

Sperry-Sun Drilling Services



Survey Report for Roaring Springs 14 Fed. #3

Data Source: Information from Location

Surveyed: 12 November, 1998

Santa Fe Energy Resources
New Mexico

Eddy County
Sec. 14-T21S-R23E

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
8488.00	99.000	254.100	7783.86	123.22 S	636.02 W	646.55	1.428
8520.00	99.100	254.000	7778.83	131.91 S	666.41 W	678.15	0.439
8552.00	99.100	253.400	7773.77	140.78 S	696.74 W	709.73	1.851
8583.00	99.800	254.000	7768.68	149.36 S	726.09 W	740.29	2.957
8615.00	100.400	253.600	7763.07	158.15 S	756.34 W	771.79	2.243
8647.00	100.200	253.400	7757.34	167.09 S	786.53 W	803.25	0.877
8678.00	100.100	253.300	7751.88	175.83 S	815.76 W	833.75	0.453
8710.00	100.100	253.800	7746.27	184.75 S	845.98 W	865.24	1.538
8753.51	100.100	253.800	7738.64	196.70 S	887.11 W	908.05	0.000

All data is in feet unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to RKB (13'). Northings and Eastings are relative to Wellhead.

The Dogleg Severity is in Degrees per 100ft.

Vertical Section is from Wellhead and calculated along an Azimuth of 255.408° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 8753.51ft., The Bottom Hole Displacement is 908.66ft., in the Direction of 257.498° (True).

Comments

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
8140.00	7840.73	39.89 S	303.05 W	Tie on (Interpolated Survey @ 8140' md)
8171.00	7836.07	46.21 S	333.03 W	1st MWD Survey @ 8171' md
8710.00	7746.27	184.75 S	845.98 W	Last MWD Survey @ 8710' md
8753.51	7738.64	196.70 S	887.11 W	Projection to Bit @ 8753.51' md