



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

RECEIVED

MAY 17 1988

OCD
HOBBS OFFICE

CHEVRON OIL COMPANY U.S.A.

COMPANY

GARRETT EST. AL 1

29-17-37

WELL NAME

LEA COUNTY, NEW MEXICO

LOCATION

JOB NUMBER

TYPE OF SURVEY

DATE

430-0817

GYROSCOPIC MULTI SHOT SURVEY

4-15-88

430-0817

MAGNETIC MULTI SHOT SURVEY

4-16-88

SURVEY BY
TIM STEPHENS

OFFICE
WEST TEXAS BASE

FOR

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* * * * *
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OPERATOR	: CHEVRON OIL COMPANY, U.S.A.
WELL NAME	: GARRETT EST. AL 1
LOCATION	: LEA COUNTY, NEW MEXICO
JOB NUMBER	:
RIG	: MCWAY RIG 7
DECLINATION	: 10.00 E

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EC DISTRICT : WEST TEXAS BASE

CHEVRON OIL COMPANY, U.S.A.
GARRETT EST. AL 1
LEA COUNTY, NEW MEXICO

DECLINATION : 10.00 JOB NUMBER :
DATE PRINTED : 18-APR-88
OUR REF. NO. : S01273.4CH

PAGE NO. 2

MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	R E C T A N G U L A R C O O R D I N A T E S	DOGLEG SEVERITY
0.00	0 0	N 0 0 E	0.00	0.00	0.00 N	0.00
100.00	0 30	S 36 0 W	100.00	100.00	0.35 S	0.50
200.00	0 30	S 40 0 W	100.00	199.99	1.04 S	0.03
300.00	0 30	S 31 0 W	100.00	299.99	1.75 S	0.08
400.00	0 45	S 44 0 E	100.00	399.99	2.76 S	0.79
500.00	1 15	S 43 0 E	100.00	499.97	4.03 S	0.50
600.00	1 15	S 31 0 E	100.00	599.95	5.77 S	0.26
700.00	1 0	S 44 0 E	100.00	699.93	7.32 S	0.36
800.00	1 0	S 37 0 E	100.00	799.91	8.65 S	0.12
900.00	0 45	S 34 0 E	100.00	899.90	9.89 S	0.25
1000.00	1 0	S 37 0 E	100.00	999.89	11.13 S	0.25
1100.00	1 0	S 35 0 E	100.00	1099.87	12.54 S	0.03
1200.00	1 0	S 33 0 E	100.00	1199.86	13.99 S	0.03
1300.00	1 0	S 45 0 E	100.00	1299.84	15.34 S	0.21
1400.00	0 45	S 7 0 W	100.00	1399.83	16.74 S	0.80
1500.00	1 0	S 11 0 E	100.00	1499.82	18.26 S	0.37
1600.00	0 45	S 39 0 E	100.00	1599.81	19.62 S	0.49
1700.00	0 30	S 30 0 W	100.00	1699.80	20.65 S	0.74
1800.00	0 45	S 32 0 W	100.00	1799.79	21.59 S	0.25
1900.00	0 30	S 5 0 E	100.00	1899.79	22.63 S	0.4
2000.00	0 30	S 13 0 E	100.00	1999.79	23.49 S	0.07
2100.00	0 30	S 13 0 E	100.00	2099.78	24.34 S	0.00
2200.00	0 30	S 36 0 E	100.00	2199.78	25.13 S	0.20
2300.00	0 30	S 19 0 W	100.00	2299.77	25.96 S	0.46
2400.00	0 30	S 34 0 W	100.00	2399.77	26.74 S	0.13
2500.00	0 30	S 4 0 E	100.00	2499.77	27.57 S	0.33
2600.00	0 30	S 0 0 W	100.00	2599.76	28.44 S	0.03
2700.00	0 30	S 37 0 W	100.00	2699.76	29.25 S	0.32
2800.00	0 30	S 30 0 W	100.00	2799.75	29.98 S	0.06
2900.00	0 30	S 25 0 W	100.00	2899.75	30.75 S	0.04

CONTINUED ON NEXT PAGE ...



CHEVRON OIL COMPANY, U.S.A.
GARRETT EST. AL 1
LEA COUNTY, NEW MEXICO

DECLINATION : 10.00 JOB NUMBER :
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PAGE NO. 3

MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	R E C T A N G U L A R C O O R D I N A T E S	DOG LEG SEVERITY
3000.00	0 15	S 27 O E	100.00	2999.75	31.39 S	8.05 E
3100.00	0 30	N 78 O W	100.00	3099.75	31.80 S	7.73 E
3200.00	0 30	N 43 O W	100.00	3199.74	31.38 S	6.98 E
3300.00	0 30	N 16 O E	100.00	3299.74	30.57 S	6.79 E
3400.00	0 45	N 87 O E	100.00	3399.73	29.93 S	7.59 E
3500.00	0 30	S 90 O E	100.00	3499.73	29.90 S	8.68 E
3600.00	0 30	N 61 O E	100.00	3599.72	29.69 S	9.52 E
3700.00	0 30	N 85 O E	100.00	3699.72	29.43 S	10.35 E
3800.00	0 45	S 65 O E	100.00	3799.71	29.62 S	11.41 E
3900.00	0 45	S 64 O E	100.00	3899.70	30.18 S	12.59 E
4000.00	0 45	S 50 O E	100.00	3999.69	30.90 S	13.69 E
4100.00	0 30	S 25 O E	100.00	4099.69	31.76 S	14.35 E
4200.00	0 45	S 12 O E	100.00	4199.68	32.79 S	14.69 E
4300.00	0 45	S 25 O W	100.00	4299.67	34.07 S	14.55 E
4400.00	1 0	S 43 O W	100.00	4399.66	35.33 S	13.70 E
4500.00	1 0	S 34 O W	100.00	4499.65	36.69 S	12.61 E
4600.00	1 0	S 36 O W	100.00	4599.63	38.12 S	11.61 E
4700.00	0 45	S 20 O W	100.00	4699.62	39.47 S	10.90 E
4800.00	1 0	S 30 O W	100.00	4799.61	40.85 S	10.26 E
4900.00	1 0	S 15 O W	100.00	4899.59	42.45 S	9.59 E
5000.00	1 0	S 20 O W	100.00	4999.58	44.12 S	9.06 E
5100.00	0 30	S 14 O E	100.00	5099.57	45.41 S	9.00 E
5200.00	0 0	N 0 O E	100.00	5199.57	45.83 S	9.10 E
5300.00	0 15	S 17 O E	100.00	5299.57	46.04 S	9.17 E
5400.00	0 45	S 16 O E	100.00	5399.56	46.88 S	9.41 E
5500.00	1 0	S 10 O E	100.00	5499.55	48.36 S	9.76 E
5600.00	1 30	S 40 O E	100.00	5599.53	50.32 S	10.67 E
5700.00	1 15	S 49 O E	100.00	5699.50	52.03 S	12.35 E
5800.00	1 15	S 40 O E	100.00	5799.48	53.58 S	13.88 E
5900.00	1 15	S 45 O E	100.00	5899.45	55.19 S	15.35 E

CONTINUED ON NEXT PAGE ...



CHEVRON OIL COMPANY, U.S.A.
GARRETT EST. AL 1
LEA COUNTY, NEW MEXICO

DECLINATION : 10.00 JOB NUMBER :
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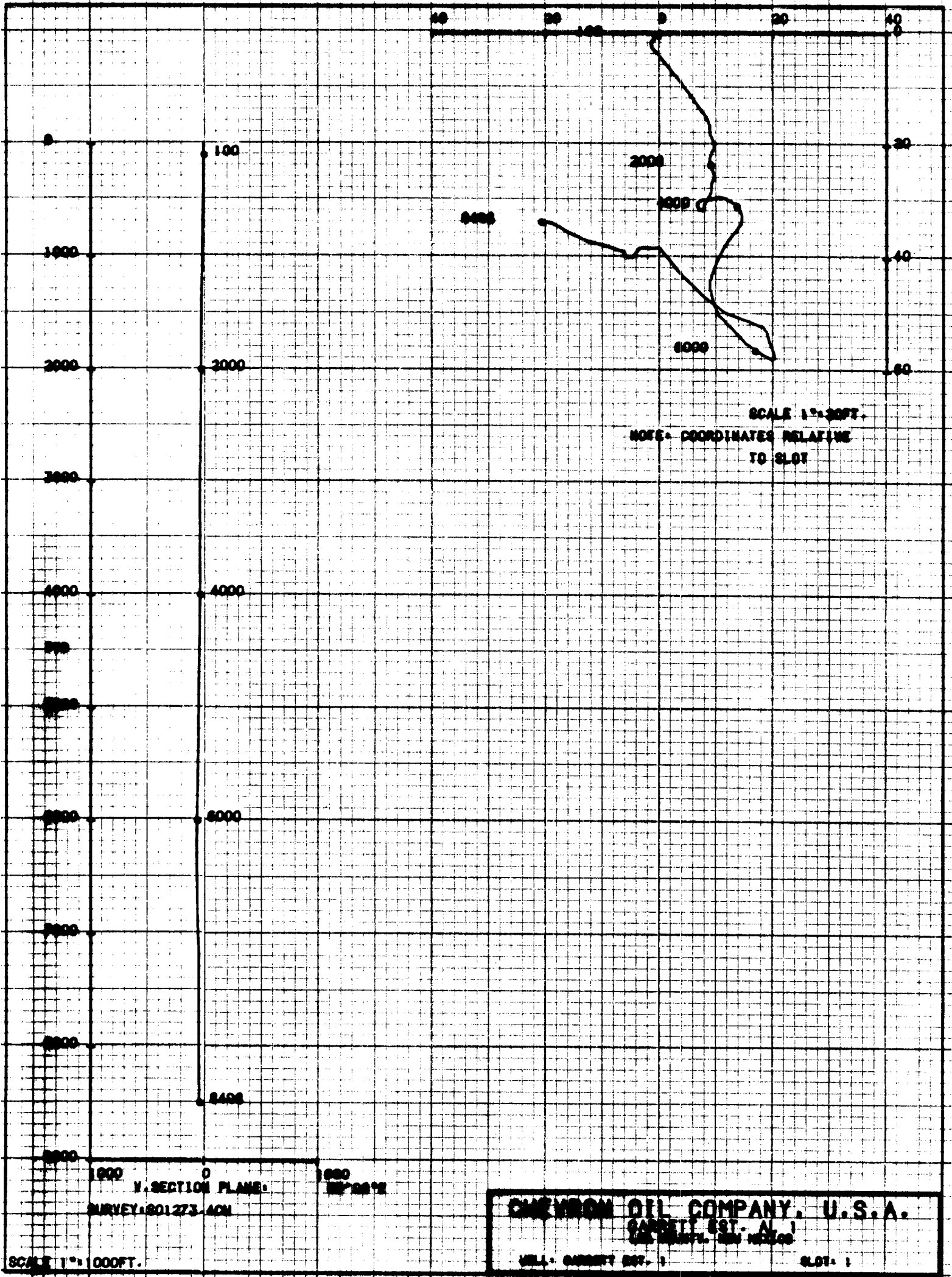
PAGE NO. 4

MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	R E C T A N G U L A R C O O R D I N A T E S	DOGLEG SEVERITY
6000.00	1 0	S 61 0 E	100.00	5999.43	56.37 S 16.91 E	0.40
6100.00	1 15	S 55 0 E	100.00	6099.41	57.41 S 18.58 E	0.28
6200.00	0 30	S 71 0 E	100.00	6199.40	58.10 S 19.93 E	0.78
6300.00	0 15	N 11 0 E	100.00	6299.40	57.81 S 20.44 E	0.59
6400.00	1 0	N 31 0 W	100.00	6399.39	56.76 S 20.25 E	0.83
6500.00	1 15	N 15 0 W	100.00	6499.37	54.96 S 19.49 E	0.40
6600.00	0 45	N 14 0 W	100.00	6599.36	53.27 S 19.05 E	0.50
6700.00	0 30	N 51 0 W	100.00	6699.35	52.36 S 18.47 E	0.46
6800.00	2 30	N 84 0 W	100.00	6799.31	51.37 S 16.09 E	2.10
6900.00	2 45	N 56 0 W	100.00	6899.21	49.82 S 11.83 E	1.29
7000.00	3 0	N 49 0 W	100.00	6999.08	46.77 S 7.85 E	0.43
7100.00	3 15	N 42 0 W	100.00	7098.93	42.95 S 3.96 E	0.46
7200.00	3 30	N 37 0 W	100.00	7198.76	38.41 S 0.22 E	0.39
7300.00	1 15	S 36 0 W	100.00	7298.66	38.44 S 3.35 W	4.05
7400.00	1 0	S 42 0 W	100.00	7398.65	39.97 S 4.58 W	0.28
7500.00	0 30	N 36 0 W	100.00	7498.64	39.91 S 5.72 W	1.21
7600.00	0 15	N 15 0 W	100.00	7598.63	39.32 S 6.01 W	0.28
7700.00	0 0	N 0 0 E	100.00	7698.63	39.11 S 6.06 W	0.25
7800.00	0 30	N 71 0 W	100.00	7798.63	38.97 S 6.47 W	0.50
7900.00	1 0	N 70 0 W	100.00	7898.62	38.53 S 7.71 W	0.50
8000.00	1 30	N 80 0 W	100.00	7998.60	37.97 S 9.81 W	0.54
8100.00	2 0	N 70 0 W	100.00	8098.55	37.18 S 12.76 W	0.58
8200.00	1 30	N 63 0 W	100.00	8198.50	35.96 S 15.56 W	0.54
8300.00	1 0	N 54 0 W	100.00	8298.48	34.82 S 17.42 W	0.54
8400.00	1 0	N 75 0 W	100.00	8398.46	34.07 S 18.98 W	0.36
8498.00	1 0	N 85 0 W	98.00	8496.45	33.78 S 20.66 W	0.18

CLOSURE - DISTANCE : 39.60
DIRECTION : S 31 28 W

REPORT UNITS : Feet
SURVEY CALCULATION METHOD : Radius of curvature





V. SECTION PLANE:
SURVEY 1801273-40N

CHEVRON OIL COMPANY, U.S.A.
GASFIELD EST. A
WELL: GASFIELD EST. A
SLOT: 1

SCALE 1"=1000FT.

SURVEY RUN INFORMATION

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GYROSCOPIC MULTI-SHOT SURVEY	430-0809
SURVEYOR: TIM STEPHENS	(0'-4400')
MAGNETIC MULTI-SHOT SURVEY	430-0809
SURVEYOR: TIM STEPHENS	(4400'-8498')



EASTMAN CHRISTENSEN

2103 Market, Midland, Texas 79703, Phone: (915) 694-9517, (915) 563-0511

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, TIM STEPHENS, in the employ of Eastman Christensen, Inc. did on the days of APRIL 15, 1988 thru APRIL 16, 1988 conduct or supervise the taking of a MAGNETIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 4400 feet to 8498 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of CHEVRON U.S.A. for their GARRETT EST. AL 1, 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 Christensen, Inc. and is true and correct to the best of my knowledge.

Tim Stephens
Directional Supervisor/Surveyor

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

Harry Neff

Before me, the undersigned authority, on this day personally appeared _____, 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 _____ day of _____, 19____

Notary Public in and for the
County of Midland, Texas
My commission expires _____



**EASTMAN
CHRISTENSEN**

2103 Market, Midland, Texas 79703, Phone: (915) 694-9517, (915) 563-0511

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, TIM STEPHENS, in the employ of Eastman Christensen, Inc. did on the days of APRIL 16, 1988 thru APRIL 16, 1988 conduct or supervise the taking of a GYROSCOPIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 0 feet to 4400 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of CHEVRON U.S.A. for their GARRETT EST. AL 1, 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 Christensen, Inc. and is true and correct to the best of my knowledge.

Tim Stephens

Directional Supervisor/Surveyor

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

Harry DeSpain

Before me, the undersigned authority, on this day personally appeared _____, 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 _____ day of _____, 1988

Notary Public in and for the
County of Midland, Texas
My commission expires _____