



Company: PDC ENERGY
Lease / Well: EDWARDS 43-9
County/Parish: WELD 123
State: COLORADO
Date: 10/25/2016
Rig: NA
Surveyor: SHON LANE
Job Number: 3154-05123-20867
Instrument Number: 3123 **Type:** MEMORY
Proposed Direction: 0 **GL Elev:** 4966
Magnetic Declination 9.81 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		Dog-Leg / 100 ft.	Closure Distance	Closure Direction
					(+N/-S)	(+E/-W)			
100	0.44	1.29	100.00	0.38	0.38	0.01	0.44	0.38	1.29°
200	0.33	275.30	200.00	0.79	0.79	-0.27	0.53	0.84	341.26°
300	0.69	312.47	299.99	1.23	1.23	-1.00	0.47	1.58	320.82°
400	1.60	327.70	399.97	2.81	2.81	-2.19	0.95	3.57	322.10°
500	2.00	325.81	499.92	5.44	5.44	-3.92	0.40	6.70	324.23°
600	1.91	337.35	599.87	8.42	8.42	-5.54	0.40	10.08	326.66°
700	1.71	336.82	699.82	11.33	11.33	-6.77	0.20	13.20	329.14°
800	1.68	337.64	799.77	14.06	14.06	-7.91	0.04	16.13	330.62°
900	1.73	339.18	899.73	16.82	16.82	-9.01	0.07	19.08	331.83°
1000	1.76	342.60	999.68	19.70	19.70	-10.00	0.11	22.09	333.08°
1100	1.86	346.56	1099.63	22.74	22.74	-10.84	0.16	25.19	334.52°
1200	1.90	359.18	1199.58	25.98	25.98	-11.24	0.42	28.31	336.60°
1300	1.59	352.32	1299.53	29.01	29.01	-11.45	0.37	31.19	338.46°
1400	1.25	355.13	1399.50	31.47	31.47	-11.73	0.35	33.59	339.56°
1500	1.26	350.70	1499.48	33.64	33.64	-12.00	0.10	35.72	340.37°
1600	1.39	2.83	1599.45	35.94	35.94	-12.12	0.31	37.93	341.37°
1700	1.06	13.05	1699.43	38.05	38.05	-11.85	0.39	39.86	342.71°
1800	1.03	5.81	1799.41	39.85	39.85	-11.55	0.14	41.49	343.84°
1900	0.58	16.44	1899.40	41.23	41.23	-11.31	0.47	42.75	344.66°
2000	0.24	351.76	1999.40	41.92	41.92	-11.20	0.38	43.39	345.04°
2100	0.52	57.15	2099.40	42.37	42.37	-10.85	0.47	43.74	345.64°
2200	0.52	71.47	2199.39	42.76	42.76	-10.04	0.13	43.93	346.79°
2300	0.78	78.72	2299.39	43.04	43.04	-8.94	0.27	43.96	348.27°
2400	0.90	100.60	2399.37	43.03	43.03	-7.50	0.34	43.68	350.11°
2500	0.79	115.97	2499.36	42.58	42.58	-6.11	0.25	43.02	351.84°
2600	0.52	126.83	2599.36	42.01	42.01	-5.13	0.30	42.32	353.04°
2700	0.39	123.47	2699.35	41.55	41.55	-4.48	0.13	41.79	353.85°
2800	0.62	101.26	2799.35	41.26	41.26	-3.66	0.30	41.42	354.93°
2900	0.40	135.56	2899.35	40.90	40.90	-2.89	0.37	41.00	355.96°
3000	0.17	271.01	2999.35	40.66	40.66	-2.79	0.53	40.75	356.07°
3100	0.49	231.79	3099.34	40.39	40.39	-3.28	0.37	40.53	355.36°
3200	0.23	278.54	3199.34	40.16	40.16	-3.81	0.37	40.34	354.58°
3300	0.53	288.03	3299.34	40.33	40.33	-4.45	0.31	40.58	353.70°
3400	0.30	278.63	3399.34	40.51	40.51	-5.15	0.24	40.84	352.76°
3500	0.32	33.06	3499.34	40.79	40.79	-5.25	0.52	41.13	352.66°
3600	0.24	358.57	3599.34	41.23	41.23	-5.11	0.18	41.55	352.94°
3700	0.31	69.58	3699.33	41.54	41.54	-4.86	0.32	41.82	353.33°
3800	0.56	34.95	3799.33	42.03	42.03	-4.33	0.35	42.25	354.12°
3900	0.42	35.65	3899.33	42.73	42.73	-3.83	0.14	42.90	354.87°
4000	0.54	57.01	3999.32	43.28	43.28	-3.22	0.21	43.40	355.74°
4100	0.77	46.58	4099.32	44.00	44.00	-2.34	0.26	44.06	356.96°
4200	0.23	98.82	4199.31	44.43	44.43	-1.65	0.65	44.46	357.87°
4300	0.48	115.44	4299.31	44.22	44.22	-1.08	0.27	44.24	358.60°
4400	0.57	78.23	4399.31	44.14	44.14	-0.21	0.35	44.14	359.73°
4500	1.37	26.07	4499.29	45.32	45.32	0.80	1.12	45.33	1.01°
4600	1.56	24.63	4599.26	47.63	47.63	1.89	0.19	47.67	2.28°
4700	1.85	32.35	4699.22	50.23	50.23	3.32	0.37	50.34	3.79°
4800	1.87	24.76	4799.17	53.08	53.08	4.87	0.25	53.30	5.24°

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	1.43	20.70	4899.12	55.73	55.73	6.00	0.45	56.05	6.14°
5000	1.07	22.87	4999.10	57.75	57.75	6.80	0.36	58.15	6.71°
5100	1.11	29.04	5099.08	59.46	59.46	7.63	0.12	59.95	7.31°
5200	0.87	14.48	5199.07	61.04	61.04	8.29	0.35	61.60	7.74°
5300	0.49	17.04	5299.06	62.19	62.19	8.61	0.38	62.78	7.88°
5400	0.38	67.64	5399.06	62.72	62.72	9.04	0.38	63.37	8.20°
5500	1.21	37.20	5499.05	63.69	63.69	9.98	0.90	64.47	8.91°
5600	1.41	19.00	5599.02	65.69	65.69	11.02	0.46	66.61	9.53°
5700	0.88	4.12	5699.00	67.62	67.62	11.48	0.60	68.59	9.63°
5800	0.53	355.06	5798.99	68.85	68.85	11.49	0.37	69.80	9.48°
5900	0.19	7.07	5898.99	69.47	69.47	11.48	0.35	70.41	9.38°
6000	0.09	42.42	5998.99	69.70	69.70	11.55	0.13	70.65	9.41°
6100	0.21	340.04	6098.99	69.93	69.93	11.54	0.19	70.87	9.37°
6200	0.42	298.64	6198.99	70.27	70.27	11.15	0.30	71.15	9.02°
6300	0.42	310.61	6298.99	70.69	70.69	10.55	0.09	71.47	8.49°
6400	0.73	313.33	6398.98	71.36	71.36	9.81	0.31	72.04	7.83°
6500	1.03	322.83	6498.97	72.52	72.52	8.81	0.33	73.05	6.92°
6600	1.28	310.12	6598.95	73.95	73.95	7.41	0.36	74.32	5.72°
6700	1.43	312.03	6698.92	75.51	75.51	5.63	0.16	75.72	4.26°
6800	1.89	307.42	6798.88	77.35	77.35	3.39	0.48	77.42	2.51°
6900	1.88	307.71	6898.82	79.35	79.35	0.78	0.01	79.36	0.57°
7000	1.61	323.17	6998.78	81.48	81.48	-1.35	0.54	81.49	359.05°
7100	1.39	328.62	7098.74	83.64	83.64	-2.83	0.26	83.69	358.06°
7200	1.35	316.00	7198.72	85.52	85.52	-4.28	0.30	85.63	357.14°
7300	0.84	305.82	7298.70	86.80	86.80	-5.69	0.54	86.98	356.25°
7400	0.69	301.07	7398.69	87.54	87.54	-6.80	0.16	87.80	355.56°
7500	0.59	291.30	7498.68	88.04	88.04	-7.80	0.15	88.38	354.94°
7600	0.53	300.49	7598.68	88.46	88.46	-8.67	0.11	88.88	354.40°
7650	0.33	309.00	7648.68	88.67	88.67	-8.99	0.42	89.12	354.21°

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
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