Company: Carrizo Oil & Gas
Site: Speaker
Well: 27-34-8-61
Project: Weld County, Colorado
Rig Name: KB

MS Energy Services
WWW.MSENERGYSERVICES.COM
Planning: 936.442.2510 Fax: 936.442.2515
Operations:936.442.2500 Fax: 936.442.2599

Azimuths to Grid North
True North: -0.85°
Magnetic North: 7.75°

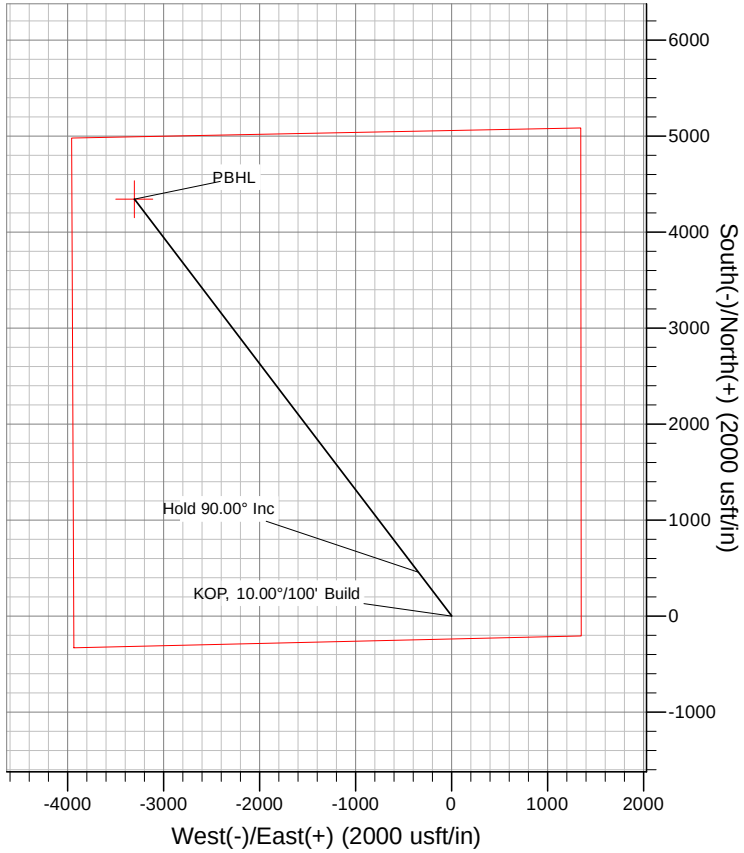
Magnetic Field
Strength: 53350.0snT
Dip Angle: 67.34°
Date: 3/1/2011
Model: WMM_2010

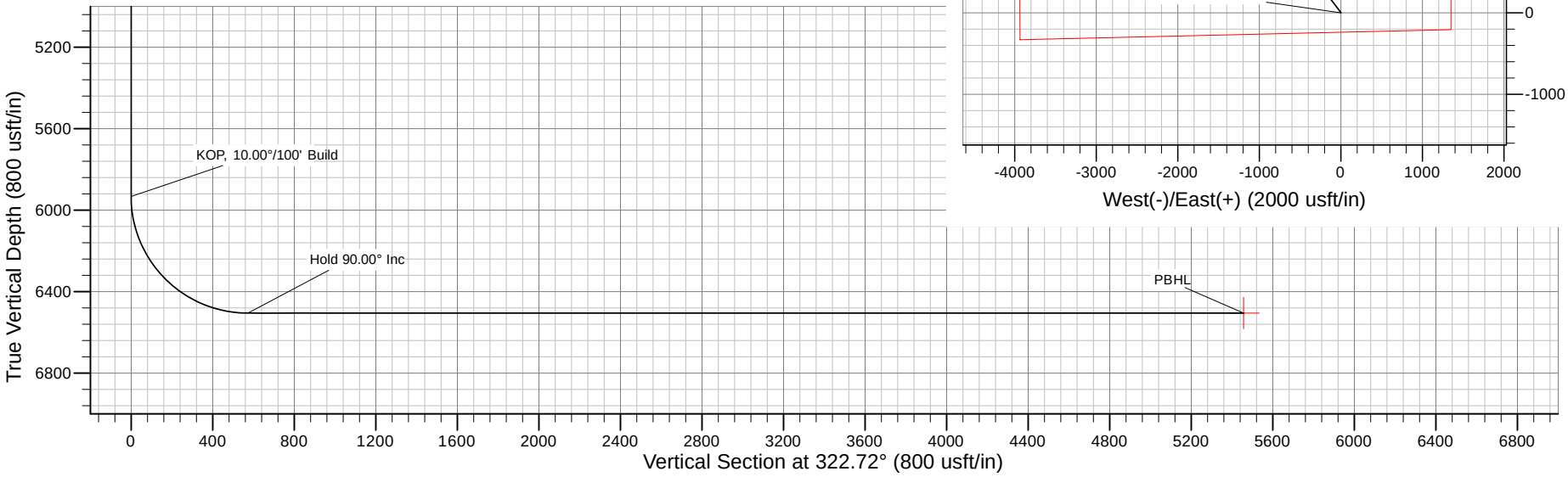
US State Plane 1983
Colorado Northern Zone

Created By: Vanessa Thom
Date: 9:15, March 01 2011
Plan: Design #1

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
5933.04	0.00	0.00	5933.04	0.00	0.00	0.00	0.00	KOP, 10.00°/100' Build
6833.04	90.00	322.72	6506.00	455.88	-347.07	572.96	572.96	Hold 90.00° Inc
11717.01	90.00	322.72	6506.00	4341.82	-3305.54	5456.92	5456.92	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
Speaker
27-34-8-61

Wellbore #1

Plan: Design #1

Standard Planning Report

01 March, 2011

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Database:	Southern Region	**Local Co-ordinate Reference:**	Well 27-34-8-61
Company:	Carrizo Oil & Gas	**TVD Reference:**	WELL @ 5039.50usft (KB)
Project:	Weld County, Colorado	**MD Reference:**	WELL @ 5039.50usft (KB)
Site:	Speaker	**North Reference:**	Grid
Well:	27-34-8-61	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Weld County, Colorado

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Well 27-34-8-61

Well Position	**+N/-S**	1,473,663.45 usft	**Northing:**	1,473,663.45 usft	**Latitude:**	40° 37' 34.328 N
	+E/-W	3,364,304.30 usft	**Easting:**	3,364,304.30 usft	**Longitude:**	104° 11' 15.097 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	5,024.50 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	3/1/2011	8.60	67.34	53,350

Design Design #1

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	322.72

Plan Sections

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,933.04	0.00	0.00	5,933.04	0.00	0.00	0.00	0.00	0.00	0.00	
6,833.04	90.00	322.72	6,506.00	455.88	-347.07	10.00	10.00	0.00	322.72	
11,717.01	90.00	322.72	6,506.00	4,341.82	-3,305.54	0.00	0.00	0.00	0.00	Speaker 27-34-8-61 -

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,933.04	0.00	0.00	5,933.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 10.00°/100' Build									
6,833.04	90.00	322.72	6,506.00	455.88	-347.07	572.96	10.00	10.00	0.00
Hold 90.00° Inc									
11,717.01	90.00	322.72	6,506.00	4,341.82	-3,305.54	5,456.92	0.00	0.00	0.00
PBHL									

Database:	Southern Region	**Local Co-ordinate Reference:**	Well 27-34-8-61
Company:	Carrizo Oil & Gas	**TVD Reference:**	WELL @ 5039.50usft (KB)
Project:	Weld County, Colorado	**MD Reference:**	WELL @ 5039.50usft (KB)
Site:	Speaker	**North Reference:**	Grid
Well:	27-34-8-61	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Speaker 27-34-8-61 - PE - plan hits target center - Point	0.00	0.00	6,506.00	4,341.82	-3,305.54	1,478,005.27	3,360,998.76	40° 38' 17.708 N	104° 11' 57.137 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,933.04	5,933.04	0.00	0.00	KOP, 10.00°/100' Build
6,833.04	6,506.00	455.88	-347.07	Hold 90.00° Inc
11,717.01	6,506.00	4,341.82	-3,305.54	PBHL