

**Monitoring Point: 6 <HV1>**

Dust monitoring, High volume sampler located on private property to the north of ML1535 boundary

Frequency	Date Sampled	Date Obtained	Date Published	Total Suspended Particles ( $\mu\text{g}/\text{m}^3$ )	Comments
Every 6 days	05/04/2012	31/05/2012	01/07/2012	66.7	High due to local environmental factors
Every 6 days	11/04/2012	31/05/2012	01/07/2012	56.6	High due to local environmental factors
Every 6 days	17/04/2012	31/05/2012	01/07/2012	66.4	High due to local environmental factors
Every 6 days	23/04/2012	31/05/2012	01/07/2012	22.5	
Every 6 days	29/04/2012	31/05/2012	01/07/2012	34.4	
Every 6 days	05/05/2012	31/05/2012	01/07/2012	12.0	
Every 6 days	11/05/2012	31/05/2012	01/07/2012	40.2	
Every 6 days	17/05/2012	26/06/2012	14/07/2012	29.2	
Every 6 days	23/05/2012	26/06/2012	14/07/2012	30.1	
Every 6 days	29/05/2012	26/06/2012	14/07/2012	15.4	
Every 6 days	04/06/2012	26/06/2012	14/07/2012	8.1	
Every 6 days	10/06/2012	26/06/2012	14/07/2012	15.6	
Every 6 days	16/06/2012	26/06/2012	14/07/2012	6.4	
Every 6 days	22/06/2012	09/07/2012	14/07/2012	5.7	
Every 6 days	28/06/2012	09/07/2012	14/07/2012	20.6	
Every 6 days	04/07/2012	02/08/2012	14/08/2012	20.6	
Every 6 days	10/07/2012	02/08/2012	14/08/2012	7.9	
Every 6 days	16/07/2012	02/08/2012	14/08/2012	9.7	
Every 6 days	22/07/2012	02/08/2012	14/08/2012	14.2	
Every 6 days	28/07/2012	12/09/2012	14/10/112	8.9	
Every 6 days	03/08/2012	12/09/2012	14/10/2012	18.2	
Every 6 days	09/08/2012	12/09/2012	14/10/2012	21.9	
Every 6 days	15/08/2012	12/09/2012	14/10/2012	18.9	
Every 6 days	21/08/2012	12/09/2012	14/10/2012	12.6	
Every 6 days	27/08/2012	12/09/2012	14/10/2012	21.7	
Every 6 days	02/09/2012	12/09/2012	14/10/2012	18.3	
Every 6 days	08/09/2012	08/10/2012	14/10/2012	33.9	
Every 6 days	14/09/2012	08/10/2012	14/10/2012	25.1	
Every 6 days	20/09/2012	08/10/2012	14/10/2012	29.8	
Every 6 days	26/09/2012	08/10/2012	14/10/2012	43.7	
Every 6 days	02/10/2012	12/11/2012	14/11/2012	33.4	
Every 6 days	08/10/2012	12/11/2012	14/11/2012	34.7	
Every 6 days	14/10/2012	12/11/2012	14/11/2012	21.5	
Every 6 days	20/10/2012	12/11/2012	14/11/2012	51.9	High due to local environmental factors
Every 6 days	26/10/2012	12/11/2012	14/11/2012	53.4	High due to local environmental factors
Every 6 days	01/11/2012	11/12/2012	14/12/2012	87.2	High due to local environmental factors
Every 6 days	07/11/2012	11/12/2012	14/12/2012	16.9	
Every 6 days	13/11/2012	11/12/2012	14/12/2012	53.6	High due to local environmental factors
Every 6 days	19/11/2012	11/12/2012	14/12/2012	44.1	
Every 6 days	25/11/2012	11/12/2012	14/12/2012	79.1	High due to local environmental factors

**Monitoring Point: 12 <D1>**

Stormwater quality monitoring, Northern waste emplacement contained water storage

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	09/05/2012	01/07/2012	8.03	1730	8	
Weekly	12/04/2012	30/04/2012	01/07/2012	8.05	1770	8	
Weekly	16/04/2012	30/04/2012	01/07/2012	8.14	1770	6	
Weekly	24/04/2012	02/05/2012	01/07/2012	8.06	1800	34	
Weekly	30/04/2012	09/05/2012	01/07/2012	8.28	1820	14	
Weekly	08/05/2012	21/05/2012	01/07/2012	8.05	1800	12	
Weekly	16/05/2012	29/05/2012	01/07/2012	8.26	1860	20	
Weekly	21/05/2012	01/06/2012	01/07/2012	8.53	1980	5	
Weekly	28/05/2012	07/06/2012	01/07/2012	8.55	1850	15	
Weekly	05/06/2012	12/06/2012	14/07/2012	9.08	2117	34	
Weekly	12/06/2012	25/06/2012	14/07/2012	9.09	2350	16	
Weekly	19/06/2012	27/06/2012	14/07/2012	8.04	2189	41	
Weekly	26/06/2012	06/07/2012	14/07/2012	5.90	2290	6	pH measured in the field was 5.90, laboratory pH was 8.50
Weekly	03/07/2012	16/07/2012	14/08/2012	7.04	2491	8	
Weekly	09/07/2012	19/07/2012	14/08/2012	8.69	2155	11	
Weekly	11/07/2012	01/08/2012	14/08/2012	8.58	2309	18	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	8.36	1877	13	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.10	1700	12	
Weekly	02/08/2012	09/08/2012	14/09/2012	7.50	854	28	
Weekly	07/08/2012	15/08/2012	14/09/2012	6.98	874	10	
Weekly	13/08/2012	04/09/2012	14/09/2012	8.35	762	<5	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.28	715	9	
Weekly	28/08/2012	04/09/2012	14/09/2012	9.02	692	12	
Weekly	05/09/2012	12/09/2012	14/10/2012	8.45	716	12	
Weekly	11/09/2012	21/09/2012	14/10/2012	8.70	817	44	
Weekly	19/09/2012	27/09/2012	14/10/2012	8.48	732	42	
Weekly	24/09/2012	10/10/2012	14/10/2012	8.42	818	72	
Weekly	02/10/2012	12/10/2012	14/11/2012	8.05	1042	33	
Weekly	08/10/2012	16/10/2012	14/11/2012	7.06	1176	34	
Weekly	15/10/2012	24/10/2012	14/11/2012	7.02	1239	111	
Weekly	22/10/2012	30/10/2012	14/11/2012	6.77	1395	37	
Weekly	29/10/2012	06/11/2012	14/11/2012	7.99	1566	36	
Weekly	05/11/2012	19/11/2012	14/12/2012	7.77	1702	136	
Weekly	12/11/2012	21/11/2012	14/12/2012	8.58	1995	60	
Weekly	19/11/2012	27/11/2012	14/12/2012	8.20	2170	19	
Weekly	27/11/2012	05/12/2012	14/12/2012	8.53	3300	30	
Weekly	03/12/2012	12/12/2012	14/01/2013	8.54	2790	9	
Weekly	10/12/2012	18/12/2012	14/01/2013	9.02	31700	59	EC measured in the field was 31700µS/cm, laboratory EC was 3240µS/cm
Weekly	19/12/2012	28/12/2012	14/01/2013	7.41	3680	6	
Weekly	24/12/2012	02/01/2013	14/01/2013	9.43	3670	82	

**Monitoring Point: 13 <D4>**

Stormwater quality monitoring, Southern waste emplacement contained water storage

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	09/05/2012	01/07/2012	7.62	4770	16	
Weekly	12/04/2012	30/04/2012	01/07/2012	7.98	12700	9	
Weekly	16/04/2012	30/04/2012	01/07/2012	8.19	12700	8	
Weekly	24/04/2012	02/05/2012	01/07/2012	8.25	13600	22	
Weekly	30/04/2012	09/05/2012	01/07/2012	8.27	13600	8	
Weekly	08/05/2012	21/05/2012	01/07/2012	8.18	13500	21	
Weekly	16/05/2012	29/05/2012	01/07/2012	8.24	13500	23	
Weekly	21/05/2012	01/06/2012	01/07/2012	8.39	13700	52	
Weekly	28/05/2012	07/06/2012	01/07/2012	8.30	12400	14	
Weekly	05/06/2012	12/06/2012	14/07/2012	9.14	12220	8	
Weekly	12/06/2012	25/06/2012	14/07/2012	9.18	12790	9	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.61	13230	10	
Weekly	26/06/2012	06/07/2012	14/07/2012	7.11	13600	14	
Weekly	03/07/2012	16/07/2012	14/08/2012	6.84	13830	56	pH measured in the field was 6.84, laboratory pH was 8.65
Weekly	09/07/2012	19/07/2012	14/08/2012	8.60	12550	10	
Weekly	11/07/2012	01/08/2012	14/08/2012	8.45	11310	8	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	7.72	11680	22	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.60	8630	15	Electrical Conductivity measured in the laboratory was 12300µS/cm
Weekly	02/08/2012	09/08/2012	14/09/2012	8.29	8830	43	
Weekly	07/08/2012	15/08/2012	14/09/2012	8.19	9220	46	
Weekly	13/08/2012	04/09/2012	14/09/2012	8.44	8940	20	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.54	9370	30	
Weekly	28/08/2012	04/09/2012	14/09/2012	8.67	9940	20	
Weekly	05/09/2012	12/09/2012	14/10/2012	8.33	10140	22	
Weekly	11/09/2012	21/09/2012	14/10/2012	8.39	11730	524	
Weekly	19/09/2012	27/09/2012	14/10/2012	8.47	10490	91	
Weekly	24/09/2012	10/10/2012	14/10/2012	8.29	10890	525	
Weekly	02/10/2012	12/10/2012	14/11/2012	8.27	13470	84	
Weekly	08/10/2012	16/10/2012	14/11/2012	8.73	15200	84	
Weekly	15/10/2012	24/10/2012	14/11/2012	8.14	14940	24	
Weekly	22/10/2012	30/10/2012	14/11/2012	8.95	17480	271	
Weekly	29/10/2012	06/11/2012	14/11/2012	8.95	8720	11	
Weekly	05/11/2012	19/11/2012	14/12/2012	7.49	49700	66	Electrical Conductivity levels are currently under investigation
Weekly	12/11/2012	21/11/2012	14/12/2012	8.75	39200	42	Electrical Conductivity levels are currently under investigation
Weekly	19/11/2012	27/11/2012	14/12/2012	8.43	45200	19	Electrical Conductivity levels are currently under investigation
Weekly	27/11/2012	05/12/2012	14/12/2012	8.38	53300	150	Electrical Conductivity levels are currently under investigation

**Monitoring Point: 14 <P1>**

Ambient water quality monitoring, Surface water point within ML1535 on Lake Cowal

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	09/05/2012	01/07/2012	7.57	173	18	
Weekly	11/04/2012	30/04/2012	01/07/2012	8.81	139	30	
Weekly	16/04/2012	30/04/2012	01/07/2012	8.19	185	31	
Weekly	24/04/2012	02/05/2012	01/07/2012	7.86	200	34	
Weekly	30/04/2012	09/05/2012	01/07/2012	7.84	202	22	
Weekly	08/05/2012	21/05/2012	01/07/2012	7.89	198	32	
Weekly	14/05/2012	23/05/2012	01/07/2012	7.76	200	50	
Weekly	21/05/2012	01/06/2012	01/07/2012	7.77	207	41	
Weekly	28/05/2012	07/06/2012	14/07/2012	7.66	184	41	
Weekly	08/06/2012	19/06/2012	14/07/2012	7.55	195	30	
Weekly	12/06/2012	20/06/2012	14/07/2012	7.45	176	26	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.82	206	34	
Weekly	28/06/2012	05/07/2012	14/07/2012	7.70	209	14	
Weekly	03/07/2012	16/07/2012	14/08/2012	7.70	198	49	
Weekly	09/07/2012	19/07/2012	14/08/2012	7.61	275	12	
Weekly	11/07/2012	01/08/2012	14/08/2012	7.63	270	44	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	8.07	212	27	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.16	226	34	
Weekly	31/07/2012	07/08/2012	14/09/2012	8.23	229	30	
Weekly	07/08/2012	14/08/2012	14/09/2012	8.13	229	54	
Weekly	13/08/2012	21/08/2012	14/09/2012	8.27	210	20	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.32	227	41	
Weekly	28/08/2012	05/09/2012	14/10/2012	8.23	252	31	
Weekly	03/09/2012	07/09/2012	14/10/2012	7.57	203	56	
Weekly	12/09/2012	21/09/2012	14/10/2012	8.14	277	81	
Weekly	19/09/2012	28/09/2012	14/10/2012	8.12	223	110	
Weekly	25/09/2012	10/10/2012	14/10/2012	7.87	221	116	
Weekly	02/10/2012	12/10/2012	14/11/2012	7.74	233	151	
Weekly	08/10/2012	16/10/2012	14/11/2012	8.04	284	120	
Weekly	16/10/2012	24/10/2012	14/11/2012	8.04	262	72	
Weekly	23/10/2012	30/10/2012	14/11/2012	8.21	283	156	
Weekly	30/10/2012	06/11/2012	14/11/2012	8.16	287	80	
Weekly	05/11/2012	13/11/2012	14/12/2012	7.98	257	82	
Weekly	14/11/2012	21/11/2012	14/12/2012	7.80	266	96	
Weekly	20/11/2012	28/11/2012	14/12/2012	7.84	283	288	
Weekly	28/11/2012	05/12/2012	14/12/2012	7.69	289	202	
Weekly	03/12/2012	12/12/2012	14/01/2013	8.13	277	215	
Weekly	10/12/2012	18/12/2012	14/01/2013	7.83	317	384	
Weekly	19/12/2012	28/12/2012	14/01/2013	8.28	331	228	
Weekly	24/12/2012	02/01/2013	14/01/2013	8.00	338	428	Rainfall event, combined with weekly sampling

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)
Quarterly	11/04/2012	30/04/2012	01/07/2012	<1	0.003	<0.0001	0.002	<0.001	<0.0001	<0.01
Quarterly	03/07/2012	06/08/2012	14/08/2012	75	0.002	<0.0001	0.003	<0.001	<0.0001	<0.01
Quarterly	02/10/2012	12/10/2012	14/11/2012	74	0.002	<0.0001	0.004	<0.001	<0.0001	<0.01

**Monitoring Point: 15 <P2>**

Ambient water quality monitoring, Surface water point within ML1535 on Lake Cowal

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	11/04/2012	30/04/2012	01/07/2012	8.84	109	29	
Weekly	16/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	24/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	30/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	08/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	14/05/2012	23/05/2012	01/07/2012	7.99	188	-	TSS not requested for analysis
Weekly	21/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	28/05/2012	-	14/07/2012				Location sampled monthly, not weekly
Weekly	08/06/2012	19/06/2012	14/07/2012	7.65	193	-	TSS not requested for analysis
Weekly	12/06/2012	20/06/2012	14/07/2012	7.61	177	38	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.43	206	27	
Weekly	28/06/2012	05/07/2012	14/07/2012	7.62	208	10	
Weekly	03/07/2012	16/07/2012	14/08/2012	7.66	198	42	
Weekly	09/07/2012	19/07/2012	14/08/2012	7.61	273	12	
Event	11/07/2012	01/08/2012	14/08/2012	7.61	271	44	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	7.78	211	17	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.17	227	37	
Weekly	31/07/2012	07/08/2012	14/09/2012	8.16	227	38	
Weekly	07/08/2012	14/08/2012	14/09/2012	8.07	229	20	
Weekly	13/08/2012	21/08/2012	14/09/2012	8.34	213	50	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.34	232	52	
Weekly	28/08/2012	05/09/2012	14/10/2012	8.26	252	61	
Weekly	03/09/2012	07/09/2012	14/10/2012	7.58	200	64	
Weekly	12/09/2012	21/09/2012	14/10/2012	8.13	275	76	
Weekly	19/09/2012	28/09/2012	14/10/2012	8.17	223	67	
Weekly	25/09/2012	10/10/2012	14/10/2012	7.84	219	92	
Weekly	02/10/2012	12/10/2012	14/11/2012	7.71	237	163	
Weekly	08/10/2012	16/10/2012	14/11/2012	7.84	280	87	
Weekly	16/10/2012	24/10/2012	14/11/2012	7.92	262	80	
Weekly	23/10/2012	30/10/2012	14/11/2012	8.21	283	136	
Weekly	30/10/2012	06/11/2012	14/11/2012	8.12	285	68	
Weekly	05/11/2012	13/11/2012	14/12/2012	8.00	266	78	
Weekly	14/11/2012	21/11/2012	14/12/2012	7.82	267	86	
Weekly	20/11/2012	28/11/2012	14/12/2012	7.85	284	226	
Weekly	28/11/2012	05/12/2012	14/12/2012	7.68	293	235	

Weekly	03/12/2012	12/12/2012	14/01/2013	8.08	284	267	
Weekly	10/12/2012	18/12/2012	14/01/2013	7.82	318	336	
Weekly	19/12/2012	28/12/2012	14/01/2013	7.98	331	264	
Weekly	24/12/2012	02/01/2013	14/01/2013	7.92	339	560	Rainfall event, combined with weekly sampling

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)
Quarterly	11/04/2012	30/04/2012	01/07/2012	<1	0.003	<0.0001	0.002	<0.001	<0.0001	<0.01
Quarterly	03/07/2012	06/08/2012	14/08/2012	76	0.002	<0.0002	0.003	<0.001	<0.0001	<0.01
Quarterly	02/10/2012	12/10/2012	14/11/2012	74	0.002	<0.0001	0.005	<0.001	<0.0001	<0.01

**Monitoring Point: 16 <P3>**

Ambient water quality monitoring, Surface water point within ML1535 on Lake Cowal

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	11/04/2012	30/04/2012	01/07/2012	8.85	122	35	
Weekly	16/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	24/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	30/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	08/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	14/05/2012	23/05/2012	01/07/2012	8.05	189	-	TSS not requested for analysis
Weekly	21/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	28/05/2012	-	14/07/2012				Location sampled monthly, not weekly
Weekly	08/06/2012	19/06/2012	14/07/2012	7.56	194	-	TSS not requested for analysis
Weekly	12/06/2012	20/06/2012	14/07/2012	7.62	178	28	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.39	206	21	
Weekly	28/06/2012	05/07/2012	14/07/2012	7.57	208	10	
Weekly	03/07/2012	16/07/2012	14/08/2012	7.64	198	35	
Weekly	09/07/2012	19/07/2012	14/08/2012	7.61	274	12	
Event	11/07/2012	01/08/2012	14/08/2012	7.62	272	44	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	7.83	211	13	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.30	227	28	
Weekly	31/07/2012	07/08/2012	14/09/2012	8.16	228	32	
Weekly	07/08/2012	14/08/2012	14/09/2012	8.05	227	20	
Weekly	13/08/2012	21/08/2012	14/09/2012	8.42	210	39	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.44	235	45	
Weekly	28/08/2012	05/09/2012	14/10/2012	8.50	249	58	
Weekly	03/09/2012	07/09/2012	14/10/2012	7.57	191	58	
Weekly	12/09/2012	21/09/2012	14/10/2012	8.16	279	78	
Weekly	19/09/2012	28/09/2012	14/10/2012	8.27	226	73	
Weekly	25/09/2012	10/10/2012	14/10/2012	7.68	217	73	
Weekly	02/10/2012	12/10/2012	14/11/2012	7.70	237	134	
Weekly	08/10/2012	16/10/2012	14/11/2012	8.04	273	107	
Weekly	16/10/2012	24/10/2012	14/11/2012	7.90	261	164	
Weekly	23/10/2012	30/10/2012	14/11/2012	8.28	283	134	
Weekly	30/10/2012	06/11/2012	14/11/2012	8.16	285	105	
Weekly	05/11/2012	13/11/2012	14/12/2012	7.93	266	62	
Weekly	14/11/2012	21/11/2012	14/12/2012	7.78	266	124	
Weekly	20/11/2012	28/11/2012	14/12/2012	7.84	280	278	
Weekly	28/11/2012	05/12/2012	14/12/2012	7.68	289	197	
Weekly	03/12/2012	12/12/2012	14/01/2013	8.01	283	92	
Weekly	10/12/2012	18/12/2012	14/01/2013	7.85	316	348	
Weekly	19/12/2012	28/12/2012	14/01/2013	8.00	331	280	
Weekly	24/12/2012	02/01/2013	14/01/2013	8.02	342	408	Rainfall event, combined with weekly sampling

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)
Quarterly	11/04/2012	30/04/2012	01/07/2012	<1	0.003	<0.0001	0.002	<0.001	<0.0001	<0.01
Quarterly	03/07/2012	06/08/2012	14/08/2012	75	0.002	<0.0001	0.004	<0.001	<0.0001	<0.01
Quarterly	02/10/2012	12/10/2012	14/11/2012	74	0.002	<0.0001	0.005	<0.001	<0.0001	<0.01

**Monitoring Point: 17 <B1>**

Ambient water quality monitoring, Surface water point within ML1535 on Lake Cowal

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	09/05/2012	01/07/2012	8.37	184	23	
Weekly	11/04/2012	30/04/2012	01/07/2012	7.89	107	49	
Weekly	16/04/2012	30/04/2012	01/07/2012	7.92	184	43	
Weekly	24/04/2012	02/05/2012	01/07/2012	7.57	204	40	
Weekly	30/04/2012	09/05/2012	01/07/2012	8.04	204	52	
Weekly	08/05/2012	21/05/2012	01/07/2012	7.97	202	44	
Weekly	14/05/2012	23/05/2012	01/07/2012	8.00	208	42	
Weekly	21/05/2012	01/06/2012	01/07/2012	7.65	206	35	
Weekly	28/05/2012	07/06/2012	14/07/2012	7.79	186	48	
Weekly	08/06/2012	19/06/2012	14/07/2012	7.61	196	21	
Weekly	12/06/2012	20/06/2012	14/07/2012	7.53	180	42	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.25	208	40	
Weekly	28/06/2012	05/07/2012	14/07/2012	7.59	209	10	
Weekly	03/07/2012	16/07/2012	14/08/2012	7.66	197	43	
Weekly	09/07/2012	19/07/2012	14/08/2012	7.58	276	10	
Event	11/07/2012	01/08/2012	14/08/2012	7.55	269	52	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	7.85	211	20	
Weekly	23/07/2012	30/07/2012	14/08/2012	8.10	230	54	
Weekly	31/07/2012	07/08/2012	14/09/2012	8.34	227	42	
Weekly	07/08/2012	14/08/2012	14/09/2012	8.16	227	44	
Weekly	13/08/2012	21/08/2012	14/09/2012	8.27	212	29	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.29	232	45	
Weekly	28/08/2012	05/09/2012	14/10/2012	8.11	260	73	
Weekly	03/09/2012	07/09/2012	14/10/2012	7.58	196	58	
Weekly	12/09/2012	21/09/2012	14/10/2012	8.19	279	95	
Weekly	19/09/2012	28/09/2012	14/10/2012	8.07	225	74	

Weekly	25/09/2012	10/10/2012	14/10/2012	7.90	220	110	
Weekly	02/10/2012	12/10/2012	14/11/2012	7.74	233	151	
Weekly	08/10/2012	16/10/2012	14/11/2012	8.10	274	72	
Weekly	16/10/2012	24/10/2012	14/11/2012	8.03	261	83	
Weekly	23/10/2012	30/10/2012	14/11/2012	8.21	280	176	
Weekly	30/10/2012	06/11/2012	14/11/2012	7.24	287	112	
Weekly	05/11/2012	13/11/2012	14/12/2012	7.59	252	113	
Weekly	14/11/2012	21/11/2012	14/12/2012	7.75	302	233	
Weekly	20/11/2012	28/11/2012	14/12/2012	7.74	283	246	
Weekly	28/11/2012	05/12/2012	14/12/2012	7.55	289	205	
Weekly	03/12/2012	12/12/2012	14/01/2013	7.73	281	296	
Weekly	10/12/2012	18/12/2012	14/01/2013	8.08	303	376	
Weekly	19/12/2012	28/12/2012	14/01/2013	7.90	327	252	
Weekly	24/12/2012	02/01/2013	14/01/2013	7.94	339	380	Rainfall event, combined with weekly sampling

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)
Quarterly	11/04/2012	30/04/2012	01/07/2012	<1	0.003	<0.0001	0.002	<0.001	<0.0001	<0.01
Quarterly	03/07/2012	06/08/2012	14/08/2012	76	0.001	<0.0001	0.003	<0.001	<0.0001	<0.01
Quarterly	02/10/2012	12/10/2012	14/11/2012	75	0.002	<0.0001	0.006	0.002	<0.0001	<0.01

**Monitoring Point: 18 <B5>**

Ambient water quality monitoring, Surface water point on Lake Cowal to the south-east of ML1535 boundary

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Comments
Weekly	03/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	11/04/2012	30/04/2012	01/07/2012	7.96	60	24	
Weekly	16/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	24/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	30/04/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	08/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	14/05/2012	23/05/2012	01/07/2012	6.85	194	-	TSS not requested for analysis
Weekly	21/05/2012	-	01/07/2012				Location sampled monthly, not weekly
Weekly	28/05/2012	-	14/07/2012				Location sampled monthly, not weekly
Weekly	08/06/2012	19/06/2012	14/07/2012	7.27	196	-	TSS not requested for analysis
Weekly	12/06/2012	20/06/2012	14/07/2012	7.79	175	20	
Weekly	19/06/2012	27/06/2012	14/07/2012	7.11	209	28	
Weekly	28/06/2012	05/07/2012	14/07/2012	7.02	210	34	
Weekly	03/07/2012	16/07/2012	14/08/2012	6.69	200	50	
Weekly	09/07/2012	19/07/2012	14/08/2012	7.60	278	21	
Event	11/07/2012	01/08/2012	14/08/2012	7.60	269	54	Rainfall event, sampling undertaken due to >20mm rainfall received
Weekly	16/07/2012	25/07/2012	14/08/2012	8.22	211	22	
Weekly	23/07/2012	30/07/2012	14/08/2012	7.53	294	21	
Weekly	31/07/2012	07/08/2012	14/09/2012	7.87	277	34	
Weekly	07/08/2012	14/08/2012	14/09/2012	7.83	302	36	
Weekly	13/08/2012	21/08/2012	14/09/2012	8.09	228	64	
Weekly	20/08/2012	28/08/2012	14/09/2012	8.07	349	106	
Weekly	28/08/2012	05/09/2012	14/10/2012	7.96	253	134	
Weekly	03/09/2012	07/09/2012	14/10/2012	7.32	199	78	
Weekly	12/09/2012	21/09/2012	14/10/2012	8.03	301	63	
Weekly	19/09/2012	28/09/2012	14/10/2012	7.95	234	62	
Weekly	25/09/2012	10/10/2012	14/10/2012	8.07	237	120	
Weekly	02/10/2012	12/10/2012	14/11/2012	6.66	267	237	
Weekly	08/10/2012	16/10/2012	14/11/2012	7.88	311	133	
Weekly	16/10/2012	24/10/2012	14/11/2012	7.41	283	143	
Weekly	23/10/2012	30/10/2012	14/11/2012	8.15	312	116	
Weekly	30/10/2012	06/11/2012	14/11/2012	7.91	300	61	
Weekly	05/11/2012	13/11/2012	14/12/2012	7.63	266	73	
Weekly	14/11/2012	21/11/2012	14/12/2012	7.90	280	35	
Weekly	20/11/2012	28/11/2012	14/12/2012	7.92	284	236	
Weekly	28/11/2012	05/12/2012	14/12/2012	7.75	294	224	
Weekly	03/12/2012	12/12/2012	14/01/2013	8.09	267	62	
Weekly	10/12/2012	18/12/2012	14/01/2013	8.01	305	332	
Weekly	19/12/2012	28/12/2012	14/01/2013	7.91	322	216	
Weekly	24/12/2012	02/01/2013	14/01/2013	7.87	331	396	Rainfall event, combined with weekly sampling

**Groundwater**

**Monitoring Point: 19 <P555A-R>**

Groundwater quality monitoring, Piezometer located up gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	23/04/2012	23/04/2012	01/07/2012	6.66	30290	21.118	
Monthly	10/05/2012	10/05/2012	01/07/2012	6.76	30910	21.177	
Monthly	13/06/2012	13/06/2012	14/07/2012	6.53	30730	21.173	
Monthly	03/07/2012	03/07/2012	14/08/2012	6.67	30690	21.182	
Monthly	03/08/2012	03/08/2012	14/09/2012	6.55	31070	21.140	
Monthly	06/09/2012	06/09/2012	14/10/2012	6.69	31090	21.081	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.67	30500	21.248	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.83	30660	21.082	
Monthly	05/12/2012	05/12/2012	14/01/2013	6.55	30810	21.114	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	10/05/2012	25/05/2012	01/07/2012	769	280	10900	830	32	7140
Quarterly	03/07/2012	16/07/2012	14/08/2012	760	287	10500	878	34	7230
Quarterly	02/10/2012	12/10/2012	14/11/2012	740	289	10500	887	32	7520

**Monitoring Point: 20 <P555B>**

Groundwater quality monitoring, Piezometer located up gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	-	-	-	-	-	-	Bore is dry

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	-	-	-	-	-	-	-	-	-

**Monitoring Point: 21 <P558A-R>**

Groundwater quality monitoring, Piezometer located up gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	23/04/2012	23/04/2012	01/07/2012	6.69	26410	19.654	
Monthly	10/05/2012	10/05/2012	01/07/2012	6.78	29550	19.704	
Monthly	19/06/2012	19/06/2012	14/07/2012	6.95	32050	19.662	
Monthly	03/07/2012	03/07/2012	14/08/2012	6.80	32480	19.695	
Monthly	03/08/2012	03/08/2012	14/09/2012	6.61	33310	19.704	
Monthly	06/09/2012	06/09/2012	14/10/2012	6.76	33890	19.690	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.72	32860	19.731	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.87	33680	19.682	
Monthly	04/12/2012	04/12/2012	14/01/2013	6.82	33480	19.643	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	10/05/2012	25/05/2012	01/07/2012	630	226	11000	679	33	6910
Quarterly	03/07/2012	16/07/2012	14/08/2012	694	269	11600	824	39	8340
Quarterly	02/10/2012	12/10/2012	14/11/2012	691	244	11400	782	34	8090

**Monitoring Point: 22 <P412A-R>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	05/04/2012	05/04/2012	01/07/2012	5.22	43090	12.428	
Monthly	16/05/2012	16/05/2012	01/07/2012	6.54	44050	12.409	
Monthly	14/06/2012	14/06/2012	14/07/2012	6.45	43980	12.366	
Monthly	17/07/2012	17/07/2012	14/08/2012	6.38	44470	12.390	
Monthly	15/08/2012	15/08/2012	14/09/2012	6.40	40675	12.382	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.49	44770	12.419	
Monthly	08/10/2012	08/10/2012	14/11/2012	6.55	44110	12.390	
Monthly	13/11/2012	13/11/2012	14/12/2012	6.49	44000	12.348	
Monthly	12/12/2012	12/12/2012	14/01/2013	6.53	44310	11.883	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	16/05/2012	29/05/2012	01/07/2012	478	674	15200	1550	61	8840
Quarterly	17/07/2012	26/07/2012	14/08/2012	490	695	15400	1570	65	9500
Quarterly	08/10/2012	17/10/2012	14/11/2010	409	636	15300	1470	86	8600

**Monitoring Point: 23 <P412B>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	-	-	-	-	-	-	Bore is dry

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	-	-	-	-	-	-	-	-	-

**Monitoring Point: 24 <P414A>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	05/04/2012	05/04/2012	01/07/2012	6.61	39918	13.751	
Monthly	15/05/2012	15/05/2012	01/07/2012	6.68	40470	13.730	
Monthly	08/06/2012	08/06/2012	14/07/2012	6.53	40340	13.743	
Monthly	17/07/2012	17/07/2012	14/08/2012	6.53	40180	13.699	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.52	40870	13.649	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.65	41160	13.573	
Monthly	03/10/2012	03/10/2012	14/11/2012	6.65	40200	13.666	
Monthly	02/11/2012	02/11/2012	14/12/2012	6.82	40260	13.586	
Monthly	07/12/2012	07/12/2012	14/01/2013	6.57	40630	13.602	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	15/05/2012	29/05/2012	01/07/2012	575	471	15200	1570	52	8630
Quarterly	17/07/2012	26/07/2012	14/08/2012	571	483	15600	1550	52	8890
Quarterly	03/10/2012	12/10/2012	14/11/2012	550	469	15400	1500	54	9830

**Monitoring Point: 25 <P414B>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	05/04/2012	05/04/2012	01/07/2012	6.69	40300	13.757	
Monthly	18/05/2012	18/05/2012	01/07/2012	6.76	40310	13.770	
Monthly	08/06/2012	08/06/2012	14/07/2012	6.57	40130	13.775	
Monthly	19/07/2012	19/07/2012	14/08/2012	6.58	40190	13.706	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.53	39640	13.675	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.66	41260	13.607	
Monthly	15/10/2012	15/10/2012	14/11/2012	6.74	39810	13.669	
Monthly	21/11/2012	21/11/2012	14/12/2012	6.78	39220	13.587	
Monthly	11/12/2012	11/12/2012	14/01/2013	6.52	40870	13.565	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	18/05/2012	31/05/2012	01/07/2012	519	427	15600	1400	41	9090
Quarterly	23/07/2012	31/07/2012	14/08/2012	487	433	15800	1470	46	9700
Quarterly	15/10/2012	23/10/2012	14/11/2012	496	428	15700	1480	42	9320

**Monitoring Point: 26 <PP03>**

Groundwater quality monitoring, Piezometer located near the processing plant area

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	19/04/2012	19/04/2012	01/07/2012	7.62	7160	16.585	
Monthly	28/05/2012	28/05/2012	01/07/2012	7.94	7352	16.788	
Monthly	15/06/2012	15/06/2012	14/07/2012	7.39	7602	16.820	
Monthly	23/07/2012	23/07/2012	14/08/2012	7.28	7599	16.851	
Monthly	20/08/2012	20/08/2012	14/09/2012	7.42	7474	16.854	
Monthly	19/09/2012	19/09/2012	14/10/2012	7.61	8467	16.897	
Monthly	12/10/2012	12/10/2012	14/11/2012	7.51	7698	16.920	
Monthly	19/11/2012	19/11/2012	14/12/2012	7.42	8123	16.875	
Monthly	13/12/2012	13/12/2012	14/01/2013	7.39	8133	16.842	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	28/05/2012	07/06/2012	01/07/2012	145	114	2180	176	22	1550
Quarterly	23/07/2012	31/07/2012	14/08/2012	136	113	2070	179	22	1480
Quarterly	12/10/2012	23/10/2012	14/11/2012	133	115	2310	167	21	1450

**Monitoring Point: 27 <PP04>**

Groundwater quality monitoring, Piezometer located near the processing plant area

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	23/04/2012	23/04/2012	01/07/2012	6.48	45880	15.831	
Monthly	28/05/2012	28/05/2012	01/07/2012	6.93	46540	15.791	
Monthly	20/06/2012	20/06/2012	14/07/2012	6.50	46790	15.713	
Monthly	04/07/2012	04/07/2012	14/08/2012	6.50	46760	15.707	
Monthly	16/08/2012	16/08/2012	14/09/2012	6.42	47260	15.504	
Monthly	19/09/2012	19/09/2012	14/10/2012	6.45	47670	15.365	

Monthly	16/10/2012	16/10/2012	14/11/2012	6.54	46560	15.108	
Monthly	02/11/2012	02/11/2012	14/12/2012	6.64	46590	14.865	
Monthly	18/12/2012	18/12/2012	14/01/2013	6.41	46960	14.630	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	28/05/2012	07/06/2012	01/07/2012	496	722	18700	1670	68	11300
Quarterly	04/07/2012	16/07/2012	14/08/2012	458	740	19600	1780	68	11400
Quarterly	16/10/2012	23/10/2012	14/11/2012	437	747	19400	1750	58	10400

**Monitoring Point: 30 <P417A>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	03/04/2012	03/04/2012	01/07/2012	6.63	43360	13.038	
Monthly	15/05/2012	15/05/2012	01/07/2012	6.58	44110	12.580	
Monthly	08/06/2012	08/06/2012	14/07/2012	6.38	43910	13.068	
Monthly	04/07/2012	04/07/2012	14/08/2012	6.52	43940	13.061	
Monthly	15/08/2012	15/08/2012	14/09/2012	6.41	44350	12.983	
Monthly	06/09/2012	06/09/2012	14/10/2012	6.53	44480	12.964	
Monthly	03/10/2012	03/10/2012	14/11/2012	6.53	43770	13.040	
Monthly	06/11/2012	06/11/2012	14/12/2012	6.53	43910	12.966	
Monthly	03/12/2012	03/12/2012	14/01/2013	6.52	43760	12.960	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	03/04/2012	09/05/2012	01/07/2012	462	693	17900	1950	50	9790
Quarterly	15/05/2012	29/05/2012	01/07/2012	472	587	16200	1690	47	9270
Quarterly	04/07/2012	16/07/2012	14/08/2012	463	617	17800	1640	48	9840
Quarterly	03/10/2012	12/10/2012	14/11/2012	453	554	15900	1540	45	9690

**Monitoring Point: 31 <P417B>**

Groundwater quality monitoring, Piezometer located down gradient of southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.60	37760	13.082	
Monthly	18/05/2012	18/05/2012	01/07/2012	6.66	37320	13.030	
Monthly	08/06/2012	08/06/2012	14/07/2012	6.54	38100	13.034	
Monthly	23/07/2012	23/07/2012	14/08/2012	6.65	38410	12.992	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.60	38890	12.991	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.57	38590	12.938	
Monthly	15/10/2012	15/10/2012	14/11/2012	6.72	37470	13.750	
Monthly	21/11/2012	21/11/2012	14/12/2012	6.74	39210	12.945	
Monthly	11/12/2012	11/12/2012	14/01/2013	6.56	40030	12.734	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	18/05/2012	31/05/2012	01/07/2012	214	520	15200	1410	29	8440
Quarterly	23/07/2012	31/07/2012	14/08/2012	204	489	15500	1350	32	8660
Quarterly	15/10/2012	23/10/2012	14/11/2012	204	507	15500	1440	31	8920

**Monitoring Point: 32 <P418A>**

Groundwater quality monitoring, Piezometer located down gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	03/04/2012	03/04/2012	01/07/2012	6.75	43170	10.811	
Monthly	10/05/2012	10/05/2012	01/07/2012	6.52	43830	10.789	
Monthly	13/06/2012	13/06/2012	14/07/2012	6.32	43630	10.766	
Monthly	03/07/2012	03/07/2012	14/08/2012	6.45	43750	10.790	
Monthly	01/08/2012	01/08/2012	14/09/2012	6.32	44110	10.764	
Monthly	06/09/2012	06/09/2012	14/10/2012	6.33	55720	10.703	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.45	43480	10.824	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.61	43620	10.720	
Monthly	03/12/2012	03/12/2012	14/01/2013	6.43	43440	10.752	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	03/04/2012	09/05/2012	01/07/2012	593	383	16700	1500	28	10900
Quarterly	03/07/2012	16/07/2012	14/08/2012	592	373	15800	1280	30	10700
Quarterly	02/10/2012	12/10/2012	14/11/2012	573	358	15000	1230	25	10400

**Monitoring Point: 33 <P418B>**

Groundwater quality monitoring, Piezometer located down gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	03/04/2012	03/04/2012	01/07/2012	6.69	40810	10.741	
Monthly	10/05/2012	10/05/2012	01/07/2012	6.54	41680	10.726	
Monthly	13/06/2012	13/06/2012	14/07/2012	6.37	41060	10.698	
Monthly	03/07/2012	03/07/2012	14/08/2012	6.47	41510	10.716	
Monthly	01/08/2012	01/08/2012	14/09/2012	6.35	41800	10.704	
Monthly	06/09/2012	06/09/2012	14/10/2012	6.33	52830	10.703	

Monthly	02/10/2012	02/10/2012	14/11/2012	6.49	40980	10.780	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.64	41400	10.654	
Monthly	03/12/2012	03/12/2012	14/01/2013	6.47	41240	10.692	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	03/04/2012	09/05/2012	01/07/2012	535	297	15200	1340	13	9980
Quarterly	03/07/2012	16/07/2012	14/08/2012	520	279	14800	1180	13	10500
Quarterly	02/10/2012	12/10/2012	14/11/2012	517	253	14200	1110	11	10100

**Monitoring Point: 34 <TSFNA>**

Groundwater quality monitoring, Piezometer located down gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.44	46640	13.336	
Monthly	17/05/2012	17/05/2012	01/07/2012	6.63	47160	13.292	
Monthly	07/06/2012	07/06/2012	14/07/2012	7.02	47440	13.286	
Monthly	16/07/2012	16/07/2012	14/08/2012	6.46	44070	13.263	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.47	47930	13.241	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.65	48080	13.187	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.60	47250	13.238	
Monthly	06/11/2012	06/11/2012	14/12/2012	7.02	47350	13.187	
Monthly	05/12/2012	05/12/2012	14/01/2013	6.48	47730	13.156	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	516	588	18000	1650	35	11400
Quarterly	16/07/2012	26/07/2012	14/08/2012	531	653	18000	1820	35	11100
Quarterly	02/10/2012	12/10/2012	14/11/2012	500	548	16800	1520	28	10300

**Monitoring Point: 34 <TSFNB>**

Groundwater quality monitoring, Piezometer located down gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.35	44210	13.491	
Monthly	17/05/2012	17/05/2012	01/07/2012	6.52	45140	14.360	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.87	44970	13.381	
Monthly	16/07/2012	16/07/2012	14/08/2012	6.36	41780	13.383	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.39	45440	13.352	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.55	45450	13.270	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.48	44610	13.382	
Monthly	06/11/2012	06/11/2012	14/12/2012	6.50	44860	13.296	
Monthly	05/12/2012	05/12/2012	14/01/2013	6.38	45360	13.280	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	250	471	16000	1520	61	10100
Quarterly	16/07/2012	26/07/2012	14/08/2012	242	477	17000	1690	64	10200
Quarterly	02/10/2012	12/10/2012	14/11/2012	234	489	17100	1620	70	11200

**Monitoring Point: 34 <TSFNC>**

Groundwater quality monitoring, Piezometer located down gradient of northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	5.87	50090	13.682	
Monthly	17/05/2012	17/05/2012	01/07/2012	5.85	51170	13.590	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.36	51020	13.579	
Monthly	16/07/2012	16/07/2012	14/08/2012	5.85	50870	13.591	
Monthly	02/08/2012	02/08/2012	14/09/2012	5.84	51040	13.507	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.04	50870	13.424	
Monthly	02/10/2012	02/10/2012	14/11/2012	5.98	49910	13.603	
Monthly	06/11/2012	06/11/2012	14/12/2012	6.00	50000	13.465	
Monthly	05/12/2012	05/12/2012	14/01/2013	5.86	50730	13.472	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	128	570	19400	1880	78	12100
Quarterly	16/07/2012	26/07/2012	14/08/2012	126	602	18900	1990	70	11500
Quarterly	02/10/2012	12/10/2012	14/11/2012	120	553	19300	1690	72	11100

**Monitoring Point: 36 <PDB1A>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	6.32	51140	13.799	
Monthly	17/05/2012	17/05/2012	01/07/2012	6.42	52120	13.761	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.25	52050	13.665	
Monthly	17/07/2012	17/07/2012	14/08/2012	6.26	52740	13.536	

Monthly	02/08/2012	02/08/2012	14/09/2012	6.27	52720	13.428	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.50	52490	13.523	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.40	51850	13.537	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.57	51920	13.520	
Monthly	04/12/2012	04/12/2012	14/01/2013	6.39	51780	13.520	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	928	20300	1950	37	11300	3730
Quarterly	17/07/2012	26/07/2012	14/08/2012	1030	20300	2250	41	10800	4470
Quarterly	02/10/2012	12/10/2012	14/11/2012	859	19100	1800	37	11100	4900

**Monitoring Point: 36 <PDB1B>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	6.06	48000	5.461	
Monthly	17/05/2012	17/05/2012	01/07/2012	6.14	48910	5.510	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.00	48850	5.664	
Monthly	17/07/2012	17/07/2012	14/08/2012	6.02	49390	5.580	
Monthly	02/08/2012	02/08/2012	14/09/2012	6.01	49330	5.037	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.19	49330	5.222	
Monthly	02/10/2012	02/10/2012	14/11/2012	6.13	48470	5.608	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.30	48560	5.640	
Monthly	04/12/2012	04/12/2012	14/01/2013	6.12	48210	5.762	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	834	18900	2040	27	10600	3740
Quarterly	17/07/2012	26/07/2012	14/08/2012	857	18900	2100	30	10200	4290
Quarterly	02/10/2012	12/10/2012	14/11/2012	750	17900	1800	28	10300	4650

**Monitoring Point: 38 <PDB3A>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	5.85	46200	71.141	
Monthly	15/05/2012	15/05/2012	01/07/2012	5.90	48610	72.415	
Monthly	14/06/2012	14/06/2012	14/07/2012	6.01	46610	71.214	
Monthly	23/07/2012	23/07/2012	14/08/2012	5.96	46540	72.189	
Monthly	03/08/2012	03/08/2012	14/09/2012	5.92	46400	72.124	
Monthly	19/09/2012	19/09/2012	14/10/2012	6.07	46900	71.928	
Monthly	09/10/2012	09/10/2012	14/11/2012	6.06	45570	72.097	
Monthly	21/11/2012	20/11/2012	14/12/2012	6.01	46420	72.063	
Monthly	07/12/2012	07/12/2012	14/01/2013	5.88	47800	72.203	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	15/05/2012	29/05/2012	01/07/2012	1040	18200	2230	87	9580	4390
Quarterly	23/07/2012	31/07/2012	14/08/2012	988	17400	1950	115	9670	4280
Quarterly	09/10/2012	17/10/2012	14/11/2012	1200	17700	2210	99	9330	4820

**Monitoring Point: 38 <PDB3B>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	5.92	49500	15.469	
Monthly	15/05/2012	15/05/2012	01/07/2012	6.01	50380	15.970	
Monthly	14/06/2012	14/06/2012	14/07/2012	5.95	50150	16.013	
Monthly	23/07/2012	23/07/2012	14/08/2012	5.87	50790	16.261	
Monthly	03/08/2012	03/08/2012	14/09/2012	5.84	50740	16.321	
Monthly	07/09/2012	07/09/2012	14/10/2012	6.03	50940	16.456	
Monthly	03/10/2012	03/10/2012	14/11/2012	5.99	49950	16.631	
Monthly	01/11/2012	01/11/2012	14/12/2012	6.17	50010	16.703	
Monthly	03/12/2012	03/12/2012	14/01/2013	6.01	49760	16.828	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	15/05/2012	29/05/2012	01/07/2012	1080	18900	2380	61	9830	4750
Quarterly	23/07/2012	31/07/2012	14/08/2012	1100	19900	2270	68	11100	5380
Quarterly	03/10/2012	12/10/2012	14/11/2012	1110	20100	2350	65	11200	6010

**Monitoring Point: 40 <PDB5A>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	6.13	48270	24.015	
Monthly	17/05/2012	17/05/2012	01/07/2012	6.09	49040	23.660	
Monthly	08/06/2012	08/06/2012	14/07/2012	5.97	48810	23.792	
Monthly	17/07/2012	17/07/2012	14/08/2012	5.96	49460	23.951	
Monthly	02/08/2012	02/08/2012	14/09/2012	5.97	49280	24.062	

Monthly	18/09/2012	18/09/2012	14/10/2012	6.08	49390	24.259	
Monthly	03/10/2012	03/10/2012	14/11/2012	6.10	48460	24.354	
Monthly	12/11/2012	12/11/2012	14/12/2012	6.21	48970	24.748	
Monthly	12/12/2012	12/12/2012	14/01/2013	6.20	49330	25.020	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	827	19200	1990	57	10300	3170
Quarterly	17/07/2012	26/07/2012	14/08/2012	840	18100	2080	57	9840	3580
Quarterly	03/10/2012	12/10/2012	14/11/2012	743	18100	1830	55	10200	3970

**Monitoring Point: 40 <PDB5B>**

Groundwater quality monitoring, Pit dewatering bore

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	11/04/2012	11/04/2012	01/07/2012	5.87	48500	5.980	
Monthly	17/05/2012	17/05/2012	01/07/2012	5.87	49370	5.660	
Monthly	08/06/2012	08/06/2012	14/07/2012	5.74	49040	6.002	
Monthly	17/07/2012	17/07/2012	14/08/2012	5.74	49780	6.365	
Monthly	02/08/2012	02/08/2012	14/09/2012	5.75	49520	6.443	
Monthly	18/09/2012	18/09/2012	14/10/2012	5.86	49620	6.685	
Monthly	03/10/2012	03/10/2012	14/11/2012	5.88	48690	6.888	
Monthly	12/11/2012	12/11/2012	14/12/2012	5.92	48900	7.195	
Monthly	12/12/2012	12/12/2012	14/01/2013	5.87	49120	7.512	

Frequency	Date Sampled	Date Obtained	Date Published	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)
Quarterly	17/05/2012	31/05/2012	01/07/2012	848	19600	2120	63	10400	3240
Quarterly	17/07/2012	26/07/2012	14/08/2012	857	19300	2180	61	10100	3800
Quarterly	03/10/2012	12/10/2012	14/11/2012	773	18400	1940	58	10500	4110

**Monitoring Point: 44 <MON01A>**

Groundwater quality monitoring, Groundwater monitoring bore located to the east of the northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.37	44920	12.479	
Monthly	15/05/2012	15/05/2012	01/07/2012	6.50	45780	12.408	
Monthly	13/06/2012	13/06/2012	14/07/2012	6.32	45630	12.368	
Monthly	16/07/2012	16/07/2012	14/08/2012	6.33	46310	12.352	
Monthly	03/08/2012	03/08/2012	14/09/2012	6.32	46220	12.327	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.44	46320	12.306	
Monthly	08/10/2012	08/10/2012	14/11/2012	6.49	45580	12.290	
Monthly	12/11/2012	12/11/2012	14/12/2012	6.48	45590	12.300	
Monthly	05/12/2012	05/12/2012	14/01/2013	6.34	45930	12.258	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	15/05/2012	29/05/2012	01/07/2012	309	437	17600	1510	33	9370
Quarterly	16/07/2012	26/07/2012	14/08/2012	309	522	17400	1700	35	10800
Quarterly	08/10/2012	17/10/2012	14/11/2012	299	450	16200	1410	33	10200

**Monitoring Point: 44 <MON01B>**

Groundwater quality monitoring, Groundwater monitoring bore located to the east of the northern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	5.41	32550	13.974	
Monthly	18/05/2012	18/05/2012	01/07/2012	5.40	37660	13.897	
Monthly	13/06/2012	13/06/2012	14/07/2012	5.78	23250	13.817	
Monthly	19/07/2012	19/07/2012	14/08/2012	6.01	18060	13.829	
Monthly	03/08/2012	03/08/2012	14/09/2012	5.18	37580	13.802	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.36	21820	13.783	
Monthly	15/10/2012	15/10/2012	14/11/2012	5.95	27900	13.750	
Monthly	21/11/2012	21/11/2012	14/12/2012	5.28	42130	13.807	
Monthly	11/12/2012	11/12/2012	14/01/2013	4.93	44150	13.855	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	18/05/2012	31/05/2012	01/07/2012	35	408	14300	1260	50	8820
Quarterly	23/07/2012	31/07/2012	14/08/2012	32	387	14200	1230	52	9270
Quarterly	15/10/2012	23/10/2012	14/11/2012	16	419	16200	1380	51	9580

**Monitoring Point: 45 <MON02A>**

Groundwater quality monitoring, Groundwater monitoring bore located to the south of the southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.57	39030	14.449	
Monthly	10/05/2012	10/05/2012	01/07/2012	6.77	39810	14.319	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.53	39570	14.281	

Monthly	16/07/2012	16/07/2012	14/08/2012	6.55	40130	14.150	
Monthly	03/08/2012	03/08/2012	14/09/2012	6.55	40110	14.075	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.65	40150	13.904	
Monthly	03/10/2012	03/10/2012	14/11/2012	6.69	39420	13.892	
Monthly	06/11/2012	06/11/2012	14/12/2012	6.69	39540	13.775	
Monthly	04/12/2012	04/12/2012	14/01/2013	6.68	39380	13.700	

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
Quarterly	10/05/2012	25/05/2012	01/07/2012	670	472	15200	1290	59	9060
Quarterly	16/07/2012	26/07/2012	14/08/2012	663	467	13800	1360	60	8800
Quarterly	03/10/2012	12/10/2012	14/11/2012	642	438	13900	1260	56	9170

**Monitoring Point: 45 <MON02B>**

Groundwater quality monitoring, Groundwater monitoring bore located to the south of the southern tailings storage facility

Frequency	Date Sampled	Date Obtained	Date Published	pH (units)	Electrical Conductivity (µS/cm)	SWL (m)	Comments
Monthly	12/04/2012	12/04/2012	01/07/2012	6.83	32090	15.098	
Monthly	10/05/2012	10/05/2012	01/07/2012	7.02	29890	14.848	
Monthly	07/06/2012	07/06/2012	14/07/2012	6.79	28400	14.762	
Monthly	16/07/2012	16/07/2012	14/08/2012	7.28	3748	14.473	
Monthly	03/08/2012	03/08/2012	14/09/2012	6.82	20410	14.440	
Monthly	18/09/2012	18/09/2012	14/10/2012	6.84	31870	14.233	
Monthly	03/10/2012	03/10/2012	14/11/2012	6.91	21380	14.265	
Monthly	06/11/2012	06/11/2012	14/12/2012	6.80	35010	14.025	
Monthly	04/12/2012	04/12/2012	14/01/2013	6.87	25800	13.882	

Waste Rock Leachate

EPA No: 13152 <http://www.environment.nsw.gov.au/monitoring>  
 Licence: Benthic (C) and (L) 148  
 Address: PG Box 210 West Wyalung NSW 2071

Monitoring Point 41-Northern Waste Emplacement

Northern Waste Emplacement leachate quality monitoring, Northern Waste Emplacement External Test Drain

Frequency	Date Sampled	Date Obtained	Date Published	pH (unit)	Electrical Conductivity (µS/cm)	SRP (mg/L)	Comments
Monthly	April						No water present in external test drain
Monthly	May						No water present in external test drain
Monthly	June						No water present in external test drain
Monthly	July						No water present in external test drain
Monthly	August						No water present in external test drain
Monthly	September						No water present in external test drain
Monthly	October						No water present in external test drain
Monthly	November						No water present in external test drain
Monthly	December						No water present in external test drain

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)	Total Hardness (mg/L)	Total Suspended Solids (mg/L)	Arsenite (mg/L)	Arsenic (mg/kg)	Calcium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)	Comments	
Quarterly	April																				No water present in external test drain
Quarterly	October																				No water present in external test drain

Monitoring Point 42-Southern Waste Emplacement

Southern Waste Emplacement leachate quality monitoring, Northern Waste Emplacement External Test Drain

Frequency	Date Sampled	Date Obtained	Date Published	pH (unit)	Electrical Conductivity (µS/cm)	SRP (mg/L)	Comments
Monthly	April						No water present in external test drain
Monthly	May						No water present in external test drain
Monthly	June						No water present in external test drain
Monthly	July						No water present in external test drain
Monthly	August						No water present in external test drain
Monthly	September						No water present in external test drain
Monthly	October						No water present in external test drain
Monthly	November						No water present in external test drain
Monthly	December						No water present in external test drain

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)	Total Hardness (mg/L)	Total Suspended Solids (mg/L)	Arsenite (mg/L)	Arsenic (mg/kg)	Calcium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)	Comments	
Quarterly	April																				No water present in external test drain
Quarterly	October																				No water present in external test drain

Monitoring Point 43-Pasture Waste Emplacement

Pasture Waste Emplacement leachate quality monitoring, Northern Waste Emplacement External Test Drain

Frequency	Date Sampled	Date Obtained	Date Published	pH (unit)	Electrical Conductivity (µS/cm)	SRP (mg/L)	Comments
Monthly	April						No water present in external test drain
Monthly	May						No water present in external test drain
Monthly	June						No water present in external test drain
Monthly	July						No water present in external test drain
Monthly	August						No water present in external test drain
Monthly	September						No water present in external test drain
Monthly	October						No water present in external test drain
Monthly	November						No water present in external test drain
Monthly	December						No water present in external test drain

Frequency	Date Sampled	Date Obtained	Date Published	Alkalinity (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Sulphate (mg/L)	Total Hardness (mg/L)	Total Suspended Solids (mg/L)	Arsenite (mg/L)	Arsenic (mg/kg)	Calcium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)	Comments	
Quarterly	April																				No water present in external test drain
Quarterly	October																				No water present in external test drain

**Monitoring Point: BM01**  
 Blast monitoring, Ambient overpressure and ground vibration peak particle velocity recorded at private residence to the south-east of M1135 boundary

Blast Number	Day/Date	Time	Date Obtained	Date Published	Compliance Limits		BMS1 at Blast Time		Comments
					Ground Vibration (mm/s)	Ambient Overpressure (dB(L))	Ground Vibration (mm/s)	Ambient Overpressure (dB(L))	
<b>APRIL</b>									
1028 17	Monday, 2/04/2012	12:45:40	21/05/2012	01/07/2012	5	115	0.079	91.5	
1029 13Bb, 537a	Monday, 2/04/2012	12:45:40	21/05/2012	01/07/2012	5	115	0.079	91.5	
1029 13Ac	Tuesday, 3/04/2012	12:45:39	21/05/2012	01/07/2012	5	115	0.086	91.5	
1027 71	Tuesday, 3/04/2012	12:55:00	21/05/2012	01/07/2012	5	115	0.087	88.0	
1027 70	Thursday, 5/04/2012	12:30:00	21/05/2012	01/07/2012	5	115	0.079	81.0	
1028 48a	Saturday, 7/04/2012	15:23:21	21/05/2012	01/07/2012	5	115	0.086	104.0	
1029 137b, 538a	Saturday, 7/04/2012	15:24:48	21/05/2012	01/07/2012	5	115	0.081	94.0	
1028 50	Tuesday, 10/04/2012	12:41:56	21/05/2012	01/07/2012	5	115	0.102	81.0	
1029 138b, 539a	Wednesday, 11/04/2012	11:38:43	21/05/2012	01/07/2012	5	115	0.102	88.0	
1029 138c, 540, 541a	Wednesday, 11/04/2012	11:38:43	21/05/2012	01/07/2012	5	115	0.102	81.0	
1029 89	Sunday, 15/04/2012	12:33:39	21/05/2012	01/07/2012	1	95	0.081	91.5	
1029 88	Monday, 16/04/2012	12:41:13	21/05/2012	01/07/2012	5	115	0.073	81.0	
1029 80	Wednesday, 18/04/2012	12:44:50	21/05/2012	01/07/2012	5	115	0.099	81.0	
1028 59	Thursday, 19/04/2012	12:48:41	21/05/2012	01/07/2012	5	115	0.099	81.0	
1028 58	Friday, 20/04/2012	12:51:57	21/05/2012	01/07/2012	5	115	0.086	81.0	
1029 542a	Friday, 20/04/2012	12:51:57	21/05/2012	01/07/2012	5	115	0.086	81.0	
1028 53	Saturday, 21/04/2012	12:41:34	21/05/2012	01/07/2012	5	115	0.086	91.5	
1028 52	Tuesday, 24/04/2012	12:52:25	21/05/2012	01/07/2012	5	115	0.104	102.5	
1029 542b, 547a	Tuesday, 24/04/2012	12:55:00	21/05/2012	01/07/2012	5	115	0.102	106.0	
1028 60	Wednesday, 25/04/2012	12:41:45	21/05/2012	01/07/2012	1	95	0.094	100.0	Ambient overpressure exceeded was caused by localized environmental factors
1029 546, 547b	Saturday, 28/04/2012	12:30:00	21/05/2012	01/07/2012	5	115	0.098	81.0	
1028 61	Saturday, 28/04/2012	12:33:00	21/05/2012	01/07/2012	5	115	0.094	81.0	
1029 548	Monday, 30/04/2012	12:46:00	21/05/2012	01/07/2012	5	115	0.096	81.0	
1029 41	Monday, 30/04/2012	12:42:41	21/05/2012	01/07/2012	5	115	0.095	81.0	
<b>MAY</b>									
1029 42	Tuesday, 1/05/2012	12:28:19	08/06/2012	01/07/2012	5	115	0.093	88.0	
1029 545a, 544a	Tuesday, 1/05/2012	12:31:00	08/06/2012	01/07/2012	5	115	0.087	88.0	
1029 545b	Wednesday, 2/05/2012	13:00:00	08/06/2012	01/07/2012	5	115	0.102	91.5	
1028 47	Thursday, 3/05/2012	13:06:00	08/06/2012	01/07/2012	5	115	0.109	81.0	
1029 543a, 544b	Thursday, 3/05/2012	13:06:00	08/06/2012	01/07/2012	5	115	0.109	81.0	
1029 43	Friday, 4/05/2012	12:23:57	08/06/2012	01/07/2012	115	115	0.103	81.0	
910 2	Wednesday, 9/05/2012	12:27:30	08/06/2012	01/07/2012	5	115	0.094	91.5	
1029 48	Friday, 11/05/2012	12:38:31	08/06/2012	01/07/2012	5	115	0.096	94.0	
910 1	Monday, 14/05/2012	12:42:21	08/06/2012	01/07/2012	5	115	0.109	81.0	
1028 63	Monday, 14/05/2012	12:42:30	08/06/2012	01/07/2012	5	115	0.094	88.0	
1029 44b	Monday, 14/05/2012	12:42:30	08/06/2012	01/07/2012	5	115	0.094	81.0	
1029 49	Wednesday, 16/05/2012	12:36:33	08/06/2012	01/07/2012	5	115	0.103	81.0	
1029 50b	Sunday, 20/05/2012	12:39:04	08/06/2012	01/07/2012	1	95	0.094	81.0	
910 2	Tuesday, 22/05/2012	12:46:53	08/06/2012	01/07/2012	115	115	0.102	81.0	
1028 65	Thursday, 23/05/2012	13:13:45	08/06/2012	01/07/2012	5	115	0.102	81.0	
1029 57	Thursday, 24/05/2012	12:20:00	08/06/2012	01/07/2012	5	115	0.113	94.0	
1028 64	Friday, 25/05/2012	12:24:45	08/06/2012	01/07/2012	95	115	0.117	95.0	
1029 58	Sunday, 27/05/2012	13:14:00	08/06/2012	01/07/2012	1	95	0.116	81.0	
1029 50b	Tuesday, 28/05/2012	12:38:21	08/06/2012	01/07/2012	115	115	0.146	81.0	
910 3	Wednesday, 30/05/2012	12:51:00	08/06/2012	01/07/2012	5	115	0.108	81.0	
1029 51a	Wednesday, 30/05/2012	12:58:31	08/06/2012	01/07/2012	5	115	0.102	81.0	
<b>JUNE</b>									
1029 53	Sunday, 3/06/2012	12:59:02	06/07/2012	14/07/2012	1	95	0.108	88.0	
1029 51	Tuesday, 5/06/2012	13:10:00	06/07/2012	14/07/2012	5	115	0.111	81.0	
1029 51B	Thursday, 7/06/2012	13:44:51	06/07/2012	14/07/2012	5	115	0.115	81.0	
1027 55	Thursday, 7/06/2012	15:14:48	06/07/2012	14/07/2012	5	115	0.112	88.0	
1029 56	Saturday, 9/06/2012	14:08:00	06/07/2012	14/07/2012	5	115	0.111	81.0	
1029 52	Saturday, 9/06/2012	15:01:45	06/07/2012	14/07/2012	5	115	0.103	91.5	
1029 67 80	Tuesday, 12/06/2012	12:22:21	06/07/2012	14/07/2012	5	115	0.106	91.5	
1029 65	Wednesday, 13/06/2012	12:21:00	06/07/2012	14/07/2012	5	115	0.109	81.0	
1029 44	Thursday, 14/06/2012	13:11:00	06/07/2012	14/07/2012	5	115	0.109	81.0	
1029 44b	Thursday, 14/06/2012	13:11:00	06/07/2012	14/07/2012	5	115	0.109	81.0	
1011 51c	Thursday, 14/06/2012	13:13:01	06/07/2012	14/07/2012	5	115	0.103	81.0	
1029 49	Sunday, 17/06/2012	15:14:45	06/07/2012	14/07/2012	1	95	0.117	95.0	
1029 44	Tuesday, 19/06/2012	12:43:00	06/07/2012	14/07/2012	115	115	0.106	81.0	Ambient overpressure exceeded was caused by localized environmental factors
1028 48b	Wednesday, 20/06/2012	13:17:08	06/07/2012	14/07/2012	5	115	0.108	81.0	
1029 63	Thursday, 21/06/2012	12:38:00	06/07/2012	14/07/2012	5	115	0.111	95.0	
1029 46	Sunday, 24/06/2012	12:38:19	06/07/2012	14/07/2012	1	95	0.119	88.0	
1029 45	Monday, 25/06/2012	12:38:00	06/07/2012	14/07/2012	115	115	0.119	81.0	
1029 51	Thursday, 28/06/2012	12:48:00	06/07/2012	14/07/2012	5	115	0.103	81.0	
1029 42	Thursday, 28/06/2012	12:54:00	06/07/2012	14/07/2012	5	115	0.103	88.0	
1011 517	Friday, 29/06/2012	12:44:00	06/07/2012	14/07/2012	5	115	0.109	81.0	
1029 47	Friday, 29/06/2012	12:51:31	06/07/2012	14/07/2012	5	115	0.106	94.0	
<b>JULY</b>									
1029 41	Sunday, 1 July 2012	12:39:00	08/08/2012	14/08/2012	1	95	0.108	100.0	Ambient overpressure exceeded was caused by localized environmental factors
1029 48	Monday, 2 July 2012	12:40:50	08/08/2012	14/08/2012	5	115	0.119	94.0	
1011 517	Tuesday, 3 July 2012	12:44:00	08/08/2012	14/08/2012	115	115	0.116	81.0	
1011 525	Friday, 6 July 2012	12:39:00	08/08/2012	14/08/2012	5	115	0.114	81.0	
1029 44	Thursday, 5 July	12:40:45	08/08/2012	14/08/2012	5	115	0.113	81.0	
1011 523	Friday, 6 July	12:44:00	08/08/2012	14/08/2012	5	115	0.113	88.0	
1011 512a, 513a	Saturday, 7 July	12:36:40	08/08/2012	14/08/2012	5	115	0.103	81.0	
1029 45a	Monday, 9 July	12:37:40	08/08/2012	14/08/2012	5	115	0.108	91.5	
1029 53Bb	Monday, 9 July	12:38:12	08/08/2012	14/08/2012	5	115	0.113	91.5	
1011 526a	Monday, 9 July	12:39:00	08/08/2012	14/08/2012	5	115	0.114	88.0	
1029 46a	Tuesday, 10 July	12:32:26	08/08/2012	14/08/2012	5	115	0.117	104.0	
1029 52	Thursday, 12 July	12:32:00	08/08/2012	14/08/2012	5	115	0.117	100.0	
1029 49	Friday, 13 July	12:32:00	08/08/2012	14/08/2012	5	115	0.117	100.0	
1011 526b, 527a	Saturday, 14 July	12:29:00	08/08/2012	14/08/2012	5	115	0.106	88.0	
1029 44a	Monday, 16 July	12:41:00	08/08/2012	14/08/2012	5	115	0.111	81.0	
1029 48	Monday, 16 July	12:43:00	08/08/2012	14/08/2012	5	115	0.112	88.0	
1029 49	Wednesday, 18 July	12:42:15	08/08/2012	14/08/2012	5	115	0.104	97.5	
1028 55	Wednesday, 18 July	12:46:20	08/08/2012	14/08/2012	5	115	0.112	81.0	
1029 53	Friday, 20 July	12:38:38	08/08/2012	14/08/2012	5	115	0.116	98.0	
1029 41a	Monday, 23 July	12:45:23	08/08/2012	14/08/2012	5	115	0.103	81.0	
1029 41b	Monday, 23 July	12:51:00	08/08/2012	14/08/2012	5	115	0.109	81.0	
1029 48b, 48c	Monday, 23 July	12:52:51	08/08/2012	14/08/2012	5	115	0.112	94.0	
1011 527b, 528a	Friday, 27 July	12:34:00	08/08/2012	14/08/2012	5	115	0.117	81.0	
1029 42	Sunday, 29 July	12:45:19	08/08/2012	14/08/2012	1	95	0.103	88.0	
1029 50b	Sunday, 29 July	12:49:00	08/08/2012	14/08/2012	1	95	0.103	91.5	
1029 47	Monday, 30 July	12:28:41	08/08/2012	14/08/2012	5	115	0.113	81.0	
1029 47	Tuesday, 31 July	12:34:00	08/08/2012	14/08/2012	5	115	0.106	81.0	
1011 529b, 529, 530a	Friday, 31 July	12:34:00	08/08/2012	14					

1002 46	Monday, 22/10/2012	12:41:30	06/11/2012	14/11/2012	5	115	0.087	100.0	
1002 47	Tuesday, 23/10/2012	12:40:00	06/11/2012	14/11/2012	5	115	0.100	91.5	
1002 47	Tuesday, 23/10/2012	12:40:00	06/11/2012	14/11/2012	5	115	0.100	88.0	
1002 48	Wednesday, 24/10/2012	12:44:55	06/11/2012	14/11/2012	5	115	0.106	95.5	
1002 48	Wednesday, 24/10/2012	12:41:00	06/11/2012	14/11/2012	5	115	0.106	95.5	
1119 100	Thursday, 25/10/2012	12:37:22	06/11/2012	14/11/2012	5	115	0.107	88.0	
1119 100	Thursday, 25/10/2012	12:35:00	06/11/2012	14/11/2012	5	115	0.109	88.0	
1002 44	Friday, 26/10/2012	12:36:48	06/11/2012	14/11/2012	1	95	0.100	88.0	
1002 49	Monday, 29/10/2012	12:38:00	06/11/2012	14/11/2012	5	115	0.100	88.0	
993 39	Tuesday, 30/10/2012	12:37:38	06/11/2012	14/11/2012	5	115	0.100	88.0	
1002 50	Wednesday, 31/10/2012	12:37:00	06/11/2012	14/11/2012	5	115	0.100	88.0	
<b>NOVEMBER</b>									
1119 103	Thursday, 1/11/2012	12:34:45	07/12/2012	14/12/2012	5	115	0.106	101.0	
1002 45	Thursday, 1/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.105	94.0	
1119 104	Friday, 2/11/2012	12:33:30	07/12/2012	14/12/2012	5	115	0.107	91.5	
1119 105	Saturday, 3/11/2012	12:25:30	07/12/2012	14/12/2012	5	115	0.106	91.5	
1119 106	Saturday, 3/11/2012	12:25:00	07/12/2012	14/12/2012	5	115	0.106	91.5	
993 37	Sunday, 4/11/2012	12:22:25	07/12/2012	14/12/2012	1	95	0.100	88.0	
1119 107	Tuesday, 6/11/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.100	105.5	
993 38	Wednesday, 7/11/2012	12:35:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 38	Friday, 9/11/2012	12:33:54	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 108	Friday, 9/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 108	Saturday, 10/11/2012	12:36:40	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 31	Sunday, 11/11/2012	12:33:20	07/12/2012	14/12/2012	1	95	0.100	Unit off-line	
993 31	Tuesday, 13/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 36	Thursday, 15/11/2012	12:34:13	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 114	Thursday, 15/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 117	Sunday, 18/11/2012	12:23:00	07/12/2012	14/12/2012	1	95	0.100	Unit off-line	
1119 110	Sunday, 18/11/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 116	Monday, 19/11/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 111	Tuesday, 20/11/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 35	Tuesday, 20/11/2012	12:31:49	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 35	Wednesday, 21/11/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 115	Wednesday, 21/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 34	Thursday, 22/11/2012	12:29:24	07/12/2012	14/12/2012	5	115	0.129	88.0	
993 36	Friday, 23/11/2012	12:31:52	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
993 33	Saturday, 24/11/2012	12:25:58	07/12/2012	14/12/2012	1	95	0.100	Unit off-line	
1119 109	Saturday, 24/11/2012	12:30:13	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 112	Saturday, 24/11/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 113	Monday, 26/11/2012	12:27:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 113	Monday, 26/11/2012	12:27:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 108	Tuesday, 27/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
1119 104	Wednesday, 28/11/2012	12:33:30	07/12/2012	14/12/2012	5	115	0.100	Unit off-line	
<b>OCTOBER</b>									
993 32	Saturday, 1/12/2012	12:28:00	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 32	Friday, 6/12/2012	12:29:00	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 33	Friday, 6/12/2012	12:40:00	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 33	Wednesday, 5/12/2012	12:36:30	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 34	Thursday, 6/12/2012	12:44:00	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 41	Thursday, 6/12/2012	12:44:39	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 42	Friday, 7/12/2012	12:33:59	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 30	Saturday, 8/12/2012	12:33:49	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 43	Saturday, 8/12/2012	12:41:00	07/01/2013	14/01/2013	5	115	0.100	Unit off-line	
993 35	Sunday, 9/12/2012	12:41:00	07/01/2013	14/01/2013	5	115	0.121	91.5	
993 35	Monday, 10/12/2012	12:44:02	07/01/2013	14/01/2013	5	115	0.116	100.0	
1119 106	Tuesday, 11/12/2012	12:39:40	07/01/2013	14/01/2013	5	115	0.132	94.0	
993 36	Wednesday, 12/12/2012	12:38:00	07/01/2013	14/01/2013	5	115	0.114	88.0	
993 46	Wednesday, 12/12/2012	12:38:00	07/01/2013	14/01/2013	5	115	0.114	88.0	
993 46	Thursday, 13/12/2012	12:43:37	07/01/2013	14/01/2013	5	115	0.117	98.0	
993 37	Friday, 14/12/2012	12:31:43	07/01/2013	14/01/2013	5	115	0.108	88.0	
993 47	Friday, 14/12/2012	12:36:20	07/01/2013	14/01/2013	5	115	0.100	88.0	
993 31	Monday, 17/12/2012	12:37:41	07/01/2013	14/01/2013	5	115	0.104	88.0	
993 33	Monday, 17/12/2012	12:37:41	07/01/2013	14/01/2013	5	115	0.104	88.0	
993 48	Monday, 17/12/2012	12:40:00	07/01/2013	14/01/2013	5	115	0.129	88.0	
993 38	Tuesday, 18/12/2012	12:34:52	07/01/2013	14/01/2013	5	115	0.106	88.0	
993 45	Wednesday, 19/12/2012	12:44:30	07/01/2013	14/01/2013	5	115	0.108	88.0	
993 49	Friday, 21/12/2012	12:30:00	07/01/2013	14/01/2013	5	115	0.113	88.0	
993 519	Friday, 21/12/2012	12:35:30	07/01/2013	14/01/2013	5	115	0.112	88.0	
993 44	Saturday, 22/12/2012	12:30:00	07/01/2013	14/01/2013	5	115	0.111	88.0	
993 43	Sunday, 23/12/2012	12:40:26	07/01/2013	14/01/2013	1	95	0.117	88.0	
993 48	Monday, 24/12/2012	12:40:00	07/01/2013	14/01/2013	5	115	0.118	91.5	Ground vibration sensor failed, a replacement sensor is to be fitted mid January
993 48	Tuesday, 25/12/2012	12:42:41	07/01/2013	14/01/2013	5	na	na	101.9	Replacement sensor is to be fitted mid January
993 31	Thursday, 27/12/2012	12:33:15	07/01/2013	14/01/2013	5	115	na	101.9	Replacement sensor is to be fitted mid January
993 49	Friday, 28/12/2012	12:40:17	07/01/2013	14/01/2013	5	115	na	101.9	Replacement sensor is to be fitted mid January
993 51	Saturday, 29/12/2012	12:40:17	07/01/2013	14/01/2013	5	115	na	97.5	Replacement sensor is to be fitted mid January
1119 107	Saturday, 29/12/2012	12:42:17	07/01/2013	14/01/2013	5	115	na	97.5	Replacement sensor is to be fitted mid January
993 52	Monday, 31/12/2012	12:37:31	07/01/2013	14/01/2013	5	115	na	94.0	Replacement sensor is to be fitted mid January

**Monitoring Point: BM02**

Blast monitoring, Airblast overpressure and ground vibration peak particle velocity recorded to the south of ML1535 boundary

Blast Number	Day/Date	Time	Date Observed	Date Published	Compliance Limits		BM02 at Blast Time		Comments
					Ground Vibration (mm/s)	Airblast Overpressure (dBu)	Ground Vibration (mm/s)	Airblast Overpressure (dBu)	
APRIL									
1028 57	Monday, 2/04/2012	12:45:40	21/05/2012	01/07/2012	5	115	0.093	91.5	
1029 546b 527a	Monday, 05/04/2012	12:45:40	21/05/2012	01/07/2012	5	115	0.091	88.0	
1029 546c	Tuesday, 10/04/2012	12:53:00	21/05/2012	01/07/2012	5	115	0.083	94.0	
1027 71	Tuesday, 10/04/2012	12:55:00	21/05/2012	01/07/2012	5	115	0.086	94.0	
1027 70	Thursday, 12/04/2012	12:30:00	21/05/2012	01/07/2012	5	115	0.108	88.0	
1028 48a	Saturday, 7/04/2012	15:19:22	21/05/2012	01/07/2012	5	115	0.099	97.5	
1029 527b 536b	Saturday, 07/04/2012	12:42:48	21/05/2012	01/07/2012	5	115	0.081	97.5	
1029 536c 539a	Wednesday, 11/04/2012	11:33:00	21/05/2012	01/07/2012	5	115	0.086	97.5	
1028 58	Wednesday, 11/04/2012	12:36:41	21/05/2012	01/07/2012	5	115	0.087	91.5	
1029 539b 540 541a	Saturday, 14/04/2012	12:42:48	21/05/2012	01/07/2012	5	115	0.106	88.0	
1029 59	Sunday, 15/04/2012	12:33:30	21/05/2012	01/07/2012	5	115	0.104	91.5	
1028 58	Monday, 16/04/2012	12:41:13	21/05/2012	01/07/2012	5	115	0.096	105.0	
1029 40	Wednesday, 18/04/2012	12:44:50	21/05/2012	01/07/2012	5	115	0.121	91.5	
1028 59	Thursday, 19/04/2012	12:48:41	21/05/2012	01/07/2012	5	115	0.097	91.5	
1028 51	Friday, 20/04/2012	12:30:56	21/05/2012	01/07/2012	5	115	0.086	88.0	
1029 541b 542a	Friday, 20/04/2012	12:31:30	21/05/2012	01/07/2012	5	115	0.078	100.0	
1028 51	Friday, 20/04/2012	12:41:34	21/05/2012	01/07/2012	5	115	0.097	100.0	
1028 52	Tuesday, 24/04/2012	12:52:19	21/05/2012	01/07/2012	5	115	0.087	107.0	
1029 542b 547a	Tuesday, 24/04/2012	12:55:00	21/05/2012	01/07/2012	5	115	0.091	100.0	
1028 60	Wednesday, 25/04/2012	12:44:44	21/05/2012	01/07/2012	5	115	0.079	102.0	
1029 546 547b	Saturday, 28/04/2012	12:30:00	21/05/2012	01/07/2012	5	115	0.083	94.0	
1028 61	Saturday, 28/04/2012	12:33:00	21/05/2012	01/07/2012	5	115	0.079	88.0	
1029 548	Monday, 03/04/2012	12:40:01	21/05/2012	01/07/2012	5	115	0.099	91.5	
1029 41	Monday, 03/04/2012	12:42:41	21/05/2012	01/07/2012	5	115	0.098	94.0	
<b>MAY</b>									
1029 42	Tuesday, 1/05/2012	12:38:19	08/06/2012	01/07/2012	5	115	0.099	88.0	
1029 545a 544a	Tuesday, 01/05/2012	12:31:00	08/06/2012	01/07/2012	5	115	0.087	88.0	
1029 545b	Wednesday, 2/05/2012	13:05:00	08/06/2012	01/07/2012	5	115	0.095	91.5	
1028 62	Thursday, 3/05/2012	13:08:00	08/06/2012	01/07/2012	5	115	0.083	95.0	
1029 545a 546a	Thursday, 3/05/								

1029 55	Monday, 6/08/2012	12:41:57	06/09/2012	14/09/2012	5	115	0.078	103.5	
1011 43	Friday, 1/08/2012	12:41:12	06/09/2012	14/09/2012	5	115	0.099	95.5	
1020 70	Thursday, 4/08/2012	12:41:56	06/09/2012	14/09/2012	5	115	0.097	109.9	
1020 70	Friday, 10/08/2012	12:35:00	06/09/2012	14/09/2012	5	115	0.097	108.4	
1020 66	Saturday, 11/08/2012	12:42:20	06/09/2012	14/09/2012	5	115	0.086	94.0	
1020 55	Monday, 13/08/2012	12:39:59	06/09/2012	14/09/2012	5	115	0.100	94.0	
1020 55	Monday, 13/08/2012	12:44:00	06/09/2012	14/09/2012	5	115	0.087	88.0	
1020 71	Wednesday, 15/08/2012	12:32:30	06/09/2012	14/09/2012	5	115	0.086	88.0	
1020 65	Wednesday, 15/08/2012	12:37:45	06/09/2012	14/09/2012	5	115	0.083	88.0	
1011 43	Thursday, 16/08/2012	12:39:17	06/09/2012	14/09/2012	5	115	0.123	100.0	
1011 523a	Thursday, 16/08/2012	12:32:16	06/09/2012	14/09/2012	5	115	0.084	97.5	
1020 64	Friday, 17/08/2012	12:28:00	06/09/2012	14/09/2012	5	115	0.081	107.0	
1011 523a 520 518a	Friday, 17/08/2012	12:30:25	06/09/2012	14/09/2012	5	115	0.087	113.9	
1011 43	Saturday, 18/08/2012	12:33:00	06/09/2012	14/09/2012	5	115	0.086	97.5	
1011 523a	Saturday, 18/08/2012	13:01:50	06/09/2012	14/09/2012	5	115	0.081	100.0	
1011 43	Sunday, 19/08/2012	12:32:30	06/09/2012	14/09/2012	5	115	0.086	97.5	
1020 56	Monday, 20/08/2012	12:29:43	06/09/2012	14/09/2012	5	115	0.094	91.0	
1020 57	Tuesday, 21/08/2012	12:31:53	06/09/2012	14/09/2012	5	115	0.087	100.0	
1011 518	Wednesday, 22/08/2012	12:45:50	06/09/2012	14/09/2012	5	115	0.105	104.9	
1011 47	Thursday, 23/08/2012	13:09:36	06/09/2012	14/09/2012	5	115	0.093	106.0	
1011 48	Friday, 24/08/2012	12:37:55	06/09/2012	14/09/2012	5	115	0.099	91.5	
1020 58	Monday, 27/08/2012	12:35:46	06/09/2012	14/09/2012	5	115	0.086	88.0	
1020 59	Tuesday, 28/08/2012	12:36:43	06/09/2012	14/09/2012	5	115	0.088	100.0	
1020 59	Wednesday, 29/08/2012	12:38:30	06/09/2012	14/09/2012	5	115	0.093	106.0	
1020 60	Friday, 31/08/2012	12:28:25	06/09/2012	14/09/2012	5	115	0.087	102.8	
1011 43	Friday, 31/08/2012	12:29:25	06/09/2012	14/09/2012	5	115	0.087	102.8	
<b>SEPTEMBER</b>									
1011 45	Saturday, 1/09/2012	12:32:00	09/09/2012	14/09/2012	5	115	0.087	88.0	
1020 61	Saturday, 1/09/2012	12:35:88	09/09/2012	14/09/2012	5	115	0.086	88.0	
1011 58	Sunday, 2/09/2012	12:31:00	09/09/2012	14/09/2012	5	115	0.087	91.5	
1020 63	Sunday, 2/09/2012	12:32:48	09/09/2012	14/09/2012	5	115	0.086	94.0	
1011 57	Monday, 3/09/2012	12:26:00	09/09/2012	14/09/2012	5	115	0.087	88.0	
1011 59	Monday, 3/09/2012	12:38:00	09/09/2012	14/09/2012	5	115	0.087	112.0	
1011 56	Wednesday, 5/09/2012	12:43:00	09/09/2012	14/09/2012	5	115	0.087	111.0	
1011 44	Thursday, 6/09/2012	12:29:10	09/09/2012	14/09/2012	5	115	0.087	107.0	
1011 46	Friday, 7/09/2012	12:41:30	09/09/2012	14/09/2012	5	115	0.081	108.8	
1011 45	Saturday, 8/09/2012	12:37:00	09/09/2012	14/09/2012	5	115	0.109	91.5	
1011 45	Sunday, 9/09/2012	12:39:00	09/09/2012	14/09/2012	5	115	0.086	97.5	
1020 12	Tuesday, 11/09/2012	12:32:00	09/09/2012	14/09/2012	5	115	0.096	94.0	
1137 818	Wednesday, 12/09/2012	12:35:00	09/09/2012	14/09/2012	5	115	0.087	88.0	
1020 13	Thursday, 13/09/2012	12:33:00	09/09/2012	14/09/2012	5	115	0.086	108.8	
993 513a 154a	Friday, 14/09/2012	12:29:00	09/09/2012	14/09/2012	5	115	0.078	94.0	
1020 14	Saturday, 15/09/2012	12:29:20	09/09/2012	14/09/2012	5	115	0.097	94.0	
1020 15	Sunday, 17/09/2012	12:35:41	09/09/2012	14/09/2012	5	115	0.088	105.0	
1011 50	Monday, 17/09/2012	12:25:20	09/09/2012	14/09/2012	5	115	0.087	91.5	
1011 51	Wednesday, 19/09/2012	12:31:23	09/09/2012	14/09/2012	5	115	0.091	95.5	
1011 50b	Monday, 19/09/2012	12:31:23	09/09/2012	14/09/2012	5	115	0.099	91.5	
993 513a 993 514a 515a	Wednesday, 19/09/2012	12:41:11	09/09/2012	14/09/2012	5	115	0.087	91.5	
1011 46	Friday, 21/09/2012	12:46:08	09/09/2012	14/09/2012	5	115	0.105	88.0	
1128 52	Friday, 21/09/2012	12:46:08	09/09/2012	14/09/2012	5	115	0.087	108.4	
993 513a 514a	Saturday, 22/09/2012	12:35:45	09/09/2012	14/09/2012	5	115	0.087	94.0	
1020 14	Sunday, 23/09/2012	12:40:00	09/09/2012	14/09/2012	5	115	0.099	106.0	
993 514b	Monday, 24/09/2012	12:38:00	09/09/2012	14/09/2012	5	115	0.087	109.2	
1020 53	Monday, 24/09/2012	12:41:00	09/09/2012	14/09/2012	5	115	0.086	105.5	
1011 52	Tuesday, 24/09/2012	12:43:00	09/09/2012	14/09/2012	5	115	0.100	94.0	
1128 53	Tuesday, 24/09/2012	13:00:00	09/09/2012	14/09/2012	5	115	0.099	94.0	
1011 53	Wednesday, 25/09/2012	12:38:15	09/09/2012	14/09/2012	5	115	0.085	100.0	
1011 53	Thursday, 27/09/2012	12:38:15	09/09/2012	14/09/2012	5	115	0.085	100.0	
993 514b 517	Thursday, 27/09/2012	12:38:48	09/09/2012	14/09/2012	5	115	0.105	102.8	
1011 54	Friday, 28/09/2012	12:34:45	09/09/2012	14/09/2012	5	115	0.087	106.5	
<b>OCTOBER</b>									
1020 56	Monday, 1/10/2012	12:32:05	06/11/2012	14/11/2012	5	115	0.128	94.0	
1011 55a	Tuesday, 2/10/2012	12:32:00	06/11/2012	14/11/2012	5	115	0.099	91.5	
993 525	Tuesday, 2/10/2012	12:35:18	06/11/2012	14/11/2012	5	115	0.099	91.5	
1020 57	Wednesday, 3/10/2012	12:30:00	06/11/2012	14/11/2012	5	115	0.086	94.0	
993 524	Wednesday, 3/10/2012	12:33:00	06/11/2012	14/11/2012	5	115	0.098	91.5	
1020 58	Friday, 5/10/2012	13:03:05	06/11/2012	14/11/2012	5	115	0.106	101.9	
993 523	Friday, 5/10/2012	13:03:05	06/11/2012	14/11/2012	5	115	0.096	103.5	
993 522	Saturday, 6/10/2012	12:46:24	06/11/2012	14/11/2012	5	115	0.100	88.8	
1020 59	Tuesday, 9/10/2012	12:42:47	06/11/2012	14/11/2012	5	115	0.112	108.0	
993 521 519	Wednesday, 10/10/2012	12:47:15	06/11/2012	14/11/2012	5	115	0.087	91.5	
993 521	Wednesday, 10/10/2012	12:47:15	06/11/2012	14/11/2012	5	115	0.119	101.0	
993 520	Saturday, 13/10/2012	12:25:11	06/11/2012	14/11/2012	5	115	0.119	91.5	
1020 60	Monday, 15/10/2012	12:33:45	06/11/2012	14/11/2012	5	115	0.100	91.5	
1119 99	Monday, 15/10/2012	12:35:00	06/11/2012	14/11/2012	5	115	0.086	91.5	
1128 94	Monday, 15/10/2012	12:52:12	06/11/2012	14/11/2012	5	115	0.096	94.0	
1020 61	Friday, 19/10/2012	12:33:33	06/11/2012	14/11/2012	5	115	0.094	97.5	
1119 100	Friday, 19/10/2012	12:44:46	06/11/2012	14/11/2012	5	115	0.096	106.0	
1020 62	Sunday, 21/10/2012	12:36:05	06/11/2012	14/11/2012	5	115	0.087	91.5	
1020 65	Sunday, 21/10/2012	12:37:45	06/11/2012	14/11/2012	5	115	0.087	100.0	
1020 66	Monday, 22/10/2012	12:41:30	06/11/2012	14/11/2012	5	115	0.089	95.5	
1020 63	Tuesday, 23/10/2012	12:36:00	06/11/2012	14/11/2012	5	115	0.087	94.0	
1020 67	Tuesday, 23/10/2012	12:36:00	06/11/2012	14/11/2012	5	115	0.087	94.0	
993 526	Thursday, 25/10/2012	12:44:00	06/11/2012	14/11/2012	5	115	0.086	88.0	
993 526	Thursday, 25/10/2012	12:46:57	06/11/2012	14/11/2012	5	115	0.091	106.0	
1020 68	Thursday, 25/10/2012	12:51:00	06/11/2012	14/11/2012	5	115	0.095	106.0	
1119 101	Friday, 27/10/2012	12:33:22	06/11/2012	14/11/2012	5	115	0.081	88.8	
1119 100	Sunday, 28/10/2012	12:33:00	06/11/2012	14/11/2012	5	115	0.087	91.5	
1020 64	Sunday, 28/10/2012	12:36:48	06/11/2012	14/11/2012	5	115	0.098	91.5	
1020 68	Tuesday, 30/10/2012	12:36:05	06/11/2012	14/11/2012	5	115	0.106	94.0	
993 527	Tuesday, 30/10/2012	12:37:38	06/11/2012	14/11/2012	5	115	0.109	91.5	
1020 70	Wednesday, 31/10/2012	12:37:00	06/11/2012	14/11/2012	5	115	0.100	91.5	
<b>NOVEMBER</b>									
1119 109	Thursday, 1/11/2012	12:34:45	07/12/2012	14/12/2012	5	115	0.081	107.5	
1020 71	Thursday, 1/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.081	106.0	
1119 108	Friday, 2/11/2012	12:33:30	07/12/2012	14/12/2012	5	115	0.099	91.5	
1119 106	Saturday, 3/11/2012	12:35:30	07/12/2012	14/12/2012	5	115	0.087	94.0	
1119 109	Saturday, 3/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.087	94.0	
993 521	Sunday, 4/11/2012	12:22:25	07/12/2012	14/12/2012	5	115	0.094	95.5	
1119 107	Monday, 5/11/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.083	101.9	
993 49	Wednesday, 7/11/2012	12:44:53	07/12/2012	14/12/2012	5	115	0.091	100.0	
993 58	Friday, 9/11/2012	12:35:54	07/12/2012	14/12/2012	5	115	0.098	106.5	
1119 106	Saturday, 10/11/2012	12:35:10	07/12/2012	14/12/2012	5	115	0.086	95.5	
1119 108	Saturday, 10/11/2012	12:36:46	07/12/2012	14/12/2012	5	115	0.091	97.5	
993 53	Sunday, 11/11/2012	12:33:20	07/12/2012	14/12/2012	5	115	0.081	91.5	
993 53	Sunday, 11/11/2012	12:33:00	07/12/2012	14/12/2012	5	115	0.091	91.5	
993 56	Thursday, 15/11/2012	12:34:13	07/12/2012	14/12/2012	5	115	0.098	88.8	
1119 114	Thursday, 15/11/2012	12:46:00	07/12/2012	14/12/2012	5	115	0.091	91.5	
1119 117	Saturday, 17/11/2012	12:34:00	07/12/2012	14/12/2012	5	115	0.094	91.5	
1119 117	Sunday, 1								



Boat Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Compliance Items	Airblast Overpressure (dBu)	Ground Vibration (mm/s)	BMMA at Blast Time (dBu)	Airblast Overpressure (dBu)	Comments
1119 115	Wednesday, 21/11/2012	12:32:00	07/01/2013	14/01/2013	5	115	0.098	81.9			
993 56	Thursday, 22/11/2012	12:32:24	07/01/2013	14/01/2013	5	115	0.098	81.5			
993 57	Friday, 23/11/2012	12:32:48	07/01/2013	14/01/2013	5	115	0.097	82.0			
1119 103	Saturday, 24/11/2012	12:33:12	07/01/2013	14/01/2013	5	115	0.097	88.0			
1119 112	Sunday, 25/11/2012	12:33:36	07/01/2013	14/01/2013	5	115	0.100	88.0			
993 58	Monday, 26/11/2012	12:34:00	07/01/2013	14/01/2013	5	115	1.600	88.0			
1119 111	Tuesday, 27/11/2012	12:34:24	07/01/2013	14/01/2013	5	115	0.079	81.5			
1119 105	Wednesday, 28/11/2012	12:34:48	07/01/2013	14/01/2013	5	115	0.085	86.5			
1119 106	Thursday, 29/11/2012	12:35:12	07/01/2013	14/01/2013	5	115	0.100	88.0			
1119 107	Friday, 30/11/2012	12:35:36	07/01/2013	14/01/2013	5	115	0.099	91.5			
993 59	Saturday, 01/12/2012	12:36:00	07/01/2013	14/01/2013	5	115	0.086	81.5			
993 583	Sunday, 02/12/2012	12:36:24	07/01/2013	14/01/2013	5	115	0.097	97.5			
993 512	Monday, 03/12/2012	12:36:48	07/01/2013	14/01/2013	5	115	0.095	113.1			
993 51	Tuesday, 04/12/2012	12:37:12	07/01/2013	14/01/2013	5	115	0.100	106.5			
993 52	Wednesday, 05/12/2012	12:37:36	07/01/2013	14/01/2013	5	115	0.100	106.5			
993 534	Thursday, 06/12/2012	12:38:00	07/01/2013	14/01/2013	5	115	0.098	94.0			
993 41	Friday, 07/12/2012	12:38:24	07/01/2013	14/01/2013	5	115	0.098	94.0			
993 24	Saturday, 08/12/2012	12:38:48	07/01/2013	14/01/2013	5	115	0.113	88.0			
993 50	Sunday, 09/12/2012	12:39:12	07/01/2013	14/01/2013	5	115	0.087	94.0			
993 42	Monday, 10/12/2012	12:39:36	07/01/2013	14/01/2013	5	115	0.096	82.5			
993 20	Tuesday, 11/12/2012	12:39:60	07/01/2013	14/01/2013	5	115	0.093	88.8			
993 505	Wednesday, 12/12/2012	12:40:00	07/01/2013	14/01/2013	5	115	0.091	90.0			
993 28	Thursday, 13/12/2012	12:40:24	07/01/2013	14/01/2013	5	115	0.088	95.5			
1119 108	Friday, 14/12/2012	12:40:48	07/01/2013	14/01/2013	5	115	0.100	91.5			
993 516	Saturday, 15/12/2012	12:41:12	07/01/2013	14/01/2013	5	115	0.087	94.0			
993 48	Sunday, 16/12/2012	12:41:36	07/01/2013	14/01/2013	5	115	0.087	94.0			
993 21	Monday, 17/12/2012	12:42:00	07/01/2013	14/01/2013	5	115	0.097	81.5			
993 517	Tuesday, 18/12/2012	12:42:24	07/01/2013	14/01/2013	5	115	0.117	82.5			
993 47	Wednesday, 19/12/2012	12:42:48	07/01/2013	14/01/2013	5	115	0.087	91.5			
993 29	Thursday, 20/12/2012	12:43:12	07/01/2013	14/01/2013	5	115	0.122	94.0			
993 533	Friday, 21/12/2012	12:43:36	07/01/2013	14/01/2013	5	115	0.222	95.5			
993 46	Saturday, 22/12/2012	12:44:00	07/01/2013	14/01/2013	5	115	0.091	88.0			
993 518	Sunday, 23/12/2012	12:44:24	07/01/2013	14/01/2013	5	115	0.129	94.0			
993 45	Monday, 24/12/2012	12:44:48	07/01/2013	14/01/2013	5	115	0.091	95.0			
993 51	Tuesday, 25/12/2012	12:45:12	07/01/2013	14/01/2013	5	115	0.098	91.5			
993 519	Wednesday, 26/12/2012	12:45:36	07/01/2013	14/01/2013	5	115	0.108	92.0			
993 44	Thursday, 27/12/2012	12:46:00	07/01/2013	14/01/2013	5	115	0.093	94.0			
993 52	Friday, 28/12/2012	12:46:24	07/01/2013	14/01/2013	5	115	0.087	94.0			
993 41	Saturday, 29/12/2012	12:46:48	07/01/2013	14/01/2013	5	115	0.091	94.0			
993 48	Sunday, 30/12/2012	12:47:12	07/01/2013	14/01/2013	5	115	0.096	88.0			
993 18	Monday, 31/12/2012	12:47:36	07/01/2013	14/01/2013	5	115	0.109	96.0			
993 49	Tuesday, 01/01/2013	12:48:00	07/01/2013	14/01/2013	5	115	0.094	100.0			
993 22	Wednesday, 02/01/2013	12:48:24	07/01/2013	14/01/2013	5	115	0.117	95.0			
1119 107	Thursday, 03/01/2013	12:48:48	07/01/2013	14/01/2013	5	115	0.098	102.8			
993 22	Friday, 04/01/2013	12:49:12	07/01/2013	14/01/2013	5	115	0.100	94.0			

**Monitoring Point: BM04 - (3rd breeding Area)**

Blitz monitoring: Airblast overpressure and ground vibration peak particle velocity recorded in Lake Cowal to the north-north-east of ML1535 boundary

Boat Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Compliance Items	Airblast Overpressure (dBu)	Ground Vibration (mm/s)	BMMA at Blast Time (dBu)	Airblast Overpressure (dBu)	Comments
<b>APRIL</b>											
1020 51	Thursday, 28/04/2012	12:48:00	08/07/2012	14/07/2012	5	115	0.081	81.8			Due to flooding in Lake Cowal, this unit was offline for the entirety of April
1020 62	Friday, 28/06/2012	12:54:00	08/07/2012	14/07/2012	5	115	0.081	81.8			Due to flooding in Lake Cowal, this unit was offline from the 01/06/12 to 27/06/12
1011 137	Friday, 29/06/2012	12:54:00	08/07/2012	14/07/2012	5	115	0.081	88.0			
1020 47	Friday, 29/06/2012	12:51:18	08/07/2012	14/07/2012	5	115	0.099	94.0			
<b>JULY</b>											
1020 41	Sunday, 1 July 2012	12:30:00	08/08/2012	14/08/2012	5	115	0.400	101.0			
1020 48	Monday, 2 July 2012	12:40:50	08/08/2012	14/08/2012	5	115	0.400	97.5			
1011 523	Monday, 2 July 2012	12:44:00	08/08/2012	14/08/2012	5	115	0.390	95.5			
1011 525	Tuesday, 3 July 2012	12:33:00	08/08/2012	14/08/2012	5	115	0.355	102.0			
1020 44	Thursday, 5 July	12:40:45	08/08/2012	14/08/2012	5	115	0.098	91.5			
1011 521	Friday, 6 July	12:34:00	08/08/2012	14/08/2012	5	115	0.295	88.0			
1020 518 523a	Monday, 9 July	12:36:40	08/08/2012	14/08/2012	5	115	0.075	94.0			
1020 45a	Sunday, 8 July	12:32:44	08/08/2012	14/08/2012	5	115	0.098	88.0			
1020 520a	Monday, 9 July	12:30:00	08/08/2012	14/08/2012	5	115	0.295	101.0			
1020 46a	Tuesday, 10 July	12:32:26	08/08/2012	14/08/2012	5	115	0.114	108.0			
1020 52	Thursday, 12 July	12:32:00	08/08/2012	14/08/2012	5	115	0.313	94.0			
1020 49a	Friday, 13 July	12:32:00	08/08/2012	14/08/2012	5	115	0.313	94.0			
1020 54a	Saturday, 14 July	12:31:00	08/08/2012	14/08/2012	5	115	0.274	88.0			
1020 56a	Sunday, 15 July	12:30:00	08/08/2012	14/08/2012	5	115	0.827	94.0			
1020 58	Monday, 16 July	12:31:00	08/08/2012	14/08/2012	5	115	0.086	91.5			
1020 48a	Tuesday, 17 July	12:30:00	08/08/2012	14/08/2012	5	115	0.086	95.5			
1020 49a	Wednesday, 18 July	12:31:15	08/08/2012	14/08/2012	5	115	0.083	88.0			
1020 55	Thursday, 19 July	12:30:00	08/08/2012	14/08/2012	5	115	0.079	81.5			
1020 53	Friday, 20 July	12:30:30	08/08/2012	14/08/2012	5	115	0.865	95.5			
1020 54	Monday, 23 July	12:34:53	08/08/2012	14/08/2012	5	115	0.143	88.0			
1011 524	Tuesday, 24 July	12:33:00	08/08/2012	14/08/2012	5	115	0.099	94.0			
1020 50b	Thursday, 26 July	12:32:51	08/08/2012	14/08/2012	5	115	0.400	91.5			
1011 527a 528a	Friday, 27 July	12:34:00	08/08/2012	14/08/2012	5	115	0.633	101.0			
1020 62	Sunday, 29 July	12:45:19	08/08/2012	14/08/2012	5	115	0.448	100.0			
1020 59b	Sunday, 29 July	12:49:00	08/08/2012	14/08/2012	5	115	0.460	94.0			
1020 47	Monday, 30 July	12:38:41	08/08/2012	14/08/2012	5	115	0.081	94.0			
1020 51a	Tuesday, 31 July	12:44:00	08/08/2012	14/08/2012	5	115	0.081	94.0			
1011 528a 529 530a	Tuesday, 31 July	12:34:00	08/08/2012	14/08/2012	5	115	0.081	94.0			
<b>AUGUST</b>											
1011 530a	Wednesday, 1/08/2012	12:38:00	08/09/2012	14/09/2012	5	115	0.081	91.5			
1011 39	Saturday, 4/08/2012	12:33:16	08/09/2012	14/09/2012	5	115	0.370	94.0			
1011 331	Saturday, 4/08/2012	12:33:17	08/09/2012	14/09/2012	5	115	0.370	94.0			
1020 54	Sunday, 5/08/2012	12:32:11	08/09/2012	14/09/2012	5	115	1.200	101.9			
1020 45	Monday, 6/08/2012	12:41:52	08/09/2012	14/09/2012	5	115	0.053	92.0			
1020 46	Tuesday, 7/08/2012	12:41:52	08/09/2012	14/09/2012	5	115	0.081	91.5			
1137 81	Thursday, 9/08/2012	12:43:50	08/09/2012	14/09/2012	5	115	0.748	101.9			
1020 70	Friday, 10/08/2012	12:43:00	08/09/2012	14/09/2012	5	115	1.720	107.0			
1020 66	Saturday, 11/08/2012	12:42:00	08/09/2012	14/09/2012	5	115	0.091	88.0			
1020 65	Monday, 13/08/2012	12:39:55	08/09/2012	14/09/2012	5	115	0.106	88.0			
1021 64	Tuesday,										

Blst Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Airblast Overpressure (kPa)	Ground Vibration (mm/s)	Airblast Overpressure (kPa)	Comments
903 37	Sunday, 4/11/2012	12:22:25	07/12/2012	14/12/2012	5	115	0.150	81.9	
1110 40	Friday, 4/11/2012	12:14:01	07/12/2012	14/12/2012	5	115	0.204	116.2	Airblast overpressure exceedance was caused by localized environmental factors
903 46	Wednesday, 7/11/2012	12:45:51	07/12/2012	14/12/2012	5	115	0.111	97.5	
903 86	Friday, 9/11/2012	12:13:54	07/12/2012	14/12/2012	5	115	0.111	97.5	
1119 106	Saturday, 10/11/2012	12:15:10	07/12/2012	14/12/2012	5	115	0.081	88.0	
1119 108	Saturday, 10/11/2012	12:16:40	07/12/2012	14/12/2012	5	115	0.081	88.0	
903 15	Sunday, 11/11/2012	12:13:20	07/12/2012	14/12/2012	5	115	0.091	81.9	
903 35	Tuesday, 14/11/2012	12:12:00	07/12/2012	14/12/2012	5	115	0.104	90.5	
903 36	Thursday, 15/11/2012	12:14:13	07/12/2012	14/12/2012	5	115	0.117	94.0	
1119 114	Thursday, 15/11/2012	12:14:40	07/12/2012	14/12/2012	5	115	0.081	91.5	
903 57	Saturday, 17/11/2012	12:14:00	07/12/2012	14/12/2012	5	115	0.086	91.5	
1119 117	Sunday, 18/11/2012	12:23:00	07/12/2012	14/12/2012	5	115	0.091	101.0	
1119 110	Sunday, 18/11/2012	12:18:00	07/12/2012	14/12/2012	5	115	0.099	101.0	
1119 116	Monday, 19/11/2012	12:19:00	07/12/2012	14/12/2012	5	115	0.081	100.0	
1119 111	Monday, 19/11/2012	12:14:00	07/12/2012	14/12/2012	5	115	0.081	81.9	
903 38	Tuesday, 20/11/2012	12:14:45	07/12/2012	14/12/2012	5	115	0.111	97.5	
903 55	Wednesday, 21/11/2012	12:18:00	07/12/2012	14/12/2012	5	115	0.086	88.0	
1119 115	Wednesday, 21/11/2012	12:12:00	07/12/2012	14/12/2012	5	115	0.081	94.0	
903 54	Thursday, 22/11/2012	12:29:24	07/12/2012	14/12/2012	5	115	0.081	91.5	
903 36	Friday, 24/11/2012	12:13:54	07/12/2012	14/12/2012	5	115	0.091	88.0	
903 39	Saturday, 24/11/2012	15:20:12	07/12/2012	14/12/2012	5	115	0.098	81.9	
1119 112	Saturday, 24/11/2012	12:13:00	07/12/2012	14/12/2012	5	115	0.106	91.5	
903 34	Monday, 26/11/2012	12:43:43	07/12/2012	14/12/2012	5	115	0.128	81.9	
1119 113	Monday, 26/11/2012	12:12:00	07/12/2012	14/12/2012	5	115	0.081	81.9	
1110 105	Tuesday, 27/11/2012	12:42:00	07/12/2012	14/12/2012	5	115	0.086	104.0	
1110 104	Wednesday, 28/11/2012	12:38:30	07/12/2012	14/12/2012	5	115	0.086	101.0	
<b>DECEMBER</b>									
903 32	Saturday, 1/12/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.078	88.0	
903 513	Saturday, 1/12/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.099	81.9	
903 512	Tuesday, 4/12/2012	12:44:00	07/12/2012	14/12/2012	5	115	0.117	109.5	
903 51	Wednesday, 5/12/2012	12:36:30	07/12/2012	14/12/2012	5	115	0.130	103.5	
903 21	Wednesday, 5/12/2012	12:36:30	07/12/2012	14/12/2012	5	115	0.139	103.5	
903 514	Thursday, 6/12/2012	12:44:00	07/12/2012	14/12/2012	5	115	0.081	88.0	
903 41	Thursday, 6/12/2012	12:44:30	07/12/2012	14/12/2012	5	115	0.083	88.0	
903 46	Friday, 7/12/2012	12:13:59	07/12/2012	14/12/2012	5	115	0.122	81.9	
903 47	Saturday, 8/12/2012	12:18:44	07/12/2012	14/12/2012	5	115	0.101	91.5	
903 42	Saturday, 8/12/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.086	81.9	
903 20	Monday, 10/12/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.120	100.0	
903 515	Monday, 10/12/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.120	100.0	
903 49	Monday, 10/12/2012	12:44:00	07/12/2012	14/12/2012	5	115	0.091	101.0	
1119 109	Tuesday, 11/12/2012	12:10:00	07/12/2012	14/12/2012	5	115	0.081	81.9	
903 516	Tuesday, 11/12/2012	12:18:00	07/12/2012	14/12/2012	5	115	0.094	81.9	
903 48	Wednesday, 12/12/2012	12:12:00	07/12/2012	14/12/2012	5	115	0.079	81.9	
903 21	Thursday, 13/12/2012	12:43:57	07/12/2012	14/12/2012	5	115	0.091	88.0	
903 517	Friday, 14/12/2012	12:11:41	07/12/2012	14/12/2012	5	115	0.132	81.9	
903 47	Friday, 14/12/2012	12:18:30	07/12/2012	14/12/2012	5	115	0.086	90.5	
903 31	Monday, 17/12/2012	12:17:41	07/12/2012	14/12/2012	5	115	0.147	91.5	
903 518	Monday, 17/12/2012	12:17:41	07/12/2012	14/12/2012	5	115	0.147	91.5	
903 48	Monday, 17/12/2012	12:40:00	07/12/2012	14/12/2012	5	115	0.079	81.9	
903 518	Tuesday, 18/12/2012	12:14:52	07/12/2012	14/12/2012	5	115	0.147	88.0	
903 48	Wednesday, 19/12/2012	12:44:30	07/12/2012	14/12/2012	5	115	0.091	81.9	
903 51	Friday, 21/12/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.087	88.0	
903 519	Friday, 21/12/2012	12:33:30	07/12/2012	14/12/2012	5	115	0.119	91.5	
903 44	Saturday, 22/12/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.081	88.0	
903 41	Saturday, 22/12/2012	12:40:26	07/12/2012	14/12/2012	5	115	0.100	91.5	
903 48	Saturday, 22/12/2012	12:40:26	07/12/2012	14/12/2012	5	115	0.100	91.5	
903 48	Monday, 24/12/2012	12:38:15	07/12/2012	14/12/2012	5	115	0.081	81.9	
903 48	Monday, 24/12/2012	12:38:15	07/12/2012	14/12/2012	5	115	0.081	81.9	
903 48	Thursday, 27/12/2012	12:33:15	07/12/2012	14/12/2012	5	115	0.100	81.9	
903 49	Friday, 28/12/2012	12:43:37	07/12/2012	14/12/2012	5	115	0.121	100.0	
903 21	Saturday, 29/12/2012	12:40:12	07/12/2012	14/12/2012	5	115	0.087	91.5	
1110 107	Saturday, 29/12/2012	12:42:17	07/12/2012	14/12/2012	5	115	0.081	97.5	
903 22	Sunday, 31/12/2012	12:17:31	07/12/2012	14/12/2012	5	115	0.086	97.5	

**Montlake Point BMS - 43rd Breeding Area**

Blst monitoring: Airblast overpressure and ground vibration peak particle velocity recorded in Lake Cowi to the north-east of ML153 boundary

Blst Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Airblast Overpressure (kPa)	Ground Vibration (mm/s)	Airblast Overpressure (kPa)	Comments
<b>APRIL</b>									
1020 47	Monday, 01/07/2012	-	-	01/07/2012	-	-	-	-	Due to flooding in Lake Cowi, this unit was offline for the entirety of April
<b>MAY</b>									
1020 47	Monday, 01/07/2012	-	-	01/07/2012	-	-	-	-	Due to flooding in Lake Cowi, this unit was offline for the entirety of May
<b>JUNE</b>									
1020 11	Thursday, 28/06/2012	12:48:00	06/07/2012	14/07/2012	5	115	0.119	88.0	Due to flooding in Lake Cowi, this unit was offline from the 01/06/12 to 27/06/12
1020 42	Thursday, 28/06/2012	12:44:00	06/07/2012	14/07/2012	5	115	0.081	81.9	
1020 117	Friday, 29/06/2012	12:44:00	06/07/2012	14/07/2012	5	115	0.094	88.0	
1020 47	Friday, 29/06/2012	12:51:33	06/07/2012	14/07/2012	5	115	0.094	88.0	
<b>JULY</b>									
1020 45	Sunday, 1 July 2012	12:39:00	08/08/2012	14/08/2012	5	115	0.081	88.0	
1020 48	Monday, 2 July 2012	12:40:50	08/08/2012	14/08/2012	5	115	0.106	97.5	
1020 112	Monday, 2 July 2012	12:44:00	08/08/2012	14/08/2012	5	115	0.086	101.0	
1020 125	Tuesday, 3 July 2012	12:33:00	08/08/2012	14/08/2012	5	115	0.081	108.0	
1020 44	Tuesday, 3 July 2012	12:33:00	08/08/2012	14/08/2012	5	115	0.081	88.0	
1020 113	Friday, 6 July 2012	12:34:00	08/08/2012	14/08/2012	5	115	0.087	91.5	
1020 113 53a	Saturday, 7 July 2012	12:36:40	08/08/2012	14/08/2012	5	115	0.083	81.9	
1020 49	Sunday, 8 July 2012	12:37:44	08/08/2012	14/08/2012	5	115	0.086	88.0	
1020 113b	Monday, 9 July 2012	12:28:32	08/08/2012	14/08/2012	5	115	0.087	91.5	
1020 113c	Monday, 9 July 2012	12:30:00	08/08/2012	14/08/2012	5	115	0.081	88.0	
1020 46b	Tuesday, 10 July 2012	12:32:35	08/08/2012	14/08/2012	5	115	0.091	94.0	
1020 53	Thursday, 12 July 2012	12:32:00	08/08/2012	14/08/2012	5	115	0.073	97.5	
1020 48	Thursday, 12 July 2012	12:32:00	08/08/2012	14/08/2012	5	115	0.073	97.5	
1020 56a	Friday, 13 July 2012	12:37:00	08/08/2012	14/08/2012	5	115	0.081	91.5	
1020 113d 57a	Saturday, 14 July 2012	12:39:00	08/08/2012	14/08/2012	5	115	0.087	97.5	
1020 54	Saturday, 14 July 2012	12:31:00	08/08/2012	14/08/2012	5	115	0.086	94.0	
1020 48	Monday, 16 July 2012	12:43:00	08/08/2012	14/08/2012	5	115	0.094	98.0	
1020 46	Monday, 16 July 2012	12:42:15	08/08/2012	14/08/2012	5	115	0.081	81.9	
1020 51	Monday, 16 July 2012	12:42:15	08/08/2012	14/08/2012	5	115	0.081	81.9	
1020 53	Friday, 20 July 2012	12:36:38	08/08/2012	14/08/2012	5	115	0.095	91.5	
1020 54	Friday, 20 July 2012	12:34:51	08/08/2012	14/08/2012	5	115	0.100	91.5	
1020 124	Friday, 24 July 2012	12:33:00	08/08/2012	14/08/2012	5	115	0.081	91.5	
1020 46b	Thursday, 26 July 2012	12:32:51	08/08/2012	14/08/2012	5	115	0.081	91.5	
1020 113e 57b	Friday, 27 July 2012	12:44:00	08/08/2012	14/08/2012	5	115	0.081	88.0	
1020 62	Sunday, 29 July 2012	12:45:10	08/08/2012	14/08/2012	5	115	0.112	106.5	
1020 56b	Sunday, 29 July 2012	12:46:00	08/08/2012	14/08/2012	5	115	0.081	88.0	
1020 47	Monday, 30 July 2012	12:28:41	08/08/2012	14/08/2012	5	115	0.098	101.0	
1020 47	Tuesday, 31 July 2012	12:34:00	08/08/2012	14/08/2012	5	115	0.086	91.5	
1020 113f 57c 53b	Friday, 31 July 2012	12:34:00	08/08/2012	14/08/2012	5	115	0.086	91.5	
<b>AUGUST</b>									
1020 113g	Wednesday, 15/08/2012	12:38:00	08/09/2012	14/09/2012	5	115	0.079	100.0	
1020 11 46	Thursday, 16/08/2012	12:31:18	08/09/2012	14/09/2012	5	115	0.146	106.0	
1020 113i	Thursday, 16/08/2012	12:31:17	08/09/2012	14/09/2012	5	115	0.146	100.0	
1020 114	Friday, 17/08/2012	12:32:11	08/09/2012	14/09/2012	5	115	0.086	88.0	
1020 45	Monday, 14/08/2012	12:41:57	08/09/2012	14/09/2012	5	115	0.078	88.0	
1020 41	Tuesday, 14/08/2012	12:41:12	08/09/2012	14/09/2012	5	115	0.117	91.5	
1117									

Boat Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Airblast Overpressure (dB(L))	Ground Vibration (mm/s)	BMSE at Blast Time (mm/s)	Airblast Overpressure (dB(L))	Comments
1002 43	Tuesday, 23/10/2012	12:36:01	06/11/2012	14/11/2012	5	115	0.083	98.8		
1002 43	Tuesday, 23/10/2012	12:36:01	06/11/2012	14/11/2012	5	115	0.083	98.8		
1002 26	Thursday, 31/10/2012	12:44:05	06/11/2012	14/11/2012	5	115	0.086	98.0		
1003 90	Thursday, 25/10/2012	12:46:57	06/11/2012	14/11/2012	5	115	0.128	100.0		
1002 48	Thursday, 25/10/2012	12:51:00	06/11/2012	14/11/2012	5	115	0.086	102.4		
1119 101	Saturday, 27/10/2012	12:33:22	06/11/2012	14/11/2012	5	115	0.087	94.0		
1119 102	Sunday, 28/10/2012	12:36:00	06/11/2012	14/11/2012	5	115	0.086	88.0		
1002 44	Sunday, 28/10/2012	12:38:48	06/11/2012	14/11/2012	5	115	0.086	94.0		
1002 49	Monday, 29/10/2012	12:36:00	06/11/2012	14/11/2012	5	115	0.476	94.0		
1003 39	Monday, 29/10/2012	12:37:38	06/11/2012	14/11/2012	5	115	0.112	98.0		
1002 50	Wednesday, 31/10/2012	12:37:00	06/11/2012	14/11/2012	5	115	0.087	88.0		
<b>NOVEMBER</b>										
1119 105	Thursday, 1/11/2012	12:34:45	07/12/2012	14/12/2012	5	115	0.081	104.2		
1002 51	Thursday, 1/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.094	101.9		
1119 106	Friday, 2/11/2012	12:33:30	07/12/2012	14/12/2012	5	115	0.081	88.0		
1119 107	Friday, 2/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.081	88.0		
1119 109	Saturday, 3/11/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.083	88.0		
1003 32	Saturday, 3/11/2012	12:29:25	07/12/2012	14/12/2012	5	115	0.095	102.0		
1119 107	Saturday, 03/11/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.098	119.2	Airblast overpressure exceeded was caused by localised environmental factors	
1003 40	Wednesday, 7/11/2012	12:44:53	07/12/2012	14/12/2012	5	115	0.083	94.0		
1003 38	Friday, 2/11/2012	12:33:58	07/12/2012	14/12/2012	5	115	0.089	97.5		
1119 106	Saturday, 10/11/2012	12:35:10	07/12/2012	14/12/2012	5	115	0.083	94.0		
1119 108	Sunday, 11/11/2012	12:36:00	07/12/2012	14/12/2012	5	115	0.086	88.0		
1003 31	Sunday, 11/11/2012	12:33:20	07/12/2012	14/12/2012	5	115	0.129	88.0		
1003 32	Tuesday, 13/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.128	91.5		
1003 36	Thursday, 15/11/2012	12:34:31	07/12/2012	14/12/2012	5	115	0.095	105.5		
1119 114	Thursday, 15/11/2012	12:46:00	07/12/2012	14/12/2012	5	115	0.102	98.8		
1003 33	Saturday, 17/11/2012	12:34:00	07/12/2012	14/12/2012	5	115	0.087	95.8		
1119 117	Sunday, 18/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.087	94.0		
1119 110	Sunday, 18/11/2012	12:38:00	07/12/2012	14/12/2012	5	115	0.087	102.8		
1119 116	Monday, 20/11/2012	12:39:00	07/12/2012	14/12/2012	5	115	0.088	97.5		
1119 111	Monday, 20/11/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.112	97.5		
1003 35	Tuesday, 20/11/2012	12:31:49	07/12/2012	14/12/2012	5	115	0.106	88.0		
1003 35	Wednesday, 21/11/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.081	88.0		
1119 111	Wednesday, 21/11/2012	12:32:00	07/12/2012	14/12/2012	5	115	0.087	91.5		
1003 34	Thursday, 22/11/2012	12:29:24	07/12/2012	14/12/2012	5	115	0.081	94.0		
1003 42	Friday, 23/11/2012	12:31:51	07/12/2012	14/12/2012	5	115	0.122	91.5		
1003 37	Saturday, 24/11/2012	15:10:58	07/12/2012	14/12/2012	5	115	0.093	91.5		
1119 103	Saturday, 24/11/2012	15:20:31	07/12/2012	14/12/2012	5	115	0.096	101.0		
1119 112	Saturday, 24/11/2012	15:23:00	07/12/2012	14/12/2012	5	115	0.098	88.0		
1003 36	Monday, 26/11/2012	12:43:43	07/12/2012	14/12/2012	5	115	0.126	88.0		
1119 113	Monday, 26/11/2012	12:47:00	07/12/2012	14/12/2012	5	115	0.087	88.0		
1110 105	Tuesday, 27/11/2012	12:42:00	07/12/2012	14/12/2012	5	115	0.094	91.5		
1110 106	Wednesday, 28/11/2012	12:38:30	07/12/2012	14/12/2012	5	115	0.087	88.0		
<b>DECEMBER</b>										
1003 32	Saturday, 1/12/2012	12:28:00	07/12/2012	14/12/2012	5	115	0.087	95.8		
1003 31	Monday, 3/12/2012	12:29:00	07/12/2012	14/12/2012	5	115	0.087	95.8		
1003 52	Tuesday, 4/12/2012	12:34:00	07/12/2012	14/12/2012	5	115	0.098	108.0		
1003 53	Wednesday, 5/12/2012	12:36:30	07/12/2012	14/12/2012	5	115	0.117	107.0		
1003 54	Thursday, 6/12/2012	12:44:00	07/12/2012	14/12/2012	5	115	0.092	88.0		
1003 48	Thursday, 6/12/2012	12:44:38	07/12/2012	14/12/2012	5	115	0.091	88.0		
1003 24	Friday, 7/12/2012	12:33:59	07/12/2012	14/12/2012	5	115	0.112	91.5		
1003 30	Saturday, 8/12/2012	12:38:44	07/12/2012	14/12/2012	5	115	0.093	88.0		
1003 45	Saturday, 8/12/2012	12:41:00	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 20	Monday, 10/12/2012	12:41:06	07/12/2012	14/12/2012	5	115	0.094	97.5		
1003 46	Monday, 10/12/2012	12:44:00	07/12/2012	14/12/2012	5	115	0.098	95.8		
1110 106	Tuesday, 11/12/2012	12:38:40	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 51	Wednesday, 12/12/2012	12:38:00	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 48	Wednesday, 12/12/2012	12:38:00	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 21	Thursday, 13/12/2012	12:43:37	07/12/2012	14/12/2012	5	115	0.093	91.5		
1003 517	Friday, 14/12/2012	12:41:41	07/12/2012	14/12/2012	5	115	0.112	101.0		
1003 47	Saturday, 15/12/2012	12:38:30	07/12/2012	14/12/2012	5	115	0.081	88.0		
1003 28	Monday, 17/12/2012	12:37:41	07/12/2012	14/12/2012	5	115	0.095	88.0		
1003 523	Monday, 17/12/2012	12:37:41	07/12/2012	14/12/2012	5	115	0.095	88.0		
1003 46	Monday, 17/12/2012	12:40:00	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 518	Tuesday, 18/12/2012	12:34:51	07/12/2012	14/12/2012	5	115	0.083	88.0		
1003 45	Wednesday, 19/12/2012	12:46:30	07/12/2012	14/12/2012	5	115	0.102	88.0		
1003 52	Friday, 21/12/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.081	88.0		
1003 52	Friday, 21/12/2012	12:35:35	07/12/2012	14/12/2012	5	115	0.081	88.0		
1003 44	Saturday, 22/12/2012	12:30:00	07/12/2012	14/12/2012	5	115	0.093	88.0		
1003 22	Sunday, 23/12/2012	12:40:26	07/12/2012	14/12/2012	5	115	0.087	88.0		
1003 41	Monday, 24/12/2012	14:09:00	07/12/2012	14/12/2012	5	115	0.087	101.0		
1003 48	Monday, 24/12/2012	12:28:41	07/12/2012	14/12/2012	5	115	0.081	88.0		
1003 39	Thursday, 27/12/2012	12:31:35	07/12/2012	14/12/2012	5	115	0.087	91.5		
1003 49	Friday, 28/12/2012	12:43:17	07/12/2012	14/12/2012	5	115	0.083	101.0		
1003 22	Saturday, 29/12/2012	12:40:14	07/12/2012	14/12/2012	5	115	0.102	97.5		
1110 107	Saturday, 29/12/2012	12:42:11	07/12/2012	14/12/2012	5	115	0.086	101.9		
1003 22	Monday, 11/12/2012	12:37:17	07/12/2012	14/12/2012	5	115	0.094	94.0		

Monitoring Point: BM05 - General Monitoring Site  
 Blast monitoring: Airblast overpressure and ground vibration peak particle velocity recorded in Lake Cowal to the north-east of ML1535 boundary

Boat Number	Day/Date	Time	Date Obtained	Date Published	Ground Vibration (mm/s)	Airblast Overpressure (dB(L))	Ground Vibration (mm/s)	BMSE at Blast Time (mm/s)	Airblast Overpressure (dB(L))	Comments
<b>APRIL</b>										
1002 43	Thursday, 28/06/2012	12:48:00	06/07/2012	14/07/2012	5	115	0.127	81.8		Due to flooding in Lake Cowal, this unit was offline for the entirety of April
1002 42	Thursday, 28/06/2012	12:54:00	06/07/2012	14/07/2012	5	115	0.081	88.0		Due to flooding in Lake Cowal, this unit was offline for the entirety of April
1011 517	Friday, 29/06/2012	12:44:00	06/07/2012	14/07/2012	5	115	0.086	88.0		Due to flooding in Lake Cowal, this unit was offline from the 01/06/12 to 27/06/12
1002 47	Friday, 29/06/2012	12:51:00	06/07/2012	14/07/2012	5	115	0.097	91.5		
<b>JULY</b>										
1002 45	Sunday, 1 July 2012	12:40:00	08/08/2012	14/08/2012	5	115	0.091	101.9		
1011 522	Monday, 2 July 2012	12:44:00	08/08/2012	14/08/2012	5	115	0.128	102.8		
1011 525	Tuesday, 3 July 2012	12:53:00	08/08/2012	14/08/2012	5	115	0.095	104.9		
1002 44	Thursday, 5 July 2012	12:40:45	08/08/2012	14/08/2012	5	115	0.102	81.8		
1011 523	Friday, 6 July 2012	12:34:00	08/08/2012	14/08/2012	5	115	0.086	88.0		
1002 518 526	Friday, 6 July 2012	12:36:40	08/08/2012	14/08/2012	5	115	0.081	7.06		
1002 45a	Sunday, 8 July 2012	12:37:44	08/08/2012	14/08/2012	5	115	0.087	81.8		
1002 528	Monday, 9 July 2012	12:36:31	08/08/2012	14/08/2012	5	115	0.087	94.0		
1011 528a	Monday, 9 July 2012	12:30:00	08/08/2012	14/08/2012	5	115	0.090	91.5		
1002 49a	Tuesday, 10 July 20									

093 524	Wednesday, 31/10/2012	12:33:02	06/11/2012	14/11/2012	5	115	0.136	88.0	
1119 38	Friday, 5/11/2012	12:33:06	06/11/2012	14/11/2012	5	115	0.135	100.9	
093 523	Friday, 5/11/2012	12:33:05	06/11/2012	14/11/2012	5	115	0.132	106.5	
093 522	Saturday, 6/11/2012	12:46:24	06/11/2012	14/11/2012	5	115	0.136	95.9	
1119 17	Tuesday, 6/11/2012	12:42:47	06/11/2012	14/11/2012	5	115	0.136	91.5	
093 518 519	Tuesday, 6/11/2012	12:42:57	06/11/2012	14/11/2012	5	115	0.136	91.5	
093 521	Wednesday, 14/11/2012	12:47:35	06/11/2012	14/11/2012	5	115	0.096	95.8	
1119 39	Thursday, 15/11/2012	12:35:11	06/11/2012	14/11/2012	5	115	0.094	94.0	
093 520	Saturday, 17/11/2012	12:51:11	06/11/2012	14/11/2012	5	115	0.094	94.0	
1119 40	Monday, 19/11/2012	12:33:45	06/11/2012	14/11/2012	5	115	0.096	94.0	
1119 99	Monday, 19/11/2012	12:50:15	06/11/2012	14/11/2012	5	115	0.079	88.0	
1119 94	Monday, 19/11/2012	12:52:12	06/11/2012	14/11/2012	5	115	0.117	81.0	
1119 41	Friday, 19/11/2012	12:33:55	06/11/2012	14/11/2012	5	115	0.086	101.0	
1119 100	Saturday, 20/11/2012	12:54:40	06/11/2012	14/11/2012	5	115	0.362	94.0	
1119 42	Sunday, 20/11/2012	12:46:05	06/11/2012	14/11/2012	5	115	0.075	94.0	
1119 43	Sunday, 20/11/2012	12:47:45	06/11/2012	14/11/2012	5	115	0.075	91.0	
1119 46	Monday, 22/11/2012	12:41:30	06/11/2012	14/11/2012	5	115	0.094	97.5	
1119 43	Tuesday, 23/11/2012	12:36:03	06/11/2012	14/11/2012	5	115	0.086	88.0	
1119 47	Tuesday, 23/11/2012	12:36:03	06/11/2012	14/11/2012	5	115	0.086	88.0	
093 26	Tuesday, 23/11/2012	12:44:00	06/11/2012	14/11/2012	5	115	0.103	81.0	
093 30	Thursday, 25/11/2012	12:46:57	06/11/2012	14/11/2012	5	115	0.182	101.0	
1119 48	Thursday, 25/11/2012	12:51:00	06/11/2012	14/11/2012	5	115	0.087	101.0	
1119 101	Monday, 26/11/2012	12:33:23	06/11/2012	14/11/2012	5	115	0.087	91.0	
1119 102	Sunday, 26/11/2012	12:33:00	06/11/2012	14/11/2012	5	115	0.075	88.0	
1119 44	Sunday, 26/11/2012	12:38:48	06/11/2012	14/11/2012	5	115	0.075	88.0	
1119 49	Monday, 26/11/2012	12:36:00	06/11/2012	14/11/2012	5	115	0.075	91.5	
093 39	Tuesday, 26/11/2012	12:37:38	06/11/2012	14/11/2012	5	115	0.102	91.5	
1119 50	Wednesday, 31/10/2012	12:37:00	06/11/2012	14/11/2012	5	115	0.075	81.0	
<b>NOVEMBER</b>									
1119 103	Thursday, 1/11/2012	12:34:45	07/11/2012	14/11/2012	5	115	0.137	107.5	
1119 104	Thursday, 1/11/2012	12:36:00	07/11/2012	14/11/2012	5	115	0.132	106.0	
1119 104	Friday, 2/11/2012	12:33:30	07/11/2012	14/11/2012	5	115	0.086	94.0	
1119 105	Saturday, 3/11/2012	12:23:30	07/11/2012	14/11/2012	5	115	0.075	88.0	
1119 109	Saturday, 3/11/2012	12:26:00	07/11/2012	14/11/2012	5	115	0.081	81.0	
093 37	Sunday, 4/11/2012	12:22:25	07/11/2012	14/11/2012	5	115	0.111	81.0	
1119 107	Tuesday, 13/11/2012	12:28:05	07/11/2012	14/11/2012	5	115	0.144	107.0	
093 40	Wednesday, 20/11/2012	12:44:51	07/11/2012	14/11/2012	5	115	0.096	94.0	
093 38	Friday, 30/11/2012	12:13:54	07/11/2012	14/11/2012	5	115	0.086	95.0	
1119 106	Saturday, 10/11/2012	12:33:30	07/11/2012	14/11/2012	5	115	0.075	88.0	
1119 108	Saturday, 10/11/2012	12:36:40	07/11/2012	14/11/2012	5	115	0.081	81.0	
093 35	Sunday, 11/11/2012	12:13:20	07/11/2012	14/11/2012	5	115	0.104	88.0	
093 32	Tuesday, 13/11/2012	12:32:00	07/11/2012	14/11/2012	5	115	0.119	94.0	
093 36	Thursday, 15/11/2012	12:14:13	07/11/2012	14/11/2012	5	115	0.087	97.5	
1119 114	Thursday, 15/11/2012	12:46:40	07/11/2012	14/11/2012	5	115	0.087	94.0	
093 33	Saturday, 17/11/2012	12:14:00	07/11/2012	14/11/2012	5	115	0.078	88.0	
1119 117	Sunday, 18/11/2012	12:23:00	07/11/2012	14/11/2012	5	115	0.086	88.0	
1119 110	Sunday, 18/11/2012	12:38:00	07/11/2012	14/11/2012	5	115	0.081	81.0	
1119 116	Monday, 19/11/2012	12:39:00	07/11/2012	14/11/2012	5	115	0.081	81.0	
1119 113	Monday, 19/11/2012	12:41:00	07/11/2012	14/11/2012	5	115	0.081	81.0	
093 34	Tuesday, 20/11/2012	12:31:45	07/11/2012	14/11/2012	5	115	0.105	97.5	
093 35	Wednesday, 21/11/2012	12:30:00	07/11/2012	14/11/2012	5	115	0.081	94.0	
1119 115	Wednesday, 21/11/2012	12:33:00	07/11/2012	14/11/2012	5	115	0.081	96.0	
093 34	Thursday, 22/11/2012	12:29:24	07/11/2012	14/11/2012	5	115	0.078	95.0	
093 36	Friday, 23/11/2012	12:11:51	07/11/2012	14/11/2012	5	115	0.081	88.0	
093 35	Friday, 23/11/2012	12:10:58	07/11/2012	14/11/2012	5	115	0.081	88.0	
1119 103	Saturday, 24/11/2012	15:20:12	07/11/2012	14/11/2012	5	115	0.086	81.0	
1119 112	Saturday, 24/11/2012	15:33:00	07/11/2012	14/11/2012	5	115	0.086	82.0	
093 31	Monday, 26/11/2012	12:43:43	07/11/2012	14/11/2012	5	115	0.102	95.0	
1119 113	Monday, 26/11/2012	12:52:00	07/11/2012	14/11/2012	5	115	0.081	91.0	
1119 105	Tuesday, 27/11/2012	12:42:00	07/11/2012	14/11/2012	5	115	0.143	102.5	
1119 104	Wednesday, 28/11/2012	12:33:30	07/11/2012	14/11/2012	5	115	0.090	88.0	
<b>DECEMBER</b>									
093 39	Saturday, 1/12/2012	12:28:00	07/11/2012	14/11/2012	5	115	0.086	97.5	
075 513	Monday, 3/12/2012	12:29:00	07/11/2012	14/11/2012	5	115	0.081	88.0	
075 512	Tuesday, 4/12/2012	12:34:00	07/11/2012	14/11/2012	5	115	0.217	114.0	
093 51	Wednesday, 5/12/2012	12:36:30	07/11/2012	14/11/2012	5	115	0.216	102.8	
093 23	Wednesday, 5/12/2012	12:36:30	07/11/2012	14/11/2012	5	115	0.216	102.8	
075 514	Thursday, 6/12/2012	12:44:00	07/11/2012	14/11/2012	5	115	0.117	81.0	
093 41	Thursday, 6/12/2012	12:44:39	07/11/2012	14/11/2012	5	115	0.117	81.0	
093 40	Friday, 7/12/2012	12:33:39	07/11/2012	14/11/2012	5	115	0.096	81.0	
093 50	Friday, 7/12/2012	12:38:44	07/11/2012	14/11/2012	5	115	0.079	80.0	
093 42	Saturday, 8/12/2012	12:41:00	07/11/2012	14/11/2012	5	115	0.344	88.0	
093 20	Monday, 10/12/2012	12:31:04	07/11/2012	14/11/2012	5	115	0.150	97.5	
075 515	Monday, 10/12/2012	12:41:06	07/11/2012	14/11/2012	5	115	0.150	97.5	
093 49	Monday, 10/12/2012	12:44:00	07/11/2012	14/11/2012	5	115	0.090	91.0	
1119 106	Tuesday, 11/12/2012	12:30:40	07/11/2012	14/11/2012	5	115	0.081	88.0	
075 516	Wednesday, 12/12/2012	12:38:00	07/11/2012	14/11/2012	5	115	0.075	81.0	
075 518	Wednesday, 12/12/2012	12:38:00	07/11/2012	14/11/2012	5	115	0.075	81.0	
093 21	Thursday, 13/12/2012	12:41:57	07/11/2012	14/11/2012	5	115	0.116	81.0	
075 517	Friday, 14/12/2012	12:11:43	07/11/2012	14/11/2012	5	115	0.087	88.0	
093 47	Saturday, 15/12/2012	12:38:30	07/11/2012	14/11/2012	5	115	0.079	88.0	
093 31	Monday, 17/12/2012	12:37:41	07/11/2012	14/11/2012	5	115	0.335	81.0	
075 523	Monday, 17/12/2012	12:37:41	07/11/2012	14/11/2012	5	115	0.335	81.0	
093 48	Monday, 17/12/2012	12:40:00	07/11/2012	14/11/2012	5	115	0.081	81.0	
075 518	Tuesday, 18/12/2012	12:14:52	07/11/2012	14/11/2012	5	115	0.117	88.0	
093 46	Wednesday, 19/12/2012	12:44:30	07/11/2012	14/11/2012	5	115	0.090	81.0	
093 51	Friday, 21/12/2012	12:30:00	07/11/2012	14/11/2012	5	115	0.075	81.0	
075 519	Friday, 21/12/2012	12:30:30	07/11/2012	14/11/2012	5	115	0.096	88.0	
093 44	Saturday, 22/12/2012	12:30:00	07/11/2012	14/11/2012	5	115	0.081	88.0	
093 31	Sunday, 23/12/2012	12:40:26	07/11/2012	14/11/2012	5	115	0.112	100.0	
093 45	Monday, 24/12/2012	14:08:00	07/11/2012	14/11/2012	5	115	0.096	101.0	
093 44	Thursday, 27/12/2012	12:34:41	07/11/2012	14/11/2012	5	115	0.075	81.0	
093 33	Thursday, 27/12/2012	12:33:15	07/11/2012	14/11/2012	5	115	0.087	81.0	
093 40	Friday, 28/12/2012	12:42:21	07/11/2012	14/11/2012	5	115	0.208	100.0	
093 25	Saturday, 29/12/2012	12:40:11	07/11/2012	14/11/2012	5	115	0.086	94.0	
1119 107	Saturday, 29/12/2012	12:42:17	07/11/2012	14/11/2012	5	115	0.075	97.5	
093 22	Monday, 31/12/2012	12:37:37	07/11/2012	14/11/2012	5	115	0.162	101.0	

July 2012 Monitoring

Daytime Mine Operating Intrusive Noise Levels (dBA re 20 µPa)				Mine Contributed LA <sub>eq(15minute)</sub> - dBA			Noise Criteria LA <sub>eq(15minute)</sub> - dBA	Comments
Location	Date Sampled	Date Obtained	Date Published	Survey 1	Survey 2	Data Logger		
1	2/7/12-16/7/12	24/08/2012	14/09/2012	27	28	- <sup>2</sup>	44	
2	2/7/12-16/7/12	24/08/2012	14/09/2012	<12	<23	- <sup>2</sup>	39	
3	2/7/12-16/7/12	24/08/2012	14/09/2012	<26	N/A <sup>1</sup>	43, 39, 40, 40, 38, 38, 40, 42, 42, 37	41	According to the Industrial Noise Policy Section 11.1.3, non-compliances with Noise Conditions states "A development will be deemed to be in non-compliance with a noise consent or licence condition if the monitored noise level is more than 2 dB above the statutory noise limit specified in the consent or licence condition". It follows that the mine noise emissions of 42 dBA and 43 dBA at this location would not generally be considered a non-compliance with the noise criterion of 41 dBA. Furthermore, the day-time noise level of 43 dBA coincided with a south south-easterly wind at a mean wind speed of 3.9m/s and therefore outside the assessable weather conditions determined in accordance with the consent. Taken from SLR Consulting Australia Report "Cowal Gold Mine, Mine Operation Noise Monitoring, July 2012" dated 13 September 2012. Report number 10-4111-R16.
4	2/7/12-16/7/12	24/08/2012	14/09/2012	<16	<16	- <sup>2</sup>	41	
5	2/7/12-16/7/12	24/08/2012	14/09/2012	N/A <sup>1</sup>	N/A <sup>1</sup>	32, 34	38	

Note 1: N/A<sup>1</sup> Mine noise emission not discernible  
 Note 2: -<sup>2</sup> No survey conducted

Evening Mine Operating Intrusive Noise Levels (dBA re 20 µPa)				Mine Contributed LA <sub>eq(15minute)</sub> - dBA			Noise Criteria LA <sub>eq(15minute)</sub> - dBA	Comments
Location	Date Sampled	Date Obtained	Date Published	Survey 1	Survey 2	Data Logger		
1	2/7/12-16/7/12	24/08/2012	14/09/2012	21	37	- <sup>2</sup>	44	
2	2/7/12-16/7/12	24/08/2012	14/09/2012	N/A <sup>1</sup>	N/A <sup>1</sup>	- <sup>2</sup>	39	
3	2/7/12-16/7/12	24/08/2012	14/09/2012	<20	<20	- <sup>2</sup>	41	
4	2/7/12-16/7/12	24/08/2012	14/09/2012	29	28	- <sup>2</sup>	41	
5	2/7/12-16/7/12	24/08/2012	14/09/2012	28	29	- <sup>2</sup>	38	

Note 1: N/A<sup>1</sup> Mine noise emission not discernible  
 Note 2: -<sup>2</sup> No survey conducted

Night time Mine Operating Intrusive Noise Levels (dBA re 20 µPa)				Mine Contributed LA <sub>eq(15minute)</sub> - dBA			Noise Criteria LA <sub>eq(15minute)</sub> - dBA	Comments
Location	Date Sampled	Date Obtained	Date Published	Survey 1	Survey 2	Data Logger		
1	2/7/12-16/7/12	24/08/2012	14/09/2012	35	35	- <sup>2</sup>	44	
2	2/7/12-16/7/12	24/08/2012	14/09/2012	<25	<24	- <sup>2</sup>	39	
3	2/7/12-16/7/12	24/08/2012	14/09/2012	36	34	- <sup>2</sup>	41	
4	2/7/12-16/7/12	24/08/2012	14/09/2012	29	31	- <sup>2</sup>	41	
5	2/7/12-16/7/12	24/08/2012	14/09/2012	31	31	- <sup>2</sup>	38	

Note 1: N/A<sup>1</sup> Mine noise emission not discernible  
 Note 2: -<sup>2</sup> No survey conducted

Location Description

- 1 - Private residence to the north of ML1535 boundary
- 2 - Private residence to the south-east of ML1535 boundary
- 3 - Private residence to the south-west of ML1535 boundary
- 4 - Private residence to the west of ML1535 boundary
- 5 - Private residence to the north-east of ML1535 boundary

Cyanide

EPL No: 11912 <http://www.environment.nsw.gov.au/pppeoaspp/>  
 Licensee: Barrick (Cowal) Ltd  
 Address: PO Box 210 West Wyalong NSW 2671

Monitoring Point: 48

Water quality monitoring, automated sampler located at the processing plant

Frequency	Month	No Sampled during Month	Total Cyanide (mg/L)				Comments
			Minimum	Mean	Median	Maximum	
Weekly	April	5	9.69	19.43	22.88	24.14	
Weekly	May	4	12.76	17.95	17.99	23.06	
Weekly	June	4	9.56	14.29	14.38	18.82	
Weekly	July	5	8.86	10.64	11.33	13.79	
Weekly	August	4	9.07	12.30	10.34	19.45	
Weekly	September	4	13.17	20.88	20.39	29.57	
Weekly	October	5	19.06	25.15	26.55	28.90	
Weekly	November	4	12.80	17.96	16.95	25.12	
Weekly	December	5	9.93	14.52	15.93	17.29	

Frequency	Month	No Sampled during Month	WAD Cyanide (mg/L)		Concentration Limits		Comments
			Minimum	Maximum	90th Percentile	100th Percentile	
Twice daily	April	56	1.37	12.39	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 4/4/12 (morning); 27/4/12 (morning & afternoon); 28/4/12 (morning)
Twice daily	May	54	1.09	14.96	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 7/5/12 (afternoon); 8/5/12 (morning & afternoon); 9/5/12 (morning & afternoon); 10/5/12 (morning & afternoon); 11/5/12 (morning)
Twice daily	June	55	0.93	9.85	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 19/6/12 (morning & afternoon); 20/6/12 (morning); 29/6/12 (morning & afternoon)
Twice daily	July	61	1.57	9.91	20ppm	30ppm	On the following date, samples were not collected due to mill shutdown: 24/7/12 (morning)
Twice daily	August	61	2.95	12.64	20ppm	30ppm	On the following date, samples were not collected due to mill shutdown: 14/8/12 (morning)
Twice daily	September	53	2.83	10.30	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 24/9/12 (afternoon); 25/9/12 (morning & afternoon); 26/9/12 (morning & afternoon); 27/9/12 (morning & afternoon)
Twice daily	October	58	0.32	8.46	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 12/10/12 (morning); 23/10/12 (morning & afternoon); 24/10/12 (morning)
Twice daily	November	58	0.65	9.42	20ppm	30ppm	On the following date, samples were not collected due to mill shutdown: 20/11/12 (morning & afternoon)
Twice daily	December	59	1.85	10.18	20ppm	30ppm	On the following dates, samples were not collected due to mill shutdown: 18/12/12 (morning & afternoon); 19/12/12 (morning)

**EPL Exceedances**

**Monitorine Point: BM03**

Blast monitoring, Airblast overpressure and ground vibration peak particle velocity recorded at private residence to the north of ML1533 boundary

Blast Number	Blast Day/Date	Blast Time	Date Obtained	Date Published	Compliance Limits		BM03 at Blast Time		EPL Condition	Comments
					Ground Vibration (mm/s)	Airblast Overpressure (dB(L))	Ground Vibration (mm/s)	Airblast Overpressure (dB(L))		
1029_39	Sunday, 15/04/2012	12:33:39	21/05/2012	01/07/2012	1	95	0.117	95.9	1.7.2 The overpressure level from blasting operations at the premises of residence of privately owned land must not exceed 95dB(L) Peak or night or on Sundays and public holidays (24 hours) for more than five percent of the total number of blasts over a period of 12 months.	Airblast overpressure exceeded the 95 dB(L) limit for blasting on a Sunday (15/04/12) at BM03. Compliance with the 5% of total number of blasts over a 12 month period cannot be assessed until April 2013.