

SUB-SURFACE  
DIRECTIONAL  
SURVEY  
REPORT

AMOCO PRODUCTION COMPANY

COMPANY

SHU #139

WELL NAME

LEA COUNTY, NEW MEXICO

STATE AND COUNTY

CERTIFIED REPORT



MEASURED INCL. HOLE VERTICAL RECORD INCLINATION SEVERITY  
 DEPTH ANGLE DIRECTION DEGS. FEET FEET N/S FEET DEG. FEET DEG. FEET

MEASURED DEPTH FEET	INCL. ANGLE DEGS.	HOLE DIRECTION	COURSE LENGTH FEET	VERTICAL DEPTH FEET	VERTICAL SECTION FEET	N/S	FEET	INCLINATION DEG.	SEVERITY
0.00	0.00	N 00.00 E	0.00	0.00	0.00	N	0.00	00.00	0.00
79.00	.50	S 72.00 W	79.00	79.00	.32	W	.32	72.00	.64
129.00	.75	S 56.00 W	61.00	139.00	.88	W	.88	60.13	.74
200.00	.50	S 10.00 E	61.00	199.99	.18	W	.95	40.33	1.00
261.00	.50	S 22.05 W	61.00	260.99	.55	W	1.67	30.50	.55
322.00	1.00	S 70.00 W	61.00	321.90	.57	W	2.10	33.01	1.25
383.00	.50	N 77.00 W	61.00	382.98	.07	W	2.23	46.06	1.05
475.00	.25	S 71.00 W	93.00	474.98	-.31	W	2.26	52.13	.34
535.00	.25	N 60.00 W	60.00	534.90	-.49	W	3.17	54.52	.29
596.00	1.25	S 70.00 W	61.00	595.97	-.13	W	3.94	61.92	1.08
657.00	1.00	N 80.00 W	61.00	656.96	-1.96	W	2.08	67.94	.41
718.00	1.00	N 55.00 W	61.00	717.95	-2.88	W	1.75	74.09	.93
779.00	.75	N 86.00 W	61.00	778.94	-3.69	W	1.44	79.36	.86
840.00	.50	N 12.00 W	61.00	839.94	-4.31	W	1.04	82.10	1.28
901.00	.50	N 05.00 E	61.00	900.94	-4.72	W	.51	86.13	.24
962.00	.50	N 29.00 E	61.00	961.93	-4.99	W	0.00	89.99	.33
1023.00	.25	N 06.00 E	61.00	1022.92	-5.19	W	.30	86.77	.47
1084.00	.25	S 86.00 W	61.00	1083.93	-5.42	W	.55	85.76	.63
1145.00	1.00	N 71.00 W	61.00	1144.93	-5.93	W	.63	85.49	1.27
1206.00	.75	S 70.80 W	61.00	1205.92	-6.55	W	.63	86.00	1.03
1267.00	.75	N 30.00 W	61.00	1266.91	-7.20	W	.80	84.80	1.58
1328.00	.75	N 45.00 W	61.00	1327.91	-7.99	W	1.51	81.53	.32
1389.00	1.00	N 66.00 W	61.00	1388.94	-8.90	W	2.03	79.43	.66
1450.00	1.00	N 80.00 W	61.00	1447.89	-9.77	W	2.27	77.82	.63
1511.00	1.00	N 80.00 W	71.90	1509.88	-10.96	W	2.44	79.77	.15



MEASURED INCL. HOLE COURSE VERTICAL Z R E C T A M S U L T A R C C L O S U R E D O S - L I N E  
 DEPTH ANGLE DIRECTION DECS. DECS. SECTION # C O R D I N A T E S D I S T A N C E D I R E C T I O N S E V E R I T Y  
 FEET DECS. DECS. FEET # FEET # FEET # N / S F O O T E / W # P L E T #

3101.00	18.25	S	42.00	E	63.00	#	3140.27	#	295.32	#	210.20	E	#	295.62	at	S	45.31	E	#	.63
3247.00	19.50	S	42.00	E	62.00	#	3199.11	#	314.06	#	226.20	E	#	315.13	at	S	45.11	E	#	.40
3271.00	19.00	S	41.00	E	20.00	#	3225.63	#	323.86	#	229.24	E	#	324.12	at	S	45.01	E	#	2.12

(1892'-3271' RESULT OF DIG SURVEY MS-1310)  
 (3271'-4410' RESULT OF EASTMAN WHIPSTOCK SURVEY S0149)

3316.00	18.75	S	40.00	E	45.00	#	3260.21	#	338.41	#	240.20	S	#	330.63	at	S	44.82	E	#	.91
3370.00	19.00	S	38.00	E	62.00	#	3326.87	#	358.42	#	251.32	E	#	358.59	at	S	44.49	E	#	1.12

3440.00	19.75	S	37.00	E	62.00	#	3305.36	#	329.90	#	272.10	S	#	329.01	at	S	44.11	E	#	1.32
3502.00	20.25	S	37.00	E	62.00	#	3343.62	#	400.03	#	200.01	S	#	400.10	at	S	43.79	E	#	1.37
3565.00	20.50	S	38.00	E	63.00	#	3502.68	#	421.91	#	305.90	S	#	421.95	at	S	43.51	E	#	.68
3627.00	21.00	S	37.00	E	62.00	#	3560.66	#	443.78	#	323.40	S	#	443.80	at	S	43.22	E	#	.99
3689.00	21.25	S	36.00	E	62.00	#	3618.49	#	465.99	#	341.37	S	#	466.00	at	S	42.89	E	#	.71

3752.00	21.75	S	35.00	E	63.00	#	3677.11	#	480.90	#	360.16	S	#	480.90	at	S	42.55	E	#	.96
3814.00	22.25	S	42.00	E	62.00	#	3734.59	#	512.05	#	378.33	S	#	512.06	at	S	42.36	E	#	4.30
3876.00	22.25	S	42.00	E	62.00	#	3791.98	#	535.52	#	395.78	S	#	535.53	at	S	42.35	E	#	0.00
3939.00	22.75	S	43.00	E	63.00	#	3850.10	#	559.63	#	413.55	S	#	559.64	at	S	42.35	E	#	1.00
4001.00	23.00	S	43.00	E	62.00	#	3907.31	#	583.72	#	430.89	S	#	583.73	at	S	42.42	E	#	1.32

4063.00	24.00	S	45.00	E	62.00	#	3964.16	#	600.43	#	440.37	S	#	600.43	at	S	42.53	E	#	1.61
4125.00	25.00	S	46.00	E	62.00	#	4020.50	#	634.11	#	466.39	S	#	634.11	at	S	42.60	E	#	1.75
4188.00	25.75	S	47.00	E	63.00	#	4077.50	#	661.05	#	484.97	S	#	661.05	at	S	42.80	E	#	1.87
4250.00	27.00	S	47.00	E	62.00	#	4133.05	#	680.51	#	503.76	S	#	680.52	at	S	42.97	E	#	2.02
4312.00	28.50	S	47.00	E	62.00	#	4187.91	#	717.30	#	523.44	S	#	717.32	at	S	43.13	E	#	2.42

(3271'-4410' RESULT OF EASTMAN WHIPSTOCK SURVEY S0177)

4410.00	20.75	S	47.00	E	50.00	#	4273.94	#	764.12	#	521.00	E	#	764.17	at	S	43.39	E	#	.26
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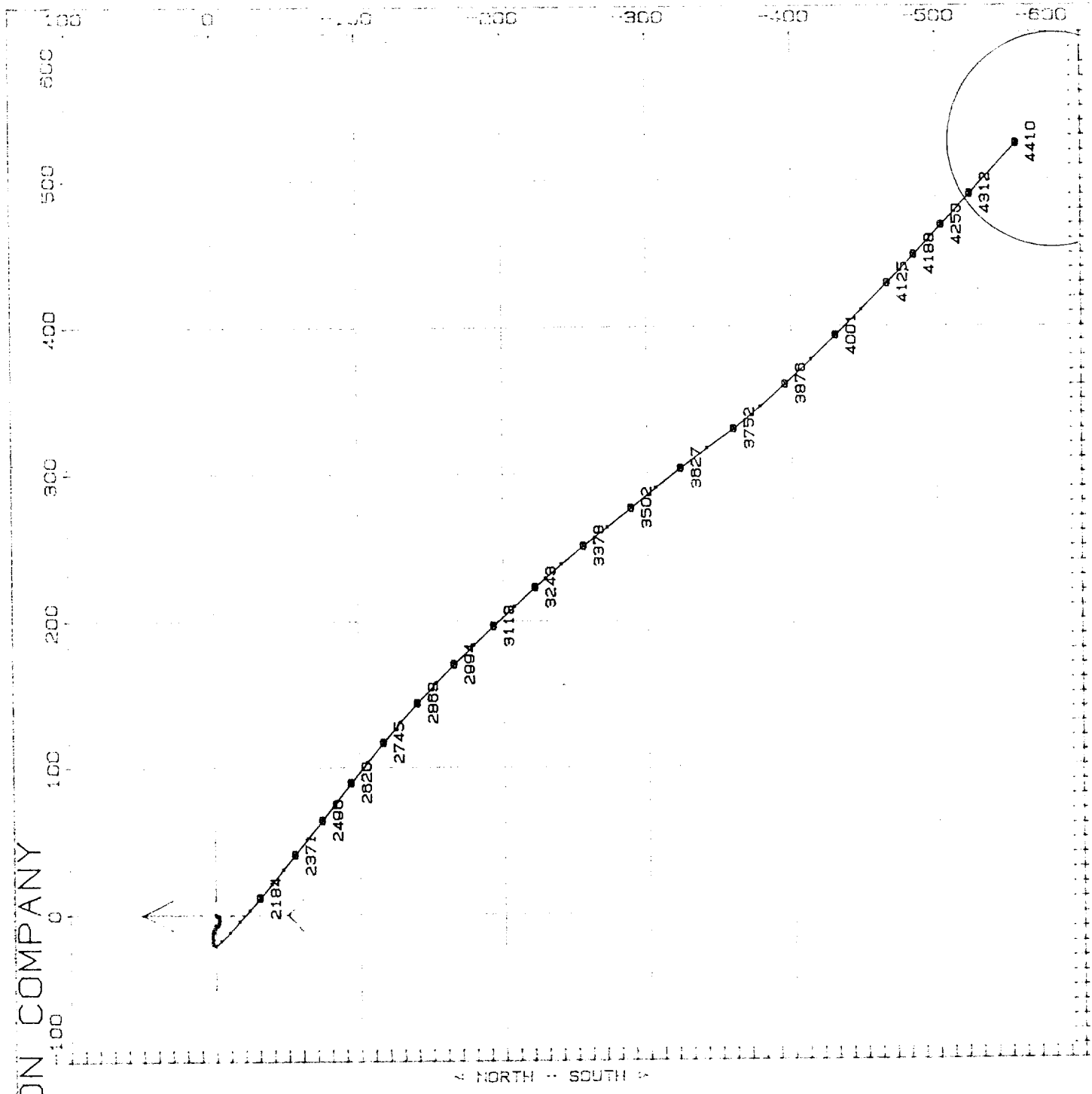
CLOSURE DISTANCE = 764.17 FEET.  
 CLOSURE DIRECTION = S 43.39 E

# AMOCO PRODUCTION COMPANY

WELL # :  
 SHU NO. 139  
 LOCATION :  
 LEA COUNTY, NEW MEXICO  
 DATE :  
 11-07-83, 11-12-83, (EW) 11-19-83  
 JOB TYPE :  
 MMS, MMS, (EW) MMS  
 JOB # :  
 MS-1301, MS-1310, (EW) S0148  
 SURVEYOR :  
 A. HABERT, A. HARBERT, (EW) G. DESPAIN  
 DEPTHS :  
 0' -1802', 1802' -3271', 3271' -4410'  
 DECL. :  
 10 DEGREES EAST  
 ELEV. :  
 0'  
 WTL # :  
 WT-E15CS FROM WT-E10S, D701

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 FINAL STATION DATA:  
 MD. 4410.00  
 TVD. 4273.94  
 N/S -555.46  
 E/W 524.80  
 CLOSURE DISTANCE  
 764.17 FEET  
 CLOSURE DIRECTION  
 S 43.37° E

1 IN. = 100 FT.





DIRECTIONAL  
INVESTMENT  
GUIDANCE, INC.

## SURVEY CERTIFICATION

STATE TEXAS

COUNTY OF MIDLAND

I, D. A. HARBERT, in the employ of D.I.G., Inc., did on the days of 11-7, 1983 through 11-7, 1983 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 0 feet to 1602 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 NO. 139, LEA County, State of NEW MEXICO in the SOUTH HOBBS 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.

D. A. HARBERT

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



DIRECTIONAL INVESTMENT GUIDANCE, INC.

# SURVEY CERTIFICATION

STATE TEXAS

COUNTY OF MIDLAND

I, D. A. HARBERT, in the employ of D.I.G., Inc., did on the days of 11-12, 1983 through 11-12, 1983 conduct or supervise the taking of a MAGNETIC MULTISHOT survey by the method of magnetic orientation from a depth of 1602 feet to 3271 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 NO. 139, LEA County, State of NEW MEXICO in the SOUTH HOBBS 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.

*D. A. Harbert*  
D. A. HARBERT

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*  
LARRY MASSEY



