



30-039-27465

**Williams Production Company
New Mexico
Rio Arriba County
Rosa Unit 211A Single-Shot Survey**

Sperry-Sun

Survey Report

10 October, 2003

Survey Ref: svy6302



HALLIBURTON

Survey Report for Rosa Unit 211A Single-Shot Survey

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00	
103.00	1.000	182.700	102.99	0.90 S	0.04 W	-0.90	0.971
194.00	0.250	62.700	193.99	1.60 S	0.10 E	-1.60	1.259
406.00	1.000	170.700	405.98	3.21 S	0.81 E	-3.21	0.520
621.00	1.250	200.700	620.94	7.26 S	0.28 E	-7.26	0.293
840.00	1.500	190.700	839.88	12.31 S	1.10 W	-12.31	0.158
1059.00	1.500	197.700	1058.80	17.86 S	2.50 W	-17.86	0.084
1275.00	1.250	181.700	1274.74	22.91 S	3.43 W	-22.91	0.211
1493.00	1.750	193.700	1492.67	28.52 S	4.29 W	-28.52	0.270
1709.00	1.000	214.700	1708.60	33.27 S	6.14 W	-33.27	0.413
1926.00	1.250	231.700	1925.56	36.29 S	9.08 W	-36.29	0.191
2142.00	1.250	250.700	2141.51	38.53 S	13.15 W	-38.53	0.191
2360.00	1.500	289.700	2359.45	38.36 S	18.08 W	-38.36	0.435
2578.00	0.750	225.700	2577.42	38.39 S	21.79 W	-38.39	0.620
2795.00	1.000	268.700	2794.39	39.43 S	24.70 W	-39.43	0.314
3014.00	0.500	340.700	3013.38	38.57 S	26.92 W	-38.57	0.443
3055.00	0.500	340.700	3054.38	38.23 S	27.04 W	-38.23	0.000

All data is in Feet (US Survey) unless otherwise stated. Directions and coordinates are relative to True North. Vertical depths are relative to Well. Northings and Eastings are relative to Well.

The Dogleg Severity is in Degrees per 100 feet (US Survey).
Vertical Section is from Well and calculated along an Azimuth of 0.000° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 3055.00ft.,
The Bottom Hole Displacement is 46.83ft., in the Direction of 215.274° (True).

Comments

Measured Depth (ft)	TVD (ft)	Station Coordinates Northings (ft)	Eastings (ft)	Comment
103.00	102.99	0.90 S	0.04 W	First Single-Shot Survey
3014.00	3013.38	38.57 S	26.92 W	Final Single-Shot Survey
3055.00	3054.38	38.23 S	27.04 W	Survey Projection to TD