



***REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY***

STEVENS OPERATING CORPORATION

COMPANY

DEEMAR FEDERAL WELL NO. 1

WELL NAME

CHAVES COUNTY, NEW MEXICO

LOCATION

JOB NUMBER

430-1023

430-1023

430-1023

TYPE OF SURVEY

GYROSCOPIC MULTI-SHOT SURVEY

MAGNETIC MULTI-SHOT SURVEY

MAGNETIC MULTI-SHOT SURVEY

DATE

23/JUN/89

23/JUN/89

28/JUL/89

SURVEY BY TIM STEPHENS, STEVE COVINGTON

OFFICE MIDLAND

EASTMAN CHRISTENSEN

RECORD OF SURVEY

FOR

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* * * * *
* OPERATOR : STEVENS OPERATING CORPORATION
* WELL NAME : DEEMAR FEDERAL WELL NO 1
* LOCATION : CHAVES COUNTY, NEW MEXICO
* JOB NUMBER :
* RIG :
* DECLINATION : 10.00 E
* * * * *
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EC DISTRICT : WEST TEXAS BASE

STEVENS OPERATING CORPORATION
DEEMAR FEDERAL WELL NO 1
CHAVES COUNTY, NEW MEXICO

DATE PRINTED : 01-AUG-89
OUR REF. NO. : 801365.48Z
DECLINATION : 10.00JOB NUMBER :

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	0.00	0.00	0.00 N 0.00 E	0.00
100.00	0 15	S 83	100.00	100.00	0.03 S 0.22 E	0.25
200.00	0 30	N 79	100.00	200.00	0.00 S 0.87 E	0.27
300.00	0 15	N 85	100.00	300.00	0.09 N 1.52 E	0.25
400.00	0 30	S 71	100.00	399.99	0.01 N 2.16 E	0.29
500.00	0 15	S 74	100.00	499.99	0.19 S 2.79 E	0.25
600.00	0 30	S 90	100.00	599.99	0.28 S 3.44 E	0.27
700.00	0 30	N 20	100.00	699.98	0.33 N 3.86 E	0.82
800.00	0 30	S 43	100.00	799.98	0.66 N 4.40 E	0.98
900.00	0 30	N 52	100.00	899.98	0.59 N 5.19 E	0.68
1000.00	0 30	S 35	100.00	999.97	0.48 N 5.96 E	0.73
1100.00	0 30	S 43	100.00	1099.97	0.33 S 5.90 E	0.63
1200.00	0 15	N 50	100.00	1199.97	0.64 S 6.20 E	0.75
1300.00	0 15	S 62	100.00	1299.97	0.60 S 6.61 E	0.28
1400.00	0 30	N 67	100.00	1399.96	0.98 S 6.43 E	0.75
1500.00	0 15	S 35	100.00	1499.96	1.36 S 6.12 E	0.72
1600.00	0 30	N 21	100.00	1599.96	1.15 S 6.51 E	0.75
1700.00	0 30	N 26	100.00	1699.96	0.35 S 6.17 E	0.04
1800.00	1 0	N 16	100.00	1799.95	0.87 N 5.70 E	0.51
1900.00	1 0	N 42	100.00	1899.93	2.38 N 4.86 E	0.45
2000.00	0 45	N 15	100.00	1999.92	3.71 N 4.14 E	0.48
2100.00	1 0	N 4	100.00	2099.91	5.21 N 3.89 E	0.30
2200.00	1 15	N 16	100.00	2199.89	7.14 N 3.55 E	0.34
2300.00	1 30	N 19	100.00	2299.86	9.43 N 2.82 E	0.26
2400.00	1 0	N 26	100.00	2399.84	11.44 N 1.99 E	0.52
2500.00	1 0	N 49	100.00	2499.82	12.82 N 0.94 E	0.40
2600.00	1 0	N 28	100.00	2599.81	14.18 N 0.15 W	0.36
2700.00	0 45	N 34	100.00	2699.79	15.49 N 0.93 W	0.27
2800.00	1 30	N 46	100.00	2799.77	16.99 N 2.19 W	0.78
2900.00	1 30	N 35	100.00	2899.74	18.97 N 3.89 W	0.29

CONTINUED ON NEXT PAGE ...



TEVENS OPERATING CORPORATION
EEMAR FEDERAL WELL NO 1
HAYES COUNTY, NEW MEXICO

DATE PRINTED : 01-AUG-89
OUR REF. NO. : 501365.482
DECLINATION : 10.00 JOB NUMBER :
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	DOGLEG SEVERITY
3000.00	1 15	N 39 0 W	100.00	2999.71	20.89 N 5.33 W	0.27
3100.00	1 30	N 17 0 W	100.00	3099.68	22.99 N 6.45 W	0.58
3200.00	1 30	N 22 0 W	100.00	3199.65	25.46 N 7.32 W	0.13
3300.00	1 0	N 7 0 W	100.00	3299.62	27.57 N 7.87 W	0.59
3400.00	1 30	N 13 0 W	100.00	3399.60	29.71 N 8.25 W	0.52
3500.00	1 0	N 4 0 W	100.00	3499.58	31.87 N 8.57 W	0.54
3600.00	0 45	N 2 0 E	100.00	3599.56	33.40 N 8.60 W	0.27
3700.00	1 0	N 23 0 E	100.00	3699.55	34.88 N 8.27 W	0.40
3800.00	0 30	N 35 0 E	100.00	3799.54	36.02 N 7.63 W	0.52
3900.00	0 30	N 56 0 E	100.00	3899.54	36.63 N 7.01 W	0.18
4000.00	1 0	N 66 0 E	100.00	3999.53	37.26 N 5.87 W	0.51
4100.00	0 30	N 29 0 E	100.00	4099.52	38.13 N 4.92 W	0.67
4200.00	0 45	N 35 0 E	100.00	4199.52	39.06 N 4.34 W	0.26
4300.00	1 0	N 67 0 E	100.00	4299.50	40.01 N 3.17 W	0.54
4400.00	0 45	N 86 0 E	100.00	4399.49	40.36 N 1.70 W	0.38
4500.00	0 30	N 77 0 E	100.00	4499.49	40.52 N 0.62 W	0.27
4600.00	0 30	N 40 0 E	100.00	4599.48	40.97 N 0.11 E	0.32
4700.00	0 15	N 82 0 E	100.00	4699.48	41.28 N 0.68 E	0.36
4800.00	1 0	N 74 0 E	100.00	4799.47	41.51 N 1.74 E	0.75
4900.00	1 0	N 80 0 E	100.00	4899.46	41.90 N 3.44 E	0.10
5000.00	1 0	N 46 0 E	100.00	4999.44	42.68 N 4.97 E	0.58
5100.00	1 15	N 63 0 E	100.00	5099.42	43.82 N 6.57 E	0.41
5200.00	1 15	N 74 0 E	100.00	5199.40	44.61 N 8.59 E	0.24
5300.00	0 45	N 42 0 E	100.00	5299.38	45.53 N 10.05 E	0.73
5400.00	1 0	N 64 0 E	100.00	5399.37	46.44 N 11.27 E	0.41
5500.00	1 0	N 81 0 E	100.00	5499.36	46.96 N 12.92 E	0.30
5600.00	1 0	N 68 0 E	100.00	5599.34	47.43 N 14.60 E	0.23
5700.00	1 15	N 68 0 E	100.00	5699.32	48.16 N 16.42 E	0.25
5800.00	1 15	N 79 0 E	100.00	5799.30	48.78 N 18.51 E	0.24
5900.00	1 30	N 79 0 E	100.00	5899.27	49.24 N 20.87 E	0.25



EVENS OPERATING CORPORATION
EMAR FEDERAL WELL NO 1
HAVES COUNTY, NEW MEXICO

DATE PRINTED : 01-AUG-89
OUR REF. NO. : S01365.48Z
DECLINATION : 10.00 JOB NUMBER :

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	0 30	N 87 0 E	100.00	5999.25	49.45 N 22.60 E	1.01
6100.00	2 15	N 84 0 E	100.00	6099.22	49.64 N 24.99 E	1.75
6200.00	1 30	N 89 0 E	100.00	6199.17	49.84 N 28.25 E	0.77
6300.00	1 15	N 70 0 E	100.00	6299.14	50.28 N 30.60 E	0.52
6400.00	1 30	N 74 0 E	100.00	6399.11	51.02 N 32.88 E	0.27
6500.00	1 45	N 67 0 E	100.00	6499.07	51.96 N 35.55 E	0.32
6600.00	2 0	N 73 0 E	100.00	6599.01	53.08 N 38.63 E	0.32
6700.00	2 0	N 79 0 E	100.00	6698.95	53.93 N 42.01 E	0.21
6800.00	2 0	N 79 0 E	100.00	6798.89	54.59 N 45.44 E	0.00
6900.00	2 0	N 83 0 E	100.00	6898.83	55.14 N 48.88 E	0.14
7000.00	1 15	S 85 0 E	100.00	6998.79	55.19 N 51.71 E	0.82
7100.00	1 30	N 74 0 E	100.00	7098.76	55.42 N 54.09 E	0.56
7200.00	2 0	N 76 0 E	100.00	7198.71	56.21 N 57.04 E	0.50
7300.00	1 45	N 61 0 E	100.00	7298.66	57.40 N 60.07 E	0.55
7400.00	2 0	N 74 0 E	100.00	7398.61	58.65 N 63.09 E	0.49
7500.00	1 45	N 68 0 E	100.00	7498.55	59.72 N 66.18 E	0.32
7600.00	1 45	N 79 0 E	100.00	7598.51	60.58 N 69.11 E	0.34
7700.00	1 45	N 77 0 E	100.00	7698.46	61.22 N 72.09 E	0.06
7800.00	1 30	N 60 0 E	100.00	7798.42	62.25 N 74.72 E	0.54
7847.00	1 15	N 53 0 E	47.00	7845.41	62.87 N 75.66 E	0.64
7940.00	2 45	S 74 0 E	93.00	7938.35	63.44 N 78.74 E	2.40
8033.00	6 15	S 72 0 E	93.00	8031.05	61.31 N 85.72 E	3.77
8126.00	6 30	S 76 0 E	93.00	8123.47	58.47 N 95.64 E	0.55
8219.00	8 0	S 82 0 E	93.00	8215.72	56.23 N 107.16 E	1.80
8312.00	9 15	S 88 0 E	93.00	8307.67	55.01 N 121.04 E	1.65
8406.00	10 30	N 89 0 E	94.00	8400.28	54.87 N 137.16 E	1.44
8499.00	12 15	S 88 0 E	93.00	8491.45	54.71 N 155.50 E	1.99
8592.00	13 0	N 89 0 E	93.00	8582.20	54.53 N 175.82 E	1.07
8685.00	15 0	N 89 0 E	93.00	8672.43	54.93 N 198.32 E	2.15
8778.00	16 15	N 89 0 E	93.00	8761.99	55.36 N 223.36 E	1.34



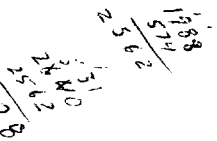
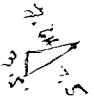
MEASURED DEPTH	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH	TRUE VERTICAL DEPTH	R E C T A N G U L A R C O O R D I N A T E S	DOGLEG SEVERITY
8871.00	17 15	S 84 0 E	93.00	8851.04	54.20 N 250.12 E	2.42
8965.00	18 45	S 76 0 E	94.00	8940.44	49.16 N 278.70 E	3.07
9058.00	20 15	S 77 0 E	93.00	9028.10	41.91 N 308.89 E	1.65
9151.00	21 0	S 74 0 E	93.00	9115.14	33.71 N 340.60 E	1.39
9244.00	22 15	S 74 0 E	93.00	9201.60	24.26 N 373.55 E	1.34
9337.00	23 0	S 76 0 E	93.00	9287.44	15.00 N 408.10 E	1.16
9430.00	25 0	S 74 0 E	93.00	9372.39	5.21 N 444.64 E	2.32
9524.00	26 45	S 76 0 E	94.00	9456.97	5.40 S 484.26 E	2.08
9617.00	27 0	S 78 0 E	93.00	9539.92	14.86 S 525.22 E	1.01
9710.00	25 30	S 77 0 E	93.00	9623.33	23.76 S 565.37 E	1.68
9739.00	25 45	S 76 0 E	29.00	9649.47	26.69 S 577.57 E	1.72

CLOSURE - DISTANCE : 578.19
 DIRECTION : S 87 21 E

REPORT UNITS : Feet
 SURVEY CALCULATION METHOD : Radius of curvature

SURVEY RUN INFORMATION

Grounded to 10' toward peak.
 25.84 S 574.17 E



3.5'

26' - 86

2 3/4"

any in the air
 1974 F S
 35.84 S
 1748.16 F S

1988 F W
 574.17
 2563.17 F W





**EASTMAN
CHRISTENSEN**

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

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, TIM STEPHENS, in the employ of Eastman Christensen, Inc. did on the days of JUNE 23, 19 89 thru JUNE 23, 19 89 conduct or supervise the taking of a GYROSCOPIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 0 feet to 3900 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of STEVENS OPERATING CORPORATION for their DEEMAR FEDERAL WELL #1, CHAVES 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.

[Signature]

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

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, TIM STEPHENS, in the employ of Eastman Christensen, Inc. did on the days of JUNE 23, 1989 thru JUNE 23, 1989 conduct or supervise the taking of a MAGNETIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 3900 feet to 8000 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of STEVENS OPERATING CORPORATION for their DEEMAR FEDERAL WELL #1, CHAVES 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.

[Signature]

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 _____



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

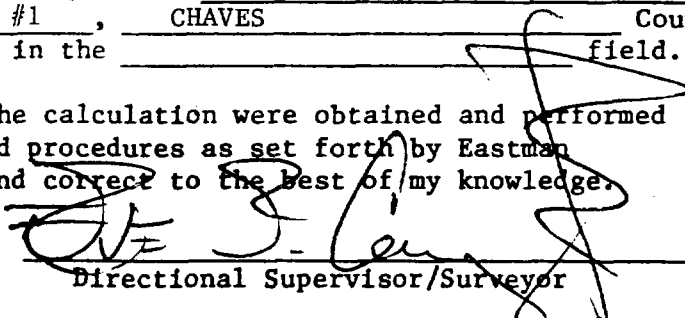
SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

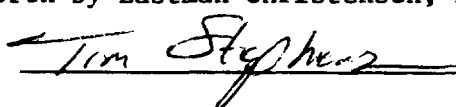
I, STEVE COVINGTON, in the employ of Eastman Christensen, Inc. did on the days of JULY 28, 19 89 thru JULY 28, 1989 conduct or supervise the taking of a MAGNETIC MULTI-SHOT survey by the method of magnetic orientation from a depth of 7800 feet to 9739 feet, with recordings of inclination and direction being obtained at approximate intervals of 93 feet.

This survey was conducted at the request of STEVENS OPERATING CORPORATION for their MEEDAR FEDERAL WELL #1, CHAVES 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.


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.

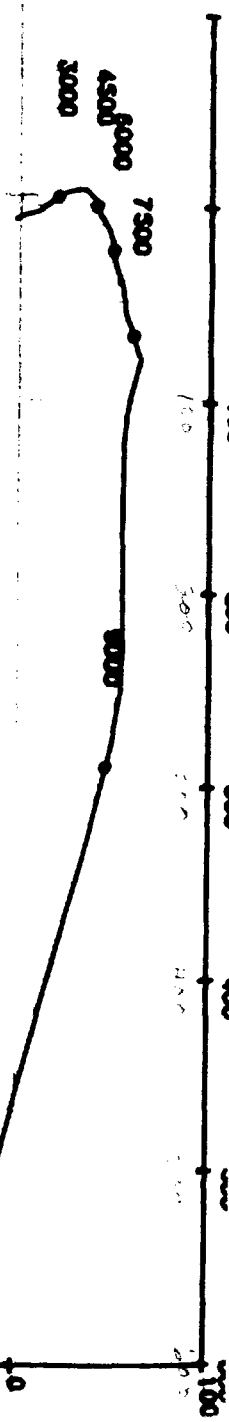
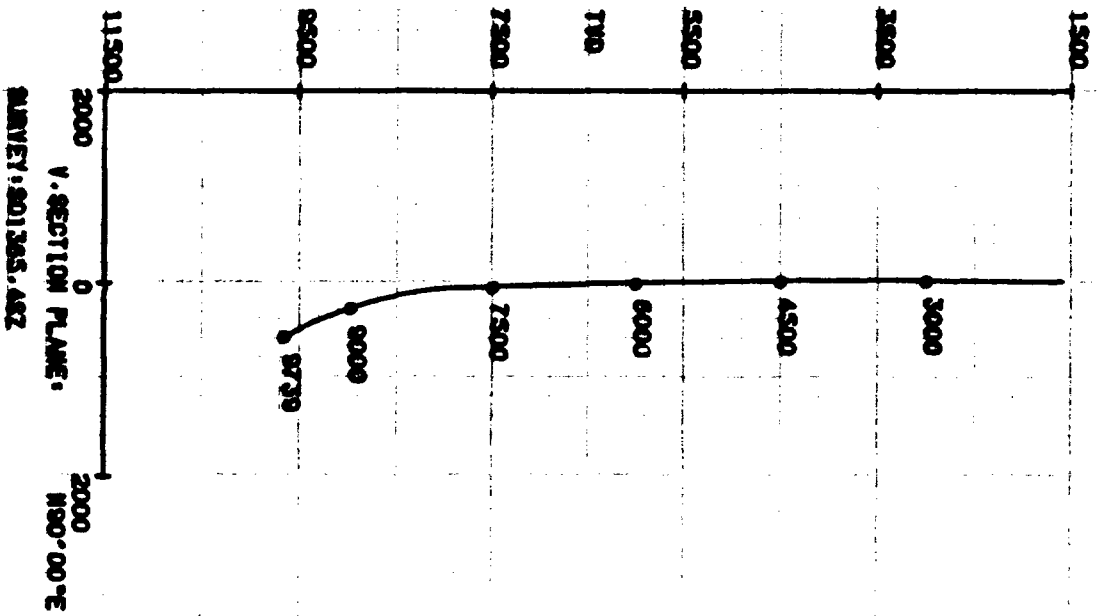


Before me, the undersigned authority, on this day personally appeared _____, known to me to be the person whose name is subscribed to this instrument, who after being by me duly sworn on oath, states that he has knowledge of all the facts stated above and that this instrument is a true statement of facts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

1974 F.S.
29
1945
1988 F.S.
578
526 F.S.



SCALE 1"=100FT.
NOTE: COORDINATES RELATIVE
TO SLOT

STEVENS OPERATING CORPORATION
DEMAR FEDERAL WELL NO. 1
DANES COUNTY, NEB 68103
WELL: DEMAR FED. 1
LOT: 1

Appropriate
Office
Use - 4 copies
Use - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

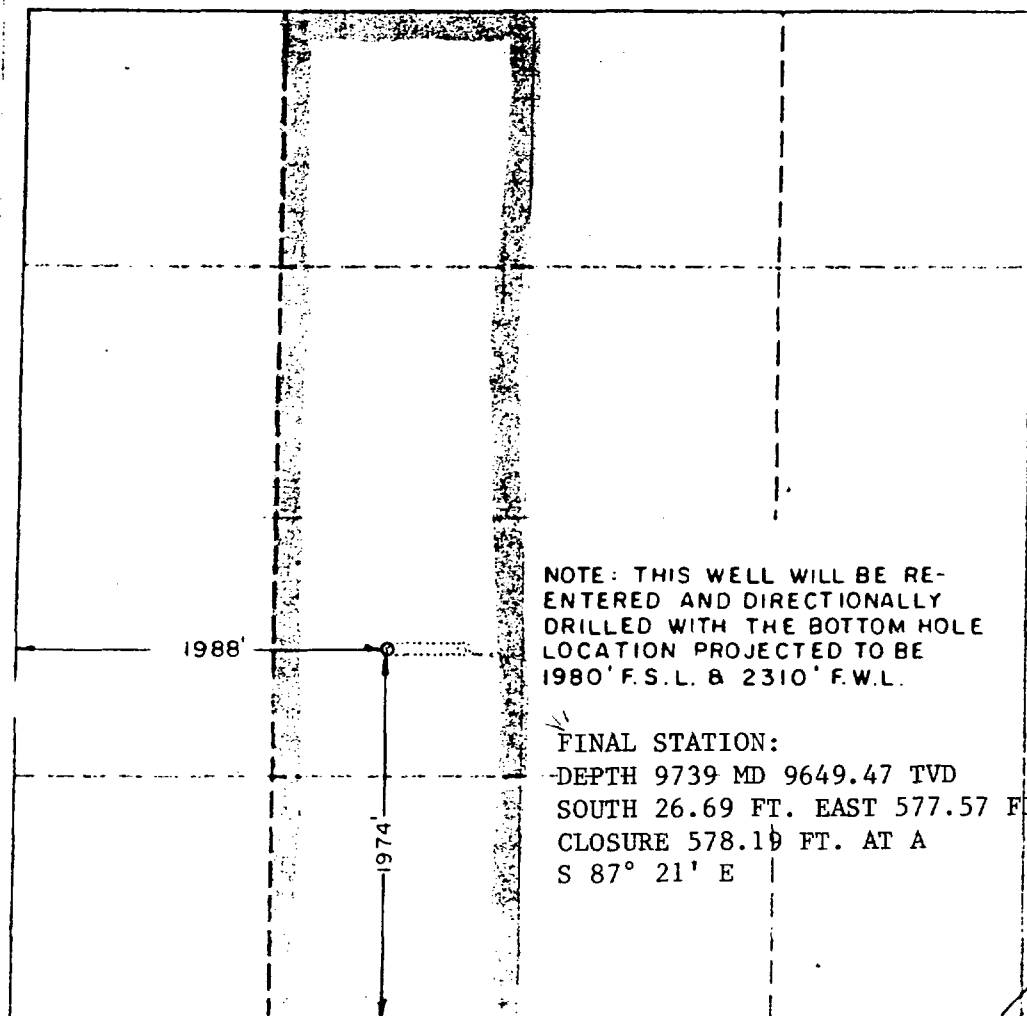
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator STEVENS OPERATING CO			Lease DEEMAR FEDERAL		Well No 1
Unit Letter K	Section 9	Township 14 SOUTH	Range 29 EAST	County NMPM	CHAVES
Actual Footage Location of Well: feet from the SOUTH line and 1988 feet from the WEST line Ground level Elev. 3712.0 Producing Formation Devonian Pool King Camp North Dedicated Acreage 160 Acres					

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty)
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communization, unitization, force-pooling, etc.?
☐ Yes ☐ No If answer is "yes" type of consolidation _____
If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)
No allowable will be assigned to the well until all interests have been consolidated (by communization, unitization, forced pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Signature *Bob Farmer*
Printed Name

Bob Farmer
Position
Production Manager
Company

Stevens Operating Corp.
Date
May 2, 1989

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief

Signature
2-8-89
Professional Seal



ILLEGIBLE

2.96
1861
0.12

2.96
1861
0.12

500
1000

7.34
1.10

7.34
1.10

7.34
1.10

1450

1.10
7.34
1.10

7.34
1.10
7.34

7.34
1.10
7.34

7.34
1.10
7.34

7.34
1.10
7.34