

70

FOR

132M1188092/132M1188100

SOUTH HORNS UNIT #224

LEA COUNTY, NEW MEXICO

11/10/88

G MOODY

THE RADIUS OF CURVATURE

CALCULATED USING PROPOSAL OF N 63-25 E

MAGNETIC MULTISHOT 00'1495'

MAGNETIC MULTISHOT 1495'-TD

[illegible]

BHL 554.3 N
1442.1 F

SCIENTIFIC DRILLING INTERNATIONAL
MIDLAND, TEXAS

JOB NUMBER: 132M1188092/132M1188100

DATE: 11/10/88

INRUN SURVEY

BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
79.00	79.00	-.05	.09	0-8 S	9-0 W	.09 S .01 W	.17
142.00	142.00	-.10	.21	0-15 S	36-0 E	.29 S .03 E	.29
205.00	205.00	.10	.27	0-15 N	6-0 W	.22 S .22 E	.77
268.00	268.00	.20	.27	0-15 N	4-0 W	.06 N .20 E	.01
331.00	331.00	.42	.27	0-15 N	64-0 E	.28 N .33 E	.44
394.00	394.00	.62	.27	0-15 N	12-0 W	.51 N .44 E	.49
457.00	457.00	.51	.41	0-30 N	76-0 W	.79 N .17 E	.71
520.00	519.99	.14	.55	0-30 N	62-0 W	.99 N .34 W	.19
583.00	582.99	-.22	.41	0-15 S	64-0 W	.99 N .74 W	.65
646.00	645.99	-.63	.41	0-30 S	59-0 W	.80 N 1.10 W	.40
709.00	708.99	-1.13	.55	0-30 N	71-0 W	.74 N 1.63 W	.67
772.00	771.98	-1.58	.69	0-45 N	65-0 W	1.00 N 2.27 W	.41
835.00	834.98	-2.31	.96	1-0 N	87-0 W	1.23 N 3.20 W	.66
898.00	897.97	-3.18	.96	0-45 S	82-0 W	1.19 N 4.16 W	.48
961.00	960.96	-3.99	.82	0-45 S	71-0 W	1.00 N 4.96 W	.23

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1024.00	1023.96	-4.80	.82	0-45 S 76- 0 W	.76 N	5.75 W	.10
1087.00	1086.96	-5.42	.69	0-30 N 80- 0 W	.74 N	6.43 W	.57
1150.00	1149.95	-5.88	.55	0-30 N 88- 0 W	.80 N	6.98 W	.11
1213.00	1212.95	-6.40	.55	0-30 S 75- 0 W	.73 N	7.52 W	.23
1276.00	1275.95	-6.93	.55	0-30 S 83- 0 W	.63 N	8.06 W	.11
1339.00	1338.94	-7.56	.69	0-45 S 90- 0 W	.59 N	8.75 W	.41
1402.00	1401.94	-8.13	.69	0-30 N 75- 0 W	.68 N	9.43 W	.47
1465.00	1464.94	-8.62	.69	0-45 N 68- 0 W	.90 N	10.08 W	.41
1495.00	1494.93	-8.87	.39	0-45 N 65- 0 W	1.05 N	10.44 W	.13
1581.00	1580.92	-9.80	1.31	1- 0 N 79- 0 W	1.46 N	11.69 W	.38
1643.00	1642.91	-10.74	1.08	1- 0 S 85- 0 W	1.51 N	12.76 W	.45
1706.00	1705.91	-11.79	1.10	1- 0 S 76- 0 W	1.33 N	13.85 W	.25
1768.00	1767.89	-12.94	1.22	1-15 S 87- 0 W	1.15 N	15.05 W	.53
1831.00	1830.88	-14.03	1.24	1- 0 N 83- 0 W	1.20 N	16.28 W	.50
1893.00	1892.87	-14.88	.95	0-45 S 80- 0 W	1.17 N	17.22 W	.58

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1956.00	1955.87	-15.56	.69	0-30 S 70-	0 W	.99 N 17.89 W	.43
2018.00	2017.87	-16.09	.54	0-30 S 65-	0 W	.79 N 18.39 W	.07
2081.00	2080.87	-16.19	.41	0-15 N 27-	0 E	1.01 N 18.61 W	1.13
2143.00	2142.87	-15.93	.27	0-15 S 88-	0 E	1.14 N 18.39 W	.43
2206.00	2205.86	-15.54	.41	0-30 N 68-	0 E	1.21 N 17.98 W	.46
2268.00	2267.86	-15.03	.54	0-30 N 27-	0 E	1.57 N 17.59 W	.56
2331.00	2330.86	-14.31	.83	1- 0 N 44-	0 E	2.24 N 17.12 W	.86
2393.00	2392.84	-13.17	1.22	1-15 N 40-	0 E	3.14 N 16.30 W	.42
2456.00	2455.81	-11.35	1.92	2-15 N 51-	0 E	4.49 N 14.93 W	1.67
2518.00	2517.74	-8.45	2.97	3-15 N 49-	0 E	6.40 N 12.65 W	1.62
2581.00	2580.62	-4.59	3.98	4- 0 N 50-	0 E	8.99 N 9.62 W	1.19
2643.00	2642.45	-.29	4.46	4-15 N 46-	0 E	11.97 N 6.31 W	.61
2706.00	2705.27	4.27	4.81	4-30 N 44-	0 E	15.37 N 2.91 W	.46
2768.00	2767.07	9.00	5.00	4-45 N 45-	0 E	18.94 N .59 E	.42
2831.00	2829.84	14.12	5.35	5- 0 N 48-	0 E	22.62 N 4.47 E	.57

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2893.00	2891.59	19.45	5.54	5-15	N 47- 0 E	26.36 N 8.56 E	.43
2956.00	2954.32	25.12	5.90	5-30	N 48- 0 E	30.35 N 12.91 E	.42
3018.00	3016.02	30.98	6.08	5-45	N 48- 0 E	34.42 N 17.42 E	.40
3081.00	3078.70	37.05	6.31	5-45	N 47- 0 E	38.68 N 22.08 E	.16
3143.00	3140.38	43.17	6.35	6- 0	N 49- 0 E	42.93 N 26.79 E	.52
3206.00	3203.03	49.53	6.59	6- 0	N 48- 0 E	47.29 N 31.73 E	.17
3268.00	3264.63	56.28	7.02	7- 0	N 47- 0 E	52.03 N 36.90 E	1.62
3331.00	3327.16	63.61	7.68	7- 0	N 45- 0 E	57.37 N 42.42 E	.39
3393.00	3388.78	70.35	6.88	5-45	N 60- 0 E	61.54 N 47.87 E	3.34
3456.00	3451.50	76.25	5.90	5- 0	N 68- 0 E	64.13 N 53.17 E	1.68
3518.00	3513.31	81.08	4.86	4- 0	N 72- 0 E	65.79 N 57.74 E	1.69
3581.00	3576.16	85.27	4.26	3-45	N 75- 0 E	67.00 N 61.82 E	.51
3643.00	3638.05	88.98	3.78	3-15	N 75- 0 E	67.98 N 65.48 E	.81
3706.00	3700.95	92.30	3.44	3- 0	N 81- 0 E	68.69 N 68.84 E	.65
3768.00	3762.88	95.14	2.97	2-30	N 80- 0 E	69.19 N 71.77 E	.81

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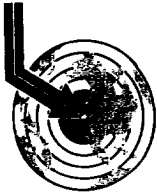
BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
3831.00	3825.83	97.51	2.47	2- 0 N 80-	0 E	69.62 N 74.21 E	.79
3893.00	3887.79	99.58	2.16	2- 0 N 82-	0 E	69.95 N 76.34 E	.11
3956.00	3950.77	101.39	1.92	1-30 N 83-	0 E	70.20 N 78.25 E	.80
4018.00	4012.74	103.15	1.89	2- 0 N 87-	0 E	70.37 N 80.13 E	.83
4081.00	4075.70	105.03	2.06	1-45 N 88-	0 E	70.46 N 82.19 E	.40
4143.00	4137.67	106.78	1.89	1-45 N 84-	0 E	70.59 N 84.08 E	.20
4206.00	4200.65	108.45	1.79	1-30 N 85-	0 E	70.76 N 85.86 E	.40
4268.00	4262.63	109.65	1.35	1- 0 S 84-	0 E	70.75 N 87.21 E	.89
4306.00	4300.63	110.21	.66	1- 0 S 84-	0 E	70.68 N 87.87 E	.00

THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF

4306.00 FEET EQUALS 112.77 FEET AT N 51-11 E.



SCIENTIFIC DRILLING INTERNATIONAL

2024 Trade Dr., Midland, TX 79703
P.O. Box 9699 915/563-1339

SURVEY CERTIFICATION

COMPANY Amoco Production Company WELL NAME & NO South Hobbs Unit #224
DATE of CERTIFICATION 12/06/88 LOCATION Lea County, New Mexico
TYPE of SURVEY Magnetic Multishot FROM 00 ft. TO 4306 ft.
JOB NUMBER 132M1188092/132M1188100 WORK ORDER NUMBER 21595 & 23604

THE ABOVE SURVEY WAS PERFORMED BY ME ON 11/10 & 11/18 1988
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED
STANDARDS AND ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

David M. Rody
SURVEYOR

I HAVE EXAMINED THE ABOVE SURVEY AND FOUND THE DATA AND RESULTS
ACCEPTABLE ACCORDING TO CURRENT SCIENTIFIC DRILLING INTERNATIONAL
STANDARDS.

SURVEY CONFIRMATION BY: *Douglas Jeff*
SCIENTIFIC DRILLING INTERNATIONAL
REPRESENTATIVE