Appendix C

Table C1: Summary of Laboratory Test Results – February 2012 to October 2013

Groundwater Monitoring Quality Plots

Surface Water Monitoring Quality Plots

Douglas Partners
Geotechnics | Environment | Groundwater

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW1	SW1	SW1	SW1	SW1	SW1 (D7)	SW1	SW1	SW1	SW1	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
													Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Mar 2012	May 2012	Jun 2012	Jul 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Mar 2013**			Fresh	Marine	Irrigation Waters
	22/2/2012	8/03/2012	29/05/2012	27/06/2012	22/07/2012	22/07/2012	20/08/2012	19/09/2012	22/10/2012	11/03/2013					
pH	7.0	6.7	7.5	7.7	7.1	7.1	7.4	7.2	7.7	7.5	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	120	160	270	250	200	210	250	290	290	180	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	9.2	26	1.8	4.2	8.3	7.3	3.2	2.9	0.6	3	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity															
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	28	38	84	72	62	62	87	81	81	54	1/5	NC	NC	NC	NC
Total Alkalinity	28	38	84	72	62	62	87	81	81	54	1/5				
Anions															
Chloride (Cl)	18	20	34	33	28	29	34	33	35	23	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.02	0.01	<0.005	0.007	0.006	0.008	<0.005	0.007	0.03	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.05	0.1	0.02	<0.005	0.03	0.05	<0.005	<0.005	0.01	0.09	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	2	3	6	4	3	3	5	4	5	2	1	500	NC	NC	NC
Cations - Dissolved															
Calcium	3.5	4.7	12	11	6.8	6.1	12	13	12	6.2	0.5	NC	NC	NC	NC
Potassium	2.8	3.1	3.2	2.8	2.4	2.4	3.2	3.1	3.5	2.6	0.5	NC	NC	NC	NC
Sodium	13	14	25	24	19	19	28	28	26	16	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	4.1	5.5	11	10	7.5	8.1	12	12	13	7.3	0.5	NC	NC	NC	NC
Metals - Dissolved															
Aluminium	0.15	0.11	0.003	<0.01	0.012	0.007	0.0030	0.0020	0.003	0.035	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.01	0.013	0.019	0.0160	0.0150	0.0140	0.0210	0.0260	0.023	0.012	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.003	0.003	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.23	0.21	0.023	0.0620	0.0890	0.0870	0.06	0.06	0.100	0.210	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.013	0.032	0.11	0.1100	0.0890	0.0910	0.120	0.150	0.062	0.067	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.004	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.008	0.007	0.014	0.013	0.014	0.003	0.005	0.014	0.009	0.003	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total															
Aluminium	NT	1.5	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	0.021	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	0.004	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	0.001	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	0.001	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	1.6	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	0.047	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	<0.00005	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	0.006	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	0.003	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	0.005	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW2	SW2	SW2 (D3)	SW2	SW2	SW2	SW2	SW2	SW2	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
												Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Mar 2012	Mar 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Mar 2013**			Fresh	Marine	Irrigation Waters
	22/2/2012	8/03/2012	8/03/2012	29/05/2012	26/06/2012	22/07/2012	20/08/2012	19/09/2012	11/03/2013					
pH	7.3	7.0	7.0	8.1	8.1	7.7	8.5	7.8	7.8	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	260	300	300	890	920	670	830	880	500	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	11	12	10	1.6	1.4	3.5	2.5	5.5	2.9	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity														
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<5	<5	<5	<5	<5	19	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	68	90	99	240	230	210	220	220	170	1/5	NC	NC	NC	NC
Total Alkalinity	68	90	99	240	230	210	240	220	170	1/5				
Anions														
Chloride (Cl)	23	37	39	120	120	78	110	110	52	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.02	0.57	0.02	0.008	<0.005	0.02	0.036	0.006	0.01	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.03	0.04	0.03	0.1	0.4	0.2	0.04	<0.005	0.02	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	8	8	8	48	51	24	47	37	18	1	500	NC	NC	NC
Cations - Dissolved														
Calcium	12	14	14	49	47	34	51	50	29	0.5	NC	NC	NC	NC
Potassium	6.4	6.4	6.3	8.9	5.2	5.2	5.2	6.9	6.2	0.5	NC	NC	NC	NC
Sodium	25	27	27	88	73	60	80	79	41	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	8.2	12	11	36	34	24	42	39	21	0.5	NC	NC	NC	NC
Metals - Dissolved														
Aluminium	0.035	0.021	0.034	0.004	0.005	0.005	0.0310	0.0040	0.005	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0010	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.019	0.024	0.025	0.051	0.0500	0.0350	0.0560	0.0570	0.029	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	0.0001	0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.004	<0.001	0.003	0.001	0.002	<0.001	<0.001	0.002	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.21	0.15	0.17	0.028	<0.01	0.0210	0.22	0.09	0.059	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	<0.005	0.041	0.04	<0.005	<0.005	0.0760	0.100	0.610	0.008	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.004	0.004	0.005	0.003	0.002	0.002	0.002	0.003	0.005	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.007	0.007	0.017	0.02	0.007	0.012	0.002	0.100	0.011	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total														
Aluminium	NT	0.48	0.55	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	0.028	0.028	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	<0.0001	<0.0001	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	<0.0001	<0.0001	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	0.002	0.002	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	0.75	0.78	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	0.049	0.051	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	<0.00005	<0.00005	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	0.005	0.005	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	0.002	0.002	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	0.002	0.002	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.2	0.1	0.1	<0.05	<0.05	<0.05	<0.05	0.1	0.09	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5

(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)

Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW3	SW3 (D1)	SW3	SW3	SW3	SW3	SW3	SW3	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
											Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Feb 2012	Mar 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012			Fresh	Marine	Irrigation Waters
	22/2/2012	22/2/2012	8/03/2012	29/05/2012	26/06/2012	22/07/2012	21/08/2012	19/09/2012					
pH	8.1	8.1	7.2	8.3	8.3	8.0	8.6	8.4	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	940	950	330	1000	1200	990	1200	1200	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	99	99	54	2.3	20	5.3	1.6	2.4	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity													
Hydroxide (OH^-)	<1	<1	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<1	<5	13	24	<5	33	19	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	310	320	100	330	370	380	440	420	1/5	NC	NC	NC	NC
Total Alkalinity	310	320	100	340	390	380	470	440	1/5				
Anions													
Chloride (Cl)	47	55	41	130	140	110	120	130	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	<0.005	<0.005	0.055	0.01	<0.005	0.008	0.017	0.013	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	15	15	0.09	<0.005	<0.005	0.01	<0.005	0.01	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	26	31	7	16	16	12	8	6	1	500	NC	NC	NC
Cations - Dissolved													
Calcium	22	21	13	32	33	30	36	35	0.5	NC	NC	NC	NC
Potassium	3.2	3	6.9	6.8	7.5	5.7	6	7.1	0.5	NC	NC	NC	NC
Sodium	180	180	40	150	160	150	180	180	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	20	20	9.9	35	38	32	41	46	0.5	NC	NC	NC	NC
Metals - Dissolved													
Aluminium	0.045	0.039	0.51	0.006	0.007	0.007	0.0110	0.0050	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.064	0.063	0.048	0.065	0.0740	0.0640	0.0800	0.0720	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.003	0.001	0.004	0.001	0.002	0.002	0.001	0.001	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.032	0.028	0.45	0.012	0.0120	0.017	0.02	0.02	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.002	0.001	0.006	0.002	0.002	0.002	0.001	0.002	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	0.001	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.008	0.002	0.01	0.016	0.018	0.013	0.004	0.015	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total													
Aluminium	NT	NT	2.8	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	0.064	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	0.0002	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	<0.0001	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	0.004	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	0.001	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	0.003	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	2.7	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	0.023	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	<0.00005	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	0.008	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	0.005	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	0.004	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	0.1	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW4	SW4	SW4	SW4	SW4 (D5-270612)	SW4	SW4	SW4	SW4	SW4	SW4 (D16)	SW4	SW4 (D18)	SW4	SW4 (D19)	SW4	SW4	SW4 (D24)	SW4
Date Sampled	**Feb 2012**	**Mar 2012**	**May 2012**	**Jun 2012**	**Jun 2012**	**Jul 2012**	**Aug 2012**	**Sept 2012**	**Oct 2012**	**Dec 2012**	**Dec 2012**	**Jan 2013**	**Jan 2013**	**Feb 2013**	**Feb 2013**	**Mar 2013****	**Apr 2013**	**Apr 2013**	**May 2013**
	22/2/2012	8/03/2012	29/05/2012	27/06/2012	27/06/2012	22/07/2012	21/08/2012	19/09/2012	22/10/2012	4/12/2012	3/12/2012	15/01/2013	15/01/2013	19/02/2013	19/02/2013	11/03/2013	16/04/2013	16/04/2013	13/05/2013
pH	7.9	7.1	7.9	7.8	7.8	7.7	8.0	8.2	8.3	7.6	7.6	7.6	7.6	7.6	7.6	7.9	8.1	8.1	8.2
Electrical Conductivity (µS/cm)	660	380	1800	1900	1900	1200	1700	1800	2100	2200	2200	2200	2200	2200	2100	1300	1900	1900	1800
Turbidity (NTU)	6.3	28	2.5	1.8	1.7	3.1	1.8	0.6	8.8	8	7.8	13	15	4	4.8	1.2	3.7	2.6	3.4
Alkalinity																			
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbonate (CO_3^{2-})	<1	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	320	<5	<5	<5
Bicarbonate (HCO_3^-)	160	110	370	340	350	290	350	340	380	390	390	410	410	410	410	<5	370	370	360
Total Alkalinity	160	110	370	340	350	290	350	340	390	390	390	410	410	410	410	320	370	370	360
Anions																			
Chloride (Cl)	79	47	270	260	260	160	230	270	290	330	330	360	340	340	340	180	290	290	320
Ammonia (NH_3) as N	0.02	0.04	0.01	0.02	0.03	0.016	0.028	0.013	0.028	0.046	0.054	<0.005	<0.005	0.018	0.017	0.009	0.007	<0.005	0.015
NO_x (NO_2^- + NO_3^-)	0.03	0.01	0.03	<0.005	0.007	0.08	0.1	0.007	0.01	0.04	0.04	0.02	<0.005	0.008	0.01	0.04	<0.005	<0.005	<0.005
Sulphate (SO_4^{2-})	52	19	220	200	200	110	180	210	240	250	250	310	300	290	290	130	220	210	260
Cations - Dissolved																			
Calcium	41	19	100	96	98	63	110	120	120	150	160	120	120	150	130	81	110	110	110
Potassium	8.9	6.9	7.6	6.6	7.2	6.4	6.5	7.1	7.3	7.7	7.5	7.1	7.1	7.2	7.1	6.2	6.4	6.3	5.9
Sodium	62	33	170	160	200	110	160	170	210	240	240	230	250	220	210	100	170	170	170
Magnesium	28	15	80	74	78	48	86	92	110	120	120	96	110	100	100	59	89	88	84
Metals - Dissolved																			
Aluminium	0.013	0.019	0.011	<0.01	<0.01	0.005	0.0020	0.0020	0.008	0.001	0.001	0.003	0.003	0.004	0.007	0.011	0.005	0.008	0.002
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium	0.037	0.03	0.085	0.0910	0.091	0.0560	0.0900	0.0910	0.094	0.094	0.091	0.091	0.087	0.079	0.080	0.073	0.099	0.098	0.088
Beryllium	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cadmium	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0004	0.0001	<0.0001	0.0001	<0.0001
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.001	0.002	0.003	<0.001	0.002	<0.001	0.002	0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.003	<0.001	0.002	0.002
Iron (Fe^{2+})	0.13	0.14	0.027	0.0960	0.092	0.040	0.11	0.03	0.190	0.029	0.024	0.300	0.300	0.017	0.019	0.032	0.062	0.078	0.066
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	0.01	0.047	0.2	0.2000	0.190	0.1200	0.140	0.013	0.580	0.790	0.790	0.560	0.570	0.250	0.250	0.088	0.110	0.110	0.120
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Nickel	0.003	0.004	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.001	0.001	0.003	0.002	0.001	0.002	0.003	0.001	0.002	0.002
Selenium	0.001	<0.001	0.001	0.001	0.001	<0.001	0.0020	0.0030	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
Vanadium	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001
Zinc	0.003	0.008	0.015	0.005	0.024	0.009	0.006	0.012	0.006	0.006	0.004	<0.001	<0.001	0.001	0.005	0.014	<0.001	0.008	0.005
Metals - Total																			
Aluminium	NT	1.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Arsenic	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Barium	NT	0.044	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Beryllium	NT	0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cadmium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Chromium	NT	0.003	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cobalt	NT	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Copper	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Iron (Fe^{2+})	NT	2	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Lead	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Manganese	NT	0.094	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Mercury	NT	<0.00005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Nickel	NT	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Selenium	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Vanadium	NT	0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Zinc	NT	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Total Phosphorus	0.2	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.06	0.06	0.1	0.1	<0.05	<0.05	0.07	<0.05	<0.05	<0.05

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW4 (D28)	SW4	SW4 (D30)	SW4	SW4	SW4	SW4	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
										Slightly to Moderately Disturbed Systems		
Date Sampled	May 2013	Jun 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	13/05/2013	18/06/2013	18/06/2013	22/07/2013	19/08/2013	17/09/2013	16/10/2013					
pH	8.2	7.9	8.1	7.9	8.1	8.3	7.8	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1800	1800	1900	1800	1800	2200	2000	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	3.3	3.1	2.8	7.2	2.7	2.4	4.4	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity												
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	17	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	360	380	370	370	360	310	360	1/5	NC	NC	NC	NC
Total Alkalinity	360	380	370	370	360	320	360	1/5				
Anions												
Chloride (Cl)	320	290	290	350	240	370	320	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.017	0.019	0.023	0.04	0.01	<0.005	0.011	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	0.05	0.05	0.03	<0.005	0.06	0.02	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	260	240	240	230	190	320	240	1	500	NC	NC	NC
Cations - Dissolved												
Calcium	110	100	100	120	100	110	120	0.5	NC	NC	NC	NC
Potassium	6.1	7.2	7.4	6	5.3	14	6.2	0.5	NC	NC	NC	NC
Sodium	180	180	180	170	150	230	200	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	85	80	84	82	82	98	97	0.5	NC	NC	NC	NC
Metals - Dissolved												
Aluminium	<0.0005	0.0006	<0.0005	0.003	0.005	0.009	0.01	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.085	0.085	0.095	0.092	0.09	0.09	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.049	0.075	0.074	0.079	0.048	0.13	0.074	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.130	0.11	0.12	0.26	0.12	0.12	0.27	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.001	0.001	0.001	0.001	0.001	0.004	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.001	0.002	0.001	0.001	0.002	0.002	0.002	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	<0.001	0.008	0.001	0.003	0.009	0.01	0.012	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total												
Aluminium	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	0.08	0.10	<0.05	<0.05	0.08	0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW6	SW6	SW6	SW6	SW6	SW6	SW6	SW6	SW6 (D14)	SW6	SW6	SW6	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Mar 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Oct 2012	Dec 2012	Mar 2013**	Jul 2013			Fresh	Marine	Irrigation Waters
	22/2/2012	8/03/2012	29/05/2012	26/06/2012	22/07/2012	21/08/2012	19/09/2012	22/10/2012	22/10/2012	4/12/2012	11/03/2013	24/07/2013					
pH	8.0	7.1	8.2	8.1	7.8	8.2	8.1	8.5	8.5	8.5	8.1	8.3	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1700	480	1400	2100	1400	2000	2100	2200	2200	2300	1600	2100	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	18	17	15	11	15	19	20	14	14	17	18	18	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<5	<5	14	<5	<5	<5	27	27	23	<5	8	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	260	120	400	330	320	380	370	340	340	330	360	390	1/5	NC	NC	NC	NC
Total Alkalinity	260	120	400	350	320	380	370	360	370	350	360	400	1/5				
Anions																	
Chloride (Cl)	280	64	340	330	220	310	340	360	360	400	260	340	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.03	0.04	0.007	0.01	0.015	0.029	0.011	0.024	0.035	<0.005	0.032	0.012	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.08	0.03	0.07	0.06	0.05	0.09	0.02	<0.005	0.01	0.02	0.05	0.006	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	150	29	230	210	140	200	200	220	220	210	150	180	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	62	25	110	97	72	100	110	99	97	100	88	110	0.5	NC	NC	NC	NC
Potassium	11	7.5	9.7	7	6.5	6.5	6.6	6.2	6.2	9.7	7.8	6.1	0.5	NC	NC	NC	NC
Sodium	190	43	220	200	140	200	210	240	240	300	150	190	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	70	19	93	83	57	88	100	110	110	130	73	98	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.003	0.018	0.009	0.005	0.003	0.0050	0.0040	0.002	0.003	0.005	0.011	0.0009	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.099	0.039	0.11	0.0970	0.0690	0.1100	0.1100	0.097	0.098	0.100	0.092	0.110	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	0.003	0.005	<0.001	<0.001	0.001	0.002	<0.001	<0.001	0.001	0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.017	0.1	0.017	0.0110	0.014	0.02	0.01	0.020	0.018	0.010	0.019	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.043	0.018	0.017	0.0190	0.0280	0.041	0.030	0.019	0.018	0.005	0.023	0.008	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.004	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.003	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.003	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.004	0.009	0.017	0.013	0.011	0.004	0.015	0.003	0.005	0.004	0.006	0.005	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	0.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	0.041	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	0.62	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	0.022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	<0.00005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW6	SW6 (D35)	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
					Slightly to Moderately Disturbed Systems		
Date Sampled	Sept 2013	Sept 2013			Fresh	Marine	Irrigation Waters
	16/09/2013	16/09/2013					
pH	8.4	8.2	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	2100	2100	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	4.5	7.4	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity							
Hydroxide (OH^-)	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	27	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	340	370	1/5	NC	NC	NC	NC
Total Alkalinity	370	370	1/5				
Anions							
Chloride (Cl)	360	390	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.009	0.01	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.05	0.09	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	240	280	1	500	NC	NC	NC
Cations - Dissolved							
Calcium	100	100	0.5	NC	NC	NC	NC
Potassium	7.3	6.9	0.5	NC	NC	NC	NC
Sodium	220	210	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	96	96	0.5	NC	NC	NC	NC
Metals - Dissolved							
Aluminium	0.001	0.002	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	0.11	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.008	0.008	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.002	0.001	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.003	0.003	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.008	0.002	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total							
Aluminium	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW7	SW7	SW7	SW7 (D12/KMH)	SW7	SW7 (D21)	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
									Slightly to Moderately Disturbed Systems		
Date Sampled	Mar 2012	Aug 2012	Sept 2012	Sept 2012	Mar 2013**	Mar 2013**			Fresh	Marine	Irrigation Waters
	8/03/2012	20/08/2012	19/09/2012	19/09/2012	11/03/2013	11/03/2013					
pH	6.9	7.6	6.6	7.2	7.8	7.8	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	180	360	320	310	230	230	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	36	1.4	1.8	1.8	5.1	3.8	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity											
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	68	140	61	83	84	84	1/5	NC	NC	NC	NC
Total Alkalinity	68	140	61	83	84	84	1/5				
Anions											
Chloride (Cl)	18	26	27	25	20	19	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.03	<0.005	<0.005	<0.005	0.015	0.015	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.03	0.01	<0.005	<0.005	0.03	0.03	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	3	18	18	16	8	5	1	500	NC	NC	NC
Cations - Dissolved											
Calcium	8.7	17	17	17	12	13	0.5	NC	NC	NC	NC
Potassium	2.8	3.4	3.1	3.1	3.2	3.1	0.5	NC	NC	NC	NC
Sodium	13	26	25	25	16	15	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	7.8	13	13	12	11	11	0.5	NC	NC	NC	NC
Metals - Dissolved											
Aluminium	0.036	0.0030	0.0070	0.0030	0.007	0.007	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.022	0.0450	0.0450	0.0450	0.027	0.031	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.002	0.001	<0.001	0.002	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.16	0.04	0.06	0.06	0.240	0.270	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.014	0.110	0.120	0.120	0.050	0.053	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.003	0.002	0.002	0.0020	0.002	0.003	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	<0.001	0.002	0.002	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.007	0.005	0.010	0.028	<0.001	0.003	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total											
Aluminium	1.3	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.034	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	<0.0001	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	0.003	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	0.001	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	0.001	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	2	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.048	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.006	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	0.003	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.003	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW8	SW8	SW8	SW8 (D5-290512)	SW8	SW8	SW8	SW8	SW8	SW8	SW8	SW8	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Mar 2012	May 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Mar 2013**	Jul 2013	Sept 2013			Fresh	Marine	Irrigation Waters
	22/2/2012	8/03/2012	29/05/2012	29/05/2012	27/06/2012	22/07/2012	21/08/2012	19/09/2012	22/10/2012	11/03/2013	23/07/2013	17/09/2013					
pH	7.3	6.9	7.9	8.0	8.0	7.6	7.8	7.8	8.2	7.9	8.1	8.2	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	260	250	800	800	760	620	730	880	950	590	900	750	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	5.7	8	2.3	2.1	2.5	2.1	2.6	2.7	1.3	0.5	4.6	4.8	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	71	84	250	250	230	220	250	260	300	230	310	220	1/5	NC	NC	NC	NC
Total Alkalinity	71	84	250	250	230	220	250	260	300	230	310	220	1/5				
Anions																	
Chloride (Cl)	30	30	100	100	82	74	79	110	120	59	60	93	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.03	0.01	<0.005	<0.005	0.01	0.014	0.021	0.018	0.015	0.008	0.097	0.14	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.04	<0.005	0.02	0.02	0.02	<0.005	0.2	<0.005	0.03	0.006	<0.005	0.4	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	6	4	18	18	9	11	11	13	13	9	6	15	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	12	11	42	40	36	29	40	46	52	33	42	33	0.5	NC	NC	NC	NC
Potassium	6.7	5.8	8.1	8.3	4.7	5.3	4.3	5	4.7	5.5	5.5	5.6	0.5	NC	NC	NC	NC
Sodium	25	23	86	88	72	63	71	99	96	51	96	65	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	9	9.6	32	32	29	23	30	38	43	26	33	26	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.042	0.034	0.003	0.001	<0.01	0.006	0.0060	0.0020	0.002	0.003	0.004	0.006	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	0.018	0.02	0.035	0.034	0.0330	0.0270	0.0370	0.0420	0.058	0.025	0.039	0.025	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.003	0.003	<0.001	<0.001	<0.001	0.001	0.002	0.002	<0.001	0.001	<0.001	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.24	0.15	0.035	0.028	0.0560	0.045	0.03	0.03	0.042	0.063	0.010	0.027	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.006	0.006	0.043	0.044	0.0310	0.1300	0.068	0.140	0.470	0.006	0.054	0.066	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.004	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.005	0.003	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.008	0.015	0.015	0.002	0.017	0.014	0.010	0.017	0.018	0.006	0.008	0.008	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	0.53	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	NT	0.023	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	<0.0001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	0.66	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	0.018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	<0.00005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	0.004	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.2	0.1	0.06	0.06	<0.05	0.09	<0.05	<0.05	<0.05	0.07	<0.05	0.2	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	SW9	SW9 (D10)	SW9	SW9	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
							Slightly to Moderately Disturbed Systems		
Date Sampled	Aug 2012	Aug 2012	Sept 2012	Mar 2013**			Fresh	Marine	Irrigation Waters
	20/08/2012	20/08/2012	19/09/2012	11/03/2013					
pH	7.5	7.5	7.8	7.3	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	330	330	320	370	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	4	4.7	26	1.5	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity									
Hydroxide (OH^-)	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	110	120	110	150	1/5	NC	NC	NC	NC
Total Alkalinity	110	120	110	150	1/5				
Anions									
Chloride (Cl)	21	22	21	21	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.033	0.04	0.03	0.031	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.2	0.2	<0.005	0.06	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	15	15	12	24	1	500	NC	NC	NC
Cations - Dissolved									
Calcium	23	22	23	28	0.5	NC	NC	NC	NC
Potassium	4.6	4.5	4.9	7.4	0.5	NC	NC	NC	NC
Sodium	24	24	23	19	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	14	14	14	19	0.5	NC	NC	NC	NC
Metals - Dissolved									
Aluminium	0.0090	0.0050	0.0090	0.011	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.0450	0.0440	0.0300	0.058	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	0.002	0.002	0.001	0.003	0.001	NC	NC	0.001	0.05 [4]
Copper	0.001	<0.001	0.002	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.29	0.27	0.29	0.300	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.480	0.480	0.370	0.380	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.004	0.0030	0.004	0.008	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	0.002	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.007	0.002	0.017	0.005	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total									
Aluminium	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	0.1	0.06	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
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Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S (D17)	A01-S	A01-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Jan 2013	Feb 2013	Mar 2013			Fresh	Marine	Irrigation Waters
	23/2/2012	31/5/2012	27/06/2012	24/07/2012	22/08/2012	17/09/2012	21/10/2012	5/12/012	14/01/2013	14/01/2013	18/02/2013	19/03/2013					
pH	6.3	8.5	7.2	7.1	7.1	6.9	8.1	7.4	7.3	7.3	7.2	7.5	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	2100	3100	3000	1200	2800	2900	2900	2800	2700	2700	2700	2500	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	21	3.4	2.1	1.7	3.9	1.2	1.8	3.8	1.6	1.5	1.6	1.2	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	51	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	490	460	470	460	490	470	500	470	470	460	470	440	1/5	NC	NC	NC	NC
Total Alkalinity	490	510	470	460	490	470	500	470	470	460	470	440	1/5				
Anions																	
Chloride (Cl)	310	570	500	120	450	490	480	500	500	500	490	460	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.17	0.14	0.13	0.1	0.12	0.1	0.11	0.096	0.093	0.034	0.1	0.068	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.02	0.04	0.07	0.4	0.1	0.2	0.07	0.06	0.1	0.1	0.08	0.02	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	180	320	270	33	260	300	290	280	300	310	280	270	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	110	140	140	130	140	150	150	130	120	120	140	120	0.5	NC	NC	NC	NC
Potassium	4.8	7	5.3	7.2	6.3	8.2	6.8	6.1	7	7.1	6.7	6.7	0.5	NC	NC	NC	NC
Sodium	240	300	290	320	300	350	310	300	380	390	290	270	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	83	120	100	110	120	130	140	110	120	130	120	99	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.012	0.008	<0.01	0.007	0.0040	0.0070	0.004	0.003	0.007	0.001	0.006	0.003	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.003	0.004	0.002	0.002	0.0030	0.0030	0.003	0.002	0.004	0.004	0.003	0.002	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.17	0.23	0.190	0.170	0.1800	0.1900	0.180	0.170	0.170	0.160	0.160	0.150	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0003	0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	0.002	0.003	0.002	0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.003	0.002	0.002	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	2.7	3.7	<0.01	1.700	1.50	1.60	1.900	2.100	2.200	2.100	1.500	1.700	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	1.3	2.2	<0.005	0.840	1.100	1.000	1.100	1.200	1.200	1.200	1.000	0.990	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.01	0.01	0.007	0.006	0.0070	0.0040	0.006	0.005	0.006	0.005	0.005	0.004	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	0.002	0.0010	0.0020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.047	0.021	0.010	0.016	0.012	0.010	0.022	0.014	0.003	0.003	0.007	0.008	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.1	<0.05	0.07	0.06	0.07	0.06	0.08	0.08	0.06	0.06	0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	A01-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
										Slightly to Moderately Disturbed Systems		
Date Sampled	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	16/04/2013	12/05/2013	18/06/2013	22/07/2013	19/08/2013	19/09/2013	16/101/2013					
pH	7.7	7.7	7.3	7.6	7.3	7.4	8.1	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	2500	2500	2600	2300	2300	2400	2300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	0.8	2	4.2	1.1	5.8	19	24	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity												
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	450	460	480	470	440	450	470	1/5	NC	NC	NC	NC
Total Alkalinity	450	460	480	470	440	450	470	1/5				
Anions												
Chloride (Cl)	430	510	450	500	350	400	420	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.026	0.054	0.051	0.054	0.048	0.044	0.017	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.01	0.02	0.05	0.05	0.006	0.009	0.01	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	240	290	240	230	230	240	240	1	500	NC	NC	NC
Cations - Dissolved												
Calcium	130	120	120	130	100	110	130	0.5	NC	NC	NC	NC
Potassium	7.2	6.5	7.2	5.8	5.2	6.8	6.8	0.5	NC	NC	NC	NC
Sodium	250	280	300	270	200	240	280	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	110	100	100	98	88	89	100	0.5	NC	NC	NC	NC
Metals - Dissolved												
Aluminium	0.007	0.001	0.003	0.003	0.003	0.012	0.005	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.002	0.002	0.002	0.003	0.002	0.002	0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.150	0.150	0.16	0.150	0.14	0.14	0.15	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	1.600	1.400	1.2	1.100	1.4	1.3	1.7	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.990	0.940	1.0	0.83	0.87	1	1.3	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.005	0.004	0.013	0.008	0.003	0.004	0.004	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.012	0.014	0.035	0.010	0.008	0.014	0.02	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total												
Aluminium	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.07	0.07	0.09	0.06	0.08	0.1	0.1	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:

Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines

Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sam Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of Sample D31 replicate sample of AGE10 (25/7/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A02-S	A02-S	A02-S	A02-S (D8)	A02-S	A02-S	A02-S (D11/KMH)	A02-S	A02-S	A02-S	A02-S	A02-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	May 2012	Jun 2012	Jul 2012	Jul 2012	Aug 2012	Sept 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013			Fresh	Marine	Irrigation Waters
	30/5/2012	27/06/2012	23/07/2012	23/07/2012	22/08/2012	18/09/2012	18/09/2012	22/10/2012	3/12/2012	16/01/2013	20/02/2013	20/03/2013					
pH	8.0	7.4	7.1	7.1	7.1	7.0	7.0	8.0	7.3	7.0	7.0	7.2	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1200	1400	1400	1400	1300	1300	1300	1500	1300	1300	1500	1300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	180	150	30	42	20	20	14	51	96	110	250	18	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	290	340	380	380	350	330	330	350	340	330	340	360	1/5	NC	NC	NC	NC
Total Alkalinity	290	340	380	380	350	330	330	350	340	330	340	360	1/5				
Anions																	
Chloride (Cl)	170	170	160	180	140	160	160	160	160	160	160	160	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.056	0.02	0.007	0.007	<0.005	<0.005	<0.005	0.01	0.038	<0.005	<0.005	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	15	16	19	18	14	19	19	20	16	17	17	17	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	61	51	57	65	47	57	57	59	58	65	61	41	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	120	120	110	120	120	120	120	120	120	110	110	120	0.5	NC	NC	NC	NC
Potassium	8.3	8	7.9	7.8	7.2	8	8	7.7	7.9	6.9	9.2	8.6	0.5	NC	NC	NC	NC
Sodium	51	52	57	55	51	59	58	55	56	46	56	55	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	63	63	65	63	66	71	70	76	65	64	68	71	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.004	<0.01	0.006	0.003	0.0030	0.0010	0.0020	0.024	0.004	0.003	0.008	0.003	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.11	0.110	0.092	0.093	0.1000	0.0940	0.0940	0.097	0.088	0.089	0.090	0.091	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	0.0005	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.001	0.002	0.003	0.002	0.010	0.012	0.013	0.013	0.008	0.005	0.007	0.005	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.036	0.062	0.012	0.012	0.028	0.018	0.019	0.025	0.039	0.040	0.120	0.022	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.002	0.004	0.004	0.0030	0.0020	0.0030	0.003	0.002	0.003	0.004	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.015	0.013	0.013	0.013	0.0170	0.0170	0.0170	0.0170	0.012	0.012	0.009	0.009	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.001	0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.011	0.018	0.022	0.008	0.014	0.098	0.023	0.015	0.016	0.014	0.012	0.023	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A02-S	A02-S	A02-S	A02-S	A02-S	A02-S	A02-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
										Slightly to Moderately Disturbed Systems		
Date Sampled	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	17/04/2013	14/05/2013	19/06/2013	24/07/2013	22/08/2013	18/09/2013	16/101/2013					
pH	7.9	7.1	7.1	7.1	7.2	7.2	8.1	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1900	1300	1300	1100	1200	1300	1300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	160	160	100	33	640	190	19	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity												
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	360	350	350	340	340	340	340	1/5	NC	NC	NC	NC
Total Alkalinity	360	350	350	340	340	340	340	1/5				
Anions												
Chloride (Cl)	160	170	160	140	130	180	170	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.009	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	15	15	17	15	14	13	14	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	65	69	68	52	60	68	66	1	500	NC	NC	NC
Cations - Dissolved												
Calcium	110	110	120	120	100	110	120	0.5	NC	NC	NC	NC
Potassium	8.6	8.3	8.3	6.6	5.6	7.5	7.8	0.5	NC	NC	NC	NC
Sodium	53	50	50	45	33	48	56	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	70	66	67	61	56	65	69	0.5	NC	NC	NC	NC
Metals - Dissolved												
Aluminium	0.008	0.001	0.002	0.0008	<0.0005	0.002	0.006	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.120	0.100	0.11	0.098	0.086	0.095	0.093	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.007	0.006	0.007	0.002	0.003	0.005	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	<0.01	<0.01	<0.010	<0.01	<0.01	<0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.049	0.023	0.015	0.053	0.024	0.02	0.023	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.012	0.010	0.01	0.009	0.008	0.008	0.008	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.017	0.016	0.010	0.024	0.012	0.014	0.033	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total												
Aluminium	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
														Slightly to Moderately Disturbed Systems		
Date Sampled	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Apr 2013			Fresh	Marine	Irrigation Waters
	30/5/2012	27/06/2012	24/07/2012	22/08/2012	18/09/2012	21/10/2012	4/12/2012	15/01/2013	19/02/2013	20/03/2013	17/04/2013					
pH	8.5	7.3	6.8	7.0	6.9	8.0	6.9	7.0	7.0	7.2	8.4	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	1500	1500	1500	1500	1600	1500	1400	1400	1200	1000	1000	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	17	41	2.1	4.7	1.6	3.4	42	310	71	2.5	6.2	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity																
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	36	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	380	390	460	470	460	460	420	350	370	360	330	1/5	NC	NC	NC	NC
Total Alkalinity	410	390	460	470	460	460	420	350	370	360	330	1/5				
Anions																
Chloride (Cl)	260	230	250	220	240	220	230	210	190	140	120	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.005	0.01	0.007	0.024	<0.005	0.01	0.022	0.009	0.014	<0.005	0.016	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.02	<0.005	0.02	<0.005	<0.005	0.03	0.08	25	0.08	0.08	0.04	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	14	12	13	9	11	12	12	16	15	10	12	1	500	NC	NC	NC
Cations - Dissolved																
Calcium	79	73	79	83	92	88	92	73	73	58	51	0.5	NC	NC	NC	NC
Potassium	3.4	3.7	3.7	3.8	4.1	3.7	3.8	3.8	3.4	3.2	2.9	0.5	NC	NC	NC	NC
Sodium	120	120	130	130	140	130	150	110	110	100	91	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	71	64	73	73	81	80	85	60	63	49	44	0.5	NC	NC	NC	NC
Metals - Dissolved																
Aluminium	0.003	<0.01	0.005	0.0010	0.0210	0.0008	0.002	0.016	0.004	0.003	0.006	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	0.019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.08	0.070	0.073	0.0800	0.0760	0.068	0.065	0.060	0.057	0.047	0.045	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0006	<0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.005	0.003	0.003	0.002	<0.001	<0.001	0.003	0.002	0.005	0.008	0.009	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.016	0.026	0.020	0.09	0.10	0.042	0.026	0.018	<0.01	<0.01	<0.01	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.05	0.048	0.032	0.084	0.055	0.032	0.025	0.018	0.011	0.006	<0.005	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.004	0.003	0.007	0.0040	0.0030	0.003	0.002	0.003	0.003	0.002	0.003	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	0.003	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.027	0.027	0.030	0.013	0.017	0.016	0.015	0.014	0.020	0.009	0.019	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total																
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	0.1	0.09	0.09	0.09	0.08	0.1	0.3	0.1	0.09	0.09	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A06-S	A06-S	A06-S	A06-S	A06-S	A06-S	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
									Slightly to Moderately Disturbed Systems		
Date Sampled	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	13/05/2013	20/06/2013	23/07/2013	20/08/2013	17/09/2013	15/10/2013					
pH	7.8	7	7.4	7.2	8.3	6.9	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	970	1100	980	940	1100	1100	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	570	25	56	8.4	14	17	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity											
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	330	350	350	350	370	370	1/5	NC	NC	NC	NC
Total Alkalinity	330	350	350	350	370	370	1/5				
Anions											
Chloride (Cl)	160	150	41	110	120	140	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.09	0.05	0.02	<0.005	0.03	0.01	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	14	15	27	12	15	16	1	500	NC	NC	NC
Cations - Dissolved											
Calcium	50	57	48	50	49	56	0.5	NC	NC	NC	NC
Potassium	2.5	2.8	2.5	2.2	2.5	2.6	0.5	NC	NC	NC	NC
Sodium	100	99	100	85	91	100	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	45	47	42	43	42	49	0.5	NC	NC	NC	NC
Metals - Dissolved											
Aluminium	<0.0005	0.003	0.003	0.003	0.001	0.015	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.044	0.053	0.052	0.041	0.044	0.043	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.002	0.011	0.006	0.004	0.005	0.003	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	<0.01	<0.010	<0.010	<0.01	0.016	0.016	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	<0.005	0.006	0.005	0.008	0.007	0.007	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	0.003	0.002	0.002	0.002	0.003	0.002	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.003	0.023	0.019	0.01	0.019	0.028	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total											
Aluminium	NT	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	0.4	0.07	0.10	0.09	0.09	0.1	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/201
Sample D17 replicate sample of A01-S (14/1/201
Sample D18 replicate sample of SW4 (15/1/201
Sample D19 replicate sample of SW4 (19/2/201
Sample D20 replicate sample of A20 (19/2/2013
Sample D21 replicate sample of SW7 (11/3/201
Sample D22 replicate sample of BY0016CH (18/
Sample D23 replicate sample of BY0016CH (15/
Sample D24 replicate sample of SW4 (16/4/201
Sample D26 replicate sample of A13 (12/5/2013
Sample D28 replicate sample of SW4 (13/5/201
Sample D29 replicate sample of BY0015CH (18/
Sample D30 replicate sample of SW4 (18/6/201
Sample D31 replicate sample of AGE10 (25/7/2
Sample D33 replicate sample of BY0016CH (19/
Sample D34 replicate sample of BY0014CH (19/
Sample D35 replicate sample of SW6 (16/9/201
Sample D37 replicate sample of A14 (15/10/201
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D18 replicate sample of SW4 (15/1/201
Sample D19 replicate sample of SW4 (19/2/201
Sample D22 replicate sample of BY0016CH (18/
Sample D23 replicate sample of BY0016CH (15/
Sample D24 replicate sample of SW4 (16/4/201
Sample D26 replicate sample of A13 (12/5/2013
Sample D28 replicate sample of SW4 (13/5/201
Sample D29 replicate sample of BY0015CH (18/
Sample D30 replicate sample of SW4 (18/6/201
Sample D31 replicate sample of AGE10 (25/7/2
Sample D33 replicate sample of BY0016CH (19/
Sample D34 replicate sample of BY0014CH (19/
Sample D35 replicate sample of SW6 (16/9/201
Sample D37 replicate sample of A14 (15/10/201

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A09	A09	A09	A09	A09	A09	A09	A09	A09	A09	A09	A09	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	23/10/2012	5/12/2012	16/01/2013	20/02/2013	20/03/2013	16/04/2013	16/05/2013	19/06/2013	22/07/2013	20/08/2013	19/09/2013	15/10/2013					
pH	7.6	7.5	7.2	7.2	7.3	7.8	7.2	7.2	7.4	7.2	7.5	6.9	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1000	1500	2000	1500	680	780	1200	1800	2000	2200	2200	2300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	75	15	41	27	4.1	27	49	7.2	18	35	15	9.4	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	240	320	420	320	200	210	270	330	400	430	420	410	1/5	NC	NC	NC	NC
Total Alkalinity	240	320	420	320	200	210	270	330	400	430	420	410	1/5				
Anions																	
Chloride (Cl)	150	240	330	220	68	97	200	340	390	350	360	380	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.06	0.029	0.033	0.028	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.04	0.930	0.960	0.400	<0.005	<0.005	0.3	1.2	1.8	0.3	0.3	0.03	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	73	110	150	120	37	45	110	190	110	210	210	190	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	46	81	93	72	27	35	51	87	92	99	94	100	0.5	NC	NC	NC	NC
Potassium	6.8	7.7	8.5	8.7	4.9	5.7	6.4	8.4	7.5	8	9.7	10	0.5	NC	NC	NC	NC
Sodium	94	130	180	170	87	85	120	180	220	220	250	280	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	53	68	84	67	23	30	47	79	85	93	90	95	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.006	0.004	0.007	0.005	0.004	0.011	<0.0005	0.004	0.002	0.003	0.012	0.005	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	0.049	0.065	0.086	0.064	0.022	0.033	0.054	0.095	0.100	0.11	0.1	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	0.0006	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	0.004	0.006	0.007	0.007	0.012	0.006	0.009	0.004	0.010	0.004	0.017	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.220	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	0.023	<0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.060	0.083	0.036	0.024	0.010	0.030	0.024	0.054	0.054	0.076	0.074	0.091	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.002	0.002	0.002	0.003	0.002	0.003	0.002	0.003	0.004	0.003	0.003	0.003	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.003	0.001	0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.014	0.025	0.010	0.022	0.009	0.032	0.012	0.022	0.013	0.015	0.014	0.043	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
														Slightly to Moderately Disturbed Systems		
Date Sampled	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	23/10/2012	3/12/2012	16/01/2013	20/02/2013	17/04/2013	14/05/2013	19/06/2013	24/07/2013	21/08/2013	18/09/2013	16/101/2013					
pH	6.8	6.5	6.7	6.9	8.0	6.7	6.8	6.6	6.6	6.9	7.6	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	250	280	290	290	250	250	270	280	300	310	320	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	270	180	57	1200	40	1200	210	34	580	290	60	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity																
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	65	66	81	86	78	76	78	82	88	93	92	1/5	NC	NC	NC	NC
Total Alkalinity	65	66	81	86	78	76	78	82	88	93	92	1/5				
Anions																
Chloride (Cl)	25	28	27	26	22	28	26	23	24	26	26	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.077	0.014	0.03	0.018	0.02	0.035	0.021	0.009	0.058	<0.005	<0.005	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	0.02	0.02	0.02	<0.005	0.05	0.01	<0.005	0.4	0.01	0.005	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	14	17	20	18	13	17	18	15	18	21	20	1	500	NC	NC	NC
Cations - Dissolved																
Calcium	15	19	17	18	14	13	16	16	16	18	19	0.5	NC	NC	NC	NC
Potassium	2.6	2.8	3.2	3.4	2.6	2.7	2.9	2.9	2.6	3.3	2.9	0.5	NC	NC	NC	NC
Sodium	15	19	20	22	17	18	18	19	17	20	21	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	11	14	12	13	9.5	9.3	10	12	11	13	14	0.5	NC	NC	NC	NC
Metals - Dissolved																
Aluminium	0.003	0.0009	0.0090	0.0030	0.007	0.002	0.004	<0.0005	0.012	0.010	0.006	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.047	0.046	0.052	0.052	0.045	0.043	0.045	0.052	0.05	0.055	0.055	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	0.0006	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	0.002	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	<0.001	0.001	0.001	<0.001	0.003	0.001	0.003	<0.001	0.001	0.002	0.002	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.360	0.260	0.250	0.210	0.059	0.078	0.19	0.070	0.086	0.099	0.38	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.120	0.087	0.094	0.110	0.053	0.070	0.075	0.060	0.083	0.08	0.096	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.005	0.003	0.004	0.004	0.004	0.003	0.004	0.005	0.004	0.005	0.005	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.012	0.011	0.022	0.009	0.029	0.005	0.020	0.017	0.012	0.021	0.031	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total																
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	0.1	0.07	<0.05	0.2	<0.05	0.4	0.06	<0.05	0.1	0.07	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A13	A13	A13 (D6)	A13	A13	A13	A13	A13	A13 (D15)	A13	A13	A13	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	May 2012	Jun 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013			Fresh	Marine	Irrigation Waters
	30/5/2012	27/06/2012	27/06/2012	24/07/2012	22/08/2012	18/09/2012	21/10/2012	3/12/2012	4/12/2012	14/01/2013	19/02/2013	19/03/2013					
pH	8.3	7.3	7.4	6.9	7.1	7.0	8.0	7	7.1	7	7.1	7.5	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1300	1400	1400	1400	1400	1400	1300	1400	1500	1600	1500	1300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	55	9.9	14	4.9	4.2	3.8	4.2	11	9.8	4	89	20	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	260	290	290	320	310	300	310	300	300	300	310	310	1/5	NC	NC	NC	NC
Total Alkalinity	280	290	290	320	310	300	310	300	300	300	310	310	1/5				
Anions																	
Chloride (Cl)	200	210	210	220	190	210	190	230	230	280	240	200	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.006	0.006	<0.005	<0.005	0.009	0.017	0.01	0.023	0.087	0.006	0.018	0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.008	0.1	0.3	0.03	0.01	0.02	0.09	0.64	0.69	37	0.3	0.3	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	90	81	81	94	69	83	79	88	88	140	120	89	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	69	72	74	76	80	86	83	110	100	91	92	68	0.5	NC	NC	NC	NC
Potassium	6.1	5.5	5.7	6.2	5.7	6.2	5.7	6	5.7	5.5	5.7	5.2	0.5	NC	NC	NC	NC
Sodium	100	110	110	120	110	130	110	130	130	130	120	110	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	55	56	59	60	62	66	66	78	80	71	73	53	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.039	<0.01	<0.01	0.005	0.0040	0.0020	0.002	0.001	0.001	0.013	0.006	0.002	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.095	0.099	0.099	0.099	0.1100	0.1000	0.094	0.100	0.095	0.110	0.110	0.092	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0005	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	0.002	<0.001	0.001	0.002	0.003	0.002	0.002	0.002	0.004	0.003	0.002	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.25	0.120	0.120	0.130	0.11	0.11	0.120	0.046	0.050	0.021	0.016	0.015	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.25	0.250	0.250	0.230	0.240	0.230	0.250	0.290	0.310	0.280	0.240	0.220	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.005	0.003	0.0030	0.007	0.0020	0.0030	0.016	0.002	0.002	0.004	0.003	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.022	0.010	0.005	0.027	0.015	0.120	0.019	0.014	0.011	0.020	0.022	0.016	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:

Results expressed in mg/L unless otherwise stated

NC - No Criteria

PQL - Practical Quantitation Limits

(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers

(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries

(3) - Tolerance value of Clover (Conservative Value for Pastures)

(4) - Long Term Trigger Values (up to 100 yrs)

(5) - To minimise bioclogging of irrigation equipment

(6) - Trigger Values for assessing corrosiveness of water

(7) - Chromium (VI)

(8) - Aesthetic Guideline Value

(9) - Arsenic (V) (conservative)

(10) - Mercury (Inorganic)

(11) - Trigger Value for Phenol not Total Phenols (Conservative)

(12) - Drinking Water Criteria re-calculated for N

(13) - Health Based Criteria of Nitrite (Conservative)

(14) - Trigger Values for Fresh Water pH>6.5

(15) - Trigger Values for Fresh Water pH<6.5

(16) - Trigger Values for Marine Water pH<6.5

(17) - Environmental Concern Level (ECL) - indicative interim working level only

(18) pH less than 6 has corrosive potential

(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)

Exceeds ANZECC 2000 Guidelines - Fresh Waters

Exceeds Australian Drinking Water Guidelines

Sample D1 - replicate sample of SW3 (22/2/2012)

Sample D2 - replicate sample of BY0015CH (23/2/2012)

Sample D3 - replicate sample of SW2 (8/3/2012)

Sample D4 - replicate sample of BY0015CH (29/5/2012)

Sample D5-290512 - replicate sample of SW8 (29/5/2012)

Sample D5-270612 - replicate sample of SW4 (27/6/2012)

Sample D6 - replicate sample of A13 (27/6/2012)

Sample D7 - replicate sample of SW1 (22/7/2012)

Sample D8 - replicate sample of A02-S (23/7/2012)

Sample D9 - replicate sample of BY0014CH (20/8/2012)

Sample D10 - replicate sample of SW9 (20/8/2012)

Sample D11/KMH - replicate sample of A02-S (18/9/2012)

Sample D12/KMH replicate sample of SW7 (19/9/2012)

Sample D13 replicate sample of BY0014CH (21/10/2012)

Sample D14 replicate sample of SW6 (22/10/2012)

Sample D15 replicate sample of A13 (4/12/2012)

Sample D16 replicate sample of SW4 (3/12/2012)

Sample D17 replicate sample of A01-S (14/1/2013)

Sample D18 replicate sample of SW4 (15/1/2013)

Sample D19 replicate sample of SW4 (19/2/2013)

Sample D20 replicate sample of A20 (19/2/2013)

Sample D21 replicate sample of SW7 (11/3/2013)

Sample D22 replicate sample of BY0016CH (18/3/2013)

Sample D23 replicate sample of BY0016CH (15/4/2013)

Sample D24 replicate sample of SW4 (16/4/2013)

Sample D26 replicate sample of A13 (12/5/2013)

Sample D28 replicate sample of SW4 (13/5/2013)

Sample D29 replicate sample of BY0015CH (18/6/2013)

Sample D30 replicate sample of SW4 (18/6/2013)

Sample D31 replicate sample of AGE10 (25/7/2013)

Sample D33 replicate sample of BY0016CH (19/8/2013)

Sample D34 replicate sample of BY0014CH (19/9/2013)

Sample D35 replicate sample of SW6 (16/9/2013)

Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A13	A13	A13 (D26)	A13	A13	A13	A13	A13	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
											Slightly to Moderately Disturbed Systems		
Date Sampled	Apr 2013	May 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	16/04/2013	12/05/2013	12/05/2013	18/06/2013	22/07/2013	19/08/2013	19/09/2013	15/10/2013					
pH	7.7	7.6	7.7	7.3	7.3	7.3	7.3	7	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1200	1200	1200	1200	1200	1200	1300	1300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	0.7	1.3	1.1	2.3	14	0.5	1.1	0.7	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity													
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	280	280	280	290	280	280	280	280	1/5	NC	NC	NC	NC
Total Alkalinity	280	280	280	290	280	280	280	280	1/5				
Anions													
Chloride (Cl)	180	210	220	210	240	180	220	230	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	<0.005	0.01	0.007	<0.005	0.009	<0.005	<0.005	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.3	0.4	0.4	0.4	0.2	0.2	0.3	0.4	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	69	81	83	80	65	68	84	94	1	500	NC	NC	NC
Cations - Dissolved													
Calcium	70	64	64	67	64	67	76	80	0.5	NC	NC	NC	NC
Potassium	5.5	5.1	5	5.7	4.6	4.6	5.6	5.5	0.5	NC	NC	NC	NC
Sodium	100	100	100	110	100	89	99	110	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	55	52	50	53	50	52	58	62	0.5	NC	NC	NC	NC
Metals - Dissolved													
Aluminium	0.005	0.002	0.002	0.001	0.002	0.003	0.002	0.003	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.093	0.087	0.086	0.093	0.091	0.084	0.094	0.089	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	0.002	0.003	0.002	0.001	0.001	0.002	0.002	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.019	<0.01	0.010	0.018	0.093	0.034	0.053	0.034	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.220	0.200	0.190	0.19	0.18	0.18	0.2	0.24	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.002	0.002	0.004	0.002	0.002	0.003	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.009	0.012	0.011	0.013	0.016	0.007	0.025	0.021	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total													
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A14	A14	A14	A14	A14	A14	A14	A14	A14	A14	A14	A14	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013			Fresh	Marine	Irrigation Waters
	21/08/2012	19/09/2012	22/10/2012	4/12/2012	16/01/2013	20/02/2013	16/04/2013	14/05/2013	19/06/2013	23/07/2013	20/08/2013	19/09/2013					
pH	7.2	7.1	8.1	7.2	7.3	7.2	7.9	7.3	7.3	7.5	7.4	7.4	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1800	1800	1800	1800	1800	1800	1700	1700	1700	1600	1600	1700	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	180	26	140	49	100	160	620	82	43	40	58	110	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	440	440	470	450	460	460	450	460	460	460	450	450	1/5	NC	NC	NC	NC
Total Alkalinity	440	440	470	450	460	460	450	460	460	460	450	450	1/5				
Anions																	
Chloride (Cl)	190	180	190	190	190	180	180	200	180	230	160	200	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.079	0.055	0.016	<0.005	0.021	0.006	0.014	<0.005	0.016	<0.005	<0.005	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.64	0.84	1	1.3	1.2	1.2	1.1	1.3	1.3	1.2	1.2	1.3	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	210	210	230	230	250	230	220	270	250	55	210	230	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	120	130	130	150	110	120	110	110	120	120	110	110	0.5	NC	NC	NC	NC
Potassium	5.4	5	5.5	5.1	3.8	5.6	5.3	4.9	5.1	4.4	3.9	4.9	0.5	NC	NC	NC	NC
Sodium	150	150	160	180	120	170	140	150	140	150	120	130	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	87	95	99	110	79	91	84	83	83	78	77	79	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.0050	0.0030	0.003	0.002	0.003	0.004	0.005	0.002	0.003	0.003	0.004	0.003	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.1500	0.1400	0.110	0.099	0.100	0.100	0.100	0.098	0.11	0.100	0.094	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.001	0.003	0.002	0.005	0.004	0.004	0.002	0.004	0.004	0.003	0.002	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.44	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.660	0.220	0.063	0.020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.0040	0.0030	0.002	<0.001	0.001	0.002	<0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.0030	0.0030	0.003	0.002	0.002	0.002	0.003	0.002	0.003	0.002	0.002	0.002	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.014	0.032	0.010	0.017	0.014	0.016	0.005	0.011	0.015	0.015	0.012	0.016	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.1	<0.05	0.09	0.07	0.06	0.1	0.2	0.07	<0.05	<0.05	0.05	0.09	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A14	A14 (D37)	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
					Slightly to Moderately Disturbed Systems		
Date Sampled	Oct 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	15/10/2013	15/10/2013					
pH	7.2	7.2	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1800	1800	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	36	30	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity							
Hydroxide (OH^-)	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	450	440	1/5	NC	NC	NC	NC
Total Alkalinity	450	440	1/5				
Anions							
Chloride (Cl)	190	190	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	<0.005	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	1.5	1.4	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	230	230	1	500	NC	NC	NC
Cations - Dissolved							
Calcium	120	120	0.5	NC	NC	NC	NC
Potassium	5	5	0.5	NC	NC	NC	NC
Sodium	160	160	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	92	92	0.5	NC	NC	NC	NC
Metals - Dissolved							
Aluminium	0.004	0.004	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.098	0.095	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.004	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	<0.01	<0.01	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	<0.005	<0.005	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	<0.001	<0.001	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.002	0.002	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.017	0.01	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total							
Aluminium	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.05	0.06	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
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Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A15	A15	A15	A15	A15	A15	A15	A15	A15	A15	A15	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
														Slightly to Moderately Disturbed Systems		
Date Sampled	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	23/10/2012	4/12/2012	16/01/2013	20/02/2013	17/04/2013	14/05/2013	19/06/2013	23/07/2013	22/08/2013	18/09/2013	16/101/2013					
pH	7.0	6.6	6.8	6.7	8.0	6.7	6.7	7.0	7.0	6.9	7.6	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	290	280	310	350	260	300	340	320	320	310	300	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	400	25	210	86	55	90	40	120	280	340	200	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	77	78	97	80	78	97	110	110	100	100	87	1/5	NC	NC	NC	NC
Total Alkalinity	77	78	97	80	78	97	110	110	100	100	87	1/5				
Anions																
Chloride (Cl)	33	34	35	32	30	41	36	25	38	42	33	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.058	0.039	0.038	0.024	0.03	0.02	0.031	0.012	0.017	0.007	<0.005	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	0.01	0.1	0.03	0.03	0.008	0.03	<0.005	0.03	0.02	0.02	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	5	5	6	5	5	4	7	20	5	6	6	1	500	NC	NC	NC
Cations - Dissolved																
Calcium	12	13	12	12	10	11	15	13	13	14	12	0.5	NC	NC	NC	NC
Potassium	2.9	2.9	3.1	2.9	2.5	3	3.1	2.8	2.7	3.3	3.1	0.5	NC	NC	NC	NC
Sodium	24	29	24	27	21	23	26	26	22	25	27	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	12	14	12	12	10	13	16	15	13	15	12	0.5	NC	NC	NC	NC
Metals - Dissolved																
Aluminium	0.012	0.0008	0.0100	0.0060	0.009	0.001	0.002	0.003	0.003	0.002	<0.005	0.0005	0.2[8]	0.0008[15](L)/0.055[14](L)	0.0005[16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.025	0.023	0.027	0.022	0.023	0.027	0.032	0.030	0.028	0.031	0.024	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	0.0006	0.0002	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	0.003	0.002	0.003	0.001	0.002	0.003	0.004	0.003	0.003	0.004	0.002	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	<0.001	0.003	<0.001	<0.001	<0.001	0.007	0.001	0.002	0.004	0.003	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.510	0.026	0.038	0.480	0.590	0.250	0.096	0.099	0.078	0.027	0.022	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.160	0.110	0.120	0.087	0.110	0.160	0.15	0.12	0.12	0.14	0.11	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.002	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.012	0.008	0.011	0.012	0.017	0.017	0.019	0.013	0.013	0.016	0.023	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2[8]	0.0008[15](L)/0.055[14](L)	0.0005[16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.3	<0.05	0.09	<0.05	<0.05	0.05	<0.05	0.06	0.3	0.5	0.3	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A18	A18	A18	A18	A18	A18	A18	A18	A18	A18	A18	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
														Slightly to Moderately Disturbed Systems		
Date Sampled	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	23/10/2012	3/12/2012	16/01/2013	20/02/2013	17/04/2013	14/05/2013	19/06/2013	24/07/2013	22/08/2013	18/09/2013	16/101/2013					
pH	6.8	6.6	6.7	6.7	8.2	6.6	6.6	6.6	6.8	6.9	7.6	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	330	380	370	360	370	350	360	350	360	320	360	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	3400	270	71	38	230	39	57	140	60	57	70	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	130	140	130	120	140	130	130	120	110	110	110	1/5	NC	NC	NC	NC
Total Alkalinity	130	140	130	120	140	130	130	120	110	110	110	1/5				
Anions																
Chloride (Cl)	22	22	24	26	22	28	23	20	24	25	22	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.2	0.053	0.064	0.079	0.097	0.068	0.1	0.082	0.085	0.08	0.1	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.02	0.01	0.02	0.05	0.007	<0.005	0.02	0.007	<0.005	0.01	<0.005	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	10	11	22	25	10	16	24	20	28	31	30	1	500	NC	NC	NC
Cations - Dissolved																
Calcium	21	28	21	21	21	20	21	20	18	20	19	0.5	NC	NC	NC	NC
Potassium	5.1	11	10	19	14	14	15	17	15	17	25	0.5	NC	NC	NC	NC
Sodium	21	26	17	24	20	20	22	21	18	21	23	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	15	19	14	14	14	13	14	13	12	13	12	0.5	NC	NC	NC	NC
Metals - Dissolved																
Aluminium	0.008	0.0007	0.0050	0.0030	0.005	<0.0005	0.002	<0.0005	0.002	0.031	<0.005	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.084	0.097	0.098	0.100	0.110	0.100	0.1	0.098	0.1	0.11	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	0.006	0.003	0.002	0.001	0.003	0.002	0.002	0.002	0.001	0.002	0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.001	<0.001	0.001	0.001	0.001	<0.001	0.002	<0.001	<0.001	0.003	0.002	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.670	2.100	1.100	0.400	1.700	0.990	<0.010	0.890	0.39	0.74	0.17	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.410	0.250	0.100	0.075	0.150	0.100	0.092	0.090	0.073	0.095	0.058	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.007	0.005	0.005	0.004	0.007	0.006	0.005	0.005	0.004	0.005	0.004	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.007	0.008	0.011	0.011	0.029	0.015	0.016	0.023	0.011	0.021	0.015	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.6	0.2	<0.05	<0.05	0.2	0.06	<0.05	0.20	0.05	0.1	0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A19	A19	A19	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
						Slightly to Moderately Disturbed Systems		
Date Sampled	Dec 2012	Jan 2013	Feb 2013			Fresh	Marine	Irrigation Waters
	5/12/2012	15/01/2013	19/02/2013					
pH	7.7	7.4	7.7	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	2100	2000	2000	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	240	6200	130	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity								
Hydroxide (OH^-)	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	340	330	340	1/5	NC	NC	NC	NC
Total Alkalinity	340	330	340	1/5				
Anions								
Chloride (Cl)	330	350	330	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.02	0.03	0.028	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.03	0.06	0.71	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	250	280	270	1	500	NC	NC	NC
Cations - Dissolved								
Calcium	120	110	120	0.5	NC	NC	NC	NC
Potassium	8.4	7.9	8	0.5	NC	NC	NC	NC
Sodium	200	200	190	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	89	86	97	0.5	NC	NC	NC	NC
Metals - Dissolved								
Aluminium	0.002	0.003	0.007	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.120	0.140	0.120	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	0.0006	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	<0.001	0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.023	0.140	0.051	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.690	0.630	0.560	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.003	0.005	0.002	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	0.002	0.005	0.002	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.005	0.007	0.010	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total								
Aluminium	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	0.2	1.7	0.1	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

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Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	A20	A20	A20	A20 (D20)	A20	A20	A20	A20	A20	A20	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
													Slightly to Moderately Disturbed Systems		
Date Sampled	Dec 2012	Jan 2013	Feb 2013	Feb 2013	Mar 2013	Apr 2013	May 2013	Jun 2013	Aug 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	3/12/2012	14/01/2013	19/02/2013	19/02/2013	13/05/2013	17/04/2013	13/05/2013	20/06/2013	20/08/2013	16/101/2013					
pH	7.1	7.5	7.5	7.5	7.8	8.4	7.8	7.4	7.6	8.1	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	1200	1300	1000	1100	760	740	760	770	1100	1200	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	220	3500	290	320	97	61	97	180	33	40	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity															
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	340	360	270	270	260	240	260	250	300	300	1/5	NC	NC	NC	NC
Total Alkalinity	340	360	270	270	260	240	260	250	300	300	1/5				
Anions															
Chloride (Cl)	160	210	140	140	110	76	110	78	160	180	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.023	0.02	0.024	0.024	0.027	0.013	0.027	0.065	0.098	<0.005	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.01	0.03	0.02	0.02	0.006	0.01	0.006	0.03	0.009	0.009	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	27	50	76	76	41	24	41	40	64	58	1	500	NC	NC	NC
Cations - Dissolved															
Calcium	71	68	55	53	40	34	40	37	60	61	0.5	NC	NC	NC	NC
Potassium	6.4	6.1	6	6.1	5.1	4.8	5.1	5.3	5.2	6.3	0.5	NC	NC	NC	NC
Sodium	130	130	110	110	89	80	89	84	98	120	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	58	54	44	43	31	26	31	28	47	49	0.5	NC	NC	NC	NC
Metals - Dissolved															
Aluminium	0.047	0.007	0.004	0.006	<0.0005	0.007	<0.0005	0.0005	0.004	<0.005	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	<0.001	0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.047	0.089	0.044	0.043	0.032	0.020	0.032	0.025	0.074	0.033	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	0.0006	0.0002	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	0.002	0.004	0.002	0.002	0.002	0.001	0.002	<0.001	0.003	0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	<0.001	0.002	<0.001	<0.001	0.003	0.002	0.003	0.003	<0.001	0.002	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.430	0.011	0.047	0.041	0.044	0.140	0.044	<0.010	0.21	0.059	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	1.000	2.100	0.900	0.900	0.700	0.440	0.700	0.39	1.1	0.42	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.004	0.008	0.005	0.005	0.006	0.005	0.006	0.003	0.005	0.004	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	0.002	0.001	0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.011	0.005	0.006	0.005	0.026	0.028	0.026	0.014	0.009	0.021	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total															
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	0.2	0.4	0.1	0.1	0.05	0.1	0.05	0.10	0.1	0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	AGE08	AGE08	AGE08	AGE08	AGE08	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
								Slightly to Moderately Disturbed Systems		
Date Sampled	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	20/06/2013	23/07/2013	20/08/2013	17/09/2013	15/10/2013					
pH	7.2	7.5	7.4	8.3	7.1	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	1300	1200	1200	1300	1300	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	13	21	6.1	3.1	33	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity										
Hydroxide (OH^-)	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	17	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	590	590	580	570	570	1/5	NC	NC	NC	NC
Total Alkalinity	590	590	580	580	570	1/5				
Anions										
Chloride (Cl)	88	38	78	93	100	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.5	1.5	1.4	1.6	1.5	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.01	<0.005	0.2	0.02	0.01	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	<1	<1	1	<1	<1	1	500	NC	NC	NC
Cations - Dissolved										
Calcium	35	31	34	34	37	0.5	NC	NC	NC	NC
Potassium	14	13	11	14	15	0.5	NC	NC	NC	NC
Sodium	220	230	190	220	240	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	27	25	26	26	30	0.5	NC	NC	NC	NC
Metals - Dissolved										
Aluminium	0.006	0.004	0.006	0.003	0.008	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	0.002	0.001	0.002	0.003	0.003	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.15	0.150	0.15	0.15	0.15	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.003	<0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.24	0.170	0.19	0.18	0.18	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.11	0.092	0.1	0.1	0.11	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.013	0.002	0.001	0.002	0.002	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.140	0.022	0.066	0.14	0.16	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total										
Aluminium	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	AGE10	AGE10 (D31)	AGE10	AGE10	AGE10	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
								Slightly to Moderately Disturbed Systems		
Date Sampled	Jul 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	25/07/2013	25/07/2013	22/08/2013	19/09/2013	16/101/2013					
pH	6.9	6.9	7.3	7.2	7.7	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	2000	2000	1900	1900	2000	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	96	89	69	54	32	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity										
Hydroxide (OH^-)	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	850	850	660	700	730	1/5	NC	NC	NC	NC
Total Alkalinity	850	850	660	700	730	1/5				
Anions										
Chloride (Cl)	190	190	210	250	250	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	2.9	3	2.6	3.7	3.7	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	<0.005	0.2	<0.005	<0.005	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	23	22	33	23	35	1	500	NC	NC	NC
Cations - Dissolved										
Calcium	54	55	54	60	58	0.5	NC	NC	NC	NC
Potassium	23	22	19	28	27	0.5	NC	NC	NC	NC
Sodium	320	330	130	280	330	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	58	59	52	65	67	0.5	NC	NC	NC	NC
Metals - Dissolved										
Aluminium	0.0010	0.0009	0.009	0.005	0.011	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	0.009	0.009	0.030	0.008	0.005	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.410	0.410	0.23	0.26	0.24	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	<0.001	<0.001	0.001	0.001	<0.001	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.650	0.640	0.6	0.89	0.35	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.120	0.120	0.19	0.15	0.19	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.002	0.002	0.003	0.003	0.005	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.670	0.650	6.5	0.26	0.002	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total										
Aluminium	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	AGE13	AGE13	AGE13	AGE13	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
							Slightly to Moderately Disturbed Systems		
Date Sampled	Jul 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	24/07/2013	22/08/2013	17/09/2013	17/10/2013					
pH	6.8	7.1	8.1	7.6	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	1600	1600	1700	1700	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	30	140	180	3200	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity									
Hydroxide (OH^-)	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	660	670	660	840	1/5	NC	NC	NC	NC
Total Alkalinity	660	670	660	840	1/5				
Anions									
Chloride (Cl)	130	140	150	170	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.2	1.1	1.3	1.1	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.01	0.02	0.07	0.02	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	41	49	58	48	1	500	NC	NC	NC
Cations - Dissolved									
Calcium	71	65	70	75	0.5	NC	NC	NC	NC
Potassium	18	15	17	20	0.5	NC	NC	NC	NC
Sodium	180	100	190	220	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	73	65	71	78	0.5	NC	NC	NC	NC
Metals - Dissolved									
Aluminium	0.0030	0.005	0.002	0.009	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	0.002	0.002	<0.001	0.01	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.098	0.092	0.091	0.1	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	<0.0001	<0.0001	0.0002	0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	0.001	0.002	0.014	0.001	NC	NC	0.001	0.05 (4)
Copper	<0.001	<0.001	0.007	0.002	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.840	0.56	0.085	0.014	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.060	0.059	0.064	0.076	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.002	0.002	0.007	0.013	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.017	0.031	0.075	0.031	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total									
Aluminium	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	<0.05	<0.05	1.1	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH (D9)	BY0014CH	BY0014CH	BY0014CH (D13)	BY0014CH	BY0014CH	BY0014CH	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Aug 2012	Sept 2012	Oct 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013			Fresh	Marine	Irrigation Waters
	23/2/2012	31/5/2012	28/06/2012	22/07/2012	20/08/2012	20/08/2012	17/09/2012	21/10/2012	21/10/2012	3/12/2012	14/01/2013	18/02/2013					
pH	6.7	8.6	7.8	7.5	7.7	7.7	7.5	8.4	8.4	7.8	7.8	7.6	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	990	990	1100	1100	1100	1100	1100	1000	1100	1100	1100	1000	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	4.8	26	7	19	3.5	4.4	2.7	9.5	4.1	2.6	14	12	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	33	<5	<5	<5	<5	<5	23	19	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	420	400	440	500	470	460	460	460	460	470	470	470	1/5	NC	NC	NC	NC
Total Alkalinity	970	430	440	500	470	460	460	480	480	470	470	470	1/5				
Anions																	
Chloride (Cl)	75	78	75	81	75	76	82	75	75	76	80	78	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	0.65	0.72	1.0	1.0	1.1	1.1	1.0	1.1	1.1	0.9	1.0	1.2	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.006	0.2	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	0.009	0.03	<0.005	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	31	32	31	31	34	34	34	37	37	39	32	35	0.5	NC	NC	NC	NC
Potassium	10	11	11	11	12	12	11	10	11	12	9.8	9.4	0.5	NC	NC	NC	NC
Sodium	190	170	190	210	180	180	210	190	200	230	200	170	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	17	18	18	17	19	20	19	21	20	22	18	19	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.025	0.007	<0.01	0.009	0.0080	0.0060	0.0040	0.005	0.006	0.004	0.002	0.008	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.004	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	0.2	0.21	0.210	0.210	0.2300	0.2300	0.2100	0.220	0.220	0.190	0.210	0.200	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0003	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.59	0.11	0.220	0.160	0.20	0.20	0.18	0.130	0.130	0.033	0.140	0.180	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.079	0.03	0.029	0.027	0.026	0.025	0.023	0.025	0.026	0.021	0.024	0.029	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.012	0.005	0.005	0.009	0.0020	0.0020	0.0010	0.003	0.003	0.001	0.002	0.008	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.088	0.01	0.005	0.012	0.015	0.002	0.006	0.006	0.008	0.006	0.003	0.008	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH	BY0014CH (D34)	BY0014	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
												Slightly to Moderately Disturbed Systems		
Date Sampled	Mar 2013	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	19/03/2013	15/04/2013	12/05/2013	18/06/2013	22/07/2013	19/08/2013	19/09/2013	19/09/2013	14/10/2013					
pH	7.9	8.0	8.1	7.6	7.8	7.6	7.9	7.7	7.4	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1100	1000	980	1000	1000	1000	1000	1000	1100	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	11	5.1	3.8	5.4	34	58	3.7	3	4.6	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity														
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	480	460	450	470	480	470	470	470	450	1/5	NC	NC	NC	NC
Total Alkalinity	480	460	450	470	480	470	470	470	450	1/5				
Anions														
Chloride (Cl)	86	80	87	79	87	71	86	99	93	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.0	1.0	1.0	1	0.97	0.99	0.95	1.1	1	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.006	0.006	<0.005	<0.005	<0.005	0.03	0.02	<0.005	0.006	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	<1	1	<1	<1	<1	<1	<1	<1	<1	1	500	NC	NC	NC
Cations - Dissolved														
Calcium	31	34	32	32	31	32	33	30	35	0.5	NC	NC	NC	NC
Potassium	10	11	10	11	9.7	8.8	11	11	11	0.5	NC	NC	NC	NC
Sodium	190	180	190	200	190	160	180	170	200	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	17	18	18	17	17	18	19	18	20	0.5	NC	NC	NC	NC
Metals - Dissolved														
Aluminium	0.004	0.012	0.006	0.018	0.003	0.006	0.003	0.003	0.011	0.0005	0.2 [8]	0.0008 [15][L]/0.055 [14][L]	0.0005 [16][L]	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.220	0.210	0.210	0.21	0.200	0.22	0.22	0.23	0.21	0.001	2	NC	NC	NC
Beryllium	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.290	0.200	0.170	0.22	0.190	0.23	0.2	0.21	0.13	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.037	0.030	0.025	0.024	0.02	0.022	0.02	0.021	0.022	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.002	0.003	0.001	0.002	0.001	0.001	<0.001	<0.001	0.003	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.002	0.011	0.006	0.010	0.006	0.009	0.008	0.003	0.013	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total														
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15][L]/0.055 [14][L]	0.0005 [16][L]	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0015CH	BY0015CH (D2)	BY0015CH	BY0015CH (D4)	BY0015CH	BY0015CH	BY0015CH	BY0015CH	BY0015CH	BY0015CH	BY0015CH	BY0015CH	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	Feb 2012	May 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013			Fresh	Marine	Irrigation Waters
	23/2/2012	23/2/2012	29/05/2012	29/05/2012	27/06/2012	24/07/2012	22/08/2012	17/09/2012	21/10/2012	5/12/2012	14/01/2013	18/02/2013					
pH	7.2	7.3	7.5	7.5	7.5	6.8	7.3	7.1	8.2	7.6	7.4	7.2	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	1.8	1.8	0.2	0.3	3.2	1.5	2.5	2.6	3.2	4.3	3.7	4.5	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	410	420	460	450	410	510	440	420	450	430	430	430	1/5	NC	NC	NC	NC
Total Alkalinity	410	420	460	450	410	510	440	420	450	430	430	430	1/5				
Anions																	
Chloride (Cl)	110	110	120	120	110	460	110	110	120	120	110	120	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.1	1.1	1.0	1.0	1.1	0.96	0.92	1.0	1.1	1.0	1.1	1.3	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.009	<0.005	<0.005	<0.005	<0.005	0.03	<0.005	<0.005	<0.005	0.01	0.009	<0.005	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	33	32	34	34	28	310	24	31	32	31	33	33	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	44	41	43	41	39	41	40	45	47	44	43	42	0.5	NC	NC	NC	NC
Potassium	13	13	13	13	12	14	12	14	12	12	12	12	0.5	NC	NC	NC	NC
Sodium	200	200	210	200	190	200	190	230	200	200	210	190	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	26	25	26	24	23	24	24	26	28	24	25	25	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.003	0.002	0.004	0.008	<0.01	0.003	0.0009	0.0020	0.003	0.002	0.005	0.009	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	0.093	0.094	0.098	0.092	0.095	0.092	0.0990	0.0930	0.098	0.090	0.092	0.091	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	0.0002	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.19	0.19	0.21	0.2	0.180	0.160	0.17	0.12	0.260	0.320	0.240	0.280	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.044	0.045	0.046	0.043	0.045	0.042	0.044	0.042	0.044	0.045	0.042	0.042	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.008	<0.001	0.001	0.007	0.011	0.006	0.002	0.100	0.003	0.001	0.007	0.003	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 (L) [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:

Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9
Sample D13 replicate sample of BY0014CH (21/
Sample D14 replicate sample of SW6 (22/10/201
Sample D15 replicate sample of A13 (4/12/2012
Sample D16 replicate sample of SW4 (3/12/2012
Sample D17 replicate sample of A01-S (14/1/20
Sample D18 replicate sample of SW4 (15/1/2013
Sample D19 replicate sample of SW4 (19/2/2013
Sample D20 replicate sample of A20 (19/2/2013
Sample D21 replicate sample of SW7 (11/3/2013
Sample D22 replicate sample of BY0016CH (18/
Sample D23 replicate sample of BY0016CH (15/
Sample D24 replicate sample of SW4 (16/4/2013
Sample D26 replicate sample of A13 (12/5/2013
Sample D28 replicate sample of SW4 (13/5/2013
Sample D29 replicate sample of BY0015CH (18/
Sample D30 replicate sample of SW4 (18/6/2013
Sample D31 replicate sample of AGE10 (25/7/2
Sample D11/KMH - replicate sample of A02-S
Sample D12/KMH replicate sample of SW7
Sample D13 replicate sample of BY0014
Sample D14 replicate sample of SW6
Sample D15 replicate sample of A13
Sample D16 replicate sample of SW4
Sample D17 replicate sample of A01-S
Sample D18 replicate sample of SW4
Sample D19 replicate sample of SW4
Sample D20 replicate sample of A20
Sample D21 replicate sample of SW7
Sample D22 replicate sample of BY0016CH
Sample D23 replicate sample of BY0016CH
Sample D24 replicate sample of SW4
Sample D26 replicate sample of A13
Sample D28 replicate sample of SW4
Sample D29 replicate sample of BY0015
Sample D30 replicate sample of SW4

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0015CH	BY0015CH	BY0015CH	BY0015CH	BY0015CH (D29)	BY0015CH	BY0015CH	BY0015	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
											Slightly to Moderately Disturbed Systems		
Date Sampled	Mar 2013	Apr 2013	May 2013	Jun 2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013			Fresh	Marine	Irrigation Waters
	19/03/2013	16/04/2013	12/05/2013	18/06/2013	18/06/2013	22/07/2013	19/08/2013	19/09/2013					
pH	7.7	7.8	7.8	7.3	7.6	7.5	7.3	7.6	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	1100	1200	1100	1200	1200	1100	1200	1200	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	3.7	3.3	4.9	3.9	3.4	4.3	3.8	3.9	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity													
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	450	420	420	430	430	430	420	420	1/5	NC	NC	NC	NC
Total Alkalinity	450	420	420	430	430	430	420	420	1/5				
Anions													
Chloride (Cl)	120	110	130	120	120	120	110	120	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.2	1.0	1.1	1	1.1	1	0.95	0.97	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	34	31	38	36	36	34	32	39	1	500	NC	NC	NC
Cations - Dissolved													
Calcium	38	42	40	39	40	39	41	42	0.5	NC	NC	NC	NC
Potassium	12	13	12	13	13	11	10	13	0.5	NC	NC	NC	NC
Sodium	190	180	190	200	200	190	160	190	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	22	25	24	23	24	23	24	25	0.5	NC	NC	NC	NC
Metals - Dissolved													
Aluminium	0.008	0.014	<0.0005	0.001	<0.0005	0.003	0.005	0.005	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.013 [9]	0.0023 [L][17]	0.1 [4]
Barium	0.092	0.095	0.093	0.094	0.1	0.095	0.092	0.095	0.001	2	NC	NC	NC
Beryllium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.270	0.280	0.300	0.29	0.29	0.270	0.3	0.3	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.046	0.047	0.047	0.047	0.046	0.042	0.045	0.045	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.006	0.007	<0.001	0.001	<0.001	0.007	0.005	0.007	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total													
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L][17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH	BY0016CH (D22)	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
															Slightly to Moderately Disturbed Systems		
Date Sampled	Feb 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sept 2012	Oct 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013	Mar 2013			Fresh	Marine	Irrigation Waters
	23/2/2012	30/5/2012	28/06/2012	23/07/2012	19/08/2012	17/09/2012	21/10/2012	3/12/2012	14/01/2013	19/02/2013	18/03/2013	18/03/2013					
pH	7.1	8.8	7.3	7.1	7.2	7.0	8.3	7.2	7.3	7.2	7.5	7.5	0.1 pH unit	6.5-8.5 [8]	6.5-8.0 [1]	7.0-8.5 [2]	>6 [6][18]
Electrical Conductivity (µS/cm)	2900	2700	3900	3000	3400	3100	2900	2800	2700	2500	2500	2600	1	NC	NC	NC	1000 - 7500 [3]
Turbidity (NTU)	0.6	540	0.9	55	47	37	37	19	170	1.6	13	13	0.1	5 [8]	1-50	0.5-10	NC
Alkalinity																	
Hydroxide (OH^-)	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<1	110	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	970	900	890	1100	1000	1000	1100	1000	1000	1100	1100	1100	1/5	NC	NC	NC	NC
Total Alkalinity	420	1000	890	1100	1000	1000	1100	1000	1000	1100	1100	1100	1/5				
Anions																	
Chloride (Cl)	350	340	630	420	470	380	330	300	280	230	250	250	1	250 [8]	NC	NC	Species Dependent
Ammonia (NH_3) as N	1.9	1.9	1.9	2.0	2.1	2.0	2.1	1.8	1.9	2.2	1.9	2.1	0.005	0.5 [8]/0.41 [12]	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	<0.005	<0.005	1.8	0.5	0.007	0.008	0.009	0.07	0.06	0.007	0.007	<0.005	0.005	3 [13]	0.04 [1]	0.015 [2]	NC
Sulphate (SO_4^{2-})	59	47	130	78	91	67	50	38	35	22	26	26	1	500	NC	NC	NC
Cations - Dissolved																	
Calcium	49	40	71	47	54	49	47	48	36	35	32	35	0.5	NC	NC	NC	NC
Potassium	21	19	26	22	24	21	19	20	16	18	18	19	0.5	NC	NC	NC	NC
Sodium	620	590	740	740	640	740	620	690	670	570	560	630	0.5	180 [8]	NC	NC	Species Dependent
Magnesium	43	32	88	37	51	40	35	35	28	24	23	25	0.5	NC	NC	NC	NC
Metals - Dissolved																	
Aluminium	0.018	0.008	<0.01	0.014	0.0090	0.0040	0.006	0.002	0.007	0.006	0.003	0.004	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	0.025	0.002	0.008	0.029	0.0290	0.0420	<0.001	0.034	0.029	0.037	0.036	0.038	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	0.31	0.31	<0.001	0.340	0.4400	0.3500	0.290	0.280	0.390	0.290	0.300	0.320	0.001	2	NC	NC	NC
Beryllium	0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	0.0003	<0.0001	0.0001	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	<0.001	<0.001	0.005	0.003	0.007	0.002	0.002	<0.001	0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 [4]
Copper	<0.001	<0.001	<0.001	0.002	0.008	0.002	0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	0.78	0.32	<0.01	0.190	0.04	0.26	0.220	0.430	0.083	0.170	0.51	0.54	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	0.058	0.054	0.043	0.063	0.075	0.057	0.049	0.038	0.043	0.029	0.037	0.041	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	0.002	0.013	0.041	0.093	0.0490	0.010	0.014	0.006	0.009	0.005	0.003	0.004	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	0.011	0.026	0.015	0.084	0.035	0.088	0.050	0.020	0.017	0.017	0.007	0.019	0.001	3 [8]	0.008	0.015	2 [4]
Metals - Total																	
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 [8]	0.0008 [15](L)/0.055 [14](L)	0.0005 [16](L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 [9]	0.0023 [L] [17]	0.1 [4]
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 [16]	NC	0.1 [4]
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 [4]
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 [7]	0.001 [7]	0.0044 [7]	0.1 [4]
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 [4]
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 [4]
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 [8]	NC	NC	0.2 [4]
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 [4]
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 [L]	0.2 [4]
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 [10]	0.0001 [10]	0.002 [4]
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 [4]
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 [L]	0.02 [4]
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 [L]	0.1	0.1 [4]
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 [8]	0.008	0.015	2 [4]
Total Phosphorus	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	0.05	NC	0.05 [1]	0.03 [2]	0.05 [5]

Notes to Table 1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5
(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)
Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

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Table C1 - Summary of Laboratory Testing Results - February 2012 to October 2013 (Surface Water and Groundwater)

Sample Identification	BY0016CH	BY0016CH (D23)	BY0016CH	BY0016CH	BY0016CH	BY0016	BY0016CH (D33)	BY0016	BY0016	Laboratory PQL	Australian Drinking Water Guidelines - Health Based (mg/L)	ANZECC (2000) - Trigger Values		
												Slightly to Moderately Disturbed Systems		
Date Sampled	Apr 2013	Apr 2013	May 2013	June 2013	Jul 2013	Aug 2013	Aug 2013	Sept 2013	Oct 2013			Fresh	Marine	Irrigation Waters
	15/04/2013	15/04/2013	12/05/2013	18/06/2013	22/07/2013	19/08/2013	19/08/2013	17/09/2013	15/10/2013					
pH	7.7	7.8	7.8	7.2	7.4	7.3	7.4	8.4	7	0.1 pH unit	6.5-8.5 (8)	6.5-8.0 (1)	7.0-8.5 (2)	>6 (6)(18)
Electrical Conductivity (µS/cm)	2500	2500	2400	2500	2400	2400	2400	2500	2500	1	NC	NC	NC	1000 - 7500 (3)
Turbidity (NTU)	28	29	4	190	54	3.8	5.2	5	5.7	0.1	5 (8)	1-50	0.5-10	NC
Alkalinity														
Hydroxide (OH^-)	<5	<5	<5	<5	<5	<5	<5	<5	<5	1/5	NC	NC	NC	NC
Carbonate (CO_3^{2-})	<5	<5	<5	<5	<5	<5	<5	32	<5	1/5	NC	NC	NC	NC
Bicarbonate (HCO_3^-)	1000	1100	1100	1100	1100	1100	1100	1000	1100	1/5	NC	NC	NC	NC
Total Alkalinity	1000	1100	1100	1100	1100	1100	1100	1100	1100	1/5				
Anions														
Chloride (Cl)	220	250	240	230	220	200	200	240	230	1	250 (8)	NC	NC	Species Dependent
Ammonia (NH_3) as N	2.1	2.1	2.1	2	1.9	1.8	0.98	2	1.9	0.005	0.5 (8)/0.41 (12)	0.9	0.91	NC
NO_x (NO_2^- + NO_3^-)	0.52	0.05	<0.005	0.02	<0.005	<0.005	0.008	<0.005	<0.005	0.005	3 (13)	0.04 (1)	0.015 (2)	NC
Sulphate (SO_4^{2-})	21	21	18	19	16	21	15	17	15	1	500	NC	NC	NC
Cations - Dissolved														
Calcium	35	34	31	32	30	30	31	31	33	0.5	NC	NC	NC	NC
Potassium	19	19	17	18	15	15	15	17	18	0.5	NC	NC	NC	NC
Sodium	550	520	560	600	540	490	500	570	630	0.5	180 (8)	NC	NC	Species Dependent
Magnesium	25	24	20	23	20	21	21	20	23	0.5	NC	NC	NC	NC
Metals - Dissolved														
Aluminium	0.012	0.013	0.003	0.002	0.003	0.009	0.007	0.006	0.007	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	0.036	0.036	0.038	0.083	0.034	0.032	0.034	0.038	0.036	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	0.290	0.290	0.300	0.39	0.350	0.31	0.33	0.32	0.33	0.001	2	NC	NC	NC
Beryllium	0.0001	0.0001	0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	NC	0.001	0.05 (4)
Copper	0.002	0.001	0.007	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	0.31	0.300	0.032	0.87	0.610	0.55	0.59	0.48	0.44	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	0.035	0.036	0.031	0.041	0.03	0.031	0.033	0.031	0.028	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	0.008	0.008	0.007	0.011	0.004	0.005	0.005	0.007	0.004	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	0.050	0.042	0.039	0.024	0.031	0.034	0.028	0.029	0.031	0.001	3 (8)	0.008	0.015	2 (4)
Metals - Total														
Aluminium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0005	0.2 (8)	0.0008 (15)(L)/0.055 (14)(L)	0.0005 (16)(L)	NC
Arsenic	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.013 (9)	0.0023 (L) (17)	0.1 (4)
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	NC	NC	NC
Beryllium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.06	0.00013 (16)	NC	0.1 (4)
Cadmium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.0001	0.002	0.0002	0.0007	0.01 (4)
Chromium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.05 (7)	0.001 (7)	0.0044 (7)	0.1 (4)
Cobalt	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	NC	0.001	0.05 (4)
Copper	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	2	0.0014	0.0013	0.2 (4)
Iron (Fe^{2+})	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.01	0.3 (8)	NC	NC	0.2 (4)
Lead	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.0034	0.0044	2 (4)
Manganese	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.005	0.5	1.9	0.08 (L)	0.2 (4)
Mercury	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.00005	0.001	0.00006 (10)	0.0001 (10)	0.002 (4)
Nickel	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.02	0.011	0.007	0.2 (4)
Selenium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	0.01	0.005	0.003 (L)	0.02 (4)
Vanadium	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	NC	0.006 (L)	0.1	0.1 (4)
Zinc	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.001	3 (8)	0.008	0.015	2 (4)
Total Phosphorus	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	NC	0.05 (1)	0.03 (2)	0.05 (5)

Notes to Table C1:
Results expressed in mg/L unless otherwise stated
NC - No Criteria
PQL - Practical Quantitation Limits
(1) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Lowland Rivers
(2) - Trigger Values for physical and chemical stressors for south-east Australia for Slightly Disturbed Ecosystems -Estuaries
(3) - Tolerance value of Clover (Conservative Value for Pastures)
(4) - Long Term Trigger Values (up to 100 yrs)
(5) - To minimise bioclogging of irrigation equipment
(6) - Trigger Values for assessing corrosiveness of water
(7) - Chromium (VI)
(8) - Aesthetic Guideline Value
(9) - Arsenic (V) (conservative)
(10) - Mercury (Inorganic)
(11) - Trigger Value for Phenol not Total Phenols (Conservative)
(12) - Drinking Water Criteria re-calculated for N
(13) - Health Based Criteria of Nitrite (Conservative)
(14) - Trigger Values for Fresh Water pH>6.5
(15) - Trigger Values for Fresh Water pH<6.5
(16) - Trigger Values for Marine Water pH<6.5

(17) - Environmental Concern Level (ECL) - indicative interim working level only
(18) pH less than 6 has corrosive potential
(L) - 95% Low Reliability Trigger Values (99% protection level applied where recommended)
Exceeds ANZECC 2000 Guidelines - Fresh Waters
Exceeds Australian Drinking Water Guidelines
Sample D1 - replicate sample of SW3 (22/2/2012)
Sample D2 - replicate sample of BY0015CH (23/2/2012)
Sample D3 - replicate sample of SW2 (8/3/2012)
Sample D4 - replicate sample of BY0015CH (29/5/2012)
Sample D5-290512 - replicate sample of SW8 (29/5/2012)
Sample D5-270612 - replicate sample of SW4 (27/6/2012)
Sample D6 - replicate sample of A13 (27/6/2012)
Sample D7 - replicate sample of SW1 (22/7/2012)
Sample D8 - replicate sample of A02-S (23/7/2012)
Sample D9 - replicate sample of BY0014CH (20/8/2012)
Sample D10 - replicate sample of SW9 (20/8/2012)
Sample D11/KMH - replicate sample of A02-S (18/9/2012)
Sample D12/KMH replicate sample of SW7 (19/9/2012)
Sample D13 replicate sample of BY0014CH (21/10/2012)
Sample D14 replicate sample of SW6 (22/10/2012)

Sample D15 replicate sample of A13 (4/12/2012)
Sample D16 replicate sample of SW4 (3/12/2012)
Sample D17 replicate sample of A01-S (14/1/2013)
Sample D18 replicate sample of SW4 (15/1/2013)
Sample D19 replicate sample of SW4 (19/2/2013)
Sample D20 replicate sample of A20 (19/2/2013)
Sample D21 replicate sample of SW7 (11/3/2013)
Sample D22 replicate sample of BY0016CH (18/3/2013)
Sample D23 replicate sample of BY0016CH (15/4/2013)
Sample D24 replicate sample of SW4 (16/4/2013)
Sample D26 replicate sample of A13 (12/5/2013)
Sample D28 replicate sample of SW4 (13/5/2013)
Sample D29 replicate sample of BY0015CH (18/6/2013)
Sample D30 replicate sample of SW4 (18/6/2013)
Sample D31 replicate sample of AGE10 (25/7/2013)
Sample D33 replicate sample of BY0016CH (19/8/2013)
Sample D34 replicate sample of BY0014CH (19/9/2013)
Sample D35 replicate sample of SW6 (16/9/2013)
Sample D37 replicate sample of A14 (15/10/2013)

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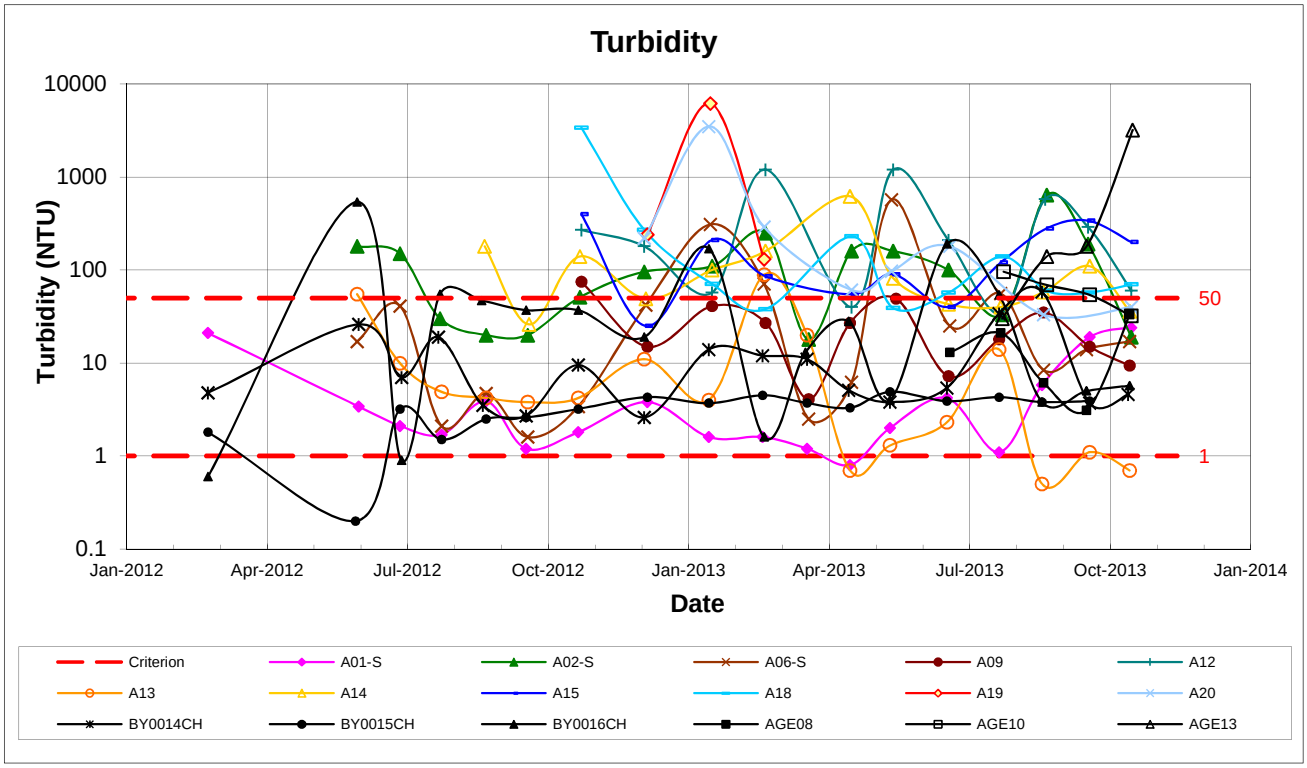
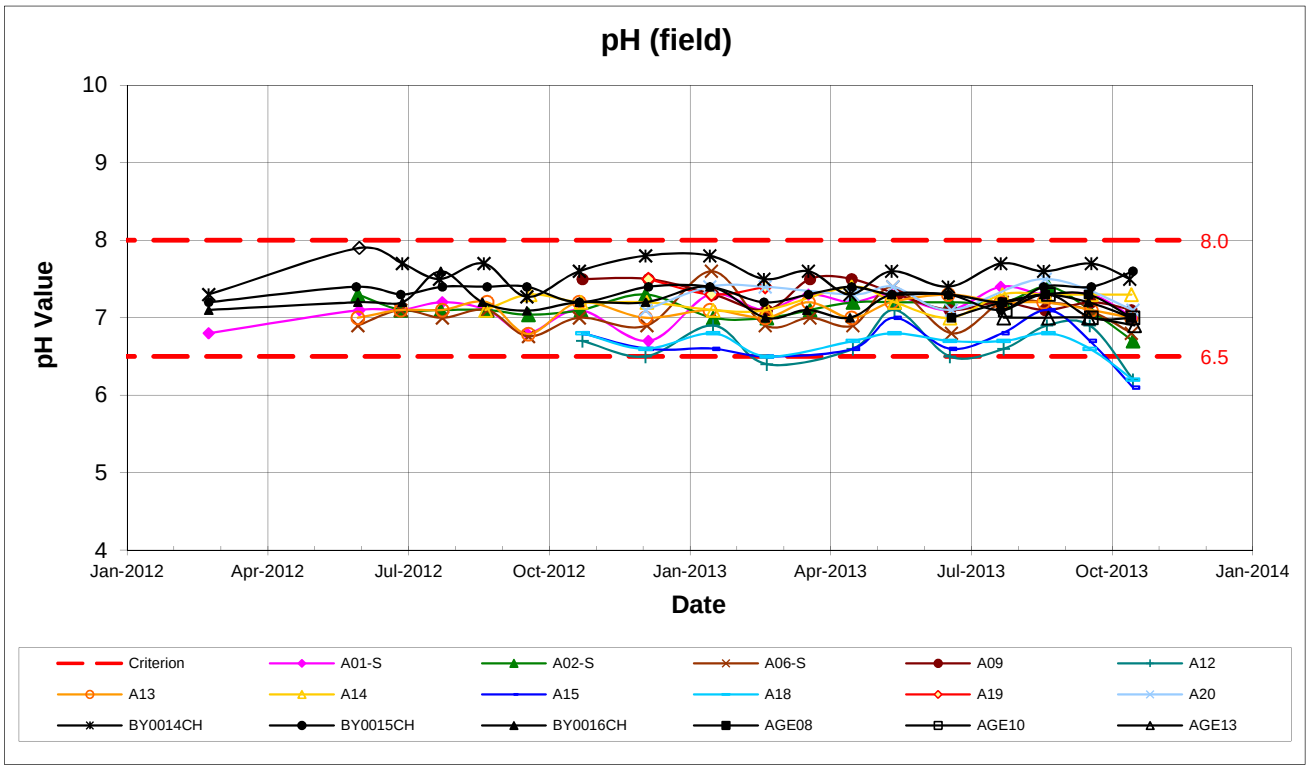
Proposed Coal Mine, Bylong, Mid-Western NSW

GROUNDWATER QUALITY MONITORING

Period: February 2012 to October 2013 **Project:** 49761.03





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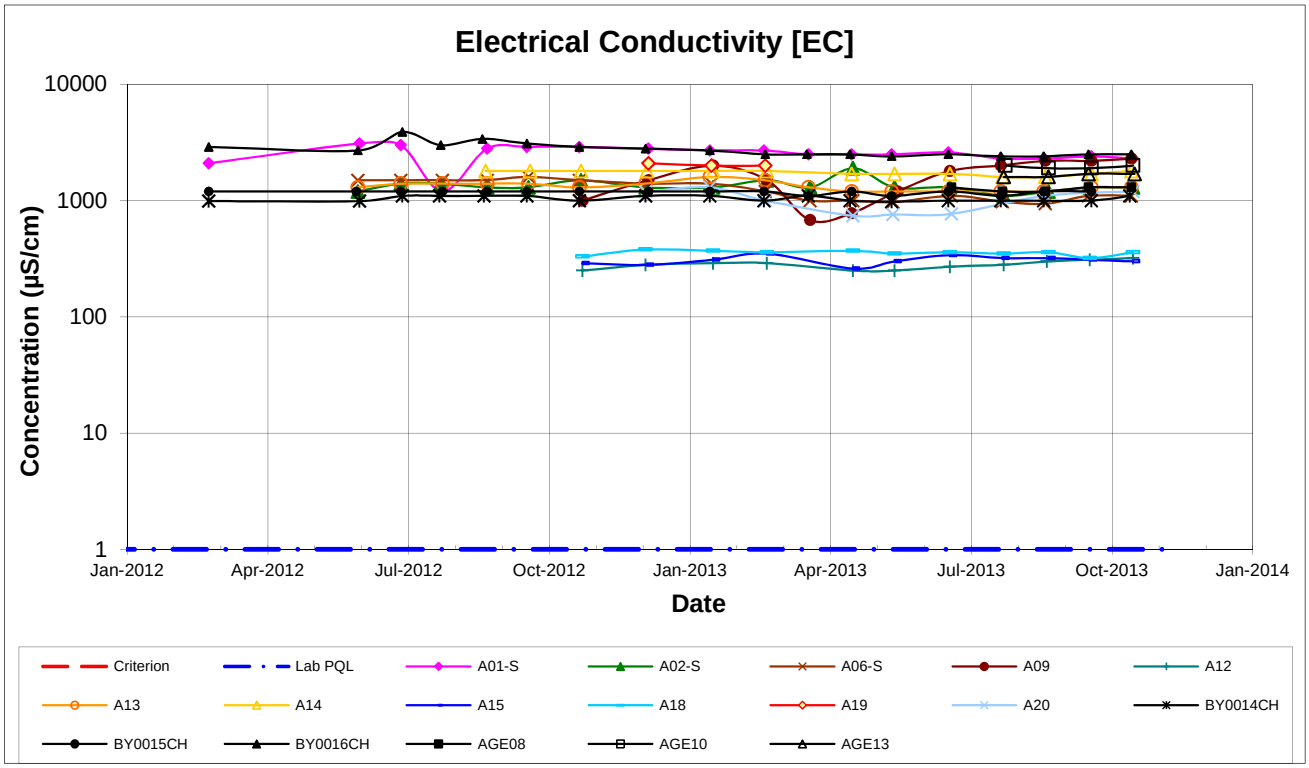

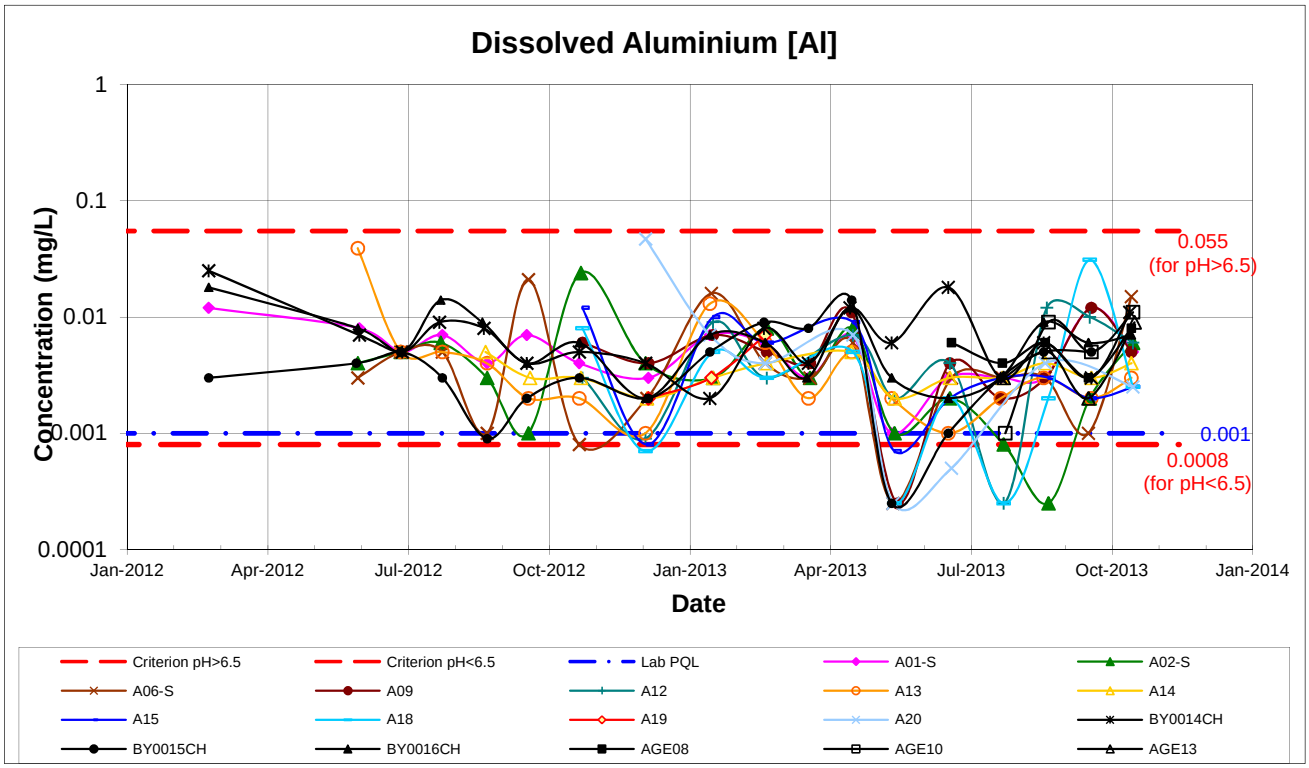

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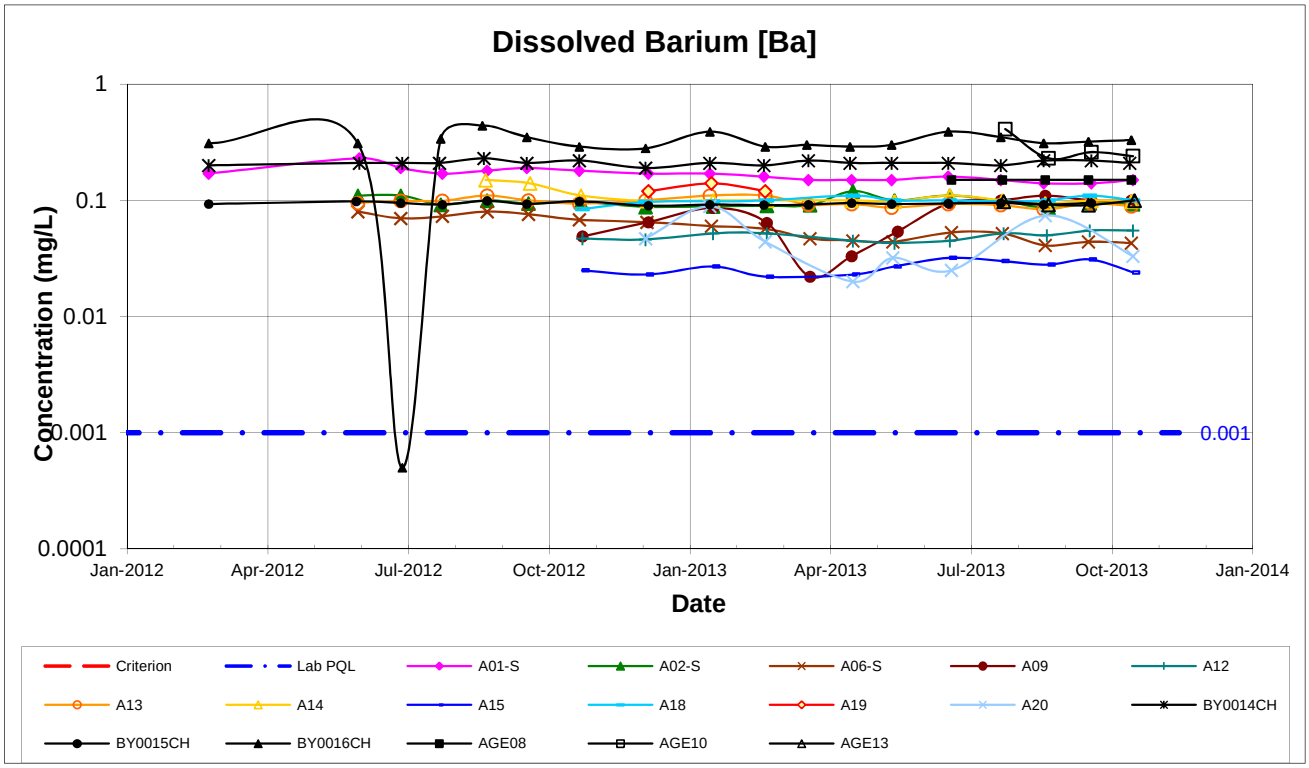

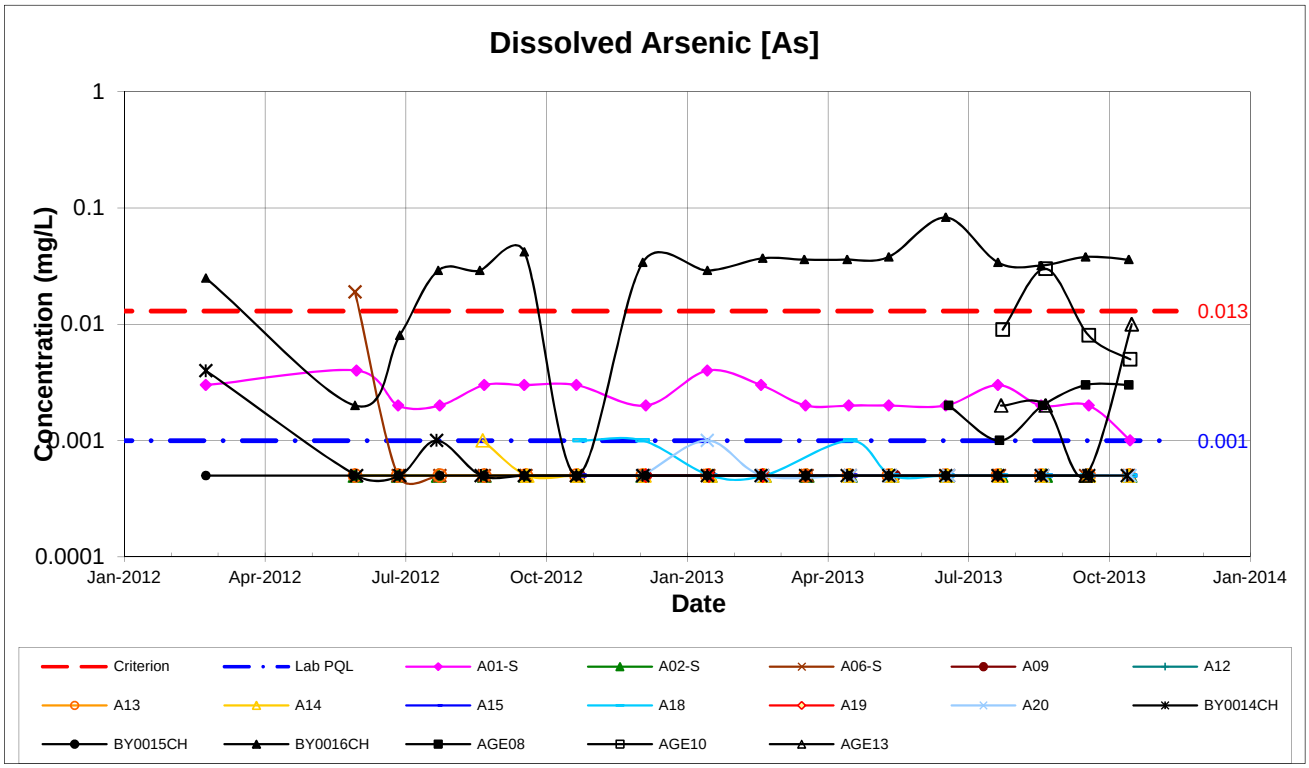

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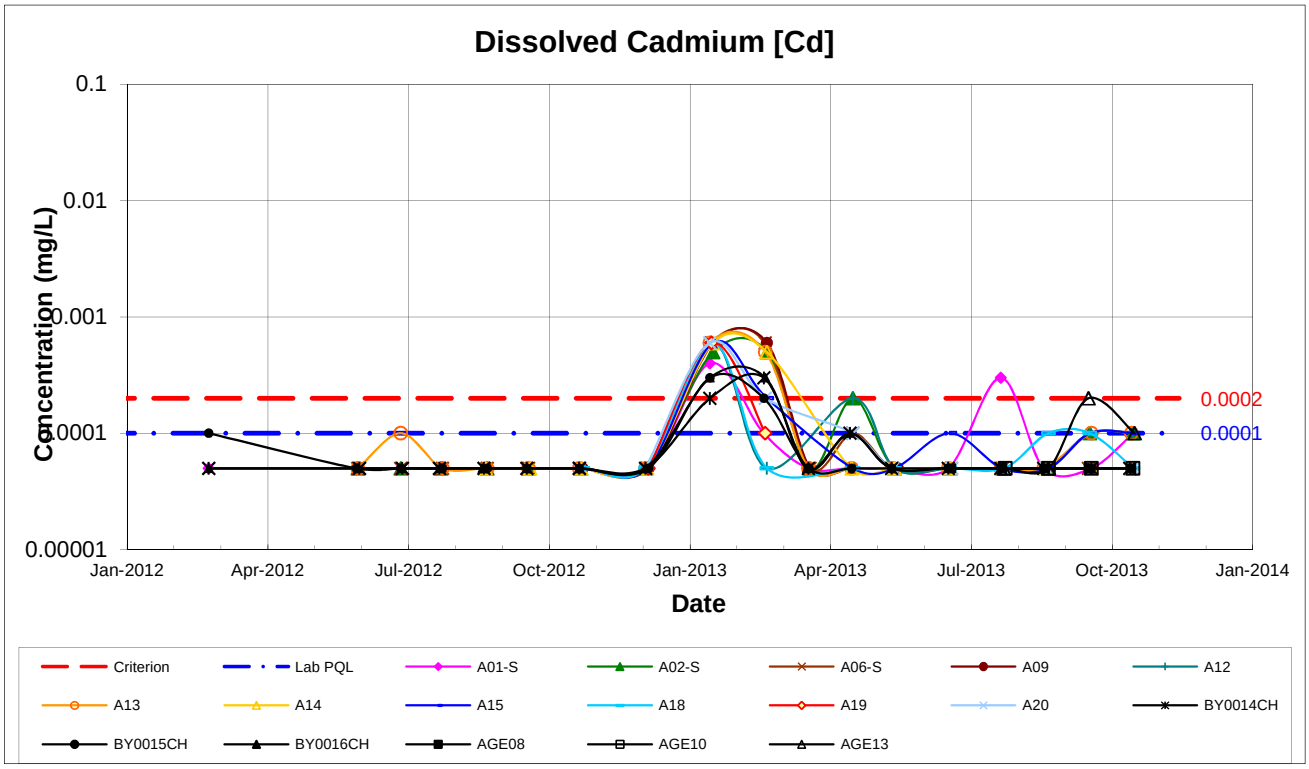

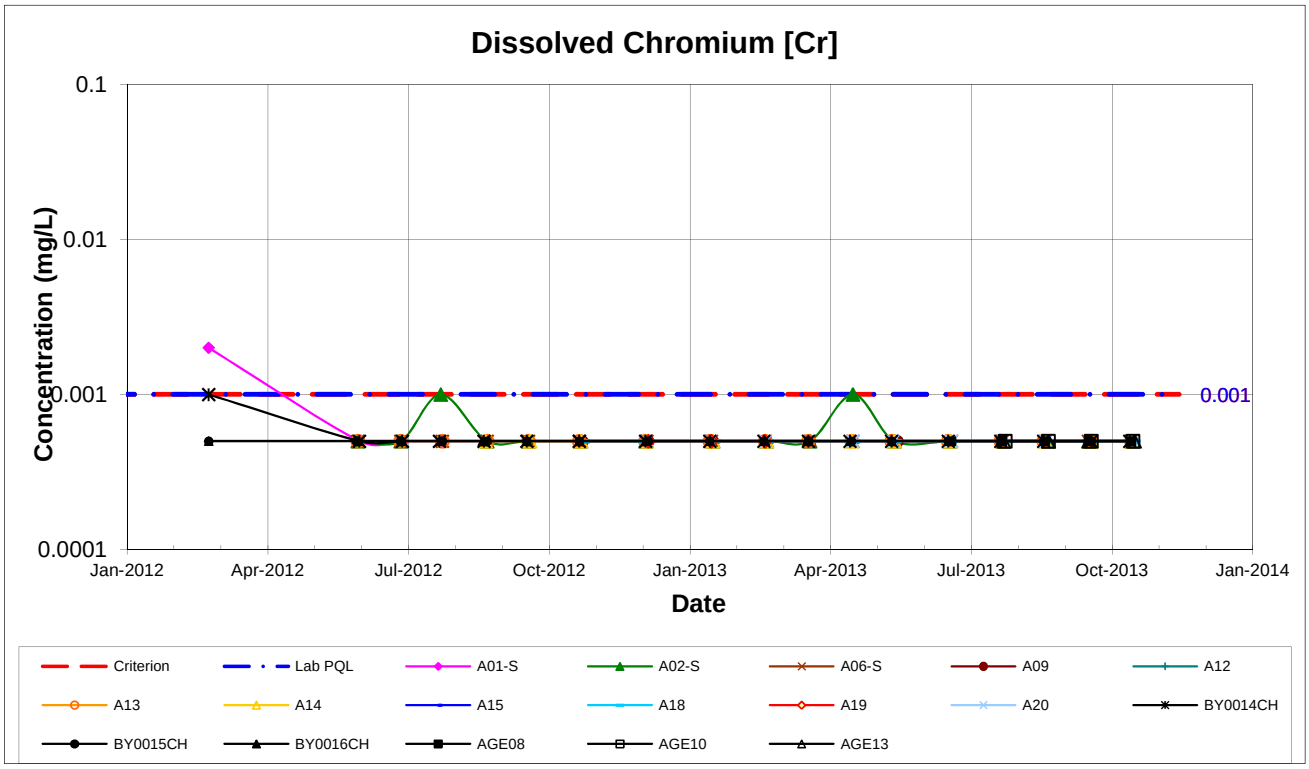

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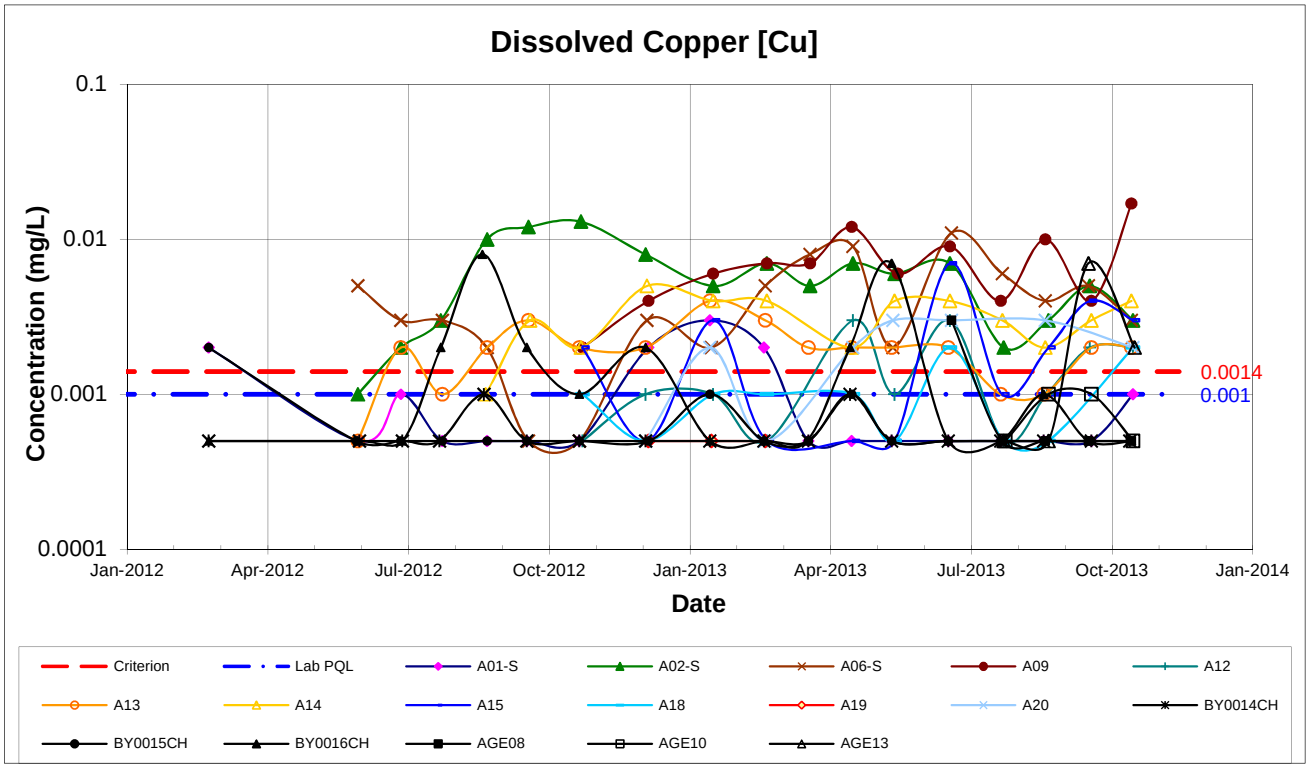

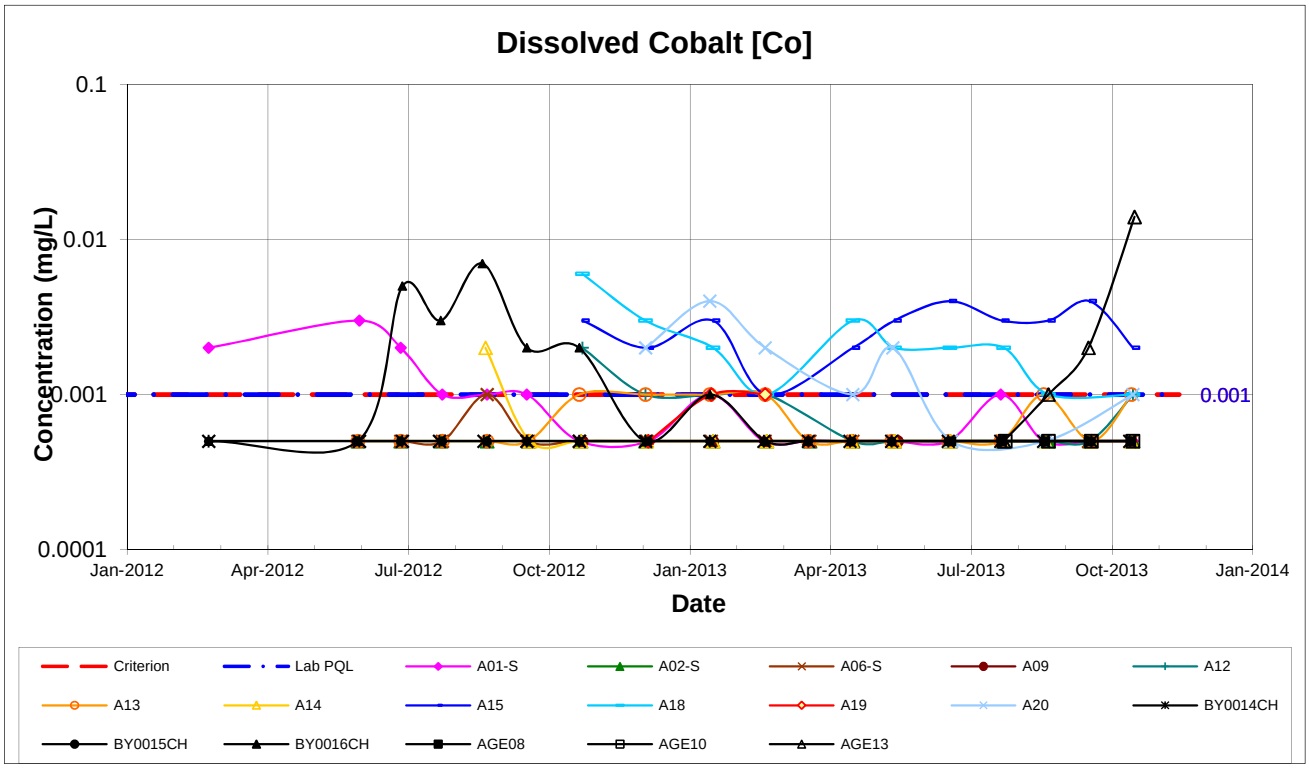

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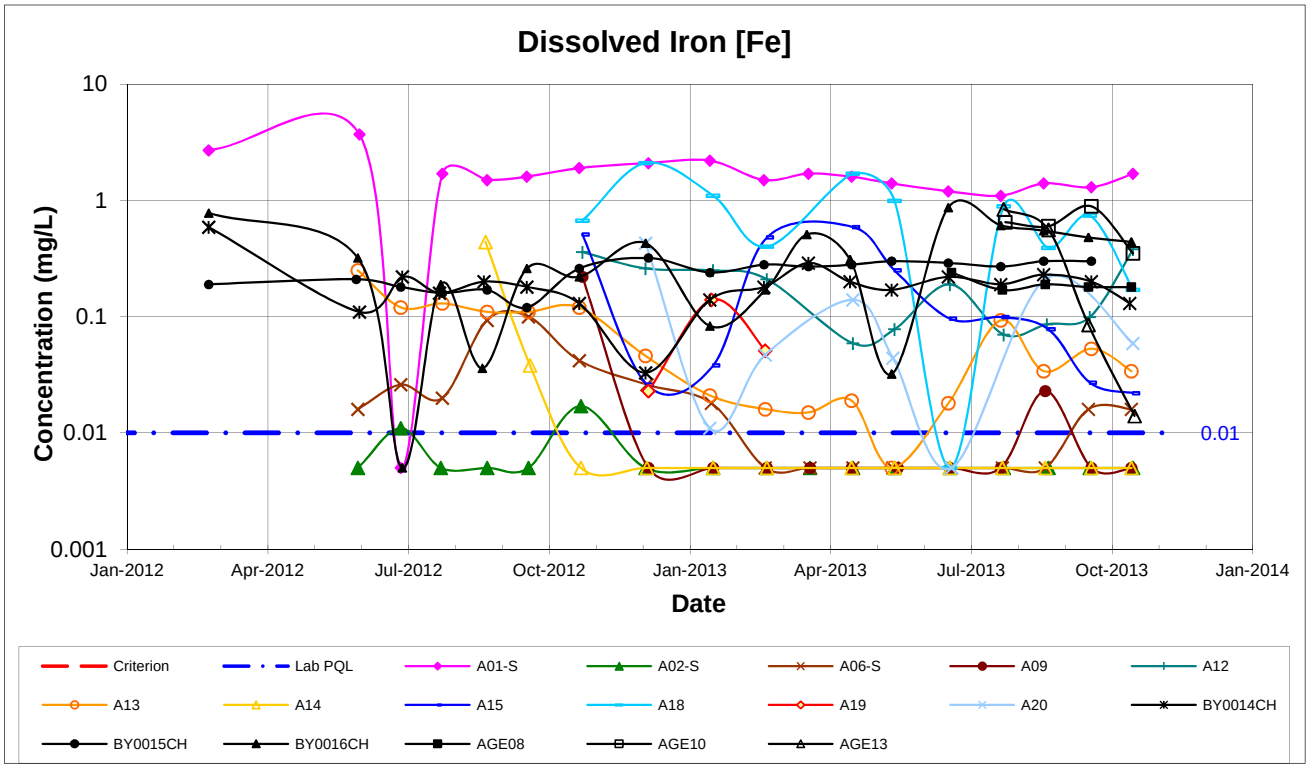

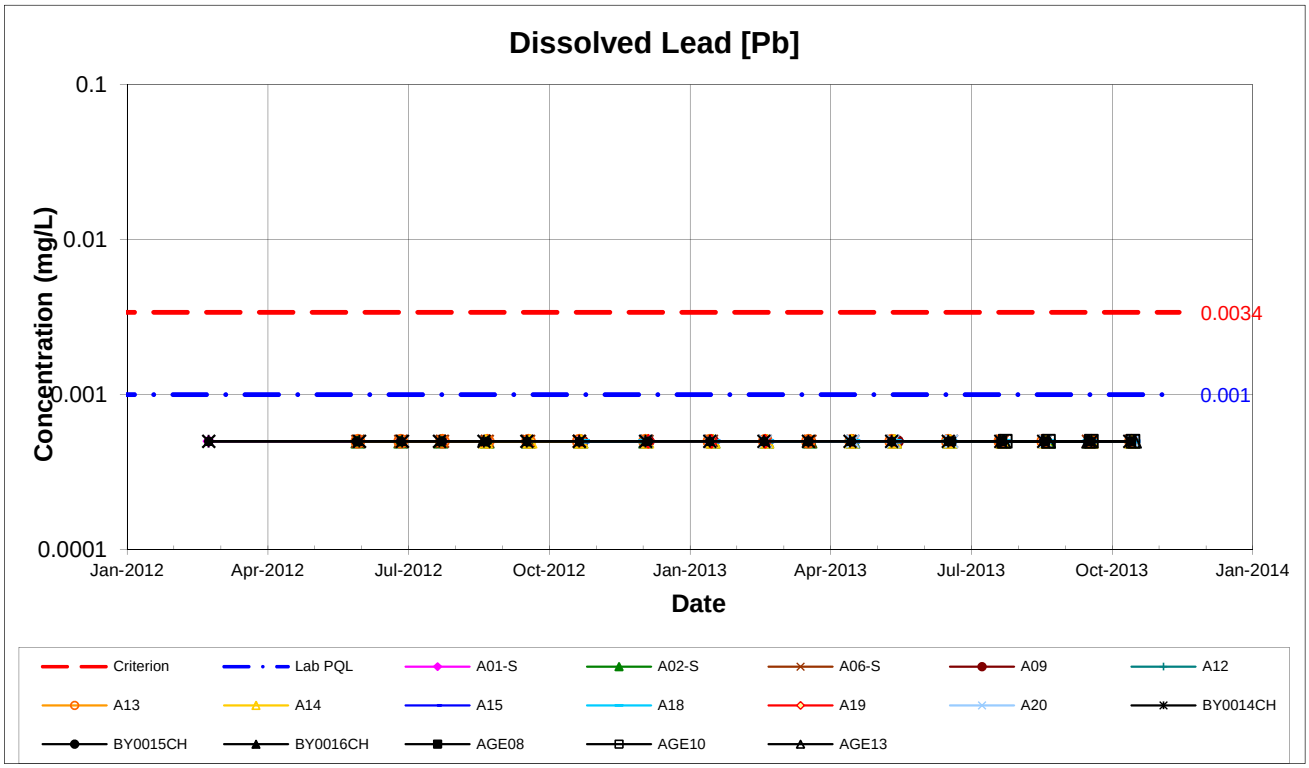

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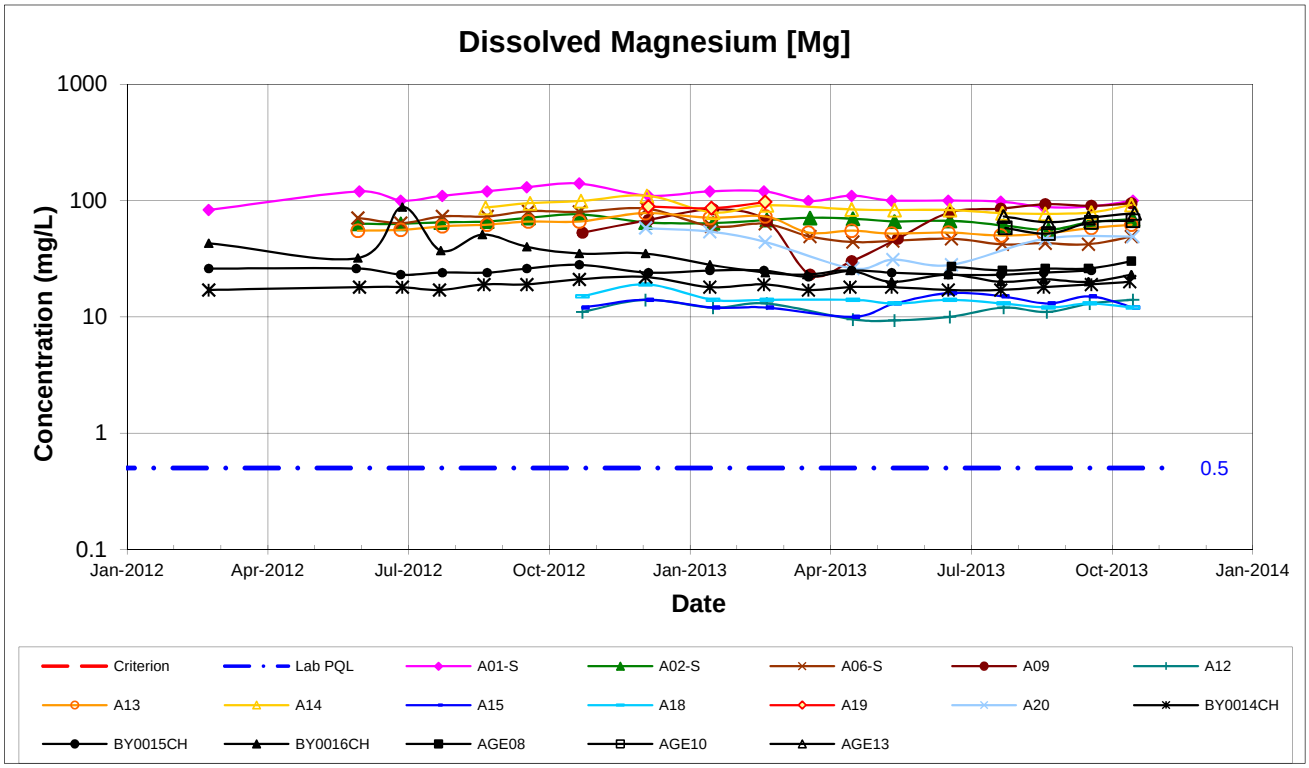

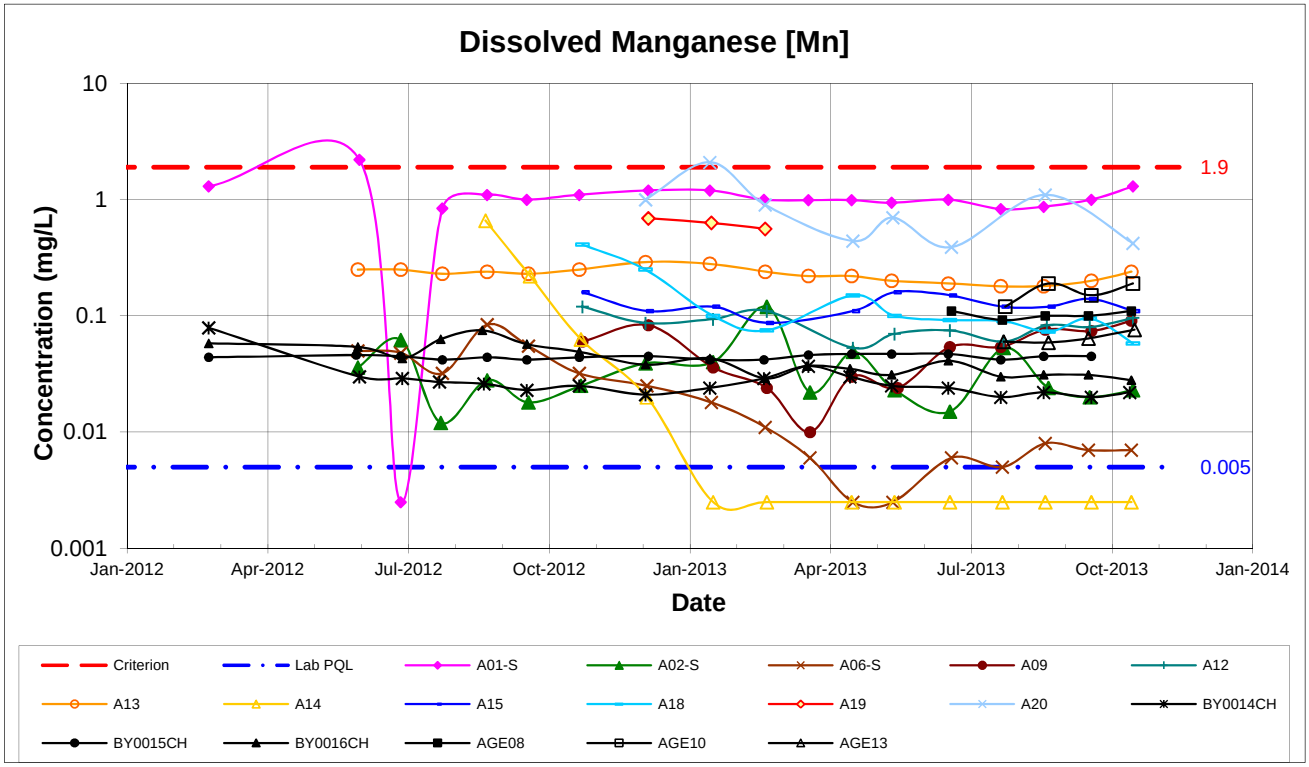

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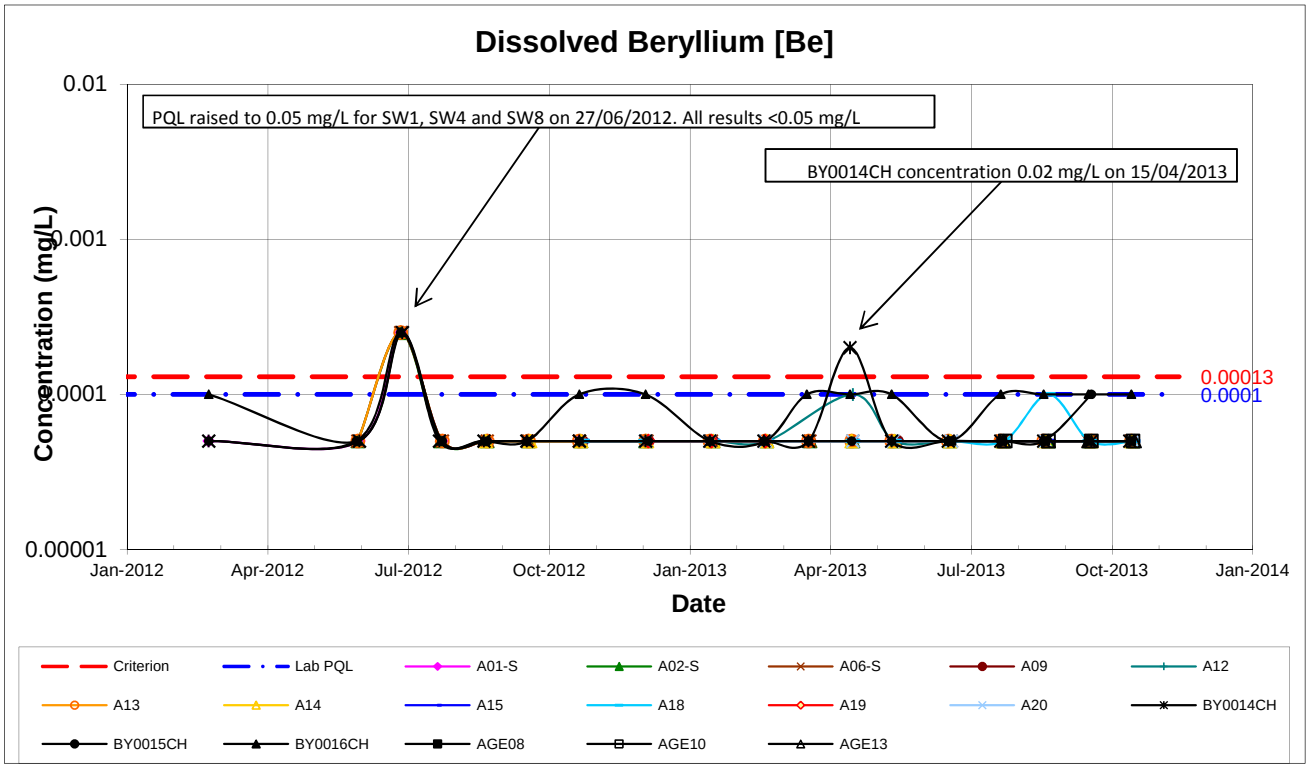

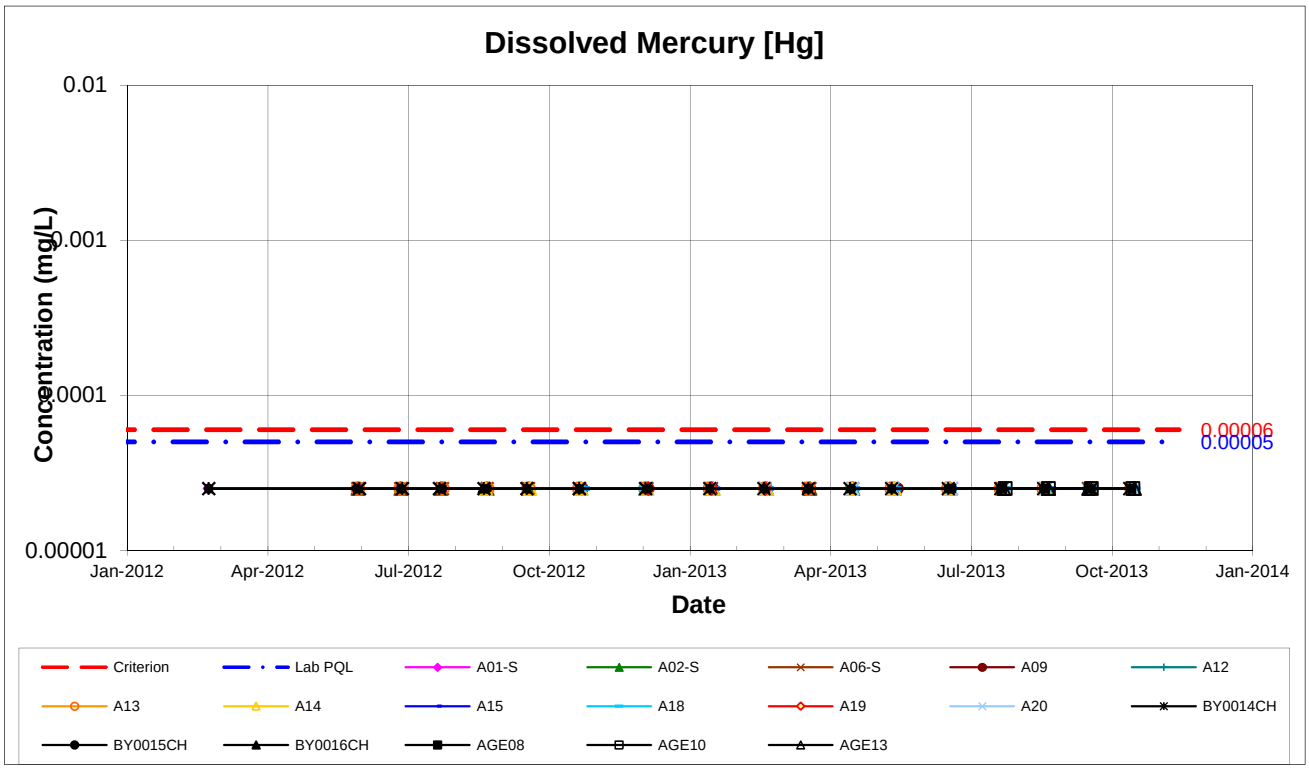

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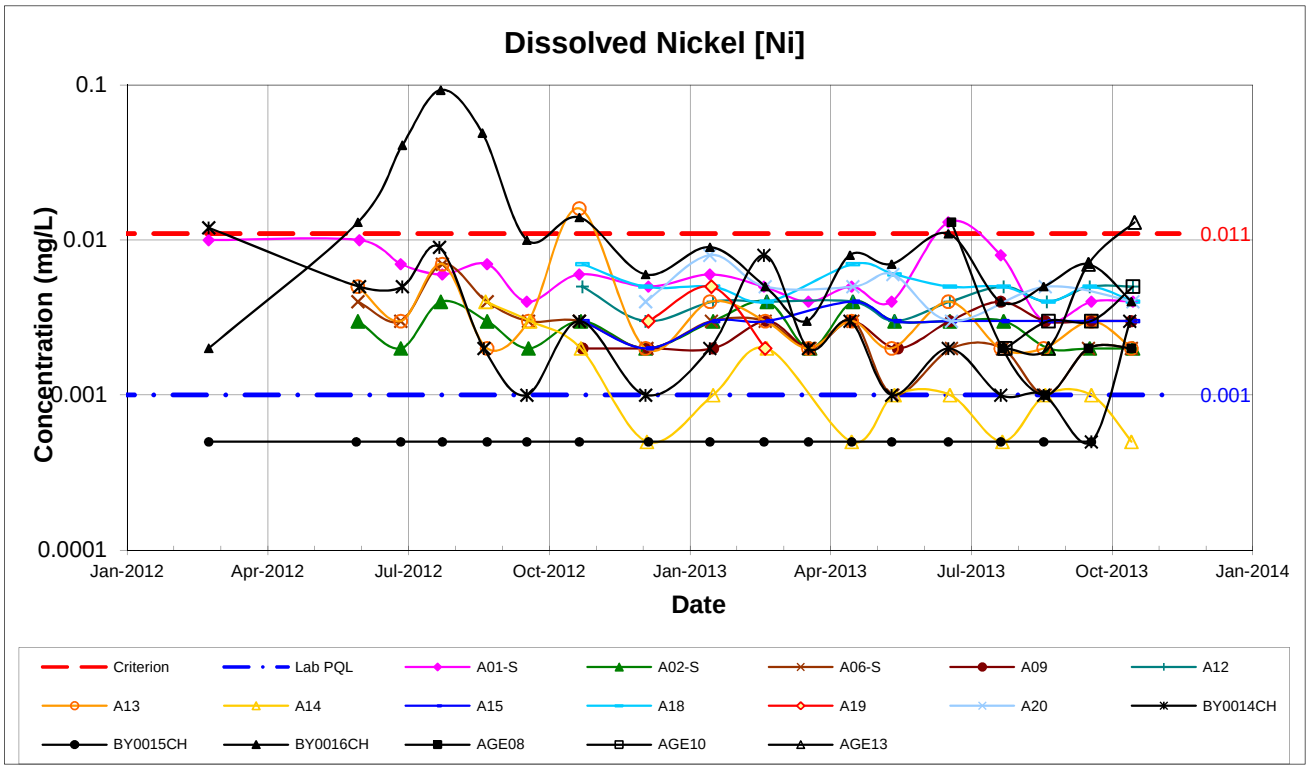

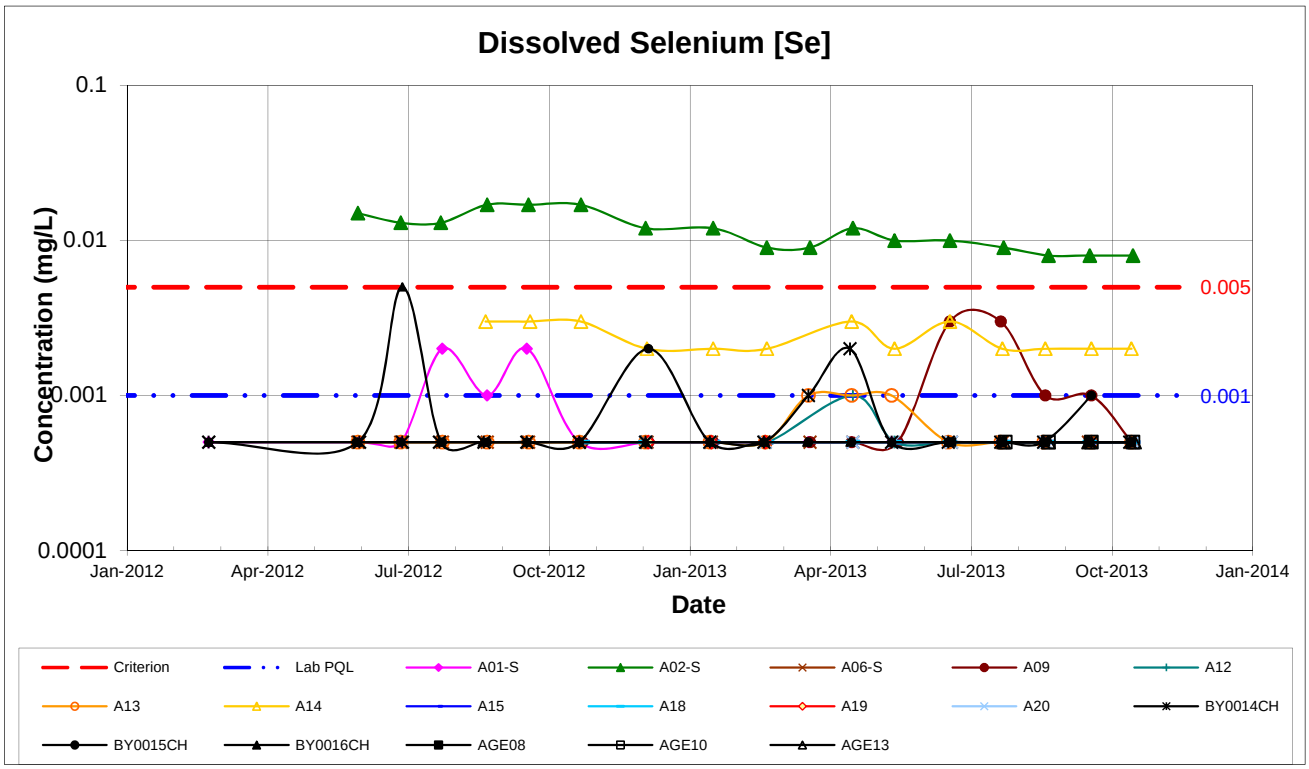

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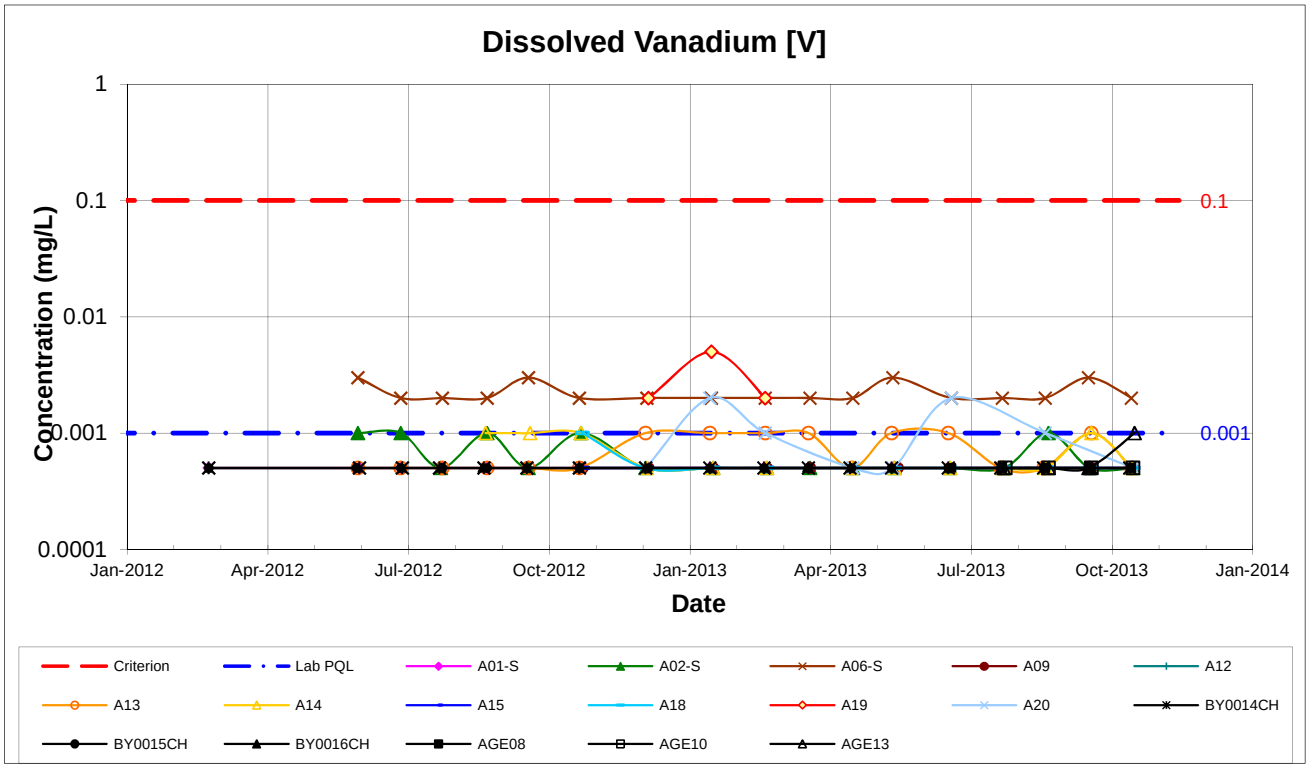

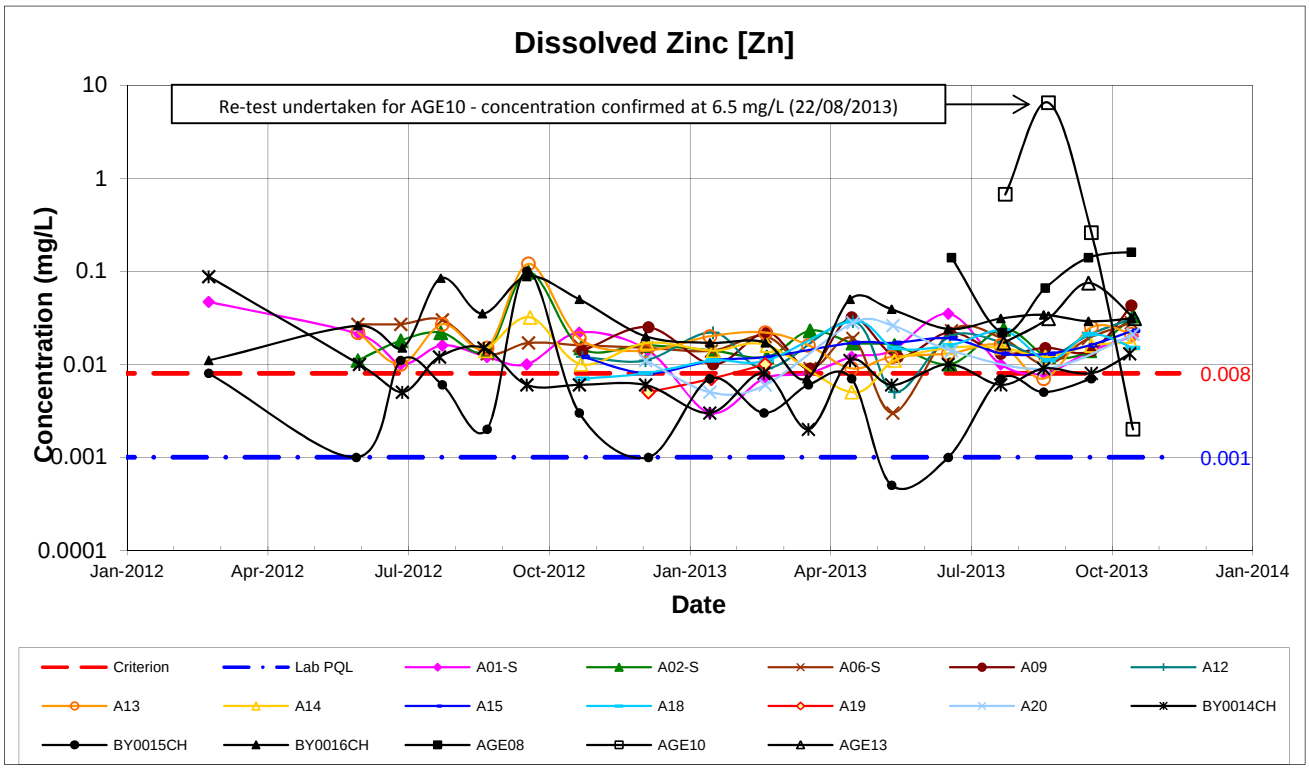

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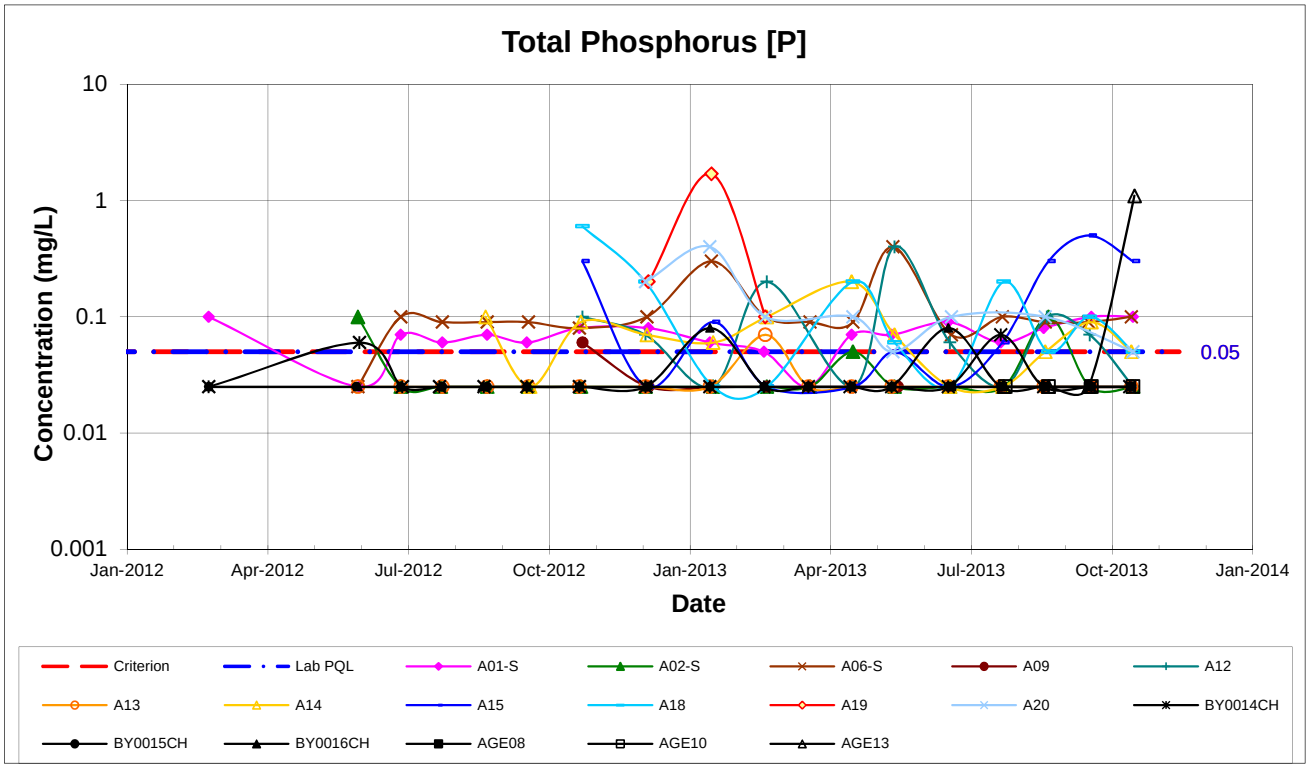

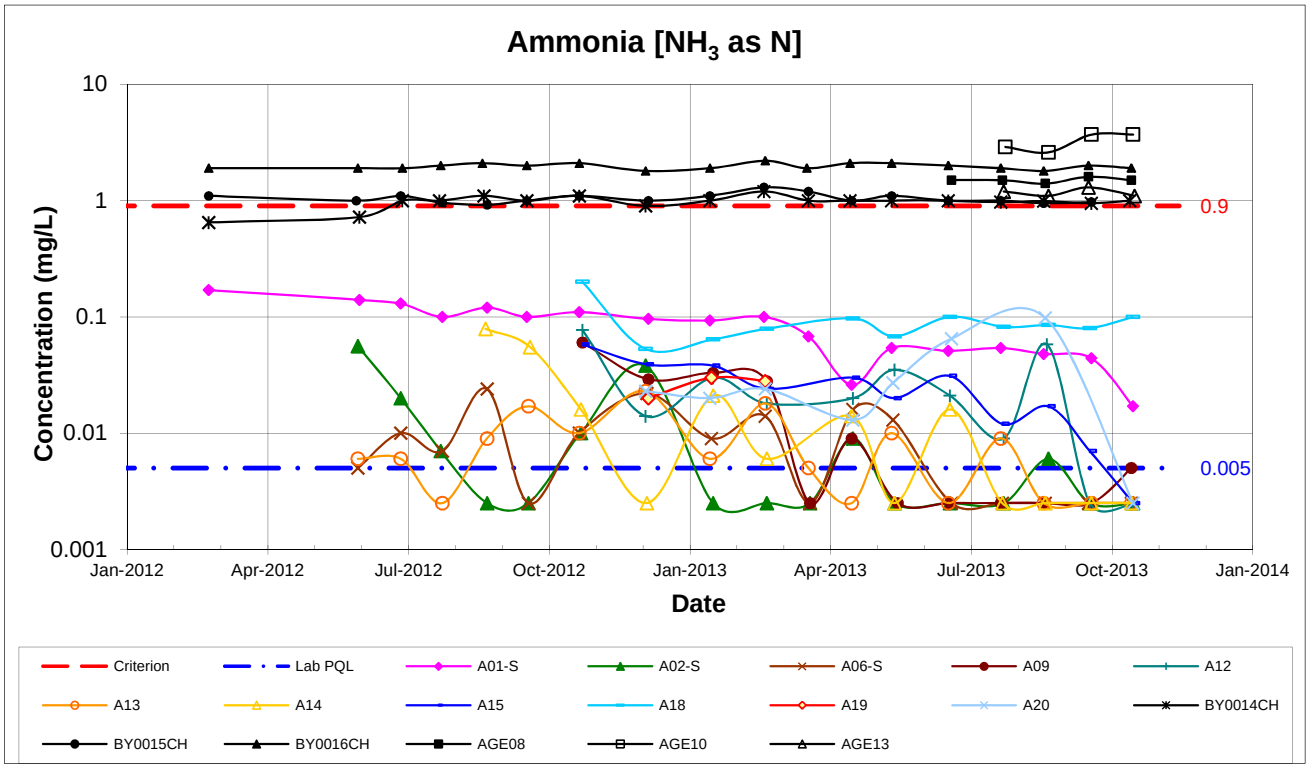

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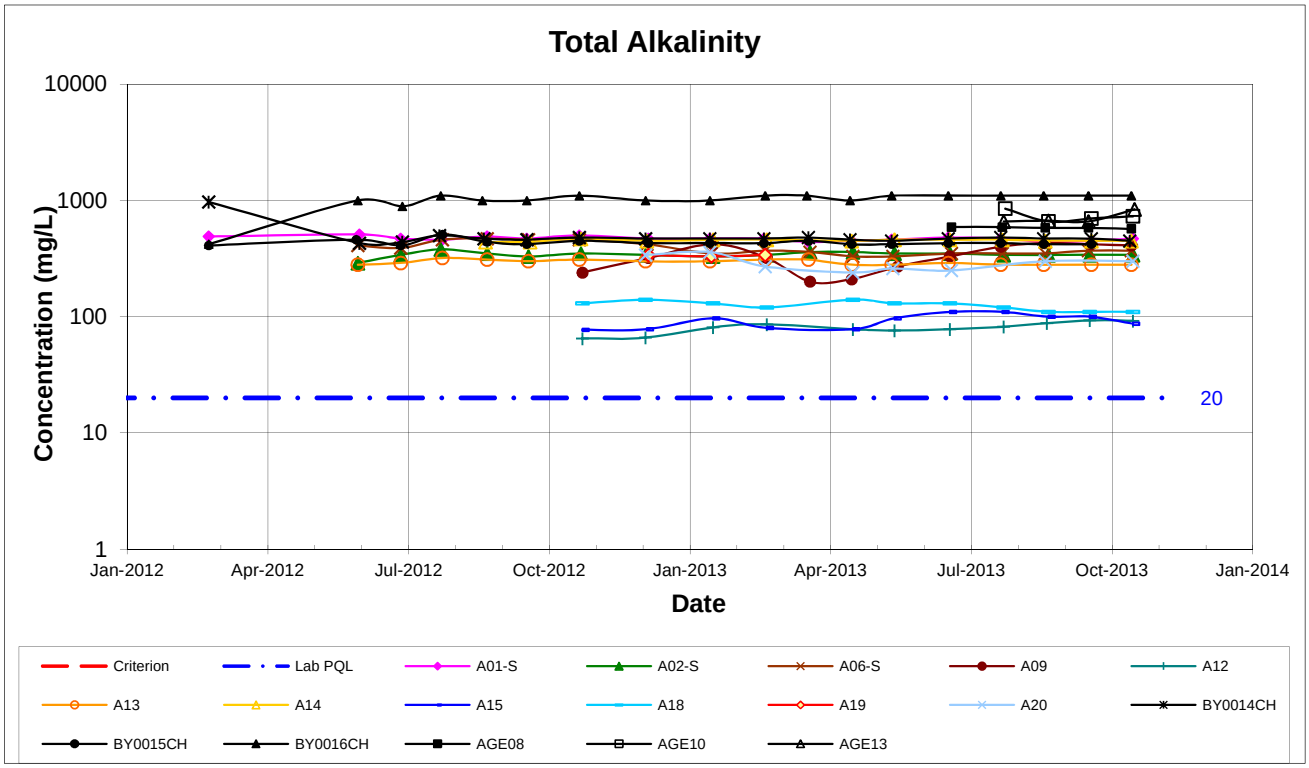

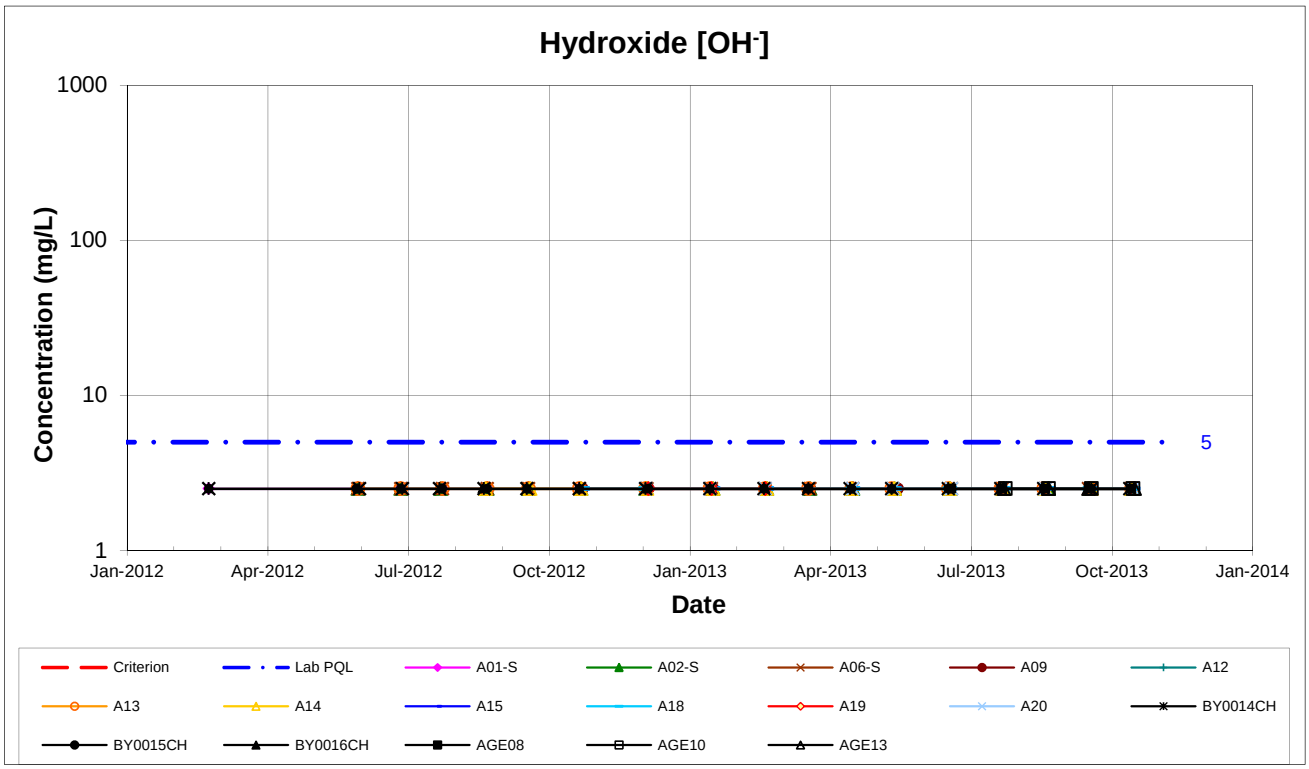

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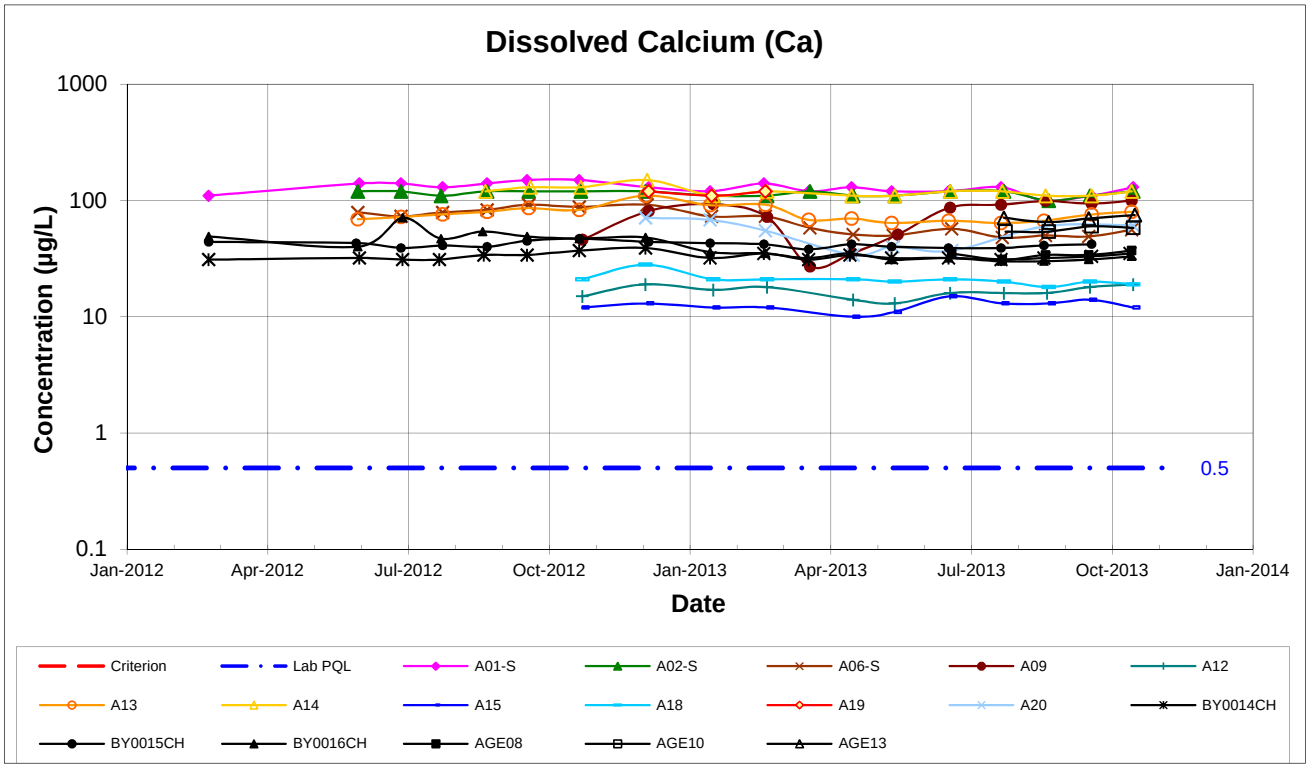

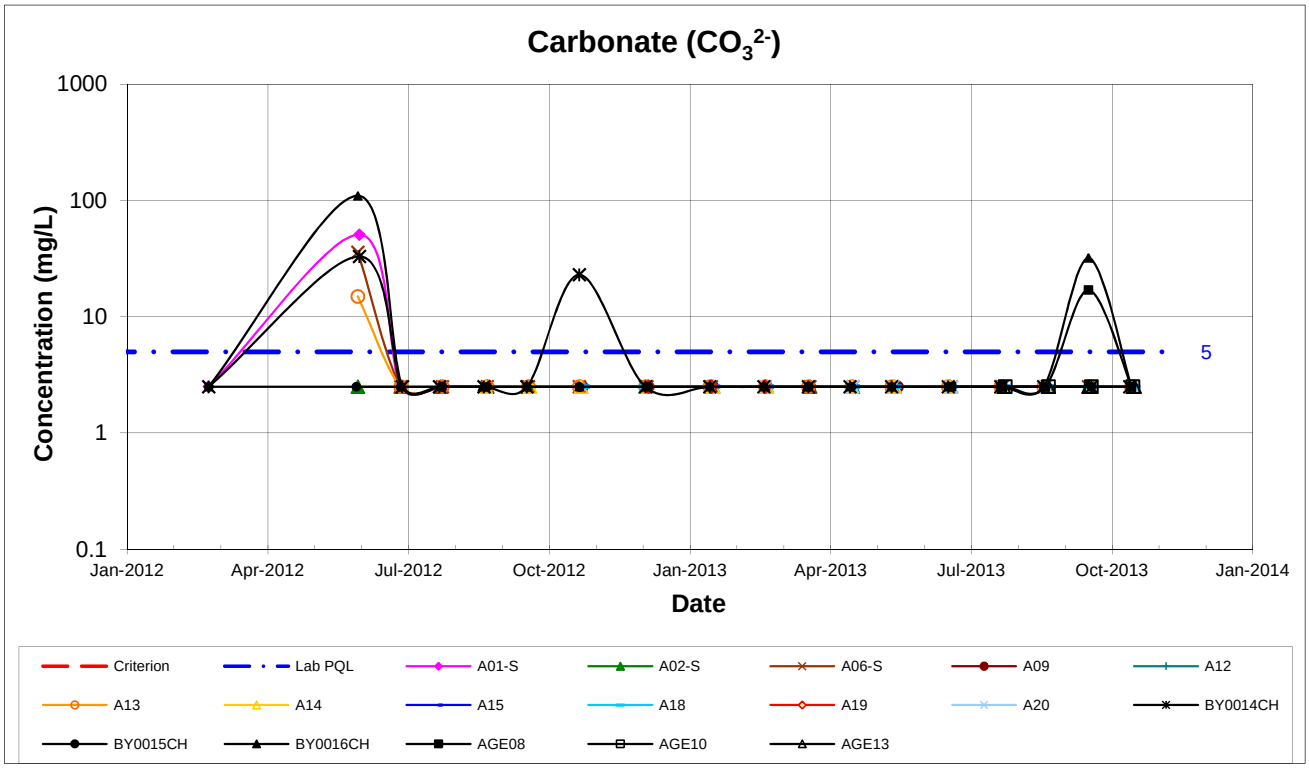

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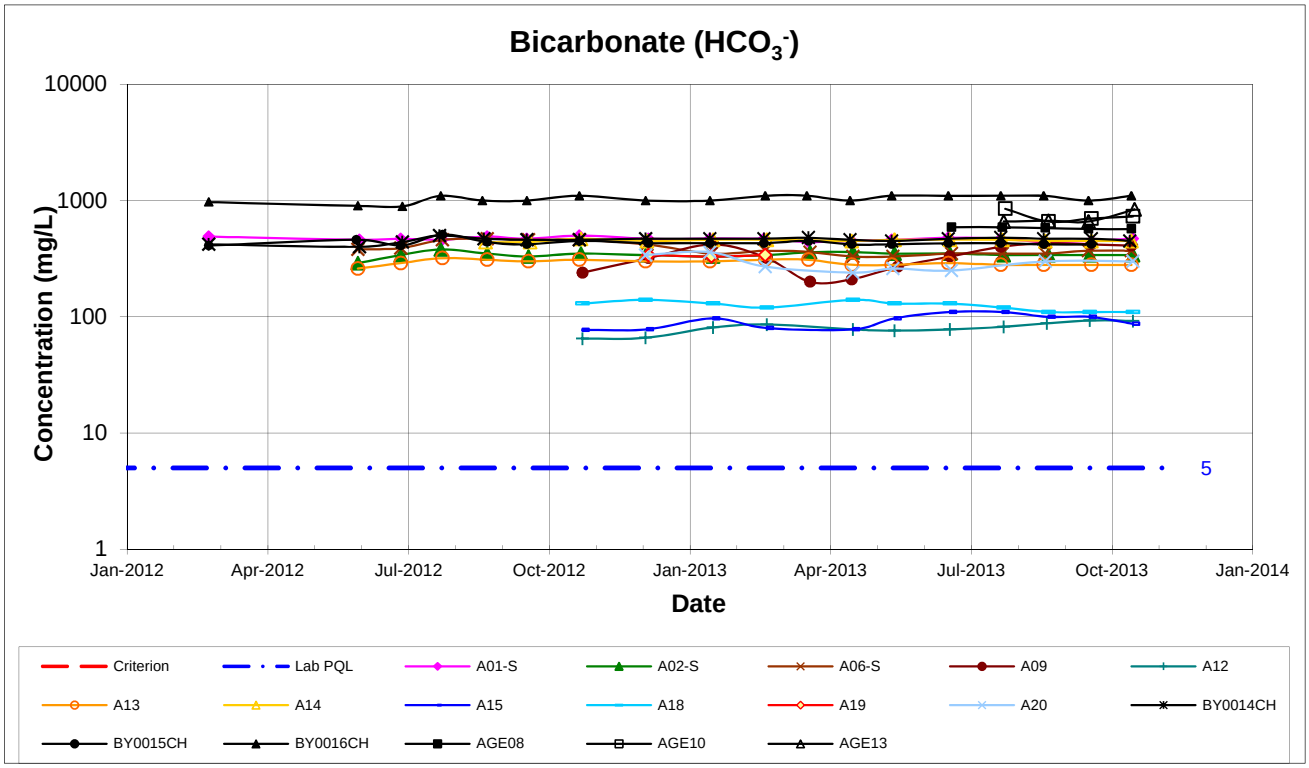

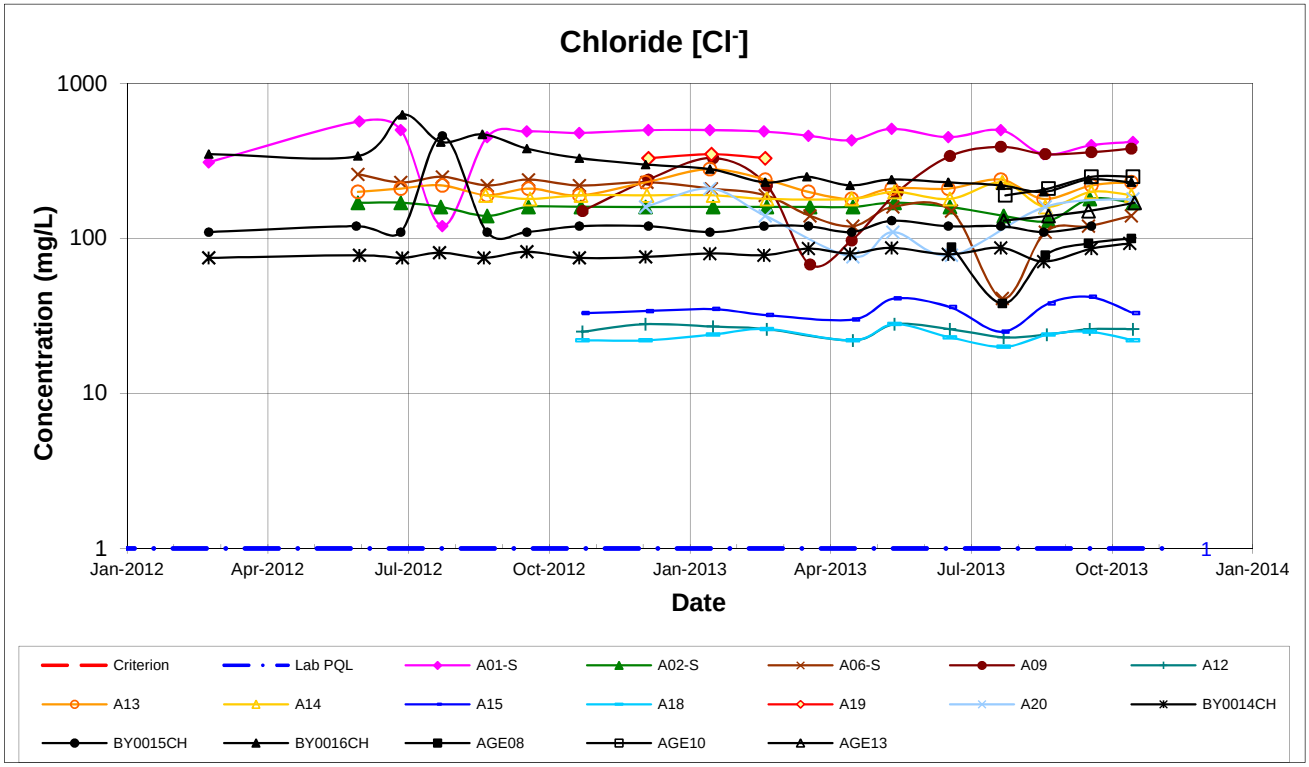

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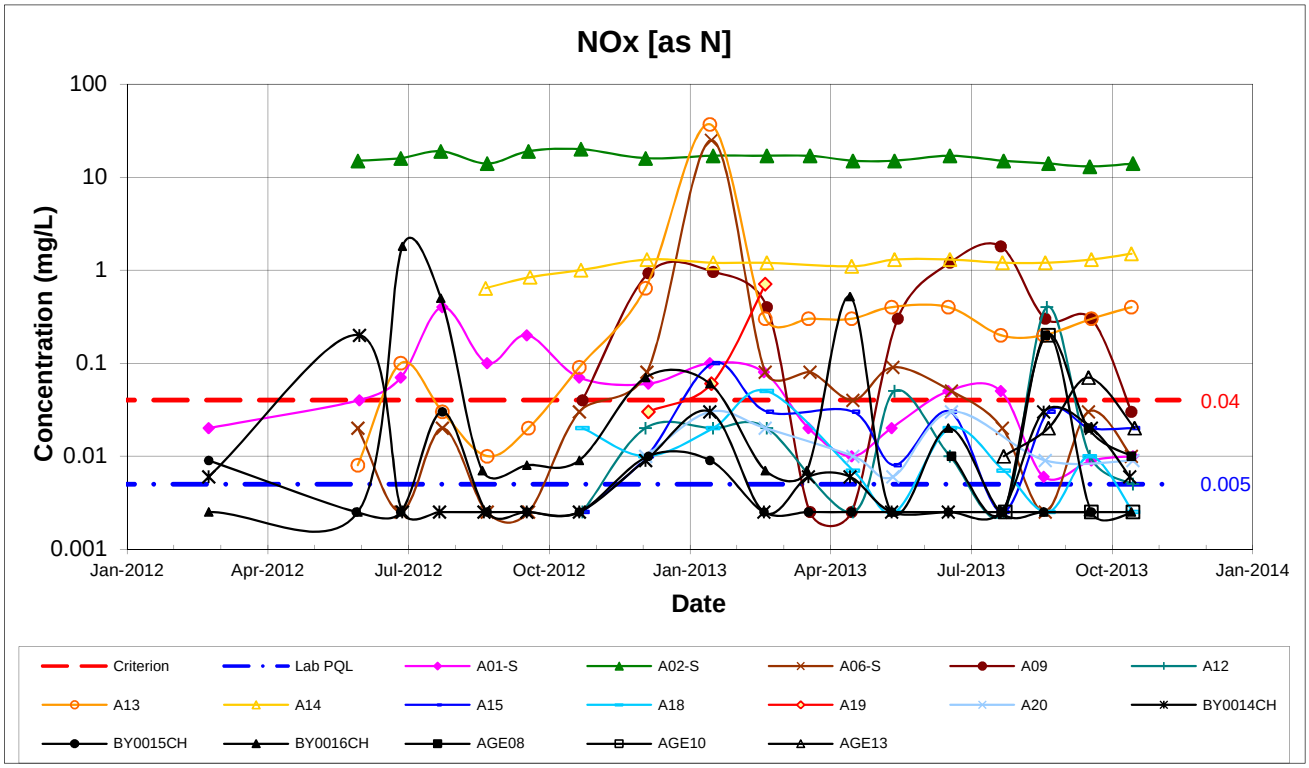

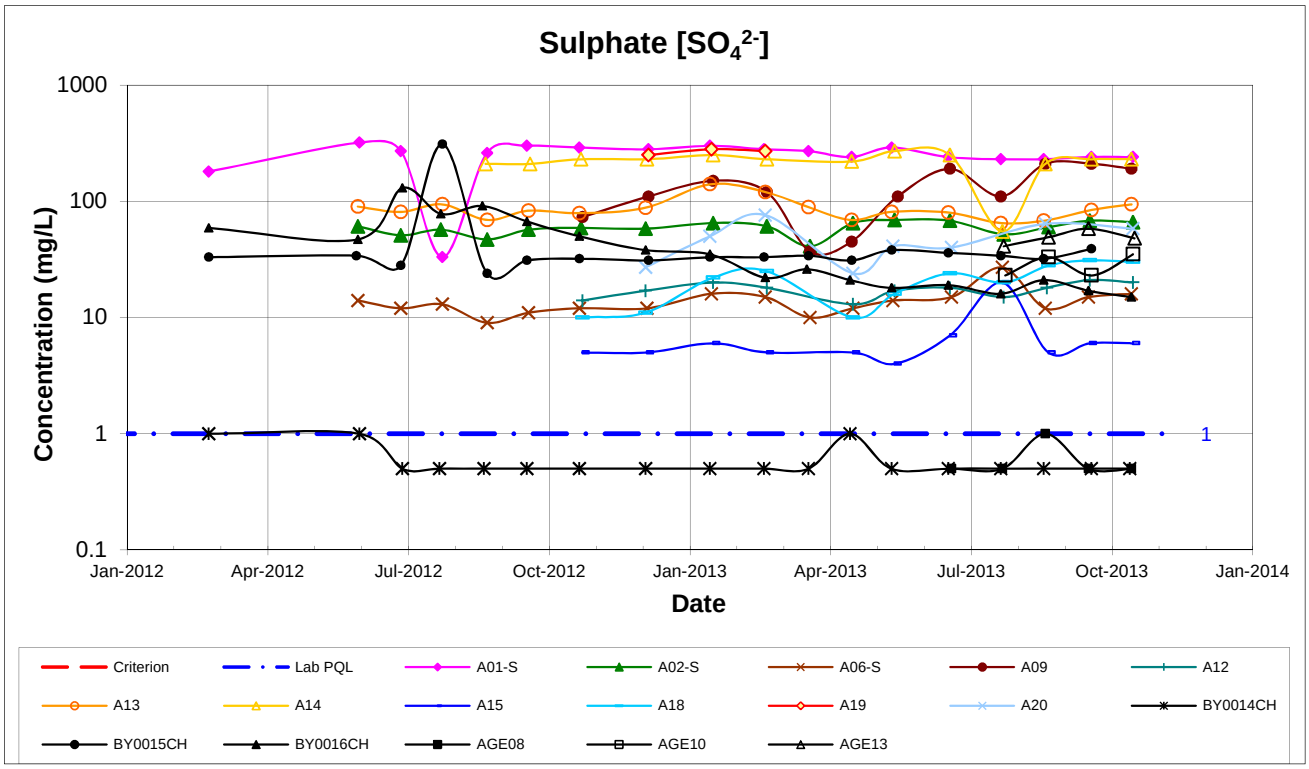

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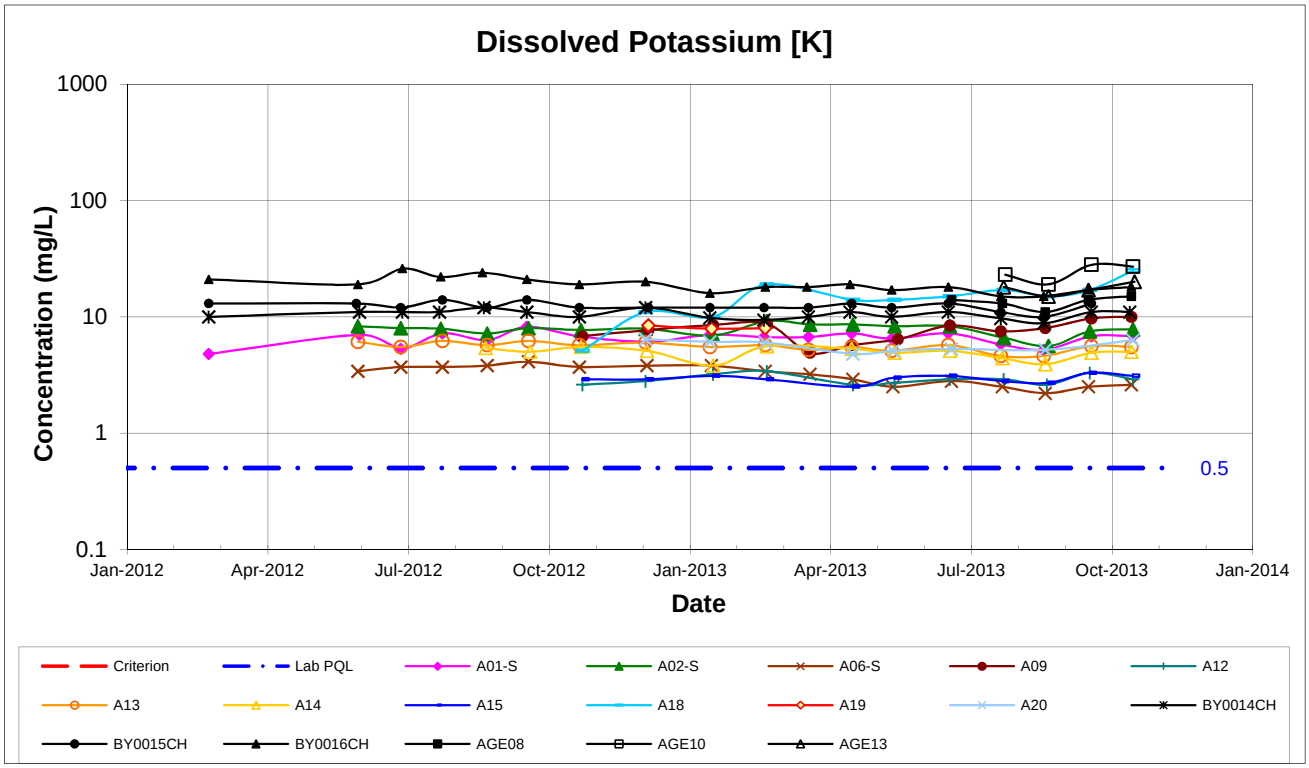

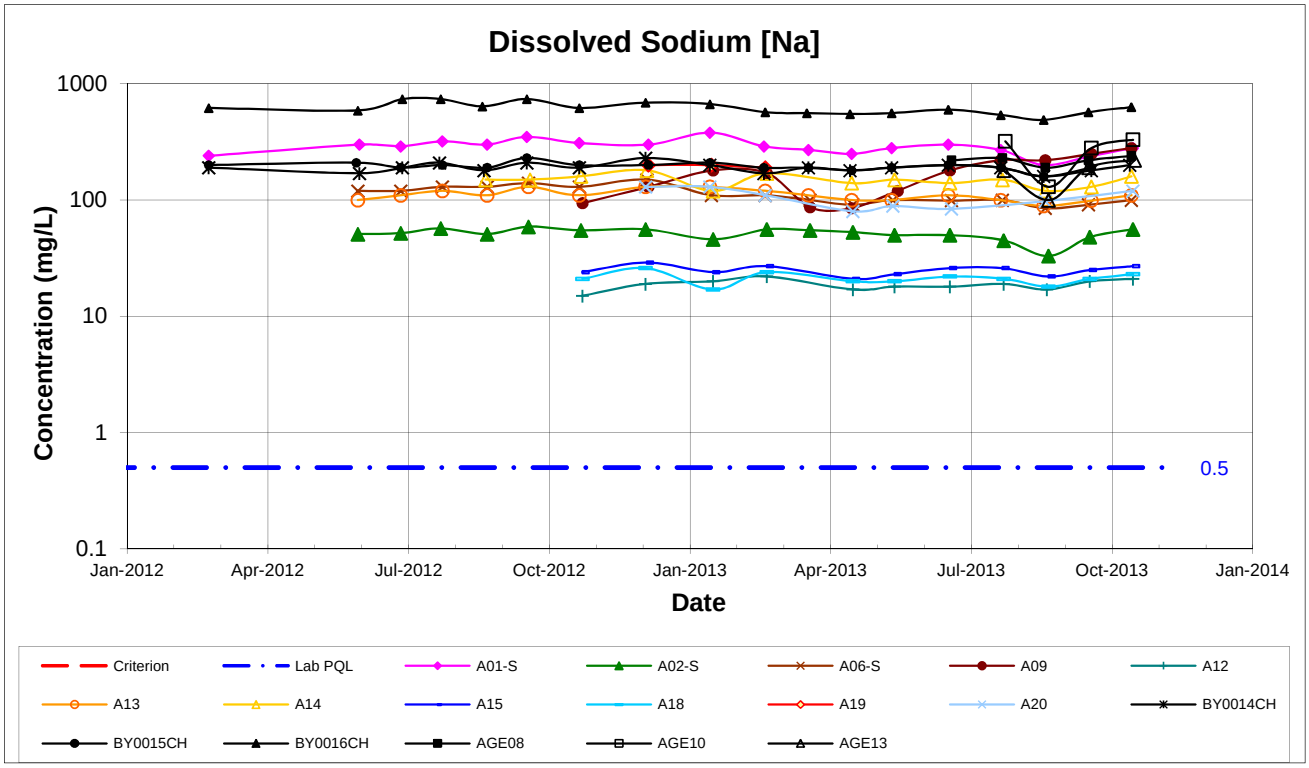

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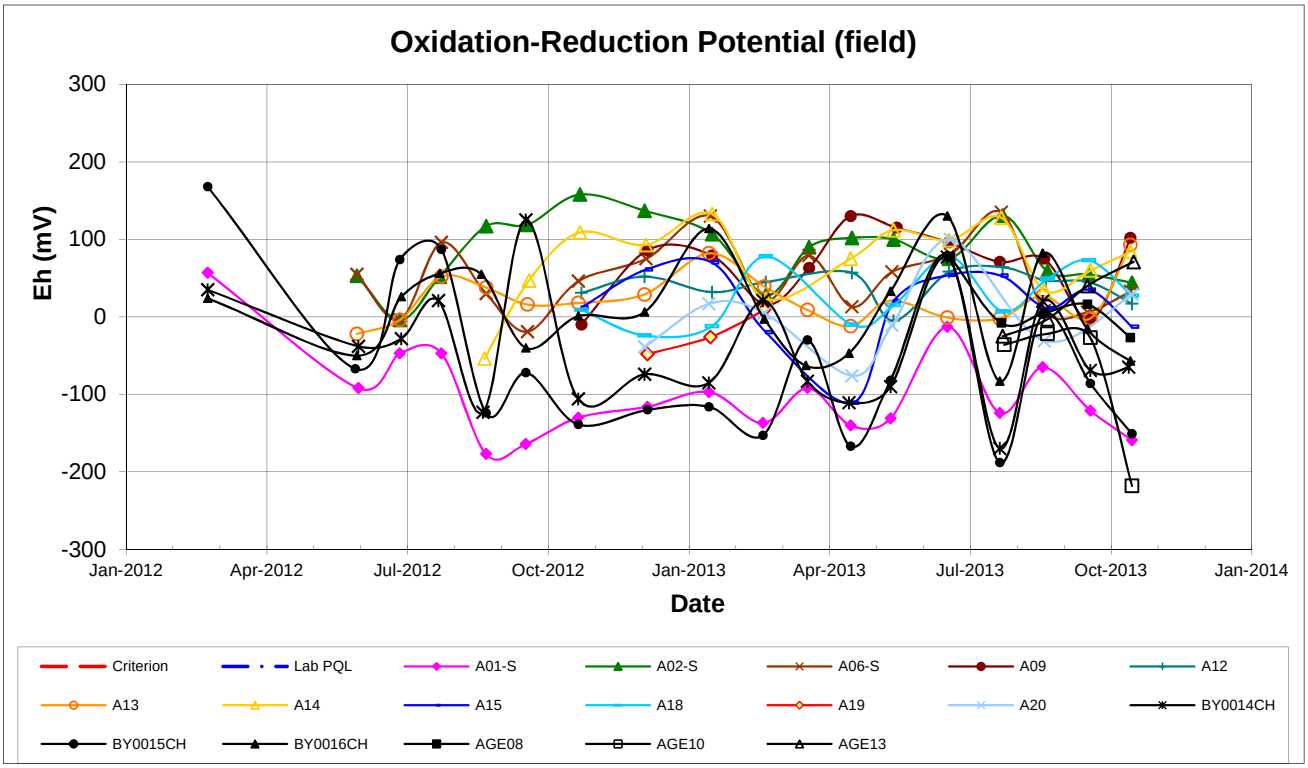

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Proposed Coal Mine, Bylong, Mid-Western NSW

SURFACE WATER QUALITY MONITORING

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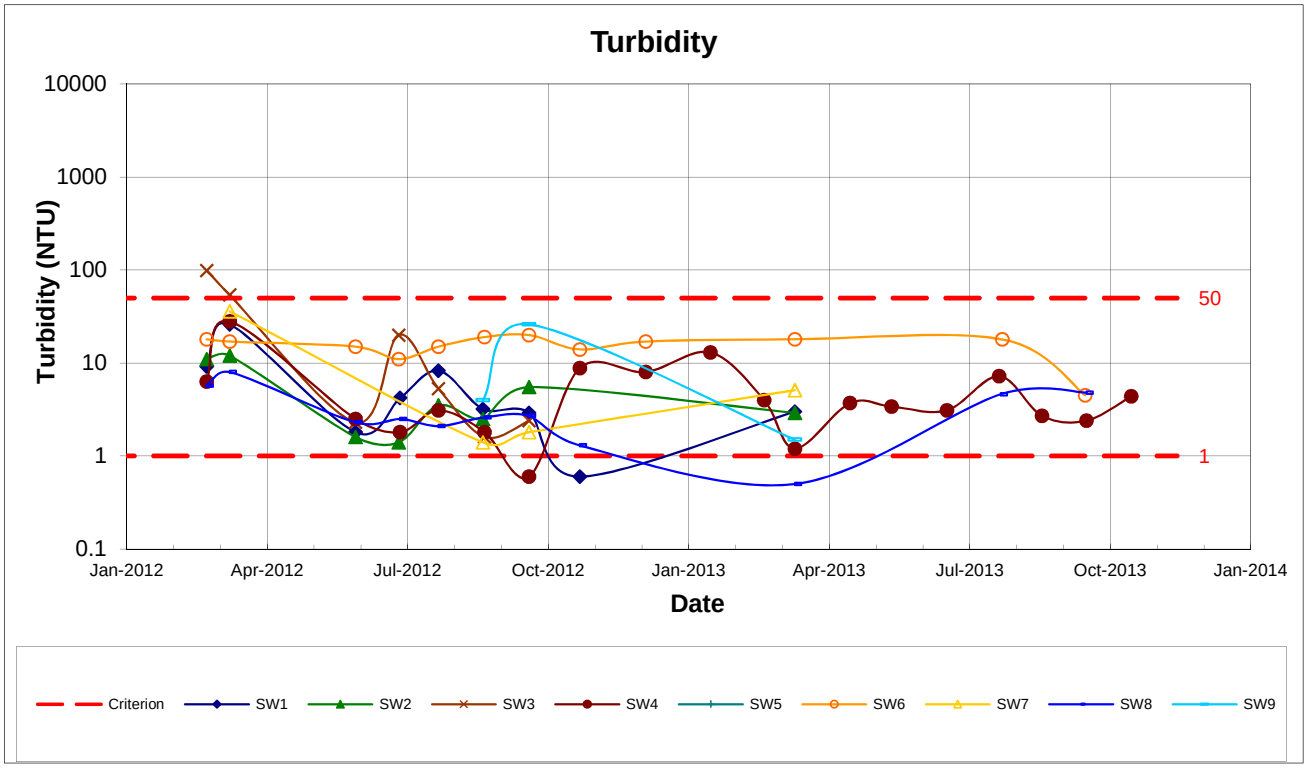

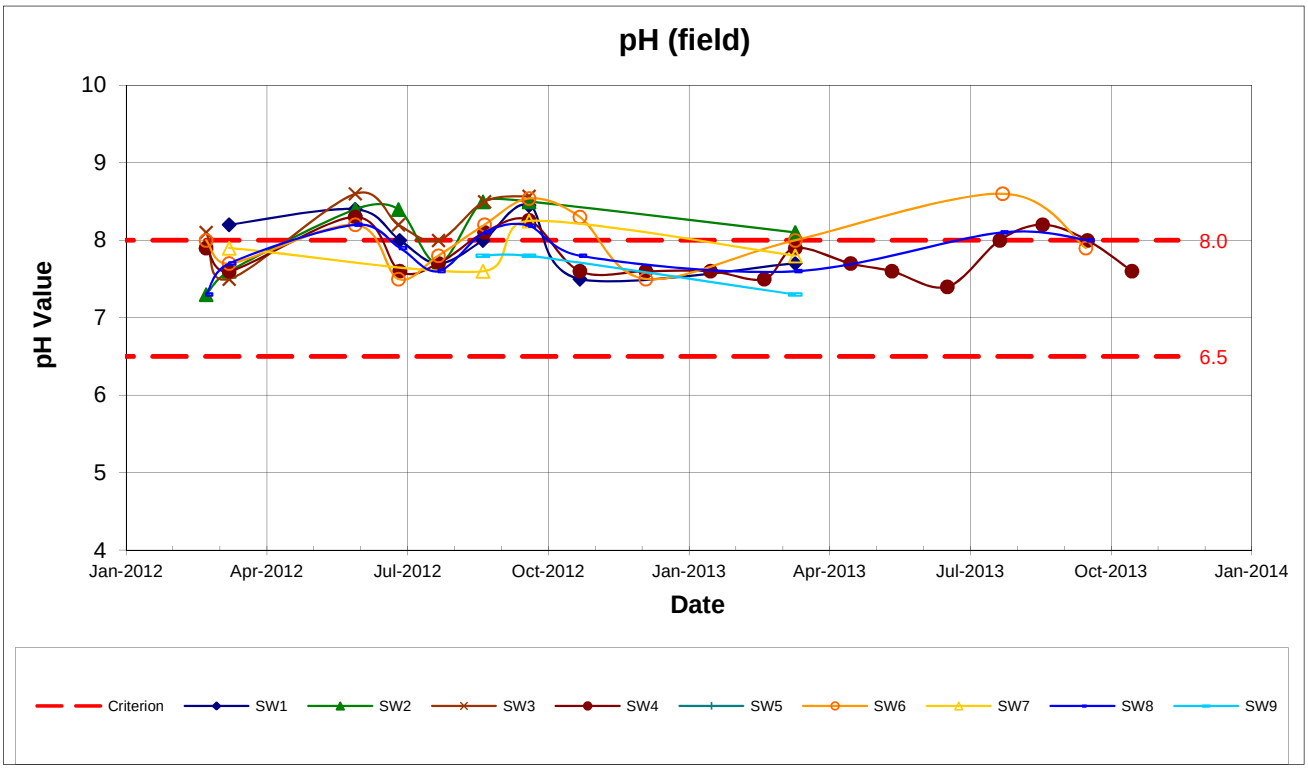

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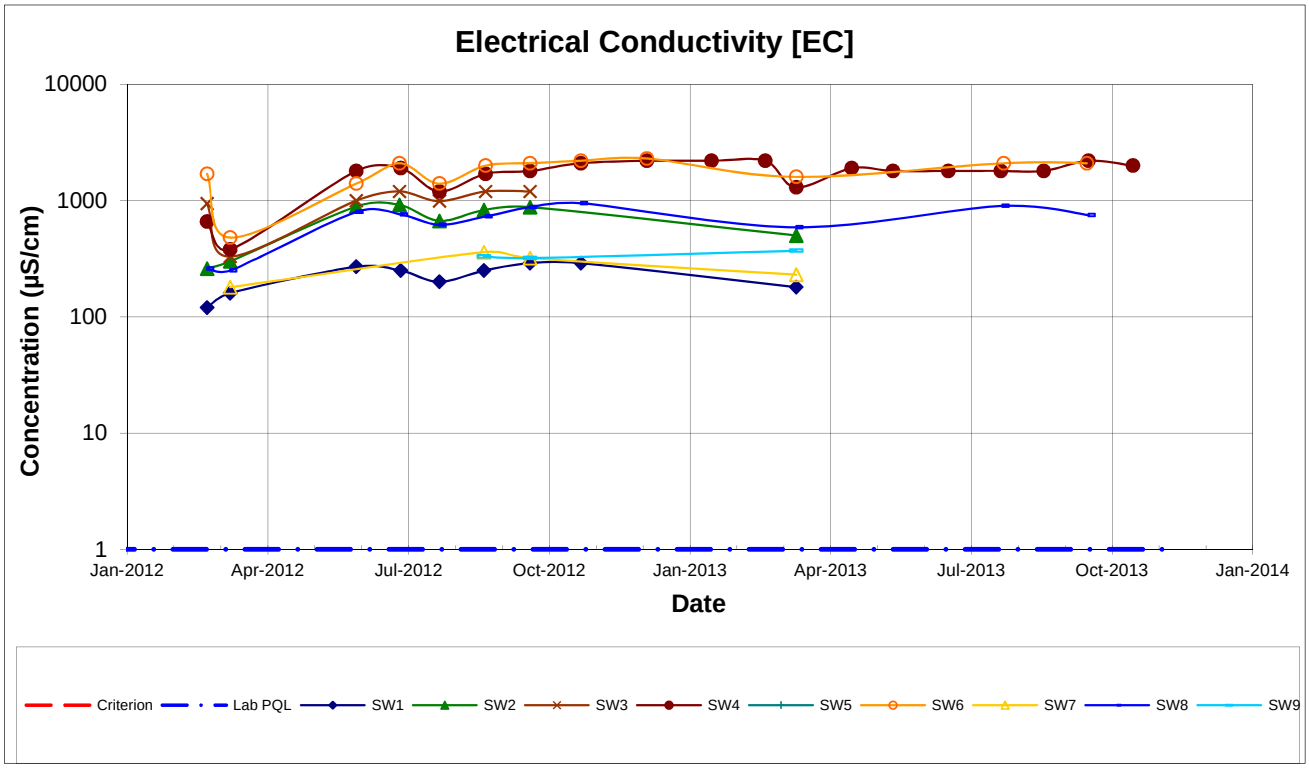
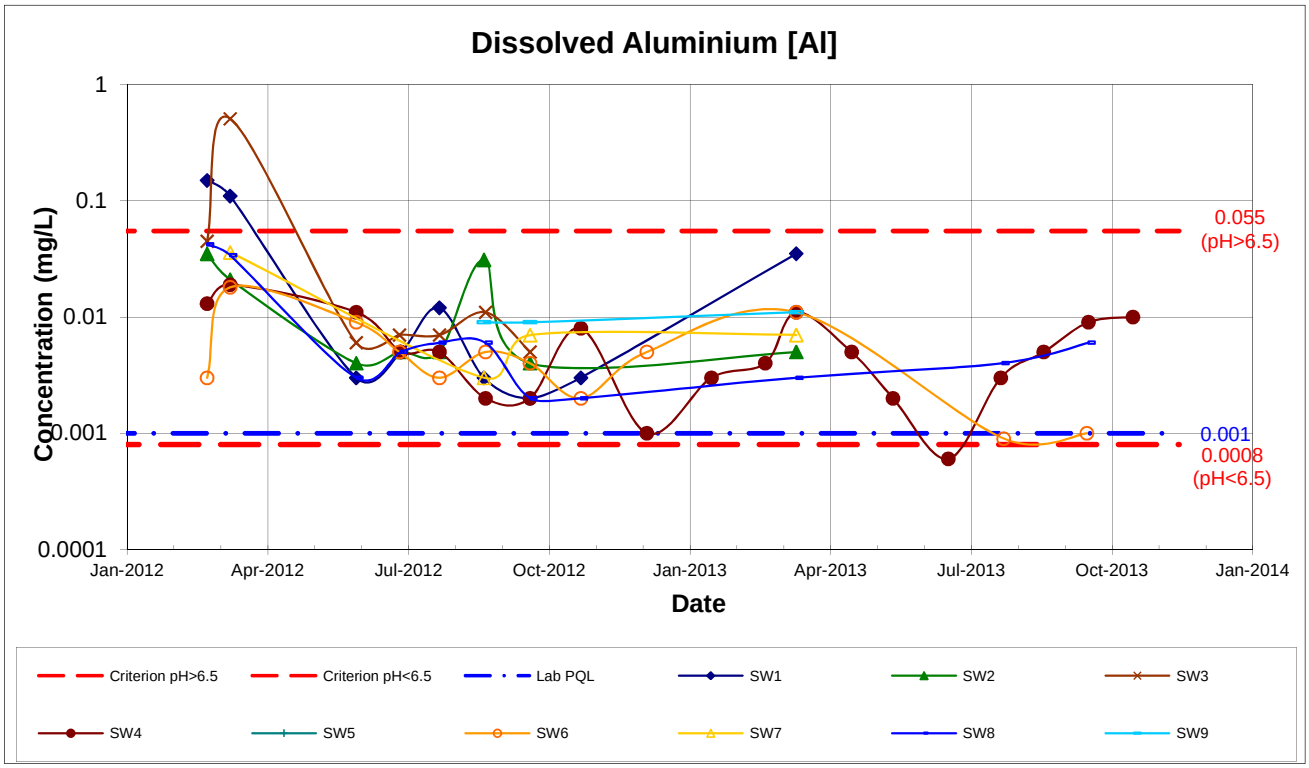
SURFACE WATER QUALITY MONITORING

Period: February 2012 to October 2013 **Project:** 49761.03





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Proposed Coal Mine, Bylong, Mid-Western NSW

SURFACE WATER QUALITY MONITORING

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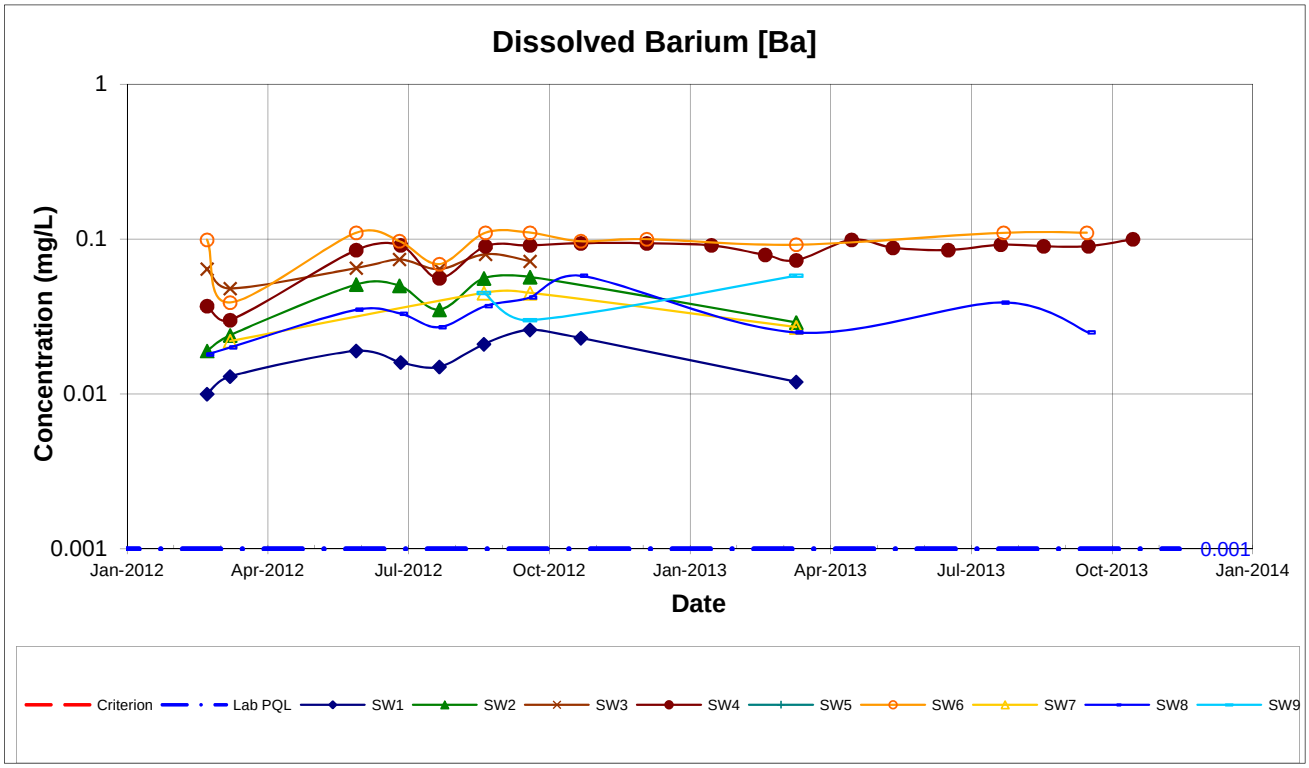

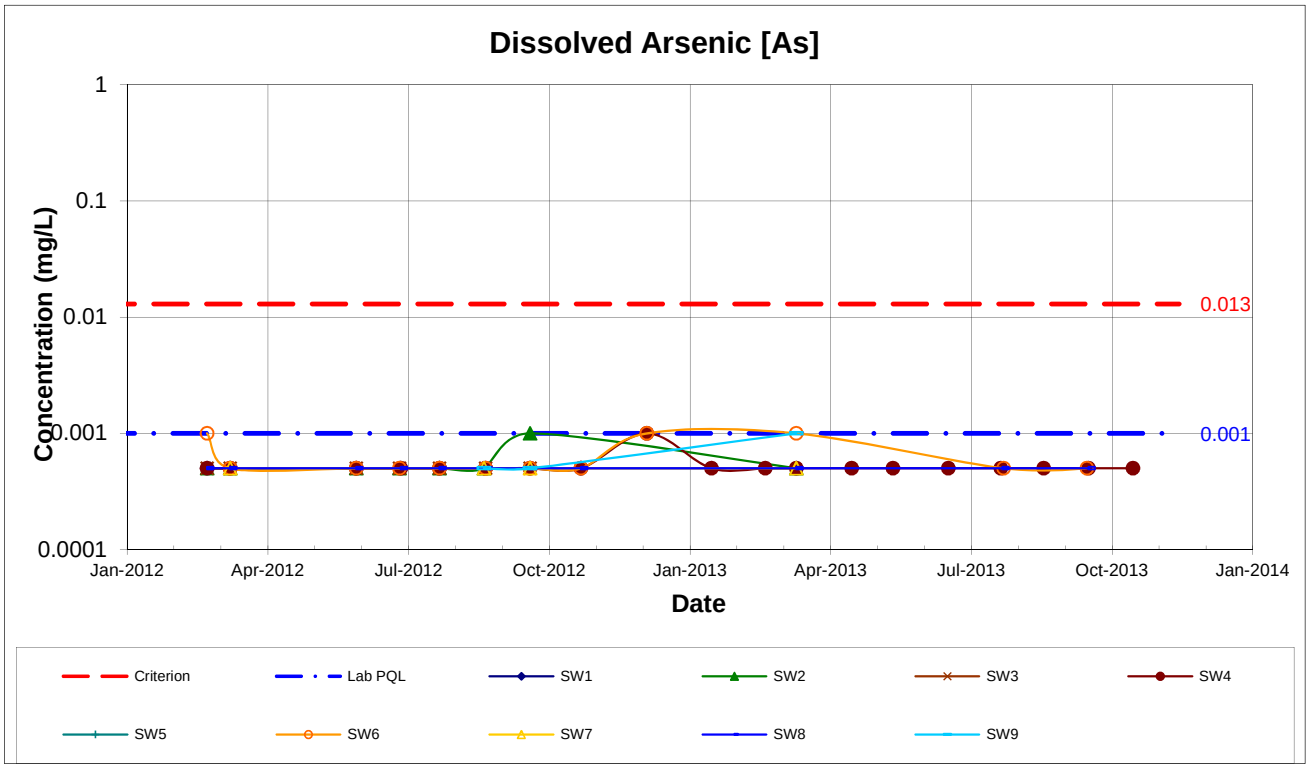

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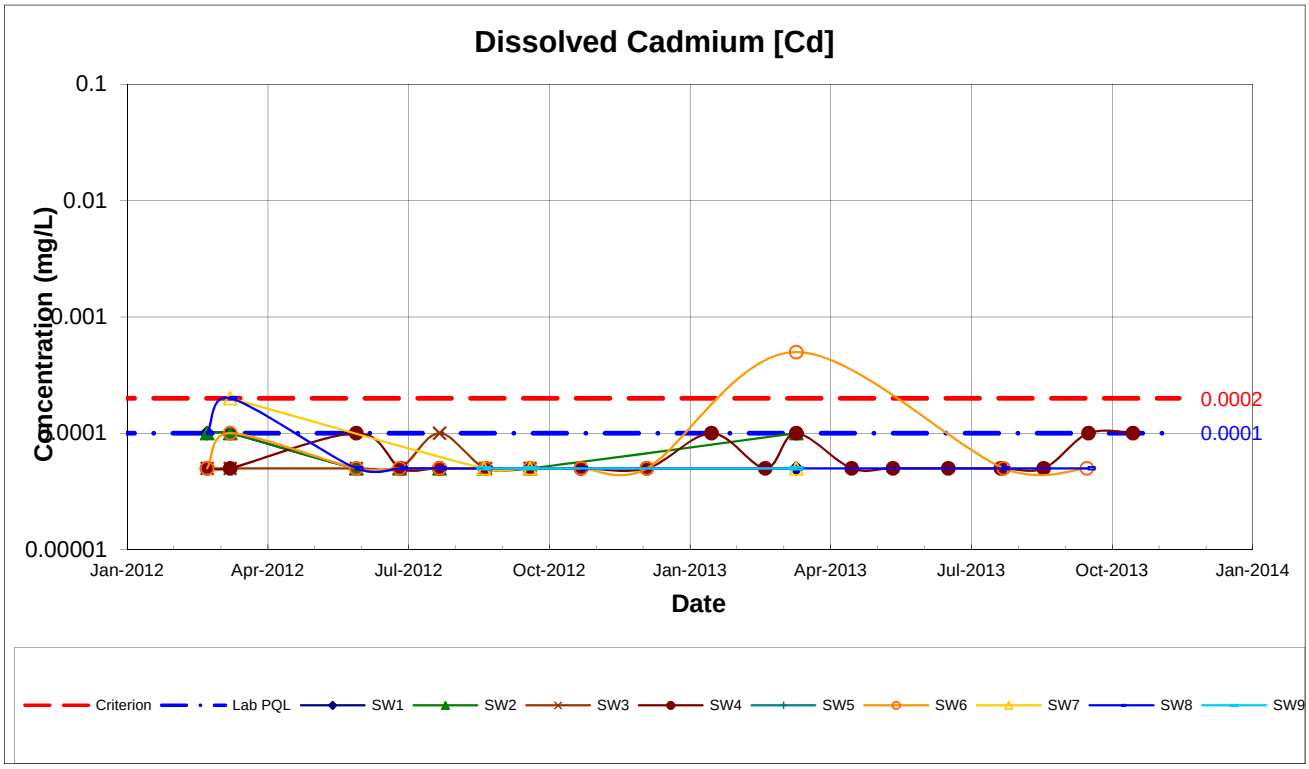

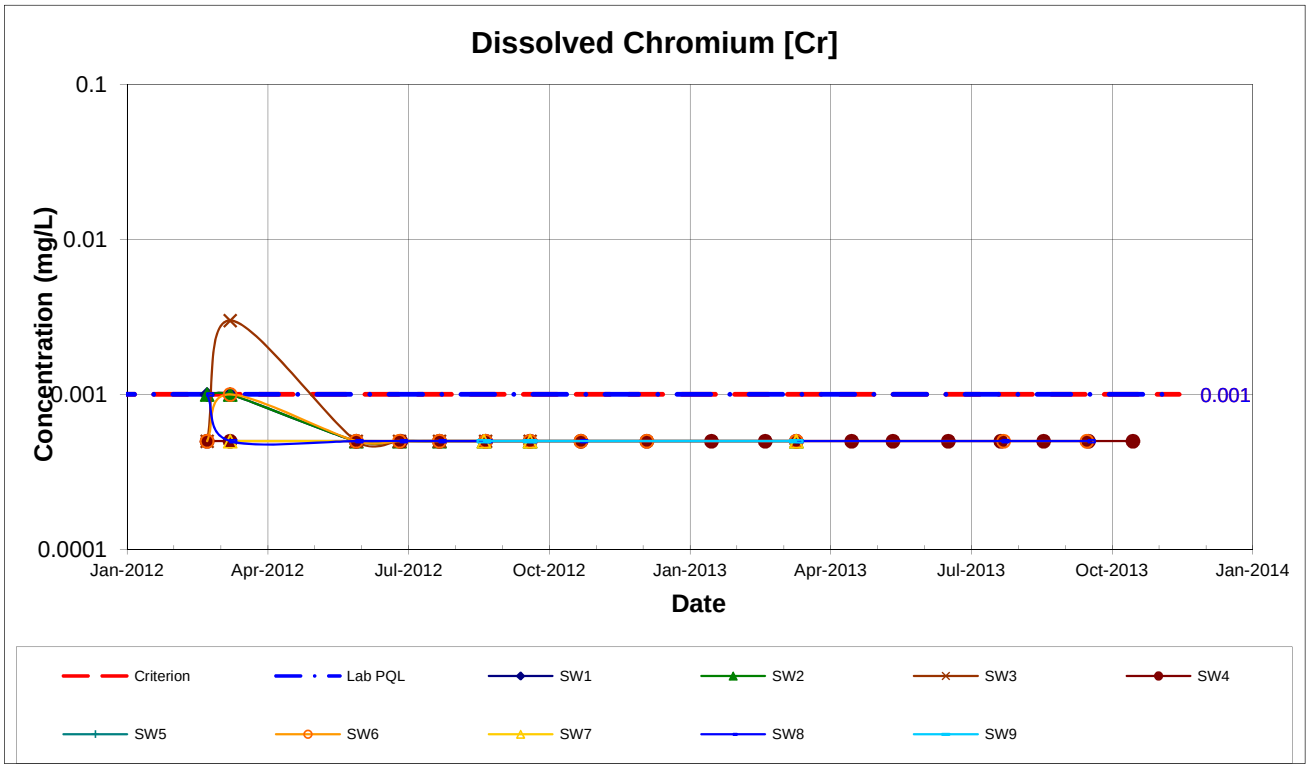

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SURFACE WATER QUALITY MONITORING

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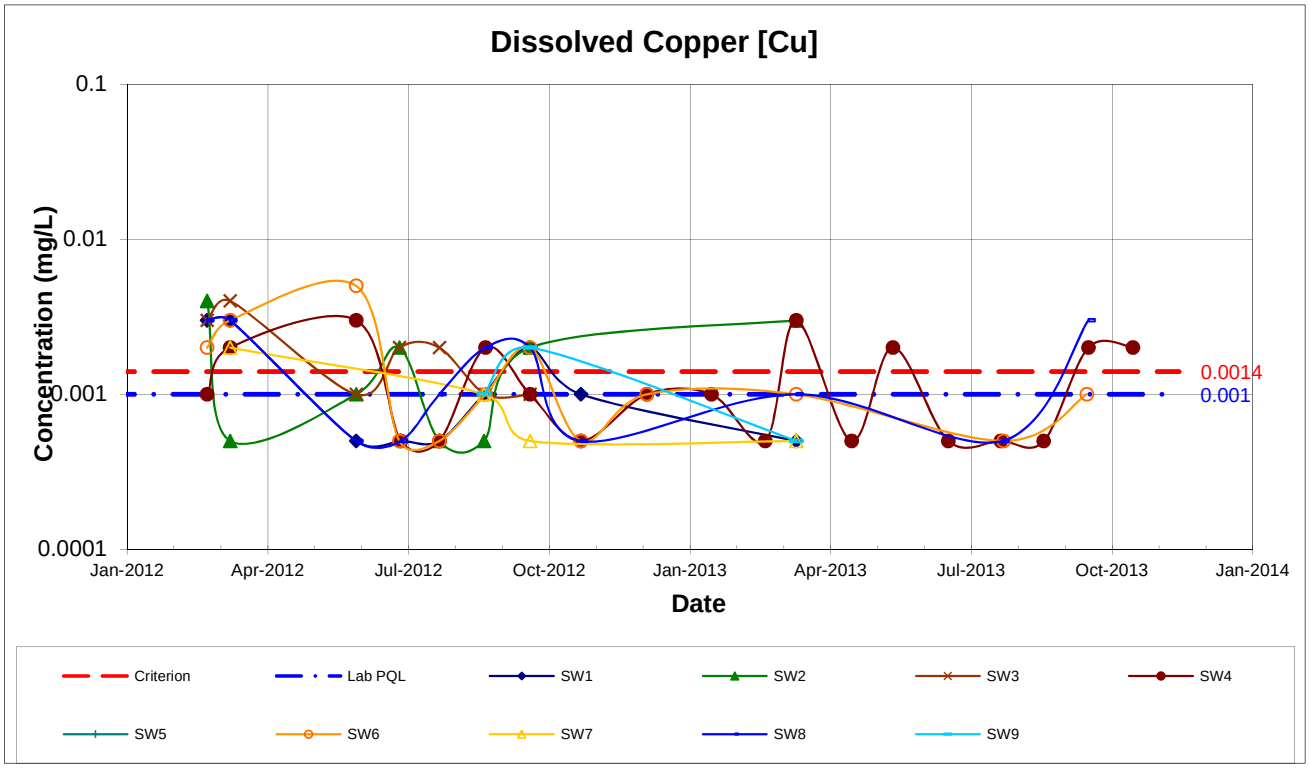

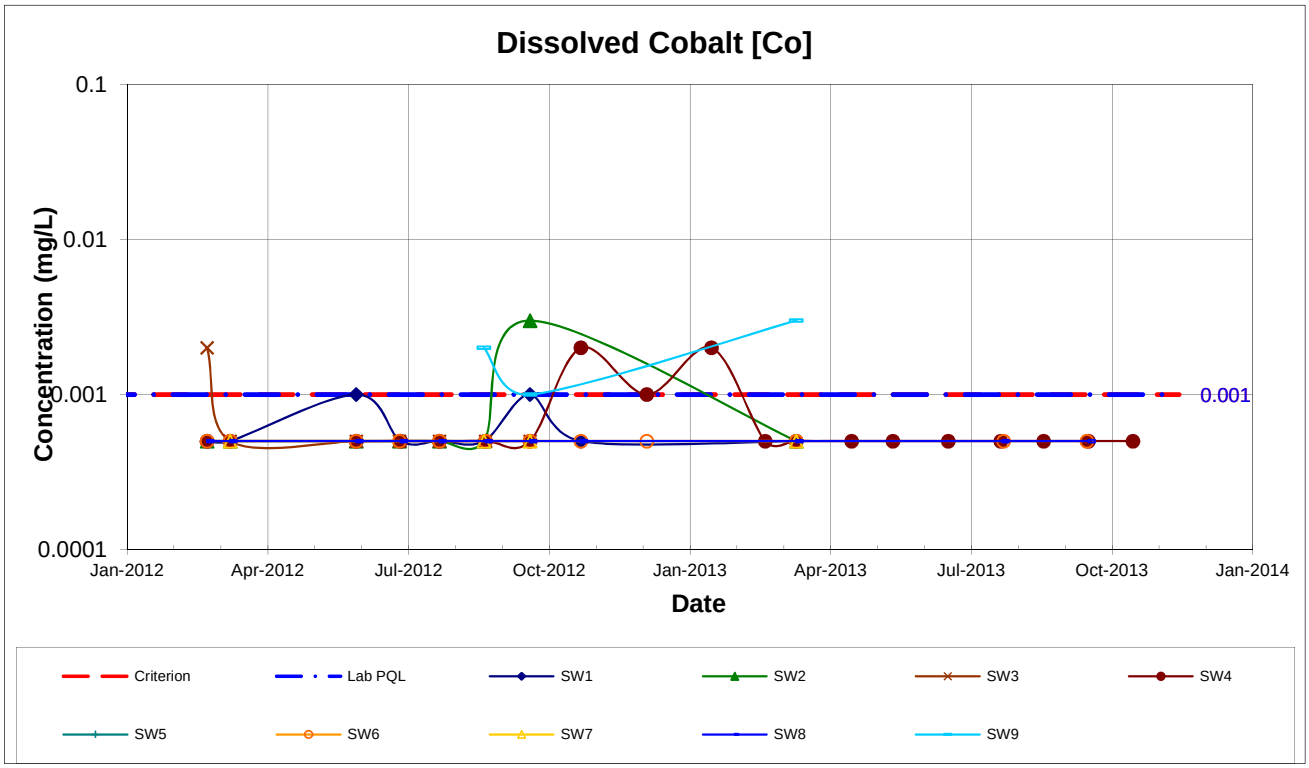

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SURFACE WATER QUALITY MONITORING

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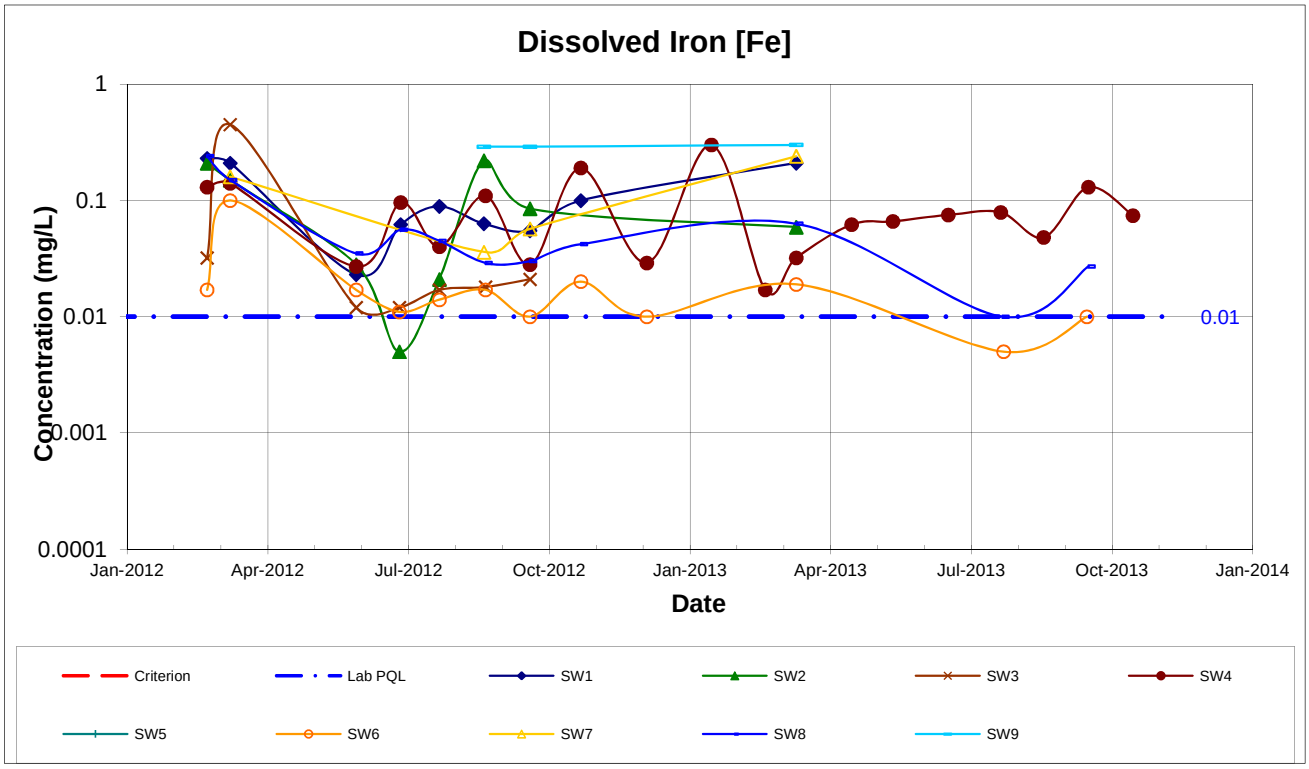

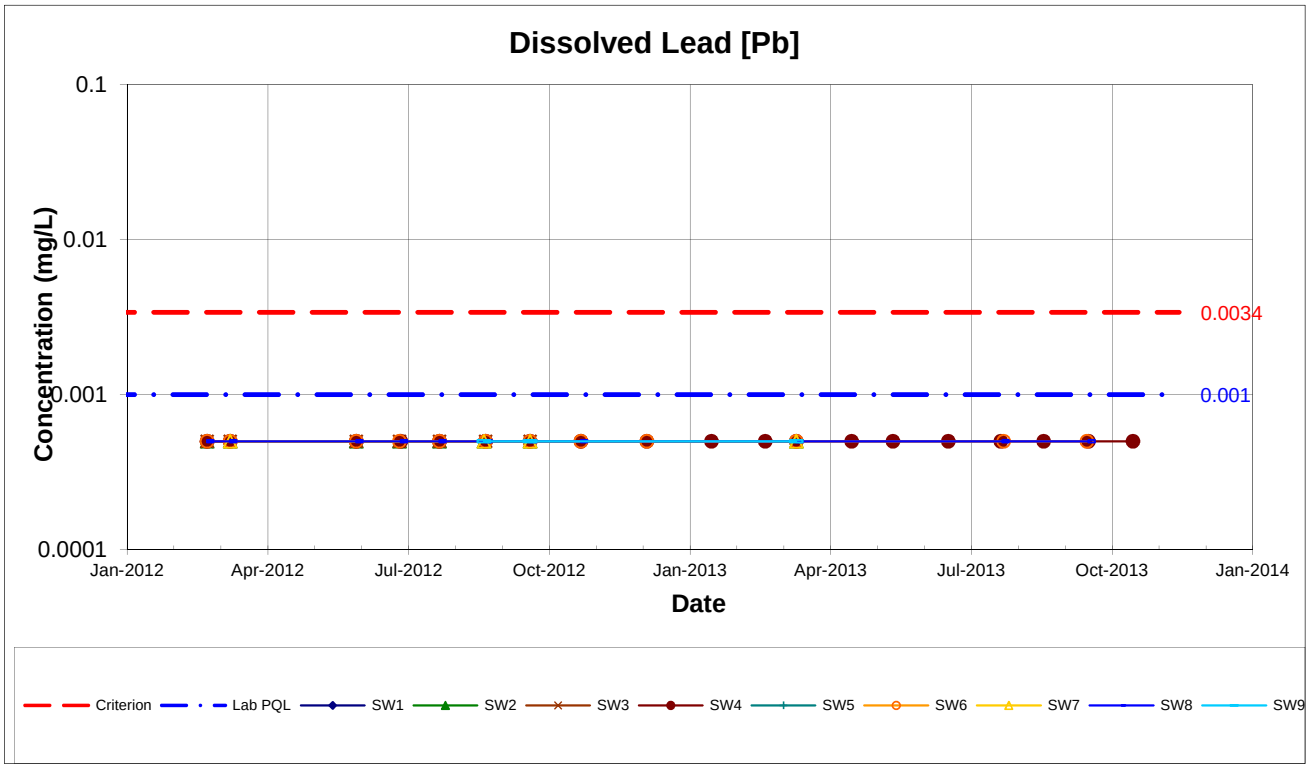

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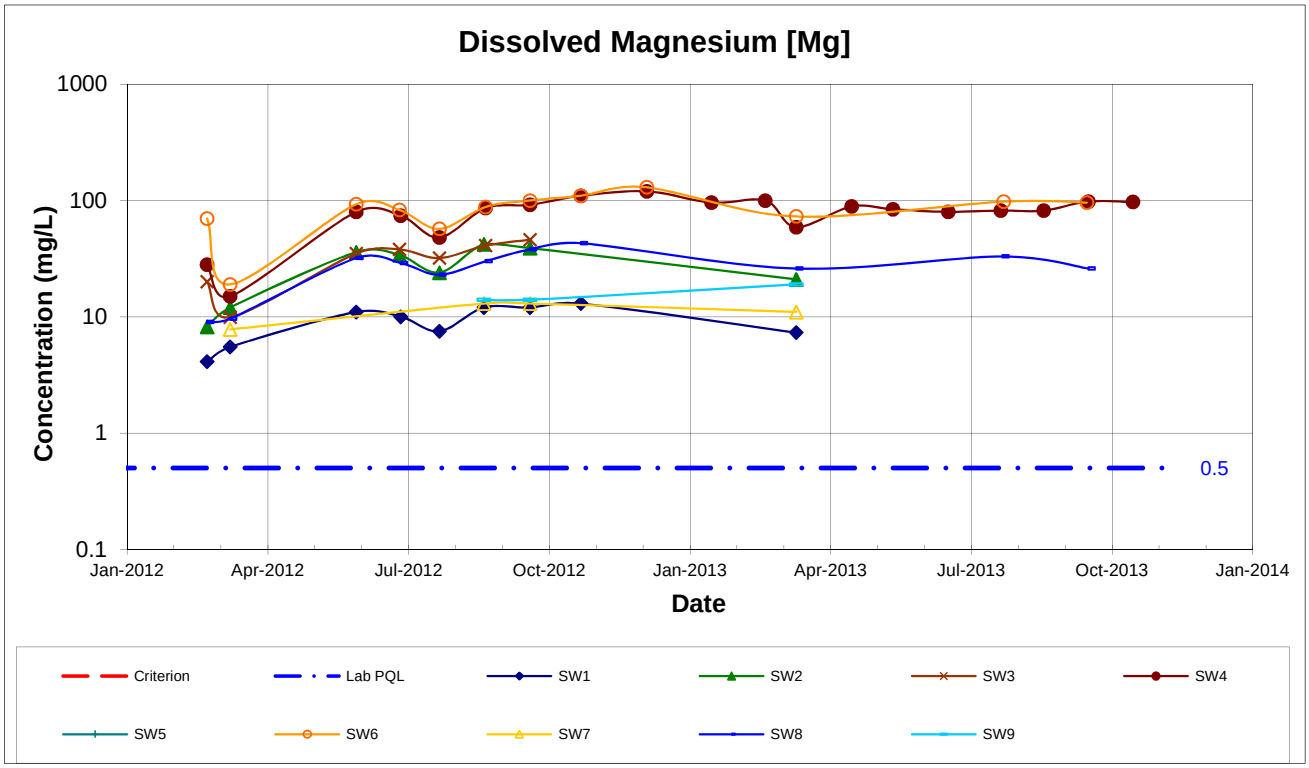

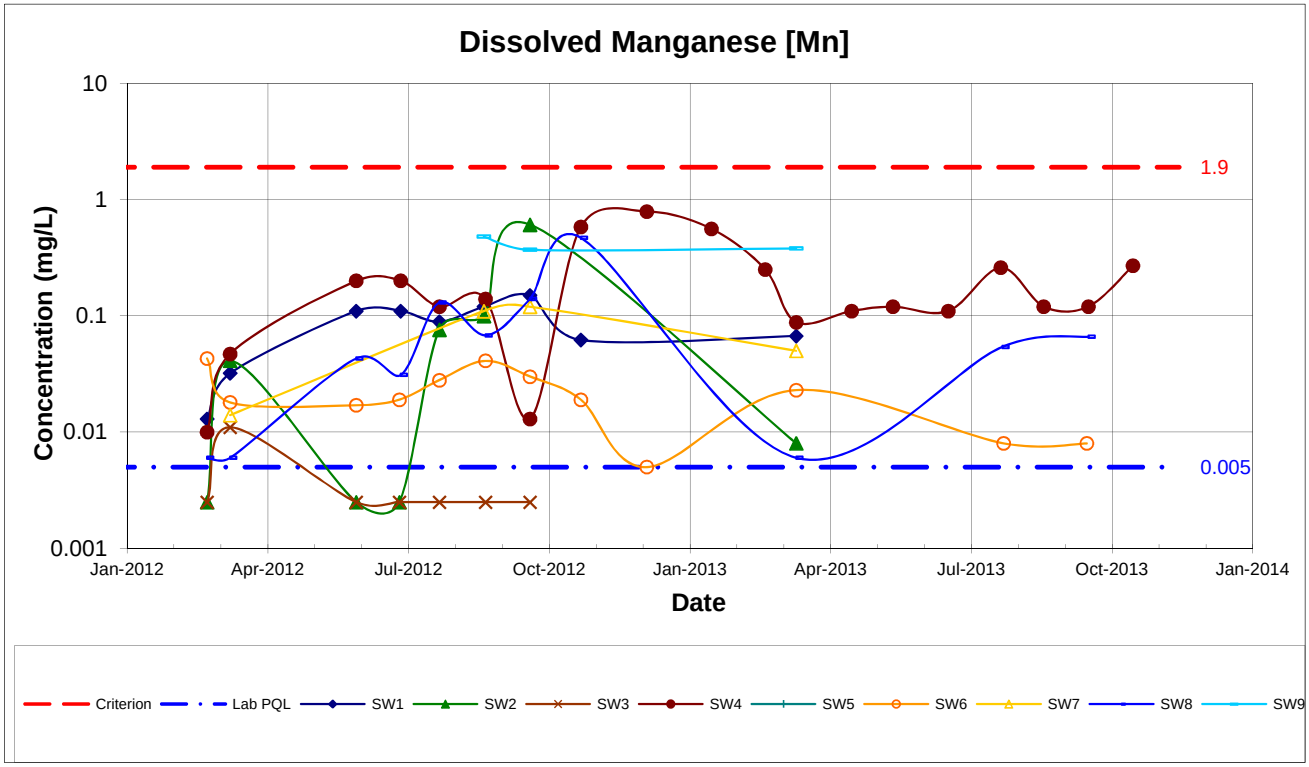

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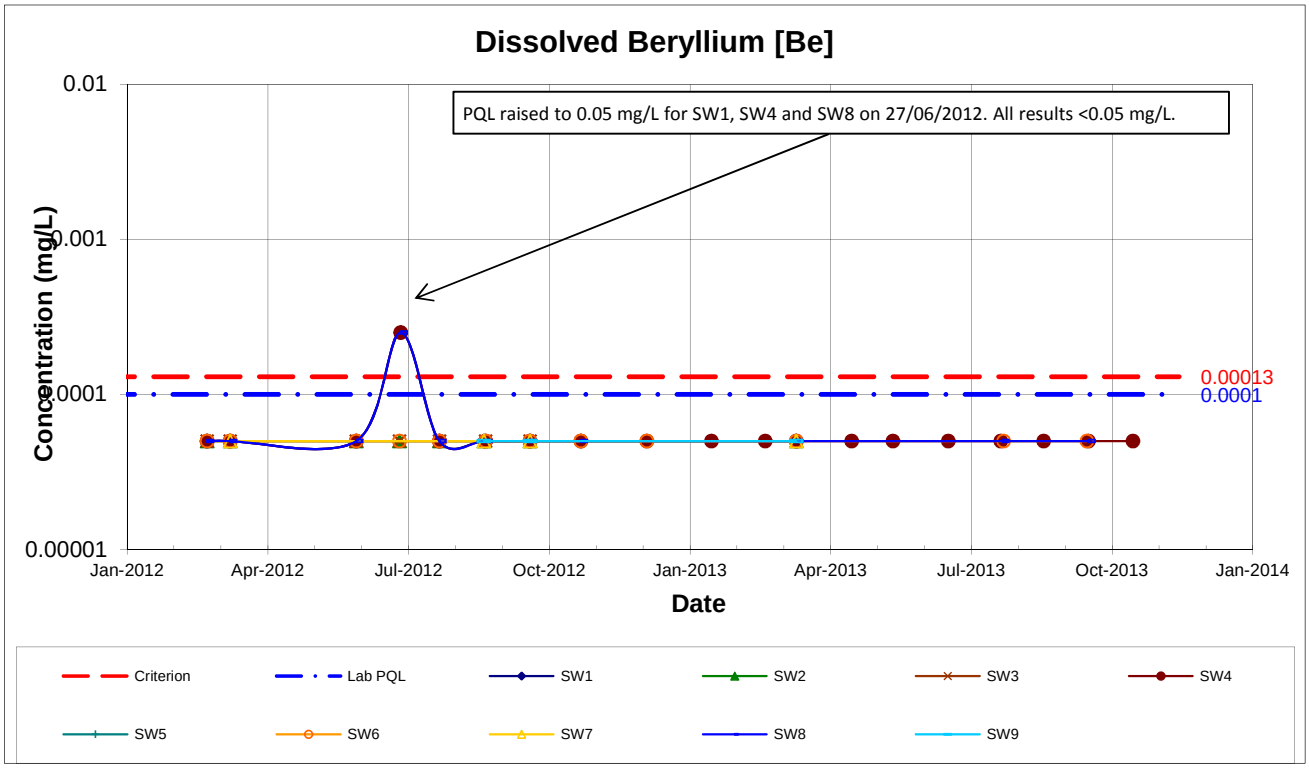

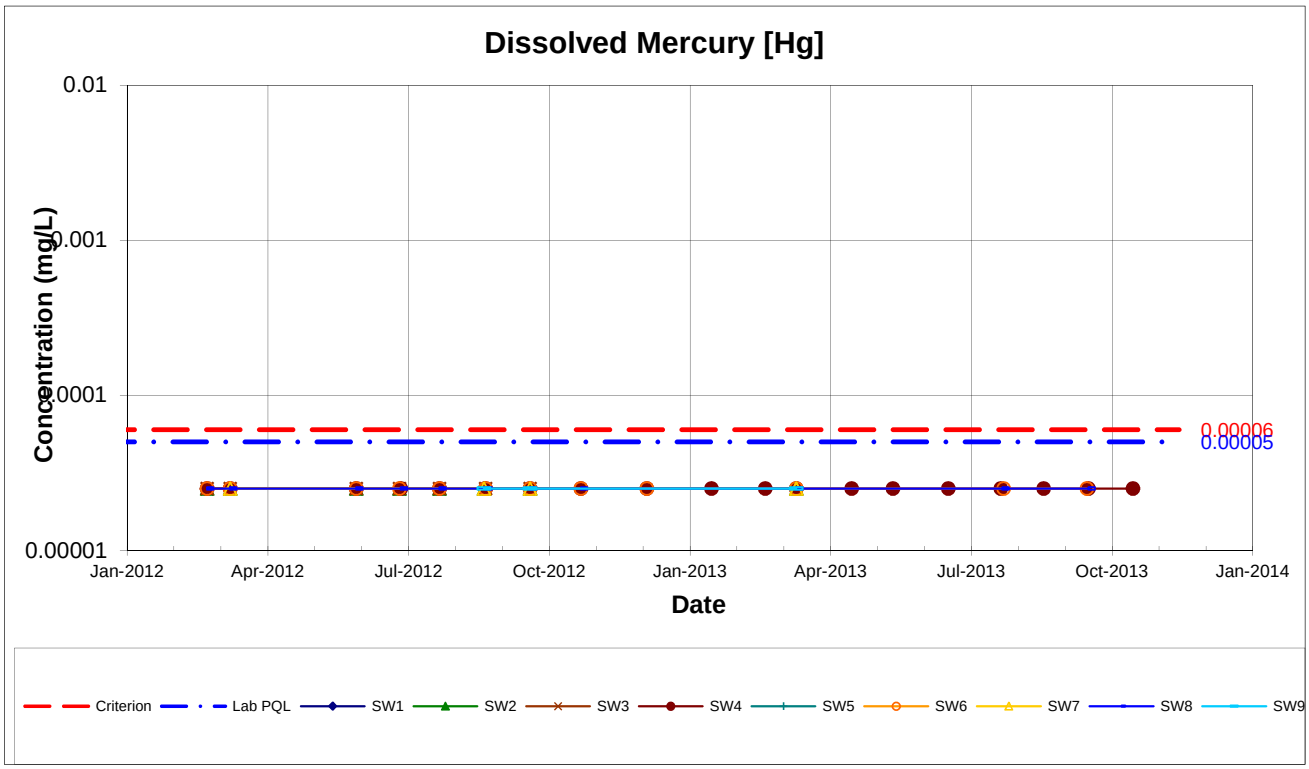

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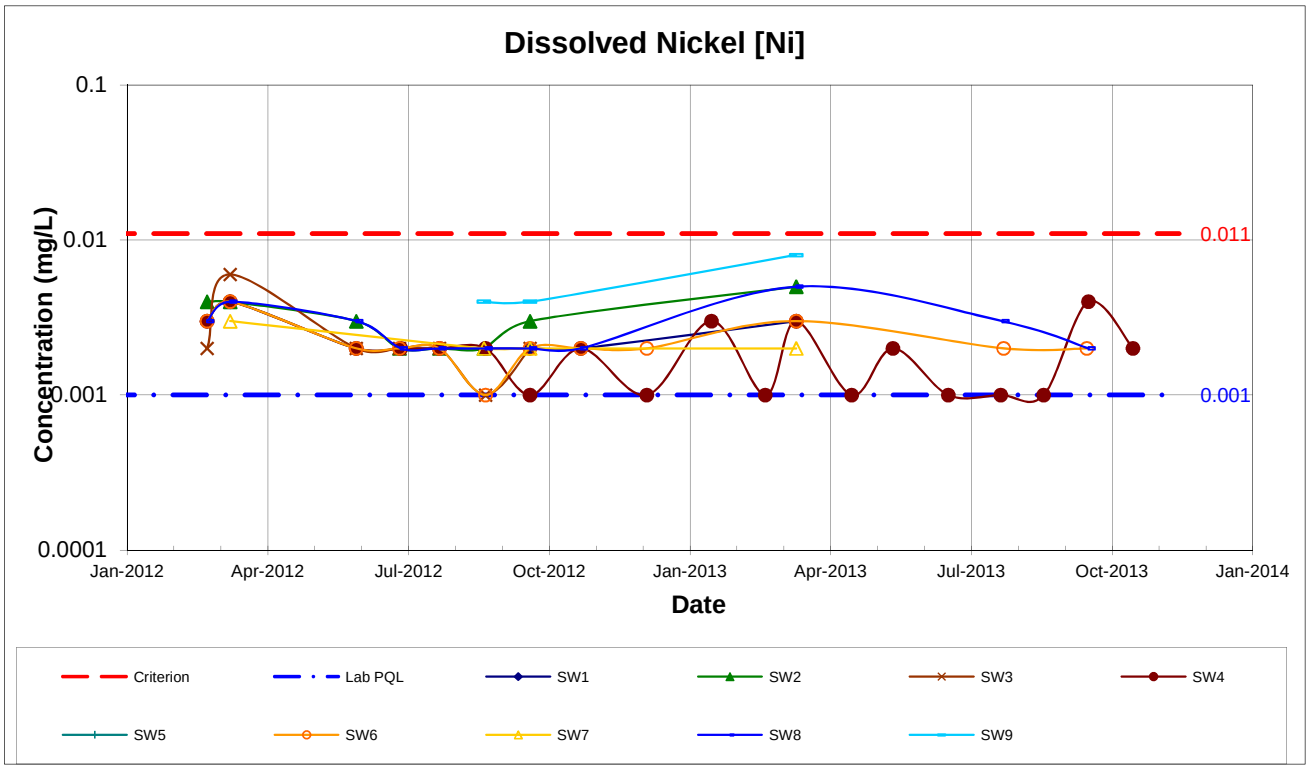

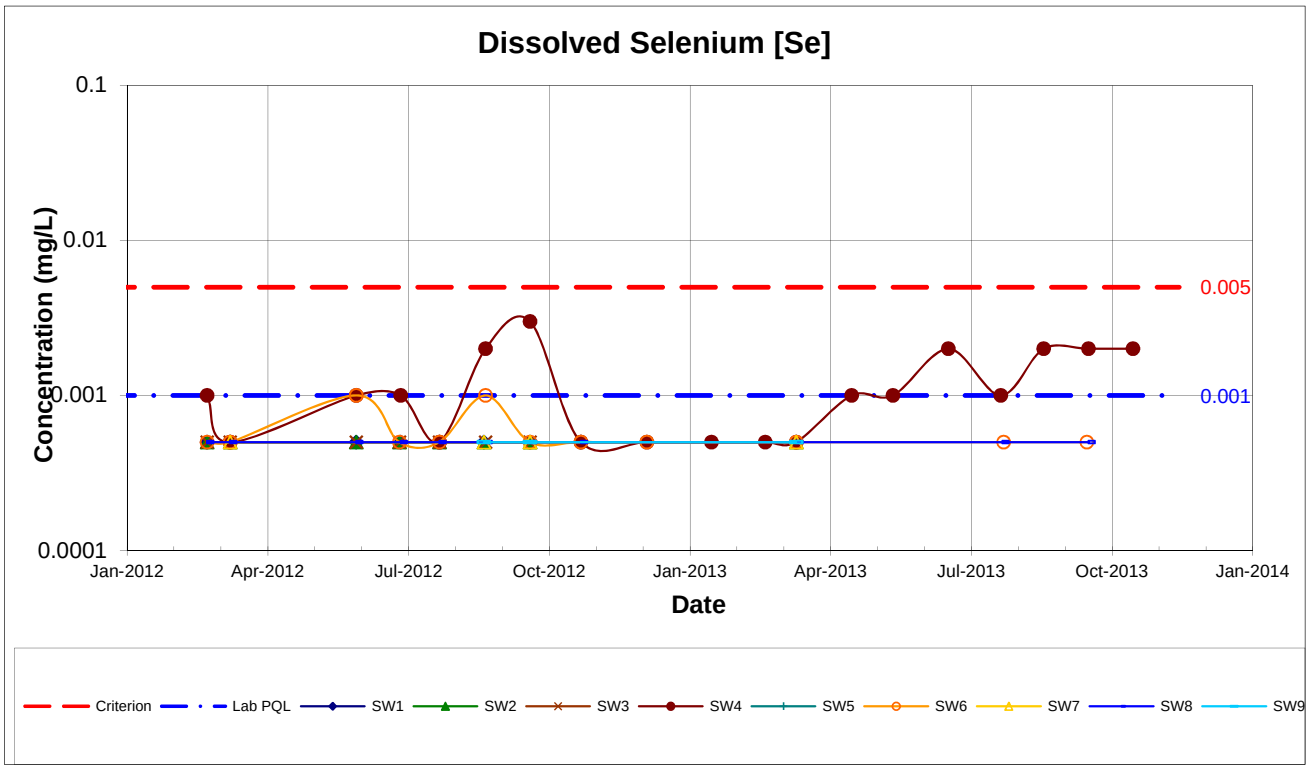

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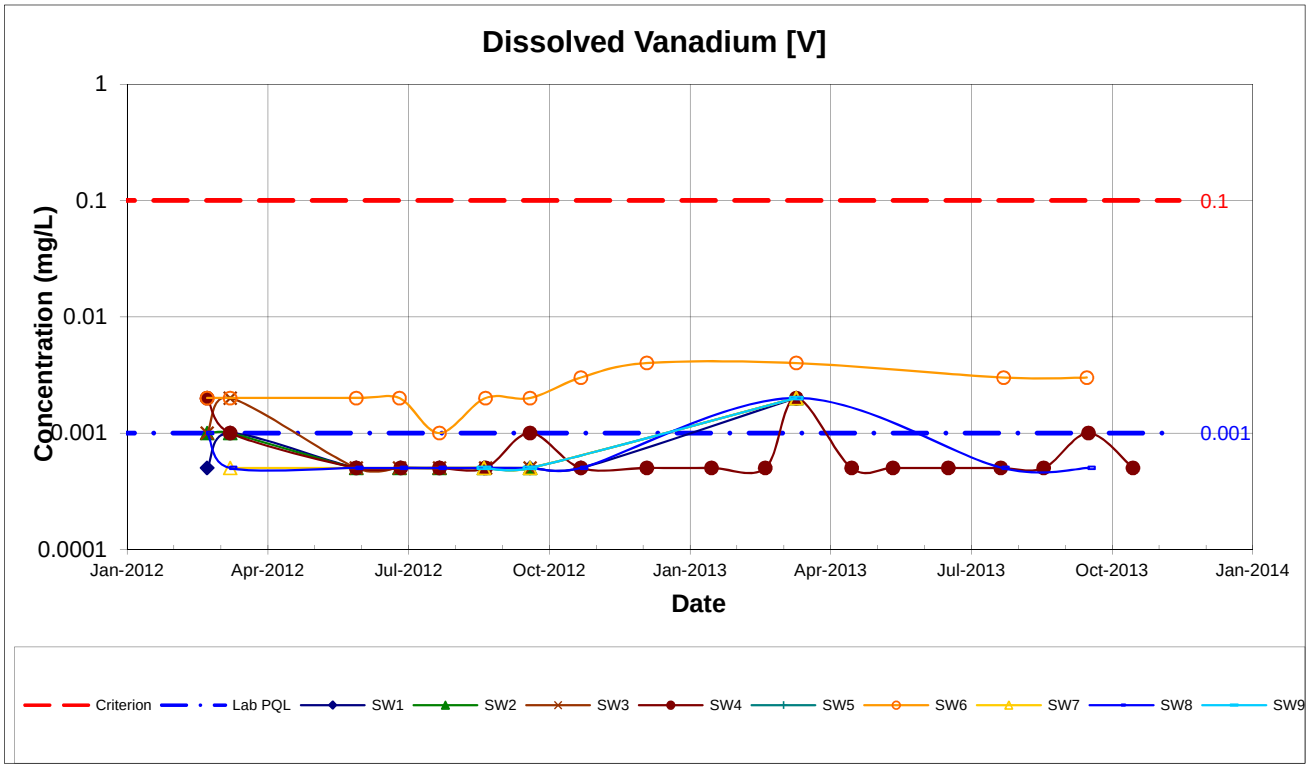

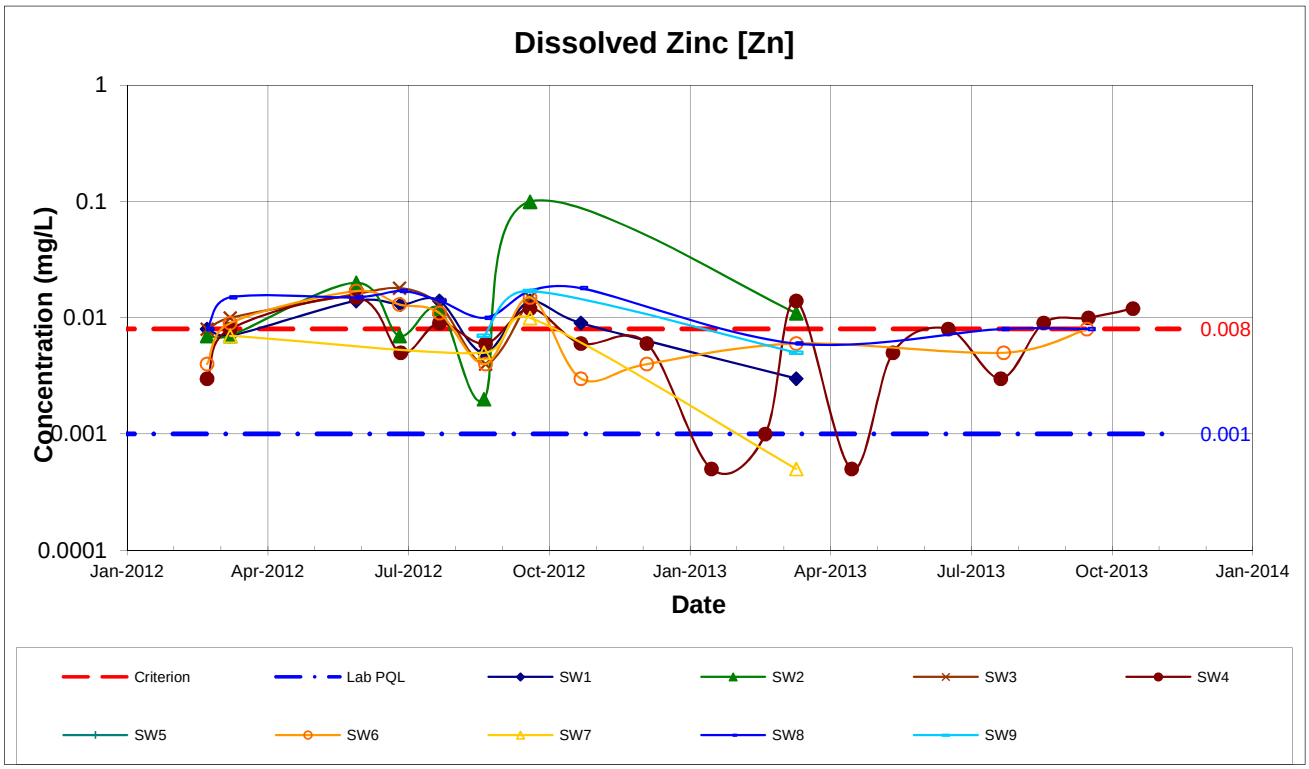

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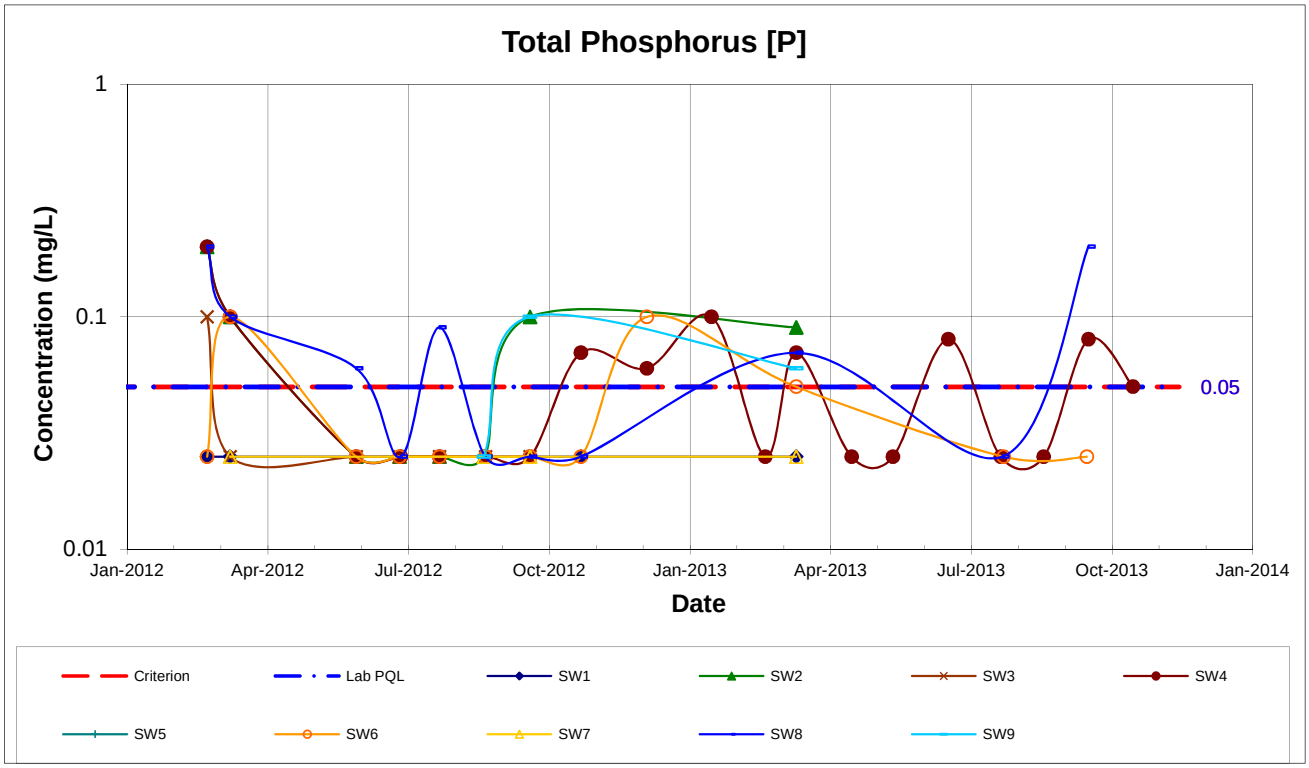

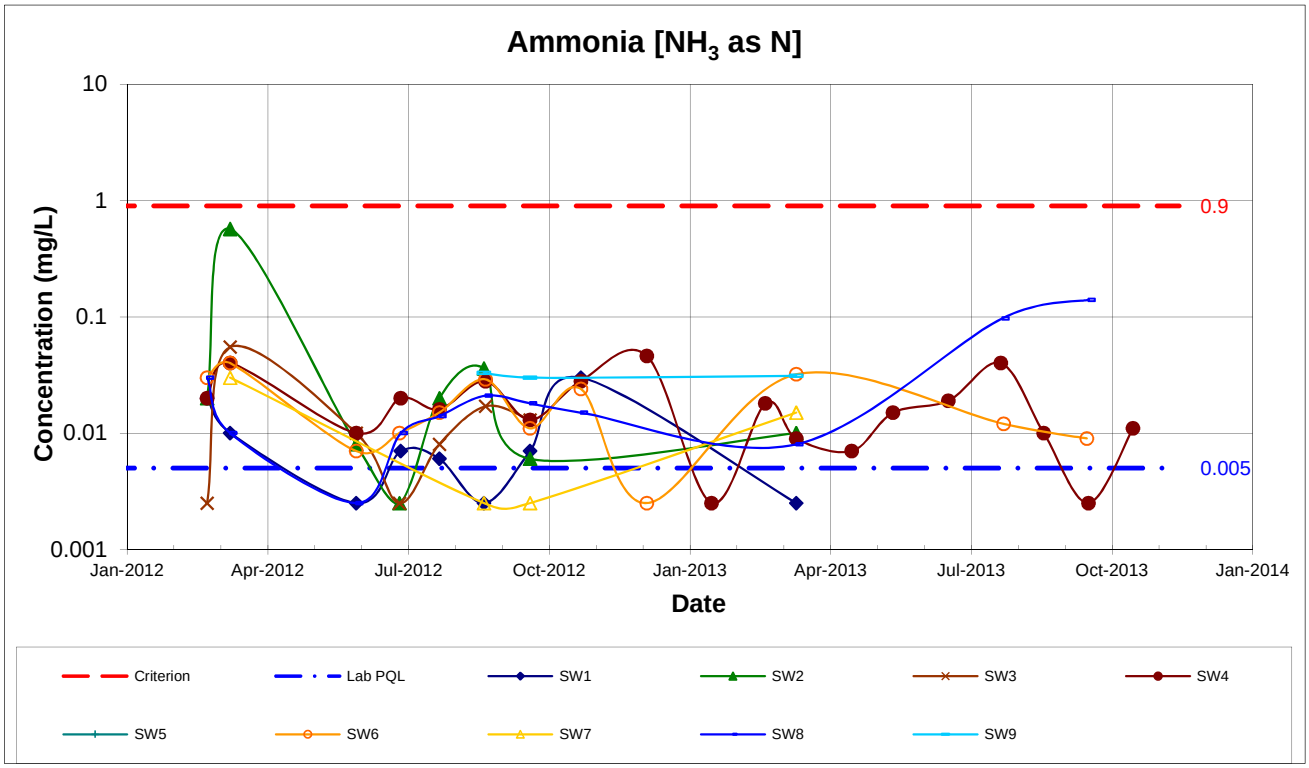

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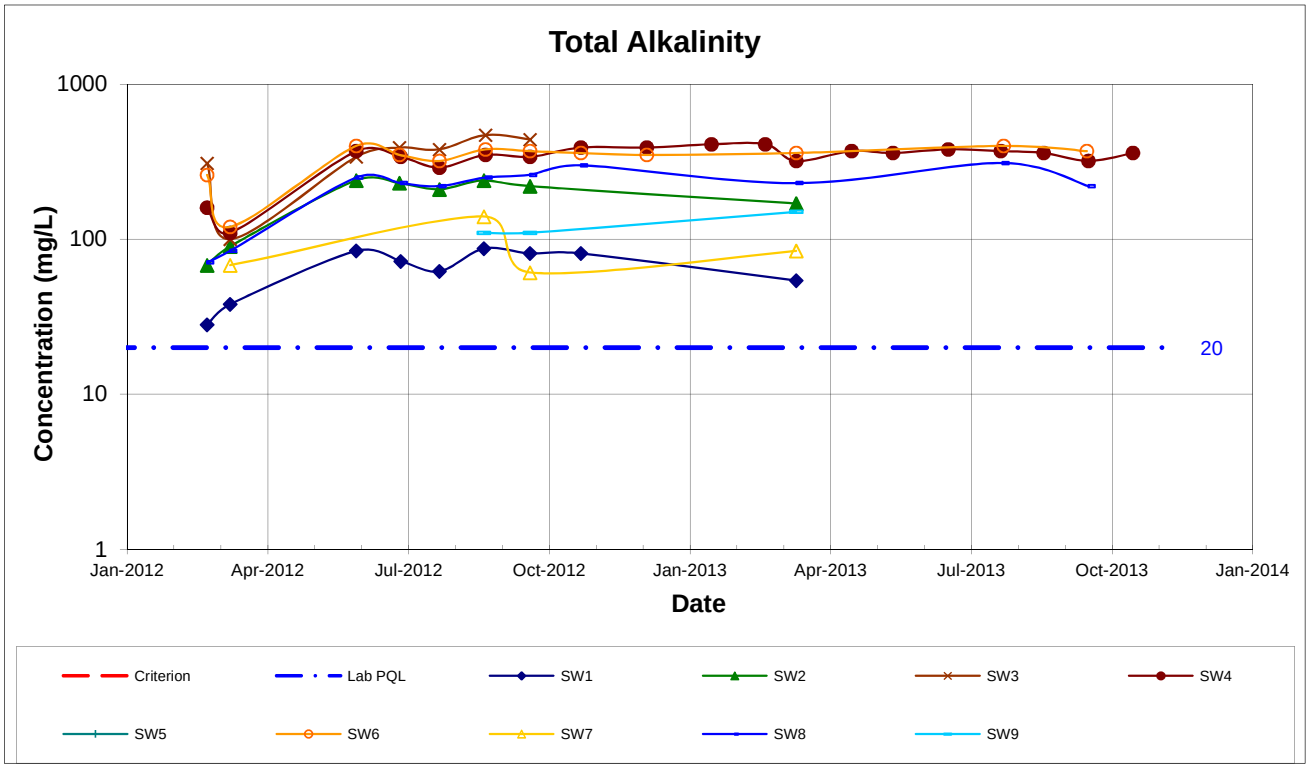

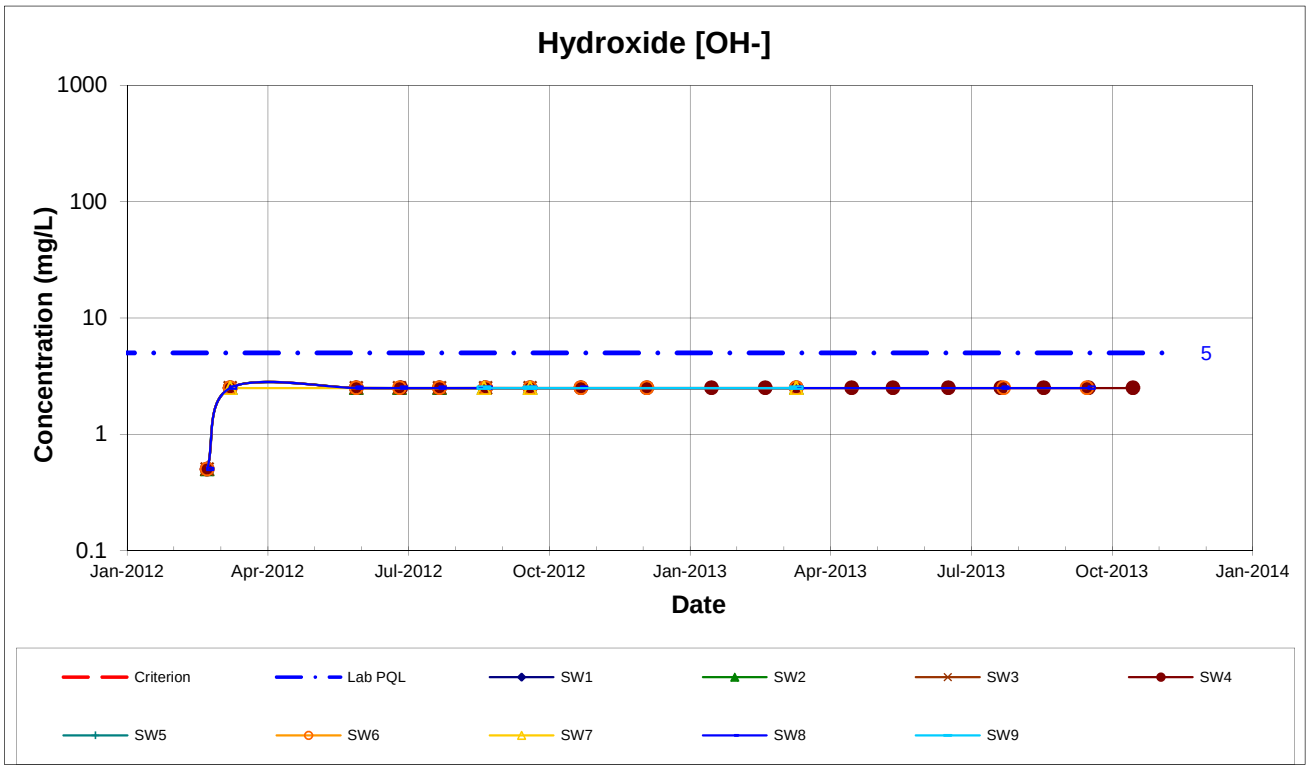

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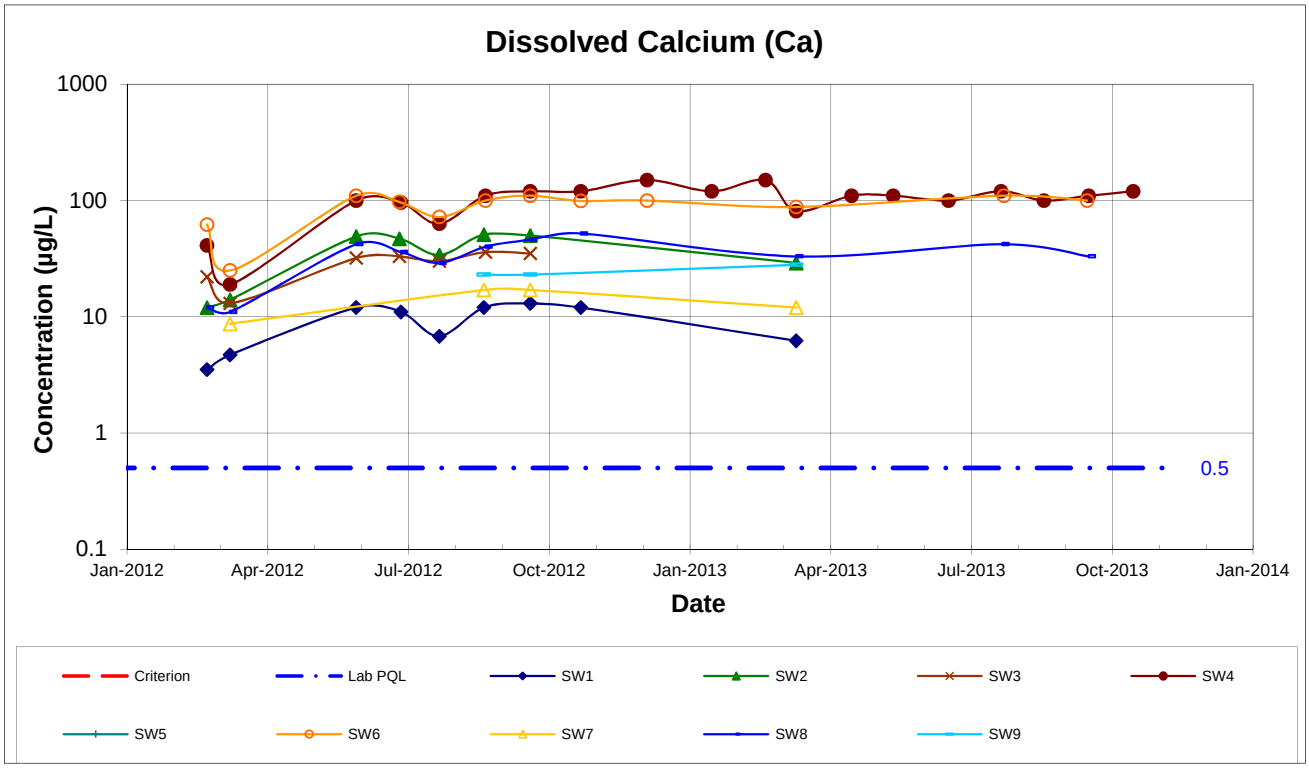

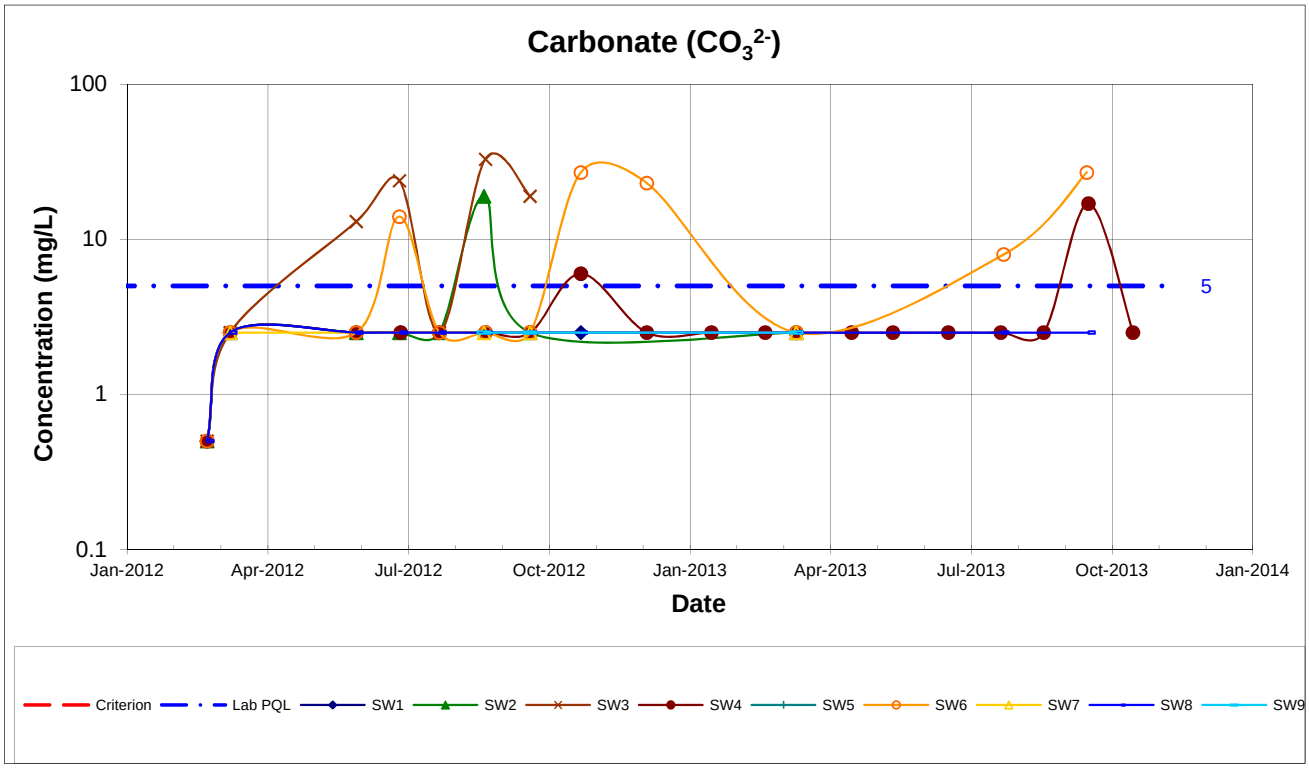

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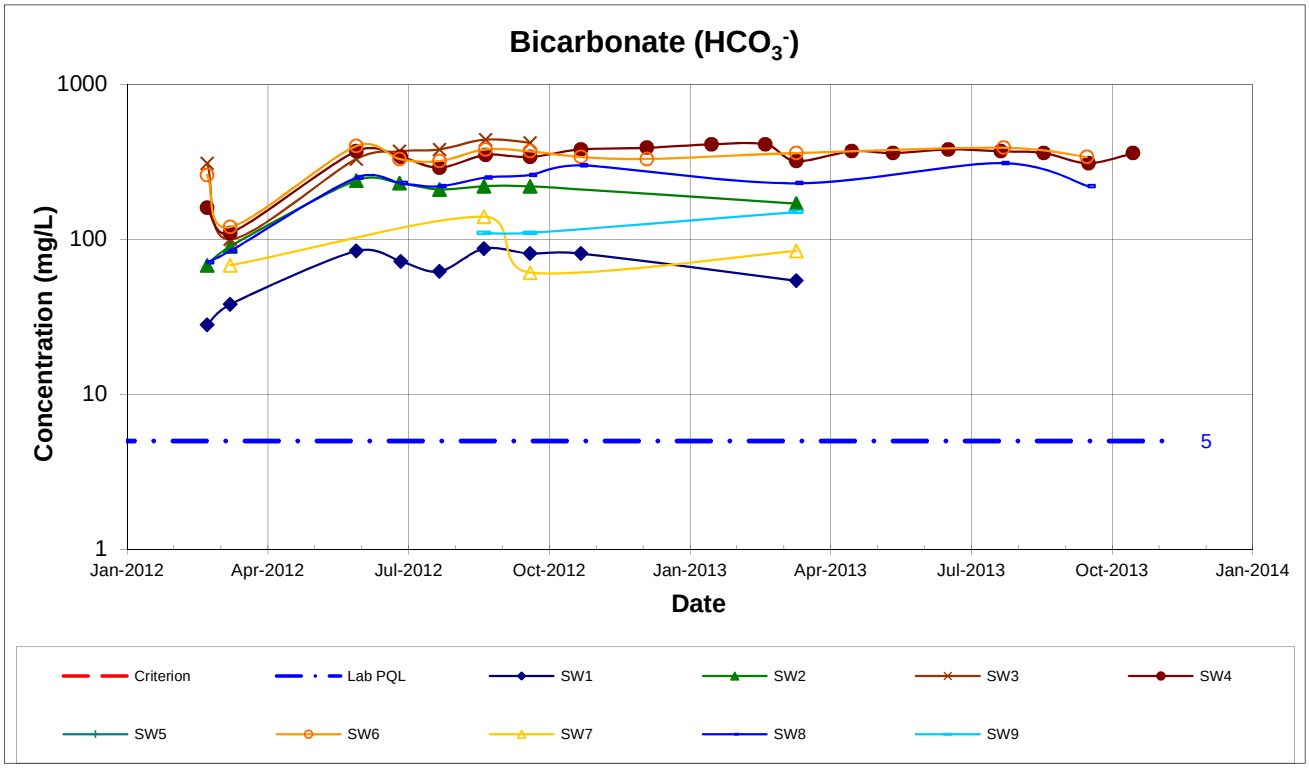

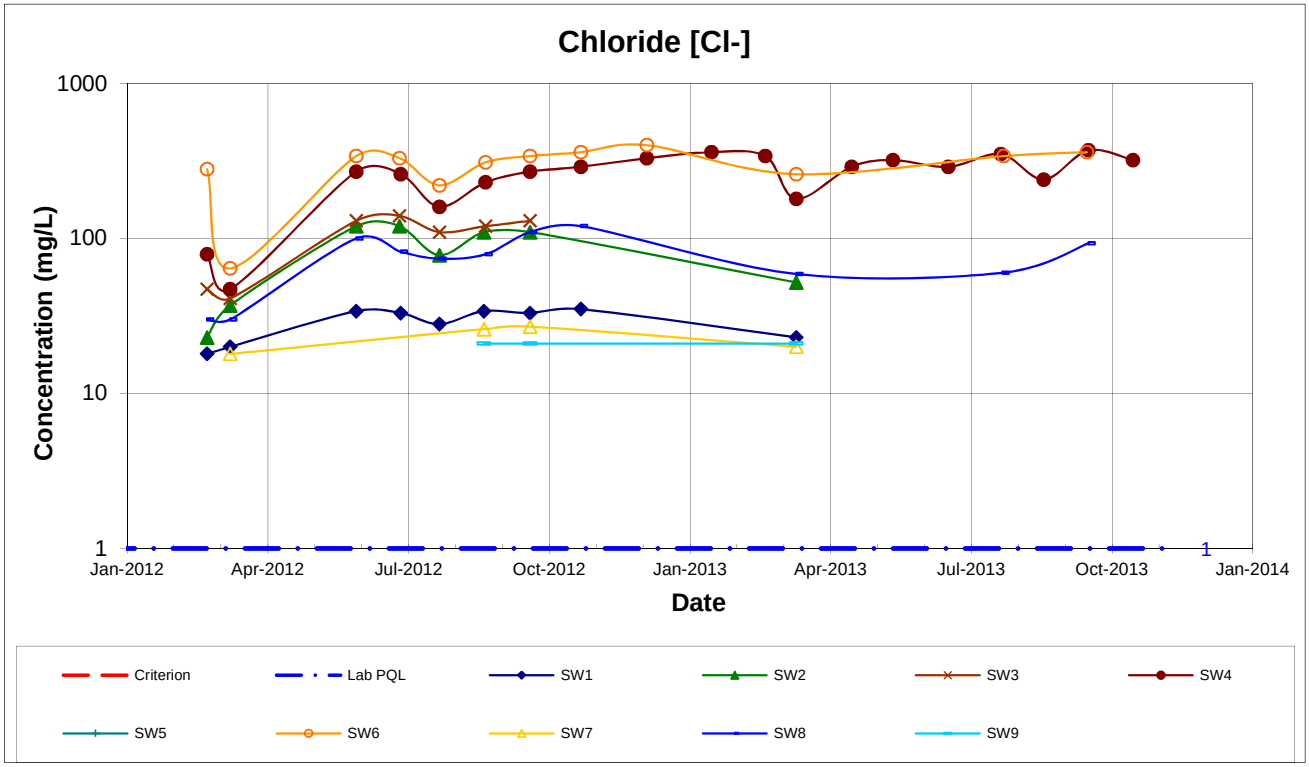

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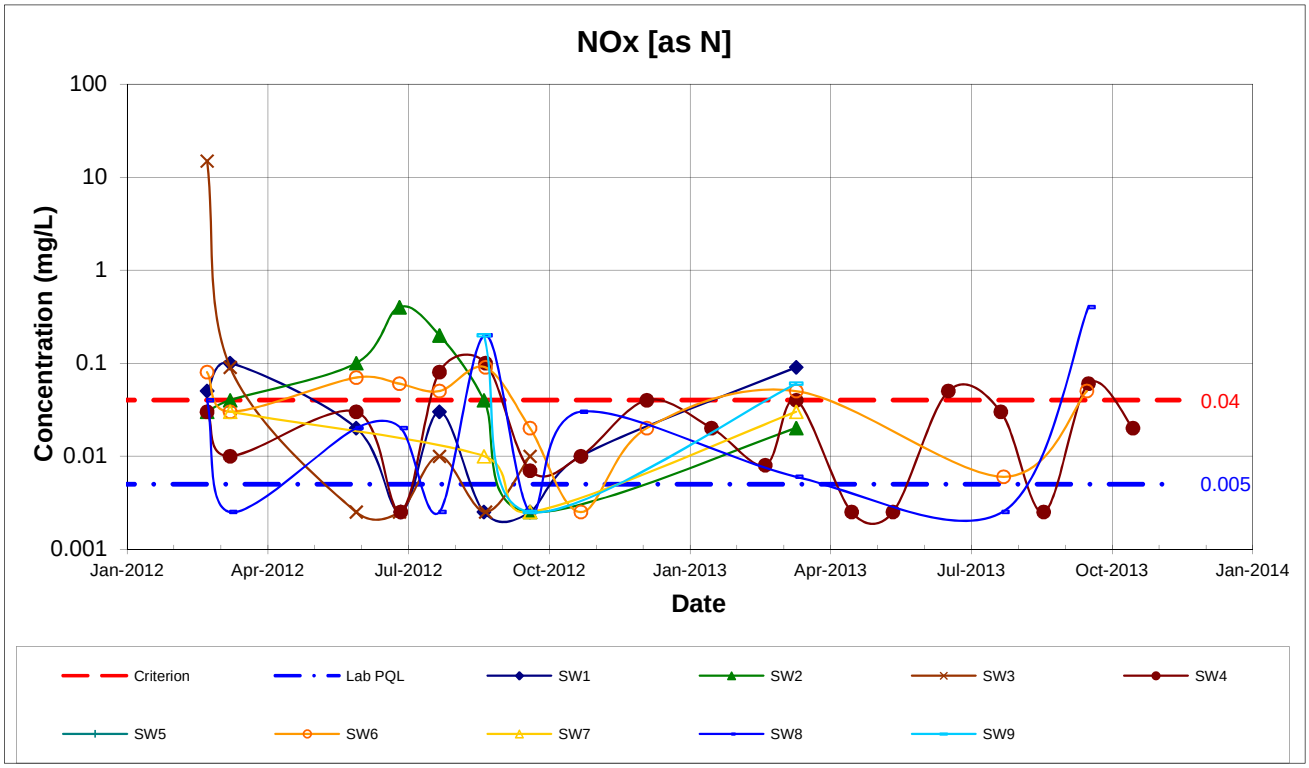

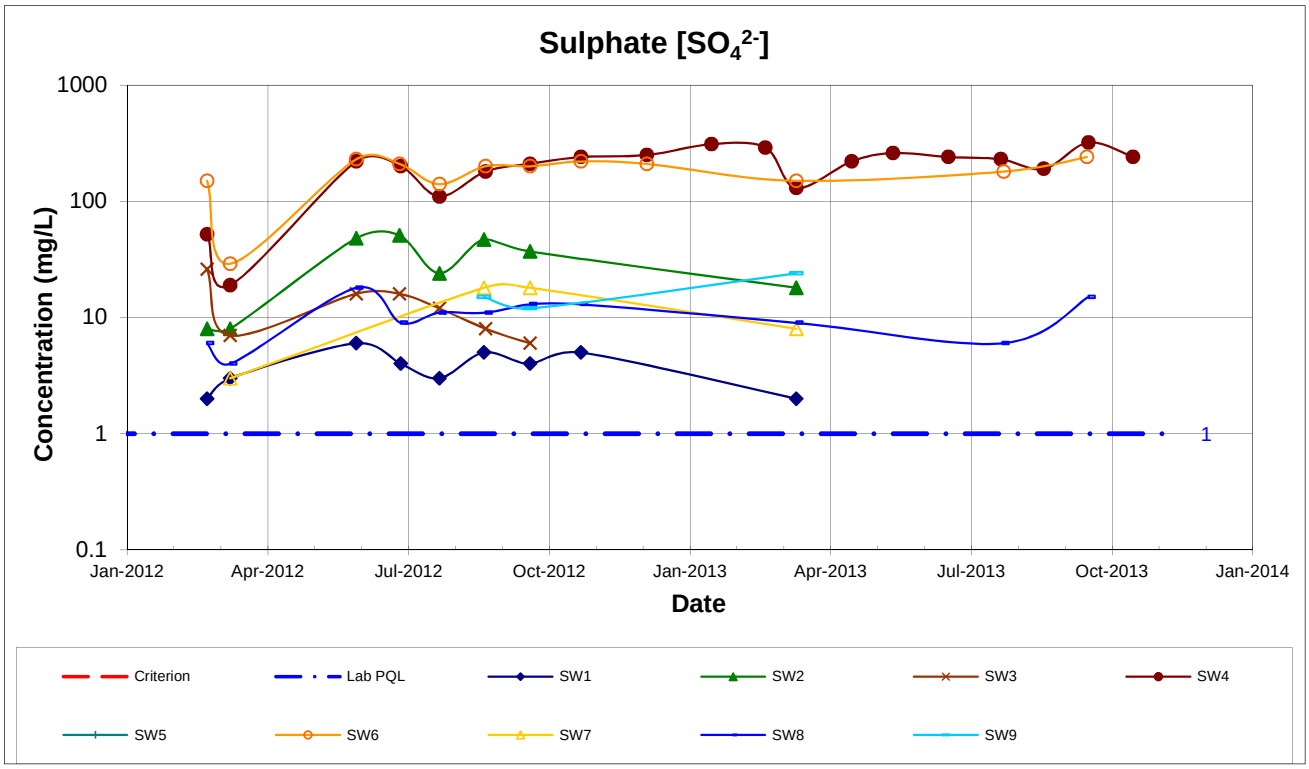

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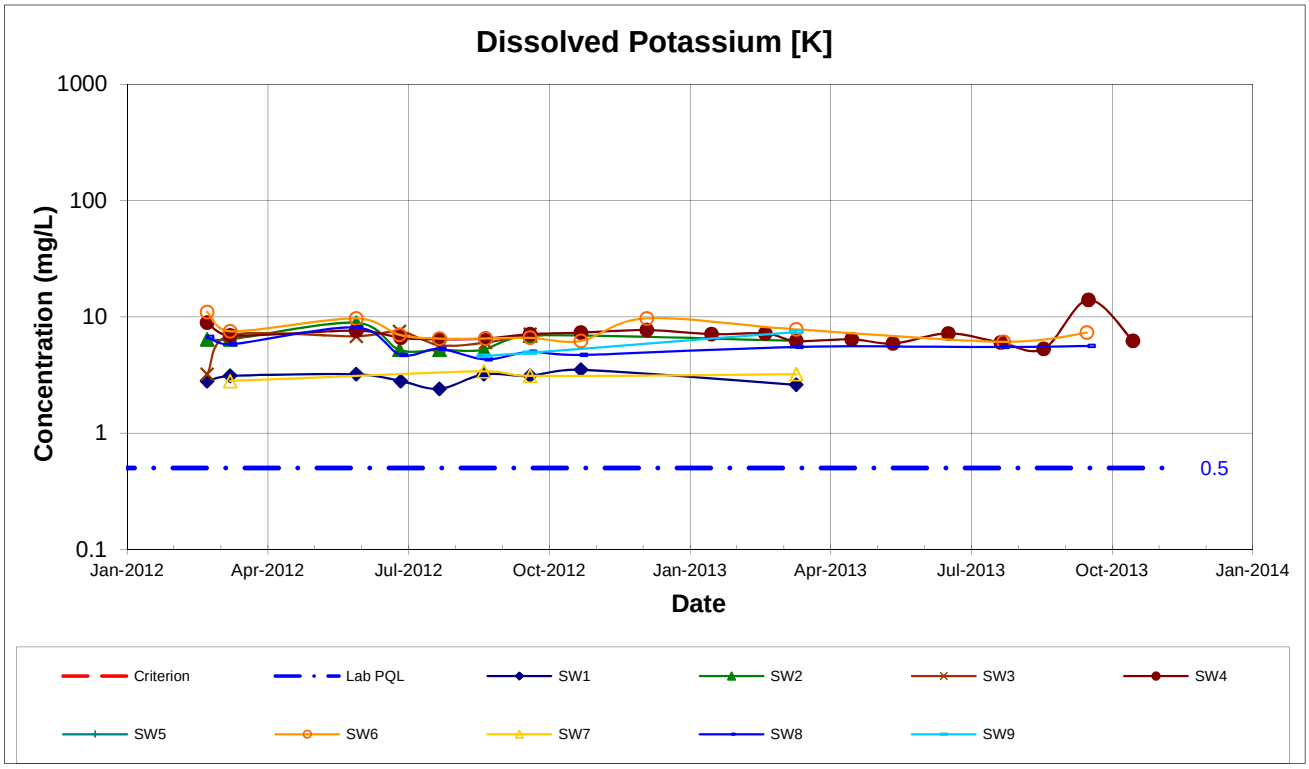

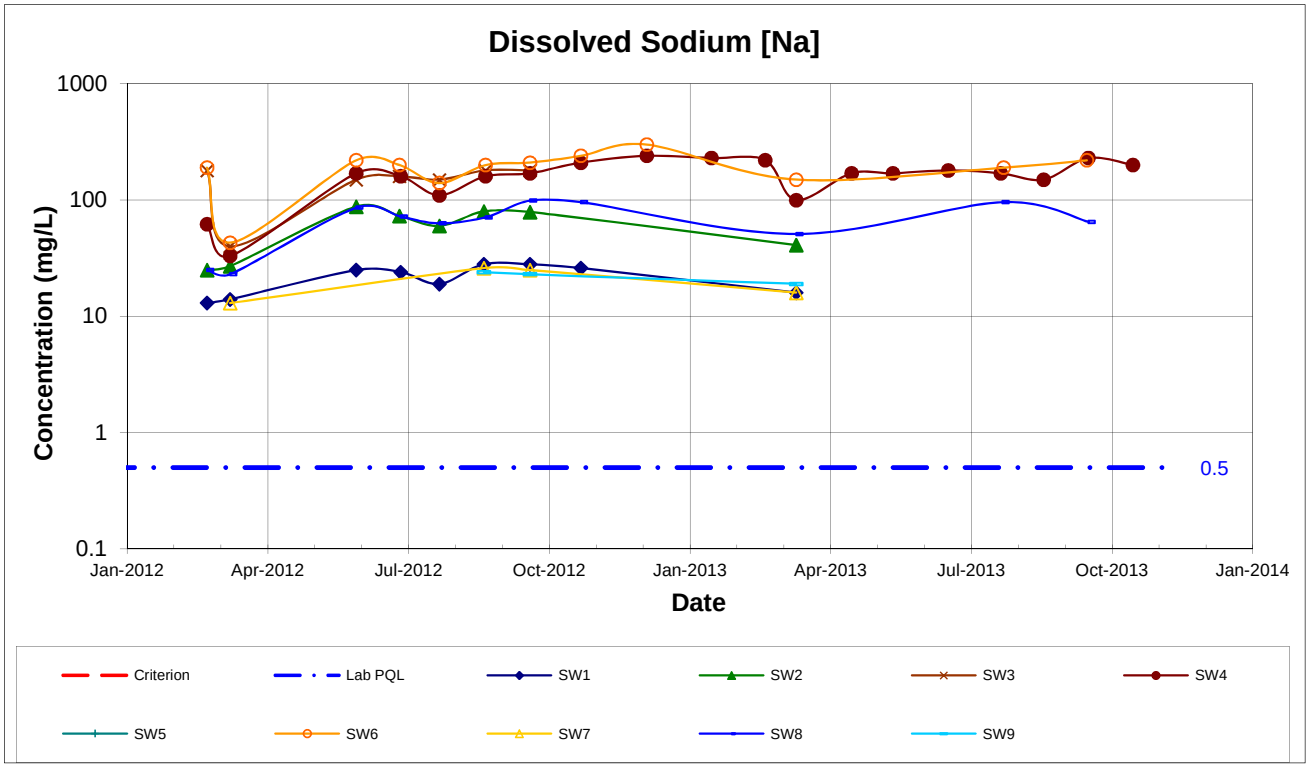

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Douglas Partners
Geotechnics / Environment / Groundwater

Proposed Coal Mine, Bylong, Mid-Western NSW
SURFACE WATER QUALITY MONITORING

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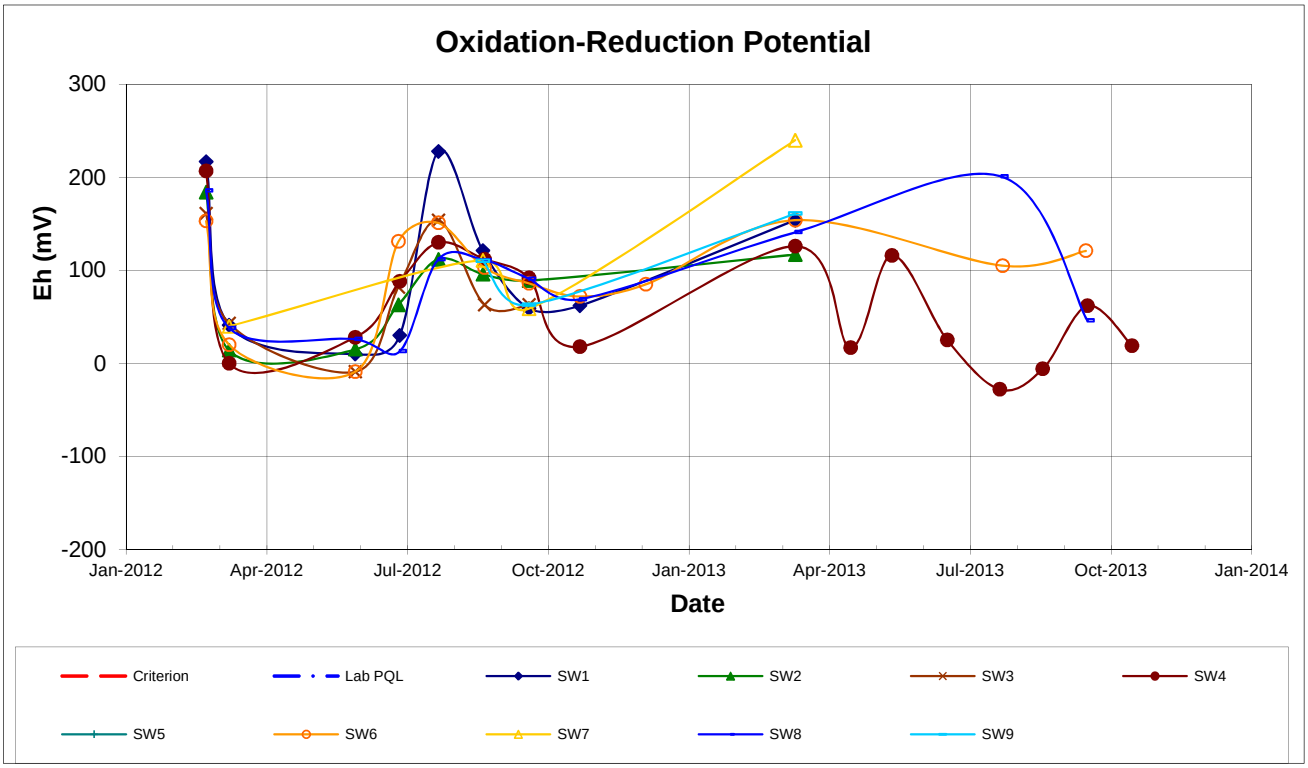

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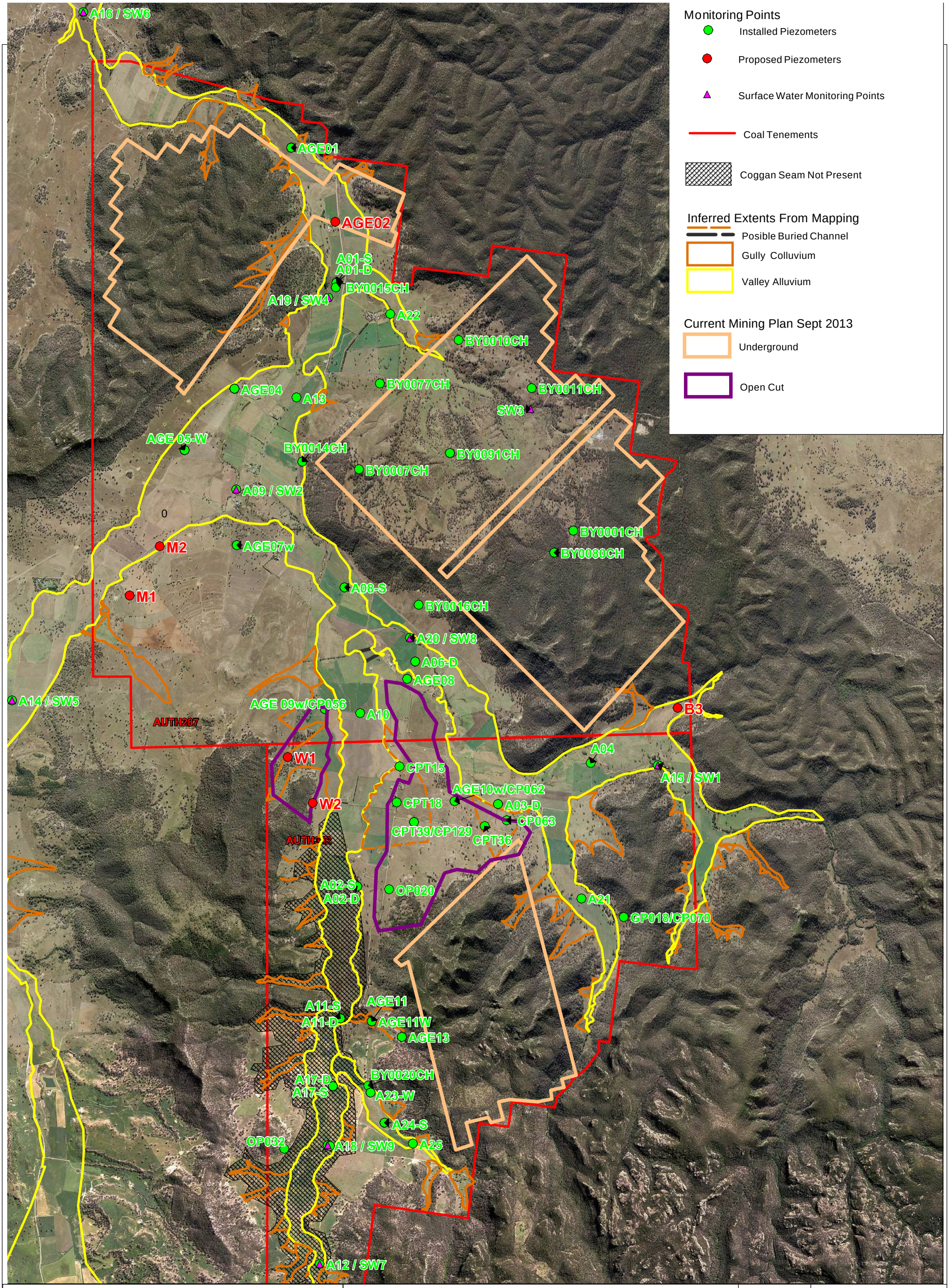
Appendix D

Drawing 1 – Piezometer Installation Options



Douglas Partners
Geotechnics / Environment / Groundwater

TITLE: Piezometer Installation Options
Proposed Coal Mine
Bylong, Central Western NSW

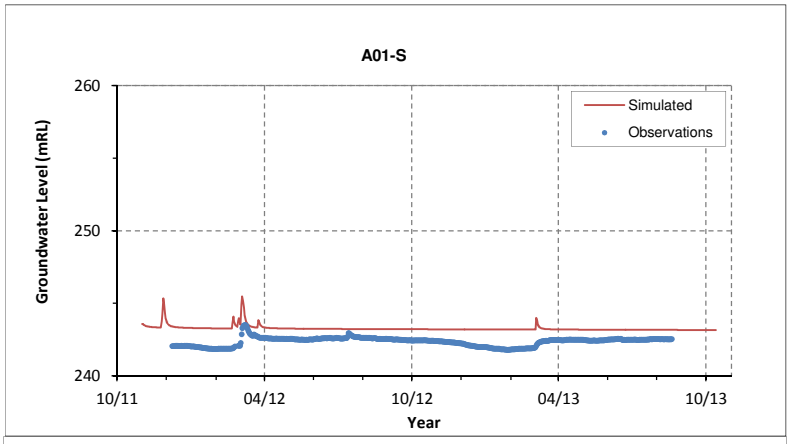
MAG
ISG
MGA
N

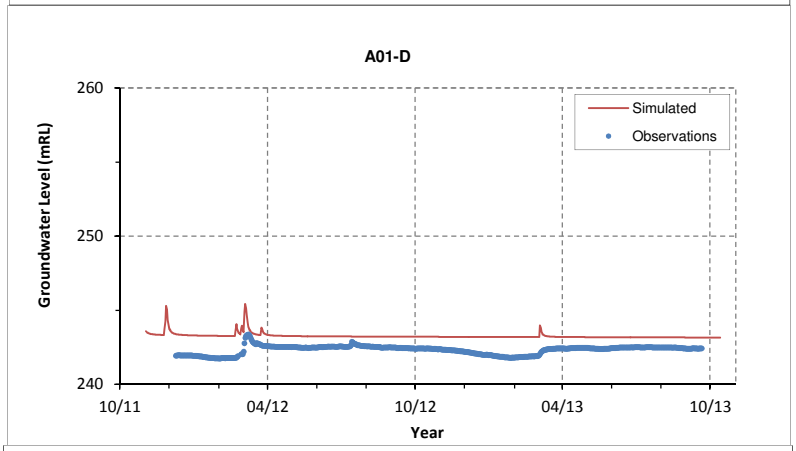
OFFICE: Newcastle
DRAWN BY: PWW
DATE: 1.11.2013

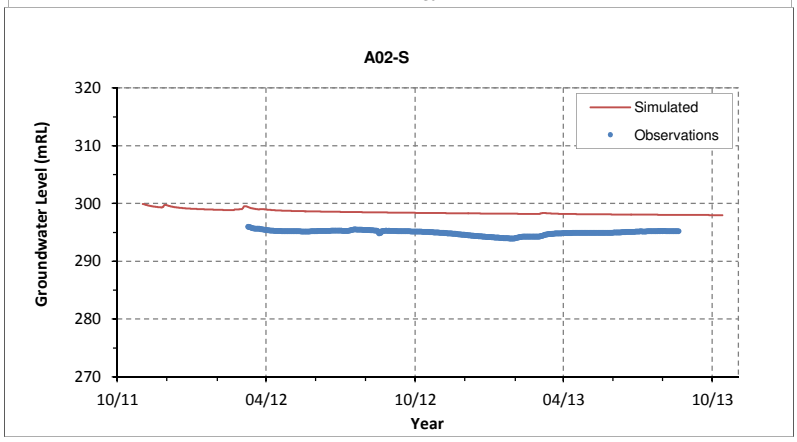
CLIENT: Cockatoo Coal Limited
PROJECT No: 49761.03
DRAWING No: 1
REVISION: 5
SCALE: 1:50,000 @ A3

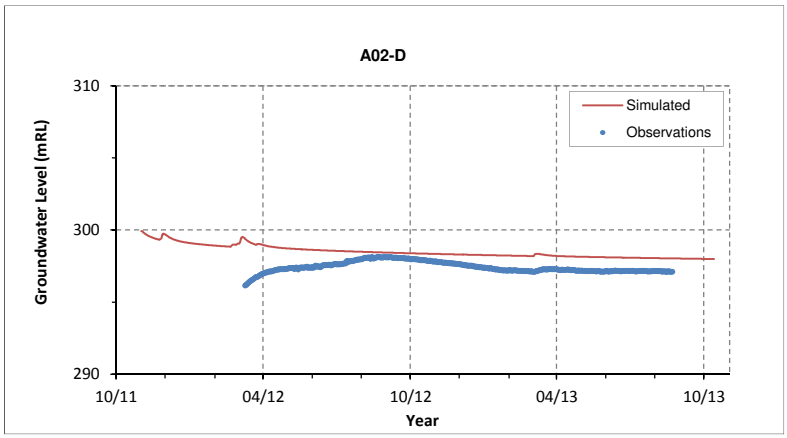
Appendix C

VERIFICATION HYDROGRAPHS

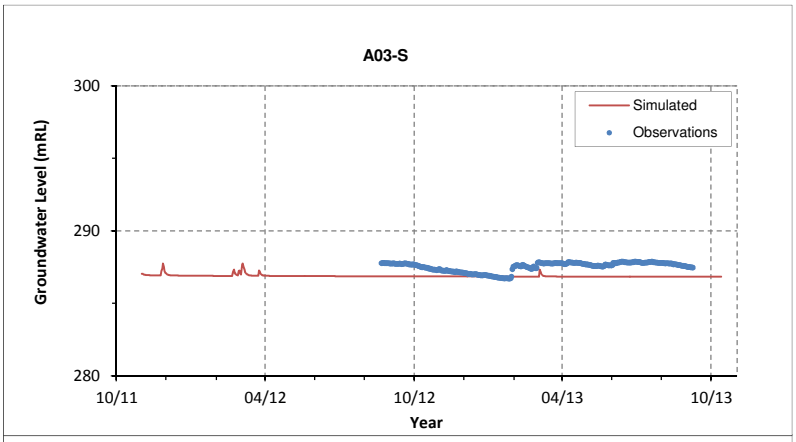


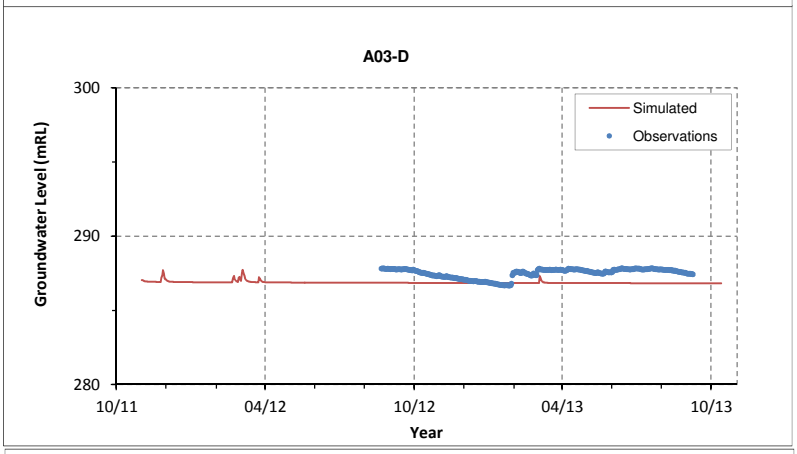


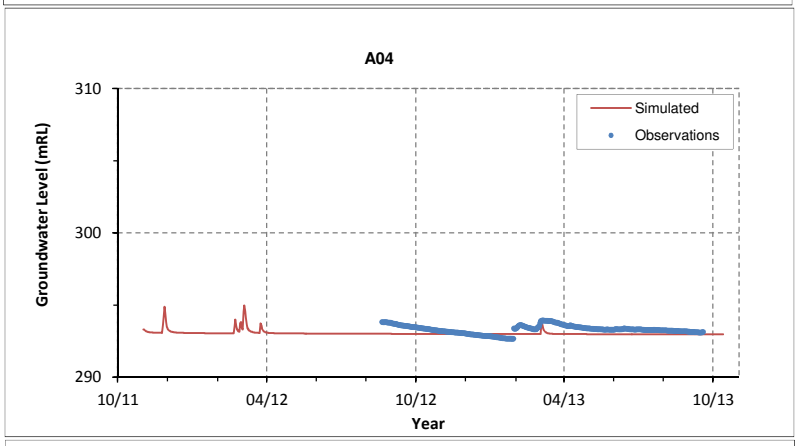


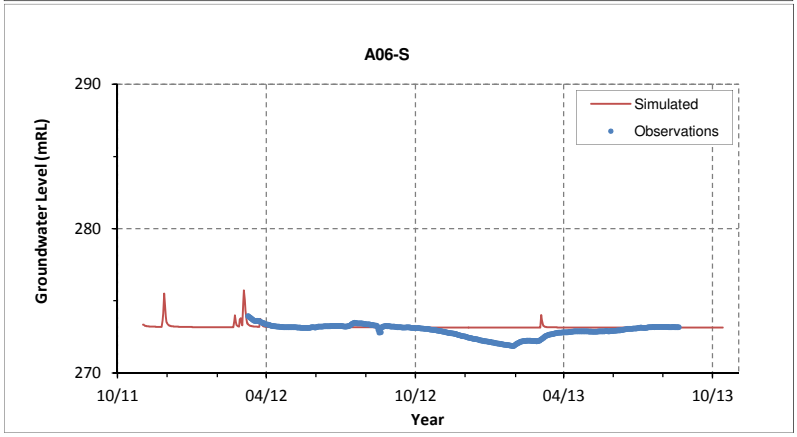


Bore	Screened Interval (mbgl)	Unit	Lithology
A01-D	15.6 - 18.6	Alluvium	Gravel/Sand and Residual Clay
A01-S	1.9 - 7.9	Alluvium	Clay and Gravel/Sand
A02-D	5.5 - 8.5	Alluvium	Soil/Sandy Clay
A02-S	0.8 - 3.8	Alluvium	Silty Clay/ Clayey Silt

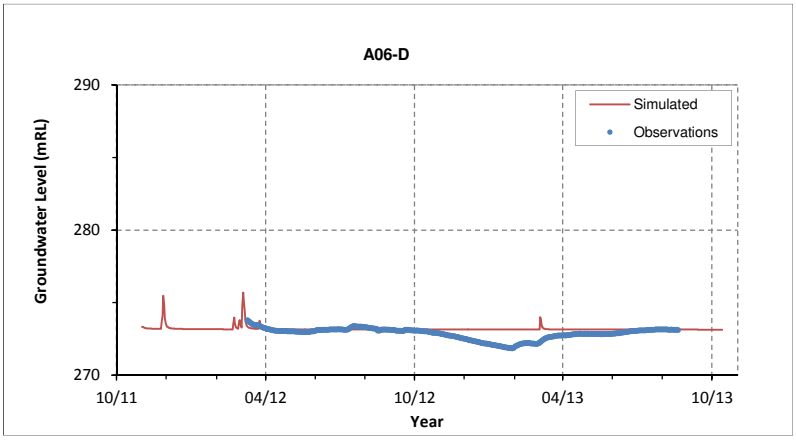


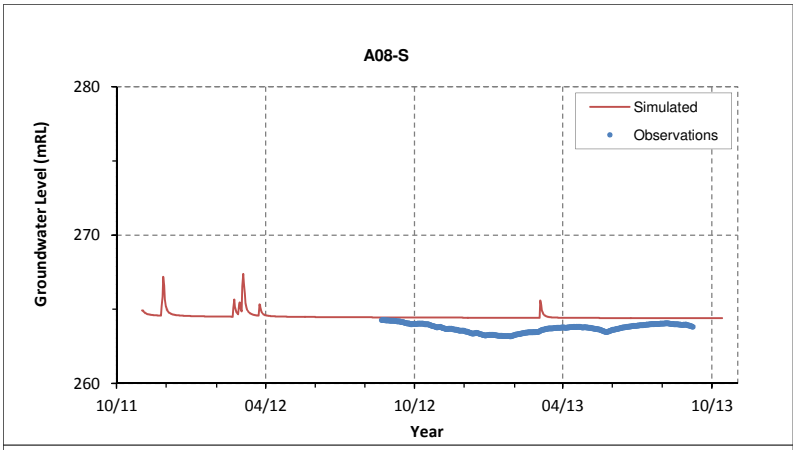


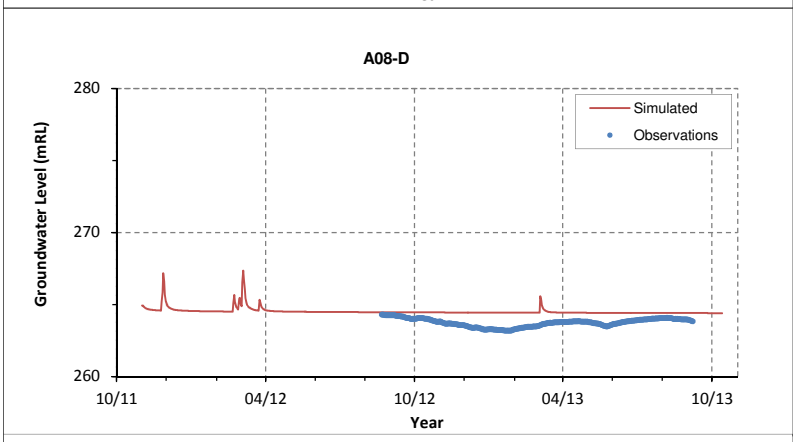


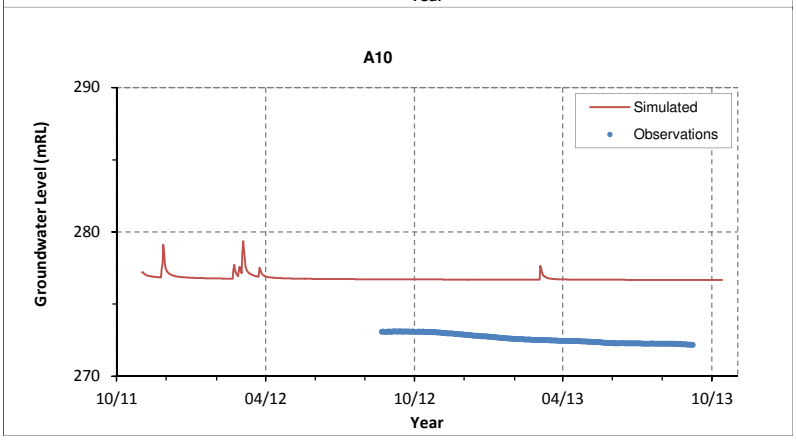


Bore	Screened Interval (mbgl)	Unit	Lithology
A03-D	6.4 - 9.4	Alluvium	Clay/Silty Clay/Clayey Silt
A03-S	0.5 - 3.5	Alluvium	Sandy Clay/Clayey Sand
A04	0.2 - 5.2	Alluvium	Sand
A06-S	1.5 - 4.5	Alluvium	Silty Clay /Silty Sand / Sand

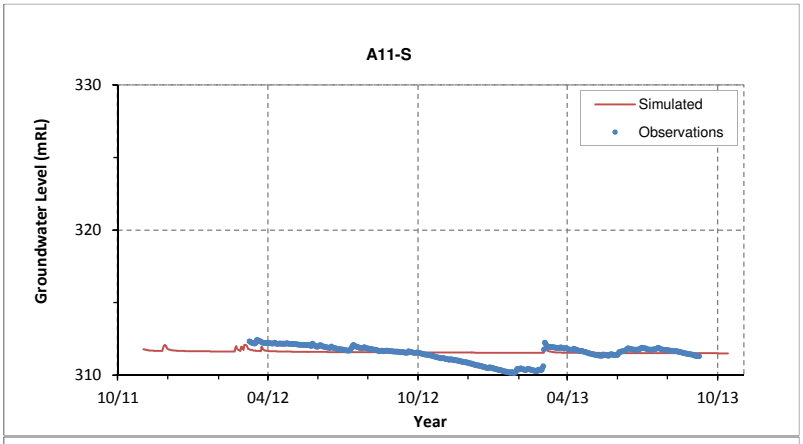


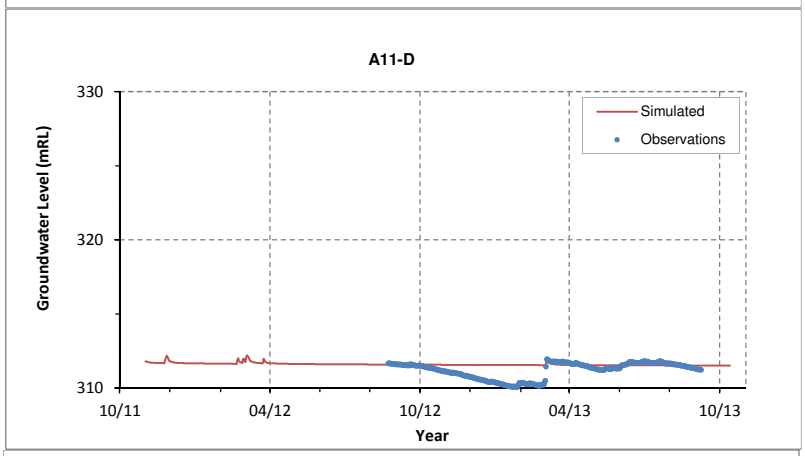


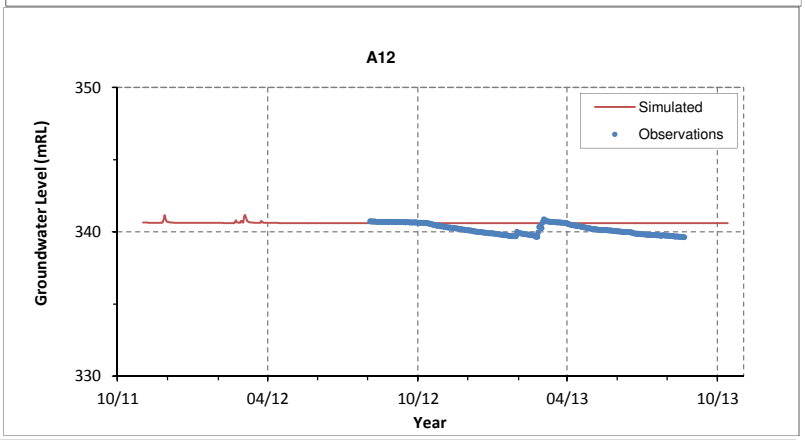


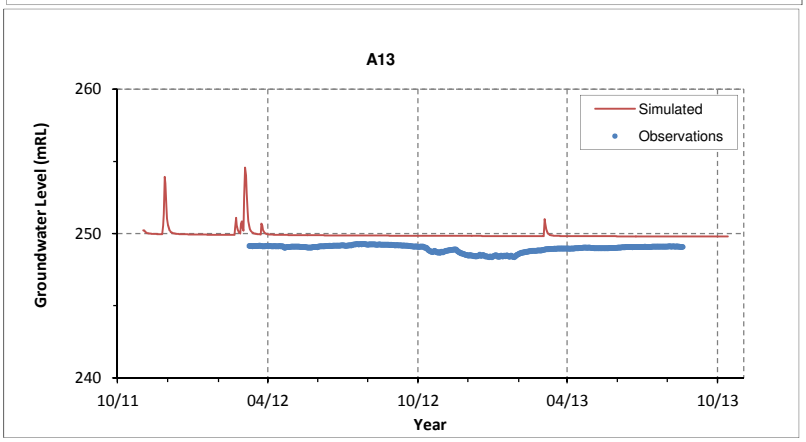


Bore	Screened Interval (mbgl)	Unit	Lithology
A06-D	7.0 - 10.0	Alluvium	Sandy Clay/ Gravelly Clay
A08-S	2.0 - 5.0	Alluvium	Clay/Sand
A08-D	5.6 - 8.6	Alluvium	Clay/Sand
A10	3.0 - 9.0	Alluvium	Sand/ Clay/ Sandy Clay

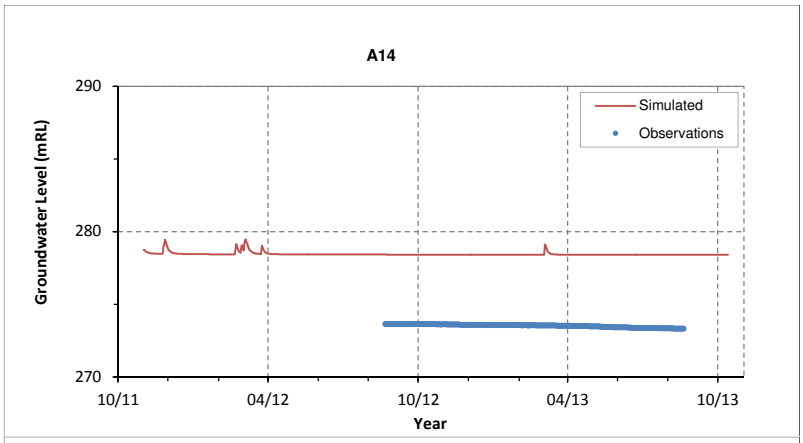


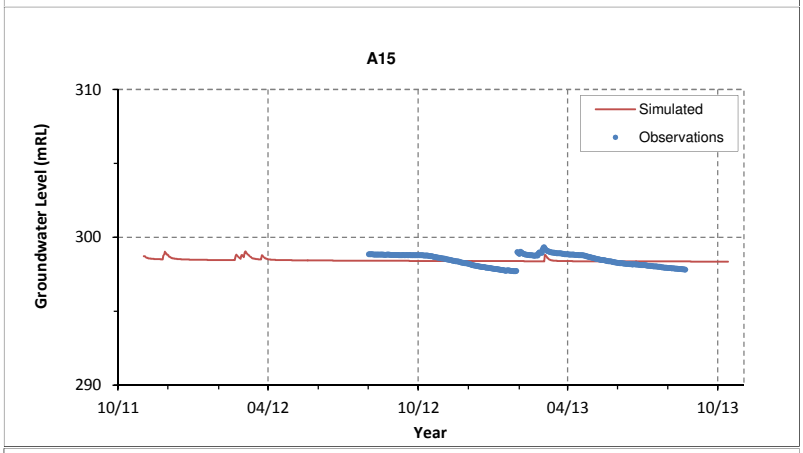


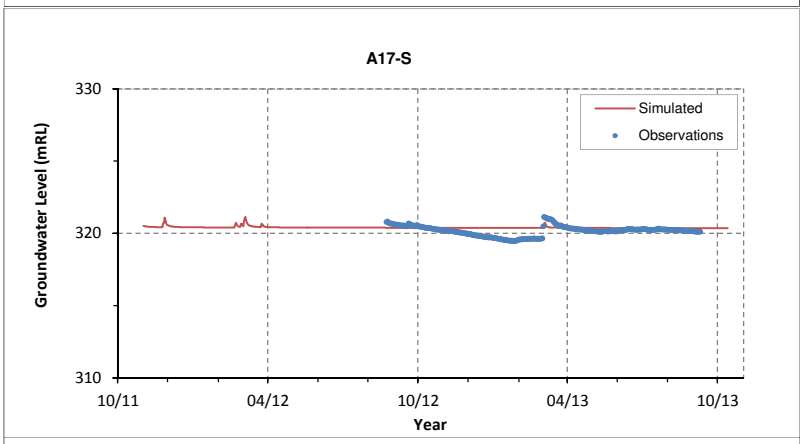


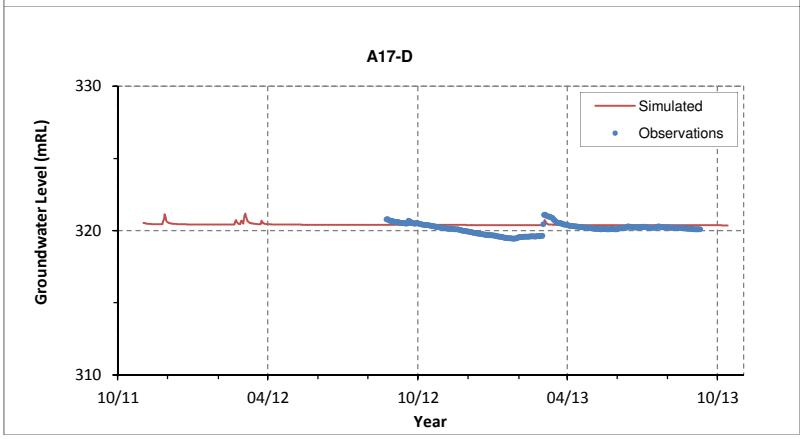


Bore	Screened Interval (mbgl)	Unit	Lithology
A11-S	6.2 - 12.2	Alluvium	Silty Clay/ Sand/ Sandy Gravel
A11-D	0.9 - 3.9	Alluvium	Sand /Sandy Clay
A12	0.9 - 3.9	Alluvium	Sand / Sandy Clay/ Clayey Sand
A13	1.2 - 7.2	Alluvium	Clay and Sand/Sand/ Gravel

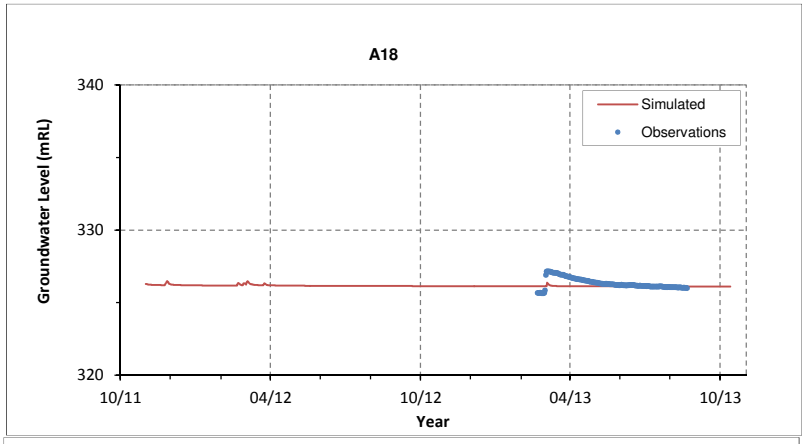


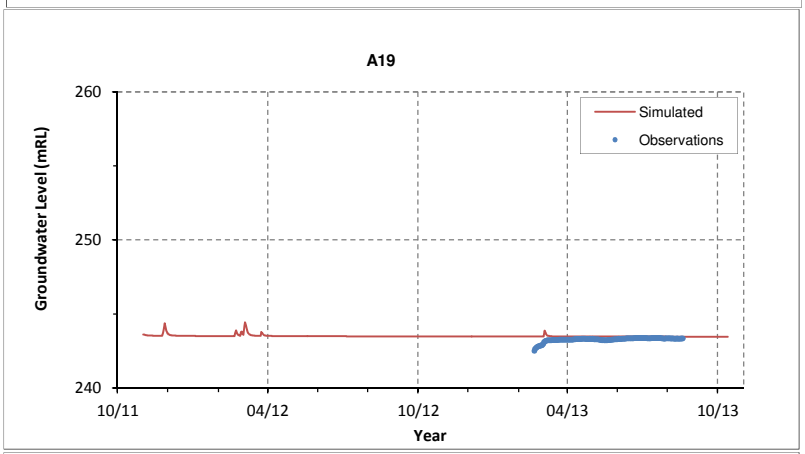


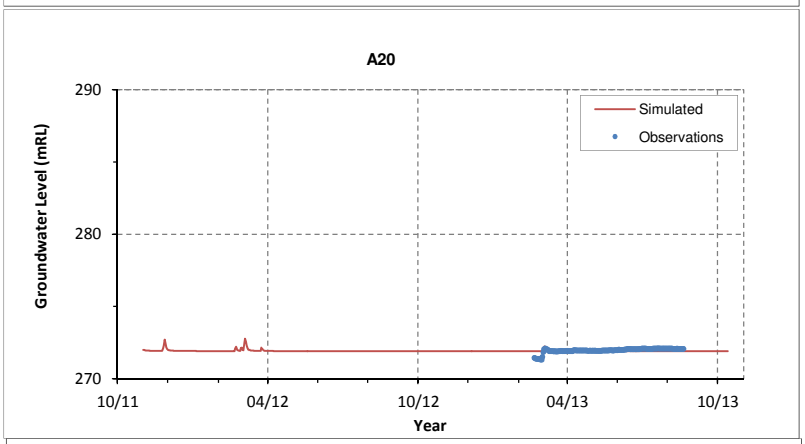


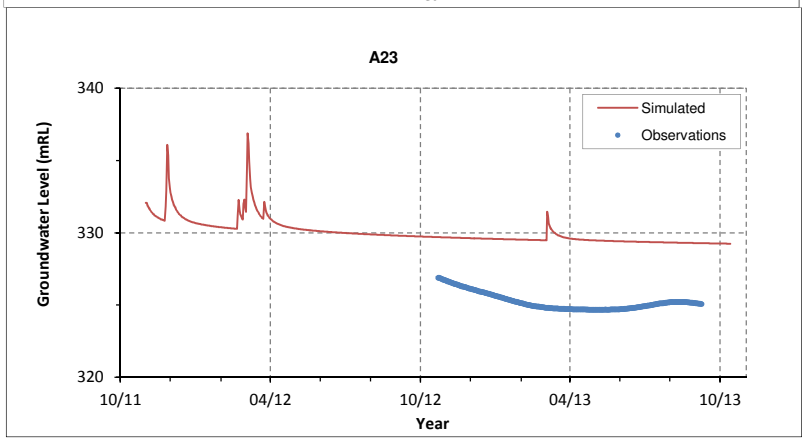


Bore	Screened Interval (mbgl)	Unit	Lithology
A14	2.1 - 8.3	Alluvium	Alluvium
A15	0.3 - 6.3	Alluvium	Alluvium
A17-S	1.2 - 4.2	Alluvium	Alluvium
A17-D	7.3 - 11.3	Alluvium	Alluvium

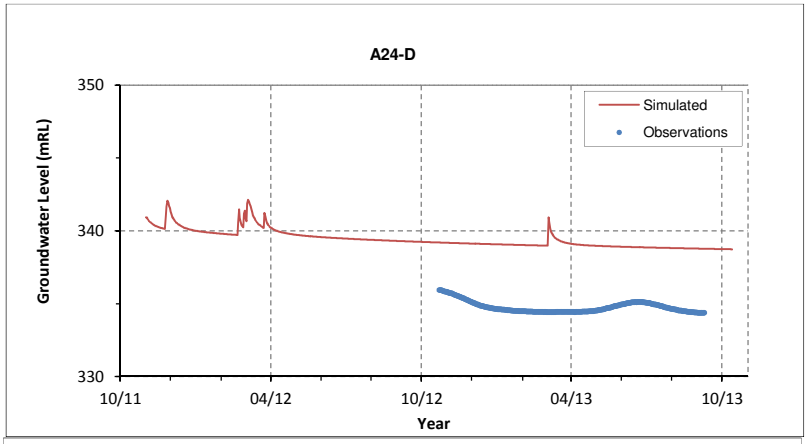


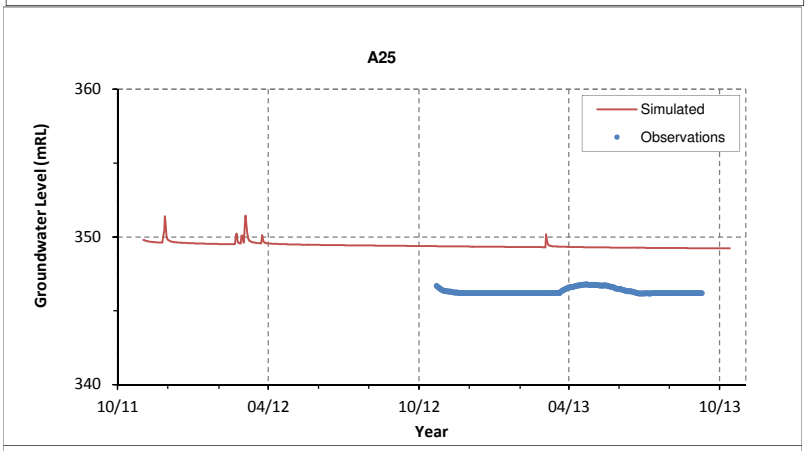


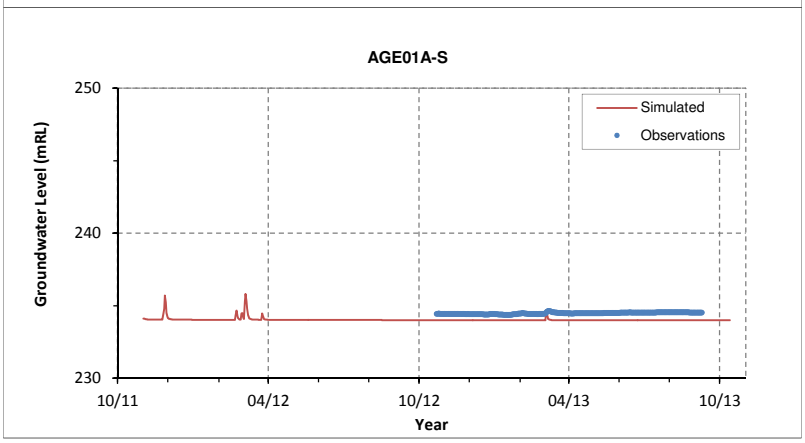


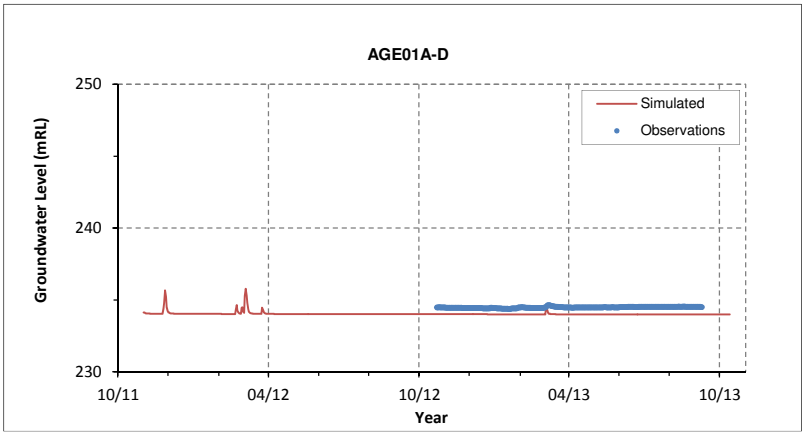


Bore	Screened Interval (mbgl)	Unit	Lithology
A18	0.2 - 6.2	Alluvium	Sandy Silt/Gravelly Sand
A19	2.2 - 5.2	Alluvium	Clay /Clayey & Gravelly Sand
A20	1.2 - 7.2	Alluvium	Sandy Clay/Clay/ Silty Clay
A23	3.4 - 9.4	Alluvium	Clayey sand, sand, gravelly sand

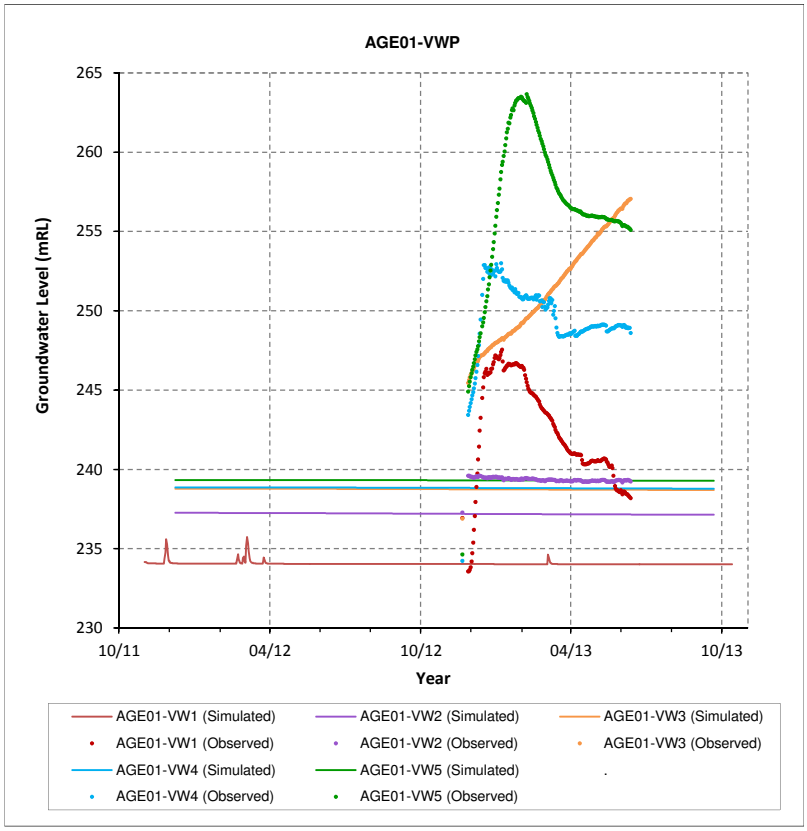




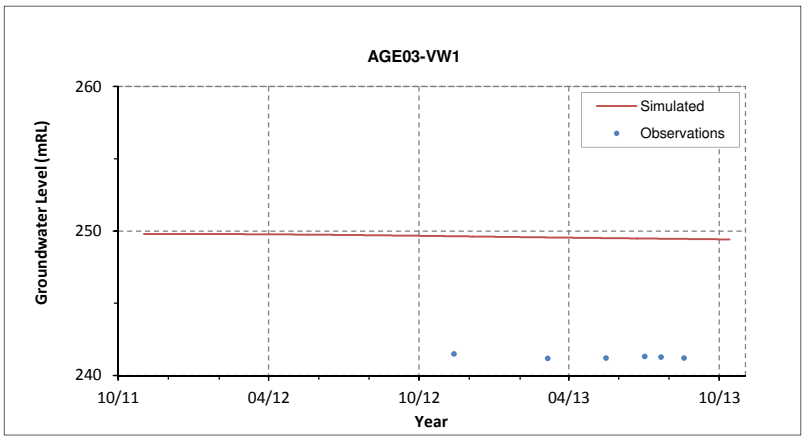


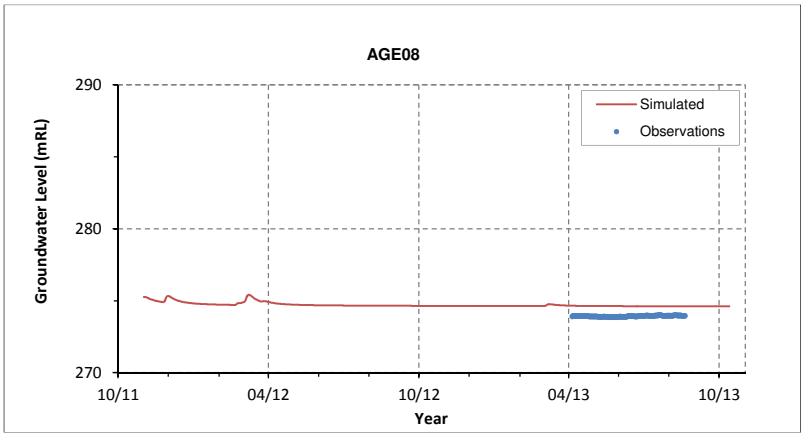


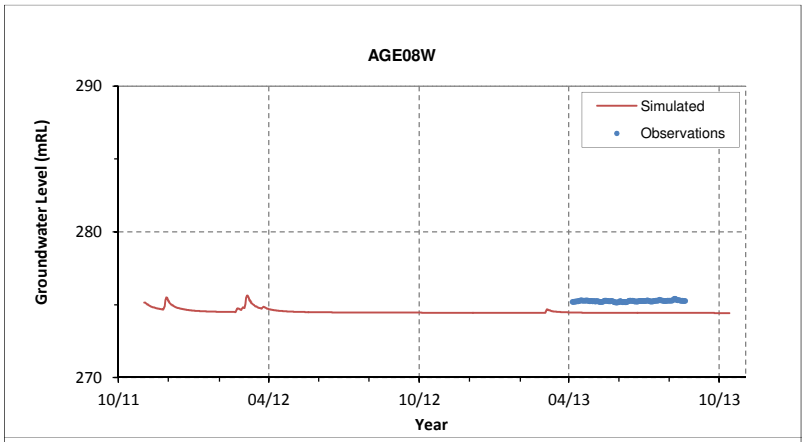
Bore	Screened Interval (mbgl)	Unit	Lithology
A24-D	5.6 - 8.6	Alluvium	Alluvium
A25	2.5 - 5.5	Alluvium	Gravel, sand and sandsteon
AGE01A-S	1.8 - 4.8	Alluvium	Clay and sandy gravel
AGE01A-D	6.4 - 9.4	Alluvium	Sandy gravel

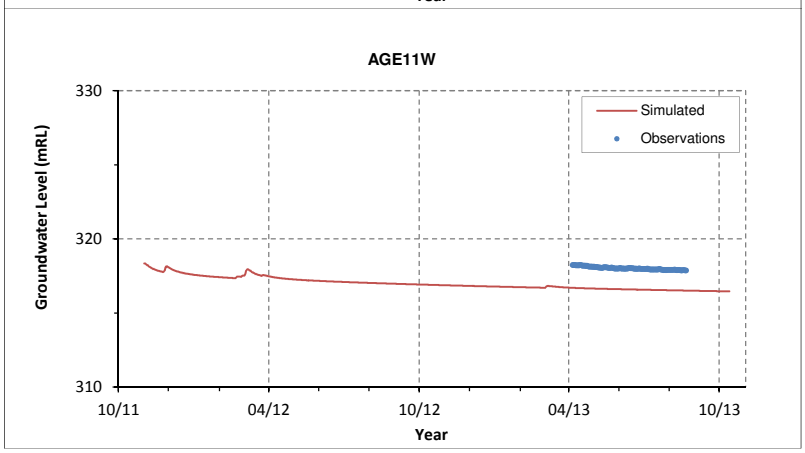


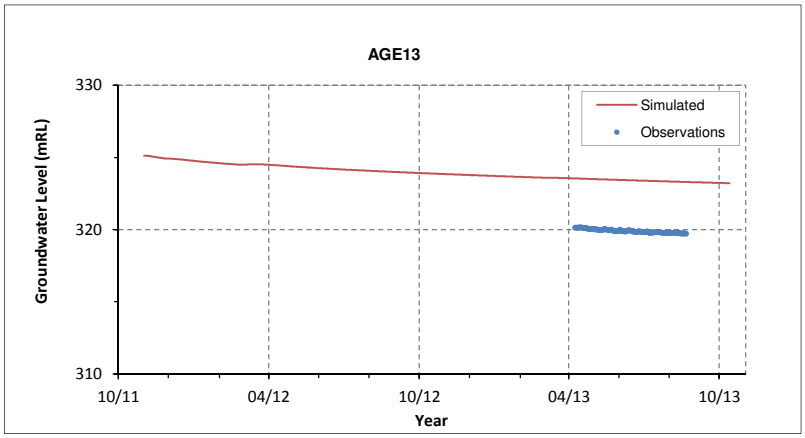
Bore	Screened Interval (mbgl)	Unit	Lithology
AGE01-VW1	27.7	Permian Interburden	Carbonaceous siltstone with interbedded tuff
AGE01-VW2	67.1	Permian Interburden	Sandstone
AGE01-VW3	120.2	Ulan Coal Seam	Coal, sandstone and siltstone
AGE01-VW4	128.2	Coggan Coal Seam	Interburden and coal seam
AGE01-VW5	140.7	Marangaroo Sandstone	Sandstone/ siltstone
AGE03-VW1	30.5	Marangaroo Sandstone	Fresh Sandstone
AGE08	29.4 - 33.4	Coggan Coal Seam	Coal seam

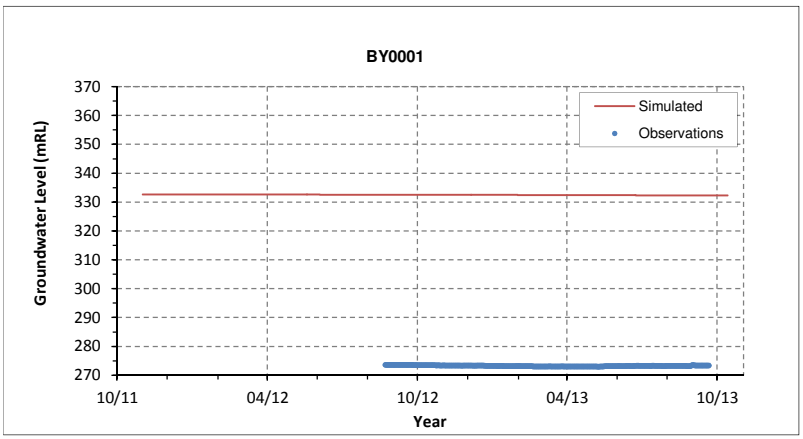




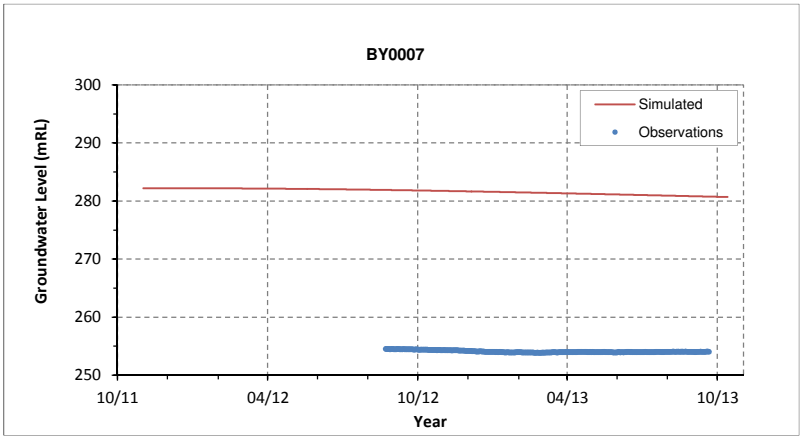


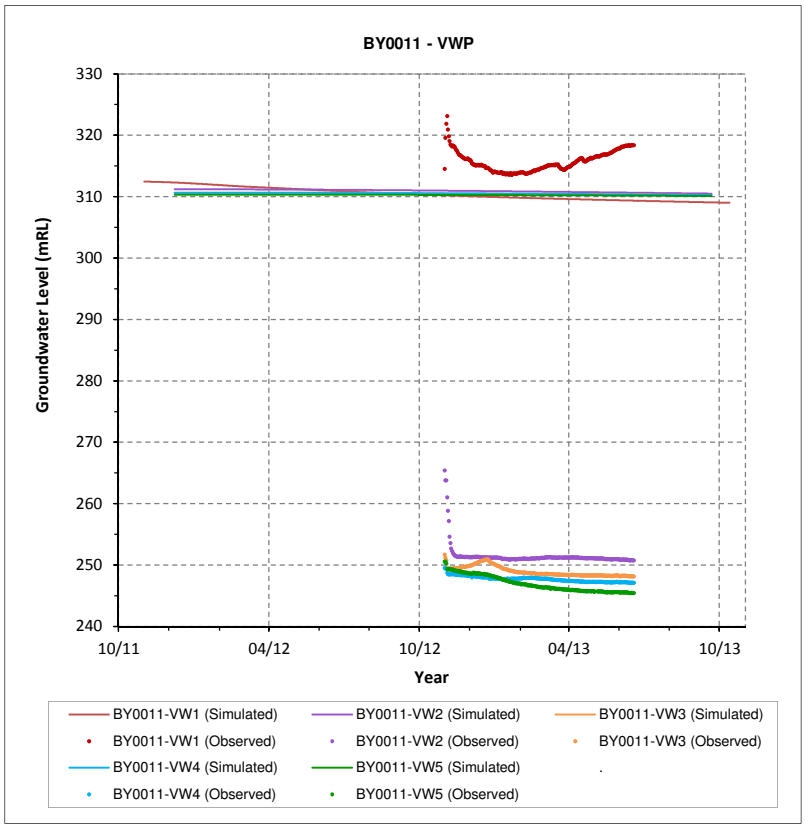


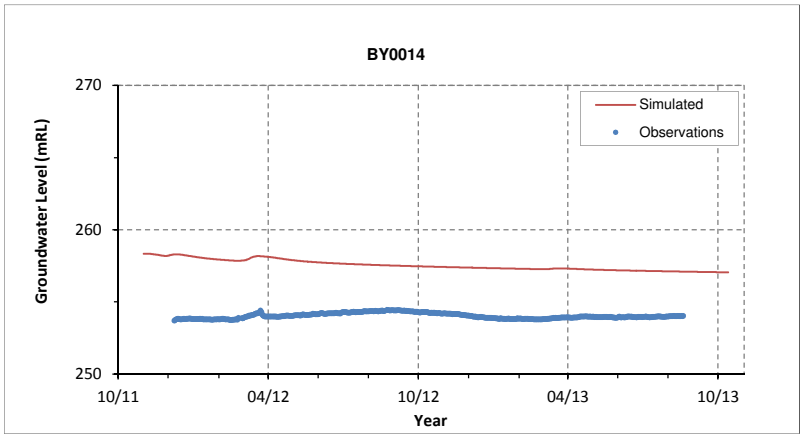




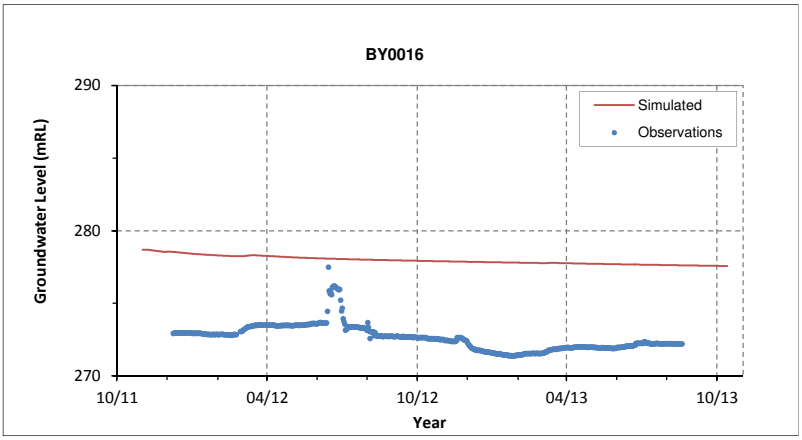
Bore	Screened Interval (mbgl)	Unit	Lithology
AGE08W	7.8 - 13.8	Weathered Permian	Sandstone and coal
AGE11W	5.2 - 14.2	Weathered Permian	Sandstone
AGE13	37.6 - 43.6	Coggan Coal Seam	Sandstone and coal
BY0001	185 - 191	Coggan Coal Seam	Coal seam

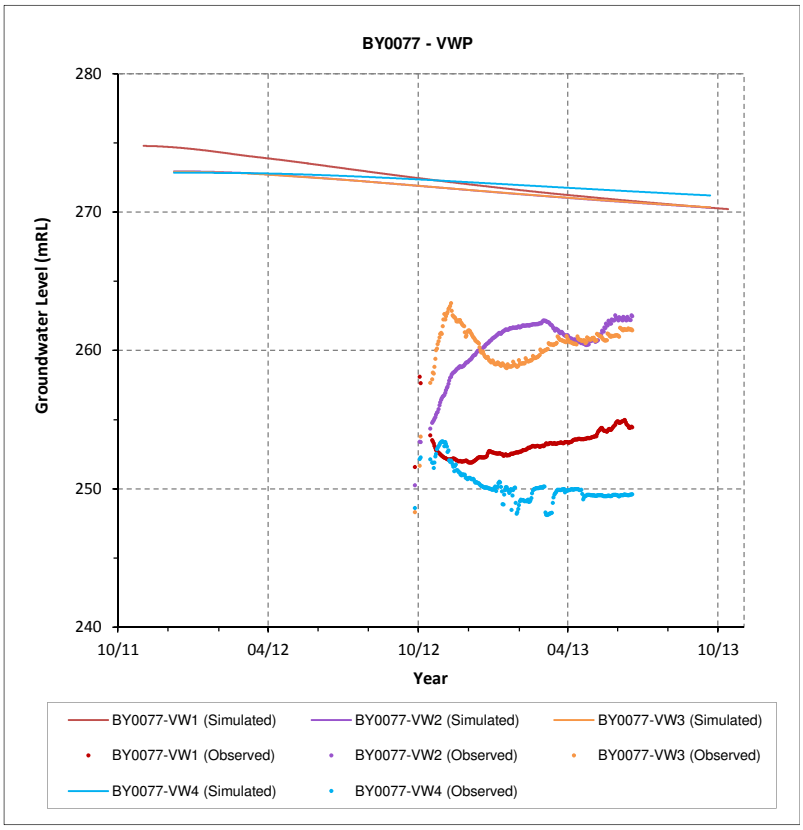


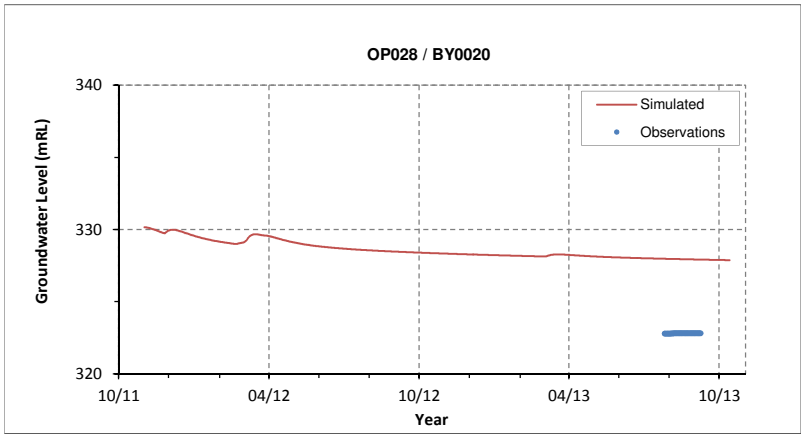




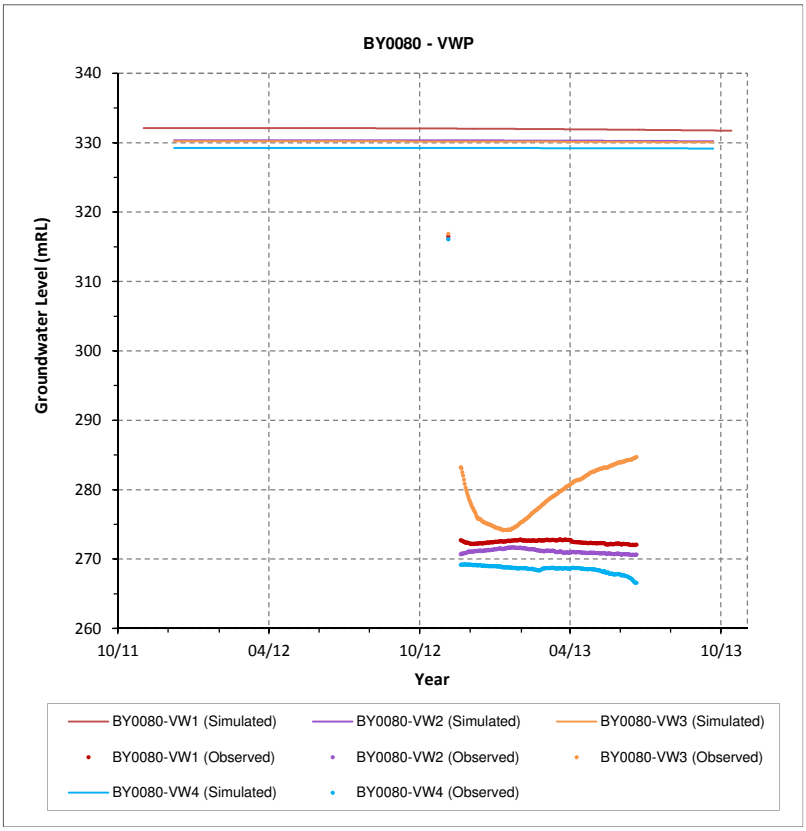
Bore	Screened Interval (mbgl)	Unit	Lithology
BY0007	161 - 167	Coggan Coal Seam	Coal seam
BY0011-VW1	73.4	Permian Interburden	Sandstone
BY0011-VW2	148.8	Permian Interburden	Sandstone
BY0011-VW3	190.4	Ulan Coal Seam	Sandstone, minor coal
BY0011-VW4	202.4	Coggan Coal Seam	Coal seam
BY0011-VW5	220	Marangaroo Sandstone	Sandstone
BY0014	50.2 - 56.2	Coggan Coal Seam	Coal, siltsonte, sandstone, conglomerate



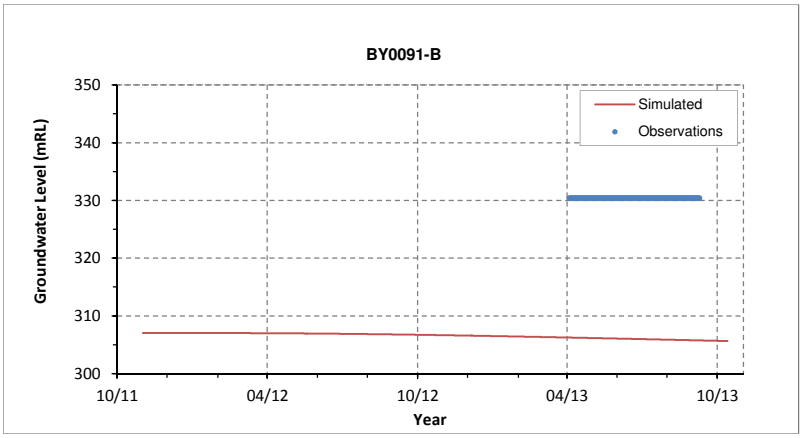


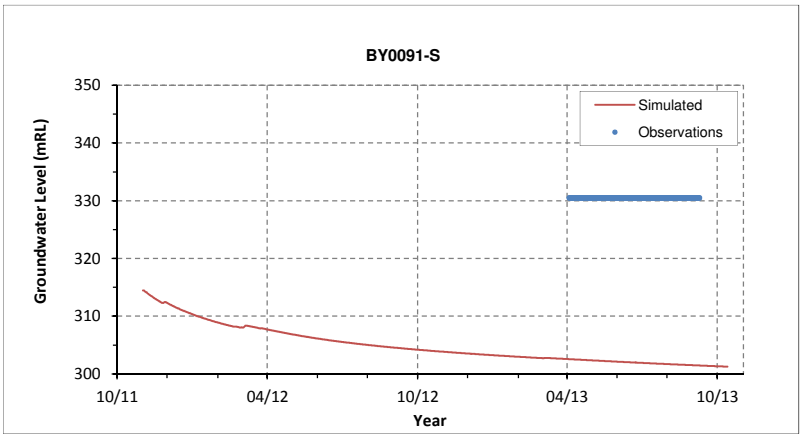


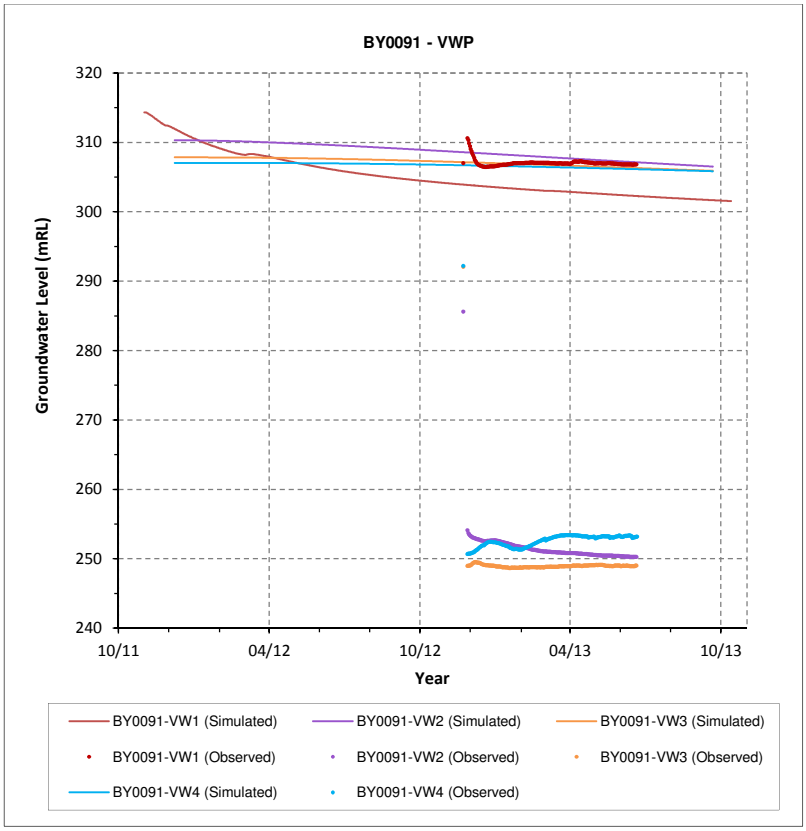
Bore	Screened Interval (mbgl)	Unit	Lithology
BY0016	39.8 - 45.8	Coggan Coal Seam	Coal seam
BY0077-VW1	48.3	Permian Interburden	Sandstone, siltstone
BY0077-VW2	107.9	Ulan Coal Seam	Sandstone and coal
BY0077-VW3	118.8	Coggan Seam	Coal seam
BY0077-VW4	139.75	Marangaroo Sandstone	Sandstone
BY0020	36	Marangaroo Sandstone	Sandstone

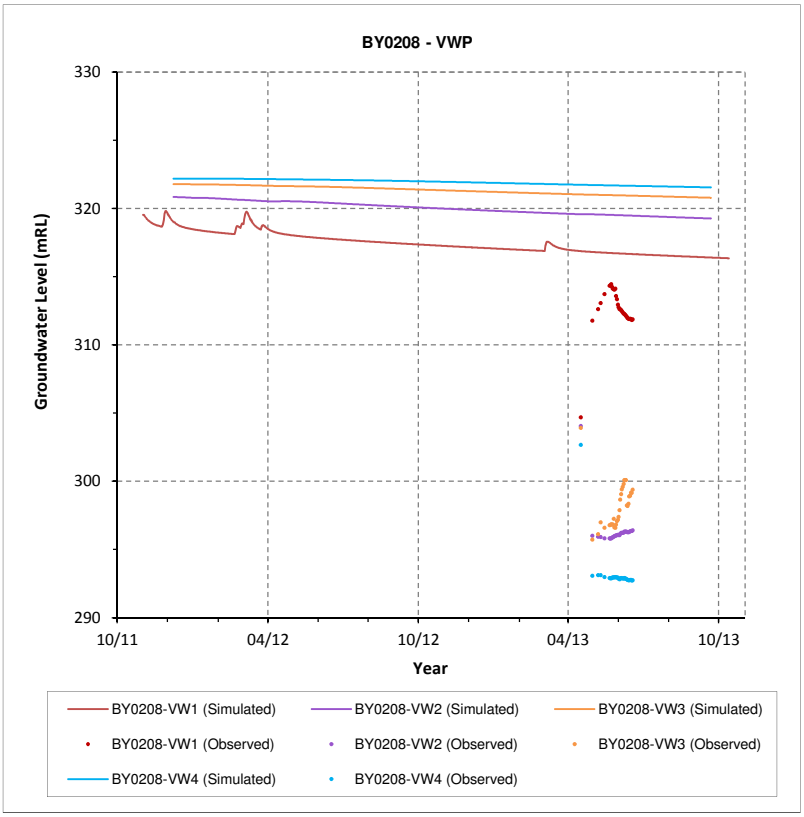


Bore	Screened Interval (mbgl)	Unit	Lithology
BY0080-VW1	177.2	Permian Interburden	Siltstone/ sandstone
BY0080-VW2	200	Ulan Coal Seam	Coal seam
BY0080-VW3	210.7	Coggan Coal Seam	Coal seam
BY0080-VW4	230	Marangaroo Sandstone	Sandstone
BY0091-B	11.4 - 16.0	Basalt	Basalt
BY0091-S	30 - 36	Marangaroo Sandstone	Sandstone









Bore	Screened Interval (mbgl)	Unit	Lithology
BY0091-VW1	57	Permian Interburden	Sandstone
BY0091-VW2	103.4	Permian Interburden	Sandstone/ siltstone
BY0091-VW3	172.5	Coggan Coal Seam	Coal seam
BY0091-VW4	185	Marangaroo Sandstone	Sandstone
BY0208-VW1	37.3	Permian Interburden	-
BY0208-VW2	60	Permian Interburden	-
BY0208-VW3	87.5	Coggan Coal Seam	Coal seam
BY0208-VW4	98.5	Marangaroo Sandstone	Sandstone