



Company: PDC Energy
Lease / Well: Glens #9
County/Parish: WELD 123
State: COLORADO
Date: 4/9/2015
Rig: NA
Surveyor: SHON LANE
Job Number: 1295-0512309861
Instrument Number: 3123 **Type:** MEMORY
Proposed Direction: 0 **GL Elev:** 5083
Magnetic Declination 9.88 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	0.09	280.78	100.00	0.01	0.01	-0.08	0.09	0.08	280.78°
200	0.50	175.42	200.00	-0.41	-0.41	-0.12	0.53	0.42	196.41°
300	0.31	164.72	300.00	-1.10	-1.10	-0.01	0.20	1.10	180.69°
400	0.37	143.67	399.99	-1.62	-1.62	0.25	0.14	1.64	171.27°
500	0.27	200.58	499.99	-2.10	-2.10	0.36	0.32	2.13	170.35°
600	0.35	257.66	599.99	-2.39	-2.39	-0.02	0.30	2.39	180.56°
700	0.59	153.98	699.99	-2.92	-2.92	-0.10	0.75	2.92	181.88°
800	4.03	317.11	799.92	-0.80	-0.80	-2.26	4.60	2.40	250.44°
900	8.27	282.97	899.35	3.39	3.39	-11.67	5.42	12.15	286.19°
1000	12.27	270.16	997.74	5.03	5.03	-29.31	4.58	29.74	279.74°
1100	15.31	266.10	1094.85	4.16	4.16	-53.12	3.19	53.28	274.48°
1200	16.79	267.47	1190.95	2.63	2.63	-80.72	1.53	80.76	271.86°
1300	18.17	267.11	1286.33	1.20	1.20	-110.72	1.38	110.73	270.62°
1400	19.95	266.41	1380.84	-0.65	-0.65	-143.32	1.79	143.32	269.74°
1500	21.14	266.44	1474.48	-2.84	-2.84	-178.35	1.19	178.37	269.09°
1600	22.36	266.90	1567.36	-4.99	-4.99	-215.34	1.23	215.40	268.67°
1700	23.80	265.90	1659.35	-7.46	-7.46	-254.46	1.49	254.57	268.32°
1800	24.44	264.45	1750.62	-10.90	-10.90	-295.18	0.87	295.38	267.88°
1900	25.73	264.40	1841.19	-15.02	-15.02	-337.37	1.29	337.71	267.45°
2000	27.56	265.13	1930.56	-19.10	-19.10	-382.03	1.86	382.51	267.14°
2100	29.38	264.62	2018.47	-23.37	-23.37	-429.51	1.84	430.14	266.89°
2200	31.88	264.73	2104.51	-28.09	-28.09	-480.23	2.50	481.05	266.65°
2300	34.00	266.76	2188.43	-32.10	-32.10	-534.45	2.39	535.41	266.56°
2400	35.97	266.97	2270.36	-35.23	-35.23	-591.70	1.97	592.75	266.59°
2500	37.96	268.16	2350.25	-37.77	-37.77	-651.77	2.11	652.87	266.68°
2600	40.10	266.63	2427.93	-40.65	-40.65	-714.67	2.35	715.83	266.74°
2700	42.13	265.32	2503.27	-45.28	-45.28	-780.26	2.21	781.57	266.68°
2800	38.90	271.70	2579.32	-47.09	-47.09	-845.12	5.25	846.43	266.81°
2900	36.49	275.40	2658.45	-43.36	-43.36	-906.12	3.30	907.16	267.26°
3000	36.52	277.11	2738.83	-36.88	-36.88	-965.25	1.02	965.95	267.81°
3100	36.62	277.18	2819.14	-29.47	-29.47	-1024.37	0.11	1024.79	268.35°
3200	36.84	279.08	2899.29	-21.01	-21.01	-1083.57	1.16	1083.77	268.89°
3300	36.96	279.71	2979.26	-11.21	-11.21	-1142.80	0.40	1142.86	269.44°
3400	36.25	284.99	3059.56	1.51	1.51	-1201.01	3.23	1201.01	270.07°
3500	32.41	297.81	3142.23	21.70	21.70	-1253.36	8.17	1253.55	270.99°
3600	29.94	305.96	3227.82	48.87	48.87	-1297.29	4.88	1298.21	272.16°
3700	29.84	308.14	3314.52	78.89	78.89	-1337.06	1.09	1339.38	273.38°
3800	30.09	308.87	3401.16	109.99	109.99	-1376.14	0.44	1380.53	274.57°
3900	30.45	310.45	3487.52	142.16	142.16	-1414.94	0.87	1422.07	275.74°
4000	30.49	311.71	3573.71	175.48	175.48	-1453.16	0.64	1463.72	276.89°
4100	30.61	313.77	3659.83	209.97	209.97	-1490.49	1.05	1505.21	278.02°
4200	31.10	316.03	3745.68	246.17	246.17	-1526.81	1.26	1546.52	279.16°
4300	31.34	317.84	3831.20	284.04	284.04	-1562.19	0.97	1587.80	280.30°
4400	31.73	319.37	3916.44	323.27	323.27	-1596.77	0.89	1629.17	281.45°
4500	31.67	321.48	4001.52	363.77	363.77	-1630.24	1.11	1670.34	282.58°
4600	31.66	323.81	4086.64	405.49	405.49	-1662.09	1.22	1710.84	283.71°
4700	31.69	324.71	4171.74	448.11	448.11	-1692.76	0.47	1751.07	284.83°
4800	31.63	324.58	4256.86	490.92	490.92	-1723.13	0.09	1791.70	285.90°

Directional Survey Report									
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4900	31.51	323.99	4342.06	533.43	533.43	-1753.69	0.33	1833.03	286.92°
5000	31.25	327.12	4427.44	576.35	576.35	-1783.14	1.65	1873.97	287.91°
5100	29.47	328.70	4513.72	619.16	619.16	-1810.01	1.95	1912.98	288.88°
5200	27.92	329.81	4601.44	660.42	660.42	-1834.56	1.64	1949.81	289.80°
5300	26.22	330.73	4690.48	699.93	699.93	-1857.14	1.75	1984.65	290.65°
5400	24.70	332.10	4780.77	737.66	737.66	-1877.71	1.63	2017.41	291.45°
5500	24.06	331.32	4871.85	774.01	774.01	-1897.27	0.72	2049.08	292.19°
5600	22.84	331.85	4963.59	809.01	809.01	-1916.21	1.24	2079.99	292.89°
5700	20.79	335.87	5056.43	842.32	842.32	-1932.63	2.54	2108.21	293.55°
5800	19.99	339.04	5150.17	874.48	874.48	-1946.00	1.36	2133.46	294.20°

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