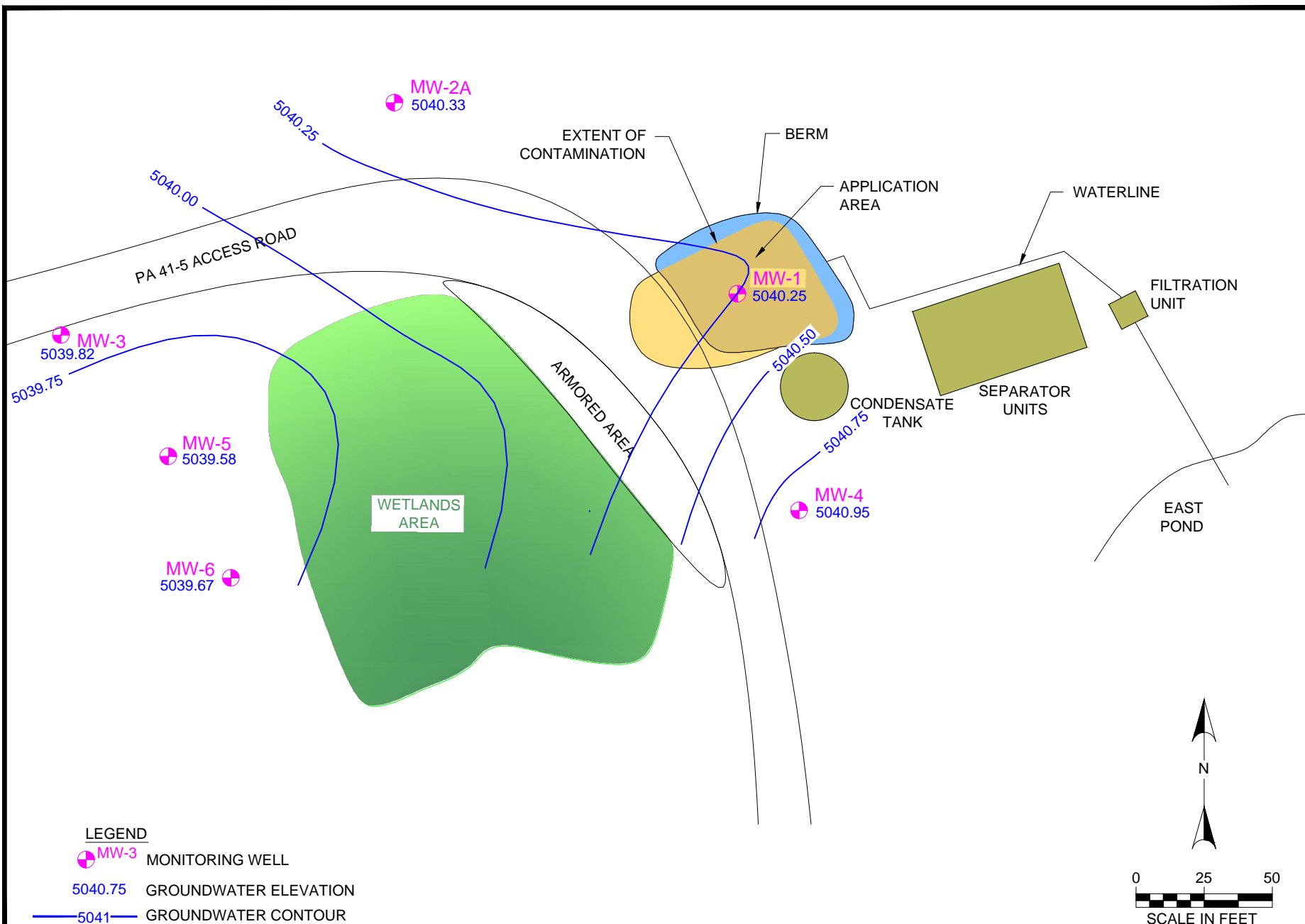

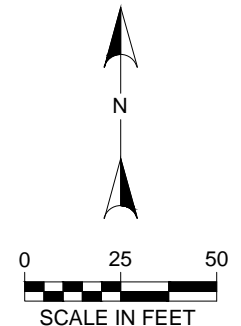
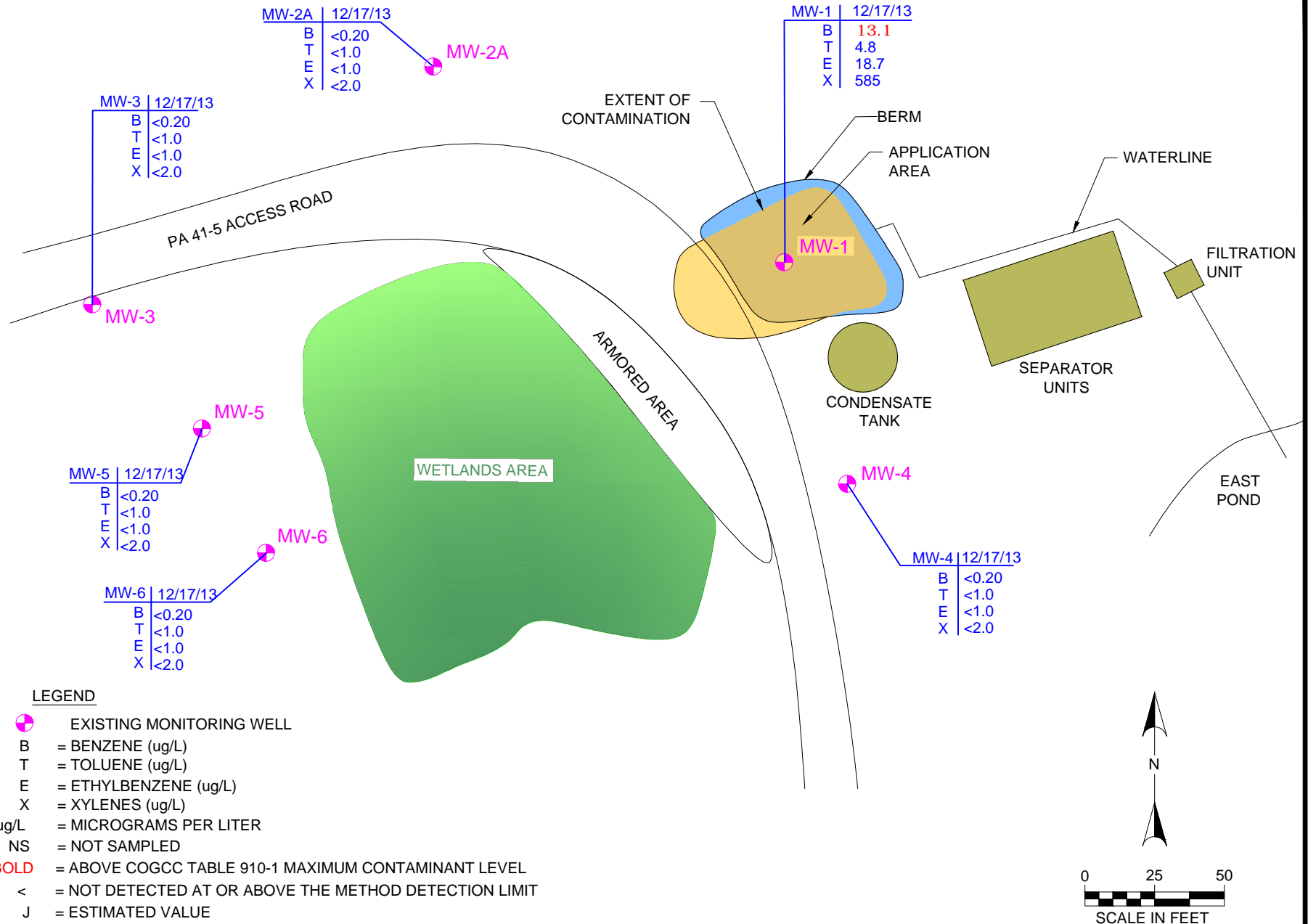


F:\Projects\011-1712\CHRA\Exhibits\2013\Q4 2013\Knight_GW-Q4-2013.dwg Layout: GW



PROJECT NO: 011-1712	GROUNDWATER - PIEZIOMETRIC SURFACE MAP - DECEMBER 2013 KNIGHT PA 311-4 SEC 4, T7S, R95W PARACHUTE, COLORADO	 <div> 826 21 1/2 Road Grand Junction, CO 81505 TEL 970.263.7800 FAX 970.263.7456 </div>	FIGURE
DRAWN BY: BRN			2
DATE: 01.08.14			

F:\Projects\011-1712\CMRA\Exhibits\2013\04 2013 Knight CWA-04-2013.dwg Layout: CWA



PROJECT NO:	011-1712
DRAWN BY:	BRN
DATE:	01.08.14

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



826 21 1/2 Road
 Grand Junction, CO 81505
 TEL 970.263.7800
 FAX 970.263.7456

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	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	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	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	< 0.050	< 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	<0.10	< 0.30	<0.25	<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	< 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	< 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	
Xylene (total)	1400 to 10000	µg/l	477	227	26.7	517	421	772	658	101	585	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 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	< 0.2	< 1.5	<0.47	<0.48	NT	NT	
1-Methylnapthalene	NA	µg/l	1.1	< 0.68	1.1 J	0.67 J	0.50 J	NT	NT	<0.48	1.0 J	< 0.2	< 0.68	<0.47	<0.48	NT	NT	
2-Methylnapthalene	NA	µg/l	1.6	0.83 J	2.0 J	1.0 J	<0.48	NT	NT	<0.48	1.0 J	< 0.2	< 0.68	<0.47	<0.48	NT	NT	
Napthalene	NA	µg/l	2.9	1.2 J	3.6 J	2.0 J	<0.48	NT	NT	0.69J	2.6 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	< 0.2	< 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	< 0.2	< 0.47	<0.47	<0.48	NT	NT	
Metals																		
Calcium	NA	mg/l	173	88.3	138	170	147	116	114	238	102	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	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	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	1.72	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	< 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	< 0.01	< 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	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	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	
Alkalinity, Total as CaCO3	NA	mg/l	264	488	497	667	746	618	484	492	635	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	< 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	< 0.50	< 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	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	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	< 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	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	< 0.50	< 0.061	0.04	<0.0080	0.0080 ^a	<0.0080 ^a	
Phosphate, Ortho	NA	mg/l	NT	NT	NT	NT	NT	NT	NT	NT	1.500	NT	NT	NT	NT	NT	NT	
Phosphorus, Total	NA	mg/l	3.5	0.59	1.1	NT	2.0	0.95	0.63	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	70000	6900	5600	8100	NT	NT	
Total Dissolved Solids	NA	mg/l	NT	NT	NT	NT	NT	NT	NT	NT	684	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	16.8	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	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	7.14	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	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	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	0.24	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	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	0.4	0.5	0.7	NT	NT	0.7	
Turbidity	NA	NTU	264	117	538	386	117	59.9	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	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	
Depth to Water (feet)				5.16	5.44	5.68	5.77	5.67	5.56	6.45	6.11	5.25	5.83	6.03	10.64	10.34	10.63	11.31	
Sample Date				9/19/2013	12/17/2013	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	11/18/2011	2/14/2012	5/8/2012	8/29/2012	
Analytical Parameters																			
TPH																			
TPH Gasoline Range Organics		NA	mg/l	<0.10	<0.10	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	< 0.050	< 0.10	<0.10	<0.10	
TPH Diesel Range Organics		NA	mg/l	<0.17	.175 J	25.1	< 0.30	<0.25	<0.25	<0.17	<0.17	<0.17	0.284	<0.17	<0.10	< 0.30	<0.25	<0.25	
BTEX																			
Benzene		5	µg/l	<0.20	<0.20	< 1.0	< 0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	< 1.0	< 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	
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	
Xylene (total)		1400 to 10000	µg/l	<2.0	<2.0	< 3.0	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 3.0	< 2.0	<2.0	<2.0	
PAHs																			
Acenaphthene		NA	µg/l	<0.49	<0.48	< 0.2	< 0.60	<0.48	<0.48	<0.49	NT	NT	<0.49	<0.49	< 0.2	< 0.60	<0.47	<0.48	
Acenaphthylene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.60	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.60	<0.47	<0.48	
Anthracene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Benzo(a)anthracene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Benzo(a)pyrene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Benzo(b)fluoranthene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Benzo(g,h,i)perylene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.54	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.54	<0.47	<0.48	
Benzo(k)fluoranthene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Chrysene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Dibenzo(a,h)anthracene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.78	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.78	<0.47	<0.48	
Fluoranthene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.71	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.71	<0.47	<0.48	
Fluorene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.55	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.55	<0.47	<0.48	
Indeno(1,2,3-cd)pyrene		NA	µg/l	<0.55	<0.54	< 0.2	< 1.5	<0.48	<0.48	<0.49	NT	NT	<0.55	<0.54	< 0.2	< 1.5	<0.47	<0.48	
1-Methylnaphthalene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.68	<0.47	<0.48	
2-Methylnaphthalene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.68	<0.47	<0.48	
Naphthalene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.73	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.73	<0.47	<0.48	
Phenanthrene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Pyrene		NA	µg/l	<0.48	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.49	NT	NT	<0.48	<0.48	< 0.2	< 0.47	<0.47	<0.48	
Metals																			
Calcium		NA	mg/l	123	134	76.7	151	157	133	218	117	111	106	109	73.9	126	107	121	
Iron		NA	mg/l	25.0	26.7	4.8	6.79	26.8	16.3	35.4	12.7	10.4	6.1	12.3	3.52	6.71	18.1	19.7	
Magnesium		NA	mg/l	67.2	68.4	37.2	50.3	57.8	62.8	75.1	65.5	59.0	59.3	60.6	40.6	48.6	55.4	71.5	
Manganese		NA	mg/l	1.61	2.57	0.718	1.43	1.71	1.32	2.31	1.18	1.01	0.77	1.08	1.74	1.71	1.91	4.4	
Potassium		NA	mg/l	6.84	6.43	< 10	2.95	6.88	7.87	9.53	5.43	4.79	5.43	5.68	< 10	2.89	5.9	8.73	
Selenium		NA	mg/l	<0.05	<0.05	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.050	< 0.01	< 0.05	<0.050	<0.050	
Sodium		NA	mg/l	122.0	120.0	56.1	61.4	61.0	92.9	93.9	89.2	92.4	125.0	120.0	62.1	58.3	71.8	99.1	
General Chemistry																			
Alkalinity, Bicarbonate		NA	mg/l	354	414	384	462	427	396	309	333	465	380	394	392	364	452	616	
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	
Alkalinity, Total as CaCO3		NA	mg/l	354	414	386	462	427	396	309	333	465	380	394	396	364	452	616	
Biological Oxygen Demand, 5 Day		NA	mg/l	<1.0	1.0	11.1	< 10	<10	<10	<10	<10	<1.0	<1.0	<1.0	8.1	< 10	<10	10.7	
Bromide		NA	mg/l	<0.10 ^a	<0.10	< 0.50	< 0.20	<0.20	<0.10	<0.10	0.13	0.13	<0.10 ^b	<0.10 ^b	< 0.50	< 0.20	<0.40	0.19	
Chemical Oxygen Demand		NA	mg/l	24.3	14.7	21	< 10	<10	49	<10	15.7	25.3	21.1	10.3	28.1	< 10	<10	57	
Chloride		1.25 x bkgd	mg/l	149	109	16.7	14.5	12.9	151	210	161	49.5	163	126	14.1	6.9	7.2	13.1	
Hydroxide Alkalinity		NA	mg/l	NT	NT	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT	< 5.0	NT	NT	NT	
Nitrogen, Nitrate		NA	mg/l	<0.020 ^a	0.081	0.58	< 0.23	<0.090	<0.020	0.034	<0.020 ^b	0.04	0.12	0.093	< 0.50	< 0.23	<0.090	<0.020	
Nitrogen, Nitrite		NA	mg/l	<0.0080 ^a	<0.0080 ^a	0.67	< 0.061	<0.010	<0.040	0.015	<0.0080 ^a	<0.020 ^a	<0.0080 ^a	<0.0080 ^a	< 0.50	< 0.061	<0.010	0.008	
Phosphate, Ortho		NA	mg/l	NT	<0.13 ^a	NT	NT	NT	NT	NT	NT	NT	NT	<0.13	NT	NT	NT	NT	
Phosphorus, Total		NA	mg/l	0.22	0.74	0.45	1.7	1.3	NT	1.7	0.31	3.3	0.13	0.21	0.14	1.4	1.1	NT	
Plate Count, Total		NA	CFU/ml	NT	NT	120000	8500	10000	14000	12000	NT	NT	NT	NT	120000	4600	5400	3800	
Total Dissolved Solids		NA	mg/l	NT	772	NT	NT	NT	NT	NT	NT	NT	NT	788	NT	NT	NT	NT	
Sulfate		1.25 x bkgd	mg/l	112	110	10.9	24	34.7	125	137	161	170	134	120	36.2	40.8	34.2	13	
Total Organic Carbon		NA	mg/l	5.2	5	4.5	4.3	4.2	5.6	4.4	3.7	6.1	4.6	3.6	4.8	3.6	4.5	8.5	
pH		NA	su	7.7	7.63	7.1	7.64	7.6	7.33	7.46	7.55	7.63	7.66	7.66	7.18	7.73	7.65	7.64	
Field Readings																			
Temperature		NA	deg. C	17.50	10.10	14.8	7.46	13.49	21.37	14.35	7.88	13.60	20.50	10.00	14.2	6.5	13.23	19.42	
Specific Conductivity		NA	mS/cm	1.319	1.209	0.663	0.763	0.783	1.291	0.417	1.448	1.278	1.527	1.248	0.713	0.682	0.814	1.02	
Dissolved Oxygen		NA	mg/l	0.1	0.40	0.14	2.43	1.46	1.82	1.67	1	0.71	0.34	0.44	0.15	2.34	2.74	1.67	
pH		NA	su	7.83	8.90	7.41	7.26	7.8	7.48	7.75	7.25	7.61	7.36	7.92	7.5	7.38	7.93	7.6	
Solids, Total Dissolved		NA	mg/l	0.9	0.7865	0.4	0.5	0.5	0.8	NT	NT	0.8	1.0	0.8125	0.5	0.4	0.5	0.7	
Turbidity		NA	NTU	NT	NT	568	2000	1854	1102	1971	328	NT	NT	NT	62.7	443	930	1572	

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-4					MW-5									
Sampling Period				4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	4th Quarter
Depth to Water (feet)				11.64	10.77	10.7	11.9	11.27	5.63	6.06	6.11	6.12	6.8	6.6	5.81	6.38	6.59	6.69
Sample Date				11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013	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	11/18/2011
Analytical Parameters																		
TPH																		
TPH Gasoline Range Organics		NA	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	< 0.050	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	< 0.050	
TPH Diesel Range Organics		NA	mg/l	<0.17	<0.17	<0.17	2.34	<0.17	<0.10	< 0.30	<0.25	<0.25	<0.17	<0.17	<0.17	<0.17	0.213	
BTEX																		
Benzene	5	µg/l	<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	< 1.0	
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	
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	
Xylene (total)	1400 to 10000	µg/l	<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	< 3.0	
PAHs																		
Acenaphthene	NA	µg/l	<0.48	NT	NT	<0.48	<0.48	< 0.2	< 0.60	<0.48	<0.48	<0.47	NT	NT	<0.49	<0.48	< 0.2	
Acenaphthylene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.60	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Anthracene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Benzo(a)anthracene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Benzo(a)pyrene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Benzo(b)fluoranthene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Benzo(g,h,i)perylene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.54	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Benzo(k)fluoranthene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Chrysene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Dibenzo(a,h)anthracene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.78	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Fluoranthene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.71	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Fluorene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.55	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Indeno(1,2,3-cd)pyrene	NA	µg/l	<0.48	NT	NT	<0.54	<0.54	< 0.2	< 1.5	<0.48	<0.48	<0.47	NT	NT	<0.54	<0.54	< 0.2	
1-Methylnapthalene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
2-Methylnapthalene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.68	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Napthalene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.73	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Phenanthrene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Pyrene	NA	µg/l	<0.48	NT	NT	<0.47	<0.47	< 0.2	< 0.47	<0.48	<0.48	<0.47	NT	NT	<0.48	<0.47	< 0.2	
Metals																		
Calcium	NA	mg/l	238	60.4	74.3	119.0	171.0	119	198	157	99.9	333	103	84	107	99.6	80.8	
Iron	NA	mg/l	47.5	2.63	7.26	9.34	2.88	18.9	18.2	33.3	11.4	83.1	15.6	10.8	6.1	13.7	16.7	
Magnesium	NA	mg/l	104	64.5	64.9	84.1	55.9	45.6	62.2	60.8	56.0	108	71.4	52.2	57.6	62.8	51	
Manganese	NA	mg/l	2.16	0.316	0.533	0.48	0.29	0.977	1.56	1.33	0.808	2.81	0.849	0.587	0.67	0.721	3.25	
Potassium	NA	mg/l	12.2	5	5.6	6.78	5.76	< 10	3.22	6.71	5.69	12.6	4.34	4.2	5.2	4.85	< 10	
Selenium	NA	mg/l	<0.05	<0.05	<0.05	<0.05	<0.050	< 0.01	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.050	<0.050	<0.050	< 0.01	
Sodium	NA	mg/l	110.0	99.2	85.0	118.0	109.0	55.8	56.4	58.9	8.0	85.1	97.9	88.4	116.0	122.0	53.7	
General Chemistry																		
Alkalinity, Bicarbonate	NA	mg/l	618	489	482	309	399	364	540	481	429	452	512	495	390	474	388	
Alkalinity, Carbonate	NA	mg/l	<5.0	<5.0	<5.0	346	203	< 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	618	489	482	665	602	366	540	481	429	452	512	496	390	474	390	
Biological Oxygen Demand, 5 Day	NA	mg/l	<10	<10	2.4	<1.0	<1.0	< 15	< 10	<10	<10	<10	<10	1.8	<1.0	1.3	6.8	
Bromide	NA	mg/l	0.26	<0.10 ^a	<0.10 ^a	<0.25 ^a	0.34	< 0.50	< 4.0	<0.40	<0.10	0.1	0.16	0.25	<0.10 ^a	0.12	< 0.50	
Chemical Oxygen Demand	NA	mg/l	20.3	23.7	12.4	245	45.5	40.4	18.1	<10	75.5	10.8	20	12.7	18.3	17.0	96.8	
Chloride	1.25 x bkgd	mg/l	16.4	8	12	12.1	8.5	18.1	20	10.6	133	198	78	15	150	72.2	21.1	
Hydroxide Alkalinity	NA	mg/l	NT	NT	NT	NT	NT	< 5.0	NT	NT	NT	NT	NT	NT	NT	NT	< 5.0	
Nitrogen, Nitrate	NA	mg/l	<0.050	<0.020 ^a	1.7	0.056	0.55	0.51	< 0.45	<0.090	0.039	<0.050	0.022	<0.020 ^a	<0.020 ^a	<0.020 ^a	0.56	
Nitrogen, Nitrite	NA	mg/l	<0.0080	<0.0080 ^a	0.02	2.5	0.034	< 0.50	< 0.061	<0.010	0.052	0.011	<0.0080 ^a	<0.0080 ^a	<0.0080 ^a	0.0099	< 0.50	
Phosphate, Ortho	NA	mg/l	NT	NT	NT	NT	0.77	NT	NT	NT	NT	NT	NT	NT	NT	<0.13	NT	
Phosphorus, Total	NA	mg/l	1.2	0.10	0.16	80.30	134	1.2	2	1.6	NT	1.8	0.53	0.15	0.093	0.33	0.46	
Plate Count, Total	NA	CFU/ml	13000	NT	NT	NT	NT	180000	3300	1900	63000	16000	NT	NT	NT	NT	2210000	
Total Dissolved Solids	NA	mg/l	NT	NT	NT	NT	464	NT	NT	NT	NT	NT	NT	NT	NT	776	NT	
Sulfate	1.25 x bkgd	mg/l	110	113	74.9	70.7	108	16.2	19	27.8	101	142	109	64.9	119	118	45.1	
Total Organic Carbon	NA	mg/l	10.3	3.8	4.4	25.3	8.1	6.1	10.9	5.0	6.4	5.2	5.6	5.1	4.9	5.5	34.6	
pH	NA	su	7.69	7.81	7.81	11.4	11.31	7.22	7.62	7.65	7.47	7.54	7.6	7.68	7.51	7.75	7.2	
Field Readings																		
Temperature	NA	deg. C	14.68	6.83	12.20	19.20	11.00	12.7	5.77	13.89	20.67	13.05	6.3	11.6	19.3	9.2	12.7	
Specific Conductivity	NA	mS/cm	1.371	1.15	0.983	1.736	0.920	0.667	0.798	0.727	1.116	1.46	1.369	1.024	1.397	1.231	0.749	
Dissolved Oxygen	NA	mg/l	1.96	1.24	1.01	18.24	4.59	0.13	1.75	2.24	1.15	1.2	0.85	0.23	0.09	0.08	0.27	
pH	NA	su	7.85	7.42	7.82	12.23	9.54	7.47	7.22	7.85	7.51	7.76	7.3	7.67	7.71	8.13	7.52	
Solids, Total Dissolved	NA	mg/l	NT	NT	0.6	1.1	0.8045	0.4	0.5	0.5	0.7	NT	NT	0.67	0.91	0.7930	0.5	
Turbidity	NA	NTU	554	26.5	NT	NT	NT	896	2000	2000	2000	465	227	NT	NT	NT	478	

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	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Depth to Water (feet)				6.70	6.78	6.84	7.35	7.00	6.51	7.09	6.97
Sample Date				2/14/2012	5/8/2012	8/29/2012	11/26/2012	3/6/2013	5/30/2013	9/19/2013	12/17/2013
Analytical Parameters											
TPH											
TPH Gasoline Range Organics		NA	mg/l	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	
TPH Diesel Range Organics		NA	mg/l	< 0.30	0.261	0.445	0.347	0.175 J	<0.17	<0.17	
BTEX											
Benzene		5	µg/l	< 0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Toluene		560 to 1000	µg/l	< 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	
Xylene (total)		1400 to 10000	µg/l	< 2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
PAHs											
Acenaphthene		NA	µg/l	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.49	
Acenaphthylene		NA	µg/l	< 0.60	<0.48	<0.48	<0.48	NT	NT	<0.48	
Anthracene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Benzo(a)anthracene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Benzo(a)pyrene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Benzo(b)fluoranthene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Benzo(g,h,i)perylene		NA	µg/l	< 0.54	<0.48	<0.48	<0.48	NT	NT	<0.48	
Benzo(k)fluoranthene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Chrysene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Dibenzo(a,h)anthracene		NA	µg/l	< 0.78	<0.48	<0.48	<0.48	NT	NT	<0.48	
Fluoranthene		NA	µg/l	< 0.71	<0.48	<0.48	<0.48	NT	NT	<0.48	
Fluorene		NA	µg/l	< 0.55	<0.48	<0.48	<0.48	NT	NT	<0.48	
Indeno(1,2,3-cd)pyrene		NA	µg/l	< 1.5	<0.48	<0.48	<0.48	NT	NT	<0.54	
1-Methylnapthalene		NA	µg/l	< 0.68	<0.48	<0.48	<0.48	NT	NT	<0.48	
2-Methylnapthalene		NA	µg/l	< 0.68	<0.48	<0.48	<0.48	NT	NT	<0.48	
Naphthalene		NA	µg/l	< 0.73	<0.48	<0.48	<0.48	NT	NT	<0.48	
Phenanthrene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Pyrene		NA	µg/l	< 0.47	<0.48	<0.48	<0.48	NT	NT	<0.48	
Metals											
Calcium		NA	mg/l	72.8	78.8	114	229	103	66	111	
Iron		NA	mg/l	4.98	13.2	6.90	46.60	14.50	8.70	5.01	
Magnesium		NA	mg/l	57.9	53.8	57.4	92.7	86.7	55.7	58.3	
Manganese		NA	mg/l	1.59	1.17	0.817	3.950	1.07	0.56	0.55	
Potassium		NA	mg/l	2.17	4.43	6.43	9.82	5.24	4.01	6.08	
Selenium		NA	mg/l	< 0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	
Sodium		NA	mg/l	59.0	63.9	82.0	82.0	96.5	87.1	111.0	
General Chemistry											
Alkalinity, Bicarbonate		NA	mg/l	435	438	352	356	574	466	394	
Alkalinity, Carbonate		NA	mg/l	< 5.0	<5.0		<5.0	<5.0	<5.0	<5.0	
Alkalinity, Total as CaCO3		NA	mg/l	435	438	352	356	574	466	394	
Biological Oxygen Demand, 5 Day		NA	mg/l	< 10	<10	<10	<10	<10	2	<1.0	
Bromide		NA	mg/l	< 4.0	1.0	0.063	0.100	0.270	<0.10a	0.100	
Chemical Oxygen Demand		NA	mg/l	35.3	<10	47.4	10.8	21.3	11.5	13.2	
Chloride		1.25 x bkgd	mg/l	31	11.8	136	198	57.8	13	129	
Hydroxide Alkalinity		NA	mg/l	NT	NT	NT	NT	NT	NT	NT	
Nitrogen, Nitrate		NA	mg/l	< 0.45	<0.23	<0.010	0.056	<0.020 ^a	0.021	<0.020 ^a	
Nitrogen, Nitrite		NA	mg/l	< 0.061	<0.010	0.04	<0.0080	<0.0080 ^a	<0.0080a	<0.0080 ^a	
Phosphate, Ortho		NA	mg/l	NT	NT	NT	NT	NT	NT	<0.13	
Phosphorus, Total		NA	mg/l	0.29	0.83	NT	1.6	0.32	0.22	2.5	
Plate Count, Total		NA	CFU/ml	81000	64000	820000	420000	NT	NT	NT	
Total Dissolved Solids		NA	mg/l	NT	NT	NT	NT	NT	NT	708	
Sulfate		1.25 x bkgd	mg/l	21.7	13.2	114	114	95.9	62.5	120	
Total Organic Carbon		NA	mg/l	11.5	7.3	5.2	5.2	7	5.1	4.7	
pH		NA	su	7.59	7.65	7.39	5.57	7.61	7.65	7.57	
Field Readings											
Temperature		NA	deg. C	5.44	14.02	21.30	12.89	5.30	12.20	21.16	
Specific Conductivity		NA	mS/cm	0.866	0.790	1.145	1.395	1.368	0.956	1.364	
Dissolved Oxygen		NA	mg/l	1.4	2.40	2.30	1.35	2.59	5.00	1.45	
pH		NA	su	7.17	NT	7.49	7.72	7.35	7.78	7.71	
Solids, Total Dissolved		NA	mg/l	0.6	0.5	0.7	0.6	NT	0.6	0.9	
Turbidity		NA	NTU	248	576	201	384	NT	NT	NT	

µg/l - micrograms per liter
mg/l -milligrams per liter
J - indicates an estimated value
µmhos/cm - micromhos per centimeter
mS/cm - millisiemens per centimeter
su - standard units
NA - not applicable
NTU - nephelometric turbidity units
CFU/ml - colony forming units per milliliter



12/26/13

Technical Report for

WPX Energy Rocky Mountain, LLC

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Accutest Job Number: D53615

Sampling Date: 12/17/13

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: 84



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)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	8
3.1: D53615-1: MW-1	9
3.2: D53615-2: MW-2A	15
3.3: D53615-3: MW-3	21
3.4: D53615-4: MW-4	27
3.5: D53615-5: MW-5	33
3.6: D53615-6: MW-6	39
Section 4: Subcontract Lab Data	45
Section 5: Misc. Forms	48
5.1: Chain of Custody	49
Section 6: GC/MS Semi-volatiles - QC Data Summaries	51
6.1: Method Blank Summary	52
6.2: Blank Spike Summary	53
6.3: Matrix Spike/Matrix Spike Duplicate Summary	54
Section 7: GC Volatiles - QC Data Summaries	55
7.1: Method Blank Summary	56
7.2: Blank Spike Summary	59
7.3: Matrix Spike/Matrix Spike Duplicate Summary	62
Section 8: GC Semi-volatiles - QC Data Summaries	65
8.1: Method Blank Summary	66
8.2: Blank Spike Summary	67
8.3: Matrix Spike/Matrix Spike Duplicate Summary	68
Section 9: Metals Analysis - QC Data Summaries	69
9.1: Prep QC MP11975: Ca,Fe,Mg,Mn,K,Se,Na	70
Section 10: General Chemistry - QC Data Summaries	80
10.1: Method Blank and Spike Results Summary	81
10.2: Duplicate Results Summary	82
10.3: Matrix Spike Results Summary	83
10.4: Matrix Spike Duplicate Results Summary	84



Sample Summary

WPX Energy Rocky Mountain, LLC

Job No: D53615

CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D53615-1	12/17/13	10:55 TPD	12/18/13	AQ	Ground Water	MW-1
D53615-2	12/17/13	13:30 JM	12/18/13	AQ	Ground Water	MW-2A
D53615-3	12/17/13	12:00 TPD	12/18/13	AQ	Ground Water	MW-3
D53615-4	12/17/13	11:25 JM	12/18/13	AQ	Ground Water	MW-4
D53615-5	12/17/13	12:40 TPD	12/18/13	AQ	Ground Water	MW-5
D53615-6	12/17/13	12:30 JM	12/18/13	AQ	Ground Water	MW-6

Summary of Hits

Job Number: D53615
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 12/17/13

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

D53615-1 MW-1

1-Methylnaphthalene	1.0 J	4.7	0.47	ug/l	SW846 8270C
2-Methylnaphthalene	1.0 J	4.7	0.47	ug/l	SW846 8270C
Naphthalene	2.6 J	4.7	0.47	ug/l	SW846 8270C
TPH-GRO (C6-C10) ^a	3.20	0.20	0.10	mg/l	SW846 8015B
Benzene ^a	13.1	1.0	0.20	ug/l	SW846 8021B
Toluene ^a	4.8	2.0	1.0	ug/l	SW846 8021B
Ethylbenzene ^a	18.7	2.0	1.0	ug/l	SW846 8021B
Xylenes (total) ^a	585	10	10	ug/l	SW846 8021B
TPH-DRO (C10-C28)	0.336	0.19	0.17	mg/l	SW846-8015B
Calcium	102000	400		ug/l	SW846 6010C
Iron	5500	70		ug/l	SW846 6010C
Magnesium	64900	200		ug/l	SW846 6010C
Manganese	646	5.0		ug/l	SW846 6010C
Potassium	5570	1000		ug/l	SW846 6010C
Sodium	93800	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	635	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	635	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	20.4	1.0		mg/l	SM 5210B-2011
Bromide	0.10	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	35.9	10		mg/l	SM 5220D-2011
Chloride	13.2	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.22	0.020		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.076	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphate, Ortho	1.5	0.13		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	5.0	0.25		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	684	10		mg/l	SM 2540C-2011
Sulfate	25.1	1.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	10.2	1.0		mg/l	SM 5310B-2011
pH	7.63			su	SM4500HB+ -2011/9040C

D53615-2 MW-2A

TPH-DRO (C10-C28)	0.175 J	0.19	0.17	mg/l	SW846-8015B
Calcium	134000	400		ug/l	SW846 6010C
Iron	26700	70		ug/l	SW846 6010C
Magnesium	68400	200		ug/l	SW846 6010C
Manganese	2570	5.0		ug/l	SW846 6010C
Potassium	6430	1000		ug/l	SW846 6010C
Sodium	120000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	414	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	414	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	1.0	1.0		mg/l	SM 5210B-2011
Chemical Oxygen Demand	14.7	10		mg/l	SM 5220D-2011

Summary of Hits

Job Number: D53615
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 12/17/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chloride		109	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate		0.081	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total		0.74	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved		772	10		mg/l	SM 2540C-2011
Sulfate		110	5.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		5.0	1.0		mg/l	SM 5310B-2011
pH		7.63			su	SM4500HB+ -2011/9040C

D53615-3 MW-3

Calcium	109000	400		ug/l	SW846 6010C
Iron	12300	70		ug/l	SW846 6010C
Magnesium	60600	200		ug/l	SW846 6010C
Manganese	1080	5.0		ug/l	SW846 6010C
Potassium	5680	1000		ug/l	SW846 6010C
Sodium	120000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	394	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	394	5.0		mg/l	SM 2320B-2011
Chemical Oxygen Demand	10.3	10		mg/l	SM 5220D-2011
Chloride	126	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.093	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.21	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	788	10		mg/l	SM 2540C-2011
Sulfate	120	5.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	3.6	1.0		mg/l	SM 5310B-2011
pH	7.66			su	SM4500HB+ -2011/9040C

D53615-4 MW-4

Calcium	171000	400		ug/l	SW846 6010C
Iron	2880	70		ug/l	SW846 6010C
Magnesium	55900	200		ug/l	SW846 6010C
Manganese	290	5.0		ug/l	SW846 6010C
Potassium	5760	1000		ug/l	SW846 6010C
Sodium	109000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO3	399	5.0		mg/l	SM 2320B-2011
Alkalinity, Carbonate	203	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3	602	5.0		mg/l	SM 2320B-2011
Bromide	0.34	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	45.5	10		mg/l	SM 5220D-2011
Chloride	8.5	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.55	0.020		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.034	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphate, Ortho	0.77	0.13		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	134	2.0		mg/l	HACH8190/SM4500P-B/E

Summary of Hits

Job Number: D53615
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 12/17/13

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

Solids, Total Dissolved		464	10		mg/l	SM 2540C-2011
Sulfate		108	2.5		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		8.1	1.0		mg/l	SM 5310B-2011
pH		11.31			su	SM4500HB+ -2011/9040C

D53615-5 MW-5

Calcium	99600	400		ug/l	SW846 6010C
Iron	13700	70		ug/l	SW846 6010C
Magnesium	62800	200		ug/l	SW846 6010C
Manganese	721	5.0		ug/l	SW846 6010C
Potassium	4850	1000		ug/l	SW846 6010C
Sodium	122000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	474	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	474	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	1.3	1.0		mg/l	SM 5210B-2011
Bromide	0.12	0.10		mg/l	EPA 300.0/SW846 9056
Chemical Oxygen Demand	17.0	10		mg/l	SM 5220D-2011
Chloride	72.2	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.0099	0.0080		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.33	0.010		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	776	10		mg/l	SM 2540C-2011
Sulfate	118	5.0		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	5.5	1.0		mg/l	SM 5310B-2011
pH	7.75			su	SM4500HB+ -2011/9040C

D53615-6 MW-6

Calcium	82800	400		ug/l	SW846 6010C
Iron	6490	70		ug/l	SW846 6010C
Magnesium	69900	200		ug/l	SW846 6010C
Manganese	838	5.0		ug/l	SW846 6010C
Potassium	4110	1000		ug/l	SW846 6010C
Sodium	118000	400		ug/l	SW846 6010C
Alkalinity, Bicarbonate as CaCO ₃	558	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO ₃	558	5.0		mg/l	SM 2320B-2011
BOD, 5 Day	1.8	1.0		mg/l	SM 5210B-2011
Chemical Oxygen Demand	36.6	10		mg/l	SM 5220D-2011
Chloride	37.7	1.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.045	0.020		mg/l	EPA 300.0/SW846 9056
Phosphorus, Total	0.59	0.050		mg/l	HACH8190/SM4500P-B/E
Solids, Total Dissolved	708	10		mg/l	SM 2540C-2011
Sulfate	73.6	2.5		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon	5.5	1.0		mg/l	SM 5310B-2011
pH	7.70			su	SM4500HB+ -2011/9040C

Summary of Hits

Job Number: D53615
Account: WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)
Collected: 12/17/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						

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

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	12/17/13
Lab Sample ID:	D53615-1	Date Received:	12/18/13
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	1G117219.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	1.0	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	2.6	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	77%		14-130%
321-60-8	2-Fluorobiphenyl	82%		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-1	
Lab Sample ID:	D53615-1	Date Sampled: 12/17/13
Matrix:	AQ - Ground Water	Date Received: 12/18/13
Method:	SW846 8015B	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	GA20567.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	3.20	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	87%		60-140%		

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

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

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

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	12/17/13
Lab Sample ID:	D53615-1	Date Received:	12/18/13
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	TA20567.D	1	12/19/13	EV	n/a	n/a	GTA1155
Run #2 ^a	TA20592.D	5	12/20/13	EV	n/a	n/a	GTA1156

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	13.1	1.0	0.20	ug/l	
108-88-3	Toluene	4.8	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	18.7	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	585 ^b	10	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	93%	90%	60-140%

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

(b) Result is from Run# 2

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-1	Date Sampled:	12/17/13
Lab Sample ID:	D53615-1	Date Received:	12/18/13
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	FH016810.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.336	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	63%		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: 12/17/13
Lab Sample ID: D53615-1	Date Received: 12/18/13
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	102000	400	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	5500	70	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	64900	200	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	646	5.0	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	5570	1000	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	93800	400	ug/l	1	12/19/13	12/23/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4326

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-1	Date Sampled: 12/17/13
Lab Sample ID: D53615-1	Date Received: 12/18/13
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	635	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	635	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	20.4	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide	0.10	0.10	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	35.9	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	13.2	1.0	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.22	0.020	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.076	0.0080	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Phosphate, Ortho	1.5	0.13	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Phosphorus, Total	5.0	0.25	mg/l	25	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	684	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	25.1	1.0	mg/l	2	12/18/13 15:28	SK	EPA 300.0/SW846 9056
Total Organic Carbon	10.2	1.0	mg/l	1	12/23/13 11:06	SK	SM 5310B-2011
pH	7.63		su	1	12/19/13 09:30	AK	SM4500HB+ -2011/9040C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	12/17/13
Lab Sample ID:	D53615-2	Date Received:	12/18/13
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	1G117220.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	ND	4.7	0.47	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-20-3	Naphthalene	ND	4.7	0.47	ug/l	
85-01-8	Phenanthrene	ND	4.7	0.47	ug/l	
129-00-0	Pyrene	ND	4.7	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		14-130%
321-60-8	2-Fluorobiphenyl	82%		16-130%
1718-51-0	Terphenyl-d14	70%		10-145%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2A	Date Sampled:	12/17/13
Lab Sample ID:	D53615-2	Date Received:	12/18/13
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	GA20570.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

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

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

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

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

Report of Analysis

Client Sample ID:	MW-2A	
Lab Sample ID:	D53615-2	Date Sampled: 12/17/13
Matrix:	AQ - Ground Water	Date Received: 12/18/13
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	TA20593.D	1	12/20/13	EV	n/a	n/a	GTA1156
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	86%		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:	12/17/13
Lab Sample ID:	D53615-2	Date Received:	12/18/13
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	FH016812.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.175	0.19	0.17	mg/l	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	85%		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:	12/17/13
Lab Sample ID:	D53615-2	Date Received:	12/18/13
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	134000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	26700	70	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	68400	200	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	2570	5.0	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	6430	1000	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	120000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4324

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-2A	Date Sampled: 12/17/13
Lab Sample ID: D53615-2	Date Received: 12/18/13
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	414	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	414	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	1.0	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	12/18/13 16:05	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	14.7	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	109	5.0	mg/l	10	12/18/13 19:55	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.081	0.020	mg/l	2	12/18/13 16:05	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	12/18/13 16:05	SK	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	12/18/13 16:05	SK	EPA 300.0/SW846 9056
Phosphorus, Total	0.74	0.010	mg/l	1	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	772	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	110	5.0	mg/l	10	12/18/13 19:55	SK	EPA 300.0/SW846 9056
Total Organic Carbon	5.0	1.0	mg/l	1	12/23/13 11:27	SK	SM 5310B-2011
pH	7.63		su	1	12/19/13 09:30	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:	12/17/13
Lab Sample ID:	D53615-3	Date Received:	12/18/13
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	1G117221.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	80%		14-130%
321-60-8	2-Fluorobiphenyl	91%		16-130%
1718-51-0	Terphenyl-d14	79%		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:	12/17/13
Lab Sample ID:	D53615-3	Date Received:	12/18/13
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	GA20571.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

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

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

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

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

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	12/17/13
Lab Sample ID:	D53615-3	Date Received:	12/18/13
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	TA20571.D	1	12/19/13	EV	n/a	n/a	GTA1155
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-3	Date Sampled:	12/17/13
Lab Sample ID:	D53615-3	Date Received:	12/18/13
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	FH016814.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
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	84%		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: 12/17/13
Lab Sample ID: D53615-3	Date Received: 12/18/13
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	109000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	12300	70	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	60600	200	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	1080	5.0	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	5680	1000	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	120000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4324

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-3	Date Sampled: 12/17/13
Lab Sample ID: D53615-3	Date Received: 12/18/13
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	394	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	394	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	12/18/13 16:17	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	10.3	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	126	5.0	mg/l	10	12/18/13 20:07	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.093	0.020	mg/l	2	12/18/13 16:17	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	12/18/13 16:17	SK	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	12/18/13 16:17	SK	EPA 300.0/SW846 9056
Phosphorus, Total	0.21	0.010	mg/l	1	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	788	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	120	5.0	mg/l	10	12/18/13 20:07	SK	EPA 300.0/SW846 9056
Total Organic Carbon	3.6	1.0	mg/l	1	12/23/13 15:44	SK	SM 5310B-2011
pH	7.66		su	1	12/19/13 09:30	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:	12/17/13
Lab Sample ID:	D53615-4	Date Received:	12/18/13
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	1G117222.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	ND	4.7	0.47	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-20-3	Naphthalene	ND	4.7	0.47	ug/l	
85-01-8	Phenanthrene	ND	4.7	0.47	ug/l	
129-00-0	Pyrene	ND	4.7	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		14-130%
321-60-8	2-Fluorobiphenyl	81%		16-130%
1718-51-0	Terphenyl-d14	79%		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-4	Date Sampled:	12/17/13
Lab Sample ID:	D53615-4	Date Received:	12/18/13
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	GA20572.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

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

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

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

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

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	12/17/13
Lab Sample ID:	D53615-4	Date Received:	12/18/13
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	TA20572.D	1	12/19/13	EV	n/a	n/a	GTA1155
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

Page 1 of 1

Client Sample ID:	MW-4	Date Sampled:	12/17/13
Lab Sample ID:	D53615-4	Date Received:	12/18/13
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	FH016816.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	48%		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: 12/17/13
Lab Sample ID: D53615-4	Date Received: 12/18/13
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	171000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	2880	70	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	55900	200	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	290	5.0	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	5760	1000	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	109000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4324

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-4	Date Sampled: 12/17/13
Lab Sample ID: D53615-4	Date Received: 12/18/13
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	399	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	203	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO3	602	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	< 1.0	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide	0.34	0.10	mg/l	2	12/18/13 16:29	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	45.5	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	8.5	1.0	mg/l	2	12/18/13 16:29	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.55	0.020	mg/l	2	12/18/13 16:29	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.034	0.0080	mg/l	2	12/18/13 16:29	SK	EPA 300.0/SW846 9056
Phosphate, Ortho	0.77	0.13	mg/l	2	12/18/13 16:29	SK	EPA 300.0/SW846 9056
Phosphorus, Total	134	2.0	mg/l	200	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	464	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	108	2.5	mg/l	5	12/18/13 20:19	SK	EPA 300.0/SW846 9056
Total Organic Carbon	8.1	1.0	mg/l	1	12/23/13 15:57	SK	SM 5310B-2011
pH	11.31		su	1	12/19/13 15:40	JD	SM4500HB+ -2011/9040C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	12/17/13
Lab Sample ID:	D53615-5	Date Received:	12/18/13
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	1G117223.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	ND	4.7	0.47	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-20-3	Naphthalene	ND	4.7	0.47	ug/l	
85-01-8	Phenanthrene	ND	4.7	0.47	ug/l	
129-00-0	Pyrene	ND	4.7	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		14-130%
321-60-8	2-Fluorobiphenyl	83%		16-130%
1718-51-0	Terphenyl-d14	68%		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:	12/17/13
Lab Sample ID:	D53615-5	Date Received:	12/18/13
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	GA20573.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	81%		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:	12/17/13
Lab Sample ID:	D53615-5	Date Received:	12/18/13
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	TA20573.D	1	12/19/13	EV	n/a	n/a	GTA1155
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	90%		60-140%

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

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

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

Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	12/17/13
Lab Sample ID:	D53615-5	Date Received:	12/18/13
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	FH016818.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.19	0.17	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	84%		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:	12/17/13
Lab Sample ID:	D53615-5	Date Received:	12/18/13
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	99600	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	13700	70	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	62800	200	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	721	5.0	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	4850	1000	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	122000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4324

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-5	Date Sampled: 12/17/13
Lab Sample ID: D53615-5	Date Received: 12/18/13
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	474	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	474	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	1.3	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide	0.12	0.10	mg/l	2	12/18/13 16:41	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	17.0	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	72.2	5.0	mg/l	10	12/18/13 20:56	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate ^a	< 0.020	0.020	mg/l	2	12/18/13 16:41	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.0099	0.0080	mg/l	2	12/18/13 16:41	SK	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	12/18/13 16:41	SK	EPA 300.0/SW846 9056
Phosphorus, Total	0.33	0.010	mg/l	1	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	776	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	118	5.0	mg/l	10	12/18/13 20:56	SK	EPA 300.0/SW846 9056
Total Organic Carbon	5.5	1.0	mg/l	1	12/23/13 16:08	SK	SM 5310B-2011
pH	7.75		su	1	12/19/13 09:30	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: 12/17/13
Lab Sample ID: D53615-6	Date Received: 12/18/13
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	1G117224.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
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	ND	4.7	0.47	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	0.47	ug/l	
91-20-3	Naphthalene	ND	4.7	0.47	ug/l	
85-01-8	Phenanthrene	ND	4.7	0.47	ug/l	
129-00-0	Pyrene	ND	4.7	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		14-130%
321-60-8	2-Fluorobiphenyl	59%		16-130%
1718-51-0	Terphenyl-d14	56%		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:	12/17/13
Lab Sample ID:	D53615-6	Date Received:	12/18/13
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	GA20574.D	1	12/19/13	EV	n/a	n/a	GGA1155
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	82%		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:	12/17/13
Lab Sample ID:	D53615-6	Date Received:	12/18/13
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	TA20574.D	1	12/19/13	EV	n/a	n/a	GTA1155
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	89%		60-140%

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

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

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

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	12/17/13
Lab Sample ID:	D53615-6	Date Received:	12/18/13
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	FH016820.D	1	12/24/13	JS	12/22/13	OP9135	GFH829
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	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-6	Date Sampled: 12/17/13
Lab Sample ID: D53615-6	Date Received: 12/18/13
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	82800	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Iron	6490	70	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Magnesium	69900	200	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Manganese	838	5.0	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Potassium	4110	1000	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Selenium	< 50	50	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²
Sodium	118000	400	ug/l	1	12/19/13	12/20/13 JM	SW846 6010C ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4324

(2) Prep QC Batch: MP11975

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-6	Date Sampled: 12/17/13
Lab Sample ID: D53615-6	Date Received: 12/18/13
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	558	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
Alkalinity, Total as CaCO ₃	558	5.0	mg/l	1	12/24/13	BF	SM 2320B-2011
BOD, 5 Day	1.8	1.0	mg/l	1	12/19/13 10:30	BF	SM 5210B-2011
Bromide ^a	< 0.10	0.10	mg/l	2	12/18/13 16:53	SK	EPA 300.0/SW846 9056
Chemical Oxygen Demand	36.6	10	mg/l	1	12/24/13	JD	SM 5220D-2011
Chloride	37.7	1.0	mg/l	2	12/18/13 16:53	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrate	0.045	0.020	mg/l	2	12/18/13 16:53	SK	EPA 300.0/SW846 9056
Nitrogen, Nitrite ^a	< 0.0080	0.0080	mg/l	2	12/18/13 16:53	SK	EPA 300.0/SW846 9056
Phosphate, Ortho ^a	< 0.13	0.13	mg/l	2	12/18/13 16:53	SK	EPA 300.0/SW846 9056
Phosphorus, Total	0.59	0.050	mg/l	5	12/20/13	BF	HACH8190/SM4500P-B/E
Solids, Total Dissolved	708	10	mg/l	1	12/18/13	RW	SM 2540C-2011
Sulfate	73.6	2.5	mg/l	5	12/18/13 21:08	SK	EPA 300.0/SW846 9056
Total Organic Carbon	5.5	1.0	mg/l	1	12/23/13 16:21	SK	SM 5310B-2011
pH	7.70		su	1	12/19/13 09:30	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: Shea Greiner

TEST REPORT

ACCUTEST - M

Date Received: 12/18/2013

Date Reported: 12/20/2013

PO Number: D53615X

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

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
131218013-01A	D53615X-1, 12/17/13, 10:55am	* Heterotrophic Plate Count SM 9215B	34000	CFU/mL		RJ 12/18/2013
131218013-02A	D53615X-2, 12/17/13, 1:30pm	* Heterotrophic Plate Count SM 9215B	1300	CFU/mL		RJ 12/18/2013
131218013-03A	D53615X-3, 12/17/13, 12:00pm	* Heterotrophic Plate Count SM 9215B	1.3 million	CFU/mL		RJ 12/18/2013
131218013-04A	D53615X-4, 12/17/13, 11:25am	* Heterotrophic Plate Count SM 9215B	6800	CFU/mL		RJ 12/18/2013
131218013-05A	D53615X-5, 12/17/13, 12:40pm	* Heterotrophic Plate Count SM 9215B	720	CFU/mL		RJ 12/18/2013
131218013-06A	D53615X-6, 12/17/13, 12:30pm	* Heterotrophic Plate Count SM 9215B	16000	CFU/mL		RJ 12/18/2013

* = Scope Analysis

= Subcontracted Analysis

MDL = Method Detection Limit

ND = Not Detected at the Method Detection Limit

Page: 1 of 1


Department Manager

4046 Youngfield Street • Wheat Ridge, Colorado 80033 • (303) 287-9691 • (303) 287-0964 FAX • www.industrialabs.net

Receipt of analysis acknowledges the terms and conditions, which can be found at www.industrialabs.net

This report is not to be reproduced in whole or in part for advertising purposes without obtaining prior written authorization.



CHAIN OF CUSTODY

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

[illegible]

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D53615

Client: OLSSON

Immediate Client Services Action Required: No

Date / Time Received: 12/18/2013 12:24:00 P

No. Coolers: 1

Client Service Action Required at Login: No

Project: KNIGHT

Airbill #'s: CO

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

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

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

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

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

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

Comments

 Accutest Laboratories
 V:(303) 425-6021

 4036 Youngfield Street
 F: (303) 425-6854

 Wheat Ridge, CO
 www.accutest.com

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D53615**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
OP9130-MB	1G117213.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201

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

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

CAS No.	Surrogate Recoveries	Limits	
367-12-4	2-Fluorophenol	60%	10-130%
4165-62-2	Phenol-d5	35%	10-130%
118-79-6	2,4,6-Tribromophenol	101%	16-130%
4165-60-0	Nitrobenzene-d5	86%	14-130%
321-60-8	2-Fluorobiphenyl	85%	16-130%
1718-51-0	Terphenyl-d14	100%	10-145%

Blank Spike Summary

Page 1 of 1

Job Number: D53615
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
OP9130-BS	1G117214.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201

The QC reported here applies to the following samples:

Method: SW846 8270C

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	38.5	77	53-130
208-96-8	Acenaphthylene	50	39.2	78	55-130
120-12-7	Anthracene	50	40.4	81	70-130
56-55-3	Benzo(a)anthracene	50	42.0	84	69-130
205-99-2	Benzo(b)fluoranthene	50	42.7	85	52-146
207-08-9	Benzo(k)fluoranthene	50	40.8	82	41-158
191-24-2	Benzo(g,h,i)perylene	50	41.5	83	53-140
50-32-8	Benzo(a)pyrene	50	42.3	85	55-140
218-01-9	Chrysene	50	41.5	83	70-130
53-70-3	Dibenzo(a,h)anthracene	50	42.2	84	51-143
206-44-0	Fluoranthene	50	40.8	82	70-130
86-73-7	Fluorene	50	40.3	81	58-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	43.0	86	49-142
90-12-0	1-Methylnaphthalene	50	34.9	70	41-130
91-57-6	2-Methylnaphthalene	50	32.0	64	38-130
91-20-3	Naphthalene	50	33.7	67	39-130
85-01-8	Phenanthrene	50	40.4	81	70-130
129-00-0	Pyrene	50	42.6	85	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	42%	10-130%
4165-62-2	Phenol-d5	28%	10-130%
118-79-6	2,4,6-Tribromophenol	78%	16-130%
4165-60-0	Nitrobenzene-d5	81%	14-130%
321-60-8	2-Fluorobiphenyl	80%	16-130%
1718-51-0	Terphenyl-d14	88%	10-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D53615
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
OP9130-MS	1G117216.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
OP9130-MSD	1G117217.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201
D52656-40	1G117215.D	1	12/23/13	DC	12/21/13	OP9130	E1G1201

The QC reported here applies to the following samples:

Method: SW846 8270C

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	D52656-40 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	50	37.2	74	40.2	80	8	38-130/30
208-96-8	Acenaphthylene	ND	50	37.1	74	39.8	80	7	39-130/30
120-12-7	Anthracene	ND	50	39.7	79	42.1	84	6	65-130/30
56-55-3	Benzo(a)anthracene	ND	50	41.0	82	44.0	88	7	62-130/30
205-99-2	Benzo(b)fluoranthene	ND	50	40.0	80	42.3	85	6	51-146/30
207-08-9	Benzo(k)fluoranthene	ND	50	43.8	88	47.1	94	7	41-158/30
191-24-2	Benzo(g,h,i)perylene	ND	50	41.6	83	45.1	90	8	51-140/30
50-32-8	Benzo(a)pyrene	ND	50	39.6	79	43.7	87	10	52-140/30
218-01-9	Chrysene	ND	50	40.6	81	43.3	87	6	69-130/30
53-70-3	Dibenzo(a,h)anthracene	ND	50	42.9	86	46.0	92	7	49-139/30
206-44-0	Fluoranthene	ND	50	41.0	82	44.1	88	7	70-130/30
86-73-7	Fluorene	ND	50	39.3	79	41.1	82	4	48-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	42.8	86	46.7	93	9	47-142/30
90-12-0	1-Methylnaphthalene	ND	50	33.2	66	37.5	75	12	28-130/30
91-57-6	2-Methylnaphthalene	ND	50	30.6	61	34.1	68	11	27-130/30
91-20-3	Naphthalene	ND	50	31.3	63	36.0	72	14	28-130/30
85-01-8	Phenanthrene	ND	50	40.4	81	43.3	87	7	63-130/30
129-00-0	Pyrene	ND	50	42.4	85	45.0	90	6	68-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D52656-40	Limits
367-12-4	2-Fluorophenol	29%	30%	38%	10-130%
4165-62-2	Phenol-d5	24%	24%	29%	10-130%
118-79-6	2,4,6-Tribromophenol	55%	49%	59%	16-130%
4165-60-0	Nitrobenzene-d5	74%	88%	84%	14-130%
321-60-8	2-Fluorobiphenyl	74%	84%	84%	16-130%
1718-51-0	Terphenyl-d14	82%	91%	102%	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

Page 1 of 1

Job Number: D53615

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
GGA1155-MB	GA20565.D	1	12/19/13	EV	n/a	n/a	GGA1155

The QC reported here applies to the following samples:

Method: SW846 8015B

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

CAS No.	Surrogate Recoveries	Limits
120-82-1	1,2,4-Trichlorobenzene	88% 60-140%

Method Blank Summary

Page 1 of 1

Job Number: D53615

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
GTA1155-MB	TA20565.D	1	12/19/13	EV	n/a	n/a	GTA1155

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-3, D53615-4, D53615-5, D53615-6

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	95% 60-140%

7.1.2

7

Method Blank Summary

Page 1 of 1

Job Number: D53615

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
GTA1156-MB	TA20590.D	1	12/20/13	EV	n/a	n/a	GTA1156

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-2

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%

7.1.3

7

Blank Spike Summary

Page 1 of 1

Job Number: D53615

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
GGA1155-BS	GA20566.D	1	12/19/13	EV	n/a	n/a	GGA1155

The QC reported here applies to the following samples:

Method: SW846 8015B

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.28	104	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	86%	60-140%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D53615

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
GTA1155-BS	TA20566.D	1	12/19/13	EV	n/a	n/a	GTA1155

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	26.3	97	70-130
100-41-4	Ethylbenzene	45.6	45.0	99	70-130
108-88-3	Toluene	212	205	97	70-130
1330-20-7	Xylenes (total)	216	227	105	70-130

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

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: D53615

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
GTA1156-BS	TA20591.D	1	12/20/13	EV	n/a	n/a	GTA1156

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	26.3	97	70-130
100-41-4	Ethylbenzene	45.6	50.4	111	70-130
108-88-3	Toluene	212	204	96	70-130
1330-20-7	Xylenes (total)	216	230	107	70-130

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D53615
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
D53615-1MS ^a	GA20568.D	1	12/19/13	EV	n/a	n/a	GGA1155
D53615-1MSD ^a	GA20569.D	1	12/19/13	EV	n/a	n/a	GGA1155
D53615-1 ^a	GA20567.D	1	12/19/13	EV	n/a	n/a	GGA1155

The QC reported here applies to the following samples:

Method: SW846 8015B

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	D53615-1 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	3.20	2.2	4.82	74	4.64	65* ^b	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D53615-1	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	90%	87%	60-140%

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

(b) Outside control limits due to possible matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D53615
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
D52662-9MS ^a	TA20568A.D1		12/19/13	EV	n/a	n/a	GTA1155
D52662-9MSD ^a	TA20569A.D1		12/19/13	EV	n/a	n/a	GTA1155
D52662-9 ^a	TA20567A.D1		12/19/13	EV	n/a	n/a	GTA1155

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	D52662-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	13.1		27.2	36.4	86	35.4	82	3	55-133/30
100-41-4	Ethylbenzene	18.7		45.6	58.3	87	54.2	78	7	63-130/30
108-88-3	Toluene	4.8		212	205	95	198	91	3	70-130/30
1330-20-7	Xylenes (total)	811	E	216	857	21* ^b	838	13* ^b	2	64-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D52662-9	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	98%	93%	60-140%

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

(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D53615
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
D53615-2MS ^a	TA20594.D	1	12/20/13	EV	n/a	n/a	GTA1156
D53615-2MSD ^a	TA20595.D	1	12/20/13	EV	n/a	n/a	GTA1156
D53615-2 ^a	TA20593.D	1	12/20/13	EV	n/a	n/a	GTA1156

The QC reported here applies to the following samples:

Method: SW846 8021B

D53615-1, D53615-2

CAS No.	Compound	D53615-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	27.2	25.9	95	25.3	93	2	55-133/30
100-41-4	Ethylbenzene	ND	45.6	44.3	97	43.3	95	2	63-130/30
108-88-3	Toluene	ND	212	201	95	196	93	3	70-130/30
1330-20-7	Xylenes (total)	ND	216	223	103	218	101	2	64-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D53615-2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%	99%	86%	60-140%

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

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D53615

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
OP9135-MB	FH016803.D	1	12/24/13	JS	12/22/13	OP9135	GFH830

The QC reported here applies to the following samples:

Method: SW846-8015B

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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	66% 10-130%

8.1.1

8

Blank Spike Summary

Job Number: D53615
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
OP9135-BS	FH016805.D	1	12/24/13	JS	12/22/13	OP9135	GFH830

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

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	16.0	80	33-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	96%	10-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D53615
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
OP9135-MS	FH016807.D	1	12/24/13	JS	12/22/13	OP9135	GFH830
OP9135-MSD	FH016809.D	1	12/24/13	JS	12/22/13	OP9135	GFH830
D52662-4	FH016811.D	1	12/24/13	JS	12/22/13	OP9135	GFH830

The QC reported here applies to the following samples:

Method: SW846-8015B

D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

CAS No.	Compound	D52662-4 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND	20	13.7	69	13.2	66	4	33-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D52662-4	Limits
84-15-1	o-Terphenyl	83%	84%	61%	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: D53615
Account: WILLCOP - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/19/13

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	8.6	41		
Antimony	30	3.2	19		
Arsenic	25	5.2	5.6		
Barium	10	1.4	1.4		
Beryllium	10	.8	1.2		
Boron	50	6.7	6.6		
Cadmium	10	.4	.36		
Calcium	400	2.2	41	7.1	<400
Chromium	10	.4	.4		
Cobalt	5.0	.4	.57		
Copper	10	1.2	1.9		
Iron	70	2.2	9.5	26.4	<70
Lead	50	3.6	21		
Lithium	5.0	1.9	2.7		
Magnesium	200	14	19	3.3	<200
Manganese	5.0	.01	.46	0.60	<5.0
Molybdenum	10	.8	.84		
Nickel	30	.9	.87		
Phosphorus	100	15	20		
Potassium	1000	130	270	-49	<1000
Selenium	50	8.8	11	9.6	<50
Silicon	50	5.2	5.2		
Silver	30	.4	.6		
Sodium	400	4.9	170	11.9	<400
Strontium	5.0	.01	.12		
Thallium	10	2.9	4		
Tin	50	13	16		
Titanium	10	.15	2.1		
Uranium	50	3.7	5.5		
Vanadium	10	.4	.4		
Zinc	30	.6	3.2		

Associated samples MP11975: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D53615
Account: WILLCOF - WPX Energy Rocky Mountain, LLC
Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D53615
 Account: WILLCOF - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 12/19/13

Metal	D53615-1 Original MS		Spikelot ICPAL2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	102000	124000	25000	88.0	75-125
Chromium					
Cobalt					
Copper					
Iron	5500	11400	5000	118.0	75-125
Lead					
Lithium					
Magnesium	64900	98800	25000	135.6N(a	75-125
Manganese	646	1120	500	94.8	75-125
Molybdenum					
Nickel					
Phosphorus					
Potassium	5570	37000	25000	125.7N(a	75-125
Selenium	0.0	1070	1000	107.0	75-125
Silicon					
Silver					
Sodium	93800	133000	25000	156.8N(a	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP11975: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D53615

Account: WILLCOF - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D53615
 Account: WILLCOPI - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 12/19/13

Metal	D53615-1 Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	102000	125000	25000	92.0	0.8	20
Chromium						
Cobalt						
Copper						
Iron	5500	10500	5000	100.0	8.2	20
Lead						
Lithium						
Magnesium	64900	91000	25000	104.4	8.2	20
Manganese	646	1130	500	96.8	0.9	20
Molybdenum						
Nickel						
Phosphorus						
Potassium	5570	34200	25000	114.5	7.9	20
Selenium	0.0	1070	1000	107.0	0.0	20
Silicon						
Silver						
Sodium	93800	121000	25000	108.8	9.4	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP11975: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D53615

Account: WILLCOP - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D53615

Account: WILLCOPI - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 12/19/13

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	25400	25000	101.6	80-120
Chromium				
Cobalt				
Copper				
Iron	4940	5000	98.8	80-120
Lead				
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	493	500	98.6	80-120
Molybdenum				
Nickel				
Phosphorus				
Potassium	28000	25000	112.0	80-120
Selenium	1090	1000	109.0	80-120
Silicon				
Silver				
Sodium	27400	25000	109.6	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP11975: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D53615

Account: WILLCOP - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: D53615
 Account: WILLCOP - WPX Energy Rocky Mountain, LLC
 Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 12/19/13

Metal	D53615-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	102000	103000	1.4	0-10
Chromium				
Cobalt				
Copper				
Iron	5250	5450	0.9	0-10
Lead				
Lithium				
Magnesium	50100	64300	0.9	0-10
Manganese	2.70	639	1.2	0-10
Molybdenum				
Nickel				
Phosphorus				
Potassium	5570	5650	1.3	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver				
Sodium	124000	92000	1.9	0-10
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP11975: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

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

SERIAL DILUTION RESULTS SUMMARY

Login Number: D53615

Account: WILLCOP - WPX Energy Rocky Mountain, LLC

Project: CORCCOGJ: Knight Property Quarterly Sampling (011.1712)

QC Batch ID: MP11975

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

9.1.4

9

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D53615
Account: WILLCOP - 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	GN23153	5.0	0.0	mg/l	100	101	100.6	90-110%
Alkalinity, Carbonate	GN23154	5.0	0.0	mg/l	100	101	100.6	80-120%
Alkalinity, Total as CaCO3	GN23152	5.0	0.0	mg/l	100	101	100.6	90-110%
BOD, 5 Day	GP11636/GN23144	1.0	0.0	mg/l	198	206	103.8	85-115%
Bromide	GP11625/GN23083	0.050	0.0	mg/l	0.5	0.498	99.6	90-110%
Chemical Oxygen Demand	GP11669/GN23146	10	0.0	mg/l	100	98.0	98.0	80-120%
Chloride	GP11625/GN23083	0.50	0.31	mg/l	5	4.81	96.2	90-110%
Nitrogen, Nitrate	GP11625/GN23083	0.010	0.0	mg/l	0.1	0.108	108.0	90-110%
Nitrogen, Nitrite	GP11625/GN23083	0.0040	0.0	mg/l	0.05	0.0519	103.8	90-110%
Phosphate, Ortho	GP11625/GN23083	0.065	0.0	mg/l	0.5	0.513	102.6	90-110%
Phosphorus, Total	GP11657/GN23115	0.010	0.0	mg/l	0.304	0.29	95.6	80-120%
Solids, Total Dissolved	GN23070	10	0.0	mg/l	400	402	100.5	90-110%
Sulfate	GP11625/GN23083	0.50	0.0	mg/l	5	4.92	98.4	90-110%
Total Organic Carbon	GP11663/GN23141	1.0	0.0	mg/l	8.82	8.86	100.5	90-110%
pH	GN23088			su	8.00	8.00	100.0	99.3-100.7%
pH	GN23099			su	8.00	8.01	100.1	99.3-100.7%

Associated Samples:

Batch GN23070: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GN23088: D53615-1, D53615-2, D53615-3, D53615-5, D53615-6
Batch GN23099: D53615-4
Batch GN23152: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GN23153: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GN23154: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11625: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11636: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11657: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11663: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11669: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

(*) Outside of QC limits

10.1
10

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D53615
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 CaCO ₃	GN23152	D53635-1	mg/l	131	136	4.1	0-20%
Chemical Oxygen Demand	GP11669/GN23146	D53615-1	mg/l	35.9	35.9	0.0	0-25%
Phosphorus, Total	GP11657/GN23115	D53587-1	mg/l	0.033	0.030	9.5	0-20%
Solids, Total Dissolved	GN23070	D53452-1	mg/l	1930	1940	0.5	0-20%
Total Organic Carbon	GP11663/GN23141	D53615-1	mg/l	10.2	10.0	2.0	0-20%

Associated Samples:

Batch GN23070: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GN23152: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11657: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11663: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
Batch GP11669: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6
(*) Outside of QC limits

10.2
10

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D53615
Account: WILLCOF - 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	GN23152	D53635-1	mg/l	131	100	230	99.5	80-120%
Bromide	GP11625/GN23083	D53310-10	mg/l	2.3	10	12.4	101.0	80-120%
Chemical Oxygen Demand	GP11669/GN23146	D53615-1	mg/l	35.9	40	82.7	117.1	70-130%
Chloride	GP11625/GN23083	D53310-10	mg/l	365	100	466	101.0	80-120%
Nitrogen, Nitrate	GP11625/GN23083	D53310-10	mg/l	0.22	2	2.3	104.0	80-120%
Nitrogen, Nitrite	GP11625/GN23083	D53310-10	mg/l	0.0	1	1.2	120.0	80-120%
Phosphate, Ortho	GP11625/GN23083	D53310-10	mg/l	0.0	10	12.4	124.0(a)	80-120%
Phosphorus, Total	GP11657/GN23115	D53587-1	mg/l	0.033	0.40	0.41	94.3	80-120%
Sulfate	GP11625/GN23083	D53310-10	mg/l	207	100	310	103.0	80-120%
Total Organic Carbon	GP11663/GN23141	D53615-2	mg/l	5.0	10	14.9	99.0	80-120%

Associated Samples:

Batch GN23152: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11625: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11657: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11663: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11669: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D53615
Account: WILLCOG - 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	GN23152	D53635-1	mg/l	131	100	231	0.3	20%
Bromide	GP11625/GN23083	D53310-10	mg/l	2.3	10	12.5	0.8	20%
Chemical Oxygen Demand	GP11669/GN23146	D53615-1	mg/l	35.9	40	79.4	4.1	25%
Chloride	GP11625/GN23083	D53310-10	mg/l	365	100	464	0.4	20%
Nitrogen, Nitrate	GP11625/GN23083	D53310-10	mg/l	0.22	2	2.2	4.4	20%
Nitrogen, Nitrite	GP11625/GN23083	D53310-10	mg/l	0.0	1	1.2	0.0	20%
Phosphate, Ortho	GP11625/GN23083	D53310-10	mg/l	0.0	10	12.2	1.6	20%
Phosphorus, Total	GP11657/GN23115	D53587-1	mg/l	0.033	0.40	0.430	4.8	20%
Sulfate	GP11625/GN23083	D53310-10	mg/l	207	100	310	0.0	20%
Total Organic Carbon	GP11663/GN23141	D53615-2	mg/l	5.0	10	14.3	4.1	20%

Associated Samples:

Batch GN23152: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11625: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11657: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11663: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

Batch GP11669: D53615-1, D53615-2, D53615-3, D53615-4, D53615-5, D53615-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits