



Company: Anadarko
 Site: Northglenn State
 Well: 11-36

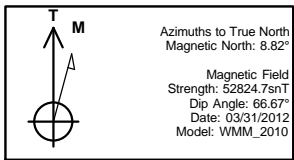


Project: Weld County, Colorado (NAD83)
 Rig Name: Xtreme 11

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	VSect	Departure	Annotation
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	KOP, 2.00°/100' Build
500.00	6.00	318.98	499.45	11.84	-10.30	15.69	15.69	Hold 6.00° Inc
1118.94	6.00	318.98	1115.00	60.65	-52.76	80.39	80.39	Begin 2.00°/100' Build
1693.74	17.50	318.98	1676.82	148.81	-129.44	197.23	197.23	Begin 17.50° Tangent
3802.10	17.50	318.98	3687.64	627.04	-545.45	831.08	831.08	Begin 1.50°/100' Drop
4968.50	0.00	0.00	4836.00	760.37	-661.43	1007.79	1007.79	Begin Vertical Hold
8837.50	0.00	0.00	8705.00	760.37	-661.43	1007.79	1007.79	PBHL



US State Plane 1983
 Colorado Northern Zone

Created By: Megan Pope
 Date: 9:36, April 04 2012
 Plan: Design #1

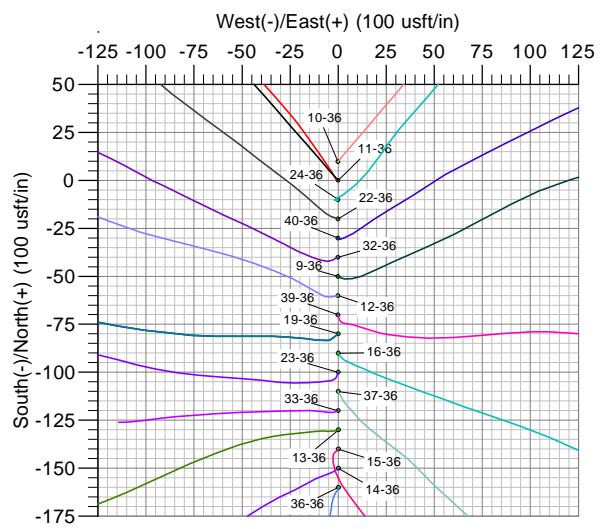
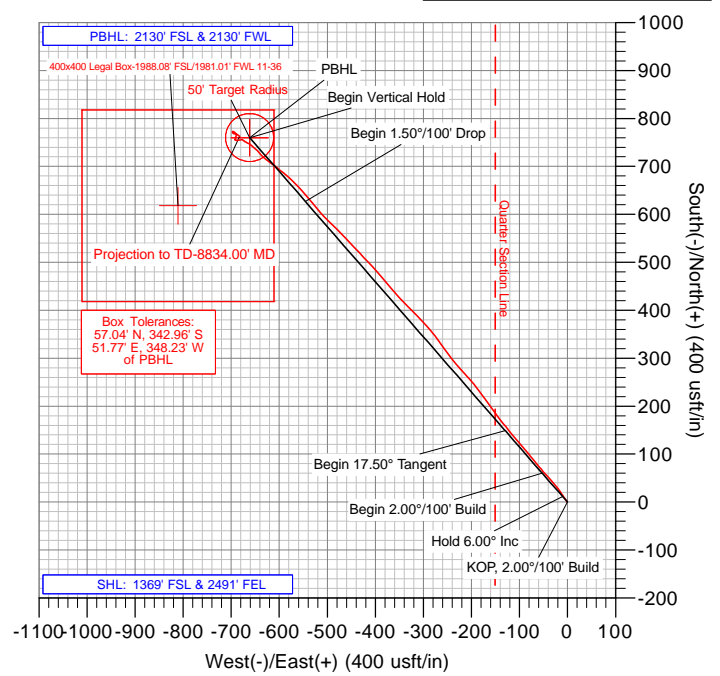
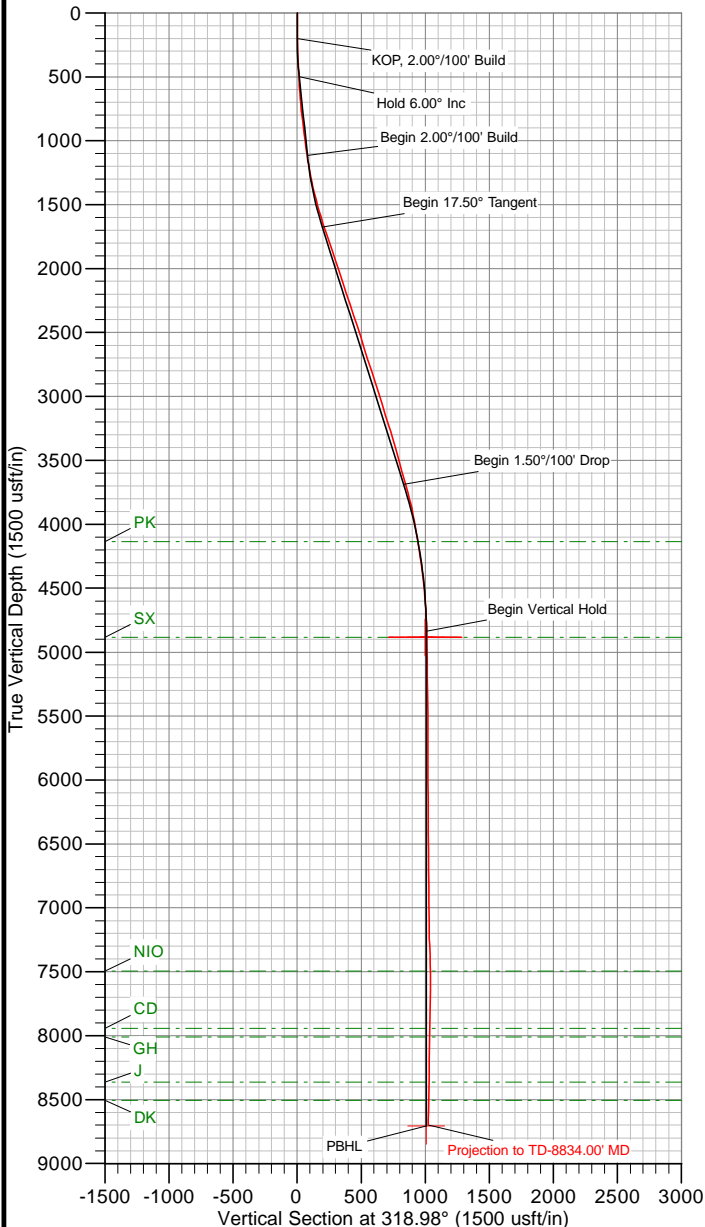
SURFACE LOCATION
 Northing: 1244813.56
 Easting: 3153671.42
 Latitude: 40° 0' 14.7390 N
 Longitude: 104° 57' 5.177 W
 Ground Elevation: 5120.00
 WELL @ 5135.00usft (Xtreme 11)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
400x400 Legal Box-1988.08' FSL/1981.01' FWL 11-36	4885.00	618.34	-810.54	40° 0' 20.8497 N	104° 57' 15.593 W
Vertical v1-Northglenn State 11-36	4885.00	760.37	-661.43	40° 0' 22.2534 N	104° 57' 13.677 W
PBHL v1-Northglenn State 11-36	8705.00	760.37	-661.43	40° 0' 22.2534 N	104° 57' 13.677 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4135.00	4263.51	PK
4885.00	5017.50	SX
7495.00	7627.50	NIO
7941.00	8073.50	CD
8011.00	8143.50	GH
8362.00	8494.50	J
8505.00	8637.50	DK



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.



Anadarko

Weld County, Colorado (NAD83)

Northglenn State

11-36

Wellbore #1

Survey: MS MWD

Standard Survey Report

04 April, 2012

Company:	Anadarko	Local Co-ordinate Reference:	Well 11-36
Project:	Weld County, Colorado (NAD83)	TVD Reference:	WELL @ 5135.00usft (Xtreme 11)
Site:	Northglenn State	MD Reference:	WELL @ 5135.00usft (Xtreme 11)
Well:	11-36	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

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

Well	11-36					
Well Position	+N/-S	0.00 usft	Northing:	1,244,813.56 usft	Latitude:	40° 0' 14.7390 N
	+E/-W	0.00 usft	Easting:	3,153,671.42 usft	Longitude:	104° 57' 5.177 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,120.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM_2010	03/31/12	8.82	66.67	52,825

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00		318.98

Survey Program	Date	04/04/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
101.00	8,834.00	MS MWD (Wellbore #1)	MWD	MWD - Standard	

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	0.00
101.00	1.10	298.20	100.99	0.46	-0.85	0.91	1.09	1.09	0.00	55.28
190.00	1.10	347.40	189.98	1.70	-1.79	2.46	1.03	0.64	0.46	-20.23
277.00	1.50	329.80	276.96	3.49	-2.55	4.31	0.92	0.89		-7.78
367.00	2.30	322.80	366.91	5.95	-4.23	7.27				
489.00	2.90	328.20	488.78	10.52	-7.34	12.76	0.53	0.49		4.43
580.00	3.60	323.80	579.63	14.79	-10.24	17.88	0.82	0.77		-4.84
671.00	4.70	325.20	670.39	20.15	-14.06	24.43	1.21	1.21		1.54
762.00	6.10	324.00	760.99	27.13	-19.03	32.95	1.54	1.54		-1.32
852.00	7.10	318.90	850.39	35.19	-25.49	43.28	1.29	1.11		-5.67
943.00	7.20	319.10	940.68	43.74	-32.92	54.61	0.11	0.11		0.22
998.00	7.10	318.50	995.26	48.89	-37.43	61.45	0.23	-0.18		-1.09
1,063.00	7.20	319.40	1,059.75	54.99	-42.74	69.54	0.23	0.15		1.38
1,153.00	8.90	317.70	1,148.86	64.42	-51.10	82.14	1.91	1.89		-1.89
1,244.00	11.00	321.00	1,238.49	76.37	-61.30	97.86	2.39	2.31		3.63

Company:	Anadarko	Local Co-ordinate Reference:	Well 11-36
Project:	Weld County, Colorado (NAD83)	TVD Reference:	WELL @ 5135.00usft (Xtreme 11)
Site:	Northglenn State	MD Reference:	WELL @ 5135.00usft (Xtreme 11)
Well:	11-36	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

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)	
1,335.00	12.20	321.40	1,327.63	90.64	-72.77	116.14	1.32	1.32	0.44	
1,426.00	14.20	320.10	1,416.22	106.72	-85.93	136.91	2.22	2.20	-1.43	
1,517.00	15.20	319.20	1,504.24	124.31	-100.88	160.00	1.13	1.10	-0.99	
1,608.00	16.40	320.10	1,591.80	143.20	-116.92	184.77	1.35	1.32	0.99	
1,698.00	18.60	322.10	1,677.63	164.27	-133.89	211.81	2.53	2.44	2.22	
1,789.00	19.60	323.80	1,763.62	188.04	-151.82	241.51	1.26	1.10	1.87	
1,880.00	18.50	324.50	1,849.63	212.11	-169.21	271.09	1.23	-1.21	0.77	
1,971.00	18.60	322.40	1,935.91	235.36	-186.45	299.95	0.74	0.11	-2.31	
2,062.00	18.00	319.40	2,022.31	257.54	-204.46	328.50	1.23	-0.66	-3.30	
2,153.00	17.70	317.10	2,108.93	278.35	-223.03	356.39	0.84	-0.33	-2.53	
2,243.00	18.20	322.20	2,194.55	299.48	-240.96	384.09	1.83	0.56	5.67	
2,334.00	18.60	324.70	2,280.90	322.55	-258.05	412.72	0.97	0.44	2.75	
2,425.00	18.60	322.90	2,367.15	345.97	-275.19	441.64	0.63	0.00	-1.98	
2,516.00	17.60	318.70	2,453.65	367.88	-293.03	469.88	1.81	-1.10	-4.62	
2,606.00	17.40	314.30	2,539.49	387.51	-311.64	496.90	1.49	-0.22	-4.89	
2,697.00	17.60	315.60	2,626.27	406.84	-331.00	524.20	0.48	0.22	1.43	
2,788.00	17.90	317.10	2,712.94	426.91	-350.15	551.91	0.60	0.33	1.65	
2,879.00	17.90	320.30	2,799.54	447.92	-368.60	579.87	1.08	0.00	3.52	
2,970.00	17.50	318.00	2,886.23	468.84	-386.69	607.53	0.89	-0.44	-2.53	
3,060.00	17.80	319.80	2,972.00	489.41	-404.63	634.81	0.69	0.33	2.00	
3,151.00	17.40	315.00	3,058.74	509.65	-423.23	662.30	1.65	-0.44	-5.27	
3,242.00	17.70	318.20	3,145.51	529.59	-442.07	689.70	1.11	0.33	3.52	
3,333.00	17.20	315.70	3,232.32	549.53	-460.69	716.97	0.99	-0.55	-2.75	
3,424.00	16.10	314.90	3,319.51	568.07	-479.02	742.99	1.23	-1.21	-0.88	
3,514.00	15.90	314.20	3,406.02	585.47	-496.70	767.72	0.31	-0.22	-0.78	
3,605.00	15.70	319.20	3,493.58	603.48	-513.68	792.46	1.51	-0.22	5.49	
3,696.00	15.70	319.20	3,581.19	622.12	-529.77	817.08	0.00	0.00	0.00	
3,786.00	15.20	321.40	3,667.94	640.56	-545.09	841.05	0.86	-0.56	2.44	
3,877.00	15.20	315.60	3,755.76	658.41	-560.88	864.87	1.67	0.00	-6.37	
3,968.00	13.30	314.50	3,843.96	674.27	-576.69	887.22	2.11	-2.09	-1.21	
4,059.00	11.70	308.00	3,932.80	687.29	-591.43	906.72	2.34	-1.76	-7.14	
4,150.00	10.00	306.60	4,022.17	697.68	-605.05	923.49	1.89	-1.87	-1.54	
4,240.00	9.50	307.50	4,110.87	706.86	-617.21	938.40	0.58	-0.56	1.00	
4,331.00	8.70	309.60	4,200.72	715.82	-628.47	952.55	0.95	-0.88	2.31	
4,421.00	7.60	318.70	4,289.82	724.63	-637.65	965.22	1.88	-1.22	10.11	
4,512.00	6.90	314.70	4,380.09	733.00	-645.50	976.69	0.95	-0.77	-4.40	
4,603.00	6.40	309.80	4,470.48	740.09	-653.29	987.15	0.83	-0.55	-5.38	
4,694.00	4.80	307.50	4,561.04	745.65	-660.20	995.89	1.78	-1.76	-2.53	
4,784.00	4.50	294.30	4,650.75	749.40	-666.41	1,002.79	1.23	-0.33	-14.67	
4,875.00	3.20	303.30	4,741.54	752.26	-671.79	1,008.48	1.57	-1.43	9.89	
4,966.00	1.30	328.70	4,832.47	754.54	-674.44	1,011.94	2.31	-2.09	27.91	
5,056.00	0.40	301.30	4,922.46	755.58	-675.24	1,013.24	1.07	-1.00	-30.44	
5,192.00	0.90	267.90	5,058.45	755.78	-676.72	1,014.37	0.45	0.37	-24.56	
5,328.00	0.90	266.90	5,194.43	755.69	-678.85	1,015.69	0.01	0.00	-0.74	

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Site:	Northglenn State	MD Reference:	WELL @ 5135.00usft (Xtreme 11)
Well:	11-36	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	Southern Region

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)	
5,464.00	1.10	266.30	5,330.41	755.54	-681.22	1,017.14	0.15	0.15	-0.44	
5,601.00	0.80	275.10	5,467.39	755.54	-683.48	1,018.63	0.24	-0.22	6.42	
5,737.00	0.90	243.50	5,603.38	755.15	-685.39	1,019.58	0.35	0.07	-23.24	
5,872.00	0.40	266.50	5,738.37	754.65	-686.81	1,020.13	0.41	-0.37	17.04	
6,008.00	0.50	242.60	5,874.37	754.35	-687.81	1,020.56	0.15	0.07	-17.57	
6,144.00	0.50	303.40	6,010.36	754.40	-688.83	1,021.27	0.37	0.00	44.71	
6,280.00	0.50	315.20	6,146.36	755.15	-689.74	1,022.44	0.08	0.00	8.68	
6,416.00	0.50	280.20	6,282.35	755.68	-690.74	1,023.49	0.22	0.00	-25.74	
6,552.00	0.40	246.50	6,418.35	755.59	-691.76	1,024.10	0.20	-0.07	-24.78	
6,688.00	0.40	11.10	6,554.35	755.87	-692.11	1,024.53	0.52	0.00	91.62	
6,825.00	0.60	35.20	6,691.34	756.92	-691.60	1,025.00	0.21	0.15	17.59	
6,961.00	1.10	1.40	6,827.33	758.81	-691.16	1,026.13	0.51	0.37	-24.85	
7,097.00	1.10	21.80	6,963.30	761.33	-690.64	1,027.69	0.29	0.00	15.00	
7,233.00	1.60	26.90	7,099.26	764.23	-689.30	1,029.00	0.38	0.37	3.75	
7,369.00	1.60	325.90	7,235.22	767.50	-689.50	1,031.60	1.19	0.00	-44.85	
7,505.00	2.60	311.30	7,371.13	771.11	-692.89	1,036.54	0.83	0.74	-10.74	
7,641.00	1.10	288.10	7,507.05	773.55	-696.44	1,040.72	1.21	-1.10	-17.06	
7,778.00	1.30	168.10	7,644.04	772.44	-697.37	1,040.49	1.52	0.15	-87.59	
7,914.00	1.00	164.20	7,780.01	769.78	-696.73	1,038.07	0.23	-0.22	-2.87	
8,050.00	1.50	96.40	7,915.98	768.44	-694.64	1,035.68	1.07	0.37	-49.85	
8,186.00	1.40	95.00	8,051.94	768.10	-691.22	1,033.18	0.08	-0.07	-1.03	
8,322.00	0.70	117.30	8,187.92	767.57	-688.82	1,031.21	0.59	-0.51	16.40	
8,459.00	0.90	123.60	8,324.90	766.60	-687.18	1,029.40	0.16	0.15	4.60	
8,595.00	1.20	138.70	8,460.88	764.93	-685.35	1,026.94	0.30	0.22	11.10	
8,731.00	1.00	106.20	8,596.86	763.53	-683.27	1,024.52	0.47	-0.15	-23.90	
8,784.00	0.90	104.60	8,649.85	763.30	-682.43	1,023.79	0.20	-0.19	-3.02	
8,834.00	0.90	104.60	8,699.84	763.10	-681.67	1,023.14	0.00	0.00	0.00	
Projection to TD-8834.00' MD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,834.00	8,699.84	763.10	-681.67	Projection to TD-8834.00' MD	