

BP Amoco



**New Mexico
San Juan County**

I Sec. 26-T31N-R10W

Atlantic A LS 5B - MWD Survey 30-045-30059

9 6

7 7

Bottom Hole Location L.P. 826 FSL 7511:11

SURVEY REPORT

23 March, 2000

sperry-sun
DRILLING SERVICES
A Halliburton Company

Proposal Ref: pro4631

Sperry-Sun Drilling Services

Survey Report for Atlantic A LS 5B - MWD Survey

BP Amoco
New Mexico

San Juan County
Sec. 26-T31N-R10W

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	
164.00	1.500	342.000	163.98	2.04 N	0.66 W	-1.98	0.91
194.00	1.400	337.900	193.97	2.75 N	0.92 W	-2.67	0.48
225.00	0.700	324.300	224.97	3.26 N	1.18 W	-3.15	2.38
254.00	0.800	190.100	253.97	3.20 N	1.31 W	-3.08	4.77
284.00	2.700	179.000	283.95	2.29 N	1.34 W	-2.17	6.40
315.00	4.100	174.800	314.89	0.46 N	1.23 W	-0.35	4.58
345.00	5.600	183.600	344.79	2.07 S	1.22 W	2.17	5.57
376.00	6.400	184.600	375.62	5.30 S	1.45 W	5.41	2.60
406.00	6.900	187.200	405.41	8.76 S	1.81 W	8.88	1.95
437.00	8.000	182.400	436.15	12.76 S	2.14 W	12.89	4.07
467.00	8.900	181.900	465.83	17.17 S	2.30 W	17.30	3.01
498.00	10.700	180.700	496.37	22.44 S	2.42 W	22.56	5.84
528.00	11.400	178.200	525.82	28.19 S	2.36 W	28.29	2.83
558.00	12.400	177.800	555.17	34.37 S	2.14 W	34.43	3.34
589.00	14.000	180.300	585.35	41.45 S	2.03 W	41.47	5.48
619.00	15.100	179.200	614.39	48.98 S	2.00 W	48.98	3.78
649.00	16.500	179.500	643.26	57.15 S	1.91 W	57.11	4.67
680.00	16.900	177.500	672.95	66.06 S	1.67 W	65.96	2.26
710.00	17.700	176.600	701.59	74.96 S	1.21 W	74.80	2.81
741.00	18.400	176.800	731.07	84.55 S	0.66 W	84.31	2.27
771.00	19.300	178.200	759.46	94.24 S	0.24 W	93.93	3.36
805.00	19.800	181.900	791.50	105.61 S	0.25 W	105.26	3.93
868.00	19.200	188.200	850.89	126.53 S	2.08 W	126.26	3.47
930.00	18.400	189.500	909.58	146.27 S	5.15 W	146.19	1.46
992.00	19.600	187.000	968.20	166.24 S	8.03 W	166.34	2.34
1055.00	19.900	186.800	1027.50	187.38 S	10.59 W	187.61	0.49
1117.00	19.100	187.200	1085.94	207.92 S	13.11 W	208.29	1.31
1181.00	20.100	185.600	1146.23	229.25 S	15.50 W	229.75	1.77
1245.00	19.600	184.400	1206.43	250.90 S	17.39 W	251.48	1.01
1307.00	19.400	182.300	1264.87	271.56 S	18.61 W	272.17	1.18
1369.00	19.200	181.700	1323.39	292.04 S	19.32 W	292.63	0.45
1430.00	19.200	182.600	1381.00	312.08 S	20.07 W	312.67	0.49
1492.00	18.900	183.900	1439.60	332.29 S	21.22 W	332.90	0.84
1555.00	18.500	183.700	1499.28	352.44 S	22.56 W	353.10	0.64
1615.00	18.700	183.100	1556.14	371.54 S	23.69 W	372.23	0.46
1678.00	20.000	182.400	1615.58	392.39 S	24.69 W	393.09	2.10
1741.00	19.800	181.700	1674.82	413.82 S	25.46 W	414.51	0.49
1804.00	19.400	181.900	1734.17	434.95 S	26.12 W	435.61	0.64
1866.00	19.800	181.200	1792.58	455.74 S	26.68 W	456.38	0.75
1928.00	19.600	181.400	1850.95	476.63 S	27.16 W	477.24	0.34
1991.00	20.000	180.300	1910.22	497.97 S	27.47 W	498.53	0.87
2052.00	19.500	180.300	1967.64	518.58 S	27.58 W	519.08	0.82
2114.00	19.700	184.900	2026.05	539.34 S	28.53 W	539.84	2.51
2175.00	19.900	185.600	2083.44	559.92 S	30.42 W	560.51	0.51

Continued...

Sperry-Sun Drilling Services

Survey Report for Atlantic A LS 5B - MWD Survey

BP Amoco
New Mexico

San Juan County
Sec. 26-T31N-R10W

Measured Depth (ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
2237.00	18.900	184.900	2141.92	580.43 S	32.30 W	581.10	1.66
2300.00	19.300	185.600	2201.45	600.95 S	34.19 W	601.71	0.73
2362.00	19.500	184.200	2259.93	621.47 S	35.95 W	622.30	0.82
2424.00	19.600	186.300	2318.36	642.13 S	37.85 W	643.05	1.14
2486.00	19.200	184.800	2376.84	662.62 S	39.84 W	663.64	1.03
2547.00	19.000	185.800	2434.48	682.50 S	41.69 W	683.60	0.63
2610.00	18.400	186.700	2494.15	702.57 S	43.88 W	703.79	1.06
2671.00	17.800	185.100	2552.14	721.42 S	45.83 W	722.73	1.28
2733.00	18.400	182.600	2611.07	740.64 S	47.12 W	741.99	1.58
2796.00	19.100	184.200	2670.73	760.85 S	48.33 W	762.23	1.38
2857.00	18.500	184.200	2728.47	780.46 S	49.77 W	781.89	0.98
2920.00	17.900	185.600	2788.32	800.06 S	51.44 W	801.56	1.18
2984.00	17.600	185.600	2849.27	819.48 S	53.35 W	821.07	0.47
3046.00	18.300	187.200	2908.25	838.46 S	55.48 W	840.17	1.38
3109.00	18.600	188.600	2968.02	858.21 S	58.22 W	860.08	0.85
3171.00	19.000	189.300	3026.71	877.95 S	61.33 W	880.01	0.74
3233.00	19.500	190.300	3085.24	898.09 S	64.82 W	900.37	0.97
3297.00	18.500	188.200	3145.76	918.65 S	68.17 W	921.14	1.89
3359.00	17.800	188.800	3204.67	937.75 S	71.03 W	940.41	1.17
3422.00	16.600	187.900	3264.85	956.18 S	73.74 W	959.00	1.95
3484.00	14.300	184.400	3324.61	972.59 S	75.54 W	975.50	4.00
3522.00	12.900	187.500	3361.54	981.48 S	76.46 W	984.43	4.15
3679.00	9.000	155.400	3515.79	1010.05 S	73.63 W	1012.68	4.52
3801.00	7.500	215.400	3636.73	1025.25 S	74.27 W	1027.87	6.83
4079.00	0.500	293.400	3913.92	1039.57 S	85.91 W	1043.12	2.67
4264.00	0.250	329.400	4098.92	1038.91 S	86.85 W	1042.53	0.18

All data is in feet 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.

Vertical Section is from Well and calculated along an Azimuth of 184.779° (True).

Based upon Minimum Curvature type calculations, at a Measured Depth of 4264.00ft.,
The Bottom Hole Displacement is 1042.53ft., in the Direction of 184.779° (True).