



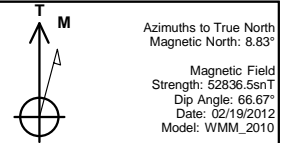
Company: Anadarko  
Site: Northglenn State  
Well: 19-36  
Project: Weld County, Colorado (NAD83)  
Rig Name: Xtreme 11



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

#### ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	V/Sect	Departure	Annotation
1267.00	10.10	280.90	1260.35	4.27	-115.57	115.44	0.00	Tie-In
1300.00	10.50	280.90	1292.81	5.39	-121.37	121.31	5.90	Top of Cement
1400.00	11.57	280.66	1390.96	8.96	-140.17	140.38	25.04	SDTRK, 2.00°/100' Build & Turn
1713.13	16.50	296.75	1694.65	34.38	-211.45	213.80	100.96	Continue 2.00°/100' Build & Turn
2132.13	20.50	273.26	2092.47	65.39	-338.05	342.82	232.30	Begin 20.50° Tangent
3684.40	20.50	273.26	3546.46	96.27	-880.73	885.92	775.86	Begin 1.50°/100' Drop
5050.90	0.00	0.00	4884.00	110.00	-1122.17	1127.55	1017.69	Begin Vertical Hold
8260.90	0.00	0.00	8094.00	110.00	-1122.17	1127.55	1017.69	PBHL



US State Plane 1983  
Colorado Northern Zone

Created By: Cindy Darland  
Date: 15/24, February 24 2012  
Plan: Design #2

#### DESIGN TARGET DETAILS

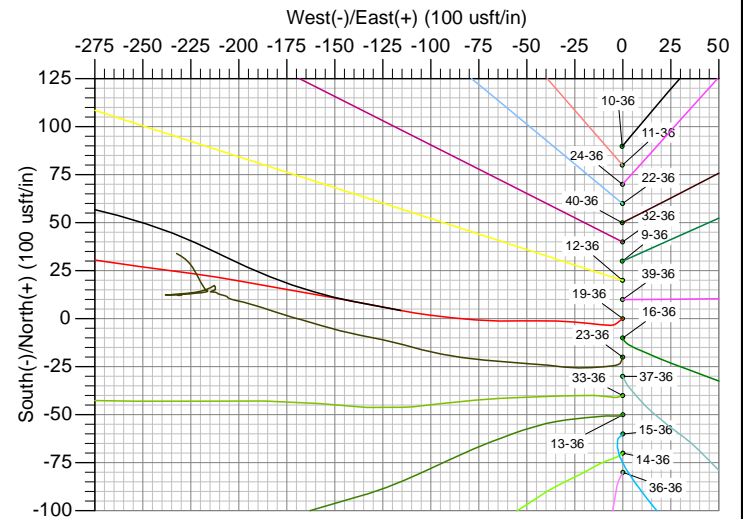
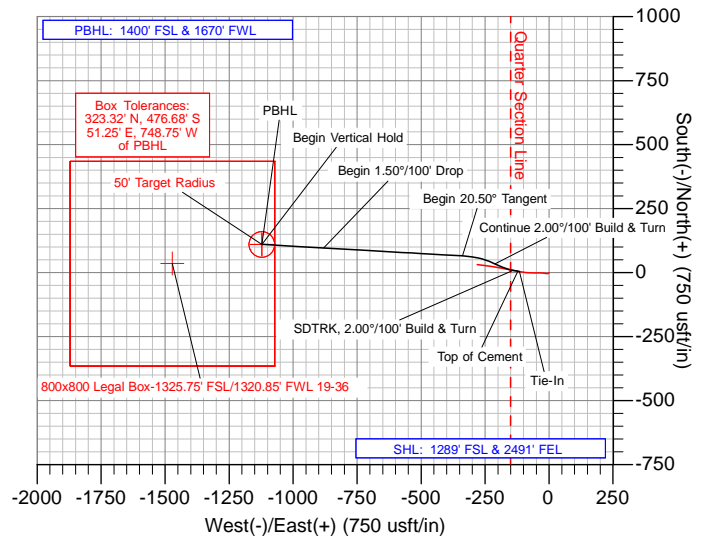
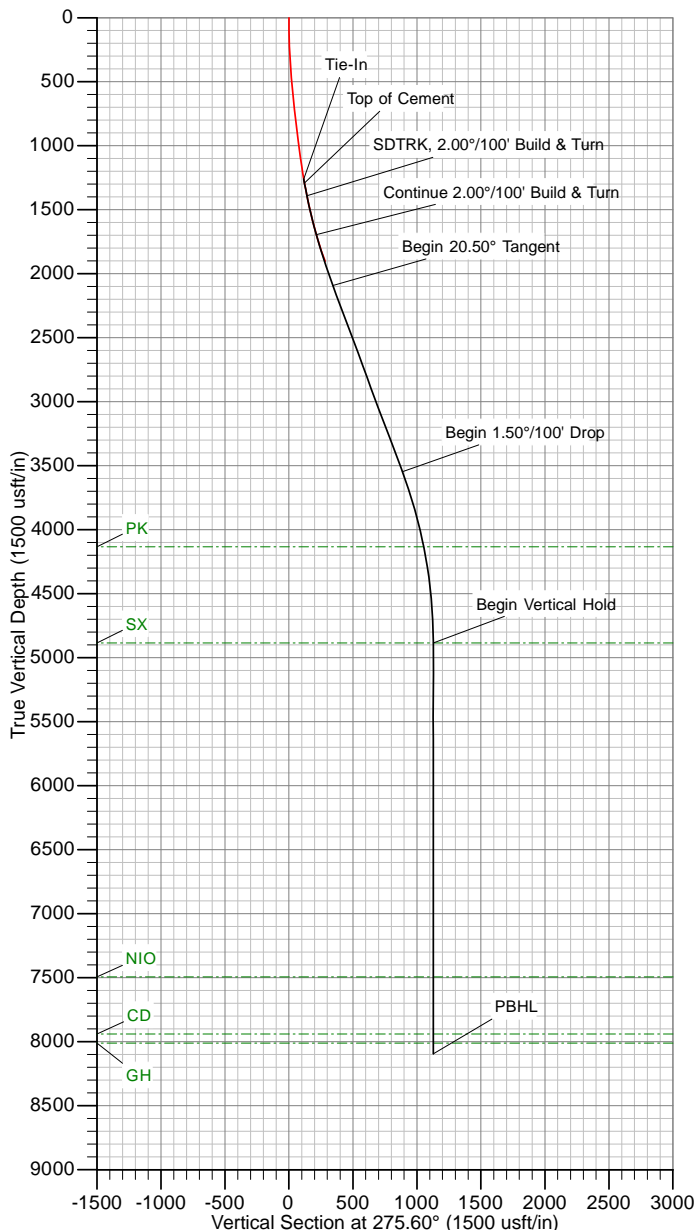
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
800x800 Legal Box-1325.75' FSL/1320.85' FWL 19-36	4884.00	35.48	-1471.39	40° 0' 14.2987 N	104° 57' 24.084 W
Vertical v2-Northglenn State 19-36	4884.00	110.00	-1122.17	40° 0' 15.0354 N	104° 57' 19.596 W
PBHL v2-Northglenn State 19-36	8094.00	110.00	-1122.17	40° 0' 15.0354 N	104° 57' 19.596 W

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4134.00	4296.00	PK
4884.00	5050.90	SX
7494.00	7660.90	NIO
7940.00	8106.90	CD
8010.00	8176.90	GH

#### SURFACE LOCATION

Northing: 1244733.57  
Easting: 3153672.03  
Latitude: 40° 0' 13.9485 N  
Longitude: 104° 57' 5.175 W  
Ground Elevation: 5119.00  
WELL @ 5134.00usft (Xtreme 11)



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.



Company: Anadarko  
Site: Northglenn State  
Well: 19-36  
Project: Weld County, Colorado (NAD83)  
Rig Name: Xtreme 11



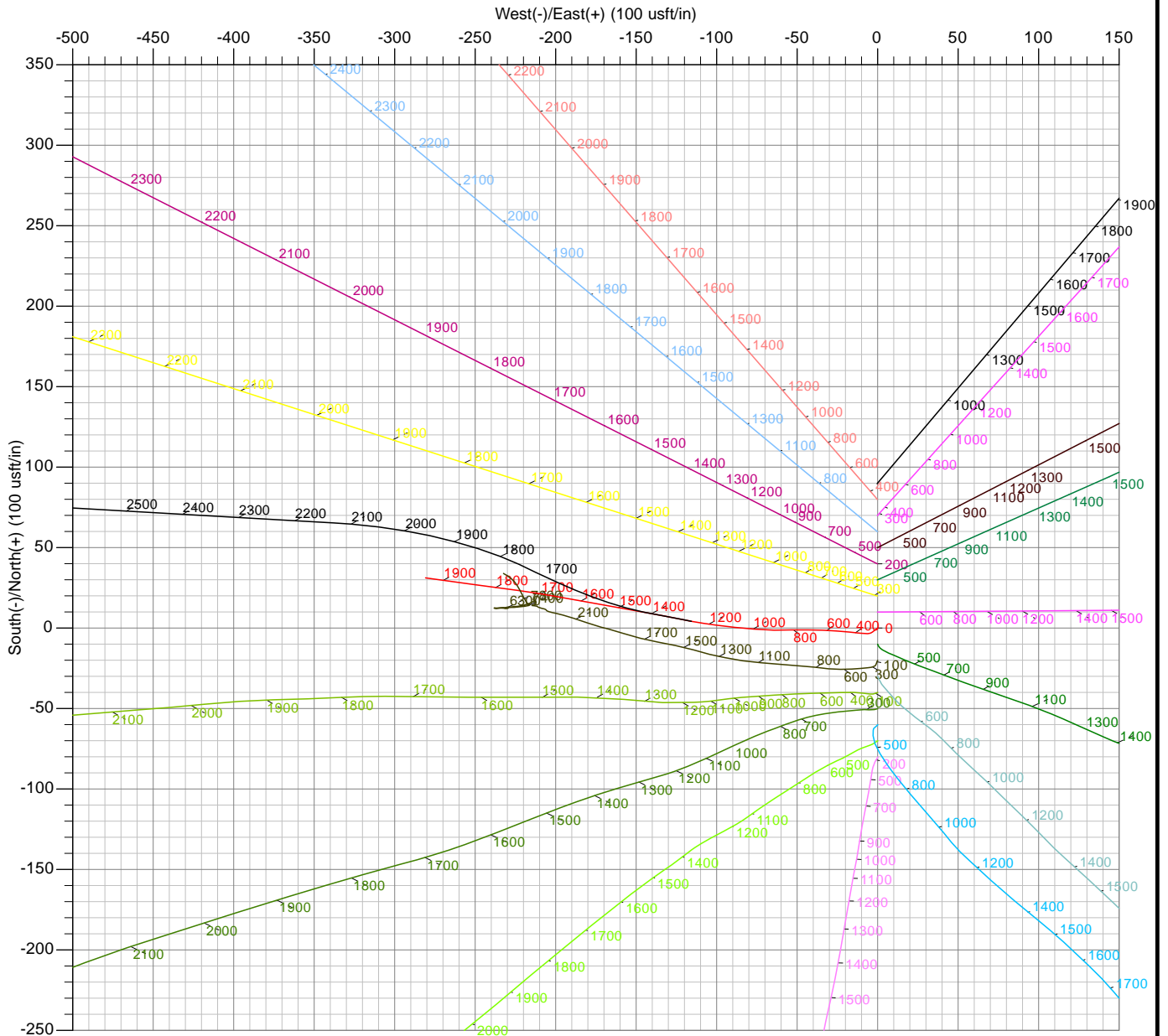
Planning: 936.442.2510 Fax: 936.442.2515  
Operations: 936.442.2500 Fax: 936.442.2599

Azimuths to True North  
Magnetic North: 8.83°

Magnetic Field  
Strength: 52836.5nT  
Dip Angle: 66.67°  
Date: 02/19/2012  
Model: WMM\_2010

US State Plane 1983  
Colorado Northern Zone

Created By: Cindy Darland  
Date: 15:34, February 24 2012  
Plan: Design #2



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# **Anadarko**

**Weld County, Colorado (NAD83)**

**Northglenn State**

**19-36**

**Wellbore #1**

**Plan: Design #2**

## **Standard Planning Report**

**24 February, 2012**



<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 19-36
<b>Company:</b>	Anadarko	<b>TVD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Site:</b>	Northglenn State	<b>North Reference:</b>	True
<b>Well:</b>	19-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

<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>	19-36			
<b>Well Position</b>	<b>+N/-S</b>	1,596,901.14 usft	<b>Northing:</b>	1,244,733.57 usft
	<b>+E/-W</b>	2,990,805.19 usft	<b>Easting:</b>	3,153,672.03 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	<b>Latitude:</b> 40° 0' 13.9485 N
				<b>Longitude:</b> 104° 57' 5.175 W
				<b>Ground Level:</b> 5,119.00 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	12/06/2011	8.86	66.68	52,858

<b>Design</b>	Design #2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	1,267.00	
<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	275.60	

<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
1,267.00	10.10	280.90	1,260.35	4.27	-115.57	0.00	0.00	0.00	0.00	
1,300.00	10.50	280.90	1,292.81	5.39	-121.37	1.21	1.21	0.00	0.00	
1,400.00	11.57	280.66	1,390.96	8.96	-140.17	1.07	1.07	-0.24	-2.58	
1,713.13	16.50	296.75	1,694.65	34.38	-211.45	2.00	1.57	4.34	38.07	
2,132.13	20.50	273.26	2,092.47	65.39	-338.05	2.00	0.95	-5.61	-73.30	
3,684.40	20.50	273.26	3,546.46	96.27	-880.73	0.00	0.00	0.00	0.00	
5,050.90	0.00	0.00	4,884.00	110.00	-1,122.17	1.50	-1.50	0.00	180.00	Vertical v2-Northgle
8,260.90	0.00	0.00	8,094.00	110.00	-1,122.17	0.00	0.00	0.00	0.00	

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 19-36
<b>Company:</b>	Anadarko	<b>TVD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Site:</b>	Northglenn State	<b>North Reference:</b>	True
<b>Well:</b>	19-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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)
1,267.00	10.10	280.90	1,260.35	4.27	-115.57	115.44	0.00	0.00	0.00
<b>Tie-In</b>									
1,300.00	10.50	280.90	1,292.81	5.39	-121.37	121.31	1.21	1.21	0.00
<b>Top of Cement</b>									
1,400.00	11.57	280.66	1,390.96	8.96	-140.17	140.38	1.07	1.07	-0.24
<b>SDTRK, 2.00°/100' Build &amp; Turn</b>									
1,500.00	13.15	286.43	1,488.64	14.02	-160.96	161.56	2.00	1.58	5.77
1,600.00	14.72	291.55	1,585.70	21.89	-183.70	184.96	2.00	1.57	5.12
1,700.00	16.29	296.17	1,682.06	32.73	-208.13	210.33	2.00	1.57	4.61
1,713.13	16.50	296.75	1,694.65	34.38	-211.45	213.80	2.00	1.56	4.44
<b>Continue 2.00°/100' Build &amp; Turn</b>									
1,800.00	17.08	291.08	1,777.82	44.52	-234.37	237.60	2.00	0.67	-6.53
1,900.00	17.92	285.05	1,873.20	53.80	-262.94	266.93	2.00	0.85	-6.03
2,000.00	18.94	279.59	1,968.08	60.50	-293.80	298.30	2.00	1.02	-5.45
2,100.00	20.10	274.71	2,062.33	64.61	-326.93	331.68	2.00	1.16	-4.88
2,132.13	20.50	273.26	2,092.47	65.39	-338.05	342.82	2.00	1.24	-4.52
<b>Begin 20.50° Tangent</b>									
2,200.00	20.50	273.26	2,156.04	66.74	-361.78	366.56	0.00	0.00	0.00
2,300.00	20.50	273.26	2,249.71	68.73	-396.74	401.55	0.00	0.00	0.00
2,400.00	20.50	273.26	2,343.38	70.72	-431.70	436.54	0.00	0.00	0.00
2,500.00	20.50	273.26	2,437.05	72.70	-466.66	471.53	0.00	0.00	0.00
2,600.00	20.50	273.26	2,530.72	74.69	-501.62	506.51	0.00	0.00	0.00
2,700.00	20.50	273.26	2,624.39	76.68	-536.58	541.50	0.00	0.00	0.00
2,800.00	20.50	273.26	2,718.06	78.67	-571.54	576.49	0.00	0.00	0.00
2,900.00	20.50	273.26	2,811.72	80.66	-606.50	611.47	0.00	0.00	0.00
3,000.00	20.50	273.26	2,905.39	82.65	-641.46	646.46	0.00	0.00	0.00
3,100.00	20.50	273.26	2,999.06	84.64	-676.42	681.45	0.00	0.00	0.00
3,200.00	20.50	273.26	3,092.73	86.63	-711.38	716.44	0.00	0.00	0.00
3,300.00	20.50	273.26	3,186.40	88.62	-746.34	751.42	0.00	0.00	0.00
3,400.00	20.50	273.26	3,280.07	90.61	-781.30	786.41	0.00	0.00	0.00
3,500.00	20.50	273.26	3,373.74	92.60	-816.26	821.40	0.00	0.00	0.00
3,600.00	20.50	273.26	3,467.41	94.59	-851.22	856.39	0.00	0.00	0.00
3,684.40	20.50	273.26	3,546.46	96.27	-880.73	885.92	0.00	0.00	0.00
<b>Begin 1.50°/100' Drop</b>									
3,700.00	20.26	273.26	3,561.09	96.57	-886.15	891.34	1.50	-1.50	0.00
3,800.00	18.76	273.26	3,655.34	98.47	-919.50	924.72	1.50	-1.50	0.00
3,900.00	17.26	273.26	3,750.43	100.23	-950.37	955.62	1.50	-1.50	0.00
4,000.00	15.76	273.26	3,846.31	101.84	-978.75	984.01	1.50	-1.50	0.00
4,100.00	14.26	273.26	3,942.89	103.31	-1,004.61	1,009.90	1.50	-1.50	0.00
4,200.00	12.76	273.26	4,040.12	104.64	-1,027.94	1,033.24	1.50	-1.50	0.00
4,300.00	11.26	273.26	4,137.93	105.82	-1,048.72	1,054.04	1.50	-1.50	0.00
4,400.00	9.76	273.26	4,236.24	106.86	-1,066.94	1,072.27	1.50	-1.50	0.00
4,500.00	8.26	273.26	4,335.01	107.75	-1,082.58	1,087.92	1.50	-1.50	0.00
4,600.00	6.76	273.26	4,434.15	108.49	-1,095.63	1,100.99	1.50	-1.50	0.00
4,700.00	5.26	273.26	4,533.59	109.09	-1,106.09	1,111.46	1.50	-1.50	0.00
4,800.00	3.76	273.26	4,633.28	109.54	-1,113.95	1,119.32	1.50	-1.50	0.00
4,900.00	2.26	273.26	4,733.14	109.83	-1,119.20	1,124.57	1.50	-1.50	0.00
5,000.00	0.76	273.26	4,833.10	109.98	-1,121.83	1,127.21	1.50	-1.50	0.00
5,050.90	0.00	0.00	4,884.00	110.00	-1,122.17	1,127.55	1.50	-1.50	0.00
<b>Begin Vertical Hold</b>									
5,100.00	0.00	0.00	4,933.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,200.00	0.00	0.00	5,033.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,300.00	0.00	0.00	5,133.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 19-36
<b>Company:</b>	Anadarko	<b>TVD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Site:</b>	Northglenn State	<b>North Reference:</b>	True
<b>Well:</b>	19-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

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)
5,400.00	0.00	0.00	5,233.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,500.00	0.00	0.00	5,333.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,600.00	0.00	0.00	5,433.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,700.00	0.00	0.00	5,533.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,800.00	0.00	0.00	5,633.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
5,900.00	0.00	0.00	5,733.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,000.00	0.00	0.00	5,833.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,100.00	0.00	0.00	5,933.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,200.00	0.00	0.00	6,033.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,300.00	0.00	0.00	6,133.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,400.00	0.00	0.00	6,233.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,333.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,433.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,533.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,633.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,733.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,833.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,100.00	0.00	0.00	6,933.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,200.00	0.00	0.00	7,033.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,133.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,400.00	0.00	0.00	7,233.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,500.00	0.00	0.00	7,333.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,433.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,533.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,800.00	0.00	0.00	7,633.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
7,900.00	0.00	0.00	7,733.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
8,000.00	0.00	0.00	7,833.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
8,100.00	0.00	0.00	7,933.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
8,200.00	0.00	0.00	8,033.10	110.00	-1,122.17	1,127.55	0.00	0.00	0.00
8,260.90	0.00	0.00	8,094.00	110.00	-1,122.17	1,127.55	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										
Vertical v2-Northglenn	0.00	0.00	4,884.00	110.00	-1,122.17	1,244,836.63	3,152,549.20	40° 0' 15.0354 N		104° 57' 19.596 W
- plan hits target center										
- Circle (radius 50.00)										

<b>Database:</b>	Southern Region	<b>Local Co-ordinate Reference:</b>	Well 19-36
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<b>Project:</b>	Weld County, Colorado (NAD83)	<b>MD Reference:</b>	WELL @ 5134.00usft (Xtreme 11)
<b>Site:</b>	Northglenn State	<b>North Reference:</b>	True
<b>Well:</b>	19-36	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,267.00	1,260.35	4.27	-115.57	Tie-In
1,300.00	1,292.81	5.39	-121.37	Top of Cement
1,400.00	1,390.96	8.96	-140.17	SDTRK, 2.00°/100' Build & Turn
1,713.13	1,694.65	34.38	-211.45	Continue 2.00°/100' Build & Turn
2,132.13	2,092.47	65.39	-338.05	Begin 20.50° Tangent
3,684.40	3,546.46	96.27	-880.73	Begin 1.50°/100' Drop
5,050.90	4,884.00	110.00	-1,122.17	Begin Vertical Hold
8,260.90	8,094.00	110.00	-1,122.17	PBHL