

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC.		Date: 11/08/2013	Time: 14:39:49	Page: 1
Field: Niobrara CONZ'83		Co-ordinate(NE) Reference: Well: 9-20-9-58, Grid North		
Site: Bringleson Ranch 8-20-9-58		Vertical (TVD) Reference: 4919'GL+25'KB 4944.0		
Well: 9-20-9-58		Section (VS) Reference: Well (0.00N,0.00E,88.54Azi)		
Wellpath: Original Hole		Plan: Plan #1		

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: Bringleson Ranch 8-20-9-58	
Site Position:	Northing: 1514506.88 ft
From: Map	Easting: 3444629.82 ft
Position Uncertainty: 0.00 ft	Latitude: 40 44 4.778 N
Ground Level: 4919.00 ft	Longitude: 103 53 44.016 W
	North Reference: Grid
	Grid Convergence: 1.04 deg

Well: 9-20-9-58		Slot Name: 9-20	
Well Position: +N/-S 9.11 ft	Northing: 1514515.99 ft	Latitude: 40 44 4.870 N	
+E/-W -11.91 ft	Easting : 3444617.91 ft	Longitude: 103 53 44.168 W	
Position Uncertainty: 0.00 ft			

Wellpath: Original Hole		Drilled From: Surface	
Current Datum: 4919'GL+25'KB	Height 4944.00 ft	Tie-on Depth: 0.00 ft	
Magnetic Data: 12/08/2013		Above System Datum: Mean Sea Level	
Field Strength: 53172 nT		Declination: 8.08 deg	
Vertical Section: Depth From (TVD)	+N/-S	Mag Dip Angle: 67.37 deg	
ft	ft	+E/-W	Direction
		ft	deg
0.00	0.00	0.00	88.54

Plan: Plan #1	Date Composed: 11/08/2013
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	248.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	248.40	150.00	0.00	0.00	0.00	0.00	0.00	248.40	
533.45	5.75	248.40	532.80	-7.08	-17.88	1.50	1.50	0.00	0.00	
5308.14	5.75	248.40	5283.46	-183.21	-462.79	0.00	0.00	0.00	0.00	
6262.18	90.00	88.41	5910.00	-188.94	108.00	10.00	8.83	-16.77	-159.90	
10268.44	90.00	88.41	5910.00	-77.58	4112.72	0.00	0.00	0.00	0.00	PBHL 9-20

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	248.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	248.40	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
150.00	0.00	248.40	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.75	248.40	200.00	-0.12	-0.30	-0.31	1.50	1.50	0.00	
300.00	2.25	248.40	299.96	-1.08	-2.74	-2.76	1.50	1.50	0.00	
400.00	3.75	248.40	399.82	-3.01	-7.60	-7.68	1.50	1.50	0.00	
500.00	5.25	248.40	499.51	-5.90	-14.90	-15.04	1.50	1.50	0.00	
533.45	5.75	248.40	532.80	-7.08	-17.88	-18.05	1.50	1.50	0.00	
600.00	5.75	248.40	599.02	-9.53	-24.08	-24.32	0.00	0.00	0.00	
700.00	5.75	248.40	698.52	-13.22	-33.40	-33.73	0.00	0.00	0.00	
800.00	5.75	248.40	798.01	-16.91	-42.72	-43.13	0.00	0.00	0.00	
900.00	5.75	248.40	897.51	-20.60	-52.04	-52.54	0.00	0.00	0.00	
1000.00	5.75	248.40	997.01	-24.29	-61.35	-61.95	0.00	0.00	0.00	
1100.00	5.75	248.40	1096.50	-27.98	-70.67	-71.36	0.00	0.00	0.00	
1200.00	5.75	248.40	1196.00	-31.67	-79.99	-80.77	0.00	0.00	0.00	

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Field: Niobrara CONZ'83
Site: Bringleson Ranch 8-20-9-58
Well: 9-20-9-58
Wellpath: Original Hole

Date: 11/08/2013
Co-ordinate(NE) Reference: Well: 9-20-9-58, Grid North
Vertical (TVD) Reference: 4919'GL+25'KB 4944.0
Section (VS) Reference: Well (0.00N,0.00E,88.54Azi)
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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
1300.00	5.75	248.40	1295.50	-35.36	-89.31	-90.18	0.00	0.00	0.00	
1400.00	5.75	248.40	1394.99	-39.05	-98.63	-99.59	0.00	0.00	0.00	
1500.00	5.75	248.40	1494.49	-42.73	-107.94	-109.00	0.00	0.00	0.00	
1600.00	5.75	248.40	1593.99	-46.42	-117.26	-118.41	0.00	0.00	0.00	
1700.00	5.75	248.40	1693.48	-50.11	-126.58	-127.82	0.00	0.00	0.00	
1800.00	5.75	248.40	1792.98	-53.80	-135.90	-137.23	0.00	0.00	0.00	
1900.00	5.75	248.40	1892.48	-57.49	-145.22	-146.63	0.00	0.00	0.00	
2000.00	5.75	248.40	1991.97	-61.18	-154.54	-156.04	0.00	0.00	0.00	
2100.00	5.75	248.40	2091.47	-64.87	-163.85	-165.45	0.00	0.00	0.00	
2200.00	5.75	248.40	2190.97	-68.56	-173.17	-174.86	0.00	0.00	0.00	
2300.00	5.75	248.40	2290.46	-72.25	-182.49	-184.27	0.00	0.00	0.00	
2400.00	5.75	248.40	2389.96	-75.93	-191.81	-193.68	0.00	0.00	0.00	
2500.00	5.75	248.40	2489.46	-79.62	-201.13	-203.09	0.00	0.00	0.00	
2600.00	5.75	248.40	2588.95	-83.31	-210.44	-212.50	0.00	0.00	0.00	
2700.00	5.75	248.40	2688.45	-87.00	-219.76	-221.91	0.00	0.00	0.00	
2800.00	5.75	248.40	2787.95	-90.69	-229.08	-231.32	0.00	0.00	0.00	
2900.00	5.75	248.40	2887.44	-94.38	-238.40	-240.73	0.00	0.00	0.00	
3000.00	5.75	248.40	2986.94	-98.07	-247.72	-250.13	0.00	0.00	0.00	
3100.00	5.75	248.40	3086.44	-101.76	-257.03	-259.54	0.00	0.00	0.00	
3200.00	5.75	248.40	3185.93	-105.45	-266.35	-268.95	0.00	0.00	0.00	
3300.00	5.75	248.40	3285.43	-109.13	-275.67	-278.36	0.00	0.00	0.00	
3400.00	5.75	248.40	3384.92	-112.82	-284.99	-287.77	0.00	0.00	0.00	
3500.00	5.75	248.40	3484.42	-116.51	-294.31	-297.18	0.00	0.00	0.00	
3600.00	5.75	248.40	3583.92	-120.20	-303.62	-306.59	0.00	0.00	0.00	
3700.00	5.75	248.40	3683.41	-123.89	-312.94	-316.00	0.00	0.00	0.00	
3800.00	5.75	248.40	3782.91	-127.58	-322.26	-325.41	0.00	0.00	0.00	
3900.00	5.75	248.40	3882.41	-131.27	-331.58	-334.82	0.00	0.00	0.00	
4000.00	5.75	248.40	3981.90	-134.96	-340.90	-344.23	0.00	0.00	0.00	
4100.00	5.75	248.40	4081.40	-138.65	-350.22	-353.63	0.00	0.00	0.00	
4200.00	5.75	248.40	4180.90	-142.34	-359.53	-363.04	0.00	0.00	0.00	
4300.00	5.75	248.40	4280.39	-146.02	-368.85	-372.45	0.00	0.00	0.00	
4400.00	5.75	248.40	4379.89	-149.71	-378.17	-381.86	0.00	0.00	0.00	
4500.00	5.75	248.40	4479.39	-153.40	-387.49	-391.27	0.00	0.00	0.00	
4600.00	5.75	248.40	4578.88	-157.09	-396.81	-400.68	0.00	0.00	0.00	
4700.00	5.75	248.40	4678.38	-160.78	-406.12	-410.09	0.00	0.00	0.00	
4800.00	5.75	248.40	4777.88	-164.47	-415.44	-419.50	0.00	0.00	0.00	
4900.00	5.75	248.40	4877.37	-168.16	-424.76	-428.91	0.00	0.00	0.00	
5000.00	5.75	248.40	4976.87	-171.85	-434.08	-438.32	0.00	0.00	0.00	
5100.00	5.75	248.40	5076.37	-175.54	-443.40	-447.73	0.00	0.00	0.00	
5200.00	5.75	248.40	5175.86	-179.22	-452.71	-457.13	0.00	0.00	0.00	
5308.14	5.75	248.40	5283.46	-183.21	-462.79	-467.31	0.00	0.00	0.00	
5350.00	2.32	210.09	5325.21	-184.72	-465.17	-469.72	10.00	-8.20	-91.53	
5400.00	4.27	115.92	5375.16	-186.41	-464.00	-468.60	10.00	3.89	-188.33	
5450.00	9.00	100.97	5424.81	-187.97	-458.49	-463.13	10.00	9.47	-29.90	
5500.00	13.92	96.40	5473.80	-189.38	-448.66	-453.34	10.00	9.84	-9.15	
5550.00	18.88	94.19	5521.75	-190.64	-434.61	-439.33	10.00	9.92	-4.42	
5600.00	23.86	92.88	5568.30	-191.74	-416.43	-421.18	10.00	9.95	-2.63	
5650.00	28.84	91.99	5613.09	-192.67	-394.26	-399.04	10.00	9.97	-1.76	
5700.00	33.83	91.35	5655.78	-193.42	-368.28	-373.08	10.00	9.98	-1.28	
5750.00	38.82	90.86	5696.05	-193.99	-338.67	-343.50	10.00	9.98	-0.99	
5800.00	43.82	90.47	5733.59	-194.36	-305.67	-310.52	10.00	9.99	-0.79	
5850.00	48.81	90.14	5768.11	-194.55	-269.52	-274.39	10.00	9.99	-0.66	
5900.00	53.81	89.85	5799.36	-194.54	-230.51	-235.39	10.00	9.99	-0.57	
5950.00	58.80	89.60	5827.09	-194.34	-188.92	-193.81	10.00	9.99	-0.50	

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Wellpath: Original Hole

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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
6000.00	63.80	89.38	5851.09	-193.95	-145.08	-149.98	10.00	9.99	-0.45	
6050.00	68.80	89.17	5871.18	-193.37	-99.32	-104.21	10.00	9.99	-0.41	7"
6062.05	70.00	89.13	5875.42	-193.20	-88.04	-92.93	10.00	9.99	-0.39	
6100.00	73.79	88.98	5887.21	-192.60	-51.98	-56.87	10.00	9.99	-0.38	
6150.00	78.79	88.80	5899.06	-191.66	-3.43	-8.31	10.00	9.99	-0.37	
6200.00	83.79	88.62	5906.63	-190.55	45.97	41.10	10.00	9.99	-0.35	
6250.00	88.78	88.45	5909.87	-189.27	95.83	90.98	10.00	9.99	-0.35	
6262.18	90.00	88.41	5910.00	-188.94	108.00	103.15	10.00	9.99	-0.34	
6300.00	90.00	88.41	5910.00	-187.89	145.81	140.98	0.00	0.00	0.00	
6400.00	90.00	88.41	5910.00	-185.11	245.77	240.97	0.00	0.00	0.00	
6500.00	90.00	88.41	5910.00	-182.33	345.73	340.97	0.00	0.00	0.00	
6600.00	90.00	88.41	5910.00	-179.55	445.69	440.97	0.00	0.00	0.00	
6700.00	90.00	88.41	5910.00	-176.77	545.66	540.97	0.00	0.00	0.00	
6800.00	90.00	88.41	5910.00	-173.99	645.62	640.97	0.00	0.00	0.00	
6900.00	90.00	88.41	5910.00	-171.21	745.58	740.97	0.00	0.00	0.00	
7000.00	90.00	88.41	5910.00	-168.43	845.54	840.97	0.00	0.00	0.00	
7100.00	90.00	88.41	5910.00	-165.65	945.50	940.97	0.00	0.00	0.00	
7200.00	90.00	88.41	5910.00	-162.87	1045.46	1040.97	0.00	0.00	0.00	
7300.00	90.00	88.41	5910.00	-160.09	1145.42	1140.97	0.00	0.00	0.00	
7400.00	90.00	88.41	5910.00	-157.31	1245.38	1240.97	0.00	0.00	0.00	
7500.00	90.00	88.41	5910.00	-154.53	1345.35	1340.97	0.00	0.00	0.00	
7600.00	90.00	88.41	5910.00	-151.75	1445.31	1440.97	0.00	0.00	0.00	
7700.00	90.00	88.41	5910.00	-148.97	1545.27	1540.97	0.00	0.00	0.00	
7800.00	90.00	88.41	5910.00	-146.19	1645.23	1640.97	0.00	0.00	0.00	
7900.00	90.00	88.41	5910.00	-143.41	1745.19	1740.97	0.00	0.00	0.00	
8000.00	90.00	88.41	5910.00	-140.63	1845.15	1840.97	0.00	0.00	0.00	
8100.00	90.00	88.41	5910.00	-137.86	1945.11	1940.97	0.00	0.00	0.00	
8200.00	90.00	88.41	5910.00	-135.08	2045.08	2040.97	0.00	0.00	0.00	
8300.00	90.00	88.41	5910.00	-132.30	2145.04	2140.97	0.00	0.00	0.00	
8400.00	90.00	88.41	5910.00	-129.52	2245.00	2240.97	0.00	0.00	0.00	
8500.00	90.00	88.41	5910.00	-126.74	2344.96	2340.97	0.00	0.00	0.00	
8600.00	90.00	88.41	5910.00	-123.96	2444.92	2440.97	0.00	0.00	0.00	
8700.00	90.00	88.41	5910.00	-121.18	2544.88	2540.97	0.00	0.00	0.00	
8800.00	90.00	88.41	5910.00	-118.40	2644.84	2640.97	0.00	0.00	0.00	
8900.00	90.00	88.41	5910.00	-115.62	2744.80	2740.97	0.00	0.00	0.00	
9000.00	90.00	88.41	5910.00	-112.84	2844.77	2840.97	0.00	0.00	0.00	
9100.00	90.00	88.41	5910.00	-110.06	2944.73	2940.97	0.00	0.00	0.00	
9200.00	90.00	88.41	5910.00	-107.28	3044.69	3040.97	0.00	0.00	0.00	
9300.00	90.00	88.41	5910.00	-104.50	3144.65	3140.97	0.00	0.00	0.00	
9400.00	90.00	88.41	5910.00	-101.72	3244.61	3240.97	0.00	0.00	0.00	
9500.00	90.00	88.41	5910.00	-98.94	3344.57	3340.97	0.00	0.00	0.00	
9600.00	90.00	88.41	5910.00	-96.16	3444.53	3440.97	0.00	0.00	0.00	
9700.00	90.00	88.41	5910.00	-93.38	3544.50	3540.97	0.00	0.00	0.00	
9800.00	90.00	88.41	5910.00	-90.60	3644.46	3640.97	0.00	0.00	0.00	
9900.00	90.00	88.41	5910.00	-87.82	3744.42	3740.97	0.00	0.00	0.00	
10000.00	90.00	88.41	5910.00	-85.04	3844.38	3840.97	0.00	0.00	0.00	
10100.00	90.00	88.41	5910.00	-82.26	3944.34	3940.96	0.00	0.00	0.00	
10200.00	90.00	88.41	5910.00	-79.48	4044.30	4040.96	0.00	0.00	0.00	
10268.44	90.00	88.41	5910.00	-77.58	4112.72	4109.41	0.00	0.00	0.00	PBHL 9-20

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Wellpath: Original Hole

Date: 11/08/2013
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Vertical (TVD) Reference: 4919'GL+25'KB 4944.0
Section (VS) Reference: Well (0.00N,0.00E,88.54Azi)
Plan: Plan #1

Page: 4

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->		
								Deg	Min	Sec	Deg	Min	Sec
SL 9-20			0.00	0.00	0.00	1514515.993444	617.91	40	44	4.870 N	103	53	44.168 W
PBHL 9-20			5910.00	-77.58	4112.72	1514438.413448	730.63	40	44	3.365 N	103	52	50.771 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6062.05	5875.42	7.000	8.500	7"