

Halliburton Drilling Systems

Page 1

Survey Report

Date: 10/8/96
Time: 8:42 am
Wellpath ID: SIDETRACK
Date Created: 9/17/96
Last Revision: 10/8/96

Calculated using the Minimum Curvature Method
Computed using WIN-CADDS REV2.2.0
Vertical Section Plane: S 70.00 W

Survey Reference: WELLHEAD
Vertical Section Reference: WELLHEAD
Closure Reference: WELLHEAD
TVD Reference: WELLHEAD

AMOCO PRODUCTION COMPANY
SAN JUAN COUNTY, NM
SEC. 4 - T30N - R10W
ATLANTIC "B" LS #2
SURVEYS

RECEIVED
MAR 14 1997

Rec'd OCO 3/14/97

OIL CON. DIV
DIST. 3

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	DLS (dg/100ft)
TIE INTO SURFACE							
0.00	0.00	N 0.00 E	0.00	0.00	0.00	0.00 N 0.00 E	0.00
GYRO SURVEYS RECEIVED FROM AMOCO, 9/17/96							
100.00	0.22	N 9.97 W	100.00	100.00	-0.03	0.19 N 0.03W	0.22
200.00	0.10	N 8.37 W	100.00	200.00	-0.08	0.46 N 0.08W	0.12
300.00	0.17	N 48.84 E	100.00	300.00	-0.24	0.65 N 0.02 E	0.14
400.00	0.25	N 30.05 E	100.00	400.00	-0.55	0.93 N 0.24 E	0.10
500.00	0.27	N 26.73 W	100.00	500.00	-0.69	1.33 N 0.24 E	0.25
600.00	0.34	N 49.66 W	100.00	600.00	-0.51	1.74 N 0.09W	0.14
700.00	0.31	N 53.78 W	100.00	699.99	-0.21	2.09 N 0.53W	0.04
800.00	0.20	S 68.23 W	100.00	799.99	0.11	2.18 N 0.91W	0.27
900.00	0.19	S 25.91 W	100.00	899.99	0.40	1.97 N 1.15W	0.14
1000.00	0.17	S 11.02 W	100.00	999.99	0.60	1.68 N 1.26W	0.05
1100.00	0.04	S 61.09 W	100.00	1099.99	0.71	1.51 N 1.31W	0.15
1200.00	0.27	S 79.59 W	100.00	1199.99	0.98	1.45 N 1.57W	0.23
1300.00	0.17	S 26.65 W	100.00	1299.99	1.32	1.28 N 1.67W	0.22
1400.00	0.34	S 83.73 W	100.00	1399.99	1.71	1.11 N 2.23W	0.29
1500.00	0.21	S 70.70 W	100.00	1499.99	2.19	1.02 N 2.70W	0.14
1600.00	0.11	N 44.48 E	100.00	1599.99	2.28	1.03 N 2.80W	0.31
1700.00	0.27	N 49.12 E	100.00	1699.99	1.98	1.25 N 2.56W	0.16
1800.00	0.59	N 63.20 E	100.00	1799.98	1.24	1.64 N 1.92W	0.33
1900.00	0.68	N 44.01 E	100.00	1899.98	0.20	2.30 N 1.05W	0.23
2000.00	0.54	N 30.94 E	100.00	1999.97	-0.70	3.13 N 0.39W	0.20
2100.00	0.41	N 8.08 E	100.00	2099.97	-1.23	3.89 N 0.10W	0.23
2200.00	0.30	N 34.81 E	100.00	2199.97	-1.62	4.45 N 0.10 E	0.20
2300.00	0.36	N 25.37 W	100.00	2299.97	-1.80	4.95 N 0.11 E	0.33
2400.00	0.24	N 15.10 W	100.00	2399.96	-1.79	5.44 N 0.08W	0.13

True Copy of Original 10/8/96
Shirley S. Bradshaw

San Juan County NM
Expires 6-16-97

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Page 2

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Wellpath ID: SIDETRACK

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		DLS (dg/100ft)
2500.00	0.30	N 65.04 W	100.00	2499.96	-1.62	5.75 N	0.37W	0.23
2600.00	0.42	N 69.20 W	100.00	2599.96	-1.16	5.99 N	0.95W	0.12
2700.00	0.41	N 56.52 W	100.00	2699.96	-0.67	6.32 N	1.59W	0.09
2800.00	0.62	N 86.68 W	100.00	2799.95	0.04	6.55 N	2.43W	0.34
2900.00	0.43	N 63.80 W	100.00	2899.95	0.80	6.75 N	3.30W	0.28
3000.00	0.52	S 77.19 W	100.00	2999.95	1.51	6.81 N	4.08W	0.33
3100.00	0.55	N 56.30 W	100.00	3099.94	2.24	6.98 N	4.92W	0.42
3200.00	0.42	N 58.33 W	100.00	3199.94	2.75	7.44 N	5.64W	0.13
3300.00	0.47	S 81.04 W	100.00	3299.94	3.38	7.56 N	6.35W	0.31
3400.00	0.61	N 76.26 W	100.00	3399.93	4.23	7.63 N	7.28W	0.25
3500.00	0.24	N 69.67 W	100.00	3499.93	4.83	7.83 N	7.99W	0.37
3580.00	0.21	N 60.14 W	80.00	3579.93	5.05	7.96 N	8.27W	0.06
TIE INTO GYRO MULTISHOT (@ TOP OF WINDOW)								
3610.00	2.00	N 5.00 E	30.00	3609.92	4.87	8.51 N	8.27W	6.40
BEGIN GYRO SINGLE SHOT SURVEYS								
3630.00	2.60	N 1.00 E	20.00	3629.91	4.56	9.31 N	8.24W	3.10
3693.00	2.80	N 4.00 W	63.00	3692.84	3.62	12.27 N	8.32W	0.49
3758.00	2.20	N 30.00 W	65.00	3757.78	3.40	14.94 N	9.05W	1.95
3813.00	2.60	N 45.00 W	55.00	3812.73	4.11	16.73 N	10.46W	1.35
3909.00	2.80	N 45.00 W	96.00	3908.62	6.02	19.93 N	13.66W	0.21
3972.00	3.75	S 87.00 W	63.00	3971.53	8.64	20.91 N	16.81W	4.45
4033.00	5.50	S 61.00 W	61.00	4032.34	13.44	19.39 N	21.36W	4.41
4094.00	7.50	S 51.00 W	81.00	4092.94	20.09	15.46 N	27.01W	3.76
4156.00	9.00	S 69.00 W	62.00	4154.31	28.77	11.18 N	34.68W	4.79
4186.00	9.40	S 69.00 W	30.00	4183.92	33.56	9.46 N	39.16W	1.33
4248.00	12.10	S 58.00 W	60.00	4242.87	44.62	4.37 N	49.07W	5.63
4308.00	12.20	S 54.00 W	62.00	4303.48	57.27	2.92 S	59.88W	1.37
4369.00	13.00	S 60.00 W	61.00	4363.02	70.22	10.14 S	71.04W	2.51
4462.00	13.80	S 66.00 W	93.00	4453.49	91.59	19.89 S	90.23W	1.72
4524.00	15.70	S 60.00 W	62.00	4513.45	107.23	27.09 S	104.25W	3.93
4584.00	18.90	S 48.00 W	60.00	4570.74	124.24	37.66 S	118.51W	7.96
4639.00	22.80	S 47.00 W	55.00	4622.13	142.32	50.89 S	132.93W	7.12

THE FOLLOWING ARE MAGNETIC SINGLE SHOT SURVEYS

5350.00	5.00	S 50.00 W	711.00	5309.54	299.51	165.68 S	258.43W	2.50
FINAL (SINGLE SHOT) SURVEY								
5498.00	2.50	S 70.00 W	148.00	5457.22	308.80	170.93 S	266.41W	1.88
STRAIGHT LINE PROJECTION TO TD @ 5513' MD								
5513.00	2.50	S 70.00 W	15.00	5472.21	309.46	171.16 S	267.02W	0.00

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SF County NM
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