



		TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 2-17	0.00	0.00	0.00	1516469.00	3382061.35	40°44'34.562N	104°07'16.287W	Point
600' entry 2-17	6429.43	313.79	-907.74	1516782.79	3381153.61	40°44'37.802N	104°07'28.016W	Point
600' exit 2-17	6433.42	4299.76	-897.68	1520768.76	3381163.67	40°45'17.181N	104°07'27.082W	Point
BHL 2-17	6445.90	4437.73	-896.24	1520906.73	3381165.11	40°45'18.544N	104°07'27.035W	Point
PBHL 2-17	6457.00	4439.50	-909.17	1520908.50	3381152.18	40°45'18.564N	104°07'27.203W	Point

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.				Date: 04/29/2013		Time: 09:49:00		Page: 1	
Field: Niobrara CONZ'83				Co-ordinate(NE) Reference: Well: 2-17-9-60, Grid North					
Site: Nelson 2-17-9-60 Pad				Vertical (TVD) Reference: 4991'GL+17'KB 4508.0					
Well: 2-17-9-60				Section (VS) Reference: Well (0.00N,0.00E,0.73Azi)					
Wellpath: Original Hole				Survey Calculation Method: Minimum Curvature Db: Adapti					

Field: Niobrara CONZ'83									
Map System: US State Plane Coordinate System 1983					Map Zone: Colorado, Northern Zone				
Geo Datum: GRS 1980					Coordinate System: Well Centre				
Sys Datum: Mean Sea Level					Geomagnetic Model: IGRF2010				

Site: Nelson 2-17-9-60 Pad									
Weld County, CO									
Site Position:		Northing: 1516469.00 ft		Latitude: 40 44 34.562 N					
From: Map		Easting: 3382061.35 ft		Longitude: 104 7 16.287 W					
Position Uncertainty: 0.00 ft				North Reference: Grid					
Ground Level: 4991.00 ft				Grid Convergence: 0.89 deg					

Well: 2-17-9-60									
Slot Name:									
Well Position: +N/-S 0.00 ft		Northing: 1516469.00 ft		Latitude: 40 44 34.562 N					
+E/-W 0.00 ft		Easting: 3382061.35 ft		Longitude: 104 7 16.287 W					
Position Uncertainty: 0.00 ft									

Wellpath: Original Hole									
Current Datum: 4991'GL+17'KB		Height 4508.00 ft		Drilled From: Surface					
Magnetic Data: 03/21/2013				Tie-on Depth: 0.00 ft					
Field Strength: 53230 nT				Above System Datum: Mean Sea Level					
Vertical Section: Depth From (TVD)		+N/-S		Declination: 8.30 deg					
ft		ft		Mag Dip Angle: 67.37 deg					
				+E/-W		Direction			
				ft		deg			
0.00		0.00		0.00		0.73			

Survey Program for Definitive Wellpath									
Date: 04/12/2013		Validated: No		Version: 2					
Actual From To		Survey		Toolcode		Tool Name			
ft ft									
106.00 10852.00		Survey #1 (106.00-10852.00)		MWD		Std MWD			
10910.00 10910.00		Survey #2 (10910.00-10910.00)		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
106.00	0.00	32.40	106.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD
137.00	0.40	271.30	137.00	0.00	-0.11	0.00	1.29	1.29	0.00	MWD
229.00	1.90	254.60	228.98	-0.40	-1.90	-0.42	1.65	1.63	-18.15	MWD
322.00	3.70	258.60	321.86	-1.40	-6.33	-1.48	1.95	1.94	4.30	MWD
416.00	5.50	262.70	415.56	-2.57	-13.77	-2.75	1.95	1.91	4.36	MWD
508.00	6.30	261.80	507.07	-3.85	-23.14	-4.14	0.88	0.87	-0.98	MWD
600.00	7.30	259.50	598.42	-5.64	-33.88	-6.07	1.13	1.09	-2.50	MWD
692.00	7.80	257.80	689.62	-8.02	-45.73	-8.60	0.60	0.54	-1.85	MWD
784.00	7.70	252.50	780.78	-11.19	-57.71	-11.93	0.78	-0.11	-5.76	MWD
876.00	6.30	246.00	872.10	-15.10	-68.20	-15.97	1.75	-1.52	-7.07	MWD
968.00	6.20	245.10	963.55	-19.24	-77.32	-20.23	0.15	-0.11	-0.98	MWD
1059.00	6.40	243.20	1054.00	-23.60	-86.30	-24.70	0.32	0.22	-2.09	MWD
1151.00	6.60	243.90	1145.41	-28.24	-95.63	-29.45	0.23	0.22	0.76	MWD
1243.00	6.60	246.20	1236.80	-32.70	-105.21	-34.04	0.29	0.00	2.50	MWD
1335.00	6.60	246.70	1328.19	-36.92	-114.91	-38.38	0.06	0.00	0.54	MWD
1373.00	6.80	244.80	1365.93	-38.74	-118.95	-40.26	0.79	0.53	-5.00	MWD
1450.00	7.10	245.60	1442.37	-42.65	-127.41	-44.27	0.41	0.39	1.04	MWD
1493.00	7.30	246.10	1485.03	-44.86	-132.33	-46.54	0.49	0.47	1.16	MWD
1578.00	7.80	246.60	1569.29	-49.33	-142.56	-51.15	0.59	0.59	0.59	MWD
1663.00	7.70	248.10	1653.51	-53.75	-153.13	-55.70	0.27	-0.12	1.76	MWD
1748.00	7.40	242.10	1737.78	-58.43	-163.25	-60.51	0.99	-0.35	-7.06	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 04/29/2013	Time: 09:49:00	Page: 2
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-17-9-60, Grid North		
Site: Nelson 2-17-9-60 Pad	Vertical (TVD) Reference: 4991'GL+17'KB 4508.0		
Well: 2-17-9-60	Section (VS) Reference: Well (0.00N,0.00E,0.73Azi)		
Wellpath: Original Hole	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
1782.00	7.30	239.30	1771.50	-60.56	-167.05	-62.68	1.09	-0.29	-8.24	MWD
1867.00	7.00	240.10	1855.84	-65.90	-176.18	-68.14	0.37	-0.35	0.94	MWD
1953.00	6.60	251.60	1941.24	-70.07	-185.41	-72.43	1.65	-0.47	13.37	MWD
2038.00	6.50	247.50	2025.68	-73.46	-194.49	-75.93	0.56	-0.12	-4.82	MWD
2123.00	6.40	248.90	2110.14	-77.00	-203.36	-79.59	0.22	-0.12	1.65	MWD
2208.00	7.00	256.50	2194.56	-79.92	-212.81	-82.62	1.26	0.71	8.94	MWD
2293.00	6.70	253.30	2278.96	-82.55	-222.60	-85.38	0.57	-0.35	-3.76	MWD
2377.00	6.50	250.90	2362.40	-85.51	-231.79	-88.46	0.41	-0.24	-2.86	MWD
2462.00	6.10	255.60	2446.89	-88.21	-240.71	-91.27	0.77	-0.47	5.53	MWD
2547.00	6.30	253.90	2531.39	-90.63	-249.56	-93.80	0.32	0.24	-2.00	MWD
2633.00	6.60	253.00	2616.85	-93.38	-258.82	-96.67	0.37	0.35	-1.05	MWD
2718.00	6.10	251.90	2701.32	-96.21	-267.79	-99.62	0.61	-0.59	-1.29	MWD
2803.00	6.90	255.40	2785.78	-98.90	-277.02	-102.43	1.05	0.94	4.12	MWD
2888.00	7.50	257.50	2870.11	-101.39	-287.38	-105.04	0.77	0.71	2.47	MWD
2974.00	7.30	257.00	2955.39	-103.84	-298.18	-107.63	0.24	-0.23	-0.58	MWD
3059.00	7.30	256.70	3039.70	-106.29	-308.70	-110.22	0.04	0.00	-0.35	MWD
3144.00	7.20	254.20	3124.02	-108.99	-319.08	-113.04	0.39	-0.12	-2.94	MWD
3229.00	7.10	251.90	3208.36	-112.07	-329.20	-116.25	0.36	-0.12	-2.71	MWD
3314.00	6.90	253.20	3292.73	-115.18	-339.08	-119.49	0.30	-0.24	1.53	MWD
3400.00	6.40	248.40	3378.15	-118.43	-348.48	-122.86	0.87	-0.58	-5.58	MWD
3484.00	6.40	248.20	3461.63	-121.89	-357.18	-126.44	0.03	0.00	-0.24	MWD
3569.00	7.30	242.40	3546.02	-126.16	-366.36	-130.81	1.33	1.06	-6.82	MWD
3654.00	7.10	242.40	3630.35	-131.09	-375.81	-135.87	0.24	-0.24	0.00	MWD
3740.00	7.20	241.40	3715.68	-136.13	-385.25	-141.03	0.19	0.12	-1.16	MWD
3825.00	7.90	240.50	3799.94	-141.56	-395.01	-146.58	0.84	0.82	-1.06	MWD
3910.00	8.60	242.40	3884.06	-147.38	-405.72	-152.54	0.88	0.82	2.24	MWD
3995.00	7.70	245.40	3968.21	-152.70	-416.53	-157.99	1.17	-1.06	3.53	MWD
4080.00	7.30	248.40	4052.48	-157.05	-426.73	-162.48	0.66	-0.47	3.53	MWD
4165.00	7.20	251.20	4136.80	-160.76	-436.80	-166.31	0.43	-0.12	3.29	MWD
4251.00	6.90	255.40	4222.15	-163.80	-446.90	-169.48	0.69	-0.35	4.88	MWD
4336.00	6.90	256.80	4306.53	-166.25	-456.81	-172.06	0.20	0.00	1.65	MWD
4421.00	5.30	263.20	4391.05	-167.88	-465.68	-173.80	2.04	-1.88	7.53	MWD
4506.00	5.70	256.80	4475.66	-169.31	-473.69	-175.33	0.86	0.47	-7.53	MWD
4590.00	6.50	258.60	4559.18	-171.20	-482.41	-177.34	0.98	0.95	2.14	MWD
4674.00	7.10	260.90	4642.59	-172.96	-492.20	-179.22	0.78	0.71	2.74	MWD
4759.00	6.90	261.60	4726.96	-174.54	-502.43	-180.93	0.26	-0.24	0.82	MWD
4844.00	6.70	258.60	4811.36	-176.27	-512.35	-182.78	0.48	-0.24	-3.53	MWD
4929.00	6.80	246.50	4895.78	-179.25	-521.82	-185.89	1.67	0.12	-14.24	MWD
5013.00	7.30	244.90	4979.14	-183.50	-531.22	-190.25	0.64	0.60	-1.90	MWD
5098.00	7.20	252.80	5063.46	-187.37	-541.19	-194.25	1.18	-0.12	9.29	MWD
5184.00	7.00	256.30	5148.80	-190.20	-551.43	-197.21	0.55	-0.23	4.07	MWD
5269.00	7.90	250.50	5233.09	-193.38	-561.97	-200.52	1.38	1.06	-6.82	MWD
5354.00	6.70	252.60	5317.40	-196.81	-572.21	-204.09	1.45	-1.41	2.47	MWD
5439.00	6.90	249.80	5401.80	-200.06	-581.73	-207.45	0.46	0.24	-3.29	MWD
5525.00	7.40	253.00	5487.13	-203.46	-591.88	-210.98	0.74	0.58	3.72	MWD
5610.00	6.10	252.40	5571.54	-206.43	-601.42	-214.07	1.53	-1.53	-0.71	MWD
5694.00	6.70	251.60	5655.02	-209.32	-610.32	-217.08	0.72	0.71	-0.95	MWD
5708.00	6.70	250.70	5668.92	-209.85	-611.87	-217.63	0.75	0.00	-6.43	MWD
5755.00	6.90	253.50	5715.59	-211.56	-617.16	-219.40	0.82	0.43	5.96	MWD
5797.00	8.90	280.00	5757.20	-211.71	-622.78	-219.63	9.77	4.76	63.10	MWD
5840.00	12.80	289.70	5799.43	-209.53	-630.55	-217.54	9.98	9.07	22.56	MWD
5883.00	17.50	286.90	5840.92	-206.04	-641.22	-214.19	11.06	10.93	-6.51	MWD
5925.00	21.50	285.30	5880.51	-202.17	-654.70	-210.50	9.61	9.52	-3.81	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 04/29/2013	Time: 09:49:00	Page: 3
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-17-9-60, Grid North		
Site: Nelson 2-17-9-60 Pad	Vertical (TVD) Reference: 4991'GL+17"KB 4508.0		
Well: 2-17-9-60	Section (VS) Reference: Well (0.00N,0.00E,0.73Azi)		
Wellpath: Original Hole	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
5968.00	24.20	282.70	5920.13	-198.15	-670.90	-206.68	6.70	6.28	-6.05	MWD
6010.00	27.40	286.60	5957.94	-193.50	-688.56	-202.25	8.62	7.62	9.29	MWD
6053.00	31.60	293.80	5995.37	-186.12	-708.37	-195.13	12.77	9.77	16.74	MWD
6096.00	35.60	299.90	6031.19	-175.33	-729.54	-184.61	12.16	9.30	14.19	MWD
6138.00	39.30	307.50	6064.54	-161.12	-750.71	-170.67	14.08	8.81	18.10	MWD
6181.00	40.80	315.00	6097.48	-142.89	-771.46	-152.70	11.75	3.49	17.44	MWD
6223.00	40.40	321.00	6129.38	-122.60	-789.73	-132.65	9.34	-0.95	14.29	MWD
6265.00	40.20	327.70	6161.43	-100.55	-805.55	-110.81	10.33	-0.48	15.95	MWD
6308.00	42.60	330.10	6193.68	-76.20	-820.22	-86.65	6.69	5.58	5.58	MWD
6350.00	45.50	332.60	6223.87	-50.58	-834.21	-61.20	8.05	6.90	5.95	MWD
6393.00	49.80	336.30	6252.83	-21.91	-847.87	-32.71	11.85	10.00	8.60	MWD
6435.00	53.50	340.70	6278.90	8.73	-859.91	-2.22	12.04	8.81	10.48	MWD
6478.00	56.10	344.20	6303.69	42.23	-870.48	31.14	8.99	6.05	8.14	MWD
6521.00	59.00	347.00	6326.76	77.37	-879.49	66.16	8.70	6.74	6.51	MWD
6563.00	61.50	348.10	6347.60	112.97	-887.35	101.66	6.37	5.95	2.62	MWD
6606.00	63.40	349.00	6367.49	150.34	-894.91	138.92	4.79	4.42	2.09	MWD
6629.00	65.20	350.00	6377.46	170.71	-898.69	159.25	8.75	7.83	4.35	MWD
6698.00	69.50	355.10	6404.04	233.82	-906.89	222.25	9.24	6.23	7.39	MWD
6740.00	72.20	0.20	6417.83	273.44	-908.51	261.84	13.15	6.43	12.14	MWD
6782.00	75.72	1.96	6429.43	313.79	-907.74	302.20	9.29	8.37	4.19	600' entry
6783.00	75.80	2.00	6429.68	314.76	-907.71	303.17	9.29	8.39	4.12	MWD
6825.00	81.40	1.40	6437.98	355.90	-906.49	344.32	13.41	13.33	-1.43	MWD
6868.00	88.00	1.60	6441.95	398.67	-905.37	387.11	15.36	15.35	0.47	MWD
6911.00	90.00	1.30	6442.70	441.65	-904.28	430.09	4.70	4.65	-0.70	MWD
6953.00	90.00	0.70	6442.70	483.65	-903.55	472.09	1.43	0.00	-1.43	MWD
6996.00	89.20	0.70	6443.00	526.64	-903.02	515.09	1.86	-1.86	0.00	MWD
7038.00	87.80	359.90	6444.10	568.62	-902.80	557.08	3.84	-3.33	-1.90	MWD
7081.00	87.20	359.00	6445.97	611.58	-903.21	600.02	2.51	-1.40	-2.09	MWD
7123.00	89.00	358.80	6447.36	653.55	-904.02	641.98	4.31	4.29	-0.48	MWD
7165.00	90.70	359.00	6447.47	695.54	-904.83	683.95	4.08	4.05	0.48	MWD
7207.00	90.80	359.10	6446.92	737.53	-905.52	725.93	0.34	0.24	0.24	MWD
7250.00	89.80	357.20	6446.70	780.50	-906.91	768.89	4.99	-2.33	-4.42	MWD
7292.00	89.60	357.40	6446.92	822.46	-908.89	810.81	0.67	-0.48	0.48	MWD
7335.00	89.30	0.20	6447.33	865.44	-909.79	853.78	6.55	-0.70	6.51	MWD
7378.00	89.30	0.00	6447.86	908.44	-909.71	896.77	0.47	0.00	-0.47	MWD
7420.00	88.70	359.50	6448.59	950.43	-909.90	938.76	1.86	-1.43	-1.19	MWD
7463.00	88.40	0.60	6449.68	993.42	-909.86	981.74	2.65	-0.70	2.56	MWD
7505.00	89.30	2.10	6450.52	1035.39	-908.87	1023.73	4.16	2.14	3.57	MWD
7548.00	90.00	1.10	6450.78	1078.38	-907.67	1066.72	2.84	1.63	-2.33	MWD
7591.00	89.80	359.90	6450.86	1121.37	-907.29	1109.72	2.83	-0.47	-2.79	MWD
7633.00	89.60	359.30	6451.08	1163.37	-907.59	1151.71	1.51	-0.48	-1.43	MWD
7676.00	88.40	2.10	6451.83	1206.36	-907.06	1194.70	7.08	-2.79	6.51	MWD
7719.00	88.00	1.40	6453.18	1249.31	-905.75	1237.67	1.87	-0.93	-1.63	MWD
7761.00	89.00	1.40	6454.28	1291.29	-904.72	1279.66	2.38	2.38	0.00	MWD
7804.00	89.60	2.10	6454.80	1334.26	-903.41	1322.65	2.14	1.40	1.63	MWD
7846.00	91.30	4.40	6454.47	1376.19	-901.03	1364.60	6.81	4.05	5.48	MWD
7889.00	90.50	2.70	6453.80	1419.10	-898.37	1407.54	4.37	-1.86	-3.95	MWD
7932.00	88.80	2.10	6454.06	1462.06	-896.57	1450.52	4.19	-3.95	-1.40	MWD
7974.00	88.10	2.00	6455.20	1504.02	-895.07	1492.49	1.68	-1.67	-0.24	MWD
8017.00	89.70	2.00	6456.02	1546.98	-893.57	1535.47	3.72	3.72	0.00	MWD
8059.00	90.50	2.00	6455.95	1588.96	-892.10	1577.46	1.90	1.90	0.00	MWD
8102.00	91.60	359.90	6455.16	1631.94	-891.39	1620.45	5.51	2.56	-4.88	MWD
8145.00	91.10	359.10	6454.15	1674.93	-891.76	1663.43	2.19	-1.16	-1.86	MWD
8187.00	91.10	359.50	6453.34	1716.92	-892.27	1705.41	0.95	0.00	0.95	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Nelson 2-17-9-60 Pad Well: 2-17-9-60 Wellpath: Original Hole	Date: 04/29/2013 Time: 09:49:00 Page: 4 Co-ordinate(NE) Reference: Well: 2-17-9-60, Grid North Vertical (TVD) Reference: 4991'GL+17'KB 4508.0 Section (VS) Reference: Well (0.00N,0.00E,0.73Azi) 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
8230.00	89.80	359.00	6453.00	1759.91	-892.84	1748.39	3.24	-3.02	-1.16	MWD
8272.00	89.30	358.60	6453.33	1801.90	-893.72	1790.37	1.52	-1.19	-0.95	MWD
8314.00	89.10	357.90	6453.92	1843.87	-895.00	1832.32	1.73	-0.48	-1.67	MWD
8357.00	88.20	357.70	6454.93	1886.83	-896.65	1875.25	2.14	-2.09	-0.47	MWD
8399.00	87.70	357.20	6456.44	1928.76	-898.52	1917.16	1.68	-1.19	-1.19	MWD
8442.00	90.00	358.60	6457.30	1971.72	-900.09	1960.09	6.26	5.35	3.26	MWD
8485.00	90.70	359.50	6457.04	2014.71	-900.81	2003.07	2.65	1.63	2.09	MWD
8527.00	90.80	358.60	6456.49	2056.70	-901.50	2045.05	2.16	0.24	-2.14	MWD
8570.00	90.50	357.70	6456.00	2099.68	-902.89	2088.00	2.21	-0.70	-2.09	MWD
8612.00	90.00	358.40	6455.82	2141.65	-904.32	2129.96	2.05	-1.19	1.67	MWD
8655.00	89.40	357.20	6456.04	2184.62	-905.97	2172.90	3.12	-1.40	-2.79	MWD
8697.00	90.10	359.70	6456.22	2226.60	-907.11	2214.86	6.18	1.67	5.95	MWD
8740.00	91.00	2.50	6455.81	2269.59	-906.28	2257.85	6.84	2.09	6.51	MWD
8782.00	90.70	2.30	6455.19	2311.54	-904.52	2299.83	0.86	-0.71	-0.48	MWD
8825.00	90.00	2.10	6454.93	2354.51	-902.87	2342.82	1.69	-1.63	-0.47	MWD
8868.00	89.80	2.10	6455.00	2397.48	-901.29	2385.80	0.47	-0.47	0.00	MWD
8910.00	89.60	2.30	6455.22	2439.45	-899.68	2427.79	0.67	-0.48	0.48	MWD
8953.00	89.30	1.60	6455.63	2482.42	-898.22	2470.78	1.77	-0.70	-1.63	MWD
8996.00	89.50	1.10	6456.08	2525.41	-897.21	2513.77	1.25	0.47	-1.16	MWD
9038.00	89.90	0.70	6456.30	2567.40	-896.55	2555.77	1.35	0.95	-0.95	MWD
9081.00	89.90	359.30	6456.38	2610.40	-896.55	2598.77	3.26	0.00	-3.26	MWD
9124.00	89.30	358.10	6456.68	2653.39	-897.52	2641.74	3.12	-1.40	-2.79	MWD
9166.00	89.10	357.90	6457.27	2695.36	-898.99	2683.69	0.67	-0.48	-0.48	MWD
9209.00	88.60	357.60	6458.13	2738.32	-900.68	2726.62	1.36	-1.16	-0.70	MWD
9251.00	89.30	358.40	6458.90	2780.28	-902.14	2768.56	2.53	1.67	1.90	MWD
9294.00	89.50	359.50	6459.35	2823.27	-902.93	2811.54	2.60	0.47	2.56	MWD
9336.00	89.90	0.40	6459.57	2865.27	-902.97	2853.54	2.34	0.95	2.14	MWD
9378.00	91.50	0.90	6459.05	2907.26	-902.49	2895.53	3.99	3.81	1.19	MWD
9420.00	91.10	0.20	6458.10	2949.25	-902.09	2937.52	1.92	-0.95	-1.67	MWD
9462.00	89.30	1.30	6457.96	2991.25	-901.54	2979.52	5.02	-4.29	2.62	MWD
9504.00	89.40	1.10	6458.43	3033.23	-900.66	3021.51	0.53	0.24	-0.48	MWD
9547.00	89.20	0.40	6458.96	3076.23	-900.09	3064.51	1.69	-0.47	-1.63	MWD
9589.00	88.50	359.90	6459.80	3118.22	-899.98	3106.50	2.05	-1.67	-1.19	MWD
9632.00	89.50	0.20	6460.55	3161.21	-899.95	3149.49	2.43	2.33	0.70	MWD
9674.00	91.30	0.60	6460.26	3203.21	-899.65	3191.48	4.39	4.29	0.95	MWD
9717.00	93.60	0.70	6458.42	3246.16	-899.17	3234.44	5.35	5.35	0.23	MWD
9759.00	94.40	359.50	6455.49	3288.06	-899.09	3276.34	3.43	1.90	-2.86	MWD
9801.00	94.00	359.10	6452.41	3329.94	-899.60	3318.21	1.35	-0.95	-0.95	MWD
9843.00	94.10	358.40	6449.45	3371.83	-900.52	3360.08	1.68	0.24	-1.67	MWD
9886.00	94.40	358.10	6446.26	3414.69	-901.83	3402.92	0.99	0.70	-0.70	MWD
9929.00	95.10	359.30	6442.70	3457.53	-902.80	3445.75	3.22	1.63	2.79	MWD
9971.00	95.10	358.80	6438.97	3499.36	-903.49	3487.56	1.19	0.00	-1.19	MWD
10014.00	94.30	357.90	6435.44	3542.19	-904.73	3530.38	2.80	-1.86	-2.09	MWD
10056.00	91.90	358.40	6433.17	3584.11	-906.08	3572.27	5.84	-5.71	1.19	MWD
10099.00	91.50	358.40	6431.90	3627.07	-907.28	3615.22	0.93	-0.93	0.00	MWD
10142.00	90.80	1.40	6431.03	3670.06	-907.36	3658.20	7.16	-1.63	6.98	MWD
10184.00	90.70	1.40	6430.48	3712.04	-906.33	3700.19	0.24	-0.24	0.00	MWD
10227.00	90.70	1.40	6429.96	3755.02	-905.28	3743.19	0.00	0.00	0.00	MWD
10269.00	89.40	1.40	6429.92	3797.01	-904.25	3785.18	3.10	-3.10	0.00	MWD
10312.00	88.80	1.10	6430.60	3840.00	-903.32	3828.18	1.56	-1.40	-0.70	MWD
10355.00	88.50	0.90	6431.61	3882.98	-902.57	3871.16	0.84	-0.70	-0.47	MWD
10397.00	88.30	1.10	6432.78	3924.95	-901.83	3913.15	0.67	-0.48	0.48	MWD
10440.00	88.00	0.60	6434.17	3967.93	-901.20	3956.12	1.36	-0.70	-1.16	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Nelson 2-17-9-60 Pad Well: 2-17-9-60 Wellpath: Original Hole	Date: 04/29/2013 Time: 09:49:00 Page: 5 Co-ordinate(NE) Reference: Well: 2-17-9-60, Grid North Vertical (TVD) Reference: 4991'GL+17'KB 4508.0 Section (VS) Reference: Well (0.00N,0.00E,0.73Azi) 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
10482.00	87.70	0.70	6435.75	4009.89	-900.72	3998.09	0.75	-0.71	0.24	MWD
10524.00	87.00	0.70	6437.69	4051.85	-900.21	4040.05	1.67	-1.67	0.00	MWD
10567.00	88.90	1.10	6439.23	4094.81	-899.53	4083.02	4.52	4.42	0.93	MWD
10609.00	88.60	0.20	6440.14	4136.80	-899.06	4125.01	2.26	-0.71	-2.14	MWD
10652.00	88.40	0.20	6441.27	4179.78	-898.91	4167.99	0.47	-0.47	0.00	MWD
10695.00	88.90	0.60	6442.28	4222.77	-898.61	4210.98	1.49	1.16	0.93	MWD
10737.00	89.30	0.90	6442.94	4264.76	-898.06	4252.97	1.19	0.95	0.71	MWD
10772.00	89.14	0.33	6443.42	4299.76	-897.68	4287.97	1.69	-0.47	-1.63	600' exit
10780.00	89.10	0.20	6443.54	4307.75	-897.64	4295.97	1.69	-0.47	-1.63	MWD
10822.00	89.00	0.70	6444.24	4349.75	-897.31	4337.96	1.21	-0.24	1.19	MWD
10852.00	88.90	0.70	6444.79	4379.74	-896.95	4367.96	0.33	-0.33	0.00	MWD
10910.00	88.90	0.70	6445.90	4437.73	-896.24	4425.95	0.00	0.00	0.00	Project

Annotation

MD ft	TVD ft	
6782.00	6429.43	600' entry
10772.00	6443.42	600' exit