

Sii DATADRIL
Division of Smith International, Inc.

AMOCO PRODUCTION COMPANY
SOUTH HORBS UNIT #217
LEA COUNTY, NEW MEXICO
OCTOBER 25, 1966

MAGNETIC MULTISHOT
10 DEGREE EAST CORRECTION
SECTION DIRECTION - N 59.02 E
SURVEYOR- TROY DUNCAN

File Name: AMOCO217

***** RECORD OF SURVEY *****

Calculated by Sii DATADRIL's C.A.D.E. System

Radius of Curvature Method
All Angles are Decimal
Vertical Section Plane: N 59.02 E

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	S I I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION DEPTH (FT)	C L B S U R E DISTANCE (FT)	DIRECTION (DEG)	DEGREE SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00	N 0.00 E	0.00
75.00	.50	S 26.00 W	75.00	75.00	.29 S	.14 W	-1.27	.33	S 26.00 W	.67
100.00	.75	S 26.00 W	55.00	130.00	.94 S	.40 W	-1.77	.93	S 25.68 W	.46
133.00	.50	S 36.00 W	53.00	187.99	1.31 S	.81 W	-1.37	1.54	S 31.64 W	.71
146.00	1.00	S 33.00 W	53.00	245.99	1.75 S	1.43 W	-2.12	2.23	S 29.14 W	.86
174.00	.75	S 30.00 W	52.00	300.98	2.10 S	2.27 W	-2.99	3.05	S 28.70 W	.92
235.00	.75	S 41.00 W	61.00	364.98	2.49 S	2.91 W	-3.78	3.83	S 29.50 W	.82
426.00	.75	S 29.00 W	61.00	426.97	3.14 S	3.77 W	-4.50	4.61	S 27.02 W	.73
489.00	.50	S 32.00 E	61.00	488.97	3.77 S	3.78 W	-4.62	5.08	S 21.91 W	1.10
548.00	.25	S 33.00 W	61.00	547.96	4.15 S	3.76 W	-5.01	5.74	S 25.94 W	.75
609.00	.25	N 55.00 W	61.00	608.96	4.20 S	3.59 W	-5.24	5.52	S 20.84 W	.89
670.00	.50	S 58.00 W	61.00	669.96	4.19 S	3.97 W	-5.56	5.77	S 27.39 W	.77
731.00	.25	N 55.00 E	61.00	730.96	4.47 S	3.87 W	-5.62	5.91	S 20.86 W	1.19
792.00	.25	S 49.00 W	61.00	791.96	4.66 S	3.79 W	-5.68	6.00	S 29.17 W	.78
853.00	.25	S 60.00 E	61.00	852.96	4.68 S	3.76 W	-5.74	6.16	S 27.62 W	.68
914.00	.50	N 70.00 E	61.00	913.96	4.90 S	3.77 W	-5.42	6.95	S 24.50 W	.62
975.00	.25	N 76.00 W	61.00	974.96	4.87 S	3.27 W	-5.16	6.63	S 25.53 W	1.01
1036.00	.50	N 63.00 E	61.00	1035.96	4.27 S	3.19 W	-4.91	5.70	S 27.01 W	.97
1097.00	.50	S 44.00 E	61.00	1096.96	4.43 S	2.80 W	-4.69	5.26	S 22.14 W	1.37
1158.00	.50	S 41.00 E	61.00	1157.96	4.94 S	2.80 W	-4.77	5.58	S 27.76 W	.52
1219.00	.25	S 56.00 E	61.00	1218.96	5.20 S	2.70 W	-4.65	5.69	S 27.86 W	.44

Sii DATA DRIL

Division of Smith International, Inc.

AMOCO PRODUCTION COMPANY
SOUTH HOBBS UNIT #217

LEA COUNTY, NEW MEXICO
OCTOBER 25, 1966

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	D I L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY/ (DEG/100')
1200.00	.50	S 52.00 E	61.00	1279.95	5.44 S	1.98 W	-4.49	5.77	S 19.99 W	.41
1241.00	.50	S 25.00 E	61.00	1340.95	5.25 S	1.98 W	-4.47	9.03	S 15.75 W	.33
1402.00	.70	S 25.00 E	61.00	1401.94	6.33 S	1.42 W	-4.43	9.49	S 12.95 W	.31
1455.00	.50	S 1.00 E	63.00	1464.94	6.86 S	1.29 W	-4.64	6.96	S 10.63 W	.34
1496.00	.50	S 6.00 E	61.00	1495.94	7.13 S	1.28 W	-4.76	7.24	S 10.15 W	.34
1546.00	.50	S 6.00 E	59.00	1545.94	7.56 S	1.23 W	-4.95	7.66	S 9.24 W	0.30
1616.00	.75	N 33.00 E	70.00	1615.93	7.70 S	.66 W	-4.55	7.73	S 4.92 W	1.69
1676.00	.75	S 16.00 W	62.00	1677.93	7.97 S	.15 W	-4.21	7.94	S 1.97 W	2.39
1741.00	2.00	N 60.00 E	63.00	1740.91	8.66 S	.79 E	-3.75	8.70	S 5.16 E	4.11
1804.00	4.00	N 46.00 E	60.00	1803.82	6.68 S	3.41 E	-3.52	7.50	S 27.02 E	3.33
1867.00	5.00	N 44.00 E	60.00	1866.67	3.19 S	5.99 E	4.23	7.60	S 65.22 E	1.61
1923.00	6.75	N 45.00 E	61.00	1927.70	1.27 N	11.23 E	10.32	11.35	N 87.60 E	2.67
1989.00	7.50	N 44.00 E	61.00	1987.83	6.66 N	16.58 E	17.65	17.97	N 66.11 E	1.25
2051.00	8.00	N 43.00 E	62.00	2049.26	12.73 N	22.34 E	25.70	25.71	N 60.73 E	.84
2114.00	9.75	N 44.00 E	63.00	2111.51	19.79 N	29.03 E	35.07	35.12	N 55.73 E	2.79
2176.00	11.00	N 42.00 E	62.00	2172.49	27.94 N	36.64 E	45.80	46.18	N 52.67 E	2.10
2239.00	12.25	N 40.00 E	60.00	2274.20	37.82 N	44.97 E	57.37	58.57	N 50.16 E	2.38
2302.00	13.00	N 40.00 E	60.00	2295.56	48.07 N	50.62 E	70.69	72.16	N 48.23 E	1.19
2365.00	14.00	N 42.00 E	60.00	2366.53	59.17 N	60.47 E	84.67	86.77	N 47.01 E	1.75
2428.00	14.75	N 41.00 E	60.00	2417.96	70.88 N	70.63 E	99.79	102.35	N 46.17 E	1.25
2490.00	15.50	N 40.00 E	62.00	2477.81	82.91 N	84.66 E	118.23	118.49	N 45.50 E	1.47
2553.00	16.00	N 44.00 E	60.00	2538.45	95.31 N	96.43 E	131.73	135.53	N 45.73 E	.90
2614.00	16.50	N 43.00 E	61.00	2597.01	107.69 N	106.13 E	145.13	152.64	N 45.13 E	.94
2677.00	17.50	N 44.00 E	60.00	2657.26	121.05 N	120.36 E	165.93	171.06	N 44.95 E	1.35
2739.00	17.75	N 44.00 E	62.00	2716.35	134.56 N	133.90 E	184.06	189.33	N 44.36 E	.40
2801.00	18.00	N 45.00 E	60.00	2775.35	148.13 N	147.24 E	202.48	208.66	N 44.63 E	.54
2867.00	19.00	N 45.00 E	62.00	2834.15	162.04 N	161.15 E	221.57	228.57	N 44.94 E	1.51
2928.00	19.50	N 45.00 E	60.00	2893.63	176.73 N	175.83 E	241.72	249.30	N 44.65 E	.79
2987.00	20.00	N 44.00 E	61.00	2951.94	191.43 N	190.23 E	261.67	269.91	N 44.83 E	.99
3050.00	20.00	N 45.00 E	60.00	3013.24	207.06 N	205.11 E	282.43	291.45	N 44.73 E	.54
3114.00	21.00	N 44.00 E	64.00	3079.13	223.32 N	220.54 E	304.07	312.36	N 44.64 E	1.56
3187.00	19.75	N 47.00 E	70.00	3178.62	241.13 N	238.97 E	328.74	339.27	N 44.71 E	2.25
3250.00	18.25	N 51.00 E	60.00	3193.18	254.55 N	254.14 E	348.93	359.72	N 44.95 E	3.16

Sii DATADRIL

Division of Sirth International, Inc.

AMCOB PRODUCTION COMPANY
SOUTH HOSSE UNIT #217

LEA COUNTY, NEW MEXICO
OCTOBER 25, 1936

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOBLESS SEVERITY (DEG/100')
3317.00	13.00	N 61.00 E	63.00	3253.05	265.53 N	270.37 E	363.43	373.95	N 45.52 E	4.95
3376.00	13.05	N 67.00 E	63.00	3317.90	274.11 N	287.93 E	387.59	397.53	N 46.41 E	2.97
3439.00	13.00	N 70.00 E	63.00	3377.90	281.70 N	306.21 E	407.32	415.30	N 47.43 E	1.53
3502.00	13.00	N 72.00 E	63.00	3437.92	287.63 N	324.62 E	425.37	433.72	N 48.46 E	.93
3565.00	13.50	N 70.00 E	63.00	3497.55	294.05 N	342.27 E	445.66	452.00	N 49.42 E	1.27
3628.00	13.50	N 76.00 E	63.00	3557.30	299.90 N	362.38 E	465.95	473.75	N 50.39 E	3.02
3691.00	13.50	N 70.00 E	63.00	3616.85	305.59 N	381.98 E	484.95	489.77	N 51.31 E	3.43
3754.00	13.05	N 74.00 E	63.00	3676.11	312.51 N	402.33 E	505.51	509.45	N 52.16 E	2.46
3817.00	11.00	N 70.00 E	63.00	3733.37	319.37 N	423.45 E	527.43	530.73	N 52.95 E	2.53
3880.00	11.25	N 71.00 E	63.00	3793.34	325.94 N	444.85 E	549.68	552.38	N 53.69 E	.70
3947.00	12.00	N 72.00 E	63.00	3852.40	334.31 N	466.37 E	572.35	574.22	N 54.39 E	1.33
4005.00	12.00	N 69.00 E	63.00	3910.82	342.19 N	489.11 E	595.48	596.93	N 55.02 E	1.76
4069.00	11.25	N 70.00 E	63.00	3969.33	350.32 N	510.86 E	618.71	619.44	N 55.56 E	1.33
4132.00	10.50	N 69.00 E	63.00	4026.25	358.19 N	531.89 E	640.36	641.25	N 56.04 E	1.33
4195.00	10.75	N 74.00 E	63.00	4087.21	365.22 N	552.93 E	662.34	662.55	N 56.55 E	2.33
4258.00	10.50	N 71.00 E	63.00	4145.17	371.39 N	574.39 E	683.62	684.02	N 57.06 E	1.72
4321.00	10.75	N 72.00 E	63.00	4205.10	378.93 N	595.10 E	705.29	705.50	N 57.51 E	.89
4384.00	10.75	N 72.00 E	63.00	4264.14	385.93 N	616.36 E	727.04	727.16	N 57.95 E	3.00
4447.00	10.75	N 72.00 E	45.00	4304.23	390.54 N	630.65 E	741.23	741.75	N 58.24 E	0.00

BOTTOM HOLE CLOSURE: 741.95 Feet at N 58.24 Degrees E

SMITH DRILLING SYSTEMS

SURVEY CERTIFICATION

COMPANY AMOCO PRODUCTION CO. WELL NAME & NO. SOUTH HOBBS UNIT # 217
DATE of CERTIFICATION 10-19-86 LOCATION LEA COUNTY, NEW MEXICO
TYPE of SURVEY MAGNETIC MULTISHOT FROM 0' TO 1546'
JOB NUMBER 08610018 TICKET NUMBER 0422

THE ABOVE SURVEY WAS PERFORMED BY ME ON OCTOBER 18 19 86
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED STANDARDS AND ARE
TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

Teoy Dincin (LD)
SURVEYOR

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 SMITH DRILLING SYSTEMS STANDARDS.

Larry Bux
S.D.S. REPRESENTATIVE

SMITH DRILLING SYSTEMS

SURVEY CERTIFICATION

COMPANY AMOCO PRODUCTION CO. WELL NAME & NO. SOUTH HOBBS UNIT # 217
DATE of CERTIFICATION 10-22-86 LOCATION LEA COUNTY, NEW MEXICO
TYPE of SURVEY MAGNETIC MULTISHOT FROM 1546' TO 3114'
JOB NUMBER 08610025 TICKET NUMBER 0425

THE ABOVE SURVEY WAS PERFORMED BY ME ON OCTOBER 21 19 86
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED STANDARDS AND ARE
TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

Troy Dunan (LD)
SURVEYOR

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 SMITH DRILLING SYSTEMS STANDARDS.

Larry Lee
S.D.S. REPRESENTATIVE

SCIENTIFIC DRILLING CONTROLS

SURVEY CERTIFICATION

COMPANY Amoco Production co. WELL NAME & NO. South Hobbs Unit #217
DATE of CERTIFICATION 10/27/86 LOCATION Lea County, New Mexico
TYPE of SURVEY Magnetic Multi-shot FROM 3114' TO 4427'
JOB NUMEER 132M1086M039 TICKET NUMBER _____

THE ABOVE SURVEY WAS PERFORMED BY ME ON October 25, 1986
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED
STANDARDS AND ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

David Moody
SURVEYOR

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.

A. A. Rodgers
S.D.C. REPRESENTATIVE