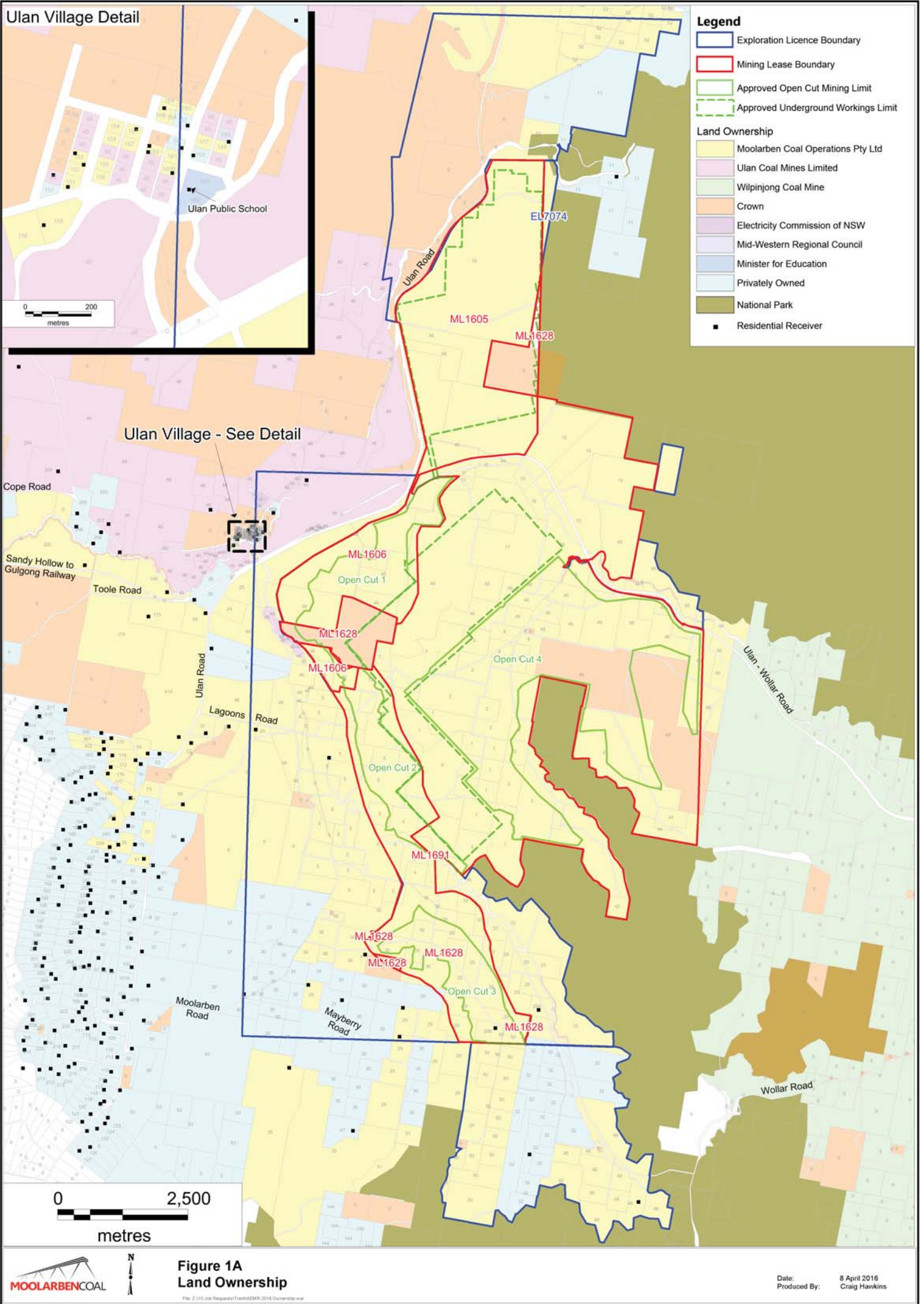


## LIST OF APPENDICES

<b>APPENDIX 1.</b>	<b>LAND OWNERSHIP .....</b>	<b>78</b>
<b>APPENDIX 2.</b>	<b>MONITORING LOCATIONS.....</b>	<b>80</b>
<b>APPENDIX 3.</b>	<b>MONITORING DATA .....</b>	<b>94</b>
APPENDIX 3A.	METEOROLOGICAL DATA (WS03).....	94
APPENDIX 3B.	NOISE COMPLIANCE REPORT .....	101
APPENDIX 3C.	BLAST MONITORING DATA.....	102
APPENDIX 3D.	AIR QUALITY DATA.....	105
APPENDIX 3E.	BIODIVERSITY MONITORING DATA .....	116
APPENDIX 3F.	SURFACE WATER MONITORING DATA .....	119
APPENDIX 3G.	GROUNDWATER MONITORING DATA .....	127
APPENDIX 3H.	GROUNDWATER LEVEL GRAPHS.....	136
<b>APPENDIX 4.</b>	<b>EPBC COMPLIANCE TABLES (2007/3297) (2008/444) .....</b>	<b>141</b>
<b>APPENDIX 5.</b>	<b>COMMUNITY CONTRIBUTIONS .....</b>	<b>146</b>
<b>APPENDIX 6.</b>	<b>COMMUNITY COMPLAINTS SUMMARY 2015 .....</b>	<b>148</b>
FIGURE 1-A	LAND OWNERSHIP .....	79
FIGURE 2-A	NOISE MONITORING LOCATIONS.....	81
FIGURE 2-B	BLAST MONITORING LOCATIONS.....	82
FIGURE 2-C	AIR QUALITY MONITORING LOCATIONS .....	83
FIGURE 2-D	MCO STAGE 1 OFFSET AREA 1 MONITORING SITE LOCATIONS.....	84
FIGURE 2-E	MCO STAGE 1 OFFSET AREA 2 MONITORING SITE LOCATIONS .....	85
FIGURE 2-F	MCO STAGE 1 OFFSET AREA 3 MONITORING SITE LOCATIONS .....	86
FIGURE 2-G	MCO STAGE 1 BORA CREEK MONITORING SITE LOCATIONS.....	87
FIGURE 2-H	MCO STAGE 1 ANALOGUE MONITORING SITE LOCATIONS .....	88
FIGURE 2-I	SURFACE WATER MONITORING LOCATIONS .....	89
FIGURE 2-J	CHANNEL STABILITY MONITORING LOCATIONS .....	90
FIGURE 2-K	GROUNDWATER MONITORING LOCATIONS .....	91
FIGURE 2-L	LOCATION OF EFA AND FLORISTIC MONITORING SITES.....	92
FIGURE 2-M	LOCATION OF FAUNA MONITORING SITES .....	93
FIGURE 3-A:	ULAN SEAM COMPOSITE HYDROGRAPH .....	136
FIGURE 3-B:	PERMIAN OVERBURDEN COMPOSITE HYDROGRAPH.....	136
FIGURE 3-C:	TRIASSIC COMPOSITE HYDROGRAPH .....	137
FIGURE 3-D:	TERTIARY/SURFICIAL COMPOSITE HYDROGRAPH .....	137
FIGURE 3-E	PZ127 COMPOSITE HYDROGRAPH .....	138
FIGURE 3-F	PZ128 COMPOSITE HYDROGRAPH .....	138
FIGURE 3-G	PZ129 COMPOSITE HYDROGRAPH.....	139
FIGURE 3-H	PZ130 COMPOSITE HYDROGRAPH.....	139
FIGURE 3-I	PZ133 COMPOSITE HYDROGRAPH .....	140
FIGURE 3-J	PZ1179 COMPOSITE HYDROGRAPH.....	140



## **APPENDIX 1.      LAND OWNERSHIP**



### Ulan Village Detail

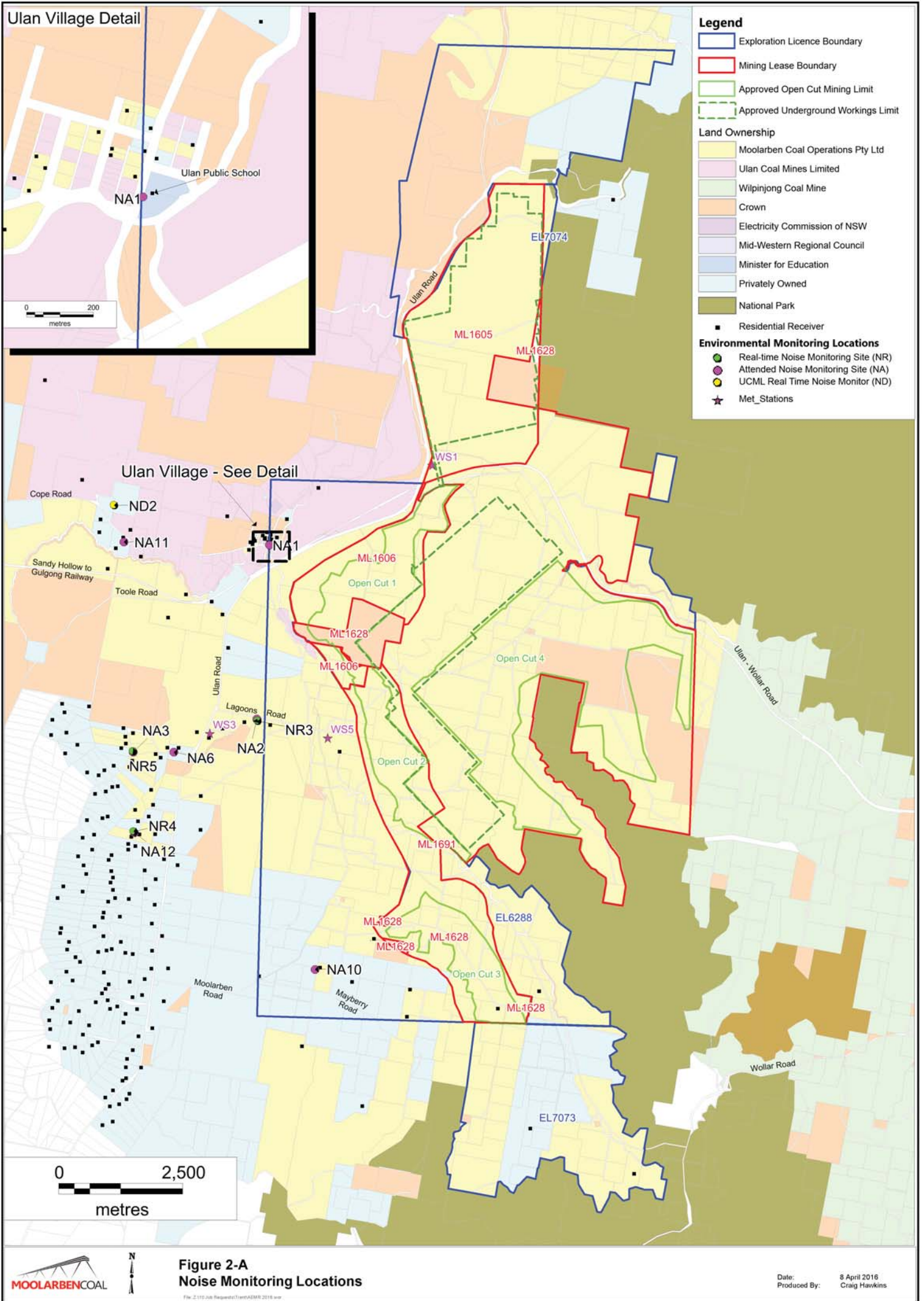
- Legend**
- Exploration Licence Boundary
  - Mining Lease Boundary
  - Approved Open Cut Mining Limit
  - Approved Underground Workings Limit

- Land Ownership**
- Moolarben Coal Operations Pty Ltd
  - Ulan Coal Mines Limited
  - Wilpinjong Coal Mine
  - Crown
  - Electricity Commission of NSW
  - Mid-Western Regional Council
  - Minister for Education
  - Privately Owned
  - National Park
  - Residential Receiver

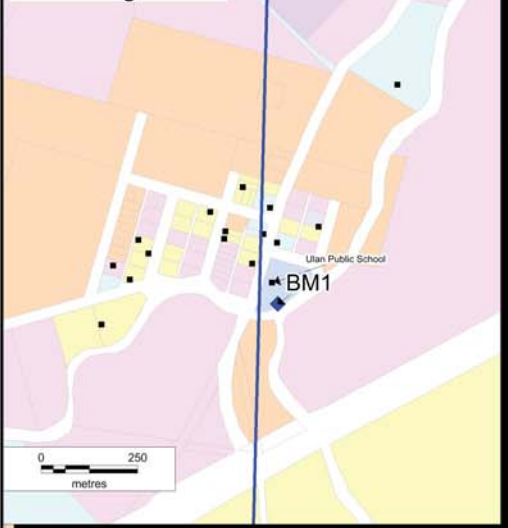
Ulan Village - See Detail

**Figure 1A**  
**Land Ownership**

## **APPENDIX 2. MONITORING LOCATIONS**



Ulan Village Detail



**Legend**

- Exploration Licence Boundary
- Mining Lease Boundary
- Approved Open Cut Mining Limit
- Approved Underground Workings Limit

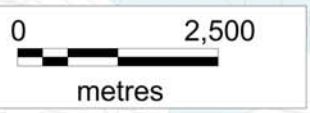
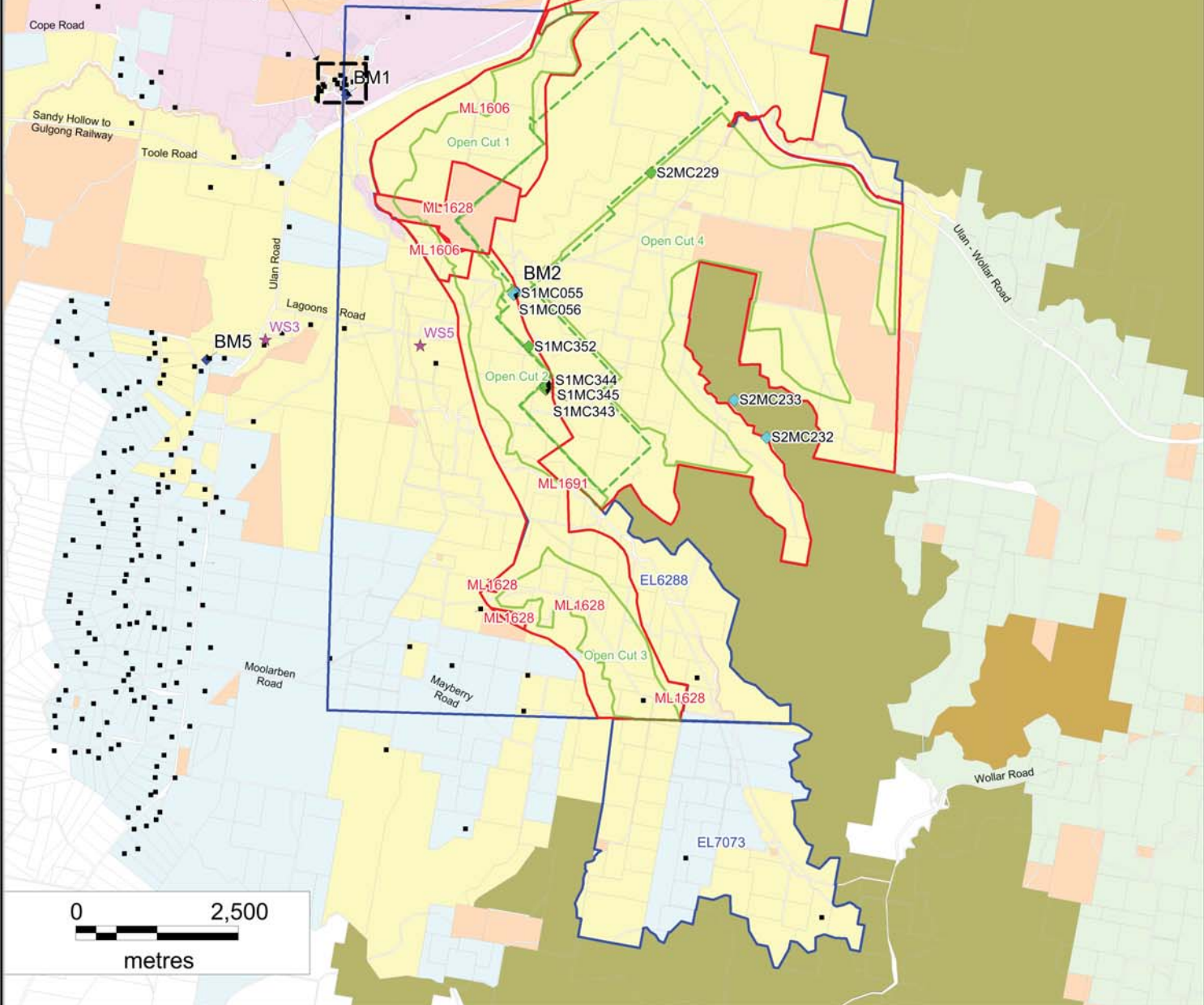
**Land Ownership**

- Moolarben Coal Operations Pty Ltd
- Ulan Coal Mines Limited
- Wilpinjong Coal Mine
- Crown
- Electricity Commission of NSW
- Mid-Western Regional Council
- Minister for Education
- Privately Owned
- National Park

**Environmental Monitoring Locations**

- Residential Receiver
- Blast Monitoring Location
- ★ Met\_Stations
- ◆ Rock Shelter Site In Situ
- ◆ Rock Shelter Site Salvaged

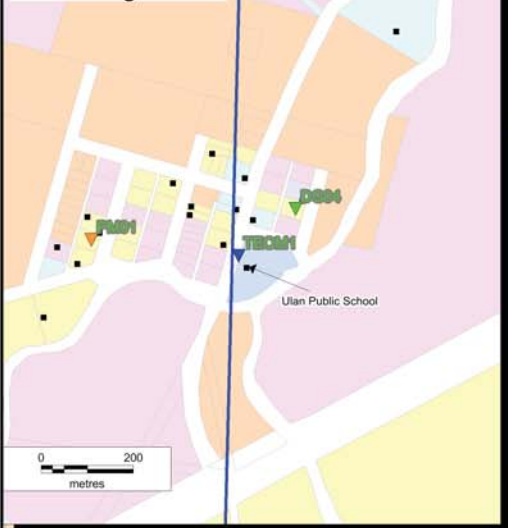
Ulan Village - See Detail



**Figure 2B**  
**Blast Monitoring Locations**

File: 2.115.008\_Report017/AMR/2016/Blast.mxd

Ulan Village Detail



Legend

- Exploration Licence Boundary
  - Mining Lease Boundary
  - Approved Open Cut Mining Limit
  - Approved Underground Workings Limit
- Land Ownership
- Moolarben Coal Operations Pty Ltd
  - Ulan Coal Mines Limited
  - Wilpinjong Coal Mine
  - Crown
  - Electricity Commission of NSW
  - Mid-Western Regional Council
  - Minister for Education
  - Privately Owned
  - National Park
- Residential Receiver
- Residential Receiver
- Environmental Monitoring Locations
- ★ Met\_Stations
  - ▼ Dust Deposition Gauge Location
  - ▼ Real Time TEOM Location
  - ▼ PM10 Monitoring Location

Ulan Village - See Detail

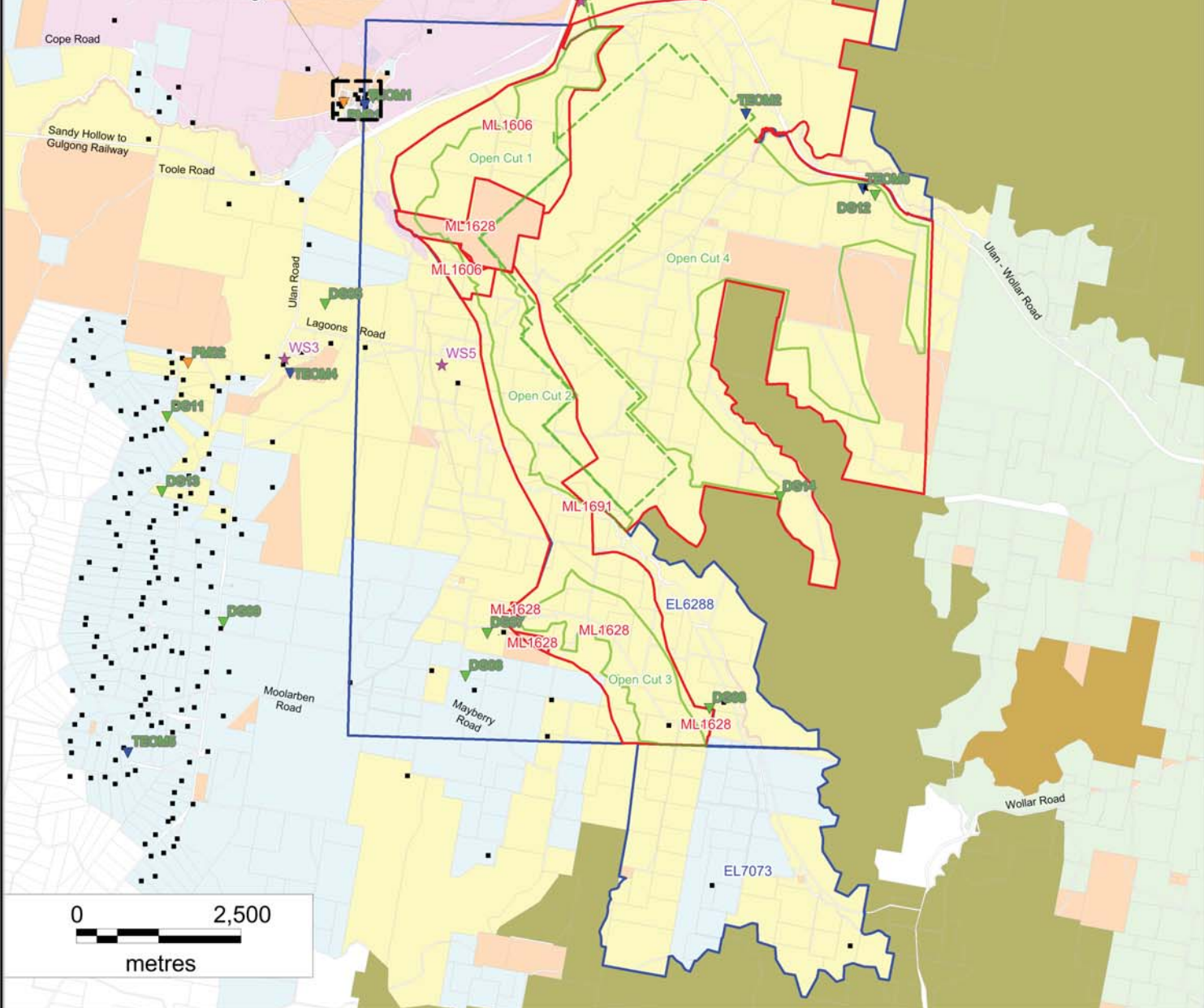


Figure 2C  
Air Quality Monitoring Locations



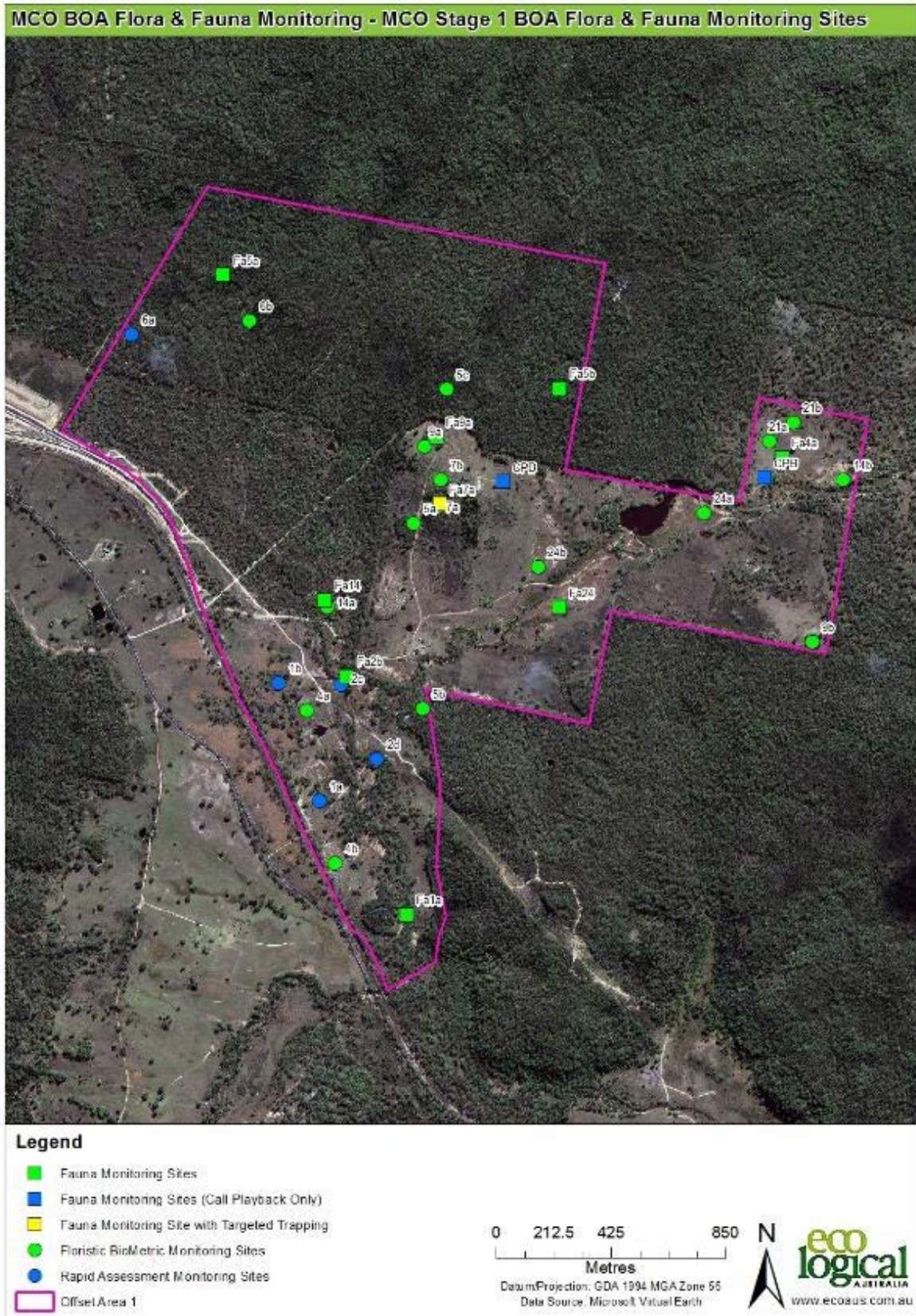


Figure 2-d MCO Stage 1 Offset Area 1 monitoring site locations

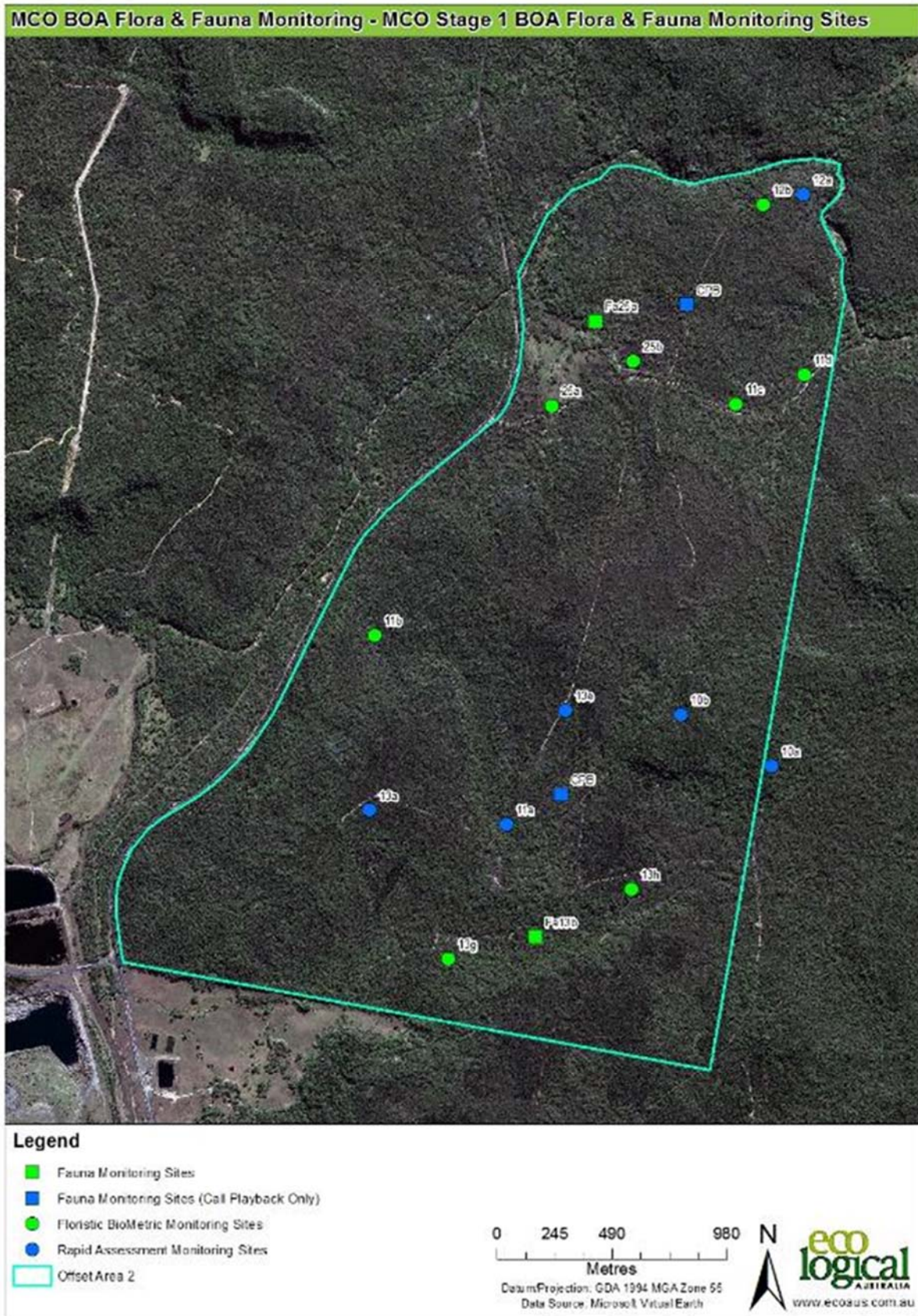


Figure 2-e MCO Stage 1 Offset Area 2 monitoring site locations

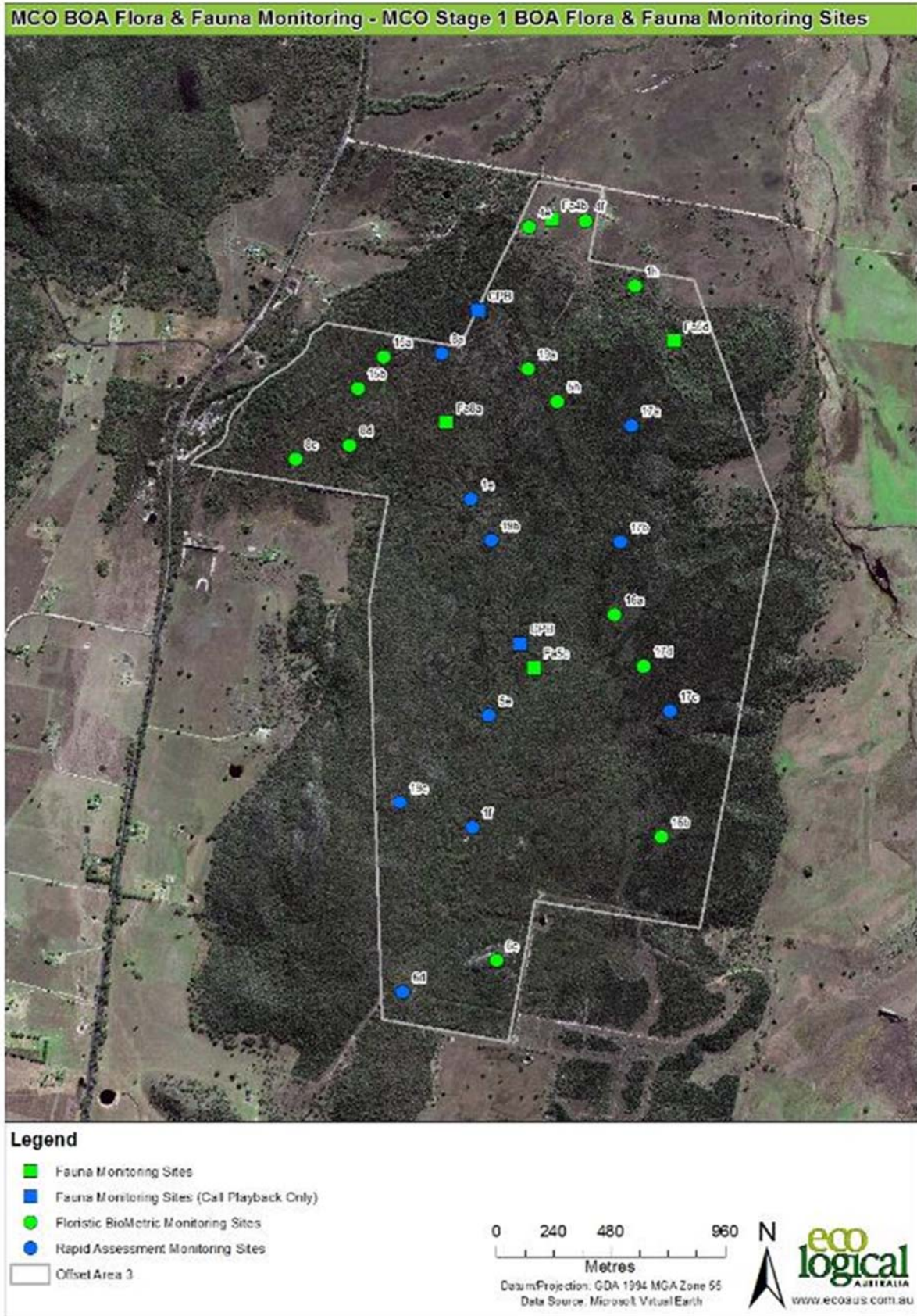


Figure 2-f MCO Stage 1 Offset Area 3 monitoring site locations



Figure 2-g MCO Stage 1 Bora Creek monitoring site locations

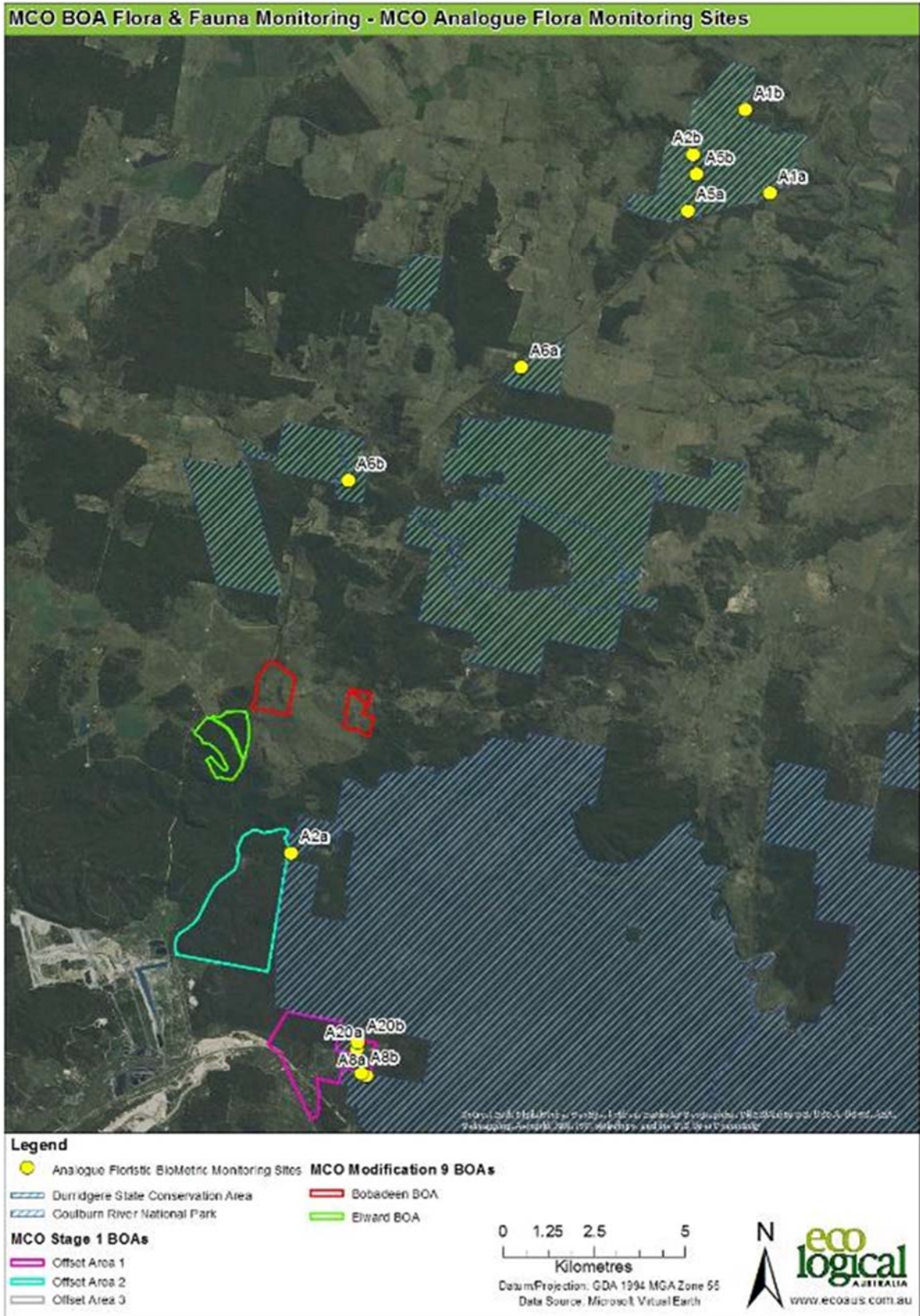
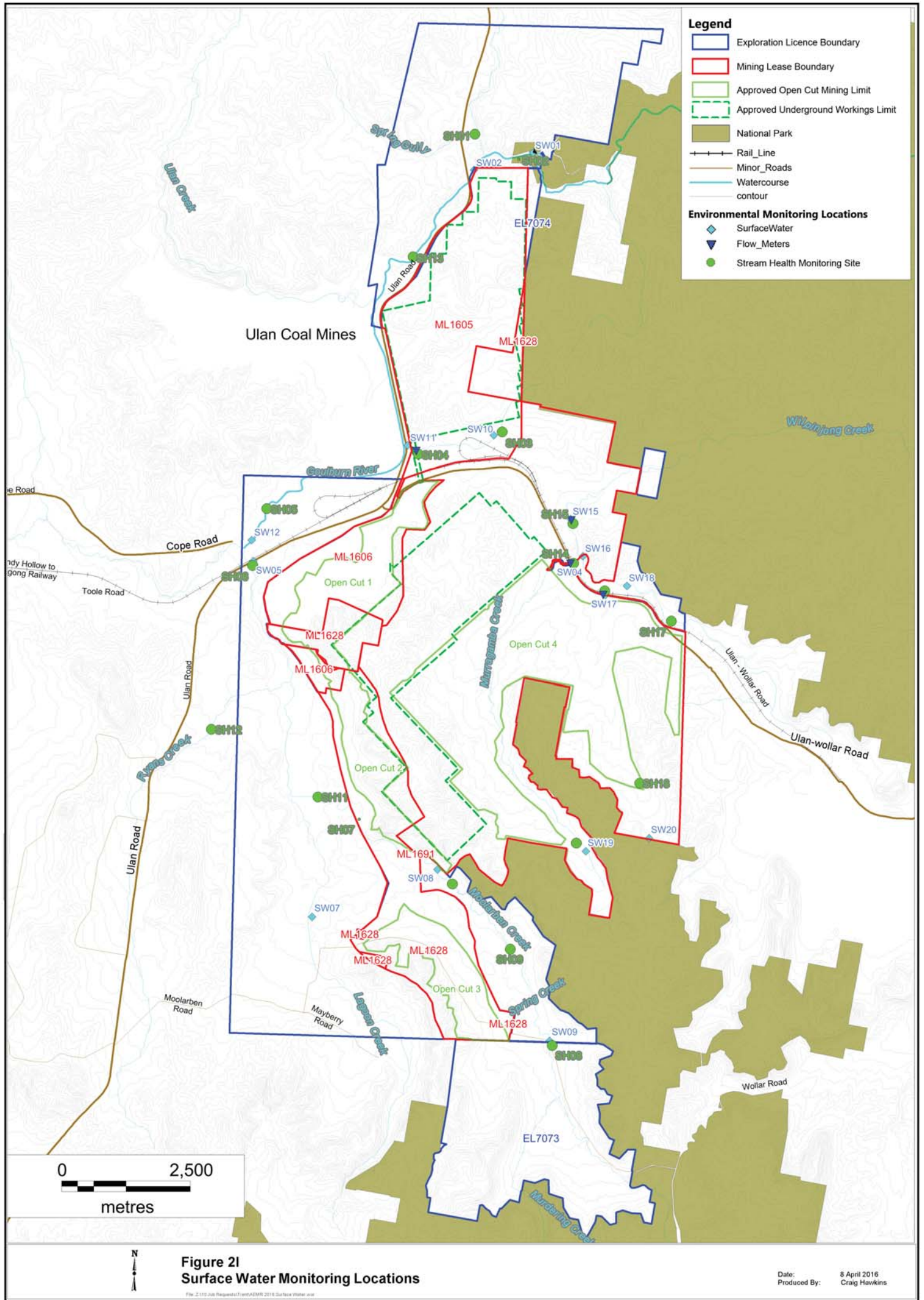
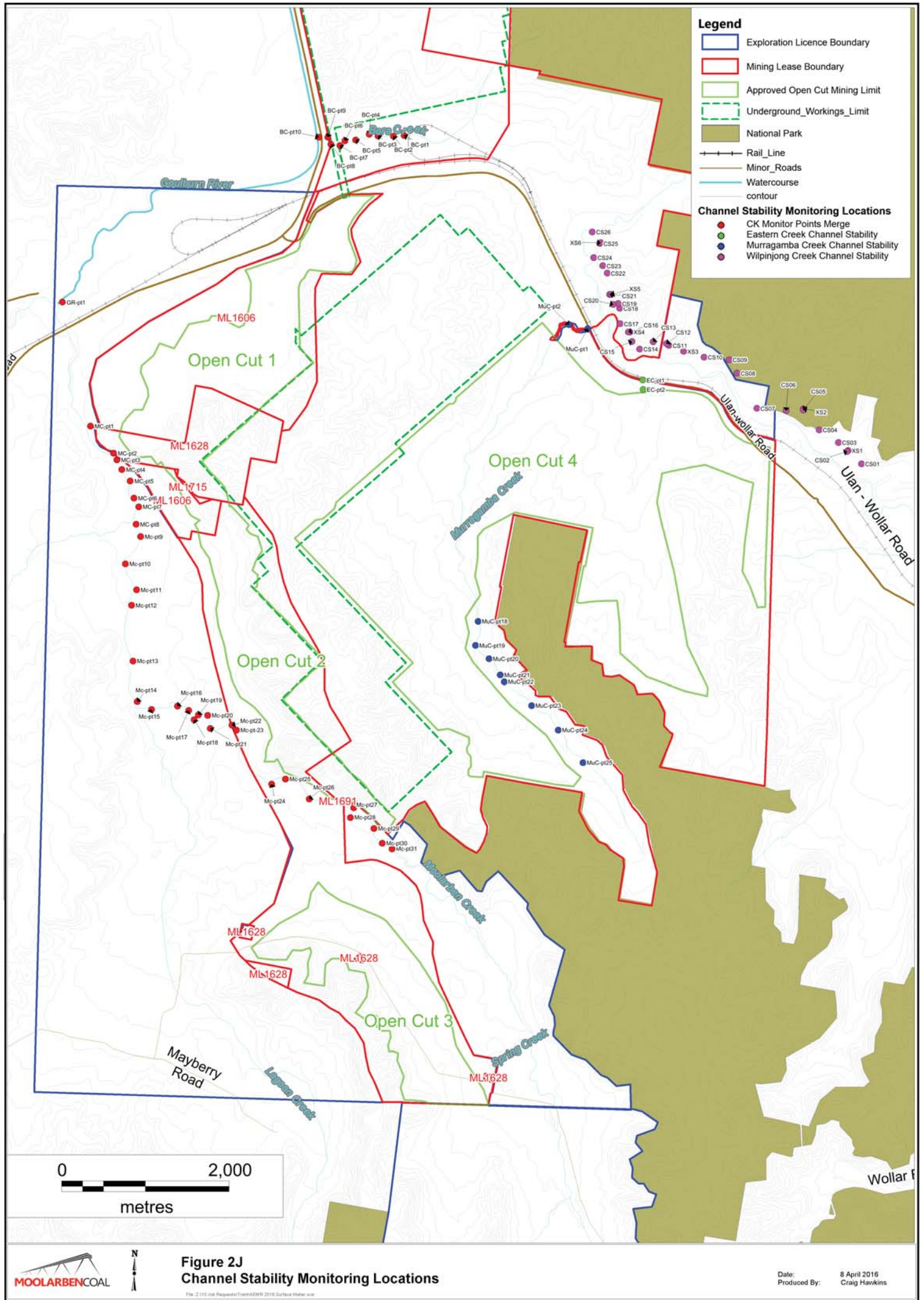


Figure 2-h MCO Stage 1 analogue monitoring site locations





**Figure 2J**  
**Channel Stability Monitoring Locations**



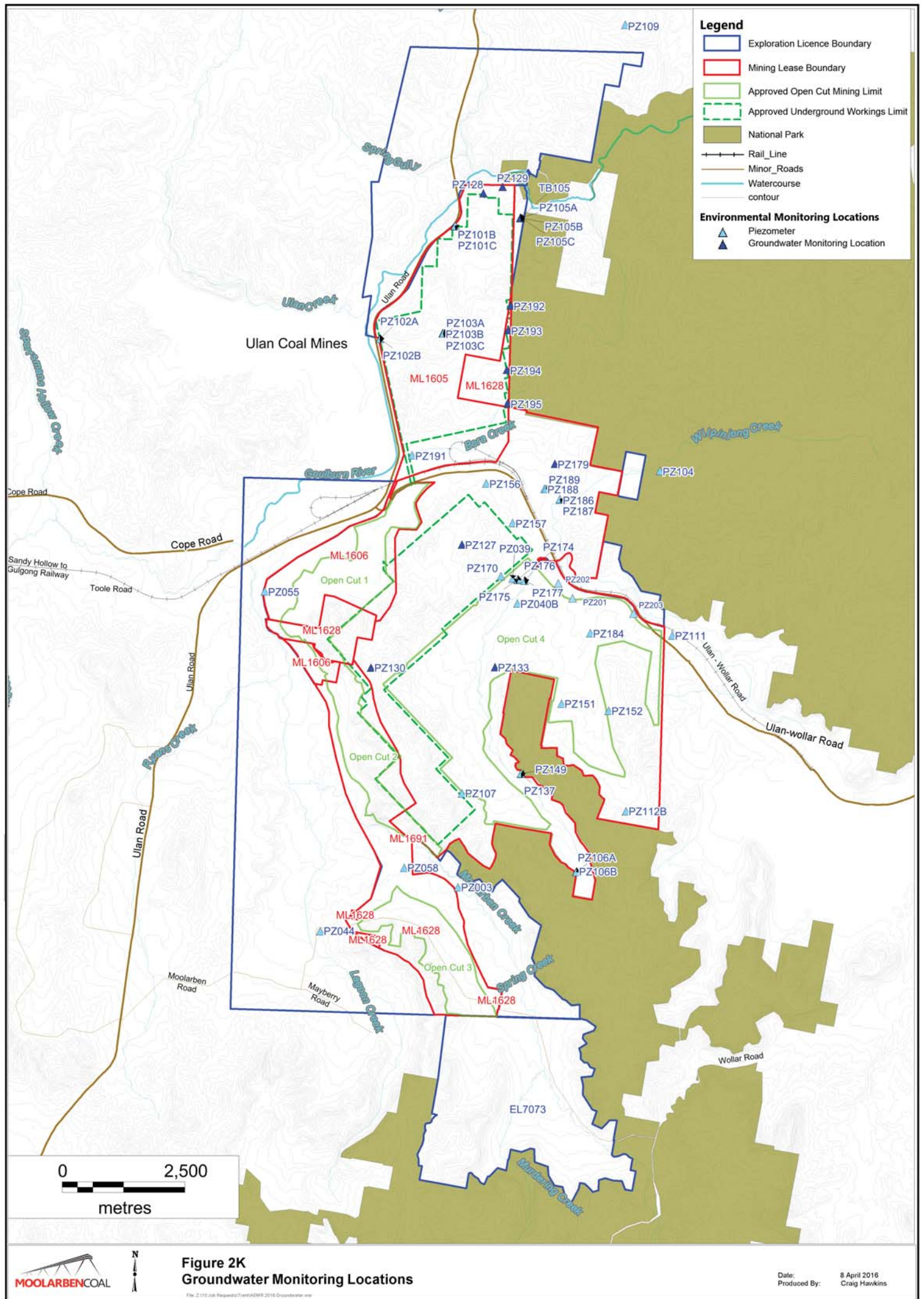






Figure 2-l Location of EFA and floristic monitoring sites



Figure 2-m Location of fauna monitoring sites

## APPENDIX 3. MONITORING DATA

### APPENDIX 3A. METEOROLOGICAL DATA (WS03)

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
01/01/15	17.3	34.9	17.6	34.7	57.9	2.2
02/01/15	14.8	32.7	16.2	31.1	62.1	0.0
03/01/15	17.3	34.2	18.5	32.5	57.7	0.0
04/01/15	18.4	33.4	18.6	32.5	66.3	16.0
05/01/15	15.6	25.6	16.4	25.7	73.9	0.0
06/01/15	15.6	30.7	16.7	30.1	66.5	0.0
07/01/15	15.4	30.7	16.5	30.3	60.5	0.0
08/01/15	18.5	32.0	18.5	31.3	65.0	2.2
09/01/15	20.0	32.5	20.7	31.2	59.7	1.0
10/01/15	19.3	31.8	19.3	30.5	75.8	4.6
11/01/15	17.4	21.0	17.4	20.7	95.4	19.2
12/01/15	17.4	24.5	17.5	24.3	78.6	1.2
13/01/15	18.1	25.5	18.2	25.3	84.6	14.0
14/01/15	15.6	28.3	16.2	27.4	73.1	0.0
15/01/15	11.6	28.3	12.6	27.3	61.1	0.0
16/01/15	10.7	28.7	12.1	27.6	56.0	0.0
17/01/15	9.4	30.5	10.4	29.6	52.4	0.0
18/01/15	13.4	30.4	15.0	29.3	48.2	0.0
19/01/15	14.7	25.8	14.7	25.1	74.0	27.0
20/01/15	15.1	26.1	14.9	25.7	75.4	0.0
21/01/15	16.0	28.2	17.0	28.2	70.3	0.4
22/01/15	17.0	28.8	18.0	28.5	68.9	0.0
23/01/15	18.1	32.5	18.6	30.2	81.8	4.0
24/01/15	17.5	33.8	18.1	32.4	73.1	14.0
25/01/15	15.0	32.1	16.5	31.2	73.1	0.0
26/01/15	15.0	32.1	15.0	32.1	76.4	0.0
27/01/15	15.8	20.2	16.0	19.9	86.7	24.0
28/01/15	8.0	19.7	8.9	19.5	83.7	1.2
29/01/15	9.2	24.1	10.7	23.2	66.2	0.0
30/01/15	7.3	26.2	8.9	25.3	58.8	0.0
31/01/15	13.1	27.2	11.1	26.3	42.9	0.0
01/02/15	12.1	29.2	12.8	27.9	60.8	0.0
02/02/15	14.4	25.1	14.7	24.9	62.8	0.0
03/02/15	10.1	25.7	11.2	25.0	66.1	0.0
04/02/15	13.8	26.5	12.9	25.3	65.0	0.0
05/02/15	11.0	23.9	12.8	23.5	71.0	0.0
06/02/15	11.5	25.0	12.8	24.3	64.8	0.0
07/02/15	11.8	30.2	12.9	29.3	63.9	0.0
08/02/15	14.5	34.4	14.5	33.7	49.2	0.0
09/02/15	17.6	30.1	18.2	29.2	62.9	0.0
10/02/15	17.4	29.0	18.0	28.6	63.9	0.0
11/02/15	14.7	29.7	15.4	29.1	61.6	0.0
12/02/15	18.0	31.7	17.6	29.6	62.3	0.0
13/02/15	13.2	28.9	14.2	26.9	76.0	1.2
14/02/15	12.5	30.0	13.7	28.3	76.3	0.6
15/02/15	13.1	31.7	14.1	30.4	66.8	0.0
16/02/15	14.6	31.9	14.9	30.9	60.5	0.0
17/02/15	14.2	31.5	15.8	29.9	57.1	0.0
18/02/15	13.1	30.6	14.2	29.6	57.6	0.0
19/02/15	14.6	29.9	15.8	29.0	64.1	0.0
20/02/15	15.1	27.2	16.3	26.2	72.8	0.0
21/02/15	18.0	28.5	18.3	27.4	69.1	0.0

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
22/02/15	18.5	29.7	18.6	28.8	66.3	0.0
23/02/15	17.2	31.4	17.9	30.1	67.3	0.0
24/02/15	18.2	32.4	18.5	31.4	64.5	0.8
25/02/15	16.1	29.4	16.2	27.9	77.0	37.6
26/02/15	13.6	29.2	14.2	28.8	75.1	0.0
27/02/15	14.4	30.1	15.1	29.4	67.6	0.0
28/02/15	15.1	32.9	15.5	31.7	57.9	0.0
01/03/15	15.9	34.1	16.3	32.5	72.8	10.8
02/03/15	13.1	25.5	14.1	24.5	67.9	0.0
03/03/15	14.6	33.2	14.7	32.5	60.0	0.0
04/03/15	14.0	33.9	17.0	33.1	45.5	0.0
05/03/15	4.6	25.7	5.4	25.0	47.3	0.0
06/03/15	6.1	25.9	6.5	25.3	45.6	0.0
07/03/15	8.8	30.7	9.6	29.5	57.2	0.0
08/03/15	10.8	31.2	12.2	30.2	55.2	0.0
09/03/15	11.7	32.4	13.2	31.6	47.1	0.0
10/03/15	12.8	29.9	13.9	28.7	76.9	13.4
11/03/15	17.0	32.4	17.4	31.0	74.3	9.4
12/03/15	17.6	31.1	17.7	30.3	67.3	0.2
13/03/15	9.3	21.6	10.4	21.0	77.0	0.0
14/03/15	9.5	26.8	10.5	26.7	66.9	0.0
15/03/15	9.2	28.8	10.7	27.9	63.0	4.0
16/03/15	9.2	25.1	10.6	24.0	58.6	0.0
17/03/15	12.0	23.4	12.1	22.7	72.0	0.0
18/03/15	10.7	33.6	12.2	33.3	54.9	0.0
19/03/15	11.0	32.9	13.5	32.5	52.9	0.0
20/03/15	12.5	35.0	14.9	34.3	49.5	0.0
21/03/15	16.3	21.9	16.5	21.3	69.7	0.0
22/03/15	13.8	26.5	15.0	25.8	70.4	0.0
23/03/15	14.1	30.3	15.6	29.7	67.2	0.0
24/03/15	6.0	28.4	7.2	26.9	79.2	5.8
25/03/15	6.2	26.2	6.9	25.5	79.2	0.0
26/03/15	6.2	26.2	6.2	26.2	51.4	0.0
27/03/15	2.7	22.7	4.0	22.1	52.1	0.0
28/03/15	2.8	26.1	4.5	25.2	56.4	0.0
29/03/15	10.3	27.5	10.9	26.9	50.3	0.0
30/03/15	13.6	27.6	14.4	26.0	59.7	0.0
31/03/15	14.6	24.2	15.6	23.7	64.0	0.0
01/04/15	12.5	27.9	13.4	26.4	71.0	0.0
02/04/15	12.6	28.7	14.0	27.5	59.3	0.0
03/04/15	15.1	21.1	15.2	20.5	81.9	3.2
04/04/15	13.4	17.4	13.4	17.2	94.7	13.6
05/04/15	8.5	22.7	9.3	21.8	86.3	1.6
06/04/15	8.5	22.7	9.5	21.3	92.2	19.6
07/04/15	9.3	17.2	9.3	15.7	74.5	3.8
08/04/15	5.8	16.0	6.9	15.3	79.6	0.0
09/04/15	5.2	22.3	6.5	21.7	69.0	0.0
10/04/15	5.3	20.4	6.6	19.6	73.0	0.0
11/04/15	6.7	22.6	7.5	22.7	79.5	0.0
12/04/15	7.8	23.0	8.3	22.0	73.7	0.0
13/04/15	8.5	22.7	10.0	22.0	71.9	0.0
14/04/15	7.9	24.3	8.9	23.4	71.2	0.0
15/04/15	7.9	29.1	9.3	27.8	68.7	0.0
16/04/15	11.3	29.3	12.6	28.6	67.1	0.0
17/04/15	14.7	26.7	15.9	25.6	77.9	0.0
18/04/15	14.4	24.9	14.9	24.0	78.5	14.6
19/04/15	10.1	20.6	10.1	19.9	77.2	4.6
20/04/15	10.1	14.6	10.2	14.7	86.7	17.2
21/04/15	8.5	12.6	8.7	12.7	88.3	12.8

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
22/04/15	8.4	19.2	8.6	18.8	81.0	0.0
23/04/15	9.6	22.8	10.3	21.8	82.6	0.0
24/04/15	6.3	22.9	7.5	21.7	77.0	0.0
25/04/15	6.1	22.9	7.1	21.4	68.2	2.4
26/04/15	4.5	12.6	5.7	12.2	85.8	0.2
27/04/15	2.2	17.5	3.3	16.8	76.7	0.0
28/04/15	2.0	17.8	2.8	17.4	76.7	0.0
29/04/15	4.7	19.0	6.4	18.2	74.8	0.0
30/04/15	8.2	8.5	9.5	9.6	99.1	0.0
01/05/15	12.8	18.0	12.9	17.8	74.2	0.0
02/05/15	11.8	20.7	13.4	20.4	83.4	0.0
03/05/15	13.1	22.6	13.9	22.0	83.6	0.2
04/05/15	7.0	21.1	7.8	20.1	88.7	0.0
05/05/15	3.6	24.1	6.1	23.3	59.4	0.0
06/05/15	2.3	15.9	4.7	15.4	65.6	0.0
07/05/15	1.8	15.3	3.7	14.7	68.2	0.0
08/05/15	2.1	16.1	3.5	15.5	70.6	0.0
09/05/15	2.6	16.2	4.8	114.0	74.0	0.0
10/05/15	6.0	16.9	5.8	16.2	55.7	0.0
11/05/15	8.3	15.8	9.2	15.3	76.7	0.0
12/05/15	6.1	18.1	8.8	17.5	68.6	0.0
13/05/15	-0.1	11.8	1.9	10.9	63.4	0.0
14/05/15	-0.7	13.9	0.0	13.2	75.8	0.0
15/05/15	0.9	18.6	1.6	18.2	74.2	0.0
16/05/15	2.5	17.1	3.4	16.4	81.4	0.0
17/05/15	6.3	17.7	7.7	17.4	84.0	0.0
18/05/15	10.3	17.7	10.5	17.5	88.4	0.0
19/05/15	10.7	20.8	11.4	20.2	86.5	20.0
20/05/15	10.8	20.6	11.2	19.7	89.7	3.0
21/05/15	9.2	18.1	9.4	17.3	87.1	24.0
22/05/15	7.3	16.3	8.0	15.8	78.4	0.0
23/05/15	1.2	18.1	2.4	17.2	83.4	0.0
24/05/15	1.9	16.3	2.7	15.7	83.7	0.2
25/05/15	0.7	17.5	1.7	16.7	83.7	1.4
26/05/15	0.7	17.5	0.7	17.5	87.8	0.0
27/05/15	2.7	15.8	3.8	15.2	83.4	0.0
28/05/15	10.6	17.3	10.8	16.7	86.7	1.8
29/05/15	6.9	16.9	7.4	16.3	93.1	0.4
30/05/15	7.9	17.0	8.2	16.3	85.6	2.2
31/05/15	4.8	13.1	5.9	12.5	90.9	1.6
01/06/15	-3.6	12.0	-2.8	11.3	72.1	0.0
02/06/15	-3.8	12.9	-3.1	12.7	77.7	0.0
03/06/15	-3.3	13.4	-2.5	12.1	81.6	0.0
04/06/15	-2.8	13.7	-2.1	13.0	78.9	1.8
05/06/15	-1.2	11.1	-0.4	10.4	88.2	0.0
06/06/15	-0.9	16.3	0.1	15.7	84.7	0.0
07/06/15	0.8	18.2	2.2	17.9	85.5	0.2
08/06/15	2.6	18.7	4.4	18.2	80.9	0.2
09/06/15	-0.1	17.9	1.3	17.5	75.3	0.0
10/06/15	0.3	15.4	1.6	15.0	76.9	0.0
11/06/15	4.3	15.6	6.6	15.2	80.9	0.0
12/06/15	2.9	14.6	3.8	14.4	85.7	0.0
13/06/15	1.7	16.5	2.6	16.3	86.5	0.2
14/06/15	2.0	19.1	3.1	18.9	82.5	0.0
15/06/15	4.7	14.3	6.5	14.2	86.5	10.0
16/06/15	11.3	12.2	11.2	12.3	99.2	32.0
17/06/15	7.3	15.7	8.2	15.3	91.2	7.4
18/06/15	4.9	12.5	6.1	12.1	88.7	0.4
19/06/15	3.0	13.4	3.8	12.8	89.1	0.6

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
20/06/15	-1.3	12.5	-0.5	12.4	87.1	0.0
21/06/15	-1.1	13.7	0.0	13.5	86.8	0.0
22/06/15	-0.8	16.0	-0.1	15.1	84.9	0.2
23/06/15	0.3	17.9	1.9	17.4	81.8	0.0
24/06/15	5.0	15.4	5.7	14.3	93.6	3.4
25/06/15	4.7	16.6	5.8	16.3	89.0	0.6
26/06/15	-0.6	15.2	-0.1	14.8	85.9	0.0
27/06/15	-1.8	15.6	-1.3	15.3	85.2	0.0
28/06/15	-1.4	14.9	-1.2	14.7	82.9	0.2
29/06/15	-1.4	15.5	0.0	15.5	87.4	0.0
30/06/15	5.1	13.7	5.9	12.9	92.0	0.6
01/07/15	-1.0	14.5	0.6	13.5	82.1	0.0
02/07/15	-3.7	10.7	-2.6	10.4	79.7	0.0
03/07/15	-3.7	13.4	-3.2	12.7	80.6	0.0
04/07/15	-3.2	12.6	-2.4	11.9	74.1	0.0
05/07/15	-4.5	14.7	-3.7	14.0	74.6	0.0
06/07/15	-4.3	11.7	-3.6	11.2	78.6	0.0
07/07/15	-1.4	13.0	1.0	13.4	80.7	0.0
08/07/15	-1.0	13.0	0.5	12.7	85.1	0.0
09/07/15	-0.1	14.1	0.4	14.1	85.2	0.0
10/07/15	3.1	15.8	3.6	14.8	92.4	8.8
11/07/15	2.6	16.4	2.4	15.4	87.7	9.2
12/07/15	3.6	6.4	3.7	6.3	92.2	6.8
13/07/15	5.0	8.8	5.0	8.6	93.9	3.8
14/07/15	-0.5	9.5	0.3	8.9	79.5	0.8
15/07/15	3.3	11.8	3.6	10.7	86.5	6.8
16/07/15	1.7	6.7	1.7	6.1	87.2	1.2
17/07/15	-2.0	9.6	-1.4	9.0	86.8	0.0
18/07/15	-2.1	13.4	-1.2	13.2	81.2	0.0
19/07/15	-1.6	13.1	-0.6	12.7	86.8	0.2
20/07/15	1.9	13.8	4.0	13.7	90.1	0.0
21/07/15	2.9	15.5	5.0	15.5	88.1	0.2
22/07/15	5.8	16.0	6.6	14.9	88.9	6.0
23/07/15	5.9	16.1	7.5	15.5	90.9	0.0
24/07/15	6.5	15.2	7.2	14.6	90.3	0.8
25/07/15	2.8	15.1	4.5	14.7	90.3	0.2
26/07/15	2.8	15.1	2.8	15.1	73.4	0.0
27/07/15	-1.7	9.6	0.2	9.0	72.5	0.0
28/07/15	-3.2	13.4	-2.4	13.1	77.2	0.2
29/07/15	-2.7	15.6	-2.0	14.6	79.8	0.0
30/07/15	-1.1	15.6	-0.2	14.9	77.7	0.0
31/07/15	0.7	16.8	2.3	16.2	66.8	0.0
01/08/15	0.1	19.9	1.0	19.1	65.3	0.0
02/08/15	2.2	22.7	2.8	21.6	64.5	0.0
03/08/15	1.2	12.6	2.1	12.0	70.8	0.0
04/08/15	1.5	10.0	2.2	9.3	57.0	0.0
05/08/15	3.1	9.9	3.6	9.5	77.2	1.4
06/08/15	-1.1	10.6	0.6	10.1	76.2	0.0
07/08/15	0.0	13.6	0.8	13.1	70.9	0.0
08/08/15	-0.8	14.4	0.2	13.8	76.1	0.0
09/08/15	-0.5	16.6	0.6	15.5	76.6	0.0
10/08/15	0.3	16.9	2.1	16.3	66.0	0.0
11/08/15	-2.3	17.1	-1.2	16.3	69.3	0.0
12/08/15	-0.8	14.2	-0.2	13.1	77.6	1.8
13/08/15	3.0	12.4	4.3	11.7	70.1	0.0
14/08/15	-1.3	14.7	-0.6	14.3	75.8	0.0
15/08/15	0.5	16.8	0.9	16.6	77.9	0.0
16/08/15	2.3	18.2	3.9	17.4	79.5	0.0
17/08/15	0.4	15.0	3.1	14.4	76.3	0.0

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
18/08/15	-2.9	13.1	-2.1	12.5	78.4	0.2
19/08/15	-1.7	16.4	-0.6	15.3	73.0	0.0
20/08/15	0.0	19.2	1.5	18.7	72.8	0.0
21/08/15	2.8	21.0	2.7	19.6	73.1	0.0
22/08/15	7.5	23.2	9.0	22.3	75.5	11.8
23/08/15	11.7	15.1	12.0	14.9	97.8	25.0
24/08/15	10.3	15.2	10.3	15.2	97.2	5.6
25/08/15	8.5	13.0	8.3	12.4	97.2	1.2
26/08/15	8.5	13.0	8.5	13.0	86.3	0.2
27/08/15	4.2	15.1	4.6	14.3	86.4	1.0
28/08/15	-1.1	12.4	-0.4	11.6	85.8	0.0
29/08/15	-2.4	14.0	-1.8	13.6	79.7	0.0
30/08/15	0.9	15.6	0.8	15.0	71.9	0.0
31/08/15	2.8	15.1	2.4	14.4	72.1	0.0
01/09/15	-0.4	14.9	0.2	14.3	76.1	0.0
02/09/15	3.5	19.9	3.9	18.8	67.2	4.0
03/09/15	3.1	13.0	4.2	12.0	86.1	1.8
04/09/15	3.2	17.0	3.8	16.3	84.9	0.0
05/09/15	3.7	17.8	4.9	17.4	82.2	0.2
06/09/15	4.1	16.3	5.3	15.9	87.2	0.0
07/09/15	0.0	20.5	2.4	19.7	69.0	0.2
08/09/15	3.5	13.6	5.2	13.0	74.5	0.0
09/09/15	1.3	16.0	2.6	15.5	72.4	0.0
10/09/15	4.1	19.3	6.3	18.0	75.6	0.0
11/09/15	3.0	21.8	4.1	21.1	73.7	0.0
12/09/15	3.5	21.9	4.5	21.7	70.9	0.0
13/09/15	4.9	23.8	6.4	23.1	68.4	0.0
14/09/15	5.8	23.9	7.7	23.2	67.2	0.0
15/09/15	2.0	25.0	3.0	24.5	63.4	0.0
16/09/15	1.3	19.6	2.5	19.0	63.2	0.0
17/09/15	4.2	18.4	5.4	17.7	63.9	0.0
18/09/15	1.8	17.9	3.0	17.8	73.4	0.0
19/09/15	7.6	17.2	6.5	17.2	73.7	0.0
20/09/15	5.4	20.0	6.8	18.8	82.1	3.2
21/09/15	8.0	21.5	8.6	21.1	69.3	1.2
22/09/15	2.0	15.3	3.4	14.8	62.3	0.0
23/09/15	-1.8	16.0	-0.5	15.5	59.0	0.0
24/09/15	1.9	16.9	4.2	16.4	58.5	0.0
25/09/15	4.1	17.1	6.0	16.5	68.0	0.0
26/09/15	1.5	16.4	2.9	16.1	74.2	0.0
27/09/15	1.5	20.1	3.6	19.4	67.2	0.0
28/09/15	1.5	20.6	2.8	20.3	64.2	0.0
29/09/15	4.2	23.2	6.3	22.6	57.2	0.0
30/09/15	13.2	25.6	13.2	24.5	41.0	1.0
01/10/15	4.6	26.6	5.9	26.2	61.5	0.0
02/10/15	5.7	26.9	7.0	26.6	66.1	0.0
03/10/15	7.1	28.6	9.1	28.3	56.0	0.0
04/10/15	6.9	30.4	8.0	30.1	50.2	0.0
05/10/15	8.3	32.2	10.3	31.8	46.2	0.0
06/10/15	9.4	33.2	11.7	32.8	41.7	0.0
07/10/15	12.0	30.0	12.2	29.6	55.2	0.0
08/10/15	8.7	20.3	10.0	20.2	73.6	0.0
09/10/15	9.8	27.0	11.8	26.8	68.0	0.0
10/10/15	9.9	28.6	10.4	27.3	77.5	5.2
11/10/15	9.0	25.4	9.8	24.9	75.0	0.8
12/10/15	11.2	29.1	12.8	28.7	51.1	0.2
13/10/15	15.3	26.3	15.5	25.8	67.5	0.0
14/10/15	8.6	25.8	10.0	25.6	70.1	0.0
15/10/15	8.8	28.5	10.2	27.8	62.2	0.0

Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
16/10/15	10.1	30.6	11.7	29.9	48.9	0.0
17/10/15	17.7	32.1	17.9	31.6	44.8	0.0
18/10/15	15.8	24.8	16.2	24.2	72.5	0.0
19/10/15	11.5	26.7	12.3	26.4	83.2	32.0
20/10/15	12.5	29.6	14.3	28.5	63.9	0.0
21/10/15	13.6	27.0	13.5	25.4	74.7	22.6
22/10/15	11.8	20.9	12.6	20.2	84.2	4.8
23/10/15	9.9	19.2	10.8	18.9	69.6	0.0
24/10/15	9.0	25.7	10.3	25.2	66.3	0.0
25/10/15	10.3	27.1	11.3	26.1	66.3	0.0
26/10/15	10.3	27.1	10.3	27.1	82.2	10.4
27/10/15	8.3	17.6	9.3	17.3	68.5	0.0
28/10/15	7.1	21.8	8.2	21.5	68.1	0.0
29/10/15	8.1	24.2	9.2	23.4	66.6	0.0
30/10/15	15.1	25.8	14.3	24.8	58.1	2.2
31/10/15	13.5	15.5	13.4	15.2	95.9	12.2
01/11/15	14.5	27.4	14.4	25.6	82.9	10.2
02/11/15	15.4	28.1	16.6	26.9	79.7	0.0
03/11/15	16.1	24.2	16.2	23.5	89.2	5.4
04/11/15	14.4	21.1	14.4	20.7	90.3	9.0
05/11/15	14.6	24.3	14.6	23.9	90.7	4.8
06/11/15	12.3	26.4	13.0	25.6	75.1	0.2
07/11/15	14.4	27.0	14.4	26.6	60.2	0.0
08/11/15	12.5	20.3	12.8	19.9	70.7	0.0
09/11/15	9.4	24.8	10.4	24.6	63.8	0.0
10/11/15	14.4	30.9	14.1	30.0	50.3	0.0
11/11/15	14.9	25.6	15.1	25.5	59.2	0.0
12/11/15	12.9	25.4	13.4	24.7	82.3	17.8
13/11/15	15.0	28.9	15.1	27.8	73.4	1.4
14/11/15	9.9	21.6	11.2	21.2	80.2	2.2
15/11/15	7.4	19.0	8.6	18.6	76.1	0.0
16/11/15	7.5	22.9	8.5	22.8	67.6	0.0
17/11/15	9.7	27.5	10.8	26.4	65.4	0.0
18/11/15	12.6	32.9	14.1	32.6	46.5	0.0
19/11/15	14.2	36.3	16.1	36.0	48.7	0.0
20/11/15	18.0	37.2	19.4	36.8	30.3	0.0
21/11/15	15.5	30.2	15.6	29.6	59.4	0.0
22/11/15	10.2	25.9	10.8	25.8	73.5	0.0
23/11/15	10.5	27.3	12.3	26.7	52.0	0.0
24/11/15	9.7	29.6	11.2	28.7	60.1	0.0
25/11/15	14.1	33.5	15.6	32.4	42.9	0.0
26/11/15	13.0	33.7	13.9	32.9	37.4	0.0
27/11/15	11.8	28.5	12.8	27.2	63.3	0.0
28/11/15	15.6	27.6	15.2	26.7	67.0	0.0
29/11/15	9.2	29.7	10.4	28.9	49.8	0.0
30/11/15	14.4	32.4	16.8	31.6	28.9	0.0
01/12/15	16.9	36.0	17.7	35.5	37.9	0.0
02/12/15	13.2	26.7	13.4	25.7	47.5	0.0
03/12/15	11.7	23.1	12.0	22.3	59.6	0.0
04/12/15	7.8	27.0	8.7	26.2	59.4	0.0
05/12/15	10.3	31.9	12.2	30.9	50.3	0.0
06/12/15	15.5	34.6	16.0	32.6	38.1	0.0
07/12/15	16.1	33.9	16.7	32.3	52.7	0.0
08/12/15	18.1	30.9	17.8	29.9	62.8	2.6
09/12/15	16.6	32.4	16.9	31.5	67.1	3.6
10/12/15	12.2	33.3	13.9	32.8	56.4	0.2
11/12/15	10.8	32.0	12.1	31.2	34.0	0.0
12/12/15	15.4	28.5	15.1	27.1	44.9	0.0
13/12/15	10.7	31.8	12.0	30.6	51.4	0.0



Date	Temperature (2m) (°C)		Temperature (10m) (°C)		Humidity	RAIN (mm)
	Min	Max	Minimum	Maximum	Average	
14/12/15	11.5	33.7	13.2	32.6	41.8	0.0
15/12/15	17.5	35.4	18.1	34.1	39.8	0.0
16/12/15	12.6	30.7	13.4	29.2	75.6	7.6
17/12/15	13.3	27.8	14.3	27.1	67.0	0.0
18/12/15	15.0	33.4	16.5	32.2	54.5	0.0
19/12/15	14.2	36.0	15.6	35.0	41.0	0.0
20/12/15	21.8	36.2	22.3	34.5	31.9	0.0
21/12/15	15.7	35.1	15.8	33.7	59.7	32.4
22/12/15	14.9	15.9	14.8	15.9	96.0	44.6
23/12/15	15.1	21.3	15.4	20.7	73.4	0.0
24/12/15	15.5	22.4	15.6	21.9	66.3	0.0
25/12/15	15.5	25.8	15.9	25.4	66.3	0.0
26/12/15	15.5	25.8	15.5	25.8	81.2	10.0
27/12/15	9.9	22.8	10.6	22.4	71.7	0.0
28/12/15	8.7	22.0	9.9	21.5	67.1	0.0
29/12/15	9.4	26.0	10.2	24.8	60.9	0.0
30/12/15	11.0	30.0	12.0	28.7	53.7	0.0
31/12/15	16.8	29.7	15.8	28.8	52.2	0.0

## **APPENDIX 3B. NOISE COMPLIANCE REPORT**

# *Moolarben Coal Operations*

---

*Environmental Noise Monitoring  
Annual Report*

*1 January to 31 December 2015*

*Prepared for*

*Moolarben Coal Operations Pty Ltd*

---

**Global**   
**Acoustics**

Noise and Vibration Analysis and Solutions

Global Acoustics Pty Ltd

PO Box 3115 | Thornton NSW 2322

Telephone +61 2 4966 4333

Email [global@globalacoustics.com.au](mailto:global@globalacoustics.com.au)

ABN 94 094 985 734

## Moolarben Coal Operations

### Environmental Noise Monitoring Annual Report – 1 January to 31 December 2015

Reference: 15456\_R02

Report date: 7 April 2016

#### Prepared for

Moolarben Coal Operations  
4250 Ulan Road  
Ulan NSW 2850

#### Prepared by

Global Acoustics Pty Ltd  
PO Box 3115  
Thornton NSW 2322



Prepared: Katie Weekes  
Environmental Scientist (Acoustics)

QA Review: Tony Welbourne  
Director

*Global Acoustics Pty Ltd ~ Environmental noise modelling and impact assessment ~ Sound power testing ~ Noise control advice ~ Noise and vibration monitoring ~ OHS noise monitoring and advice ~ Expert evidence in Land and Environment and Compensation Courts ~ Architectural acoustics ~ Blasting assessments and monitoring ~ Noise management plans (NMP) ~ Sound level meter and noise logger sales and hire*

## EXECUTIVE SUMMARY

Global Acoustics was engaged by Moolarben Coal Operations Pty Ltd (MCO) to provide a summary of operational environmental noise surveys conducted around Moolarben Coal Complex (MCC) during the period 1 January to 31 December 2015.

The MCC is located on Ulan Road, approximately 40 kilometres north east of Mudgee. Stage 1 of the mine consists of the construction and operation of three separate open cut mines (OC1, OC2 and OC3), an underground mine (UG4), the coal handling and preparation plant (CHPP), and mining infrastructure area (MIA). Stage 2 includes the construction and operation of Open Cut 4 (OC4), underground mines (UG1 and UG2), and a ROM coal facility in OC4.

During this reporting period, major activities included:

- The operation of OC1, OC2 and OC4;
- The operation of the CHPP and rail load-out facilities;
- Vegetation clearing, topsoil stripping, drilling, overburden removal and coaling in OC1, OC2 and OC4; and
- Construction activities in OC4, Underground 1, CHPP, south west haul road, conveyor trace and Open Cut Admin/Workshop mine infrastructure areas.

During the 2015 reporting period, attended environmental noise monitoring described in this report was conducted monthly. The noise management plan (NMP) was most recently revised and approved in July 2015 to address the operation of the MCC. While continuing to undertake monthly attended noise monitoring, additional locations were included in the program requiring quarterly monitoring. More detail regarding monitoring locations and timing of monitoring during 2015 is provided in Section 1.2 of this report.

The purpose of the attended monitoring was to quantify and describe the acoustic environment around the site and compare results with relevant limits.

### January to December 2015 Compliance

MCO complied with the project specific criteria at all monitoring sites during attended noise monitoring undertaken between January and December 2015.

### EIS Comparison

Predicted noise levels from Year 2016 of the South West Haul Road Modification (Stage 1 MOD 11 and Stage 2 Modification 1) were compared against actual noise levels during 2015. Results indicated that MCO was generally well under the predicted levels where meteorological conditions were relevant.

## Table of Contents

<b>1 INTRODUCTION.....</b>	<b>1</b>
1.1 Background.....	1
1.2 Monitoring Locations and Timing.....	2
1.2.1 January to June 2015, Monthly.....	2
1.2.2 July to December 2015, Monthly.....	2
1.2.3 July to December 2015, Quarterly.....	3
1.3 Terminology & Abbreviations.....	7
<b>2 PROJECT APPROVAL AND CRITERIA.....</b>	<b>8</b>
2.1 Project Approval.....	8
2.2 Environmental Protection Licence.....	8
2.3 Noise Management Plan.....	8
2.4 Noise Criteria – January to June 2015.....	8
2.4.1 Impact Assessment.....	8
2.4.2 Land Acquisition Criteria.....	9
2.5 Noise Criteria – July to December 2015.....	10
2.5.1 Impact Assessment.....	10
2.5.2 Noise Mitigation Criteria.....	11
2.5.3 Land Acquisition Criteria.....	11
2.6 INP Modifying Factors.....	11
2.6.1 Tonality, Intermittent and Impulsive Noise.....	11
2.6.2 Low Frequency.....	12
<b>3 METHODOLOGY.....</b>	<b>13</b>
3.1 Overview.....	13
3.2 Attended Noise Monitoring.....	13
3.3 Log of Operation.....	13
3.4 Modification Factors.....	14
3.5 Meteorological Conditions.....	14
<b>4 RESULTS.....</b>	<b>15</b>
4.1 January 2015.....	15

4.2 February 2015.....	17
4.3 March 2015.....	19
4.4 April 2015.....	21
4.5 May 2015.....	23
4.6 June 2015.....	25
4.7 July 2015.....	27
4.8 August 2015.....	29
4.9 September /Quarter 3 2015.....	31
4.10 October 2015.....	33
4.11 November /Quarter 4 2015.....	35
4.12 December 2015.....	37
4.13 Summary of Operational Results.....	39
4.13.1 Day.....	39
4.13.2 Night.....	39
4.14 Comparison with Environmental Assessment Predictions.....	41
4.14.1 2016 Comparison.....	42
4.14.2 Day Comparison.....	43
4.14.3 Night Comparison.....	44
<b>5 SUMMARY OF COMPLIANCE.....</b>	<b>46</b>
5.1 January to December 2015 Compliance.....	47
5.2 EIS Comparison.....	47

## **Appendices**

# 1 INTRODUCTION

## 1.1 Background

Global Acoustics was engaged by Moolarben Coal Operations Pty Ltd (MCO) to provide a summary of operational environmental noise surveys conducted around Moolarben Coal Mine (MCM) from 1 January to 31 December 2015.

The MCM is located on Ulan Road, approximately 40 kilometres north east of Mudgee. Stage 1 of the mine consists of the construction and operation of three separate open cut mines (OC1, OC2 and OC3), an underground mine (UG4), the coal handling and preparation plant (CHPP) and mining infrastructure area (MIA). Stage 2 includes the construction and operation of Open Cut 4 (OC4), Underground Mine (UG1 and UG2) and a ROM coal facility in OC4.

During this reporting period, major activities included:

- The operation of OC1, OC2 and OC4;
- The operation of the CHPP and rail load-out facilities;
- Vegetation clearing, topsoil stripping, drilling, overburden removal and coaling in OC1, OC2 and OC4; and
- Construction activities in OC4, Underground 1, CHPP, south west haul road, conveyor trace and Open Cut Admin/Workshop mine infrastructure areas.

During the 2015 reporting period, attended environmental noise monitoring described in this report was conducted monthly. The noise management plan (NMP) was most recently revised and approved in July 2015 to address noise impacts associated with the operation of the entire MCC, including Stage 1 and Stage 2 of the operation. While continuing to undertake monthly attended noise monitoring, additional locations were included in the program requiring quarterly monitoring. More detail regarding monitoring locations and timing of monitoring during 2015 is provided in Section 1.2 of this report.

The purpose of the attended noise monitoring is to quantify and describe the existing acoustic environment around the site and compare results with relevant limits.



## 1.2 Monitoring Locations and Timing

### 1.2.1 January to June 2015, Monthly

There were four attended monitoring locations between January and June 2015 as detailed in Table 1.1 and shown on Figure 1. Monitoring during this period was undertaken monthly. It should be noted that this figure shows the actual monitoring position, not the location of residences.

*Table 1.1: MCO ATTENDED MONITORING LOCATIONS – JANUARY TO JUNE 2015, MONTHLY*

Report Descriptor	Monitoring Location	Location Purpose	Monitoring Period
NA1	Ulan Public School, Ulan Village	Compliance	Day
NA6	Lower Ridge Road, Cooks Gap	Compliance	Night
NA8	Southern Ridge Road, Cooks Gap	Compliance	Night
NA9	Winchester Crescent/Ulan Road Residential Area	Compliance	Night

### 1.2.2 July to December 2015, Monthly

There were six monthly attended monitoring locations between July and December 2015 as detailed in Table 1.2 and shown on Figure 2. Monitoring during this period was undertaken monthly. It should be noted that this figure shows the actual monitoring position, not the location of residences.

*Table 1.2: ATTENDED NOISE MONITORING LOCATIONS – JULY TO DECEMBER 2015, MONTHLY*

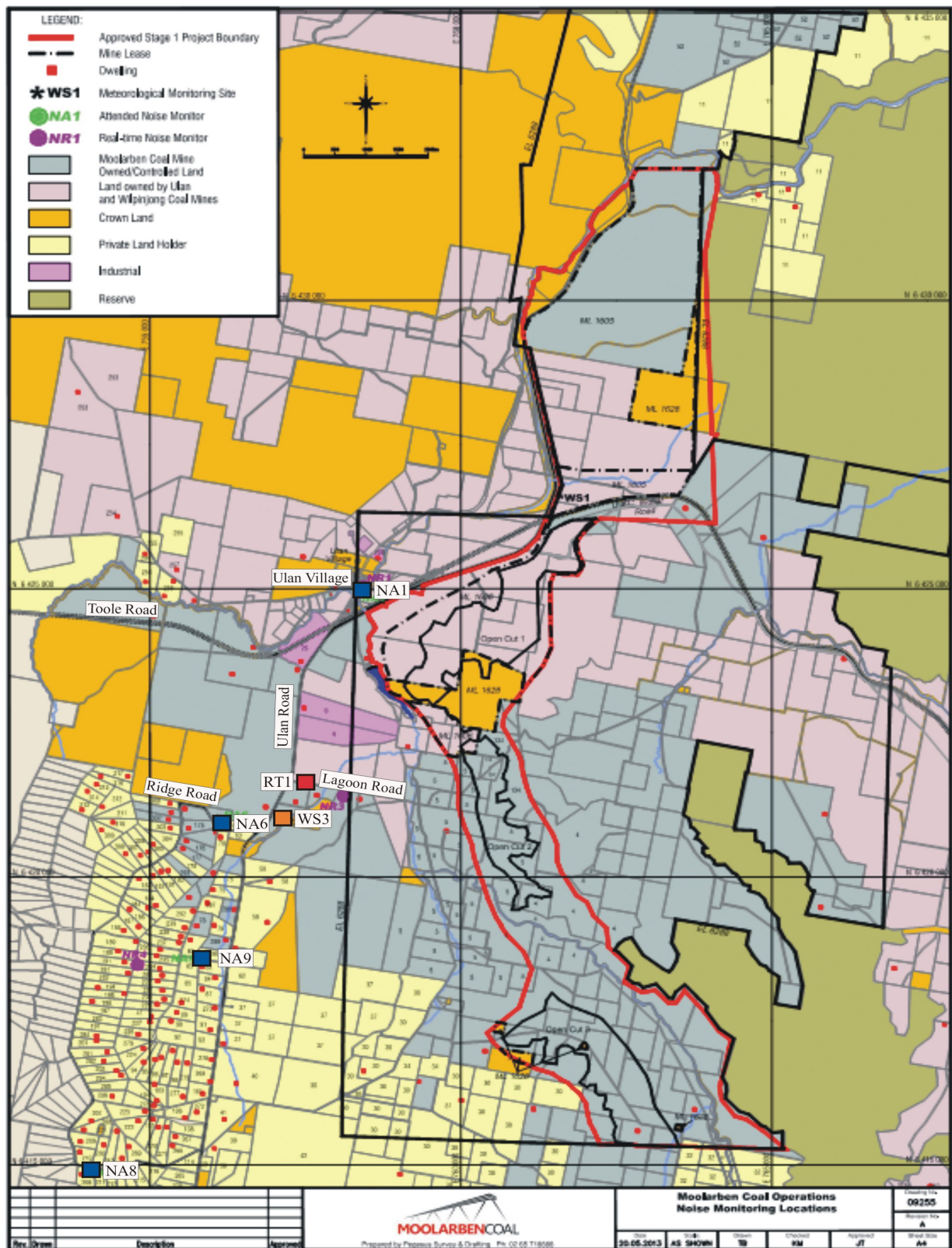
Report Descriptor	Monitoring Location	Location Purpose	Monitoring Period
NA1	Ulan Public School, Ulan Village	Compliance	Day
NA2	Lagoons Road, Ulan	Validation	Night
NA3	Upper Ridge Road, Cooks Gap	Validation	Night
NA6	Lower Ridge Road, Cooks Gap	Compliance	Night
NA10	Moolarben Road, Moolarben	Validation	Night
NA12	Winchester Crescent, Cooks Gap	Compliance/Validation	Night

### 1.2.3 July to December 2015, Quarterly

In addition to the monthly monitoring locations detailed in Table 1.2, quarterly surveys were completed at these additional attended monitoring locations (conducted in September and November 2015). These are detailed in Table 1.3 and shown in Figure 2 and Figure 3. It should be noted that the figures show the actual monitoring position, not the location of residences.

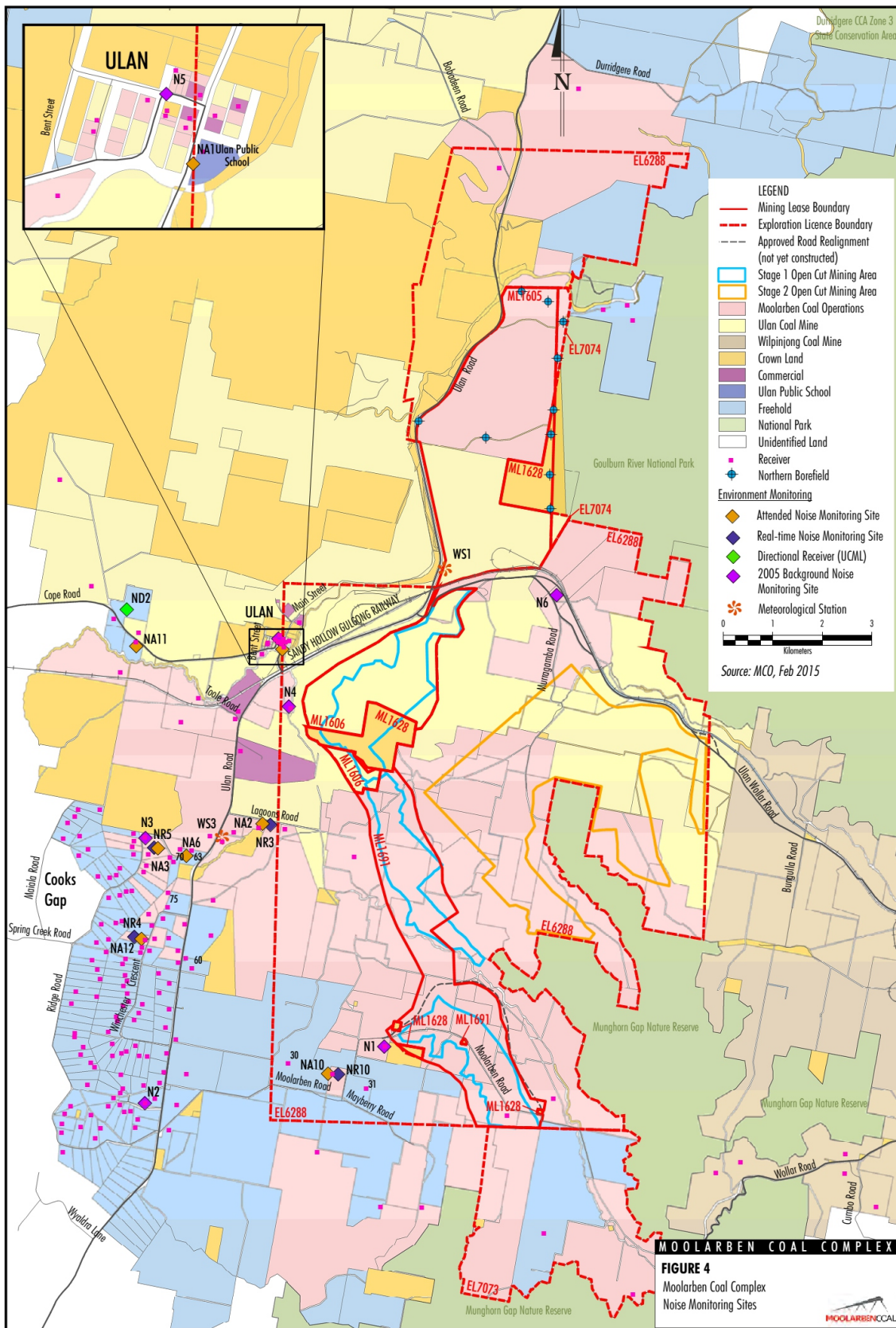
Table 1.3: ATTENDED NOISE MONITORING LOCATIONS – JULY TO DECEMBER 2015, QUARTERLY

Report Descriptor	Monitoring Location	Location Purpose	Monitoring Period
NA11	Cope Road (Receiver 258), Ulan	Management	Night
GRNP	Goulburn River National Park	Compliance	Night
MGNR	Munghorn Gap Nature Reserve	Compliance	Night



- MCO attended noise monitoring location
- MCO weather station
- MCO road traffic noise monitoring location

**Figure 1: MCO Attended Noise Monitoring Sites, January to June 2015**



Source: Moolarben Coal Operations Pty Ltd

**Figure 2: MCO Attended Noise Monitoring Sites, July to December 2015**



Figure 3: MCO Quarterly Attended Monitoring Locations, July to December 2015

### 1.3 Terminology & Abbreviations

Some definitions of terms and abbreviations, which may be used in this report, are provided in Table 1.4.

Table 1.4: TERMINOLOGY & ABBREVIATIONS

Descriptor	Definition
L <sub>A</sub>	The A-weighted root mean squared (RMS) noise level at any instant
L <sub>Amax</sub>	The maximum A-weighted noise level over a time period or for an event
L <sub>A1</sub>	The noise level which is exceeded for 1 per cent of the time
L <sub>A10</sub>	The noise level which is exceeded for 10 percent of the time, which is approximately the average of the maximum noise levels
L <sub>A50</sub>	The noise level which is exceeded for 50 per cent of the time
L <sub>A90</sub>	The level exceeded for 90 percent of the time, which is approximately the average of the minimum noise levels. The L <sub>A90</sub> level is often referred to as the “background” noise level and is commonly used to determine noise criteria for assessment purposes
L <sub>Amin</sub>	The minimum A-weighted noise level over a time period or for an event
L <sub>Aeq</sub>	The average noise energy during a measurement period
dB(A)	Noise level measurement units are decibels (dB). The “A” weighting scale is used to describe human response to noise
SPL	Sound pressure level (SPL), fluctuations in pressure measured as 10 times a logarithmic scale, the reference pressure being 20 micropascals
Hertz (Hz)	Cycles per second, the frequency of fluctuations in pressure, sound is usually a combination of many frequencies together
VTG	Vertical temperature gradient in degrees Celsius per 100 metres altitude. Estimated from wind speed and sigma theta data
IA	Inaudible. When site only noise is noted as IA, there was no noise from the source of interest audible at the monitoring location
NM	Not Measurable. If site only noise is noted as NM, this means some noise from the source of interest was audible at low-levels, but could not be quantified
Day	This is the period 7:00am to 6:00pm
Evening	This is the period 6:00pm to 10:00pm
Night	This is the period 10:00pm to 7:00am

## 2 PROJECT APPROVAL AND CRITERIA

### 2.1 Project Approval

Current mining operations at the Moolarben Coal Complex are undertaken in accordance with the requirements of NSW Project Approval 05\_0117 (as modified) and the requirements of NSW Project Approval 08\_0135 (as modified).

The relevant noise conditions from the most recent consolidated approvals can be viewed on the MCO website.

### 2.2 Environmental Protection Licence

MCO holds Environmental Protection Licence (EPL) No. 12932 for Moolarben mine. The Office of Environment and Heritage approved this licence in August 2008. Section L5 and M9 of the EPL Variation dated 28 July 2015 outlines noise limits and can be viewed on the MCO website.

### 2.3 Noise Management Plan

The Moolarben Coal Complex Noise Management Plan (NMP) was approved in July 2015. Section 5 details the noise monitoring program, including monitoring locations and methodology. The NMP can be viewed on the MCO website.

### 2.4 Noise Criteria – January to June 2015

#### 2.4.1 Impact Assessment

Impact assessment criteria for MCO between January and June 2015 are detailed in Table 2.1.

Table 2.1: MCO NOISE IMPACT ASSESSMENT CRITERIA, dB – JANUARY TO JUNE 2015

NMP Descriptor	Monitoring Location	Day L <sub>Aeq,15minute</sub>	Evening <sup>1</sup> L <sub>Aeq,15minute</sub>	Night <sup>1</sup> L <sub>Aeq,15minute</sub> / L <sub>A1,1minute</sub>
NA1 <sup>2</sup>	Ulan Public School – internal	35	NA	NA/NA
	Ulan Public School – external	43	NA	NA/NA
NA6	Lower Ridge Road	38	38	37/45
NA8	Southern Ridge Road	38	38	37/45
NA9	Winchester Crescent	35	35	35/45

Notes:

1. NA indicates criteria are not applicable at this location during this time period; and
2. Criteria for Ulan Public School apply when in use.

Appendix 6 of the project approval states:

- *The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following:*
  - *during periods of rain or hail;*
  - *average wind speeds at microphone height exceeds 5 m/s;*
  - *wind speeds greater than 3 m/s measured at 10 metres above ground level; or*
  - *temperature inversion conditions greater than 3°C/100m.*

#### 2.4.2 Land Acquisition Criteria

As detailed in Condition 2 of Schedule 3 of the project approval, acquisition criteria for MCO are to consider noise in respect to criteria detailed in Table 2.2 at any residence on privately-owned land or on more than 25% of any privately-owned land.

*Table 2.2: MCO LAND ACQUISITION CRITERIA, dB<sup>1</sup>*

NMP Descriptor	Monitoring Location	Day/Evening/Night L <sub>Aeq,15minute</sub>
NA6	Lower Ridge Road	35/35/35
NA8	Southern Ridge Road	35/35/35
NA9	Winchester Crescent	35/35/35

Notes:

1. From modified project approval.



## 2.5 Noise Criteria – July to December 2015

### 2.5.1 Impact Assessment

Impact assessment criteria for MCO between July and December 2015 are detailed in Table 2.3. The criteria are based on the NMP, which is consistent with the consolidated approval and the EPL.

Table 2.3: MCO NOISE IMPACT ASSESSMENT CRITERIA, dB

NMP Descriptor	Monitoring Location	Day L <sub>Aeq,15minute</sub>	Evening <sup>1</sup> L <sub>Aeq,15minute</sub>	Night <sup>1</sup> L <sub>Aeq,15minute</sub> / L <sub>A1,1minute</sub>
NA1 <sup>2</sup>	Ulan Public School – internal	35	NA	NA/NA
	Ulan Public School – external <sup>3</sup>	43	NA	NA/NA
NA6	Lower Ridge Road	37	37	37/45
NA12	Winchester Crescent	35	35	35/45
GRNP <sup>4</sup>	Goulburn River National Park	50	50	50/NA
MGNR <sup>4</sup>	Munghorn Gap Nature Reserve	50	50	50/NA

Notes:

1. NA indicates criteria are not applicable at this location during this time period;
2. Criteria for Ulan Public School apply `when in use`;
3. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP; and
4. Monitoring at these locations undertaken quarterly in accordance with the NMP.

Appendix 6 of the project approval states that noise levels apply under all meteorological conditions except for the following:

- Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- Stability category G temperature inversion conditions.

## 2.5.2 Noise Mitigation Criteria

As detailed in Condition 4 of Schedule 3 of the project approval, mitigation criteria for MCO are to consider noise in respect to criteria detailed in Table 2.4 at any residence on privately-owned land.

Table 2.4: MCO MITIGATION CRITERIA, dB<sup>1</sup>

NMP Descriptor	Monitoring Location	Day/Evening/Night L <sub>Aeq,15minute</sub>
NA6	Lower Ridge Road	37/37/37
NA12	Winchester Crescent	37/37/37

Notes:

1. From consolidated project approval.

## 2.5.3 Land Acquisition Criteria

As detailed in Condition 2 of Schedule 3 of the project approval, acquisition criteria for MCO are to consider noise in respect to criteria detailed in Table 2.5 at any residence on privately-owned land.

Table 2.5: MCO LAND ACQUISITION CRITERIA, dB<sup>1</sup>

NMP Descriptor	Monitoring Location	Day/Evening/Night L <sub>Aeq,15minute</sub>
NA6	Lower Ridge Road	40/40/40
NA12	Winchester Crescent	40/40/40

Notes:

1. From consolidated project approval.

## 2.6 INP Modifying Factors

Noise monitoring and reporting is carried out generally in accordance with Environment Protection Authority (EPA) *Industrial Noise Policy* (INP). Chapter 4 of the INP deals specifically with modifying factors that may apply to industrial noise. The most common modifying factors are addressed in detail below.

As detailed in the notes below condition 18 of the development consent:

*The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied where applicable.*

### 2.6.1 Tonality, Intermittent and Impulsive Noise

As defined in the Industrial Noise Policy:

*Tonal noise contains a prominent frequency and is characterised by a definite pitch.*

*Impulsive noise has high peaks of short duration or a sequence of such peaks.*

*Intermittent noise is characterised by the level suddenly dropping to the background noise levels several times*

during a measurement, with a noticeable change in noise level of at least 5 dB. Intermittent noise applies to night-time only.

Years of monitoring have indicated that noise levels from mining operations, particularly those levels measured at significant distances from the source are relatively continuous. Given this, noise levels from MCO at the monitoring locations are unlikely to be intermittent. In addition, there is no equipment on site that is likely to generate tonal or impulsive noise as defined in the INP.

### 2.6.2 Low Frequency

As defined in the Industrial Noise Policy:

*Low frequency noise contains major components within the low frequency range (20 Hz to 250 Hz) of the frequency spectrum.*

As detailed in Chapter 4 of the INP, low frequency noise should be assessed by measuring the C-weighted and A-weighted level over the same time period. A correction/penalty of 5 dB is triggered if the difference between the two levels is 15 dB or more.

Low frequency noise can also be assessed against levels specified in the paper "A Simple Method for Low Frequency Noise Emission Assessment" (Broner JLFNV Vol29-1 pp1-14 2010). If the total predicted C – weighted noise level at a receptor exceeds the relevant criterion, a 5 dB penalty (modifying factor) is triggered and added to measured levels.

Low frequency assessment methods are detailed in Table 2.6.

**Table 2.6: LOW FREQUENCY ASSESSMENT METHODS AND MODIFICATION FACTOR TRIGGERS**

Assessment Method	Calculation Method	Night Period Modifying Factor Trigger	Day Period Modifying Factor Trigger
Broner, 2010	Site only L <sub>Ceq</sub>	>60	>65
INP, total	Site only L <sub>Ceq</sub> minus site only L <sub>Aeq</sub>	>=15	>=15

The EPA is currently undertaking a review of the assessment of low frequency noise. While a practice note is not yet available, low frequency noise results from MCO have been compared to the range of assessment methods and criteria presented above.

## 3 METHODOLOGY

### 3.1 Overview

All noise monitoring was conducted at the nearest residences in accordance with the Environment Protection Authority (EPA) 'Industrial Noise Policy' (INP) guidelines and Australian Standard AS 1055 'Acoustics, Description and Measurement of Environmental Noise' and the MCO NMP. Atmospheric condition measurement was also undertaken during attended monitoring.

### 3.2 Attended Noise Monitoring

Attended noise monitoring was conducted monthly during 2015, during the night period. At NA1 (Ulan Public School) monitoring was only undertaken during the day period, within the hours of use. The duration of all measurements was 15 minutes.

A measurement of  $L_{A1,1\text{minute}}$  corresponds to the highest noise level generated for 0.6 of a second during one minute in the night period. In practical terms this is the highest noise level emitted from a MCO noise source during the entire measurement period (i.e. the highest level of the worst minute during the 15-minute measurement).

In most cases, monitoring near the residence facade is impractical due to barking dogs or issues with obtaining access. In all cases, measurements for this survey were undertaken at a suitable and representative location.

As indicated in Appendix 6 of Project Approvals 05\_0117 and 08\_0135, modifying factors should be considered where applicable. Low frequency noise from MCO was assessed by analysis of the measured spectrum.

The terms "Inaudible" (IA), "Not measurable" (NM) or "Less than 25 dB" (<25 dB) have been used in this report. When site noise is noted as IA then there was no site noise audible at the monitoring location. However, if site noise is noted as NM or <25 dB, this means some noise was audible but could not be quantified. In the case of very low site levels, we do not consider it necessary to attempt to accurately quantify site noise as it would be significantly less than any criterion and most unlikely to cause annoyance (and in many cases, to be even noticed).

If site noise were not measurable due to masking, methods as per the INP (e.g. measure closer and back calculate) are employed to determine a value for reporting if deemed necessary. All site values NM or <25 dB in this report are due to low absolute values.

### 3.3 Log of Operation

MCO personnel have provided a log of operations that confirms operations were in progress during each monthly survey period in 2015.

### **3.4 Modification Factors**

Years of attended noise monitoring have indicated that noise levels from mining operations, particularly those levels measured at significant distances from the source are relatively continuous. Given this, noise levels from MCO at the monitoring locations are unlikely to be intermittent. In addition, there is no equipment on site at MCO that would generate impulsive noise as defined in the INP. However, low frequency noise from MCO has been addressed.

### **3.5 Meteorological Conditions**

Meteorological data was obtained from the MCO weather station (WS03) located off Ulan Road and shown on Figure 1 and Figure 2. This data allowed correlation of atmospheric parameters and measured noise levels as per EPL 12932 condition L5.4.

## 4 RESULTS

### 4.1 January 2015

Table 4.1 compares MCO levels during January 2015 against impact assessment criteria detailed in the project approval.

Table 4.1: *L<sub>Aeq,15minute</sub>* GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – JANUARY 2015

Location	Start Date and Time	Total L <sub>Aeq</sub> dB	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Impact Assess. L <sub>Aeq</sub> Criterion dB	MCO L <sub>Aeq,15min</sub> dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of L <sub>Aeq</sub> Criterion <sup>3</sup>	L <sub>A1,1min</sub> Criterion dB	MCO L <sub>A1,1min</sub> dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of L <sub>A1,1min</sub> Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	23/01/2015 10:08	57	1.5	-2.0	43	<35	Yes	Nil	NA	NA	NA	NA
NA6	22/01/2015 22:00	33	2.0	0.5	37	24	Yes	Nil	45	31	Yes	Nil
NA8	22/01/2015 23:13	42	1.3	0.5	37	<20	Yes	Nil	45	23	Yes	Nil
NA9	22/01/2015 22:34	33	1.3	3.0	35	<20	Yes	Nil	45	26	Yes	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured L<sub>Aeq,15minute</sub> or L<sub>A1,1minute</sub> attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.

Noise levels generated by activity at MCO are shown in Table 4.2. The  $L_{Aeq,15\text{minute}}$  for MCO is compared to the land acquisition criterion detailed in the project approval.

**Table 4.2:  $L_{Aeq,15\text{minute}}$  GENERATED BY MCO AGAINST PROJECT APPROVAL LAND ACQUISITION CRITERIA – JANUARY 2015**

Location	Start Date and Time	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Criterion dB	Criterion Applies? <sup>1</sup>	MCO $L_{Aeq,15\text{min}}$ dB <sup>2,3</sup>	Exceedance <sup>3</sup>
NA6	22/01/2015 22:00	2.0	0.5	35	Yes	24	Nil
NA8	22/01/2015 23:13	1.3	0.5	35	Yes	<20	Nil
NA9	22/01/2015 22:34	1.3	3.0	35	Yes	<20	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured  $L_{Aeq,15\text{minute}}$  attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.2 February 2015

Table 4.3 compares MCO levels during February 2015 against impact assessment criteria detailed in the project approval.

**Table 4.3: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – FEBRUARY 2015**

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	18/02/2015 11:30	43	2.8	-2.0	43	IA	Yes	Nil	NA	NA	NA	NA
NA6	17/02/2015 22:53	35	2.7	0.5	37	<30	Yes	Nil	45	33	Yes	Nil
NA8	17/02/2015 22:01	41	3.0	-1.0	37	IA	Yes	Nil	45	IA	Yes	Nil
NA9	17/02/2015 22:27	33	2.2	3.0	35	23	Yes	Nil	45	25	Yes	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.



Noise levels generated by activity at MCO are shown in Table 4.4. The  $L_{Aeq,15\text{minute}}$  for MCO is compared to the land acquisition criterion detailed in the project approval.

*Table 4.4:  $L_{Aeq,15\text{minute}}$  GENERATED BY MCO AGAINST PROJECT APPROVAL LAND ACQUISITION CRITERIA – FEBRUARY 2015*

Location	Start Date and Time	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Criterion dB	Criterion Applies? <sup>1</sup>	MCO $L_{Aeq,15\text{min}}$ dB <sup>2,3</sup>	Exceedance <sup>3</sup>
NA6	17/02/2015 22:53	2.7	0.5	35	Yes	<30	Nil
NA8	17/02/2015 22:01	3.0	-1.0	35	Yes	IA	Nil
NA9	17/02/2015 22:27	2.2	3.0	35	Yes	23	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured  $L_{Aeq,15\text{minute}}$  attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

### 4.3 March 2015

Table 4.5 compares MCO levels during March 2015 against impact assessment criteria detailed in the project approval.

*Table 4.5: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – MARCH 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	18/02/2015 11:30	43	2.8	-2.0	43	IA	Yes	Nil	NA	NA	NA	NA
NA6	17/02/2015 22:53	35	2.7	0.5	37	<30	Yes	Nil	45	33	Yes	Nil
NA8	17/02/2015 22:01	41	3.0	-1.0	37	IA	Yes	Nil	45	IA	Yes	Nil
NA9	17/02/2015 22:27	33	2.2	3.0	35	23	Yes	Nil	45	25	Yes	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.

Noise levels generated by activity at MCO are shown in Table 4.6. The  $L_{Aeq,15\text{minute}}$  for MCO is compared to the land acquisition criterion detailed in the project approval.

**Table 4.6:  $L_{Aeq,15\text{minute}}$  GENERATED BY MCO AGAINST PROJECT APPROVAL LAND ACQUISITION CRITERIA – MARCH 2015**

Location	Start Date and Time	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Criterion dB	Criterion Applies? <sup>1</sup>	MCO $L_{Aeq,15\text{min}}$ dB <sup>2,3</sup>	Exceedance <sup>3</sup>
NA6	24/03/2015 22:27	1.1	3.0	35	Yes	IA	Nil
NA8	24/03/2015 22:53	1.0	3.0	35	Yes	IA	Nil
NA9	24/03/2015 22:04	1.0	3.0	35	Yes	IA	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured  $L_{Aeq,15\text{minute}}$  attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.4 April 2015

Table 4.7 compares MCO levels during April 2015 against impact assessment criteria detailed in the project approval.

*Table 4.7: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – APRIL 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	15/04/2015 11:04	46	1.2	-2.0	43	IA	Yes	Nil	NA	NA	NA	NA
NA6	14/04/2015 23:34	29	0.8	3.0	37	23	Yes	Nil	45	23	Yes	Nil
NA8	14/04/2015 22:27	38	0.1	3.0	37	IA	Yes	Nil	45	IA	Yes	Nil
NA9	14/04/2015 22:58	28	0.8	3.0	35	24	Yes	Nil	45	24	Yes	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - During periods of rain or hail;
  - Average wind speeds at microphone height exceeds 5 m/s; or
  - Wind speeds greater than 3 m/s measured at 10 metres above ground level; or
  - Temperature inversion conditions greater than 3°C/100m;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.

Noise levels generated by activity at MCO are shown in Table 4.8. The  $L_{Aeq,15\text{minute}}$  for MCO is compared to the land acquisition criterion detailed in the project approval.

**Table 4.8:  $L_{Aeq,15\text{minute}}$  GENERATED BY MCO AGAINST PROJECT APPROVAL LAND ACQUISITION CRITERIA – APRIL 2015**

Location	Start Date and Time	Wind Speed m/s <sup>5</sup>	VTG °C/100m <sup>5</sup>	Criterion dB	Criterion Applies? <sup>1</sup>	MCO $L_{Aeq,15\text{min}}$ dB <sup>2,3</sup>	Exceedance <sup>3</sup>
NA6	14/04/2015 23:34	0.8	3.0	42	Yes	23	Nil
NA8	14/04/2015 22:27	0.1	3.0	40	Yes	IA	Nil
NA9	14/04/2015 22:58	0.8	3.0	40	Yes	24	Nil

Notes:

- In accordance with project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured  $L_{Aeq,15\text{minute}}$  attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.5 May 2015

Table 4.9 compares MCO levels during May 2015 against impact assessment criteria detailed in the project approval.

*Table 4.9: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – MAY 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	25/05/2015 11:18	43	1.3	A	43	<30	Yes	Nil	NA	NA	NA	NA
NA6	24/05/2015 23:43	38	1.0	F	37	25	Yes	Nil	45	25	Yes	Nil
NA8	24/05/2015 23:16	29	2.3	D	37	<20	Yes	Nil	45	<20	Yes	Nil
NA9	24/05/2015 22:14	29	1.3	F	35	26	Yes	Nil	45	26	Yes	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.

Table 4.10 compares MCO levels during May 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.10: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – MAY 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	24/05/2015 23:43	38	1.0	F	40	42	25	Yes	Nil	Nil
NA8	24/05/2015 23:16	29	2.3	D	37	40	<20	Yes	Nil	Nil
NA9	24/05/2015 22:14	29	1.3	F	37	40	26	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.6 June 2015

Table 4.11 compares MCO levels during June 2015 against impact assessment criteria detailed in the project approval.

*Table 4.11: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – JUNE 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	23/06/2015 10:01	43	0.9	A	43	IA	Yes	Nil	NA	NA	NA	NA
NA6	21/06/2015 22:01	43	0.9	D	37	34	Yes	Nil	45	40	Yes	Nil
NA8	21/06/2015 23:00	25	0.8	E	37	<20	Yes	Nil	45	<20	Yes	Nil
NA9	21/06/2015 22:30	38	1.0	E	35	21	Yes	Nil	45	24	Yes	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable.



Table 4.12 compares MCO levels during June 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.12: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – JUNE 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	21/06/2015 22:01	43	0.9	D	40	42	34	Yes	Nil	Nil
NA8	21/06/2015 23:00	25	0.8	E	37	40	<20	Yes	Nil	Nil
NA9	21/06/2015 22:30	38	1.0	E	37	40	21	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.7 July 2015

Table 4.13 compares MCO levels during July 2015 against impact assessment criteria detailed in the project approval.

*Table 4.13: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – JULY 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	24/07/2015 11:29	40	1.1	A	43 <sup>8</sup>	<25	Yes	Nil	NA	NA	NA	NA
NA6	23/07/2015 22:00	36	0.2	E	37	30	Yes	Nil	45	34	Yes	Nil
NA12	23/07/2015 23:00	42	0.1	F	35	<25	Yes	Nil	45	<25	Yes	Nil

*Notes:*

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:*
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or*
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or*
  - Stability class G temperature inversions;*
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;*
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;*
- Bolded results in red indicate exceedance of criteria;*
- Atmospheric data is sourced from the MCO meteorological station;*
- Criterion applies under all weather conditions at this location (when in use); and*
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable; and*
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.*

Table 4.14 compares MCO levels during July 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.14: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – JULY 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	23/07/2015 22:00	36	0.2	E	40	42	30	Yes	Nil	Nil
NA12	23/07/2015 23:00	42	0.1	F	37	40	<25	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.8 August 2015

Table 4.15 compares MCO levels during August 2015 against impact assessment criteria detailed in the project approval.

*Table 4.15: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – AUGUST 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	14/08/2015 09:30	47	2.8	A	43 <sup>8</sup>	<35	Yes	Nil	NA	NA	NA	NA
NA6	13/08/2015 22:00	34	2.7	E	37	IA	Yes	Nil	45	IA	Yes	Nil
NA12	13/08/2015 23:00	32	2.7	D	35	IA	Yes	Nil	45	IA	Yes	Nil

*Notes:*

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:*
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or*
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or*
  - Stability class G temperature inversions;*
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;*
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;*
- Bolded results in red indicate exceedance of criteria;*
- Atmospheric data is sourced from the MCO meteorological station;*
- Criterion applies under all weather conditions at this location (when in use); and*
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable; and*
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.*

Table 4.16 compares MCO levels during August 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.16: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – AUGUST 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	13/08/2015 22:00	34	2.7	E	40	42	IA	Yes	Nil	Nil
NA12	13/08/2015 23:00	32	2.7	D	37	40	IA	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.9 September/Quarter 3 2015

Table 4.17 compares MCO levels during September 2015 against impact assessment criteria detailed in the project approval. In accordance with the NMP (approved July 2015) additional sites are required to be monitored on a quarterly basis and include GRNP and MGNP.

**Table 4.17: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – SEPTEMBER 2015**

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	18/09/2015 12:26	46	3.1	A	43 <sup>8</sup>	<30	Yes	Nil	NA	NA	NA	NA
NA6	18/09/2015 00:35	27	0.7	D	37	<25	Yes	Nil	45	29	Yes	Nil
NA12	17/09/2015 23:45	45	1.3	D	35	26	Yes	Nil	45	30	Yes	Nil
GRNP <sup>7</sup>	17/09/2015 22:00	34	0.5	E	50	IA	Yes	Nil	NA	NA	NA	NA
MGNR <sup>7</sup>	18/09/2015 01:38	27	1.4	D	50	IA	Yes	Nil	NA	NA	NA	NA

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use);
- Night measurements not undertaken at NA1, GRNP and MGNR as outside hours of use and criterion not applicable; and
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.

Table 4.18 compares MCO levels during September 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.18: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – SEPTEMBER 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	18/09/2015 00:35	27	0.7	D	40	42	<25	Yes	Nil	Nil
NA12	17/09/2015 23:45	45	1.3	D	37	40	26	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.10 October 2015

Table 4.19 compares MCO levels during October 2015 against impact assessment criteria detailed in the project approval.

*Table 4.19: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – OCTOBER 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	26/10/2015 09:45	46	2.7	A	43 <sup>8</sup>	IA	Yes	Nil	NA	NA	NA	NA
NA6	25/10/2015 22:00	39	1.3	D	37	28	Yes	Nil	45	34	Yes	Nil
NA12	25/10/2015 22:30	37	1.3	D	35	<25	Yes	Nil	45	<25	Yes	Nil

*Notes:*

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:*
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or*
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or*
  - Stability class G temperature inversions;*
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;*
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;*
- Bolded results in red indicate exceedance of criteria;*
- Atmospheric data is sourced from the MCO meteorological station;*
- Criterion applies under all weather conditions at this location (when in use); and*
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable; and*
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.*



Table 4.20 compares MCO levels during October 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.20: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – OCTOBER 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	25/10/2015 22:00	39	1.3	D	40	42	28	Yes	Nil	Nil
NA12	25/10/2015 22:30	37	1.3	D	37	40	<25	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.11 November/Quarter 4 2015

Table 4.21 compares MCO levels during November 2015 against impact assessment criteria detailed in the project approval. In accordance with the NMP (approved July 2015) additional sites are required to be monitored on a quarterly basis and include GRNP and MGNP.

**Table 4.21: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – NOVEMBER 2015**

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	20/11/2015 12:02	50	3.7	A	43 <sup>8</sup>	IA	Yes	Nil	NA	NA	NA	NA
NA6	19/11/2015 22:00	37	1.2	D	37	<20	Yes	Nil	45	<20	Yes	Nil
NA12	19/11/2015 22:30	36	1.3	E	35	IA	Yes	Nil	45	IA	Yes	Nil
GRNP <sup>7</sup>	20/11/2015 00:31	35	0.5	E	50	<25	Yes	Nil	NA	NA	Yes	Nil
MGNR <sup>7</sup>	20/11/2015 01:45	33	0.5	E	50	IA	Yes	Nil	NA	NA	NA	NA

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use);
- Night measurements not undertaken at NA1, GRNP and MGNR as outside hours of use and criterion not applicable; and
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.

Table 4.22 compares MCO levels during November 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.22: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – NOVEMBER 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	19/11/2015 22:00	37	0.7	D	40	42	<20	Yes	Nil	Nil
NA12	19/11/2015 22:30	36	1.3	D	37	40	IA	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.12 December 2015

Table 4.23 compares MCO levels during December 2015 against impact assessment criteria detailed in the project approval.

**Table 4.23: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL IMPACT ASSESSMENT CRITERIA – DECEMBER 2015**

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Impact Assess. LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LAeq Criterion <sup>3</sup>	LA1,1min Criterion dB	MCO LA1,1min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of LA1,1min Criterion <sup>3</sup>
NA1 <sup>6,7</sup>	18/12/2015 11:04	54	1.5	A	43 <sup>8</sup>	IA	Yes	Nil	NA	NA	NA	NA
NA6	17/12/2015 22:03	44	2.4	D	37	<25	Yes	Nil	45	<25	Yes	Nil
NA12	17/12/2015 22:30	37	1.7	F	35	<20	Yes	Nil	45	<20	Yes	Nil

**Notes:**

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute or LA1,1minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station;
- Criterion applies under all weather conditions at this location (when in use); and
- Night measurements not undertaken at NA1 as outside hours of use and criterion not applicable; and
- External criterion. A difference of 8 dB between internal and external criteria has been adopted at NA1 for consistency with previous versions of the NMP.

Table 4.24 compares MCO levels during December 2015 against land acquisition and mitigation criteria detailed in the project approval.

*Table 4.24: NOISE LEVELS GENERATED BY MCO AGAINST PROJECT APPROVAL MITIGATION AND LAND ACQUISITION CRITERIA – DECEMBER 2015*

Location	Start Date and Time	Total LAeq dB	Wind Speed m/s <sup>5</sup>	SC <sup>5</sup>	Mitigation LAeq Criterion dB	Land Acquisition LAeq Criterion dB	MCO LAeq,15min dB <sup>2,4</sup>	Criterion Applies? <sup>1</sup>	Exceedance of Mitigation Criterion <sup>3</sup>	Exceedance of Land Acquisition Criterion <sup>3</sup>
NA6	17/12/2015 22:03	44	2.4	D	40	42	<25	Yes	Nil	Nil
NA12	17/12/2015 22:30	37	1.7	F	37	40	<20	Yes	Nil	Nil

Notes:

- In accordance with the project approval, the noise criteria are to apply under all meteorological conditions except the following:
  - Wind speeds greater than 3 m/s at 10 metres above ground level; or
  - Stability class F temperature inversion conditions, and wind speeds greater than 2 m/s at 10 metres above ground level; or
  - Stability class G temperature inversions;
- Estimated or measured LAeq,15minute attributed to MCO;
- NA in exceedance column means atmospheric conditions outside conditions specified in approval and so criterion is not applicable;
- Bolded results in red indicate exceedance of criteria;
- Atmospheric data is sourced from the MCO meteorological station; and
- Land acquisition and mitigation criteria only applicable at privately owned residences. NA1 has not been assessed.

## 4.13 Summary of Operational Results

### 4.13.1 Day

A summary of MCO daytime operational  $L_{Aeq,15\text{minute}}$  results from 2015 is presented in Table 4.25.

Table 4.25: 2015 MCO OPERATIONAL  $L_{Aeq,15\text{minute}}$  SUMMARY - DAY

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA1 Ulan School	<35	IA	<35	IA	<30	IA	<25	<35	<30	IA	IA	IA

### 4.13.2 Night

A summary of MCO night operational  $L_{Aeq,15\text{minute}}$  results from 2015 is presented in Table 4.26.

Table 4.26: 2015 MCO OPERATIONAL  $L_{Aeq,15\text{minute}}$  SUMMARY – NIGHT

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15 <sup>1</sup>	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA6 Lower Ridge Road	24	<30	IA	23	25	34	30	IA	<25	28	<20	<25
NA8 Southern Ridge Road	<20	IA	IA	IA	<20	<20	-	-	-	-	-	-
NA9 Winchester Crescent	<20	23	IA	24	26	21	-	-	-	-	-	-
NA12 Winchester Crescent	-	-	-	-	-	-	<25	IA	26	<25	IA	<20
GRNP	-	-	-	-	-	-	-	-	IA	-	<25	-
MGNR	-	-	-	-	-	-	-	-	IA	-	IA	-

Notes:

1. New NMP resulted in change to monitoring locations.

A summary of MCO night operational  $L_{A1,1\text{minute}}$  results from 2015 is presented in Table 4.27.

*Table 4.27: 2015 MCO OPERATIONAL  $L_{A1,1\text{minute}}$  SUMMARY – NIGHT*

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15 <sup>1</sup>	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA6 Lower Ridge Road	31	33	IA	24	31	40	34	IA	29	34	<20	<25
NA8 Southern Ridge Road	23	IA	IA	IA	24	<20	-	-	-	-	-	-
NA9 Winchester Crescent	26	25	IA	38	32	24	-	-	-	-	-	-
NA12 Winchester Crescent	-	-	-	-	-	-	<25	IA	30	<25	IA	<20

Notes:

1. New NMP resulted in change to monitoring locations.

#### 4.14 Comparison with Environmental Assessment Predictions

Predicted Year 2016 and 2018 operational noise levels are provided in OC4 South-West Modification Noise Assessment by SLR (April 2015). The noise assessment was prepared for Stage 1 Modification 11/Stage 2 Modification 1.

Table 9 of the South-West Modification report details different modelling parameters for different periods. Of particular relevance in this comparison exercise is the meteorological parameters (wind speed and direction and temperature gradient) for day (NA1 only) and night. Table 9 has been reproduced below. Monitoring was not undertaken during the evening period during 2015 and therefore no comparison has been made with these predictions.

**Table 9 Calm (Neutral) and Noise Enhancing Meteorological Modelling Parameters**

Period	Meteorological Parameter	Air Temperature	Relative Humidity	Wind Velocity	Temperature Gradient
Daytime	Calm	18°C	55%	0 m/s	0°C/100 m
	Wind only	19°C	55%	WSW and W 3 m/s	0°C/100 m
Evening	Calm	16°C	66%	0 m/s	0°C/100 m
	Wind only	16°C	65%	ENE, SSW, SW, WSW and W 3 m/s	0°C/100 m
Night-time	Calm	12°C	75%	0 m/s	0°C/100 m
	Wind only	12°C	75%	ENE, E, SSW, SW and WSW 3 m/s	0°C/100 m
	Strong Inversion	6°C	70%	0 m/s	5.2°C/100 m
	Strong Inversion plus Drainage	6°C	70%	ENE 1.0 m/s	5.2°C/100 m



Predicted Year 2016 operational noise levels from Table 22 of the modification report are summarised in Table 4.28 for comparison with attended monitoring results, with the exception of NA1 as predicted  $L_{Aeq,15\text{minute}}$  levels were not provided. However, Table 23 of the modification report details  $L_{Aeq,period}$  amenity levels for NA1 (Ulan School). While it's not strictly correct to compare  $L_{Aeq,15\text{minute}}$  with  $L_{Aeq,period}$ , results for these parameters (when predicted) are usually similar (within 2 to 3 dB), and, in the case of NA1, the predicted  $L_{Aeq,period}$  is very low. Notwithstanding that it is also not possible to directly compare atmospheric condition results for NA1, it is assumed that if measured  $L_{Aeq,15\text{minute}}$  values are less than 30 dB then this approximately correlates with the predicted  $L_{Aeq,period}$ .

Table 4.28: MCO OPERATIONAL PREDICTIONS, YEAR 2016 - dB

Location	$L_{Aeq,period}$	$L_{Aeq,15\text{minute}}$ Calm	$L_{Aeq,15\text{minute}}$ Wind or Inversion
NA1 Ulan School <sup>1,2</sup>	27	NA	NA
NA6 Lower Ridge Road <sup>3</sup>	NA	21	37
NA8 South Ridge Road <sup>4</sup>	NA	13	21
NA9 Winchester Cres <sup>5</sup>	NA	16	32
NA12 Winchester Cres <sup>6</sup>	NA	17	34

Source: MCO OC4 South-West Modification Noise Assessment (SLR, April 2015).

Notes:

1.  $L_{Aeq,period}$  result for worst case atmospheric condition;
2. Day result only for this location corresponding to period of use;
3. Predicted levels for 70 – DJ & A Coventry;
4. Predicted levels for 171 – AD & SA McGregor;
5. Predicted levels for 83 – CF & CR Wall; and
6. Predicted levels for 292 – B Powell; and
7. NA is not applicable at this location.

#### 4.14.1 2016 Comparison

Table 4.29 to Table 4.31 in this report compared the measured operational levels to the predicted levels for Year 2016 in the modification report for the relevant meteorological conditions. The differences against predicted levels for all relevant meteorological parameters as detailed in Table 9 of the modification report (shown above).

In the tables below, a positive difference is where the measured level is greater than the predicted level and a negative difference is where the measured levels are less than the predicted level. Notation used in the tables to denote differences is irrespective of the integer value sign. For example, the notation >-17 means the values are more than 17 dB less than the predicted level.

Where the meteorological conditions (primarily wind direction and temperature gradient) during the attended monitoring do not correspond with those that are modelled, no further analysis is undertaken.

#### 4.14.2 Day Comparison

Detailed analysis of meteorological conditions which were present during 2015 attended day monitoring show that the following conditions did not occur:

- Calm.

Table 4.29 provides the difference between measured and predicted levels during the day period.

Table 4.29: 2015 MCO OPERATIONAL  $L_{Aeq,period}$  dB DIFFERENCE AGAINST PREDICTED LEVELS - DAY, YEAR 2016<sup>1,2,3</sup>

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA1 Ulan School	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	IA

Notes:

1. NR denotes met conditions not relevant, IA denotes conditions relevant but MCO inaudible during monitoring;
2. Wind conditions assumes winds at speeds between 0.1 and 3 m/s during monitoring; and
3. Assumes the following possible predicted wind directions: WSW from 236.25 to 258.75 degrees; W from 258.75 to 281.25 degrees.

### 4.14.3 Night Comparison

Detailed analysis of meteorological conditions which were present during 2015 attended night monitoring show that the following conditions did not occur:

- Calm;
- strong inversion; and
- strong inversion plus ENE drainage.

Table 4.30 provides the difference between measured and predicted levels for ENE, E, SSW, SW or WSW winds during the night for  $L_{Aeq,15\text{minute}}$  levels. As the reported model results are the highest predicted noise level (without specifying the actual meteorological condition responsible) it is not possible to determine which conditions match specifically.

Table 4.30: 2015 MCO OPERATIONAL  $L_{Aeq,15\text{minute}}$  dB DIFFERENCE AGAINST PREDICTED WIND CONDITIONS - NIGHT, YEAR 2016<sup>2,4</sup>

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA6 Lower Ridge Road	-13	>-7	IA <sup>4</sup>	NR	NR	-3	-7	IA	>-12	-9	>-17	>-12
NA8 South Ridge Road	>-1	IA	IA <sup>4</sup>	IA <sup>4</sup>	NR	>-1	NA	NA	NA	NA	NA	NA
NA9 Winchester Cres	>-12 <sup>4</sup>	-9 <sup>4</sup>	IA <sup>4</sup>	NR	NR	-11	NA	NA	NA	NA	NA	NA
NA12 Winchester Cres	NA	NA	NA	NA	NA	NA	NR	NR	-8	>-9	IA	NR

Notes:

1. NR denotes met conditions not relevant, NA denotes not applicable, IA denotes conditions relevant but MCO inaudible during monitoring, NM denotes conditions relevant but MCO not measurable during monitoring;
2. Wind conditions assumes winds at speeds between 0.1 and 3 m/s during monitoring;
3. Assumes the following possible predicted wind directions: ENE from 56.25 to 78.75 degrees, E from 78.75 to 101.25 degrees, SSW from 191.25 to 213.75 degrees, SW from 213.75 to 236.25 degrees and WSW from 236.25 to 258.75 degrees; and
4. Conditions relevant, however, temperature gradient greater than 0 degrees C per 100 metres during monitoring.

Table 4.31 provides the difference between measured and predicted levels for ENE, E, SSW, SW or WSW winds during the night for  $L_{A1,1\text{minute}}$  levels.

Table 4.31: 2015 MCO OPERATIONAL  $L_{A1,1\text{minute}}$  dB DIFFERENCE AGAINST PREDICTED WIND CONDITIONS - NIGHT, YEAR 2016<sup>2</sup>

Location	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15	Oct 15	Nov 15	Dec 15
NA6 Lower Ridge Road	-9	-7	IA <sup>4</sup>	NR	NR	0	-6	IA	-11	-6	>-20	>-15
NA8 South Ridge Road	-1	IA	IA <sup>4</sup>	IA <sup>4</sup>	NR	>-4	NA	NA	NA	NA	NA	NA
NA9 Winchester Cres	-9 <sup>4</sup>	-10 <sup>4</sup>	IA <sup>4</sup>	NR	NR	-11	NA	NA	NA	NA	NA	NA
NA12 Winchester Cres	NA	NA	NA	NA	NA	NA	NR	NR	-7	>-12	IA	NR

Notes:

1. NR denotes met conditions not relevant, NA denotes not applicable, IA denotes conditions relevant but MCO inaudible during monitoring, NM denotes conditions relevant but MCO not measurable during monitoring;
2. Wind conditions assumes winds at speeds between 0.1 and 3 m/s during monitoring;
3. Assumes the following wind directions: ENE from 56.25 to 78.75 degrees, E from 78.75 to 101.25 degrees, SSW from 191.25 to 213.75 degrees, SW from 213.75 to 236.25 degrees and WSW from 236.25 to 258.75 degrees; and
4. Conditions relevant, however, temperature gradient greater than 0 degrees C per 100 metres during monitoring.

As shown above, a comparison of predicted and measured levels from MCO Year 2016 OC4 South-West operation varies greatly. This comparison does not take into account operational activities at the time of monitoring compared to predicted scenarios.

## 5 SUMMARY OF COMPLIANCE

Global Acoustics was engaged by Moolarben Coal Operations Pty Ltd (MCO) to provide a summary of operational environmental noise surveys conducted around Moolarben Coal Complex (MCC) during the period 1 January to 31 December 2015.

During the 2015 reporting period, attended environmental noise monitoring described in this report was conducted monthly. The noise management plan (NMP) was most recently revised and approved in July 2015 to address the operation of the MCC. While continuing to undertake monthly attended noise monitoring, additional locations were included in the program requiring quarterly monitoring. More detail regarding monitoring locations and timing of monitoring during 2015 is provided in Section 1.2 of this report.

The purpose of the attended noise monitoring is to quantify and describe the existing acoustic environment around the site and compare results with relevant approvals.

### 5.1 January to December 2015 Compliance

MCO complied with the project specific criteria at all monitoring sites during attended noise monitoring undertaken between January and December 2015.

### 5.2 EIS Comparison

Predicted noise levels from Year 2016 of the South West Haul Road Modification (Stage 1 MOD 11 and Stage 2 Modification 1) were compared against actual noise levels during 2015. Results indicated that MCO was generally well under the predicted levels where meteorological conditions were relevant.

**Global Acoustics Pty Ltd**

**APPENDIX 3C. BLAST MONITORING DATA**

Date	Time	BM1 Ulan School		BM5 Ridge Road	
		Ground Vibration (mm/s)	Blast Overpressure (dBL)	Ground Vibration (mm/s)	Blast Overpressure (dBL)
07/01/15	12:37	0.15	100.0	0.1	91.5
09/01/15	12:01	0.17	91.5	0.11	88
14/01/15	12:04	0.23	88.0	0.24	106
16/01/15	15:00	0.41	88.0	0.39	98.8
22/01/15	14:30	0.48	100.0	0.1	95.9
30/01/15	15:40	0.45	98.8	0.15	98.8
06/02/15	12:03	0.27	94.0	0.08	100
06/02/13	12:07	0.36	95.9	0.35	101
13/02/15	11:38	0.55	101.9	0.26	94
18/02/15	12:01	0.63	102.8	0.21	98.8
20/02/15	11:56	0.49	102.8	0.19	95.9
25/02/15	13:06	0.41	94.0	0.14	95.9
27/02/15	11:58	0.43	103.5	0.26	95.9
04/03/15	12:04	0.52	95.9	0.3	95.5
06/03/15	12:08	0.32	91.5	0.23	91.5
09/03/15	15:09	0.34	95.9	0.26	102.8
11/03/15	13:01	0.32	94.0	0.26	98.8
14/03/15	11:03	0.81	106.5	0.27	100
20/03/15	12:08	0.42	91.5	0.31	91.5
27/03/15	12:33	0.40	94.0	0.39	100
27/03/15	12:35	0.21	97.5	0.14	101
02/04/15	12:09	0.87	111.8	0.51	103.5
10/04/15	16:05	0.45	108.4	0.45	106.5
10/04/15	16:06	0.14	108.4	0.08	101
15/04/15	13:08	0.17	94.0	0.03	88
17/04/15	13:58	1.10	106.0	0.57	94
24/04/15	13:58	1.01	102.8	0.46	100
29/04/15	11:04	0.38	108.8	0.08	104.9
30/04/15	12:04	0.93	115.9	0.41	101.9
08/05/15	12:04	0.86	101.0	0.66	100
12/05/15	12:06	0.65	98.8	0.33	110.9
15/05/15	14:00	0.69	109.2	0.18	98.8
18/05/15	12:55	0.36	105.5	0.24	100
22/05/15	12:11	1.31	111.5	0.73	98.8
26/05/15	12:01	3.20	104.9	0.86	100
28/05/15	12:09	0.36	97.5	0.18	101
01/06/15	12:08	0.35	98.8	0.43	114.6
04/06/15	11:57	0.36	101.0	0.23	97.5
15/06/15	11:57	1.08	102.8	0.48	102.8
17/06/15	12:03	1.92	94.0	1.28	101
17/06/15	12:06	0.18	91.5	0.21	98.8
22/06/15	12:00	3.06	100.0	0.71	97.5
26/06/15	12:04	1.53	101.0	1.32	103.5

Date	Time	BM1 Ulan School		BM5 Ridge Road	
		Ground Vibration (mm/s)	Blast Overpressure (dBL)	Ground Vibration (mm/s)	Blast Overpressure (dBL)
26/06/15	12:07	0.17	98.8	0.27	106.5
29/06/15	12:04	0.38	100.0	0.52	112
03/07/15	12:13	0.50	104.2	0.34	101
03/07/15	12:16	0.21	94.0	0.35	100
07/07/15	12:04	Power Failure	Power Failure	0.5	107
09/07/15	12:04	0.10	97.5	0.04	97.5
17/07/15	14:51	0.34	94.0	0.27	111.5
22/07/15	11:56	0.09	91.5	0.04	81.9
27/07/15	12:01	1.80	108.8	0.47	107.5
28/07/15	14:46	0.23	88.0	0.14	94
31/07/15	12:09	0.61	104.9	0.28	97.5
31/07/15	14:14	0.27	98.8	0.3	102.8
03/08/15	12:04	0.15	95.9	0.18	104.2
07/08/15	12:17	0.31	91.5	0.32	97.5
10/08/15	12:09	0.08	88.0	0.01	94
12/08/15	12:04	0.11	95.9	0.04	107
17/08/15	12:14	1.14	98.8	0.41	107.5
21/08/15	12:05	0.31	88.0	0.64	97.5
24/08/15	12:28	0.17	95.9	0.22	106
25/08/15	12:14	0.51	97.5	0.16	97.5
03/09/15	16:24	0.14	91.5	0.19	97.5
03/09/15	16:25	0.80	95.9	0.68	108.4
10/09/15	12:00	0.35	102.8	0.14	95.9
10/09/15	12:10	1.02	97.5	0.43	94
14/09/15	12:07	0.48	105.5	0.15	101.9
14/09/15	12:11	0.43	88.0	0.1	98.8
22/09/15	12:02	0.27	100.0	0.56	115.4*
29/09/15	12:02	0.44	91.5	0.38	97.5
02/10/15	12:05	1.20	100.0	0.78	101
07/10/15	13:14	2.22	106.0	0.91	107.5
09/10/15	12:01	2.22	95.9	1.03	98.8
13/10/15	12:01	0.16	100.0	0.17	95.9
16/10/15	12:00	0.15	91.5	0.29	100
20/10/15	12:00	3.11	95.9	1.12	97.5
22/10/15	12:03	2.00	95.9	1.76	100.0
26/10/15	12:07	0.24	102.8	0.23	103.5
28/10/15	12:06	0.16	97.5	0.25	106.5
30/10/15	11:59	0.62	94.0	0.17	94.0
02/11/15	12:08	0.83	88.0	0.26	104.2
11/11/15	12:10	0.14	98.8	0.09	104.2
12/11/15	16:06	0.35	103.5	0.73	97.5
16/11/15	12:09	0.26	98.8	0.41	106
16/11/15	12:11	0.55	105.5	0.22	109.5
20/11/15	12:00	0.27	91.5	0.47	100
23/11/15	12:01	0.09	91.5	0.29	101.0

Date	Time	BM1 Ulan School		BM5 Ridge Road	
		Ground Vibration (mm/s)	Blast Overpressure (dBL)	Ground Vibration (mm/s)	Blast Overpressure (dBL)
27/11/15	12:01	0.26	97.5	0.29	102.8
03/12/15	12:06	3.19	114.6	0.8	Mic. Fault
04/12/15	12:11	0.18	94.0	0.14	Mic. Fault
04/12/15	12:12	0.19	100.0	0.12	Mic. Fault
09/12/15	12:06	0.42	108.0	0.42	108.0
11/12/15	12:10	1.36	108.4	0.07	115.0*
14/12/15	16:05	0.24	101.0	0.02	102.8
18/12/15	12:23	0.15	109.5	0.01	94.0
18/12/15	12:30	0.27	94.0	0.02	91.5
23/12/15	12:04	0.18	115.4*	0.02	110.6
31/12/15	12:04	0.36	103.5	0.03	94.0
Min		<b>0.08</b>	<b>88.00</b>	<b>0.01</b>	<b>81.90</b>
Max		<b>3.20</b>	<b>115.90</b>	<b>1.76</b>	<b>115.40</b>

\* Environmental influenced



### APPENDIX 3D. AIR QUALITY DATA

Table A : Summary of the MCO Air Quality-Monitoring Program

Monitoring Parameter	Monitoring Location	Frequency	Justification
Dust Deposition	DG01 – Bobadeen	Every 30 days ± 2 days	Background monitoring north of the Moolarben Coal Complex.
	DG04 – Ulan Village	Every 30 days ± 2 days	Representative of nearest non-mine owned residences to the north-west of the Moolarben Coal Complex.
	DG05 – Glenmoor	Every 30 days ± 2 days	Representative of nearest non-mine owned residences to the south-west and west of the Moolarben Coal Complex.
	DG06 – Barcoo	Every 30 days ± 2 days	Representative of non-mine owned residences to the south, south-west and west of the Moolarben Coal Complex.
	DG07 – Hillside	Every 30 days ± 2 days	Representative of non-mine owned residences to the south of the Moolarben Coal Complex. Due to its close proximity to OC3, DG07 will be discontinued prior to mining OC3 and an alternative location will be investigated.
	DG08 – Croydon	Every 30 days ± 2 days	Representative of non-mine owned residences to the south of the Moolarben Coal Complex. Due to its close proximity to OC3, DG08 will be discontinued prior to mining OC3 and an alternative location will be investigated.
	DG09 – Wilga	Every 30 days ± 2 days	Representative of non-mine owned residences to the south-west and west of the Moolarben Coal Complex.
	DG11 – Ridge Road	Every 30 days ± 2 days	Representative of non-mine owned residences to the south-west and west of the Moolarben Coal Complex.
	DG12 – Ulan-Wollar Rd	Every 30 days ± 2 days	Representative of mine owned land east of the Moolarben Coal Complex.
	DG 13 – Winchester Cres	Every 30 days ± 2 days	Representative of mine owned land south of the southwest and south of the Moolarben Coal Complex
HVAS – PM10	PM01 (Ulan Village)	Every 6 days	Indicative of potential impacts to nearest non-mine owned residences to the north-west of the Moolarben Coal Complex.
	PM02 (Ridge Road)	Every 6 days	Background monitoring south-west west of the Moolarben Coal Complex.
Real Time PM <sub>10</sub>	TEOM 01 (Ulan School)	Real Time PM <sub>10</sub>	Real time monitoring at Ulan Public School.
	TEOM 04 (Mobile)	Real Time PM <sub>10</sub>	Real-time monitoring representative of nearest non-mine owned residences to the south-west and west the Moolarben Coal Complex. Unit available for additional PM10 monitoring and complaint investigation as required
	TEOM 05 (Southern Ridge Road)	Real Time PM <sub>10</sub>	Real time monitoring representative of non-mine owned residences to the south-west of and west of the Moolarben Coal Complex. Alternative locations will be investigated for future relocation.
	TEOM06 (Ulan-Wollar Rd)	Real Time PM <sub>10</sub>	Real time monitoring representative of mine owned land to the east of Moolarben Coal Complex and indicator of background air quality. (Note there are no residences on private or mine owned land in the vicinity of the monitor).

**Table B : Summary of the MCO Air Quality-Monitoring Program – Dust Deposition**

Dust Gauge	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
DG1	0.4	0.4	0.8	0.4	0.2	0.4	0.4	0.2	0.3	0.5	2.5	0.9
DG2	C	2.8	C	1.5	2.0	0.9	0.7	0.9	R			
DG3	C	2.4	1.7	C	1.0	0.4	0.5	A	R			
DG4	1.2	1.3	0.8	0.5	0.8	1.2	0.7	1.2	0.7	1.1	1.4	1.0
DG5	1.3	1.0	1.1	0.7	0.5	0.6	0.8	0.8	0.4	0.9	1.0	1.0
DG6	0.9	0.8	0.8	0.6	0.4	0.3	0.2	0.5	0.4	1.8	0.7	1.1
DG7	2.7	0.7	0.9	0.7	0.3	0.2	0.2	0.4	0.3	1.4	1.3	2.1
DG8	0.8	C	0.7	0.7	0.3	0.2	0.3	0.5	0.3	0.5	0.7	1.5
DG9	1.0	0.7	0.7	0.7	0.5	0.3	0.2	0.5	0.5	0.7	0.5	0.7
DG11	0.8	0.8	0.5	0.3	0.4	0.3	0.3	0.4	1.1	0.9	0.8	1.1
DG12	NI	NI	NI	NI	NI	NI	NI	NI	NI	2.4	0.8	1.4
DG13	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.9	0.5	0.8
DG14	NI	NI	NI	NI	NI	NI	NI	NI	NI	1.6	1.2	0.6

\*C – Dust gauge deemed contaminated after analysis of influencing factors. These factors include an ash residue result of <50%, the presence of bird droppings or other contaminants such as insects in the dust gauge and analysis of historical results from the dust gauge.

NI - Not installed

A - No Access

R - Gauge removed

**Table 3: TEOM Monitoring Data**

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
1/01/15	15.7	15.4	16.1	-	17.0	
2/01/15	7.7	12.7	10.0	-	8.6	
3/01/15	14.1	14.8	17.4	-	9.9	
4/01/15	11.7	11.2	14.2	-	9.3	
5/01/15	6.2	6.2	7.9	-	5.9	
6/01/15	9.0	3.2	10.6	-	9.3	
7/01/15	7.2	6.2	12.8	-	7.5	
8/01/15	9.6	9.8	13.8	-	10.5	
9/01/15	8.6	10.9	11.5	-	8.7	
10/01/15	18.7	12.1	15.5	-	9.6	
11/01/15	5.0	4.5	5.9	-	4.2	
12/01/15	7.8	1.0	3.5	-	0.9	
13/01/15	14.4	5.8	9.9	-	5.0	
14/01/15	4.6	8.8	6.2	-	4.1	
15/01/15	3.8	5.0	4.3	-	3.2	
16/01/15	6.5	10.6	7.5	-	6.1	
17/01/15	6.8	13.2	8.7	-	7.4	
18/01/15	8.6	Power Failure	7.4	-	7.7	
19/01/15	14.0	0.7	16.4	-	12.9	
20/01/15	4.4	3.0	7.3	-	4.8	
21/01/15	8.1	0.9	10.7	-	7.0	
22/01/15	11.6	8.6	14.9	-	9.1	

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
23/01/15	8.2	2.4	0.8	-	8.6	
24/01/15	10.1	17.4	9.0	-	10.2	
25/01/15	5.0	6.5	5.6	-	4.4	
26/01/15	9.5	8.9	9.8	-	6.5	
27/01/15	6.3	4.2	6.7	-	3.4	
28/01/15	1.4	3.8	5.0	-	1.3	
29/01/15	4.3	5.5	7.4	-	2.6	
30/01/15	7.2	10.4	10.1	-	7.2	
31/01/15	8.4	14.7	12.1	-	14.0	
1/02/15	13.6	13.2	14.2	-	15.6	
2/02/15	8.1	8.0	12.5	-	7.4	
3/02/15	9.8	10.2	14.8	-	9.3	
4/02/15	12.5	10.7	19.1	-	12.7	
5/02/15	9.0	8.6	12.2	-	7.4	
6/02/15	11.5	10.4	15.7	-	9.7	
7/02/15	8.2	8.8	18.8	-	8.7	
8/02/15	14.5	15.3	20.0	-	13.1	
9/02/15	21.5	20.8	34.1	-	21.7	
10/02/15	14.6	13.6	18.4	-	14.3	
11/02/15	8.5	7.0	11.0	-	7.5	
12/02/15	11.1	9.7	15.7	-	10.0	
13/02/15	10.4	9.3	13.8	-	8.4	
14/02/15	7.9	6.8	12.2	-	7.1	
15/02/15	6.9	9.4	10.3	-	7.5	
16/02/15	10.3	10.6	13.4	-	9.3	
17/02/15	11.4	9.5	15.4	-	12.1	
18/02/15	11.2	8.6	17.1	-	9.3	
19/02/15	10.8	9.2	17.5	-	9.3	
20/02/15	9.7	8.6	15.4	-	0.7	
21/02/15	0.9	3.5	6.9	-	2.6	
22/02/15	2.8	1.4	4.4	-	2.4	
23/02/15	4.9	3.6	8.8	-	4.7	
24/02/15	7.7	6.3	13.4	-	6.2	
25/02/15	6.0	0.9	10.6	-	3.7	
26/02/15	7.8	7.4	9.1	-	8.3	
27/02/15	8.4	7.8	11.8	-	8.2	
28/02/15	15.2	9.6	14.9	-	8.6	
1/03/15	11.4	12.3	1.5	-	10.5	
2/03/15	13.7	13.9	14.1	-	10.9	
3/03/15	14.7	14.5	16.5	-	15.4	
4/03/15	14.7	24.1	16.1	-	23.5	
5/03/15	23.3	62.3	26.6	-	30.6	
6/03/15	17.6	28.8	19.3	-	24.1	
7/03/15	20.6	22.6	21.9	-	24.8	
8/03/15	17.7	21.3	18.9	-	30.5	
9/03/15	20.9	33.1	19.0	-	27.9	
10/03/15	27.0	41.5	27.0	-	31.0	
11/03/15	19.4	24.6	21.7	-	22.4	
12/03/15	14.5	33.4	16.6	-	14.5	
13/03/15	9.8	23.7	10.7	-	8.0	

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )						
14/03/15	14.9	9.2	10.6	-	10.2	
15/03/15	15.1	19.6	20.2	-	28.3	
16/03/15	22.0	29.8	16.2	-	14.9	
17/03/15	19.2	17.0	20.1	-	17.5	
18/03/15	22.9	31.4	19.2	-	24.8	
19/03/15	18.2	31.9	16.4	-	16.3	
20/03/15	20.1	39.7	25.5	-	30.0	
21/03/15	8.9	8.5	9.3	-	8.8	
22/03/15	9.9	8.7	10.3	-	9.1	
23/03/15	18.8	16.4	11.1	-	11.2	
24/03/15	11.1	15.1	16.7	-	9.9	
25/03/15	21.0	15.8	12.3	-	12.8	
26/03/15	46.0	36.8	21.4	-	22.0	
27/03/15	15.5	36.9	20.9	-	16.6	
28/03/15	4.6	13.7	13.0	-	13.7	
29/03/15	8.0	10.8	12.9	-	9.4	
30/03/15	10.7	73.0	23.5	-	14.9	Road Works
31/03/15	6.4	12.9	8.9	-	4.3	
1/04/15	8.5	12.6	9.6	-	7.3	
2/04/15	18.6	28.4	19.5	-	13.6	
3/04/15	6.9	7.9	10.3	-	5.6	
4/04/15	0.4	1.6	5.1	-	NA*	
5/04/15	7.9	2.8	4.7	-	4.9	
6/04/15	2.7	4.5	3.8	-	1.3	
7/04/15	0.1	0.3	0.2	-	1.5	
8/04/15	3.1	6.0	3.6	-	1.8	
9/04/15	4.2	14.3	6.8	-	4.5	
10/04/15	6.2	17.4	11.1	-	4.7	
11/04/15	11.8	9.5	11.7	-	5.0	
12/04/15	7.8	9.2	10.0	-	7.1	
13/04/15	11.5	13.9	16.9	-	10.9	
14/04/15	19.6	21.2	17.0	-	14.3	
15/04/15	23.0	30.2	21.8	-	16.8	
16/04/15	16.3	46.8	13.9	-	13.4	
17/04/15	18.2	33.9	21.0	-	18.2	
18/04/15	9.5	10.5	10.1	-	10.2	
19/04/15	1.9	3.4	2.0	-	1.6	
20/04/15	0.0	0.2	0.6	-	0.1	
21/04/15	0.5	0.4	0.8	-	0.0	
22/04/15	1.4	2.0	2.0	-	0.7	
23/04/15	3.7	5.1	6.0	-	2.0	
24/04/15	4.5	13.1	7.6	-	4.1	
25/04/15	5.6	7.6	6.7	-	6.3	
26/04/15	3.7	5.8	3.8	-	4.4	
27/04/15	3.4	18.0	4.7	-	4.1	
28/04/15	4.6	11.4	8.1	-	4.5	
29/04/15	5.3	8.2	8.9	-	5.2	
30/04/15	3.0	7.4	6.5	-	2.1	
1/05/15	2.8	5.7	6.7	-	2.5	
2/05/15	3.9	6.0	7.9	-	3.3	

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
3/05/15	1.9	4.0	5.1	-	1.4	
4/05/15	5.4	2.4	5.5	-	2.7	
5/05/15	8.2	15.4	10.9	-	7.4	
6/05/15	63.1	106.6	64.1	-	85.7	Regional event
7/05/15	11.7	19.2	13.1	-	14.6	
8/05/15	8.6	13.1	10.6	-	9.6	
9/05/15	6.1	11.6	9.2	-	7.2	
10/05/15	8.6	15.8	8.6	-	12.5	
11/05/15	8.0	19.2	8.3	-	9.1	
12/05/15	5.2	10.4	5.5	-	5.9	
13/05/15	7.6	51.3	8.5	-	9.4	Road Works
14/05/15	6.3	17.4	7.7	-	10.8	
15/05/15	5.9	14.3	10.4	-	6.3	
16/05/15	5.0	6.7	10.5	-	4.1	
17/05/15	4.6	6.0	9.3	-	4.5	
18/05/15	5.6	13.3	9.6	-	6.0	
19/05/15	5.2	7.0	7.5	-	4.7	
20/05/15	3.9	4.2	4.1	-	3.2	
21/05/15	3.1	4.3	4.9	-	2.3	
22/05/15	1.4	2.0	3.4	-	1.4	
23/05/15	3.5	3.2	5.1	-	3.5	
24/05/15	7.0	6.7	8.7	-	7.2	
25/05/15	7.5	11.1	11.8	-	8.3	
26/05/15	5.6	15.5	7.4	-	6.0	
27/05/15	6.1	16.8	8.7	-	5.2	
28/05/15	6.9	15.8	9.1	-	6.1	
29/05/15	3.7	4.4	5.2	-	3.0	
30/05/15	4.7	9.5	5.4	-	4.1	
31/05/15	2.9	5.2	3.6	-	2.9	
1/06/15	1.2	9.7	2.6	-	1.2	
2/06/15	2.9	10.2	5.6	-	2.3	
3/06/15	5.5	14.3	7.8	-	3.3	
4/06/15	4.6	12.4	8.2	-	3.9	
5/06/15	3.2	8.1	4.7	-	6.4	
6/06/15	4.9	7.1	6.2	-	5.4	
7/06/15	5.5	8.5	6.3	-	4.7	
8/06/15	3.2	10.7	6.2	-	2.7	
9/06/15	4.3	14.4	7.5	-	5.2	
10/06/15	6.1	14.8	9.3	-	5.4	
11/06/15	6.6	10.3	9.9	-	5.7	
12/06/15	5.5	5.9	10.2	-	3.5	
13/06/15	7.7	3.3	7.3	-	3.9	
14/06/15	7.9	5.9	11.1	-	5.0	
15/06/15	9.5	12.5	13.9	-	8.1	
16/06/15	3.2	3.5	4.3	-	2.0	
17/06/15	0.9	1.8	2.3	-	0.1	
18/06/15	1.5	3.5	4.6	-	0.6	
19/06/15	1.8	4.7	5.5	-	1.0	
20/06/15	2.2	2.1	3.0	-	1.4	
21/06/15	4.3	3.7	6.6	-	3.3	

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
22/06/15	4.8	3.3	8.0	-	2.6	
23/06/15	5.6	6.3	14.3	-	4.2	
24/06/15	5.4	5.1	8.0	-	4.1	
25/06/15	2.8	5.3	10.5	-	2.3	
26/06/15	4.3	3.7	9.3	-	4.6	
27/06/15	4.8	8.9	8.4	-	5.5	
28/06/15	5.0	11.6	6.4	-	3.7	
29/06/15	8.5	8.3	15.0	-	7.6	
30/06/15	8.8	10.5	8.3	-	7.2	
1/07/15	2.5	5.5	7	-	7	
2/07/15	2.3	5.5	9.9	-	4	
3/07/15	5.6	9.6	8.7	-	4.7	
4/07/15	4.2	6.2	15.3	-	3	
5/07/15	2.7	7	11.5	-	2.1	
6/07/15	2.9	5.6	14	-	5.1	
7/07/15	5.9	13.5	18.9	-	4.9	
8/07/15	5.1	13.1	5.7	-	2.8	
9/07/15	3	9.8	10	-	3.7	
10/07/15	3.6	6.2	7.6	-	1.4	
11/07/15	2.9	1.9	2	-	1.5	
12/07/15	0.2	0.1	0.5	-	NA*	
13/07/15	0.2	0.4	1.4	-	0.3	
14/07/15	1.5	3.7	2.6	-	1.2	
15/07/15	3.4	9	4.9	-	1.3	
16/07/15	0.1	6.8	0.1	-	0.8	
17/07/15	1.6	5.1	3.2	-	1.1	
18/07/15	3.4	11.4	4.1	-	2.6	
19/07/15	2.7	9.8	2.9	-	2.1	
20/07/15	4.3	13	6.4	-	4.7	
21/07/15	4.1	12	6	-	2.2	
22/07/15	6.7	10.6	Relocation	New Site - Relocating and calibration	3.7	
23/07/15	3.6	8.7	-		1.7	
24/07/15	3.2	6.7	-		1.8	
25/07/15	3	5.7	-		2	
26/07/15	2.3	4.2	-		2.8	
27/07/15	5.2	9	-		4.6	
28/07/15	6	11.7	-		3.4	
29/07/15	9.1	17	-		4.9	
30/07/15	6.9	15.5	-		5.5	
31/07/15	6.1	11.6	-		5	
1/08/15	5.0	7.2	-		5.0	
2/08/15	5.3	11.7	-		6.4	
3/08/15	3.7	7.1	-		4.6	
4/08/15	0.0	6.9	-		4.0	
5/08/15	4.0	4.9	-	2.9		
6/08/15	1.9	4.6	-	2.3		
7/08/15	2.2	6.8	-	1.4		
8/08/15	4.8	9.4	-	3.3		
9/08/15	8.7	14.2	-	8.2		
10/08/15	5.8	10.5	-	2.9		

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
11/08/15	7.7	11.4	-		5.4	
12/08/15	7.7	12.9	-	5.9	5.8	
13/08/15	3.2	5.1	-	0.2	3.0	
14/08/15	2.5	5.7	-	2.0	3.3	
15/08/15	9.2	11.9	-	5.2	7.5	
16/08/15	11.3	14.1	-	15.6	12.0	
17/08/15	5.1	8.9	-	7.9	4.1	
18/08/15	6.1	7.1	-	6.6	9.3	
19/08/15	13.2	14.3	-	8.2	18.3	
20/08/15	15.7	19.7	-	11.5	11.7	
21/08/15	17.3	24.2	-	10.4	19.3	
22/08/15	10.2	16.7	-	14.0	12.1	
23/08/15	6.4	5.2	-	5.8	4.1	
24/08/15	1.4	3.5	-	2.3	0.9	
25/08/15	2.1	1.8	-	1.3	0.2	
26/08/15	1.3	4.5	-	2.3	0.7	
27/08/15	1.0	4.9	-	3.8	0.7	
28/08/15	2.2	6.6	-	4.5	1.1	
29/08/15	3.2	3.3	-	5.6	1.6	
30/08/15	1.6	0.4	-	5.5	2.4	
31/08/15	3.0	6.5	-	6.9	4.6	
1/09/15	5.9	11.4	-	10.8	4.6	
2/09/15	8.5	16.0	-	7.0	5.0	
3/09/15	7.2	6.0	-	4.2	2.3	
4/09/15	3.6	7.7	-	3.7	3.1	
5/09/15	5.7	6.2	-	5.6	7.7	
6/09/15	8.3	12.3	-	9.7	8.2	
7/09/15	4.8	6.3	-	7.2	4.1	
8/09/15	3.7	7.5	-	8.8	4.6	
9/09/15	3.6	7.3	-	7.0	4.1	
10/09/15	10.2	14.3	-	8.1	7.3	
11/09/15	10.4	16.5	-	8.9	7.9	
12/09/15	12.6	13.8	-	14.1	7.3	
13/09/15	11.8	14.4	-	13.9	8.2	
14/09/15	14.5	21.1	-	12.3	9.7	
15/09/15	9.6	20.7	-	15.8	8.9	
16/09/15	7.0	13.2	-	12.9	4.2	
17/09/15	5.3	11.0	-	12.6	5.9	
18/09/15	7.6	15.9	-	12.3	6.8	
19/09/15	5.6	10.7	-	4.9	3.6	
20/09/15	3.9	6.9	-	3.3	4.1	
21/09/15	5.8	10.3	-	9.7	4.6	
22/09/15	4.2	7.0	-	6.8	4.9	
23/09/15	3.0	7.4	-	6.8	3.3	
24/09/15	3.7	7.5	-	6.8	2.7	
25/09/15	3.2	10.9	-	5.7	3.8	
26/09/15	4.4	9.1	-	4.9	2.2	
27/09/15	7.1	10.0	-	6.6	5.9	
28/09/15	12.9	12.3	-	13.2	13.8	
29/09/15	14.6	18.4	-	18.1	10.2	

Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
30/09/15	11.7	18.5	-	15.8	9.8	
1/10/15	12.0	18.3	-	18.1	12.3	
2/10/15	19.6	18.9	-	11.8	16.2	
3/10/15	14.8	14.7	-	18.0	13.5	
4/10/15	13.5	10.1	-	24.2	11.6	
5/10/15	28.4	11.3	-	22.3	10.1	
6/10/15	52.2	17.8	-	25.6	21.0	
7/10/15	26.9	35.0	-	27.5	23.6	
8/10/15	14.1	19.1	-	13.5	12.6	
9/10/15	13.0	18.7	-	6.8	16.0	
10/10/15	14.6	22.3	-	17.8	17.8	
11/10/15	4.8	7.6	-	7.8	5.6	
12/10/15	8.4	12.0	-	13.6	10.4	
13/10/15	10.5	18.4	-	11.6	11.6	
14/10/15	13.5	19.2	-	13.1	14.0	
15/10/15	17.6	18.1	-	11.5	10.6	
16/10/15	20.9	19.9	-	20.8	12.4	
17/10/15	20.5	16.5	-	34.6	13.3	
18/10/15	16.8	24.3	-	17.6	15.9	
19/10/15	12.8	16.0	-	13.5	14.3	
20/10/15	10.1	18.1	-	12.7	14.3	
21/10/15	9.1	15.7	-	15.9	11.4	
22/10/15	2.1	2.7	-	2.7	1.6	
23/10/15	5.0	9.6	-	4.0	3.9	
24/10/15	10.5	13.6	-	7.3	7.5	
25/10/15	13.5	17.5	-	14.2	11.7	
26/10/15	8.2	13.4	-	10.6	8.5	
27/10/15	5.7	9.1	-	4.4	5.2	
28/10/15	10.2	15.8	-	9.0	9.5	
29/10/15	12.8	20.1	-	12.0	11.1	
30/10/15	13.1	18.7	-	8.9	11.7	
31/10/15	8.3	7.2	-	6.5	6.1	
1/11/15	7.5	9.3	-	9.5	7.0	
2/11/15	6.2	10.6	-	8.1	6.5	
3/11/15	0.1	13.4	-	11.7	8.9	
4/11/15	3.7	3.9	-	1.9	1.7	
5/11/15	4.5	7.6	-	3.8	2.8	
6/11/15	4.7	10.7	-	7.2	4.7	
7/11/15	5.6	13.7	-	5.5	5.8	
8/11/15	6.5	9.1	-	2.9	3.1	
9/11/15	9.8	14.0	-	5.9	6.8	
10/11/15	18.9	28.4	-	29.5	12.7	
11/11/15	12.4	16.1	-	8.5	9.2	
12/11/15	9.7	5.9	-	6.6	7.3	
13/11/15	3.8	8.5	-	5.3	3.9	
14/11/15	3.3	4.1	-	2.6	2.1	
15/11/15	3.2	7.4	-	3.2	3.0	
16/11/15	4.9	10.0	-	4.2	4.2	
17/11/15	8.7	15.0	-	7.8	6.8	
18/11/15	10.1	15.6	-	19.5	10.1	



Date	Lagoons Road TEOM04	Ulan School TEOM01 EPL 17	Murragamba TEOM02	Ulan-Wollar Road TEOM06 EPL15	Ridge Road TEOM05 EPL27	Comment
	Daily Result (24hr Average Limit = 50µg/m <sup>3</sup> )					
19/11/15	18.9	28.2	-	26.4	16.2	
20/11/15	13.5	26.6	-	21.0	15.7	
21/11/15	18.9	23.4	-	2.4	20.9	
22/11/15	12.9	16.9	-	7.1	12.9	
23/11/15	5.3	7.1	-	6.9	10.5	
24/11/15	22.4	29.7	-	21.0	22.0	
25/11/15	17.2	22.7	-	21.5	15.5	
26/11/15	23.7	33.3	-	38.5	28.2	
27/11/15	21.0	30.1	-	22.6	24.4	
28/11/15	15.8	22.5	-	14.7	17.9	
29/11/15	9.9	17.4	-	13.2	11.8	
30/11/15	15.0	31.3	-	19.8	16.3	
1/12/15	25.4	52.2	-	20.0	30.7	Road Works
2/12/15	11.7	23.6	-	15.5	14.2	
3/12/15	15.1	25.2	-	14.6	14.4	
4/12/15	11.5	20.4	-	9.3	10.9	
5/12/15	14.6	20.2	-	9.1	10.6	
6/12/15	16.4	25.1	-	12.8	12.6	
7/12/15	19.2	24.8	-	11.3	18.4	
8/12/15	12.5	25.4	-	11.2	14.2	
9/12/15	7.7	15.0	-	16.0	7.2	
10/12/15	7.0	19.9	-	11.4	6.7	
11/12/15	10.9	23.7	-	17.9	13.3	
12/12/15	17.6	26.4	-	19.7	22.4	
13/12/15	17.4	28.6	-	18.2	15.7	
14/12/15	18.3	41.0	-	18.3	13.2	
15/12/15	27.3	47.6	-	28.6	31.2	
16/12/15	0.7	21.1	-	14.5	10.7	
17/12/15	9.6	14.7	-	9.8	9.7	
18/12/15	9.4	19.7	-	11.3	7.8	
19/12/15	18.3	20.7	-	19.2	13.7	
20/12/15	13.7	19.3	-	14.2	27.4	
21/12/15	12.1	18.3	-	12.6	12.0	
22/12/15	NA*	0.5	-	Power Failure	NA*	
23/12/15	1.5	2.9	-	Power Failure	0.9	
24/12/15	7.7	10.8	-	8.1	7.7	
25/12/15	6.3	7.8	-	6.7	6.6	
26/12/15	6.5	7.1	-	Power Failure	6.8	
27/12/15	3.6	5.5	-	Power Failure	3.2	
28/12/15	6.2	10.3	-	Power Failure	5.7	
29/12/15	5.9	12.8	-	0.7	5.4	
30/12/15	6.2	15.6	-	3.7	6.8	
31/12/15	11.1	18.3	-	3.3	11.2	

NA\* = negative value - Likely humidity related

**Table 4: HVAS monitoring results**

Sample Location	Sampling Date	Particulate Matter <10 µm µg/m <sup>3</sup>	Sample Location	Sampling Date	Particulate Matter <10 µm µg/m <sup>3</sup>
PM01	05-Jan-15	12	PM02	4-Jul-15	6
PM02	05-Jan-15	10	PM01	10-Jul-15	7
PM01	11-Jan-15	12	PM02	10-Jul-15	6
PM02	11-Jan-15	11	PM01	16-Jul-15	<1
PM01	17-Jan-15	14	PM02	16-Jul-15	<1
PM02	17-Jan-15	13	PM01	22-Jul-15	7
PM01	23-Jan-15	18	PM02	22-Jul-15	6
PM02	23-Jan-15	15	PM01	28-Jul-15	8
PM01	29-Jan-15	12	PM02	28-Jul-15	6
PM02	29-Jan-15	8	PM01	3-Aug-15	5
PM01	04-Feb-15	21	PM02	3-Aug-15	4
PM02	04-Feb-15	15	PM01	9-Aug-15	11
PM01	10-Feb-15	24	PM02	9-Aug-15	9
PM02	10-Feb-15	15	PM01	15-Aug-15	13
PM01	16-Feb-15	15	PM02	15-Aug-15	11
PM02	16-Feb-15	13	PM01	21-Aug-15	17
PM01	22-Feb-15	6	PM02	21-Aug-15	15
PM02	22-Feb-15	4	PM01	27-Aug-15	5
PM01	28-Feb-15	15	PM02	27-Aug-15	3
PM02	28-Feb-15	20	PM01	02-Sep-15	13
PM01	06-Mar-15	20	PM02	02-Sep-15	6
PM02	06-Mar-15	17	PM01	08-Sep-15	4
PM01	12-Mar-15	17	PM02	08-Sep-15	4
PM02	12-Mar-15	16	PM01	14-Sep-15	15
PM01	18-Mar-15	19	PM02	14-Sep-15	13
PM02	18-Mar-15	28	PM01	20-Sep-15	6
PM01	24-Mar-15	12	PM02	20-Sep-15	4
PM02	24-Mar-15	11	PM01	26-Sep-15	2
PM01	30-Mar-15	21	PM02	26-Sep-15	8
PM02	30-Mar-15	14	PM01	02-Oct-15	19
PM01	05-Apr-15	6	PM02	02-Oct-15	17
PM02	05-Apr-15	7	PM01	08-Oct-15	20
PM01	11-Apr-15	11	PM02	08-Oct-15	16
PM02	11-Apr-15	13	PM01	14-Oct-15	22
PM01	17-Apr-15	23	PM02	14-Oct-15	16
PM02	17-Apr-15	21	PM01	20-Oct-15	18
PM01	23-Apr-15	4	PM02	20-Oct-15	14
PM02	23-Apr-15	3	PM01	26-Oct-15	14
PM01	29-Apr-15	8	PM02	26-Oct-15	10
PM02	29-Apr-15	5	PM01	01-Nov-15	13
PM01	05-May-15	9	PM02	01-Nov-15	11
PM02	05-May-15	5	PM01	07-Nov-15	14
PM01	11-May-15	8	PM02	07-Nov-15	8
PM02	11-May-15	7	PM01	13-Nov-15	8
PM01	17-May-15	8	PM02	13-Nov-15	2
PM02	17-May-15	4	PM01	19-Nov-15	20
PM01	23-May-15	5	PM02	19-Nov-15	15
PM02	23-May-15	4	PM01	25-Nov-15	19

Sample Location	Sampling Date	Particulate Matter <10 µm µg/m <sup>3</sup>	Sample Location	Sampling Date	Particulate Matter <10 µm µg/m <sup>3</sup>
PM01	29-May-15	3	PM02	25-Nov-15	19
PM02	29-May-15	2	PM01	01-Dec-15	45
PM01	4-Jun-15	5	PM02	01-Dec-15	29
PM02	4-Jun-15	5	PM01	07-Dec-15	30
PM01	10-Jun-15	7	PM02	07-Dec-15	24
PM02	10-Jun-15	4	PM01	13-Dec-15	26
PM01	16-Jun-15	4	PM02	13-Dec-15	23
PM02	16-Jun-15	1	PM01	19-Dec-15	24
PM01	22-Jun-15	5	PM02	19-Dec-15	27
PM02	22-Jun-15	4	PM01	25-Dec-15	8
PM01	28-Jun-15	4	PM02	25-Dec-15	7
PM02	28-Jun-15	5	PM01	31-Dec-15	17
PM01	4-Jul-15	6	PM02	31-Dec-15	13

### APPENDIX 3E. BIODIVERSITY MONITORING DATA

Table 5: Threatened fauna recorded during spring 2015

Scientific Name	Common Name	TSC Act	EPBC Act	Location
<b>Offset Areas 1, 2 and 3</b>				
<b>Birds</b>				
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	Fa5a and Fa5b
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V	-	Fa1a and Fa2b
<i>Merops ornatus</i>	Rainbow Bee-eater	-	M	Fa2a, Fa9b, Fa14a and Fa24a
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Fa1a, Fa5a, Fa5c, Fa8a, Fa9a and Fa13b
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	Fa4a
<i>Grantiella picta</i>	Painted Honeyeater	V	-	Fa4a, Fa7a, Fa9a and Fa24a
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	Fa4a
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	V	-	Fa24a
<i>Ninox strenua</i>	Powerful Owl	V	-	Fa13b
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V	-	Fa7a
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V	-	Fa1a, Fa5a, Fa5d and Fa9a
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-	BOA 1, Fa2b and Fa13a
<b>Mammals</b>				
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Fa1a, Fa4a, Fa5d, Fa2b, Fa14a, Fa24a, Fa25a and Fa13b
<i>Miniopterus orianae oceanensis</i>	Eastern Bentwing-bat	V	-	Fa1a, Fa2a, Fa2b, Fa13b and Fa14a
<i>Nyctophilus spp.</i>	Long-eared Bats	V	-	Fa1a, Fa14a, Fa9a, Fa5a, Fa5d, Fa5b, Fa4a, Fa4b, Fa2b and Fa13b
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat	V	-	Fa13b, Fa14a and Fa25a
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V	-	Possibly recorded at Fa1a
<b>EPBC (2013/6929) offset areas.</b>				
<b>Birds</b>				
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	-	Opportunistically BOA Bobadeen
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V	-	Fa7d and Opportunistically
<i>Merops ornatus</i>	Rainbow Bee-eater	-	M	Fa11, Fa14
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	Fa7, Fa8
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-	Opportunistically BOA Bobadeen
<i>Grantiella picta</i>	Painted Honeyeater	V	-	Fa3

Scientific Name	Common Name	TSC Act	EPBC Act	Location
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	Fa10
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	-	M	Fa3
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (south-eastern form)	V	-	Fa3
<i>Ninox strenua</i>	Powerful Owl	V	-	Fa15
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V	-	Fa3
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V	-	Fa1 and Fa8
<i>Stagonopleura guttata</i>	Diamond Firetail	V	-	Fa3
<b>Mammals</b>				
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V	Fa6
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	Fa1, Fa2, Fa4, Fa5, Fa9 and Fa15
<i>Miniopterus australis</i>	Little Bentwing-bat	V	-	Possibly recorded at Fa5
<i>Miniopterus orianae oceanensis</i>	Eastern Bentwing-bat	V	-	Fa1, Fa5, Fa12, Fa13, Fa17 and Fa18
<i>Nyctophilus</i> spp.	Long-eared Bats	V	-	Fa1, Fa2, Fa5, Fa6, Fa7, Fa12, Fa13, Fa14, Fa15, Fa17 and Fa18
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tailed Bat	V	-	Fa1

Table 6: BioMetric baseline monitoring results, spring 2015

Assigned BioMetric Vegetation Type (BVT)	Site no.	MZ	NSD	NTC (%)	NMC (%)	NGC (out of 300%)	Exotic cover (%)	# HBTs	Logs (m)	Regen Y/N
HU515 Blakely's Red Gum – Yellow Box Grassy Open Forest	Mod9_FI3	MZ2	21	0	0	46	38	0	0	N
	Mod9_FI12	MZ1	31	12	0	76	4	2	85	Y
	Mod9_FI15	MZ2	32	0	0	86	22	0	0	N
	Mod9_FI16	MZ2	27	6	50	46	30	0	0	Y
	Mod9_FI23	MZ2	29	28	0	30	0	0	8	N
	Mod9_FI24	MZ1	23	12	1	44	0	0	8	N
	Mod9_FI27	MZ2	13	0	0	10	84	0	0	N
HU537 Dwyer's Red Gum Low Woodland	Mod9_FI10	MZ1	35	14	16	10	0	2	56	Y
	Mod9_FI19	MZ1	34	20	0	22	0	0	27	N
HU551 Grey Box – Narrow-leaved Ironbark Shrubby Woodland	Mod9_FI5	MZ2	24	0	0	44	66	0	0	N
	Mod9_FI14	MZ2	21	0	0	58	4	0	0	N
	Mod9_FI18	MZ1	20	10	5	16	0	0	35	N
HU552 Grey Gum – Narrow-leaved	Mod9_FI13	MZ1	29	28	0	6	0	2	121	N

Assigned BioMetric Vegetation Type (BVT)	Site no.	MZ	NSD	NTC (%)	NMC (%)	NGC (out of 300%)	Exotic cover (%)	# HBTs	Logs (m)	Regen Y/N
Stringybark – Ironbark Woodland										
HU574 Narrow-leaved Ironbark – Grey Gum Shrubby Woodland	Mod9_FI25	MZ1	31	13	11	24	0	2	0	N
HU575 Narrow-leaved Ironbark Shrubby Open Forest	Mod9_FI9	MZ2	15	0	1	52	46	0	0	N
	Mod9_FI17	MZ1	43	24	1	44	0	0	27.5	Y
	Mod9_FI21	MZ1	28	9	4	90	0	0	1	Y
	Mod9_FI22	MZ1	33	15	1	30	0	0	11	Y
	Mod9_FI26	MZ2	22	0	0	26	64	0	8	N
HU603 Rough-barked Apple – Silvertop Stringybark – Red Stringybark Grassy Open Forest	Mod9_FI1	MZ1	46	13	0	62	0	0	70	Y
	Mod9_FI28	MZ1	54	24	1	92	4	0	173	Y
HU608 Scribbly Gum – Brown Bloodwood Woodland	Mod9_FI20	MZ1	22	18	2	32	0	1	45	N
HU647 Tea-tree Shrubland of Drainage Areas	Mod9_FI11	MZ1	50	5	12	54	4	0	11	Y
HU654 White Box – Yellow Box Grassy Woodland	Mod9_FI2	MZ2	10	0	0	68	32	0	0	N
	Mod9_FI4	MZ2	17	0	0	68	38	0	0	N
	Mod9_FI6	MZ2	27	0	0	76	62	1	26	N
	Mod9_FI7	MZ2	23	2	0	36	72	0	24	Y
	Mod9_FI8	MZ2	19	0	0	34	64	0	0	N

## Appendix 3F. SURFACE WATER MONITORING DATA

Table 7: Surface Water Quality –Sampling Summary

Site	Results Data Range (pH)			Data Range (µS/cm)			Data Range (TSS)			Comments
	Background	Previous Period	2015	Background	Previous Period	2015	Background	Previous Period	2015	
SW01	5.4 – 8.1	6.9 – 8.3	5.7 – 8.6	300 – 1,500	401 – 941	563 – 888	<2 – 310	<5 – 16	<5 – 12	Generally Consistent with previous monitoring. Slight increase in pH observed
SW02	4.4 – 7.9	7.6 - 8.4	6.2 – 8.6	200 – 1,560	678 – 1020	590 – 857	<2 – 844	<5 – 9	<5 – 12	Generally Consistent with previous monitoring. Slight increase in pH observed
SW04	5.1 – 7.8	7.2 – 8.8	6.4 – 8.8	60 – 2,260	162 – 3,570	127 – 1986	4 – 440	<5 – 87	<5 – 284	Generally Consistent with previous monitoring. Slight increase in pH observed
SW05	5.3 – 7.7	7.2 – 7.9	6.6– 8.7	290 – 1,590	546 – 1,150	168 – 1018	<2 – 2,600	<5 – 42	<5 – 70	Generally Consistent with previous monitoring. Slight increase in pH observed
SW07	5.3 – 8.0	7.6 – 8.4	5.8 – 7.8	750 – 6,540	2,610 – 7,300	795 – 5680	<2 – 64	<5 – 72	<5 – 46	Generally Consistent with previous monitoring.
SW08	4.5 – 7.6	6.6 – 7.8	6.1 – 7.5	2,060 – 6,990	2,850 – 4,230	2360 – 4800	<2 – 510	<5 – 35	<5 – 36	Generally Consistent with previous monitoring.
SW09	5.2 – 7.9	6.8 – 8.0	6.6 – 8.0	490 – 5,750	2,550 – 3,900	3480 – 6040	2 – 140	<5 – 72	<5 – 404	Generally Consistent with previous monitoring. Slight increase in pH observed, Increased TSS during low flow periods at the beginning of 2015. Sample point located upstream of operations
SW10	Dry - no samples collected	Dry - no samples collected	7.5	Dry - no samples collected	Dry - no samples collected	93	Dry - no samples collected	Dry - no samples collected	24	Generally Consistent with previous monitoring.
SW11	5.5 – 7.2	6.6 – 7.4	6.1 – 8.7	40 – 150	150 – 329	122-844	13 – 66	10 – 59	<5 – 63	Generally Consistent with previous monitoring with rain event influences.
SW12	6.0 – 7.0	7.2 – 7.8	6.7 – 8.7	50 – 670	484 – 860	193 – 837	<2 – 564	<5 – 33	<5 – 40	Generally Consistent with previous monitoring.
SW15 <sup>#</sup>	6.0 – 7.8	NA*	6.0 – 7.8	143 – 609	NA*	143 - 549	5 – 920	NA*	<5 - 920	Site include in program in 2015
SW16 <sup>#</sup>	6.1 – 7.7	NA*	6.1 – 7.7	231 – 1431	NA*	286 – 1431	5 – 572	NA*	<5 – 572	Site include in program in 2015

Site	Results Data Range (pH)			Data Range (µS/cm)			Data Range (TSS)			Comments
	Background	Previous Period	2015	Background	Previous Period	2015	Background	Previous Period	2015	
SW17 <sup>#</sup>	4.4 – 7.6	NA <sup>*</sup>	4.4 – 7.6	60.5 – 725	NA <sup>*</sup>	72 – 687	5 – 59	NA <sup>*</sup>	<5 - 59	Site include in program in 2015
SW18 <sup>#</sup>	3.4 – 7.4	NA <sup>*</sup>	3.4 – 6.3	18.5 - 1654	NA <sup>*</sup>	20 – 1654	8 – 52	NA <sup>*</sup>	8 – 46	Site include in program in 2015
SW19 <sup>#</sup>	NA <sup>**</sup>	NA <sup>*</sup>	6.1	NA <sup>**</sup>	NA <sup>*</sup>	36	NA <sup>**</sup>	NA <sup>*</sup>	13	Site include in program in 2015 Site was dry for 11 of 12 monthly sampling events.
SW20 <sup>#</sup>	Dry - no samples collected <sup>**</sup>	NA <sup>*</sup>	Dry - no samples collected	Dry - no samples collected <sup>**</sup>	NA <sup>*</sup>	Dry - no samples collected	Dry - no samples collected <sup>**</sup>	NA <sup>*</sup>	Dry - no samples collected	Site include in program in 2015 Site was dry for all monthly sampling events.

\* Monitoring program commenced in 2015 period. \*\* Background to be revised when sufficient data is available. # Current monitoring contributing to background.



ANNUAL REVIEW 2015 - APPENDICES  
SURFACE WATER QUALITY

Sample Location	Sample Date	Arsenic mg/L	Barium mg/L	Cadmium mg/L	Chromium mg/L	Copper mg/L	Dissolved Oxygen mg/L	Electrical Conductivity (Non Compensated) µS/cm	Iron mg/L	Lead mg/L	Lithium mg/L	Manganese mg/L	Nickel mg/L	Oil & Grease mg/L	pH - Field pH Unit	Selenium mg/L	Strontium mg/L	Temperature °C	Time	Total Dissolved Solids @ 180°C mg/L	Total Nitrogen as N mg/L	Total Phosphorus as P mg/L	Total Suspended Solids mg/L	Turbidity NTU	Zinc mg/L
SW01	7/01/15							837							8.3			26.3	11:58	496			7		
SW01	9/02/15							781							8.1			26.2	11:00	412			<5		
SW01	26-Feb-15	<0.001	0.020	<0.0001	<0.001	<0.001	7.38	676	0.43		0.093	0.026	0.006		8.2	<0.01	0.157	24.5	12:40	342	0.2	0.0	<5	9.5	0.006
SW01	9/03/15							662							7.0			21.4	11:10	496			<5		
SW01	08-Apr-15							871	0.05						5.7			17.2	10:45	527			<5		<0.005
SW01	13/04/15	<0.001	0.017	<0.0001	<0.001	<0.001	6.5	886	<0.05	<0.001	0.111	0.006	0.004		7.1	<0.01	0.209	20.1	11:15	451	<0.1	<0.01	<5	0.3	0.014
SW01	23-Apr-15							739	0.55						8.6			19.4	14:45	360			<5		0.008
SW01	11/05/15							736							7.6			15.1	11:15	511			<5		
SW01	17/06/15							644							8.4			14.9	9:56	374			<5		
SW01	15/07/15							613							6.6			15.8	13:00	460			<5		
SW01	12/08/15							767							7.9			10.2	15:55	421			<5		
SW01	24-Aug-15							709	0.63						7.8			20.2	16:25	424			<5		0.007
SW01	7/09/15	<0.001	0.021	<0.0001	<0.001	<0.001	10.9	888	0.13	<0.001	0.119	0.022	0.004		6.6	<0.01	0.188	13.6	10:10	458	0.2	<0.01	<5	1.6	0.006
SW01	12/10/15							646							8.2			27.1	13:10	414			<5		
SW01	20-Oct-15							597	1.05						8.1			21.4	16:20	393			12		0.006
SW01	10/11/15							563							8.0			29.2	10:30	375			<5	4.02	
SW01	9/12/15							798							8.6			28.1	17:05	504			<5		
SW01	22-Dec-15							576	0.35						7.7			18.9	17:50	342			<5	8.5	<0.005
SW02	7/01/15							844							7.9			24.9	11:55	517			9		
SW02	9/02/15							857							8.0			26.8	11:15	440			<5		
SW02	26-Feb-15	<0.001	0.016	<0.0001	<0.001	0.002	7.42	729	0.19		0.108	0.028	0.006		8.3	<0.01	0.175	25.4	12:55	368	0.2	<0.01	<5	2.5	0.006
SW02	9/03/15							654							7.2			20.8	11:20	458			<5		
SW02	08-Apr-15							857	0.1						6.2			17.3	10:35	426			<5		<0.005
SW02	13/04/15	<0.001	0.017	<0.0001	<0.001	<0.001	5.9	817	0.06	<0.001	0.114	0.006	0.004		7.5	<0.01	0.212	19.6	11:20	436	<0.1	<0.01	<5	0.4	0.006
SW02	23-Apr-15							739	0.6						8.6			20.6	14:20	364			<5		0.008
SW02	11/05/15							773							7.7			14	11:30	510			<5		
SW02	17/06/15							642							8.0			13.9	10:00	388			<5		
SW02	15/07/15							608							6.6			15.4	13:20	448			<5		
SW02	12/08/15							819							8.2			9.7	16:16	461			<5		
SW02	24-Aug-15							710	0.64						7.8			19.6	16:10	408			6		0.007
SW02	7/09/15	<0.001	0.02	<0.0001	<0.001	<0.001	11.0	770	0.1	<0.001	0.114	0.022	0.003		7.1	<0.01	0.178	12.4	10:25	406	<0.1	<0.01	<5	1.7	<0.005
SW02	12/10/15							635							8.2			25	13:20	442			<5		
SW02	20-Oct-15							598	1.07						7.6			24.8	16:35	366			12		0.007
SW02	10/11/15							710							8.0			31.2	10:40	480			<5	1.37	
SW02	9/12/15							805							8.6			29.7	17:00	458			<5		
SW02	22-Dec-15							590	0.36						7.5			20.3	17:40	364			<5	15.4	0.008
SW04	7/01/15							590							8.2			30.1	14:35	328			11		
SW04	9/02/15							638							7.3			25.1	14:05	376			8		
SW04	26-Feb-15	<0.001	0.024	<0.0001	0.001	0.001	6.98	635	0.61		0.002	0.096	0.002		8.5	<0.01	0.125	27.2	13:45	303	0.6	0.0	9	21.4	0.007
SW04	9/03/15							687							7.7			24.9	13:38	356			<5		
SW04	08-Apr-15							262	0.81						6.4			15.8	11:45	162			6		0.007
SW04	13/04/15	<0.001	0.017	<0.0001	0.001	0.001	5.8	301	0.76	<0.001	0.001	0.036	0.002		7.8	<0.01	0.066	19.6	13:12	161	0.4	<0.01	8	25.1	0.019
SW04	23-Apr-15							127	1.12						7.7			17.8	13:25	150			12		0.015
SW04	11/05/15							202							7.9			16.3	12:35	184			<5		
SW04	17/06/15							629							7.3			14.1	11:39	597			44		
SW04	16/07/15							1,866							6.4			8.3	9:55	1120			6		
SW04	12/08/15							1,986							7.1			7.6	17:17	1080			<5		
SW04	24-Aug-15							502	10.2						6.3			19	10:35	902			284		0.044
SW04	8/09/15	<0.001	0.036	<0.0001	0.003	0.002	8.2	826	3.8	0.001	0.004	0.796	0.011		7.1	<0.01	0.138	14.9	12:55	466	1.5	0.07	10	63.7	0.012
SW04	12/10/15							875							8.8			24.8	17:10	540			29		
SW04	20-Oct-15							1080	0.45						7.9			24.5	15:45	537			7		<0.005
SW04	10/11/15							1,484							7.9			25.6	15:15	888			<5	51	
SW04	9/12/15							1,051							8.4			27.2	12:10	556			<5		
SW04	22-Dec-15							153	1.74						6.9			20	16:40	162			50	125	0.02
SW05	7/01/15							688							7.6			27.8	12:35	386			16		
SW05	9/02/15							615							7.7			25.7	13:40	302			12		
SW05	26-Feb-15	<0.001	0.032	<0.0001	0.002	0.002	6.32	549	1.6		0.003	0.353	0.002		7.0	<0.01	0.144	27.1	11:40	286	0.9	0.1	12	25.8	0.009
SW05	9/03/15							611							7.3			25.10	13:50	336			6		
SW05	08-Apr-15							601	0.66						6.7			15.2	11:55	347			18		<0.005

ANNUAL REVIEW 2015 - APPENDICES  
SURFACE WATER QUALITY

Sample Location	Sample Date	Arsenic mg/L	Barium mg/L	Cadmium mg/L	Chromium mg/L	Copper mg/L	Dissolved Oxygen mg/L	Electrical Conductivity (Non Compensated) µS/cm	Iron mg/L	Lead mg/L	Lithium mg/L	Manganese mg/L	Nickel mg/L	Oil & Grease mg/L	pH - Field pH Unit	Selenium mg/L	Strontium mg/L	Temperature °C	Time	Total Dissolved Solids @ 180°C mg/L	Total Nitrogen as N mg/L	Total Phosphorus as P mg/L	Total Suspended Solids mg/L	Turbidity NTU	Zinc mg/L	
SW05	13/04/15	<0.001	0.026	<0.0001	0.001	<0.001	5.9	551	0.9	<0.001	0.003	0.132	0.001		7.7	<0.01	0.125	20.1	13:20	268	0.6	<0.01	34	23	<0.005	
SW05	23-Apr-15							590	1.28						7.4			15.9	12:00	306			8		0.006	
SW05	11/05/15							547							7.9			13.4	14:00	378			65			
SW05	17/06/15							381							8.3			14.2	9:27	290			14			
SW05	15/07/15							478							8.5			9.8	14:42	400			<5			
SW05	12/08/15							679							7.7			12.4	14:50	431			7			
SW05	24-Aug-15							553	1.93						6.6			19.5	14:10	389			12		0.01	
SW05	8/09/15	0.001	0.043	<0.0001	<0.001	<0.001	7.5	832	1.09	<0.001	0.004	0.229	0.002		7.1	<0.01	0.26	13.3	12:40	514	0.8	0.02	9	14.3	<0.005	
SW05	12/10/15							784							7.2			21.3	17:25	517			46			
SW05	20-Oct-15							897	0.46						7.1			21.2	13:45	509			<5		<0.005	
SW05	10/11/15							982							8.7			28.2	18:15	594			<5	1.95		
SW05	9/12/15							1,018							7.3			22.5	8:35	568			<5			
SW05	22-Dec-15							168	3.82						7.0			20.3	12:25	303			70	453	0.023	
SW07	7/01/15							4,480							7.2			29.2	13:40	3050			24			
SW07	9/02/15	No Sample was collected as the site was too low to sample																								
SW07	26-Feb-15	0.004	0.116	<0.0001	<0.001	0.003	3.53	5100	0.84		0.002	3.9	0.004		7.4	<0.01	2.19	26.7	11:10	3060	4.1	0.2	14	8	0.014	
SW07	9/03/15	No Sample was collected as the site was too low to sample																								
SW07	08-Apr-15							4270	0.19						7.5			16.1	13:30	2780			7		<0.005	
SW07	13/04/15	0.002	0.067	<0.0001	<0.001	<0.001	5.6	4,070	0.08	<0.001	0.001	0.074	0.003		7.7	<0.01	1.71	19.9	14:09	2300	1.9	0.04	<5	1.6	<0.005	
SW07	23-Apr-15							4860	0.19						7.7			16.5	10:05	2760			<5		<0.005	
SW07	11/05/15							4,120							7.8			12.9	14:20	2390			10			
SW07	17/06/15							795							6.3			14.3	8:50	484			<5			
SW07	15/07/15							5,680							5.8			11.7	16:50	4070			<5			
SW07	12/08/15							2,810							7.1			12.7	17:20	2190			46			
SW07	24-Aug-15							1240	0.61						7.1			18.1	7:30	782			14		0.015	
SW07	8/09/15	0.002	0.041	<0.0001	<0.001	<0.001	6.9	2,030	3.91	<0.001	0.002	0.623	0.006		7.0	<0.01	0.84	8.4	8:45	1560	1.3	0.07	38	27	0.032	
SW07	12/10/15							1,846							7.3			17.5	19:05	1290			40			
SW07	20-Oct-15	No Sample was collected as the site was too low to sample																								
SW07	10/11/15	No Sample was collected as the site was too low to sample																								
SW07	9/12/15	No Sample was collected as the site was too low to sample																								
SW07	22-Dec-15							1040	2.12						5.8			19.7	13:30	711			22	6.05	0.049	
SW08	7/01/15							3,520							7.1			27.1	13:20	2170			22			
SW08	9/02/15							2,360							7.1			24.1	12:50	1160			<5			
SW08	26-Feb-15	0.001	0.110	<0.0001	<0.001	<0.001	6.33	3040	1.96		0.006	1.04	0.002		7.3	<0.01	0.788	26.5	10:50	1460	1.1	0.1	7	12	0.013	
SW08	9/03/15							3,590							7.3			25	12:42	1780			<5			
SW08	08-Apr-15							4040	1.04						6.9			14.3	12:33	2300			<5		<0.005	
SW08	13/04/15	<0.001	0.186	<0.0001	<0.001	<0.001	5.3	4,130	1.61	<0.001	0.016	0.563	0.004		7.5	<0.01	1.3	19.6	14:15	2170	0.5	0.04	18	5.2	0.021	
SW08	23-Apr-15	No Sample was collected as the site was too low to sample																								
SW08	11/05/15							3,980							7.3			13.3	14:35	2560			10			
SW08	17/06/15							3,950							6.2			14	7:57	1940			8			
SW08	15/07/15							4,060							7.5			9.5	15:55	2490			<5			
SW08	12/08/15							3,450							6.1			12.3	16:45	2570			25			
SW08	24-Aug-15							3760	0.99						7.1			17.6	8:00	2170			12		0.007	
SW08	8/09/15	<0.001	0.092	<0.0001	<0.001	<0.001	8.2	3,180	1.15	<0.001	0.007	0.6	0.006		6.9	<0.01	1.01	13.1	8:06	2000	0.5	0.02	6	6.6	<0.005	
SW08	12/10/15							3,440							6.4			20.8	6:25	2540			<5			
SW08	20-Oct-15							4160	1.01						6.3			21	12:50	2530			5		<0.005	
SW08	10/11/15							4,240							6.9			22.1	18:50	2710			<5	18.39		
SW08	9/12/15							4,800							7.0			20.3	7:30	2880			<5			
SW08	22-Dec-15							4130	1.45						6.9			19	13:10	2960			36	50.6	0.008	
SW09	7/01/15							3,610							7.0			28.1	13:05	2200			224			
SW09	9/02/15							3,900							6.6			26.2	12:30	1780			404			
SW09	26-Feb-15	No Sample was collected as the site was too low to sample																								
SW09	9/03/15	No Sample was collected as the site was too low to sample																								
SW09	08-Apr-15							4130	12.2						7.0			16.9	12:45	2330			49		0.011	
SW09	13/04/15	0.004	0.33	<0.0001	0.001	0.008	4.5	4,180	72.1	<0.001	0.001	7.81	0.004		6.9	<0.01	1.41	19.4	14:30	2300	0.4	<0.01	216	229	0.011	
SW09	23-Apr-15							5510	2.04						7.1			17.3	10:40	2950			<5		0.035	
SW09	11/05/15							4,070							7.2			13.9	14:45	2520			25			
SW09	17/06/15							3,970							7.2			13.9	7:22	1770			8			

ANNUAL REVIEW 2015 - APPENDICES  
SURFACE WATER QUALITY

Sample Location	Sample Date	Arsenic mg/L	Barium mg/L	Cadmium mg/L	Chromium mg/L	Copper mg/L	Dissolved Oxygen mg/L	Electrical Conductivity (Non Compensated) µS/cm	Iron mg/L	Lead mg/L	Lithium mg/L	Manganese mg/L	Nickel mg/L	Oil & Grease mg/L	pH - Field pH Unit	Selenium mg/L	Strontium mg/L	Temperature °C	Time	Total Dissolved Solids @ 180°C mg/L	Total Nitrogen as N mg/L	Total Phosphorus as P mg/L	Total Suspended Solids mg/L	Turbidity NTU	Zinc mg/L
SW09	15/07/15							3,680							8.0			10.7	15:27	2220			<5		
SW09	12/08/15							3,510							7.6			12.4	15:45	2520			20		
SW09	24-Aug-15							3480	0.29						7.2			17.6	8:30	1880			7		<0.005
SW09	8/09/15	<0.001	0.075	<0.0001	<0.001	<0.001	8.6	3,590	1.72	<0.001	<0.001	0.822	<0.001		7.0	<0.01	1.15	12	7:25	2310	0.4	<0.01	29	13.9	<0.005
SW09	12/10/15							3,480							6.6			20.5	6:05	2450			24		
SW09	20-Oct-15							4170	11.7						6.6			21.1	12:35	2360			27		0.014
SW09	10/11/15							4,250							6.8			20.3	18:35	2520			10	4.22	
SW09	9/12/15							4,560							6.6			19.4	7:10	2670			9		
SW09	22-Dec-15							6040	1.4						6.8			18.9	12:55	4290			<5	21.7	0.024
SW10	7/01/15	No Sample was collected as the site was too low to sample																							
SW10	9/02/15	No Sample was collected as the site was too low to sample																							
SW10	26-Feb-15	No Sample was collected as the site was too low to sample																							
SW10	9/03/15	No Sample was collected as the site was too low to sample																							
SW10	08-Apr-15	No Sample was collected as the site was too low to sample																							
SW10	13/04/15	No Sample was collected as the site was too low to sample																							
SW10	23-Apr-15	No Sample was collected as the site was too low to sample																							
SW10	11/05/15	No Sample was collected as the site was too low to sample																							
SW10	17/06/15							93						7	7.5			13.5	17:57	174			24		
SW10	16/07/15	No Sample was collected as the site was too low to sample																							
SW10	12/08/15	No Sample was collected as the site was too low to sample																							
SW10	24-Aug-15	No Sample was collected as the site was too low to sample																							
SW10	8/09/15	No Sample was collected as the site was too low to sample																							
SW10	12/10/15	No Sample was collected as the site was too low to sample																							
SW10	20-Oct-15	No Sample was collected as the site was too low to sample																							
SW10	10/11/15	No Sample was collected as the site was too low to sample																							
SW10	9/12/15	No Sample was collected as the site was too low to sample																							
SW10	22-Dec-15	No Sample was collected as the site was too low to sample																							
SW11	7/01/15							366						<5	7.3			31	12:15	260			50		
SW11	9/02/15							204						<5	7.2			24.9	13:52	354			26		
SW11	26-Feb-15	0.002	0.034	<0.0001	0.011	0.006	2.8	122	7.38		0.004	0.283	0.017	<5	6.3	<0.01	0.029	28.5	13:20	316	1.6	0.2	63	277	0.044
SW11	9/03/15							176						6	6.5			25	14:20	298			23		
SW11	08-Apr-15							162	8.19					<5	6.2			16.4	11:10	282			11		0.043
SW11	13/04/15	0.002	0.029	<0.0001	0.008	0.004	6.1	333	11.1	0.002	0.003	0.242	0.013	21	7.4	<0.01	0.044	19.4	11:50	254	0.8	0.08	31	129	0.032
SW11	23-Apr-15							131	21.2					<5	6.5			19.5	13:50	520			28		0.108
SW11	11/05/15							216						<5	8.2			13.4	13:15	309			28		
SW11	17/06/15							271						5	7.5			14.6	9:42	296			30		
SW11	15/07/15							254						<5	8.7			11.6	14:30	217			<5		
SW11	12/08/15							282						13	6.2			10.1	14:41	194			<5		
SW11	24-Aug-15							844	2.48					10	6.5			20.2	15:45	572			34		0.041
SW11	8/09/15	<0.001	0.067	<0.0001	<0.001	<0.001	5.8	476	1.26	<0.001	0.001	0.203	0.024	<5	6.8	<0.01	0.102	11.1	9:50	220	2.8	0.01	<5	9.3	0.026
SW11	12/10/15							344						8	7.4			24.2	16:05	268			60		
SW11	20-Oct-15							486	3.28						6.1			24.1	15:55	468			17		0.035
SW11	10/11/15							368						<5	6.6			31.4	10:55	284			<5	25	
SW11	9/12/15							337						<5	7.3			29	15:30	265			30		
SW11	22-Dec-15							144	1.31						7.2			19.5	14:15	166			20	72.4	0.018
SW12	7/01/15							526							6.9			29.7	14:10	350			22		
SW12	9/02/15							565							7.1			26.5	13:32	254			<5		
SW12	26-Feb-15	<0.001	0.024	<0.0001	0.004	0.002	6.35	436	2.12		0.004	0.082	0.002		7.0	<0.01	0.097	26.8	11:50	291	0.8	0.1	15	55.6	0.008
SW12	9/03/15							508							6.8			25	13:23	296			<5		
SW12	08-Apr-15							401	5.25						7.0			15.3	12:30	290			40		0.024
SW12	13/04/15	<0.001	0.022	<0.0001	<0.001	<0.001	5.9	522	0.79	<0.001	0.003	0.11	<0.001		7.3	<0.01	0.121	19.2	12:00	290	0.4	<0.01	5	10.5	0.006
SW12	23-Apr-15							380	2.56						7.5			15.8	11:33	276			8		0.017
SW12	11/05/15							502							7.9			13.6	15:00	346			22		
SW12	17/06/15							193							7.5			14.2	9:17	399			26		
SW12	15/07/15							387							8.4			9.4	14:50	321			<5		
SW12	12/08/15							376							6.8			13.1	15:05	286			<5		
SW12	24-Aug-15							219	4.36						6.7			18.7	14:20	290			24		0.013
SW12	8/09/15	<0.001	0.027	<0.0001	0.002	<0.001	8.7	452	2.05	0.001	0.004	0.047	0.001		7.2	<0.01	0.118	13.5	12:25	227	0.7	0.02	<5	38.3	0.008
SW12	12/10/15							442							7.4			20.5	17:35	330			<5		



ANNUAL REVIEW 2015 - APPENDICES  
SURFACE WATER QUALITY

Sample Location	Sample Date	Arsenic mg/L	Barium mg/L	Cadmium mg/L	Chromium mg/L	Copper mg/L	Dissolved Oxygen mg/L	Electrical Conductivity (Non Compensated) µS/cm	Iron mg/L	Lead mg/L	Lithium mg/L	Manganese mg/L	Nickel mg/L	Oil & Grease mg/L	pH - Field pH Unit	Selenium mg/L	Strontium mg/L	Temperature °C	Time	Total Dissolved Solids @ 180 °C mg/L	Total Nitrogen as N mg/L	Total Phosphorus as P mg/L	Total Suspended Solids mg/L	Turbidity NTU	Zinc mg/L
SW18	8/09/15	<0.001	0.072	0.0001	<0.001	0.002	7.0	1,351	19.5	<0.001	0.019	6.23	0.182		4.3	<0.01	0.378	18.3	13:15	842	1.3	0.02	35	33.9	0.191
SW18	12/10/15	No Sample was collected as the site was too low to sample																							
SW18	<u>20-Oct-15</u>	No Sample was collected as the site was too low to sample																							
SW18	10/11/15							1,049							3.7			33.1	15:50	588			13	26.8	
SW18	9/12/15	No Sample was collected as the site was too low to sample																							
SW18	<u>22-Dec-15</u>							20	0.68						7.4			19.7	15:45	21			11	21.1	<0.005
SW19	7/01/15	No Sample was collected as the site was too low to sample																							
SW19	9/02/15	No Sample was collected as the site was too low to sample																							
SW19	<u>26-Feb-15</u>	No Sample was collected as the site was too low to sample																							
SW19	9/03/15	No Sample was collected as the site was too low to sample																							
SW19	<u>08-Apr-15</u>	No Sample was collected as the site was too low to sample																							
SW19	13/04/15	No Sample was collected as the site was too low to sample																							
SW19	11/05/15	No Sample was collected as the site was too low to sample																							
SW19	17/06/15							36							6.1			12.7	14:04	119			13		
SW19	16/07/15	No Sample was collected as the site was too low to sample																							
SW19	12/08/15	No Sample was collected as the site was too low to sample																							
SW19	<u>24-Aug-15</u>	No Sample was collected as the site was too low to sample																							
SW19	7/09/15	No Sample was collected as the site was too low to sample																							
SW19	13/10/15	No Sample was collected as the site was too low to sample																							
SW19	<u>20-Oct-15</u>	No Sample was collected as the site was too low to sample																							
SW19	10/11/15	No Sample was collected as the site was too low to sample																							
SW19	9/12/15	No Sample was collected as the site was too low to sample																							
SW19	<u>22-Dec-15</u>	Access to SW19 site was blocked at the time of sampling																							
SW20	7/01/15	No Sample was collected as the site was too low to sample																							
SW20	9/02/15	No Sample was collected as the site was too low to sample																							
SW20	<u>26-Feb-15</u>	No Sample was collected as the site was too low to sample																							
SW20	9/03/15	No Sample was collected as the site was too low to sample																							
SW20	<u>08-Apr-15</u>	No Sample was collected as the site was too low to sample																							
SW20	13/04/15	No Sample was collected as the site was too low to sample																							
SW20	11/05/15	No Sample was collected as the site was too low to sample																							
SW20	17/06/15	No Sample was collected as the site was too low to sample																							
SW20	16/07/15	No Sample was collected as the site was too low to sample																							
SW20	12/08/15	No Sample was collected as the site was too low to sample																							
SW20	<u>24-Aug-15</u>	No Sample was collected as the site was too low to sample																							
SW20	7/09/15	No Sample was collected as the site was too low to sample																							
SW20	13/10/15	No Sample was collected as the site was too low to sample																							
SW20	<u>20-Oct-15</u>	No Sample was collected as the site was too low to sample																							
SW20	10/11/15	No Sample was collected as the site was too low to sample																							
SW20	9/12/15	No Sample was collected as the site was too low to sample																							
SW20	<u>22-Dec-15</u>	No Sample was collected as the site was too low to sample																							

Underlined dates indicate rain event sampling

**Table 8: Effluent Discharge Quantities**

Release Point	Average daily release (kL/day)	Criteria (kL/day)
5 (EFF01) Open Cut	5.99	25
22 (EFF02) Administration	0.53	25
23 (EFF03) CHPP	0.9	25

**Table 9: Effluent Discharge Quality**

Sample Location	Sample Date	Biological Oxygen Demand (mg/L)	Total Nitrogen (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	pH	Total Suspended Solids (mg/L)
Administration	09-Feb-15	10	44.7	<5	22.9	7.1	13
CHPP	09-Feb-15	25	36.9	<5	15	7.8	78
Open Cut	09-Feb-15	7	10.1	<5	1.5	7.6	50
Administration	11-May-15	10	63	<5	27	4.8	78
CHPP	11-May-15	15	2.4	<5	0.11	7.6	57
Open Cut	11-May-15	21	12.3	5	3.4	7.5	34
Administration	13-Aug-15	14	175	14	34.9	7	84
CHPP	13-Aug-15	11	3	22	0.32	7.2	37
Open Cut	13-Aug-15	20	9	17	0.7	7	46
Administration	11-Nov-15	23	68.8	<5	21	5.8	44
CHPP	11-Nov-15	7	1.5	<5	0.09	7.4	17
Open Cut	11-Nov-15	20	8.3	<5	0.6	7.4	46

## **APPENDIX 3G. GROUNDWATER MONITORING DATA**

















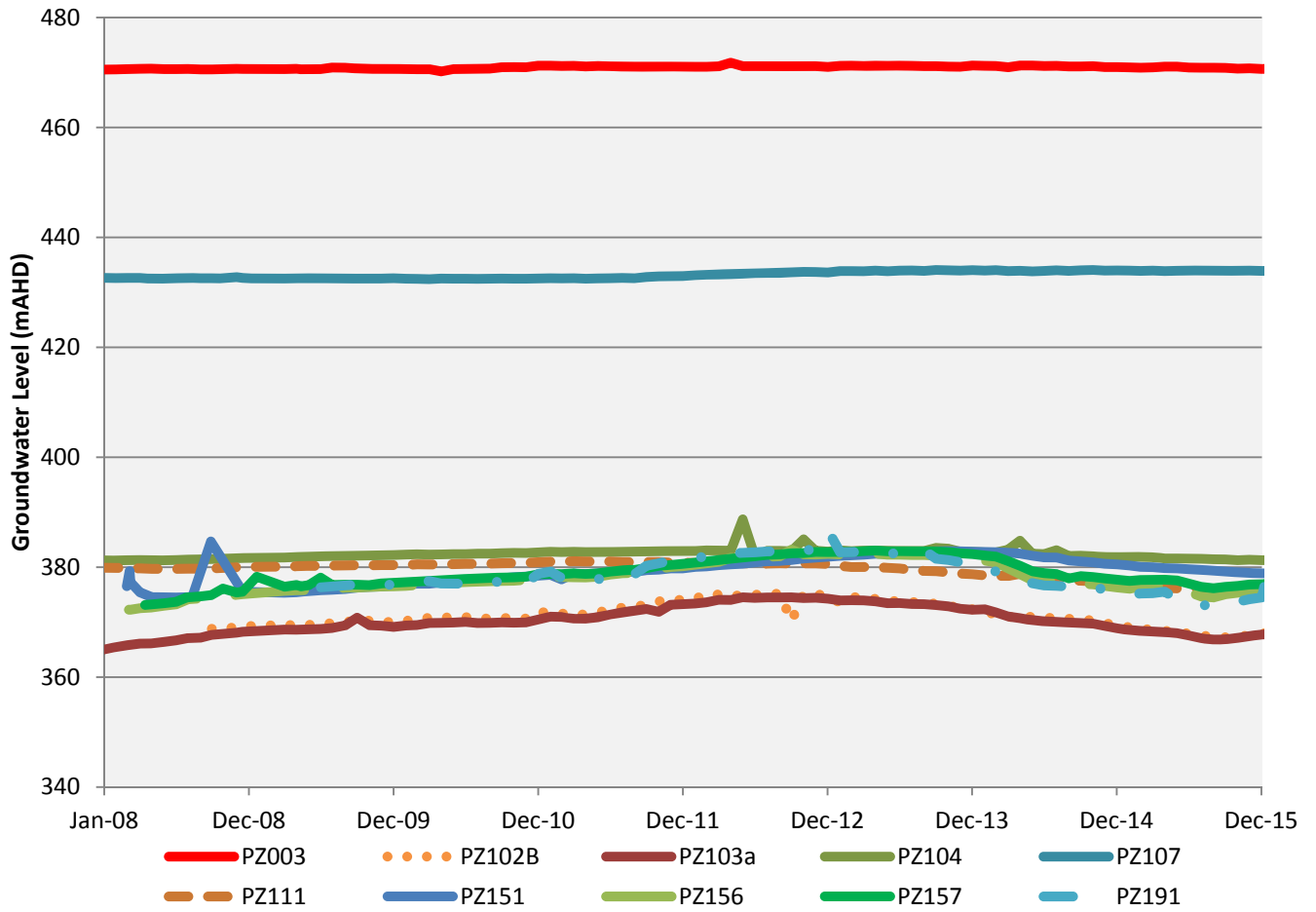
BORE	PZ003	PZ039	PZ040B	PZ044	PZ055	PZ058	PZ101B	PZ101C	PZ102A	PZ102B	PZ103A	PZ103B	PZ103C	PZ104	TB105	PZ105A	PZ105B	PZ105C	PZ106B	PZ107
Jan-15	470.94	418.05	419.77	479.32	422.94	467.61	372.68	381.59	369.07	369.07	368.62	381.04	398.60	381.85	370.18	370.19	376.48	376.93	499.79	433.98
Feb-15	470.88	417.99	419.69	479.40	422.94	467.53	372.50	381.56	368.82	368.78	368.41	380.57	398.53	381.88	370.04	370.08	376.43	376.88	499.67	433.91
Mar-15	470.94		419.63	479.52	423.04	468.09	372.40	381.55	368.68	368.65	368.33	380.22	398.59	381.82	370.00	370.02	376.40	376.85	499.60	433.98
Apr-15	471.09		419.55	480.02	423.05	467.71	372.17	381.54	368.44	368.44	368.18	379.75	398.46	381.59	369.87	369.89	376.31	376.75	499.36	433.87
May-15	471.07	417.86	419.75	479.48	423.14	467.65	372.02	381.57	368.26	368.27	368.01	378.57	398.52	381.61	369.85	369.86	376.36	376.82	499.34	433.93
Jun-15	470.90	417.84	419.59	479.50	423.17	467.62	371.78	381.62	367.90	367.92	367.58	378.18	398.54	381.57	369.73	369.75	376.42	376.89	499.19	434.00
Jul-15	470.88	417.81	419.66	479.54	423.19	467.77	371.69	381.56	367.49	367.60	367.12	377.90	398.47	381.54	369.59	369.61	376.46	376.93	499.02	433.97
Aug-15	470.88	417.75	419.64	479.76	423.16	467.65	371.52	381.63	367.34	367.31	366.88	377.60	398.54	381.45	369.46	369.47	376.52	377.00	498.79	433.94
Sep-15	470.85	417.74	419.75	479.95	423.15	467.47	371.27	381.56	367.33	367.27	366.90	377.23	398.33	381.44	369.30	369.35	376.50	376.98	498.69	433.95
Oct-15	470.71	417.69	419.66	480.24	423.11	467.65	371.15	381.62	367.31	367.27	367.14	376.84	398.50	381.28	369.23	369.25	376.52	377.00	498.58	433.96
Nov-15	470.78	417.71	419.66	480.18	423.13		371.12		367.77	367.72	367.49	375.52	398.24	381.37	369.25	369.27	376.46	376.94	498.53	433.96
Dec-15	470.65	417.72	419.68	480.14	423.14		371.09		367.99	367.98	367.77	375.31	398.28	381.30	369.33	369.34	376.45	376.95	498.34	433.92
min	470.65	417.69	419.55	479.32	422.94	467.47	371.09	381.54	367.31	367.27	366.88	375.31	398.24	381.28	369.23	369.25	376.31	376.75	498.34	433.87
max	471.09	418.05	419.77	480.24	423.19	468.09	372.68	381.63	369.07	369.07	368.62	381.04	398.60	381.88	370.18	370.19	376.52	377.00	499.79	434.00

BORE	PZ109	PZ111	PZ112B	PZ137	PZ149	PZ151	PZ152	PZ156	PZ157	PZ170	PZ174	PZ175	PZ176	PZ177	PZ184	PZ186	PZ187	PZ188	PZ189	PZ191
Jan-15	382.67	376.70	480.04	460.60		380.32	441.06	376.10	377.50	421.30	417.91	418.30	416.34	415.68	411.91	408.47	416.47	416.05	412.86	375.12
Feb-15	382.67	376.68	479.94	460.57		380.06	441.01	376.50	377.68	421.22	417.86	418.18	416.32	415.67	411.90	408.41	416.42	415.80	412.62	375.24
Mar-15	382.65	376.56	479.99	462.56		380.00	441.15	376.54	377.72	421.17					411.87	408.36	416.43	415.98	412.57	375.30
Apr-15	382.57	376.26	479.92	460.56		379.83	441.02	376.65	377.73	421.09					411.78	408.15	416.35	415.94	412.30	375.58
May-15	382.55	376.16	479.91	460.65	467.34	379.78	441.04	376.37	377.59	421.11	417.72	418.08	416.31	415.66	411.82	408.12	416.32	416.00	412.00	374.22
Jun-15	382.63	376.18	479.82	460.69	467.10	379.65	441.06				417.69	418.18	416.40	415.70	411.82	407.76	416.39	416.04	411.63	374.03
Jul-15	382.62	376.21	479.81	460.62	467.11	379.54	441.04	374.70	376.43	420.99	417.66	418.23	416.35	415.64	411.83	407.59	416.51	416.02	411.45	373.19
Aug-15	382.62	376.06	479.74	460.59	467.07	379.36	440.99	374.51	376.18		417.59	418.26	416.36	415.70	411.77	407.49	416.51	415.98	411.34	372.90
Sep-15	382.64	375.86	479.70	460.64	467.08	379.25	441.03	375.09	376.43		417.58	418.40	416.43	415.86	411.78	407.58	416.57	415.99	411.33	373.43
Oct-15	382.55	375.49	479.67	460.65	467.04	379.05	441.03	375.36	376.59	420.89	417.53	418.45	416.41	415.98	411.77	407.57	416.58	416.00	411.30	373.73
Nov-15	382.54	375.39	479.70	460.67		378.99	441.06	375.81	376.86	420.93	417.57	418.47	416.39	415.94	411.79	407.36	416.67	416.03	411.38	374.22
Dec-15	382.50	375.28	479.66	460.66		378.89	441.04	375.86	376.91	420.89	417.57	418.48	416.36	415.87	411.75	407.19	416.41	416.00	411.36	374.53
min	382.50	375.28	479.66	460.56	467.04	378.89	440.99	374.51	376.18	420.89	417.53	418.08	416.31	415.64	411.75	407.19	416.32	415.80	411.30	372.90
max	382.67	376.70	480.04	462.56	467.34	380.32	441.15	376.65	377.73	421.30	417.91	418.48	416.43	415.98	411.91	408.47	416.67	416.05	412.86	375.58

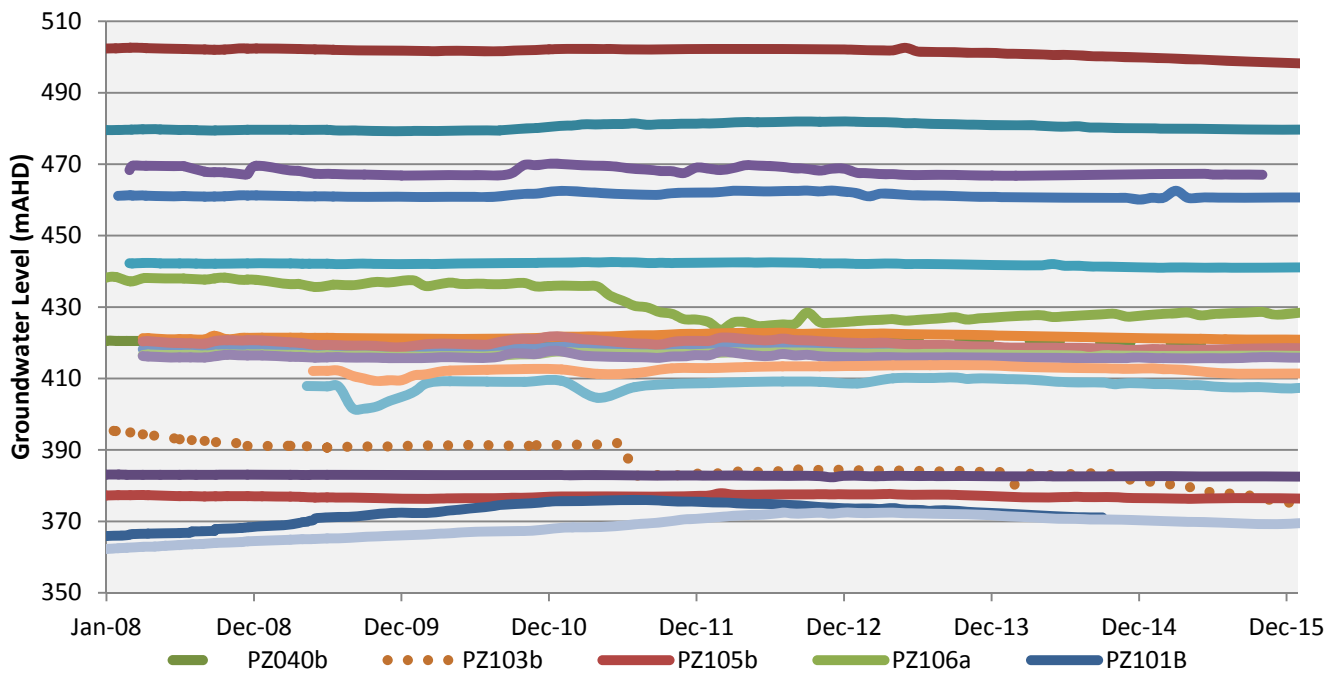
BORE	PZ127 - 43m	PZ127 - 68m	PZ127 - 112m	PZ127 - 141m	PZ128 - 20m	PZ128 - 36m	PZ128 - 55m	PZ129 - 35m	PZ129 - 53m	PZ129 - 74m	PZ130 - 38.5m	PZ130 - 64m	PZ130 - 97m	PZ133 - 31.5m	PZ133 - 43m	PZ133 - 59m	PZ179 - 28m	PZ179 - 33m	PZ179 - 82m	PZ179 - 145m
Jan-15	449.59	442.28	406.63	391.03	388.93	379.75	376.11	391.56	389.37	379.67	497.32	476.15	446.88	428.68	427.64	386.24	419.26	417.66	440.36	375.19
Feb-15	449.47	442.77	407.38	391.68	388.97	379.75	376.11	391.56	388.77	379.66	497.31	476.13	446.66	428.71	427.68	386.26	419.19	417.66	440.36	375.19
Mar-15	449.47	442.73	407.32	391.62	388.83	379.69	376.02	391.51	388.56	379.54	497.31	476.02	446.74	428.73	427.69	386.29	419.12	417.59	440.31	375.13
Apr-15	449.47	442.73	407.15	392.07	388.97	379.73	375.90	391.47	388.85	379.54	497.32	476.13	446.71	428.73	427.68	386.31	419.10	417.61	440.19	375.19
May-15	449.41	442.50	406.81	392.01	388.91	379.71	375.76	391.45	388.51	379.55	497.44	475.99	446.76	428.68	427.64	386.43	419.10	417.56	439.96	375.02
Jun-15	449.47	442.38	406.81	391.79	389.02	379.75	375.67	391.42	388.84	379.66	497.63	475.97	447.00	428.73	427.59	386.29	419.05	417.45	439.73	374.38
Jul-15	449.47	442.62	406.12	391.57	388.90	379.69	375.60	391.40	388.94	379.73	497.80	475.94	447.27	428.78	427.63	386.31	418.93	417.25	439.68	373.92
Aug-15					388.91	379.69	375.48	391.38	389.16	379.69	497.94	475.93	447.03	428.76	427.60	386.31	418.83	417.18	439.51	373.63
Sep-15	449.47	442.50	405.66	390.95	388.95	379.68	375.60	391.36	388.58	379.79	498.04	475.99	447.70	428.76	427.44	386.31	418.77	417.19	439.91	373.73
Oct-15	449.47	442.73	405.54	390.78	388.99	379.71	375.58	391.35	388.32	379.69	498.15	476.02	448.14	428.73	427.39	386.33	418.77	417.25	439.91	373.86
Nov-15	449.47	442.62	405.43	390.73	388.91	379.61	375.60	391.31	388.98	379.59	498.22	475.91	448.63	428.73	427.36	386.31	418.77	417.20	439.91	374.09
Dec-15	449.47	442.44	405.48	389.95	388.91	379.61	375.60	391.27	388.65	379.47	498.25	475.88	449.04	428.71	427.39	386.33	418.77	417.20	439.96	374.27
min	449.41	442.28	405.43	389.95	388.83	379.61	375.48	391.27	388.32	379.47	497.31	475.88	446.66	428.68	427.36	386.24	418.77	417.18	439.51	373.63
max	449.59	442.77	407.38	392.07	389.02	379.75	376.11	391.56	389.37	379.79	498.25	476.15	449.04	428.78	427.69	386.43	419.26	417.66	440.36	375.19

Gaps in data indicate that no result is available

**APPENDIX 3H. GROUNDWATER LEVEL GRAPHS**



**Figure 3-a: Ulan Seam Composite Hydrograph**



**Figure 3-b: Permian Overburden Composite Hydrograph**



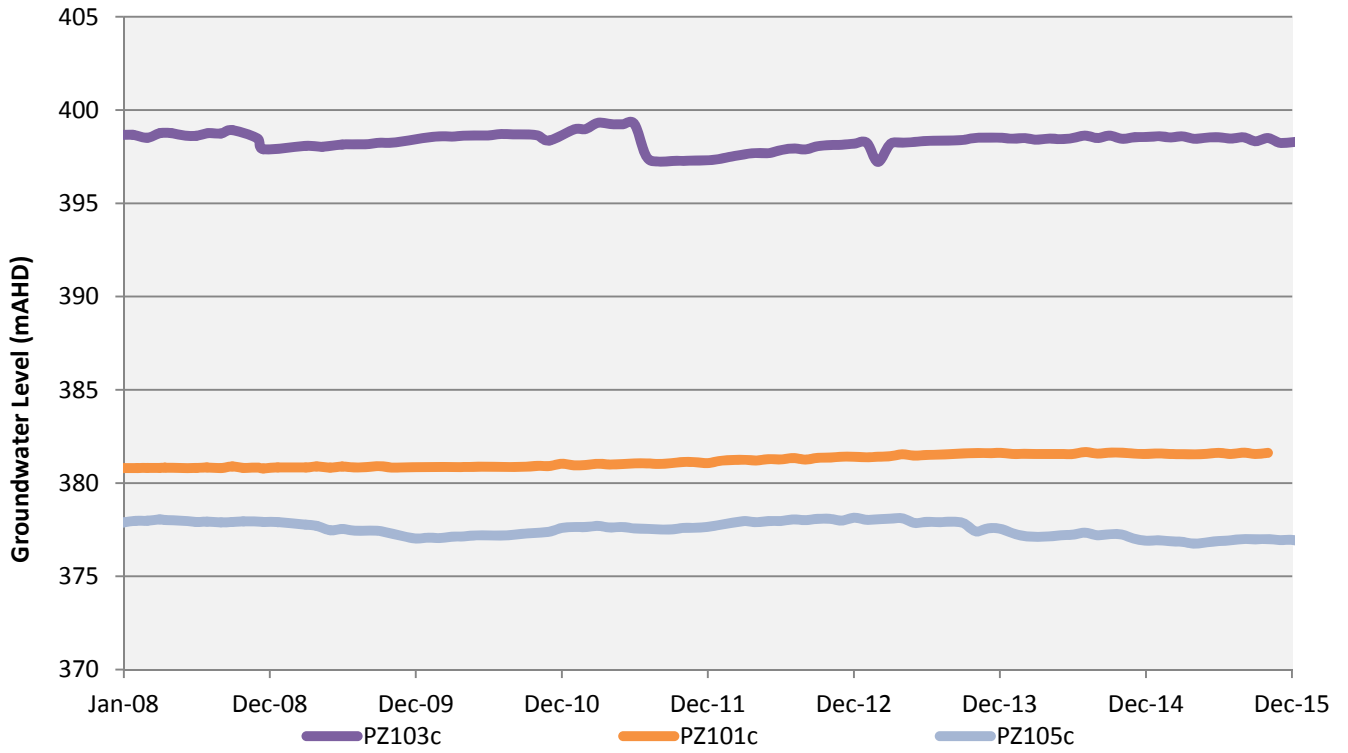


Figure 3-c: Triassic Composite Hydrograph

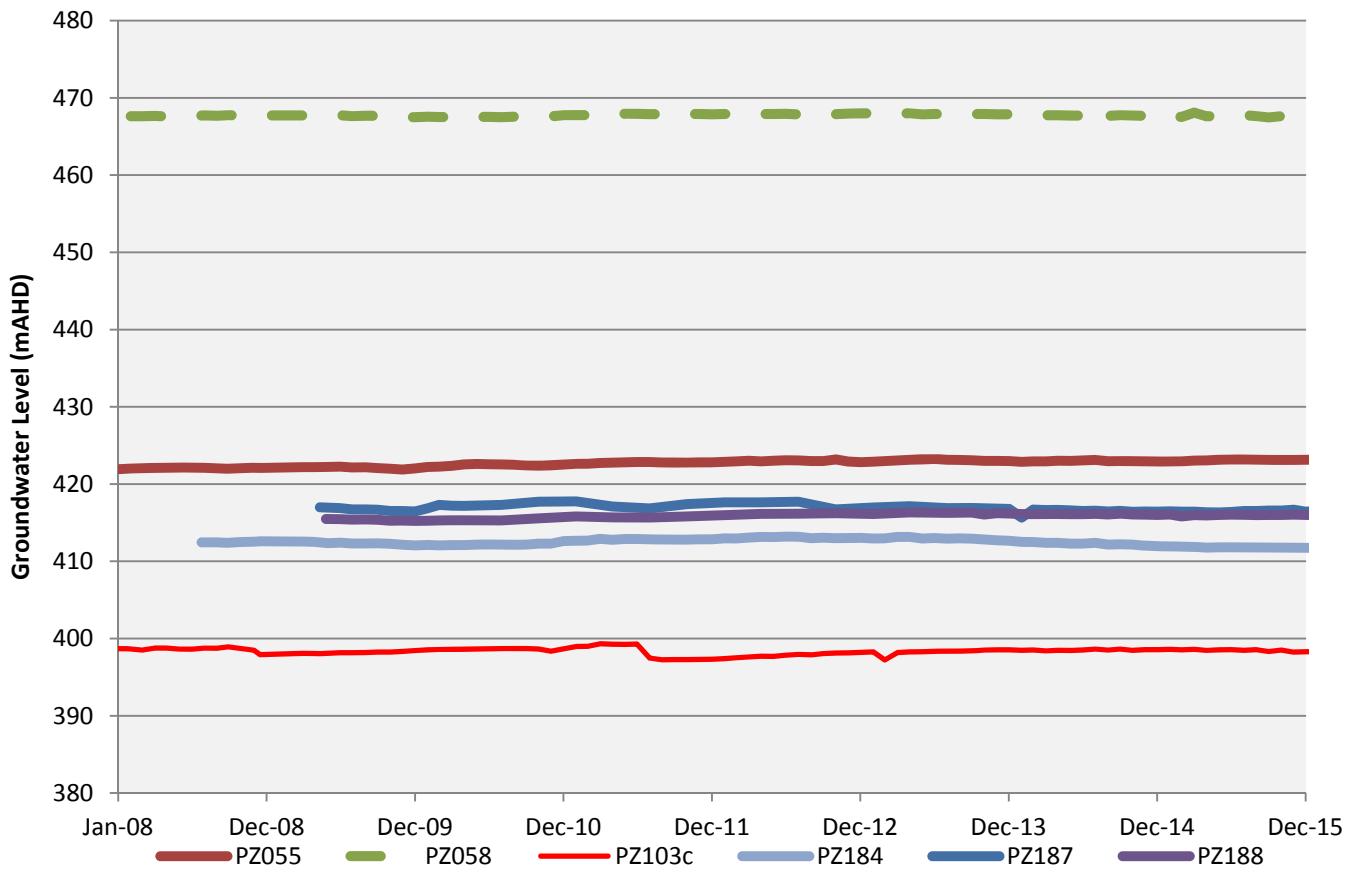


Figure 3-d: Tertiary/Surficial Composite Hydrograph

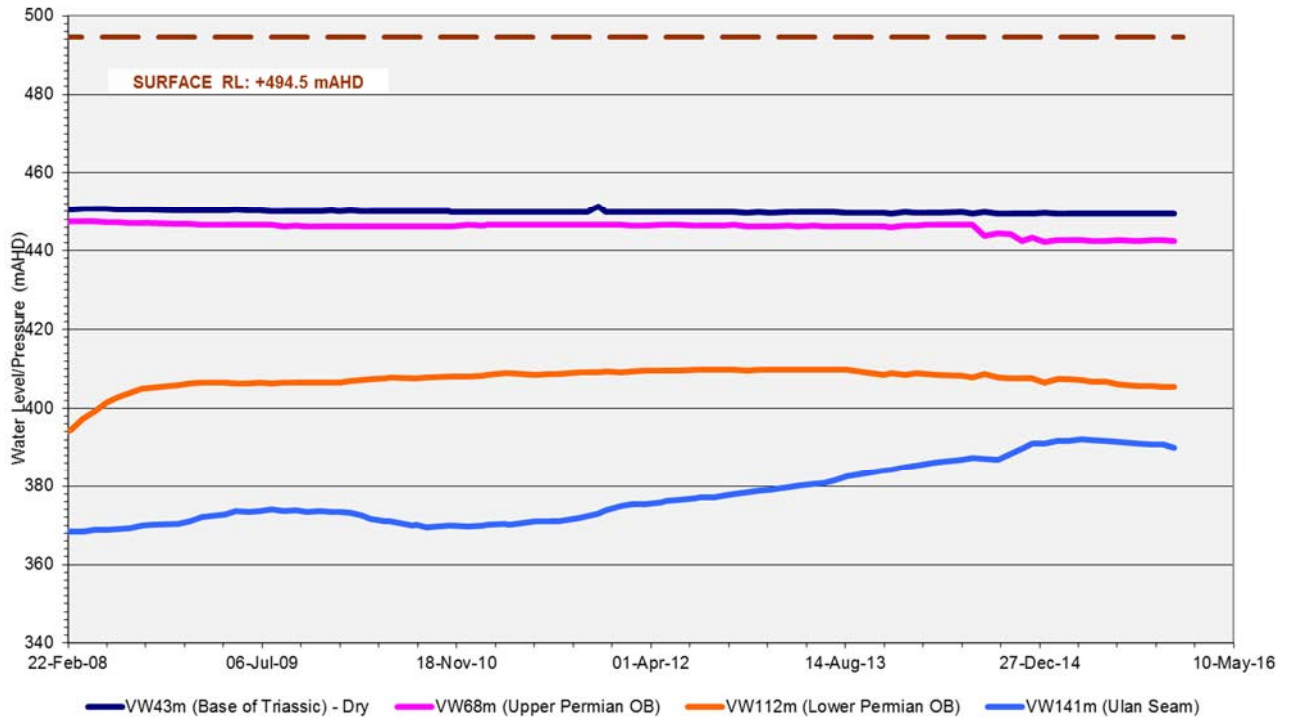


Figure 3-e PZ127 Composite Hydrograph

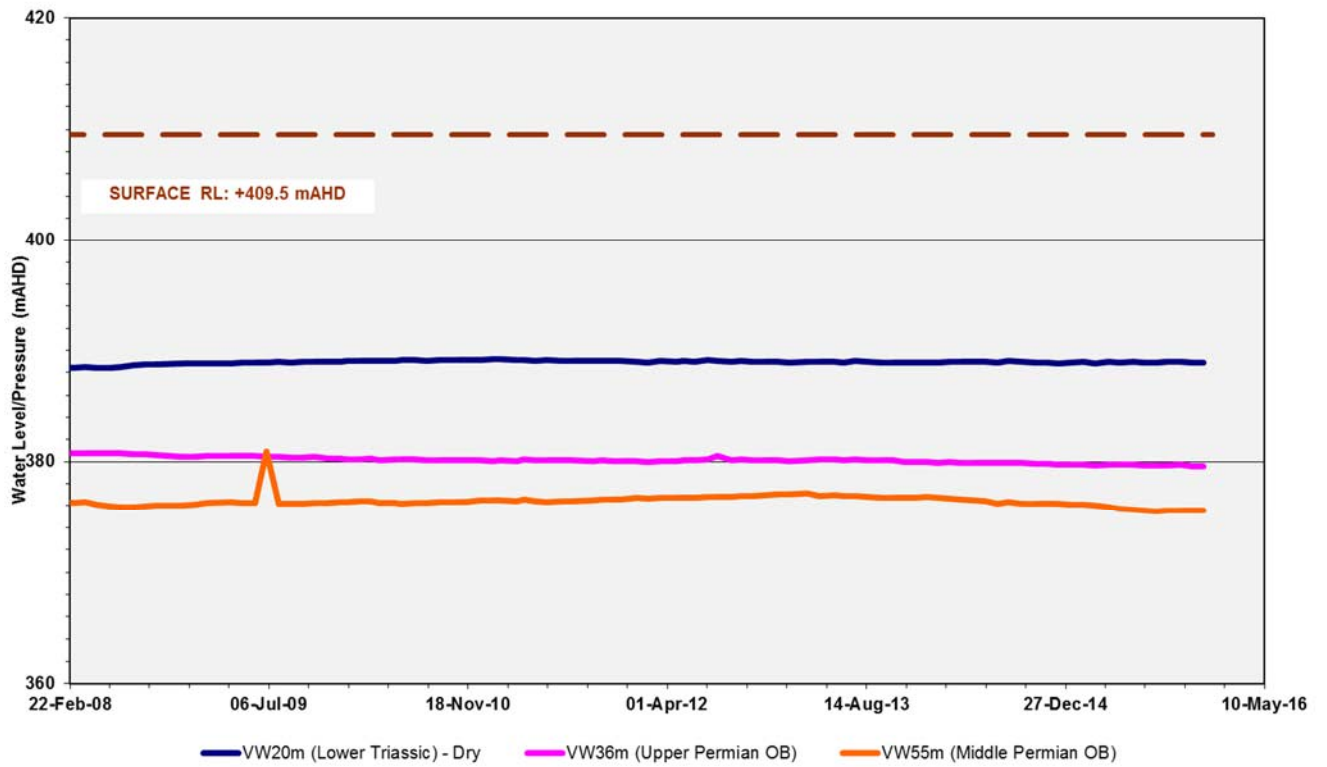


Figure 3-f PZ128 Composite Hydrograph

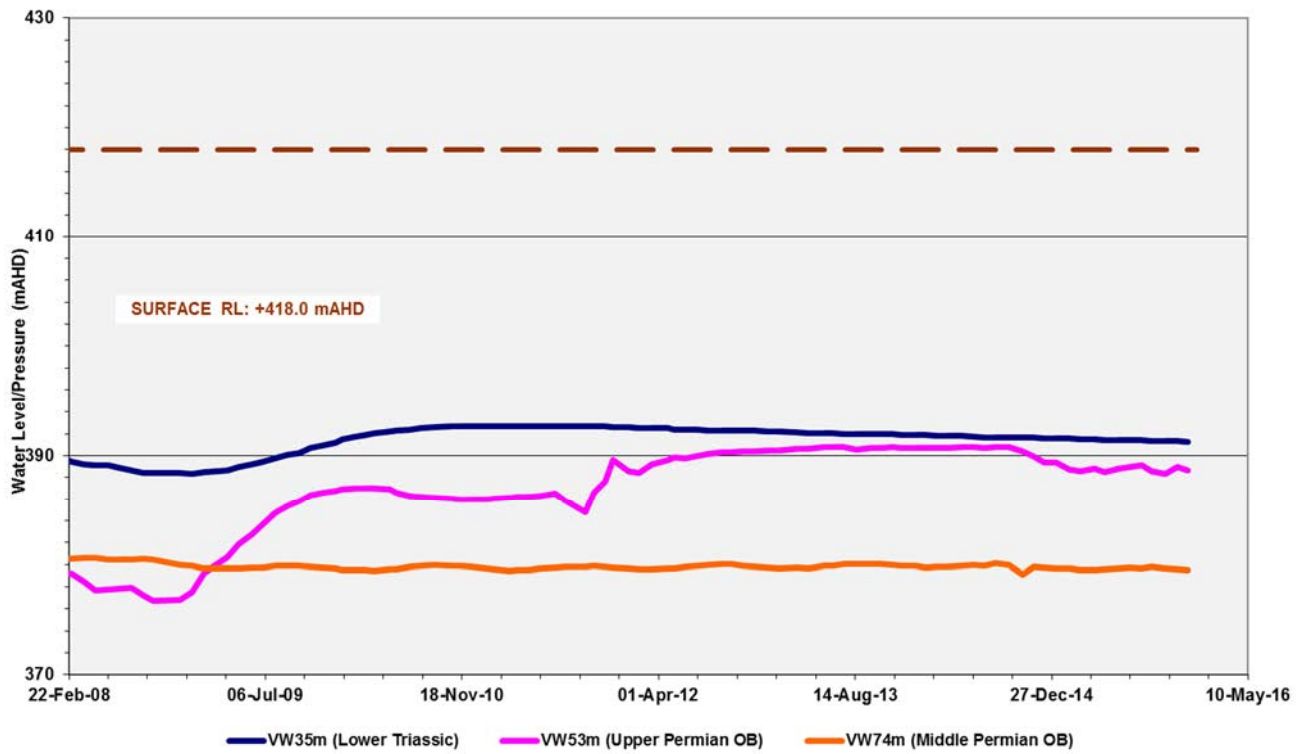


Figure 3-g PZ129 Composite Hydrograph

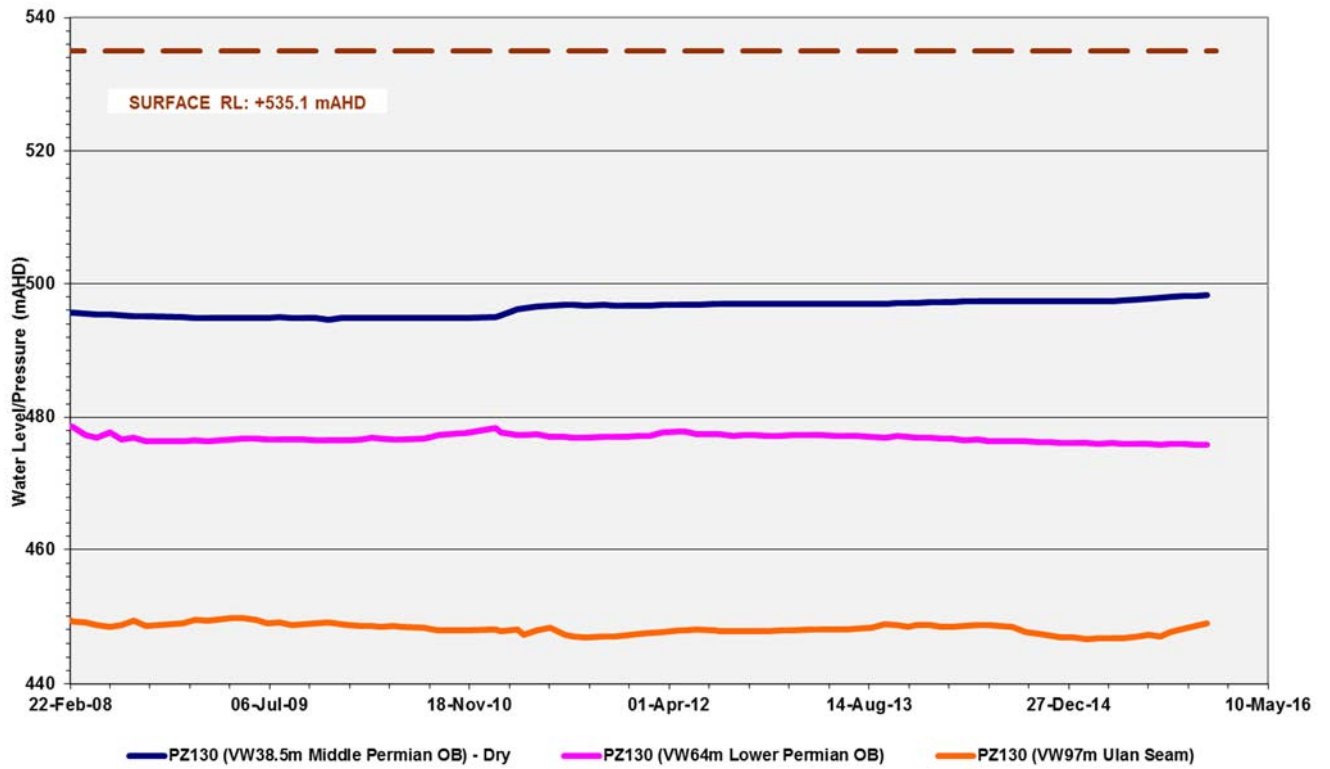


Figure 3-h PZ130 Composite Hydrograph

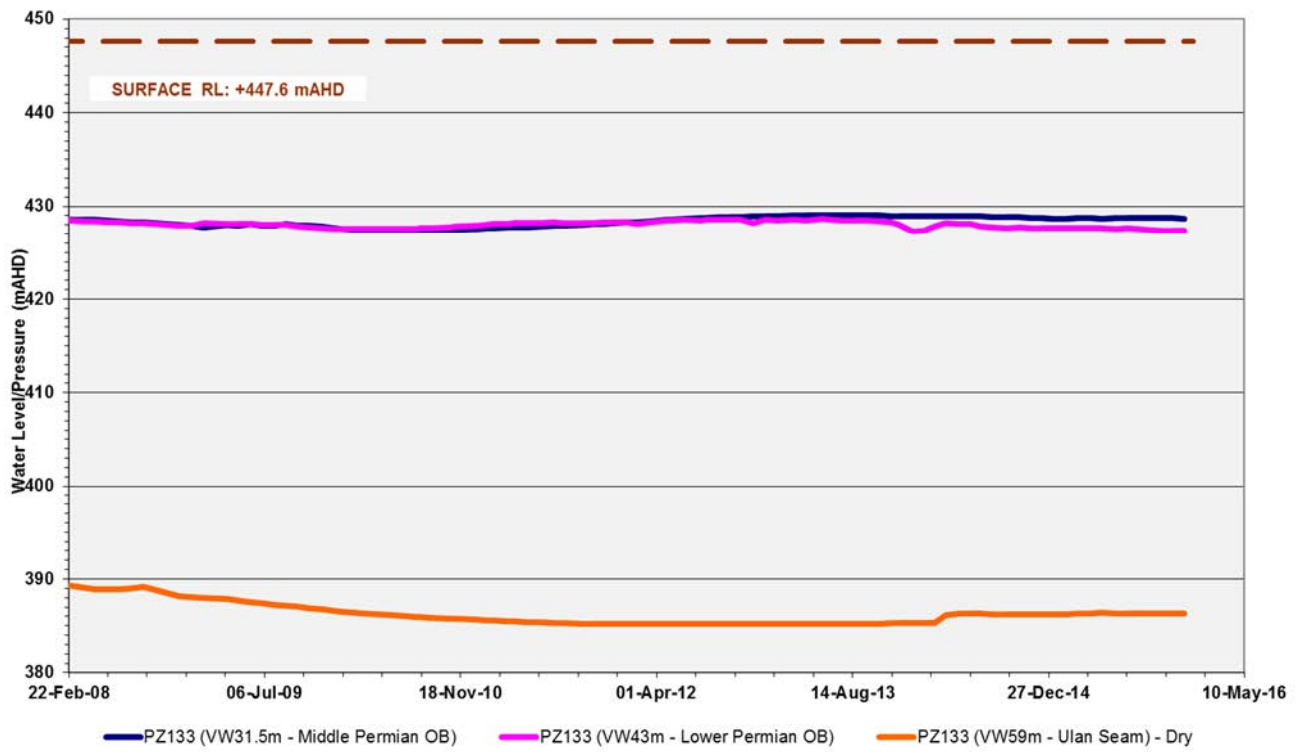


Figure 3-i PZ133 Composite Hydrograph

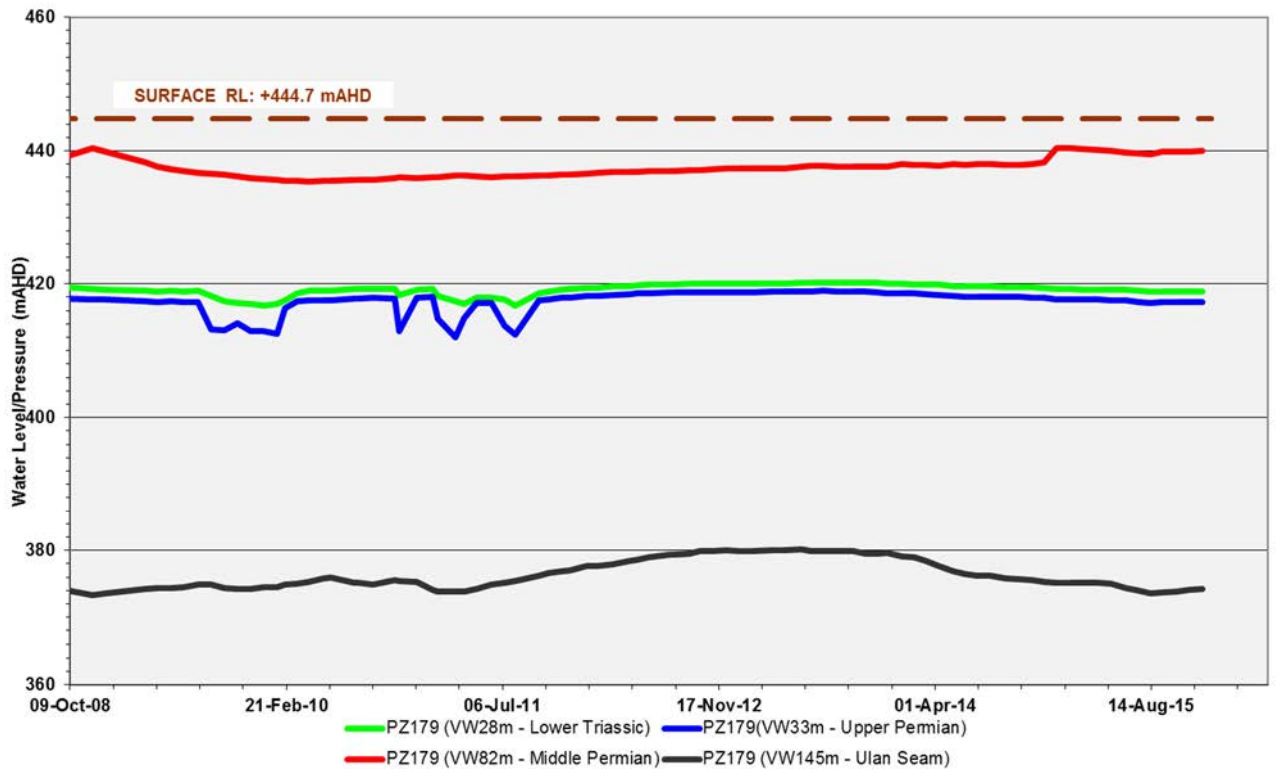


Figure 3-j PZ1179 Composite Hydrograph

#### APPENDIX 4. EPBC COMPLIANCE TABLES (2007/3297) (2008/444)

Condition Number	Condition	Compliance <sup>1</sup>	Evidence/Comments
EPBC 2007/3297			
1	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking the action shall make suitable arrangements within 12 months of this approval to:</p> <p>(a) Transfer at least 130 hectares of the White Box-Yellow Box-Blakely's Red Gum Woodland and Derived Native Grassland listed ecological community to the NSW Minister for Climate Change Environment and Water offset, on a "like for like" basis, the 65 hectares that would be cleared by the project at an offset ratio of 2:1; and</p> <p>(b) Provide the NSW Department of Environment and Climate Change (DECC) with funds (which at the discretion of DECC may include an in-kind contribution) to cover any reasonable costs associated with the transfer and ongoing management of this land.</p>	Noted	Completed prior to period.
2	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking the action shall in accordance with the Rehabilitation and Offset Management Plan (See Condition 3 below):</p> <p>(a) Revegetate at least 38 hectares of disturbed land on the "Red Hills" property with Yellow Box-White Box-Blakely's Red Gum vegetation;</p> <p>(b) Revegetate at least 143 hectares of cleared land on the "Red Hills" property with suitable native vegetation to improve wildlife corridor linkages;</p> <p>(c) Conserve and enhance at least 1262 hectares of existing native vegetation onsite; and</p> <p>(d) Make suitable arrangements to protect these offset areas from development in the long term, to the satisfaction of the Minister for the Environment and Water Resources (the Minister).</p>	Compliant	<p>Proposed instrument of security approved on <b>17 December 2014</b>.</p> <p>The Department of Planning and Environment have endorsed the method of security and are reviewing the terms.</p>
3	<p>In order to protect the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed ecological community, the person taking action shall prepare and implement a detailed Rehabilitation and Offsets Management Plan for the project to the satisfaction of the Minister for the Environment and Water Resources. The proponent shall progressively rehabilitate the site to the satisfaction of Minister for the Environment and Water Resources and the NSW Department of Primary Industries, in general accordance with the proposed Rehabilitation and Offset Management Plan. The rehabilitation and Offset Management Plan must include:</p> <p>(a) The rehabilitation objectives for the site, vegetation offsets and landscaping;</p>	Compliant	<p>The Landscape Management Plan was approved 6 September 2011.</p> <p>This report refer Sections 6.5 and 8.</p>

Condition Number	Condition	Compliance <sup>1</sup>	Evidence/Comments
	<p>(b) A description of the short, medium and long term measures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• Rehabilitate the site</li> <li>• Implement the vegetation offsets; and</li> <li>• Landscape the environmental bunds;</li> </ul> <p>(c) Performance and completion criteria for the rehabilitation of the site, implementation of the vegetation offsets, and landscaping of the environmental bunds;</p> <p>(d) A detailed description of the measures that would be implemented over the next 3 years including the progressive rehabilitation of mining areas and progressive implementation of the vegetation offset areas referred to in Condition 2.</p> <p>(e) A program to monitor the effectiveness of these measures, and progress against the performance and completion criteria (see (c) above);</p> <p>(f) A description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(g) Details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p>Coal mining operations must not commence until the plan has been approved. The approved plan must be implemented.</p>		
4	<p>The person taking the action must provide a report to the Department by 1 November each year following commencement of the action, addressing compliance with the conditions of this approval. Annual reports must be provided until the Minister is satisfied that the person taking the action has complied with all conditions of the approval.</p>	Compliant	This report.
5	<p>Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister'. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister</p>	Compliant	Noted.
6	<p>If the Minister believes that it is necessary or desirable for the better protection of the listed threatened species and ecological communities to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or management strategies approved pursuant to paragraphs 1, 2 and 3, and submit the revised plan, report or strategy for the Minister's approval. The person taking the action must comply with any such request. The revised approve plan, report or strategy must be implemented.</p>	Compliant	Noted

Condition Number	Condition	Compliance <sup>1</sup>	Evidence/Comments
7	If at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of coal mining operations, the action must not thereafter be commenced without the written agreement of the Minister.	Compliant	Noted
EPBC 2008/4444			
1	The approval holder must not clear more than 1, 534 hectares of native vegetation within the defined footprint at Schedule 1.	Compliant	This Report Section 4
2	To mitigate the impacts of the proposal on the Large-eared Pied Bat, Southern Long-eared Bat, Regent Honeyeater, Swift Parrot and the Spotted-tail Quoll, the approval holder must prepare and submit, prior to the proposed date of commencement of the action, a mine site Vegetation Clearance Protocol and Landscape Management plan (VCPLMP) for the Minister's written approval. The VCPLMP must; <ul style="list-style-type: none"> <li>a. Delineate areas to be cleared, describe pre-clearance survey methods, specify actions to minimise fauna impacts and detail vegetation clearance procedures.</li> <li>b. Require collection and stockpiling of habitat features important to threatened fauna species for reinstatement in rehabilitation areas.</li> <li>c. Require use of native, locally sourced seed for propagation for rehabilitation activities.</li> <li>d. Specify a two stage clearing protocol where non-habitat trees are cleared 24 hours prior to any habitat trees are cleared, to encourage fauna to move out of an area.</li> </ul> The approval holder must not commence until the VCPLMP is approved by the Minister. The approved VCPLMP must be implemented.	Compliant	VCPLMP prepared and submitted to the Department of Environment with VCPLMP approval granted on <b>29 May 2015</b> .
3	To compensate for the loss of 123.3 hectares of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 902 hectares of habitat for EPBC listed threatened species, the approval holder must prepare and submit (within 3 months after the approval), a Biodiversity Offset Management Plan (BOMP) for the proposed EPBC Offset Areas, for the Minister's written approval. The BOMP must; <ul style="list-style-type: none"> <li>a. Identify those lands described as the Offset Areas at Schedule 2 (Figures 1-7) of this notice that are necessary to achieve the outcomes required by the Environmental Offsets Policy 2012. This must include offset attributes, shapefiles, textile descriptions and maps to clearly define the location and boundaries of the offset area (s).</li> <li>b. Provide a survey and description of the current condition (prior to any management activities) of the offset areas identified in Condition 3a.</li> <li>c. Detail management actions and regeneration and revegetation strategies to be undertaken on the offset areas to improve the ecological quality of these areas, including: <ul style="list-style-type: none"> <li>l. a description and timeframe of measures that would be implemented to improve the condition of the ecological communities on the site;</li> </ul> </li> </ul>	Compliant	A Biodiversity Offset Management Plan (BOMP) was submitted to the Department of Environment for approval on 18 August 2015 . Following receipt of the Department of Environment's comments, a revised plan was submitted in the 2016.

Condition Number	Condition	Compliance <sup>1</sup>	Evidence/Comments
	<p>II. Performance and completion criteria for evaluating the management of the offset area, and criteria for triggering remedial action;</p> <p>III. a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>IV. a description of potential risks to the successful implementation of the plan, a description of the measures that will be implemented to mitigate against these risks and a description of the contingency measures that will be implemented if defines triggers arise; and</p> <p>V. details of who would be responsible for monitoring, reviewing, and implementing the plan.</p> <p>The approved BOMP must be published on the approval holder's internet website, within 1 month of being approved and for a period of 5 years thereafter. The approved BOMP must be implemented.</p>		
4	<p>To compensate for the loss of 123.3 hectares of the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (WBGW) ecological community and 902 hectares of habitat for EPBC listed threatened species, within 24 months of the date of this approval, the approval holder must secure the lands identified as the Offset Areas at Schedule 2 (Figures 1-7) of this notice as a biodiversity offset by a legal instrument under relevant nature conservation legislation on the title of the land. This instrument must:</p> <p>a. Provide for the protection of the land in perpetuity;</p> <p>b. Prevent any future development activities, including mining and mineral extraction;</p> <p>c. Ensure the active management of the land; and</p> <p>d. Be provided to the Department within 3 months of it being issued, as evidence of compliance with this condition.</p>	Compliant	Security of offsets in progress. Offset mechanisms have been endorsed. All offsets pending response from the NSW Department of Planning and environment or NSW Office of Environment and Heritage.
5	<p>The approval holder must undertake management and monitoring of water resources in accordance with this project approval for Application Number 08-0135 issued by the NSW Planning Assessment Commission under the Environmental Planning and Assessment Act 1979 (NSW) on 30 January 2015.</p>	Compliant	Moolarben Complex Water Management Plan. This report Section 7
6	<p>Upon request, the approval holder shall supply the groundwater monitoring data for the Moolarben Coal Project to the Department, NSW Government agencies, Operators of the Ulan and/or Wilpinjong mines or other adjacent mine operators. A protocol for the supply of the data will be included in the project's Water Management Plan.</p>	Compliant	Moolarben Complex Water Management Plan.
7	<p>The approval holder must make available for the Minister on request, all plans or programs and any review of plans or programs produced pursuant to Condition 5.</p>	Not Applicable	Noted
8	<p>Within 30 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.</p>	Compliant	Department of Environment advised <b>13 August 2015</b> .
9	<p>The approval holder must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the BOMP and</p>	Compliant	Noted.



Condition Number	Condition	Compliance <sup>1</sup>	Evidence/Comments
	VCPLMP, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.		
10	Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of the BOMP and VCPLMP as specified in the conditions. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published.	Compliant	This report. Future reports will be prepared in conjunction with Annual Reviews as per email correspondence 8 March 2016 (subject to approval).
11	Non-compliance with any of the conditions of this approval must be reported to the Department within 2 business days of becoming aware of the non-compliance.	Not Applicable	Noted
12	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not Applicable	Noted
13	If the approval holder wishes to carry out any activity otherwise than in accordance with the Plans as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised version of that Plan. The approval holder must not commence the varied activity until the Minister has approved the varied Plan in writing. The Minister will not approve a varied plan unless the revised Plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised Plan, that Plan must be implemented in place of the Plan originally approved.	Not Applicable	Noted
14	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the Plan specified in the conditions and submit the revised Plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved Plan must be implemented. Unless the Minister has approved the revised Plan then the approval holder must continue to implement the plan originally approved.	Not Applicable	Noted
15	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the Minister.	Complaint	Action commenced <b>2 August 2014</b> .

## APPENDIX 5. COMMUNITY CONTRIBUTIONS

Beneficiary	Amount	Project/Event
Bungara Progress Association	2000	Inverter. Power supply to brigade shed
Cudgegong Cruisers	4500	Can Assist Mudgee Branch- car rally fundraiser
Cudgegong Mathematics	1500	mathematics competition
Gulgong Aviculture	1000	annual canary show Gulgong
Gulgong Eisteddfod	2500	annual performing arts eisteddfod
Gulgong Polocrosse	3684	water tank and pump
Gulgong Tennis	1000	upgrade lighting
Mudgee Hockey	950	PA system
Mid-Western Dancing	2500	local dance festival
Mudgee Indoor Swimming	1500	time keepers clock
Mudgee Mens Shed	1500	photography equipment
Mudgee Muddragons	2000	new dragon boat
Mudgee Poultry & Pigeons	1500	computer
Munmarra Fire Brigade	1000	catering equipment dishwasher
Rylstone Show	5000	annual show sponsorship
Black Sheep Breeders	1000	annual show sponsorship in Mudgee
Central West Alpacas	1500	local event
Cooyal Tennis	576	tennis net
Gulgong RFS	3000	portable light to use at incidents
Gulgong High	1500	expand school vegie garden
Lue Hall	1500	tables and chairs for hall functions
Midwestern Horses	940	wireless micro phone system
Mudgee Cycle Club	2500	annual road cycling event
Lions Club	2500	twilight festival and market
MPAV- Mudgee People Against Violence	2000	awareness campaign in schools
Mudgee Police Rugby	3000	police rugby tournament
Mudgee Rescue Squad	2200	equipment for additional rescue vehicle
Mudgee Equitation	950	trailer for equipment
pioneer House	2000	upgrade of internal courtyard
Rotary Mudgee	5000	Christmas carols festival
Coolah Rugby League	1000	Goal post pads
Cudgegong School	2300	Irrigation- kids garden club
Watershed Landcare 1	3000	environmental education day years 5 & 6
Gulgong Aviculture	850	canary breeders show
Gulgong Eisteddfod	2000	dance, drama, poetry reading etc. festival
Gulgong Fishing Club	600	purchase fingerlings - restock Cudgegong river
Rylstone Show society	2500	upgrade poultry shed
Kanandah retirement	3000	furniture & ornaments for new residents outdoor area
Mudgee Catholic Playgroup	2500	outdoor play equipment

Beneficiary	Amount	Project/Event
Mud Fest	3000	short film festival
Mudgee Ladies Golf	1500	rehab a ladies tee
Cudgegong Learning Committee	2500	The try a trade bus will attend MHS for all district schools to take part
Mudgee High School	5000	equipment to build an aquaponics system
Mudgee Softball	1000	marquee
Windeyer RFS	2000	Purchase BBQ & marquee
Sculptures in the Garden	5000	sculptures in the gardens event
Total	<b>\$100050</b>	

**Additional Donations**

Beneficiary	Amount	Project/Event
Westpac Rescue Helicopter	5000	Local fundraising function
Pioneer House	8000	50 year celebration
Mudgee Little Athletics	6000	New uniform
Celebrity Golf Day	16000	Annual local charity fundraiser
Pink Tractor Event	3000	Fundraiser for local breast cancer care nurse
Moolarben Spirit Award	5000	High School awards program
Mudgee Touch Football	1500	Team sponsorship

**\$44500.00**

**Total \$144550.00**

## APPENDIX 6. COMMUNITY COMPLAINTS SUMMARY 2015

Date	Type	Location	Complaint Description
3/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
7/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
8/01/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
10/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
10/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
12/01/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
13/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
13/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
19/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes.
21/01/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
21/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
22/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required.
22/01/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
23/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
31/01/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
7/02/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
7/02/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
7/02/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
9/02/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
11/02/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.



Date	Type	Location	Complaint Description
28/02/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
1/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
3/03/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
3/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
9/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
10/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/03/2015	Blasting	Winchester Crescent	No actions required. Monitoring results indicated acceptable vibration and overpressure levels. Caller advised of investigation, results and actions.
13/03/2015	Odour	Winchester Crescent	No actions required. Investigations did not identify source or odour. Caller not able to be contacted.
17/03/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
18/03/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
18/03/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
18/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
22/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
23/03/2015	Lighting	Moolarben Road	Operational adjustments were made. Caller advised of investigation, results and actions.
24/03/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
25/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
28/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
29/03/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
29/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
29/03/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
30/03/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.

Date	Type	Location	Complaint Description
30/03/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
1/04/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
1/04/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
2/04/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
5/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
6/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
7/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
9/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
10/04/2015	Blasting	Ridge Road	No actions required. SMS blast notification sent. Caller advised of investigation, results and actions.
10/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/04/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
12/04/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
12/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
22/04/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
28/04/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
29/04/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
29/04/2015	Noise	Other	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
30/04/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
30/04/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.

Date	Type	Location	Complaint Description
1/05/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
3/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
6/05/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
16/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
18/05/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
18/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
19/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
19/05/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Operational adjustments were made. Caller advised of investigation, results and actions.
19/05/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller advised of investigation, results and actions.
21/05/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller not able to be contacted.
24/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
24/05/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
24/05/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
25/05/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
1/06/2015	Blasting	Winchester Crescent	No actions required. Monitoring results indicated acceptable vibration and overpressure levels. Caller advised of investigation, results and actions.
2/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
2/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
3/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
4/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
6/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
6/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.



Date	Type	Location	Complaint Description
9/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
12/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
12/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
13/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
13/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
14/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
14/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
15/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
15/06/2015	Blasting	Winchester Crescent	No actions required. Monitoring results indicated acceptable vibration and overpressure levels. EC met with the complainant. Caller advised of investigation, results and actions.
15/06/2015	Odour	Winchester Crescent	No actions required. MPEA and EC attended the complainants residence. No Odour observed. Caller advised of investigation, results and actions.
15/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
16/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
16/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
16/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
17/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
20/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
21/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
21/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
21/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.

Date	Type	Location	Complaint Description
21/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
22/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
22/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
23/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
23/06/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
23/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
23/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
24/06/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
24/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
25/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
27/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
27/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
28/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
28/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
29/06/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
29/06/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
29/06/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
29/06/2015	Blasting	Winchester Crescent	No actions required. Monitoring results indicated acceptable vibration and overpressure levels. Caller advised of investigation, results and actions.
2/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller advised of investigation, results and actions.
3/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.

Date	Type	Location	Complaint Description
4/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
5/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
8/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
8/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
10/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Operational adjustments were made. Caller not able to be contacted.
15/07/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller not able to be contacted.
16/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller not able to be contacted.
18/07/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
19/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
19/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
19/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
19/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
19/07/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
19/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
19/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
19/07/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
19/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
20/07/2015	Noise	Other	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
20/07/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
20/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.

Date	Type	Location	Complaint Description
20/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
21/07/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
21/07/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
21/07/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
22/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
27/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
28/07/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
29/07/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
30/07/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
1/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
1/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
1/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
1/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
1/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Operational adjustments were made. Caller not able to be contacted.
2/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
2/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
4/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
8/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
8/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
8/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.

Date	Type	Location	Complaint Description
8/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
9/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
9/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
9/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
9/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
10/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
10/08/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
12/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller not able to be contacted.
14/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
15/08/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
15/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
15/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
16/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
16/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
17/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
20/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
21/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
21/08/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
21/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.

Date	Type	Location	Complaint Description
21/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
22/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
23/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Thunder, lightning and rain were present in area. Caller not able to be contacted.
23/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
24/08/2015	Blasting	Other	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Blast monitoring results within criteria levels. Caller advised of investigation, results and actions.
27/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
30/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
30/08/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
30/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
30/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
30/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
31/08/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
31/08/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
2/09/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
4/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
5/09/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
5/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
6/09/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted. Complainant not contacted upon their request.
7/09/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
8/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.

Date	Type	Location	Complaint Description
10/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/09/2015	Noise	Ulan Road	No actions required. Caller not able to be contacted. Complainant not contacted upon their request.
11/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
13/09/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
13/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
15/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
21/09/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
28/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
29/09/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
1/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
1/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
3/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
7/10/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
7/10/2015	Dust	Ulan Road	Investigation undertaken. No actions required. Caller not contacted upon their request.
13/10/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
15/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not contacted upon their request.
20/10/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
22/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
24/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
24/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
25/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.

Date	Type	Location	Complaint Description
27/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
29/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not contacted upon their request.
29/10/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
29/10/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
30/10/2015	Noise	Cope Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.
30/10/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Caller not able to be contacted.
30/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not contacted upon their request.
30/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
30/10/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
30/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
30/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
30/10/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not able to be contacted.
31/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
31/10/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
31/10/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
1/11/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
1/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
2/11/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
3/11/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not contacted upon their request.
3/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made.



Date	Type	Location	Complaint Description
3/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes.
10/11/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller advised of investigation, results and actions.
10/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
11/11/2015	Odour	Winchester Crescent	No actions required. No odour observed during shift. Caller not able to be contacted.
13/11/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
16/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
23/11/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
30/11/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required.
3/12/2015	Dust and Blasting	Cope Road	No actions required. Blast and dust results within criteria. Caller advised of investigation, results and actions.
4/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
5/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
5/12/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
6/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller not able to be contacted.
8/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
8/12/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller not contacted upon their request.
8/12/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. Operational adjustments were made. Caller advised of investigation, results and actions.
10/12/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not contacted upon their request.
10/12/2015	Noise	Moolarben Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
11/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
19/12/2015	Noise	Ulan Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.

Date	Type	Location	Complaint Description
19/12/2015	Noise	Winchester Crescent	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Caller not able to be contacted.
24/12/2015	Noise	Ridge Road	Investigation revealed no unusual mining operations were occurring at the time. Monitoring results indicated acceptable noise levels. No actions required. Operational changes made to improve outcomes. Caller advised of investigation, results and actions.