



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
State 1-16 (DA)	-100.00	-3930.49	59.03	1516973.66	3386643.84	40°44'38.840N104°06'16.658W		Point
SL 2-16	0.00	0.00	0.00	1520904.15	3386584.81	40°45'17.682N104°06'16.621W		Point
600' entry 2-16	6365.48	124.35	-406.25	1521028.50	3386178.56	40°45'18.974N104°06'21.874W		Point
BHL 2-16	6421.95	-3956.80	-314.03	1516947.35	3386270.78	40°44'38.638N104°06'21.509W		Point
PBHL 2-16	6430.00	-3957.97	-320.68	1516946.18	3386264.13	40°44'38.628N104°06'21.596W		Point

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 12/30/2013	Time: 12:59:24	Page: 1
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-16-9-60, Grid North		
Site: State 16-11-9-60	Vertical (TVD) Reference: 5011'GL+17'KB 5028.0		
Well: 2-16-9-60	Section (VS) Reference: Well (0.00N,0.00E,178.95Azi)		
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: State 16-11-9-60		
Weld County, CO		
Site Position:	Northing: 1520935.59 ft	Latitude: 40 45 17.998 N
From: Map	Easting: 3386552.65 ft	Longitude: 104 6 17.032 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 5011.00 ft		Grid Convergence: 0.90 deg

Well: 2-16-9-60	Slot Name: 2-16	
adjusted from site 6-24		
Well Position: +N/-S -31.44 ft	Northing: 1520904.15 ft	Latitude: 40 45 17.682 N
+E/-W 32.16 ft	Easting: 3386584.81 ft	Longitude: 104 6 16.621 W
Position Uncertainty: 0.00 ft		

Wellpath: Original Hole	Drilled From: Surface		
Current Datum: 5011'GL+17'KB	Tie-on Depth: 0.00 ft		
Magnetic Data: 12/18/2013	Above System Datum: Mean Sea Level		
Field Strength: 53159 nT	Declination: 8.20 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.35 deg		
ft	+N/-S	+E/-W	Direction
	ft	ft	deg
0.00	0.00	0.00	178.95

Survey Program for Definitive Wellpath				
Date: 12/25/2013	Validated: No	Version: 5		
Actual From	To	Survey	Toolcode	Tool Name
ft	ft			
151.00	10596.00	Survey #1 (151.00-10596.00)	MWD	Std MWD
10653.00	10653.00	Survey #2 (10653.00-10653.00)	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
151.00	0.20	5.00	151.00	0.26	0.02	-0.26	0.13	0.13	0.00	MWD
245.00	2.60	257.80	244.97	-0.02	-2.05	-0.01	2.84	2.55	-114.04	MWD
338.00	4.10	252.70	337.81	-1.46	-7.28	1.33	1.64	1.61	-5.48	MWD
432.00	6.60	254.30	431.39	-3.92	-15.69	3.63	2.66	2.66	1.70	MWD
525.00	6.40	252.70	523.79	-6.91	-25.79	6.43	0.29	-0.22	-1.72	MWD
619.00	5.40	271.30	617.30	-8.37	-35.21	7.72	2.28	-1.06	19.79	MWD
713.00	5.50	298.20	710.89	-6.14	-43.61	5.34	2.70	0.11	28.62	MWD
806.00	6.50	324.90	803.40	0.28	-50.56	-1.20	3.15	1.08	28.71	MWD
900.00	6.90	332.00	896.76	9.62	-56.27	-10.65	0.98	0.43	7.55	MWD
993.00	6.90	332.10	989.08	19.49	-61.51	-20.61	0.01	0.00	0.11	MWD
1087.00	7.00	332.50	1082.39	29.56	-66.80	-30.78	0.12	0.11	0.43	MWD
1180.00	6.70	333.00	1174.73	39.42	-71.88	-40.73	0.33	-0.32	0.54	MWD
1274.00	6.50	332.30	1268.11	49.01	-76.84	-50.41	0.23	-0.21	-0.74	MWD
1368.00	6.50	331.40	1361.50	58.40	-81.86	-59.89	0.11	0.00	-0.96	MWD
1410.00	6.70	331.80	1403.22	62.64	-84.15	-64.17	0.49	0.48	0.95	MWD
1534.00	6.90	333.90	1526.35	75.71	-90.85	-77.36	0.26	0.16	1.69	MWD
1620.00	7.20	336.40	1611.70	85.28	-95.28	-87.02	0.50	0.35	2.91	MWD
1705.00	7.10	339.00	1696.04	95.07	-99.29	-96.87	0.40	-0.12	3.06	MWD
1790.00	7.20	342.30	1780.38	105.05	-102.80	-106.91	0.50	0.12	3.88	MWD
1876.00	7.40	324.00	1865.70	114.66	-107.69	-116.62	2.70	0.23	-21.28	MWD
1961.00	6.90	319.00	1950.03	122.95	-114.26	-125.02	0.94	-0.59	-5.88	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 12/30/2013	Time: 12:59:24	Page: 2
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-16-9-60, Grid North		
Site: State 16-11-9-60	Vertical (TVD) Reference: 5011'GL+17'KB 5028.0		
Well: 2-16-9-60	Section (VS) Reference: Well (0.00N,0.00E,178.95Azi)		
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
2046.00	6.20	316.30	2034.48	130.12	-120.78	-132.31	0.90	-0.82	-3.18	MWD
2132.00	6.20	315.40	2119.98	136.78	-127.25	-139.09	0.11	0.00	-1.05	MWD
2217.00	6.60	314.40	2204.45	143.47	-133.96	-145.90	0.49	0.47	-1.18	MWD
2302.00	6.20	310.50	2288.92	149.87	-140.94	-152.42	0.69	-0.47	-4.59	MWD
2387.00	6.20	309.10	2373.42	155.74	-147.99	-158.43	0.18	0.00	-1.65	MWD
2473.00	6.30	326.20	2458.92	162.59	-154.22	-165.39	2.16	0.12	19.88	MWD
2558.00	6.00	325.60	2543.43	170.13	-159.33	-173.03	0.36	-0.35	-0.71	MWD
2643.00	7.10	327.70	2627.87	178.24	-164.65	-181.23	1.32	1.29	2.47	MWD
2728.00	6.90	326.30	2712.24	186.93	-170.28	-190.02	0.31	-0.24	-1.65	MWD
2814.00	7.10	328.40	2797.60	195.75	-175.94	-198.94	0.38	0.23	2.44	MWD
2899.00	7.50	327.70	2881.91	204.92	-181.65	-208.21	0.48	0.47	-0.82	MWD
2984.00	7.80	327.40	2966.15	214.46	-187.72	-217.87	0.36	0.35	-0.35	MWD
3069.00	8.10	329.10	3050.33	224.46	-193.91	-227.98	0.45	0.35	2.00	MWD
3155.00	8.20	330.00	3135.47	234.97	-200.09	-238.60	0.19	0.12	1.05	MWD
3240.00	7.90	329.10	3219.63	245.23	-206.12	-248.97	0.38	-0.35	-1.06	MWD
3325.00	7.20	330.60	3303.89	254.89	-211.73	-258.72	0.86	-0.82	1.76	MWD
3410.00	5.80	336.40	3388.34	263.46	-216.07	-267.38	1.82	-1.65	6.82	MWD
3496.00	7.60	334.20	3473.75	272.57	-220.28	-276.56	2.11	2.09	-2.56	MWD
3581.00	7.60	332.10	3558.01	282.59	-225.36	-286.68	0.33	0.00	-2.47	MWD
3666.00	7.80	328.40	3642.24	292.48	-231.01	-296.66	0.63	0.24	-4.35	MWD
3751.00	8.60	328.30	3726.37	302.80	-237.37	-307.09	0.94	0.94	-0.12	MWD
3836.00	9.20	328.40	3810.35	313.99	-244.27	-318.41	0.71	0.71	0.12	MWD
3922.00	9.60	329.30	3895.19	326.01	-251.54	-330.57	0.50	0.47	1.05	MWD
4007.00	8.60	324.40	3979.12	337.27	-258.85	-341.96	1.49	-1.18	-5.76	MWD
4092.00	8.20	323.70	4063.21	347.33	-266.14	-352.15	0.49	-0.47	-0.82	MWD
4177.00	8.10	323.00	4147.35	356.99	-273.33	-361.94	0.17	-0.12	-0.82	MWD
4263.00	7.20	322.50	4232.59	366.11	-280.26	-371.18	1.05	-1.05	-0.58	MWD
4348.00	6.20	325.60	4317.00	374.12	-286.10	-379.30	1.25	-1.18	3.65	MWD
4433.00	5.90	329.50	4401.53	381.67	-290.91	-386.94	0.60	-0.35	4.59	MWD
4518.00	5.50	333.70	4486.11	389.09	-294.93	-394.43	0.68	-0.47	4.94	MWD
4603.00	6.70	333.00	4570.63	397.16	-298.99	-402.57	1.41	1.41	-0.82	MWD
4689.00	6.50	338.60	4656.06	406.16	-303.04	-411.65	0.78	-0.23	6.51	MWD
4774.00	7.70	335.80	4740.41	415.84	-307.13	-421.39	1.47	1.41	-3.29	MWD
4859.00	7.60	335.10	4824.65	426.13	-311.83	-431.77	0.16	-0.12	-0.82	MWD
4944.00	7.10	337.60	4908.95	436.08	-316.20	-441.80	0.70	-0.59	2.94	MWD
5030.00	4.70	332.00	4994.49	444.11	-319.88	-449.90	2.87	-2.79	-6.51	MWD
5115.00	5.00	328.10	5079.19	450.33	-323.47	-456.18	0.52	0.35	-4.59	MWD
5200.00	8.40	329.30	5163.59	458.81	-328.60	-464.76	4.00	4.00	1.41	MWD
5285.00	7.60	326.90	5247.76	468.86	-334.84	-474.92	1.02	-0.94	-2.82	MWD
5371.00	5.90	322.50	5333.17	477.13	-340.64	-483.30	2.06	-1.98	-5.12	MWD
5456.00	7.30	328.10	5417.60	485.18	-346.15	-491.45	1.81	1.65	6.59	MWD
5541.00	6.90	331.30	5501.95	494.25	-351.46	-500.61	0.66	-0.47	3.76	MWD
5626.00	4.90	331.30	5586.50	501.91	-355.65	-508.34	2.35	-2.35	0.00	MWD
5711.00	3.60	332.80	5671.26	507.47	-358.61	-513.96	1.53	-1.53	1.76	MWD
5789.00	2.60	330.90	5749.14	511.19	-360.59	-517.72	1.29	-1.28	-2.44	MWD
5832.00	1.00	210.70	5792.13	511.72	-361.26	-518.26	7.49	-3.72	-279.53	MWD
5875.00	7.00	199.10	5835.01	508.92	-362.31	-515.48	14.01	13.95	-26.98	MWD
5917.00	12.80	193.60	5876.36	501.98	-364.24	-508.57	13.98	13.81	-13.10	MWD
5960.00	17.10	195.40	5917.90	491.25	-367.04	-497.89	10.06	10.00	4.19	MWD
6002.00	19.30	193.10	5957.80	478.53	-370.26	-485.24	5.51	5.24	-5.48	MWD
6045.00	20.90	190.60	5998.18	464.07	-373.28	-470.83	4.22	3.72	-5.81	MWD
6088.00	22.10	187.60	6038.19	448.51	-375.76	-455.32	3.78	2.79	-6.98	MWD
6130.00	24.80	185.70	6076.71	431.91	-377.68	-438.76	6.68	6.43	-4.52	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 12/30/2013	Time: 12:59:24	Page: 3
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-16-9-60, Grid North		
Site: State 16-11-9-60	Vertical (TVD) Reference: 5011'GL+17'KB 5028.0		
Well: 2-16-9-60	Section (VS) Reference: Well (0.00N,0.00E,178.95Azi)		
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
6173.00	28.20	186.20	6115.19	412.83	-379.67	-419.72	7.92	7.91	1.16	MWD
6215.00	32.70	187.50	6151.39	391.71	-382.23	-398.65	10.83	10.71	3.10	MWD
6258.00	39.00	189.80	6186.23	366.83	-386.05	-373.85	14.98	14.65	5.35	MWD
6301.00	43.70	190.10	6218.50	338.86	-390.96	-345.97	10.94	10.93	0.70	MWD
6343.00	49.20	188.30	6247.42	308.82	-395.80	-316.02	13.46	13.10	-4.29	MWD
6386.00	53.30	185.70	6274.34	275.55	-399.87	-282.83	10.64	9.53	-6.05	MWD
6428.00	56.30	183.10	6298.55	241.33	-402.49	-248.67	8.75	7.14	-6.19	MWD
6471.00	58.30	182.50	6321.78	205.20	-404.25	-212.57	4.80	4.65	-1.40	MWD
6514.00	60.80	181.80	6343.57	168.16	-405.64	-175.56	5.98	5.81	-1.63	MWD
6556.00	65.30	180.10	6362.60	130.73	-406.25	-138.16	11.30	10.71	-4.05	MWD
6563.00	66.14	180.00	6365.48	124.35	-406.25	-131.78	12.02	11.95	-1.47	600' entry
6643.00	75.70	178.90	6391.60	48.84	-405.51	-56.26	12.02	11.95	-1.37	MWD
6685.00	79.40	179.40	6400.65	7.84	-404.90	-15.26	8.89	8.81	1.19	MWD
6728.00	80.90	179.00	6408.01	-34.52	-404.31	27.11	3.61	3.49	-0.93	MWD
6771.00	82.70	178.30	6414.14	-77.07	-403.30	69.66	4.49	4.19	-1.63	MWD
6813.00	86.60	178.30	6418.06	-118.86	-402.06	111.47	9.29	9.29	0.00	MWD
6856.00	90.60	177.30	6419.11	-161.80	-400.41	154.44	9.59	9.30	-2.33	MWD
6898.00	92.50	176.90	6417.97	-203.73	-398.29	196.40	4.62	4.52	-0.95	MWD
6941.00	90.70	176.90	6416.77	-246.65	-395.97	239.35	4.19	-4.19	0.00	MWD
6984.00	91.00	176.70	6416.13	-289.58	-393.57	282.32	0.84	0.70	-0.47	MWD
7026.00	90.70	176.70	6415.51	-331.50	-391.15	324.28	0.71	-0.71	0.00	MWD
7069.00	89.10	177.80	6415.58	-374.45	-389.08	367.26	4.52	-3.72	2.56	MWD
7112.00	88.80	177.80	6416.37	-417.41	-387.43	410.24	0.70	-0.70	0.00	MWD
7154.00	89.00	177.40	6417.18	-459.37	-385.68	452.23	1.06	0.48	-0.95	MWD
7197.00	89.90	178.50	6417.59	-502.34	-384.14	495.22	3.31	2.09	2.56	MWD
7239.00	90.10	178.50	6417.59	-544.32	-383.04	537.21	0.48	0.48	0.00	MWD
7282.00	89.90	178.90	6417.59	-587.31	-382.06	580.21	1.04	-0.47	0.93	MWD
7325.00	89.90	178.70	6417.67	-630.30	-381.16	623.21	0.47	0.00	-0.47	MWD
7367.00	90.40	178.30	6417.56	-672.29	-380.06	665.21	1.52	1.19	-0.95	MWD
7410.00	89.90	178.50	6417.44	-715.27	-378.86	708.21	1.25	-1.16	0.47	MWD
7453.00	89.10	178.10	6417.82	-758.25	-377.59	751.20	2.08	-1.86	-0.93	MWD
7495.00	88.90	178.00	6418.55	-800.22	-376.16	793.19	0.53	-0.48	-0.24	MWD
7538.00	90.40	179.40	6418.81	-843.21	-375.18	836.19	4.77	3.49	3.26	MWD
7581.00	90.00	179.90	6418.66	-886.20	-374.92	879.19	1.49	-0.93	1.16	MWD
7623.00	90.20	179.40	6418.59	-928.20	-374.66	921.18	1.28	0.48	-1.19	MWD
7666.00	91.40	179.70	6417.99	-971.20	-374.33	964.18	2.88	2.79	0.70	MWD
7708.00	90.90	179.90	6417.15	-1013.19	-374.18	1006.16	1.28	-1.19	0.48	MWD
7751.00	90.70	180.10	6416.55	-1056.18	-374.18	1049.15	0.66	-0.47	0.47	MWD
7794.00	90.60	179.60	6416.06	-1099.18	-374.07	1092.14	1.19	-0.23	-1.16	MWD
7836.00	90.50	179.20	6415.66	-1141.18	-373.63	1134.14	0.98	-0.24	-0.95	MWD
7879.00	90.50	179.00	6415.28	-1184.17	-372.95	1177.14	0.47	0.00	-0.47	MWD
7922.00	90.50	178.90	6414.91	-1227.16	-372.16	1220.14	0.23	0.00	-0.23	MWD
7964.00	90.80	179.00	6414.43	-1269.15	-371.39	1262.13	0.75	0.71	0.24	MWD
8007.00	91.20	179.00	6413.68	-1312.14	-370.64	1305.13	0.93	0.93	0.00	MWD
8049.00	89.60	179.60	6413.39	-1354.13	-370.13	1347.12	4.07	-3.81	1.43	MWD
8092.00	89.20	179.90	6413.84	-1397.13	-369.94	1390.12	1.16	-0.93	0.70	MWD
8134.00	89.10	179.70	6414.46	-1439.12	-369.80	1432.11	0.53	-0.24	-0.48	MWD
8177.00	89.10	179.70	6415.13	-1482.12	-369.57	1475.10	0.00	0.00	0.00	MWD
8220.00	88.90	179.60	6415.89	-1525.11	-369.31	1518.09	0.52	-0.47	-0.23	MWD
8262.00	88.90	179.70	6416.69	-1567.10	-369.05	1560.08	0.24	0.00	0.24	MWD
8305.00	88.80	179.90	6417.55	-1610.09	-368.90	1603.06	0.52	-0.23	0.47	MWD
8348.00	88.70	179.60	6418.49	-1653.08	-368.71	1646.05	0.74	-0.23	-0.70	MWD
8390.00	88.50	179.60	6419.52	-1695.07	-368.42	1688.03	0.48	-0.48	0.00	MWD
8433.00	88.90	178.30	6420.49	-1738.05	-367.63	1731.02	3.16	0.93	-3.02	MWD

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.	Date: 12/30/2013	Time: 12:59:24	Page: 4
Field: Niobrara CONZ'83	Co-ordinate(NE) Reference: Well: 2-16-9-60, Grid North		
Site: State 16-11-9-60	Vertical (TVD) Reference: 5011'GL+17'KB 5028.0		
Well: 2-16-9-60	Section (VS) Reference: Well (0.00N,0.00E,178.95Azi)		
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
8475.00	88.70	178.00	6421.37	-1780.02	-366.28	1773.01	0.86	-0.48	-0.71	MWD
8518.00	90.40	178.00	6421.71	-1822.99	-364.78	1816.00	3.95	3.95	0.00	MWD
8561.00	90.30	177.80	6421.45	-1865.96	-363.20	1858.99	0.52	-0.23	-0.47	MWD
8603.00	90.20	177.80	6421.27	-1907.93	-361.59	1900.98	0.24	-0.24	0.00	MWD
8646.00	90.10	177.60	6421.15	-1950.89	-359.86	1943.97	0.52	-0.23	-0.47	MWD
8689.00	91.10	178.70	6420.70	-1993.87	-358.48	1986.96	3.46	2.33	2.56	MWD
8731.00	91.30	178.50	6419.82	-2035.85	-357.45	2028.95	0.67	0.48	-0.48	MWD
8774.00	91.40	178.30	6418.81	-2078.82	-356.25	2071.94	0.52	0.23	-0.47	MWD
8816.00	91.90	178.10	6417.60	-2120.78	-354.93	2113.92	1.28	1.19	-0.48	MWD
8859.00	91.30	177.80	6416.40	-2163.74	-353.39	2156.90	1.56	-1.40	-0.70	MWD
8901.00	91.20	177.60	6415.48	-2205.69	-351.71	2198.88	0.53	-0.24	-0.48	MWD
8944.00	90.40	178.10	6414.88	-2248.66	-350.09	2241.86	2.19	-1.86	1.16	MWD
8987.00	90.50	178.30	6414.55	-2291.63	-348.74	2284.86	0.52	0.23	0.47	MWD
9029.00	88.90	178.30	6414.77	-2333.61	-347.50	2326.85	3.81	-3.81	0.00	MWD
9072.00	89.00	178.00	6415.55	-2376.58	-346.11	2369.84	0.74	0.23	-0.70	MWD
9114.00	89.10	178.00	6416.25	-2418.55	-344.64	2411.83	0.24	0.24	0.00	MWD
9157.00	89.00	177.60	6416.96	-2461.51	-342.99	2454.82	0.96	-0.23	-0.93	MWD
9200.00	89.00	177.80	6417.71	-2504.47	-341.27	2497.80	0.47	0.00	0.47	MWD
9242.00	89.00	177.80	6418.45	-2546.44	-339.66	2539.78	0.00	0.00	0.00	MWD
9285.00	89.20	176.90	6419.12	-2589.38	-337.67	2582.76	2.14	0.47	-2.09	MWD
9328.00	89.60	175.70	6419.57	-2632.29	-334.89	2625.71	2.94	0.93	-2.79	MWD
9370.00	89.40	178.10	6419.94	-2674.23	-332.62	2667.68	5.73	-0.48	5.71	MWD
9413.00	90.10	178.50	6420.13	-2717.21	-331.35	2710.68	1.87	1.63	0.93	MWD
9456.00	89.20	181.00	6420.39	-2760.20	-331.16	2753.67	6.18	-2.09	5.81	MWD
9498.00	89.30	181.00	6420.94	-2802.19	-331.89	2795.64	0.24	0.24	0.00	MWD
9541.00	88.90	180.80	6421.61	-2845.18	-332.57	2838.61	1.04	-0.93	-0.47	MWD
9583.00	88.90	180.80	6422.42	-2887.17	-333.15	2880.58	0.00	0.00	0.00	MWD
9626.00	90.50	181.10	6422.65	-2930.16	-333.87	2923.55	3.79	3.72	0.70	MWD
9669.00	90.10	181.00	6422.42	-2973.15	-334.66	2966.52	0.96	-0.93	-0.23	MWD
9711.00	90.10	180.60	6422.35	-3015.15	-335.24	3008.50	0.95	0.00	-0.95	MWD
9754.00	89.70	180.60	6422.42	-3058.15	-335.69	3051.48	0.93	-0.93	0.00	MWD
9796.00	90.00	179.90	6422.53	-3100.14	-335.88	3093.47	1.81	0.71	-1.67	MWD
9839.00	89.90	179.60	6422.57	-3143.14	-335.69	3136.46	0.74	-0.23	-0.70	MWD
9882.00	89.80	179.20	6422.68	-3186.14	-335.24	3179.46	0.96	-0.23	-0.93	MWD
9924.00	89.90	178.50	6422.79	-3228.13	-334.39	3221.46	1.68	0.24	-1.67	MWD
9967.00	89.70	178.10	6422.94	-3271.11	-333.12	3264.46	1.04	-0.47	-0.93	MWD
10009.00	89.70	178.00	6423.16	-3313.09	-331.69	3306.45	0.24	0.00	-0.24	MWD
10052.00	89.80	177.40	6423.35	-3356.05	-329.96	3349.44	1.41	0.23	-1.40	MWD
10095.00	89.90	177.30	6423.46	-3399.01	-327.98	3392.43	0.33	0.23	-0.23	MWD
10137.00	90.00	178.50	6423.50	-3440.98	-326.44	3434.42	2.87	0.24	2.86	MWD
10180.00	90.40	178.50	6423.35	-3483.96	-325.31	3477.42	0.93	0.93	0.00	MWD
10222.00	90.50	178.30	6423.02	-3525.95	-324.14	3519.41	0.53	0.24	-0.48	MWD
10265.00	90.40	178.50	6422.68	-3568.93	-322.94	3562.41	0.52	-0.23	0.47	MWD
10308.00	90.40	178.10	6422.38	-3611.91	-321.66	3605.41	0.93	0.00	-0.93	MWD
10350.00	90.60	178.10	6422.01	-3653.88	-320.27	3647.40	0.48	0.48	0.00	MWD
10393.00	90.70	177.60	6421.53	-3696.85	-318.66	3690.39	1.19	0.23	-1.16	MWD
10435.00	90.10	179.60	6421.23	-3738.83	-317.63	3732.38	4.97	-1.43	4.76	MWD
10478.00	90.10	179.40	6421.16	-3781.83	-317.26	3775.38	0.47	0.00	-0.47	MWD
10521.00	90.10	179.00	6421.08	-3824.83	-316.66	3818.38	0.93	0.00	-0.93	MWD
10563.00	89.80	178.70	6421.12	-3866.82	-315.81	3860.38	1.01	-0.71	-0.71	MWD
10596.00	89.40	178.90	6421.35	-3899.81	-315.12	3893.38	1.36	-1.21	0.61	MWD
10653.00	89.40	178.90	6421.95	-3956.80	-314.03	3950.38	0.00	0.00	0.00	Project

Precision Directional Services, Inc.

Survey Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: State 16-11-9-60
Well: 2-16-9-60
Wellpath: Original Hole

Date: 12/30/2013 **Time:** 12:59:24 **Page:** 5
Co-ordinate(NE) Reference: Well: 2-16-9-60, Grid North
Vertical (TVD) Reference: 5011'GL+17'KB 5028.0
Section (VS) Reference: Well (0.00N,0.00E,178.95Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Annotation

MD ft	TVD ft	
6563.00	6365.48	600' entry