



**Job Number:** DDOK110658  
**Company:** Anadarko Petroleum  
**Lease/Well:** Morton 10-1 Design #1  
**Location:** Weld County  
**Rig Name:** Xtreme 11  
**RKB:** 15'  
**G.L. or M.S.L.:** MSL

**State/Country:** Colorado  
**Declination:** 8.81°  
**Grid:** True  
**File name:** C:\WINSERVE\JOBS\MORTON~1\MORT10~1.SVY  
**Date/Time:** 30-Nov-11 / 04:40  
**Curve Name:** As Drilled - Morton 10-1 Design #1

### As Drilled - Morton 10-1 Design #1

WINSERVE SURVEY CALCULATIONS  
*Minimum Curvature Method*  
*Vertical Section Plane 300.94*  
*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
102.00	.60	133.10	102.00	-.36	.39	-.52	.53	133.10	.59
191.00	.50	349.60	191.00	-.30	.66	-.72	.73	114.54	1.17
281.00	1.80	294.30	280.98	.67	-.70	.94	.97	313.64	1.74
371.00	3.70	298.30	370.87	2.63	-4.54	5.25	5.25	300.01	2.12
462.00	4.20	299.40	461.65	5.65	-10.03	11.51	11.52	299.40	.56
553.00	5.90	295.70	552.30	9.32	-17.15	19.50	19.52	298.51	1.90
644.00	6.90	296.40	642.73	13.78	-26.26	29.61	29.66	297.68	1.10
735.00	7.30	294.60	733.03	18.61	-36.41	40.80	40.90	297.07	.50
825.00	7.70	294.10	822.26	23.46	-47.12	52.47	52.63	296.46	.45
911.00	8.00	296.40	907.46	28.47	-57.74	64.16	64.37	296.25	.51
1062.00	7.70	300.10	1057.04	38.21	-75.90	84.75	84.98	296.72	.39
1153.00	9.80	298.30	1146.98	44.94	-88.00	98.58	98.81	297.06	2.33
1243.00	10.40	299.90	1235.58	52.63	-101.78	114.36	114.58	297.34	.74
1334.00	11.80	297.30	1324.88	60.99	-117.17	131.85	132.09	297.50	1.63
1425.00	14.10	301.70	1413.56	71.08	-134.87	152.23	152.46	297.79	2.75
1516.00	14.60	301.80	1501.72	82.95	-154.05	174.78	174.96	298.30	.55
1607.00	16.40	303.60	1589.41	96.10	-174.50	199.08	199.21	298.84	2.05
1698.00	16.40	301.30	1676.71	109.89	-196.18	224.76	224.86	299.25	.71
1789.00	17.20	297.60	1763.82	122.80	-219.08	251.04	251.15	299.27	1.47
1880.00	17.40	299.20	1850.71	135.67	-242.88	278.07	278.20	299.19	.57
1971.00	17.90	297.30	1937.42	148.72	-267.19	305.63	305.79	299.10	.84
2061.00	17.70	299.90	2023.12	161.88	-291.34	333.11	333.29	299.06	.91
2152.00	17.30	299.20	2109.91	175.38	-315.14	360.47	360.65	299.10	.50
2243.00	16.20	295.20	2197.05	187.39	-338.44	386.62	386.85	298.97	1.75

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
				FT	FT	FT	Distance FT	Direction Deg	
2334.00	15.20	293.20	2284.65	197.49	-360.89	411.08	411.39	298.69	1.25
2425.00	15.10	297.60	2372.49	207.68	-382.36	434.73	435.12	298.51	1.27
2516.00	15.80	301.70	2460.21	219.68	-403.41	458.95	459.34	298.57	1.43
2607.00	14.70	303.90	2548.00	232.63	-423.53	482.87	483.22	298.78	1.37
2697.00	15.20	309.00	2634.96	246.43	-442.18	505.96	506.21	299.13	1.56
2788.00	16.60	307.10	2722.47	261.78	-461.82	530.70	530.85	299.55	1.64
2879.00	16.90	306.20	2809.61	277.43	-482.86	556.79	556.89	299.88	.44
2970.00	17.20	310.60	2896.62	294.00	-503.75	583.23	583.27	300.27	1.46
3061.00	18.80	311.70	2983.16	312.51	-524.92	610.90	610.90	300.77	1.80
3152.00	17.80	308.50	3069.56	330.93	-546.75	639.09	639.10	301.18	1.56
3242.00	18.00	301.10	3155.21	346.67	-569.43	666.64	666.65	301.33	2.54
3334.00	17.90	300.40	3242.74	361.17	-593.79	694.99	695.01	301.31	.26
3424.00	18.60	298.30	3328.21	374.98	-618.36	723.16	723.17	301.23	1.07
3516.00	16.80	301.30	3415.85	388.84	-642.64	751.12	751.12	301.18	2.19
3606.00	16.60	301.50	3502.06	402.31	-664.72	776.98	776.98	301.18	.23
3697.00	16.90	302.40	3589.20	416.19	-686.97	803.20	803.21	301.21	.44
3788.00	16.60	300.60	3676.34	429.90	-709.32	829.42	829.43	301.22	.66
3879.00	16.40	299.70	3763.59	442.88	-731.67	855.26	855.27	301.19	.36
3970.00	16.40	299.70	3850.89	455.61	-753.99	880.95	880.95	301.14	.00
4060.00	16.90	300.30	3937.11	468.50	-776.32	906.73	906.74	301.11	.59
4151.00	16.00	303.90	4024.39	482.17	-798.15	932.48	932.49	301.14	1.49
4242.00	14.40	300.10	4112.20	494.84	-818.35	956.33	956.33	301.16	2.07
4333.00	15.20	302.40	4200.19	506.91	-838.21	979.57	979.57	301.16	1.09
4424.00	17.70	302.00	4287.45	520.64	-860.02	1005.33	1005.34	301.19	2.75
4515.00	17.30	299.70	4374.24	534.67	-883.51	1032.69	1032.69	301.18	.88
4605.00	14.20	299.40	4460.85	546.72	-904.75	1057.10	1057.11	301.14	3.45
4696.00	13.90	294.60	4549.13	556.75	-924.42	1079.13	1079.13	301.06	1.32
4787.00	14.50	295.20	4637.35	566.15	-944.66	1101.33	1101.33	300.94	.68
4878.00	13.70	292.30	4725.61	575.09	-964.94	1123.32	1123.32	300.79	1.17
4968.00	11.30	296.40	4813.47	583.06	-982.70	1142.65	1142.66	300.68	2.84
5059.00	8.90	303.40	4903.06	590.90	-996.57	1158.57	1158.58	300.67	2.96
5150.00	7.70	304.80	4993.11	598.26	-1007.45	1171.68	1171.69	300.70	1.34
5241.00	5.80	309.60	5083.47	604.67	-1016.00	1182.31	1182.32	300.76	2.18
5332.00	4.40	305.50	5174.11	609.62	-1022.39	1190.34	1190.34	300.81	1.59
5423.00	2.70	304.80	5264.93	612.87	-1026.99	1195.96	1195.96	300.83	1.87
5513.00	.70	306.80	5354.89	614.41	-1029.17	1198.62	1198.62	300.84	2.22
5604.00	.50	304.10	5445.88	614.97	-1029.94	1199.57	1199.57	300.84	.22
5740.00	.90	346.70	5581.87	616.34	-1030.68	1200.91	1200.91	300.88	.46
5877.00	.80	347.50	5718.86	618.32	-1031.14	1202.32	1202.32	300.95	.07
6013.00	1.10	170.00	5854.85	617.96	-1031.11	1202.11	1202.11	300.93	1.40
6149.00	1.00	137.80	5990.83	615.80	-1030.09	1200.12	1200.12	300.87	.43
6285.00	.50	78.90	6126.82	615.03	-1028.71	1198.55	1198.55	300.87	.63
6421.00	.40	22.00	6262.81	615.59	-1027.95	1198.18	1198.18	300.92	.32
6557.00	.70	39.00	6398.81	616.67	-1027.25	1198.14	1198.14	300.98	.25
6693.00	.90	58.00	6534.80	617.89	-1025.82	1197.53	1197.54	301.06	.24

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	
6829.00	1.10	40.10	6670.77	619.45	-1024.07	1196.84	1196.85	301.17	.27
6966.00	1.10	49.60	6807.75	621.31	-1022.23	1196.21	1196.23	301.29	.13
7102.00	1.00	32.90	6943.73	623.15	-1020.59	1195.75	1195.79	301.41	.24
7238.00	1.10	26.90	7079.70	625.31	-1019.35	1195.80	1195.87	301.53	.11
7374.00	1.10	32.00	7215.68	627.58	-1018.07	1195.87	1195.96	301.65	.07
7510.00	2.00	14.60	7351.63	630.99	-1016.78	1196.51	1196.66	301.82	.74
7646.00	1.50	56.30	7487.57	634.27	-1014.70	1196.42	1196.63	302.01	.98
7782.00	1.30	73.80	7623.53	635.69	-1011.74	1194.61	1194.87	302.14	.35
7919.00	.90	78.60	7760.50	636.34	-1009.19	1192.75	1193.06	302.23	.30
8055.00	.60	77.00	7896.49	636.71	-1007.45	1191.45	1191.78	302.29	.22
8200.00	.70	64.50	8041.48	637.26	-1005.91	1190.42	1190.78	302.35	.12
- Projection To Bit -									
8245.00	.70	64.50	8086.48	637.50	-1005.41	1190.11	1190.49	302.38	.00