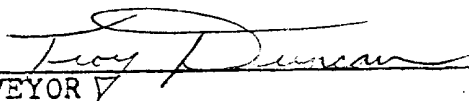


SCIENTIFIC DRILLING CONTROLS

SURVEY CERTIFICATION

COMPANY Amoco Production WELL NAME & NO. South Hobbs Unit #175
DATE of CERTIFICATION 12-21-84 LOCATION Lea County, New Mexico
TYPE of SURVEY Mag. Directional FROM 518 TO 2989
JOB NUMBER 132M1284119 TICKET NUMBER 100553

THE ABOVE SURVEY WAS PERFORMED BY ME ON 11-30 1984
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED
STANDARDS AND ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.



SURVEYOR
Troy Duncan

FILM TRANSFER RECEIPT

I HEREBY ACKNOWLEDGE RECEIPT OF ORIGINAL FILM OBTAINED ON THE ABOVE
SURVEY.

DATE RECEIVED 19____

COMPANY REPRESENTATIVE

SURVEY CONFIRMATION

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



S.D.C. REPRESENTATIVE
Troy Duncan

STATE OF New Mexico
COUNTY/PARISH OF Lea Co.

I/We, Jimmy Breaux

_____, in the employ of the Directional Surveying Department of
Sperry-Sun Well Surveying Company, did on the 4-th day of December 1984
and the _____ day of _____ 19____
and the _____ day of _____ 19____
and the _____ day of _____ 19____

respectively conduct or supervise the taking of a Multi-shot/Single Shot Directional survey by method indicated:

from a depth of 2989 feet to 4315 feet by Gyroscopic/Magnetic/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey
depth of _____ feet to _____ feet by Gyroscopic/Magnetic/Oriented Survey

with records of inclination and direction of inclination being taken at approximately every 62 feet.

This survey was conducted at the request of Amoco Production Company

for their South Hobbs Unit Well No. 175

Magnetic Multishot Survey, Lea County/Parish,

State of New Mexico, in the South Hobbs Unit Field.

I/We certify that this is a true and correct report of such survey and that it affords a true and correct representation of our findings as to the nature and conditions of the well at the time the survey was/surveys were made.

Jimmy Breaux

STATE OF Texas
COUNTY/PARISH OF Ector Co.

Before me the undersigned authority/authorities, on this day personally appeared Jimmy Breaux

known to me to be the person/persons whose name is/names are subscribed to this instrument, who after being by me duly sworn on oath, states that he has/they have knowledge of all the facts stated above and that the same is a true and correct statement of the facts therein recited.

Subscribed and sworn to before me this the 11 day of December 1984.

Shirley M. East

 * THIS SURVEY IS CORRECT TO THE BEST OF MY *
 KNOWLEDGE AND IS SUPPORTED BY ACTUAL FIELD DATA.
 *
 *
 *
 *

[Signature]

 COMPANY REPRESENTATIVE

AMT / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: SHU 175 C

DATE: 12/13/64

INKUN SURVEY

BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC DM	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
518.00	517.99	-1.47	3.39	0-45	N 65- 0 E	1.43 N 3.07 E	.14
579.00	578.98	-1.97	.93	1- 0	N 71- 0 E	1.95 N 3.96 E	.52
640.00	639.97	-2.50	.93	0-45	N 74- 0 E	1.99 N 4.85 E	.46
701.00	700.97	-2.86	.80	0-45	N 62- 0 E	2.31 N 5.58 E	.17
762.00	761.96	-3.24	.67	0-30	N 88- 0 E	2.48 N 6.22 E	.61
823.00	822.96	-3.72	.53	0-30	S 60- 0 E	2.35 N 6.73 E	.45
884.00	883.96	-4.21	.53	0-30	S 85- 0 E	2.19 N 7.23 E	.35
945.00	944.95	-4.67	.67	0-45	N 71- 0 E	2.28 N 7.89 E	.58
1006.00	1005.95	-5.19	.67	0-30	S 67- 0 E	2.25 N 8.54 E	.83
1067.00	1066.95	-5.67	.53	0-30	S 85- 0 E	2.12 N 9.05 E	.26
1128.00	1127.95	-6.14	.53	0-30	S 68- 0 E	2.00 N 9.57 E	.24
1189.00	1188.94	-6.68	.67	0-45	N 77- 0 E	1.95 N 10.22 E	.73
1250.00	1249.94	-7.22	.80	0-45	N 85- 0 E	2.07 N 11.01 E	.17
1311.00	1310.93	-7.81	.67	0-30	S 93- 0 E	1.90 N 11.64 E	.80
1372.00	1371.93	-8.41	.67	0-45	N 86- 0 E	1.73 N 12.27 E	.79

AMF / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: SHU 175 C

DATE: 12/13/84

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
1433.00	1432.92	-9.19	.93	1- 0 S	72- 0 E	1.62 N 13.19 E	.68
1494.00	1493.91	-10.17	1.06	1- 0 S	75- 0 E	1.51 N 14.21 E	.09
1525.00	1524.91	-10.57	.47	0-45 N	87- 0 E	1.27 N 14.68 E	1.19
1617.00	1616.90	-11.39	1.01	0-30 S	79- 0 E	1.20 N 15.68 E	.32
1673.00	1677.90	-11.71	.40	0-15 N	85- 0 E	1.17 N 16.08 E	.44
1739.00	1738.90	-11.95	.40	0-30 N	68- 0 E	1.27 N 16.46 E	.44
1800.00	1799.90	-12.29	.67	0-45 N	72- 0 E	1.50 N 17.09 E	.42
1861.00	1860.89	-12.69	.67	0-30 N	80- 0 E	1.66 N 17.74 E	.43
1922.00	1921.89	-13.00	.80	1- 0 N	45- 0 E	2.02 N 18.44 E	1.08
1983.00	1982.88	-13.42	1.20	1-15 N	83- 0 E	2.53 N 19.49 E	1.26
2044.00	2043.86	-14.27	1.33	1-15 N	60- 0 E	2.87 N 20.78 E	.53
2105.00	2104.84	-15.17	1.46	1-30 N	86- 0 E	3.20 N 22.20 E	.81
2166.00	2165.82	-16.28	1.60	1-30 N	81- 0 E	3.38 N 23.78 E	.21
2227.00	2226.80	-17.13	1.60	1-30 N	66- 0 E	3.83 N 25.31 E	.64
2288.00	2287.78	-18.02	1.60	1-30 N	76- 0 E	4.35 N 26.82 E	.43

AMF / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: SHW 175 C

DATE: 12/13/84

INRUN SURVEY

BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BLANK D M	COORDINATES LATITUDE DEPARTURE	D-LEG PIR 100
2349.00	2348.76	-18.96	1.73	1-45 N	69- 0 E	4.87 N 28.47 E	.52
2410.00	2409.71	-20.02	2.39	2-45 N	62- 0 E	30.64 E	1.70
2471.00	2470.62	-21.26	3.19	3-15 N	62- 0 E	33.46 E	.82
2532.00	2531.53	-22.68	3.46	3-15 N	65- 0 E	36.56 E	.28
2593.00	2592.43	-24.26	3.46	3-15 N	68- 0 E	39.73 E	.28
2654.00	2653.33	-25.73	3.46	3-15 N	61- 0 E	11.77 N 42.85 E	.65
2715.00	2714.24	-27.28	3.33	3- 0 N	73- 0 E	13.07 N 45.91 E	1.15
2776.00	2775.16	-28.91	3.06	2-45 N	70- 0 E	14.04 N 48.81 E	.48
2837.00	2836.09	-30.34	2.93	2-45 N	67- 0 E	15.11 N 51.53 E	.24
2898.00	2897.03	-31.60	2.79	2-30 N	65- 0 E	16.25 N 54.08 E	.44
2959.00	2957.97	-32.75	2.66	2-30 N	65- 0 E	17.37 N 56.49 E	.00
2989.00	2987.94	-33.39	1.31	2-30 N	71- 0 E	17.86 N 57.71 E	.87
3030.00	3028.90	-33.48	1.88	2-45 N	14- 0 E	19.19 N 58.92 E	6.13
3090.00	3088.76	-30.62	4.05	5- 0 N	28- 0 W	23.12 N 58.44 E	5.80
3151.00	3149.38	-24.04	6.73	7-40 N	54- 0 W	23.16 N 54.06 E	6.32

AMF / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: SHU 175 C

DATE: 12/13/84

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
3213.00	3210.69	-15.02	9.21	9-25	N 69-0 W	32.54 N 45.99 E	4.55
3275.00	3271.78	-5.00	10.59	10-15	N 70-0 W	36.25 N 36.08 E	1.37
3337.00	3332.81	5.26	10.90	10-0	N 71-0 W	39.88 N 25.80 E	.49
3392.00	3393.88	15.35	10.72	9-55	N 70-0 W	43.46 N 15.69 E	.31
3460.00	3454.01	25.12	10.29	9-30	N 68-0 W	47.15 N 6.09 E	.88
3521.00	3514.21	34.46	9.81	9-0	N 69-0 W	50.74 N 3.03 W	.86
3583.00	3575.44	43.78	9.79	9-10	N 68-0 W	54.33 N 12.14 W	.37
3645.00	3636.67	53.09	9.74	8-55	N 68-0 W	57.98 N 21.17 W	.40
3707.00	3697.93	62.15	9.52	8-45	N 67-0 W	61.47 N 30.03 W	.37
3768.00	3758.21	71.01	9.32	8-50	N 69-0 W	64.81 N 38.74 W	.14
3830.00	3819.51	79.93	9.24	8-30	N 67-0 W	68.31 N 47.40 W	.72
3892.00	3880.84	88.62	9.07	8-20	N 68-0 W	71.78 N 55.78 W	.36
3955.00	3943.17	97.36	9.13	8-20	N 67-0 W	75.28 N 64.22 W	.23
4017.00	4004.51	106.07	9.07	8-30	N 67-0 W	78.82 N 72.57 W	.27
4079.00	4065.78	115.08	9.43	9-0	N 69-0 W	82.36 N 81.32 W	.94

AMF / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: SHU 175 C

DATE: 12/13/84

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
4141.00	4127.00	124.39	9.83	9-15	N 70-00 W	85.80 N 90.53 W	.48
4203.00	4188.19	133.83	9.97	9-15	N 68-00 W	89.25 N 99.86 W	.26
4265.00	4249.33	143.63	10.22	9-55	N 67-00 W	92.99 N 109.50 W	1.08
4315.00	4298.58	151.80	8.61	9-55	N 69-00 W	96.08 N 117.54 W	.00

THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF

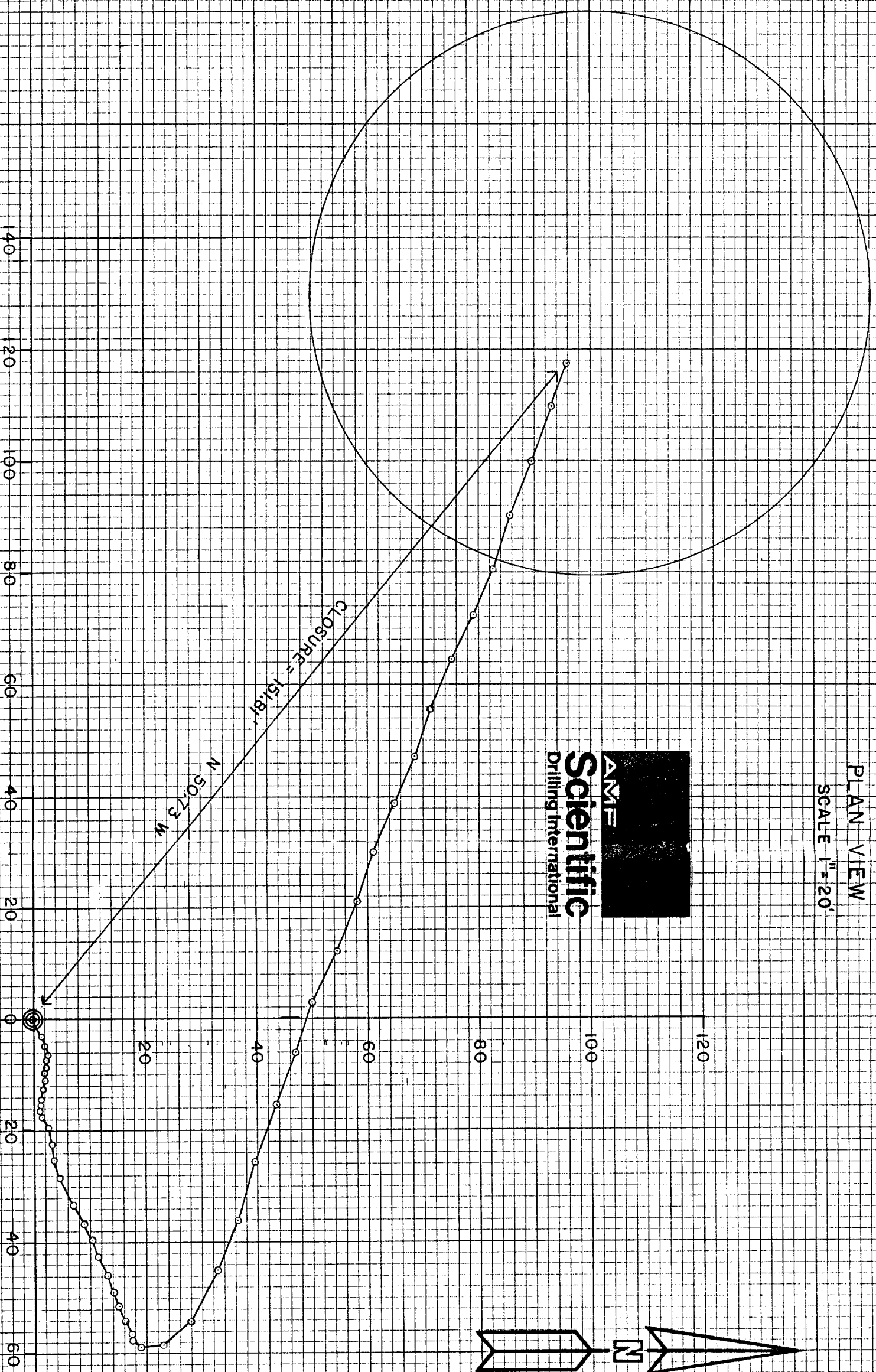
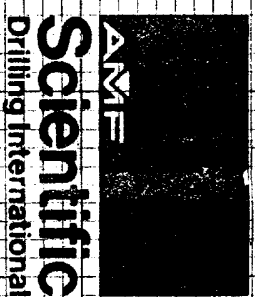
4315.00 FEET EQUALS 151.61 FEET AT N 50-44 W.

AMOCO PRODUCTION COMPANY

SOUTH HOBBS UNIT - 175

PLAN VIEW

SCALE 1" = 20'

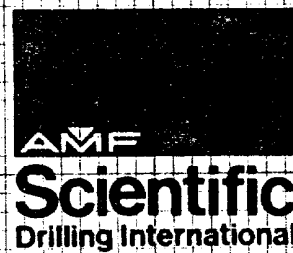


AMOCO PRODUCTION COMPANY

SOUTH HOBBS UNIT-175

VERTICAL SECTION

TVD
SCALE 1"=400'



4315.00'-MD
42985'-TVD
151.80'-DEV.

DISPLACEMENT
SCALE 1"=100'

