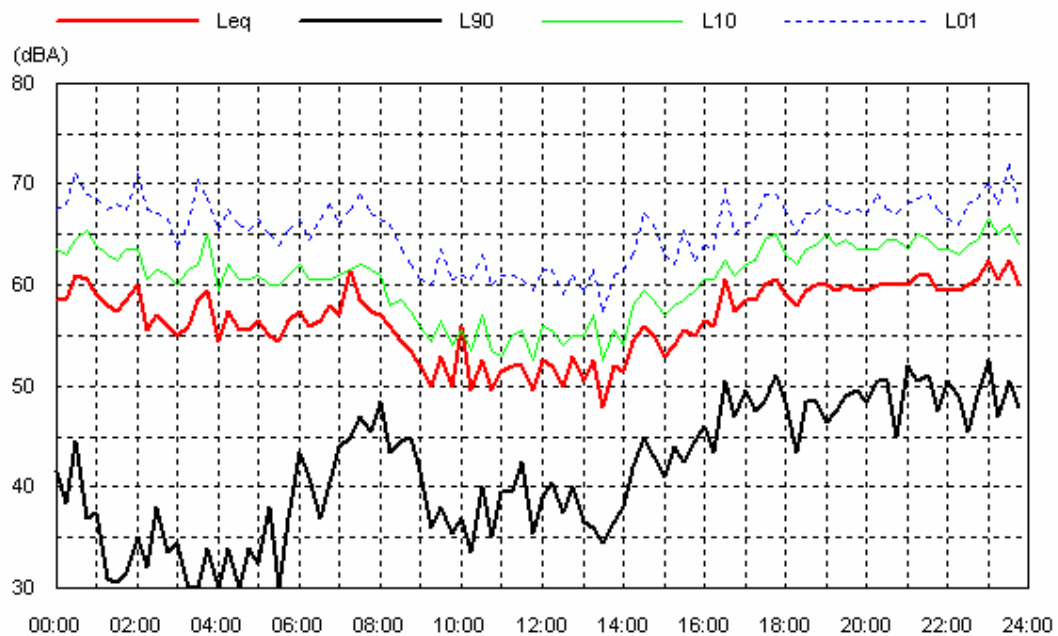
Location: Woomargama Public School (Location F)

Data shaded: Not ambient

Wed 04 Jun 08



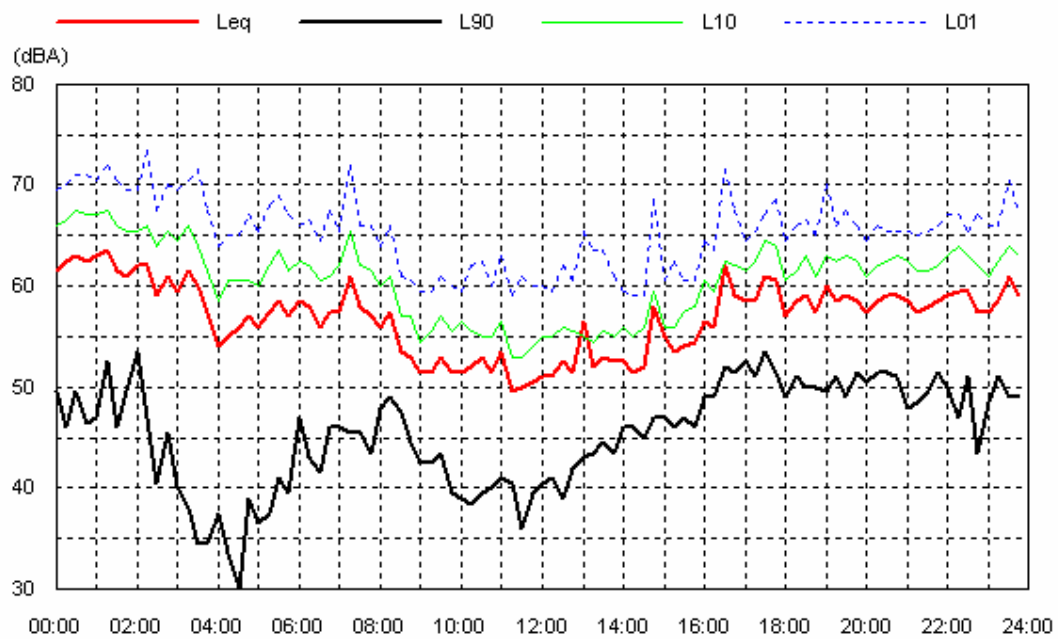
Thu 05 Jun 08



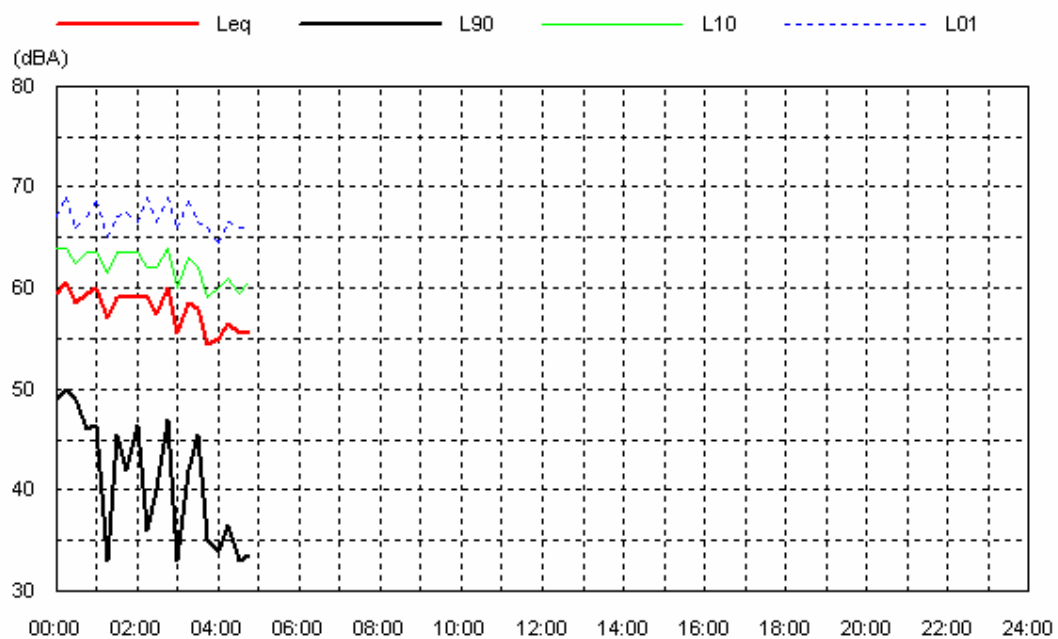
Location: Woomargama Public School (Location F)

Data shaded: Not ambient

Fri 06 Jun 08

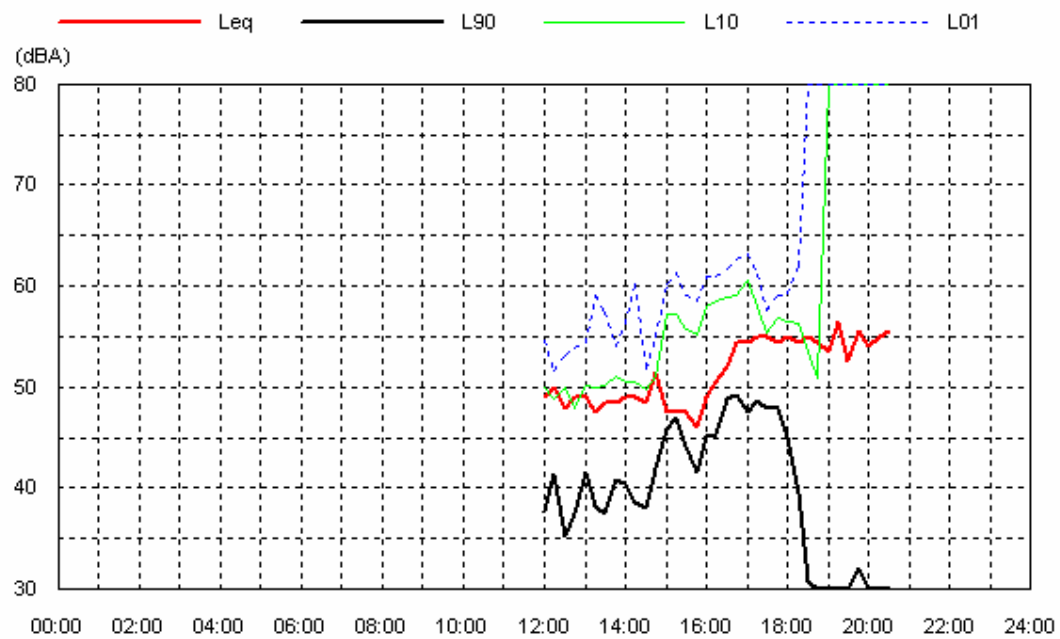


Sat 07 Jun 08



Location: A

Fri 30 May 08



APPENDIX F

MEASURED L_{Aeq} NOISE LEVELS

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
B	29 May 08	59.1	57.9
	30 May 08	54.4	56.5
	31 May 08	51.8	49.2
	01 Jun 08	54.9	55.2
	02 Jun 08	56.3	58.2
	03 Jun 08	57.3	57.3
	04 Jun 08	58.3	57.5
	05 Jun 08	56.3	58.5
	06 Jun 08	54.8	56.7
	07 Jun 08	52.3	
	All	55.7	56.9

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
B	29 May 08	59.1	57.9
	30 May 08	54.4	56.5
	31 May 08	51.8	49.2
	01 Jun 08	54.9	55.2
	02 Jun 08	56.3	58.2
	03 Jun 08	57.3	57.3
	04 Jun 08	58.3	57.5
	05 Jun 08	56.3	58.5
	06 Jun 08	54.8	56.7
	07 Jun 08	52.3	
	All	55.7	56.9

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
C	30 May 08	55.9	57.6
	31 May 08	54.4	51.0
	01 Jun 08	57.7	55.4
	02 Jun 08	58.7	59.6
	03 Jun 08	58.9	59.8
	04 Jun 08	58.9	58.5
	05 Jun 08	57.9	59.5
	06 Jun 08	56.7	58.5
	07 Jun 08	54.6	49.4
	08 Jun 08	55.5	50.8
	09 Jun 08	61.1	57.0
	10 Jun 08	60.6	60.7
	11 Jun 08	58.8	59.6
	12 Jun 08	58.5	59.0
	13 Jun 08	48.4	
	All	58.2	58.0

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
D	29 May 08	19.1	18.7
	30 May 08	55.2	57.6
	31 May 08	53.8	50.7
	01 Jun 08	55.5	55.2
	02 Jun 08	57.0	59.5
	03 Jun 08	55.8	58.0
	04 Jun 08	56.6	58.2
	05 Jun 08	57.2	60.3
	06 Jun 08	56.7	58.5
	07 Jun 08	55.5	
	All	55.8	57.4

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
Corner of Hay and Dickson Street (Location E)	29 May 08	50.3	57.5
	30 May 08	52.4	55.5
	31 May 08	51.2	48.3
	01 Jun 08	53.5	53.3
	02 Jun 08	54.1	57.7
	03 Jun 08	53.0	54.7
	04 Jun 08	53.7	56.4
	05 Jun 08	53.8	58.6
	06 Jun 08	54.4	55.6
	07 Jun 08	50.9	46.7
	08 Jun 08	51.7	46.3
	09 Jun 08	54.5	52.9
	10 Jun 08	55.6	56.2
	11 Jun 08	53.6	54.8
	12 Jun 08	53.9	56.6
	13 Jun 08	53.5	
All		53.4	55.3

Summary of Measured Noise Levels
Project: 07277 Hume Hwy Bypasses
Noise Descriptor: $L_{eq,Period}$

Shaded values have < 50% valid data

Location	Day Group	Day	Night
Woomargama Public School (Location F)	30 May 08	64.4	65.7
	31 May 08	62.3	58.4
	01 Jun 08	64.1	63.6
	02 Jun 08	65.2	67.5
	03 Jun 08	65.3	68.5
	04 Jun 08	66.5	67.5
	05 Jun 08	66.2	68.1
	06 Jun 08	65.6	65.2
	07 Jun 08	63.0	52.9
	08 Jun 08	61.2	56.7
	09 Jun 08	65.1	63.8
	10 Jun 08	66.9	68.7
	All	65.0	67.5