



TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Duell B #1	-10.00	463.93	829.89	1474887.57	3401945.49	40°37'40.605N	104°03'06.816W	Circle (Radius: 330)
Duell et al #1-26	-10.00	4446.41	853.13	1478870.05	3401968.73	40°38'19.948N	104°03'05.671W	Circle (Radius: 330)
SL 2-26	0.00	0.00	0.00	1474423.64	3401115.60	40°37'36.155N	104°03'17.676W	Point
PBHL 2-26	6211.00	4449.34	523.27	1478872.98	3401638.87	40°38'20.031N	104°03'09.949W	Point
600' entry 2-26	6212.49	395.08	469.40	1474818.72	3401585.00	40°37'39.983N	104°03'11.506W	Point
BHL 2-26	6243.50	4448.91	535.85	1478872.55	3401651.45	40°38'20.024N	104°03'09.786W	Point

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC. <b>Field:</b> Niobrara CONZ'83 <b>Site:</b> Hemberger 26 Pad <b>Well:</b> 2-26-34-8-60 <b>Wellpath:</b> Original Hole	<b>Date:</b> 11/05/2012 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Survey Calculation Method:</b>	<b>Time:</b> 15:01:16 Well: 2-26-34-8-60, Grid North 4874'GL+17'KB 4891.0 Well (0.00N,0.00E,0.32Azi) Minimum Curvature	<b>Page:</b> 1 <b>Db:</b> Adapti
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<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> Hemberger 26 Pad			
Weld County, CO			
<b>Site Position:</b>	<b>Northing:</b> 1474476.56 ft	<b>Latitude:</b> 40 37 36.689 N	
<b>From:</b> Map	<b>Easting:</b> 3401047.83 ft	<b>Longitude:</b> 104 3 18.544 W	
<b>Position Uncertainty:</b> 0.00 ft		<b>North Reference:</b> Grid	
<b>Ground Level:</b> 4874.00 ft		<b>Grid Convergence:</b> 0.93 deg	

  

<b>Well:</b> 2-26-34-8-60			
adjusted from site 10-18			
<b>Well Position:</b> +N/-S -52.92 ft	<b>Northing:</b> 1474423.64 ft	<b>Latitude:</b> 40 37 36.155 N	
+E/-W 67.77 ft	<b>Easting :</b> 3401115.60 ft	<b>Longitude:</b> 104 3 17.676 W	
<b>Position Uncertainty:</b> 0.00 ft			

  

<b>Wellpath:</b> Original Hole		<b>Drilled From:</b> Surface	
<b>Current Datum:</b> 4874'GL+17'KB		<b>Tie-on Depth:</b> 0.00 ft	
<b>Magnetic Data:</b> 10/24/2012		<b>Above System Datum:</b> Mean Sea Level	
<b>Field Strength:</b> 53220 nT		<b>Declination:</b> 8.31 deg	
<b>Vertical Section:</b> Depth From (TVD)		<b>Mag Dip Angle:</b> 67.30 deg	
ft	+N/-S ft	+E/-W ft	<b>Direction</b> deg
0.00	0.00	0.00	0.32

  

<b>Survey Program for Definitive Wellpath</b>					
<b>Date:</b> 11/05/2012		<b>Validated:</b> No		<b>Version:</b> 1	
<b>Actual From</b>	<b>To</b>	<b>Survey</b>	<b>Toolcode</b>	<b>Tool Name</b>	
ft	ft				
113.00	10496.00	Survey #1 (113.00-10496.00)	MWD	Std MWD	
10584.00	10584.00	Survey #2 (10584.00-10584.00)	Project	Projection	

  

<b>Survey</b>										
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
113.00	0.10	149.90	113.00	-0.09	0.05	-0.09	0.09	0.09	0.00	MWD
207.00	1.40	98.60	206.99	-0.33	1.23	-0.32	1.43	1.38	-54.57	MWD
299.00	3.80	99.50	298.89	-1.00	5.34	-0.97	2.61	2.61	0.98	MWD
330.00	4.20	103.40	329.81	-1.43	7.46	-1.39	1.56	1.29	12.58	MWD
425.00	5.40	110.40	424.48	-3.80	15.04	-3.71	1.40	1.26	7.37	MWD
517.00	5.10	114.60	516.09	-7.01	22.81	-6.88	0.53	-0.33	4.57	MWD
610.00	4.70	114.60	608.75	-10.31	30.03	-10.15	0.43	-0.43	0.00	MWD
701.00	4.70	114.40	699.45	-13.41	36.82	-13.20	0.02	0.00	-0.22	MWD
794.00	4.70	112.80	792.13	-16.46	43.80	-16.21	0.14	0.00	-1.72	MWD
886.00	4.60	110.70	883.83	-19.22	50.73	-18.94	0.21	-0.11	-2.28	MWD
978.00	4.40	113.70	975.55	-21.94	57.41	-21.62	0.34	-0.22	3.26	MWD
1071.00	4.10	110.70	1068.29	-24.55	63.79	-24.20	0.40	-0.32	-3.23	MWD
1163.00	5.20	103.00	1159.99	-26.65	70.93	-26.26	1.37	1.20	-8.37	MWD
1255.00	5.60	103.70	1251.58	-28.65	79.35	-28.21	0.44	0.43	0.76	MWD
1347.00	4.90	108.30	1343.19	-30.95	87.44	-30.46	0.89	-0.76	5.00	MWD
1414.00	4.70	107.00	1409.96	-32.65	92.78	-32.13	0.34	-0.30	-1.94	MWD
1499.00	4.70	106.70	1494.67	-34.67	99.45	-34.12	0.03	0.00	-0.35	MWD
1583.00	4.80	105.50	1578.39	-36.60	106.13	-36.01	0.17	0.12	-1.43	MWD
1669.00	4.80	105.10	1664.08	-38.50	113.07	-37.87	0.04	0.00	-0.47	MWD
1754.00	5.10	102.80	1748.77	-40.26	120.19	-39.59	0.42	0.35	-2.71	MWD
1788.00	5.10	103.00	1782.63	-40.94	123.14	-40.25	0.05	0.00	0.59	MWD

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC. <b>Field:</b> Niobrara CONZ'83 <b>Site:</b> Hemberger 26 Pad <b>Well:</b> 2-26-34-8-60 <b>Wellpath:</b> Original Hole	<b>Date:</b> 11/05/2012 <b>Co-ordinate(NE) Reference:</b> Well: 2-26-34-8-60, Grid North <b>Vertical (TVD) Reference:</b> 4874'GL+17"KB 4891.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,0.32Azi) <b>Survey Calculation Method:</b> Minimum Curvature	<b>Time:</b> 15:01:16 <b>Page:</b> 2 <b>Db:</b> 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
1874.00	4.90	100.70	1868.30	-42.48	130.47	-41.75	0.33	-0.23	-2.67	MWD
1959.00	5.70	103.90	1952.94	-44.17	138.13	-43.39	1.00	0.94	3.76	MWD
2044.00	5.50	104.10	2037.54	-46.17	146.18	-45.36	0.24	-0.24	0.24	MWD
2129.00	4.80	97.60	2122.19	-47.64	153.66	-46.78	1.07	-0.82	-7.65	MWD
2214.00	5.00	104.20	2206.88	-49.01	160.77	-48.12	0.70	0.24	7.76	MWD
2300.00	5.30	110.60	2292.54	-51.33	168.13	-50.39	0.75	0.35	7.44	MWD
2385.00	5.00	108.10	2377.19	-53.86	175.32	-52.88	0.44	-0.35	-2.94	MWD
2471.00	4.20	107.40	2462.91	-55.97	181.89	-54.95	0.93	-0.93	-0.81	MWD
2556.00	4.00	106.50	2547.70	-57.74	187.70	-56.69	0.25	-0.24	-1.06	MWD
2641.00	4.00	102.50	2632.49	-59.23	193.44	-58.14	0.33	0.00	-4.71	MWD
2727.00	4.60	110.00	2718.25	-61.05	199.61	-59.94	0.95	0.70	8.72	MWD
2813.00	4.90	117.90	2803.95	-63.95	206.09	-62.80	0.84	0.35	9.19	MWD
2898.00	4.90	115.70	2888.64	-67.23	212.57	-66.04	0.22	0.00	-2.59	MWD
2982.00	4.20	115.80	2972.38	-70.12	218.58	-68.90	0.83	-0.83	0.12	MWD
3067.00	4.00	120.90	3057.16	-73.00	223.92	-71.75	0.49	-0.24	6.00	MWD
3152.00	4.40	115.30	3141.93	-75.91	229.41	-74.63	0.67	0.47	-6.59	MWD
3238.00	5.00	112.30	3227.64	-78.75	235.86	-77.43	0.75	0.70	-3.49	MWD
3323.00	6.30	109.00	3312.23	-81.67	243.70	-80.31	1.58	1.53	-3.88	MWD
3408.00	7.10	109.00	3396.65	-84.90	253.08	-83.48	0.94	0.94	0.00	MWD
3494.00	7.60	110.60	3481.94	-88.63	263.43	-87.16	0.63	0.58	1.86	MWD
3579.00	8.30	111.10	3566.12	-92.82	274.41	-91.28	0.83	0.82	0.59	MWD
3664.00	6.80	114.60	3650.38	-97.12	284.71	-95.53	1.84	-1.76	4.12	MWD
3749.00	5.10	112.80	3734.92	-100.68	292.77	-99.04	2.01	-2.00	-2.12	MWD
3835.00	4.10	105.50	3820.65	-102.98	299.26	-101.31	1.35	-1.16	-8.49	MWD
3920.00	4.00	101.40	3905.43	-104.38	305.09	-102.67	0.36	-0.12	-4.82	MWD
4005.00	4.10	102.00	3990.22	-105.60	310.97	-103.86	0.13	0.12	0.71	MWD
4090.00	5.10	111.80	4074.95	-107.63	317.45	-105.86	1.49	1.18	11.53	MWD
4175.00	5.10	113.00	4159.61	-110.51	324.44	-108.70	0.13	0.00	1.41	MWD
4260.00	4.70	103.90	4244.30	-112.82	331.29	-110.97	1.03	-0.47	-10.71	MWD
4346.00	5.00	94.90	4330.00	-113.99	338.45	-112.10	0.95	0.35	-10.47	MWD
4431.00	5.30	87.70	4414.65	-114.15	346.06	-112.22	0.84	0.35	-8.47	MWD
4516.00	5.50	88.40	4499.28	-113.88	354.06	-111.90	0.25	0.24	0.82	MWD
4601.00	5.50	96.10	4583.89	-114.20	362.18	-112.17	0.87	0.00	9.06	MWD
4687.00	5.90	107.60	4669.46	-115.97	370.49	-113.90	1.40	0.47	13.37	MWD
4772.00	4.70	104.60	4754.10	-118.17	378.02	-116.06	1.45	-1.41	-3.53	MWD
4857.00	3.30	108.50	4838.89	-119.83	383.71	-117.68	1.68	-1.65	4.59	MWD
4942.00	2.70	110.60	4923.77	-121.31	387.91	-119.14	0.72	-0.71	2.47	MWD
5028.00	2.20	122.70	5009.69	-122.91	391.19	-120.72	0.83	-0.58	14.07	MWD
5113.00	3.30	123.90	5094.60	-125.16	394.60	-122.95	1.30	1.29	1.41	MWD
5198.00	4.40	117.10	5179.40	-128.01	399.53	-125.77	1.40	1.29	-8.00	MWD
5283.00	5.40	108.60	5264.09	-130.77	406.22	-128.50	1.45	1.18	-10.00	MWD
5368.00	4.70	109.00	5348.76	-133.18	413.31	-130.87	0.82	-0.82	0.47	MWD
5453.00	4.10	105.50	5433.51	-135.12	419.53	-132.78	0.77	-0.71	-4.12	MWD
5539.00	4.40	102.10	5519.27	-136.64	425.72	-134.26	0.46	0.35	-3.95	MWD
5595.00	4.20	102.50	5575.12	-137.53	429.82	-135.13	0.36	-0.36	0.71	MWD
5638.00	4.40	91.10	5618.00	-137.90	433.01	-135.48	2.04	0.47	-26.51	MWD
5680.00	6.50	54.30	5659.82	-136.55	436.55	-134.11	9.46	5.00	-87.62	MWD
5722.00	10.20	33.20	5701.37	-132.04	440.52	-129.58	11.30	8.81	-50.24	MWD
5764.00	12.20	17.60	5742.58	-124.70	443.90	-122.22	8.60	4.76	-37.14	MWD
5806.00	14.90	3.70	5783.42	-115.08	445.59	-112.59	10.03	6.43	-33.10	MWD
5849.00	18.30	0.20	5824.62	-102.81	445.97	-100.31	8.24	7.91	-8.14	MWD
5891.00	21.60	1.40	5864.10	-88.48	446.18	-85.99	7.92	7.86	2.86	MWD
5934.00	24.60	359.60	5903.64	-71.61	446.31	-69.12	7.17	6.98	-4.19	MWD

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC.	<b>Date:</b> 11/05/2012	<b>Time:</b> 15:01:16	<b>Page:</b> 3
<b>Field:</b> Niobrara CONZ'83	<b>Co-ordinate(NE) Reference:</b> Well: 2-26-34-8-60, Grid North		
<b>Site:</b> Hemberger 26 Pad	<b>Vertical (TVD) Reference:</b> 4874'GL+17"KB 4891.0		
<b>Well:</b> 2-26-34-8-60	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,0.32Azi)		
<b>Wellpath:</b> Original Hole	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> 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
5977.00	28.00	358.20	5942.19	-52.57	445.93	-50.08	8.04	7.91	-3.26	MWD
6019.00	32.00	359.80	5978.55	-31.58	445.58	-29.09	9.71	9.52	3.81	MWD
6062.00	36.80	0.20	6014.02	-7.29	445.59	-4.80	11.18	11.16	0.93	MWD
6104.00	41.80	0.70	6046.51	19.30	445.80	21.79	11.93	11.90	1.19	MWD
6147.00	47.30	0.50	6077.15	49.45	446.12	51.94	12.79	12.79	-0.47	MWD
6178.00	50.40	0.30	6097.54	72.79	446.28	75.28	10.01	10.00	-0.65	MWD
6271.00	61.60	3.50	6149.47	149.71	448.97	152.21	12.37	12.04	3.44	MWD
6314.00	67.40	4.40	6167.98	188.41	451.65	190.93	13.62	13.49	2.09	MWD
6357.00	72.90	5.60	6182.57	228.68	455.18	231.22	13.06	12.79	2.79	MWD
6399.00	76.80	5.10	6193.55	269.04	458.96	271.60	9.36	9.29	-1.19	MWD
6442.00	80.40	4.90	6202.05	311.02	462.63	313.60	8.38	8.37	-0.47	MWD
6483.00	82.70	4.40	6208.07	351.44	465.92	354.04	5.74	5.61	-1.22	MWD
6526.00	85.70	4.70	6212.42	394.08	469.31	396.70	7.01	6.98	0.70	MWD
6527.00	85.76	4.70	6212.49	395.08	469.40	397.69	5.62	5.62	0.00	600' entry
6574.00	88.40	4.70	6214.89	441.85	473.24	444.49	5.62	5.62	0.00	MWD
6617.00	90.70	4.90	6215.22	484.70	476.84	487.35	5.37	5.35	0.47	MWD
6659.00	93.60	4.90	6213.65	526.51	480.42	529.19	6.90	6.90	0.00	MWD
6702.00	93.60	4.70	6210.95	569.28	484.01	571.97	0.46	0.00	-0.47	MWD
6744.00	92.60	3.50	6208.68	611.11	487.01	613.82	3.72	-2.38	-2.86	MWD
6787.00	91.60	3.00	6207.10	654.01	489.45	656.73	2.60	-2.33	-1.16	MWD
6830.00	88.70	0.90	6206.99	696.97	490.91	699.71	8.33	-6.74	-4.88	MWD
6873.00	88.50	0.90	6208.04	739.96	491.59	742.69	0.47	-0.47	0.00	MWD
6916.00	90.00	0.70	6208.60	782.95	492.19	785.68	3.52	3.49	-0.47	MWD
6959.00	89.70	0.50	6208.72	825.94	492.64	828.68	0.84	-0.70	-0.47	MWD
7001.00	89.10	0.30	6209.15	867.94	492.93	870.68	1.51	-1.43	-0.48	MWD
7042.00	88.30	359.60	6210.09	908.93	492.89	911.67	2.59	-1.95	-1.71	MWD
7085.00	90.00	0.00	6210.72	951.92	492.74	954.66	4.06	3.95	0.93	MWD
7128.00	91.40	0.30	6210.20	994.92	492.86	997.66	3.33	3.26	0.70	MWD
7171.00	91.90	0.70	6208.96	1037.90	493.23	1040.64	1.49	1.16	0.93	MWD
7214.00	91.50	0.70	6207.68	1080.88	493.76	1083.62	0.93	-0.93	0.00	MWD
7256.00	91.00	0.50	6206.77	1122.86	494.20	1125.61	1.28	-1.19	-0.48	MWD
7299.00	90.90	0.70	6206.05	1165.86	494.65	1168.60	0.52	-0.23	0.47	MWD
7342.00	89.80	0.50	6205.79	1208.85	495.10	1211.60	2.60	-2.56	-0.47	MWD
7385.00	89.50	1.60	6206.05	1251.84	495.89	1254.59	2.65	-0.70	2.56	MWD
7427.00	88.50	1.60	6206.79	1293.82	497.06	1296.58	2.38	-2.38	0.00	MWD
7470.00	88.20	1.60	6208.03	1336.79	498.26	1339.55	0.70	-0.70	0.00	MWD
7513.00	88.00	1.60	6209.45	1379.75	499.46	1382.51	0.47	-0.47	0.00	MWD
7555.00	89.70	1.80	6210.29	1421.72	500.70	1424.49	4.08	4.05	0.48	MWD
7597.00	89.30	1.90	6210.66	1463.69	502.06	1466.47	0.98	-0.95	0.24	MWD
7640.00	89.10	1.60	6211.26	1506.67	503.37	1509.46	0.84	-0.47	-0.70	MWD
7683.00	90.30	3.50	6211.49	1549.62	505.29	1552.42	5.23	2.79	4.42	MWD
7726.00	92.00	4.20	6210.62	1592.52	508.17	1595.33	4.28	3.95	1.63	MWD
7769.00	91.20	4.60	6209.42	1635.37	511.47	1638.20	2.08	-1.86	0.93	MWD
7811.00	88.50	3.00	6209.53	1677.27	514.25	1680.12	7.47	-6.43	-3.81	MWD
7854.00	87.40	0.90	6211.07	1720.22	515.72	1723.07	5.51	-2.56	-4.88	MWD
7897.00	87.40	0.90	6213.02	1763.17	516.39	1766.03	0.00	0.00	0.00	MWD
7940.00	87.10	0.50	6215.08	1806.12	516.92	1808.97	1.16	-0.70	-0.93	MWD
7983.00	88.30	359.80	6216.81	1849.08	517.03	1851.94	3.23	2.79	-1.63	MWD
8025.00	88.10	0.00	6218.13	1891.06	516.95	1893.92	0.67	-0.48	0.48	MWD
8068.00	90.50	358.80	6218.65	1934.05	516.50	1936.90	6.24	5.58	-2.79	MWD
8111.00	91.70	358.10	6217.83	1977.02	515.34	1979.87	3.23	2.79	-1.63	MWD
8153.00	92.20	357.90	6216.40	2018.97	513.88	2021.81	1.28	1.19	-0.48	MWD
8196.00	91.50	357.50	6215.01	2061.92	512.15	2064.75	1.87	-1.63	-0.93	MWD
8239.00	90.90	356.70	6214.11	2104.85	509.98	2107.67	2.33	-1.40	-1.86	MWD

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC. <b>Field:</b> Niobrara CONZ'83 <b>Site:</b> Hemberger 26 Pad <b>Well:</b> 2-26-34-8-60 <b>Wellpath:</b> Original Hole	<b>Date:</b> 11/05/2012 <b>Co-ordinate(NE) Reference:</b> Well: 2-26-34-8-60, Grid North <b>Vertical (TVD) Reference:</b> 4874'GL+17"KB 4891.0 <b>Section (VS) Reference:</b> Well (0.00N,0.00E,0.32Azi) <b>Survey Calculation Method:</b> Minimum Curvature	<b>Time:</b> 15:01:16 <b>Page:</b> 4 <b>Db:</b> 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
8282.00	89.80	358.60	6213.85	2147.81	508.21	2150.62	5.11	-2.56	4.42	MWD
8325.00	89.30	0.20	6214.19	2190.81	507.76	2193.61	3.90	-1.16	3.72	MWD
8367.00	89.20	1.10	6214.74	2232.80	508.24	2235.60	2.16	-0.24	2.14	MWD
8410.00	88.60	1.10	6215.56	2275.78	509.06	2278.59	1.40	-1.40	0.00	MWD
8453.00	88.10	0.70	6216.80	2318.76	509.74	2321.57	1.49	-1.16	-0.93	MWD
8495.00	89.30	0.70	6217.75	2360.75	510.25	2363.56	2.86	2.86	0.00	MWD
8538.00	89.50	0.70	6218.20	2403.74	510.78	2406.56	0.47	0.47	0.00	MWD
8580.00	89.00	0.00	6218.75	2445.74	511.03	2448.55	2.05	-1.19	-1.67	MWD
8623.00	88.40	359.30	6219.73	2488.72	510.77	2491.54	2.14	-1.40	-1.63	MWD
8666.00	88.10	358.90	6221.04	2531.70	510.10	2534.51	1.16	-0.70	-0.93	MWD
8709.00	87.70	358.90	6222.62	2574.66	509.27	2577.47	0.93	-0.93	0.00	MWD
8751.00	89.90	0.30	6223.50	2616.65	508.98	2619.45	6.21	5.24	3.33	MWD
8794.00	90.10	0.50	6223.50	2659.65	509.28	2662.45	0.66	0.47	0.47	MWD
8836.00	90.50	0.70	6223.28	2701.64	509.72	2704.45	1.06	0.95	0.48	MWD
8879.00	90.40	0.50	6222.94	2744.64	510.17	2747.45	0.52	-0.23	-0.47	MWD
8922.00	90.50	0.50	6222.60	2787.64	510.54	2790.44	0.23	0.23	0.00	MWD
8964.00	88.70	0.90	6222.89	2829.63	511.06	2832.44	4.39	-4.29	0.95	MWD
9007.00	88.70	1.10	6223.87	2872.61	511.81	2875.43	0.46	0.00	0.47	MWD
9049.00	89.30	1.10	6224.60	2914.60	512.61	2917.42	1.43	1.43	0.00	MWD
9092.00	90.10	0.50	6224.83	2957.59	513.21	2960.41	2.33	1.86	-1.40	MWD
9135.00	90.30	0.50	6224.68	3000.59	513.59	3003.41	0.47	0.47	0.00	MWD
9177.00	90.60	0.70	6224.35	3042.59	514.03	3045.41	0.86	0.71	0.48	MWD
9219.00	90.70	1.10	6223.87	3084.58	514.69	3087.41	0.98	0.24	0.95	MWD
9262.00	90.10	2.10	6223.57	3127.56	515.89	3130.39	2.71	-1.40	2.33	MWD
9305.00	89.40	1.40	6223.76	3170.54	517.20	3173.38	2.30	-1.63	-1.63	MWD
9347.00	88.60	1.10	6224.49	3212.52	518.12	3215.37	2.03	-1.90	-0.71	MWD
9390.00	89.20	1.10	6225.32	3255.51	518.94	3258.36	1.40	1.40	0.00	MWD
9432.00	90.00	1.40	6225.61	3297.50	519.86	3300.35	2.03	1.90	0.71	MWD
9475.00	89.30	1.20	6225.87	3340.48	520.84	3343.34	1.69	-1.63	-0.47	MWD
9517.00	89.30	0.50	6226.39	3382.48	521.46	3385.34	1.67	0.00	-1.67	MWD
9560.00	89.40	0.50	6226.87	3425.47	521.83	3428.33	0.23	0.23	0.00	MWD
9603.00	89.40	0.30	6227.33	3468.47	522.13	3471.33	0.47	0.00	-0.47	MWD
9645.00	88.50	0.20	6228.09	3510.46	522.32	3513.32	2.16	-2.14	-0.24	MWD
9688.00	87.90	0.20	6229.45	3553.44	522.47	3556.30	1.40	-1.40	0.00	MWD
9730.00	88.30	0.20	6230.84	3595.42	522.61	3598.28	0.95	0.95	0.00	MWD
9773.00	87.80	359.80	6232.30	3638.39	522.61	3641.25	1.49	-1.16	-0.93	MWD
9816.00	87.60	359.60	6234.03	3681.36	522.39	3684.22	0.66	-0.47	-0.47	MWD
9858.00	87.80	359.80	6235.71	3723.32	522.17	3726.18	0.67	0.48	0.48	MWD
9901.00	89.20	359.80	6236.84	3766.30	522.02	3769.16	3.26	3.26	0.00	MWD
9942.00	89.30	359.80	6237.37	3807.30	521.88	3810.16	0.24	0.24	0.00	MWD
9985.00	89.10	359.80	6237.97	3850.30	521.73	3853.15	0.47	-0.47	0.00	MWD
10027.00	88.90	0.00	6238.71	3892.29	521.65	3895.14	0.67	-0.48	0.48	MWD
10070.00	88.90	0.30	6239.53	3935.28	521.77	3938.13	0.70	0.00	0.70	MWD
10113.00	91.00	0.50	6239.57	3978.28	522.07	3981.13	4.91	4.88	0.47	MWD
10155.00	91.00	1.10	6238.84	4020.27	522.65	4023.12	1.43	0.00	1.43	MWD
10198.00	90.70	1.10	6238.20	4063.25	523.48	4066.11	0.70	-0.70	0.00	MWD
10240.00	90.90	1.60	6237.61	4105.24	524.47	4108.10	1.28	0.48	1.19	MWD
10283.00	91.20	3.20	6236.83	4148.19	526.27	4151.07	3.79	0.70	3.72	MWD
10326.00	90.30	2.50	6236.26	4191.13	528.40	4194.02	2.65	-2.09	-1.63	MWD
10368.00	88.90	1.80	6236.56	4233.10	529.98	4236.00	3.73	-3.33	-1.67	MWD
10411.00	88.50	1.60	6237.53	4276.07	531.26	4278.97	1.04	-0.93	-0.47	MWD
10453.00	88.10	1.80	6238.78	4318.04	532.50	4320.94	1.06	-0.95	0.48	MWD
10496.00	87.90	1.40	6240.28	4360.99	533.70	4363.91	1.04	-0.47	-0.93	MWD

# Precision Directional Services, Inc.

## Survey Report

<b>Company:</b> CARRIZO OIL & GAS, INC.	<b>Date:</b> 11/05/2012	<b>Time:</b> 15:01:16	<b>Page:</b> 5
<b>Field:</b> Niobrara CONZ'83	<b>Co-ordinate(NE) Reference:</b> Well: 2-26-34-8-60, Grid North		
<b>Site:</b> Hemberger 26 Pad	<b>Vertical (TVD) Reference:</b> 4874'GL+17'KB 4891.0		
<b>Well:</b> 2-26-34-8-60	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,0.32Azi)		
<b>Wellpath:</b> Original Hole	<b>Survey Calculation Method:</b> Minimum Curvature	<b>Db:</b> 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
10584.00	87.90	1.40	6243.50	4448.91	535.85	4451.83	0.00	0.00	0.00	Project

### Annotation

MD ft	TVD ft	
6527.00	6212.49	600' entry