



SUMMIT
SLICKLINE INC.

Company: PDC ENERGY
Lease / Well: HOUSE 1-36
County/Parish: BOULDER 013
State: COLORADO
Date: 9/25/2015
Rig: NA
Surveyor: SHON LANE
Job Number: 1882-0501306091
Instrument Number: 3123 **Type:** MEMORY
Proposed Direction: 0 **GL Elev:** 5127
Magnetic Declination: 10 EAST TO TRUE NORTH
Calulation Method: MINIMUM OF CURVATURE
Log Measured From: GL

TIE-IN Coordinates

Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates	
				(+N/-S)	(+E/-W)
0	0.00	0.00	0.00	0.00	0.00

Directional Survey Report

Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100	0.62	259.51	100.00	-0.10	-0.10	-0.53	0.62	0.54	259.51°
200	1.19	297.07	199.99	0.28	0.28	-1.99	0.79	2.01	277.89°
300	1.14	286.68	299.97	1.03	1.03	-3.87	0.22	4.00	284.97°
400	1.54	265.36	399.94	1.21	1.21	-6.16	0.63	6.28	281.12°
500	2.18	315.00	499.89	2.45	2.45	-8.84	1.67	9.18	285.47°
600	2.86	315.51	599.79	5.57	5.57	-11.94	0.68	13.17	295.02°
700	3.10	315.82	699.66	9.29	9.29	-15.57	0.24	18.13	300.83°
800	3.49	312.05	799.49	13.27	13.27	-19.71	0.45	23.76	303.94°
900	3.46	312.79	899.31	17.36	17.36	-24.19	0.05	29.77	305.66°
1000	3.69	309.57	999.11	21.46	21.46	-28.88	0.31	35.98	306.61°
1100	3.43	306.09	1098.92	25.27	25.27	-33.78	0.34	42.19	306.80°
1200	3.96	301.18	1198.71	28.82	28.82	-39.15	0.62	48.61	306.35°
1300	4.39	303.43	1298.45	32.71	32.71	-45.30	0.46	55.88	305.84°
1400	4.39	300.46	1398.16	36.76	36.76	-51.79	0.23	63.51	305.37°
1500	4.95	300.48	1497.82	40.89	40.89	-58.81	0.56	71.63	304.81°
1600	5.19	299.22	1597.43	45.29	45.29	-66.48	0.26	80.44	304.27°
1700	4.95	301.75	1697.04	49.77	49.77	-74.09	0.33	89.25	303.89°
1800	4.80	300.72	1796.68	54.17	54.17	-81.36	0.17	97.74	303.66°
1900	4.52	300.22	1896.35	58.29	58.29	-88.36	0.28	105.86	303.41°
2000	4.08	297.62	1996.07	61.93	61.93	-94.92	0.48	113.33	303.12°
2100	3.79	292.91	2095.83	64.86	64.86	-101.11	0.43	120.13	302.68°
2200	3.41	288.33	2195.63	67.08	67.08	-106.98	0.48	126.27	302.09°
2300	3.15	288.83	2295.47	68.91	68.91	-112.40	0.26	131.84	301.51°
2400	3.10	285.63	2395.32	70.52	70.52	-117.61	0.18	137.13	300.95°
2500	3.12	284.37	2495.17	71.93	71.93	-122.85	0.07	142.36	300.35°
2600	3.17	284.65	2595.02	73.30	73.30	-128.16	0.05	147.64	299.77°
2700	3.40	285.13	2694.86	74.77	74.77	-133.70	0.23	153.19	299.22°
2800	3.63	286.37	2794.67	76.44	76.44	-139.60	0.24	159.16	298.70°
2900	3.68	289.08	2894.47	78.38	78.38	-145.67	0.18	165.42	298.28°
3000	4.15	292.61	2994.23	80.82	80.82	-152.04	0.53	172.19	297.99°
3100	4.44	288.20	3093.95	83.42	83.42	-159.06	0.44	179.61	297.68°
3200	4.54	291.45	3193.65	86.08	86.08	-166.42	0.27	187.36	297.35°
3300	4.69	287.13	3293.32	88.73	88.73	-174.01	0.38	195.33	297.02°
3400	4.69	285.47	3392.99	91.02	91.02	-181.86	0.14	203.36	296.59°
3500	4.47	282.47	3492.67	92.96	92.96	-189.60	0.33	211.16	296.12°
3600	4.56	282.49	3592.36	94.66	94.66	-197.29	0.09	218.82	295.63°
3700	4.53	289.90	3692.04	96.86	96.86	-204.88	0.59	226.62	295.30°
3800	5.40	296.57	3791.67	100.31	100.31	-212.80	1.04	235.26	295.24°
3900	5.72	296.31	3891.20	104.62	104.62	-221.48	0.32	244.95	295.29°
4000	5.69	296.77	3990.70	109.06	109.06	-230.37	0.05	254.89	295.33°
4100	5.78	298.02	4090.20	113.66	113.66	-239.24	0.15	264.87	295.41°
4200	5.51	304.93	4189.72	118.78	118.78	-247.63	0.73	274.64	295.63°
4300	5.16	307.45	4289.29	124.26	124.26	-255.13	0.42	283.78	295.97°
4400	5.43	307.35	4388.86	129.87	129.87	-262.46	0.27	292.83	296.33°
4500	5.30	310.51	4488.42	135.74	135.74	-269.74	0.32	301.96	296.71°
4600	5.47	308.09	4587.98	141.68	141.68	-277.00	0.28	311.13	297.09°
4700	5.61	308.72	4687.51	147.67	147.67	-284.56	0.15	320.60	297.43°
4800	5.65	308.74	4787.03	153.81	153.81	-292.22	0.04	330.23	297.76°

Directional Survey Report									
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					(+N/-S)	(+E/-W)			
4900	5.73	307.41	4886.54	159.93	159.93	-300.02	0.15	339.98	298.06°
5000	5.86	309.86	4986.03	166.23	166.23	-307.90	0.28	349.91	298.36°
5100	5.49	308.61	5085.54	172.49	172.49	-315.56	0.39	359.63	298.66°
5200	5.96	310.32	5185.04	178.83	178.83	-323.26	0.50	369.43	298.95°
5300	6.28	312.82	5284.47	185.91	185.91	-331.23	0.42	379.83	299.30°
5400	6.21	310.76	5383.87	193.16	193.16	-339.34	0.23	390.46	299.65°
5500	6.50	312.35	5483.26	200.50	200.50	-347.62	0.34	401.30	299.98°
5600	6.52	313.77	5582.61	208.24	208.24	-355.90	0.16	412.35	300.33°
5700	6.57	312.83	5681.96	216.06	216.06	-364.19	0.12	423.46	300.68°
5800	6.26	310.93	5781.34	223.52	223.52	-372.51	0.38	434.42	300.97°
5900	5.93	310.79	5880.77	230.47	230.47	-380.54	0.33	444.89	301.20°
6000	5.80	308.81	5980.25	237.01	237.01	-388.39	0.24	454.99	301.39°
6100	5.88	308.07	6079.73	243.33	243.33	-396.36	0.11	465.09	301.55°
6200	5.55	307.83	6179.23	249.46	249.46	-404.21	0.33	474.99	301.68°
6300	5.71	306.49	6278.75	255.38	255.38	-412.03	0.21	484.75	301.79°
6400	5.98	305.39	6378.23	261.36	261.36	-420.27	0.29	494.91	301.88°
6500	6.43	303.71	6477.64	267.48	267.48	-429.18	0.49	505.71	301.93°
6600	6.65	301.46	6576.99	273.61	273.61	-438.78	0.34	517.10	301.95°
6700	7.45	297.50	6676.24	279.63	279.63	-449.47	0.94	529.35	301.89°
6800	7.62	291.93	6775.37	285.10	285.10	-461.37	0.75	542.35	301.71°
6900	7.50	292.14	6874.51	290.03	290.03	-473.56	0.12	555.32	301.49°
7000	7.01	296.67	6973.71	295.23	295.23	-485.06	0.75	567.84	301.33°
7100	6.00	296.20	7073.06	300.28	300.28	-495.20	1.01	579.13	301.23°
7200	5.53	301.31	7172.55	305.09	305.09	-504.01	0.70	589.16	301.19°

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