



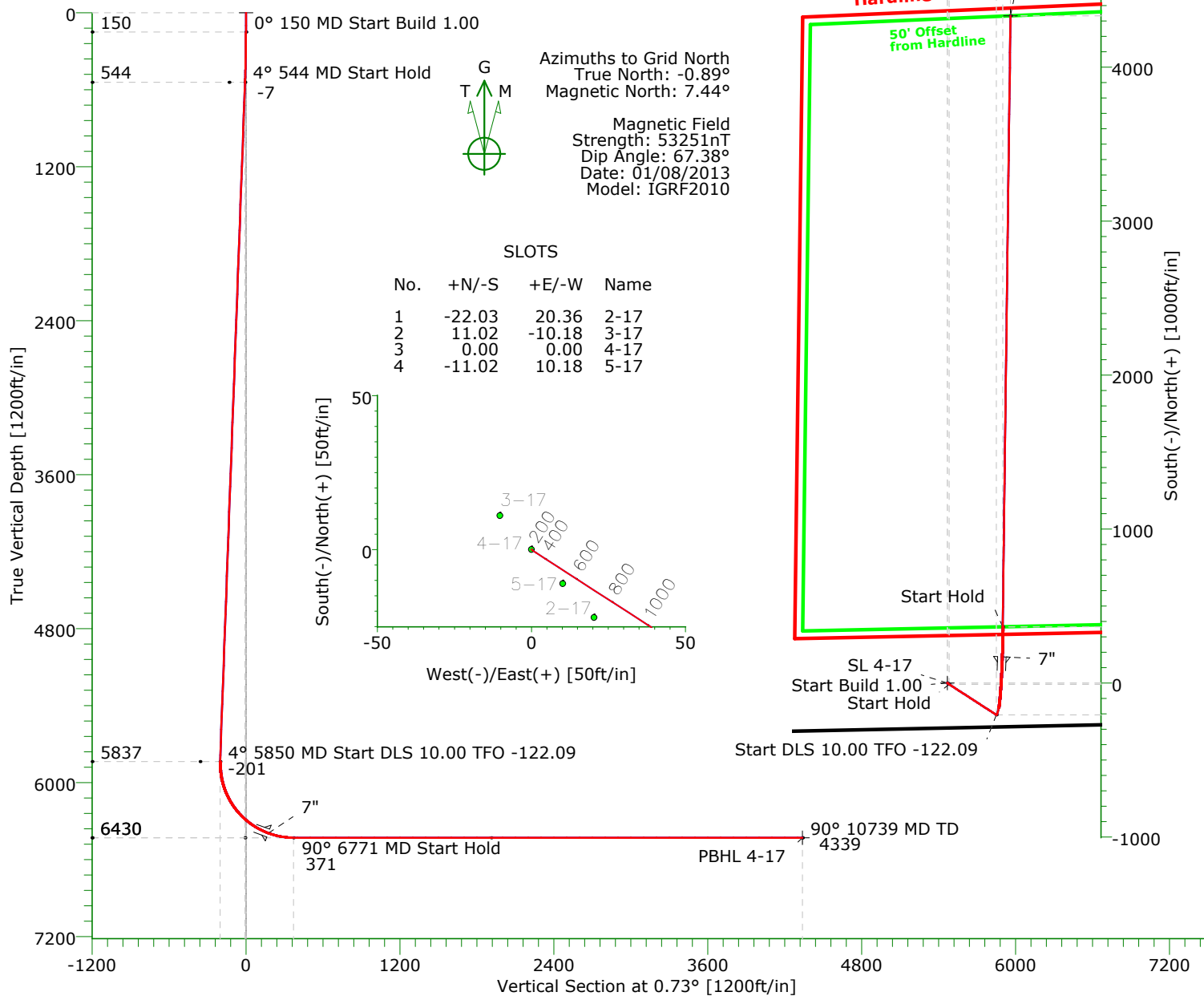
# CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83  
Site: Nelson 2-17-9-60 Pad  
Well: 4-17-9-60  
Wellpath: Original Hole  
Plan: Plan #1



## CASING DETAILS

No.	TVD	MD	Name	Size
1	6395.38	6570.57	7"	7.000



## TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 4-17	0.00	0.00	0.00	1516491.03	3382040.99	40°44'34.783N	104°07'16.547W	Point
PBHL 4-17	6430.00	4334.52	410.25	1520825.55	3382451.24	40°45'17.545N	104°07'10.342W	Point

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	544.27	3.94	122.89	543.95	-7.36	11.39	1.00	0.00	-7.22	
4	5849.95	3.94	122.89	5837.08	-205.45	317.73	0.00	0.00	-201.38	
5	6770.92	90.00	0.73	6430.00	366.64	359.63	10.00	-122.09	371.19	
6	10739.13	90.00	0.73	6430.00	4334.52	410.25	0.00	0.00	4339.40	PBHL 4-17

# Precision Directional Services, Inc.

## Planning Report

<b>Company:</b> CARRIZO OIL & GAS, INC. <b>Field:</b> Niobrara CONZ'83 <b>Site:</b> Nelson 2-17-9-60 Pad <b>Well:</b> 4-17-9-60 <b>Wellpath:</b> Original Hole	<b>Date:</b> 01/08/2013 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Plan:</b>	<b>Time:</b> 14:09:07 <b>Well:</b> 4-17-9-60, Grid North <b>4991'GL+17'KB 4508.0</b> <b>Well (0.00N,0.00E,0.73Azi)</b> <b>Plan #1</b>	<b>Page:</b> 1
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<b>Field:</b> Niobrara CONZ'83  <b>Map System:</b> US State Plane Coordinate System 1983 <b>Geo Datum:</b> GRS 1980 <b>Sys Datum:</b> Mean Sea Level	<b>Map Zone:</b> Colorado, Northern Zone <b>Coordinate System:</b> Well Centre <b>Geomagnetic Model:</b> IGRF2010
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<b>Site:</b> Nelson 2-17-9-60 Pad  Weld County, CO <b>Site Position:</b> <b>From:</b> Map <b>Position Uncertainty:</b> 0.00 ft <b>Ground Level:</b> 4991.00 ft	<b>Northing:</b> 1516469.00 ft <b>Easting:</b> 3382061.35 ft  <b>Latitude:</b> 40 44 34.562 N <b>Longitude:</b> 104 7 16.287 W <b>North Reference:</b> Grid <b>Grid Convergence:</b> 0.89 deg
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<b>Well:</b> 4-17-9-60 centered on 2-17 <b>Well Position:</b> +N/-S 22.03 ft +E/-W -20.36 ft <b>Position Uncertainty:</b> 0.00 ft	<b>Slot Name:</b> 4-17  <b>Latitude:</b> 40 44 34.783 N <b>Longitude:</b> 104 7 16.547 W
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<b>Wellpath:</b> Original Hole  <b>Current Datum:</b> 4991'GL+17'KB <b>Magnetic Data:</b> 01/08/2013 <b>Field Strength:</b> 53251 nT <b>Vertical Section:</b> Depth From (TVD) ft	<b>Drilled From:</b> Surface <b>Tie-on Depth:</b> 0.00 ft <b>Above System Datum:</b> Mean Sea Level <b>Declination:</b> 8.33 deg <b>Mag Dip Angle:</b> 67.38 deg <b>+E/-W</b> ft <b>Direction</b> deg
0.00	0.00

<b>Plan:</b> Plan #1  <b>Principal:</b> No	<b>Date Composed:</b> 01/08/2013 <b>Version:</b> 1 <b>Tied-to:</b> From Surface
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Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
544.27	3.94	122.89	543.95	-7.36	11.39	1.00	1.00	0.00	0.00	
5849.95	3.94	122.89	5837.08	-205.45	317.73	0.00	0.00	0.00	0.00	
6770.92	90.00	0.73	6430.00	366.64	359.63	10.00	9.34	-13.26	-122.09	
10739.13	90.00	0.73	6430.00	4334.52	410.25	0.00	0.00	0.00	0.00	PBHL 4-17

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
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.50	122.89	200.00	-0.12	0.18	-0.12	1.00	1.00	0.00	
300.00	1.50	122.89	299.98	-1.07	1.65	-1.04	1.00	1.00	0.00	
400.00	2.50	122.89	399.92	-2.96	4.58	-2.90	1.00	1.00	0.00	
500.00	3.50	122.89	499.78	-5.80	8.97	-5.69	1.00	1.00	0.00	
544.27	3.94	122.89	543.95	-7.36	11.39	-7.22	1.00	1.00	0.00	
600.00	3.94	122.89	599.56	-9.44	14.60	-9.26	0.00	0.00	0.00	
700.00	3.94	122.89	699.32	-13.18	20.38	-12.92	0.00	0.00	0.00	
800.00	3.94	122.89	799.08	-16.91	26.15	-16.58	0.00	0.00	0.00	
900.00	3.94	122.89	898.85	-20.64	31.93	-20.24	0.00	0.00	0.00	
1000.00	3.94	122.89	998.61	-24.38	37.70	-23.89	0.00	0.00	0.00	
1100.00	3.94	122.89	1098.37	-28.11	43.47	-27.55	0.00	0.00	0.00	
1200.00	3.94	122.89	1198.14	-31.84	49.25	-31.21	0.00	0.00	0.00	
1300.00	3.94	122.89	1297.90	-35.58	55.02	-34.87	0.00	0.00	0.00	
1400.00	3.94	122.89	1397.66	-39.31	60.80	-38.53	0.00	0.00	0.00	

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Nelson 2-17-9-60 Pad  
**Well:** 4-17-9-60  
**Wellpath:** Original Hole

**Date:** 01/08/2013  
**Co-ordinate(NE) Reference:** Well: 4-17-9-60, Grid North  
**Vertical (TVD) Reference:** 4991'GL+17'KB 4508.0  
**Section (VS) Reference:** Well (0.00N,0.00E,0.73Azi)  
**Plan:** Plan #1

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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
1500.00	3.94	122.89	1497.43	-43.04	66.57	-42.19	0.00	0.00	0.00	
1600.00	3.94	122.89	1597.19	-46.78	72.34	-45.85	0.00	0.00	0.00	
1700.00	3.94	122.89	1696.95	-50.51	78.12	-49.51	0.00	0.00	0.00	
1800.00	3.94	122.89	1796.72	-54.24	83.89	-53.17	0.00	0.00	0.00	
1900.00	3.94	122.89	1896.48	-57.98	89.67	-56.83	0.00	0.00	0.00	
2000.00	3.94	122.89	1996.24	-61.71	95.44	-60.49	0.00	0.00	0.00	
2100.00	3.94	122.89	2096.01	-65.44	101.21	-64.15	0.00	0.00	0.00	
2200.00	3.94	122.89	2195.77	-69.18	106.99	-67.81	0.00	0.00	0.00	
2300.00	3.94	122.89	2295.53	-72.91	112.76	-71.47	0.00	0.00	0.00	
2400.00	3.94	122.89	2395.30	-76.65	118.54	-75.13	0.00	0.00	0.00	
2500.00	3.94	122.89	2495.06	-80.38	124.31	-78.79	0.00	0.00	0.00	
2600.00	3.94	122.89	2594.82	-84.11	130.08	-82.45	0.00	0.00	0.00	
2700.00	3.94	122.89	2694.59	-87.85	135.86	-86.11	0.00	0.00	0.00	
2800.00	3.94	122.89	2794.35	-91.58	141.63	-89.77	0.00	0.00	0.00	
2900.00	3.94	122.89	2894.11	-95.31	147.41	-93.43	0.00	0.00	0.00	
3000.00	3.94	122.89	2993.88	-99.05	153.18	-97.09	0.00	0.00	0.00	
3100.00	3.94	122.89	3093.64	-102.78	158.95	-100.75	0.00	0.00	0.00	
3200.00	3.94	122.89	3193.40	-106.51	164.73	-104.41	0.00	0.00	0.00	
3300.00	3.94	122.89	3293.17	-110.25	170.50	-108.06	0.00	0.00	0.00	
3400.00	3.94	122.89	3392.93	-113.98	176.27	-111.72	0.00	0.00	0.00	
3500.00	3.94	122.89	3492.69	-117.71	182.05	-115.38	0.00	0.00	0.00	
3600.00	3.94	122.89	3592.46	-121.45	187.82	-119.04	0.00	0.00	0.00	
3700.00	3.94	122.89	3692.22	-125.18	193.60	-122.70	0.00	0.00	0.00	
3800.00	3.94	122.89	3791.98	-128.91	199.37	-126.36	0.00	0.00	0.00	
3900.00	3.94	122.89	3891.75	-132.65	205.14	-130.02	0.00	0.00	0.00	
4000.00	3.94	122.89	3991.51	-136.38	210.92	-133.68	0.00	0.00	0.00	
4100.00	3.94	122.89	4091.27	-140.11	216.69	-137.34	0.00	0.00	0.00	
4200.00	3.94	122.89	4191.04	-143.85	222.47	-141.00	0.00	0.00	0.00	
4300.00	3.94	122.89	4290.80	-147.58	228.24	-144.66	0.00	0.00	0.00	
4400.00	3.94	122.89	4390.56	-151.31	234.01	-148.32	0.00	0.00	0.00	
4500.00	3.94	122.89	4490.33	-155.05	239.79	-151.98	0.00	0.00	0.00	
4600.00	3.94	122.89	4590.09	-158.78	245.56	-155.64	0.00	0.00	0.00	
4700.00	3.94	122.89	4689.85	-162.51	251.34	-159.30	0.00	0.00	0.00	
4800.00	3.94	122.89	4789.62	-166.25	257.11	-162.96	0.00	0.00	0.00	
4900.00	3.94	122.89	4889.38	-169.98	262.88	-166.62	0.00	0.00	0.00	
5000.00	3.94	122.89	4989.14	-173.71	268.66	-170.28	0.00	0.00	0.00	
5100.00	3.94	122.89	5088.91	-177.45	274.43	-173.94	0.00	0.00	0.00	
5200.00	3.94	122.89	5188.67	-181.18	280.21	-177.60	0.00	0.00	0.00	
5300.00	3.94	122.89	5288.43	-184.91	285.98	-181.26	0.00	0.00	0.00	
5400.00	3.94	122.89	5388.20	-188.65	291.75	-184.92	0.00	0.00	0.00	
5500.00	3.94	122.89	5487.96	-192.38	297.53	-188.57	0.00	0.00	0.00	
5600.00	3.94	122.89	5587.72	-196.11	303.30	-192.23	0.00	0.00	0.00	
5700.00	3.94	122.89	5687.49	-199.85	309.07	-195.89	0.00	0.00	0.00	
5800.00	3.94	122.89	5787.25	-203.58	314.85	-199.55	0.00	0.00	0.00	
5849.95	3.94	122.89	5837.08	-205.45	317.73	-201.38	0.00	0.00	0.00	
5900.00	4.43	49.64	5887.03	-205.13	320.65	-201.03	10.00	0.97	-146.34	
5950.00	8.58	23.48	5936.71	-200.46	323.61	-196.32	10.00	8.31	-52.32	
6000.00	13.33	14.99	5985.79	-191.46	326.59	-187.29	10.00	9.49	-16.98	
6050.00	18.21	10.95	6033.89	-178.22	329.56	-174.01	10.00	9.76	-8.09	
6100.00	23.14	8.58	6080.66	-160.83	332.52	-156.58	10.00	9.86	-4.74	
6150.00	28.09	7.01	6125.73	-139.42	335.42	-135.13	10.00	9.91	-3.14	
6200.00	33.06	5.87	6168.77	-114.15	338.25	-109.83	10.00	9.93	-2.27	
6250.00	38.03	5.01	6209.44	-85.22	340.99	-80.87	10.00	9.95	-1.73	
6300.00	43.01	4.32	6247.43	-52.85	343.62	-48.47	10.00	9.96	-1.38	

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Nelson 2-17-9-60 Pad  
**Well:** 4-17-9-60  
**Wellpath:** Original Hole

**Date:** 01/08/2013  
**Co-ordinate(NE) Reference:** Well: 4-17-9-60, Grid North  
**Vertical (TVD) Reference:** 4991'GL+17'KB 4508.0  
**Section (VS) Reference:** Well (0.00N,0.00E,0.73Azi)  
**Plan:** Plan #1

**Page:** 3

### 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
6350.00	48.00	3.74	6282.47	-17.29	346.12	-12.88	10.00	9.97	-1.15	
6400.00	52.98	3.25	6314.27	21.20	348.47	25.64	10.00	9.97	-0.98	
6450.00	57.97	2.82	6342.60	62.33	350.65	66.79	10.00	9.97	-0.86	
6500.00	62.96	2.44	6367.24	105.77	352.64	110.25	10.00	9.98	-0.77	
6550.00	67.95	2.09	6388.00	151.20	354.43	155.70	10.00	9.98	-0.70	
6570.57	70.00	1.95	6395.38	170.39	355.11	174.90	10.00	9.98	-0.67	7"
6600.00	72.94	1.76	6404.74	198.27	356.01	202.79	10.00	9.98	-0.65	
6650.00	77.93	1.45	6417.31	246.63	357.36	251.16	10.00	9.98	-0.62	
6700.00	82.92	1.15	6425.62	295.91	358.47	300.45	10.00	9.98	-0.60	
6750.00	87.91	0.85	6429.62	345.72	359.34	350.27	10.00	9.98	-0.59	
6770.92	90.00	0.73	6430.00	366.64	359.63	371.19	10.00	9.98	-0.58	
6800.00	90.00	0.73	6430.00	395.71	360.00	400.27	0.00	0.00	0.00	
6900.00	90.00	0.73	6430.00	495.71	361.28	500.27	0.00	0.00	0.00	
7000.00	90.00	0.73	6430.00	595.70	362.55	600.27	0.00	0.00	0.00	
7100.00	90.00	0.73	6430.00	695.69	363.83	700.27	0.00	0.00	0.00	
7200.00	90.00	0.73	6430.00	795.68	365.10	800.27	0.00	0.00	0.00	
7300.00	90.00	0.73	6430.00	895.67	366.38	900.27	0.00	0.00	0.00	
7400.00	90.00	0.73	6430.00	995.67	367.65	1000.27	0.00	0.00	0.00	
7500.00	90.00	0.73	6430.00	1095.66	368.93	1100.27	0.00	0.00	0.00	
7600.00	90.00	0.73	6430.00	1195.65	370.21	1200.27	0.00	0.00	0.00	
7700.00	90.00	0.73	6430.00	1295.64	371.48	1300.27	0.00	0.00	0.00	
7800.00	90.00	0.73	6430.00	1395.63	372.76	1400.27	0.00	0.00	0.00	
7900.00	90.00	0.73	6430.00	1495.63	374.03	1500.27	0.00	0.00	0.00	
8000.00	90.00	0.73	6430.00	1595.62	375.31	1600.27	0.00	0.00	0.00	
8100.00	90.00	0.73	6430.00	1695.61	376.58	1700.27	0.00	0.00	0.00	
8200.00	90.00	0.73	6430.00	1795.60	377.86	1800.27	0.00	0.00	0.00	
8300.00	90.00	0.73	6430.00	1895.59	379.14	1900.27	0.00	0.00	0.00	
8400.00	90.00	0.73	6430.00	1995.58	380.41	2000.27	0.00	0.00	0.00	
8500.00	90.00	0.73	6430.00	2095.58	381.69	2100.27	0.00	0.00	0.00	
8600.00	90.00	0.73	6430.00	2195.57	382.96	2200.27	0.00	0.00	0.00	
8700.00	90.00	0.73	6430.00	2295.56	384.24	2300.27	0.00	0.00	0.00	
8800.00	90.00	0.73	6430.00	2395.55	385.51	2400.27	0.00	0.00	0.00	
8900.00	90.00	0.73	6430.00	2495.54	386.79	2500.27	0.00	0.00	0.00	
9000.00	90.00	0.73	6430.00	2595.54	388.07	2600.27	0.00	0.00	0.00	
9100.00	90.00	0.73	6430.00	2695.53	389.34	2700.27	0.00	0.00	0.00	
9200.00	90.00	0.73	6430.00	2795.52	390.62	2800.27	0.00	0.00	0.00	
9300.00	90.00	0.73	6430.00	2895.51	391.89	2900.27	0.00	0.00	0.00	
9400.00	90.00	0.73	6430.00	2995.50	393.17	3000.27	0.00	0.00	0.00	
9500.00	90.00	0.73	6430.00	3095.49	394.44	3100.27	0.00	0.00	0.00	
9600.00	90.00	0.73	6430.00	3195.49	395.72	3200.27	0.00	0.00	0.00	
9700.00	90.00	0.73	6430.00	3295.48	396.99	3300.27	0.00	0.00	0.00	
9800.00	90.00	0.73	6430.00	3395.47	398.27	3400.27	0.00	0.00	0.00	
9900.00	90.00	0.73	6430.00	3495.46	399.55	3500.27	0.00	0.00	0.00	
10000.00	90.00	0.73	6430.00	3595.45	400.82	3600.27	0.00	0.00	0.00	
10100.00	90.00	0.73	6430.00	3695.45	402.10	3700.27	0.00	0.00	0.00	
10200.00	90.00	0.73	6430.00	3795.44	403.37	3800.27	0.00	0.00	0.00	
10300.00	90.00	0.73	6430.00	3895.43	404.65	3900.27	0.00	0.00	0.00	
10400.00	90.00	0.73	6430.00	3995.42	405.92	4000.27	0.00	0.00	0.00	
10500.00	90.00	0.73	6430.00	4095.41	407.20	4100.27	0.00	0.00	0.00	
10600.00	90.00	0.73	6430.00	4195.41	408.48	4200.27	0.00	0.00	0.00	
10700.00	90.00	0.73	6430.00	4295.40	409.75	4300.27	0.00	0.00	0.00	
10739.13	90.00	0.73	6430.00	4334.52	410.25	4339.40	0.00	0.00	0.00	PBHL 4-17

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Nelson 2-17-9-60 Pad  
**Well:** 4-17-9-60  
**Wellpath:** Original Hole

**Date:** 01/08/2013  
**Co-ordinate(NE) Reference:** Well: 4-17-9-60, Grid North  
**Vertical (TVD) Reference:** 4991'GL+17"KB 4508.0  
**Section (VS) Reference:** Well (0.00N,0.00E,0.73Azi)  
**Plan:** Plan #1

**Page:** 4

### Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->			
	Dip.							Deg	Min	Sec	Deg	Min	Sec	
SL 4-17			0.00	0.00	0.00	1516491.03	3382040.99	40	44	34.783	N	104	7 16.547	W
PBHL 4-17			6430.00	4334.52	410.25	1520825.55	3382451.24	40	45	17.545	N	104	7 10.342	W

### Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6570.57	6395.38	7.000	8.750	7"