



Job Number: WTX0400D189
 Company: Yates Petroleum Corp.
 Lease/Well: Sands Springs "ASU" #4
 Location: Lea County
 Rig Name: Key #36
 RKB:
 G.L. or M.S.L.:

State/Country: New Mexico
 Declination: 9.4 East
 Grid: True North
 File name: C:\WINSERVE\YATES\SANDSPR.SVY
 Date/Time: 27-May-00 / 06:41
 Curve Name: Horizontal out of Window

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 270.00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100	BUILD RATE Deg/100
Gyro Tie-In										
10792.00	.31	120.38	10790.20	-30.93	32.63	-32.63	44.96	133.47	.00	.00
Steering tool surveys										
10979.00	.37	111.34	10977.20	-31.40	33.62	-33.62	46.01	133.04	.04	.03
11355.00	.50	100.03	11353.19	-32.13	36.36	-36.36	48.52	131.46	.04	.04
11543.00	.57	96.42	11541.18	-32.38	38.10	-38.10	50.00	130.36	.04	.04
11671.00	.62	94.43	11669.17	-32.50	39.42	-39.42	51.09	129.50	.04	.04
11859.00	.69	92.04	11857.16	-32.62	41.58	-41.58	52.85	128.12	.04	.04
12046.00	.77	90.11	12044.14	-32.66	43.96	-43.96	54.77	126.61	.04	.04
12126.00	.80	89.40	12124.14	-32.66	45.06	-45.06	55.65	125.94	.04	.04
12312.00	.90	88.40	12310.12	-32.60	47.81	-47.81	57.87	124.29	.05	.05
12498.00	.70	78.50	12496.10	-32.34	50.39	-50.39	59.87	122.69	.13	-.11
12685.00	.80	92.80	12683.08	-32.17	52.81	-52.81	61.84	121.35	.11	.05
12779.00	.70	85.30	12777.07	-32.16	54.04	-54.04	62.88	120.76	.15	-.11
12811.00	.90	78.20	12809.07	-32.09	54.48	-54.48	63.23	120.50	.70	.63
12840.00	.60	41.70	12838.07	-31.93	54.80	-54.80	63.43	120.23	1.89	-1.03
Start Motor Run @ 12,860'										
12871.00	2.80	297.90	12869.06	-31.45	54.24	-54.24	62.70	120.11	9.68	7.10
12903.00	8.50	286.40	12900.89	-30.42	51.28	-51.28	59.62	120.68	18.07	17.81
12934.00	13.80	283.50	12931.29	-28.91	45.48	-45.48	53.89	122.44	17.19	17.10
2 75° Run 12,860' - 13,048'										
12966.00	19.00	282.80	12961.98	-26.86	36.69	-36.69	45.47	126.21	16.26	16.25