



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

SUN PRODUCTION COMPANY
COMPANY

STATE OF NEW MEXICO "C" ACCOUNT 1 WELL NO. 5
WELL NAME

LEA COUNTY, NEW MEXICO BD1-316
LOCATION

JOB NUMBER
WT0983-G0006

TYPE OF SURVEY
GYROSCOPIC MULTI SHOT

DATE
8-SEP-83

SURVEY BY
GARY DeSPAIN

OFFICE
WEST TEXAS

SUN PRODUCTION COMPANY
STATE OF NEW MEXICO "C" ACCOUNT 1 WELL NO. 5
LEA COUNTY, NEW MEXICO B01-316
SEPTEMBER 8, 1983

EASTMAN WHIPSTOCK, INC.
GYROSCOPIC MULTI SHOT SURVEY WT0983-G00006
SURVEYOR: GARY DESPAIN (0 - 8600')



RADIUS OF CURVATURE METHOD

TIME DATE

23:08:04 08-SEP-83

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
0.	0 0	0	0.	0.00	0.00	0.00
100.	0 30	S 39 W	100.	100.00	0.34 S	0.27 W
200.	0 30	S 57 W	100.	199.99	0.92 S	0.92 W
300.	0 30	S 35 W	100.	299.99	1.52 S	1.54 W
400.	0 30	S 33 W	100.	399.99	2.25 S	2.03 W
500.	0 30	S 24 W	100.	499.98	3.01 S	2.45 W
600.	0 30	S 27 W	100.	599.98	3.80 S	2.82 W
700.	0 30	S 27 W	100.	699.98	4.58 S	3.22 W
800.	0 30	S 23 W	100.	799.97	5.37 S	3.59 W
900.	0 15	S 30 W	100.	899.97	5.95 S	3.88 W
1000.	0 15	S 14 W	100.	999.97	6.36 S	4.04 W
1100.	0 15	S 13 W	100.	1099.97	6.78 S	4.15 W
1200.	0 15	S 9 E	100.	1199.97	7.22 S	4.16 W
1300.	0 30	S 25 W	100.	1299.97	7.65 S	4.25 W
1400.	0 30	S 50 W	100.	1399.96	8.54 S	4.78 W
1500.	0 30	S 52 W	100.	1499.96	9.09 S	5.46 W
1600.	0 30	S 41 W	100.	1599.95	9.69 S	6.09 W
1700.	0 30	S 65 W	100.	1699.95	10.21 S	6.78 W
1800.	0 15	S 56 W	100.	1799.95	10.54 S	7.35 W
1900.	0 30	S 57 W	100.	1899.95	10.90 S	7.90 W
2000.	0 15	S 67 W	100.	1999.94	11.20 S	8.48 W
2100.	0 15	S 47 W	100.	2099.94	11.44 S	8.84 W
2200.	0 15	N 85 W	100.	2199.94	11.58 S	9.24 W
2300.	0 15	S 71 W	100.	2299.94	11.63 S	9.67 W
2400.	0 15	S 88 W	100.	2399.94	11.71 S	10.10 W
2500.	0 15	S 46 W	100.	2499.94	11.88 S	10.49 W
2600.	0 15	S 8 E	100.	2599.94	12.28 S	10.63 W
2700.	0 15	S 41 E	100.	2699.94	12.67 S	10.45 W
2800.	0 15	S 33 E	100.	2799.94	13.02 S	10.19 W
2900.	0 15	S 48 E	100.	2899.93	13.35 S	9.90 W

TIME DATE

23:08:04 08-SEP-83

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET	DOGLEG SEVERITY DG/100FT
3000.	0 30	S 59 E	100.	2999.93	13.74 S	9.38 W 0.26
3100.	0 45	N 86 E	100.	3099.93	13.99 S	8.33 W 0.45
3200.	0 45	N 75 E	100.	3199.92	13.77 S	7.04 W 0.14
3300.	1 0	N 90 E	100.	3299.91	13.57 S	5.54 W 0.34
3400.	1 0	N 74 E	100.	3399.89	13.33 S	3.81 W 0.28
3500.	0 45	S 82 E	100.	3499.88	13.22 S	2.30 W 0.44
3600.	0 45	S 77 E	100.	3599.87	13.46 S	1.02 W 0.07
3700.	0 45	S 75 E	100.	3699.86	13.78 S	0.25 E 0.03
3800.	0 30	S 67 E	100.	3799.86	14.13 S	1.28 E 0.26
3900.	0 45	S 55 E	100.	3899.85	14.66 S	2.24 E 0.28
4000.	0 30	S 35 E	100.	3999.84	15.43 S	3.00 E 0.33
4100.	0 30	S 31 E	100.	4099.84	16.16 S	3.48 E 0.03
4200.	0 15	S 29 E	100.	4199.83	16.73 S	3.60 E 0.35
4300.	0 15	S 14 W	100.	4299.81	17.22 S	3.51 E 0.02
4400.	0 30	S 31 E	100.	4399.83	17.85 S	3.61 E 0.37
4500.	0 30	S 27 E	100.	4499.83	18.61 S	4.03 E 0.03
4600.	0 30	S 37 E	100.	4599.83	19.35 S	4.49 E 0.09
4700.	0 45	S 41 E	100.	4699.82	20.20 S	5.18 E 0.25
4800.	1 0	S 33 E	100.	4799.81	21.42 S	6.10 E 0.28
4900.	0 45	S 56 E	100.	4899.80	22.50 S	7.16 E 0.43
5000.	0 30	S 34 E	100.	4999.79	23.26 S	7.92 E 0.34
5100.	0 30	S 34 E	100.	5099.79	23.99 S	8.41 E 0.00
5200.	0 15	S 48 E	100.	5199.78	24.49 S	8.84 E 0.26
5300.	0 30	S 1 E	100.	5299.78	25.06 S	9.11 E 0.38
5400.	0 15	S 55 E	100.	5399.78	25.62 S	9.40 E 0.41
5500.	0 15	S 67 E	100.	5499.78	25.83 S	9.78 E 0.05
5600.	0 15	N 27 W	100.	5599.78	25.58 S	10.01 E 0.47
5700.	0 15	N 9 W	100.	5699.78	25.17 S	9.88 E 0.08
5800.	0 15	N 19 W	100.	5799.78	24.75 S	9.77 E 0.04
5900.	0 30	N 4 E	100.	5899.77	24.10 S	9.69 E 0.29

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O U R D I N A T E S F E E T	D O G L E G S E V E R I T Y D G / 1 0 0 F T
6000.	0 15	N 8 W	100.	5999.77	23.45 S 9.66 E	0.26
6100.	0 15	N 14 W	100.	6099.77	23.02 S 9.58 E	0.03
6200.	0 15	N 10 W	100.	6199.77	22.59 S 9.49 E	0.02
6300.	0 15	N 27 W	100.	6299.77	22.18 S 9.35 E	0.07
6400.	0 15	N 50 W	100.	6399.77	21.84 S 9.08 E	0.10
6500.	0 15	N 8 W	100.	6499.77	21.47 S 8.88 E	0.18
6600.	0 15	N 28 W	100.	6599.77	21.06 S 8.74 E	0.09
6700.	0 15	N 37 W	100.	6699.76	20.69 S 8.51 E	0.04
6800.	0 15	N 35 W	100.	6799.76	20.34 S 8.25 E	0.01
6900.	0 15	N 21 E	100.	6899.76	19.92 S 8.20 E	0.23
7000.	0 15	N 21 E	100.	6999.76	19.51 S 8.36 E	0.00
7100.	0 15	N 4 E	100.	7099.76	19.10 S 8.45 E	0.07
7200.	0 15	N 15 E	100.	7199.75	18.73 S 8.52 E	0.05
7300.	0 0	0	100.	7299.75	18.35 S 8.58 E	0.25
7400.	0 15	S 35 E	100.	7399.76	18.63 S 8.70 E	0.25
7500.	0 30	S 5 E	100.	7499.76	19.24 S 8.93 E	0.31
7600.	0 30	S 3 W	100.	7599.75	20.11 S 8.94 E	0.07
7700.	0 15	S 51 W	100.	7699.75	20.67 S 8.65 E	0.38
7800.	0 15	S 68 W	100.	7799.75	20.89 S 8.28 E	0.07
7900.	0 15	S 70 W	100.	7899.75	21.05 S 7.87 E	0.01
8000.	0 15	S 20 W	100.	7999.75	21.35 S 7.57 E	0.21
8100.	0 15	S 13 W	100.	8099.75	21.77 S 7.45 E	0.03
8200.	0 15	S 44 W	100.	8199.75	22.15 S 7.24 E	0.13
8300.	0 15	S 30 W	100.	8299.74	22.49 S 6.98 E	0.06
8400.	0 15	S 19 W	100.	8399.74	22.89 S 6.80 E	0.05
8500.	0 15	S 30 W	100.	8499.74	23.29 S 6.62 E	0.05
8600.	0 30	S 40 W	100.	8599.74	23.82 S 6.24 E	0.26

FINAL CLOSURE - DIRECTION: S 14 DEGS 41 MINS E
DISTANCE: 24.63 FEET

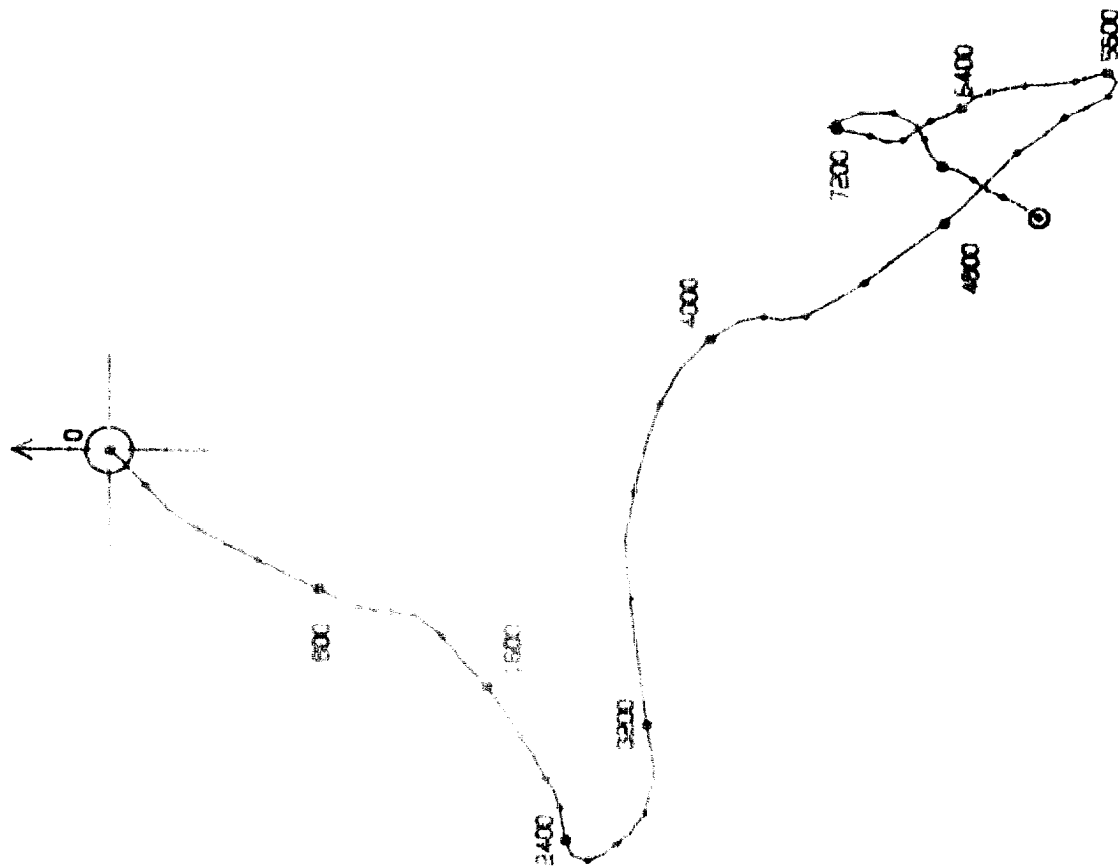
SUN PRODUCTION COMPANY
STATE OF NEW MEXICO, C
LEA COUNTY, NEW MEXICO

ACCOUNT : WELL N
BD1-316

HORIZONTAL PROJECTION

SCALE 1 IN. = 5 FEET
DEPTH INDICATOR: MD

ERSTRAH WHIPSTOCK, INC.



FINAL STATION:
DEPTH 5600 MD, 8599.74 TVL
SOUTH 23.82 EAST 9.24
CLOSURE 24.62 S 17 40 SE E



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 September 7, 19 83 thru September 8, 19 83 conduct or supervise the taking of a Gyroscopic Multi Shot survey by the method of magnetic orientation from a depth of 0 feet to 8,600 feet, with recordings of inclination and direction being obtained at approximate intervals of 100 feet.

This survey was conducted at the request of Sun Production Company for their State of N. M. "C" Acct. 1 # 5 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.

Gary DeSpain
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.

Tim Stephens

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 1st day of OCT., 19 84

Gary L. Stike
Notary Public in and for the
County of Midland, Texas 7/9/85
My commission expires



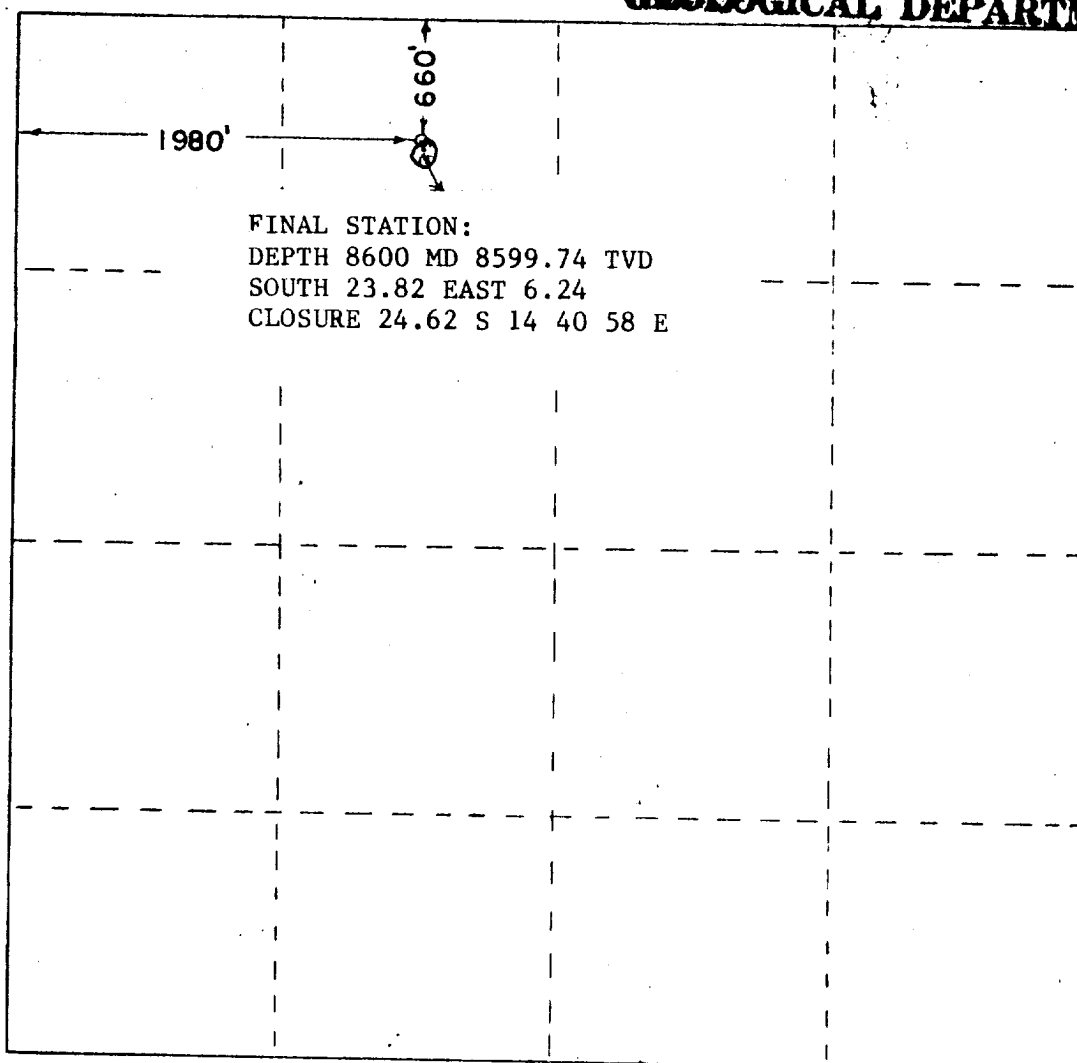
WELL LOCATION SURVEY PLAT

OPERATOR TEXAS PACIFIC COAL & OIL CO.

LEASE STATE C ACCOUNT 1

WELL NO. 5

**TEXAS PACIFIC OIL COMPANY
GEOLOGICAL DEPARTMENT**



SEC. 2 , TWP. 12 S., RGE. 33 E., N.M.P.M.

I HEREBY CERTIFY THAT THIS PLAT WAS MADE
FROM NOTES TAKEN IN THE FIELD BY ME AND
THAT THE SAME IS TRUE AND CORRECT TO
BEST OF MY KNOWLEDGE AND BELIEF.

**TEXAS PACIFIC OIL COMPANY
GEOLOGICAL DEPARTMENT**

John W. West
JOHN W. WEST, PE & LS NO. 676
FEBRUARY 26, 1952

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section.

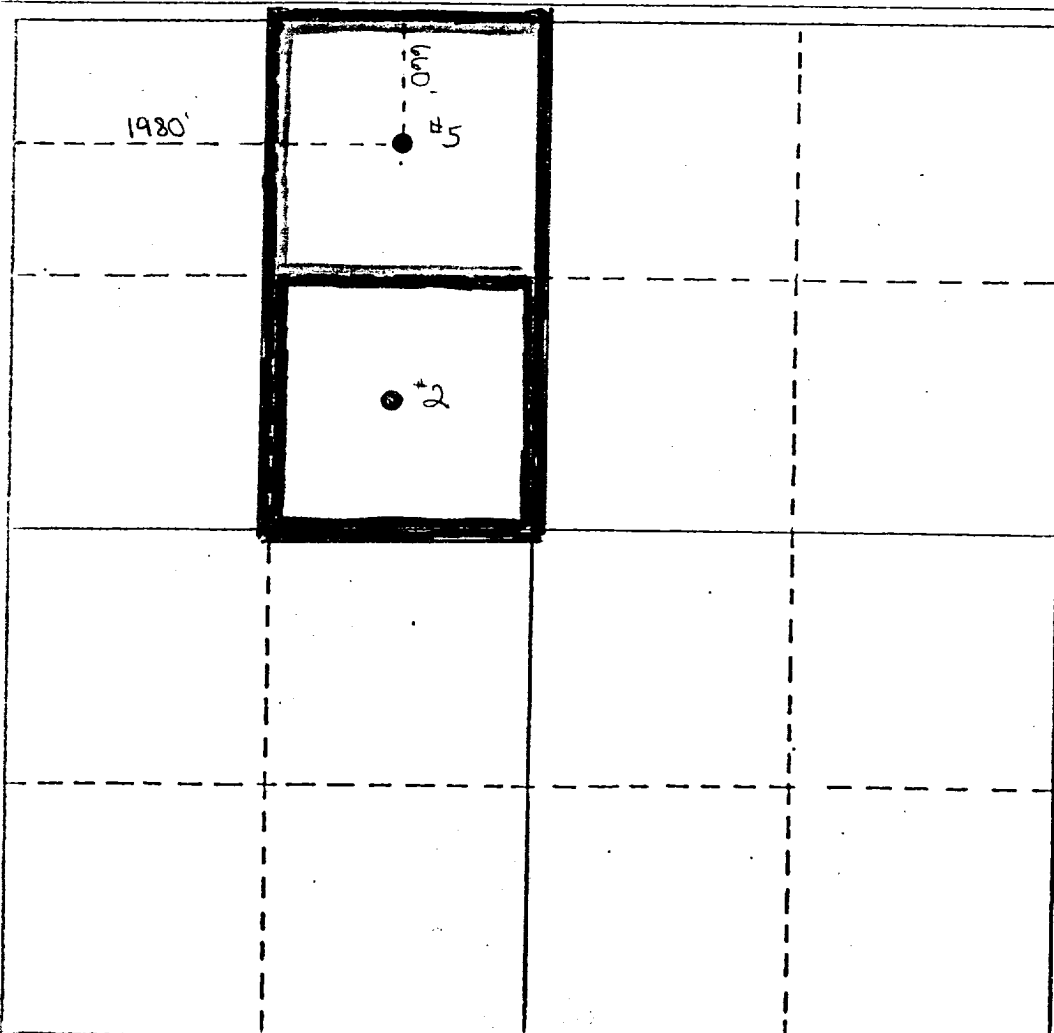
Operator Sun Exploration & Production Co.			Lease State "C" A/C-1		Well No. 5
Unit Letter C	Section 2	Township 12-S	Range 33-E	County Lea	
Actual Footage Location of Well: 660 feet from the North line and 1980 feet from the West line					
Ground Level Elev. 4237'	Producing Formation Devonian		Pool Bagley Siluro Devonian		Dedicated Acreage: 80 90 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below. (79.59)
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, 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 communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

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

Dee Ann Kemp

Name

Dee Ann Kemp

Position

Senior Accounting Assistant

Company

Sun Exploration & Production Co

Date

January 12, 1984

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.

Date Surveyed

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

