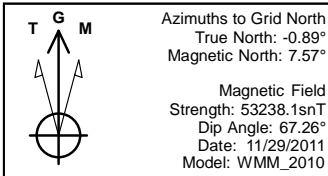




Company: Carrizo Oil & Gas  
 Site: Barracuda  
 Well: 29-11-7-60  
 Project: Weld County, Colorado (NAD83)  
 Rig Name: Xtreme 19



Planning: 936.442.2510 Fax: 936.442.2515  
 Operations: 936.442.2500 Fax: 936.442.2599



US State Plane 1983  
 Colorado Northern Zone

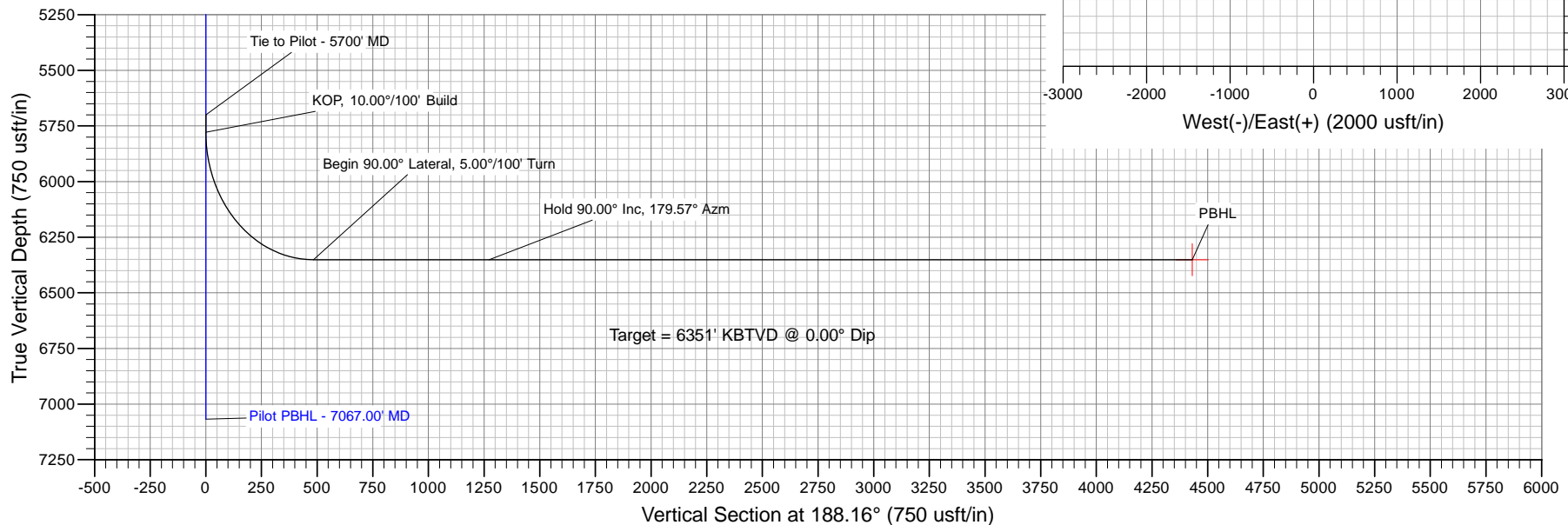
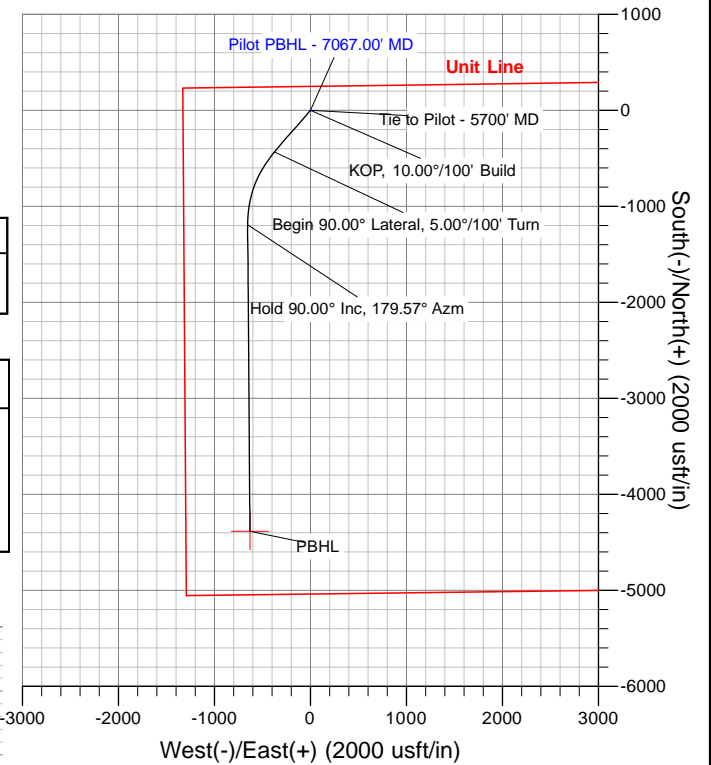
Created By: Vanessa Thom  
 Date: 15:27, November 29 2011  
 Plan: Design #3

#### PILOT ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
7067.00	0.00	0.00	7067.00	0.00	0.00	0.00	0.00	Pilot PBHL - 7067.00' MD

#### ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
5700.00	0.00	0.00	5700.00	0.00	0.00	0.00	0.00	Tie to Pilot - 5700' MD
5778.04	0.00	0.00	5778.04	0.00	0.00	0.00	0.00	KOP, 10.00°/100' Build
6678.04	90.00	220.79	6351.00	-433.79	-374.31	482.50	572.96	Begin 90.00° Lateral, 5.00°/100' Turn
7502.49	90.00	179.57	6351.00	-1191.05	-652.61	1271.58	1397.41	Hold 90.00° Inc, 179.57° Azm
10697.23	90.00	179.57	6351.00	-4385.71	-628.50	4430.51	4592.15	PBHL



The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by MS Energy are at the sole risk and responsibility of the customer. MS Energy is not responsible for the accuracy of this schematic or the information contained herein.



## **Carrizo Oil & Gas**

**Weld County, Colorado (NAD83)**

**Barracuda**

**29-11-7-60**

**Wellbore #1**

**Plan: Design #3**

## **Standard Planning Report**

**29 November, 2011**

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 29-11-7-60
<b>Company:</b>	Carrizo Oil & Gas	<b>TVD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Site:</b>	Barracuda	<b>North Reference:</b>	Grid
<b>Well:</b>	29-11-7-60	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

<b>Project</b>	Weld County, Colorado (NAD83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Well</b>	29-11-7-60			
<b>Well Position</b>	<b>+N/-S</b>	1,447,172.51 usft	<b>Northing:</b>	1,447,172.51 usft
	<b>+E/-W</b>	3,382,657.09 usft	<b>Easting:</b>	3,382,657.09 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 40° 33' 9.8350 N
				<b>Longitude:</b> 104° 7' 22.441 W
				<b>Ground Level:</b> 4,965.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	WMM_2010	11/29/2011	8.46	67.26	53,238

<b>Design</b>	Design #3			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	5,700.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	188.16

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,778.04	0.00	0.00	5,778.04	0.00	0.00	0.00	0.00	0.00	0.00	
6,678.04	90.00	220.79	6,351.00	-433.79	-374.31	10.00	10.00	0.00	220.79	
7,502.49	90.00	179.57	6,351.00	-1,191.05	-652.61	5.00	0.00	-5.00	-90.00	
10,697.23	90.00	179.57	6,351.00	-4,385.71	-628.50	0.00	0.00	0.00	0.00	PBHL v3 - Barracuda

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 29-11-7-60
<b>Company:</b>	Carrizo Oil & Gas	<b>TVD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Site:</b>	Barracuda	<b>North Reference:</b>	Grid
<b>Well:</b>	29-11-7-60	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Tie to Pilot - 5700' MD</b>										
5,778.04	0.00	0.00	5,778.04	0.00	0.00	0.00	0.00	0.00	0.00	
<b>KOP, 10.00°/100' Build</b>										
5,800.00	2.20	220.79	5,799.99	-0.32	-0.27	0.35	10.00	10.00	0.00	
5,900.00	12.20	220.79	5,899.08	-9.79	-8.45	10.89	10.00	10.00	0.00	
6,000.00	22.20	220.79	5,994.49	-32.15	-27.74	35.75	10.00	10.00	0.00	
6,100.00	32.20	220.79	6,083.32	-66.70	-57.56	74.19	10.00	10.00	0.00	
6,200.00	42.20	220.79	6,162.88	-112.42	-97.00	125.04	10.00	10.00	0.00	
6,300.00	52.20	220.79	6,230.74	-167.89	-144.87	186.75	10.00	10.00	0.00	
6,400.00	62.20	220.79	6,284.85	-231.45	-199.71	257.44	10.00	10.00	0.00	
6,500.00	72.20	220.79	6,323.56	-301.15	-259.86	334.97	10.00	10.00	0.00	
6,600.00	82.20	220.79	6,345.69	-374.89	-323.48	416.99	10.00	10.00	0.00	
6,678.04	90.00	220.79	6,351.00	-433.79	-374.31	482.50	10.00	10.00	0.00	
<b>Begin 90.00° Lateral, 5.00°/100' Turn</b>										
6,700.00	90.00	219.69	6,351.00	-450.55	-388.49	501.11	5.00	0.00	-5.00	
6,800.00	90.00	214.69	6,351.00	-530.19	-448.92	588.51	5.00	0.00	-5.00	
6,900.00	90.00	209.69	6,351.00	-614.79	-502.18	679.81	5.00	0.00	-5.00	
7,000.00	90.00	204.69	6,351.00	-703.71	-547.86	774.31	5.00	0.00	-5.00	
7,100.00	90.00	199.69	6,351.00	-796.27	-585.62	871.29	5.00	0.00	-5.00	
7,200.00	90.00	194.69	6,351.00	-891.77	-615.17	970.02	5.00	0.00	-5.00	
7,300.00	90.00	189.69	6,351.00	-989.49	-636.28	1,069.74	5.00	0.00	-5.00	
7,400.00	90.00	184.69	6,351.00	-1,088.67	-648.80	1,169.70	5.00	0.00	-5.00	
7,500.00	90.00	179.69	6,351.00	-1,188.56	-652.62	1,269.12	5.00	0.00	-5.00	
7,502.49	90.00	179.57	6,351.00	-1,191.05	-652.61	1,271.58	5.00	0.00	-5.00	
<b>Hold 90.00° Inc, 179.57° Azm</b>										
7,600.00	90.00	179.57	6,351.00	-1,288.56	-651.87	1,368.00	0.00	0.00	0.00	
7,700.00	90.00	179.57	6,351.00	-1,388.56	-651.12	1,466.88	0.00	0.00	0.00	
7,800.00	90.00	179.57	6,351.00	-1,488.56	-650.36	1,565.76	0.00	0.00	0.00	
7,900.00	90.00	179.57	6,351.00	-1,588.55	-649.61	1,664.64	0.00	0.00	0.00	
8,000.00	90.00	179.57	6,351.00	-1,688.55	-648.85	1,763.52	0.00	0.00	0.00	
8,100.00	90.00	179.57	6,351.00	-1,788.55	-648.10	1,862.40	0.00	0.00	0.00	
8,200.00	90.00	179.57	6,351.00	-1,888.55	-647.34	1,961.28	0.00	0.00	0.00	
8,300.00	90.00	179.57	6,351.00	-1,988.54	-646.59	2,060.16	0.00	0.00	0.00	
8,400.00	90.00	179.57	6,351.00	-2,088.54	-645.83	2,159.03	0.00	0.00	0.00	
8,500.00	90.00	179.57	6,351.00	-2,188.54	-645.08	2,257.91	0.00	0.00	0.00	
8,600.00	90.00	179.57	6,351.00	-2,288.53	-644.32	2,356.79	0.00	0.00	0.00	
8,700.00	90.00	179.57	6,351.00	-2,388.53	-643.57	2,455.67	0.00	0.00	0.00	
8,800.00	90.00	179.57	6,351.00	-2,488.53	-642.81	2,554.55	0.00	0.00	0.00	
8,900.00	90.00	179.57	6,351.00	-2,588.53	-642.06	2,653.43	0.00	0.00	0.00	
9,000.00	90.00	179.57	6,351.00	-2,688.52	-641.30	2,752.31	0.00	0.00	0.00	
9,100.00	90.00	179.57	6,351.00	-2,788.52	-640.55	2,851.19	0.00	0.00	0.00	
9,200.00	90.00	179.57	6,351.00	-2,888.52	-639.80	2,950.06	0.00	0.00	0.00	
9,300.00	90.00	179.57	6,351.00	-2,988.51	-639.04	3,048.94	0.00	0.00	0.00	
9,400.00	90.00	179.57	6,351.00	-3,088.51	-638.29	3,147.82	0.00	0.00	0.00	
9,500.00	90.00	179.57	6,351.00	-3,188.51	-637.53	3,246.70	0.00	0.00	0.00	
9,600.00	90.00	179.57	6,351.00	-3,288.51	-636.78	3,345.58	0.00	0.00	0.00	
9,700.00	90.00	179.57	6,351.00	-3,388.50	-636.02	3,444.46	0.00	0.00	0.00	
9,800.00	90.00	179.57	6,351.00	-3,488.50	-635.27	3,543.34	0.00	0.00	0.00	
9,900.00	90.00	179.57	6,351.00	-3,588.50	-634.51	3,642.22	0.00	0.00	0.00	
10,000.00	90.00	179.57	6,351.00	-3,688.49	-633.76	3,741.10	0.00	0.00	0.00	
10,100.00	90.00	179.57	6,351.00	-3,788.49	-633.00	3,839.97	0.00	0.00	0.00	
10,200.00	90.00	179.57	6,351.00	-3,888.49	-632.25	3,938.85	0.00	0.00	0.00	
10,300.00	90.00	179.57	6,351.00	-3,988.49	-631.49	4,037.73	0.00	0.00	0.00	

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 29-11-7-60
<b>Company:</b>	Carrizo Oil & Gas	<b>TVD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 4982.00usft (Xtreme 19)
<b>Site:</b>	Barracuda	<b>North Reference:</b>	Grid
<b>Well:</b>	29-11-7-60	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,400.00	90.00	179.57	6,351.00	-4,088.48	-630.74	4,136.61	0.00	0.00	0.00
10,500.00	90.00	179.57	6,351.00	-4,188.48	-629.98	4,235.49	0.00	0.00	0.00
10,600.00	90.00	179.57	6,351.00	-4,288.48	-629.23	4,334.37	0.00	0.00	0.00
10,697.23	90.00	179.57	6,351.00	-4,385.71	-628.50	4,430.51	0.00	0.00	0.00
PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL v3 - Barracuda 29	0.00	0.01	6,351.00	-4,385.71	-628.50	1,442,786.80	3,382,028.60	40° 32' 26.5983 N	104° 7' 31.463 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,700.00	5,700.00	0.00	0.00	Tie to Pilot - 5700' MD
5,778.04	5,778.04	0.00	0.00	KOP, 10.00°/100' Build
6,678.04	6,351.00	-433.79	-374.31	Begin 90.00° Lateral, 5.00°/100' Turn
7,502.49	6,351.00	-1,191.05	-652.61	Hold 90.00° Inc, 179.57° Azm
10,697.23	6,351.00	-4,385.71	-628.50	PBHL