

**CARRIZO****CARRIZO OIL & GAS, INC.**

Field: Niobrara CONZ'83

Site: Bringelson Ranch 6-34-9-58 Pad

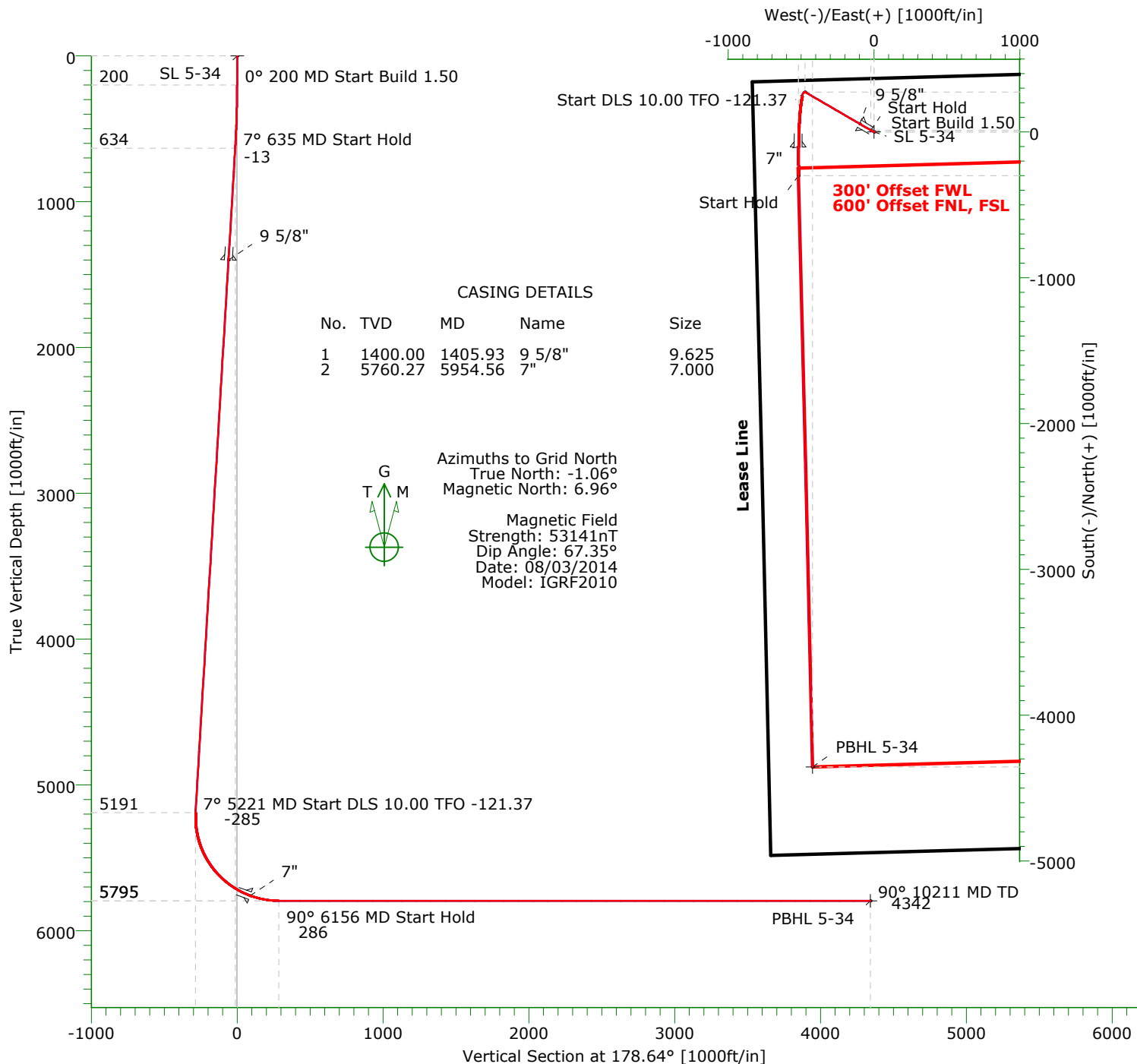
Well: 5-34-9-58

Wellpath: Original Hole

Plan: Plan #4

**Precision**

Directional Services

**TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 5-34	0.00	0.00	0.00	1507137.11	3455633.31	40°42'49.977N103°51'22.879W		Point
PBHL 5-34	5795.00	-4353.48	-421.23	1502783.63	3455212.08	40°42'07.044N103°51'29.395W		Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	304.46	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	304.46	200.00	0.00	0.00	0.00	304.46	0.00	
3	634.83	6.52	300.18	633.89	12.43	-21.37	1.50	0.00	-12.93	
4	5221.49	6.52	300.18	5190.86	274.38	-471.74	0.00	0.00	-285.50	
5	6155.55	90.00	178.65	5795.00	-298.80	-517.08	10.00	-121.37	286.44	
6	10211.36	90.00	178.65	5795.00	-4353.48	-421.23	0.00	0.00	4342.26	PBHL 5-34

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Bringelson Ranch 6-34-9-58 Pad Well: 5-34-9-58 Wellpath: Original Hole	Date: 07/03/2014 Co-ordinate(NE) Reference: Well: 5-34-9-58, Grid North Vertical (TVD) Reference: GL4805+17'KB 4822.0 Section (VS) Reference: Well (0.00N,0.00E,178.64Azi) Plan: Plan #4	Page: 1
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Field: Niobrara CONZ'83

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: Colorado, Northern Zone
Coordinate System: Well Centre
Geomagnetic Model: IGRF2010

Site: Bringelson Ranch 6-34-9-58 Pad

Weld County, CO

Site Position:	Northing: 1507137.11 ft	Latitude: 40 42 49.977 N
From: Map	Easting: 3455633.31 ft	Longitude: 103 51 22.879 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 4804.90 ft		Grid Convergence: 1.06 deg

Well: 5-34-9-58
 367' FNL 825' FWL

Slot Name:

Well Position: +N/-S 0.00 ft	Northing: 1507137.11 ft	Latitude: 40 42 49.977 N
+E/-W 0.00 ft	Easting: 3455633.31 ft	Longitude: 103 51 22.879 W
Position Uncertainty: 0.00 ft		

Wellpath: Original Hole

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 8.03 deg
Mag Dip Angle: 67.35 deg
+E/-W **Direction**
 ft bearing

Current Datum: GL4805+17'KB
Magnetic Data: 08/03/2014
Field Strength: 53141 nT
Vertical Section: Depth From (TVD) ft

	+N/-S ft	Height 4822.00 ft
0.00	0.00	0.00

178.64

Plan: Plan #4
 Adj Landing TVD
Principal: No

Date Composed: 07/03/2014
Version: 1
Tied-to: From Surface

Plan Section Information

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	304.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	304.46	200.00	0.00	0.00	0.00	0.00	0.00	304.46	
634.83	6.52	300.18	633.89	12.43	-21.37	1.50	1.50	0.00	0.00	
5221.49	6.52	300.18	5190.86	274.38	-471.74	0.00	0.00	0.00	0.00	
6155.55	90.00	178.65	5795.00	-298.80	-517.08	10.00	8.94	-13.01	-121.37	
10211.36	90.00	178.65	5795.00	-4353.48	-421.23	0.00	0.00	0.00	0.00	PBHL 5-34

Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
200.00	0.00	304.46	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	1.50	300.18	299.99	0.66	-1.13	-0.68	1.50	1.50	0.00	
400.00	3.00	300.18	399.91	2.63	-4.53	-2.74	1.50	1.50	0.00	
500.00	4.50	300.18	499.69	5.92	-10.18	-6.16	1.50	1.50	0.00	
600.00	6.00	300.18	599.27	10.52	-18.09	-10.95	1.50	1.50	0.00	
634.83	6.52	300.18	633.89	12.43	-21.37	-12.93	1.50	1.50	0.00	
700.00	6.52	300.18	698.64	16.15	-27.77	-16.81	0.00	0.00	0.00	
800.00	6.52	300.18	797.99	21.86	-37.59	-22.75	0.00	0.00	0.00	
900.00	6.52	300.18	897.35	27.57	-47.41	-28.69	0.00	0.00	0.00	
1000.00	6.52	300.18	996.70	33.29	-57.23	-34.63	0.00	0.00	0.00	
1100.00	6.52	300.18	1096.05	39.00	-67.05	-40.58	0.00	0.00	0.00	
1200.00	6.52	300.18	1195.40	44.71	-76.87	-46.52	0.00	0.00	0.00	
1300.00	6.52	300.18	1294.76	50.42	-86.69	-52.46	0.00	0.00	0.00	
1400.00	6.52	300.18	1394.11	56.13	-96.50	-58.40	0.00	0.00	0.00	
1405.93	6.52	300.18	1400.00	56.47	-97.09	-58.76	0.00	0.00	0.00	9 5/8"

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Bringelson Ranch 6-34-9-58 Pad
Well: 5-34-9-58
Wellpath: Original Hole

Date: 07/03/2014
Co-ordinate(NE) Reference: Well: 5-34-9-58, Grid North
Vertical (TVD) Reference: GL4805+17'KB 4822.0
Section (VS) Reference: Well (0.00N,0.00E,178.64Azi)
Plan: Plan #4

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Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1500.00	6.52	300.18	1493.46	61.84	-106.32	-64.35	0.00	0.00	0.00	
1600.00	6.52	300.18	1592.81	67.55	-116.14	-70.29	0.00	0.00	0.00	
1700.00	6.52	300.18	1692.17	73.26	-125.96	-76.23	0.00	0.00	0.00	
1800.00	6.52	300.18	1791.52	78.97	-135.78	-82.17	0.00	0.00	0.00	
1900.00	6.52	300.18	1890.87	84.68	-145.60	-88.12	0.00	0.00	0.00	
2000.00	6.52	300.18	1990.23	90.40	-155.42	-94.06	0.00	0.00	0.00	
2100.00	6.52	300.18	2089.58	96.11	-165.24	-100.00	0.00	0.00	0.00	
2200.00	6.52	300.18	2188.93	101.82	-175.06	-105.94	0.00	0.00	0.00	
2300.00	6.52	300.18	2288.28	107.53	-184.88	-111.89	0.00	0.00	0.00	
2400.00	6.52	300.18	2387.64	113.24	-194.70	-117.83	0.00	0.00	0.00	
2500.00	6.52	300.18	2486.99	118.95	-204.52	-123.77	0.00	0.00	0.00	
2600.00	6.52	300.18	2586.34	124.66	-214.33	-129.71	0.00	0.00	0.00	
2700.00	6.52	300.18	2685.69	130.37	-224.15	-135.66	0.00	0.00	0.00	
2800.00	6.52	300.18	2785.05	136.08	-233.97	-141.60	0.00	0.00	0.00	
2900.00	6.52	300.18	2884.40	141.80	-243.79	-147.54	0.00	0.00	0.00	
3000.00	6.52	300.18	2983.75	147.51	-253.61	-153.48	0.00	0.00	0.00	
3100.00	6.52	300.18	3083.11	153.22	-263.43	-159.43	0.00	0.00	0.00	
3200.00	6.52	300.18	3182.46	158.93	-273.25	-165.37	0.00	0.00	0.00	
3300.00	6.52	300.18	3281.81	164.64	-283.07	-171.31	0.00	0.00	0.00	
3400.00	6.52	300.18	3381.16	170.35	-292.89	-177.25	0.00	0.00	0.00	
3500.00	6.52	300.18	3480.52	176.06	-302.71	-183.20	0.00	0.00	0.00	
3600.00	6.52	300.18	3579.87	181.77	-312.53	-189.14	0.00	0.00	0.00	
3700.00	6.52	300.18	3679.22	187.48	-322.35	-195.08	0.00	0.00	0.00	
3800.00	6.52	300.18	3778.57	193.20	-332.16	-201.02	0.00	0.00	0.00	
3900.00	6.52	300.18	3877.93	198.91	-341.98	-206.97	0.00	0.00	0.00	
4000.00	6.52	300.18	3977.28	204.62	-351.80	-212.91	0.00	0.00	0.00	
4100.00	6.52	300.18	4076.63	210.33	-361.62	-218.85	0.00	0.00	0.00	
4200.00	6.52	300.18	4175.99	216.04	-371.44	-224.79	0.00	0.00	0.00	
4300.00	6.52	300.18	4275.34	221.75	-381.26	-230.74	0.00	0.00	0.00	
4400.00	6.52	300.18	4374.69	227.46	-391.08	-236.68	0.00	0.00	0.00	
4500.00	6.52	300.18	4474.04	233.17	-400.90	-242.62	0.00	0.00	0.00	
4600.00	6.52	300.18	4573.40	238.88	-410.72	-248.56	0.00	0.00	0.00	
4700.00	6.52	300.18	4672.75	244.59	-420.54	-254.51	0.00	0.00	0.00	
4800.00	6.52	300.18	4772.10	250.31	-430.36	-260.45	0.00	0.00	0.00	
4900.00	6.52	300.18	4871.45	256.02	-440.18	-266.39	0.00	0.00	0.00	
5000.00	6.52	300.18	4970.81	261.73	-449.99	-272.33	0.00	0.00	0.00	
5100.00	6.52	300.18	5070.16	267.44	-459.81	-278.28	0.00	0.00	0.00	
5200.00	6.52	300.18	5169.51	273.15	-469.63	-284.22	0.00	0.00	0.00	
5221.49	6.52	300.18	5190.86	274.38	-471.74	-285.50	0.00	0.00	0.00	
5250.00	5.59	274.35	5219.22	275.30	-474.53	-286.48	10.00	-3.26	-90.61	
5300.00	7.12	229.93	5268.94	273.49	-479.33	-284.79	10.00	3.05	-88.83	
5350.00	10.95	208.89	5318.32	267.33	-484.00	-278.74	10.00	7.66	-42.09	
5400.00	15.46	199.28	5366.99	256.88	-488.50	-268.40	10.00	9.02	-19.22	
5450.00	20.20	194.01	5414.58	242.20	-492.79	-253.83	10.00	9.47	-10.54	
5500.00	25.03	190.69	5460.73	223.42	-496.84	-235.15	10.00	9.67	-6.63	
5550.00	29.92	188.39	5505.07	200.68	-500.63	-212.50	10.00	9.77	-4.59	
5600.00	34.84	186.69	5547.29	174.14	-504.11	-186.05	10.00	9.83	-3.40	
5650.00	39.77	185.37	5587.05	144.01	-507.28	-156.01	10.00	9.87	-2.65	
5700.00	44.72	184.29	5624.05	110.53	-510.09	-122.60	10.00	9.90	-2.15	
5750.00	49.68	183.39	5658.01	73.94	-512.54	-86.08	10.00	9.91	-1.81	
5800.00	54.64	182.61	5688.68	34.52	-514.60	-46.72	10.00	9.92	-1.56	
5850.00	59.60	181.92	5715.82	-7.43	-516.25	-4.83	10.00	9.93	-1.38	
5900.00	64.57	181.30	5739.21	-51.58	-517.49	39.28	10.00	9.94	-1.24	
5950.00	69.55	180.73	5758.70	-97.60	-518.30	85.27	10.00	9.94	-1.14	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Bringelson Ranch 6-34-9-58 Pad
Well: 5-34-9-58
Wellpath: Original Hole

Date: 07/03/2014
Co-ordinate(NE) Reference: Well: 5-34-9-58, Grid North
Vertical (TVD) Reference: GL4805+17'KB 4822.0
Section (VS) Reference: Well (0.00N,0.00E,178.64Azi)
Plan: Plan #4

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Survey

MD ft	Incl deg	Azim bearing	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5954.56	70.00	180.68	5760.27	-101.88	-518.35	89.55	10.00	9.95	-1.10	7"
6000.00	74.52	180.19	5774.11	-145.15	-518.68	132.80	10.00	9.95	-1.07	
6050.00	79.50	179.68	5785.35	-193.85	-518.62	181.49	10.00	9.95	-1.02	
6100.00	84.47	179.19	5792.32	-243.35	-518.13	230.98	10.00	9.95	-0.99	
6150.00	89.45	178.70	5794.97	-293.25	-517.21	280.89	10.00	9.95	-0.97	
6155.55	90.00	178.65	5795.00	-298.80	-517.08	286.44	10.00	9.95	-0.97	
6200.00	90.00	178.65	5795.00	-343.24	-516.03	330.89	0.00	0.00	0.00	
6300.00	90.00	178.65	5795.00	-443.21	-513.67	430.89	0.00	0.00	0.00	
6400.00	90.00	178.65	5795.00	-543.18	-511.30	530.89	0.00	0.00	0.00	
6500.00	90.00	178.65	5795.00	-643.15	-508.94	630.89	0.00	0.00	0.00	
6600.00	90.00	178.65	5795.00	-743.13	-506.58	730.89	0.00	0.00	0.00	
6700.00	90.00	178.65	5795.00	-843.10	-504.21	830.89	0.00	0.00	0.00	
6800.00	90.00	178.65	5795.00	-943.07	-501.85	930.89	0.00	0.00	0.00	
6900.00	90.00	178.65	5795.00	-1043.04	-499.49	1030.89	0.00	0.00	0.00	
7000.00	90.00	178.65	5795.00	-1143.01	-497.12	1130.89	0.00	0.00	0.00	
7100.00	90.00	178.65	5795.00	-1242.99	-494.76	1230.89	0.00	0.00	0.00	
7200.00	90.00	178.65	5795.00	-1342.96	-492.40	1330.89	0.00	0.00	0.00	
7300.00	90.00	178.65	5795.00	-1442.93	-490.03	1430.89	0.00	0.00	0.00	
7400.00	90.00	178.65	5795.00	-1542.90	-487.67	1530.89	0.00	0.00	0.00	
7500.00	90.00	178.65	5795.00	-1642.87	-485.31	1630.89	0.00	0.00	0.00	
7600.00	90.00	178.65	5795.00	-1742.85	-482.94	1730.89	0.00	0.00	0.00	
7700.00	90.00	178.65	5795.00	-1842.82	-480.58	1830.89	0.00	0.00	0.00	
7800.00	90.00	178.65	5795.00	-1942.79	-478.22	1930.89	0.00	0.00	0.00	
7900.00	90.00	178.65	5795.00	-2042.76	-475.85	2030.89	0.00	0.00	0.00	
8000.00	90.00	178.65	5795.00	-2142.74	-473.49	2130.89	0.00	0.00	0.00	
8100.00	90.00	178.65	5795.00	-2242.71	-471.13	2230.89	0.00	0.00	0.00	
8200.00	90.00	178.65	5795.00	-2342.68	-468.76	2330.89	0.00	0.00	0.00	
8300.00	90.00	178.65	5795.00	-2442.65	-466.40	2430.89	0.00	0.00	0.00	
8400.00	90.00	178.65	5795.00	-2542.62	-464.04	2530.89	0.00	0.00	0.00	
8500.00	90.00	178.65	5795.00	-2642.60	-461.68	2630.89	0.00	0.00	0.00	
8600.00	90.00	178.65	5795.00	-2742.57	-459.31	2730.89	0.00	0.00	0.00	
8700.00	90.00	178.65	5795.00	-2842.54	-456.95	2830.89	0.00	0.00	0.00	
8800.00	90.00	178.65	5795.00	-2942.51	-454.59	2930.89	0.00	0.00	0.00	
8900.00	90.00	178.65	5795.00	-3042.48	-452.22	3030.89	0.00	0.00	0.00	
9000.00	90.00	178.65	5795.00	-3142.46	-449.86	3130.89	0.00	0.00	0.00	
9100.00	90.00	178.65	5795.00	-3242.43	-447.50	3230.89	0.00	0.00	0.00	
9200.00	90.00	178.65	5795.00	-3342.40	-445.13	3330.89	0.00	0.00	0.00	
9300.00	90.00	178.65	5795.00	-3442.37	-442.77	3430.89	0.00	0.00	0.00	
9400.00	90.00	178.65	5795.00	-3542.34	-440.41	3530.89	0.00	0.00	0.00	
9500.00	90.00	178.65	5795.00	-3642.32	-438.04	3630.89	0.00	0.00	0.00	
9600.00	90.00	178.65	5795.00	-3742.29	-435.68	3730.89	0.00	0.00	0.00	
9700.00	90.00	178.65	5795.00	-3842.26	-433.32	3830.89	0.00	0.00	0.00	
9800.00	90.00	178.65	5795.00	-3942.23	-430.95	3930.89	0.00	0.00	0.00	
9900.00	90.00	178.65	5795.00	-4042.20	-428.59	4030.89	0.00	0.00	0.00	
10000.00	90.00	178.65	5795.00	-4142.18	-426.23	4130.89	0.00	0.00	0.00	
10100.00	90.00	178.65	5795.00	-4242.15	-423.86	4230.89	0.00	0.00	0.00	
10200.00	90.00	178.65	5795.00	-4342.12	-421.50	4330.89	0.00	0.00	0.00	
10211.36	90.00	178.65	5795.00	-4353.48	-421.23	4342.26	0.00	0.00	0.00	PBHL 5-34

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Bringelson Ranch 6-34-9-58 Pad Well: 5-34-9-58 Wellpath: Original Hole	Date: 07/03/2014 Co-ordinate(NE) Reference: Well: 5-34-9-58, Grid North Vertical (TVD) Reference: GL4805+17'KB 4822.0 Section (VS) Reference: Well (0.00N,0.00E,178.64Azi) Plan: Plan #4	Time: 10:53:09 Page: 4
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Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->				
								Deg	Min	Sec	Deg	Min	Sec		
SL 5-34			0.00	0.00	0.00	1507137.11	3455633.31	40	42	49.977	N	103	51	22.879	W
PBHL 5-34			5795.00	-4353.48	-421.23	1502783.63	3455212.08	40	42	7.044	N	103	51	29.395	W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1405.93	1400.00	9.625	12.250	9 5/8"
5954.56	5760.27	7.000	8.500	7"