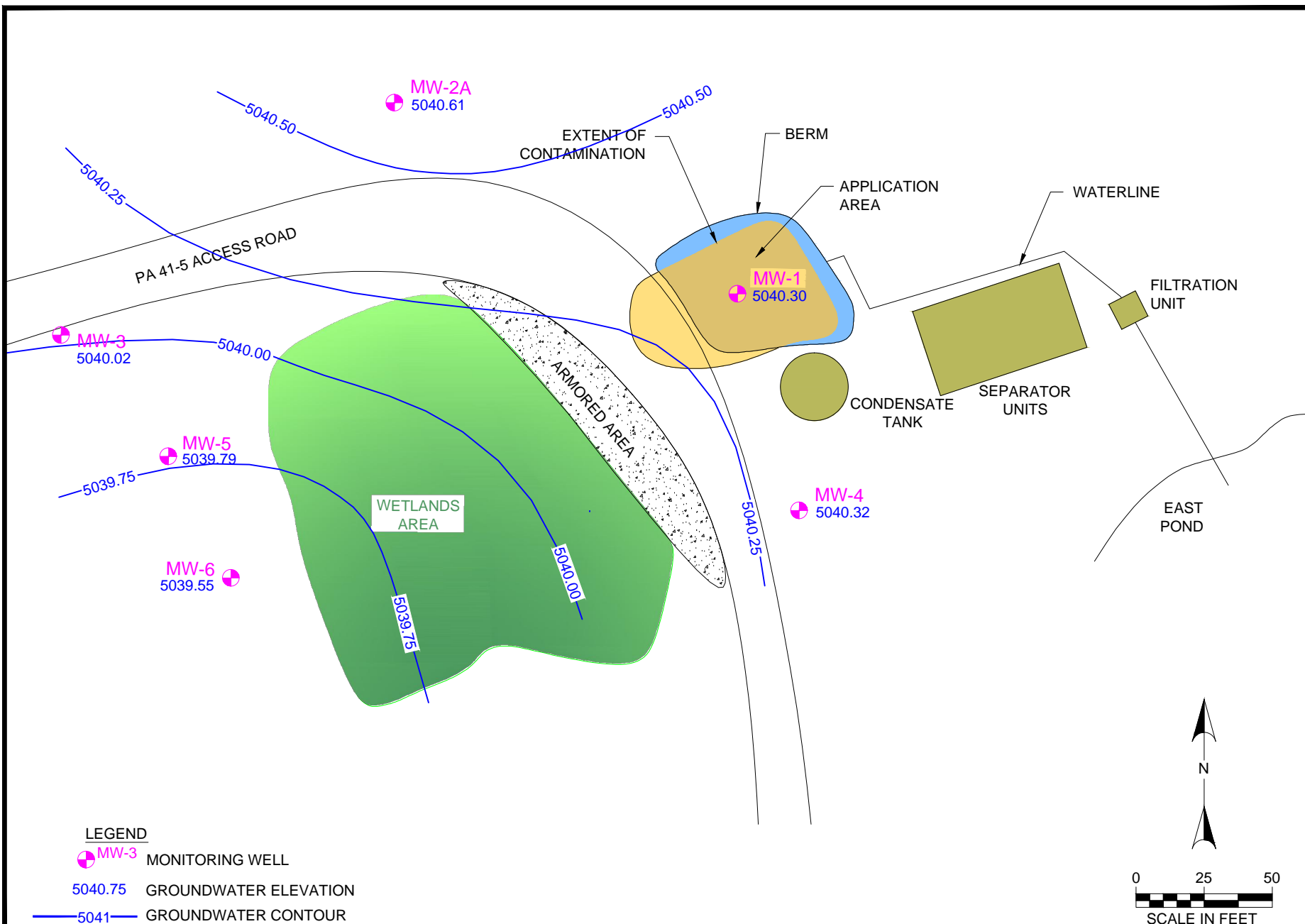

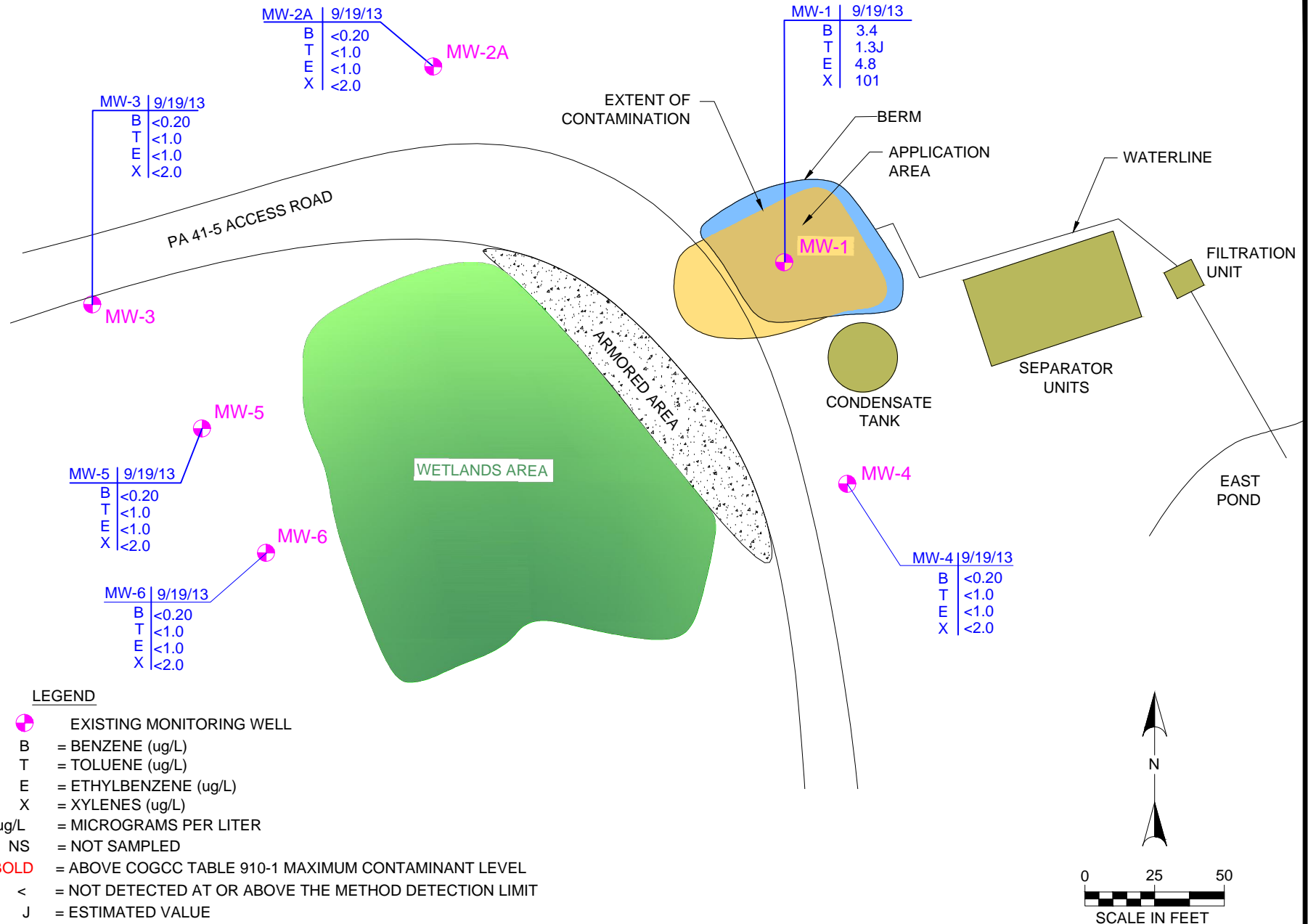


F:\Projects\011-1712\CMRA\Exhibits\2013\Q3 2013\Knight_GW-Q3-2013.dwg Layout: GW



PROJECT NO: 011-1712	GROUNDWATER - PIEZOMETRIC SURFACE MAP - SEPTEMBER 2013 KNIGHT PA 311-4 SEC 4, T7S, R95W PARACHUTE, COLORADO	 <div> 826 21 1/2 Road Grand Junction, CO 81505 TEL 970.263.7800 FAX 970.263.7456 </div>	FIGURE
DRAWN BY: sds			2
DATE: 10.03.2013			

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PROJECT NO: 011-1712
 DRAWN BY: sds
 DATE: 10.03.2013

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - SEPTEMBER 2013
 KNIGHT PA 311-4
 SEC 4, T7S, R95W
 PARACHUTE, COLORADO

OLSSON
 ASSOCIATES

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FIGURE
 3

Table 1

Post CoolOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-1					
Sampling Period			4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter
Depth to Water (feet)			5.57	5.52	5.28	5.52	6.78	6.00
Sample Date			11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	1.68	1.56	5.62	2.92	2.01	3.59
TPH Diesel Range Organics	NA	mg/l	0.596	0.412	0.996	0.886	0.518	0.405
BTEX								
Benzene	5	µg/l	7.9	1.2	<0.20	15.9	7.6	9.8
Toluene	560 to 1000	µg/l	1.4	< 1.0	<1.0	7.2 J	<5.0	<1.0
Ethylbenzene	700	µg/l	24.3	< 1.0	<1.0	65.9	37.7	72.4
Xylene (total)	1400 to 10000	µg/l	477	227	26.7	517	421	772
PAHs								
Acenaphthene	NA	µg/l	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT
Acenaphthylene	NA	µg/l	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT
Anthracene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Benzo(a)anthracene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Benzo(a)pyrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Benzo(b)fluoranthene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Benzo(g,h,i)perylene	NA	µg/l	< 0.2	< 0.54	<0.48	<0.48	<0.48	NT
Benzo(k)fluoranthene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Chrysene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Dibenzo(a,h)anthracene	NA	µg/l	< 0.2	< 0.78	<0.48	<0.48	<0.48	NT
Fluoranthene	NA	µg/l	< 0.2	< 0.71	<0.48	<0.48	<0.48	NT
Fluorene	NA	µg/l	< 0.2	< 0.55	<0.48	<0.48	<0.48	NT
Indeno(1,2,3-cd)pyrene	NA	µg/l	< 0.2	< 1.5	<0.48	<0.48	<0.48	NT
1-Methylnapthalene	NA	µg/l	1.1	< 0.68	1.1 J	0.67 J	0.50 J	NT
2-Methylnapthalene	NA	µg/l	1.6	0.83 J	2.0 J	1.0 J	<0.48	NT
Naphthalene	NA	µg/l	2.9	1.2 J	3.6 J	2.0 J	<0.48	NT
Phenanthrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Pyrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT
Metals								
Calcium	NA	mg/l	173	88.3	138	170	147	116
Iron	NA	mg/l	26.5	5.32	11.6	17.7	19.5	10.6
Magnesium	NA	mg/l	36.7	58.6	54.7	72.5	63.6	82.7
Manganese	NA	mg/l	1.13	0.418	0.653	0.947	0.748	0.709
Potassium	NA	mg/l	< 10	3.64	4.63	7.7	6.15	5.42
Selenium	NA	mg/l	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05
Sodium	NA	mg/l	50.2	63.8	64.7	104	80	101
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	260	488	498	667	746	618
Alkalinity, Carbonate	NA	mg/l	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	264	488	497	667	746	618
Biological Oxygen Demand, 5 Day	NA	mg/l	10.5	10.9	22.6	21	28.4	15.4
Bromide	NA	mg/l	< 0.50	< 0.20	1.3	2.8	<0.25	0.16
Chemical Oxygen Demand	NA	mg/l	31.6	18.4	62.3	79.6	21.7	45.9
Chloride	1.25 x bkgd	mg/l	16.0	11.5	9.0	139	39.2	12.3
Hydroxide Alkalinity	NA	mg/l	< 5.0	NT	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.66	< 0.23	<0.23	0.077	<0.050	0.26
Nitrogen, Nitrite	NA	mg/l	< 0.50	< 0.061	0.010	0.064	0.015	0.064
Phosphorus, Total	NA	mg/l	3.5	0.59	1.1	NT	2.0	0.95
Plate Count, Total	NA	CFU/ml	1590000	110000	300000	360000	150000	NT
Sulfate	1.25 x bkgd	mg/l	16.8	10.9	5.7	66.2	13.4	117
Total Organic Carbon	NA	mg/l	13.2	8.8	10.4	18.5	10.2	9.3
pH	NA	su	8.34	7.76	7.67	7.38	7.48	7.56
Field Readings								
Temperature	NA	deg. C	14.6	6.82	13.89	21.20	14.49	7.80
Specific Conductivity	NA	mS/cm	0.511	0.837	0.789	1.234	1.227	1.319
Dissolved Oxygen	NA	mg/l	6.55	2.25	3.25	1.51	0.95	1.34
pH	NA	su	9.05	7.37	7.71	7.49	7.7	7.3
Solids, Total Dissolved	NA	mg/l	0.3	0.5	0.5	0.8	NT	NT
Turbidity	NA	NTU	264	117	538	386	117	59.9

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

a - Dilution required due to matrix interference

b - Elevated detection limit due to matrix interference

c - Elevated detection limit due to dilution required for possible matrix interference

Over allowable limit

Table 1

Post CoolOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS			MW-2A			
Sampling Period			2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	3rd Quarter	4th Quarter
Depth to Water (feet)			5.16	6.15	4.93	5.04	4.72	5.65
Sample Date			5/30/2013	9/19/2013	11/18/2011	2/14/2012	8/29/2012	11/26/2012
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	2.41	0.443	< 0.050	< 0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	0.361	0.283	<0.10	< 0.30	<0.25	<0.17
BTEX								
Benzene	5	µg/l	9.7	3.4	< 1.0	< 0.20	< 0.20	<0.20
Toluene	560 to 1000	µg/l	2.3	1.3J	< 1.0	< 1.0	< 1.0	<1.0
Ethylbenzene	700	µg/l	49.7	4.8	< 1.0	< 1.0	< 1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	658	101	< 3.0	< 2.0	< 2.0	<2.0
PAHs								
Acenaphthene	NA	µg/l	NT	<0.49	< 0.2	< 0.60	<0.47	<0.48
Acenaphthylene	NA	µg/l	NT	<0.48	< 0.2	< 0.60	<0.47	<0.48
Anthracene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Benzo(a)anthracene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Benzo(a)pyrene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Benzo(b)fluoranthene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Benzo(g,h,i)perylene	NA	µg/l	NT	<0.48	< 0.2	< 0.54	<0.47	<0.48
Benzo(k)fluoranthene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Chrysene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Dibenzo(a,h)anthracene	NA	µg/l	NT	<0.48	< 0.2	< 0.78	<0.47	<0.48
Fluoranthene	NA	µg/l	NT	<0.48	< 0.2	< 0.71	<0.47	<0.48
Fluorene	NA	µg/l	NT	<0.48	< 0.2	< 0.55	<0.47	<0.48
Indeno(1,2,3-cd)pyrene	NA	µg/l	NT	<0.55	< 0.2	< 1.5	<0.47	<0.48
1-Methylnapthalene	NA	µg/l	NT	<0.48	< 0.2	< 0.68	<0.47	<0.48
2-Methylnapthalene	NA	µg/l	NT	<0.48	< 0.2	< 0.68	<0.47	<0.48
Naphthalene	NA	µg/l	NT	0.69J	< 0.2	< 0.73	<0.47	<0.48
Phenanthrene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Pyrene	NA	µg/l	NT	<0.48	< 0.2	< 0.47	<0.47	<0.48
Metals								
Calcium	NA	mg/l	114	238	129	109	94.6	208
Iron	NA	mg/l	12.0	6.1	14	4.77	10.1	33.5
Magnesium	NA	mg/l	60.6	64.3	51.4	55.4	61.6	81.6
Manganese	NA	mg/l	0.650	0.658	1.72	2.03	1.64	3.37
Potassium	NA	mg/l	5.75	6.79	< 10	3.19	6.54	8.6
Selenium	NA	mg/l	<0.05	<0.05	< 0.01	< 0.05	< 0.05	<0.05
Sodium	NA	mg/l	86	118	60.4	59.4	96.7	97.8
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	484	492	372	440	364	299
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	< 5.0	< 5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	484	492	374	440	364	299
Biological Oxygen Demand, 5 Day	NA	mg/l	11.8	12.7	< 15	< 10	< 10	<10
Bromide	NA	mg/l	<0.10 ^a	0.17	< 0.50	< 0.20	<0.10	0.11
Chemical Oxygen Demand	NA	mg/l	21.2	31.6	66.9	20.4	49	<10
Chloride	1.25 x bkgd	mg/l	9.7	163.0	15.4	13.2	151	206
Hydroxide Alkalinity	NA	mg/l	NT	NT	< 5.0	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.88	0.24	0.57	< 0.23	0.063	0.031
Nitrogen, Nitrite	NA	mg/l	0.052	0.280	< 0.50	< 0.061	0.04	<0.0080
Phosphorus, Total	NA	mg/l	0.63	10.40	0.89	1.3	NT	1.4
Plate Count, Total	NA	CFU/ml	NT	NT	70000	6900	5600	8100
Sulfate	1.25 x bkgd	mg/l	51.9	43.2	16.8	44.2	108	155
Total Organic Carbon	NA	mg/l	8.9	14.2	4.5	3.9	5.6	4.9
pH	NA	su	7.53	7.87	7.14	7.58	7.51	7.49
Field Readings								
Temperature	NA	deg. C	12.60	20.20	13.2	8.3	20.9	13.1
Specific Conductivity	NA	mS/cm	0.958	1.364	0.651	0.77	1.132	1.34
Dissolved Oxygen	NA	mg/l	0.28	6.5	0.24	1.22	1.73	1.22
pH	NA	su	7.8	8.75	7.50	7.25	7.56	7.75
Solids, Total Dissolved	NA	mg/l	0.6	0.9	0.4	0.5	0.7	NT
Turbidity	NA	NTU	NT	NT	653	766	1997	345

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1
Post CoolIOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS				MW		
Sampling Period			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
Depth to Water (feet)			5.50	4.44	5.16	5.68	5.77	5.67
Sample Date			3/6/2013	5/30/2013	9/19/2013	11/18/2011	2/14/2012	5/8/2012
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.10	< 0.050	< 0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	<0.17	<0.17	<0.17	25.1	< 0.30	<0.25
BTEX								
Benzene	5	µg/l	<0.20	<0.20	<0.20	< 1.0	< 0.20	<0.20
Toluene	560 to 1000	µg/l	<1.0	<1.0	<1.0	< 1.0	< 1.0	<1.0
Ethylbenzene	700	µg/l	<1.0	<1.0	<1.0	< 1.0	< 1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	<2.0	<2.0	<2.0	< 3.0	< 2.0	<2.0
PAHs								
Acenaphthene	NA	µg/l	NT	NT	<0.49	< 0.2	< 0.60	<0.48
Acenaphthylene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.60	<0.48
Anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(a)anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(a)pyrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(b)fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(g,h,i)perylene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.54	<0.48
Benzo(k)fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Chrysene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Dibenzo(a,h)anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.78	<0.48
Fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.71	<0.48
Fluorene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.55	<0.48
Indeno(1,2,3-cd)pyrene	NA	µg/l	NT	NT	<0.55	< 0.2	< 1.5	<0.48
1-Methylnapthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.68	<0.48
2-Methylnapthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.68	<0.48
Naphthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.73	<0.48
Phenanthrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Pyrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Metals								
Calcium	NA	mg/l	107	102	123	76.7	151	157
Iron	NA	mg/l	15.7	15.0	25.0	4.8	6.79	26.8
Magnesium	NA	mg/l	65.2	64.7	67.2	37.2	50.3	57.8
Manganese	NA	mg/l	3.93	2.62	1.61	0.718	1.43	1.71
Potassium	NA	mg/l	6.06	5.93	6.84	< 10	2.95	6.88
Selenium	NA	mg/l	<0.05	<0.05	<0.05	< 0.01	< 0.05	<0.050
Sodium	NA	mg/l	95.6	90.2	122.0	56.1	61.4	61.0
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	382	483	354	384	462	427
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	< 5.0	< 5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	382	483	354	386	462	427
Biological Oxygen Demand, 5 Day	NA	mg/l	<10	1.4	<1.0	11.1	< 10	<10
Bromide	NA	mg/l	<0.10 ^a	<0.10 ^a	<0.10 ^a	< 0.50	< 0.20	<0.20
Chemical Oxygen Demand	NA	mg/l	<10	71.3	24.3	21	< 10	<10
Chloride	1.25 x bkgd	mg/l	96.4	16.8	149	16.7	14.5	12.9
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	< 5.0	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.22	0.035	<0.020 ^a	0.58	< 0.23	<0.090
Nitrogen, Nitrite	NA	mg/l	0.0080 ^a	<0.0080 ^a	<0.0080 ^a	0.67	< 0.061	<0.010
Phosphorus, Total	NA	mg/l	0.44	0.05	0.22	0.45	1.7	1.3
Plate Count, Total	NA	CFU/ml	NT	NT	NT	120000	8500	10000
Sulfate	1.25 x bkgd	mg/l	98.5	98.5	112	10.9	24	34.7
Total Organic Carbon	NA	mg/l	4	5.3	5.2	4.5	4.3	4.2
pH	NA	su	7.64	7.66	7.7	7.1	7.64	7.6
Field Readings								
Temperature	NA	deg. C	9.98	11.50	17.50	14.8	7.46	13.49
Specific Conductivity	NA	mS/cm	1.195	1.037	1.319	0.663	0.763	0.783
Dissolved Oxygen	NA	mg/l	0.86	0.17	0.1	0.14	2.43	1.46
pH	NA	su	7.31	7.7	7.83	7.41	7.26	7.8
Solids, Total Dissolved	NA	mg/l	NT	0.7	0.9	0.4	0.5	0.5
Turbidity	NA	NTU	96.3	NT	NT	568	2000	1854

µg/l - micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1

Post CoolOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS	-3					
Sampling Period			3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Depth to Water (feet)			5.56	6.45	6.11	5.25	5.83	10.64
Sample Date			8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	11/18/2011
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	< 0.050
TPH Diesel Range Organics	NA	mg/l	<0.25	<0.17	<0.17	<0.17	0.284	<0.10
BTEX								
Benzene	5	µg/l	<0.20	<0.20	<0.20	<0.20	<0.20	< 1.0
Toluene	560 to 1000	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Ethylbenzene	700	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	< 1.0
Xylene (total)	1400 to 10000	µg/l	<2.0	<2.0	<2.0	<2.0	<2.0	< 3.0
PAHs								
Acenaphthene	NA	µg/l	<0.48	<0.49	NT	NT	<0.49	< 0.2
Acenaphthylene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Anthracene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Benzo(a)anthracene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Benzo(a)pyrene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Benzo(b)fluoranthene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Benzo(g,h,i)perylene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Benzo(k)fluoranthene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Chrysene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Dibenzo(a,h)anthracene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Fluoranthene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Fluorene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.48	<0.49	NT	NT	<0.55	< 0.2
1-Methylnapthalene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
2-Methylnapthalene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Napthalene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Phenanthrene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Pyrene	NA	µg/l	<0.48	<0.49	NT	NT	<0.48	< 0.2
Metals								
Calcium	NA	mg/l	133	218	117	111	106	73.9
Iron	NA	mg/l	16.3	35.4	12.7	10.4	6.1	3.52
Magnesium	NA	mg/l	62.8	75.1	65.5	59.0	59.3	40.6
Manganese	NA	mg/l	1.32	2.31	1.18	1.01	0.77	1.74
Potassium	NA	mg/l	7.87	9.53	5.43	4.79	5.43	< 10
Selenium	NA	mg/l	<0.050	<0.05	<0.05	<0.05	<0.05	< 0.01
Sodium	NA	mg/l	92.9	93.9	89.2	92.4	125.0	62.1
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	396	309	333	465	380	392
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0
Alkalinity, Total as CaCO3	NA	mg/l	396	309	333	465	380	396
Biological Oxygen Demand, 5 Day	NA	mg/l	<10	<10	<10	<1.0	<1.0	8.1
Bromide	NA	mg/l	<0.10	<0.10	0.13	0.13	<0.10 ^a	< 0.50
Chemical Oxygen Demand	NA	mg/l	49	<10	15.7	25.3	21.1	28.1
Chloride	1.25 x bkgd	mg/l	151	210	161	49.5	163	14.1
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	NT	NT	< 5.0
Nitrogen, Nitrate	NA	mg/l	<0.020	0.034	<0.020 ^a	0.04	0.12	< 0.50
Nitrogen, Nitrite	NA	mg/l	<0.040	0.015	<0.0080 ^a	<0.020 ^a	<0.0080 ^a	< 0.50
Phosphorus, Total	NA	mg/l	NT	1.7	0.31	3.3	0.13	0.14
Plate Count, Total	NA	CFU/ml	14000	12000	NT	NT	NT	120000
Sulfate	1.25 x bkgd	mg/l	125	137	161	170	134	36.2
Total Organic Carbon	NA	mg/l	5.6	4.4	3.7	6.1	4.6	4.8
pH	NA	su	7.33	7.46	7.55	7.63	7.66	7.18
Field Readings								
Temperature	NA	deg. C	21.37	14.35	7.88	13.60	20.50	14.2
Specific Conductivity	NA	mS/cm	1.291	0.417	1.448	1.278	1.527	0.713
Dissolved Oxygen	NA	mg/l	1.82	1.67	1	0.71	0.34	0.15
pH	NA	su	7.48	7.75	7.25	7.61	7.36	7.5
Solids, Total Dissolved	NA	mg/l	0.8	NT	NT	0.8	1.0	0.5
Turbidity	NA	NTU	1102	1971	328	NT	NT	62.7

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1 Post CoolOX Groundwater Monitoring								
LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-4					
Sampling Period			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
Depth to Water (feet)			10.34	10.63	11.31	11.64	10.77	10.7
Sample Date			2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	< 0.30	<0.25	<0.25	<0.17	<0.17	<0.17
BTEX								
Benzene	5	µg/l	< 0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	560 to 1000	µg/l	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	700	µg/l	< 1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PAHs								
Acenaphthene	NA	µg/l	< 0.60	<0.47	<0.48	<0.48	NT	NT
Acenaphthylene	NA	µg/l	< 0.60	<0.47	<0.48	<0.48	NT	NT
Anthracene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Benzo(a)anthracene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Benzo(a)pyrene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Benzo(b)fluoranthene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Benzo(g,h,i)perylene	NA	µg/l	< 0.54	<0.47	<0.48	<0.48	NT	NT
Benzo(k)fluoranthene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Chrysene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Dibenzo(a,h)anthracene	NA	µg/l	< 0.78	<0.47	<0.48	<0.48	NT	NT
Fluoranthene	NA	µg/l	< 0.71	<0.47	<0.48	<0.48	NT	NT
Fluorene	NA	µg/l	< 0.55	<0.47	<0.48	<0.48	NT	NT
Indeno(1,2,3-cd)pyrene	NA	µg/l	< 1.5	<0.47	<0.48	<0.48	NT	NT
1-Methylnapthalene	NA	µg/l	< 0.68	<0.47	<0.48	<0.48	NT	NT
2-Methylnapthalene	NA	µg/l	< 0.68	<0.47	<0.48	<0.48	NT	NT
Naphthalene	NA	µg/l	< 0.73	<0.47	<0.48	<0.48	NT	NT
Phenanthrene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Pyrene	NA	µg/l	< 0.47	<0.47	<0.48	<0.48	NT	NT
Metals								
Calcium	NA	mg/l	126	107	121	238	60.4	74.3
Iron	NA	mg/l	6.71	18.1	19.7	47.5	2.63	7.26
Magnesium	NA	mg/l	48.6	55.4	71.5	104	64.5	64.9
Manganese	NA	mg/l	1.71	1.91	4.4	2.16	0.316	0.533
Potassium	NA	mg/l	2.89	5.9	8.73	12.2	5	5.6
Selenium	NA	mg/l	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05
Sodium	NA	mg/l	58.3	71.8	99.1	110.0	99.2	85.0
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	364	452	616	618	489	482
Alkalinity, Carbonate	NA	mg/l	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	364	452	616	618	489	482
Biological Oxygen Demand, 5 Day	NA	mg/l	< 10	<10	10.7	<10	<10	2.4
Bromide	NA	mg/l	< 0.20	<0.40	0.19	0.26	<0.10 ^a	<0.10 ^a
Chemical Oxygen Demand	NA	mg/l	< 10	<10	57	20.3	23.7	12.4
Chloride	1.25 x bkgd	mg/l	6.9	7.2	13.1	16.4	8	12
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	< 0.23	<0.090	<0.020	<0.050	<0.020 ^a	1.7
Nitrogen, Nitrite	NA	mg/l	< 0.061	<0.010	0.008	<0.0080	<0.0080 ^a	0.02
Phosphorus, Total	NA	mg/l	1.4	1.1	NT	1.2	0.10	0.16
Plate Count, Total	NA	CFU/ml	4600	5400	3800	13000	NT	NT
Sulfate	1.25 x bkgd	mg/l	40.8	34.2	13	110	113	74.9
Total Organic Carbon	NA	mg/l	3.6	4.5	8.5	10.3	3.8	4.4
pH	NA	su	7.73	7.65	7.64	7.69	7.81	7.81
Field Readings								
Temperature	NA	deg. C	6.5	13.23	19.42	14.68	6.83	12.20
Specific Conductivity	NA	mS/cm	0.682	0.814	1.02	1.371	1.15	0.983
Dissolved Oxygen	NA	mg/l	2.34	2.74	1.67	1.96	1.24	1.01
pH	NA	su	7.38	7.93	7.6	7.85	7.42	7.82
Solids, Total Dissolved	NA	mg/l	0.4	0.5	0.7	NT	NT	0.6
Turbidity	NA	NTU	443	930	1572	554	26.5	Nt

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1

Post CoolIOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-5					
Sampling Period			3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Depth to Water (feet)			11.9	5.63	6.06	6.11	6.12	6.8
Sample Date			9/19/2013	11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	<0.10	< 0.050	< 0.10	<0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	2.34	<0.10	< 0.30	<0.25	<0.25	<0.17
BTEX								
Benzene	5	µg/l	<0.20	< 1.0	< 0.20	<0.20	<0.20	<0.20
Toluene	560 to 1000	µg/l	<1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Ethylbenzene	700	µg/l	<1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	<2.0	< 3.0	< 2.0	<2.0	<2.0	<2.0
PAHs								
Acenaphthene	NA	µg/l	<0.48	< 0.2	< 0.60	<0.48	<0.48	<0.47
Acenaphthylene	NA	µg/l	<0.47	< 0.2	< 0.60	<0.48	<0.48	<0.47
Anthracene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Benzo(a)anthracene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Benzo(a)pyrene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Benzo(b)fluoranthene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Benzo(g,h,i)perylene	NA	µg/l	<0.47	< 0.2	< 0.54	<0.48	<0.48	<0.47
Benzo(k)fluoranthene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Chrysene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Dibenzo(a,h)anthracene	NA	µg/l	<0.47	< 0.2	< 0.78	<0.48	<0.48	<0.47
Fluoranthene	NA	µg/l	<0.47	< 0.2	< 0.71	<0.48	<0.48	<0.47
Fluorene	NA	µg/l	<0.47	< 0.2	< 0.55	<0.48	<0.48	<0.47
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.54	< 0.2	< 1.5	<0.48	<0.48	<0.47
1-Methylnapthalene	NA	µg/l	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.47
2-Methylnapthalene	NA	µg/l	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.47
Naphthalene	NA	µg/l	<0.47	< 0.2	< 0.73	<0.48	<0.48	<0.47
Phenanthrene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Pyrene	NA	µg/l	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47
Metals								
Calcium	NA	mg/l	119.0	119	198	157	99.9	333
Iron	NA	mg/l	9.34	18.9	18.2	33.3	11.4	83.1
Magnesium	NA	mg/l	84.1	45.6	62.2	60.8	56.0	108
Manganese	NA	mg/l	0.48	0.977	1.56	1.33	0.808	2.81
Potassium	NA	mg/l	6.78	< 10	3.22	6.71	5.69	12.6
Selenium	NA	mg/l	<0.05	< 0.01	< 0.05	<0.050	<0.050	<0.05
Sodium	NA	mg/l	118.0	55.8	56.4	58.9	8.0	85.1
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	309	364	540	481	429	452
Alkalinity, Carbonate	NA	mg/l	346	< 5.0	< 5.0	<5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	665	366	540	481	429	452
Biological Oxygen Demand, 5 Day	NA	mg/l	<1.0	< 15	< 10	<10	<10	<10
Bromide	NA	mg/l	<0.25 ^a	< 0.50	< 4.0	<0.40	<0.10	0.1
Chemical Oxygen Demand	NA	mg/l	245	40.4	18.1	<10	75.5	10.8
Chloride	1.25 x bkgd	mg/l	12.1	18.1	20	10.6	133	198
Hydroxide Alkalinity	NA	mg/l	NT	< 5.0	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.056	0.51	< 0.45	<0.090	0.039	<0.050
Nitrogen, Nitrite	NA	mg/l	2.5	< 0.50	< 0.061	<0.010	0.052	0.011
Phosphorus, Total	NA	mg/l	80.30	1.2	2	1.6	NT	1.8
Plate Count, Total	NA	CFU/ml	NT	180000	3300	1900	63000	16000
Sulfate	1.25 x bkgd	mg/l	70.7	16.2	19	27.8	101	142
Total Organic Carbon	NA	mg/l	25.3	6.1	10.9	5.0	6.4	5.2
pH	NA	su	11.4	7.22	7.62	7.65	7.47	7.54
Field Readings								
Temperature	NA	deg. C	19.20	12.7	5.77	13.89	20.67	13.05
Specific Conductivity	NA	mS/cm	1.736	0.667	0.798	0.727	1.116	1.46
Dissolved Oxygen	NA	mg/l	18.24	0.13	1.75	2.24	1.15	1.2
pH	NA	su	12.23	7.47	7.22	7.85	7.51	7.76
Solids, Total Dissolved	NA	mg/l	1.1	0.4	0.5	0.5	0.7	NT
Turbidity	NA	NTU	NT	896	2000	2000	2000	465

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1
Post CoolOX Groundwater Monitoring

LABORATORY DATA SUMMARY								
Sample ID	COGCC Table 910-1 Standards	UNITS						
Sampling Period			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
Depth to Water (feet)			6.6	5.81	6.38	6.69	6.70	6.78
Sample Date			3/6/2013	5/30/2013	9/19/2013	11/18/2011	2/14/2012	5/8/2012
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.10	< 0.050	< 0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	<0.17	<0.17	<0.17	0.213	< 0.30	0.261
BTEX								
Benzene	5	µg/l	<0.20	<0.20	<0.20	< 1.0	< 0.20	<0.20
Toluene	560 to 1000	µg/l	<1.0	<1.0	<1.0	< 1.0	< 1.0	<1.0
Ethylbenzene	700	µg/l	<1.0	<1.0	<1.0	< 1.0	< 1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	<2.0	<2.0	<2.0	< 3.0	< 2.0	<2.0
PAHs								
Acenaphthene	NA	µg/l	NT	NT	<0.49	< 0.2	< 0.60	<0.48
Acenaphthylene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.60	<0.48
Anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(a)anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(a)pyrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(b)fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Benzo(g,h,i)perylene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.54	<0.48
Benzo(k)fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Chrysene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Dibenzo(a,h)anthracene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.78	<0.48
Fluoranthene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.71	<0.48
Fluorene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.55	<0.48
Indeno(1,2,3-cd)pyrene	NA	µg/l	NT	NT	<0.54	< 0.2	< 1.5	<0.48
1-Methylnapthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.68	<0.48
2-Methylnapthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.68	<0.48
Naphthalene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.73	<0.48
Phenanthrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Pyrene	NA	µg/l	NT	NT	<0.48	< 0.2	< 0.47	<0.48
Metals								
Calcium	NA	mg/l	103	84	107	80.8	72.8	78.8
Iron	NA	mg/l	15.6	10.8	6.1	16.7	4.98	13.2
Magnesium	NA	mg/l	71.4	52.2	57.6	51	57.9	53.8
Manganese	NA	mg/l	0.849	0.587	0.67	3.25	1.59	1.17
Potassium	NA	mg/l	4.34	4.2	5.2	< 10	2.17	4.43
Selenium	NA	mg/l	<0.05	<0.050	<0.050	< 0.01	< 0.05	<0.050
Sodium	NA	mg/l	97.9	88.4	116.0	53.7	59.0	63.9
General Chemistry								
Alkalinity, Bicarbonate	NA	mg/l	512	495	390	388	435	438
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	< 5.0	< 5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	512	496	390	390	435	438
Biological Oxygen Demand, 5 Day	NA	mg/l	<10	1.8	<1.0	6.8	< 10	<10
Bromide	NA	mg/l	0.16	0.25	<0.10 ^a	< 0.50	< 4.0	1.0
Chemical Oxygen Demand	NA	mg/l	20	12.7	18.3	96.8	35.3	<10
Chloride	1.25 x bkgd	mg/l	78	15	150	21.1	31	11.8
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	< 5.0	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.022	<0.020 ^a	<0.020 ^a	0.56	< 0.45	<0.23
Nitrogen, Nitrite	NA	mg/l	<0.0080 ^a	<0.0080 ^a	<0.0080 ^a	< 0.50	< 0.061	<0.010
Phosphorus, Total	NA	mg/l	0.53	0.15	0.093	0.46	0.29	0.83
Plate Count, Total	NA	CFU/ml	NT	NT	NT	2210000	81000	64000
Sulfate	1.25 x bkgd	mg/l	109	64.9	119	45.1	21.7	13.2
Total Organic Carbon	NA	mg/l	5.6	5.1	4.9	34.6	11.5	7.3
pH	NA	su	7.6	7.68	7.51	7.2	7.59	7.65
Field Readings								
Temperature	NA	deg. C	6.3	11.6	19.3	12.7	5.44	14.02
Specific Conductivity	NA	mS/cm	1.369	1.024	1.397	0.749	0.866	0.790
Dissolved Oxygen	NA	mg/l	0.85	0.23	0.09	0.27	1.4	2.40
pH	NA	su	7.3	7.67	7.71	7.52	7.17	NT
Solids, Total Dissolved	NA	mg/l	NT	0.67	0.91	0.5	0.6	0.5
Turbidity	NA	NTU	227	NT	NT	478	248	576

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference

Table 1
Post CoolOX Groundwater Monitoring

LABORATORY DATA SUMMARY							
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-6				
Sampling Period			3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter
Depth to Water (feet)			6.84	7.35	7.00	6.51	7.09
Sample Date			8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013
Analytical Parameters							
TPH							
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	0.445	0.347	0.175 J	<0.17	<0.17
BTEX							
Benzene	5	µg/l	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	560 to 1000	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	700	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	<2.0	<2.0	<2.0	<2.0	<2.0
PAHs							
Acenaphthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.49
Acenaphthylene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Benzo(a)anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Benzo(a)pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Benzo(b)fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Benzo(g,h,i)perylene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Benzo(k)fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Chrysene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Dibenzo(a,h)anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Fluorene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.54
1-Methylnapthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
2-Methylnapthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Naphthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Phenanthrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48
Metals							
Calcium	NA	mg/l	114	229	103	66	111
Iron	NA	mg/l	6.90	46.60	14.50	8.70	5.01
Magnesium	NA	mg/l	57.4	92.7	86.7	55.7	58.3
Manganese	NA	mg/l	0.817	3.950	1.07	0.56	0.55
Potassium	NA	mg/l	6.43	9.82	5.24	4.01	6.08
Selenium	NA	mg/l	<0.050	<0.05	<0.05	<0.05	<0.05
Sodium	NA	mg/l	82.0	82.0	96.5	87.1	111.0
General Chemistry							
Alkalinity, Bicarbonate	NA	mg/l	352	356	574	466	394
Alkalinity, Carbonate	NA	mg/l		<5.0	<5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	352	356	574	466	394
Biological Oxygen Demand, 5 Day	NA	mg/l	<10	<10	<10	2	<1.0
Bromide	NA	mg/l	0.063	0.100	0.270	<0.10a	0.100
Chemical Oxygen Demand	NA	mg/l	47.4	10.8	21.3	11.5	13.2
Chloride	1.25 x bkgd	mg/l	136	198	57.8	13	129
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	<0.010	0.056	<0.020 ^a	0.021	<0.020 ^a
Nitrogen, Nitrite	NA	mg/l	0.04	<0.0080	<0.0080 ^a	<0.0080a	<0.0080 ^a
Phosphorus, Total	NA	mg/l	NT	1.6	0.32	0.22	2.5
Plate Count, Total	NA	CFU/ml	820000	420000	NT	NT	NT
Sulfate	1.25 x bkgd	mg/l	114	114	95.9	62.5	120
Total Organic Carbon	NA	mg/l	5.2	5.2	7	5.1	4.7
pH	NA	su	7.39	5.57	7.61	7.65	7.57
Field Readings							
Temperature	NA	deg. C	21.30	12.89	5.30	12.20	21.16
Specific Conductivity	NA	mS/cm	1.145	1.395	1.368	0.956	1.364
Dissolved Oxygen	NA	mg/l	2.30	1.35	2.59	5.00	1.45
pH	NA	su	7.49	7.72	7.35	7.78	7.71
Solids, Total Dissolved	NA	mg/l	0.7	0.6	NT	0.6	0.9
Turbidity	NA	NTU	201	384	NT	NT	NT

µg/l -micrograms per liter

mg/l -milligrams per liter

J - indicates an estimated value

µmhos/cm - micromhos per centimeter

mS/cm - millisiemens per centimeter

su - standard units

NA - not applicable

NTU - nephelometric turbidity units

CFU/ml - colony forming units per milliliter

a -Elevated detection limit due to matirx interference



09/27/13

Technical Report for

Olsson Associates

Knight Property

011.1712

Accutest Job Number: D50719

Sampling Date: 09/19/13

Report to:

**Olsson Associates
760 Horizon Drive Suite 102
Grand Junction, CO 81506
tdobransky@oaconsulting.com**

ATTN: Tim Dobransky

Total number of pages in report: 83



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'Scott Heideman'.

**Scott Heideman
Laboratory Director**

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

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Test results relate only to samples analyzed.

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Sample Summary

Olsson Associates

Job No: D50719

Knight Property
Project No: 011.1712

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D50719-1	09/19/13	14:30 JV	09/20/13	AQ	Ground Water	MW-1
D50719-2	09/19/13	12:15 JV	09/20/13	AQ	Ground Water	MW-2A
D50719-3	09/19/13	11:25 JV	09/20/13	AQ	Ground Water	MW-3
D50719-4	09/19/13	13:30 JV	09/20/13	AQ	Ground Water	MW-4
D50719-5	09/19/13	10:50 JV	09/20/13	AQ	Ground Water	MW-5
D50719-6	09/19/13	09:35 JV	09/20/13	AQ	Ground Water	MW-6

Summary of Hits

Job Number: D50719
Account: Olsson Associates
Project: Knight Property
Collected: 09/19/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D50719-1 MW-1

Naphthalene	0.69 J	4.8	0.48	ug/l	SW846 8270C
TPH-GRO (C6-C10) ^a	0.443	0.20	0.10	mg/l	SW846 8015B
Benzene ^a	3.4	1.0	0.20	ug/l	SW846 8021B
Toluene ^a	1.3 J	2.0	1.0	ug/l	SW846 8021B
Ethylbenzene ^a	4.8	2.0	1.0	ug/l	SW846 8021B
Xylenes (total) ^a	101	2.0	2.0	ug/l	SW846 8021B
TPH-DRO (C10-C28)	0.283	0.19	0.17	mg/l	SW846-8015B
Calcium	238000	400		ug/l	SW846 6010C
Iron	6140	70		ug/l	SW846 6010C
Magnesium	64300	200		ug/l	SW846 6010C
Manganese	658	5.0		ug/l	SW846 6010C
Potassium	6790	1000		ug/l	SW846 6010C
Sodium	118000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	492	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	492	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	12.7	1.0		mg/l	SM 5210B-2011
Bromide	0.17	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	31.6	10		mg/l	SM 5220D-2011
Chloride	163	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.24	0.10		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.28	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphate, Ortho	1.7	0.13		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	10.4	0.25		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	795	10		mg/l	SM 2540C-2011
Sulfate	43.2	1.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	14.2	1.0		mg/l	SM 5310B-2011
pH	7.87			su	SM4500HB+ -2011/9040C

D50719-2 MW-2A

Calcium	123000	400		ug/l	SW846 6010C
Iron	25000	70		ug/l	SW846 6010C
Magnesium	67200	200		ug/l	SW846 6010C
Manganese	1610	5.0		ug/l	SW846 6010C
Potassium	6840	1000		ug/l	SW846 6010C
Sodium	122000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	354	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	354	5.0		mg/l	SM 2320B-2011
Chemical Oxygen Demand	24.3	10		mg/l	SM 5220D-2011
Chloride	149	5.0		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.22	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	728	10		mg/l	SM 2540C-2011
Sulfate	112	5.0		mg/l	EPA 300.0/SW846 9056

Summary of Hits

Job Number: D50719
Account: Olsson Associates
Project: Knight Property
Collected: 09/19/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Total Organic Carbon		5.2	1.0		mg/l	SM 5310B-2011
pH		7.70			su	SM4500HB+ -2011/9040C

D50719-3 MW-3

TPH-DRO (C10-C28)	0.284	0.19	0.17	mg/l	SW846-8015B
Calcium	106000	400		ug/l	SW846 6010C
Iron	6060	70		ug/l	SW846 6010C
Magnesium	59300	200		ug/l	SW846 6010C
Manganese	767	5.0		ug/l	SW846 6010C
Potassium	5430	1000		ug/l	SW846 6010C
Sodium	125000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	380	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	380	5.0		mg/l	SM 2320B-2011
Chemical Oxygen Demand	21.1	10		mg/l	SM 5220D-2011
Chloride	163	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.12	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.13	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	810	10		mg/l	SM 2540C-2011
Sulfate	134	5.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	4.9	1.0		mg/l	SM 5310B-2011
pH	7.66			su	SM4500HB+ -2011/9040C

D50719-4 MW-4

TPH-DRO (C10-C28)	2.34	2.0	1.8	mg/l	SW846-8015B
Calcium	1190000	2000		ug/l	SW846 6010C
Iron	9340	350		ug/l	SW846 6010C
Magnesium	84100	200		ug/l	SW846 6010C
Manganese	480	5.0		ug/l	SW846 6010C
Potassium	6780	1000		ug/l	SW846 6010C
Sodium	118000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	309	5.0		mg/l	SM 2320B-2011
Alkalinity, Carbonate	346	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	655	5.0		mg/l	SM 2320B-2011
Chemical Oxygen Demand	245	50		mg/l	SM 5220D-2011
Chloride	12.1	0.50		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.056	0.010		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	2.5	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	80.3	1.0		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	365	10		mg/l	SM 2540C-2011
Sulfate	70.7	2.5		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	25.3	2.0		mg/l	SM 5310B-2011
pH	11.40			su	SM4500HB+ -2011/9040C

Summary of Hits

Job Number: D50719
Account: Olsson Associates
Project: Knight Property
Collected: 09/19/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D50719-5

MW-5

Calcium	107000	400			ug/l	SW846 6010C
Iron	6080	70			ug/l	SW846 6010C
Magnesium	57600	200			ug/l	SW846 6010C
Manganese	670	5.0			ug/l	SW846 6010C
Potassium	5200	1000			ug/l	SW846 6010C
Sodium	116000	400			ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	390	5.0			mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	390	5.0			mg/l	SM 2320B-2011
Chemical Oxygen Demand	18.3	10			mg/l	SM 5220D-2011
Chloride	150	5.0			mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.093	0.010			mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	780	10			mg/l	SM 2540C-2011
Sulfate	119	5.0			mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	4.9	1.0			mg/l	SM 5310B-2011
pH	7.51				su	SM4500HB+ -2011/9040C

D50719-6

MW-6

Calcium	111000	400			ug/l	SW846 6010C
Iron	5010	70			ug/l	SW846 6010C
Magnesium	58300	200			ug/l	SW846 6010C
Manganese	545	5.0			ug/l	SW846 6010C
Potassium	6080	1000			ug/l	SW846 6010C
Sodium	111000	400			ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	394	5.0			mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	394	5.0			mg/l	SM 2320B-2011
Bromide	0.10	0.10			mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	13.2	10			mg/l	SM 5220D-2011
Chloride	129	5.0			mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	2.5	0.050			mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	744	10			mg/l	SM 2540C-2011
Sulfate	120	5.0			mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	4.7	1.0			mg/l	SM 5310B-2011
pH	7.57				su	SM4500HB+ -2011/9040C

(a) The pH of the sample was > 2 at time of analysis.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	09/19/13
Lab Sample ID:	D50719-1	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115749.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.49	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.48	ug/l	
120-12-7	Anthracene	ND	4.8	0.48	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.48	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.48	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.48	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.48	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.48	ug/l	
218-01-9	Chrysene	ND	4.8	0.48	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.48	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.48	ug/l	
86-73-7	Fluorene	ND	4.8	0.48	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-20-3	Naphthalene	0.69	4.8	0.48	ug/l	J
85-01-8	Phenanthrene	ND	4.8	0.48	ug/l	
129-00-0	Pyrene	ND	4.8	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	70%		14-130%
321-60-8	2-Fluorobiphenyl	65%		16-130%
1718-51-0	Terphenyl-d14	53%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	09/19/13
Lab Sample ID:	D50719-1	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19673.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.443	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	94%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	09/19/13
Lab Sample ID:	D50719-1	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19673.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.4	1.0	0.20	ug/l	
108-88-3	Toluene	1.3	2.0	1.0	ug/l	J
100-41-4	Ethylbenzene	4.8	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	101	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	105%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1	
Lab Sample ID:	D50719-1	Date Sampled: 09/19/13
Matrix:	AQ - Ground Water	Date Received: 09/20/13
Method:	SW846-8015B SW846 3510C	Percent Solids: n/a
Project:	Knight Property	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013251.D	1	09/23/13	TU	09/21/13	OP8609	GFH706
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.283	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	70%		20-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1**Lab Sample ID:** D50719-1**Matrix:** AQ - Ground Water**Project:** Knight Property**Date Sampled:** 09/19/13**Date Received:** 09/20/13**Percent Solids:** n/a**Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	238000	400	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	6140	70	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	64300	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	658	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	6790	1000	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	118000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-1
Lab Sample ID: D50719-1
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	492	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	492	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	12.7	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide	0.17	0.10	mg/l	2	09/20/13 13:16	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	31.6	10	mg/l	1	09/25/13	JD	SM 5220D-2011
Chloride	163	5.0	mg/l	10	09/20/13 16:42	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.24	0.10	mg/l	10	09/20/13 16:42	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.28	0.0080	mg/l	2	09/20/13 13:16	GH	EPA 300.0/SW846 9056
Phosphate, Ortho	1.7	0.13	mg/l	2	09/20/13 13:16	GH	EPA 300.0/SW846 9056
Phosphorus, Total	10.4	0.25	mg/l	25	09/27/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	795	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	43.2	1.0	mg/l	2	09/20/13 13:16	GH	EPA 300.0/SW846 9056
Total Organic Carbon	14.2	1.0	mg/l	1	09/23/13 12:56	GH	SM 5310B-2011
pH	7.87		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	09/19/13
Lab Sample ID:	D50719-2	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115750.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.49	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.48	ug/l	
120-12-7	Anthracene	ND	4.8	0.48	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.48	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.48	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.48	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.48	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.48	ug/l	
218-01-9	Chrysene	ND	4.8	0.48	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.48	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.48	ug/l	
86-73-7	Fluorene	ND	4.8	0.48	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-20-3	Naphthalene	ND	4.8	0.48	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.48	ug/l	
129-00-0	Pyrene	ND	4.8	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		14-130%
321-60-8	2-Fluorobiphenyl	73%		16-130%
1718-51-0	Terphenyl-d14	63%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	09/19/13
Lab Sample ID:	D50719-2	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19674.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	88%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	09/19/13
Lab Sample ID:	D50719-2	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19674.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	98%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2A	
Lab Sample ID:	D50719-2	Date Sampled: 09/19/13
Matrix:	AQ - Ground Water	Date Received: 09/20/13
Method:	SW846-8015B SW846 3510C	Percent Solids: n/a
Project:	Knight Property	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013253.D	1	09/23/13	TU	09/21/13	OP8609	GFH706
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	63%		20-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-2A	Date Sampled: 09/19/13
Lab Sample ID: D50719-2	Date Received: 09/20/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Knight Property	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	123000	400	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	25000	70	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	67200	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	1610	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	6840	1000	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	122000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-2A
Lab Sample ID: D50719-2
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	354	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	354	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	09/20/13 13:29	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	24.3	10	mg/l	1	09/25/13	JD	SM 5220D-2011
Chloride	149	5.0	mg/l	10	09/20/13 17:19	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate ^a	< 0.020	0.020	mg/l	2	09/20/13 13:29	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	09/20/13 13:29	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	09/20/13 13:29	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.22	0.010	mg/l	1	09/24/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	728	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	112	5.0	mg/l	10	09/20/13 17:19	GH	EPA 300.0/SW846 9056
Total Organic Carbon	5.2	1.0	mg/l	1	09/23/13 13:08	GH	SM 5310B-2011
pH	7.70		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	09/19/13
Lab Sample ID:	D50719-3	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115751.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.49	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.48	ug/l	
120-12-7	Anthracene	ND	4.8	0.48	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.48	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.48	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.48	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.48	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.48	ug/l	
218-01-9	Chrysene	ND	4.8	0.48	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.48	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.48	ug/l	
86-73-7	Fluorene	ND	4.8	0.48	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-20-3	Naphthalene	ND	4.8	0.48	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.48	ug/l	
129-00-0	Pyrene	ND	4.8	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	78%		14-130%
321-60-8	2-Fluorobiphenyl	73%		16-130%
1718-51-0	Terphenyl-d14	60%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	09/19/13
Lab Sample ID:	D50719-3	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19677.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	89%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	09/19/13
Lab Sample ID:	D50719-3	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19677.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	09/19/13
Lab Sample ID:	D50719-3	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013264.D	1	09/23/13	TU	09/21/13	OP8609	GFH707
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.284	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		20-140%		

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-3**Lab Sample ID:** D50719-3**Matrix:** AQ - Ground Water**Project:** Knight Property**Date Sampled:** 09/19/13**Date Received:** 09/20/13**Percent Solids:** n/a**Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	106000	400	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	6060	70	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	59300	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	767	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	5430	1000	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	125000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3
Lab Sample ID: D50719-3
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	380	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	380	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	09/20/13 13:41	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	21.1	10	mg/l	1	09/25/13	JD	SM 5220D-2011
Chloride	163	5.0	mg/l	10	09/20/13 17:55	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.12	0.020	mg/l	2	09/20/13 13:41	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	09/20/13 13:41	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	09/20/13 13:41	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.13	0.010	mg/l	1	09/24/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	810	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	134	5.0	mg/l	10	09/20/13 17:55	GH	EPA 300.0/SW846 9056
Total Organic Carbon	4.9	1.0	mg/l	1	09/23/13 14:15	GH	SM 5310B-2011
pH	7.66		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	09/19/13
Lab Sample ID:	D50719-4	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115752.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.7	0.48	ug/l	
208-96-8	Acenaphthylene	ND	4.7	0.47	ug/l	
120-12-7	Anthracene	ND	4.7	0.47	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.7	0.47	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.7	0.47	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.7	0.47	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.7	0.47	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.7	0.47	ug/l	
218-01-9	Chrysene	ND	4.7	0.47	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.7	0.47	ug/l	
206-44-0	Fluoranthene	ND	4.7	0.47	ug/l	
86-73-7	Fluorene	ND	4.7	0.47	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.7	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-20-3	Naphthalene	ND	4.7	0.47	ug/l	
85-01-8	Phenanthrene	ND	4.7	0.47	ug/l	
129-00-0	Pyrene	ND	4.7	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	46%		14-130%
321-60-8	2-Fluorobiphenyl	47%		16-130%
1718-51-0	Terphenyl-d14	52%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	09/19/13
Lab Sample ID:	D50719-4	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19678.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	83%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	09/19/13
Lab Sample ID:	D50719-4	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19678.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	92%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	09/19/13
Lab Sample ID:	D50719-4	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013266.D	1	09/23/13	TU	09/21/13	OP8609	GFH707
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	2.34	2.0	1.8	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	75%		20-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4

Lab Sample ID: D50719-4

Matrix: AQ - Ground Water

Project: Knight Property

Date Sampled: 09/19/13

Date Received: 09/20/13

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	1190000	2000	ug/l	5	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	9340	350	ug/l	5	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	84100	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	480	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	6780	1000	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	118000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-4
Lab Sample ID: D50719-4
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	309	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	346	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	655	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide ^a	< 0.25	0.25	mg/l	5	09/20/13 18:07	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	245	50	mg/l	5	09/25/13	JD	SM 5220D-2011
Chloride	12.1	0.50	mg/l	1	09/20/13 13:53	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.056	0.010	mg/l	1	09/20/13 13:53	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite	2.5	0.020	mg/l	5	09/20/13 18:07	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.33	0.33	mg/l	5	09/20/13 18:07	GH	EPA 300.0/SW846 9056
Phosphorus, Total	80.3	1.0	mg/l	100	09/27/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	365	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	70.7	2.5	mg/l	5	09/20/13 18:07	GH	EPA 300.0/SW846 9056
Total Organic Carbon	25.3	2.0	mg/l	2	09/23/13 17:06	GH	SM 5310B-2011
pH	11.40		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	09/19/13
Lab Sample ID:	D50719-5	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115753.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.49	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.48	ug/l	
120-12-7	Anthracene	ND	4.8	0.48	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.48	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.48	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.48	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.48	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.48	ug/l	
218-01-9	Chrysene	ND	4.8	0.48	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.48	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.48	ug/l	
86-73-7	Fluorene	ND	4.8	0.48	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-20-3	Naphthalene	ND	4.8	0.48	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.48	ug/l	
129-00-0	Pyrene	ND	4.8	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		14-130%
321-60-8	2-Fluorobiphenyl	68%		16-130%
1718-51-0	Terphenyl-d14	59%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-5	Date Sampled:	09/19/13
Lab Sample ID:	D50719-5	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19679.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	90%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	09/19/13
Lab Sample ID:	D50719-5	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19679.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5	
Lab Sample ID:	D50719-5	Date Sampled: 09/19/13
Matrix:	AQ - Ground Water	Date Received: 09/20/13
Method:	SW846-8015B SW846 3510C	Percent Solids: n/a
Project:	Knight Property	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013330.D	1	09/24/13	TU	09/24/13	OP8619	GFH709
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	66%		20-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5**Lab Sample ID:** D50719-5**Matrix:** AQ - Ground Water**Project:** Knight Property**Date Sampled:** 09/19/13**Date Received:** 09/20/13**Percent Solids:** n/a**Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	107000	400	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	6080	70	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	57600	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	670	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	5200	1000	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	116000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-5
Lab Sample ID: D50719-5
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	390	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	390	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	09/20/13 14:05	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	18.3	10	mg/l	1	09/25/13	JD	SM 5220D-2011
Chloride	150	5.0	mg/l	10	09/20/13 18:19	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate ^a	< 0.020	0.020	mg/l	2	09/20/13 14:05	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	09/20/13 14:05	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	09/20/13 14:05	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.093	0.010	mg/l	1	09/24/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	780	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	119	5.0	mg/l	10	09/20/13 18:19	GH	EPA 300.0/SW846 9056
Total Organic Carbon	4.9	1.0	mg/l	1	09/23/13 14:37	GH	SM 5310B-2011
pH	7.51		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	09/19/13
Lab Sample ID:	D50719-6	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	Knight Property		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G115754.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.49	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.48	ug/l	
120-12-7	Anthracene	ND	4.8	0.48	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.48	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.48	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.48	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.48	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.48	ug/l	
218-01-9	Chrysene	ND	4.8	0.48	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.48	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.48	ug/l	
86-73-7	Fluorene	ND	4.8	0.48	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	0.54	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.48	ug/l	
91-20-3	Naphthalene	ND	4.8	0.48	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.48	ug/l	
129-00-0	Pyrene	ND	4.8	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	38%		14-130%
321-60-8	2-Fluorobiphenyl	41%		16-130%
1718-51-0	Terphenyl-d14	42%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	09/19/13
Lab Sample ID:	D50719-6	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GA19680.D	1	09/24/13	EV	n/a	n/a	GGA1102
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	87%		60-140%		

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	09/19/13
Lab Sample ID:	D50719-6	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TA19680.D	1	09/24/13	EV	n/a	n/a	GTA1103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	09/19/13
Lab Sample ID:	D50719-6	Date Received:	09/20/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	Knight Property		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH013332.D	1	09/24/13	TU	09/24/13	OP8619	GFH709
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	61%		20-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-6

Lab Sample ID: D50719-6

Matrix: AQ - Ground Water

Project: Knight Property

Date Sampled: 09/19/13

Date Received: 09/20/13

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	111000	400	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Iron	5010	70	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Magnesium	58300	200	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Manganese	545	5.0	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Potassium	6080	1000	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	09/23/13	09/23/13 JB	SW846 6010C ¹	SW846 3010A ²
Sodium	111000	400	ug/l	1	09/23/13	09/24/13 JB	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA3995

(2) Prep QC Batch: MP11149

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-6
Lab Sample ID: D50719-6
Matrix: AQ - Ground Water
Project: Knight Property

Date Sampled: 09/19/13
Date Received: 09/20/13
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	394	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
Alkalinity, Total as CaCO ₃	394	5.0	mg/l	1	09/23/13	JD	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/20/13 11:40	RW	SM 5210B-2011
Bromide	0.10	0.10	mg/l	2	09/20/13 14:17	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	13.2	10	mg/l	1	09/25/13	JD	SM 5220D-2011
Chloride	129	5.0	mg/l	10	09/20/13 18:32	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate ^a	< 0.020	0.020	mg/l	2	09/20/13 14:17	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	09/20/13 14:17	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	09/20/13 14:17	GH	EPA 300.0/SW846 9056
Phosphorus, Total	2.5	0.050	mg/l	5	09/27/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	744	10	mg/l	1	09/23/13	BF	SM 2540C-2011
Sulfate	120	5.0	mg/l	10	09/20/13 18:32	GH	EPA 300.0/SW846 9056
Total Organic Carbon	4.7	1.0	mg/l	1	09/23/13 14:48	GH	SM 5310B-2011
pH	7.57		su	1	09/20/13 16:00	RW	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Subcontract Lab Data

Report of Analysis



industrial LABORATORIES

Industrial Laboratories is your independent,
third-party analytical testing laboratory

To: Accutest Mountain States (AMS)
4036 Youngfield St.

Wheat Ridge CO 80033

Attn: Shea Greiner

TEST REPORT

ACCUTEST - M

Date Received: 9/20/2013

Date Reported: 9/23/2013

PO Number: D50719X

Note: Sample test procedures conform to EPA 40CFR136 requirements.

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
130920017-01A	D50719X-1, 09/19/13, 2:30 PM	* Heterotrophic Plate Count SM 9215B	1.3 million	CFU/mL		KM 9/20/2013
130920017-02A	D50719X-2, 09/19/13, 12:15 PM	* Heterotrophic Plate Count SM 9215B	5300	CFU/mL		KM 9/20/2013
130920017-03A	D50719X-3, 09/19/13, 11:25 AM	* Heterotrophic Plate Count SM 9215B	79000	CFU/mL		KM 9/20/2013
130920017-04A	D50719X-4, 09/19/13, 1:30 PM	* Heterotrophic Plate Count SM 9215B	270	CFU/mL		KM 9/20/2013
130920017-05A	D50719X-5, 09/19/13, 10:50 AM	* Heterotrophic Plate Count SM 9215B	31000	CFU/mL		KM 9/20/2013
130920017-06A	D50719X-6, 09/19/13, 9:35 AM	* Heterotrophic Plate Count SM 9215B	50000	CFU/mL		KM 9/20/2013


Department Manager

* = Scope Analysis

= Subcontracted Analysis

MDL = Method Detection Limit

ND = Not Detected at the Method Detection Limit

Page: 1 of 1

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Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accurist.com

[illegible]

D50719: Chain of Custody

Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D50719

Client: OLSSON

Immediate Client Services Action Required: No

Date / Time Received: 9/20/2013 11:40:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project: KNIGHT

Airbill #'s: CO

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V: (303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8616-MB	1G115744.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126

The QC reported here applies to the following samples:

Method: SW846 8270C

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	0.51	ug/l	
208-96-8	Acenaphthylene	ND	5.0	0.50	ug/l	
120-12-7	Anthracene	ND	5.0	0.50	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	0.50	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	0.50	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	0.50	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	0.50	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	0.50	ug/l	
218-01-9	Chrysene	ND	5.0	0.50	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	0.50	ug/l	
206-44-0	Fluoranthene	ND	5.0	0.50	ug/l	
86-73-7	Fluorene	ND	5.0	0.50	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	0.57	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	5.0	0.50	ug/l	
129-00-0	Pyrene	ND	5.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	58% 10-130%
4165-62-2	Phenol-d5	36% 10-130%
118-79-6	2,4,6-Tribromophenol	80% 16-130%
4165-60-0	Nitrobenzene-d5	80% 14-130%
321-60-8	2-Fluorobiphenyl	75% 16-130%
1718-51-0	Terphenyl-d14	94% 10-145%

Blank Spike Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8616-BS	1G115745.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126

The QC reported here applies to the following samples:

Method: SW846 8270C

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	39.5	79	53-130
208-96-8	Acenaphthylene	50	42.4	85	55-130
120-12-7	Anthracene	50	49.7	99	70-130
56-55-3	Benzo(a)anthracene	50	50.2	100	69-130
205-99-2	Benzo(b)fluoranthene	50	48.2	96	52-146
207-08-9	Benzo(k)fluoranthene	50	53.9	108	41-158
191-24-2	Benzo(g,h,i)perylene	50	52.9	106	53-140
50-32-8	Benzo(a)pyrene	50	51.5	103	55-140
218-01-9	Chrysene	50	50.6	101	70-130
53-70-3	Dibenzo(a,h)anthracene	50	53.5	107	51-143
206-44-0	Fluoranthene	50	50.2	100	70-130
86-73-7	Fluorene	50	42.8	86	58-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	53.2	106	49-142
90-12-0	1-Methylnaphthalene	50	37.6	75	41-130
91-57-6	2-Methylnaphthalene	50	33.4	67	38-130
91-20-3	Naphthalene	50	35.8	72	39-130
85-01-8	Phenanthrene	50	48.0	96	70-130
129-00-0	Pyrene	50	50.7	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	55%	10-130%
4165-62-2	Phenol-d5	39%	10-130%
118-79-6	2,4,6-Tribromophenol	102%	16-130%
4165-60-0	Nitrobenzene-d5	87%	14-130%
321-60-8	2-Fluorobiphenyl	87%	16-130%
1718-51-0	Terphenyl-d14	102%	10-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8616-MS	1G115747.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
OP8616-MSD	1G115748.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126
D48570-2	1G115746.D	1	09/23/13	SM	09/23/13	OP8616	E1G1126

The QC reported here applies to the following samples:

Method: SW846 8270C

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	D48570-2 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	34.5	69	37.9	76	9		38-130/30
208-96-8	Acenaphthylene	ND	50	31.0	62	34.1	68	10		39-130/30
120-12-7	Anthracene	ND	50	43.8	88	47.8	96	9		65-130/30
56-55-3	Benzo(a)anthracene	ND	50	45.5	91	48.4	97	6		62-130/30
205-99-2	Benzo(b)fluoranthene	ND	50	44.9	90	48.8	98	8		51-146/30
207-08-9	Benzo(k)fluoranthene	ND	50	47.0	94	48.8	98	4		41-158/30
191-24-2	Benzo(g,h,i)perylene	ND	50	48.1	96	51.1	102	6		51-140/30
50-32-8	Benzo(a)pyrene	ND	50	45.9	92	48.8	98	6		52-140/30
218-01-9	Chrysene	ND	50	45.7	91	48.2	96	5		69-130/30
53-70-3	Dibenzo(a,h)anthracene	ND	50	48.9	98	51.4	103	5		49-139/30
206-44-0	Fluoranthene	ND	50	46.0	92	47.8	96	4		70-130/30
86-73-7	Fluorene	ND	50	38.4	77	41.2	82	7		48-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	48.3	97	51.1	102	6		47-142/30
90-12-0	1-Methylnaphthalene	ND	50	33.1	66	35.0	70	6		28-130/30
91-57-6	2-Methylnaphthalene	ND	50	28.9	58	31.3	63	8		27-130/30
91-20-3	Naphthalene	ND	50	31.4	63	34.5	69	9		28-130/30
85-01-8	Phenanthrene	ND	50	43.3	87	46.4	93	7		63-130/30
129-00-0	Pyrene	ND	50	45.5	91	49.1	98	8		68-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D48570-2	Limits
367-12-4	2-Fluorophenol	20%	29%	9% * a	10-130%
4165-62-2	Phenol-d5	24%	25%	12%	10-130%
118-79-6	2,4,6-Tribromophenol	39%	54%	17%	16-130%
4165-60-0	Nitrobenzene-d5	74%	83%	63%	14-130%
321-60-8	2-Fluorobiphenyl	74%	82%	63%	16-130%
1718-51-0	Terphenyl-d14	94%	99%	101%	10-145%

(a) Outside of the range due to possible matrix interference, but acceptable within method criteria.

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1102-MB	GA19671.D	1	09/24/13	EV	n/a	n/a	GGA1102

The QC reported here applies to the following samples: Method: SW846 8015B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	90% 60-140%

Method Blank Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1103-MB	TA19671.D	1	09/24/13	EV	n/a	n/a	GTA1103

The QC reported here applies to the following samples:

Method: SW846 8021B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	100% 60-140%

7.1.2

7

Blank Spike Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1102-BS	GA19672.D	1	09/24/13	EV	n/a	n/a	GGA1102

The QC reported here applies to the following samples:

Method: SW846 8015B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.09	95	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	99%	60-140%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1103-BS	TA19672.D	1	09/24/13	EV	n/a	n/a	GTA1103

The QC reported here applies to the following samples:

Method: SW846 8021B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	32.4	119	70-130
100-41-4	Ethylbenzene	45.6	43.2	95	70-130
108-88-3	Toluene	212	200	95	70-130
1330-20-7	Xylenes (total)	216	219	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	109%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D50719-2MS ^a	GA19675.D	1	09/24/13	EV	n/a	n/a	GGA1102
D50719-2MSD ^a	GA19676.D	1	09/24/13	EV	n/a	n/a	GGA1102
D50719-2 ^a	GA19674.D	1	09/24/13	EV	n/a	n/a	GGA1102

The QC reported here applies to the following samples: Method: SW846 8015B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	D50719-2 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	2.2	2.15	98	2.15	98	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D50719-2	Limits
120-82-1	1,2,4-Trichlorobenzene	92%	98%	88%	60-140%

(a) The pH of the sample was > 2 at time of analysis.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D50719-2MS ^a	TA19675.D	1	09/24/13	EV	n/a	n/a	GTA1103
D50719-2MSD ^a	TA19676.D	1	09/24/13	EV	n/a	n/a	GTA1103
D50719-2 ^a	TA19674.D	1	09/24/13	EV	n/a	n/a	GTA1103

The QC reported here applies to the following samples:

Method: SW846 8021B

D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

CAS No.	Compound	D50719-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	27.2	34.9	128	33.0	121	6	55-133/30
100-41-4	Ethylbenzene	ND	45.6	42.5	93	42.0	92	1	63-130/30
108-88-3	Toluene	ND	212	197	93	196	93	1	70-130/30
1330-20-7	Xylenes (total)	ND	216	215	100	213	99	1	64-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D50719-2	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	112%	98%	60-140%

(a) The pH of the sample was > 2 at time of analysis.

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8609-MB	FH013240.D	1	09/23/13	TU	09/21/13	OP8609	GFH707

The QC reported here applies to the following samples:

Method: SW846-8015B

D50719-1, D50719-2, D50719-3, D50719-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.20	0.18	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	43% 20-140%

8.1.1

8

Method Blank Summary

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8619-MB	FH013363.D	1	09/25/13	TU	09/24/13	OP8619	GFH710

The QC reported here applies to the following samples: Method: SW846-8015B
D50719-5, D50719-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.20	0.18	mg/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	59% 20-140%

Blank Spike Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8609-BS	FH013242.D	1	09/23/13	TU	09/21/13	OP8609	GFH707

The QC reported here applies to the following samples:

Method: SW846-8015B

D50719-1, D50719-2, D50719-3, D50719-4

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	12.9	65	36-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	58%	20-140%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8619-BS	FH013365.D	1	09/25/13	TU	09/24/13	OP8619	GFH710

The QC reported here applies to the following samples:

Method: SW846-8015B

D50719-5, D50719-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	12.9	65	36-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	51%	20-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8609-MS	FH013244.D	1	09/23/13	TU	09/21/13	OP8609	GFH707
OP8609-MSD	FH013246.D	1	09/23/13	TU	09/21/13	OP8609	GFH707
D48569-11	FH013248.D	1	09/23/13	TU	09/21/13	OP8609	GFH707

The QC reported here applies to the following samples:

Method: SW846-8015B

D50719-1, D50719-2, D50719-3, D50719-4

CAS No.	Compound	D48569-11 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	20	12.9	65	15.7	79	20	28-140/30

CAS No.	Surrogate Recoveries	MS	MSD	D48569-11	Limits
84-15-1	o-Terphenyl	67%	84%	86%	20-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D50719
Account: CORCCOGJ Olsson Associates
Project: Knight Property

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP8619-MS	FH013367.D	1	09/25/13	TU	09/24/13	OP8619	GFH710
OP8619-MSD	FH013369.D	1	09/25/13	TU	09/24/13	OP8619	GFH710
D48570-1	FH013328.D	1	09/24/13	TU	09/24/13	OP8619	GFH709

The QC reported here applies to the following samples: Method: SW846-8015B

D50719-5, D50719-6

CAS No.	Compound	D48570-1 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	20	13.0	65	16.9	85	26	28-140/30

CAS No.	Surrogate Recoveries	MS	MSD	D48570-1	Limits
84-15-1	o-Terphenyl	57%	76%	64%	20-140%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/23/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	11	41		
Antimony	30	2.1	19		
Arsenic	25	3.8	5.6		
Barium	10	.2	1.4		
Beryllium	10	.9	1.2		
Boron	50	.8	6.6		
Cadmium	10	.2	.36		
Calcium	400	2.4	41	-8.3	<400
Chromium	10	.3	.4		
Cobalt	5.0	.5	.57		
Copper	10	.8	1.9		
Iron	70	1.5	9.5	11.7	<70
Lead	50	2.1	21		
Lithium	5.0	.4	2.7		
Magnesium	200	6.8	19	-2.4	<200
Manganese	5.0	.5	.46	0.0	<5.0
Molybdenum	10	.4	.84		
Nickel	30	.5	.87		
Phosphorus	100	15	20		
Potassium	1000	99	270	-81	<1000
Selenium	50	7.1	11	-2.2	<50
Silicon	50	4.7	5.2		
Silver	30	.3	.6		
Sodium	400	7.3	170	76.0	<400
Strontium	5.0	.01	.12		
Thallium	10	1.8	4		
Tin	50	12	16		
Titanium	10	.1	2.1		
Uranium	50	2.9	5.5		
Vanadium	10	.4	.4		
Zinc	30	.4	3.2		

Associated samples MP11149: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

9.1.1

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/23/13

Metal	D50710-1 Original MS	Spikelot ICPAL2	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium	100000	125000	25000	100.0 75-125
Chromium	anr			
Cobalt				
Copper	anr			
Iron	25000	28400	5000	90.0 75-125
Lead	anr			
Lithium				
Magnesium	11500	34900	25000	93.6 75-125
Manganese	389	834	500	89.0 75-125
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	16200	46700	25000	122.0 75-125
Selenium	0.0	748	1000	74.8N(a) 75-125
Silicon				
Silver	anr			
Sodium	10000000003320000	25000		1280.0(b) 75-125
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11149: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference.
- (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/23/13

Metal	D50710-1 Original	MSD	Spikelot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	anr					
Calcium	100000	125000	25000	100.0	0.0	20
Chromium	anr					
Cobalt						
Copper	anr					
Iron	25000	28200	5000	86.0	0.7	20
Lead	anr					
Lithium						
Magnesium	11500	34600	25000	92.4	0.9	20
Manganese	389	838	500	89.8	0.5	20
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium	16200	46500	25000	121.2	0.4	20
Selenium	0.0	734	1000	73.4N(a)	1.9	20
Silicon						
Silver	anr					
Sodium	10000000003230000	25000	920.0(b)	2.7		20
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium						
Zinc	anr					

Associated samples MP11149: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike recovery indicates possible matrix interference.
- (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/23/13

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium	25800	25000	103.2	80-120
Chromium	anr			
Cobalt				
Copper	anr			
Iron	4730	5000	94.6	80-120
Lead	anr			
Lithium				
Magnesium	24700	25000	98.8	80-120
Manganese	491	500	98.2	80-120
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	25300	25000	101.2	80-120
Selenium	1060	1000	106.0	80-120
Silicon				
Silver	anr			
Sodium	25400	25000	101.6	80-120
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11149: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D50719
 Account: CORCCOGJ - Olsson Associates
 Project: Knight Property

QC Batch ID: MP11149
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 09/23/13

Metal	D50710-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium	101000	103000	2.9	0-10
Chromium	anr			
Cobalt				
Copper	anr			
Iron	25000	24500	2.3	0-10
Lead	anr			
Lithium				
Magnesium	11500	12100	5.4	0-10
Manganese	386	409	5.3	0-10
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	16200	14300	11.8*(a)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	anr			
Sodium	3000000	3090000	2.8	0-10
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	anr			

Associated samples MP11149: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

QC Batch ID: MP11149
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

9.1.4

9

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate as CaC	GN21996	5.0	2.0	mg/l	100	95.0	94.9	90-110%
Alkalinity, Carbonate	GN21997	5.0	0.0	mg/l	100	95.0	94.9	80-120%
Alkalinity, Total as CaCO3	GN21995	5.0	2.0	mg/l	100	95.0	94.9	90-110%
BOD, 5 Day	GP10980/GN22030	1.0	0.0	mg/l	198	186	93.7	85-115%
Bromide	GP10976/GN21987	0.050	0.0	mg/l	20	20.3	101.5	90-110%
Chemical Oxygen Demand	GP11003/GN22034	10	0.0	mg/l	100	104	103.8	80-120%
Chloride	GP10976/GN21987	0.50	0.0	mg/l	20	20.4	102.0	90-110%
Nitrogen, Nitrate	GP10976/GN21987	0.010	0.0	mg/l	4.52	4.49	99.4	90-110%
Nitrogen, Nitrite	GP10976/GN21987	0.0040	0.0	mg/l	6.09	6.04	99.2	90-110%
Phosphate, Ortho	GP10976/GN21987	0.065	0.0	mg/l	9.78	9.88	101.0	90-110%
Phosphorus, Total	GP11002/GN22027	0.010	0.0	mg/l	0.304	0.33	109.8	80-120%
Phosphorus, Total	GP11034/GN22068	0.010	0.0	mg/l	0.304	0.32	103.8	80-120%
Solids, Total Dissolved	GN21994	10	0.0	mg/l	400	396	99.0	90-110%
Sulfate	GP10976/GN21987	0.50	0.0	mg/l	30	30.3	101.0	90-110%
Total Organic Carbon	GP10983/GN22001	1.0	0.0	mg/l	8.82	8.87	100.6	90-110%
pH	GN21992			su	8.00	8.01	100.1	99.3-100.7%

Associated Samples:

Batch GN21992: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GN21994: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GN21995: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GN21996: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GN21997: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP10976: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP10980: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP10983: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP11002: D50719-2, D50719-3, D50719-5
Batch GP11003: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP11034: D50719-1, D50719-4, D50719-6

(*) Outside of QC limits

10.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO ₃	GN21995	D50545-1	mg/l	169	167	1.0	0-20%
BOD, 5 Day	GP10980/GN22030	D50664-1	mg/l	50.6	59.2	15.7	0-20%
Chemical Oxygen Demand	GP11003/GN22034	D50719-1	mg/l	31.6	34.7	9.6	0-25%
Phosphorus, Total	GP11002/GN22027	D50549-4	mg/l	0.0	0.0	0.0	0-20%
Phosphorus, Total	GP11034/GN22068	D50907-1	mg/l	0.0	0.0	0.0	0-20%
Solids, Total Dissolved	GN21994	D50686-1	mg/l	1430	1420	0.7	0-20%
Total Organic Carbon	GP10983/GN22001	D50719-2	mg/l	5.2	4.9	5.9	0-20%

Associated Samples:

Batch GN21994: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GN21995: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP10980: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP10983: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP11002: D50719-2, D50719-3, D50719-5
Batch GP11003: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6
Batch GP11034: D50719-1, D50719-4, D50719-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO ₃	GN21995	D50545-1	mg/l	169	100	261	92.1	80-120%
Bromide	GP10976/GN21987	D50719-2	mg/l	0.068	5	5.3	104.6	80-120%
Chemical Oxygen Demand	GP11003/GN22034	D50719-1	mg/l	31.6	40	70.8	98.2	70-130%
Chloride	GP10976/GN21987	D50719-2	mg/l	149	100	255	106.0	80-120%
Nitrogen, Nitrate	GP10976/GN21987	D50719-2	mg/l	0.0	1.13	1.0	88.5	80-120%
Nitrogen, Nitrite	GP10976/GN21987	D50719-2	mg/l	0.0	0.609	0.67	110.0	80-120%
Phosphate, Ortho	GP10976/GN21987	D50719-2	mg/l	0.0	1.63	2.1	128.8N(a)	80-120%
Phosphorus, Total	GP11002/GN22027	D50549-4	mg/l	0.0	0.40	0.39	97.5	80-120%
Phosphorus, Total	GP11034/GN22068	D50907-1	mg/l	0.0	0.40	0.39	97.5	80-120%
Sulfate	GP10976/GN21987	D50719-2	mg/l	112	100	218	106.0	80-120%
Total Organic Carbon	GP10983/GN22001	D50719-2	mg/l	5.2	10	15.3	101.0	80-120%

Associated Samples:

Batch GN21995: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP10976: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP10983: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP11002: D50719-2, D50719-3, D50719-5

Batch GP11003: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP11034: D50719-1, D50719-4, D50719-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.

10.3
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MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D50719
Account: CORCCOGJ - Olsson Associates
Project: Knight Property

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Alkalinity, Total as CaCO ₃	GN21995	D50545-1	mg/l	169	100	261	0.1	20%
Bromide	GP10976/GN21987	D50719-2	mg/l	0.068	5	5.3	0.0	20%
Chemical Oxygen Demand	GP11003/GN22034	D50719-1	mg/l	31.6	40	65.8	7.4	25%
Chloride	GP10976/GN21987	D50719-2	mg/l	149	100	255	0.0	20%
Nitrogen, Nitrate	GP10976/GN21987	D50719-2	mg/l	0.0	1.13	1.0	0.0	20%
Nitrogen, Nitrite	GP10976/GN21987	D50719-2	mg/l	0.0	0.609	0.67	0.0	20%
Phosphate, Ortho	GP10976/GN21987	D50719-2	mg/l	0.0	1.63	2.1	0.0	20%
Phosphorus, Total	GP11002/GN22027	D50549-4	mg/l	0.0	0.40	0.390	0.0	20%
Phosphorus, Total	GP11034/GN22068	D50907-1	mg/l	0.0	0.40	0.410	5.0	20%
Sulfate	GP10976/GN21987	D50719-2	mg/l	112	100	219	0.5	20%
Total Organic Carbon	GP10983/GN22001	D50719-2	mg/l	5.2	10	15.0	2.0	20%

Associated Samples:

Batch GN21995: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP10976: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP10983: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP11002: D50719-2, D50719-3, D50719-5

Batch GP11003: D50719-1, D50719-2, D50719-3, D50719-4, D50719-5, D50719-6

Batch GP11034: D50719-1, D50719-4, D50719-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits