

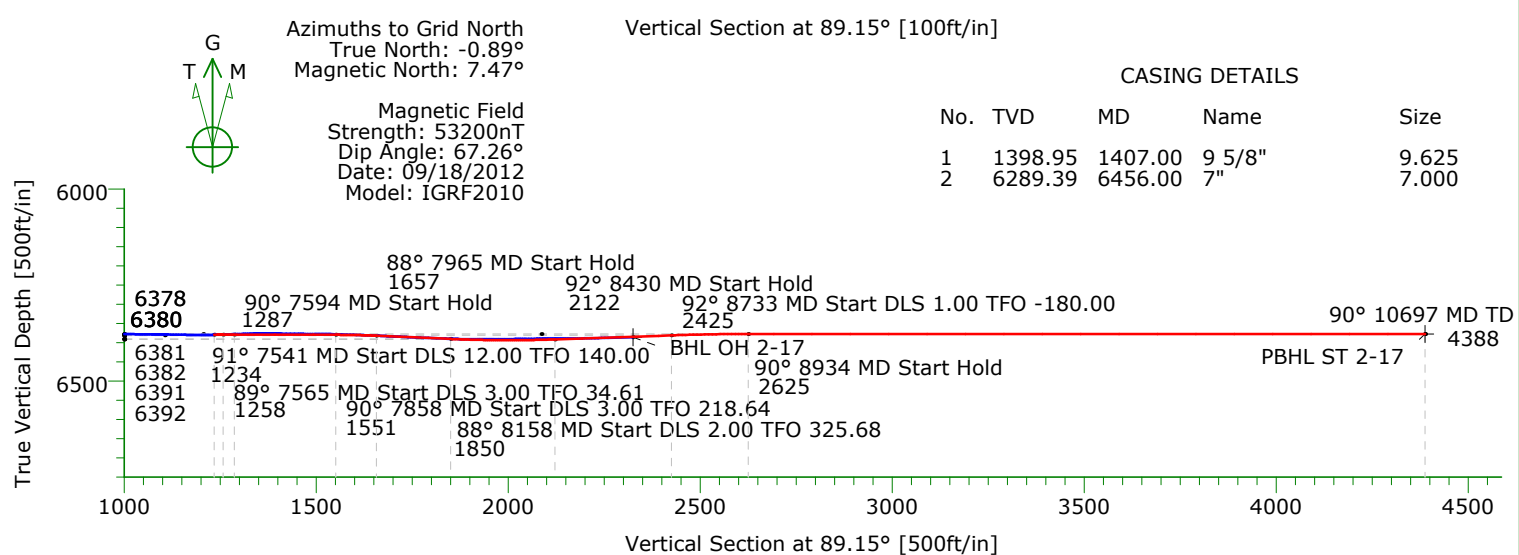
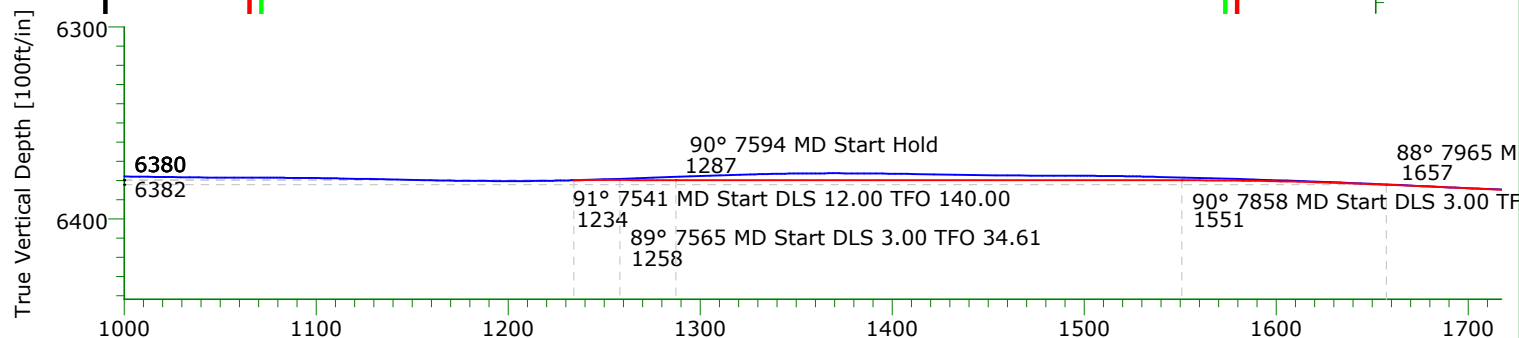
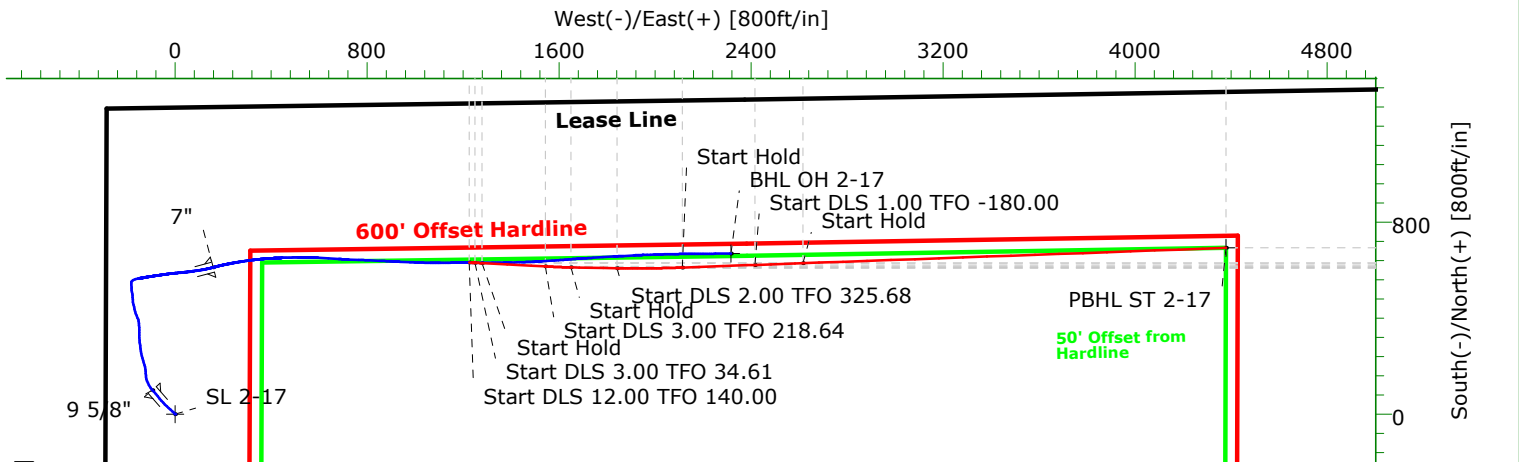


CARRIZO

CARRIZO OIL & GAS, INC.
Field: Niobrara CONZ'83
Site: Slick Rock 17-11-7-60 Pad
Well: 2-17-11-7-60
Wellpath: Sidetrack
Plan: Plan #2



Precision
Directional Services



CASING DETAILS

No.	TVD	MD	Name	Size
1	1398.95	1407.00	9 5/8"	9.625
2	6289.39	6456.00	7"	7.000

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL 2-17	0.00	0.00	0.00	1456703.66	3381692.98	40°34'44.127N	104°07'33.104W	Point
PBHL ST 2-17	6378.00	692.84	4378.20	1457396.50	3386071.18	40°34'50.298N	104°06'36.228W	Point
BHL OH 2-17	6386.00	669.90	2315.64	1457373.56	3384008.62	40°34'50.390N	104°07'02.962W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7541.00	91.48	90.65	6379.95	631.41	1225.05	0.00	0.00	1234.28	
2	7565.00	89.28	92.50	6379.79	630.75	1249.03	12.00	140.00	1258.25	
3	7594.29	90.00	93.00	6379.97	629.35	1278.29	3.00	34.61	1287.49	
4	7858.29	90.00	93.00	6379.97	615.53	1541.93	0.00	0.00	1550.89	
5	7965.00	87.50	91.00	6382.30	611.81	1648.53	3.00	218.64	1657.43	
6	8158.06	87.50	91.00	6390.72	608.44	1841.38	0.00	0.00	1850.20	
7	8430.41	92.00	87.93	6391.91	610.98	2113.61	2.00	325.68	2122.44	
8	8733.22	92.00	87.93	6381.34	621.91	2416.04	0.00	0.00	2425.00	
9	8933.69	90.00	87.93	6377.85	629.15	2616.34	1.00	-180.00	2625.39	
10	10696.70	90.00	87.93	6378.00	692.84	4378.20	0.00	0.00	4388.00	PBHL ST 2-17

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Slick Rock 17-11-7-60 Pad Well: 2-17-11-7-60 Wellpath: Sidetrack	Date: 09/18/2012 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Plan:	Time: 18:06:51 Well: 2-17-11-7-60, Grid North 4935'GL+17"KB 4952.0 Well (0.00N,0.00E,89.15Azi) Plan #2	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: Slick Rock 17-11-7-60 Pad Sec 17 T7N R60W Weld County, CO Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 4935.00 ft	Northing: 1457755.49 ft Easting: 3382730.70 ft Latitude: 40 34 54.361 N Longitude: 104 7 19.445 W North Reference: Grid Grid Convergence: 0.89 deg
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Well: 2-17-11-7-60 offset from site Well Position: +N/-S -1051.83 ft +E/-W -1037.72 ft Position Uncertainty: 0.00 ft	Slot Name: 2-17 Latitude: 40 34 44.127 N Longitude: 104 7 33.104 W
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Wellpath: Sidetrack Current Datum: 4935'GL+17"KB Magnetic Data: 09/18/2012 Field Strength: 53200 nT Vertical Section: Depth From (TVD) ft	Drilled From: Original Hole Tie-on Depth: 8633.00 ft Above System Datum: Mean Sea Level Declination: 8.36 deg Mag Dip Angle: 67.26 deg +N/-S ft +E/-W ft Direction deg
0.00	0.00

Plan: Plan #2 Principal: No	Date Composed: 09/18/2012 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
7541.00	91.48	90.65	6379.95	631.41	1225.05	0.00	0.00	0.00	0.00	
7565.00	89.28	92.50	6379.79	630.75	1249.03	12.00	-9.19	7.71	140.00	
7594.29	90.00	93.00	6379.97	629.35	1278.29	3.00	2.47	1.70	34.61	
7858.29	90.00	93.00	6379.97	615.53	1541.93	0.00	0.00	0.00	0.00	
7965.00	87.50	91.00	6382.30	611.81	1648.53	3.00	-2.34	-1.87	218.64	
8158.06	87.50	91.00	6390.72	608.44	1841.38	0.00	0.00	0.00	0.00	
8430.41	92.00	87.93	6391.91	610.98	2113.61	2.00	1.65	-1.13	325.68	
8733.22	92.00	87.93	6381.34	621.91	2416.04	0.00	0.00	0.00	0.00	
8933.69	90.00	87.93	6377.85	629.15	2616.34	1.00	-1.00	0.00	-180.00	
10696.70	90.00	87.93	6378.00	692.84	4378.20	0.00	0.00	0.00	0.00	PBHL ST 2-17

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
7541.00	91.48	90.65	6379.95	631.41	1225.05	1234.28	0.00	0.00	0.00	
7550.00	90.66	91.34	6379.78	631.25	1234.04	1243.27	12.00	-9.19	7.71	
7565.00	89.28	92.50	6379.79	630.75	1249.03	1258.25	12.00	-9.19	7.71	
7594.29	90.00	93.00	6379.97	629.35	1278.29	1287.49	3.00	2.47	1.70	
7600.00	90.00	93.00	6379.97	629.05	1283.99	1293.18	0.00	0.00	0.00	
7700.00	90.00	93.00	6379.97	623.81	1383.85	1392.96	0.00	0.00	0.00	
7800.00	90.00	93.00	6379.97	618.58	1483.72	1492.73	0.00	0.00	0.00	
7858.29	90.00	93.00	6379.97	615.53	1541.93	1550.89	0.00	0.00	0.00	
7900.00	89.02	92.22	6380.33	613.63	1583.59	1592.52	3.00	-2.34	-1.87	
7965.00	87.50	91.00	6382.30	611.81	1648.53	1657.43	3.00	-2.34	-1.87	
8000.00	87.50	91.00	6383.83	611.20	1683.49	1692.38	0.00	0.00	0.00	
8100.00	87.50	91.00	6388.19	609.45	1783.38	1792.23	0.00	0.00	0.00	

Precision Directional Services, Inc.

Planning Report

Company: CARRIZO OIL & GAS, INC. Field: Niobrara CONZ'83 Site: Slick Rock 17-11-7-60 Pad Well: 2-17-11-7-60 Wellpath: Sidetrack	Date: 09/18/2012 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Plan:	Time: 18:06:51 Well: 2-17-11-7-60, Grid North 4935'GL+17"KB 4952.0 Well (0.00N,0.00E,89.15Azi) Plan #2	Page: 2
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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
8158.06	87.50	91.00	6390.72	608.44	1841.38	1850.20	0.00	0.00	0.00	
8200.00	88.19	90.53	6392.30	607.88	1883.29	1892.10	2.00	1.65	-1.13	
8300.00	89.85	89.40	6394.01	607.95	1983.27	1992.07	2.00	1.65	-1.13	
8400.00	91.50	88.27	6392.84	609.98	2083.23	2092.05	2.00	1.65	-1.13	
8430.41	92.00	87.93	6391.91	610.98	2113.61	2122.44	2.00	1.65	-1.13	
8500.00	92.00	87.93	6389.48	613.50	2183.12	2191.98	0.00	0.00	0.00	
8600.00	92.00	87.93	6385.99	617.11	2282.99	2291.89	0.00	0.00	0.00	
8700.00	92.00	87.93	6382.50	620.71	2382.86	2391.81	0.00	0.00	0.00	
8733.22	92.00	87.93	6381.34	621.91	2416.04	2425.00	0.00	0.00	0.00	
8800.00	91.33	87.93	6379.40	624.33	2482.75	2491.74	1.00	-1.00	0.00	
8900.00	90.33	87.93	6377.95	627.94	2582.67	2591.70	1.00	-1.00	0.00	
8933.69	90.00	87.93	6377.85	629.15	2616.34	2625.39	1.00	-1.00	0.00	
9000.00	90.00	87.93	6377.86	631.55	2682.61	2691.68	0.00	0.00	0.00	
9100.00	90.00	87.93	6377.87	635.16	2782.54	2791.66	0.00	0.00	0.00	
9200.00	90.00	87.93	6377.88	638.77	2882.48	2891.63	0.00	0.00	0.00	
9300.00	90.00	87.93	6377.88	642.39	2982.41	2991.61	0.00	0.00	0.00	
9400.00	90.00	87.93	6377.89	646.00	3082.35	3091.59	0.00	0.00	0.00	
9500.00	90.00	87.93	6377.90	649.61	3182.28	3191.57	0.00	0.00	0.00	
9600.00	90.00	87.93	6377.91	653.22	3282.21	3291.54	0.00	0.00	0.00	
9700.00	90.00	87.93	6377.92	656.84	3382.15	3391.52	0.00	0.00	0.00	
9800.00	90.00	87.93	6377.93	660.45	3482.08	3491.50	0.00	0.00	0.00	
9900.00	90.00	87.93	6377.93	664.06	3582.02	3591.48	0.00	0.00	0.00	
10000.00	90.00	87.93	6377.94	667.67	3681.95	3691.45	0.00	0.00	0.00	
10100.00	90.00	87.93	6377.95	671.29	3781.89	3791.43	0.00	0.00	0.00	
10200.00	90.00	87.93	6377.96	674.90	3881.82	3891.41	0.00	0.00	0.00	
10300.00	90.00	87.93	6377.97	678.51	3981.76	3991.39	0.00	0.00	0.00	
10400.00	90.00	87.93	6377.98	682.12	4081.69	4091.36	0.00	0.00	0.00	
10500.00	90.00	87.93	6377.98	685.73	4181.63	4191.34	0.00	0.00	0.00	
10600.00	90.00	87.93	6377.99	689.35	4281.56	4291.32	0.00	0.00	0.00	
10696.70	90.00	87.93	6378.00	692.84	4378.20	4388.00	0.00	0.00	0.00	PBHL ST 2-17

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 2-17			0.00	0.00	0.00	1456703.66	3381692.98	40	34	44.127 N	104	7	33.104 W
PBHL ST 2-17			6378.00	692.84	4378.20	1457396.50	3386071.18	40	34	50.298 N	104	6	36.228 W
BHL OH 2-17			6386.00	669.90	2315.64	1457373.56	3384008.62	40	34	50.390 N	104	7	2.962 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
1407.00	1398.95	9.625	12.250	9 5/8"
6456.00	6289.39	7.000	8.750	7"