



Company: PDC ENERGY
Lease / Well: NELSON P 34-42 05123-11562
County/Parish: WELD 123
State: COLORADO
Date: 2/7/2017
Rig: NA
Surveyor: JOHNNY RIDDLE
Job Number: 3597-05-123-11562
Instrument Number: 3123 **Type:** MEMORY
Proposed Direction: 0 **GL Elev:** 4758
Magnetic Declination 9.78 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	0.18	104.73	100.00	-0.04	-0.04	0.15	0.18	0.16	104.73°
200	0.39	278.49	200.00	-0.03	-0.03	-0.03	0.57	0.04	227.88°
300	1.09	248.67	299.99	-0.33	-0.33	-1.26	0.78	1.30	255.47°
400	0.72	244.28	399.98	-0.94	-0.94	-2.71	0.38	2.87	250.78°
500	0.68	243.54	499.97	-1.48	-1.48	-3.80	0.04	4.08	248.73°
600	0.71	225.10	599.96	-2.18	-2.18	-4.77	0.22	5.25	245.43°
700	1.17	240.05	699.95	-3.13	-3.13	-6.10	0.52	6.85	242.83°
800	0.95	250.20	799.93	-3.92	-3.92	-7.76	0.29	8.70	243.21°
900	0.84	217.50	899.92	-4.78	-4.78	-8.99	0.51	10.18	241.98°
1000	1.18	225.97	999.91	-6.08	-6.08	-10.18	0.37	11.85	239.14°
1100	1.25	231.05	1099.88	-7.48	-7.48	-11.76	0.13	13.94	237.55°
1200	1.19	228.92	1199.86	-8.85	-8.85	-13.40	0.08	16.05	236.55°
1300	0.76	235.46	1299.85	-9.91	-9.91	-14.72	0.44	17.75	236.06°
1400	0.71	245.23	1399.84	-10.54	-10.54	-15.83	0.13	19.02	236.34°
1500	0.92	233.59	1499.83	-11.28	-11.28	-17.04	0.27	20.44	236.50°
1600	1.34	242.84	1599.81	-12.29	-12.29	-18.73	0.46	22.40	236.73°
1700	1.43	243.75	1699.78	-13.38	-13.38	-20.89	0.09	24.80	237.37°
1800	1.57	255.12	1799.74	-14.28	-14.28	-23.33	0.33	27.35	238.53°
1900	1.35	246.41	1899.71	-15.10	-15.10	-25.73	0.31	29.84	239.59°
2000	1.33	267.70	1999.69	-15.62	-15.62	-27.97	0.50	32.04	240.82°
2100	1.55	254.99	2099.65	-16.02	-16.02	-30.44	0.39	34.40	242.25°
2200	1.14	267.27	2199.63	-16.41	-16.41	-32.74	0.50	36.62	243.37°
2300	1.63	271.95	2299.60	-16.41	-16.41	-35.15	0.50	38.80	244.97°
2400	1.12	268.62	2399.57	-16.39	-16.39	-37.55	0.52	40.97	246.42°
2500	1.50	278.49	2499.54	-16.22	-16.22	-39.82	0.44	43.00	247.84°
2600	1.29	259.04	2599.51	-16.24	-16.24	-42.22	0.51	45.24	248.96°
2700	1.11	254.70	2699.49	-16.71	-16.71	-44.26	0.20	47.31	249.32°
2800	1.10	282.86	2799.47	-16.75	-16.75	-46.13	0.54	49.08	250.04°
2900	1.47	274.94	2899.45	-16.43	-16.43	-48.35	0.41	51.06	251.23°
3000	1.82	265.66	2999.41	-16.44	-16.44	-51.21	0.44	53.78	252.20°
3100	2.13	274.11	3099.35	-16.42	-16.42	-54.65	0.42	57.06	253.27°
3200	2.34	280.90	3199.27	-15.90	-15.90	-58.50	0.34	60.63	254.79°
3300	2.30	287.68	3299.19	-14.91	-14.91	-62.42	0.28	64.18	256.57°
3400	2.06	293.45	3399.12	-13.58	-13.58	-65.98	0.32	67.37	258.37°
3500	1.74	285.38	3499.06	-12.47	-12.47	-69.09	0.42	70.21	259.77°
3600	1.84	274.53	3599.01	-11.94	-11.94	-72.16	0.35	73.14	260.61°
3700	1.69	272.19	3698.97	-11.75	-11.75	-75.23	0.17	76.14	261.12°
3800	1.45	282.83	3798.93	-11.42	-11.42	-77.94	0.38	78.77	261.67°
3900	1.38	263.29	3898.90	-11.28	-11.28	-80.37	0.49	81.16	262.01°
4000	1.43	264.14	3998.87	-11.54	-11.54	-82.81	0.05	83.61	262.06°
4100	0.97	277.88	4098.85	-11.56	-11.56	-84.89	0.54	85.67	262.25°
4200	1.32	256.74	4198.83	-11.70	-11.70	-86.85	0.54	87.63	262.32°
4300	1.09	272.87	4298.80	-11.92	-11.92	-88.92	0.41	89.71	262.36°
4400	1.42	249.10	4398.78	-12.32	-12.32	-91.02	0.61	91.85	262.29°
4500	1.16	271.94	4498.76	-12.72	-12.72	-93.19	0.57	94.06	262.23°
4600	1.31	250.17	4598.73	-13.08	-13.08	-95.28	0.49	96.17	262.19°
4700	1.21	268.08	4698.71	-13.50	-13.50	-97.41	0.40	98.34	262.11°
4800	0.97	244.16	4798.69	-13.90	-13.90	-99.23	0.51	100.20	262.02°

Directional Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates		Dog-Leg / 100 ft.	Closure Distance	Closure Direction
(+N/-S)					(+E/-W)				
4900	0.96	259.18	4898.68	-14.43	-14.43	-100.81	0.25	101.84	261.85°
5000	0.62	256.03	4998.67	-14.72	-14.72	-102.16	0.34	103.21	261.80°
5100	1.01	252.97	5098.66	-15.11	-15.11	-103.53	0.39	104.62	261.70°
5200	0.82	229.10	5198.65	-15.83	-15.83	-104.91	0.42	106.10	261.42°
5300	0.64	241.90	5298.64	-16.56	-16.56	-105.94	0.24	107.23	261.11°
5400	1.18	242.77	5398.63	-17.30	-17.30	-107.35	0.54	108.74	260.85°
5500	0.95	249.36	5498.61	-18.06	-18.06	-109.04	0.26	110.53	260.59°
5600	1.24	276.55	5598.59	-18.23	-18.23	-110.90	0.59	112.38	260.66°
5700	1.06	280.26	5698.57	-17.94	-17.94	-112.88	0.19	114.30	260.97°
5800	1.43	286.75	5798.55	-17.42	-17.42	-114.99	0.40	116.30	261.39°
5900	1.76	283.50	5898.51	-16.70	-16.70	-117.67	0.34	118.85	261.92°
6000	1.77	274.55	5998.46	-16.22	-16.22	-120.71	0.28	121.79	262.35°
6100	1.68	273.34	6098.41	-16.01	-16.01	-123.71	0.10	124.74	262.63°
6200	2.02	288.31	6198.36	-15.37	-15.37	-126.85	0.59	127.77	263.09°
6300	2.48	278.62	6298.29	-14.49	-14.49	-130.66	0.60	131.46	263.67°
6400	2.74	279.75	6398.18	-13.77	-13.77	-135.15	0.27	135.85	264.18°
6500	3.16	277.18	6498.05	-13.02	-13.02	-140.24	0.44	140.85	264.70°
6600	3.77	276.04	6597.87	-12.33	-12.33	-146.25	0.61	146.77	265.18°
6700	4.28	280.16	6697.62	-11.32	-11.32	-153.19	0.59	153.61	265.77°
6800	3.63	288.21	6797.38	-9.67	-9.67	-159.87	0.85	160.16	266.54°
6850	3.55	286.50	6847.28	-8.74	-8.74	-162.86	0.27	163.09	266.93°

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