



Precision Directional Services, Inc.

Planning Report

Company:	CARRIZO OIL & GAS, INC.	Date:	11/08/2013	Time:	14:56:42	Page:	1
Field:	Niobrara CONZ'83	Co-ordinate(NE) Reference:	Well: 10-20-9-58, Grid North				
Site:	Bringleson Ranch 8-20-9-58	Vertical (TVD) Reference:	4919'GL+25'KB 4944.0				
Well:	10-20-9-58	Section (VS) Reference:	Well (0.00N,0.00E,88.41Azi)				
Wellpath:	Original Hole	Plan:	Plan #1				

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: Bringleson Ranch 8-20-9-58

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

Well:	10-20-9-58				Slot Name:	10-20				
Well Position:	+N/-S	18.23	ft	Northing:	1514525.11	ft	Latitude:	40	44	4.962 N
	+E/-W	-23.82	ft	Easting :	3444606.00	ft	Longitude:	103	53	44.321 W
Position Uncertainty:		0.00	ft							

Wellpath:	Original Hole		Drilled From:	Surface
Current Datum:	4919'GL+25'KB	Height	Tie-on Depth:	0.00 ft
Magnetic Data:	12/08/2013	4944.00 ft	Above System Datum:	Mean Sea Level
Field Strength:	53181 nT		Declination:	8.09 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	88.41

Plan:	Plan #1	Date Composed:	11/08/2013
		Version:	1
Principal:	No	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	279.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	279.06	200.00	0.00	0.00	0.00	0.00	0.00	279.06	
474.77	5.50	279.06	474.35	2.07	-13.00	2.00	2.00	0.00	0.00	
5305.84	5.50	279.06	5283.22	74.93	-469.89	0.00	0.00	0.00	0.00	
6259.85	90.00	88.41	5910.00	101.87	100.00	10.00	8.86	17.75	169.30	
10279.54	90.00	88.41	5910.00	213.23	4118.15	0.00	0.00	0.00	0.00	PBHL 10-20

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	279.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	279.06	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	279.06	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	2.00	279.06	299.98	0.27	-1.72	-1.72	2.00	2.00	0.00	
400.00	4.00	279.06	399.84	1.10	-6.89	-6.86	2.00	2.00	0.00	
474.77	5.50	279.06	474.35	2.07	-13.00	-12.94	2.00	2.00	0.00	
500.00	5.50	279.06	499.46	2.45	-15.39	-15.31	0.00	0.00	0.00	
600.00	5.50	279.06	599.00	3.96	-24.85	-24.73	0.00	0.00	0.00	
700.00	5.50	279.06	698.54	5.47	-34.30	-34.14	0.00	0.00	0.00	
800.00	5.50	279.06	798.08	6.98	-43.76	-43.55	0.00	0.00	0.00	
900.00	5.50	279.06	897.62	8.49	-53.22	-52.96	0.00	0.00	0.00	
1000.00	5.50	279.06	997.16	9.99	-62.67	-62.37	0.00	0.00	0.00	
1100.00	5.50	279.06	1096.71	11.50	-72.13	-71.78	0.00	0.00	0.00	
1200.00	5.50	279.06	1196.25	13.01	-81.59	-81.20	0.00	0.00	0.00	
1300.00	5.50	279.06	1295.79	14.52	-91.05	-90.61	0.00	0.00	0.00	

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Field: Niobrara CONZ'83
Site: Bringleson Ranch 8-20-9-58
Well: 10-20-9-58
Wellpath: Original Hole

Date: 11/08/2013
Co-ordinate(NE) Reference: Well: 10-20-9-58, Grid North
Vertical (TVD) Reference: 4919'GL+25'KB 4944.0
Section (VS) Reference: Well (0.00N,0.00E,88.41Azi)
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
1400.00	5.50	279.06	1395.33	16.03	-100.50	-100.02	0.00	0.00	0.00	
1500.00	5.50	279.06	1494.87	17.53	-109.96	-109.43	0.00	0.00	0.00	
1600.00	5.50	279.06	1594.41	19.04	-119.42	-118.84	0.00	0.00	0.00	
1700.00	5.50	279.06	1693.95	20.55	-128.88	-128.26	0.00	0.00	0.00	
1800.00	5.50	279.06	1793.49	22.06	-138.33	-137.67	0.00	0.00	0.00	
1900.00	5.50	279.06	1893.03	23.57	-147.79	-147.08	0.00	0.00	0.00	
2000.00	5.50	279.06	1992.57	25.08	-157.25	-156.49	0.00	0.00	0.00	
2100.00	5.50	279.06	2092.11	26.58	-166.70	-165.90	0.00	0.00	0.00	
2200.00	5.50	279.06	2191.65	28.09	-176.16	-175.31	0.00	0.00	0.00	
2300.00	5.50	279.06	2291.19	29.60	-185.62	-184.73	0.00	0.00	0.00	
2400.00	5.50	279.06	2390.73	31.11	-195.08	-194.14	0.00	0.00	0.00	
2500.00	5.50	279.06	2490.27	32.62	-204.53	-203.55	0.00	0.00	0.00	
2600.00	5.50	279.06	2589.81	34.12	-213.99	-212.96	0.00	0.00	0.00	
2700.00	5.50	279.06	2689.35	35.63	-223.45	-222.37	0.00	0.00	0.00	
2800.00	5.50	279.06	2788.89	37.14	-232.90	-231.78	0.00	0.00	0.00	
2900.00	5.50	279.06	2888.43	38.65	-242.36	-241.20	0.00	0.00	0.00	
3000.00	5.50	279.06	2987.97	40.16	-251.82	-250.61	0.00	0.00	0.00	
3100.00	5.50	279.06	3087.51	41.66	-261.28	-260.02	0.00	0.00	0.00	
3200.00	5.50	279.06	3187.05	43.17	-270.73	-269.43	0.00	0.00	0.00	
3300.00	5.50	279.06	3286.59	44.68	-280.19	-278.84	0.00	0.00	0.00	
3400.00	5.50	279.06	3386.13	46.19	-289.65	-288.25	0.00	0.00	0.00	
3500.00	5.50	279.06	3485.67	47.70	-299.10	-297.67	0.00	0.00	0.00	
3600.00	5.50	279.06	3585.21	49.20	-308.56	-307.08	0.00	0.00	0.00	
3700.00	5.50	279.06	3684.76	50.71	-318.02	-316.49	0.00	0.00	0.00	
3800.00	5.50	279.06	3784.30	52.22	-327.48	-325.90	0.00	0.00	0.00	
3900.00	5.50	279.06	3883.84	53.73	-336.93	-335.31	0.00	0.00	0.00	
4000.00	5.50	279.06	3983.38	55.24	-346.39	-344.72	0.00	0.00	0.00	
4100.00	5.50	279.06	4082.92	56.74	-355.85	-354.14	0.00	0.00	0.00	
4200.00	5.50	279.06	4182.46	58.25	-365.31	-363.55	0.00	0.00	0.00	
4300.00	5.50	279.06	4282.00	59.76	-374.76	-372.96	0.00	0.00	0.00	
4400.00	5.50	279.06	4381.54	61.27	-384.22	-382.37	0.00	0.00	0.00	
4500.00	5.50	279.06	4481.08	62.78	-393.68	-391.78	0.00	0.00	0.00	
4600.00	5.50	279.06	4580.62	64.28	-403.13	-401.20	0.00	0.00	0.00	
4700.00	5.50	279.06	4680.16	65.79	-412.59	-410.61	0.00	0.00	0.00	
4800.00	5.50	279.06	4779.70	67.30	-422.05	-420.02	0.00	0.00	0.00	
4900.00	5.50	279.06	4879.24	68.81	-431.51	-429.43	0.00	0.00	0.00	
5000.00	5.50	279.06	4978.78	70.32	-440.96	-438.84	0.00	0.00	0.00	
5100.00	5.50	279.06	5078.32	71.83	-450.42	-448.25	0.00	0.00	0.00	
5200.00	5.50	279.06	5177.86	73.33	-459.88	-457.67	0.00	0.00	0.00	
5305.84	5.50	279.06	5283.22	74.93	-469.89	-467.63	0.00	0.00	0.00	
5350.00	1.42	314.37	5327.29	75.64	-472.37	-470.09	10.00	-9.24	79.97	
5400.00	4.14	74.20	5377.25	76.57	-471.07	-468.76	10.00	5.45	239.66	
5450.00	9.07	82.02	5426.90	77.61	-465.42	-463.09	10.00	9.86	15.63	
5500.00	14.05	84.34	5475.87	78.76	-455.47	-453.11	10.00	9.96	4.64	
5550.00	19.04	85.46	5523.78	80.00	-441.29	-438.90	10.00	9.98	2.24	
5600.00	24.04	86.13	5570.28	81.33	-422.99	-420.57	10.00	9.99	1.34	
5650.00	29.03	86.58	5615.00	82.75	-400.71	-398.26	10.00	9.99	0.90	
5700.00	34.03	86.90	5657.60	84.23	-374.61	-372.13	10.00	9.99	0.65	
5750.00	39.03	87.16	5697.77	85.77	-344.90	-342.39	10.00	10.00	0.50	
5800.00	44.02	87.36	5735.19	87.35	-311.80	-309.26	10.00	10.00	0.41	
5850.00	49.02	87.53	5769.58	88.96	-275.57	-272.99	10.00	10.00	0.34	
5900.00	54.02	87.67	5800.68	90.60	-236.47	-233.86	10.00	10.00	0.29	
5950.00	59.02	87.80	5828.25	92.25	-194.81	-192.18	10.00	10.00	0.26	
6000.00	64.02	87.92	5852.09	93.89	-150.91	-148.24	10.00	10.00	0.23	

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6050.00	69.02	88.02	5872.01	95.51	-105.09	-102.40	10.00	10.00	0.21	
6059.81	70.00	88.04	5875.44	95.83	-95.91	-93.21	10.00	10.00	0.20	7"
6100.00	74.02	88.12	5887.85	97.11	-57.71	-54.99	10.00	10.00	0.20	
6150.00	79.02	88.21	5899.50	98.66	-9.13	-6.39	10.00	10.00	0.19	
6200.00	84.02	88.31	5906.88	100.16	40.29	43.05	10.00	10.00	0.18	
6250.00	89.02	88.39	5909.92	101.60	90.16	92.94	10.00	10.00	0.18	
6259.85	90.00	88.41	5910.00	101.87	100.00	102.79	10.00	10.00	0.18	
6300.00	90.00	88.41	5910.00	102.98	140.14	142.94	0.00	0.00	0.00	
6400.00	90.00	88.41	5910.00	105.75	240.10	242.94	0.00	0.00	0.00	
6500.00	90.00	88.41	5910.00	108.52	340.06	342.94	0.00	0.00	0.00	
6600.00	90.00	88.41	5910.00	111.29	440.02	442.94	0.00	0.00	0.00	
6700.00	90.00	88.41	5910.00	114.06	539.98	542.94	0.00	0.00	0.00	
6800.00	90.00	88.41	5910.00	116.83	639.95	642.94	0.00	0.00	0.00	
6900.00	90.00	88.41	5910.00	119.60	739.91	742.94	0.00	0.00	0.00	
7000.00	90.00	88.41	5910.00	122.37	839.87	842.94	0.00	0.00	0.00	
7100.00	90.00	88.41	5910.00	125.15	939.83	942.94	0.00	0.00	0.00	
7200.00	90.00	88.41	5910.00	127.92	1039.79	1042.94	0.00	0.00	0.00	
7300.00	90.00	88.41	5910.00	130.69	1139.75	1142.94	0.00	0.00	0.00	
7400.00	90.00	88.41	5910.00	133.46	1239.72	1242.94	0.00	0.00	0.00	
7500.00	90.00	88.41	5910.00	136.23	1339.68	1342.94	0.00	0.00	0.00	
7600.00	90.00	88.41	5910.00	139.00	1439.64	1442.94	0.00	0.00	0.00	
7700.00	90.00	88.41	5910.00	141.77	1539.60	1542.94	0.00	0.00	0.00	
7800.00	90.00	88.41	5910.00	144.54	1639.56	1642.94	0.00	0.00	0.00	
7900.00	90.00	88.41	5910.00	147.31	1739.52	1742.94	0.00	0.00	0.00	
8000.00	90.00	88.41	5910.00	150.08	1839.49	1842.94	0.00	0.00	0.00	
8100.00	90.00	88.41	5910.00	152.85	1939.45	1942.94	0.00	0.00	0.00	
8200.00	90.00	88.41	5910.00	155.62	2039.41	2042.94	0.00	0.00	0.00	
8300.00	90.00	88.41	5910.00	158.39	2139.37	2142.94	0.00	0.00	0.00	
8400.00	90.00	88.41	5910.00	161.16	2239.33	2242.94	0.00	0.00	0.00	
8500.00	90.00	88.41	5910.00	163.93	2339.29	2342.94	0.00	0.00	0.00	
8600.00	90.00	88.41	5910.00	166.70	2439.25	2442.94	0.00	0.00	0.00	
8700.00	90.00	88.41	5910.00	169.47	2539.22	2542.94	0.00	0.00	0.00	
8800.00	90.00	88.41	5910.00	172.24	2639.18	2642.94	0.00	0.00	0.00	
8900.00	90.00	88.41	5910.00	175.01	2739.14	2742.94	0.00	0.00	0.00	
9000.00	90.00	88.41	5910.00	177.78	2839.10	2842.94	0.00	0.00	0.00	
9100.00	90.00	88.41	5910.00	180.55	2939.06	2942.94	0.00	0.00	0.00	
9200.00	90.00	88.41	5910.00	183.32	3039.02	3042.94	0.00	0.00	0.00	
9300.00	90.00	88.41	5910.00	186.09	3138.99	3142.94	0.00	0.00	0.00	
9400.00	90.00	88.41	5910.00	188.86	3238.95	3242.94	0.00	0.00	0.00	
9500.00	90.00	88.41	5910.00	191.63	3338.91	3342.94	0.00	0.00	0.00	
9600.00	90.00	88.41	5910.00	194.40	3438.87	3442.94	0.00	0.00	0.00	
9700.00	90.00	88.41	5910.00	197.17	3538.83	3542.94	0.00	0.00	0.00	
9800.00	90.00	88.41	5910.00	199.95	3638.79	3642.94	0.00	0.00	0.00	
9900.00	90.00	88.41	5910.00	202.72	3738.76	3742.94	0.00	0.00	0.00	
10000.00	90.00	88.41	5910.00	205.49	3838.72	3842.94	0.00	0.00	0.00	
10100.00	90.00	88.41	5910.00	208.26	3938.68	3942.94	0.00	0.00	0.00	
10200.00	90.00	88.41	5910.00	211.03	4038.64	4042.94	0.00	0.00	0.00	
10279.54	90.00	88.41	5910.00	213.23	4118.15	4122.48	0.00	0.00	0.00	PBHL 10-20

Precision Directional Services, Inc.

Planning Report

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Field: Niobrara CONZ'83
Site: Bringleson Ranch 8-20-9-58
Well: 10-20-9-58
Wellpath: Original Hole

Date: 11/08/2013
Co-ordinate(NE) Reference: Well: 10-20-9-58, Grid North
Vertical (TVD) Reference: 4919'GL+25'KB 4944.0
Section (VS) Reference: Well (0.00N,0.00E,88.41Azi)
Plan: Plan #1

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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 10-20			0.00	0.00	0.00	1514525.11	3444606.00	40	44	4.962 N	103	53	44.321 W
PBHL 10-20			5910.00	213.23	4118.15	1514738.34	3448724.15	40	44	6.329 N	103	52	50.784 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
6059.81	5875.44	7.000	8.500	7"