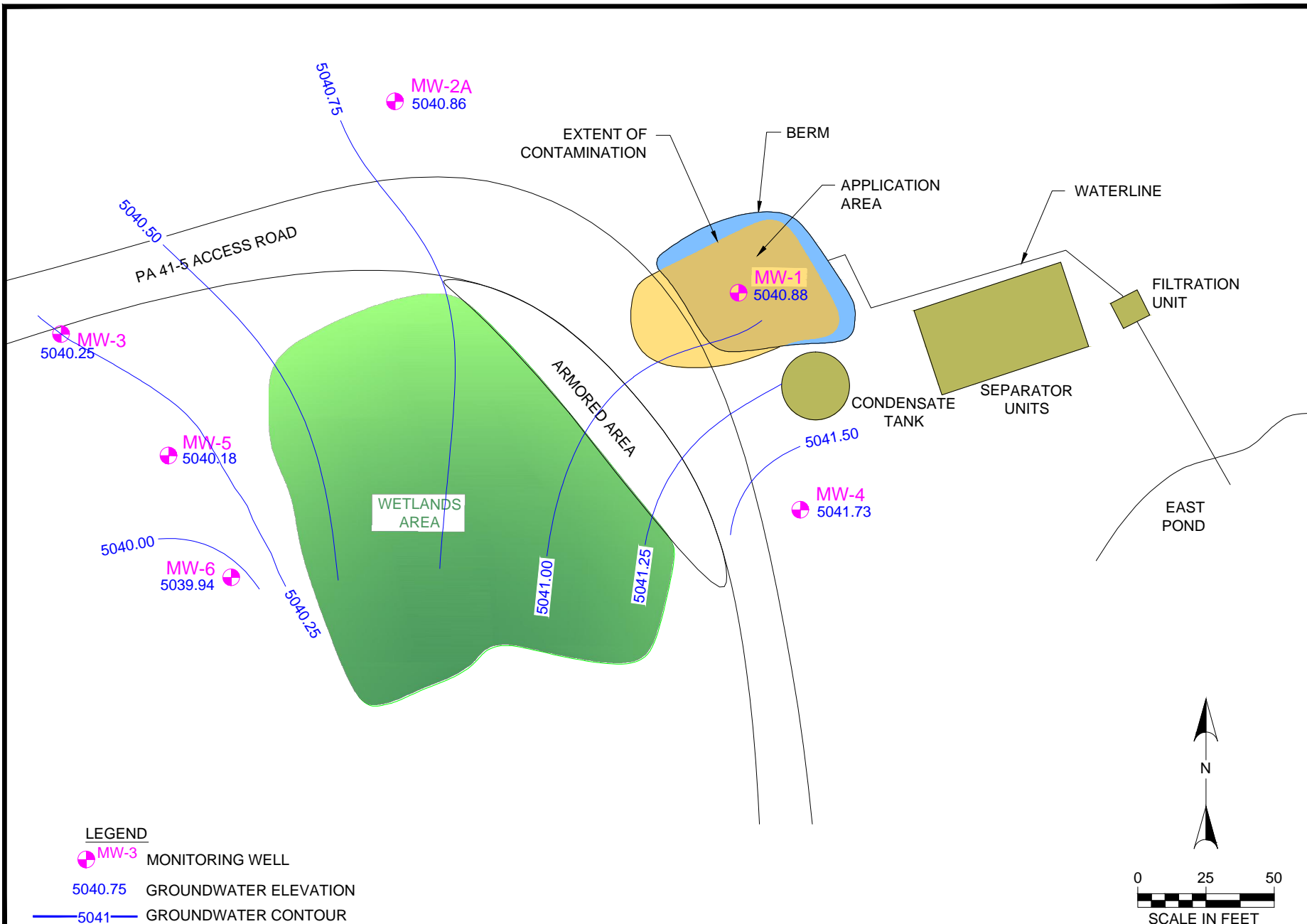

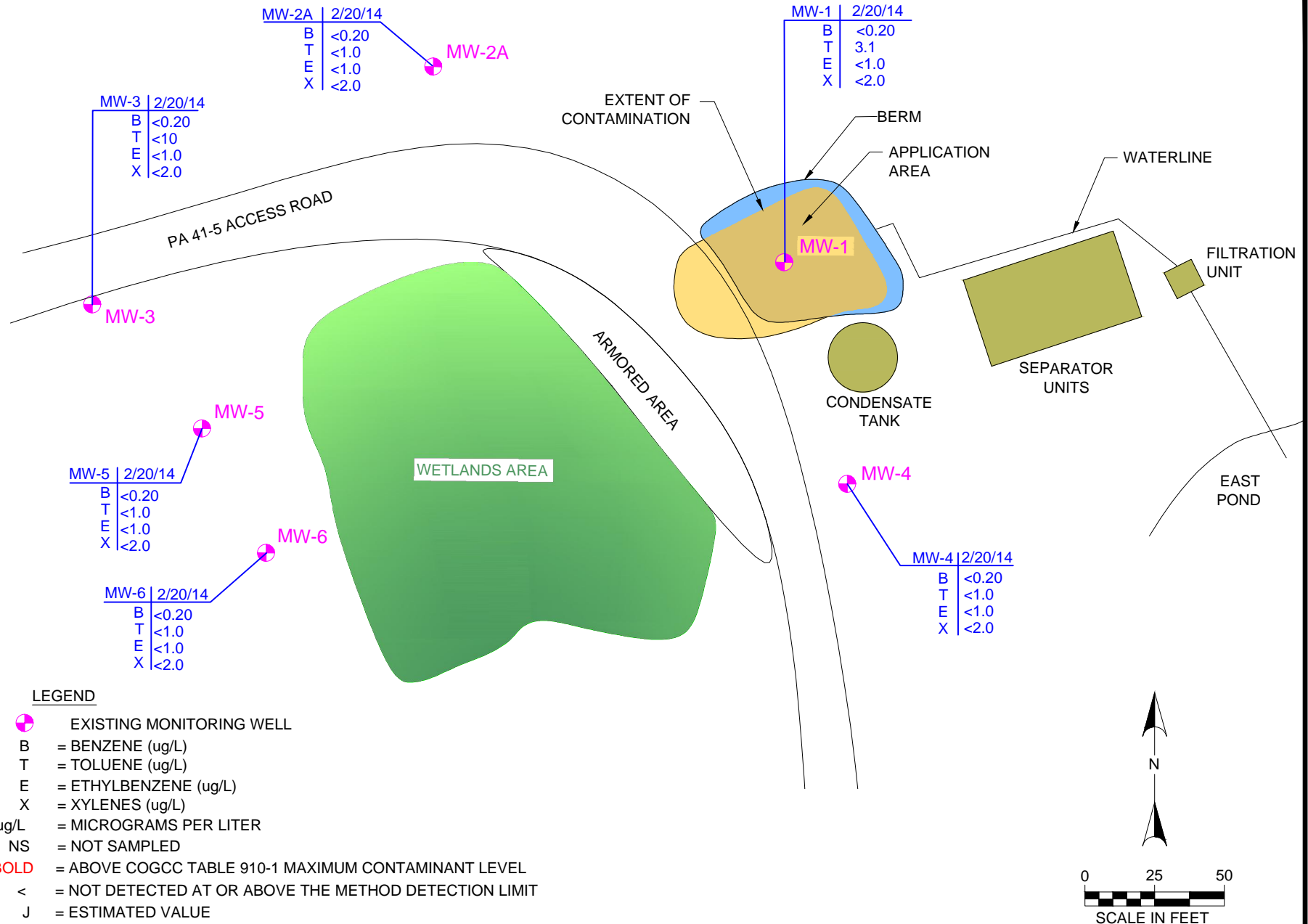


F:\Projects\011-1712\CMRA\Exhibits\2014\Q1 2014\Knight GW-Q1-2014.dwg Layout: GW



PROJECT NO: 011-1712	GROUNDWATER - PIEZOMETRIC SURFACE MAP - FEBRUARY 2014 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: BRN			2
DATE: 4.1.2014			

F:\Projects\011-1712\011-1712_CWRA\Exhibits\2014\01 2014\Knight_GWA-01-2014.dwg Layout: GWA



PROJECT NO:	011-1712
DRAWN BY:	BRN
DATE:	4.1.14

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - FEBRUARY 2014
 KNIGHT PA 311-4
 SEC 4, T7S, R95W
 PARACHUTE, COLORADO



826 21 1/2 Road
 Grand Junction, CO 81505
 TEL 970.263.7800
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FIGURE
 3

Table 1
Post CoolOX Groundwater Monitoring
Analytical Summary

SAMPLE SUMMARY	
Location Description	Knight Property Monitoring
Sample Type	Groundwater

LABORATORY DATA SUMMARY																		
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-1										MW-2A					
Sampling Period			4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	4th Quarter	1st Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter
Depth to Water (feet)			5.57	5.52	5.28	5.52	6.78	6.00	5.16	6.15	6.20	5.57	4.93	5.04	4.72	5.65	5.50	4.44
Sample Date			11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013	2/20/2014	11/18/2011	2/14/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013
Analytical Parameters																		
TPH																		
TPH Gasoline Range Organics	NA	mg/l	1.68	1.56	5.62	2.92	2.01	3.59	2.41	0.443	3.20	0.29	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	0.596	0.412	0.996	0.886	0.518	0.405	0.361	0.283	0.336	0.429	<0.10	< 0.30	<0.25	<0.17	<0.17	<0.17
BTEX																		
Benzene	5	µg/l	7.9	1.2	<0.20	15.9	7.6	9.8	9.7	3.4	13.1	<0.20	< 1.0	< 0.20	< 0.20	<0.20	<0.20	<0.20
Toluene	560 to 1000	µg/l	1.4	< 1.0	<1.0	7.2 J	<5.0	<1.0	2.3	1.3J	4.8	3.1	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Ethylbenzene	700	µg/l	24.3	< 1.0	<1.0	65.9	37.7	72.4	49.7	4.8	18.7	<1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0
Xylene (total)	1400 to 10000	µg/l	477	227	26.7	517	421	772	658	101	585	<2.0	< 3.0	< 2.0	< 2.0	<2.0	<2.0	<2.0
PAHs																		
Acenaphthene	NA	µg/l	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.49	<0.48	<0.48	< 0.2	< 0.60	<0.47	<0.48	NT	NT
Acenaphthylene	NA	µg/l	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.60	<0.47	<0.48	NT	NT
Anthracene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Benzo(a)anthracene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Benzo(a)pyrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Benzo(b)fluoranthene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Benzo(g,h,i)perylene	NA	µg/l	< 0.2	< 0.54	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.54	<0.47	<0.48	NT	NT
Benzo(k)fluoranthene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Chrysene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Dibenzo(a,h)anthracene	NA	µg/l	< 0.2	< 0.78	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.78	<0.47	<0.48	NT	NT
Fluoranthene	NA	µg/l	< 0.2	< 0.71	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.71	<0.47	<0.48	NT	NT
Fluorene	NA	µg/l	< 0.2	< 0.55	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.55	<0.47	<0.48	NT	NT
Indeno(1,2,3-cd)pyrene	NA	µg/l	< 0.2	< 1.5	<0.48	<0.48	<0.48	NT	NT	<0.55	<0.47	<0.54	< 0.2	< 1.5	<0.47	<0.48	NT	NT
1-Methylnaphthalene	NA	µg/l	1.1	< 0.68	1.1 J	0.67 J	0.50 J	NT	NT	<0.48	1.0 J	0.67 J	< 0.2	< 0.68	<0.47	<0.48	NT	NT
2-Methylnaphthalene	NA	µg/l	1.6	0.83 J	2.0 J	1.0 J	<0.48	NT	NT	<0.48	1.0 J	1.0 J	< 0.2	< 0.68	<0.47	<0.48	NT	NT
Naphthalene	NA	µg/l	2.9	1.2 J	3.6 J	2.0 J	<0.48	NT	NT	0.69J	2.6 J	2.3 J	< 0.2	< 0.73	<0.47	<0.48	NT	NT
Phenanthrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Pyrene	NA	µg/l	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	<0.47	< 0.2	< 0.47	<0.47	<0.48	NT	NT
Metals																		
Calcium	NA	mg/l	173	88.3	138	170	147	116	114	238	102	162	129	109	94.6	208	107	102
Iron	NA	mg/l	26.5	5.32	11.6	17.7	19.5	10.6	12.0	6.1	5.5	7.5	14	4.77	10.1	33.5	15.7	15.0
Magnesium	NA	mg/l	36.7	58.6	54.7	72.5	63.6	82.7	60.6	64.3	64.9	66.2	51.4	55.4	61.6	81.6	65.2	64.7
Manganese	NA	mg/l	1.13	0.418	0.653	0.947	0.748	0.709	0.650	0.658	0.646	1.020	1.72	2.03	1.64	3.37	3.93	2.62
Potassium	NA	mg/l	< 10	3.64	4.63	7.7	6.15	5.42	5.75	6.79	5.57	4.11	< 10	3.19	6.54	8.6	6.06	5.93
Selenium	NA	mg/l	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.01	< 0.05	< 0.05	<0.05	<0.05	<0.05
Sodium	NA	mg/l	50.2	63.8	64.7	104	80	101	86	118	93.8	99.3	60.4	59.4	96.7	97.8	95.6	90.2
General Chemistry																		
Alkalinity, Bicarbonate	NA	mg/l	260	488	498	667	746	618	484	492	635	697	372	440	364	299	382	483
Alkalinity, Carbonate	NA	mg/l	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 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	484	492	635	697	374	440	364	299	382	483
Biological Oxygen Demand, 5 Day	NA	mg/l	10.5	10.9	22.6	21	28.4	15.4	11.8	12.7	20.4	18.5	< 15	< 10	< 10	<10	<10	1.4
Bromide	NA	mg/l	< 0.50	< 0.20	1.3	2.8	<0.25	0.16	<0.10 ^a	0.17	0.10	<0.10	< 0.50	< 0.20	<0.10	0.11	<0.10 ^a	<0.10 ^a
Chemical Oxygen Demand	NA	mg/l	31.6	18.4	62.3	79.6	21.7	45.9	21.2	31.6	35.9	48.3	66.9	20.4	49	<10	<10	71.3
Chloride	1.25 x bkgd	mg/l	16.0	11.5	9.0	139	39.2	12.3	9.7	163.0	13.2	12.0	15.4	13.2	151	206	96.4	16.8
Hydroxide Alkalinity	NA	mg/l	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 5.0	NT	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	0.66	< 0.23	<0.23	0.077	<0.050	0.26	0.88	0.24	0.22	3	0.57	< 0.23	0.063	0.031	0.22	0.035
Nitrogen, Nitrite	NA	mg/l	< 0.50	< 0.061	0.010	0.064	0.015	0.064	0.052	0.280	0.076	< 0.061	< 0.061	0.04	<0.0080	0.0080 ^a	<0.0080 ^a	<0.0080 ^a
Phosphate, Ortho	NA	mg/l	NT	NT	NT	NT	NT	NT	NT	NT	1.500	0.600	NT	NT	NT	NT	NT	NT
Phosphorus, Total	NA	mg/l	3.5	0.59	1.1	NT	2.0	0.95	0.63	NT	10.40	5.0	0.89	1.3	NT	1.4	0.44	0.05
Plate Count, Total	NA	CFU/ml	1590000	110000	300000	360000	150000	NT	NT	NT	NT	620000	70000	6900	5600	8100	NT	NT
Total Dissolved Solids	NA	mg/l	NT	NT	NT	NT	NT	NT	NT	NT	684	674	NT	NT	NT	NT	NT	NT
Sulfate	1.25 x bkgd	mg/l	16.8	10.9	5.7	66.2	13.4	117	51.9	43.2	25.1	16.3	16.8	44.2	108	155	98.5	98.5
Total Organic Carbon	NA	mg/l	13.2	8.8	10.4	18.5	10.2	9.3	8.9	14.2	10.2	10.9	4.5	3.9	5.6	4.9	4	5.3
pH	NA	su	8.34	7.76	7.67	7.38	7.48	7.56	7.53	7.87	7.63	7.4	7.14	7.58	7.51	7.49	7.64	7.66
Field Readings																		
Temperature	NA	deg. C	14.6	6.82	13.89	21.20	14.49	7.80	12.60	20.20	10.00	5.30	13.2	8.3	20.9	13.1	9.98	11.50
Specific Conductivity	NA	mS/cm	0.511	0.837	0.789	1.234	1.227	1.319	0.958	1.364	1.101	1.1	0.651	0.77	1.132	1.34	1.195	1.037
Dissolved Oxygen	NA	mg/l	6.55	2.25	3.25	1.51	0.95	1.34	0.28	6.5	0.27	0.29	0.24	1.22	1.73	1.22	0.86	0.17
pH	NA	su	9.05	7.37	7.71	7.49	7.7	7.3	7.8	8.75	8.19	NT	7.50	7.25	7.56	7.75	7.31	7.7
Solids, Total Dissolved	NA	mg/l	0.3	0.5	0.5	0.8	NT	NT	0.6	0.9	0.7150	0.7150	0.4	0.5	0.7	NT	NT	0.7
Turbidity	NA	NTU	264	117	538	386	117	59.9	NT	NT	NT	NT	653	766	1997	345	96.3	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 - 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
Analytical Summary

SAMPLE SUMMARY	
Location Description	Knight Property Monitoring
Sample Type	Groundwater

LABORATORY DATA SUMMARY																		
Sample ID	COGCC Table 910-1 Standards	UNITS	MW-3															
Sampling Period			3rd Quarter	4th Quarter	1st Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	4th Quarter	1st Quarter	2nd Quarter
Depth to Water (feet)			5.16	5.44	4.91	5.68	5.77	5.67	5.56	6.45	6.11	5.25	5.83	6.03	5.6	10.64	10.34	10.63
Sample Date			9/19/2013	12/17/2013	2/20/2014	11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013	2/20/2014	11/18/2011	2/14/2012	5/8/2012
Analytical Parameters																		
TPH																		
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.050	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.050	< 0.050	< 0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	<0.17	.175 J	<0.17	25.1	< 0.30	<0.25	<0.25	<0.17	<0.17	<0.17	0.284	<0.17	<0.17	<0.10	< 0.30	<0.25
BTEX																		
Benzene	5	µg/l	<0.20	<0.20	<0.20	< 1.0	< 0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<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	<1.0	<1.0	<1.0	<1.0	<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	<1.0	<1.0	<1.0	<1.0	<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	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 3.0	< 2.0	<2.0
PAHs																		
Acenaphthene	NA	µg/l	<0.49	<0.48	<0.49	< 0.2	< 0.60	<0.48	<0.48	<0.49	NT	NT	<0.49	<0.49	<0.50	< 0.2	< 0.60	<0.47
Acenaphthylene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.60	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.60	<0.47
Anthracene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Benzo(a)anthracene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Benzo(a)pyrene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Benzo(b)fluoranthene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Benzo(g,h,i)perylene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.54	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.54	<0.47
Benzo(k)fluoranthene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Chrysene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Dibenzo(a,h)anthracene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.78	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.78	<0.47
Fluoranthene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.71	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.71	<0.47
Fluorene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.55	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.55	<0.47
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.55	<0.54	<0.54	< 0.2	< 1.5	<0.48	<0.48	<0.49	NT	NT	<0.55	<0.54	<0.55	< 0.2	< 1.5	<0.47
1-Methylnaphthalene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.68	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.68	<0.47
2-Methylnaphthalene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.68	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.68	<0.47
Naphthalene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.73	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.73	<0.47
Phenanthrene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Pyrene	NA	µg/l	<0.48	<0.47	<0.48	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	<0.49	< 0.2	< 0.47	<0.47
Metals																		
Calcium	NA	mg/l	123	134	84.6	76.7	151	157	133	218	117	111	106	109	105	73.9	126	107
Iron	NA	mg/l	25.0	26.7	5.3	4.8	6.79	26.8	16.3	35.4	12.7	10.4	6.1	12.3	11.8	3.52	6.71	18.1
Magnesium	NA	mg/l	67.2	68.4	64.4	37.2	50.3	57.8	62.8	75.1	65.5	59.0	59.3	60.6	59.8	40.6	48.6	55.4
Manganese	NA	mg/l	1.61	2.57	1.25	0.718	1.43	1.71	1.32	2.31	1.18	1.01	0.77	1.08	1.18	1.74	1.71	1.91
Potassium	NA	mg/l	6.84	6.43	6.22	< 10	2.95	6.88	7.87	9.53	5.43	4.79	5.43	5.68	4.28	< 10	2.89	5.9
Selenium	NA	mg/l	<0.05	<0.05	<0.05	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	< 0.01	< 0.05	<0.050
Sodium	NA	mg/l	122.0	120.0	106.0	56.1	61.4	61.0	92.9	93.9	89.2	92.4	125.0	120.0	104.0	62.1	58.3	71.8
General Chemistry																		
Alkalinity, Bicarbonate	NA	mg/l	354	414	512	384	462	427	396	309	333	465	380	394	423	392	364	452
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	< 5.0	< 5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	354	414	512	386	462	427	396	309	333	465	380	394	423	396	364	452
Biological Oxygen Demand, 5 Day	NA	mg/l	<1.0	1.0	15.8	11.1	< 10	<10	<10	<10	<10	<1.0	<1.0	<1.0	1.1	8.1	< 10	<10
Bromide	NA	mg/l	<0.10 ^a	<0.10	<0.10	< 0.50	< 0.20	<0.20	<0.10	<0.10	0.13	0.13	<0.10 ^a	<0.10 ^a	0.11	< 0.50	< 0.20	<0.40
Chemical Oxygen Demand	NA	mg/l	24.3	14.7	23.7	21	< 10	<10	49	<10	15.7	25.3	21.1	10.3	19.3	28.1	< 10	<10
Chloride	1.25 x bkgd	mg/l	149	109	53	16.7	14.5	12.9	151	210	161	49.5	163	126	84	14.1	6.9	7.2
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	< 5.0	NT	NT
Nitrogen, Nitrate	NA	mg/l	<0.020 ^a	0.081	0.079	0.58	< 0.23	<0.090	<0.020	0.034	<0.020 ^a	0.04	0.12	0.093	0.031	< 0.50	< 0.23	<0.090
Nitrogen, Nitrite	NA	mg/l	<0.0080 ^a	<0.0080 ^a	0.049	0.67	< 0.061	<0.010	<0.040	0.015	<0.0080 ^a	<0.020 ^a	<0.0080 ^a	<0.0080 ^a	<0.0080 ^a	< 0.50	< 0.061	<0.010
Phosphate, Ortho	NA	mg/l	NT	<0.13 ^a	<0.10	NT	NT	NT	NT	NT	NT	NT	NT	<0.13	<0.10	NT	NT	NT
Phosphorus, Total	NA	mg/l	0.22	0.74	0.38	0.45	1.7	1.3	NT	1.7	0.31	3.3	0.13	0.21	0.42	0.14	1.4	1.1
Plate Count, Total	NA	CFU/ml	NT	NT	110000	120000	8500	10000	14000	12000	NT	NT	NT	NT	42000	120000	4600	5400
Total Dissolved Solids	NA	mg/l	NT	772	740	NT	NT	NT	NT	NT	NT	NT	NT	788	728	NT	NT	NT
Sulfate	1.25 x bkgd	mg/l	112	110	69.7	10.9	24	34.7	125	137	161	170	134	120	105	36.2	40.8	34.2
Total Organic Carbon	NA	mg/l	5.2	5	11.4	4.5	4.3	4.2	5.6	4.4	3.7	6.1	4.6	3.6	4.6	4.8	3.6	4.5
pH	NA	su	7.7	7.63	7.42	7.1	7.64	7.6	7.33	7.46	7.55	7.63	7.66	7.66	7.56	7.18	7.73	7.65
Field Readings																		
Temperature	NA	deg. C	17.50	10.10	5.70	14.8	7.46	13.49	21.37	14.35	7.88	13.60	20.50	10.00	5.40	14.2	6.5	13.23
Specific Conductivity	NA	mS/cm	1.319	1.209	1.252	0.663	0.763	0.783	1.291	0.417	1.448	1.278	1.527	1.248	1.157	0.713	0.682	0.814
Dissolved Oxygen	NA	mg/l	0.1	0.40	0.41	0.14	2.43	1.46	1.82	1.67	1	0.71	0.34	0.44	0.68	0.15	2.34	2.74
pH	NA	su	7.83	8.90	NT	7.41	7.26	7.8	7.48	7.75	7.25	7.61	7.36	7.92	NT	7.5	7.38	7.93
Solids, Total Dissolved	NA	mg/l	0.9	0.7865	0.8125	0.4	0.5	0.5	0.8	NT	NT	0.8	1.0	0.8125	0.7540	0.5	0.4	0.5
Turbidity	NA	NTU	NT	NT	NT	568	2000											

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

Table 1
Post CoolOX Groundwater Monitoring
Analytical Summary

SAMPLE SUMMARY	
Location Description	Knight Property Monitoring
Sample Type	Groundwater

LABORATORY DATA SUMMARY			MW-4							MW-5								
Sample ID	COGCC Table 910-1 Standards	UNITS	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Sampling Period			11.31	11.64	10.77	10.7	11.9	11.27	10.49	5.63	6.06	6.11	6.12	6.8	6.6	5.81	6.38	6.59
Depth to Water (feet)			8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013	2/20/2014	11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013
Sample Date																		
Analytical Parameters																		
TPH																		
TPH Gasoline Range Organics	NA	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.050	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH Diesel Range Organics	NA	mg/l	<0.25	<0.17	<0.17	<0.17	2.34	<0.17	<0.17	<0.10	< 0.30	<0.25	<0.25	<0.17	<0.17	<0.17	<0.17	<0.17
BTEX																		
Benzene	5	µg/l	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	< 1.0	< 0.20	<0.20	<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	<1.0	< 1.0	< 1.0	<1.0	<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	<1.0	< 1.0	< 1.0	<1.0	<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	<2.0	< 3.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PAHs																		
Acenaphthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.48	<0.48	<0.50	< 0.2	< 0.60	<0.48	<0.48	<0.47	NT	NT	<0.49	<0.48
Acenaphthylene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.60	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Benzo(a)anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Benzo(a)pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Benzo(b)fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Benzo(g,h,i)perylene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.54	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Benzo(k)fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Chrysene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Dibenzo(a,h)anthracene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.78	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Fluoranthene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.71	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Fluorene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.55	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.54	<0.55	< 0.2	< 1.5	<0.48	<0.48	<0.47	NT	NT	<0.54	<0.54
1-Methylnaphthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.68	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
2-Methylnaphthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.68	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Naphthalene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.73	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Phenanthrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Pyrene	NA	µg/l	<0.48	<0.48	NT	NT	<0.47	<0.47	<0.49	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47
Metals																		
Calcium	NA	mg/l	121	238	60.4	74.3	119.0	171.0	96.7	119	198	157	99.9	333	103	84	107	99.6
Iron	NA	mg/l	19.7	47.5	2.63	7.26	9.34	2.88	0.86	18.9	18.2	33.3	11.4	83.1	15.6	10.8	6.1	13.7
Magnesium	NA	mg/l	71.5	104	64.5	64.9	84.1	55.9	53.1	45.6	62.2	60.8	56.0	108	71.4	52.2	57.6	62.8
Manganese	NA	mg/l	4.4	2.16	0.316	0.533	0.48	0.29	0.198	0.977	1.56	1.33	0.808	2.81	0.849	0.587	0.67	0.721
Potassium	NA	mg/l	8.73	12.2	5	5.6	6.78	5.76	3.55	< 10	3.22	6.71	5.69	12.6	4.34	4.2	5.2	4.85
Selenium	NA	mg/l	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.050	<0.050	<0.050
Sodium	NA	mg/l	99.1	110.0	99.2	85.0	118.0	109.0	83.6	55.8	56.4	58.9	8.0	85.1	97.9	88.4	116.0	122.0
General Chemistry																		
Alkalinity, Bicarbonate	NA	mg/l	616	618	489	482	309	399	332	364	540	481	429	452	512	495	390	474
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	<5.0	346	203	85.8	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Alkalinity, Total as CaCO3	NA	mg/l	616	618	489	482	665	602	418	366	540	481	429	452	512	496	390	474
Biological Oxygen Demand, 5 Day	NA	mg/l	10.7	<10	<10	2.4	<1.0	<1.0	<1.0	< 15	< 10	<10	<10	<10	<10	1.8	<1.0	1.3
Bromide	NA	mg/l	0.19	0.26	<0.10 ^a	<0.10 ^a	<0.25 ^a	0.34	0.09	< 0.50	< 4.0	<0.40	<0.10	0.1	0.16	0.25	<0.10 ^a	0.12
Chemical Oxygen Demand	NA	mg/l	57	20.3	23.7	12.4	245	45.5	30.1	40.4	18.1	<10	75.5	10.8	20	12.7	18.3	17.0
Chloride	1.25 x bkgd	mg/l	13.1	16.4	8	12	12.1	8.5	6.5	18.1	20	10.6	133	198	78	15	150	72.2
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	NT	NT	NT	NT	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT
Nitrogen, Nitrate	NA	mg/l	<0.020	<0.050	<0.020 ^a	1.7	0.056	0.55	1.3	0.51	< 0.45	<0.090	0.039	<0.050	0.022	<0.020 ^a	<0.020 ^a	<0.020 ^a
Nitrogen, Nitrite	NA	mg/l	0.008	<0.0080	<0.0080 ^a	0.02	2.5	0.034	0.046	< 0.50	< 0.061	<0.010	0.052	0.011	<0.0080 ^a	<0.0080 ^a	<0.0080 ^a	0.0099
Phosphate, Ortho	NA	mg/l	NT	NT	NT	NT	NT	0.77	1.1	NT	NT	NT	NT	NT	NT	NT	NT	<0.13
Phosphorus, Total	NA	mg/l	NT	1.2	0.10	0.16	80.30	134	12	1.2	2	1.6	NT	1.8	0.53	0.15	0.093	0.33
Plate Count, Total	NA	CFU/ml	3800	13000	NT	NT	NT	NT	5600	180000	3300	1900	63000	16000	NT	NT	NT	NT
Total Dissolved Solids	NA	mg/l	NT	NT	NT	NT	NT	464	504	NT	NT	NT	NT	NT	NT	NT	NT	776
Sulfate	1.25 x bkgd	mg/l	13	110	113	74.9	70.7	108	91.2	16.2	19	27.8	101	142	109	64.9	119	118
Total Organic Carbon	NA	mg/l	8.5	10.3	3.8	4.4	25.3	8.1	6.2	6.1	10.9	5.0	6.4	5.2	5.6	5.1	4.9	5.5
pH	NA	su	7.64	7.69	7.81	7.81	11.4	11.31	9.02	7.22	7.62	7.65	7.47	7.54	7.6	7.68	7.51	7.75
Field Readings																		
Temperature	NA	deg. C	19.42	14.68	6.83	12.20	19.20	11.00	5.70	12.7	5.77	13.89	20.67	13.05	6.3	11.6	19.3	9.2
Specific Conductivity	NA	mS/cm	1.02	1.371	1.15	0.983	1.736	0.920	0.799	0.667	0.798	0.727	1.116	1.46	1.369	1.024	1.397	1.231
Dissolved Oxygen	NA	mg/l	1.67	1.96	1.24	1.01	18.24	4.59	4.99	0.13	1.75	2.24	1.15	1.2	0.85	0.23	0.09	0.08
pH	NA	su	7.6	7.85	7.42	7.82	12.23	9.54	NT	7.47	7.22	7.85	7.51	7.76	7.3	7.67	7.71	8.13
Solids, Total Dissolved	NA	mg/l	0.7	NT	NT	0.6	1.1	0.8045	0.5200	0.4	0.5	0.5	0.7	NT	NT	0.67	0.91	0.7930
Turbidity	NA	NTU	1572	554	26.5	NT	NT	NT	NT	896	2000	2000	2000	465	227	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

Table 1
Post CoolOX Groundwater Monitoring
Analytical Summary

SAMPLE SUMMARY														
Location Description		Knight Property Monitoring												
Sample Type		Groundwater												
LABORATORY DATA SUMMARY														
Sample ID		COGCC Table 910-1 Standards	UNITS	MW-6										
Sampling Period				1st Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter
Depth to Water (feet)				5.99	6.69	6.70	6.78	6.84	7.35	7.00	6.51	7.09	6.97	6.70
Sample Date				2/20/2014	11/18/2011	2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013	2/20/2014
Analytical Parameters														
TPH														
TPH Gasoline Range Organics		NA	mg/l	<0.050	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.050	
TPH Diesel Range Organics		NA	mg/l	0.42	0.213	< 0.30	0.261	0.445	0.347	0.175 J	<0.17	<0.17	<0.17	
BTEX														
Benzene		5	µg/l	<0.20	< 1.0	< 0.20	<0.20	<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	<1.0	<1.0	<1.0	<1.0	
Ethylbenzene		700	µg/l	<1.0	< 1.0	< 1.0	<1.0	<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	<2.0	<2.0	<2.0	<2.0	
PAHs														
Acenaphthene		NA	µg/l	<0.51	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.49	<0.48	
Acenaphthylene		NA	µg/l	<0.50	< 0.2	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Anthracene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Benzo(a)anthracene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Benzo(a)pyrene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Benzo(b)fluoranthene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Benzo(g,h,i)perylene		NA	µg/l	<0.50	< 0.2	< 0.54	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Benzo(k)fluoranthene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Chrysene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Dibenzo(a,h)anthracene		NA	µg/l	<0.50	< 0.2	< 0.78	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Fluoranthene		NA	µg/l	<0.50	< 0.2	< 0.71	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Fluorene		NA	µg/l	<0.50	< 0.2	< 0.55	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Indeno(1,2,3-cd)pyrene		NA	µg/l	<0.57	< 0.2	< 1.5	<0.48	<0.48	<0.48	NT	NT	<0.54	<0.54	
1-Methylnaphthalene		NA	µg/l	<0.50	< 0.2	< 0.68	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
2-Methylnaphthalene		NA	µg/l	<0.50	< 0.2	< 0.68	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Naphthalene		NA	µg/l	<0.50	< 0.2	< 0.73	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Phenanthrene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Pyrene		NA	µg/l	<0.50	< 0.2	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	<0.47	
Metals														
Calcium		NA	mg/l	90.1	80.8	72.8	78.8	114	229	103	66	111	82.8	
Iron		NA	mg/l	17.9	16.7	4.98	13.2	6.90	46.60	14.50	8.70	5.01	6.49	
Magnesium		NA	mg/l	56.5	51	57.9	53.8	57.4	92.7	86.7	55.7	58.3	69.9	
Manganese		NA	mg/l	0.692	3.25	1.59	1.17	0.817	3.950	1.07	0.56	0.55	0.838	
Potassium		NA	mg/l	3.73	< 10	2.17	4.43	6.43	9.82	5.24	4.01	6.08	4.11	
Selenium		NA	mg/l	<0.050	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050	
Sodium		NA	mg/l	92.7	53.7	59.0	63.9	82.0	82.0	96.5	87.1	111.0	118.0	
General Chemistry														
Alkalinity, Bicarbonate		NA	mg/l	439	388	435	438	352	356	574	466	394	558	
Alkalinity, Carbonate		NA	mg/l	<5.0	< 5.0	< 5.0	<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	
Alkalinity, Total as CaCO3		NA	mg/l	439	390	435	438	352	356	574	466	394	558	
Biological Oxygen Demand, 5 Day		NA	mg/l	38.6	6.8	< 10	<10	<10	<10	<10	2	<1.0	1.8	
Bromide		NA	mg/l	<0.10	< 0.50	< 4.0	1.0	0.063	0.100	0.270	<0.10a	0.100	<0.10 ^a	
Chemical Oxygen Demand		NA	mg/l	74.0	96.8	35.3	<10	47.4	10.8	21.3	11.5	13.2	36.6	
Chloride		1.25 x bkgd	mg/l	41.4	21.1	31	11.8	136	198	57.8	13	129	37.7	
Hydroxide Alkalinity		NA	mg/l	NT	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT	
Nitrogen, Nitrate		NA	mg/l	0.14	0.56	< 0.45	<0.23	<0.010	0.056	<0.020 ^a	0.021	<0.020 ^a	0.045	
Nitrogen, Nitrite		NA	mg/l	<0.0080 ^a	< 0.50	< 0.061	<0.010	0.04	<0.0080	<0.0080 ^a	<0.0080a	<0.0080 ^a	<0.0080 ^a	
Phosphate, Ortho		NA	mg/l	<0.10	NT	NT	NT	NT	NT	NT	NT	NT	<0.13	
Phosphorus, Total		NA	mg/l	0.27	0.46	0.29	0.83	NT	1.6	0.32	0.22	2.5	0.59	
Plate Count, Total		NA	CFU/ml	16000	2210000	81000	64000	820000	420000	NT	NT	NT	370000	
Total Dissolved Solids		NA	mg/l	677	NT	NT	NT	NT	NT	NT	NT	NT	708	
Sulfate		1.25 x bkgd	mg/l	86.1	45.1	21.7	13.2	114	114	95.9	62.5	120	73.6	
Total Organic Carbon		NA	mg/l	27.6	34.6	11.5	7.3	5.2	5.2	7	5.1	4.7	5.5	
pH		NA	su	7.56	7.2	7.59	7.65	7.39	5.57	7.61	7.65	7.57	7.7	
Field Readings														
Temperature		NA	deg. C	4.8	12.7	5.44	14.02	21.30	12.89	5.30	12.20	21.16	7.60	
Specific Conductivity		NA	mS/cm	1.064	0.749	0.866	0.790	1.145	1.395	1.368	0.956	1.364	1.160	
Dissolved Oxygen		NA	mg/l	0.25	0.27	1.4	2.40	2.30	1.35	2.59	5.00	1.45	0.71	
pH		NA	su	NT	7.52	7.17	NT	7.49	7.72	7.35	7.78	7.71	8.25	
Solids, Total Dissolved		NA	mg/l	0.6890	0.5	0.6	0.5	0.7	0.6	NT	0.6	0.9	0.7540	
Turbidity		NA	NTU	NT	478	248	576	201	384	NT	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



03/03/14

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Accutest Job Number: D55289

Sampling Date: 02/20/14

Report to:

Olsson Associates
760 Horizon Drive Suite 102
Grand Junction, CO 81506
tdobransky@olssonassociates.com; karolina.blaney@wpxenergy.com
ATTN: Tim Dobransky

Total number of pages in report: 89



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program 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

WPX Energy Rocky Mountain, LLC

Job No: D55289

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D55289-1	02/20/14	13:30 JM	02/21/14	AQ	Ground Water	MW-1
D55289-2	02/20/14	14:00 KB	02/21/14	AQ	Ground Water	MW-2A
D55289-3	02/20/14	13:15 KB	02/21/14	AQ	Ground Water	MW-3
D55289-4	02/20/14	14:45 JM	02/21/14	AQ	Ground Water	MW-4
D55289-5	02/20/14	12:30 KB	02/21/14	AQ	Ground Water	MW-5
D55289-6	02/20/14	11:45 KB	02/21/14	AQ	Ground Water	MW-6

Summary of Hits

Job Number: D55289
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 02/20/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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D55289-1 MW-1

1-Methylnaphthalene	0.67 J	4.7	0.47	ug/l	SW846 8270C
2-Methylnaphthalene	1.0 J	4.7	0.47	ug/l	SW846 8270C
Naphthalene	2.3 J	4.7	0.47	ug/l	SW846 8270C
TPH-GRO (C6-C10)	0.290	0.20	0.050	mg/l	SW846 8015B
Toluene	3.1	2.0	1.0	ug/l	SW846 8021B
TPH-DRO (C10-C28)	0.429	0.19	0.17	mg/l	SW846-8015B
Calcium	162000	400		ug/l	SW846 6010C
Iron	7500	70		ug/l	SW846 6010C
Magnesium	66200	200		ug/l	SW846 6010C
Manganese	1020	5.0		ug/l	SW846 6010C
Potassium	4110	1000		ug/l	SW846 6010C
Sodium	99300	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	697	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	697	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	18.5	1.0		mg/l	SM 5210B-2011
Chemical Oxygen Demand	48.3	10		mg/l	SM 5220D-2011
Chloride	12.0	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	3.0	0.10		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.27	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphate, Ortho	0.60	0.10		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	46.1	1.0		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	674	10		mg/l	SM 2540C-2011
Sulfate	16.3	1.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	10.9	1.0		mg/l	SM 5310B-2011
pH	7.40			su	SM4500HB+ -2011/9040C

D55289-2 MW-2A

Calcium	84600	400		ug/l	SW846 6010C
Iron	5250	70		ug/l	SW846 6010C
Magnesium	64400	200		ug/l	SW846 6010C
Manganese	1250	5.0		ug/l	SW846 6010C
Potassium	6220	1000		ug/l	SW846 6010C
Sodium	106000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	512	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	512	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	15.8	1.0		mg/l	SM 5210B-2011
Chemical Oxygen Demand	23.7	10		mg/l	SM 5220D-2011
Chloride	53.0	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.079	0.020		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.049	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.38	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	740	10		mg/l	SM 2540C-2011

Summary of Hits

Job Number: D55289
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 02/20/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Sulfate		69.7	5.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		11.4	1.0		mg/l	SM 5310B-2011
pH		7.42			su	SM4500HB+ -2011/9040C

D55289-3 MW-3

Calcium	105000	400		ug/l	SW846 6010C
Iron	11800	70		ug/l	SW846 6010C
Magnesium	59800	200		ug/l	SW846 6010C
Manganese	1180	5.0		ug/l	SW846 6010C
Potassium	4280	1000		ug/l	SW846 6010C
Sodium	104000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	423	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	423	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	1.1	1.0		mg/l	SM 5210B-2011
Bromide	0.11	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	19.3	10		mg/l	SM 5220D-2011
Chloride	84.0	2.5		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.031	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.42	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	728	10		mg/l	SM 2540C-2011
Sulfate	105	2.5		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	4.6	1.0		mg/l	SM 5310B-2011
pH	7.56			su	SM4500HB+ -2011/9040C

D55289-4 MW-4

Calcium	96700	400		ug/l	SW846 6010C
Iron	860	70		ug/l	SW846 6010C
Magnesium	53100	200		ug/l	SW846 6010C
Manganese	198	5.0		ug/l	SW846 6010C
Potassium	3550	1000		ug/l	SW846 6010C
Sodium	83600	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	332	5.0		mg/l	SM 2320B-2011
Alkalinity, Carbonate	85.8	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	418	5.0		mg/l	SM 2320B-2011
Bromide	0.090	0.050		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	30.1	10		mg/l	SM 5220D-2011
Chloride	6.5	0.50		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	1.3	0.050		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.046	0.0040		mg/l	EPA 300.0/SW846 9056
Phosphate, Ortho	1.1	0.050		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	11.7	0.50		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	504	10		mg/l	SM 2540C-2011
Sulfate	91.2	2.5		mg/l	EPA 300.0/SW846 9056

Summary of Hits

Job Number: D55289
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 02/20/14

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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Total Organic Carbon		6.2	1.0		mg/l	SM 5310B-2011
pH		9.02			su	SM4500HB+ -2011/9040C

D55289-5 MW-5

TPH-DRO (C10-C28)	0.420	0.19	0.17	mg/l	SW846-8015B
Calcium	90100	400		ug/l	SW846 6010C
Iron	17900	70		ug/l	SW846 6010C
Magnesium	56500	200		ug/l	SW846 6010C
Manganese	692	5.0		ug/l	SW846 6010C
Potassium	3730	1000		ug/l	SW846 6010C
Sodium	92700	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	439	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	439	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	38.6	1.0		mg/l	SM 5210B-2011
Chemical Oxygen Demand	74.0	10		mg/l	SM 5220D-2011
Chloride	41.4	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.14	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.27	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	677	10		mg/l	SM 2540C-2011
Sulfate	86.1	2.5		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	27.6	5.0		mg/l	SM 5310B-2011
pH	7.56			su	SM4500HB+ -2011/9040C

D55289-6 MW-6

Calcium	76700	400		ug/l	SW846 6010C
Iron	9120	70		ug/l	SW846 6010C
Magnesium	65100	200		ug/l	SW846 6010C
Manganese	550	5.0		ug/l	SW846 6010C
Potassium	3070	1000		ug/l	SW846 6010C
Sodium	88000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	488	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	488	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	1.2	1.0		mg/l	SM 5210B-2011
Bromide	0.12	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	21.9	10		mg/l	SM 5220D-2011
Chloride	16.6	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.10	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.33	0.050		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	648	10		mg/l	SM 2540C-2011
Sulfate	56.8	1.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	5.3	1.0		mg/l	SM 5310B-2011
pH	7.61			su	SM4500HB+ -2011/9040C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	02/20/14
Lab Sample ID:	D55289-1	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G118210.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259
Run #2							

	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	0.67	4.7	0.47	ug/l	J
91-57-6	2-Methylnaphthalene	1.0	4.7	0.47	ug/l	J
91-20-3	Naphthalene	2.3	4.7	0.47	ug/l	J
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	36%		14-130%
321-60-8	2-Fluorobiphenyl	38%		16-130%
1718-51-0	Terphenyl-d14	28%		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:	02/20/14
Lab Sample ID:	D55289-1	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA21186.D	1	02/26/14	EV	n/a	n/a	GGA1191
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.290	0.20	0.050	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	107%		60-140%		

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:	D55289-1	Date Sampled: 02/20/14
Matrix:	AQ - Ground Water	Date Received: 02/21/14
Method:	SW846 8021B	Percent Solids: n/a
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA21186.D	1	02/26/14	EV	n/a	n/a	GTA1191
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	3.1	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	110%		60-140%

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	Date Sampled:	02/20/14
Lab Sample ID:	D55289-1	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD29965.D	1	03/01/14	JL	02/24/14	OP9457	GFD1446
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)	0.429	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		10-130%		

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: 02/20/14
Lab Sample ID: D55289-1	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	162000	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	7500	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	66200	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	1020	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	4110	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	99300	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-1	Date Sampled: 02/20/14
Lab Sample ID: D55289-1	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	697	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	697	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	18.5	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	02/21/14 14:38	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	48.3	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	12.0	1.0	mg/l	2	02/21/14 14:38	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	3.0	0.10	mg/l	10	02/21/14 18:16	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.27	0.0080	mg/l	2	02/21/14 14:38	GH	EPA 300.0/SW846 9056
Phosphate, Ortho	0.60	0.10	mg/l	2	02/21/14 14:38	GH	EPA 300.0/SW846 9056
Phosphorus, Total	46.1	1.0	mg/l	100	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	674	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	16.3	1.0	mg/l	2	02/21/14 14:38	GH	EPA 300.0/SW846 9056
Total Organic Carbon	10.9	1.0	mg/l	1	02/24/14 13:01	RW	SM 5310B-2011
pH	7.40		su	1	02/24/14 10:45	AK	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	02/20/14
Lab Sample ID:	D55289-2	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G118211.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259
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	0.54	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	56%		14-130%
321-60-8	2-Fluorobiphenyl	57%		16-130%
1718-51-0	Terphenyl-d14	48%		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-2A	Date Sampled:	02/20/14
Lab Sample ID:	D55289-2	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GB23882.D	1	02/24/14	EV	n/a	n/a	GGB1311
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	0.050	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	95%		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:	02/20/14
Lab Sample ID:	D55289-2	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TB23882.D	1	02/24/14	EV	n/a	n/a	GTB1311
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	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-2A	Date Sampled:	02/20/14
Lab Sample ID:	D55289-2	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH018553.D	1	02/25/14	JS	02/24/14	OP9457	GFH910
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	59%		10-130%		

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: 02/20/14
Lab Sample ID: D55289-2	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	84600	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	5250	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	64400	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	1250	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	6220	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	106000	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-2A	Date Sampled: 02/20/14
Lab Sample ID: D55289-2	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	512	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	512	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	15.8	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	02/21/14 14:50	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	23.7	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	53.0	1.0	mg/l	2	02/21/14 14:50	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.079	0.020	mg/l	2	02/21/14 14:50	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.049	0.0080	mg/l	2	02/21/14 14:50	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.10	0.10	mg/l	2	02/21/14 14:50	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.38	0.010	mg/l	1	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	740	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	69.7	5.0	mg/l	10	02/21/14 18:28	GH	EPA 300.0/SW846 9056
Total Organic Carbon	11.4	1.0	mg/l	1	02/24/14 13:22	RW	SM 5310B-2011
pH	7.42		su	1	02/24/14 10:45	AK	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	02/20/14
Lab Sample ID:	D55289-3	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G18216.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.50	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.49	ug/l	
120-12-7	Anthracene	ND	4.9	0.49	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.49	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.49	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.49	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.49	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.49	ug/l	
218-01-9	Chrysene	ND	4.9	0.49	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.49	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.49	ug/l	
86-73-7	Fluorene	ND	4.9	0.49	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.49	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.49	ug/l	
91-20-3	Naphthalene	ND	4.9	0.49	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.49	ug/l	
129-00-0	Pyrene	ND	4.9	0.49	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		14-130%
321-60-8	2-Fluorobiphenyl	83%		16-130%
1718-51-0	Terphenyl-d14	69%		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:	02/20/14
Lab Sample ID:	D55289-3	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GB23883.D	1	02/24/14	EV	n/a	n/a	GGB1311
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	0.050	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	96%		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:	02/20/14
Lab Sample ID:	D55289-3	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TB23883.D	1	02/24/14	EV	n/a	n/a	GTB1311
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	95%		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:	02/20/14
Lab Sample ID:	D55289-3	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH018555.D	1	02/25/14	JS	02/24/14	OP9457	GFH910
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	58%		10-130%		

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:	02/20/14
Lab Sample ID:	D55289-3	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	105000	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	11800	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	59800	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	1180	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	4280	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	104000	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3	Date Sampled: 02/20/14
Lab Sample ID: D55289-3	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	423	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	423	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	1.1	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide	0.11	0.10	mg/l	2	02/21/14 15:02	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	19.3	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	84.0	2.5	mg/l	5	02/21/14 19:17	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.031	0.020	mg/l	2	02/21/14 15:02	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	02/21/14 15:02	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.10	0.10	mg/l	2	02/21/14 15:02	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.42	0.010	mg/l	1	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	728	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	105	2.5	mg/l	5	02/21/14 19:17	GH	EPA 300.0/SW846 9056
Total Organic Carbon	4.6	1.0	mg/l	1	02/24/14 13:33	RW	SM 5310B-2011
pH	7.56		su	1	02/24/14 10:45	AK	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	02/20/14
Lab Sample ID:	D55289-4	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G18217.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.50	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.49	ug/l	
120-12-7	Anthracene	ND	4.9	0.49	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.49	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.49	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.49	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.49	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.49	ug/l	
218-01-9	Chrysene	ND	4.9	0.49	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.49	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.49	ug/l	
86-73-7	Fluorene	ND	4.9	0.49	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	0.55	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.49	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.49	ug/l	
91-20-3	Naphthalene	ND	4.9	0.49	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.49	ug/l	
129-00-0	Pyrene	ND	4.9	0.49	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		14-130%
321-60-8	2-Fluorobiphenyl	61%		16-130%
1718-51-0	Terphenyl-d14	55%		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:	02/20/14
Lab Sample ID:	D55289-4	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GB23884.D	1	02/24/14	EV	n/a	n/a	GGB1311
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	0.050	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	93%		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	
Lab Sample ID:	D55289-4	Date Sampled: 02/20/14
Matrix:	AQ - Ground Water	Date Received: 02/21/14
Method:	SW846 8021B	Percent Solids: n/a
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TB23884.D	1	02/24/14	EV	n/a	n/a	GTB1311
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	93%		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:	02/20/14
Lab Sample ID:	D55289-4	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH018552.D	1	02/25/14	JS	02/24/14	OP9457	GFH909
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	62%		10-130%		

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: 02/20/14
Lab Sample ID: D55289-4	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	96700	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	860	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	53100	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	198	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	3550	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	83600	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-4	Date Sampled: 02/20/14
Lab Sample ID: D55289-4	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	332	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	85.8	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	418	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide	0.090	0.050	mg/l	1	02/21/14 15:14	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	30.1	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	6.5	0.50	mg/l	1	02/21/14 15:14	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	1.3	0.050	mg/l	5	02/21/14 19:41	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.046	0.0040	mg/l	1	02/21/14 15:14	GH	EPA 300.0/SW846 9056
Phosphate, Ortho	1.1	0.050	mg/l	1	02/21/14 15:14	GH	EPA 300.0/SW846 9056
Phosphorus, Total	11.7	0.50	mg/l	50	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	504	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	91.2	2.5	mg/l	5	02/21/14 19:41	GH	EPA 300.0/SW846 9056
Total Organic Carbon	6.2	1.0	mg/l	1	02/24/14 14:06	RW	SM 5310B-2011
pH	9.02		su	1	02/24/14 10:45	AK	SM4500HB+ -2011/9040C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	02/20/14
Lab Sample ID:	D55289-5	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G18218.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

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	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		14-130%
321-60-8	2-Fluorobiphenyl	87%		16-130%
1718-51-0	Terphenyl-d14	66%		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-5	Date Sampled:	02/20/14
Lab Sample ID:	D55289-5	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GB23885.D	1	02/24/14	EV	n/a	n/a	GGB1311
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	0.050	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-5	
Lab Sample ID:	D55289-5	Date Sampled: 02/20/14
Matrix:	AQ - Ground Water	Date Received: 02/21/14
Method:	SW846 8021B	Percent Solids: n/a
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TB23885.D	1	02/24/14	EV	n/a	n/a	GTB1311
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	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-5	Date Sampled:	02/20/14
Lab Sample ID:	D55289-5	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD29967.D	1	03/01/14	JL	02/24/14	OP9457	GFD1446
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)	0.420	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	77%		10-130%		

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: 02/20/14
Lab Sample ID: D55289-5	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	90100	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	17900	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	56500	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	692	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	3730	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	92700	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-5	Date Sampled: 02/20/14
Lab Sample ID: D55289-5	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	439	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	439	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	38.6	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	02/21/14 15:26	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	74.0	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	41.4	1.0	mg/l	2	02/21/14 15:26	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.14	0.020	mg/l	2	02/21/14 15:26	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	02/21/14 15:26	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.10	0.10	mg/l	2	02/21/14 15:26	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.27	0.010	mg/l	1	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	677	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	86.1	2.5	mg/l	5	02/21/14 19:53	GH	EPA 300.0/SW846 9056
Total Organic Carbon	27.6	5.0	mg/l	5	02/24/14 20:58	RW	SM 5310B-2011
pH	7.56		su	1	02/24/14 10:45	AK	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	02/20/14
Lab Sample ID:	D55289-6	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G18219.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
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	0.54	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	65%		14-130%
321-60-8	2-Fluorobiphenyl	71%		16-130%
1718-51-0	Terphenyl-d14	64%		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:	02/20/14
Lab Sample ID:	D55289-6	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8015B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GB23886.D	1	02/24/14	EV	n/a	n/a	GGB1311
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	0.050	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	95%		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:	02/20/14
Lab Sample ID:	D55289-6	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	TB23886.D	1	02/24/14	EV	n/a	n/a	GTB1311
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	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-6	Date Sampled:	02/20/14
Lab Sample ID:	D55289-6	Date Received:	02/21/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846-8015B SW846 3510C		
Project:	CORCCOGJ: Knight Property Quarterly Sampling (011.1712)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH018556.D	1	02/25/14	JS	02/24/14	OP9457	GFH909
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	56%		10-130%		

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: 02/20/14
Lab Sample ID: D55289-6	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	76700	400	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Iron	9120	70	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Magnesium	65100	200	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Manganese	550	5.0	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Potassium	3070	1000	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³
Selenium	< 50	50	ug/l	1	02/24/14	02/25/14 KV	SW846 6010C ²	SW846 3010A ³
Sodium	88000	400	ug/l	1	02/24/14	02/24/14 KV	SW846 6010C ¹	SW846 3010A ³

(1) Instrument QC Batch: MA4492

(2) Instrument QC Batch: MA4496

(3) Prep QC Batch: MP12358

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-6	Date Sampled: 02/20/14
Lab Sample ID: D55289-6	Date Received: 02/21/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	488	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	488	5.0	mg/l	1	02/28/14	BF	SM 2320B-2011
BOD, 5 Day	1.2	1.0	mg/l	1	02/21/14 12:30	AK	SM 5210B-2011
Bromide	0.12	0.10	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Chemical Oxygen Demand	21.9	10	mg/l	1	02/27/14	JD	SM 5220D-2011
Chloride	16.6	1.0	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.10	0.020	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.10	0.10	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Phosphorus, Total	0.33	0.050	mg/l	5	02/26/14	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	648	10	mg/l	1	02/25/14	RW	SM 2540C-2011
Sulfate	56.8	1.0	mg/l	2	02/21/14 15:38	GH	EPA 300.0/SW846 9056
Total Organic Carbon	5.3	1.0	mg/l	1	02/24/14 14:30	RW	SM 5310B-2011
pH	7.61		su	1	02/24/14 10:45	AK	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: Renea Jackson

TEST REPORT

ACCUTEST - M

Date Received: 2/21/2014

Date Reported: 2/24/2014

PO Number: D55289X

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

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
140221005-01A	D55289X-1, 2/21/14, 1:30pm	* Heterotrophic Plate Count	620000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-02A	D55289X-2, 2/21/14, 2:00pm	* Heterotrophic Plate Count	110000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-03A	D55289X-3, 2/21/14, 1:15pm	* Heterotrophic Plate Count	42000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-04A	D55289X-4, 2/21/14, 2:45pm	* Heterotrophic Plate Count	5600	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-05A	D55289X-5, 2/21/14, 12:30pm	* Heterotrophic Plate Count	16000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-06A	D55289X-6, 2/21/14, 11:45am	* Heterotrophic Plate Count	370000	CFU/mL		RJ
		SM 9215B				2/21/2014


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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THE CHAIN OF CUSTODY

ACCUTEST®

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D55289X
Accutest Quote #:	0
AMS P.O. #:	
Project No.:	

[illegible]

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



WPX CHAIN OF CUSTODY

PAGE ____ OF ____

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

FED-EX Tracking #		Bottle Order Control #	
Accutest Quote #		Accutest Job # D55289	
Client / Reporting Information		Project Information	
Company Name Olsson Associates		Project Name: CORCCOGJ:	
Street Address 780 Horizon Drive Suite 102		Street Knights Property Quarterly Sampling (011.1712)	
City Grand Junction, CO 81506		City State Grand Junction, CO 81506	
Project Contact Email Tim Dobransky tdobransky@olssonassociates.		Billing Information (If different from Report to) Company Name WPX Energy Rocky Mountain, LLC (WILLCOPI)	
Phone # 970-263-7800		Street Address 1058 County Road 215	
Sample(s) Name(s) K. Botz, J. McLarty		Client Purchase Order # NXEEPPARACH	
		City Parachute, CO 81635	
		Project Manager Leo Braun	
		Attention: Leo Braun	
		Email Invoices: Leo.Braun@wpxenergy.com	
Accutest Sample #		Collection	
Field ID / Point of Collection		MEQHDI Val #	
Date		Time	
Sampled by		Matrix	
# of bottles		# of bottles	
HCl		NaOH	
HNO3		H2SO4	
H2O2		H2O2	
DI Water		DI Water	
EMCONE		EMCONE	
GRO/DRO - (8015)		BTEX - (8021B)	
TOC - (SW9060)		BOD - (SM5210)	
COD - (SM5220D)		Anions - (E300.0)*	
Alkalinity Series - (SM2320)		Total Metals - (SW846)**	
Heterophob Plate Count		TDS/pH - (SM4500)	
OPO4		LAB USE ONLY	
DW - Drinking Water		GW - Ground Water	
WW - Wastewater		SW - Surface Water	
SO - Soil		SL - Sludge	
SED - Sediment		OI - Oil	
LIQ - Other Liquid		AIR - Air	
SOL - Other Solid		WP - Wipe	
FB - Field Blank		EB - Equipment Blank	
RB - Rinse Blank		TB - Trip Blank	
Turnaround Time (Business days)		Data Deliverable Information	
Comments / Special Instructions			
Approved By (Accutest PM): I Date: JGM 12/8/12		Commercial "A" (Level 1) Commercial "B" (Level 2) COMMBN COMMBN+ Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial BN = Results/QC Narrative (+ = chromatograms)	
State Forms Required Send Forms to State Report by Fax Report by PDF EDD Format		Also email final report to: Karolina.Blaney@wpxenergy.com	
*Anions - NO2, NO3, PO4, SO4, Br, Cl		***Metals - Ca, Fe, K, Mg, Mn, Na, Se	
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.	
Relinquished by Sampler: John McLarty		Received By: 1. [Signature] Service Center	
Date/Time: 2/20/14 1545		Received By: 2. [Signature]	
Relinquished by Sampler: 3. [Signature]		Received By: 3. [Signature]	
Date/Time: 2/20/14 1545		Received By: 4. [Signature]	
Relinquished by:		Received By:	
Date/Time:		Date/Time:	
Custody Seal # 40/W		Intact Not Intact	
Preserved where applicable		On Ice Cooler Temp. 3.8	

D55289: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D55289

Client:

Immediate Client Services Action Required: No

Date / Time Received: 11/7/2013 10:00:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project:

Airbill #'s:

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 type="checkbox"/>		<input type="checkbox"/>	<input checked="" 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: D55289**Account:** WILLCOP WPX Energy Rocky Mountain, LLC**Project:** CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9461-MB	3G18211.D	1	02/25/14	DC	02/24/14	OP9461	E3G905

The QC reported here applies to the following samples:**Method:** SW846 8270C

D55289-3, D55289-4, D55289-5, D55289-6

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
4165-60-0	Nitrobenzene-d5	82% 14-130%
321-60-8	2-Fluorobiphenyl	85% 16-130%
1718-51-0	Terphenyl-d14	96% 10-145%

Method Blank Summary

Page 1 of 1

Job Number: D55289**Account:** WILLCOP WPX Energy Rocky Mountain, LLC**Project:** CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9467-MB	1G118205.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259

The QC reported here applies to the following samples:**Method:** SW846 8270C

D55289-1, D55289-2

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
4165-60-0	Nitrobenzene-d5	76% 14-130%
321-60-8	2-Fluorobiphenyl	81% 16-130%
1718-51-0	Terphenyl-d14	88% 10-145%

Blank Spike Summary

Page 1 of 1

Job Number: D55289**Account:** WILLCOP WPX Energy Rocky Mountain, LLC**Project:** CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9461-BS	3G18212.D	1	02/25/14	DC	02/24/14	OP9461	E3G905

The QC reported here applies to the following samples:**Method:** SW846 8270C

D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	37.5	75	53-130
208-96-8	Acenaphthylene	50	39.1	78	55-130
120-12-7	Anthracene	50	43.0	86	70-130
56-55-3	Benzo(a)anthracene	50	41.3	83	69-130
205-99-2	Benzo(b)fluoranthene	50	42.5	85	52-146
207-08-9	Benzo(k)fluoranthene	50	44.9	90	41-158
191-24-2	Benzo(g,h,i)perylene	50	43.8	88	53-140
50-32-8	Benzo(a)pyrene	50	43.7	87	55-140
218-01-9	Chrysene	50	41.6	83	70-130
53-70-3	Dibenzo(a,h)anthracene	50	45.4	91	51-143
206-44-0	Fluoranthene	50	44.7	89	70-130
86-73-7	Fluorene	50	41.8	84	58-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	44.4	89	49-142
90-12-0	1-Methylnaphthalene	50	34.0	68	41-130
91-57-6	2-Methylnaphthalene	50	33.9	68	38-130
91-20-3	Naphthalene	50	32.2	64	39-130
85-01-8	Phenanthrene	50	42.4	85	70-130
129-00-0	Pyrene	50	40.6	81	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	74%	14-130%
321-60-8	2-Fluorobiphenyl	78%	16-130%
1718-51-0	Terphenyl-d14	82%	10-145%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D55289**Account:** WILLCOP WPX Energy Rocky Mountain, LLC**Project:** CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9467-BS	1G118206.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259

The QC reported here applies to the following samples:**Method:** SW846 8270C

D55289-1, D55289-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.9	84	53-130
208-96-8	Acenaphthylene	50	42.0	84	55-130
120-12-7	Anthracene	50	50.2	100	70-130
56-55-3	Benzo(a)anthracene	50	50.9	102	69-130
205-99-2	Benzo(b)fluoranthene	50	51.0	102	52-146
207-08-9	Benzo(k)fluoranthene	50	49.2	98	41-158
191-24-2	Benzo(g,h,i)perylene	50	54.4	109	53-140
50-32-8	Benzo(a)pyrene	50	50.7	101	55-140
218-01-9	Chrysene	50	49.8	100	70-130
53-70-3	Dibenzo(a,h)anthracene	50	54.0	108	51-143
206-44-0	Fluoranthene	50	50.7	101	70-130
86-73-7	Fluorene	50	46.2	92	58-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	53.8	108	49-142
90-12-0	1-Methylnaphthalene	50	32.3	65	41-130
91-57-6	2-Methylnaphthalene	50	31.8	64	38-130
91-20-3	Naphthalene	50	29.6	59	39-130
85-01-8	Phenanthrene	50	49.9	100	70-130
129-00-0	Pyrene	50	51.2	102	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	55%	14-130%
321-60-8	2-Fluorobiphenyl	69%	16-130%
1718-51-0	Terphenyl-d14	87%	10-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9461-MS	3G18214.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
OP9461-MSD	3G18215.D	1	02/25/14	DC	02/24/14	OP9461	E3G905
D55207-10	3G18213.D	1	02/25/14	DC	02/24/14	OP9461	E3G905

The QC reported here applies to the following samples:

Method: SW846 8270C

D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	D55207-10 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	46.2	92	40.6	81	13	38-130/30
208-96-8	Acenaphthylene	ND	50	48.5	97	41.9	84	15	39-130/30
120-12-7	Anthracene	ND	50	52.4	105	49.6	99	5	65-130/30
56-55-3	Benzo(a)anthracene	ND	50	49.2	98	49.7	99	1	62-130/30
205-99-2	Benzo(b)fluoranthene	ND	50	51.0	102	49.5	99	3	51-146/30
207-08-9	Benzo(k)fluoranthene	ND	50	55.9	112	54.2	108	3	41-158/30
191-24-2	Benzo(g,h,i)perylene	ND	50	52.5	105	52.1	104	1	51-140/30
50-32-8	Benzo(a)pyrene	ND	50	52.2	104	51.7	103	1	52-140/30
218-01-9	Chrysene	ND	50	50.3	101	49.1	98	2	69-130/30
53-70-3	Dibenzo(a,h)anthracene	ND	50	54.8	110	53.5	107	2	49-139/30
206-44-0	Fluoranthene	ND	50	54.5	109	53.0	106	3	70-130/30
86-73-7	Fluorene	ND	50	51.6	103	47.6	95	8	48-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	52.9	106	52.3	105	1	47-142/30
90-12-0	1-Methylnaphthalene	ND	50	45.4	91	36.0	72	23	28-130/30
91-57-6	2-Methylnaphthalene	ND	50	44.6	89	35.4	71	23	27-130/30
91-20-3	Naphthalene	ND	50	44.1	88	34.2	68	25	28-130/30
85-01-8	Phenanthrene	ND	50	52.5	105	49.7	99	5	63-130/30
129-00-0	Pyrene	ND	50	51.5	103	50.1	100	3	68-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-10	Limits
4165-60-0	Nitrobenzene-d5	94%	76%	76%	14-130%
321-60-8	2-Fluorobiphenyl	97%	80%	82%	16-130%
1718-51-0	Terphenyl-d14	97%	94%	85%	10-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9467-MS	1G118208.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259
OP9467-MSD	1G118209.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259
D55207-16	1G118207.D	1	02/26/14	DC	02/25/14	OP9467	E1G1259

The QC reported here applies to the following samples:

Method: SW846 8270C

D55289-1, D55289-2

CAS No.	Compound	D55207-16 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	45.9	92	40.3	81	13	38-130/30
208-96-8	Acenaphthylene	ND	50	45.1	90	40.0	80	12	39-130/30
120-12-7	Anthracene	ND	50	50.1	100	47.2	94	6	65-130/30
56-55-3	Benzo(a)anthracene	ND	50	49.6	99	47.5	95	4	62-130/30
205-99-2	Benzo(b)fluoranthene	ND	50	47.4	95	45.5	91	4	51-146/30
207-08-9	Benzo(k)fluoranthene	ND	50	50.7	101	50.2	100	1	41-158/30
191-24-2	Benzo(g,h,i)perylene	ND	50	52.7	105	49.8	100	6	51-140/30
50-32-8	Benzo(a)pyrene	ND	50	49.2	98	47.4	95	4	52-140/30
218-01-9	Chrysene	ND	50	49.3	99	47.8	96	3	69-130/30
53-70-3	Dibenzo(a,h)anthracene	ND	50	52.6	105	49.8	100	5	49-139/30
206-44-0	Fluoranthene	ND	50	49.2	98	48.0	96	2	70-130/30
86-73-7	Fluorene	ND	50	46.6	93	43.4	87	7	48-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	52.2	104	49.5	99	5	47-142/30
90-12-0	1-Methylnaphthalene	ND	50	37.7	75	31.8	64	17	28-130/30
91-57-6	2-Methylnaphthalene	ND	50	37.9	76	31.9	64	17	27-130/30
91-20-3	Naphthalene	ND	50	35.6	71	30.3	61	16	28-130/30
85-01-8	Phenanthrene	ND	50	49.5	99	46.8	94	6	63-130/30
129-00-0	Pyrene	ND	50	51.9	104	48.6	97	7	68-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-16	Limits
4165-60-0	Nitrobenzene-d5	65%	55%	57%	14-130%
321-60-8	2-Fluorobiphenyl	77%	65%	59%	16-130%
1718-51-0	Terphenyl-d14	85%	80%	88%	10-145%

* = 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: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1311-MB	GB23877.D	1	02/24/14	EV	n/a	n/a	GGB1311

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

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	93% 60-140%

Method Blank Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1191-MB	GA21181.D	1	02/26/14	EV	n/a	n/a	GGA1191

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

D55289-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	101% 60-140%

Method Blank Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB1311-MB	TB23877.D	1	02/24/14	EV	n/a	n/a	GTB1311

The QC reported here applies to the following samples:

Method: SW846 8021B

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

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	91% 60-140%

Method Blank Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1191-MB	TA21181.D	1	02/26/14	EV	n/a	n/a	GTA1191

The QC reported here applies to the following samples:

Method: SW846 8021B

D55289-1

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	107% 60-140%

Blank Spike Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB1311-BS	GB23878.D	1	02/24/14	EV	n/a	n/a	GGB1311

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

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.21	100	70-130

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA1191-BS	GA21182.D	1	02/26/14	EV	n/a	n/a	GGA1191

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

D55289-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.39	109	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	60-140%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB1311-BS	TB23878.D	1	02/24/14	EV	n/a	n/a	GTB1311

The QC reported here applies to the following samples: Method: SW846 8021B

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	25.6	94	70-130
100-41-4	Ethylbenzene	45.6	43.3	95	70-130
108-88-3	Toluene	212	189	89	70-130
1330-20-7	Xylenes (total)	216	214	99	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	60-140%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1191-BS	TA21182.D	1	02/26/14	EV	n/a	n/a	GTA1191

The QC reported here applies to the following samples:

Method: SW846 8021B

D55289-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	25.8	95	70-130
100-41-4	Ethylbenzene	45.6	44.7	98	70-130
108-88-3	Toluene	212	200	95	70-130
1330-20-7	Xylenes (total)	216	225	104	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	112%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D55207-18MS	GB23880.D	1	02/24/14	EV	n/a	n/a	GGB1311
D55207-18MSD	GB23881.D	1	02/24/14	EV	n/a	n/a	GGB1311
D55207-18	GB23879.D	1	02/24/14	EV	n/a	n/a	GGB1311

The QC reported here applies to the following samples:

Method: SW846 8015B

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	D55207-18 mg/l	Spike Q	mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.153	J	2.2	2.27	96	2.19	93	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-18	Limits
120-82-1	1,2,4-Trichlorobenzene	97%	97%	96%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D55207-30MS	GA21184.D	1	02/26/14	EV	n/a	n/a	GGA1191
D55207-30MSD	GA21185.D	1	02/26/14	EV	n/a	n/a	GGA1191
D55207-30	GA21183.D	1	02/26/14	EV	n/a	n/a	GGA1191

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

D55289-1

CAS No.	Compound	D55207-30 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	2.2	2.32	105	2.26	103	3	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-30	Limits
120-82-1	1,2,4-Trichlorobenzene	107%	108%	102%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D55207-18MS	TB23880.D	1	02/24/14	EV	n/a	n/a	GTB1311
D55207-18MSD	TB23881.D	1	02/24/14	EV	n/a	n/a	GTB1311
D55207-18	TB23879.D	1	02/24/14	EV	n/a	n/a	GTB1311

The QC reported here applies to the following samples:

Method: SW846 8021B

D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	D55207-18 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	25.9	95	25.3	93	2	55-133/30
100-41-4	Ethylbenzene	ND	45.6	41.5	91	39.9	88	4	63-130/30
108-88-3	Toluene	ND	212	186	88	181	86	3	70-130/30
1330-20-7	Xylenes (total)	28.6	216	239	97	231	94	3	64-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-18	Limits
120-82-1	1,2,4-Trichlorobenzene	95%	95%	95%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D55207-30MS	TA21184.D	1	02/26/14	EV	n/a	n/a	GTA1191
D55207-30MSD	TA21185.D	1	02/26/14	EV	n/a	n/a	GTA1191
D55207-30	TA21183.D	1	02/26/14	EV	n/a	n/a	GTA1191

The QC reported here applies to the following samples: Method: SW846 8021B

D55289-1

CAS No.	Compound	D55207-30 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	25.3	93	24.7	91	2	55-133/30
100-41-4	Ethylbenzene	ND	45.6	43.9	96	42.4	93	3	63-130/30
108-88-3	Toluene	ND	212	196	93	189	89	4	70-130/30
1330-20-7	Xylenes (total)	ND	216	221	102	213	99	4	64-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-30	Limits
120-82-1	1,2,4-Trichlorobenzene	112%	112%	108%	60-140%

* = 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: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9457-MB	FH018688.D	1	02/26/14	JS	02/24/14	OP9457	GFH913

The QC reported here applies to the following samples:

Method: SW846-8015B

D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

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	56% 10-130%

8.1.1

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Blank Spike Summary

Page 1 of 1

Job Number: D55289

Account: WILLCOP WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9457-BSP	FH018690.D	1	02/26/14	JS	02/24/14	OP9457	GFH913

The QC reported here applies to the following samples:

Method: SW846-8015B

D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	5	2.91	58	33-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	62%	10-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D55289
Account: WILLCOP WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9457-MS	FH018692.D	1	02/26/14	JS	02/24/14	OP9457	GFH913
OP9457-MSD	FH018694.D	1	02/26/14	JS	02/24/14	OP9457	GFH913
D55207-9	FH018696.D	1	02/26/14	JS	02/24/14	OP9457	GFH913

The QC reported here applies to the following samples:

Method: SW846-8015B

D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

CAS No.	Compound	D55207-9 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	5	2.76	55	2.48	50	11	33-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D55207-9	Limits
84-15-1	o-Terphenyl	53%	54%	49%	10-130%

* = 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: D55289
Account: WILLCOP - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 02/24/14

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	20.2	<400
Chromium	10	.3	.4		
Cobalt	5.0	.5	.57		
Copper	10	.8	1.9		
Iron	70	1.5	9.5	10.2	<70
Lead	50	2.1	21		
Lithium	5.0	.4	2.7		
Magnesium	200	6.8	19	4.3	<200
Manganese	5.0	.5	.46	0.60	<5.0
Molybdenum	10	.4	.84		
Nickel	30	.5	.87		
Phosphorus	100	15	20		
Potassium	1000	99	270	40.1	<1000
Selenium	50	7.1	11	1.2	<50
Silicon	50	4.7	5.2		
Silver	30	.3	.6		
Sodium	400	7.3	170	103	<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 MP12358: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D55289
Account: WILLCOP - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 02/24/14

Metal	RL	IDL	MDL	MB raw	final
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(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D55289

Account: WILLCOF - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

02/24/14

Metal	D55252-1 Original MS		Spikelot ICPALL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	63400	86200	25000	107.2	75-125
Chromium					
Cobalt					
Copper					
Iron	274	5260	5000	99.7	75-125
Lead					
Lithium					
Magnesium	29100	56000	25000	107.6	75-125
Manganese	97.6	595	500	99.5	75-125
Molybdenum					
Nickel					
Phosphorus					
Potassium	593	24800	25000	96.8	75-125
Selenium	0.0	1110	1000	111.0	75-125
Silicon					
Silver					
Sodium	50700	78500	25000	107.2	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP12358: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D55289

Account: WILLCOF - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358

Methods: SW846 6010C

Matrix Type: AQUEOUS

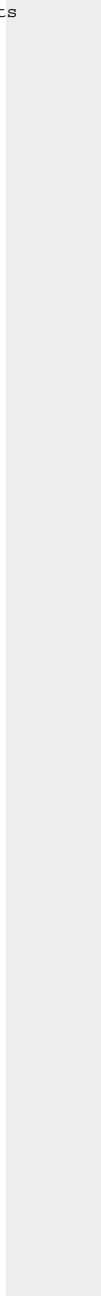
Units: ug/l

Prep Date:

02/24/14

Metal	D55252-1 Original MS	Spikelot ICPALL2	% Rec	QC Limits
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(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D55289
 Account: WILLCOP - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 02/24/14

Metal	D55252-1 Original	MSD	Spikelot ICPAL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	63400	84200	25000	99.2	2.3	20
Chromium						
Cobalt						
Copper						
Iron	274	5260	5000	99.7	0.0	20
Lead						
Lithium						
Magnesium	29100	56300	25000	108.8	0.5	20
Manganese	97.6	636	500	107.7	6.7	20
Molybdenum						
Nickel						
Phosphorus						
Potassium	593	25300	25000	98.8	2.0	20
Selenium	0.0	1110	1000	111.0	0.0	20
Silicon						
Silver						
Sodium	50700	78000	25000	105.2	0.6	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP12358: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D55289

Account: WILLCOF - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358

Methods: SW846 6010C

Matrix Type: AQUEOUS

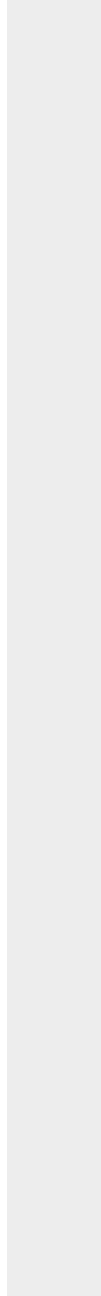
Units: ug/l

Prep Date:

02/24/14

Metal	D55252-1 Original MSD	Spielot ICPALL2 % Rec	MSD RPD	QC Limit
-------	--------------------------	--------------------------	------------	-------------

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested



SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D55289

Account: WILLCOP - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

02/24/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	24900	25000	99.6	80-120
Chromium				
Cobalt				
Copper				
Iron	5060	5000	101.2	80-120
Lead				
Lithium				
Magnesium	26800	25000	107.2	80-120
Manganese	518	500	103.6	80-120
Molybdenum				
Nickel				
Phosphorus				
Potassium	24100	25000	96.4	80-120
Selenium	1100	1000	110.0	80-120
Silicon				
Silver				
Sodium	25000	25000	100.0	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP12358: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D55289

Account: WILLCOP - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358

Methods: SW846 6010C

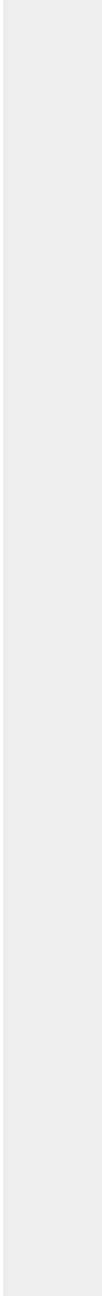
Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 02/24/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
-------	---------------	---------------------	-------	--------------

(anr) Analyte not requested



SERIAL DILUTION RESULTS SUMMARY

Login Number: D55289
 Account: WILLCOP - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 02/24/14

Metal	D55252-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	63400	59700	0.5	0-10
Chromium				
Cobalt				
Copper				
Iron	274	251	8.7	0-10
Lead				
Lithium				
Magnesium	27700	33200	14.3*(a)	0-10
Manganese	97.6	111	13.2*(a)	0-10
Molybdenum				
Nickel				
Phosphorus				
Potassium	593	957	61.3 (b)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver				
Sodium	50700	59900	15.7*(a)	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP12358: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D55289
 Account: WILLCOF - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP12358
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 02/24/14

	D55252-1		QC
Metal	Original SDL 1:5	%DIF	Limits

(anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.
 (b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

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: D55289
Account: WILLCOB - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate as CaC	GN23810	5.0	3.1	mg/l	100	97.2	97.2	90-110%
Alkalinity, Carbonate	GN23811	5.0	3.1	mg/l	100	97.2	97.2	80-120%
Alkalinity, Total as CaCO3	GN23809	5.0	3.1	mg/l	100	97.2	97.2	90-110%
BOD, 5 Day	GP12020/GN23781	1.0	0.0	mg/l	198	196	99.0	85-115%
Bromide	GP12018/GN23734	0.050	0.0	mg/l	0.5	0.533	106.6	90-110%
Chemical Oxygen Demand	GP12042/GN23786	10	0.0	mg/l	100	103	103.0	80-120%
Chloride	GP12018/GN23734	0.50	0.0	mg/l	5	5.05	101.0	90-110%
Nitrogen, Nitrate	GP12018/GN23734	0.010	0.0	mg/l	0.1	0.101	101.0	90-110%
Nitrogen, Nitrite	GP12018/GN23734	0.0040	0.0	mg/l	0.05	0.0487	97.4	90-110%
Phosphate, Ortho	GP12018/GN23734	0.050	0.0	mg/l	0.5	0.494	98.8	90-110%
Phosphorus, Total	GP12039/GN23777	0.010	0.0	mg/l	0.38	0.40	105.0	80-120%
Solids, Total Dissolved	GN23755	10	0.0	mg/l	400	412	103.0	90-110%
Sulfate	GP12018/GN23734	0.50	0.0	mg/l	5	5.09	101.8	90-110%
Total Organic Carbon	GP12030/GN23766	1.0	0.0	mg/l	8.82	8.64	98.0	90-110%
pH	GN23747			su	8.00	7.97	99.6	99.3-100.7%

Associated Samples:

Batch GN23747: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GN23755: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GN23809: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GN23810: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GN23811: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12018: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12020: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12030: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12039: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12042: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D55289
Account: WILLCOP - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN23809	D55332-1	mg/l	124	122	1.5	0-20%
BOD, 5 Day	GP12020/GN23781	D55263-1	mg/l	2.1	1.7	19.3	0-20%
Chemical Oxygen Demand	GP12042/GN23786	D55289-3	mg/l	19.3	20.8	7.3	0-25%
Phosphorus, Total	GP12039/GN23777	D55219-1	mg/l	0.094	0.092	2.1	0-20%
Solids, Total Dissolved	GN23755	D55251-3	mg/l	4180	4260	1.9	0-20%
Total Organic Carbon	GP12030/GN23766	D55289-1	mg/l	10.9	10.8	0.9	0-20%

Associated Samples:

Batch GN23755: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GN23809: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12020: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12030: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12039: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
Batch GP12042: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D55289
Account: WILLCOPI - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO ₃	GN23809	D55332-1	mg/l	124	100	213	89.7	80-120%
Bromide	GP12018/GN23734	D55289-3	mg/l	0.11	1	1.1	99.0	80-120%
Chemical Oxygen Demand	GP12042/GN23786	D55289-2	mg/l	23.7	40	72.3	121.4	70-130%
Chloride	GP12018/GN23734	D55289-3	mg/l	84.0	25	110	104.0	80-120%
Nitrogen, Nitrate	GP12018/GN23734	D55289-3	mg/l	0.031	0.2	0.23	99.5	80-120%
Nitrogen, Nitrite	GP12018/GN23734	D55289-3	mg/l	0.0	0.1	0.079	79.0N(a)	80-120%
Phosphate, Ortho	GP12018/GN23734	D55289-3	mg/l	0.0	1	2.0	200.0N(a)	80-120%
Phosphorus, Total	GP12039/GN23777	D55219-1	mg/l	0.094	0.40	0.52	106.5	80-120%
Sulfate	GP12018/GN23734	D55289-3	mg/l	105	25	130	100.0	80-120%
Total Organic Carbon	GP12030/GN23766	D55181-1	mg/l	2.6	10	12.5	99.0	80-120%

Associated Samples:

Batch GN23809: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12018: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12030: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12039: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12042: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D55289
Account: WILLCOP - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Alkalinity, Total as CaCO ₃	GN23809	D55332-1	mg/l	124	100	215	-1.9	20%
Chemical Oxygen Demand	GP12042/GN23786	D55289-2	mg/l	23.7	40	69.6	3.7	25%
Phosphorus, Total	GP12039/GN23777	D55219-1	mg/l	0.094	0.40	0.530	-1.1	20%
Total Organic Carbon	GP12030/GN23766	D55181-1	mg/l	2.6	10	12.4	0.8	20%

Associated Samples:

Batch GN23809: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12030: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12039: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

Batch GP12042: D55289-1, D55289-2, D55289-3, D55289-4, D55289-5, D55289-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



02/27/14

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Accutest Job Number: D55289X

Sampling Date: 02/20/14

Report to:

Olsson Associates
760 Horizon Drive Suite 102
Grand Junction, CO 81506
tdobransky@olssonassociates.com; karolina.blaney@wpxenergy.com
ATTN: Tim Dobransky

Total number of pages in report: 9



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program 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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3.1: Chain of Custody	8



Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D55289X

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D55289-1X	02/20/14	13:30 JM	02/21/14	AQ	Ground Water	MW-1
D55289-2X	02/20/14	14:00 KB	02/21/14	AQ	Ground Water	MW-2A
D55289-3X	02/20/14	13:15 KB	02/21/14	AQ	Ground Water	MW-3
D55289-4X	02/20/14	14:45 JM	02/21/14	AQ	Ground Water	MW-4
D55289-5X	02/20/14	12:30 KB	02/21/14	AQ	Ground Water	MW-5
D55289-6X	02/20/14	11:45 KB	02/21/14	AQ	Ground Water	MW-6

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: Renea Jackson

TEST REPORT

ACCUTEST - M

Date Received: 2/21/2014

Date Reported: 2/24/2014

PO Number: D55289X

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

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
140221005-01A	D55289X-1, 2/21/14, 1:30pm	* Heterotrophic Plate Count	620000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-02A	D55289X-2, 2/21/14, 2:00pm	* Heterotrophic Plate Count	110000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-03A	D55289X-3, 2/21/14, 1:15pm	* Heterotrophic Plate Count	42000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-04A	D55289X-4, 2/21/14, 2:45pm	* Heterotrophic Plate Count	5600	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-05A	D55289X-5, 2/21/14, 12:30pm	* Heterotrophic Plate Count	16000	CFU/mL		RJ
		SM 9215B				2/21/2014
140221005-06A	D55289X-6, 2/21/14, 11:45am	* Heterotrophic Plate Count	370000	CFU/mL		RJ
		SM 9215B				2/21/2014


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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ACCUTEST®

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D55289X
Accutest Quote #:	0
AMS P.O. #:	
Project No.:	

[illegible]

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D55289

Client:

Immediate Client Services Action Required: No

Date / Time Received: 11/7/2013 10:00:00 AM

No. Coolers: 1

Client Service Action Required at Login: No

Project:

Airbill #'s:

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 type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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
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F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

D55289X: Chain of Custody

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