

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Sievers 1-3-7-62 Pad Well: 1-3-7-62 Wellpath: Original Hole	Date: 05/28/2013 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 12:36:40 Well: 1-3-7-62, Grid North Well: 4890'GL+17"KB 4907.0 Well: Well (0.00N,0.00E,359.19Azi) Minimum Curvature	Page: 1 Db: Adapti
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Field: Niobrara CONZ'83 Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level	Map Zone: Colorado, Northern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010
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Site: Sievers 1-3-7-62 Pad Weld County, CO Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 4890.00 ft	Northing: 1462387.07 ft Easting: 3332645.89 ft Latitude: 40 35 47.311 N Longitude: 104 18 7.706 W North Reference: Grid Grid Convergence: 0.77 deg
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Well: 1-3-7-62 Well Position: +N/-S 0.00 ft Position Uncertainty: 0.00 ft	Slot Name: Well Position: +N/-S 0.00 ft Position Uncertainty: 0.00 ft
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Wellpath: Original Hole Current Datum: 4890'GL+17"KB Magnetic Data: 05/06/2013 Field Strength: 53122 nT Vertical Section: Depth From (TVD) ft	Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 8.38 deg Mag Dip Angle: 67.22 deg +E/-W Direction deg
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0.00	0.00	0.00	359.19
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Survey Program for Definitive Wellpath			
Date: 05/28/2013	Validated: No	Version: 1	
Actual From ft	To ft	Survey	Toolcode Tool Name
116.00	10863.00	Survey #1 (116.00-10863.00)	MWD Std MWD
10920.00	10920.00	Survey #2 (10920.00-10920.00)	Project Projection

Survey										
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
116.00	0.20	62.10	116.00	0.09	0.18	0.09	0.17	0.17	0.00	MWD
146.00	0.30	98.80	146.00	0.11	0.30	0.10	0.61	0.33	122.33	MWD
239.00	3.30	111.10	238.94	-0.89	3.04	-0.94	3.23	3.23	13.23	MWD
332.00	3.70	110.40	331.77	-2.90	8.35	-3.02	0.43	0.43	-0.75	MWD
429.00	5.70	104.80	428.44	-5.23	15.94	-5.45	2.11	2.06	-5.77	MWD
522.00	6.70	106.90	520.89	-7.98	25.60	-8.34	1.10	1.08	2.26	MWD
616.00	6.90	106.40	614.23	-11.17	36.26	-11.68	0.22	0.21	-0.53	MWD
709.00	6.80	107.40	706.57	-14.39	46.88	-15.06	0.17	-0.11	1.08	MWD
803.00	6.70	106.20	799.92	-17.59	57.45	-18.40	0.18	-0.11	-1.28	MWD
893.00	4.70	108.00	889.47	-20.19	66.00	-21.12	2.23	-2.22	2.00	MWD
987.00	3.70	104.80	983.21	-22.16	72.60	-23.18	1.09	-1.06	-3.40	MWD
1080.00	6.50	99.70	1075.84	-23.81	80.69	-24.95	3.05	3.01	-5.48	MWD
1174.00	7.60	103.80	1169.13	-26.19	91.97	-27.49	1.29	1.17	4.36	MWD
1267.00	5.50	100.80	1261.51	-28.49	102.32	-29.94	2.29	-2.26	-3.23	MWD
1361.00	4.70	89.70	1355.14	-29.32	110.60	-30.88	1.35	-0.85	-11.81	MWD
1438.00	5.00	86.30	1431.87	-29.08	117.10	-30.74	0.54	0.39	-4.42	MWD
1523.00	6.30	102.30	1516.46	-29.84	125.35	-31.61	2.39	1.53	18.82	MWD
1609.00	6.20	102.70	1601.95	-31.86	134.49	-33.76	0.13	-0.12	0.47	MWD
1694.00	6.10	100.90	1686.46	-33.73	143.41	-35.75	0.26	-0.12	-2.12	MWD
1804.00	6.30	110.30	1795.82	-36.93	154.81	-39.11	0.94	0.18	8.55	MWD
1889.00	5.80	111.00	1880.34	-40.08	163.19	-42.39	0.59	-0.59	0.82	MWD

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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1975.00	5.50	106.90	1965.93	-42.84	171.19	-45.26	0.58	-0.35	-4.77	MWD
2060.00	4.70	106.40	2050.59	-45.01	178.43	-47.52	0.94	-0.94	-0.59	MWD
2145.00	6.60	106.70	2135.17	-47.39	186.45	-50.02	2.24	2.24	0.35	MWD
2231.00	5.90	105.90	2220.66	-50.03	195.43	-52.78	0.82	-0.81	-0.93	MWD
2316.00	7.40	104.80	2305.09	-52.62	204.93	-55.51	1.77	1.76	-1.29	MWD
2401.00	6.90	102.90	2389.42	-55.16	215.20	-58.20	0.65	-0.59	-2.24	MWD
2486.00	5.50	101.60	2473.93	-57.12	224.17	-60.28	1.66	-1.65	-1.53	MWD
2572.00	7.10	106.00	2559.40	-59.41	233.31	-62.70	1.94	1.86	5.12	MWD
2657.00	6.90	103.80	2643.77	-62.08	243.32	-65.51	0.39	-0.24	-2.59	MWD
2742.00	6.30	99.40	2728.21	-64.06	252.88	-67.63	0.92	-0.71	-5.18	MWD
2827.00	5.90	98.00	2812.73	-65.43	261.81	-69.12	0.50	-0.47	-1.65	MWD
2913.00	7.50	108.70	2898.14	-67.84	271.50	-71.67	2.35	1.86	12.44	MWD
2998.00	7.50	107.30	2982.41	-71.27	282.05	-75.25	0.21	0.00	-1.65	MWD
3084.00	7.10	104.50	3067.72	-74.27	292.56	-78.40	0.62	-0.47	-3.26	MWD
3169.00	6.50	104.30	3152.12	-76.77	302.30	-81.04	0.71	-0.71	-0.24	MWD
3254.00	5.20	102.00	3236.67	-78.76	310.74	-83.15	1.55	-1.53	-2.71	MWD
3339.00	6.10	110.30	3321.26	-81.13	318.74	-85.63	1.43	1.06	9.76	MWD
3424.00	5.50	109.00	3405.82	-84.02	326.83	-88.64	0.72	-0.71	-1.53	MWD
3510.00	4.80	108.50	3491.48	-86.51	334.14	-91.22	0.82	-0.81	-0.58	MWD
3595.00	7.00	119.00	3576.02	-90.15	342.04	-94.97	2.87	2.59	12.35	MWD
3680.00	8.20	118.50	3660.28	-95.55	351.90	-100.52	1.41	1.41	-0.59	MWD
3766.00	8.70	114.80	3745.34	-101.21	363.19	-106.33	0.86	0.58	-4.30	MWD
3851.00	9.50	115.20	3829.27	-106.89	375.37	-112.18	0.94	0.94	0.47	MWD
3936.00	8.10	122.60	3913.27	-113.10	386.77	-118.56	2.11	-1.65	8.71	MWD
4021.00	6.00	122.00	3997.62	-118.68	395.58	-124.26	2.47	-2.47	-0.71	MWD
4107.00	5.80	120.60	4083.17	-123.28	403.13	-128.96	0.29	-0.23	-1.63	MWD
4192.00	4.80	103.60	4167.81	-126.30	410.29	-132.09	2.18	-1.18	-20.00	MWD
4277.00	4.00	102.70	4252.56	-127.79	416.63	-133.66	0.94	-0.94	-1.06	MWD
4362.00	3.70	109.70	4337.37	-129.36	422.11	-135.32	0.66	-0.35	8.24	MWD
4448.00	5.00	97.60	4423.12	-130.80	428.44	-136.84	1.84	1.51	-14.07	MWD
4533.00	6.20	97.60	4507.71	-131.89	436.66	-138.05	1.41	1.41	0.00	MWD
4618.00	5.60	91.40	4592.26	-132.60	445.35	-138.88	1.03	-0.71	-7.29	MWD
4703.00	7.70	90.90	4676.69	-132.79	455.19	-139.21	2.47	2.47	-0.59	MWD
4788.00	6.80	83.90	4761.01	-132.35	465.89	-138.92	1.48	-1.06	-8.24	MWD
4874.00	7.30	95.00	4846.36	-132.28	476.40	-139.00	1.68	0.58	12.91	MWD
4959.00	5.90	95.10	4930.80	-133.14	486.13	-140.00	1.65	-1.65	0.12	MWD
5044.00	6.90	100.80	5015.27	-134.49	495.50	-141.48	1.39	1.18	6.71	MWD
5129.00	6.30	99.20	5099.70	-136.19	505.12	-143.31	0.74	-0.71	-1.88	MWD
5214.00	4.60	93.40	5184.31	-137.14	513.12	-144.38	2.10	-2.00	-6.82	MWD
5300.00	4.10	98.30	5270.07	-137.78	519.61	-145.12	0.72	-0.58	5.70	MWD
5385.00	5.60	100.60	5354.76	-138.99	526.69	-146.42	1.78	1.76	2.71	MWD
5470.00	6.20	94.80	5439.31	-140.13	535.34	-147.69	0.99	0.71	-6.82	MWD
5555.00	4.80	91.40	5523.92	-140.60	543.47	-148.27	1.69	-1.65	-4.00	MWD
5641.00	6.30	95.10	5609.51	-141.11	551.77	-148.90	1.79	1.74	4.30	MWD
5726.00	6.90	102.50	5693.95	-142.63	561.40	-150.55	1.22	0.71	8.71	MWD
5811.00	5.60	103.80	5778.44	-144.72	570.41	-152.77	1.54	-1.53	1.53	MWD
5897.00	5.30	98.00	5864.05	-146.28	578.42	-154.44	0.73	-0.35	-6.74	MWD
5982.00	5.30	101.80	5948.69	-147.63	586.15	-155.90	0.41	0.00	4.47	MWD
6030.00	5.10	90.00	5996.50	-148.08	590.45	-156.41	2.26	-0.42	-24.58	MWD
6072.00	9.10	58.90	6038.18	-146.36	595.17	-154.76	12.88	9.52	-74.05	MWD
6115.00	13.20	41.90	6080.37	-140.95	601.36	-149.44	12.12	9.53	-39.53	MWD
6157.00	17.40	32.90	6120.88	-132.10	607.98	-140.68	11.46	10.00	-21.43	MWD
6200.00	19.60	19.90	6161.67	-119.92	613.93	-128.58	10.84	5.12	-30.23	MWD

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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
6243.00	23.00	9.90	6201.74	-104.85	617.83	-113.57	11.55	7.91	-23.26	MWD
6285.00	27.10	9.40	6239.78	-87.32	620.81	-96.09	9.77	9.76	-1.19	MWD
6328.00	30.60	10.20	6277.44	-66.88	624.35	-75.70	8.19	8.14	1.86	MWD
6371.00	34.20	8.80	6313.74	-44.16	628.13	-53.03	8.55	8.37	-3.26	MWD
6413.00	38.50	7.60	6347.56	-19.52	631.67	-28.45	10.38	10.24	-2.86	MWD
6456.00	41.90	6.70	6380.40	8.01	635.12	-0.97	8.02	7.91	-2.09	MWD
6499.00	45.50	5.30	6411.48	37.55	638.21	28.53	8.67	8.37	-3.26	MWD
6541.00	50.40	4.80	6439.60	68.61	640.95	59.54	11.70	11.67	-1.19	MWD
6584.00	53.00	5.10	6466.25	102.22	643.86	93.11	6.07	6.05	0.70	MWD
6626.00	55.70	3.90	6490.73	136.24	646.53	127.09	6.83	6.43	-2.86	MWD
6669.00	58.80	3.90	6513.99	172.32	648.99	163.13	7.21	7.21	0.00	MWD
6712.00	61.90	4.40	6535.26	209.59	651.70	200.35	7.28	7.21	1.16	MWD
6754.00	67.00	5.10	6553.37	247.34	654.84	238.06	12.24	12.14	1.67	MWD
6797.00	71.10	5.10	6568.74	287.33	658.41	277.99	9.53	9.53	0.00	MWD
6870.00	76.39	3.67	6589.17	357.18	663.75	347.76	7.48	7.24	-1.96	600' entry
6884.00	77.40	3.40	6592.34	370.79	664.59	361.35	7.48	7.25	-1.91	MWD
6926.00	84.10	0.90	6599.09	412.18	666.14	402.73	17.00	15.95	-5.95	MWD
6969.00	90.80	359.30	6601.00	455.12	666.21	445.65	16.02	15.58	-3.72	MWD
7012.00	92.10	357.90	6599.92	498.09	665.16	488.63	4.44	3.02	-3.26	MWD
7054.00	89.70	357.40	6599.26	540.04	663.44	530.61	5.84	-5.71	-1.19	MWD
7097.00	89.70	356.90	6599.48	582.99	661.30	573.58	1.16	0.00	-1.16	MWD
7140.00	89.40	356.50	6599.82	625.92	658.83	616.54	1.16	-0.70	-0.93	MWD
7182.00	90.40	357.90	6599.89	667.87	656.78	658.51	4.10	2.38	3.33	MWD
7225.00	91.00	358.60	6599.37	710.84	655.46	701.50	2.14	1.40	1.63	MWD
7268.00	90.30	357.10	6598.88	753.81	653.85	744.49	3.85	-1.63	-3.49	MWD
7310.00	88.90	356.50	6599.17	795.74	651.51	786.45	3.63	-3.33	-1.43	MWD
7353.00	88.80	356.70	6600.04	838.66	648.96	829.40	0.52	-0.23	0.47	MWD
7396.00	89.00	356.50	6600.86	881.57	646.41	872.35	0.66	0.47	-0.47	MWD
7438.00	89.30	357.90	6601.48	923.52	644.35	914.31	3.41	0.71	3.33	MWD
7481.00	89.40	357.60	6601.97	966.48	642.67	957.30	0.74	0.23	-0.70	MWD
7523.00	89.30	357.20	6602.45	1008.43	640.76	999.27	0.98	-0.24	-0.95	MWD
7566.00	89.90	359.20	6602.75	1051.41	639.41	1042.26	4.86	1.40	4.65	MWD
7609.00	90.10	359.50	6602.75	1094.41	638.92	1085.26	0.84	0.47	0.70	MWD
7652.00	91.40	0.00	6602.19	1137.40	638.74	1128.26	3.24	3.02	1.16	MWD
7694.00	91.50	359.50	6601.12	1179.39	638.55	1170.24	1.21	0.24	-1.19	MWD
7737.00	91.70	359.30	6599.92	1222.37	638.10	1213.22	0.66	0.47	-0.47	MWD
7779.00	93.40	358.80	6598.05	1264.32	637.41	1255.18	4.22	4.05	-1.19	MWD
7822.00	93.70	358.30	6595.39	1307.22	636.32	1298.10	1.35	0.70	-1.16	MWD
7865.00	94.10	357.90	6592.47	1350.10	634.90	1340.99	1.31	0.93	-0.93	MWD
7907.00	91.70	357.80	6590.34	1392.01	633.32	1382.92	5.72	-5.71	-0.24	MWD
7950.00	90.10	358.30	6589.67	1434.98	631.86	1425.90	3.90	-3.72	1.16	MWD
7993.00	90.50	358.30	6589.44	1477.96	630.59	1468.90	0.93	0.93	0.00	MWD
8035.00	90.20	358.50	6589.18	1519.94	629.41	1510.89	0.86	-0.71	0.48	MWD
8078.00	90.20	358.30	6589.03	1562.93	628.21	1553.89	0.47	0.00	-0.47	MWD
8121.00	89.80	358.80	6589.03	1605.91	627.12	1596.89	1.49	-0.93	1.16	MWD
8163.00	89.70	358.50	6589.22	1647.90	626.14	1638.88	0.75	-0.24	-0.71	MWD
8206.00	89.90	357.10	6589.37	1690.87	624.48	1681.87	3.29	0.47	-3.26	MWD
8249.00	90.10	356.20	6589.37	1733.79	621.97	1724.83	2.14	0.47	-2.09	MWD
8291.00	90.30	357.90	6589.22	1775.74	619.81	1766.80	4.08	0.48	4.05	MWD
8334.00	90.00	357.80	6589.11	1818.71	618.20	1809.78	0.74	-0.70	-0.23	MWD
8377.00	89.60	357.60	6589.26	1861.67	616.47	1852.77	1.04	-0.93	-0.47	MWD
8419.00	88.90	359.70	6589.81	1903.65	615.48	1894.76	5.27	-1.67	5.00	MWD
8462.00	89.30	359.50	6590.48	1946.65	615.18	1937.76	1.04	0.93	-0.47	MWD
8505.00	88.80	359.20	6591.20	1989.64	614.69	1980.75	1.36	-1.16	-0.70	MWD

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Field: Niobrara CONZ'83
Site: Sievers 1-3-7-62 Pad
Well: 1-3-7-62
Wellpath: Original Hole

Date: 05/28/2013 **Time:** 12:36:40 **Page:** 4
Co-ordinate(NE) Reference: Well: 1-3-7-62, Grid North
Vertical (TVD) Reference: 4890'GL+17"KB 4907.0
Section (VS) Reference: Well (0.00N,0.00E,359.19Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
8547.00	87.80	359.70	6592.44	2031.62	614.29	2022.73	2.66	-2.38	1.19	MWD
8590.00	89.50	0.60	6593.46	2074.60	614.40	2065.71	4.47	3.95	2.09	MWD
8633.00	89.70	0.40	6593.76	2117.60	614.78	2108.70	0.66	0.47	-0.47	MWD
8675.00	90.30	359.90	6593.76	2159.60	614.89	2150.69	1.86	1.43	-1.19	MWD
8718.00	89.60	359.50	6593.79	2202.60	614.66	2193.69	1.87	-1.63	-0.93	MWD
8761.00	89.50	359.30	6594.13	2245.59	614.21	2236.69	0.52	-0.23	-0.47	MWD
8803.00	89.80	359.00	6594.39	2287.59	613.59	2278.69	1.01	0.71	-0.71	MWD
8846.00	91.70	359.50	6593.82	2330.58	613.03	2321.68	4.57	4.42	1.16	MWD
8889.00	91.00	357.90	6592.81	2373.56	612.05	2364.67	4.06	-1.63	-3.72	MWD
8931.00	91.50	359.30	6591.90	2415.53	611.03	2406.65	3.54	1.19	3.33	MWD
8974.00	90.30	359.70	6591.22	2458.52	610.65	2449.65	2.94	-2.79	0.93	MWD
9017.00	90.20	358.50	6591.03	2501.52	609.98	2492.64	2.80	-0.23	-2.79	MWD
9059.00	90.60	359.90	6590.74	2543.51	609.39	2534.64	3.47	0.95	3.33	MWD
9102.00	90.50	2.70	6590.33	2586.49	610.36	2577.61	6.52	-0.23	6.51	MWD
9145.00	89.80	0.90	6590.21	2629.47	611.72	2620.56	4.49	-1.63	-4.19	MWD
9187.00	90.00	359.30	6590.29	2671.47	611.79	2662.55	3.84	0.48	-3.81	MWD
9230.00	89.80	357.90	6590.36	2714.45	610.74	2705.55	3.29	-0.47	-3.26	MWD
9273.00	90.20	359.00	6590.36	2757.44	609.58	2748.55	2.72	0.93	2.56	MWD
9315.00	89.80	359.20	6590.36	2799.43	608.92	2790.54	1.06	-0.95	0.48	MWD
9358.00	89.90	359.90	6590.47	2842.43	608.58	2833.54	1.64	0.23	1.63	MWD
9401.00	90.60	359.90	6590.29	2885.43	608.50	2876.54	1.63	1.63	0.00	MWD
9443.00	89.90	357.90	6590.10	2927.42	607.70	2918.54	5.05	-1.67	-4.76	MWD
9486.00	90.10	358.80	6590.10	2970.40	606.46	2961.53	2.14	0.47	2.09	MWD
9529.00	90.10	0.70	6590.03	3013.40	606.27	3004.53	4.42	0.00	4.42	MWD
9571.00	90.30	1.30	6589.88	3055.39	607.00	3046.51	1.51	0.48	1.43	MWD
9614.00	90.00	359.20	6589.77	3098.39	607.19	3089.50	4.93	-0.70	-4.88	MWD
9656.00	89.90	359.50	6589.81	3140.39	606.71	3131.50	0.75	-0.24	0.71	MWD
9699.00	90.20	0.90	6589.77	3183.38	606.86	3174.49	3.33	0.70	3.26	MWD
9742.00	90.20	0.90	6589.62	3226.38	607.54	3217.47	0.00	0.00	0.00	MWD
9784.00	89.80	358.50	6589.62	3268.38	607.32	3259.46	5.79	-0.95	-5.71	MWD
9827.00	90.00	359.90	6589.69	3311.37	606.72	3302.46	3.29	0.47	3.26	MWD
9870.00	90.40	0.70	6589.54	3354.37	606.95	3345.45	2.08	0.93	1.86	MWD
9912.00	90.40	359.30	6589.25	3396.37	606.95	3387.45	3.33	0.00	-3.33	MWD
9955.00	90.00	357.20	6589.10	3439.34	605.63	3430.44	4.97	-0.93	-4.88	MWD
9998.00	90.00	355.50	6589.10	3482.26	602.89	3473.38	3.95	0.00	-3.95	MWD
10040.00	89.40	353.20	6589.32	3524.05	598.76	3515.23	5.66	-1.43	-5.48	MWD
10083.00	90.10	353.40	6589.51	3566.75	593.74	3558.00	1.69	1.63	0.47	MWD
10126.00	89.90	354.40	6589.51	3609.51	589.17	3600.82	2.37	-0.47	2.33	MWD
10168.00	90.30	354.90	6589.43	3651.33	585.26	3642.69	1.52	0.95	1.19	MWD
10211.00	90.00	355.50	6589.32	3694.17	581.66	3685.58	1.56	-0.70	1.40	MWD
10253.00	88.50	353.70	6589.87	3735.98	577.71	3727.44	5.58	-3.57	-4.29	MWD
10296.00	88.90	353.50	6590.85	3778.70	572.92	3770.23	1.04	0.93	-0.47	MWD
10339.00	90.50	354.80	6591.07	3821.48	568.53	3813.06	4.79	3.72	3.02	MWD
10381.00	92.20	358.10	6590.08	3863.38	565.93	3854.99	8.84	4.05	7.86	MWD
10424.00	91.30	358.80	6588.77	3906.34	564.77	3897.97	2.65	-2.09	1.63	MWD
10467.00	91.50	358.50	6587.72	3949.32	563.76	3940.95	0.84	0.47	-0.70	MWD
10509.00	92.20	1.10	6586.36	3991.29	563.61	3982.92	6.41	1.67	6.19	MWD
10552.00	91.60	0.90	6584.94	4034.26	564.36	4025.88	1.47	-1.40	-0.47	MWD
10595.00	91.00	1.60	6583.96	4077.24	565.30	4068.84	2.14	-1.40	1.63	MWD
10637.00	91.00	1.40	6583.23	4119.22	566.40	4110.80	0.48	0.00	-0.48	MWD
10680.00	91.00	0.60	6582.48	4162.20	567.15	4153.77	1.86	0.00	-1.86	MWD
10723.00	90.70	1.60	6581.84	4205.19	567.97	4196.74	2.43	-0.70	2.33	MWD
10765.00	90.00	0.90	6581.58	4247.18	568.89	4238.71	2.36	-1.67	-1.67	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Sievers 1-3-7-62 Pad Well: 1-3-7-62 Wellpath: Original Hole	Date: 05/28/2013 Time: 12:36:40 Page: 5 Co-ordinate(NE) Reference: Well: 1-3-7-62, Grid North Vertical (TVD) Reference: 4890'GL+17'KB 4907.0 Section (VS) Reference: Well (0.00N,0.00E,359.19Azi) Survey Calculation Method: Minimum Curvature Db: Adapti
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Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10808.00	88.10	1.10	6582.30	4290.16	569.64	4281.68	4.44	-4.42	0.47	MWD
10863.00	88.50	0.90	6583.93	4345.13	570.60	4336.63	0.81	0.73	-0.36	MWD
10920.00	88.50	0.90	6585.42	4402.10	571.50	4393.59	0.00	0.00	0.00	PROJECTED to TD

Annotation

MD ft	TVD ft	
6870.00	6589.17	600' entry