



Job Number: DDOK120040
Company: Anadarko Petroleum
Lease/Well: Northglenn State 36-36
Location: SW/SE Sec36-T1N-R68W
Rig Name: Xtreme 11
RKB: 15'
G.L. or M.S.L.: MSL

State/Country: Colorado / USA
Declination: 8.85°
Grid: True
File name: C:\WINSERVE\JOBS\NORTHG~1\NS_X00~1.SVY
Date/Time: 17-Jan-12 / 23:23
Curve Name: Northglenn State 36-36 Design #1

Northglenn State 36-36 Design #1

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 189.96
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
104.00	.90	205.50	104.00	-.74	-.35	.79	.82	205.50	.87
193.00	.60	216.10	192.99	-1.74	-.93	1.88	1.98	207.99	.37
280.00	1.80	208.90	279.97	-3.31	-1.86	3.58	3.79	209.29	1.39
370.00	2.40	195.00	369.91	-6.37	-3.03	6.79	7.05	205.43	.87
462.00	4.00	188.10	461.76	-11.40	-3.98	11.92	12.08	199.23	1.79
553.00	4.20	189.90	552.53	-17.83	-5.00	18.43	18.52	195.66	.26
644.00	5.30	191.00	643.21	-25.24	-6.37	25.96	26.03	194.17	1.21
735.00	5.80	191.00	733.79	-33.88	-8.05	34.76	34.82	193.37	.55
825.00	6.70	190.30	823.25	-43.51	-9.86	44.56	44.61	192.77	1.00
916.00	6.80	188.90	913.62	-54.05	-11.64	55.25	55.29	192.15	.21
993.00	6.40	189.00	990.11	-62.79	-13.02	64.10	64.13	191.71	.52
1072.00	7.10	191.80	1068.56	-71.92	-14.70	73.38	73.41	191.55	.98
1163.00	8.40	189.00	1158.73	-83.99	-16.89	85.65	85.68	191.37	1.49
1253.00	10.10	191.00	1247.56	-98.23	-19.43	100.11	100.14	191.19	1.92
1344.00	12.60	189.00	1336.77	-115.87	-22.50	118.02	118.04	190.99	2.78
1435.00	12.80	191.30	1425.54	-135.56	-26.03	138.02	138.04	190.87	.60
1526.00	12.50	193.20	1514.34	-155.03	-30.26	157.93	157.96	191.04	.56
1616.00	13.60	190.30	1602.01	-174.93	-34.37	178.24	178.27	191.12	1.42
1707.00	13.90	191.50	1690.40	-196.17	-38.47	199.86	199.90	191.09	.45
1798.00	15.20	187.30	1778.48	-218.71	-42.16	222.71	222.74	190.91	1.84
1888.00	14.80	186.20	1865.42	-241.84	-44.90	245.96	245.98	190.52	.55
1979.00	14.50	186.70	1953.46	-264.71	-47.49	268.94	268.94	190.17	.36
2070.00	14.20	185.70	2041.62	-287.13	-49.92	291.44	291.44	189.86	.43
2161.00	13.20	186.20	2130.03	-308.57	-52.15	312.94	312.94	189.59	1.11

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	
2252.00	13.60	191.70	2218.56	-329.38	-55.45	334.00	334.01	189.56	1.47
2342.00	12.80	191.10	2306.18	-349.52	-59.51	354.55	354.55	189.66	.90
2433.00	12.00	189.70	2395.05	-368.74	-63.05	374.08	374.09	189.70	.94
2524.00	12.00	188.30	2484.07	-387.42	-66.01	393.00	393.01	189.67	.32
2615.00	12.10	190.80	2573.06	-406.15	-69.16	411.99	412.00	189.66	.58
2706.00	13.20	189.60	2661.85	-425.77	-72.68	431.92	431.93	189.69	1.24
2796.00	11.60	184.80	2749.75	-444.92	-75.15	451.21	451.22	189.59	2.11
2887.00	12.80	187.30	2838.70	-464.03	-77.20	470.39	470.41	189.45	1.44
2978.00	10.50	192.70	2927.82	-482.12	-80.30	488.75	488.77	189.46	2.79
3069.00	11.90	191.00	3017.08	-499.42	-83.91	506.41	506.42	189.54	1.58
3159.00	11.80	192.20	3105.16	-517.53	-87.63	524.88	524.89	189.61	.30
3250.00	12.10	193.10	3194.19	-535.91	-91.76	543.70	543.71	189.72	.39
3341.00	12.00	191.00	3283.19	-554.49	-95.72	562.69	562.69	189.79	.49
3432.00	12.10	184.60	3372.19	-573.28	-98.29	581.64	581.65	189.73	1.47
3523.00	12.60	188.00	3461.08	-592.62	-100.44	601.06	601.07	189.62	.97
3614.00	13.60	190.30	3549.71	-612.97	-103.73	621.68	621.69	189.61	1.24
3704.00	12.30	188.70	3637.42	-632.86	-107.08	641.84	641.86	189.60	1.50
3795.00	11.50	195.20	3726.47	-651.20	-110.92	660.57	660.58	189.67	1.71
3886.00	11.80	192.70	3815.60	-669.03	-115.35	678.90	678.90	189.78	.65
3977.00	12.20	188.90	3904.61	-687.60	-118.88	697.80	697.81	189.81	.97
4068.00	11.50	193.20	3993.67	-705.94	-122.44	716.47	716.48	189.84	1.24
4158.00	9.80	194.30	4082.12	-722.09	-126.38	733.07	733.07	189.93	1.90
4249.00	9.70	199.90	4171.80	-736.81	-130.90	748.34	748.35	190.07	1.05
4340.00	10.80	195.40	4261.35	-752.24	-135.77	764.38	764.39	190.23	1.49
4431.00	11.30	198.00	4350.67	-768.94	-140.79	781.70	781.72	190.38	.78
4521.00	12.00	196.40	4438.81	-786.30	-146.16	799.73	799.77	190.53	.86
4612.00	13.00	196.20	4527.65	-805.20	-151.69	819.30	819.37	190.67	1.10
4703.00	12.30	191.10	4616.45	-824.54	-156.41	839.17	839.25	190.74	1.45
4794.00	10.80	187.60	4705.60	-842.51	-159.40	857.38	857.45	190.71	1.82
4885.00	11.70	185.70	4794.85	-860.14	-161.45	875.10	875.16	190.63	1.07
4976.00	11.50	195.90	4884.00	-878.05	-164.85	893.33	893.39	190.63	2.26
5066.00	11.70	191.70	4972.17	-895.61	-169.16	911.37	911.45	190.70	.96
5157.00	13.30	187.40	5061.01	-915.03	-172.38	931.05	931.12	190.67	2.03
5248.00	12.20	185.50	5149.76	-934.98	-174.65	951.10	951.15	190.58	1.29
5339.00	11.10	184.50	5238.89	-953.28	-176.26	969.40	969.44	190.48	1.23
5430.00	11.20	187.30	5328.17	-970.78	-178.07	986.95	986.98	190.39	.61
5520.00	10.90	187.40	5416.50	-987.89	-180.27	1004.18	1004.21	190.34	.33
5611.00	9.70	188.30	5506.03	-1004.01	-182.49	1020.44	1020.46	190.30	1.33
5702.00	9.10	187.40	5595.81	-1018.73	-184.52	1035.29	1035.31	190.27	.68
5792.00	7.80	191.10	5684.83	-1031.78	-186.61	1048.51	1048.52	190.25	1.56
5883.00	9.00	190.30	5774.86	-1044.85	-189.07	1061.80	1061.82	190.26	1.32
5974.00	9.80	185.90	5864.63	-1059.55	-191.14	1076.65	1076.66	190.23	1.18
6065.00	8.90	185.90	5954.42	-1074.26	-192.66	1091.39	1091.40	190.17	.99
6156.00	7.70	187.10	6044.47	-1087.31	-194.14	1104.50	1104.51	190.12	1.33
6246.00	6.40	188.30	6133.79	-1098.26	-195.61	1115.54	1115.54	190.10	1.45

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	
6337.00	5.30	190.30	6224.31	-1107.41	-197.09	1124.81	1124.82	190.09	1.23
6428.00	4.40	195.70	6314.99	-1114.91	-198.79	1132.49	1132.49	190.11	1.11
6519.00	3.50	198.50	6405.77	-1120.90	-200.62	1138.71	1138.72	190.15	1.01
6610.00	3.20	170.90	6496.62	-1126.05	-201.10	1143.86	1143.86	190.13	1.78
6700.00	2.40	179.00	6586.51	-1130.41	-200.66	1148.08	1148.08	190.07	.99
6791.00	2.10	194.80	6677.44	-1133.93	-201.06	1151.61	1151.62	190.05	.75
6882.00	1.60	196.80	6768.39	-1136.76	-201.85	1154.54	1154.54	190.07	.55
6972.00	1.50	192.00	6858.36	-1139.11	-202.46	1156.96	1156.96	190.08	.18
7064.00	1.30	204.80	6950.33	-1141.24	-203.15	1159.17	1159.18	190.09	.40
7154.00	1.10	223.30	7040.31	-1142.79	-204.17	1160.88	1160.89	190.13	.48
7245.00	1.20	234.20	7131.30	-1143.99	-205.54	1162.29	1162.30	190.19	.26
7336.00	1.50	245.30	7222.27	-1145.04	-207.39	1163.65	1163.67	190.27	.44
7427.00	2.00	246.00	7313.23	-1146.18	-209.93	1165.22	1165.25	190.38	.55
7517.00	2.80	236.30	7403.15	-1148.04	-213.19	1167.61	1167.67	190.52	.99
7653.00	2.00	286.20	7539.04	-1149.22	-218.23	1169.65	1169.76	190.75	1.58
7789.00	1.00	336.50	7675.00	-1147.47	-220.99	1168.40	1168.56	190.90	1.15
7925.00	1.00	22.90	7810.98	-1145.29	-221.00	1166.25	1166.42	190.92	.58
8061.00	1.10	50.70	7946.96	-1143.37	-219.53	1164.11	1164.25	190.87	.38
8242.00	1.40	69.50	8127.92	-1141.50	-216.11	1161.67	1161.77	190.72	.28
8423.00	.80	67.90	8308.88	-1140.25	-212.87	1159.88	1159.95	190.57	.33
8560.00	.90	79.00	8445.87	-1139.68	-210.93	1158.99	1159.04	190.49	.14
Projection To Bit									
8610.00	.90	79.00	8495.86	-1139.53	-210.15	1158.71	1158.75	190.45	.00