

*SUB-SURFACE
DIRECTIONAL
SURVEY
REPORT*

AMOCO PRODUCTION COMPANY

COMPANY

SHU COOP NO. 144

WELL NAME

LEA COUNTY, NEW MEXICO

STATE AND COUNTY

CUSTOMER : AMOCO PRODUCTION COMPANY

WELL # : SHU COOP NO. 144

LOCATION : LEA COUNTY, NEW MEXICO

DATE : 9-16-83, (EW)10-17-83

JOB TYPE : MAGNETIC MULTISHOT, (EW)MAGNETIC MULTISHOT

JOB # : MS-1266, (EW)S0064,S0076

SURVEYOR : G. MOODY, (EW)G. DESPAIN

DEPTH : 0'-1555', (EW)1555'-3525', 3525'-4459'

ECL. : 10 DEGREES EAST

LEV. : 0'

WELL # : WT-D2S

METHOD : RADIUS OF CURVATURE

SECTION : NS7.24E

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

DIC REPRESENTATIVE

FINAL STATION DATA:

MEASURED	INCL.	HOLE	COURSE	VERTICAL	TRUE	RECTANGULAR	CLOSURE	DUG-LEG
DEPTH	ANGLE	DIRECTION	LENGTH	DEPTH		COORDINATES	DISTANCE	DIRECTION
FEET	DEGS.	DEGS.	FEET	FEET		N/S	FEET	DEGS.
4459.00	19.75	N 54.00 E	52.80	4272.61		925.06	561.44	E
						925.06	925.06	at N 37.36 E
								1.44

4459.00 19.75 N 54.00 E 52.80 4272.61 925.06 561.44 E 925.06 at N 37.36 E 1.44

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

此表係根據測量員之報告而編製，其內容之正確與否，概與測量員無關。測量員之姓名及職稱，應填於表內。此表係根據測量員之報告而編製，其內容之正確與否，概與測量員無關。測量員之姓名及職稱，應填於表內。

MEASURED DEPTH FEET	INCL. ANGLE DEGS.	HOLE DIRECTION DEGS.	COURSE LENGTH FEET	TRUE		VERTICAL SECTION FEET	VERTICAL SECTION FEET	N/S	feet F/W	RECTOR COORDINATES	CLOSURE DISTANCE FEET	DIRECTION DEGS.	DUG-LEG SEVERITY DEGS.
				DEPTH FEET	VERTICAL SECTION FEET								
1524.00	1.00	S 35.00 W	31.00	1523.82	-5.33	2.40 S	5.64 W	6.14at S 66.93 W					3.23
1555.00	1.25	S 34.00 W	31.00	1554.61	-5.94	2.91 S	5.79 W	6.60at S 64.12 W					.81
(07-1555/ RESULTS OF D.I.G. SURVEY MS-1266)													
(1555-3625/ RESULTS OF EASTMAN WHIPSTOCK SURVLY 59076)													
1619.00	1.25	N 86.00 W	64.00	1618.80	-7.13	3.49 S	7.19 W	7.99at S 64.10 W					1.95
1680.00	1.00	N 84.00 W	61.00	1679.79	-7.77	3.39 S	8.38 W	9.04at S 68.00 W					.41
1741.00	2.50	N 22.00 E	61.00	1740.75	-7.17	2.01 S	9.21 W	9.43at S 77.70 W					4.82
1802.00	6.00	N 34.00 E	61.00	1801.53	-2.72	1.98 N	7.09 W	7.36at N 74.42 W					5.89
1862.00	7.25	N 35.00 E	69.00	1861.19	4.20	7.60 N	5.17 W	8.31at N 22.42 W					2.09
1923.00	6.50	N 35.00 E	61.00	1921.60	12.55	14.53 N	1.62 E	14.62at N 86.33 E					2.05
1984.00	10.00	N 35.00 E	61.00	1981.80	22.34	22.56 N	7.25 E	23.59at N 17.80 E					2.46
2045.00	12.25	N 33.00 E	61.00	2041.65	34.09	32.32 N	13.83 E	35.15at N 23.16 E					3.74
2106.00	13.50	N 32.00 E	61.00	2101.12	47.64	43.78 N	21.13 E	48.61at N 25.76 E					2.08
2167.00	15.00	N 31.00 E	61.00	2160.24	62.58	56.58 N	28.98 E	63.57at N 27.11 E					2.49
2227.00	17.00	N 32.00 E	60.00	2217.91	79.03	70.68 N	37.62 E	80.07at N 28.02 E					3.36
2288.00	19.00	N 31.00 E	61.00	2275.93	97.79	86.75 N	47.47 E	98.89at N 28.68 E					3.32
2349.00	21.00	N 30.00 E	61.00	2333.28	118.51	104.73 N	58.05 E	114.74at N 29.50 E					3.33
2410.00	23.25	N 30.00 E	61.00	2389.75	141.30	124.62 N	69.54 E	142.71at N 29.16 E					3.69
2471.00	25.00	N 29.00 E	61.00	2445.42	166.00	146.32 N	81.82 E	162.64at N 29.21 E					2.95
2532.00	26.50	N 29.00 E	61.00	2500.36	192.23	169.58 N	94.66 E	194.14at N 29.18 E					2.46
2592.00	26.75	N 30.00 E	60.00	2554.00	218.87	192.90 N	107.90 E	221.03at N 29.22 E					.86
2653.00	27.25	N 31.00 E	61.00	2608.35	246.37	216.76 N	121.96 E	240.72at N 29.36 E					1.11
2714.00	27.50	N 30.00 E	61.00	2662.52	274.23	240.93 N	136.20 E	276.76at N 29.47 E					.86
2775.00	27.75	N 30.00 E	61.00	2716.56	302.29	265.43 N	150.34 E	305.04at N 29.52 E					.41
2836.00	27.75	N 30.00 E	61.00	2770.55	330.46	290.02 N	164.54 E	333.45at N 29.56 E					0.00
2896.00	27.25	N 31.00 E	60.00	2823.77	357.97	313.89 N	178.60 E	361.15at N 29.63 E					1.13
2957.00	27.00	N 31.00 E	61.00	2878.06	385.62	337.73 N	192.92 E	388.95at N 29.73 E					.41

此表係根據測量員之報告而編製，其內容之正確與否，概與測量員無關。測量員之姓名及職稱，應填於表內。此表係根據測量員之報告而編製，其內容之正確與否，概與測量員無關。測量員之姓名及職稱，應填於表內。

MEASURED INCL. ANGLE	HOLE DIRECTION	COURSE LENGTH	VERTICAL DEPTH	TRUE VERTICAL SECTION	VERTICAL SECTION	REC. TANGULAR	C L O S U R E	DISTANCE	DIRECTION	SEVERITY
FEET	DEGS.	FEET	FEET	FEET	FEET	N/S	FEET	FEET	DEGS.	DEGS/100FT
(1555'-3525' RESULTS OF EASTMAN WHIPSTOCK SURVEY 50064)										
3019.00	27.00	N 32.00 E	61.00	2932.41	413.19	361.35 N	207.39 E	416.63at N	29.85 E	.74
3079.00	27.00	N 35.00 E	61.00	2986.76	440.77	384.70 N	222.27 E	444.30at N	30.01 E	.74
3140.00	27.00	N 33.00 E	61.00	3041.11	468.39	407.93 N	237.30 E	471.96at N	30.19 E	0.00
3201.00	26.25	N 34.00 E	61.00	3095.64	495.67	430.72 N	252.44 E	499.25at N	30.37 E	1.43
3261.00	26.25	N 34.00 E	60.00	3149.46	522.16	452.73 N	267.28 E	525.74at N	30.55 E	0.00
(1555'-3525' RESULTS OF EASTMAN WHIPSTOCK SURVEY 50076)										
3322.00	26.00	N 34.00 E	51.00	3201.22	510.90	474.99 N	202.30 E	532.35at N	30.72 E	.41
3383.00	25.25	N 33.00 E	61.00	3259.22	575.31	496.99 N	296.86 E	570.90at N	30.85 E	1.42
3444.00	25.00	N 34.00 E	61.00	3313.45	601.15	518.59 N	311.16 E	604.78at N	30.96 E	.81
3505.00	24.50	N 35.00 E	81.00	3368.01	635.82	546.53 N	330.37 E	638.63at N	31.15 E	.81
(3525'-4459' RESULTS OF EASTMAN WHIPSTOCK SURVEY 50076)										
3566.00	20.75	N 50.00 E	70.00	3432.61	661.76	566.33 N	348.50 E	664.97at N	31.60 E	9.79
3627.00	20.00	N 48.00 E	62.00	3510.73	682.89	580.49 N	364.79 E	685.60at N	32.14 E	1.65
3719.00	19.25	N 50.00 E	62.00	3569.13	703.27	594.15 N	380.51 E	705.55at N	32.63 E	1.62
3782.00	18.50	N 50.00 E	63.00	3628.74	723.15	607.25 N	396.12 E	725.83at N	33.11 E	1.19
3844.00	18.00	N 50.00 E	62.00	3687.62	742.09	619.73 N	411.00 E	743.63at N	33.55 E	.81
3907.00	17.00	N 51.00 E	63.00	3745.54	761.84	632.11 N	426.82 E	763.25at N	34.07 E	.49
3969.00	18.00	N 51.00 E	62.00	3806.51	779.65	644.17 N	440.91 E	780.61at N	34.38 E	0.00
4031.00	17.25	N 52.00 E	62.00	3865.51	798.09	656.02 N	455.80 E	798.82at N	34.79 E	.64
4094.00	17.75	N 53.00 E	63.00	3925.51	816.62	667.71 N	471.04 E	817.14at N	35.20 E	.48
4156.00	17.25	N 53.00 E	62.00	3984.64	834.56	678.93 N	485.93 E	834.91at N	35.59 E	.81
4218.00	17.00	N 52.00 E	62.00	4043.90	852.17	690.04 N	500.41 E	852.37at N	35.94 E	.62
(3525'-4459' RESULTS OF EASTMAN WHIPSTOCK SURVEY 50076)										
4281.00	18.00	N 53.00 E	63.00	4103.90	870.45	701.58 N	515.44 E	870.57at N	36.30 E	1.66
4343.00	18.25	N 54.00 E	62.00	4162.90	888.97	713.05 N	530.94 E	889.01at N	36.67 E	.64
4407.00	19.00	N 54.00 E	64.00	4223.55	908.54	725.06 N	547.40 E	908.54at N	37.05 E	1.17
(3525'-4459' RESULTS OF EASTMAN WHIPSTOCK SURVEY 50076)										
4469.00	19.75	N 54.00 E	52.00	4272.61	925.06	735.20 N	561.44 E	925.06at N	37.36 E	1.44

AMOCO PRODUCTION COMPANY

WELL #
SHU COOP NO. 144

LOCATION
LEA COUNTY, NEW MEXICO

DATE
9-18-83, (EW) 10-17-83

JOB TYPE
MAGNETIC MULTISHOT, (EW) MAGNETIC MULTISHOT

JOB #
MS-1286, (EW) S0084, S0078

SURVEYOR
G. MOODY, (EW) G. DESPAIN

DEPTHS
0'-1555', (EW) 1555'-3525', 3525'-4459'

DECL.
10 DEGREES EAST

ELEV.
0'

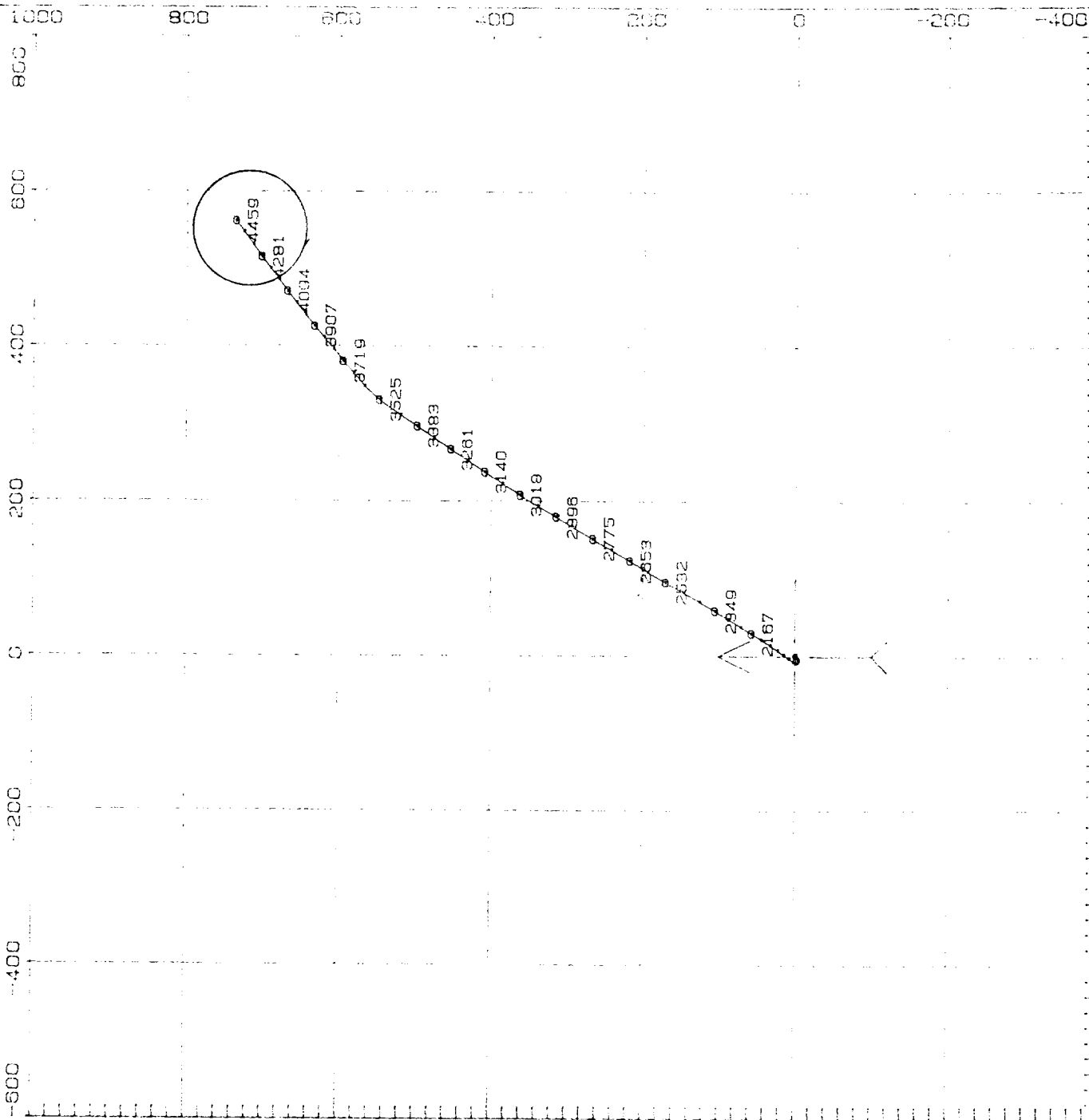
FILE #
WT-02S

FINAL STATION DATA

MD. 4459.00
TVD. 4272.61
N/S 735.20
E/W 561.44

CLOSURE DISTANCE
925.06 FEET
CLOSURE DIRECTION
N 37.37 E

1 IN. = 200 FT.



WEST EAST



SURVEY CERTIFICATION

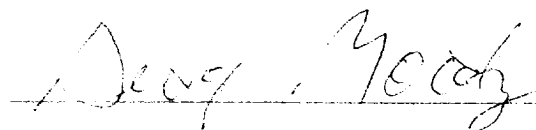
STATE TEXAS

COUNTY OF MIDLAND

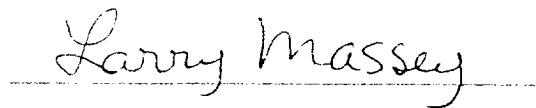
I, GEORGE MOODY, in the employ of D.I.G., Inc., did on the days of 9-16, 1983 through 9-16, 1983 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 0 feet to 1555 feet, with recordings of inclination being obtained at approximately intervals of 61 feet.

This survey was conducted at the request of AMOCO PRODUCTION COMPANY for their SHU COOP #144, LEA County, State of NEW MEXICO in the SOUTH HOBBS UNIT field.

The data for this survey were obtained by me according to standards and procedures as set forth by D.I.G., Inc., and is true and correct to the best of my knowledge.


GEORGE MOODY

The data for this survey has been examined by me and conforms to the principles and procedures as set forth by D.I.G., Inc.


LARRY MASSEY



P. O. Box 5577/Midland, Texas 79704/(915) 563-0511

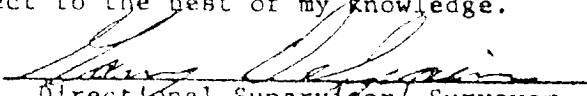
SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

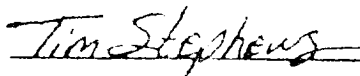
I, GARY DESPAIN, in the employ of Eastman Whipstock, Inc., did on the days of OCTOBER 7, 1983 thru OCTOBER 7, 1983 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 1555 feet to 3525 feet, with recordings of inclination and direction being obtained at approximate intervals of 61 feet.

This survey was conducted at the request of AMOCO PRODUCTION COMPANY for their SOUTH HOBBS UNIT 144, LEA County, State of NEW MEXICO, in the _____ field.

This data for this survey and the calculation were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.


Directional Supervisor/ Surveyor

The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.



Before me, the undersigned authority, on this day personally appeared GARY DESPAIN, known to me to be the person whose name is subscribed to this instrument, who after being by me duly sworn on oath, states that he has knowledge of all the facts stated above and that this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 20TH day of OCT., 1983



Notary Public in and for the
County of Midland, Texas

My commission expires 7/9/85

