

Groundwater Sampling Record

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a b c d

Site:	Bishopton	Date:	10/08/2005	Weather:	Cloudy dry.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		PER 21	ESG D	ESG A	ESG H	GT 10					
Pre-purge	GW level (m.bgl)	2.20	0.80	1.87	2.08	1.03					
	BH Base (m.bgl)	3.60	3.60	10.57	7.88	8.68					
	Datum	top of headworks	Ground	Ground	Ground	Ground					
	Water column (m)	1.40	2.80	8.70	5.80	7.65					
	1 well vol. (l)	2.8	5.6	17.4	11.6	15.3					
	3 well vols. (l)	8.4	16.8	52.2	34.8	45.9					
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift					
	Vol. Removed (l)	9	17	42	25	47					
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer					
	Temp (°C)	14.6	14.2	10.4	14.4	10.8					
	pH	5.8	5.1	6.3	7.5	6.9					
	Eh (mV)	520	613	34	185	-45					
	EC (µS/cm)	497	242	1610	915	420					
	DO ₂ (mg/l)	-	-	-	-	-					
	Colour	Lt Brown	Dk Brown	Grey/Brown	Grey/Black	Lt Brown					
	Turbidity	High	Med	High	High	High					
	Odour	None	H ₂ S	H ₂ S	H ₂ S	H ₂ S					
	Other	-	-	-	-	-					
Comments	DO readings unavailable - meter not working. Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1440		1415	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Surface Water Sampling Record

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Site:	Bishopton	Date:	11/08/2005	Weather:	Cloudy, dry.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Monitoring Point		SW4							
Sample	Method	Grab Sample							
	Temp (°C)	15.5							
	pH	5.9							
	Eh (mV)	153							
	EC (µS/cm)	413							
	DO ₂ (mg/l)	–							
	Colour	Clear							
	Turb.	None							
	Odour	H ₂ S							
	Other	–							

Comments	Calibration check within tolerance limits.				
		pre-cal		post-cal	
	EC	1413		1413	
	pH	4.01	7.01	4.01	7.01
	DO ₂ %	100		100	

Gas Monitoring Record

Site:	Bishopton	Date:	15/8/2005	Weather:	Cloudy, light rain then dry.
Proj. No.:	A385-00	Name(s):	S O'Brien	Serial No.:	GA05091 (GA2000) / GA178 (GA 90 MK2)

BH	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	Ba. Pr. (mbar)	Rel. Pr. (mbar)	H ₂ S (ppm)	CO (ppm)	Flow (l/hr)	GW level (m)	BH Base (m)	Datum	Comments
P 12	0.3	0.1	20.5	1015	+ 0.76	ND	ND	ND	1.74	3.30	Ground	
P 13	0.3	0.1	20.5	1014	+ 0.32	ND	ND	ND	2.30	8.56	Ground	
P 6	0.3	0.1	20.5	1017	+ 0.60	ND	ND	0 (pk 0.3)	1.68	6.45	Ground	
P 8	0.4	0.1	20.4	1016	+ 0.59	ND	ND	ND	1.63	4.66	Ground	
P 4	0.3	0.1	20.5	1017	+ 0.80	ND	ND	ND	1.22	7.09	Ground	Very silty and viscous.
P 18	0.3	ND	20.5	1017	+ 0.24	ND	ND	0.1	1.59	4.95	Ground	
P 15	0.4	0.1	20.4	1015	+ 0.27	ND	ND	ND	3.34	5.52	Ground	
P 23	0.3	3.4	17.9	1017	+ 1.76	ND	ND	ND	1.88	2.58	Ground	
P 24	–	–	–	–	–	–	–	–	1.29	2.30	Ground	No gas cap.

Calibration (+/- 0.5%)						Comments: Pre-cal values show readings in ambient air. Calibration check within tolerance limits. Gas readings unavailable for P 24 - no gas cap.						
Pre-cal	0.3	0.6	20.5	see sheet no.:								
Post-cal	5.9	5.3	6.0									

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Site:	Bishopton	Date:	15/8/2005	Weather:	Cloudy, light rain then dry.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		P 12	P 13	P 6	P 8	P 4	P 18	P 15	P 23		
Pre-purge	GW level (m.bgl)	1.74	3.30	1.68	1.63	1.22	1.59	3.34	1.88		
	BH Base (m.bgl)	3.30	8.56	6.45	4.66	7.09	4.95	5.52	2.58		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	1.56	5.26	4.77	3.00	5.87	3.36	2.18	0.70		
	1 well vol. (l)	3.1	10.6	9.5	6.0	11.7	6.8	4.4	1.4		
	3 well vols. (l)	9.3	32.0	28.5	18.0	35.1	20.4	13.2	4.2		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	9	32	29	18	12	18.5	14	3		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	12.8	10.4	10.5	10.5	10.2	13.4	12.7	13.5		
	pH	6.7	7.1	7.5	7.2	7.6	7.2	7.6	7.8		
	Eh (mV)	130	325	324	392	176	432	406	410		
	EC (µS/cm)	362	522	402	370	1452	787	653	222		
	DO ₂ (mg/l)	-	-	-	-	-	-	-	-		
	Colour	Lt Brown	Lt Brown	Grey/Brown	Clear	Grey/Brown	Lt Brown	Lt Brown	Grey/Brown		
	Turbidity	High	High	High	Clear	High	High	Med	Med		
	Odour	None	H ₂ S	H ₂ S	-	-	H ₂ S	H ₂ S	-		
	Other	-	-	-	-	-	-	-	-		
Comments	DO readings unavailable - meter not working.						pre-cal		post-cal		
	P4 - returned at 4.45pm, only 20cm of water in BH, v.silty and viscous.						EC	1413		1414	
	P18 - returned at 5.20pm, further 3.5L removed.						pH	4.01	7.01	4.01	7.01
	Calibration check within tolerance limits.						DO ₂ %	100		100	

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Site:	Bishopton	Date:	15/8/2005	Weather:	Cloudy, light rain then dry.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		P 24											
Pre-purge	GW level (m.bgl)	1.29											
	BH Base (m.bgl)	2.30											
	Datum	Ground											
	Water column (m)	1.01											
	1 well vol. (l)	2.0											
	3 well vols. (l)	6.0											
Purge	Method	Hydrolift											
	Vol. Removed (l)	6											
Sample	Method	Bailer											
	Temp (°C)	13.0											
	pH	7.7											
	Eh (mV)	495											
	EC (µS/cm)	293											
	DO ₂ (mg/l)	-											
	Colour	Lt Brown											
	Turbidity	Med											
	Odour	None											
	Other	-											
Comments	DO readings unavailable - meter not working.							pre-cal		post-cal			
	Calibration check within tolerance limits.							EC		1413		1414	
								pH		4.01		7.01	
								DO ₂ %		100		100	

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Site:	Bishopton	Date:	16/8/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		BH 1531	BH 1495	BH 1530							
Pre-purge	GW level (m.bgl)	6.82	1.65	1.30							
	BH Base (m.bgl)	15.60	5.15	10.00							
	Datum	Top of cover	Top of cover	Top of cover							
	Water column (m)	8.78	3.50	8.70							
	1 well vol. (l)	17.6	7.0	17.4							
	3 well vols. (l)	52.8	21.0	52.2							
Purge	Method	Hydrolift	Hydrolift	Hydrolift							
	Vol. Removed (l)	53	22	24							
Sample	Method	Bailer	Bailer	Bailer							
	Temp (°C)	10.8	12.1	11.8							
	pH	7.5	7.6	8.1							
	Eh (mV)	543	483	410							
	EC (µS/cm)	637	587	330							
	DO ₂ (mg/l)	-	-	-							
	Colour	Lt Brown	Brown	Lt Brown							
	Turbidity	Low	Med	Med							
	Odour	None	H ₂ S	None							
	Other	-	-	-							
Comments	DO readings unavailable - meter not working.						pre-cal		post-cal		
	Calibration check within tolerance limits.						EC	1413		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

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Site:	Bishopton	Date:	17/8/2005	Weather:	Dry, cloudy then light rain.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		ESG F	ASP D	GT 13	GT 16						
Pre-purge	GW level (m.bgl)	1.10	1.33	1.13	1.76						
	BH Base (m.bgl)	9.24	9.15	9.56	8.48						
	Datum	Ground	Ground	Ground	Ground						
	Water column (m)	8.14	7.82	8.43	6.72						
	1 well vol. (l)	16.3	15.6	16.9	13.4						
	3 well vols. (l)	48.9	46.8	51.0	40.2						
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift						
	Vol. Removed (l)	49	52	36	32						
Sample	Method	Bailer	Bailer	Bailer	Bailer						
	Temp (°C)	12.1	10.7	12.4	10.8						
	pH	6.6	6.7	7.1	7.4						
	Eh (mV)	539	158	355	283						
	EC (µS/cm)	575	896	4570	8020						
	DO ₂ (mg/l)	9.52	9.93	4.09	4.19						
	Colour	Lt Brown	Grey	Lt Brown	Grey/Brown						
	Turbidity	Med	Med	High	High						
	Odour	None	H ₂ S	H ₂ S	-						
	Other	-	-	-	-						
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1413		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

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Site:	Bishopton	Date:	22/8/2005	Weather:	Dry, sunny.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		BH 1451	BH 1074S	BH 1074D	BH 1455	BH 1231	BH 1621S	BH 1621D	BH 1445		
Pre-purge	GW level (m.bgl)	1.43	0.93	0.85	1.23	1.92	1.63	1.67	1.74		
	BH Base (m.bgl)	8.45	4.13	11.90	4.79	10.20	5.45	13.82	5.59		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	7.02	3.20	11.05	3.56	8.28	3.82	12.15	3.85		
	1 well vol. (l)	14.0	6.4	22.0	7.0	16.6	7.6	24.3	7.7		
	3 well vols. (l)	42.0	19.2	66.0	21.0	49.8	22.8	72.9	23.1		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	43	19	70	17	47	23	46	23		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	11.7	13.4	12.6	14.1	12.3	12.9	12.9	14.2		
	pH	5.5	6.0	6.5	6.5	7.1	7.0	6.8	7.3		
	Eh (mV)	482	524	650	676	607	433	372	426		
	EC (µS/cm)	635	536	468	1243	1849	2302	9120	557		
	DO ₂ (mg/l)	11.80	13.06	15.40	11.36	11.20	10.21	11.11	9.17		
	Colour	Brown	Brown	Lt Brown	Brown	Brown	Brown	Brown	Brown		
	Turbidity	High	High	Low	Med	Med	Med	High	High		
	Odour	None	None	None	H ₂ S	H ₂ S	H ₂ S	None	None		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1542		1422	
							pH	3.99	6.98	4.01	7.02
							DO ₂ %	100		100	

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Site:	Bishopton	Date:	22/8/2005	Weather:	Dry, sunny.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		BH 1089									
Pre-purge	GW level (m.bgl)	2.43									
	BH Base (m.bgl)	5.66									
	Datum	Ground									
	Water column (m)	3.23									
	1 well vol. (l)	6.5									
	3 well vols. (l)	19.5									
Purge	Method	Hydrolift									
	Vol. Removed (l)	20									
Sample	Method	Bailer									
	Temp (°C)	10.7									
	pH	7.0									
	Eh (mV)	354									
	EC (µS/cm)	705									
	DO ₂ (mg/l)	9.79									
	Colour	Grey/Brown									
	Turbidity	High									
	Odour	None									
	Other	-									
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1542		1422	
							pH	3.99	6.98	4.01	7.02
							DO ₂ %	100		100	

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Site:	Bishopton	Date:	23/8/2005	Weather:	Cloudy with showers.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		BH 1306	BH 1242	BH 1532	BH 1622	BH 1219	BH 1194S	BH 1194D	BH 1623		
Pre-purge	GW level (m.bgl)	0.80	1.06	0.51	0.86	1.40	0.83	0.48	0.92		
	BH Base (m.bgl)	4.59	4.28	4.75	9.30	4.22	8.76	14.30	4.60		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	3.79	3.22	4.24	8.44	2.82	7.93	13.82	3.68		
	1 well vol. (l)	7.6	6.4	8.5	16.9	5.6	15.9	27.6	7.4		
	3 well vols. (l)	22.8	19.2	25.5	50.7	16.8	47.7	82.8	22.2		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	23	18	20	51	19	50	36	18		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	12.0	11.6	11.2	10.3	13.0	11.4	12.0	12.8		
	pH	6.0	6.4	6.8	7.2	6.8	7.5	7.8	7.6		
	Eh (mV)	486	506	503	485	529	560	489	496		
	EC (µS/cm)	1046	849	1930	537	1275	797	700	402		
	DO ₂ (mg/l)	3.12	5.05	3.80	0.95	1.70	1.85	1.32	5.02		
	Colour	Lt Brown	Lt Brown	Lt Brown	Lt Brown	Brown	Brown	Brown	Lt Brown		
	Turbidity	Med	Med	Med	Low	High	Med	High	Low		
	Odour	H ₂ S	H ₂ S	None	None	H ₂ S	None	None	H ₂ S		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1407	1407		
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100	100		

Surface Water Sampling Record

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Site:	Bishopton	Date:	25/8/2005	Weather:	Sunny with showers.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Monitoring Point		SW 15	SW 13	SW 14				
Sample	Method	Grab Sample	Grab Sample	Grab Sample				
	Temp (°C)	17.7	17.2	18.0				
	pH	5.6	6.0	6.5				
	Eh (mV)	571	650	587				
	EC (µS/cm)	215	218	214				
	DO ₂ (mg/l)	7.12	6.60	6.52				
	Colour	Clear	Clear	Clear				
	Turb.	None	None	None				
	Odour	None	None	None				
	Other	-	-	-				

Comments	Calibration check within tolerance limits.				pre-cal		post-cal			
					EC		1413		1413	
					pH		4.01	7.01	4.01	7.01
					DO ₂ %		100		100	

Gas Monitoring Record

Site:	Bishopton	Date:	29/8/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S O'Brien	Serial No.:	GA05091 (GA2000) / GA178 (GA 90 MK2)

BH	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	Ba. Pr. (mbar)	Rel. Pr. (mbar)	H ₂ S (ppm)	CO (ppm)	Flow (l/hr)	GW level (m)	BH Base (m)	Datum	Comments
BH 1505	ND	ND	20.4	1010	+ 1.68	ND	ND	ND	0.72	3.78	Ground	
GT 6	ND	4.8	15.6	1011	+ 0.01	ND	ND	ND	1.54	9.68	Ground	
BH 1624	ND	ND	20.4	1012	+ 0.43	ND	ND	ND	1.49	4.10	Ground	
BH 1504	0 (pk 1.9)	0.6	19.7	1012	+ 2.21	ND	ND	0.2	2.11	4.31	Ground	
BH 1258	0 (pk 0.1)	ND	20.3	1014	+ 0.71	ND	0 (pk 2)	ND	0.92	7.30	Ground	
BH 1271	ND	0.2	20.3	1015	- 0.39	ND	ND	ND	0.48	6.62	Ground	
P 1	ND	ND	20.5	1015	-0.38	ND	ND	ND	1.40	5.70	Ground	
P 2	ND	0.1	20.4	1016	-0.61	ND	ND	0 (pk 0.2)	2.24	8.53	Ground	

Calibration (+/- 0.5%)							Comments:					
Pre-cal	5.1	5.3	6.1	see sheet no.:	Calibration check within tolerance limits.							
Post-cal	5.0	5.0	6.0									

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Site:	Bishopton	Date:	29/8/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Borehole		BH 1505	GT 6	BH 1624	BH 1504	BH 1258	BH 1271	P 1	P 2		
Pre-purge	GW level (m.bgl)	0.72	1.54	1.49	2.11	0.92	0.48	1.40	2.24		
	BH Base (m.bgl)	3.78	9.68	4.10	4.31	7.30	6.62	5.70	8.53		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	3.06	8.14	2.61	2.20	6.38	6.14	4.30	6.29		
	1 well vol. (l)	6.1	16.3	5.2	4.4	12.8	12.3	8.6	12.6		
	3 well vols. (l)	18.3	48.9	15.6	13.2	38.4	36.9	25.8	37.8		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	9	17	16	5	40	38	26	21		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	14.0	too silty for meters	12.5	too silty for meters	11.4	10.3	11.8	11.0		
	pH	7.4		5.8		6.7	7.0	6.9	7.1		
	Eh (mV)	620		508		590	554	609	639		
	EC (µS/cm)	too silty		7490		1430	5200	761	7860		
	DO ₂ (mg/l)	too silty		2.86		0.19	0.00	0.21	1.26		
	Colour	Grey/brown	Grey/brown	Brown	Grey/brown	Brown	Grey/brown	Brown	Brown		
	Turbidity	High	High	Med	High	Med	High	High	Med		
	Odour	None	None	None	None	None	H ₂ S	H ₂ S	H ₂ S		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1413	1413		
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100	100		

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Site:	Bishopton	Date:	30/8/2005	Weather:	Clear, dry.
Proj. No.:	A385-00	Name(s):	T. Macleod		

Borehole		ASP A	ASP C	ESG B	ESG C	ESG J	BH 1430	BH 1375	BH 1366		
Pre-purge	GW level (m.bgl)	3.50	0.75	0.45	0.60	1.20	0.30	0.70	1.40		
	BH Base (m.bgl)	10.10	4.90	8.40	3.90	7.30	3.70	6.70	4.40		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	6.60	4.15	7.95	3.30	6.10	3.40	6.00	3.00		
	1 well vol. (l)	13.2	8.3	15.9	6.6	12.2	6.8	12.0	6.0		
	3 well vols. (l)	39.6	24.9	47.7	19.8	36.6	20.4	36.0	18.0		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	40	25	50	20	40	7	35	10		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	10.8	10.5	10.6	10.6	11.5	13.6	14.7	14.4		
	pH	7.2	7.6	7.5	7.2	7.4	7.5	8.2	7.2		
	Eh (mV)	393	449	411	244	432	629	590	414		
	EC (µS/cm)	2062	2319	1290	924	1942	1409	974	540		
	DO ₂ (mg/l)	3.53	4.13	1.31	4.3	1.43	1.20	1.54	2.63		
	Colour	Clear	Clear	Grey	Lt Brown	Grey	Brown	Lt brown	Brown		
	Turbidity	Low	Low	High	Med	High	High	Med	Med		
	Odour	None	None	None	H ₂ S	None	None	None	None		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1413		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Surface Water Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	30/8/2005	Weather:	Dry, sunny.
Proj. No.:	A385-00	Name(s):	S O'Brien		

Monitoring Point		SW 2							
Sample	Method	Grab Sample							
	Temp (°C)	14.0							
	pH	7.7							
	Eh (mV)	659							
	EC (µS/cm)	348							
	DO ₂ (mg/l)	6.17							
	Colour	Clear							
	Turb.	None							
	Odour	None							
	Other	-							

Comments	Calibration check within tolerance limits.				pre-cal		post-cal			
					EC		1413		1413	
					pH		4.01	7.01	4.01	7.01
					DO ₂ %		100		100	

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	31/8/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	T. Macleod / S. O'Brien		

Borehole		BH 1349	BH 1134	BH 1027	BH 1429	BH 1412					
Pre-purge	GW level (m.bgl)	0.90	0.90	1.80	1.30	1.80					
	BH Base (m.bgl)	4.40	4.30	8.80	4.90	4.30					
	Datum	Ground	Ground	Ground	Ground	Ground					
	Water column (m)	3.50	3.40	7.00	3.60	2.50					
	1 well vol. (l)	7.0	6.8	14.0	7.2	5.0					
	3 well vols. (l)	21.0	20.4	42.0	21.6	15.0					
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift					
	Vol. Removed (l)	18	15	50	15	10					
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer					
	Temp (°C)	13.3	13.5	11.2	12.0	13.2					
	pH	7.3	7.4	7.5	7.1	7.6					
	Eh (mV)	588	603	336	422	480					
	EC (µS/cm)	873	675	473	940	405					
	DO ₂ (mg/l)	3.36	2.11	1.30	1.52	3.15					
	Colour	Brown	Lt Brown	Lt Brown	Grey/brown	Brown					
	Turbidity	High	Med	Low	High	High					
	Odour	None	None	None	None	None					
	Other	-	-	-	-	-					
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1466		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	09/01/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1167	BH 1297								
Pre-purge	GW level (m.bgl)	1.21	1.08								
	BH Base (m.bgl)	4.50	3.97								
	Datum	Ground	Ground								
	Water column (m)	3.29	2.89								
	1 well vol. (l)	6.6	5.8								
	3 well vols. (l)	19.8	17.4								
Purge	Method	Hydrolift	Hydrolift								
	Vol. Removed (l)	11	12								
Sample	Method	Bailer	Bailer								
	Temp (°C)	13.5	12.1								
	pH	9.9	7.6								
	Eh (mV)	225	438								
	EC (µS/cm)	1413	2311								
	DO ₂ (mg/l)	1.59	4.13								
	Colour	Grey/brown	Brown								
	Turbidity	High	Med								
	Odour	H ₂ S	None								
	Other	-	-								
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1466		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	09/06/2005	Weather:	Dry then wet.
Proj. No.:	A385-00	Name(s):	T. Macleod		

Borehole		GT 8	P 22	BH 1046	BH 1528	BH 1108					
Pre-purge	GW level (m.bgl)	1.70	1.20	0.70	2.10	0.60					
	BH Base (m.bgl)	9.40	5.80	9.80	3.60	2.60					
	Datum	Ground	Ground	Ground	Ground	Ground					
	Water column (m)	7.70	4.60	9.10	1.50	2.00					
	1 well vol. (l)	15.4	9.2	18.2	3.0	4.0					
	3 well vols. (l)	46.2	27.6	54.6	9.0	12.0					
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Waterra	Waterra					
	Vol. Removed (l)	45	15	35	9	12					
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer					
	Temp (°C)	14.1	15.1	10.6	12.9	14.5					
	pH	5.0	6.2	8.1	7.9	7.4					
	Eh (mV)	559	271	414	473	311					
	EC (µS/cm)	1248	1325	1186	317	1328					
	DO ₂ (mg/l)	1.99	1.65	3.52	5.73	3.23					
	Colour	Lt brown	Grey	Lt brown	Lt brown	Lt brown					
	Turbidity	Low	Low	Med	Med	Low					
	Odour	None	None	None	None	None					
	Other	-	V. silty	Sl. oily sheen	-	-					
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1413		1422	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	99.2		99.2	

Surface Water Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	09/07/2005	Weather:	Light rain
Proj. No.:	A385-00	Name(s):	T. Macleod		

Monitoring Point		SW 1	SW 5	SW12	SW 6	SW 3	SW 10		
Sample	Method	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample		
	Temp (°C)	14.8	14.9	15.2	15.3	14.2	13.6		
	pH	7.6	7.6	7.9	7.5	7.5	7.3		
	Eh (mV)	378	472	494	465	463	615		
	EC (µS/cm)	237	312	473	272	359	1312		
	DO ₂ (mg/l)	7.75	5.70	6.04	4.96	7.01	6.05		
	Colour	Clear	Clear	Clear	Clear	Clear	Clear		
	Turb.	Med	Low	Low	Med	Low	Low		
	Odour	None	None	None	None	None	Slight H ₂ S		
	Other	-	-	-	-	-	-		

Comments	Calibration check within tolerance limits.								pre-cal		post-cal					
									EC		1413		1422			
									pH		4.01	7.01	4.01	7.01		
									DO ₂ %		99.2		99.2			

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	19/9/2005	Weather:	Raining
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1451	BH 1455	BH 1621S	BH 1621SD	BH 1074S	BH 1074D	BH 1194S	BH 1194D		
Pre-purge	GW level (m.bgl)	1.28	1.09	1.10	1.47	0.87	0.80	0.83	0.50		
	BH Base (m.bgl)	8.45	4.78	5.12	13.67	4.04	11.68	8.44	14.15		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	7.17	3.69	4.02	12.20	3.17	10.88	7.61	13.65		
	1 well vol. (l)	14.4	7.4	8.0	24.4	6.3	21.8	15.2	27.4		
	3 well vols. (l)	43.2	22.2	24.0	73.2	18.9	65.4	45.6	82.2		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	43	16	24	34	20	66	46	36		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	11.8	12.2	12.5	11.3	12.4	10.8	11.2	11.3		
	pH	6.4	6.6	7	6.8	7.6	7.4	7.4	7.6		
	Eh (mV)	33	65	233	305	158	247	186	245		
	EC (µS/cm)	620	1146	1628	8860	476	458	731	881		
	DO ₂ (mg/l)	2.77	5.05	6.21	82.47	16.34	39.33	1.27	9.90		
	Colour	Brown	Lt Brown	Brown	Brown	Lt brown	Lt brown	Grey/brown	Brown		
	Turbidity	High	Med	Med	Med	High	Low	Med	High		
	Odour	H ₂ S	None	None	H ₂ S	None	None	H ₂ S	None		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1421		1412	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	20/9/2005	Weather:	Dry, Cloudy.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1231	BH 1089	BH 1445	BH 1108						
Pre-purge	GW level (m.bgl)	1.52	2.39	1.67	0.84						
	BH Base (m.bgl)	9.89	5.61	4.48	2.85						
	Datum	Ground	Ground	Ground	Ground						
	Water column (m)	8.37	3.22	2.81	2.01						
	1 well vol. (l)	16.8	6.4	5.6	4.0						
	3 well vols. (l)	50.4	19.2	16.8	12.0						
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift						
	Vol. Removed (l)	20	20	15	12						
Sample	Method	Bailer	Bailer	Bailer	Bailer						
	Temp (°C)	12.1	11.8	13.2	13.5						
	pH	7.5	7.5	7.7	7.6						
	Eh (mV)	61	570	523	216						
	EC (µS/cm)	799	656	504	1256						
	DO ₂ (mg/l)	2.59	3.98	4.15	3.34						
	Colour	Brown	Brown	Brown	Brown						
	Turbidity	Med	High	High	V. high						
	Odour	H ₂ S	None	None	None						
	Other	-	-	-	-						
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1421		1413	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Gas Monitoring Record

a b c d

Site:	Bishopton	Date:	21/9/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S. O'Brien	Serial No.:	GA05091 (GA2000) / GA178 (GA 90 MK2)

BH	CH ₄ (% v/v)	CO ₂ (% v/v)	O ₂ (% v/v)	Ba. Pr. (mbar)	Rel. Pr. (mbar)	H ₂ S (ppm)	CO (ppm)	Flow (l/hr)	GW level (m)	BH Base (m)	Datum	Comments
BH 1306	ND	0.1	20.5	1012	+ 0.42	ND	ND	-0.1	1.44	4.58	Ground	
BH1242	ND	0.1	20.4	1012	+ 1.32	ND	ND	ND	1.02	4.78	Ground	
BH 1532	ND	ND	20.4	1011	+ 1.24	ND	ND	ND	0.66	5.04	Ground	
BH 1219	ND	0.1	20.3	1011	+ 0.84	ND	ND	0 (pk 0.3)	1.52	4.29	Ground	
BH 1495	ND	0.2	20.2	1010	+ 0.93	ND	ND	ND	1.22	4.79	Ground	
BH 1622	ND	ND	20.4	1011	- 0.13	ND	ND	ND	0.90	9.28	Ground	
BH 1530	ND	0.5	18.8	1009	+ 0.81	ND	ND	ND	0.88	9.58	Ground	
BH 1531	ND	0.2	20.3	1006	-0.26	ND	ND	ND	1.80	15.10	Ground	
BH 1027	ND	ND	20.4	1009	-0.42	ND	ND	ND	1.94	8.79	Ground	
BH 1134	ND	0.1	20.2	1010	+ 1.07	ND	ND	0 (pk 0.3)	0.85	4.71	Ground	
BH 1349	ND	0.1	20.3	1009	+ 0.28	ND	ND	0 (pk 0.1)	1.10	4.51	Ground	

Calibration (+/- 0.5%)							Comments:					
Pre-cal	5.0	4.8	6.1	see sheet no.:	Calibration check within tolerance limits.							
Post-cal	5.0	5.0	6.0									

Groundwater Sampling Record

Sheet 1 of 2

a b c d

Site:	Bishopton	Date:	21/9/2005	Weather:	Dry, cloudy
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1306	BH 1242	BH 1532	BH 1219	BH 1495	BH 1622	BH 1530	BH 1531		
Pre-purge	GW level (m.bgl)	1.44	1.02	0.66	1.52	1.22	0.90	0.88	1.80		
	BH Base (m.bgl)	4.58	4.78	5.04	4.29	4.79	9.28	9.58	15.10		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	3.14	3.76	4.38	2.77	3.57	8.38	8.70	13.3		
	1 well vol. (l)	6.3	7.5	8.8	5.5	7.1	16.8	17.4	26.6		
	3 well vols. (l)	18.9	22.5	26.4	16.5	21.3	50.4	52.2	79.8		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	19	15	14	18	26	50	29	80		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	12.3	12.2	11.7	12.3	12.1	10.3	11.0	10.6		
	pH	5.9	6.5	6.8	6.9	7.2	7.4	7.9	7.5		
	Eh (mV)	340	441	452	219	352	389	407	424		
	EC (µS/cm)	1031	883	2126	1080	616	501	334	626		
	DO ₂ (mg/l)	4.96	4.86	5.32	4.06	4.49	3.91	5.01	3.90		
	Colour	Lt Brown	Lt Brown	Lt Brown	Brown	Brown	Brown	Brown	Lt Brown		
	Turbidity	Low	Low	Med	High	High	Low	Med	V. Low		
	Odour	H ₂ S	None	None	None	None	None	None	None		
	Other	-	-	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1366		1418	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 2 of 2

a b c d

Site:	Bishopton	Date:	21/9/2005	Weather:	Dry, cloudy
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1027	BH 1134	BH 1349							
Pre-purge	GW level (m.bgl)	1.94	0.85	1.10							
	BH Base (m.bgl)	8.79	4.71	4.51							
	Datum	Ground	Ground	Ground							
	Water column (m)	6.85	3.86	3.41							
	1 well vol. (l)	13.7	7.7	6.8							
	3 well vols. (l)	41.1	23.1	20.4							
Purge	Method	Hydrolift	Hydrolift	Hydrolift							
	Vol. Removed (l)	46	19	21							
Sample	Method	Bailer	Bailer	Bailer							
	Temp (°C)	10.3	12.7	12.5							
	pH	7.3	7.1	7.4							
	Eh (mV)	-8	283	315							
	EC (µS/cm)	474	875	937							
	DO ₂ (mg/l)	4.13	3.80	3.96							
	Colour	Lt Brown	Grey/Brown	Lt Brown							
	Turbidity	Low	High	Low							
	Odour	None	None	None							
	Other	-	-	-							
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1366		1418	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 1 of 2

a b c d

Site:	Bishopton	Date:	27/9/2005	Weather:	Dry, receny heavy rain.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1430	BH 1375	BH 1412	BH 1366	BH 1167	BH 1297	BH 1624	BH 1504		
Pre-purge	GW level (m.bgl)	0.57	0.32	1.38	0.81	1.08	0.64	1.17	1.03		
	BH Base (m.bgl)	3.72	7.36	4.38	4.30	4.50	3.88	4.09	4.38		
	Datum	Ground	Ground	Ground	Ground	Ground	Ground	Ground	Ground		
	Water column (m)	3.15	7.04	3.00	3.48	3.42	3.24	2.92	3.35		
	1 well vol. (l)	6.3	14.0	6.0	7.0	6.8	6.5	5.8	6.7		
	3 well vols. (l)	18.9	42.0	18.0	21.0	20.4	19.5	17.4	20.1		
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift	Hydrolift		
	Vol. Removed (l)	6	42	20	21	15	8	20	21		
Sample	Method	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer	Bailer		
	Temp (°C)	12.4	10.5	11.6	12.4	13.0	11.9	12.1	12.7		
	pH	6.5	6.9	7.0	6.8	9.6	8.4	7.9	7.3		
	Eh (mV)	41	60	164	147	-13	218	141	12		
	EC (µS/cm)	609	905	340	577	1211	2123	898	1456		
	DO ₂ (mg/l)	6.45	5.36	4.34	3.77	4.02	4.74	4.88	3.36		
	Colour	Brown	Brown	Brown	Brown	Brown	Brown	Grey/brown	Brown		
	Turbidity	High	V. High	High	High	High	Low	Med	High		
	Odour	H ₂ S	None	None	None	H ₂ S	None	H ₂ S	H ₂ S		
	Other	-	v. silty + sandy	-	-	-	-	-	-		
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1428		1414	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 2 of 2

a b c d

Site:	Bishopton	Date:	27/9/2005	Weather:	Sunny with showers.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1505									
Pre-purge	GW level (m.bgl)	0.47									
	BH Base (m.bgl)	3.63									
	Datum	Ground									
	Water column (m)	3.16									
	1 well vol. (l)	6.3									
	3 well vols. (l)	18.9									
Purge	Method	Hydrolift									
	Vol. Removed (l)	7									
Sample	Method	Bailer									
	Temp (°C)	12.9									
	pH	6.9									
	Eh (mV)	29									
	EC (µS/cm)	1190									
	DO ₂ (mg/l)	3.80									
	Colour	Grey/Brown									
	Turbidity	High									
	Odour	None									
	Other	-									
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
							EC	1428		1414	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	28/9/2005	Weather:	Raining heavily then sunny.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1429	BH 1623	BH 1258	BH 1271						
Pre-purge	GW level (m.bgl)	1.30	0.35	1.03	0.26						
	BH Base (m.bgl)	5.02	4.50	7.15	6.43						
	Datum	Headworks	Ground	Ground	Ground						
	Water column (m)	3.72	4.15	6.12	6.17						
	1 well vol. (l)	7.4	8.3	12.2	12.3						
	3 well vols. (l)	22.2	24.9	36.6	36.9						
Purge	Method	Hydrolift	Hydrolift	Hydrolift	Hydrolift						
	Vol. Removed (l)	18	17	37	38						
Sample	Method	Bailer	Bailer	Bailer	Bailer						
	Temp (°C)	10.0	11.6	10.1	9.8						
	pH	5.9	6.7	7.0	7.2						
	Eh (mV)	50	113	-35	32						
	EC (µS/cm)	979	533	1385	4910						
	DO ₂ (mg/l)	4.20	5.67	3.89	3.77						
	Colour	Grey/Brown	Grey/Brown	Brown	Brown						
	Turbidity	High	High	Med	Med						
	Odour	None	H ₂ S	None	H ₂ S						
	Other	-	-	-	-						
Comments	BH 1271 - oily sheen on surface.						pre-cal		post-cal		
	Calibration check within tolerance limits.						EC	1411		1419	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Surface Water Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	29/9/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Monitoring Point		SW 2	SW 4	SW 10	SW 5	SW 6			
Sample	Method	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample			
	Temp (°C)	11.3	11.3	13.1	11.2	12.2			
	pH	5.5	6.5	6.6	6.3	6.6			
	Eh (mV)	422	498	428	483	530			
	EC (µS/cm)	257	240	1180	244	251			
	DO ₂ (mg/l)	7.23	7.07	6.50	6.40	7.15			
	Colour	Clear	Clear	Clear	Clear	Clear			
	Turb.	None	None	None	None	None			
	Odour	None	None	None	None	None			
	Other	-	-	-	-	-			

Comments								
	Calibration check within tolerance limits.							
					pre-cal		post-cal	
					EC	1468		1419
	pH	4.01	7.01	4.01	7.01			
DO ₂ %	100		100					

Groundwater Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	10/03/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S. O'Brien		

Borehole		BH 1528	BH 1046								
Pre-purge	GW level (m.bgl)	1.65	0.60								
	BH Base (m.bgl)	3.70	9.98								
	Datum	Ground	Ground								
	Water column (m)	2.05	9.38								
	1 well vol. (l)	4.1	18.8								
	3 well vols. (l)	12.3	56.4								
Purge	Method	Hydrolift	Hydrolift								
	Vol. Removed (l)	13	27								
Sample	Method	Bailer	Bailer								
	Temp (°C)	12.3	10.5								
	pH	5.3	5.9								
	Eh (mV)	326	435								
	EC (µS/cm)	312	962								
	DO ₂ (mg/l)	5.04	4.28								
	Colour	Brown	Lt Brown								
	Turbidity	High	V. Low								
	Odour	None	None								
	Other	-	-								
Comments	Calibration check within tolerance limits.						pre-cal		post-cal		
	BH 1046 - very oily sheen on surface						EC	1390		1414	
							pH	4.01	7.01	4.01	7.01
							DO ₂ %	100		100	

Surface Water Sampling Record

Sheet 1 of 1

a b c d

Site:	Bishopton	Date:	10/03/2005	Weather:	Dry, cloudy.
Proj. No.:	A385-00	Name(s):	S.O'Brien		

Monitoring Point		SW 3	SW 1	SW 12	SW 14	SW 15	SW 13		
Sample	Method	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample		
	Temp (°C)	11.7	11.8	12.9	13.1	13.1	12.3		
	pH	6.4	6.6	6.6	6.9	7.0	7.1		
	Eh (mV)	450	438	438	443	433	464		
	EC (µS/cm)	235	184	415	229	213	192		
	DO ₂ (mg/l)	7.69	8.91	5.44	8.25	9.39	6.83		
	Colour	Clear	Clear	Clear	Clear	Clear	Clear		
	Turb.	None	None	None	None	None	None		
	Odour	None	None	None	None	None	None		
	Other	-	-	-	-	-	-		

Comments	SW 15 - lots of small organisms in water														
	Calibration check within tolerance limits.														
	pH meter sensor check:														
	Offset value = -5 mv						pre-cal		post-cal						
	Slope Value = (5 + 151) = 156 mv						EC		1390		1414				
(Within acceptable limits)						pH		4.01		7.01		4.01		7.01	
						DO ₂ %		100		100					