



Company: Anadarko
Site: Northglenn State
Well: 15-36

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	0.00	137.99	499.45	-11.66	10.50	15.69	15.69	Hold 6.00° Inc
1118.94	6.00	137.99	1115.00	-59.73	53.81	80.39	80.39	Begin 2.00°/100' Build
1418.87	12.00	137.99	1411.10	-94.57	85.19	127.28	127.28	Begin 12.00° Tangent
4086.99	12.00	137.99	4020.93	-506.67	456.45	681.95	681.95	Begin 1.50°/100' Drop
4886.89	0.00	0.00	4815.00	-568.67	512.30	765.40	765.40	Begin Vertical Hold
8564.89	0.00	0.00	8493.00	-568.67	512.30	765.40	765.40	PBHL



Azimuths to True North
Magnetic North: 8.84°

Magnetic Field
Strength: 52844.6nT
Dip Angle: 66.67°
Date: 1/22/2012
Model: WMM_2010

US State Plane 1983
Colorado Northern Zone

Created By: Cindy Darland
Date: 12-29, January 21 2012
Plan: Design #1

SURFACE LOCATION

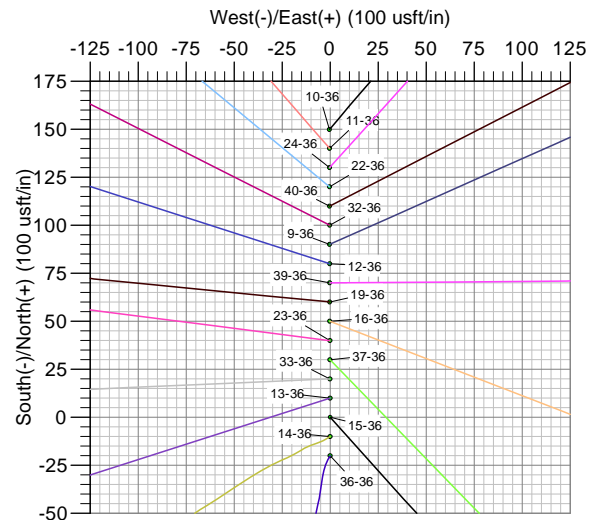
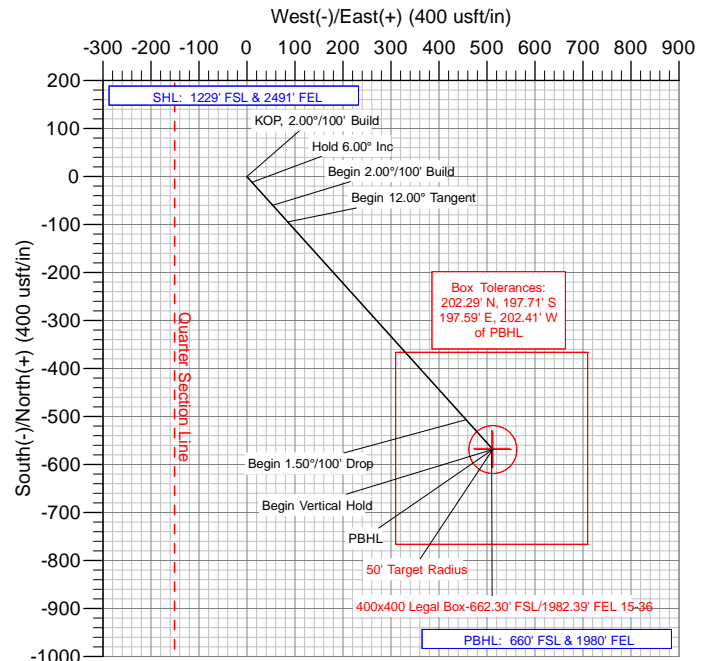
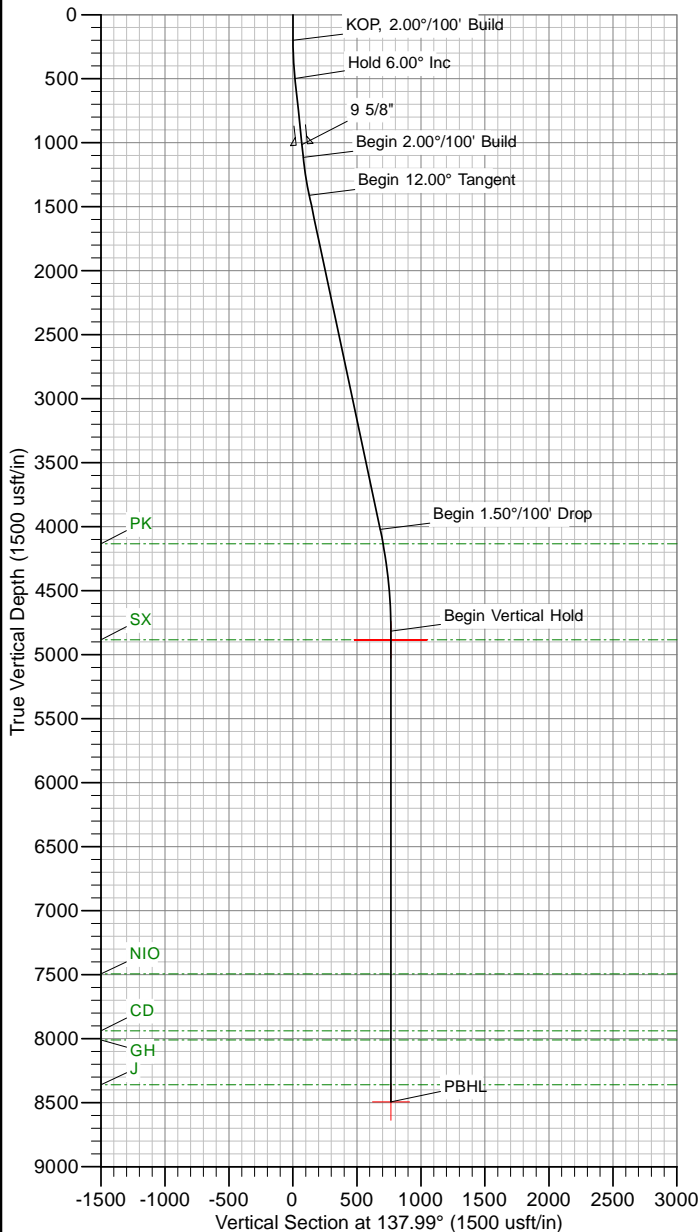
Northing: 1244673.53
Easting: 3153672.54
Latitude: 40° 0' 13.3551 N
Longitude: 104° 57' 5.173 W
Ground Elevation: 5118.00
WELL @ 5133.00usft (Xtreme 11)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
400x400 Legal Box-662.30' FSL/1982.39' FEL 15-36	4883.00	-566.37	509.90	40° 0' 7.7579 N	104° 56' 58.621 W
Vertical v1-Northglenn State 15-36	4883.00	-568.67	512.30	40° 0' 7.7351 N	104° 56' 58.590 W
PBHL v1-Northglenn State 15-36	8493.00	-568.67	512.30	40° 0' 7.7351 N	104° 56' 58.590 W

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4133.00	4201.21	PK
4883.00	4954.89	SX
7493.00	7564.89	NIO
7939.00	8010.89	CD
8009.00	8080.89	GH
8360.00	8431.89	J



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.



Job Number: DDOK120067
Company: Anadarko Petroleum
Lease/Well: Northglenn State 15-36
Location: Weld County
Rig Name: Xtreme 11
RKB: 15'
G.L. or M.S.L.: MSL

State/Country: Colorado / USA
Declination: 8.84°
Grid: True
File name: C:\WINSERVE\JOBS\NORTHG~2\15_X00~1.SVY
Date/Time: 24-Jan-12 / 23:41
Curve Name: Northglenn State 15-36 - Design 1

Northglenn State 15-36 - Design 1

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 137.99
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E Distance FT</i>	<i>Direction Deg</i>	<i>Dogleg Severity Deg/100</i>
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
103.00	1.10	224.70	102.99	-.70	-.70	.06	.99	224.70	1.07
192.00	1.10	235.60	191.98	-1.79	-2.00	-.01	2.69	228.15	.23
280.00	1.60	185.30	279.96	-3.49	-2.81	.71	4.48	218.83	1.40
371.00	2.60	178.10	370.89	-6.82	-2.86	3.15	7.40	202.75	1.13
462.00	3.80	158.80	461.75	-11.70	-1.70	7.55	11.82	188.28	1.75
552.00	5.20	150.00	551.47	-18.01	1.42	14.33	18.06	175.50	1.73
643.00	5.80	142.80	642.06	-25.24	6.26	22.94	26.01	166.08	1.00
734.00	6.80	143.30	732.50	-33.22	12.26	32.89	35.41	159.75	1.10
825.00	8.90	139.10	822.65	-42.87	20.09	45.29	47.34	154.89	2.39
915.00	8.90	139.10	911.56	-53.39	29.20	59.22	60.86	151.32	.00
991.00	9.20	140.00	986.62	-62.49	36.96	71.17	72.60	149.40	.44
1076.00	9.50	140.00	1070.49	-73.07	45.84	84.97	86.25	147.90	.35
1167.00	10.80	132.20	1160.07	-84.55	56.98	100.96	101.96	146.02	2.08
1258.00	12.30	132.40	1249.22	-96.81	70.45	119.09	119.73	143.96	1.65
1349.00	12.20	130.10	1338.15	-109.54	84.97	138.26	138.63	142.20	.55
1440.00	12.50	128.40	1427.04	-121.85	100.04	157.49	157.66	140.61	.52
1530.00	13.50	132.80	1514.74	-135.04	115.38	177.56	177.62	139.49	1.56
1621.00	13.90	133.30	1603.15	-149.75	131.13	199.03	199.05	138.79	.46
1712.00	14.30	139.30	1691.41	-165.77	146.41	221.16	221.17	138.55	1.66
1803.00	13.60	138.70	1779.73	-182.33	160.80	243.09	243.11	138.59	.79
1894.00	13.20	140.50	1868.25	-198.38	174.47	264.17	264.19	138.67	.64
1984.00	13.80	134.30	1955.77	-213.81	188.69	285.15	285.17	138.57	1.74
2075.00	12.80	137.70	2044.33	-228.85	203.25	306.06	306.07	138.39	1.39
2166.00	12.80	131.20	2133.07	-242.94	217.62	326.16	326.16	138.15	1.58

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
2256.00	13.50	136.50	2220.71	-257.13	232.35	346.56	346.56	137.90	1.55
2347.00	13.50	140.00	2309.20	-272.97	246.49	367.79	367.79	137.92	.90
2438.00	12.50	139.40	2397.87	-288.59	259.72	388.25	388.25	138.01	1.11
2529.00	11.60	144.00	2486.86	-303.47	271.51	407.20	407.20	138.18	1.45
2619.00	12.80	139.60	2574.83	-318.38	283.29	426.16	426.17	138.34	1.69
2710.00	13.60	135.40	2663.43	-333.68	297.34	446.93	446.93	138.30	1.37
2801.00	12.20	133.80	2752.13	-347.95	311.79	467.21	467.21	138.14	1.59
2892.00	12.60	135.80	2841.01	-361.72	325.65	486.71	486.71	138.00	.64
2983.00	12.10	135.60	2929.90	-375.65	339.24	506.16	506.16	137.92	.55
3073.00	12.70	134.00	3017.80	-389.26	352.96	525.46	525.46	137.80	.77
3164.00	13.80	131.70	3106.38	-403.43	368.26	546.22	546.24	137.61	1.34
3255.00	14.20	133.60	3194.68	-418.35	384.45	568.14	568.17	137.42	.67
3346.00	13.50	132.10	3283.03	-433.17	400.41	589.84	589.88	137.25	.86
3437.00	11.80	131.00	3371.82	-446.39	415.32	609.64	609.72	137.07	1.89
3527.00	12.80	133.60	3459.75	-459.31	429.48	628.71	628.82	136.92	1.27
3618.00	12.70	139.60	3548.51	-473.88	443.26	648.76	648.88	136.91	1.46
3709.00	11.30	137.00	3637.52	-488.02	455.83	667.68	667.79	136.95	1.65
3799.00	11.60	136.30	3725.73	-501.01	468.09	685.54	685.65	136.95	.37
3890.00	10.20	135.20	3815.09	-513.34	480.09	702.73	702.86	136.92	1.56
3981.00	9.10	137.00	3904.80	-524.32	490.68	717.98	718.11	136.90	1.25
4072.00	6.30	137.70	3994.97	-533.28	498.95	730.17	730.30	136.90	3.08
4163.00	5.20	135.10	4085.51	-539.89	505.22	739.28	739.41	136.90	1.24
4253.00	4.50	130.00	4175.19	-545.05	510.80	746.85	746.99	136.86	.91
4344.00	4.00	135.10	4265.94	-549.59	515.78	753.55	753.71	136.82	.69
4435.00	1.70	165.30	4356.82	-553.15	518.36	757.92	758.07	136.86	2.94
4526.00	1.30	183.70	4447.79	-555.48	518.64	759.84	759.96	136.96	.68
4617.00	1.10	188.10	4538.77	-557.38	518.45	761.12	761.22	137.07	.24
4708.00	.80	195.00	4629.76	-558.86	518.16	762.03	762.11	137.16	.35
4799.00	.80	202.70	4720.75	-560.06	517.75	762.65	762.71	137.25	.12
4889.00	.60	250.20	4810.74	-560.80	517.07	762.74	762.79	137.32	.66
4980.00	.70	276.00	4901.74	-560.90	516.06	762.14	762.19	137.38	.34
5071.00	1.00	276.70	4992.73	-560.75	514.72	761.13	761.17	137.45	.33
5161.00	1.10	277.30	5082.71	-560.55	513.09	759.89	759.91	137.53	.11
5252.00	1.30	264.10	5173.69	-560.54	511.19	758.62	758.63	137.64	.37
5434.00	.20	189.20	5355.68	-561.07	509.09	757.60	757.61	137.78	.69
5616.00	.20	287.30	5537.68	-561.29	508.73	757.53	757.53	137.81	.17
5797.00	.20	278.00	5718.67	-561.15	508.12	757.01	757.02	137.84	.02
5978.00	.40	270.60	5899.67	-561.10	507.18	756.34	756.34	137.89	.11
6160.00	.20	311.90	6081.67	-560.88	506.30	755.60	755.60	137.93	.16
6342.00	.40	.60	6263.67	-560.03	506.07	754.81	754.82	137.90	.17
6524.00	.50	17.50	6445.66	-558.64	506.32	753.94	753.95	137.81	.09
6706.00	1.00	16.40	6627.65	-556.36	507.01	752.71	752.72	137.66	.27
6887.00	1.10	32.70	6808.62	-553.38	508.39	751.42	751.46	137.43	.17
7069.00	1.40	35.00	6990.57	-550.09	510.61	750.46	750.55	137.13	.17
7250.00	1.90	336.30	7171.51	-545.53	510.67	747.12	747.25	136.89	.93

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7432.00	.80	268.80	7353.46	-542.79	508.19	743.42	743.56	136.89	.97
7613.00	1.20	240.00	7534.44	-543.77	505.28	742.20	742.29	137.10	.35
7795.00	.40	111.40	7716.42	-544.95	504.23	742.37	742.44	137.22	.81
7977.00	.50	150.20	7898.42	-545.87	505.21	743.72	743.79	137.22	.17
8157.00	.60	131.20	8078.41	-547.18	506.31	745.42	745.49	137.22	.11
8339.00	.40	121.50	8260.40	-548.14	507.57	746.98	747.05	137.20	.12
8496.00	.50	116.10	8417.40	-548.72	508.65	748.14	748.21	137.17	.07
-- Projection To Bit --									
8541.00	.50	116.10	8462.40	-548.90	509.00	748.50	748.58	137.16	.00