



**SUMMIT**  
SLICKLINE INC.

**Company:** Anadarko Petroleum Corp.  
**Lease / Well:** HSR Sharkey 8-35  
**County/Parish:** WELD  
**State:** COLORADO  
**Date:** 10/9/2014  
**Rig:** NA  
**Surveyor:** SHON LANE  
**Job Number:** 385-512320418  
**Instrument Number:** 4015 **Type:** MEMORY  
**Proposed Direction:** 0 **GL Elev:** 4748  
**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		Dog-Leg / 100 ft.	Closure Distance	Closure Direction
					(+N/-S)	(+E/-W)			
100	0.25	258.93	100.00	-0.04	-0.04	-0.21	0.25	0.22	258.93°
200	0.20	238.55	200.00	-0.17	-0.17	-0.58	0.09	0.60	253.15°
300	0.17	240.38	300.00	-0.34	-0.34	-0.85	0.03	0.92	248.36°
400	0.26	242.23	400.00	-0.52	-0.52	-1.18	0.09	1.29	246.37°
500	0.41	307.17	500.00	-0.41	-0.41	-1.67	0.38	1.72	256.28°
600	0.29	269.53	599.99	-0.19	-0.19	-2.21	0.25	2.22	264.99°
700	0.21	306.13	699.99	-0.09	-0.09	-2.61	0.17	2.61	268.07°
800	0.49	170.74	799.99	-0.40	-0.40	-2.69	0.66	2.72	261.50°
900	0.65	147.47	899.99	-1.30	-1.30	-2.32	0.28	2.66	240.65°
1000	0.46	159.55	999.98	-2.16	-2.16	-1.87	0.22	2.85	220.93°
1100	0.69	146.42	1099.98	-3.03	-3.03	-1.40	0.26	3.34	204.72°
1200	0.56	154.68	1199.97	-3.98	-3.98	-0.85	0.16	4.07	192.13°
1300	0.71	157.63	1299.97	-4.99	-4.99	-0.41	0.15	5.01	184.69°
1400	0.49	154.93	1399.96	-5.95	-5.95	0.01	0.22	5.95	179.93°
1500	0.41	178.43	1499.96	-6.70	-6.70	0.20	0.20	6.70	178.31°
1600	0.41	181.40	1599.95	-7.41	-7.41	0.20	0.02	7.42	178.46°
1700	0.31	213.61	1699.95	-8.00	-8.00	0.04	0.22	8.00	179.71°
1800	0.46	246.89	1799.95	-8.38	-8.38	-0.48	0.26	8.39	183.27°
1900	0.62	271.24	1899.95	-8.52	-8.52	-1.39	0.28	8.64	189.25°
2000	0.62	271.07	1999.94	-8.50	-8.50	-2.47	0.00	8.85	196.20°
2100	0.32	259.26	2099.94	-8.54	-8.54	-3.29	0.31	9.15	201.03°
2200	0.13	291.00	2199.94	-8.56	-8.56	-3.67	0.22	9.31	203.19°
2300	0.09	310.85	2299.94	-8.46	-8.46	-3.83	0.05	9.29	204.35°
2400	0.23	311.73	2399.94	-8.28	-8.28	-4.04	0.14	9.21	206.01°
2500	0.35	250.46	2499.93	-8.25	-8.25	-4.48	0.31	9.38	208.50°
2600	0.59	242.70	2599.93	-8.59	-8.59	-5.22	0.25	10.05	211.31°
2700	0.68	245.90	2699.92	-9.06	-9.06	-6.22	0.10	10.99	214.47°
2800	1.06	272.53	2799.91	-9.27	-9.27	-7.69	0.55	12.04	219.68°
2900	1.19	273.06	2899.89	-9.17	-9.17	-9.65	0.13	13.31	226.46°
3000	1.16	266.83	2999.87	-9.17	-9.17	-11.70	0.13	14.86	231.90°
3100	1.31	228.88	3099.85	-9.98	-9.98	-13.57	0.82	16.84	233.67°
3200	1.49	217.40	3199.82	-11.76	-11.76	-15.22	0.33	19.23	232.30°
3300	1.40	204.01	3299.79	-13.91	-13.91	-16.51	0.35	21.59	229.88°
3400	1.74	180.49	3399.75	-16.55	-16.55	-17.02	0.72	23.73	225.80°
3500	1.83	183.78	3499.71	-19.66	-19.66	-17.13	0.14	26.08	221.08°
3600	1.80	182.68	3599.66	-22.82	-22.82	-17.31	0.05	28.64	217.19°
3700	1.62	193.29	3699.61	-25.76	-25.76	-17.71	0.36	31.26	214.51°
3800	1.58	199.43	3799.57	-28.44	-28.44	-18.50	0.18	33.92	213.04°
3900	1.56	192.02	3899.53	-31.07	-31.07	-19.24	0.20	36.54	211.76°
4000	1.72	188.64	3999.49	-33.89	-33.89	-19.75	0.19	39.22	210.23°
4100	1.84	189.15	4099.45	-36.95	-36.95	-20.23	0.12	42.13	208.69°
4200	1.66	190.96	4199.40	-39.96	-39.96	-20.76	0.19	45.03	207.45°
4300	1.39	182.07	4299.36	-42.60	-42.60	-21.08	0.36	47.52	206.33°
4400	1.48	184.09	4399.33	-45.10	-45.10	-21.21	0.10	49.84	205.19°
4500	2.36	206.45	4499.28	-48.23	-48.23	-22.22	1.14	53.10	204.74°
4600	2.79	211.40	4599.17	-52.15	-52.15	-24.41	0.48	57.58	205.08°
4700	2.18	216.00	4699.08	-55.76	-55.76	-26.79	0.64	61.87	205.66°
4800	1.87	210.74	4799.02	-58.70	-58.70	-28.74	0.36	65.36	206.09°

Directional Survey Report									
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					(+N/-S)	(+E/-W)			
4900	1.67	215.52	4898.97	-61.29	-61.29	-30.43	0.25	68.43	206.40°
5000	1.50	212.47	4998.93	-63.58	-63.58	-31.97	0.19	71.17	206.70°
5100	1.40	198.58	5098.90	-65.85	-65.85	-33.07	0.36	73.68	206.66°
5200	1.39	199.27	5198.87	-68.15	-68.15	-33.86	0.02	76.10	206.42°
5300	1.64	190.87	5298.84	-70.70	-70.70	-34.53	0.33	78.68	206.03°
5400	1.72	192.44	5398.79	-73.57	-73.57	-35.12	0.09	81.52	205.52°
5500	1.76	187.08	5498.75	-76.56	-76.56	-35.63	0.17	84.44	204.96°
5600	0.90	156.61	5598.72	-78.80	-78.80	-35.51	1.08	86.43	204.26°
5700	0.80	133.87	5698.71	-80.01	-80.01	-34.69	0.35	87.21	203.44°
5800	0.61	145.86	5798.70	-80.93	-80.93	-33.89	0.24	87.74	202.72°
5900	0.34	149.90	5898.70	-81.63	-81.63	-33.44	0.27	88.22	202.28°
6000	0.38	160.14	5998.70	-82.20	-82.20	-33.18	0.08	88.64	201.98°
6100	0.49	144.23	6098.69	-82.86	-82.86	-32.82	0.16	89.12	201.61°
6200	0.80	158.13	6198.69	-83.85	-83.85	-32.31	0.35	89.86	201.07°
6300	0.56	158.70	6298.68	-84.96	-84.96	-31.87	0.24	90.74	200.56°
6400	0.48	178.37	6398.68	-85.83	-85.83	-31.68	0.19	91.49	200.26°
6500	1.14	230.58	6498.67	-86.88	-86.88	-32.44	0.93	92.74	200.48°
6600	1.61	242.49	6598.64	-88.16	-88.16	-34.45	0.55	94.65	201.35°
6700	1.99	236.72	6698.59	-89.76	-89.76	-37.15	0.42	97.15	202.48°
6800	2.06	240.05	6798.53	-91.61	-91.61	-40.16	0.14	100.03	203.67°
6900	1.95	238.39	6898.46	-93.40	-93.40	-43.17	0.12	102.89	204.80°
7000	1.47	236.50	6998.42	-95.00	-95.00	-45.69	0.48	105.42	205.68°
7100	1.47	233.90	7098.39	-96.46	-96.46	-47.79	0.07	107.65	206.36°

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