



# CARRIZO OIL & GAS, INC.

Field: Niobrara CONZ'83

Site: Bringleton Ranch 34-41-9-58 Pad

Well: 4-34-9-58

Wellpath: Original Hole

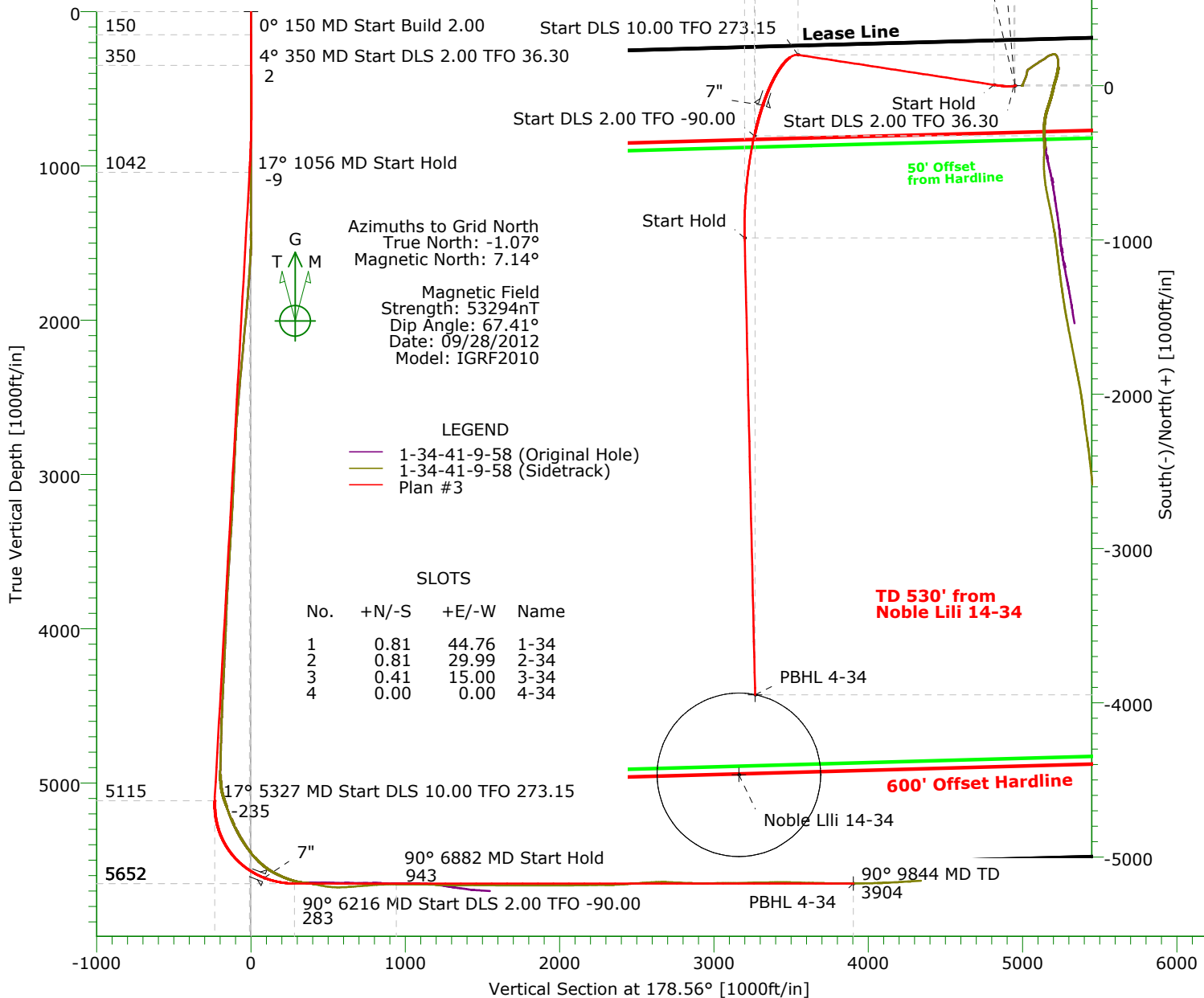
Plan: Plan #3



Precision  
Directional Services

## CASING DETAILS

No.	TVD	MD	Name	Size
1	5615.66	6006.38	7"	7.000



## TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Noble Lili 14-34	-100.00	-4467.00	-1787.99	1502826.12	3456979.18	40°42'07.140N103°51'06.445W		Circle (Radius: 530)
Surface 4-34	0.00	0.00	0.00	1507293.12	3458767.17	40°42'50.942N103°50'42.152W		Point
PBHL 4-34	5652.00	-3947.51	-1683.02	1503345.61	3457084.15	40°42'12.253N103°51'04.957W		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	350.00	4.00	250.00	349.84	-2.39	-6.56	2.00	250.00	2.22	
4	1055.93	17.50	278.70	1042.08	5.29	-135.26	2.00	36.30	-8.68	
5	5326.51	17.50	278.70	5115.00	199.53	-1404.68	0.00	0.00	-234.77	
6	6216.49	90.00	192.00	5652.00	-325.61	-1689.11	10.00	273.15	283.06	
7	6882.21	90.00	178.69	5652.00	-986.96	-1750.96	2.00	-90.00	942.64	
8	9843.54	90.00	178.69	5652.00	-3947.51	-1683.02	0.00	0.00	3903.96	PBHL 4-34

Plan: Plan #3 (4-34-9-58/Original Hole)

Created By: Shane Nelson

Date: 11/27/2012

PRECISION DIRECTIONAL SERVICES, INC.

713.435.6250

# Precision Directional Services, Inc.

## Planning Report

<b>Company:</b> CARRIZO OIL & GAS, INC. <b>Field:</b> Niobrara CONZ'83 <b>Site:</b> Bringelson Ranch 34-41-9-58 Pad <b>Well:</b> 4-34-9-58 <b>Wellpath:</b> Original Hole	<b>Date:</b> 11/27/2012 <b>Co-ordinate(NE) Reference:</b> <b>Vertical (TVD) Reference:</b> <b>Section (VS) Reference:</b> <b>Plan:</b>	<b>Time:</b> 13:52:03 <b>Well:</b> 4-34-9-58, Grid North 4736'GL+17'KB 4753.0 <b>Well (0.00N,0.00E,178.56Azi)</b> <b>Plan #3</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> Bringelson Ranch 34-41-9-58 Pad  <b>Site Position:</b> <b>From:</b> Map <b>Position Uncertainty:</b> 0.00 ft <b>Ground Level:</b> 4736.00 ft	<b>Northing:</b> 1507293.93 ft <b>Easting:</b> 3458811.93 ft  <b>Latitude:</b> 40 42 50.942 N <b>Longitude:</b> 103 50 41.571 W <b>North Reference:</b> Grid <b>Grid Convergence:</b> 1.07 deg
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<b>Well:</b> 4-34-9-58 Centered on 1-23-9-58 <b>Well Position:</b> +N/-S -0.81 ft +E/-W -44.76 ft <b>Position Uncertainty:</b> 0.00 ft	<b>Slot Name:</b>  <b>Latitude:</b> 40 42 50.942 N <b>Longitude:</b> 103 50 42.152 W
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<b>Wellpath:</b> Original Hole  <b>Current Datum:</b> 4736'GL+17'KB <b>Magnetic Data:</b> 09/28/2012 <b>Field Strength:</b> 53294 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> 8.21 deg <b>Mag Dip Angle:</b> 67.41 deg <b>+N/-S</b> ft <b>+E/-W</b> ft <b>Direction</b> deg
0.00	0.00

<b>Plan:</b> Plan #3  <b>Principal:</b> No	<b>Date Composed:</b> 11/27/2012 <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	
350.00	4.00	250.00	349.84	-2.39	-6.56	2.00	2.00	0.00	250.00	
1055.93	17.50	278.70	1042.08	5.29	-135.26	2.00	1.91	4.07	36.30	
5326.51	17.50	278.70	5115.00	199.53	-1404.68	0.00	0.00	0.00	0.00	
6216.49	90.00	192.00	5652.00	-325.61	-1689.11	10.00	8.15	-9.74	273.15	
6882.21	90.00	178.69	5652.00	-986.96	-1750.96	2.00	0.00	-2.00	-90.00	
9843.54	90.00	178.69	5652.00	-3947.51	-1683.02	0.00	0.00	0.00	0.00	PBHL 4-34

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	
250.00	2.00	250.00	249.98	-0.60	-1.64	0.56	2.00	2.00	0.00	
350.00	4.00	250.00	349.84	-2.39	-6.56	2.22	2.00	2.00	0.00	
450.00	5.74	261.93	449.48	-4.28	-14.78	3.91	2.00	1.74	11.93	
550.00	7.60	268.19	548.80	-5.19	-26.34	4.53	2.00	1.87	6.26	
650.00	9.52	271.97	647.68	-5.12	-41.22	4.08	2.00	1.92	3.78	
750.00	11.47	274.48	746.00	-4.06	-59.40	2.56	2.00	1.95	2.51	
850.00	13.43	276.27	843.64	-2.01	-80.86	-0.02	2.00	1.96	1.79	
950.00	15.40	277.60	940.49	1.01	-105.57	-3.67	2.00	1.97	1.34	
1050.00	17.38	278.65	1036.42	5.02	-133.51	-8.37	2.00	1.98	1.04	
1055.93	17.50	278.70	1042.08	5.29	-135.26	-8.68	2.00	1.98	0.92	
1150.00	17.50	278.70	1131.79	9.56	-163.23	-13.66	0.00	0.00	0.00	
1250.00	17.50	278.70	1227.17	14.11	-192.95	-18.96	0.00	0.00	0.00	
1350.00	17.50	278.70	1322.54	18.66	-222.67	-24.25	0.00	0.00	0.00	

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Bringelson Ranch 34-41-9-58 Pad  
**Well:** 4-34-9-58  
**Wellpath:** Original Hole

**Date:** 11/27/2012  
**Co-ordinate(NE) Reference:** Well: 4-34-9-58, Grid North  
**Vertical (TVD) Reference:** 4736'GL+17"KB 4753.0  
**Section (VS) Reference:** Well (0.00N,0.00E,178.56Azi)  
**Plan:** Plan #3

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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
1450.00	17.50	278.70	1417.91	23.21	-252.40	-29.55	0.00	0.00	0.00	
1550.00	17.50	278.70	1513.28	27.76	-282.12	-34.84	0.00	0.00	0.00	
1650.00	17.50	278.70	1608.65	32.31	-311.85	-40.13	0.00	0.00	0.00	
1750.00	17.50	278.70	1704.02	36.86	-341.57	-45.43	0.00	0.00	0.00	
1850.00	17.50	278.70	1799.40	41.40	-371.30	-50.72	0.00	0.00	0.00	
1950.00	17.50	278.70	1894.77	45.95	-401.02	-56.02	0.00	0.00	0.00	
2050.00	17.50	278.70	1990.14	50.50	-430.75	-61.31	0.00	0.00	0.00	
2150.00	17.50	278.70	2085.51	55.05	-460.47	-66.60	0.00	0.00	0.00	
2250.00	17.50	278.70	2180.88	59.60	-490.20	-71.90	0.00	0.00	0.00	
2350.00	17.50	278.70	2276.25	64.15	-519.92	-77.19	0.00	0.00	0.00	
2450.00	17.50	278.70	2371.63	68.69	-549.65	-82.49	0.00	0.00	0.00	
2550.00	17.50	278.70	2467.00	73.24	-579.37	-87.78	0.00	0.00	0.00	
2650.00	17.50	278.70	2562.37	77.79	-609.09	-93.07	0.00	0.00	0.00	
2750.00	17.50	278.70	2657.74	82.34	-638.82	-98.37	0.00	0.00	0.00	
2850.00	17.50	278.70	2753.11	86.89	-668.54	-103.66	0.00	0.00	0.00	
2950.00	17.50	278.70	2848.48	91.44	-698.27	-108.96	0.00	0.00	0.00	
3050.00	17.50	278.70	2943.86	95.99	-727.99	-114.25	0.00	0.00	0.00	
3150.00	17.50	278.70	3039.23	100.53	-757.72	-119.54	0.00	0.00	0.00	
3250.00	17.50	278.70	3134.60	105.08	-787.44	-124.84	0.00	0.00	0.00	
3350.00	17.50	278.70	3229.97	109.63	-817.17	-130.13	0.00	0.00	0.00	
3450.00	17.50	278.70	3325.34	114.18	-846.89	-135.43	0.00	0.00	0.00	
3550.00	17.50	278.70	3420.71	118.73	-876.62	-140.72	0.00	0.00	0.00	
3650.00	17.50	278.70	3516.09	123.28	-906.34	-146.01	0.00	0.00	0.00	
3750.00	17.50	278.70	3611.46	127.83	-936.06	-151.31	0.00	0.00	0.00	
3850.00	17.50	278.70	3706.83	132.37	-965.79	-156.60	0.00	0.00	0.00	
3950.00	17.50	278.70	3802.20	136.92	-995.51	-161.90	0.00	0.00	0.00	
4050.00	17.50	278.70	3897.57	141.47	-1025.24	-167.19	0.00	0.00	0.00	
4150.00	17.50	278.70	3992.94	146.02	-1054.96	-172.48	0.00	0.00	0.00	
4250.00	17.50	278.70	4088.32	150.57	-1084.69	-177.78	0.00	0.00	0.00	
4350.00	17.50	278.70	4183.69	155.12	-1114.41	-183.07	0.00	0.00	0.00	
4450.00	17.50	278.70	4279.06	159.66	-1144.14	-188.37	0.00	0.00	0.00	
4550.00	17.50	278.70	4374.43	164.21	-1173.86	-193.66	0.00	0.00	0.00	
4650.00	17.50	278.70	4469.80	168.76	-1203.59	-198.95	0.00	0.00	0.00	
4750.00	17.50	278.70	4565.17	173.31	-1233.31	-204.25	0.00	0.00	0.00	
4850.00	17.50	278.70	4660.55	177.86	-1263.04	-209.54	0.00	0.00	0.00	
4950.00	17.50	278.70	4755.92	182.41	-1292.76	-214.84	0.00	0.00	0.00	
5050.00	17.50	278.70	4851.29	186.96	-1322.48	-220.13	0.00	0.00	0.00	
5150.00	17.50	278.70	4946.66	191.50	-1352.21	-225.43	0.00	0.00	0.00	
5250.00	17.50	278.70	5042.03	196.05	-1381.93	-230.72	0.00	0.00	0.00	
5326.51	17.50	278.70	5115.00	199.53	-1404.68	-234.77	0.00	0.00	0.00	
5350.00	17.78	271.00	5137.39	200.13	-1411.75	-235.54	10.00	1.19	-32.79	
5450.00	21.86	243.69	5231.65	192.13	-1443.79	-228.35	10.00	4.08	-27.30	
5550.00	28.86	226.83	5322.07	167.30	-1478.16	-204.39	10.00	7.00	-16.87	
5650.00	37.17	216.53	5405.92	126.41	-1513.84	-164.41	10.00	8.31	-10.30	
5750.00	46.08	209.65	5480.63	70.69	-1549.72	-109.61	10.00	8.91	-6.88	
5850.00	55.29	204.59	5543.95	1.84	-1584.73	-41.66	10.00	9.21	-5.05	
5950.00	64.67	200.57	5593.94	-78.05	-1617.80	37.37	10.00	9.38	-4.02	
6006.38	70.00	198.58	5615.66	-127.05	-1635.21	85.92	10.00	9.46	-3.53	7"
6050.00	74.14	197.13	5629.09	-166.54	-1647.92	125.08	10.00	9.49	-3.32	
6150.00	83.66	194.00	5648.32	-260.96	-1674.18	218.81	10.00	9.52	-3.13	
6216.49	90.00	192.00	5652.00	-325.61	-1689.11	283.06	10.00	9.54	-3.02	
6250.00	90.00	191.33	5652.00	-358.43	-1695.88	315.70	2.00	0.00	-2.00	
6350.00	90.00	189.33	5652.00	-456.81	-1713.82	413.59	2.00	0.00	-2.00	

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Bringelson Ranch 34-41-9-58 Pad  
**Well:** 4-34-9-58  
**Wellpath:** Original Hole

**Date:** 11/27/2012  
**Co-ordinate(NE) Reference:** Well: 4-34-9-58, Grid North  
**Vertical (TVD) Reference:** 4736'GL+17"KB 4753.0  
**Section (VS) Reference:** Well (0.00N,0.00E,178.56Azi)  
**Plan:** Plan #3

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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
6450.00	90.00	187.33	5652.00	-555.75	-1728.30	512.14	2.00	0.00	-2.00	
6550.00	90.00	185.33	5652.00	-655.13	-1739.33	611.22	2.00	0.00	-2.00	
6650.00	90.00	183.33	5652.00	-754.84	-1746.88	710.70	2.00	0.00	-2.00	
6750.00	90.00	181.33	5652.00	-854.75	-1750.94	810.48	2.00	0.00	-2.00	
6850.00	90.00	179.33	5652.00	-954.75	-1751.52	910.43	2.00	0.00	-2.00	
6882.21	90.00	178.69	5652.00	-986.96	-1750.96	942.64	2.00	0.00	-2.00	
6950.00	90.00	178.69	5652.00	-1054.72	-1749.40	1010.43	0.00	0.00	0.00	
7050.00	90.00	178.69	5652.00	-1154.70	-1747.11	1110.43	0.00	0.00	0.00	
7150.00	90.00	178.69	5652.00	-1254.67	-1744.81	1210.43	0.00	0.00	0.00	
7250.00	90.00	178.69	5652.00	-1354.65	-1742.52	1310.43	0.00	0.00	0.00	
7350.00	90.00	178.69	5652.00	-1454.62	-1740.23	1410.43	0.00	0.00	0.00	
7450.00	90.00	178.69	5652.00	-1554.59	-1737.93	1510.43	0.00	0.00	0.00	
7550.00	90.00	178.69	5652.00	-1654.57	-1735.64	1610.43	0.00	0.00	0.00	
7650.00	90.00	178.69	5652.00	-1754.54	-1733.34	1710.43	0.00	0.00	0.00	
7750.00	90.00	178.69	5652.00	-1854.51	-1731.05	1810.43	0.00	0.00	0.00	
7850.00	90.00	178.69	5652.00	-1954.49	-1728.76	1910.43	0.00	0.00	0.00	
7950.00	90.00	178.69	5652.00	-2054.46	-1726.46	2010.43	0.00	0.00	0.00	
8050.00	90.00	178.69	5652.00	-2154.43	-1724.17	2110.43	0.00	0.00	0.00	
8150.00	90.00	178.69	5652.00	-2254.41	-1721.87	2210.43	0.00	0.00	0.00	
8250.00	90.00	178.69	5652.00	-2354.38	-1719.58	2310.43	0.00	0.00	0.00	
8350.00	90.00	178.69	5652.00	-2454.36	-1717.29	2410.42	0.00	0.00	0.00	
8450.00	90.00	178.69	5652.00	-2554.33	-1714.99	2510.42	0.00	0.00	0.00	
8550.00	90.00	178.69	5652.00	-2654.30	-1712.70	2610.42	0.00	0.00	0.00	
8650.00	90.00	178.69	5652.00	-2754.28	-1710.40	2710.42	0.00	0.00	0.00	
8750.00	90.00	178.69	5652.00	-2854.25	-1708.11	2810.42	0.00	0.00	0.00	
8850.00	90.00	178.69	5652.00	-2954.22	-1705.82	2910.42	0.00	0.00	0.00	
8950.00	90.00	178.69	5652.00	-3054.20	-1703.52	3010.42	0.00	0.00	0.00	
9050.00	90.00	178.69	5652.00	-3154.17	-1701.23	3110.42	0.00	0.00	0.00	
9150.00	90.00	178.69	5652.00	-3254.15	-1698.93	3210.42	0.00	0.00	0.00	
9250.00	90.00	178.69	5652.00	-3354.12	-1696.64	3310.42	0.00	0.00	0.00	
9350.00	90.00	178.69	5652.00	-3454.09	-1694.34	3410.42	0.00	0.00	0.00	
9450.00	90.00	178.69	5652.00	-3554.07	-1692.05	3510.42	0.00	0.00	0.00	
9550.00	90.00	178.69	5652.00	-3654.04	-1689.76	3610.42	0.00	0.00	0.00	
9650.00	90.00	178.69	5652.00	-3754.01	-1687.46	3710.42	0.00	0.00	0.00	
9750.00	90.00	178.69	5652.00	-3853.99	-1685.17	3810.42	0.00	0.00	0.00	
9843.54	90.00	178.69	5652.00	-3947.51	-1683.02	3903.96	0.00	0.00	0.00	PBHL 4-34

### Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
Noble Lili 14-34 -Circle (Radius: 530)			-100.00	-4467.00	-1787.99	1502826.12	3456979.18	40	42	7.140 N	103	51	6.445 W
Surface 4-34			0.00	0.00	0.00	1507293.12	3458767.17	40	42	50.942 N	103	50	42.152 W
PBHL 4-34			5652.00	-3947.51	-1683.02	1503345.61	3457084.15	40	42	12.253 N	103	51	4.957 W

# Precision Directional Services, Inc.

## Planning Report

**Company:** CARRIZO OIL & GAS, INC.  
**Field:** Niobrara CONZ'83  
**Site:** Bringelson Ranch 34-41-9-58 Pad  
**Well:** 4-34-9-58  
**Wellpath:** Original Hole

**Date:** 11/27/2012  
**Co-ordinate(NE) Reference:** Well: 4-34-9-58, Grid North  
**Vertical (TVD) Reference:** 4736'GL+17"KB 4753.0  
**Section (VS) Reference:** Well (0.00N,0.00E,178.56Azi)  
**Plan:** Plan #3

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### Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6006.38	5615.66	7.000	8.750	7"