



SUMMIT
SLICKLINE INC.

Company:	PDC ENERGY		
Lease / Well:	EDWARDS 43-9 RUN 2 API 05-123-20867		
County/Parish:	WELD 123		
State:	COLORADO		
Date:	1/10/2017		
Rig:	NA		
Surveyor:	SHON LANE		
Job Number:	3345-05-123-20867		
Instrument Number:	3123	Type:	MEMORY
Proposed Direction:	0	GL Elev:	4966
Magnetic Declination	9.79 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	0.45	312.61	100.00	0.27	0.27	-0.29	0.45	0.39	312.61°
200	0.42	240.46	200.00	0.35	0.35	-0.90	0.51	0.96	291.37°
300	0.65	266.97	299.99	0.14	0.14	-1.78	0.33	1.79	274.50°
400	1.51	261.13	399.97	-0.09	-0.09	-3.65	0.87	3.65	268.54°
500	1.72	261.11	499.93	-0.53	-0.53	-6.44	0.21	6.46	265.31°
600	1.99	264.47	599.88	-0.93	-0.93	-9.65	0.29	9.69	264.51°
700	1.69	259.04	699.83	-1.37	-1.37	-12.82	0.35	12.90	263.88°
800	1.77	262.13	799.78	-1.87	-1.87	-15.80	0.12	15.91	263.26°
900	1.64	255.96	899.74	-2.43	-2.43	-18.72	0.22	18.87	262.62°
1000	1.92	251.60	999.69	-3.30	-3.30	-21.70	0.31	21.94	261.35°
1100	1.69	252.50	1099.64	-4.27	-4.27	-24.69	0.23	25.06	260.18°
1200	1.63	255.09	1199.60	-5.08	-5.08	-27.47	0.10	27.94	259.52°
1300	1.42	250.29	1299.56	-5.87	-5.87	-30.01	0.25	30.58	258.94°
1400	1.31	249.67	1399.54	-6.68	-6.68	-32.25	0.11	32.94	258.30°
1500	1.33	250.54	1499.51	-7.47	-7.47	-34.42	0.03	35.22	257.76°
1600	1.18	247.84	1599.49	-8.24	-8.24	-36.46	0.16	37.38	257.27°
1700	0.78	243.23	1699.47	-8.94	-8.94	-38.03	0.41	39.06	256.78°
1800	0.88	235.92	1799.46	-9.67	-9.67	-39.27	0.15	40.44	256.16°
1900	0.58	249.69	1899.45	-10.28	-10.28	-40.38	0.35	41.67	255.72°
2000	0.47	262.39	1999.45	-10.51	-10.51	-41.26	0.16	42.58	255.71°
2100	0.60	283.10	2099.44	-10.44	-10.44	-42.18	0.23	43.45	256.09°
2200	0.51	307.02	2199.44	-10.06	-10.06	-43.04	0.25	44.20	256.85°
2300	0.62	323.86	2299.43	-9.35	-9.35	-43.72	0.20	44.71	257.93°
2400	0.61	336.19	2399.43	-8.43	-8.43	-44.25	0.13	45.05	259.22°
2500	0.69	350.40	2499.42	-7.35	-7.35	-44.57	0.18	45.17	260.64°
2600	0.59	354.33	2599.42	-6.24	-6.24	-44.72	0.11	45.15	262.05°
2700	0.61	352.04	2699.41	-5.20	-5.20	-44.84	0.03	45.14	263.38°
2800	0.54	355.24	2799.41	-4.21	-4.21	-44.96	0.08	45.15	264.66°
2900	0.24	346.60	2899.40	-3.53	-3.53	-45.04	0.30	45.18	265.52°
3000	0.05	97.72	2999.40	-3.33	-3.33	-45.05	0.26	45.17	265.77°
3100	0.25	91.61	3099.40	-3.35	-3.35	-44.79	0.20	44.91	265.73°
3200	0.29	120.89	3199.40	-3.48	-3.48	-44.35	0.14	44.49	265.51°
3300	0.35	132.49	3299.40	-3.82	-3.82	-43.91	0.09	44.08	265.03°
3400	0.33	147.70	3399.40	-4.27	-4.27	-43.53	0.09	43.74	264.40°
3500	0.09	220.52	3499.40	-4.57	-4.57	-43.43	0.32	43.67	263.99°
3600	0.26	275.75	3599.40	-4.61	-4.61	-43.70	0.22	43.95	263.98°
3700	0.44	258.97	3699.40	-4.66	-4.66	-44.31	0.21	44.55	264.00°
3800	0.38	231.16	3799.39	-4.94	-4.94	-44.94	0.21	45.21	263.73°
3900	0.42	252.76	3899.39	-5.26	-5.26	-45.55	0.15	45.85	263.42°
4000	0.54	265.91	3999.39	-5.40	-5.40	-46.37	0.16	46.68	263.36°
4100	0.58	274.36	4099.38	-5.39	-5.39	-47.35	0.09	47.65	263.50°
4200	0.48	287.19	4199.38	-5.23	-5.23	-48.25	0.15	48.53	263.81°
4300	0.40	289.20	4299.37	-4.99	-4.99	-48.98	0.08	49.23	264.18°
4400	0.44	273.21	4399.37	-4.86	-4.86	-49.69	0.12	49.93	264.42°
4500	1.33	237.82	4499.36	-5.45	-5.45	-51.06	1.00	51.35	263.90°
4600	1.69	234.88	4599.33	-6.92	-6.92	-53.25	0.37	53.70	262.60°
4700	1.78	233.05	4699.28	-8.70	-8.70	-55.69	0.11	56.37	261.12°
4800	1.69	232.85	4799.23	-10.53	-10.53	-58.11	0.09	59.06	259.73°

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	1.35	234.41	4899.20	-12.10	-12.10	-60.24	0.34	61.45	258.64°
5000	1.10	238.47	4999.18	-13.29	-13.29	-62.02	0.26	63.43	257.91°
5100	1.06	236.52	5099.16	-14.30	-14.30	-63.61	0.05	65.20	257.33°
5200	0.72	238.60	5199.15	-15.14	-15.14	-64.92	0.34	66.66	256.87°
5300	0.66	239.38	5299.14	-15.76	-15.76	-65.95	0.06	67.81	256.56°
5400	0.52	258.24	5399.13	-16.15	-16.15	-66.89	0.24	68.81	256.43°
5500	1.06	242.02	5499.12	-16.67	-16.67	-68.15	0.58	70.16	256.25°
5600	1.37	228.13	5599.10	-17.90	-17.90	-69.86	0.43	72.12	255.62°
5700	0.90	213.59	5699.08	-19.36	-19.36	-71.18	0.55	73.77	254.79°
5800	0.69	202.61	5799.07	-20.57	-20.57	-71.85	0.26	74.73	254.03°
5900	0.34	183.93	5899.07	-21.42	-21.42	-72.10	0.38	75.21	253.46°
6000	0.22	153.58	5999.07	-21.89	-21.89	-72.04	0.19	75.29	253.10°
6100	0.28	108.86	6099.06	-22.14	-22.14	-71.72	0.20	75.06	252.85°
6200	0.11	128.51	6199.06	-22.28	-22.28	-71.41	0.18	74.81	252.68°
6300	0.42	130.47	6299.06	-22.57	-22.57	-71.06	0.31	74.56	252.38°
6400	0.62	142.42	6399.06	-23.24	-23.24	-70.45	0.23	74.18	251.74°
6500	0.78	168.46	6499.05	-24.34	-24.34	-69.98	0.35	74.09	250.83°
6600	1.34	171.30	6599.03	-26.16	-26.16	-69.67	0.56	74.42	249.42°
6700	1.62	166.98	6699.00	-28.69	-28.69	-69.18	0.30	74.89	247.47°
6800	1.89	162.47	6798.95	-31.64	-31.64	-68.36	0.30	75.33	245.16°
6900	2.01	159.00	6898.90	-34.85	-34.85	-67.24	0.17	75.73	242.60°
7000	1.75	170.43	6998.84	-37.99	-37.99	-66.35	0.46	76.46	240.20°
7100	1.70	179.87	7098.80	-40.98	-40.98	-66.10	0.29	77.77	238.20°
7200	1.56	175.40	7198.76	-43.82	-43.82	-65.98	0.19	79.21	236.41°
7300	0.97	162.38	7298.73	-45.99	-45.99	-65.62	0.65	80.13	234.98°
7400	0.87	158.13	7398.72	-47.50	-47.50	-65.08	0.12	80.57	233.88°
7500	0.44	166.68	7498.71	-48.58	-48.58	-64.71	0.44	80.91	233.10°
7600	0.59	175.26	7598.71	-49.46	-49.46	-64.58	0.17	81.34	232.55°
7650	0.56	176.94	7648.71	-49.96	-49.96	-64.54	0.07	81.62	232.26°

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