



# CARRIZO

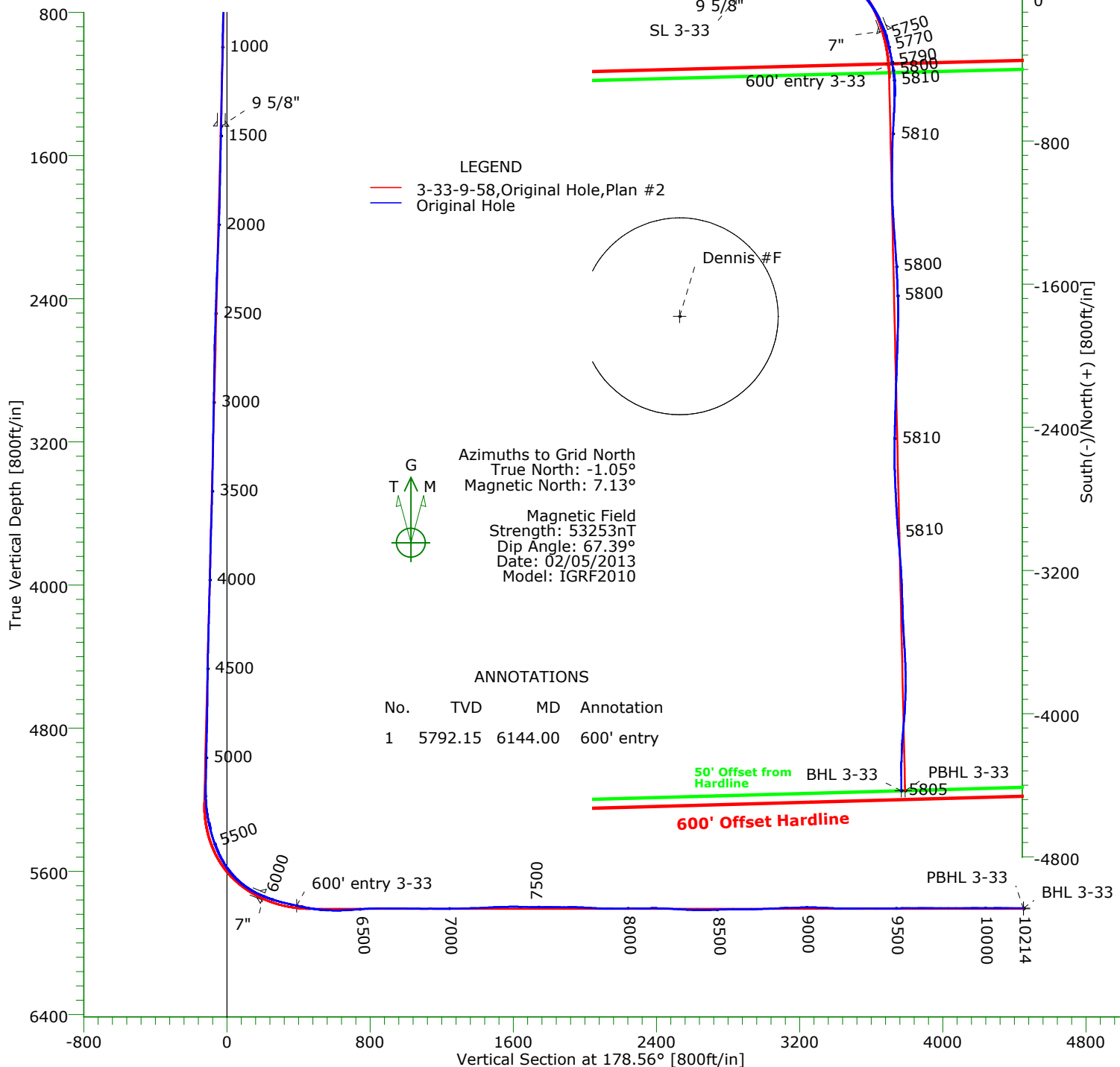
**CARRIZO OIL & GAS, INC.**  
Field: Niobrara CONZ'83  
Site: Bringelson Ranch 33-21-9-58 Pad  
Well: 3-33-9-58  
Wellpath: Original Hole



**Precision**  
Directional Services

## CASING DETAILS

No.	TVD	MD	Name	Size
1	1436.91	1445.00	9 5/8"	9.625
2	5740.00	5947.48	7"	7.000



## ANNOTATIONS

No.	TVD	MD	Annotation
1	5792.15	6144.00	600' entry

## TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Dennis #F	-100.00	-1778.90	-315.39	1505416.84	3451541.90	40°42'33.727N103°52'16.412W		Circle (Radius: 550)
SL 3-33	0.00	0.00	0.00	1507195.74	3451857.29	40°42'51.245N103°52'11.892W		Point
600' entry 3-33	5792.15	-367.88	871.97	1506827.86	3452729.26	40°42'47.452N103°52'00.659W		Point
BHL 3-33	5805.37	-4429.41	922.22	1502766.33	3452779.51	40°42'07.317N103°52'00.978W		Point
PBHL 3-33	5810.00	-4429.41	943.45	1502766.33	3452800.74	40°42'07.313N103°52'00.702W		Point

Wellpath: (3-33-9-58/Original Hole)

Created By: Shane Nelson Date: 04/02/2013

**PRECISION DIRECTIONAL SERVICES, INC.**

**713.435.6250**

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC.		<b>Date:</b> 04/02/2013	<b>Time:</b> 10:22:04	<b>Page:</b> 1
<b>Field:</b> Niobrara CONZ'83		<b>Co-ordinate(NE) Reference:</b> Well: 3-33-9-58, Grid North		
<b>Site:</b> Bringelson Ranch 33-21-9-58 Pad		<b>Vertical (TVD) Reference:</b> 4842'GL+17"KB 4859.0		
<b>Well:</b> 3-33-9-58		<b>Section (VS) Reference:</b> Well (0.00N,0.00E,178.56Azi)		
<b>Wellpath:</b> Original Hole		<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> Adapti	

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

<b>Site:</b> Bringelson Ranch 33-21-9-58 Pad				
<b>Weld County, CO</b>				
<b>Site Position:</b>	<b>Northing:</b> 1507165.75 ft	<b>Latitude:</b> 40 42 50.948 N		
<b>From:</b> Map	<b>Easting:</b> 3451858.07 ft	<b>Longitude:</b> 103 52 11.889 W		
<b>Position Uncertainty:</b> 0.00 ft		<b>North Reference:</b> Grid		
<b>Ground Level:</b> 4842.00 ft		<b>Grid Convergence:</b> 1.05 deg		

<b>Well:</b> 3-33-9-58 centered on 33-21		<b>Slot Name:</b> 3-33		
<b>Well Position:</b> +N/-S 29.99 ft	<b>Northing:</b> 1507195.74 ft	<b>Latitude:</b> 40 42 51.245 N		
+E/-W -0.78 ft	<b>Easting :</b> 3451857.29 ft	<b>Longitude:</b> 103 52 11.892 W		
<b>Position Uncertainty:</b> 0.00 ft				

<b>Wellpath:</b> Original Hole		<b>Drilled From:</b> Surface	
<b>Current Datum:</b> 4842'GL+17"KB		<b>Tie-on Depth:</b> 0.00 ft	
<b>Magnetic Data:</b> 02/05/2013		<b>Above System Datum:</b> Mean Sea Level	
<b>Field Strength:</b> 53253 nT		<b>Declination:</b> 8.18 deg	
<b>Vertical Section:</b> Depth From (TVD)		<b>Mag Dip Angle:</b> 67.39 deg	
ft	+N/-S ft	+E/-W ft	<b>Direction</b> deg
0.00	0.00	0.00	178.56

<b>Survey Program for Definitive Wellpath</b>				
<b>Date:</b> 02/17/2013		<b>Validated:</b> No	<b>Version:</b> 0	
<b>Actual From</b> ft	<b>To</b> ft	<b>Survey</b>	<b>Toolcode</b>	<b>Tool Name</b>
108.00	10152.00	Survey #1 (108.00-10152.00)	MWD	Std MWD
10214.00	10214.00	Survey #2 (10214.00-10214.00)	Project	Projection

<b>Survey</b>										
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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
108.00	0.90	241.80	108.00	-0.40	-0.75	0.38	0.83	0.83	0.00	MWD
139.00	0.90	230.20	138.99	-0.67	-1.15	0.64	0.59	0.00	-37.42	MWD
231.00	1.70	59.70	230.98	-0.45	-0.53	0.43	2.82	0.87	-185.33	MWD
323.00	3.50	51.80	322.88	1.98	2.86	-1.91	1.99	1.96	-8.59	MWD
417.00	5.80	60.40	416.57	6.10	9.25	-5.87	2.55	2.45	9.15	MWD
509.00	7.30	68.80	507.97	10.51	18.74	-10.04	1.93	1.63	9.13	MWD
600.00	7.90	73.40	598.17	14.39	30.12	-13.63	0.94	0.66	5.05	MWD
692.00	8.10	76.20	689.27	17.74	42.47	-16.67	0.48	0.22	3.04	MWD
783.00	7.50	77.10	779.43	20.60	54.49	-19.22	0.67	-0.66	0.99	MWD
874.00	7.40	76.60	869.66	23.28	65.98	-21.61	0.13	-0.11	-0.55	MWD
965.00	6.40	80.10	960.00	25.51	76.68	-23.57	1.19	-1.10	3.85	MWD
1057.00	6.30	79.70	1051.44	27.29	86.69	-25.11	0.12	-0.11	-0.43	MWD
1148.00	6.40	79.40	1141.88	29.12	96.59	-26.68	0.12	0.11	-0.33	MWD
1239.00	6.50	79.90	1232.30	30.96	106.65	-28.27	0.13	0.11	0.55	MWD
1330.00	6.50	80.40	1322.72	32.72	116.80	-29.77	0.06	0.00	0.55	MWD
1374.00	6.90	80.40	1366.42	33.57	121.86	-30.50	0.91	0.91	0.00	MWD
1488.00	6.70	78.30	1479.62	36.06	135.12	-32.66	0.28	-0.18	-1.84	MWD
1573.00	6.70	77.10	1564.04	38.18	144.81	-34.53	0.16	0.00	-1.41	MWD
1658.00	6.00	77.40	1648.51	40.25	153.98	-36.37	0.82	-0.82	0.35	MWD
1743.00	6.70	80.30	1732.99	42.06	163.20	-37.94	0.91	0.82	3.41	MWD
1769.00	6.60	79.60	1758.82	42.58	166.17	-38.39	0.50	-0.38	-2.69	MWD

# Precision Directional Services, Inc.

## Survey Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Bringelson Ranch 33-21-9-58 Pad  
**Well:** 3-33-9-58  
**Wellpath:** Original Hole

**Date:** 04/02/2013 **Time:** 10:22:04 **Page:** 2  
**Co-ordinate(NE) Reference:** Well: 3-33-9-58, Grid North  
**Vertical (TVD) Reference:** 4842'GL+17"KB 4859.0  
**Section (VS) Reference:** Well (0.00N,0.00E,178.56Azi)  
**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
1854.00	6.90	79.40	1843.23	44.40	175.99	-39.97	0.35	0.35	-0.24	MWD
1939.00	7.80	73.80	1927.53	46.95	186.55	-42.25	1.35	1.06	-6.59	MWD
2024.00	7.30	71.80	2011.79	50.25	197.22	-45.28	0.66	-0.59	-2.35	MWD
2110.00	7.00	69.20	2097.12	53.82	207.31	-48.59	0.51	-0.35	-3.02	MWD
2195.00	7.50	72.00	2181.45	57.37	217.43	-51.89	0.72	0.59	3.29	MWD
2280.00	6.90	66.70	2265.78	61.10	227.39	-55.37	1.05	-0.71	-6.24	MWD
2366.00	7.60	77.10	2351.09	64.42	237.68	-58.42	1.73	0.81	12.09	MWD
2450.00	7.50	74.50	2434.36	67.12	248.38	-60.86	0.42	-0.12	-3.10	MWD
2535.00	7.80	74.60	2518.61	70.14	259.28	-63.60	0.35	0.35	0.12	MWD
2621.00	7.90	73.80	2603.80	73.33	270.59	-66.51	0.17	0.12	-0.93	MWD
2706.00	7.00	81.50	2688.08	75.73	281.32	-68.64	1.58	-1.06	9.06	MWD
2791.00	6.90	82.20	2772.46	77.19	291.50	-69.84	0.15	-0.12	0.82	MWD
2876.00	6.90	82.40	2856.84	78.56	301.62	-70.95	0.03	0.00	0.24	MWD
2961.00	6.10	76.40	2941.30	80.29	311.07	-72.45	1.23	-0.94	-7.06	MWD
3047.00	6.10	79.20	3026.81	82.22	320.00	-74.16	0.35	0.00	3.26	MWD
3132.00	7.00	82.70	3111.26	83.73	329.57	-75.42	1.16	1.06	4.12	MWD
3217.00	7.30	79.90	3195.60	85.33	340.03	-76.76	0.54	0.35	-3.29	MWD
3303.00	7.30	79.20	3280.90	87.32	350.77	-78.47	0.10	0.00	-0.81	MWD
3388.00	7.70	81.50	3365.17	89.17	361.71	-80.05	0.59	0.47	2.71	MWD
3474.00	8.50	81.10	3450.31	91.00	373.69	-81.59	0.93	0.93	-0.47	MWD
3559.00	8.50	78.30	3534.38	93.25	386.05	-83.52	0.49	0.00	-3.29	MWD
3644.00	7.40	76.20	3618.56	95.83	397.51	-85.81	1.34	-1.29	-2.47	MWD
3728.00	6.90	71.60	3701.91	98.71	407.55	-88.44	0.90	-0.60	-5.48	MWD
3812.00	6.30	74.30	3785.35	101.55	416.78	-91.05	0.80	-0.71	3.21	MWD
3898.00	6.10	81.80	3870.85	103.48	425.84	-92.75	0.97	-0.23	8.72	MWD
3983.00	6.20	75.00	3955.36	105.31	434.75	-94.36	0.86	0.12	-8.00	MWD
4068.00	6.90	73.20	4039.81	107.98	444.07	-96.78	0.86	0.82	-2.12	MWD
4153.00	6.50	76.40	4124.23	110.58	453.63	-99.15	0.64	-0.47	3.76	MWD
4239.00	6.30	77.30	4209.69	112.77	462.97	-101.10	0.26	-0.23	1.05	MWD
4324.00	5.30	69.00	4294.26	115.20	471.18	-103.32	1.53	-1.18	-9.76	MWD
4409.00	5.70	80.30	4378.87	117.32	479.01	-105.24	1.36	0.47	13.29	MWD
4494.00	6.70	77.30	4463.37	119.12	488.01	-106.82	1.24	1.18	-3.53	MWD
4580.00	5.70	83.80	4548.87	120.68	497.15	-108.15	1.42	-1.16	7.56	MWD
4664.00	6.70	84.30	4632.37	121.62	506.17	-108.86	1.19	1.19	0.60	MWD
4750.00	7.40	82.90	4717.72	122.80	516.66	-109.78	0.84	0.81	-1.63	MWD
4835.00	6.90	76.20	4802.06	124.70	527.05	-111.41	1.14	-0.59	-7.88	MWD
4920.00	7.60	77.60	4886.38	127.12	537.50	-113.57	0.85	0.82	1.65	MWD
5004.00	6.60	82.50	4969.74	128.95	547.71	-115.14	1.39	-1.19	5.83	MWD
5089.00	7.30	77.40	5054.11	130.76	557.82	-116.70	1.10	0.82	-6.00	MWD
5113.00	7.20	78.50	5077.92	131.39	560.78	-117.26	0.71	-0.42	4.58	MWD
5152.00	7.30	78.50	5116.61	132.37	565.61	-118.12	0.26	0.26	0.00	MWD
5195.00	7.90	90.10	5159.23	132.91	571.24	-118.52	3.82	1.40	26.98	MWD
5237.00	9.80	106.40	5200.74	131.90	577.56	-117.34	7.45	4.52	38.81	MWD
5280.00	12.10	117.70	5242.96	128.77	585.06	-114.03	7.29	5.35	26.28	MWD
5322.00	15.00	123.50	5283.79	123.72	593.49	-108.77	7.62	6.90	13.81	MWD
5365.00	18.00	126.10	5325.01	116.74	603.50	-101.53	7.18	6.98	6.05	MWD
5408.00	22.90	126.00	5365.29	107.90	615.65	-92.39	11.40	11.40	-0.23	MWD
5450.00	25.20	127.70	5403.64	97.63	629.33	-81.78	5.72	5.48	4.05	MWD
5493.00	27.30	129.60	5442.21	85.74	644.18	-69.53	5.26	4.88	4.42	MWD
5536.00	31.40	131.80	5479.68	71.98	660.13	-55.37	9.86	9.53	5.12	MWD
5577.00	34.70	136.20	5514.05	56.43	676.18	-39.42	9.95	8.05	10.73	MWD
5620.00	37.90	138.80	5548.70	37.66	693.36	-20.22	8.26	7.44	6.05	MWD
5662.00	41.30	141.30	5581.06	17.13	710.52	0.73	8.94	8.10	5.95	MWD

# Precision Directional Services, Inc.

## Survey Report

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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
5705.00	46.30	142.30	5612.08	-6.26	728.91	24.58	11.74	11.63	2.33	MWD
5747.00	50.20	144.90	5640.05	-31.49	747.48	50.26	10.37	9.29	6.19	MWD
5790.00	54.40	147.90	5666.34	-59.83	766.28	79.06	11.22	9.77	6.98	MWD
5833.00	59.10	151.40	5689.92	-90.86	784.42	110.54	12.87	10.93	8.14	MWD
5875.00	63.00	155.00	5710.25	-123.66	800.96	143.75	11.93	9.29	8.57	MWD
5899.00	64.60	156.50	5720.84	-143.29	809.80	163.60	8.71	6.67	6.25	MWD
5947.00	68.80	159.00	5739.83	-184.09	826.48	204.80	9.97	8.75	5.21	MWD
5989.00	71.80	163.00	5753.99	-221.46	839.33	242.49	11.46	7.14	9.52	MWD
6032.00	74.30	165.70	5766.53	-261.07	850.42	282.35	8.36	5.81	6.28	MWD
6075.00	76.60	168.00	5777.33	-301.59	859.89	323.10	7.44	5.35	5.35	MWD
6117.00	78.10	170.30	5786.53	-341.83	867.60	363.53	6.43	3.57	5.48	MWD
6144.00	77.85	170.61	5792.15	-367.88	871.97	389.67	1.47	-0.93	1.16	600' entry
6160.00	77.70	170.80	5795.54	-383.31	874.50	405.16	1.47	-0.93	1.16	MWD
6202.00	79.40	173.60	5803.88	-424.09	880.08	446.07	7.69	4.05	6.67	MWD
6245.00	81.80	176.90	5810.91	-466.35	883.59	488.41	9.41	5.58	7.67	MWD
6288.00	84.80	179.20	5815.92	-509.03	885.04	531.11	8.77	6.98	5.35	MWD
6330.00	88.50	181.00	5818.38	-550.95	884.97	573.01	9.79	8.81	4.29	MWD
6373.00	90.00	181.90	5818.94	-593.93	883.88	615.95	4.07	3.49	2.09	MWD
6416.00	92.20	182.60	5818.11	-636.88	882.19	658.85	5.37	5.12	1.63	MWD
6459.00	94.50	183.10	5815.60	-679.75	880.06	701.66	5.47	5.35	1.16	MWD
6543.00	93.50	182.60	5809.74	-763.44	875.89	785.21	1.33	-1.19	-0.60	MWD
6586.00	91.80	182.60	5807.75	-806.35	873.94	828.06	3.95	-3.95	0.00	MWD
6628.00	90.40	182.40	5806.95	-848.30	872.11	869.95	3.37	-3.33	-0.48	MWD
6642.00	90.20	180.20	5806.87	-862.30	871.79	883.94	15.78	-1.43	-15.71	MWD
6684.00	89.60	181.70	5806.95	-904.29	871.10	925.90	3.85	-1.43	3.57	MWD
6727.00	89.30	180.30	5807.36	-947.28	870.35	968.86	3.33	-0.70	-3.26	MWD
6770.00	88.50	179.70	5808.19	-990.27	870.35	1011.83	2.33	-1.86	-1.40	MWD
6812.00	89.10	179.60	5809.07	-1032.26	870.60	1053.82	1.45	1.43	-0.24	MWD
6855.00	90.10	178.90	5809.37	-1075.26	871.17	1096.81	2.84	2.33	-1.63	MWD
6897.00	90.00	178.20	5809.33	-1117.24	872.23	1138.81	1.68	-0.24	-1.67	MWD
6940.00	89.60	177.10	5809.48	-1160.21	873.99	1181.80	2.72	-0.93	-2.56	MWD
6982.00	90.50	176.60	5809.44	-1202.14	876.30	1223.79	2.45	2.14	-1.19	MWD
7025.00	91.30	176.40	5808.77	-1245.06	878.92	1266.75	1.92	1.86	-0.47	MWD
7068.00	91.20	176.10	5807.83	-1287.96	881.74	1309.71	0.74	-0.23	-0.70	MWD
7110.00	91.50	175.70	5806.84	-1329.84	884.74	1351.65	1.19	0.71	-0.95	MWD
7153.00	92.20	176.40	5805.45	-1372.71	887.70	1394.59	2.30	1.63	1.63	MWD
7196.00	92.40	176.40	5803.73	-1415.59	890.40	1437.52	0.47	0.47	0.00	MWD
7238.00	92.70	175.70	5801.86	-1457.45	893.29	1479.44	1.81	0.71	-1.67	MWD
7281.00	92.10	176.90	5800.06	-1500.32	896.06	1522.37	3.12	-1.40	2.79	MWD
7323.00	91.20	177.50	5798.85	-1542.25	898.11	1564.34	2.58	-2.14	1.43	MWD
7366.00	89.80	177.60	5798.47	-1585.21	899.95	1607.33	3.26	-3.26	0.23	MWD
7408.00	88.50	177.80	5799.09	-1627.17	901.63	1649.32	3.13	-3.10	0.48	MWD
7451.00	88.80	177.80	5800.11	-1670.13	903.28	1692.30	0.70	0.70	0.00	MWD
7494.00	89.70	178.70	5800.67	-1713.10	904.60	1735.30	2.96	2.09	2.09	MWD
7536.00	90.00	179.70	5800.78	-1755.10	905.18	1777.29	2.49	0.71	2.38	MWD
7579.00	89.30	181.20	5801.04	-1798.10	904.84	1820.27	3.85	-1.63	3.49	MWD
7621.00	90.20	181.30	5801.23	-1840.08	903.93	1862.22	2.16	2.14	0.24	MWD
7664.00	90.40	181.30	5801.00	-1883.07	902.95	1905.17	0.47	0.47	0.00	MWD
7706.00	89.10	181.90	5801.18	-1925.06	901.78	1947.11	3.41	-3.10	1.43	MWD
7749.00	87.40	182.40	5802.50	-1968.00	900.17	1990.00	4.12	-3.95	1.16	MWD
7792.00	86.30	182.00	5804.86	-2010.91	898.52	2032.85	2.72	-2.56	-0.93	MWD
7834.00	87.30	181.90	5807.21	-2052.82	897.09	2074.71	2.39	2.38	-0.24	MWD
7877.00	88.40	181.70	5808.82	-2095.76	895.74	2117.61	2.60	2.56	-0.47	MWD
7919.00	90.50	181.90	5809.22	-2137.74	894.42	2159.54	5.02	5.00	0.48	MWD

# Precision Directional Services, Inc.

## Survey Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Bringelson Ranch 33-21-9-58 Pad  
**Well:** 3-33-9-58  
**Wellpath:** Original Hole

**Date:** 04/02/2013 **Time:** 10:22:04 **Page:** 4  
**Co-ordinate(NE) Reference:** Well: 3-33-9-58, Grid North  
**Vertical (TVD) Reference:** 4842'GL+17"KB 4859.0  
**Section (VS) Reference:** Well (0.00N,0.00E,178.56Azi)  
**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
7962.00	90.90	181.70	5808.70	-2180.71	893.07	2202.47	1.04	0.93	-0.47	MWD
8005.00	91.40	181.50	5807.83	-2223.69	891.87	2245.40	1.25	1.16	-0.47	MWD
8048.00	91.00	181.30	5806.93	-2266.67	890.82	2288.34	1.04	-0.93	-0.47	MWD
8090.00	89.60	181.20	5806.71	-2308.65	889.91	2330.29	3.34	-3.33	-0.24	MWD
8133.00	90.70	182.40	5806.60	-2351.63	888.56	2373.22	3.79	2.56	2.79	MWD
8176.00	88.40	181.30	5806.94	-2394.60	887.17	2416.14	5.93	-5.35	-2.56	MWD
8218.00	87.10	181.20	5808.59	-2436.56	886.25	2458.06	3.10	-3.10	-0.24	MWD
8261.00	86.40	181.00	5811.02	-2479.48	885.43	2500.95	1.69	-1.63	-0.47	MWD
8304.00	86.80	180.50	5813.57	-2522.40	884.87	2543.84	1.49	0.93	-1.16	MWD
8346.00	87.80	179.60	5815.55	-2564.36	884.83	2585.78	3.20	2.38	-2.14	MWD
8389.00	89.00	179.00	5816.75	-2607.34	885.35	2628.76	3.12	2.79	-1.40	MWD
8432.00	91.00	178.20	5816.75	-2650.32	886.41	2671.76	5.01	4.65	-1.86	MWD
8474.00	91.80	177.80	5815.73	-2692.28	887.87	2713.74	2.13	1.90	-0.95	MWD
8517.00	92.00	177.10	5814.30	-2735.21	889.78	2756.71	1.69	0.47	-1.63	MWD
8559.00	90.90	176.90	5813.24	-2777.14	891.98	2798.68	2.66	-2.62	-0.48	MWD
8602.00	90.70	177.50	5812.64	-2820.09	894.08	2841.67	1.47	-0.47	1.40	MWD
8644.00	90.00	176.60	5812.38	-2862.03	896.24	2883.65	2.71	-1.67	-2.14	MWD
8686.00	90.10	175.90	5812.35	-2903.94	898.99	2925.61	1.68	0.24	-1.67	MWD
8728.00	91.80	176.40	5811.65	-2945.84	901.81	2967.57	4.22	4.05	1.19	MWD
8770.00	92.20	175.90	5810.18	-2987.72	904.63	3009.51	1.52	0.95	-1.19	MWD
8813.00	92.70	175.40	5808.35	-3030.55	907.89	3052.41	1.64	1.16	-1.16	MWD
8856.00	92.90	174.60	5806.24	-3073.34	911.63	3095.28	1.92	0.47	-1.86	MWD
8898.00	91.90	175.90	5804.49	-3115.16	915.10	3137.17	3.90	-2.38	3.10	MWD
8941.00	91.60	175.90	5803.17	-3158.03	918.18	3180.10	0.70	-0.70	0.00	MWD
8983.00	90.70	176.60	5802.33	-3199.93	920.92	3222.06	2.71	-2.14	1.67	MWD
9026.00	89.70	177.10	5802.18	-3242.86	923.29	3265.04	2.60	-2.33	1.16	MWD
9069.00	88.10	178.00	5803.01	-3285.81	925.12	3308.02	4.27	-3.72	2.09	MWD
9111.00	86.90	178.20	5804.84	-3327.75	926.51	3349.98	2.90	-2.86	0.48	MWD
9154.00	87.80	178.00	5806.83	-3370.68	927.94	3392.93	2.14	2.09	-0.47	MWD
9197.00	90.00	178.20	5807.65	-3413.64	929.36	3435.92	5.14	5.12	0.47	MWD
9239.00	91.10	178.30	5807.25	-3455.62	930.65	3477.92	2.63	2.62	0.24	MWD
9282.00	89.50	176.40	5807.02	-3498.57	932.63	3520.90	5.78	-3.72	-4.42	MWD
9325.00	90.30	177.10	5807.10	-3541.50	935.07	3563.88	2.47	1.86	1.63	MWD
9367.00	90.10	176.80	5806.95	-3583.44	937.31	3605.87	0.86	-0.48	-0.71	MWD
9410.00	89.90	175.90	5806.95	-3626.35	940.04	3648.83	2.14	-0.47	-2.09	MWD
9452.00	90.20	177.10	5806.91	-3668.28	942.61	3690.81	2.95	0.71	2.86	MWD
9495.00	90.10	177.60	5806.80	-3711.23	944.60	3733.80	1.19	-0.23	1.16	MWD
9537.00	90.50	179.00	5806.58	-3753.21	945.84	3775.79	3.47	0.95	3.33	MWD
9580.00	90.20	179.70	5806.32	-3796.21	946.33	3818.79	1.77	-0.70	1.63	MWD
9622.00	90.00	179.90	5806.25	-3838.21	946.48	3860.78	0.67	-0.48	0.48	MWD
9665.00	90.10	181.30	5806.21	-3881.20	946.03	3903.75	3.26	0.23	3.26	MWD
9708.00	90.00	182.20	5806.17	-3924.18	944.71	3946.68	2.11	-0.23	2.09	MWD
9750.00	90.00	182.90	5806.17	-3966.14	942.84	3988.58	1.67	0.00	1.67	MWD
9793.00	90.00	184.50	5806.17	-4009.05	940.07	4031.41	3.72	0.00	3.72	MWD
9836.00	90.00	185.20	5806.17	-4051.89	936.43	4074.15	1.63	0.00	1.63	MWD
9878.00	90.00	184.50	5806.17	-4093.74	932.88	4115.89	1.67	0.00	-1.67	MWD
9920.00	90.50	184.80	5805.99	-4135.60	929.48	4157.66	1.39	1.19	0.71	MWD
9962.00	89.60	182.60	5805.95	-4177.51	926.77	4199.48	5.66	-2.14	-5.24	MWD
10005.00	90.10	182.00	5806.06	-4220.48	925.04	4242.39	1.82	1.16	-1.40	MWD
10047.00	90.50	182.00	5805.84	-4262.45	923.58	4284.32	0.95	0.95	0.00	MWD
10090.00	89.80	179.60	5805.73	-4305.44	922.98	4327.28	5.81	-1.63	-5.58	MWD
10132.00	90.10	180.50	5805.77	-4347.44	922.94	4369.26	2.26	0.71	2.14	MWD
10152.00	90.30	180.50	5805.70	-4367.44	922.77	4389.25	1.00	1.00	0.00	MWD

# Precision Directional Services, Inc.

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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
10214.00	90.30	180.50	5805.37	-4429.44	922.22	4451.22	0.00	0.00	0.00	Project

### Annotation

MD ft	TVD ft	
6144.00	5792.15	600' entry