

Job Number: SVGJ-120612 State/Country: Colorado/USA (N 40 09 58) (W 104 39 39)
 Company: Anadarko Petroleum Corporation Declination: 8.65° East To True - NAD 27
 Lease/Well: Moser 9-4 Grid: Referenced To True North
 Location: Weld County, CO File name: F:\SURVEY\2012SU~1\ANADARKO\LORENZ\MOSER\9-4.SVY
 Rig Name: Cable Inc. Date/Time: 04-Jun-12 / 11:35
 RKB: 0' Curve Name: Surface - 7500' M.D. (Rate Gyro) (API 05-123-25597)
 G.L. or M.S.L.: GL

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane .00

Vertical Section Referenced to offset from Wellhead: EW =.00 Ft , NS=.00 Ft

Rectangular Coordinates Referenced to Wellhead

Measured	Incl	Drift	TRUE	N-S	E-W	Vertical	CLOSURE	CLOSURE	Dogleg
Depth	Angle	Direction	Vertical	FT	FT	Section	Distance	Direction	Severity
FT	Deg	Deg	Depth			FT	FT	Deg	Deg/100
0	0	0	0	0	0	0	0	0	0
100	1.14	264.3	99.99	-0.1	-0.99	-0.1	0.99	264.3	1.14
200	1.34	286.28	199.97	0.13	-3.1	0.13	3.1	272.4	0.51
300	1.27	287.48	299.94	0.79	-5.28	0.79	5.34	278.52	0.08
400	0.79	301.19	399.93	1.48	-6.93	1.48	7.08	282.06	0.54
500	0.17	291.03	499.92	1.89	-7.66	1.89	7.89	283.87	0.62
600	0.19	148.92	599.92	1.8	-7.71	1.8	7.92	283.16	0.34
700	0.24	99.14	699.92	1.63	-7.42	1.63	7.59	282.37	0.19
800	0.09	245.5	799.92	1.56	-7.28	1.56	7.45	282.1	0.32
900	0.14	25.07	899.92	1.64	-7.3	1.64	7.48	282.65	0.22
1000	0.11	7.91	999.92	1.84	-7.24	1.84	7.47	284.3	0.05
1100	0.08	58.07	1099.92	1.98	-7.16	1.98	7.43	285.43	0.08
1200	0.29	120.79	1199.92	1.88	-6.89	1.88	7.14	285.3	0.26
1300	0.35	106.87	1299.92	1.67	-6.38	1.67	6.59	284.64	0.1
1400	0.35	82.8	1399.92	1.62	-5.78	1.62	6	285.61	0.15
1500	0.25	57.83	1499.92	1.77	-5.29	1.77	5.58	288.49	0.16
1600	0.19	338.1	1599.92	2.04	-5.17	2.04	5.56	291.53	0.29
1700	0.06	32.8	1699.92	2.24	-5.21	2.24	5.67	293.27	0.16
1800	0.09	229.07	1799.92	2.23	-5.24	2.23	5.69	293.07	0.15
1900	0.32	317.84	1899.92	2.39	-5.48	2.39	5.98	293.52	0.33
2000	0.41	19.31	1999.91	2.93	-5.55	2.93	6.28	297.83	0.38
2100	0.33	26.24	2099.91	3.53	-5.31	3.53	6.37	303.61	0.09
2200	0.54	345.99	2199.91	4.24	-5.29	4.24	6.78	308.71	0.36
2300	0.65	351.68	2299.9	5.26	-5.49	5.26	7.6	313.78	0.12
2400	0.15	294.16	2399.9	5.88	-5.69	5.88	8.18	315.91	0.58
2500	0.48	271.34	2499.9	5.94	-6.23	5.94	8.61	313.63	0.35
2600	0.6	225.6	2599.9	5.58	-7.02	5.58	8.97	308.48	0.43
2700	0.35	235.77	2699.89	5.04	-7.65	5.04	9.16	303.41	0.26
2800	0.4	198.85	2799.89	4.54	-8.01	4.54	9.21	299.54	0.24
2900	0.48	220.87	2899.89	3.9	-8.4	3.9	9.26	294.88	0.19
3000	0.02	132	2999.89	3.57	-8.66	3.57	9.37	292.38	0.48
3100	0.26	190.07	3099.89	3.33	-8.69	3.33	9.31	290.98	0.25