

Company: Chesapeake Operating
Well: Wrinkle 13 Federal com 1H
Location: Chaves County, New Mexico

Professional Directional, Ltd

Date:24-Feb-2010

Surveys

Page 1

Job # 4670

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 269.41° Az (feet)	Grid Y	Grid X	Comments
Surface Location										
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	733091.87	673601.96	
183.10	0.35	104.70	183.10	-0.14	0.54	0.19	-0.54	733	673601.96	Gyro
.70	0.34	102.38	548.69	-0.71	2.75	0.02	-2.75	733091.16	673604.71	
735.90	0.27	132.69	735.89	-1.13	3.62	0.09	-3.61	733090.74	673605.57	
920.50	0.25	154.45	920.49	-1.78	4.11	0.05	-4.10	733090.08	673606.07	
1105.20	0.28	186.27	1105.19	-2.60	4.24	0.08	-4.22	733089.27	673606.19	
1293.70	0.46	265.33	1293.68	-3.11	3.43	0.26	-3.42	733088.75	673605.39	
1484.50	0.65	248.30	1484.47	-3.58	1.66	0.13	-1.64	733088.29	673603.62	
1675.40	0.26	258.23	1675.37	-4.07	0.23	0.21	-0.21	733087.80	673602.19	
1866.20	0.14	222.03	1866.17	-4.33	-0.35	0.09	0.37	733087.54	673601.61	
2056.70	0.06	77.00	2056.67	-4.48	-0.41	0.10	0.43	733087.39	673601.55	
2247.40	0.82	40.06	2247.36	-3.41	0.57	0.41	-0.55	733088.45	673602.52	
2437.50	0.66	60.84	2437.44	-1.84	2.40	0.16	-2.39	733090.03	673604.36	
2627.40	0.54	88.78	2627.33	-1.28	4.25	0.16	-4.24	733090.58	673606.21	
2818.50	0.50	94.41	2818.43	-1.33	5.98	0.03	-5.98	733090.54	673607.94	
3009.70	0.33	100.25	3009.62	-1.49	7.36	0.09	-7.35	733090.37	673609.31	
3200.70	0.35	109.40	3200.62	-1.78	8.45	0.03	-8.44	733090.08	673610.40	
3391.80	0.37	141.90	3391.71	-2.46	9.38	0.11	-9.37	733089.40	673611.33	
3582.80	0.30	132.69	3582.71	-3.29	10.13	0.05	-10.11	733088.58	673612.08	
3773.60	0.14	178.51	3773.51	-3.86	10.50	0.12	-10.48	733088.01	673612.46	
3964.90	0.23	236.69	3964.81	-4.30	10.18	0.10	-10.16	733087.56	673612.14	
4155.80	0.45	272.08	4155.71	-4.49	9.12	0.15	-9.09	733087.38	673611.07	
4346.80	0.41	288.91	4346.70	-4.24	7.72	0.07	-7.70	733087.63	673609.68	
4537.10	0.36	273.45	4537.00	-3.98	6.48	0.06	-6.46	733087.88	673608.43	
4727.40	0.40	303.14	4727.29	-3.58	5.33	0.10	-5.31	733088.28	673607.28	
4917.50	0.48	352.47	4917.39	-2.43	4.67	0.20	-4.65	733089.44	673606.62	
5107.70	0.36	314.35	5107.58	-1.22	4.13	0.16	-4.13	733090.64	673606.09	
5297.90	0.40	267.06	5297.78	-0.84	3.04	0.16	-3.04	733091.03	673605.00	
5488.30	0.40	285.97	5488.17	-0.69	1.74	0.07	-1.74	733091.18	673603.70	

SUR: L-13-15s-31e, 1980/S & 330/E
BHL: L-13-15s-31e, 1952/S & 4749/E
API # 30-005-27994

Company: Chesapeake Operating
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Location: Chaves County, New Mexico

Professional Directional, Ltd

Date:24-Feb-2010

Surveys

Page 2

Job #: 4670

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 269.41° Az (feet)	Grid Y	Grid X	Comments
5678.30	0.21	265.43	5678.17	-0.54	0.76	0.11	-0.75	733091.33	673602.71	
5868.60	0.29	282.04	5868.47	-0.46	-0.06	0.06	0.06	733091.40	673601.89	
6437.00	0.40	246.90	6436.86	-0.97	-3.26	0.09	3.26	733090.89	673598.70	
6625.40	0.49	249.62	6625.25	-1.51	-4.62	0.05	4.63	733090.35	673597.34	
6814.10	0.30	243.11	6813.95	-2.02	-5.82	0.10	5.83	733089.85	673596.14	
7002.70	0.49	244.31	7002.54	-2.59	-6.98	0.10	7.00	733089.28	673594.97	
7191.30	0.62	253.68	7191.14	-3.23	-8.69	0.08	8.71	733088.64	673593.27	
7379.60	0.66	256.96	7379.42	-3.76	-10.72	0.03	10.74	733088.11	673591.23	
7568.10	0.44	210.97	7567.92	-4.62	-12.15	0.25	12.18	733087.24	673589.80	
7757.00	0.32	117.49	7756.81	-5.49	-12.06	0.30	12.09	733086.38	673589.90	
7945.40	0.61	122.81	7945.21	-6.27	-10.75	0.16	10.78	733085.59	673591.21	
7983.40	0.68	120.67	7983.20	-6.50	-10.39	0.19	10.42	733085.37	673591.57	
8014.00	0.80	135.50	8013.80	-6.74	-10.08	0.74	10.11	733085.12	673591.88	MWD surveys
8045.00	0.80	134.10	8044.80	-7.05	-9.77	0.06	9.81	733084.82	673592.18	
8077.00	0.70	127.20	8076.80	-7.32	-9.46	0.42	9.49	733084.54	673592.50	
8109.00	0.70	129.80	8108.79	-7.57	-9.15	0.10	9.19	733084.30	673592.80	
8202.00	1.00	126.00	8201.78	-8.41	-8.06	0.33	8.10	733083.46	673593.90	
8294.00	0.90	148.40	8293.77	-9.49	-7.03	0.42	7.08	733082.37	673594.93	
8388.00	1.30	122.00	8387.75	-10.69	-5.74	0.68	5.79	733081.18	673596.22	
8419.00	1.50	118.50	8418.74	-11.07	-5.08	0.70	5.14	733080.80	673596.87	
8456.00	1.80	117.00	8455.73	-11.56	-4.14	0.82	4.20	733080.30	673597.81	
8487.00	1.40	181.10	8486.72	-12.16	-3.71	5.59	3.77	733079.70	673598.24	
8519.00	5.10	234.30	8518.67	-13.38	-4.88	13.77	4.94	733078.48	673597.08	
8550.00	9.90	248.70	8549.40	-15.16	-8.48	16.51	8.56	733076.71	673593.47	
8582.00	15.00	248.10	8580.63	-17.70	-14.89	15.94	14.98	733074.16	673587.06	
8612.00	20.10	247.90	8609.23	-21.09	-23.28	17.00	23.38	733070.77	673578.68	
8643.00	24.70	253.80	8637.88	-24.91	-34.44	16.50	34.56	733066.96	673567.52	
8674.00	29.20	260.20	8665.52	-28.00	-48.12	17.25	48.26	733063.86	673553.84	

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Professional Directional, Ltd

Date: 24-Feb-2010

Surveys

Page 3

Job #: 4670

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 269.41° (feet)	Az Grid Y	NAD27 New Mexico East gr Grid X	elev=4359 RKB=4380 Comments
8706.00	34.30	264.10	8692.72	-30.26	-64.79	17.17	64.94	733061.61	673537.16	
8737.00	39.40	266.60	8717.52	-31.74	-83.31	17.14	83.47	733060.12	673518.5	
		271.70	8761.83	-31.98	-126.57	13.81	126.72	733059.89	673475.39	
8831.00	52.00	272.60	8782.25	-31.05	-151.19	10.54	151.34	733060.81	673450.77	
8862.00	54.20	273.10	8800.86	-29.82	-175.94	7.21	176.09	733062.05	673426.01	
8893.00	56.20	273.10	8818.55	-28.44	-201.36	6.45	201.50	733063.43	673400.59	
8925.00	58.20	273.50	8835.88	-26.89	-228.21	6.34	228.34	733064.97	673373.74	
8956.00	60.10	274.10	8851.78	-25.13	-254.77	6.35	254.89	733066.74	673347.19	
8987.00	63.10	274.70	8866.52	-23.03	-281.95	9.83	282.06	733068.83	673320.00	
9018.00	66.00	275.00	8879.84	-20.66	-309.84	9.40	309.94	733071.20	673292.11	
9049.00	69.00	275.30	8891.70	-18.09	-338.36	9.72	338.45	733073.77	673263.59	
9081.00	71.50	275.10	8902.52	-15.36	-368.35	7.83	368.42	733076.50	673233.60	
9112.00	73.40	274.50	8911.86	-12.89	-397.81	6.40	397.86	733078.97	673204.15	
9144.00	75.80	274.00	8920.36	-10.61	-428.57	7.65	428.62	733081.26	673173.39	
9175.00	78.40	273.40	8927.28	-8.66	-458.72	8.60	458.76	733083.21	673143.23	
9207.00	81.10	272.90	8932.98	-6.93	-490.16	8.58	490.19	733084.94	673111.80	
9238.00	83.30	272.70	8937.18	-5.43	-520.84	7.13	520.86	733086.44	673081.12	
9271.00	85.50	273.60	8940.40	-3.62	-553.63	7.20	553.64	733088.24	673048.33	
9302.00	88.50	271.40	8942.02	-2.27	-584.55	11.99	584.55	733089.59	673017.41	
9333.00	90.80	269.30	8942.21	-2.08	-615.54	10.05	615.55	733089.78	672986.41	
9365.00	91.30	268.60	8941.63	-2.67	-647.53	2.69	647.54	733089.20	672954.42	
9396.00	91.70	268.50	8940.82	-3.46	-678.51	1.33	678.52	733088.41	672923.44	
9428.00	92.20	268.90	8939.73	-4.18	-710.48	2.00	710.50	733087.69	672891.47	
9459.00	92.80	268.70	8938.37	-4.83	-741.45	2.04	741.46	733087.04	672860.51	
9490.00	91.60	268.90	8937.19	-5.48	-772.42	3.92	772.44	733086.39	672829.54	
9522.00	91.60	268.70	8936.29	-6.15	-804.40	0.62	804.42	733085.72	672797.56	
9553.00	91.90	268.60	8935.34	-6.88	-835.38	1.02	835.40	733084.99	672766.58	
9585.00	92.30	268.50	8934.17	-7.69	-867.34	1.29	867.37	733084.18	672734.61	
9616.00	92.80	268.40	8932.79	-8.52	-898.30	1.64	898.33	733083.34	672703.65	

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Professional Directional, Ltd

Date:24-Feb-2010

Surveys

Page 4

Job #: 4670

UAD 7 New Mexico East gr elev=4359 RKB=4380

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 269.41° Az (feet)	Grid Y	Grid X	Comments
9647.00	91.40	268.00	8931.66	-9.50	-929.26	4.70	929.30	733082.37	72672.69	
9741.00	91.30	268.50	8929.44	-12.37	-1023.19	0.54	1023.24	733079.47		
9929.00	91.90	269.40	8925.34	-14.74	-1211.13	1.07	1211.19	733077.53	68390.83	
10023.00	90.60	269.80	8923.29	-15.39	-1305.10	1.45	1305.16	733076.47	68296.85	
10118.00	89.60	270.40	8923.12	-15.23	-1400.10	1.23	1400.16	733076.44	68201.86	
10211.00	90.40	270.80	8923.12	-14.25	-1493.10	0.96	1493.15	733077.61	68108.86	
10305.00	89.50	270.50	8923.20	-13.19	-1587.09	1.01	1587.13	733078.68	68014.87	
10399.00	89.30	271.40	8924.19	-11.63	-1681.07	0.98	1681.11	733080.24	67920.89	
10494.00	89.90	271.90	8924.85	-8.89	-1776.03	0.82	1776.05	733082.97	67825.93	
10588.00	91.30	271.80	8923.86	-5.86	-1869.97	1.49	1869.98	733086.91	67731.99	
10681.00	91.10	268.00	8921.92	-6.02	-1962.93	4.09	1962.94	733085.44	67638.02	
10775.00	91.90	268.00	8919.46	-9.30	-2056.84	0.85	2056.86	733082.46	67545.11	
10869.00	90.00	267.10	8917.90	-13.32	-2150.74	2.24	2150.78	733078.55	67451.22	
10963.00	90.20	267.70	8917.73	-17.58	-2244.64	0.67	2244.70	733074.88	67357.32	
11057.00	91.20	267.30	8916.58	-21.68	-2338.54	1.15	2338.62	733070.88	67263.41	
11151.00	92.10	267.80	8913.88	-25.70	-2432.42	1.10	2432.51	733066.77	67169.54	
11245.00	92.90	268.50	8909.78	-28.73	-2526.28	1.13	2526.39	733063.33	67075.68	
11340.00	92.50	269.40	8905.30	-30.47	-2621.15	1.04	2621.27	733061.40	66980.80	
11434.00	89.10	269.50	8903.99	-31.37	-2715.13	3.62	2715.25	733060.49	66886.83	
11518.00	91.40	270.30	8903.62	-31.52	-2799.12	2.90	2799.24	733060.35	66802.84	
11613.00	89.80	272.60	8902.63	-29.12	-2894.07	2.95	2894.18	733062.35	66707.88	
11707.00	90.10	273.00	8902.71	-24.52	-2987.96	0.53	2988.05	733067.44	66613.99	
11802.00	89.20	272.00	8903.29	-20.38	-3082.87	1.42	3082.93	733071.49	66519.09	
11896.00	90.50	272.30	8903.54	-16.85	-3176.80	1.42	3176.84	733075.91	66425.16	
11990.00	89.80	272.00	8903.29	-13.33	-3270.73	0.81	3270.76	733078.44	66331.23	
12085.00	90.50	271.40	8903.04	-10.51	-3365.69	0.97	3365.70	733081.46	66236.27	
12179.00	91.00	271.50	8901.81	-8.13	-3459.65	0.54	3459.65	733083.74	66142.31	
12273.00	90.60	270.30	8900.50	-6.65	-3553.63	1.35	3553.62	733085.71	66048.33	
12368.00	91.70	270.60	8898.59	-5.91	-3648.60	1.20	3648.59	733085.96	65953.35	

Company: Chesapeake Operating
 Well: Wrinkle 13 Federal com 1H
 Location: Chaves County, New Mexico

Professional Directional, Ltd

Date:24-Feb-2010

Surveys

Page 5

Job #: 4670

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD (feet)	N-S (feet)	E-W (feet)	DLS (deg/100')	VS @ 269.41° Az (feet)	Grid Y	Grid X	Comments
12463.00	91.40	268.50	8896.02	-6.65	-3743.56	2.23	743.55	733085.21	669858.40	
12556.00	90.60	268.60	8894.40	-9.01	-3836.52	0.87	329.47	733080.10	669672.49	
12743.00	89.80	267.80	8892.28	-15.21	-4023.40	1.40	4023.42	733076.66	669578.56	
12837.00	88.70	267.90	8893.51	-18.74	-4117.32	1.18	4117.36	733073.13	669484.64	
12930.00	89.50	268.50	8894.97	-21.66	-4210.26	1.08	4210.32	733070.21	669391.69	
13023.00	89.30	267.90	8895.95	-24.58	-4303.21	0.68	4303.28	733067.29	669298.75	
13092.00	89.60	267.60	8896.61	-27.29	-4372.15	0.61	4372.24	733064.58	669229.80	
13139.00	89.60	267.60	8896.94	-29.25	-4419.11	0.00	4419.20	733062.61	669182.85	Survey Projected