



SUB-SURFACE
DIRECTIONAL
SURVEY
REPORT

MAXUS CORPORATION

COMPANY

TORO 12-36 STATE NO.1

WELL NAME

LEA COUNTY, NEW MEXICO

STATE AND COUNTY

CERTIFIED REPORT

This instrument is certified by me to be a true and correct copy

Linda S. Collins
Linda S. Collins

Notary Public, State of Texas

My Commission expires:

08-13-89

RECEIVED

SEP 13 1988

ODD

MOBBS OFFICE



DIRECTIONAL
INVESTMENT
GUIDANCE, INC.

P. O. BOX 7238
MIDLAND, TEXAS 79708

SURVEY CERTIFICATION

STATE Texas

COUNTY OF Midland

I, Rick Eaton, in the employ of D.I.G., Inc., did on the days of 11/13, 1987 through 11/13, 1987 conduct or supervise the taking of a gyroscopic multishot survey by the method of magnetic orientation from a depth of 0 feet to 4650 feet, with recordings of inclination being obtained at approximately intervals of 100 feet.

This survey was conducted at the request of Maxus Corporation for their Toro 12-36 State No.1, Lea County, State of New Mexico in the Wildcat 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.

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.

CUSTOMER : MAXUS CORPORATION
WELL # : TOTO 12-36 STATE NO.1
LOCATION : LEA COUNTY, NEW MEXICO
DATE : 11/13/87
LOG TYPE : GYROSCOPIC MULTISHOT
LOG # : GS-1747
SURVEYOR : RICK EATON
DEPTH : 0 - 4650'
DECL. : 9 DEGREES EAST
ELEV. : 0'
FILE # : WT-CG13

METHOD : RADIUS OF CURVATURE
SECTION : 0

FINAL STATION DATA

MEASURED INCL. :
DEPTH :
ANGLE :
FEET :
DIRECTION :
DEGS. :

COURSE :
LENGTH :
FEET :
TRUE :
VERTICAL :
DEPTH :
FEET :

RECTANGULAR : C L O S U R E : DUG-LLG
CURDINATES : DISTANCE : DIRECTION : SEVERITY
N/S : feet : E/W : FEET : DEGS. : DG/1000 :

4650.00 : 150 : N 40.00 E : 50.00 : 4049.59 :

6.63 S 19.40 E 20.56' S 71.18 E .49

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

RECEIVED

SEP 18 1988

OCD
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Figure 1 consists of a 3x3 grid of small diagrams. Each diagram shows a different spatial configuration of points or shapes, likely representing different spatial relationships or patterns used in the study.

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100	100

MEASURED DEPTH FEET	IRCL. ANGLE DEGS.	HOLE DIRECTION	COURSE LENGTH FEET	TRUE DEPTH FEET	RECORD IN ATCS N/5 Feet	CLANGULAR DISTANCE FEET	SEVERITY OF DAMAGE
100.00	3.00	N 74.00 E	100.00	100.00	1.00	1.00	1.00
200.00	3.20	N 74.00 E	100.00	200.00	1.10	1.10	1.10
300.00	3.30	N 72.00 E	100.00	300.00	1.40	1.40	1.40
400.00	3.40	N 72.00 E	100.00	400.00	1.00	1.00	1.00
500.00	3.40	N 71.00 E	100.00	500.00	1.20	1.20	1.20
600.00	3.40	N 74.00 E	100.00	600.00	1.00	1.00	1.00
700.00	3.40	N 90.00 E	100.00	700.00	1.00	1.00	1.00
800.00	3.40	S 60.00 E	100.00	800.00	1.00	1.00	1.00
900.00	3.40	S 30.00 E	100.00	900.00	1.00	1.00	1.00
1000.00	3.40	S 15.00 W	100.00	1000.00	1.00	1.00	1.00
1100.00	3.40	S 3.00 W	100.00	1100.00	1.00	1.00	1.00
1200.00	3.40	S 40.00 W	100.00	1200.00	1.10	1.10	1.10
1300.00	3.40	S 40.00 W	100.00	1300.00	1.10	1.10	1.10
1400.00	3.40	S 50.00 W	100.00	1400.00	1.10	1.10	1.10
1500.00	3.40	S 50.00 W	100.00	1500.00	1.10	1.10	1.10
1600.00	3.40	S 60.00 W	100.00	1600.00	1.10	1.10	1.10
1700.00	3.40	S 70.00 W	100.00	1700.00	1.10	1.10	1.10
1800.00	3.40	S 80.00 W	100.00	1800.00	1.10	1.10	1.10
1900.00	3.40	S 90.00 E	100.00	1900.00	1.10	1.10	1.10
2000.00	3.40	S 10.00 E	100.00	2000.00	1.10	1.10	1.10
2100.00	3.40	S 10.00 E	100.00	2100.00	1.10	1.10	1.10
2200.00	3.40	S 10.00 E	100.00	2200.00	1.10	1.10	1.10
2300.00	3.40	S 10.00 E	100.00	2300.00	1.10	1.10	1.10
2400.00	3.40	S 10.00 E	100.00	2400.00	1.10	1.10	1.10

MAXUS CORPORATION
 BURD 12-30 STATE RD.1
 WT-CG12

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MEASURED	IRCL.	HOLE	COURSE	VERTICAL	RED TANGULAR	C L O S U R E	DOS-LEG
DEPTH	ANGLE	DIRECTION	LENGTH	DEPTH	CLOUD IN ATES	DISTANCE	DIRECTION & SEVERITY
FLEET	DEGS.	DUGS.	FLEET	FLEET	N/S	FEET	FEET
2500.00	1.70	S 25.00 E	100.00	100.00	14.82 S	10.90'	S 19.20 W
2500.00	1.70	S 40.00 E	100.00	100.00	10.20 S	10.02'	S 12.30 W
2500.00	1.30	S 30.00 E	100.00	100.00	15.77 S	10.41'	S 16.80 W
2500.00	1.50	S 31.00 E	100.00	100.00	10.40 S	15.97'	S 14.17 W
2500.00	1.50	S 27.00 E	100.00	100.00	17.21 S	17.51'	S 12.20 W
3000.00	1.40	S 53.00 E	100.00	100.00	17.76 S	16.04'	S 10.10 W
3000.00	1.40	S 70.00 E	100.00	100.00	17.99 S	18.17'	S 08.00 W
3000.00	1.60	S N 50.00 E	100.00	100.00	18.05 S	18.12'	S 05.20 W
3000.00	1.70	S N 26.00 E	100.00	100.00	17.95 S	17.97'	S 01.57 W
3000.00	1.90	S N 70.00 E	100.00	100.00	17.74 S	17.76'	S 02.74 E
3500.00	1.20	S N 70.00 E	100.00	100.00	17.20 S	17.40'	S 00.57 E
3500.00	1.20	S N 71.00 E	100.00	100.00	18.50 S	17.13'	S 15.49 E
3500.00	1.30	S N 71.00 E	100.00	100.00	10.79 S	17.13'	S 22.77 E
3500.00	1.30	S N 64.00 E	100.00	100.00	14.90 S	17.30'	S 30.31 E
3500.00	1.30	S N 51.00 E	100.00	100.00	14.03 S	17.60'	S 37.10 E
4000.00	1.90	S N 60.00 E	100.00	100.00	13.25 S	18.00'	S 42.57 E
4000.00	1.80	S N 50.00 E	100.00	100.00	12.47 S	18.33'	S 47.14 E
4000.00	1.80	S N 50.00 E	100.00	100.00	11.59 S	18.50'	S 51.41 E
4000.00	1.00	S N 33.00 E	100.00	100.00	10.44 S	18.75'	S 56.10 E
4000.00	1.00	S N 37.00 E	100.00	100.00	9.01 S	18.87'	S 51.49 E
4500.00	1.90	S N 61.00 E	100.00	100.00	7.93 S	19.50'	S 60.02 E
4500.00	1.90	S N 47.00 E	100.00	100.00	7.05 S	20.20'	S 59.64 E
4500.00	1.60	S N 45.00 E	100.00	100.00	6.63 S	20.50'	S 71.10 E

COURSE DIRECTION = 10.50 FEET.
 CLOUD DIRECTION = 5 71.10 E