



713.435.6250

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Pergamos 3-7-60 Pad Well: 3-11-7-60 Wellpath: Sidetrack	Date: 01/21/2013 Co-ordinate(NE) Reference: Well: 3-11-7-60, Grid North Vertical (TVD) Reference: 4922'GL+17'KB 4939.0 Section (VS) Reference: Well (0.00N,0.00E,179.88Azi) Plan: Plan #1	Time: 23:34:38 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
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Site: Pergamos 3-7-60 Pad Lot 4 S:3, T:7N,R60W Weld County, Co Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 4922.00 ft	Northing: 1468499.00 ft Easting: 3393347.50 ft Latitude: 40 36 38.857 N Longitude: 104 4 59.637 W North Reference: Grid Grid Convergence: 0.92 deg
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Well: 3-11-7-60 SL adjusted 12-28,1-4 Well Position: +N/-S -0.14 ft +E/-W -14.95 ft Position Uncertainty: 0.00 ft	Slot Name: Latitude: 40 36 38.858 N Longitude: 104 4 59.831 W
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Wellpath: Sidetrack Current Datum: 4922'GL+17'KB Magnetic Data: 01/21/2013 Field Strength: 53183 nT Vertical Section: Depth From (TVD) ft	Height 4939.00 ft +N/-S ft	Drilled From: Original Hole Tie-on Depth: 9418.00 ft Above System Datum: Mean Sea Level Declination: 8.30 deg Mag Dip Angle: 67.27 deg +E/-W ft Direction deg
0.00	0.00	0.00 179.88

Plan: Plan #1 Principal: No	Date Composed: 01/21/2013 Version: 1 Tied-to: From: Definitive Path
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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
9138.00	88.85	177.93	6311.53	-2881.00	-653.12	0.00	0.00	0.00	0.00	
9158.00	87.65	175.85	6312.14	-2900.96	-652.03	12.00	-5.99	-10.40	240.00	
9276.07	92.00	174.00	6312.50	-3018.54	-641.59	4.00	3.68	-1.57	336.93	
9398.07	92.00	174.00	6308.24	-3139.80	-628.85	0.00	0.00	0.00	0.00	
9813.41	92.00	180.23	6293.74	-3554.15	-607.96	1.50	0.00	1.50	90.00	
9913.40	90.50	180.23	6291.56	-3654.11	-608.36	1.50	-1.50	0.00	-179.99	
10665.14	90.50	180.23	6285.00	-4405.82	-611.38	0.00	0.00	0.00	0.00	PBHL 3-11 ST

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
9138.00	88.85	177.93	6311.53	-2881.00	-653.12	2879.63	0.00	0.00	0.00	
9158.00	87.65	175.85	6312.14	-2900.96	-652.03	2899.59	12.00	-5.99	-10.40	
9238.00	90.60	174.60	6313.36	-2980.67	-645.37	2979.31	4.00	3.68	-1.57	
9276.07	92.00	174.00	6312.50	-3018.54	-641.59	3017.19	4.00	3.68	-1.57	
9338.00	92.00	174.00	6310.33	-3080.09	-635.12	3078.75	0.00	0.00	0.00	
9398.07	92.00	174.00	6308.24	-3139.80	-628.85	3138.47	0.00	0.00	0.00	
9438.00	92.00	174.60	6306.84	-3179.50	-624.88	3178.19	1.50	0.00	1.50	
9538.00	92.00	176.10	6303.35	-3279.11	-616.78	3277.81	1.50	0.00	1.50	
9638.00	92.00	177.60	6299.86	-3378.89	-611.28	3377.61	1.50	0.00	1.50	
9738.00	92.00	179.10	6296.37	-3478.79	-608.41	3477.51	1.50	0.00	1.50	
9813.41	92.00	180.23	6293.74	-3554.15	-607.96	3552.86	1.50	0.00	1.50	
9838.00	91.63	180.23	6292.96	-3578.73	-608.06	3577.45	1.50	-1.50	0.00	
9913.40	90.50	180.23	6291.56	-3654.11	-608.36	3652.83	1.50	-1.50	0.00	
9938.00	90.50	180.23	6291.35	-3678.71	-608.46	3677.43	0.00	0.00	0.00	
10038.00	90.50	180.23	6290.47	-3778.71	-608.86	3777.42	0.00	0.00	0.00	

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Planning Report

Company: CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Pergamos 3-7-60 Pad
Well: 3-11-7-60
Wellpath: Sidetrack

Date: 01/21/2013
Co-ordinate(NE) Reference: Well: 3-11-7-60, Grid North
Vertical (TVD) Reference: 4922'GL+17'KB 4939.0
Section (VS) Reference: Well (0.00N,0.00E,179.88Azi)
Plan: Plan #1

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
10138.00	90.50	180.23	6289.60	-3878.70	-609.27	3877.42	0.00	0.00	0.00	
10238.00	90.50	180.23	6288.73	-3978.70	-609.67	3977.41	0.00	0.00	0.00	
10338.00	90.50	180.23	6287.86	-4078.69	-610.07	4077.41	0.00	0.00	0.00	
10438.00	90.50	180.23	6286.98	-4178.69	-610.47	4177.40	0.00	0.00	0.00	
10538.00	90.50	180.23	6286.11	-4278.68	-610.87	4277.40	0.00	0.00	0.00	
10638.00	90.50	180.23	6285.24	-4378.68	-611.27	4377.39	0.00	0.00	0.00	
10665.14	90.50	180.23	6285.00	-4405.82	-611.38	4404.53	0.00	0.00	0.00	PBHL 3-11 ST

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		
Surface			0.00	0.00	0.00	1468498.86	3393332.55	40	36	38.858 N	104	4	59.831 W
PBHL 3-11 ST			6285.00	-4405.82	-611.38	1464093.04	3392721.17	40	35	55.424 N	104	5	8.669 W
BHL 3-11 OH			6312.00	-3160.95	-649.41	1465337.91	3392683.14	40	36	7.729 N	104	5	8.904 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1422.00	1422.00	9.625	12.250	9 5/8"
6402.43	6234.00	7.000	8.750	7"

Precision Directional Services, Inc.

Anticollision Report

Company: CARRIZO OIL & GAS, INC.	Date: 01/21/2013	Time: 23:38:47	Page: 1
Field: Niobrara CONZ'83			
Reference Site: Pergamos 3-7-60 Pad	Co-ordinate(NE) Reference:	Well: 3-11-7-60, Grid North	
Reference Well: 3-11-7-60	Vertical (TVD) Reference:	4922'GL+17'KB 4939.0	
Reference Wellpath: Sidetrack	Db: Sybase		

NO GLOBAL SCAN: Using user defined selection & scan criteria
Interpolation Method: MD **Interval:** 50.00 ft
Depth Range: 9138.00 to 10665.14 ft
Maximum Radius: 100.00 ft

Reference: Plan: Plan #1
Error Model: Systematic Ellipse
Scan Method: Closest Approach 3D
Error Surface: Ellipse

Plan: Plan #1	Date Composed: 01/21/2013
	Version: 1
Principal: No	Tied-to: From: Definitive Path

Summary

<----- Offset Wellpath ----->			Reference	Offset	Ctr-Ctr	Edge	Separation	Warning
Site	Well	Wellpath	MD ft	MD ft	Distance ft	Distance ft	Factor	
Pergamos 3-7-60 Pad	3-11-7-60	Original Hole V0	9138.00	9138.00	0.00	-57.08	0.00	No Data

Site: Pergamos 3-7-60 Pad
Well: 3-11-7-60
Wellpath: Original Hole V0

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr	Edge	Separation	Warning
MD ft	TVD ft	MD ft	TVD ft	Ref ft	Offset ft	TFO-HS deg	North ft	East ft	Distance ft	Distance ft	Factor	
9138.00	6311.53	9138.00	6311.53	28.54	28.54	0.00	-2881.00	-653.12	0.00	-57.08	0.00	No Data
9188.00	6313.08	9187.93	6312.23	28.71	28.82	67.98	-2930.91	-651.82	2.25	-54.92	0.04	
9238.00	6313.36	9237.79	6312.73	28.94	29.08	83.56	-2980.76	-650.99	5.65	-52.27	0.10	
9288.00	6312.08	9287.58	6313.05	29.19	29.33	95.47	-3030.54	-650.16	9.86	-47.63	0.17	
9338.00	6310.33	9337.21	6312.98	27.28	29.58	100.16	-3080.17	-649.69	14.81	-40.97	0.27	
9388.00	6308.59	9386.95	6312.38	24.80	29.58	100.78	-3129.90	-649.52	19.98	-33.61	0.37	
9438.00	6306.84	9418.00	6312.00	24.30	29.58	101.04	-3160.95	-649.41	31.18	-21.91	0.59	
9488.00	6305.10	9418.00	6312.00	24.30	29.58	100.79	-3160.95	-649.41	74.51	21.46	1.40	