

Table 2
Summary of Groundwater Field Parameters - August 2019

Note: LOR E12= AGJV E11

Well ID	Sampling Event	Date Measured	SWL (mbTOC)	BOC (mbTOC)	Dissolved Oxygen (ppm)	Electrical Conductivity (us/cm)	pH	Ox-Red Potential (mV)	Temperature (°C)	Comments
CSM_BH02	Event 11 - Aug 2019	29/08/2019	21.49	34.05	0.08	1023	6.75	40.7	19.3	Brown, silty, no odour/sheen
CSM_BH04	Event 11 - Aug 2019	29/08/2019	22.17	34.28	1.58	421.4	5.34	75.9	19.7	Orange, turbid, no odour/sheen
CSM_BH05	Event 11 - Aug 2019	28/08/2019	-	20.72	-	-	-	-	-	WELL DESTROYED BY TBM
CSM_BH06	Event 11 - Aug 2019	28/08/2019	22.03	35.46	5.9	1036	6.81	66.9	21.9	Clear, no odour/sheen
CSM_BH08	Event 11 - Aug 2019	29/08/2019	14.83	35.05	0.37	663	6.45	-10.8	20.2	Clear, no sediment, no odour/sheen
CSM_BH09S	Event 11 - Aug 2019	28/08/2019	4.425	6.59	0.77	568	5.73	44.7	18.9	Clear/light brown, no odour/sheen
CSM_BH10S	Event 11 - Aug 2019	29/08/2019	4.63	9.815	0.95	239.3	5.01	77.3	19.5	Brown cloudy, no odour/sheen
SRT_BH047	Event 11 - Aug 2019	30/08/2019	4.65	6.965	1.04	416.1	7.95	42.2	18.8	Slightly turbid, clear and colourless, no odour/sheen
SRT_BH052	Event 11 - Aug 2019	30/08/2019	6.314	7.8	3.86	406.7	9.01	50.4	18.7	Brown, slightly turbid, no odour/sheen
SRT_BH059	Event 11 - Aug 2019	30/08/2019	3.003	6	6.9	349	6.91	447	18.5	Clear, colourless, no odour/sheen
SRT_BH063	Event 11 - Aug 2019	28/08/2019	10.81	14.8	6.85	785	6.74	64.4	21.3	Brown cloudy, no odour/sheen
SRT_CBH015	Event 11 - Aug 2019	30/08/2019	4.04	5.91	1.03	208.1	5.19	65.1	19.6	Clear and colourless, no odour/sheen
SRT_CBH017	Event 11 - Aug 2019	30/08/2019	3.373	4.94	2.34	233.9	6.47	50.1	19.6	Clear and colourless, no odour/sheen
GASW_BH7	Event 11 - Aug 2019	28/08/2019	4.115	6.21	1	438.4	4.24	91.5	20.4	Clear, no odour/sheen
GASW_BH10	Event 11 - Aug 2019	28/08/2019	20.625	25	4.04	1239	6.74	-25.7	20.8	Clear, slightly turbid, no odour/sheen
GASW_BH11	Event 11 - Aug 2019	28/08/2019	5.635	9.01	1.06	316.3	5.6	35.8	20.8	Brown cloudy, no odour/sheen



Table 1
Summary of Groundwater Analytical Results - August 2019

	Iron speciation		Inorganics				Hardness & Alkalinity		Major Ions						Nutrients		Metals								BTEXN							
	Ferrous Iron	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Calcium	Magnesium	Potassium	Sodium	Chloride	Sulfate	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene (BTEXN)	BTEX (Sum of Total) - Lab Calc
EQL	0.05	0.1	10	1	0.005	10	20	0.5	0.5	0.5	0.5	1	5	0.01	0.02	0.001	0.0002	0.001	0.001	0.001	0.0005	0.0001	0.001	0.005	1	1	1	1	2	3	10	1
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																
2-4m																									5000	NL	NL			NL	NL	
4-8m																									5000	NL	NL			NL	NL	
>8m																									5000	NL	NL			NL	NL	
NEPM 2013 Table 1C GILs, Marine Waters																																
					0.004												0.0007 ^{#3}	0.0044 ^{#4}	0.0013 ^{#4}	0.0044 ^{#4}		0.0001 ^{#5}	0.007 ^{#4}	0.015 ^{#6}	500 ^{#7}							
NHMRC Recreational Guidelines 2008 - Health																																
					0.8								5000			0.1	0.02				20	0.1	5	0.01	0.2	10	8000	3000		6000		
Sydney Water Trade Waste Acceptance Standards 2018-19 (non-domestic)																																
					1											1	1	3	5	2	10	0.03	3	5	100	500	1000			1000		

Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Lab_Report_Number	Ferrous Iron	pH (Lab)	Total Dissolved Solids	Total Suspended Solids	Cyanide (Total)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Bicarbonate as CaCO3)	Calcium	Magnesium	Potassium	Sodium	Chloride	Sulfate	Ammonia as N	Nitrate (as N)	Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Manganese (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene (BTEXN)	BTEX (Sum of Total) - Lab Calc	
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	<0.05	7.9	610	6400	<0.005	<10	320	49	40	5.7	120	190	25	<0.01	<0.02	<0.001	<0.0002	<0.001	0.002	<0.001	0.24	<0.0001	0.006	0.007	<1	<1	<1	<1	<2	<3	<10	-	
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	2	6.5	290	630	<0.005	<10	120	6.3	12	2.2	72	55	45	<0.01	<0.02	<0.001	<0.0002	<0.001	0.003	<0.001	0.45	<0.0001	0.037	0.1	<1	<1	<1	<1	<2	<3	<10	-	
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	<0.05	8	600	810	<0.005	<10	210	41	34	5.2	110	200	22	<0.01	0.03	<0.001	<0.0002	<0.001	0.01	<0.001	0.23	<0.0001	0.019	0.086	<1	<1	<1	<1	<2	<3	<10	-	
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	6.6	7.4	420	34	<0.005	<10	160	17	23	4.3	93	110	32	0.03	<0.02	<0.001	<0.0002	<0.001	0.021	<0.001	0.4	<0.0001	0.016	0.16	<1	<1	<1	<1	<2	<3	<10	-	
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	4.6	6.8	440	87	<0.005	<10	61	5.1	6.6	3.6	110	49	160	0.04	<0.02	<0.001	<0.0002	<0.001	0.001	<0.001	0.65	<0.0001	0.008	0.045	<1	<1	<1	<1	<2	<3	<10	-	
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	<0.05	6.1	240	170	<0.005	<10	20	3.9	5.5	2.9	39	19	57	<0.01	2	<0.001	<0.0002	<0.001	0.004	<0.001	0.48	<0.0001	0.002	0.014	<1	<1	<1	<1	<2	<3	<10	-	
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	4.2	7.7	1100	260	<0.005	<10	440	41	40	29	150	170	<5	0.16	<0.02	0.002	<0.0002	<0.001	<0.001	<0.001	0.32	<0.0001	0.043	0.029	<4	<4	<4	<4	<8	<12	<40	-	
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	1.2	6.6	250	22	<0.005	<10	55	5.3	7.1	1.7	52	39	48	0.01	<0.02	<0.001	<0.0002	<0.001	0.003	<0.001	0.23	<0.0001	0.002	0.016	<1	<1	<1	<1	<2	<3	<10	-	
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	19	3.5	330	14	<0.005	<10	<20	3.7	4.8	0.7	64	29	150	0.03	<0.02	<0.001	<0.0002	<0.001	0.019	0.002	0.13	<0.0001	0.006	0.078	27	<1	<1	<1	<1	<2	<3	<10	-
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0001	<0.001	<0.001	<0.001	-	<0.0001	0.009	0.041	<1	<2	<2	<2	<2	<2	<5	<1	
QC02	SRT_CBH015	30/08/2019	Field_D	674722	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	<0.0002	<0.001	0.002	<0.001	-	<0.0001	0.009	0.026	<1	<1	<1	<1	<2	<3	<10	-	
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	<0.05	8.1	360	51	<0.005	<10	120	50	8.6	0.9	33	22	10	<0.01	22	<0.001	<0.0002	<0.001	0.003	<0.001	<0.005	<0.0001	<0.001	0.008	<1	<1	<1	<1	<2	<3	<10	-	
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	<0.05	7.8	330	160	<0.005	<10	110	36	6.8	1.8	45	38	30	<0.01	6.7	<0.001	<0.0002	0.002	0.003	<0.001	<0.005	<0.0001	<0.001	0.01	<1	<1	<1	<1	<2	<3	<10	-	
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	<0.05	7.9	290	13	<0.005	<10	170	60	6.4	6.7	11	8	15	<0.01	3.5	<0.001	<0.0002	0.001	0.028	0.001	<0.005	<0.0001	0.012	0.12	<1	<1	<1	<1	<2	<3	<10	-	
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	<0.05	7.8	470	56	<0.005	<10	310	55	35	5.8	68	66	50	<0.01	0.34	<0.001	<0.0002	<0.001	0.01	<0.001	0.017	<0.0001	0.007	0.032	<1	<1	<1	<1	<2	<3	<10	-	
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	<0.05	6.3	180	10	<0.005	<10	25	2.7	5.7	4	23	9.5	49	<0.01	2.3	<0.001	<0.0002	<0.001	0.002	<0.001	6.5	<0.0001	0.009	0.025	<1	<1	<1	<1	<2	<3	<10	-	
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	<0.05	7	180	3.8	<0.005	<10	67	12	9.6	3.4	19	13	26	<0.01	0.32	<0.001	<0.0002	<0.001	0.005	<0.001	0.38	<0.0001	0.004	0.014	<1	<1	<1	<1	<2	<3	<10	-	



Table 1
Summary of Groundwater Analytical Results - August 2019

	TRH - NEPM 2013							NEPM 2013 - SG Cle			TRH - NEPM 1999				IH - NEPM 1999 - SG Clean				PAHs																			
	F1 (C6-C10 minus BTEX)	C6-C10 Fraction	F2 (>C10-C16 minus Naphthalene)	>C10-C16 Fraction	F3 (>C16-C34 Fraction)	F4 (>C34-C40 Fraction)	>C10-C40 (Sum of Total)	>C10-C16 SG Cleanup	>C16-C34 SG Cleanup	>C34-C40 SG Cleanup	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 (Sum of Total)	C10-C14 SG Cleanup	C15-C28 SG Cleanup	C29-C36 SG Cleanup	C10-C36 (sum) SG Cleanup	Sum of polycyclic aromatic hydrocarbons	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene-PAH	Phenanthrene	Pyrene	PAHs (Sum of total) - Lab calc	Total 8 PAHs (as BaP TEQ)(zero LOR) - Lab Calc
EQL	20	20	50	50	100	100	100	50	100	100	20	50	100	100	100	50	100	100	100	0.0005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5
NEPM 2013 Table 1A(4) HSL D Comm/Ind GW for Vapour Intrusion, Sand																																						
2-4m	6000 ^{#2}		NL																																			NL
4-8m	6000 ^{#2}		NL																																			NL
>8m	7000 ^{#2}		NL																																		NL	
NEPM 2013 Table 1C GILs, Marine Waters																																						
NHMRC Recreational Guidelines 2008 - Health																																						
Sydney Water Trade Waste Acceptance Standards 2018-19 (non-domestic)																																						

Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Lab_Report_Number	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
CSM_BH02	CSM_BH02	29/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
CSM_BH04	CSM_BH04	29/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
CSM_BH06	CSM_BH06	28/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
CSM_BH08	CSM_BH08	29/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
CSM_BH09S	CSM_BH09S	28/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
CSM_BH10S	CSM_BH10S	29/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
GASW_BH10	GASW_BH10	28/08/2019	Normal	674722	<80	<80	310	310	100	<100	410	<50	<100	<100	<80	260	100	<100	360	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
GASW_BH11	GASW_BH11	28/08/2019	Normal	674722	<20	<20	270	270	<100	<100	270	140	<100	<100	<20	270	<100	<100	270	180	<100	<100	180	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
GASW_BH7	GASW_BH7	28/08/2019	Normal	674722	20	50	450	450	200	<100	650	<50	<100	<100	50	290	400	<100	690	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
QC01	CSM_BH09S	28/08/2019	Interlab_D	EM1914568	<20	<20	<100	<100	<100	<100	<100	-	-	-	<20	<50	<100	<50	<50	-	-	-	-	<0.0005	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	
QC02	SRT_CBH015	30/08/2019	Field_D	674722	<20	<20	<50	<50	<100	<100	<100	-	-	-	<20	<50	<100	<100	<100	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
SRT_BH047	SRT_BH047	30/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	100	<100	100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100			
SRT_BH052	SRT_BH052	30/08/2019	Normal	674722	<20	<20	<50	<50	100	<100	100	<50	<100	<100	<20	<50	100	<100	100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
SRT_BH059	SRT_BH059	30/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
SRT_BH063	SRT_BH063	28/08/2019	Normal	674722	<20	<20	<50	<50	<100	<100	<100	<50	<100	<100	<20	<50	<100	<100	<100	<50	<100	<100	<50	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
SRT_CBH015	SRT_CBH015	30/08/2019	Normal	674722	<20	<20	<50	<50	300	<100	300	<50	200	<100	<20	<50	300	<100	300	<50	<100	<100	<50	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		
SRT_CBH017	SRT_CBH017	30/08/2019	Normal	674722	<20	<20	<50	<50	200	<100	200	<50	100	<100	<20	<50	200	<100	200	<50	<100	<100	<50	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100		

