



Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.		Date: 04/03/2014		Time: 15:07:26		Page: 1	
Field: Niobrara CONZ'83		Co-ordinate(NE) Reference: Well: 4-26-8-60, Grid North					
Site: Hemberger 4-26-8-60 Pad		Vertical (TVD) Reference: 4877' GL+17'KB 4894.0					
Well: 4-26-8-60		Section (VS) Reference: Well (0.00N,0.00E,0.05Azi)					
Wellpath: Original Hole		Plan: Plan #2					

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

Site: Hemberger 4-26-8-60 Pad Sec 26, T8N, R60W Weld County, CO			
Site Position:	Northing: 1474665.47 ft	Latitude: 40 37 38.374 N	
From: Map	Easting: 3402171.67 ft	Longitude: 104 3 3.930 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 4877.00 ft		Grid Convergence: 0.94 deg	

Well: 4-26-8-60		Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 1474665.47 ft	Latitude: 40 37 38.374 N	
+E/-W 0.00 ft	Easting : 3402171.67 ft	Longitude: 104 3 3.930 W	
Position Uncertainty: 0.00 ft			

Wellpath: Original Hole		Drilled From: Surface	
Current Datum: 4877' GL+17'KB	Height 4894.00 ft	Tie-on Depth: 0.00 ft	
Magnetic Data: 04/30/2014		Above System Datum: Mean Sea Level	
Field Strength: 53059 nT		Declination: 8.11 deg	
Vertical Section: Depth From (TVD)	+N/-S	Mag Dip Angle: 67.25 deg	
ft	ft	+E/-W	Direction
		ft	deg
0.00	0.00	0.00	0.05

Plan: Plan #2		Date Composed: 04/03/2014	
Principal: No		Version: 1	
		Tied-to: From Surface	

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	233.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	233.50	150.00	0.00	0.00	0.00	0.00	0.00	233.50	
475.00	6.50	233.50	474.30	-10.95	-14.80	2.00	2.00	0.00	233.50	
5717.70	6.50	233.50	5683.30	-363.98	-491.88	0.00	0.00	0.00	0.00	
5993.21	30.00	296.00	5944.53	-342.64	-567.80	10.00	8.53	22.68	73.50	
6705.57	90.00	345.95	6300.00	145.51	-851.91	10.00	8.42	7.01	53.95	
7535.05	90.00	0.05	6300.00	966.73	-952.73	1.70	0.00	1.70	90.00	
10816.94	90.00	0.05	6300.00	4248.61	-949.80	0.00	0.00	0.00	0.00	PBHL 4-26

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
0.00	0.00	233.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	233.50	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	233.50	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	1.00	233.50	200.00	-0.26	-0.35	-0.26	2.00	2.00	0.00	
300.00	3.00	233.50	299.93	-2.34	-3.16	-2.34	2.00	2.00	0.00	
400.00	5.00	233.50	399.68	-6.48	-8.76	-6.49	2.00	2.00	0.00	
475.00	6.50	233.50	474.30	-10.95	-14.80	-10.97	2.00	2.00	0.00	
500.00	6.50	233.50	499.14	-12.64	-17.08	-12.65	0.00	0.00	0.00	
600.00	6.50	233.50	598.50	-19.37	-26.18	-19.39	0.00	0.00	0.00	
700.00	6.50	233.50	697.86	-26.10	-35.28	-26.14	0.00	0.00	0.00	
800.00	6.50	233.50	797.21	-32.84	-44.38	-32.88	0.00	0.00	0.00	
900.00	6.50	233.50	896.57	-39.57	-53.48	-39.62	0.00	0.00	0.00	
1000.00	6.50	233.50	995.93	-46.31	-62.58	-46.36	0.00	0.00	0.00	
1100.00	6.50	233.50	1095.29	-53.04	-71.68	-53.10	0.00	0.00	0.00	

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Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Hemberger 4-26-8-60 Pad
Well: 4-26-8-60
Wellpath: Original Hole

Date: 04/03/2014
Co-ordinate(NE) Reference: Well: 4-26-8-60, Grid North
Vertical (TVD) Reference: 4877' GL+17'KB 4894.0
Section (VS) Reference: Well (0.00N,0.00E,0.05Azi)
Plan: Plan #2

Page: 2

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
1200.00	6.50	233.50	1194.64	-59.77	-80.78	-59.84	0.00	0.00	0.00	
1300.00	6.50	233.50	1294.00	-66.51	-89.88	-66.58	0.00	0.00	0.00	
1400.00	6.50	233.50	1393.36	-73.24	-98.98	-73.33	0.00	0.00	0.00	
1406.69	6.50	233.50	1400.00	-73.69	-99.59	-73.78	0.00	0.00	0.00	9 5/8"
1500.00	6.50	233.50	1492.71	-79.97	-108.08	-80.07	0.00	0.00	0.00	
1600.00	6.50	233.50	1592.07	-86.71	-117.18	-86.81	0.00	0.00	0.00	
1700.00	6.50	233.50	1691.43	-93.44	-126.28	-93.55	0.00	0.00	0.00	
1800.00	6.50	233.50	1790.79	-100.17	-135.38	-100.29	0.00	0.00	0.00	
1900.00	6.50	233.50	1890.14	-106.91	-144.48	-107.03	0.00	0.00	0.00	
2000.00	6.50	233.50	1989.50	-113.64	-153.58	-113.77	0.00	0.00	0.00	
2100.00	6.50	233.50	2088.86	-120.37	-162.68	-120.52	0.00	0.00	0.00	
2200.00	6.50	233.50	2188.21	-127.11	-171.78	-127.26	0.00	0.00	0.00	
2300.00	6.50	233.50	2287.57	-133.84	-180.88	-134.00	0.00	0.00	0.00	
2400.00	6.50	233.50	2386.93	-140.58	-189.98	-140.74	0.00	0.00	0.00	
2500.00	6.50	233.50	2486.29	-147.31	-199.08	-147.48	0.00	0.00	0.00	
2600.00	6.50	233.50	2585.64	-154.04	-208.18	-154.22	0.00	0.00	0.00	
2700.00	6.50	233.50	2685.00	-160.78	-217.28	-160.97	0.00	0.00	0.00	
2800.00	6.50	233.50	2784.36	-167.51	-226.38	-167.71	0.00	0.00	0.00	
2900.00	6.50	233.50	2883.72	-174.24	-235.48	-174.45	0.00	0.00	0.00	
3000.00	6.50	233.50	2983.07	-180.98	-244.58	-181.19	0.00	0.00	0.00	
3100.00	6.50	233.50	3082.43	-187.71	-253.68	-187.93	0.00	0.00	0.00	
3200.00	6.50	233.50	3181.79	-194.44	-262.78	-194.67	0.00	0.00	0.00	
3300.00	6.50	233.50	3281.14	-201.18	-271.88	-201.41	0.00	0.00	0.00	
3400.00	6.50	233.50	3380.50	-207.91	-280.98	-208.16	0.00	0.00	0.00	
3500.00	6.50	233.50	3479.86	-214.64	-290.08	-214.90	0.00	0.00	0.00	
3600.00	6.50	233.50	3579.22	-221.38	-299.18	-221.64	0.00	0.00	0.00	
3700.00	6.50	233.50	3678.57	-228.11	-308.28	-228.38	0.00	0.00	0.00	
3800.00	6.50	233.50	3777.93	-234.85	-317.38	-235.12	0.00	0.00	0.00	
3900.00	6.50	233.50	3877.29	-241.58	-326.48	-241.86	0.00	0.00	0.00	
4000.00	6.50	233.50	3976.64	-248.31	-335.58	-248.61	0.00	0.00	0.00	
4100.00	6.50	233.50	4076.00	-255.05	-344.68	-255.35	0.00	0.00	0.00	
4200.00	6.50	233.50	4175.36	-261.78	-353.78	-262.09	0.00	0.00	0.00	
4300.00	6.50	233.50	4274.72	-268.51	-362.88	-268.83	0.00	0.00	0.00	
4400.00	6.50	233.50	4374.07	-275.25	-371.98	-275.57	0.00	0.00	0.00	
4500.00	6.50	233.50	4473.43	-281.98	-381.07	-282.31	0.00	0.00	0.00	
4600.00	6.50	233.50	4572.79	-288.71	-390.17	-289.05	0.00	0.00	0.00	
4700.00	6.50	233.50	4672.14	-295.45	-399.27	-295.80	0.00	0.00	0.00	
4800.00	6.50	233.50	4771.50	-302.18	-408.37	-302.54	0.00	0.00	0.00	
4900.00	6.50	233.50	4870.86	-308.91	-417.47	-309.28	0.00	0.00	0.00	
5000.00	6.50	233.50	4970.22	-315.65	-426.57	-316.02	0.00	0.00	0.00	
5100.00	6.50	233.50	5069.57	-322.38	-435.67	-322.76	0.00	0.00	0.00	
5200.00	6.50	233.50	5168.93	-329.12	-444.77	-329.50	0.00	0.00	0.00	
5300.00	6.50	233.50	5268.29	-335.85	-453.87	-336.25	0.00	0.00	0.00	
5400.00	6.50	233.50	5367.64	-342.58	-462.97	-342.99	0.00	0.00	0.00	
5500.00	6.50	233.50	5467.00	-349.32	-472.07	-349.73	0.00	0.00	0.00	
5600.00	6.50	233.50	5566.36	-356.05	-481.17	-356.47	0.00	0.00	0.00	
5700.00	6.50	233.50	5665.72	-362.78	-490.27	-363.21	0.00	0.00	0.00	
5717.70	6.50	233.50	5683.30	-363.98	-491.88	-364.40	0.00	0.00	0.00	
5750.00	8.04	256.24	5715.35	-365.60	-495.55	-366.03	10.00	4.75	70.39	
5800.00	11.84	275.50	5764.60	-365.94	-504.05	-366.38	10.00	7.60	38.53	
5850.00	16.29	284.96	5813.10	-363.64	-515.94	-364.09	10.00	8.91	18.92	
5900.00	20.99	290.37	5860.47	-358.71	-531.12	-359.17	10.00	9.39	10.80	
5950.00	25.80	293.85	5906.34	-351.19	-549.48	-351.66	10.00	9.61	6.96	

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Wellpath: Original Hole

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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
5993.21	30.00	296.00	5944.53	-342.64	-567.80	-343.14	10.00	9.73	4.98	
6000.00	30.40	297.08	5950.39	-341.12	-570.85	-341.62	10.00	5.95	15.97	
6050.00	33.63	304.31	5992.80	-327.55	-593.57	-328.06	10.00	6.45	14.44	
6100.00	37.20	310.34	6033.55	-309.95	-616.54	-310.48	10.00	7.15	12.08	
6150.00	41.04	315.44	6072.35	-288.45	-639.59	-289.01	10.00	7.67	10.18	
6200.00	45.06	319.78	6108.89	-263.23	-662.55	-263.81	10.00	8.05	8.69	
6250.00	49.23	323.55	6142.89	-234.47	-685.24	-235.06	10.00	8.34	7.54	
6300.00	53.51	326.87	6174.10	-202.39	-707.49	-203.00	10.00	8.55	6.63	
6350.00	57.87	329.83	6202.28	-167.23	-729.12	-167.86	10.00	8.72	5.93	
6400.00	62.29	332.53	6227.22	-129.26	-749.99	-129.92	10.00	8.84	5.39	
6450.00	66.76	335.01	6248.73	-88.78	-769.91	-89.45	10.00	8.94	4.96	
6485.94	70.00	336.69	6261.97	-58.30	-783.58	-58.98	10.00	9.00	4.68	7"
6500.00	71.27	337.33	6266.63	-46.09	-788.76	-46.77	10.00	9.03	4.54	
6550.00	75.80	339.53	6280.80	-1.50	-806.37	-2.21	10.00	9.07	4.40	
6600.00	80.35	341.64	6291.13	44.62	-822.62	43.90	10.00	9.11	4.22	
6650.00	84.92	343.70	6297.54	91.95	-837.38	91.21	10.00	9.13	4.11	
6700.00	89.49	345.72	6299.98	140.10	-850.54	139.36	10.00	9.14	4.05	
6705.57	90.00	345.95	6300.00	145.51	-851.91	144.76	10.00	9.15	4.04	
6800.00	90.00	347.56	6300.00	237.42	-873.54	236.66	1.70	0.00	1.70	
6900.00	90.00	349.26	6300.00	335.37	-893.64	334.59	1.70	0.00	1.70	
7000.00	90.00	350.96	6300.00	433.88	-910.82	433.09	1.70	0.00	1.70	
7100.00	90.00	352.66	6300.00	532.86	-925.08	532.05	1.70	0.00	1.70	
7200.00	90.00	354.36	6300.00	632.21	-936.39	631.40	1.70	0.00	1.70	
7300.00	90.00	356.06	6300.00	731.86	-944.75	731.03	1.70	0.00	1.70	
7400.00	90.00	357.76	6300.00	831.71	-950.15	830.88	1.70	0.00	1.70	
7500.00	90.00	359.46	6300.00	931.68	-952.58	930.84	1.70	0.00	1.70	
7535.05	90.00	0.05	6300.00	966.73	-952.73	965.90	1.70	0.00	1.70	
7600.00	90.00	0.05	6300.00	1031.68	-952.67	1030.84	0.00	0.00	0.00	
7700.00	90.00	0.05	6300.00	1131.68	-952.58	1130.84	0.00	0.00	0.00	
7800.00	90.00	0.05	6300.00	1231.68	-952.49	1230.84	0.00	0.00	0.00	
7900.00	90.00	0.05	6300.00	1331.68	-952.40	1330.84	0.00	0.00	0.00	
8000.00	90.00	0.05	6300.00	1431.68	-952.32	1430.84	0.00	0.00	0.00	
8100.00	90.00	0.05	6300.00	1531.68	-952.23	1530.84	0.00	0.00	0.00	
8200.00	90.00	0.05	6300.00	1631.68	-952.14	1630.84	0.00	0.00	0.00	
8300.00	90.00	0.05	6300.00	1731.68	-952.05	1730.84	0.00	0.00	0.00	
8400.00	90.00	0.05	6300.00	1831.68	-951.96	1830.84	0.00	0.00	0.00	
8500.00	90.00	0.05	6300.00	1931.68	-951.87	1930.84	0.00	0.00	0.00	
8600.00	90.00	0.05	6300.00	2031.68	-951.78	2030.84	0.00	0.00	0.00	
8700.00	90.00	0.05	6300.00	2131.68	-951.69	2130.84	0.00	0.00	0.00	
8800.00	90.00	0.05	6300.00	2231.68	-951.60	2230.84	0.00	0.00	0.00	
8900.00	90.00	0.05	6300.00	2331.68	-951.51	2330.84	0.00	0.00	0.00	
9000.00	90.00	0.05	6300.00	2431.68	-951.42	2430.84	0.00	0.00	0.00	
9100.00	90.00	0.05	6300.00	2531.68	-951.33	2530.84	0.00	0.00	0.00	
9200.00	90.00	0.05	6300.00	2631.68	-951.24	2630.84	0.00	0.00	0.00	
9300.00	90.00	0.05	6300.00	2731.67	-951.15	2730.84	0.00	0.00	0.00	
9400.00	90.00	0.05	6300.00	2831.67	-951.07	2830.84	0.00	0.00	0.00	
9500.00	90.00	0.05	6300.00	2931.67	-950.98	2930.84	0.00	0.00	0.00	
9600.00	90.00	0.05	6300.00	3031.67	-950.89	3030.84	0.00	0.00	0.00	
9700.00	90.00	0.05	6300.00	3131.67	-950.80	3130.84	0.00	0.00	0.00	
9800.00	90.00	0.05	6300.00	3231.67	-950.71	3230.84	0.00	0.00	0.00	
9900.00	90.00	0.05	6300.00	3331.67	-950.62	3330.84	0.00	0.00	0.00	
10000.00	90.00	0.05	6300.00	3431.67	-950.53	3430.84	0.00	0.00	0.00	
10100.00	90.00	0.05	6300.00	3531.67	-950.44	3530.84	0.00	0.00	0.00	

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Field: Niobrara CONZ'83
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Wellpath: Original Hole

Date: 04/03/2014
Co-ordinate(NE) Reference: Well: 4-26-8-60, Grid North
Vertical (TVD) Reference: 4877' GL+17'KB 4894.0
Section (VS) Reference: Well (0.00N,0.00E,0.05Azi)
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Page: 4

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
10200.00	90.00	0.05	6300.00	3631.67	-950.35	3630.84	0.00	0.00	0.00	
10300.00	90.00	0.05	6300.00	3731.67	-950.26	3730.84	0.00	0.00	0.00	
10400.00	90.00	0.05	6300.00	3831.67	-950.17	3830.84	0.00	0.00	0.00	
10500.00	90.00	0.05	6300.00	3931.67	-950.08	3930.84	0.00	0.00	0.00	
10600.00	90.00	0.05	6300.00	4031.67	-949.99	4030.84	0.00	0.00	0.00	
10700.00	90.00	0.05	6300.00	4131.67	-949.90	4130.84	0.00	0.00	0.00	
10800.00	90.00	0.05	6300.00	4231.67	-949.82	4230.84	0.00	0.00	0.00	
10816.94	90.00	0.05	6300.00	4248.61	-949.80	4247.78	0.00	0.00	0.00	PBHL 4-26

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		
SL 4-26			0.00	0.00	0.00	1474665.47	3402171.67	40	37	38.374 N	104	3	3.930 W
PBHL 4-26			6300.00	4248.61	-949.80	1478914.08	3401221.87	40	38	20.504 N	104	3	15.349 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1406.69	1400.00	9.625	12.250	9 5/8"
6485.94	6261.97	7.000	8.500	7"