

# Tenneco Oil Company

A Tenneco Company



Rocky Mountain Division  
P.O. Box 3249  
Englewood, Colorado 80155  
(303) 740-4800

Delivery Address:  
6162 South Willow Drive  
Englewood, Colorado 80111

*Case No.*  
8915

March 18, 1987

Mr. Michael E. Stogner  
Hearing Examiner  
New Mexico Oil Conservation Division  
P.O. Box 2088  
State Land Office Building  
Santa Fe, New Mexico 87501

Re: Order No. R-8253, as amended  
City of Farmington #2 Well  
San Juan County, New Mexico

Dear Mr. Stogner:

In response to your letter to Karen Aubrey dated February 3, 1987, please be advised of the following:

1. The captioned well was perforated at the following intervals:  
6162'-6174', 6184'-6186', 6190'-6194', 6241'-6245', 6270'-6292',  
6302'-6308', measured depth, for 50 feet of net pay.
2. The top of the uppermost perforated interval is 8.5 feet outside the "legal window" established by the captioned Order, and the perforated intervals down to 6186', measured depth, are likewise outside the window.
3. The perforated intervals from 6190', measured depth, downward are within the legal window.

Please advise what further administrative measures need be taken, if any, given the fact that Tenneco Oil Company operates the offset to this well.

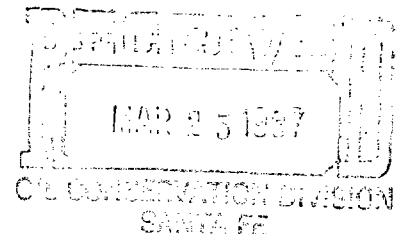
Very truly yours,

TENNECO OIL COMPANY

*John D. Carver*

John D. Carver  
Attorney

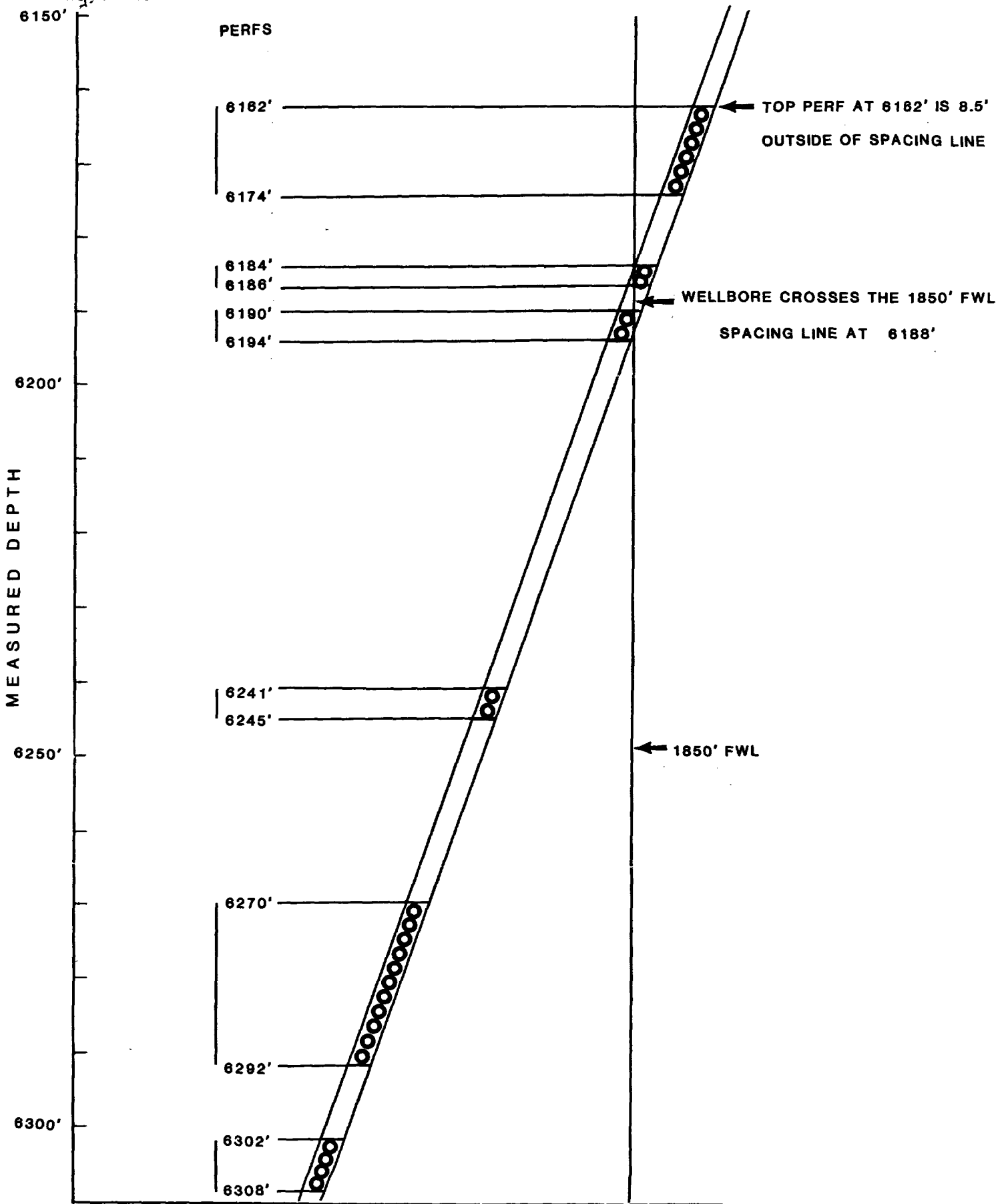
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CITY OF FARMINGTON #2

WELLBORE INTERVAL FROM 6150' TO 6310'

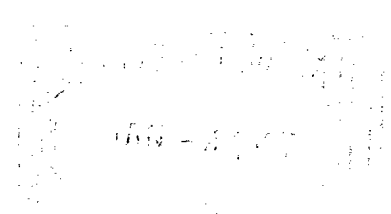
By: J.L.E.



**SMITH ii SMITH INTERNATIONAL**

Division of Smith International, Inc.

Suite 1100-N  
600 17th Street  
Denver, Colorado 80202  
Phone: (303) 623-8195 Rapicorn: (303) 629-0909



December 30, 1987

State of New Mexico  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501-2088

Attn: Michael Stogner

Re: Tenneco Oil Company  
City of Farmington Com #1E  
Sec 10--T29N-R13W  
San Juan County, New Mexico

Enclosed is an original and two copies of the directional surveys taken by SMITH INTERNATIONAL on the above well.

These are being sent to you in accordance with state regulations. Should you have any questions, please advise.

Sincerely,

Terry Kerr  
Technical Sales Representative  
SMITH INTERNATIONAL

TMK/tk

Enclosures: 3

**SMITH ii SMITH INTERNATIONAL**  
Division of Smith International, Inc.

**Terry Kerr**  
Technical Sales Representative

600 17th Street, Suite 1100-N  
Denver, CO 80202  
Bus. Phone: (303) 629-0586  
Bus. Phone: (303) 623-8195  
Res. Phone: (303) 693-5648

DATADRIL  
DRILCO  
DYNA-DRILL  
SERVCO  
SMITH TOOL

**Sii DATADRIL**  
 Division of Smith International, Inc.

TENNECO OIL COMPANY  
 CITY OF FARMINGTON COM #1E  
 SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO  
 MAGNETIC MULTI-SHOT SURVEY

File Name: TENCOFIEMS

**\*\*\* RECORD OF SURVEY \*\*\***  
 Calculated by Sii DATADRIL's C.A.D.S. System

Radius of Curvature Method  
 All Angles are Decimal  
 Vertical Section Plane: N .12 E

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOGLEG SEVERITY (DEG/100')
					RECTANGULAR	COORDINATES (FT)		DISTANCE (FT)	DIRECTION (DEG)	
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N	0.00 E	0.00
100.00	.25	S 6.00 W	100.00	100.00	.22 S	.02 W	-.22	.22 E	6.00 W	.25
200.00	.25	S 52.00 W	100.00	200.00	.59 S	.23 W	-.59	.63 S	21.24 W	.20
300.00	.50	N 64.00 E	100.00	300.00	.96 S	.01 E	-.96	.96 E	.39 E	.75
400.00	.50	N 40.00 E	100.00	399.99	.43 S	.69 E	-.43	.81 S	57.94 E	.21
500.00	.25	N 17.00 W	100.00	499.99	.18 N	.81 E	.19	.83 N	77.29 E	.42
600.00	1.00	N 86.00 E	100.00	599.98	.97 N	1.35 E	.97	1.66 N	54.45 E	1.08
700.00	1.00	N 84.00 E	100.00	699.97	1.12 N	3.09 E	1.12	3.29 N	70.11 E	.03
800.00	.75	N 67.00 E	100.00	799.96	1.50 N	4.56 E	1.51	4.80 N	71.81 E	.36
900.00	.25	S 82.00 E	100.00	899.95	1.61 N	5.42 E	1.62	5.65 N	73.43 E	.55
1000.00	1.00	S 62.00 E	100.00	999.95	1.28 N	6.45 E	1.29	6.58 N	78.81 E	.77
1100.00	.50	N 62.00 E	100.00	1099.94	1.28 N	7.71 E	1.29	7.81 N	80.60 E	.83
1200.00	.75	S 19.00 E	100.00	1199.93	.92 N	8.60 E	.94	8.65 N	83.86 E	.96
1300.00	2.50	N 67.00 E	100.00	1299.89	.10 S	10.91 E	-.08	10.91 E	89.46 E	2.66
1400.00	7.00	N 35.00 E	100.00	1399.52	5.04 N	17.26 E	5.08	17.98 N	73.73 E	5.06
1500.00	7.50	N 12.00 E	100.00	1498.72	16.53 N	22.26 E	16.58	27.73 N	53.40 E	2.92
1600.00	9.00	N 5.00 E	100.00	1597.68	30.72 N	24.38 E	30.77	39.22 N	38.44 E	1.80
1700.00	9.00	N 3.00 W	100.00	1696.45	46.35 N	24.65 E	46.40	52.49 N	28.01 E	1.25
1800.00	10.50	N 7.00 W	100.00	1795.00	63.21 N	23.18 E	63.26	67.33 N	20.14 E	1.64
1900.00	11.50	N 7.00 W	100.00	1893.16	82.15 N	20.85 E	82.19	84.76 N	14.24 E	1.00
2000.00	13.50	N 9.00 W	100.00	1990.79	103.58 N	17.84 E	103.62	105.11 N	9.77 E	2.05

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOGLEG SEVERITY (DEG/100')
					RECTANGULAR	COORDINATES (FT)		DISTANCE (FT)	DIRECTION (DEG)	
2100.00	15.25	N 10.00 W	100.00	2087.65	128.07 N	13.74 E	128.09	128.80 N	6.12 E	1.77
2200.00	16.50	N 10.00 W	100.00	2183.84	155.00 N	8.99 E	155.02	155.26 N	3.32 E	1.25
2300.00	18.25	N 10.00 W	100.00	2279.27	184.41 N	3.81 E	184.42	184.45 N	1.18 E	1.75
2400.00	19.50	N 10.00 W	100.00	2373.89	216.27 N	1.81 W	216.27	216.28 N	.48 W	1.25
2420.00	19.75	N 10.00 W	20.00	2392.73	222.89 N	2.98 W	222.88	222.91 N	.77 W	1.25
2500.00	20.25	N 11.00 W	80.00	2467.91	249.79 N	7.96 W	249.77	249.92 N	1.83 W	.76
2600.00	21.50	N 12.00 W	100.00	2561.34	284.71 N	15.07 W	284.67	285.10 N	3.03 W	1.30
2700.00	22.25	N 14.00 W	100.00	2654.14	321.01 N	23.45 W	320.96	321.86 N	4.18 W	1.06
2800.00	23.00	N 17.00 W	100.00	2746.44	358.07 N	33.73 W	358.00	359.66 N	5.38 W	1.38
2887.00	25.00	N 20.00 W	87.00	2825.92	391.62 N	44.95 W	391.53	394.20 N	6.55 W	2.69
2940.00	25.50	N 19.00 W	53.00	2873.85	412.94 N	52.50 W	412.82	416.26 N	7.25 W	1.24
3003.00	26.25	N 18.00 W	63.00	2930.54	439.01 N	61.22 W	438.88	443.26 N	7.94 W	1.38
3064.00	25.75	N 14.00 W	61.00	2985.36	464.71 N	68.59 W	464.56	469.74 N	8.40 W	2.99
3127.00	25.75	N 8.00 W	63.00	3042.11	491.56 N	73.81 W	491.41	497.07 N	8.54 W	4.14
3190.00	26.25	N 9.00 W	63.00	3098.73	518.88 N	77.90 W	518.71	524.69 N	8.54 W	1.06
3251.00	26.25	N 10.00 W	61.00	3153.44	545.49 N	82.35 W	545.31	551.67 N	8.58 W	.73
3312.00	26.75	N 7.00 W	61.00	3208.03	572.40 N	86.37 W	572.22	578.88 N	8.58 W	2.34
3375.00	28.50	N 5.00 W	63.00	3263.85	601.45 N	89.42 W	601.26	608.06 N	8.46 W	3.14
3437.00	29.00	N 4.00 W	62.00	3318.20	631.18 N	91.76 W	630.99	637.81 N	8.27 W	1.12
3500.00	30.00	N 3.00 W	63.00	3373.04	662.14 N	93.66 W	661.95	668.73 N	8.05 W	1.77
3562.00	30.25	N 3.00 W	62.00	3426.66	693.22 N	95.29 W	693.02	699.74 N	7.83 W	.40
3625.00	31.00	N 2.00 W	63.00	3480.87	725.28 N	96.69 W	725.08	731.70 N	7.59 W	1.44
3688.00	31.25	N 1.00 W	63.00	3534.80	757.83 N	97.54 W	757.63	764.08 N	7.33 W	.91
3750.00	31.50	N 0.00 W	62.00	3587.74	790.11 N	97.82 W	789.90	796.14 N	7.06 W	.93
3813.00	32.25	N 0.00 W	63.00	3641.24	823.38 N	97.82 W	823.17	829.17 N	6.78 W	1.19
3874.00	32.00	N 2.00 E	61.00	3692.90	855.81 N	97.25 W	855.60	861.32 N	6.48 W	1.79
3936.00	32.50	N 2.00 E	62.00	3745.33	888.87 N	96.10 W	888.67	894.05 N	6.17 W	.81
3998.00	32.25	N 1.00 E	62.00	3797.70	922.06 N	95.23 W	921.86	926.97 N	5.90 W	.95
4060.00	32.00	N 1.00 E	62.00	3850.20	955.03 N	94.65 W	954.83	959.70 N	5.66 W	.40
4122.00	32.25	N 2.00 E	62.00	3902.71	987.98 N	93.79 W	987.78	992.43 N	5.42 W	.95
4184.00	31.75	N 3.00 E	62.00	3955.29	1020.81 N	92.36 W	1020.61	1024.98 N	5.17 W	1.18
4247.00	31.75	N 2.00 E	63.00	4008.86	1053.93 N	90.91 W	1053.73	1057.84 N	4.93 W	.84
4310.00	31.25	N 1.00 E	63.00	4062.58	1086.83 N	90.05 W	1086.64	1090.56 N	4.74 W	1.15

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)	VERTICAL SECTION (FT)	C L O S U R E DISTANCE (FT)	DIRECTION (DEG)	DOGLEG SEVERITY (DEG/100')
4373.00	29.75	N 2.00 E	63.00	4116.86	1118.79 N 89.21 W	1118.61	1122.35	N 4.56 W	2.51
4436.00	28.75	N 2.00 E	63.00	4171.82	1149.56 N 88.14 W	1149.37	1152.93	N 4.38 W	1.59
4498.00	27.00	N 1.00 E	62.00	4226.63	1178.53 N 87.38 W	1178.35	1181.77	N 4.24 W	2.92
4560.00	25.50	N 1.00 E	62.00	4282.23	1205.95 N 86.90 W	1205.77	1209.08	N 4.12 W	2.42
4622.00	23.75	N 1.00 E	62.00	4338.59	1231.78 N 86.45 W	1231.60	1234.81	N 4.01 W	2.82
4684.00	21.50	N 1.00 E	62.00	4395.82	1255.63 N 86.04 W	1255.44	1258.57	N 3.92 W	3.63
4745.00	20.00	N 1.00 E	61.00	4452.86	1277.23 N 85.66 W	1277.05	1280.10	N 3.84 W	2.46
4808.00	19.25	N 1.00 E	63.00	4512.20	1298.39 N 85.29 W	1298.21	1301.19	N 3.76 W	1.19
4877.00	18.00	N 1.00 E	69.00	4577.58	1320.42 N 84.90 W	1320.24	1323.15	N 3.68 W	1.81
4939.00	17.00	N 2.00 E	62.00	4636.71	1339.06 N 84.42 W	1338.88	1341.72	N 3.61 W	1.68
5002.00	13.75	N 18.00 E	63.00	4697.45	1355.45 N 81.53 W	1355.28	1357.90	N 3.44 W	8.44
5064.00	11.75	N 26.00 E	62.00	4757.92	1368.13 N 76.40 W	1367.97	1370.26	N 3.20 W	4.30
5126.00	9.50	N 27.00 E	62.00	4818.85	1378.36 N 71.30 W	1378.21	1380.20	N 2.96 W	3.64
5189.00	7.50	N 29.00 E	63.00	4881.16	1386.58 N 66.93 W	1386.44	1388.20	N 2.76 W	3.21
5251.00	6.00	N 31.00 E	62.00	4942.73	1392.89 N 63.29 W	1392.76	1394.33	N 2.60 W	2.45
5314.00	5.00	N 36.00 E	63.00	5005.43	1397.93 N 59.96 W	1397.80	1399.21	N 2.46 W	1.76
5376.00	4.25	N 46.00 E	62.00	5067.23	1401.69 N 56.68 W	1401.57	1402.84	N 2.32 W	1.77
5439.00	3.75	N 51.00 E	63.00	5130.08	1404.60 N 53.39 W	1404.49	1405.62	N 2.18 W	.97
5501.00	3.00	N 62.00 E	62.00	5191.97	1406.62 N 50.35 W	1406.51	1407.52	N 2.05 W	1.59
5563.00	2.00	N 66.00 E	62.00	5253.91	1407.80 N 47.92 W	1407.70	1408.62	N 1.95 W	1.64
5626.00	2.00	N 76.00 E	63.00	5316.87	1408.52 N 45.85 W	1408.42	1409.26	N 1.86 W	.55
5688.00	2.25	N 88.00 E	62.00	5378.83	1408.84 N 43.57 W	1408.74	1409.51	N 1.77 W	.82
5751.00	2.00	S 79.00 E	63.00	5441.79	1408.65 N 41.25 W	1408.56	1409.26	N 1.68 W	.86
5813.00	2.25	S 87.00 E	62.00	5503.74	1408.37 N 38.97 W	1408.29	1408.91	N 1.58 W	.62
5875.00	2.00	S 82.00 E	62.00	5565.70	1408.15 N 36.68 W	1408.07	1408.63	N 1.49 W	.50
5938.00	1.75	N 89.00 E	63.00	5628.67	1408.03 N 34.63 W	1407.95	1408.45	N 1.41 W	.61
6000.00	2.00	S 89.00 E	62.00	5690.63	1408.03 N 32.60 W	1407.96	1408.40	N 1.33 W	.42
6063.00	2.00	S 88.00 E	63.00	5753.60	1407.97 N 30.40 W	1407.90	1408.30	N 1.24 W	.06
6125.00	1.75	S 79.00 E	62.00	5815.56	1407.74 N 28.39 W	1407.68	1408.03	N 1.16 W	.62
6188.00	1.00	N 73.00 E	63.00	5878.54	1407.82 N 26.89 W	1407.76	1408.08	N 1.09 W	1.57
6250.00	1.25	N 72.00 E	62.00	5940.53	1408.18 N 25.73 W	1408.13	1408.42	N 1.05 W	.40
6310.00	1.25	N 58.00 E	60.00	6000.52	1408.74 N 24.55 W	1408.68	1408.95	N 1.00 W	.51

THE FOLLOWING STATION IS PROJECTED ONLY!

6330.00	1.25	N 58.00 E	20.00	6020.51	1408.97 N 24.18 W	1408.91	1409.17	N .98 W	0.00
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BOTTOM HOLE CLOSURE: 1409.17 Feet at N .98 Degrees W

TENNECO OIL COMPANY  
 CITY OF FARMINGTON COM 1-E  
 SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO

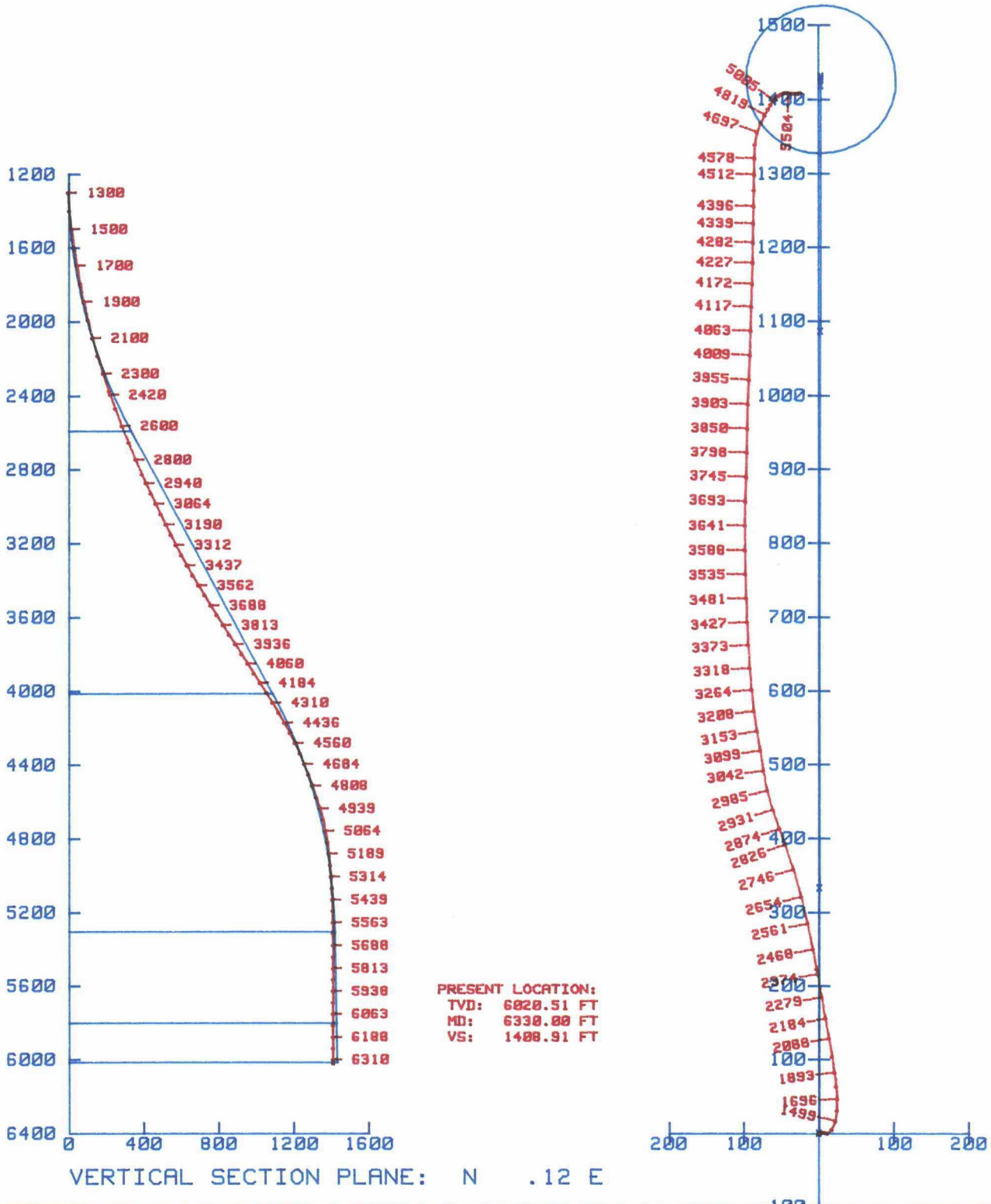


# DATA DRILL

Division of Smith International, Inc.

VERTICAL PLANE  
 SCALE: 400 FEET/DIVISION

HORIZONTAL PLANE  
 SCALE: 100 FEET/DIVISION



**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COH #1E  
SEC 10-T2RN-R13W  
SAN JUAN COUNTY, NEW MEXICO  
MAGNETIC MULTI-SHOT SURVEY

File Name: TENCOFIEMS

**\*\*\* RECORD OF SURVEY \*\*\***

Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method

All Angles are Decimal

Vertical Section Plane: N .12 E

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOUBLE SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N	0.00 E	0.00
100.00	.25	S 6.00 W	100.00	100.00	.22 S	.02 W	-.22	.22 S	6.00 W	.25
200.00	.25	S 52.00 W	100.00	200.00	.59 S	.23 W	-.59	.53 S	21.24 W	.20
300.00	.50	N 64.00 E	100.00	300.00	.96 S	.01 E	-.96	.96 S	.39 E	.75
400.00	.50	N 40.00 E	100.00	399.99	.43 S	.69 E	-.43	.81 S	57.94 E	.21
500.00	.25	N 17.00 W	100.00	499.99	.18 N	.81 E	.19	.83 N	77.29 E	.42
600.00	1.00	N 86.00 E	100.00	599.98	.97 N	1.35 E	.97	1.66 N	54.45 E	1.68
700.00	1.00	N 84.00 E	100.00	699.97	1.12 N	3.09 E	1.12	3.29 N	70.11 E	.03
800.00	.75	N 67.00 E	100.00	799.96	1.50 N	4.56 E	1.51	4.80 N	71.81 E	.36
900.00	.25	S 82.00 E	100.00	899.95	1.81 N	5.42 E	1.52	5.65 N	73.43 E	.55
1000.00	1.00	S 62.00 E	100.00	999.95	1.28 N	6.45 E	1.29	6.58 N	78.81 E	.77
1100.00	.50	N 62.00 E	100.00	1099.94	1.28 N	7.71 E	1.29	7.81 N	80.60 E	.83
1200.00	.75	S 19.00 E	100.00	1199.93	.92 N	8.60 E	.94	8.65 N	83.86 E	.95
1300.00	2.50	N 67.00 E	100.00	1299.99	.10 S	10.91 E	-.08	10.91 S	89.46 E	2.56
1400.00	7.00	N 35.00 E	100.00	1399.52	5.04 N	17.26 E	5.08	17.92 N	73.73 E	5.06
1500.00	7.50	N 12.00 E	100.00	1498.72	16.53 N	22.23 E	16.58	27.73 N	53.40 E	2.92
1600.00	9.00	N 5.00 E	100.00	1577.58	30.72 N	24.38 E	30.77	39.22 N	38.44 E	1.80
1700.00	9.00	N 3.00 W	100.00	1676.45	46.35 N	24.65 E	46.40	52.49 N	28.01 E	1.25
1800.00	10.50	N 7.00 W	100.00	1795.00	63.21 N	23.18 E	63.26	67.33 N	20.14 E	1.84
1900.00	11.50	N 7.00 W	100.00	1893.16	82.15 N	20.85 E	82.19	84.76 N	14.24 E	1.00
2000.00	13.50	N 9.00 W	100.00	1990.79	103.58 N	17.84 E	103.62	105.11 N	9.77 E	2.05



**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOUBLE SEVERITY (DEG/100')
					RECTANGULAR	COORDINATES (FT)		DISTANCE (FT)	DIRECTION (DEG)	
2100.00	15.25	N 10.00 W	100.00	2087.65	128.07 N	13.74 E	128.09	128.80 N	6.12 E	1.77
2200.00	16.50	N 10.00 W	100.00	2183.84	155.00 N	8.99 E	155.02	155.26 N	3.32 E	1.25
2300.00	18.25	N 10.00 W	100.00	2279.27	184.41 N	3.81 E	184.42	184.45 N	1.18 E	1.75
2400.00	19.50	N 10.00 W	100.00	2373.89	216.27 N	1.81 W	216.27	216.28 N	.48 W	1.25
2420.00	19.75	N 10.00 W	20.00	2392.73	222.89 N	2.98 W	222.88	222.91 N	.77 W	1.25
2500.00	20.25	N 11.00 W	80.00	2467.91	249.79 N	7.96 W	249.77	249.92 N	1.83 W	.78
2600.00	21.50	N 12.00 W	100.00	2561.34	284.71 N	15.07 W	284.67	285.10 N	3.03 W	1.30
2700.00	22.25	N 14.00 W	100.00	2654.14	321.01 N	23.45 W	320.96	321.86 N	4.18 W	1.06
2800.00	23.00	N 17.00 W	100.00	2746.44	358.07 N	33.73 W	358.00	359.66 N	5.38 W	1.25
2827.00	25.00	N 20.00 W	87.00	2825.92	391.62 N	44.95 W	391.53	394.20 N	6.55 W	2.59
2940.00	25.50	N 19.00 W	53.00	2873.65	412.94 N	52.50 W	412.92	416.26 N	7.25 W	1.24
3003.00	26.25	N 18.00 W	63.00	2930.54	439.01 N	61.22 W	438.99	443.26 N	7.94 W	1.38
3064.00	25.75	N 14.00 W	61.00	2985.76	464.71 N	68.59 W	464.56	469.74 N	8.40 W	2.59
3127.00	25.75	N 8.00 W	63.00	3042.11	491.56 N	73.81 W	491.41	497.07 N	8.54 W	4.14
3190.00	26.25	N 9.00 W	63.00	3098.73	518.68 N	77.90 W	518.71	524.69 N	8.54 W	1.36
3251.00	26.25	N 10.00 W	61.00	3153.44	545.49 N	82.35 W	545.31	551.67 N	8.58 W	.73
3312.00	26.75	N 7.00 W	61.00	3208.03	572.40 N	86.37 W	572.22	578.88 N	8.58 W	2.74
3375.00	26.50	N 5.00 W	63.00	3263.95	601.45 N	89.42 W	601.26	608.06 N	8.46 W	3.14
3437.00	29.00	N 4.00 W	62.00	3316.20	631.18 N	91.76 W	630.99	637.81 N	8.27 W	1.12
3500.00	30.00	N 3.00 W	63.00	3373.04	662.14 N	93.66 W	661.95	668.73 N	8.05 W	1.77
3562.00	30.25	N 3.00 W	62.00	3426.66	693.22 N	95.29 W	693.02	699.74 N	7.83 W	.40
3625.00	31.00	N 2.00 W	63.00	3480.67	725.28 N	96.69 W	725.08	731.70 N	7.59 W	1.44
3688.00	31.25	N 1.00 W	63.00	3534.60	757.83 N	97.54 W	757.63	764.08 N	7.33 W	.91
3750.00	31.50	N 0.00 W	62.00	3587.74	790.11 N	97.82 W	789.90	796.14 N	7.06 W	.93
3810.00	32.25	N 0.00 W	63.00	3641.24	823.38 N	97.82 W	823.17	829.17 N	6.78 W	1.19
3874.00	32.00	N 2.00 E	61.00	3692.90	855.81 N	97.25 W	855.60	861.32 N	6.48 W	1.79
3936.00	32.50	N 2.00 E	62.00	3745.33	888.87 N	96.10 W	888.67	894.05 N	6.17 W	.81
3998.00	32.25	N 1.00 E	62.00	3797.70	922.06 N	95.23 W	921.86	926.97 N	5.90 W	.95
4060.00	32.00	N 1.00 E	62.00	3850.20	955.03 N	94.65 W	954.83	959.70 N	5.66 W	.40
4122.00	32.25	N 2.00 E	62.00	3902.71	987.98 N	93.79 W	987.76	992.43 N	5.42 W	.95
4184.00	31.75	N 3.00 E	62.00	3955.29	1020.81 N	92.36 W	1020.61	1024.98 N	5.17 W	1.18
4247.00	31.75	N 2.00 E	63.00	4008.86	1053.93 N	90.91 W	1053.73	1057.84 N	4.93 W	.84
4310.00	31.25	N 1.00 E	63.00	4062.58	1086.53 N	90.05 W	1086.34	1090.56 N	4.74 W	1.15

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DGSLES SEVERITY (DEG/100')
					RECTANGULAR COORDINATES (FT)			DISTANCE (FT)	DIRECTION (DEG)	
4373.00	29.75	N 2.00 E	63.00	4116.86	1118.79 N	89.21 W	1118.61	1122.35	N 4.56 W	2.51
4436.00	28.75	N 2.00 E	63.00	4171.82	1149.56 N	88.14 W	1149.37	1152.93	N 4.38 W	1.59
4498.00	27.00	N 1.00 E	62.00	4226.63	1178.53 N	87.38 W	1178.35	1181.77	N 4.24 W	2.92
4560.00	25.50	N 1.00 E	62.00	4282.23	1205.95 N	86.90 W	1205.77	1209.08	N 4.12 W	2.42
4622.00	23.75	N 1.00 E	62.00	4338.59	1231.78 N	86.45 W	1231.60	1234.81	N 4.01 W	2.92
4684.00	21.50	N 1.00 E	62.00	4395.82	1255.63 N	86.04 W	1255.44	1258.57	N 3.92 W	3.63
4745.00	20.00	N 1.00 E	61.00	4452.86	1277.23 N	85.66 W	1277.05	1280.10	N 3.84 W	2.46
4808.00	19.25	N 1.00 E	63.00	4512.20	1298.39 N	85.29 W	1298.21	1301.19	N 3.76 W	1.19
4877.00	18.00	N 1.00 E	59.00	4577.56	1320.42 N	84.90 W	1320.24	1323.15	N 3.68 W	1.81
4939.00	17.00	N 2.00 E	62.00	4636.71	1339.06 N	84.42 W	1338.88	1341.72	N 3.61 W	1.68
5002.00	13.75	N 18.00 E	63.00	4697.45	1355.45 N	81.53 W	1355.28	1357.90	N 3.44 W	8.44
5064.00	11.75	N 26.00 E	62.00	4757.92	1368.13 N	76.40 W	1367.97	1370.26	N 3.20 W	4.30
5126.00	9.50	N 27.00 E	62.00	4818.85	1378.36 N	71.30 W	1378.21	1380.20	N 2.96 W	3.64
5188.00	7.50	N 29.00 E	63.00	4881.16	1385.58 N	66.83 W	1385.44	1388.26	N 2.76 W	3.21
5251.00	6.00	N 31.00 E	62.00	4942.73	1392.89 N	63.29 W	1392.76	1394.33	N 2.60 W	2.45
5314.00	5.00	N 36.00 E	63.00	5005.43	1397.93 N	59.96 W	1397.80	1399.21	N 2.46 W	1.76
5376.00	4.25	N 46.00 E	62.00	5067.23	1401.69 N	56.68 W	1401.57	1402.84	N 2.32 W	1.77
5439.00	3.75	N 51.00 E	63.00	5130.08	1404.60 N	53.39 W	1404.49	1405.62	N 2.18 W	.97
5501.00	3.00	N 62.00 E	62.00	5191.97	1406.62 N	50.35 W	1406.51	1407.52	N 2.05 W	1.59
5563.00	2.00	N 66.00 E	62.00	5253.91	1407.80 N	47.92 W	1407.70	1408.62	N 1.95 W	1.64
5626.00	2.00	N 76.00 E	63.00	5316.87	1408.52 N	45.85 W	1408.42	1409.26	N 1.86 W	.55
5688.00	2.25	N 88.00 E	62.00	5378.83	1408.84 N	43.57 W	1408.74	1409.51	N 1.77 W	.82
5751.00	2.00	S 79.00 E	63.00	5441.79	1408.65 N	41.25 W	1408.55	1409.26	N 1.68 W	.86
5813.00	2.25	S 87.00 E	62.00	5503.74	1408.37 N	38.97 W	1408.29	1408.91	N 1.58 W	.62
5875.00	2.00	S 82.00 E	62.00	5565.70	1408.15 N	36.68 W	1408.07	1408.63	N 1.49 W	.50
5938.00	1.75	N 89.00 E	63.00	5628.67	1408.03 N	34.63 W	1407.95	1408.45	N 1.41 W	.61
6000.00	2.00	S 89.00 E	62.00	5690.63	1408.03 N	32.60 W	1407.96	1408.40	N 1.33 W	.42
6062.00	2.00	S 88.00 E	63.00	5753.60	1407.97 N	30.40 W	1407.90	1408.30	N 1.24 W	.66
6125.00	1.75	S 79.00 E	62.00	5815.56	1407.74 N	28.39 W	1407.68	1408.03	N 1.16 W	.62
6188.00	1.00	N 73.00 E	63.00	5878.54	1407.82 N	26.89 W	1407.75	1408.08	N 1.09 W	1.57
6250.00	1.25	N 72.00 E	62.00	5940.53	1408.18 N	25.73 W	1408.13	1408.42	N 1.05 W	.40
6309.00	1.25	N 58.00 E	60.00	6000.52	1408.74 N	24.55 W	1408.68	1408.95	N 1.00 W	.51

THE FOLLOWING STATION IS PROJECTED ONLY!

6330.00	1.25	N 58.00 E	20.00	6020.51	1408.97 N	24.19 W	1408.91	1409.17	N .93 W	6.00
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BOTTOM HOLE CLOSURE: 1409.17 Feet at N .93 Degrees W

TENNECO OIL COMPANY  
 CITY OF FARMINGTON COM 1-E  
 SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO



**DATA DRILL**

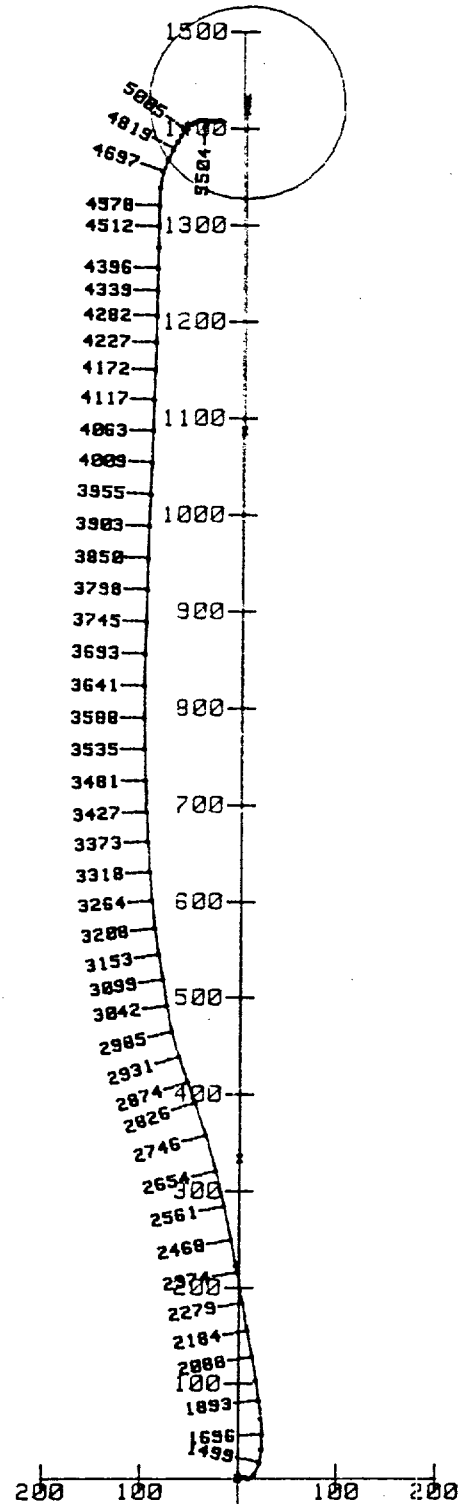
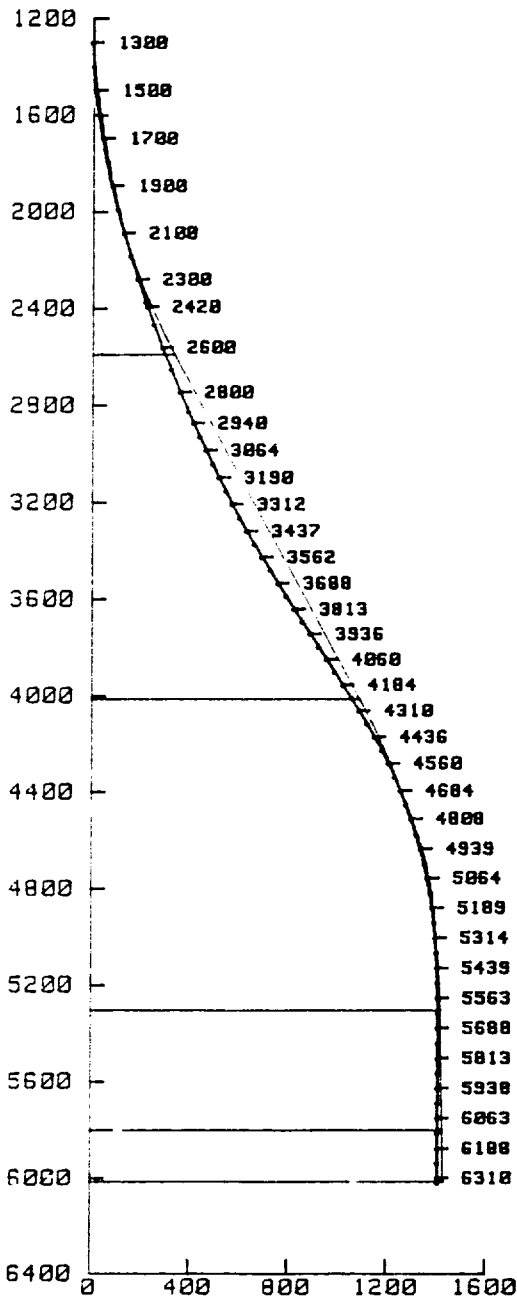
Division of Smith International, Inc.

**VERTICAL PLANE**

SCALE: 400 FEET/DIVISION

**HORIZONTAL PLANE**

SCALE: 100 FEET/DIVISION



PRESENT LOCATION:  
 TVD: 6020.51 FT  
 MD: 6330.00 FT  
 VS: 1400.91 FT

VERTICAL SECTION PLANE: N .12 E

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
MAGNETIC MULTI-SHOT SURVEY

File Name: TENCOFIEMS

**\*\*\* RECORD OF SURVEY \*\*\***  
Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: N .12 E

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOUBLES SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N	0.00 E	0.00
100.00	.25	S 6.00 W	100.00	100.00	.22 S	.02 W	-.22	.22 E	6.00 W	.25
200.00	.25	S 52.00 W	100.00	200.00	.59 S	.23 W	-.59	.63 S	21.24 W	.20
300.00	.50	N 64.00 E	100.00	300.00	.96 S	.01 E	-.96	.96 E	.39 E	.75
400.00	.50	N 40.00 E	100.00	399.99	.43 S	.69 E	-.43	.81 S	57.94 E	.21
500.00	.25	N 17.00 W	100.00	499.99	.18 N	.81 E	.19	.83 N	77.29 E	.42
600.00	1.00	N 86.00 E	100.00	599.98	.97 N	1.35 E	.97	1.66 N	54.45 E	1.68
700.00	1.00	N 84.00 E	100.00	699.97	1.12 N	3.09 E	1.12	3.29 N	70.11 E	.03
800.00	.75	N 67.00 E	100.00	799.96	1.50 N	4.56 E	1.51	4.80 N	71.81 E	.36
900.00	.25	S 82.00 E	100.00	899.95	1.61 N	5.42 E	1.62	5.65 N	73.43 E	.35
1000.00	1.00	S 62.00 E	100.00	999.95	1.28 N	6.45 E	1.29	6.58 N	78.81 E	.77
1100.00	.50	N 62.00 E	100.00	1099.94	1.28 N	7.71 E	1.29	7.81 N	80.60 E	.33
1200.00	.75	S 19.00 E	100.00	1199.93	.92 N	8.60 E	.94	8.65 N	83.86 E	.96
1300.00	2.50	N 67.00 E	100.00	1299.89	.10 S	10.91 E	-.08	10.91 S	89.46 E	2.66
1400.00	7.00	N 35.00 E	100.00	1399.52	5.04 N	17.26 E	5.08	17.98 N	73.73 E	5.06
1500.00	7.50	N 12.00 E	100.00	1498.72	16.53 N	22.26 E	16.58	27.73 N	53.40 E	2.92
1600.00	9.00	N 5.00 E	100.00	1597.98	30.72 N	24.38 E	30.77	39.22 N	38.44 E	1.80
1700.00	9.00	N 3.00 W	100.00	1696.45	46.35 N	24.65 E	46.40	52.49 N	28.01 E	1.25
1800.00	10.50	N 7.00 W	100.00	1795.00	63.21 N	23.18 E	63.26	67.33 N	20.14 E	1.64
1900.00	11.50	N 7.00 W	100.00	1893.16	82.15 N	20.65 E	82.19	84.76 N	14.24 E	1.00
2000.00	13.50	N 9.00 W	100.00	1990.79	103.58 N	17.84 E	103.62	105.11 N	9.77 E	2.05

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOGLEG SEVERITY (DEG/100')
					RECTANGULAR COORDINATES (FT)			DISTANCE (FT)	DIRECTION (DEG)	
2100.00	15.25	N 10.00 W	100.00	2087.65	128.07 N	13.74 E	128.09	129.90 N	6.12 E	1.77
2200.00	16.50	N 10.00 W	100.00	2183.84	155.00 N	9.99 E	155.02	155.26 N	3.32 E	1.25
2300.00	18.25	N 10.00 W	100.00	2279.27	184.41 N	3.81 E	184.42	184.45 N	1.18 E	1.75
2400.00	19.50	N 10.00 W	100.00	2373.89	216.27 N	1.81 W	216.27	215.28 N	.48 W	1.25
2420.00	19.75	N 10.00 W	20.00	2392.73	222.89 N	2.98 W	222.88	222.91 N	.77 W	1.25
2500.00	20.25	N 11.00 W	80.00	2467.91	249.79 N	7.96 W	249.77	249.92 N	1.83 W	.76
2500.00	21.50	N 12.00 W	100.00	2561.34	284.71 N	15.07 W	284.67	285.10 N	3.03 W	1.30
2700.00	22.25	N 14.00 W	100.00	2654.14	321.01 N	23.45 W	320.96	321.86 N	4.18 W	1.06
2900.00	23.00	N 17.00 W	100.00	2746.44	358.07 N	33.73 W	358.00	359.66 N	5.38 W	1.32
2997.00	25.00	N 20.00 W	87.00	2825.92	391.62 N	44.95 W	391.53	394.20 N	6.55 W	2.69
2940.00	25.50	N 19.00 W	53.00	2873.85	412.94 N	52.50 W	412.82	416.26 N	7.25 W	1.24
3003.00	26.25	N 18.00 W	63.00	2930.54	439.01 N	61.22 W	438.89	443.26 N	7.94 W	1.38
3064.00	25.75	N 14.00 W	61.00	2985.36	464.71 N	63.59 W	464.55	469.74 N	8.43 W	2.99
3127.00	25.75	N 8.00 W	63.00	3042.11	491.56 N	73.81 W	491.41	497.07 N	8.54 W	4.14
3190.00	26.25	N 9.00 W	63.00	3098.73	518.68 N	77.90 W	518.71	524.69 N	8.54 W	1.06
3251.00	26.25	N 10.00 W	61.00	3153.44	545.49 N	82.35 W	545.51	551.67 N	8.58 W	.73
3312.00	26.75	N 7.00 W	61.00	3208.03	572.40 N	86.37 W	572.22	578.88 N	8.58 W	2.74
3375.00	28.50	N 5.00 W	63.00	3263.85	601.45 N	89.42 W	601.26	608.06 N	8.46 W	3.14
3437.00	29.00	N 4.00 W	62.00	3318.20	631.16 N	91.76 W	630.99	637.81 N	8.27 W	1.12
3500.00	30.00	N 3.00 W	63.00	3373.04	662.14 N	93.66 W	661.95	668.73 N	8.05 W	1.77
3562.00	30.25	N 3.00 W	62.00	3426.66	693.22 N	95.29 W	693.02	699.74 N	7.83 W	.40
3625.00	31.00	N 2.00 W	63.00	3480.67	725.28 N	96.69 W	725.08	731.70 N	7.59 W	1.44
3688.00	31.25	N 1.00 W	63.00	3534.60	757.83 N	97.54 W	757.63	764.08 N	7.33 W	.91
3750.00	31.50	N 0.00 W	62.00	3587.74	790.11 N	97.82 W	789.90	796.14 N	7.06 W	.95
3813.00	32.25	N 0.00 W	63.00	3641.24	823.38 N	97.82 W	823.17	829.17 N	6.78 W	1.19
3874.00	32.00	N 2.00 E	61.00	3692.90	855.81 N	97.25 W	855.60	861.32 N	6.48 W	1.79
3936.00	32.50	N 2.00 E	62.00	3745.33	888.87 N	96.10 W	888.67	894.05 N	6.17 W	.81
3998.00	32.25	N 1.00 E	62.00	3797.70	922.06 N	95.23 W	921.86	926.97 N	5.90 W	.95
4060.00	32.00	N 1.00 E	62.00	3850.20	955.03 N	94.65 W	954.83	959.70 N	5.66 W	.40
4122.00	32.25	N 2.00 E	62.00	3902.71	987.98 N	93.79 W	987.78	992.43 N	5.42 W	.95
4184.00	31.75	N 3.00 E	62.00	3955.29	1020.81 N	92.36 W	1020.61	1024.98 N	5.17 W	1.18
4247.00	31.75	N 2.00 E	63.00	4008.86	1053.93 N	90.91 W	1053.73	1057.84 N	4.93 W	.84
4310.00	31.25	N 1.00 E	63.00	4062.58	1086.83 N	90.05 W	1086.64	1090.56 N	4.74 W	1.15

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON CON #1E

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DIPPLES SEVERITY (DEG/100')
					RECTANGULAR	COORDINATES (FT)		DISTANCE (FT)	DIRECTION (DEG)	
4373.00	29.75	N 2.00 E	63.00	4116.86	1118.79 N	89.21 W	1118.61	1122.35	N 4.56 W	2.51
4436.00	28.75	N 2.00 E	63.00	4171.82	1149.56 N	88.14 W	1149.37	1152.93	N 4.38 W	1.59
4498.00	27.00	N 1.00 E	62.00	4226.63	1178.53 N	87.38 W	1178.35	1181.77	N 4.24 W	2.92
4560.00	25.50	N 1.00 E	62.00	4282.23	1205.95 N	86.90 W	1205.77	1209.08	N 4.12 W	2.42
4622.00	23.75	N 1.00 E	62.00	4338.59	1231.78 N	86.45 W	1231.60	1234.81	N 4.01 W	2.32
4684.00	21.50	N 1.00 E	62.00	4395.82	1255.63 N	86.04 W	1255.44	1258.57	N 3.92 W	3.63
4745.00	20.00	N 1.00 E	61.00	4452.86	1277.23 N	85.66 W	1277.05	1280.10	N 3.84 W	2.46
4808.00	19.25	N 1.00 E	63.00	4512.20	1298.39 N	85.29 W	1298.21	1301.19	N 3.76 W	1.19
4877.00	18.00	N 1.00 E	59.00	4577.58	1320.42 N	84.90 W	1320.24	1323.15	N 3.68 W	1.81
4939.00	17.00	N 2.00 E	62.00	4636.71	1339.06 N	84.42 W	1338.88	1341.72	N 3.61 W	1.58
5002.00	13.75	N 18.00 E	63.00	4697.45	1355.45 N	81.53 W	1355.28	1357.90	N 3.44 W	3.44
5064.00	11.75	N 26.00 E	62.00	4757.92	1368.13 N	76.40 W	1367.97	1370.26	N 3.20 W	4.30
5126.00	9.50	N 27.00 E	62.00	4818.85	1378.36 N	71.30 W	1378.21	1380.20	N 2.96 W	3.64
5189.00	7.50	N 29.00 E	63.00	4881.16	1386.58 N	66.93 W	1386.44	1388.20	N 2.76 W	3.21
5251.00	6.00	N 31.00 E	62.00	4942.73	1392.89 N	63.29 W	1392.76	1394.33	N 2.60 W	2.45
5314.00	5.00	N 36.00 E	63.00	5005.43	1397.93 N	59.96 W	1397.80	1399.21	N 2.46 W	1.76
5376.00	4.25	N 46.00 E	62.00	5067.23	1401.69 N	56.68 W	1401.57	1402.84	N 2.32 W	1.77
5439.00	3.75	N 51.00 E	63.00	5130.08	1404.60 N	53.39 W	1404.49	1405.62	N 2.18 W	.97
5501.00	3.00	N 62.00 E	62.00	5191.97	1406.62 N	50.35 W	1406.51	1407.52	N 2.05 W	1.59
5563.00	2.00	N 66.00 E	62.00	5253.91	1407.80 N	47.92 W	1407.70	1408.52	N 1.95 W	1.64
5626.00	2.00	N 76.00 E	63.00	5316.87	1408.52 N	45.85 W	1408.42	1409.26	N 1.86 W	.55
5688.00	2.25	N 89.00 E	62.00	5378.83	1408.84 N	43.57 W	1408.74	1409.51	N 1.77 W	.82
5751.00	2.00	S 79.00 E	63.00	5441.79	1408.65 N	41.25 W	1408.56	1409.26	N 1.68 W	.66
5813.00	2.25	S 87.00 E	62.00	5503.74	1408.37 N	38.97 W	1408.29	1408.91	N 1.58 W	.62
5875.00	2.00	S 82.00 E	62.00	5565.70	1408.15 N	36.68 W	1408.07	1408.63	N 1.49 W	.50
5938.00	1.75	N 89.00 E	63.00	5628.67	1408.03 N	34.63 W	1407.95	1408.45	N 1.41 W	.61
6000.00	2.00	S 89.00 E	62.00	5690.63	1408.03 N	32.60 W	1407.96	1408.40	N 1.33 W	.42
6063.00	2.00	S 88.00 E	63.00	5753.60	1407.97 N	30.40 W	1407.90	1408.30	N 1.24 W	.06
6125.00	1.75	S 79.00 E	62.00	5815.56	1407.74 N	28.39 W	1407.68	1408.03	N 1.16 W	.62
6188.00	1.00	N 73.00 E	63.00	5878.54	1407.82 N	26.89 W	1407.76	1408.08	N 1.09 W	1.57
6250.00	1.25	N 72.00 E	62.00	5940.53	1408.18 N	25.73 W	1408.13	1408.42	N 1.05 W	.40
6310.00	1.25	N 58.00 E	60.00	6000.52	1408.74 N	24.55 W	1408.68	1408.95	N 1.00 W	.51

THE FOLLOWING STATION IS PROJECTED ONLY!

6370.00	1.25	N 58.00 E	20.00	6020.51	1408.97 N	24.18 W	1408.91	1409.17	N .98 W	0.00
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BOTTOM HOLE CLOSURE: 1409.17 Feet at N .98 Degrees W

TENNECO OIL COMPANY  
CITY OF FARMINGTON COM 1-E  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

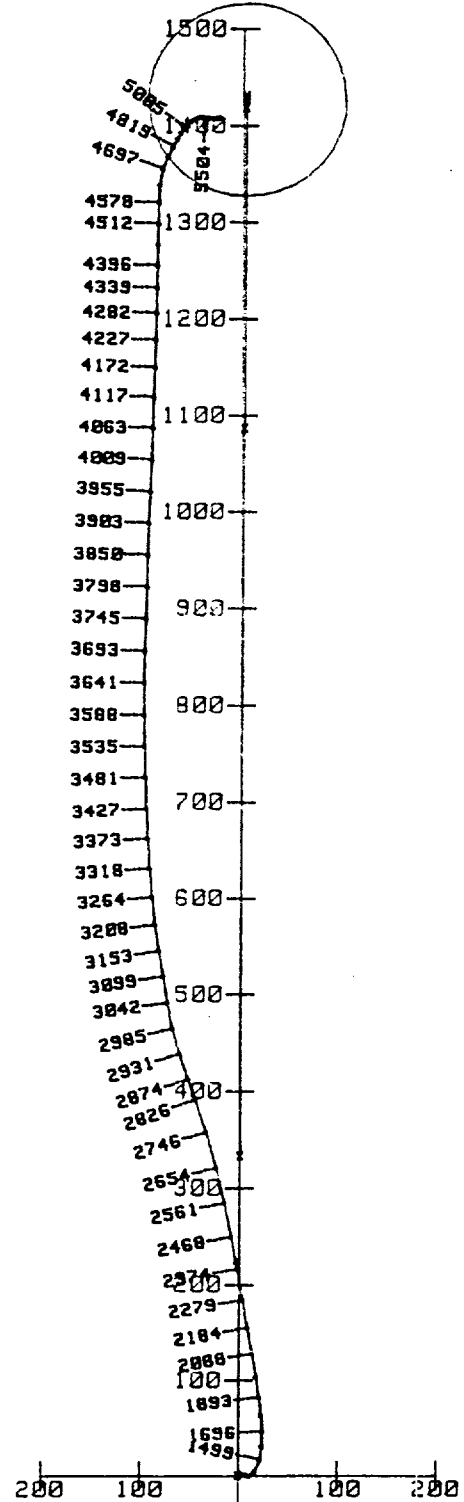
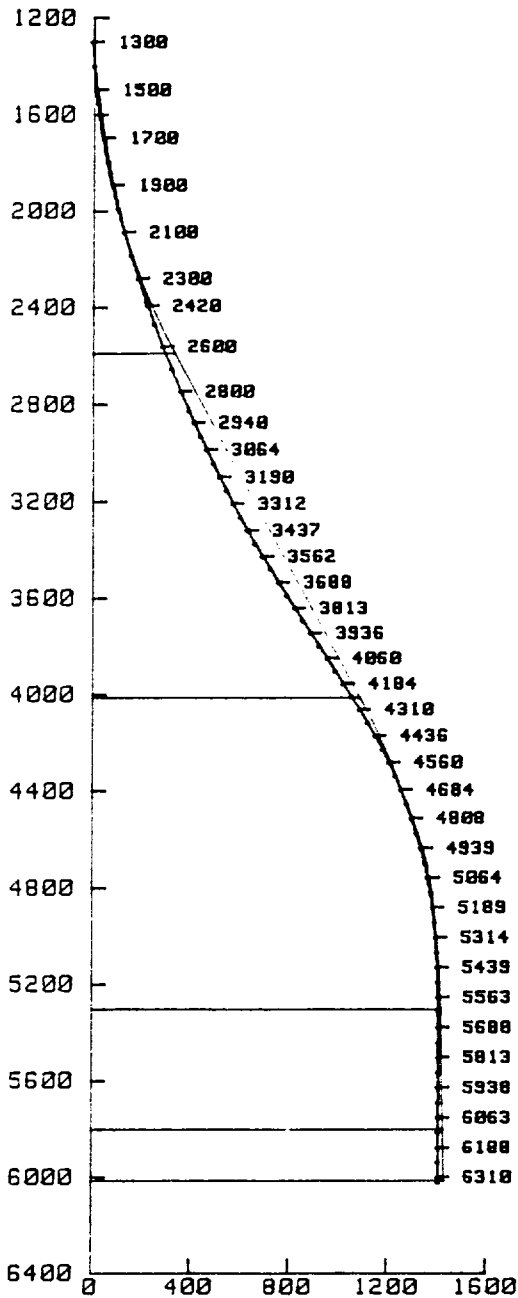


# DATA DRILL

Division of Smith International, Inc.

VERTICAL PLANE  
SCALE: 400 FEET/DIVISION

HORIZONTAL PLANE  
SCALE: 100 FEET/DIVISION



PRESENT LOCATION:  
TVD: 6020.51 FT  
MD: 6330.00 FT  
VS: 1400.91 FT

VERTICAL SECTION PLANE: N .12 E

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS  
GOVERNOR

February 6, 1987

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Thomas Kellahin  
Kellahin & Kellahin  
Attorneys at Law  
Post Office Box 2265  
Santa Fe, New Mexico

Re: CASE NO. 3915  
ORDER NO. R-8253-B

Applicant:  
Tenneco Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced  
Division order recently entered in the subject case.

Sincerely,

FLORENE DAVIDSON  
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD       x        
Artesia OCD       x        
Aztec OCD       x      

Other \_\_\_\_\_  
\_\_\_\_\_



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS  
GOVERNOR

February 3, 1987

*Case No. 8915*

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Kellahin & Kellahin  
P. O. Box 2265  
Santa Fe, New Mexico 87504-2265

Attn: Karen Aubrey

Re: Division Order No. R-8253, as amended  
City of Farmington Well No. 2

Dear Ms. Aubrey,

Per your letter dated January 21, 1987 and our telephone conversation Friday, January 30, 1987, it appearing that the deviated hole enters the top of the Dakota formation eight feet outside of the approved window while the T.D. is well inside the projected window. This small variance should not effect this order since Tenneco operates all of the Section. If it is found however, after this well is perforated, that the producing interval is outside the projected window, please notify me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael E. Stogner".

Michael E. Stogner  
Hearing Examiner

MES/et

xc: Case No. 8915

KELLAHIN and KELLAHIN

*Attorneys at Law*

El Patio - 117 North Guadalupe

Post Office Box 2265

Santa Fe, New Mexico 87504-2265

Telephone 982-4285

Area Code 505

W. Thomas Kellahin  
Karen Aubrey

Jason Kellahin  
Of Counsel

January 21, 1987

Mr. Vic T. Lyon  
Chief Engineer  
Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87501

Re: Case 8915  
Order R-8253; R-8253-A

Dear Mr. Lyon:

I enclose the directional survey which was run in connection with the drilling of the Tenneco Oil Company City of Farmington No. 2, Sec. 10-T29N-R13W, San Juan County, New Mexico. I also enclose a plat showing the offsetting, and cornering, proration units and a list of offset operators. As you will note, Tenneco is the offset operator of the proration unit to the East of the subject well.

As we discussed, the bottom hole location at total depth is within the 100 foot window permitted by Order R-8253-A. I enclose a plan view showing the bottom hole locations.

In addition, when we met on January 14, 1987, you noticed that there is a typographical error in Order R-8253-A with regard to the City of Farmington well. The bottom hole location in that amended order should read:

bottom hole location: within 100  
feet of a point 1650 feet from  
the South and West lines.

As we discussed, I believe this typographical error can be corrected by the entry of a nunc pro tunc Order changing the bottom hole location.

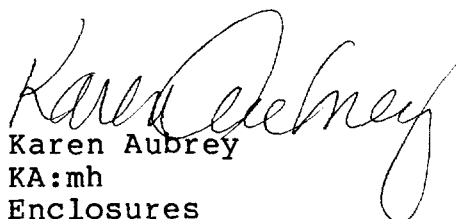
We would appreciate your confirmation in writing that the documents which we have given you comply with the requirement in decretal paragraph No. 1 contained

KELLAHIN and KELLAHIN

Mr. Vic T. Lyon  
January 21, 1987  
Page Two

in Order R-8253, and that Tenneco Oil Company may complete and produce this well.

Sincerely,



Karen Aubrey

KA:mh

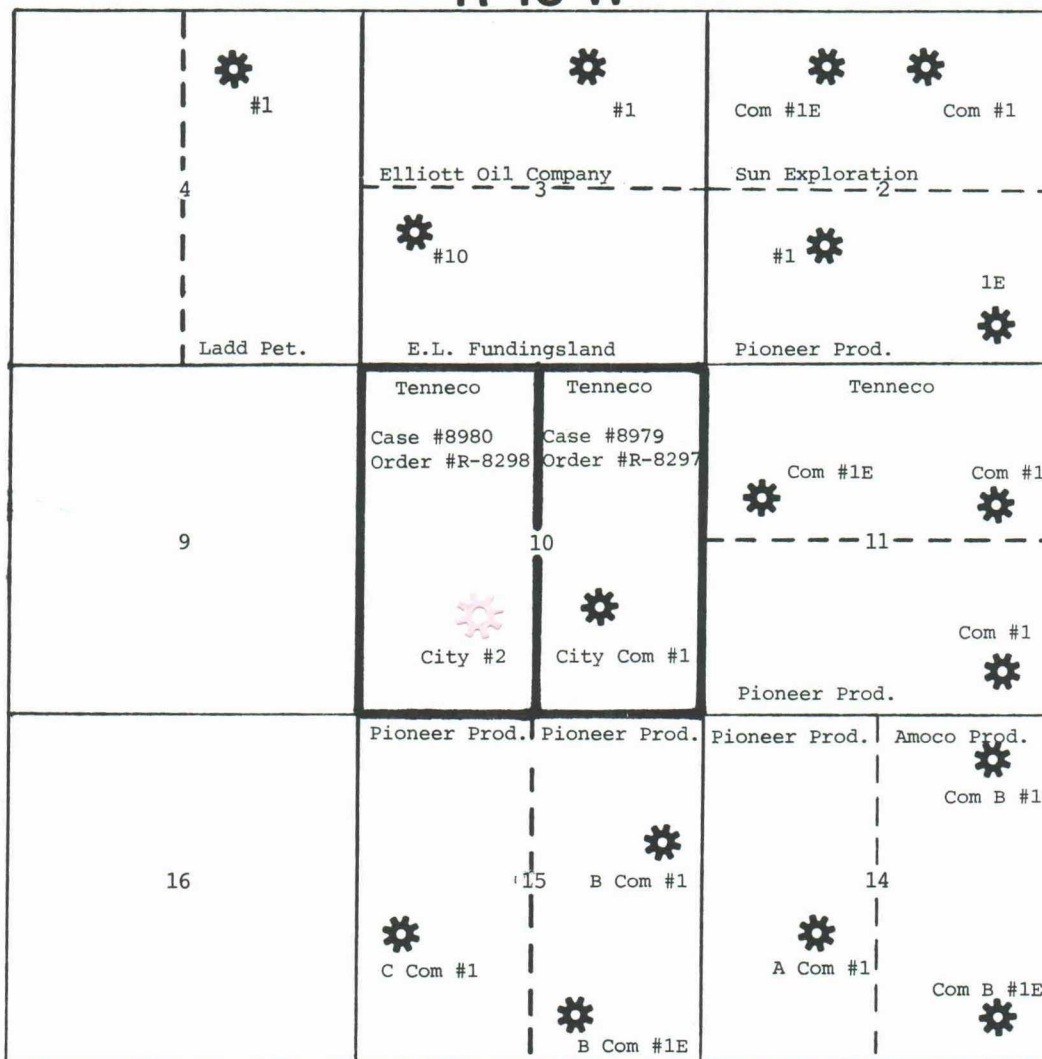
Enclosures

cc: John Carver, Esq.  
Mr. Kevin Heringer

# OFFSET OPERATORS

R 13 W

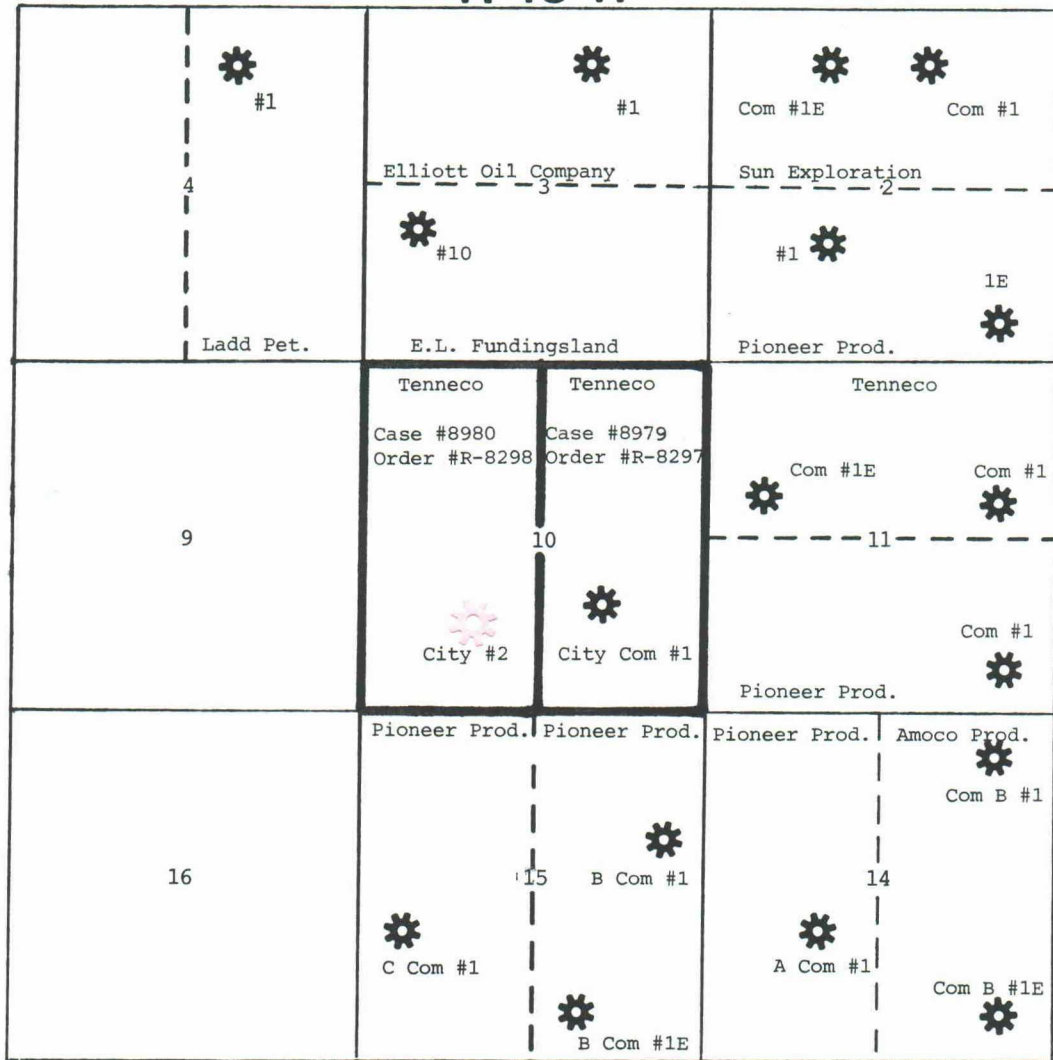
T  
29  
N



# OFFSET OPERATORS

**R 13 W**

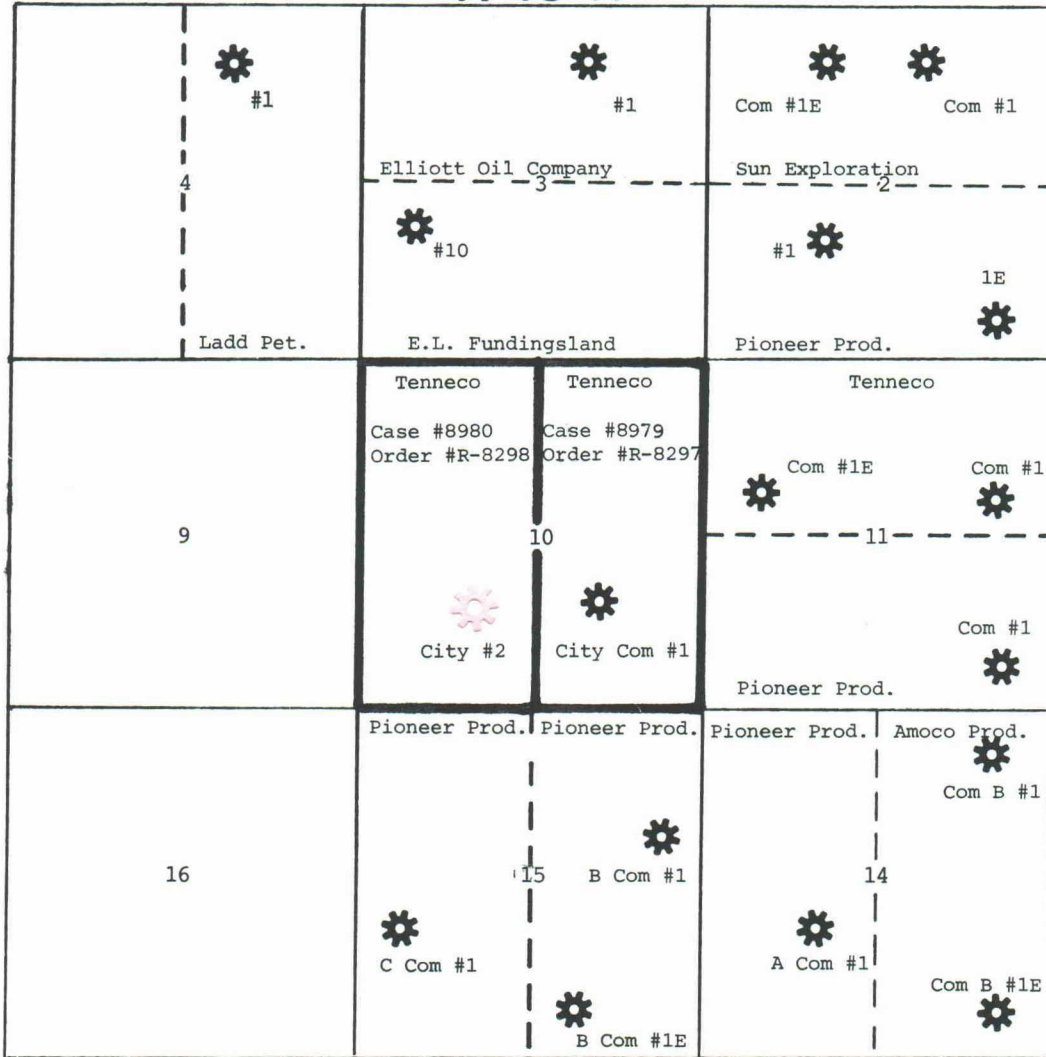
**T  
29  
N**



# OFFSET OPERATORS

R 13 W

T  
29  
N

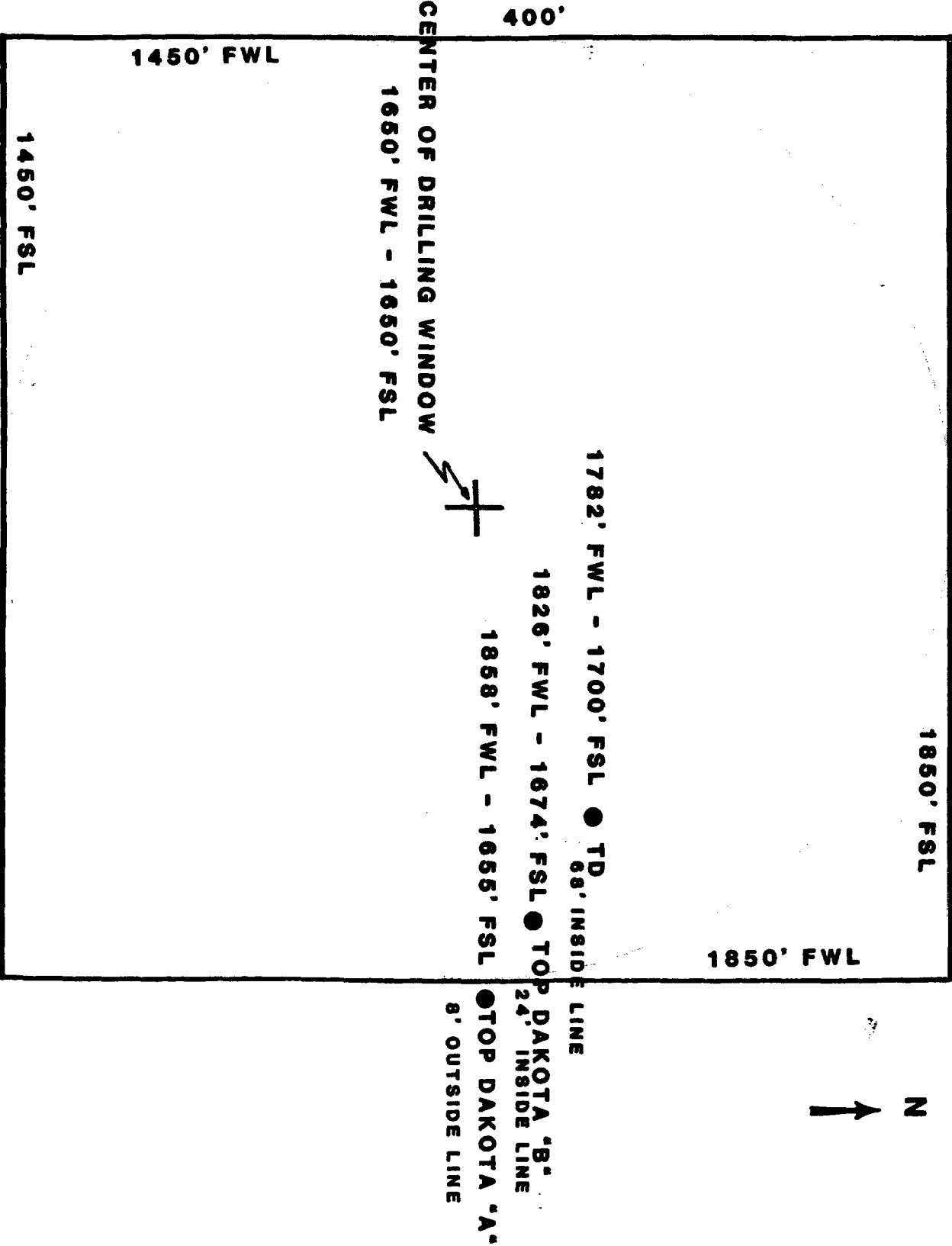


1/4 section line 1320' FWL

# TENNECO OIL COMPANY

City of Farmington #2

Plan View - Bottom Hole Locations



SCALE: 1" = 60'

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: COF2MSS

**\*\*\* RECORD OF SURVEY \*\*\***  
Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S 40.00 W	.17	
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S 41.29 W	2.35	
881.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S 45.58 W	3.52	
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S 54.20 W	3.30	
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S 61.49 W	2.48	
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S 65.11 W	2.50	
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.88 W	55.98	56.56 S 66.52 W	.81	
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S 68.72 W	1.98	
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S 70.53 W	3.32	
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S 71.63 W	3.43	
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S 71.94 W	2.18	
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S 71.46 W	2.38	
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S 70.35 W	1.79	
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S 68.86 W	1.70	
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S 67.96 W	1.13	
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S 67.21 W	1.55	
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S 66.64 W	1.14	
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S 66.14 W	.41	
2287.00	25.00	S 64.00 W	187.00	2208.70	185.41 S	410.15 W	444.45	450.11 S 65.67 W	.23	
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S 65.42 W	.27	



**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S	585.95 W	636.60	645.65	S 65.17 W	1.36
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S	622.04 W	676.25	686.12	S 65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S	646.09 W	702.75	713.22	S 64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S	681.12 W	741.65	753.17	S 64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S	725.15 W	790.67	803.63	S 64.47 W	.99
3288.00	25.50	S 60.00 W	188.00	3111.03	384.54 S	793.98 W	867.11	882.20	S 64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S	867.48 W	948.73	966.11	S 63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S	942.93 W	1031.85	1051.16	S 63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S	1045.88 W	1144.37	1165.70	S 63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S	1154.84 W	1263.16	1286.41	S 63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S	1209.53 W	1322.79	1347.00	S 63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S	1232.47 W	1347.53	1371.99	S 63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S	1260.59 W	1377.22	1401.51	S 64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S	1286.64 W	1403.68	1427.17	S 64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S	1329.62 W	1445.74	1466.99	S 65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S	1363.68 W	1478.45	1497.68	S 65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S	1392.81 W	1506.09	1523.53	S 66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S	1417.86 W	1529.57	1545.41	S 66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S	1424.96 W	1536.16	1551.53	S 66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S	1437.00 W	1547.16	1561.68	S 66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S	1448.77 W	1557.72	1571.34	S 67.22 W	1.28
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S	1461.20 W	1568.74	1581.39	S 67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S	1473.79 W	1579.91	1591.48	S 67.83 W	.78
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S	1486.87 W	1591.35	1602.06	S 68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S	1499.26 W	1602.40	1612.30	S 68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S	1513.19 W	1614.86	1623.91	S 68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S	1526.23 W	1626.53	1634.81	S 69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S	1538.14 W	1637.10	1644.68	S 69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S	1553.18 W	1650.51	1657.29	S 69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S	1559.39 W	1656.13	1662.62	S 69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S	1566.98 W	1662.91	1669.04	S 69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S	1574.57 W	1669.62	1675.37	S 70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S	1588.96 W	1682.17	1687.18	S 70.35 W	2.63

**S i i DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47	S 70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27	S 70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40	S 70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38	S 71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08	S 71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84	S 71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63	S 72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88	S 72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03	S 73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20	S 74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at S 74.31 Degrees W

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: COF2MSS

**\*\*\* INTERPOLATED/EXTRAPOLATED SURVEY \*\*\***  
Calculated by Sii Datadril's C.A.D.D.S. System

All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TRUE VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)	VERTICAL SECTION (FT)	C L O S U R E DISTANCE (FT)	DIRECTION (DEG)	DOGLEG SEVERITY (DEG/100'
6162.00	19.99	N 60.01 W	0.00	5787.00	503.57 S 1710.20 W	1782.42	1782.80	S 73.59 W	0.00
6270.00	20.00	N 59.00 W	108.00	5888.49	484.79 S 1742.00 W	1808.17	1808.20	S 74.45 W	.32

\*\*\* THE ABOVE STATIONS ARE INTERPOLATED/EXTRAPOLATED DATA ONLY \*\*\*

8 JAN 1987 @ 10:51

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

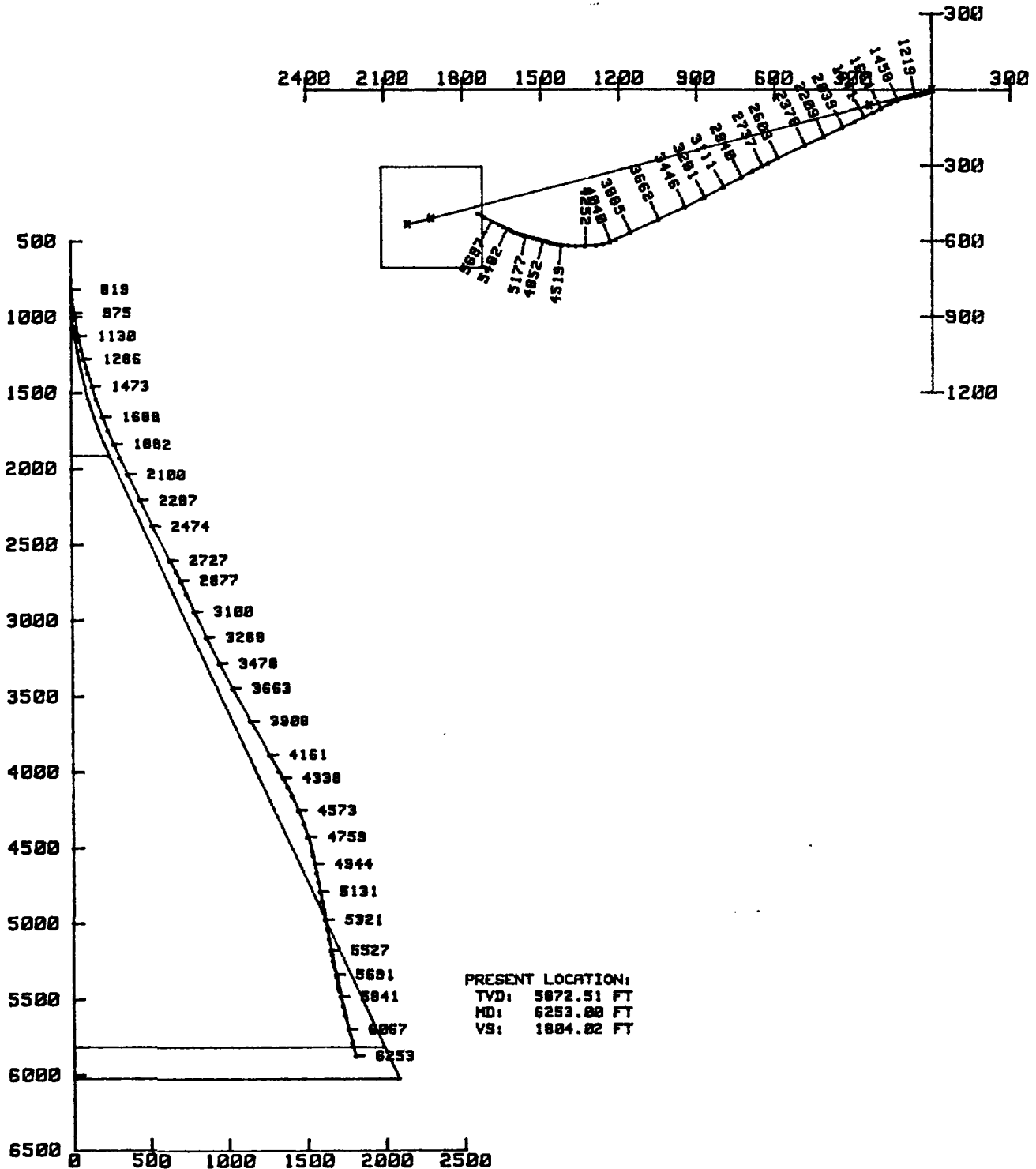


# DATA DRILL

Division of Smith International, Inc.

VERTICAL PLANE  
SCALE: 500 FEET/DIVISION

HORIZONTAL PLANE  
SCALE: 300 FEET/DIVISION



PRESENT LOCATION:  
TVD: 5872.51 FT  
MD: 6253.00 FT  
VS: 1884.82 FT

VERTICAL SECTION PLANE: S 75.14 W

TENNECO OIL COMPANY  
 CITY OF FARMINGTON #2  
 SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO

8 JAN 1987 @ 11:25

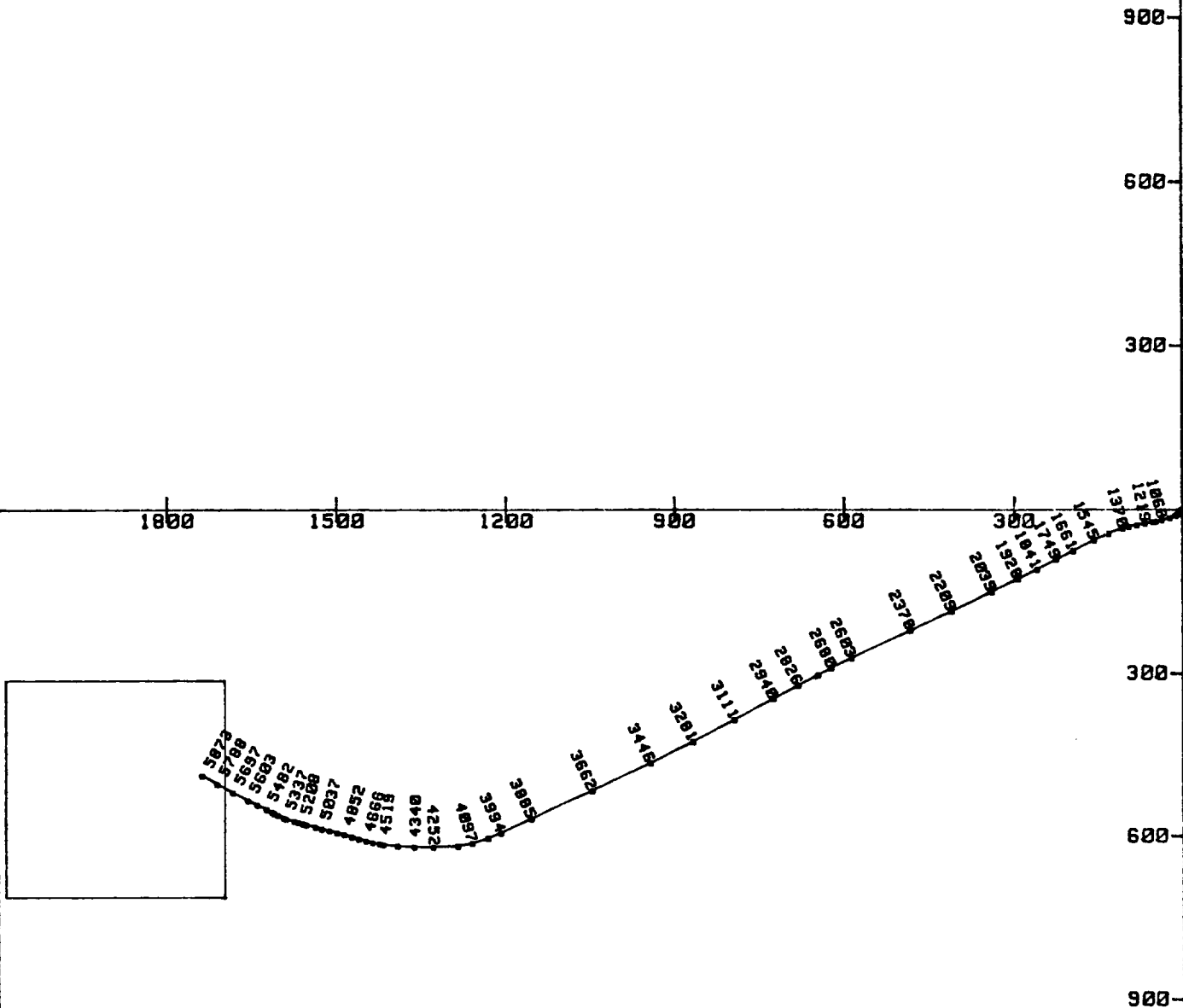


HORIZONTAL PLOT



SCALE: 300 FEET/INCH

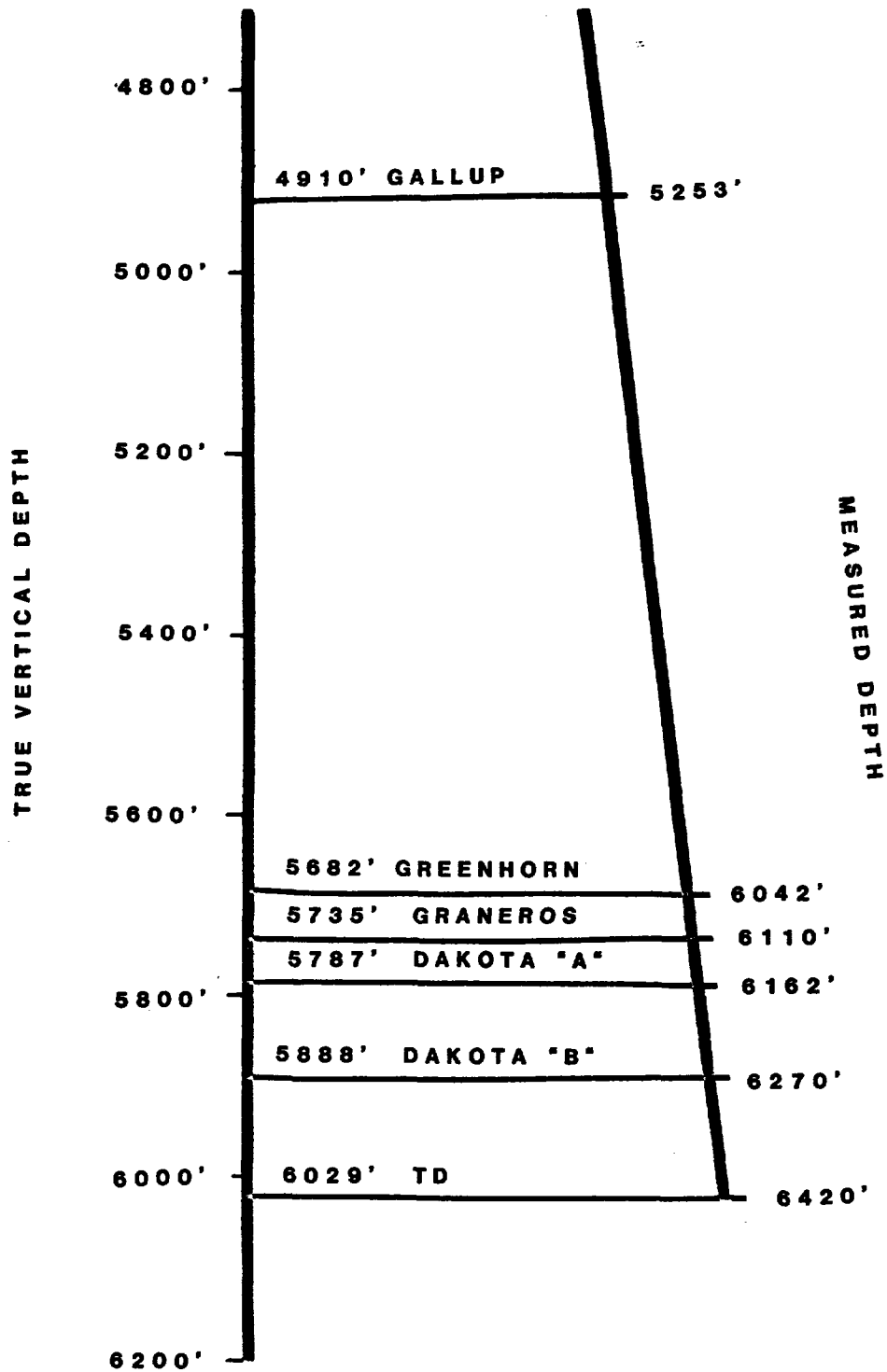
BHL: 1804 FEET  
 @ S 74.31 W  
 TVD: 5873 FEET  
 MD: 6253 FEET



# TENNECO OIL COMPANY

CITY OF FARMINGTON #2

FORMATION TOPS



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION



January 20, 1987

GARREY CARRUTHERS  
GOVERNOR

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 927-5800

Smith Drilling Systems  
The Dominion Plaza  
600 17th Street Suite 1100N  
Denver, Colorado 80202

Attn: Terry Kerr

Re: Tenneco Oil Company City of  
Farmington Well No. 2

Dear Mr. Kerr,

This letter is to confirm our telephone conversations last week concerning the directional drilling survey for the subject well. Division Order No. R-8253, dated July 8, 1986, requires that a continuous multi-shot directional survey be made of the wellbore from total depth to the initial kick-off point, however, having reviewed the data submitted and other matters concerning this well, an exception to this requirement shall be waived at this time for this well only and the survey submitted shall be adequate.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael E. Stogner".

Michael. E. Stogner  
Engineer

MES/et

xc: Frank Chavez  
Case No. 8915

**Sii DATADRIL**  
 Division of Smith International, Inc.

TENNECO OIL COMPANY  
 CITY OF FARMINGTON #2  
 SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO  
 DIRECTIONAL SURVEYS

File Name: COF2MSS

**\*\*\* RECORD OF SURVEY \*\*\***  
 Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
 All Angles are Decimal  
 Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S 40.00 W	.17	
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S 41.29 W	2.55	
881.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S 45.58 W	3.52	
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S 54.20 W	3.30	
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S 61.49 W	2.48	
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S 65.11 W	2.50	
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.88 W	55.98	56.56 S 66.52 W	.81	
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S 68.72 W	1.98	
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S 70.53 W	3.32	
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S 71.63 W	3.43	
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S 71.94 W	2.18	
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S 71.46 W	2.38	
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S 70.35 W	1.79	
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S 68.86 W	1.70	
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S 67.96 W	1.13	
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S 67.21 W	1.55	
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S 66.64 W	1.14	
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S 66.14 W	.41	
2287.00	25.00	S 64.00 W	187.00	2208.70	185.41 S	410.15 W	444.45	450.11 S 65.67 W	.23	
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S 65.42 W	.27	



**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)	VERTICAL SECTION (FT)	C L O S U R E DISTANCE (FT)	DIRECTION (DEG)	DOGLEG SEVERITY (DEG/100')
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S 585.95 W	636.60	645.65	S 65.17 W	1.38
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S 622.04 W	676.25	686.12	S 65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S 646.09 W	702.75	713.22	S 64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S 681.12 W	741.65	753.17	S 64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S 725.15 W	790.67	803.63	S 64.47 W	.99
3288.00	25.50	S 60.00 W	188.00	3111.03	384.54 S 793.98 W	867.11	882.20	S 64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S 867.48 W	948.73	966.11	S 63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S 942.93 W	1031.85	1051.16	S 63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S 1045.88 W	1144.37	1165.70	S 63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S 1154.84 W	1263.16	1286.41	S 63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S 1209.53 W	1322.79	1347.00	S 63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S 1232.47 W	1347.53	1371.99	S 63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S 1260.59 W	1377.22	1401.51	S 64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S 1286.64 W	1403.68	1427.17	S 64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S 1329.62 W	1445.74	1466.99	S 65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S 1363.68 W	1478.45	1497.68	S 65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S 1392.81 W	1506.09	1523.53	S 66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S 1417.86 W	1529.57	1545.41	S 66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S 1424.96 W	1536.16	1551.53	S 66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S 1437.00 W	1547.16	1561.68	S 66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S 1448.77 W	1557.72	1571.34	S 67.22 W	1.28
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S 1461.20 W	1568.74	1581.39	S 67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S 1473.79 W	1579.91	1591.48	S 67.83 W	.78
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S 1486.87 W	1591.35	1602.06	S 68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S 1499.26 W	1602.40	1612.30	S 68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S 1513.19 W	1614.86	1623.91	S 68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S 1526.23 W	1626.53	1634.81	S 69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S 1538.14 W	1637.10	1644.68	S 69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S 1553.18 W	1650.51	1657.29	S 69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S 1559.39 W	1656.13	1662.62	S 69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S 1566.98 W	1662.91	1669.04	S 69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S 1574.57 W	1669.62	1675.37	S 70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S 1588.96 W	1682.17	1687.18	S 70.35 W	2.63

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47	S 70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27	S 70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40	S 70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38	S 71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08	S 71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84	S 71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63	S 72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88	S 72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03	S 73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20	S 74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at S 74.31 Degrees W

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 8915  
Order No. R-8253

APPLICATION OF TENNECO OIL COMPANY  
FOR DIRECTIONAL DRILLING, SAN JUAN  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 25, 1986, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 8th day of July, 1986, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Tenneco Oil Company, seeks authority to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner as described in Exhibit "A" attached hereto and made a part hereof.

(3) The E/2 of said Section 10 is to be dedicated to Wells Nos. 1 and 1-E and the W/2 of said Section 10 is to be dedicated to Wells Nos. 2 and 2-E.

(4) The proposed bottom hole locations including a 75 foot target radius on the four subject wells are standard gas well locations pursuant to the Special Pool Rules governing the Basin Dakota Gas Pool.

(5) The surface locations of all four wells are on a 4.561 acre tract of land in the NE/4 of said Section 10 which lies

within a residential section of the City of Farmington, New Mexico.

(6) The directional drilling of the subject wells is necessitated in order to adequately avoid occupied dwellings, streets, and City Parks located in said Section 10.

(7) Approval of the application is in the best interest of conservation, inasmuch as it will minimize surface damage and correlative rights, provided the applicant should be required to determine the subsurface locations of the bottom of the holes by means of a continuous multi-shot directional survey conducted subsequent to directional drilling, if said wells are to be completed as producing wells.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Tenneco Oil Company, is hereby authorized to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner described in Exhibit "A" attached hereto and made a part hereof.

PROVIDED HOWEVER THAT, prior to the above described directional drilling, the operator shall determine the subsurface location of the kick-off point of each well;

PROVIDED FURTHER THAT, subsequent to the above described directional drilling, should said wells be producers, a continuous multi-shot directional survey shall be made of each wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87504, and the operator shall notify the Division's Aztec District Office of the date and time said survey is to be commenced.

(2) Form C-105's shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths for each well.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



*acting*  
R. L. STAMETS,  
Director

S E A L

EXHIBIT "A"  
Order No. R-8253

The following well descriptions all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, Basin Dakota Pool, San Juan County, New Mexico.

City of Farmington Well No. 1:

Surface Location: 2160 feet from the South line and 1591 feet from the East line;  
Approximate Kick-Off Point from Vertical: 3275 feet;  
Bottom Hole Location: Within 75 feet of a point 1750 feet from the South line and 1775 feet from the East line.

City of Farmington Well No. 1-E:

Surface Location: 2203 feet from the South line and 1653 feet from the East line;  
Approximate Kick-Off Point from Vertical: 1800 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and East lines.

City of Farmington Well No. 2:

Surface Location: 2159 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the South and West lines.

City of Farmington Well No. 2-E:

Surface Location: 2246 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and West lines.

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

CASE NO. 8915  
Order No. R-8253-A

APPLICATION OF TENNECO OIL COMPANY  
FOR DIRECTIONAL DRILLING, SAN JUAN  
COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE DIVISION:

It appearing to the Division that Order No. R-8253, dated June 25, 1986, does not correctly state the intended order of the Division,

IT IS THEREFORE ORDERED THAT:

(1) Finding Paragraph No. (4) on page 1 of Division Order No. R-8253 is hereby amended to read in its entirety as follows:

"(4) The proposed bottom hole locations including either the 75 foot or the 100 feet target radius for the four subject wells are standard gas well locations pursuant to the Special Pool Rules governing the Basin-Dakota Gas Pool."

(2) Exhibit "A", which is attached to said Order No. R-8253 and made a part thereof be, and the same is hereby amended to read in its entirety as follows:

"The following well descriptions all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, Basin-Dakota Pool, San Juan County, New Mexico.

City of Farmington Well No. 1:

Surface Location: 2160 feet from the South line and 1591 feet from the East line;  
Approximate Kick-Off Point from Vertical: 3275 feet;  
Bottom Hole Location: Within 75 feet of a point 1750 feet from the South line and 1775 feet from the East line.

City of Farmington Well No. 1-E:

Surface Location: 2203 feet from the South line

and 1653 feet from the East line;  
Approximate Kick-Off Point from Vertical: 1800  
feet;  
Bottom Hole Location: Within 100 feet of a  
point 1650 feet from the North and East lines.

City of Farmington Well No. 2:

Surface Location: 2159 feet from the South line  
and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750  
feet; Bottom Hole Location: Within 100 feet of  
a point 1650 feet from the North and West lines.

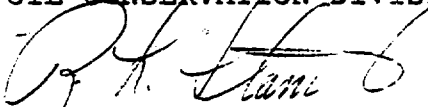
City of Farmington Well No. 2-E:

Surface Location: 2246 feet from the South line  
and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750  
feet; Bottom Hole Location: Within 100 feet of  
a point 1650 feet from the North and West lines.

(3) The corrections set forth in this order be entered  
nunc pro tunc as of June 25, 1986.

DONE at Santa Fe, New Mexico, on this 9th day of  
September, 1986.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
R. L. STAMETS  
Director

S E A L



**SMITH DRILLING SYSTEMS**  
Division of Smith International, Inc

The Dominion Plaza  
600 17th Street, Suite 1100N  
Denver, Colorado 80202  
Phone (303) 629-0586

January 12, 1987

State of New Mexico  
Oil Conservation Division  
P.O.Box 2088  
Santa Fe, New Mexico 87501-2088

Attn: Michael Stogner

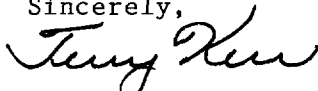
Re: Teneco Oil Company  
City of Farmington #2  
Sec 10-T29N-R13W  
San Juan County, New Mexico

API - 30-045-26735

Enclosed are three copies of the directional surveys taken by  
Smith Drilling Systems on the above well.

These are being sent to you in accordance with state regulations.  
Should you have any questions please advise.

Sincerely,



Terry Kerr  
Technical Sales Representative  
SMITH DRILLING SYSTEMS

TMK/tk

Enclosures: 3

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: COF2M55

**\*\*\* RECORD OF SURVEY \*\*\***  
Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOUBLE SEVERITY (DEG/100)
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S 40.00 W	.17	
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S 41.29 W	2.35	
881.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S 45.58 W	3.52	
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S 54.20 W	3.30	
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S 61.49 W	2.48	
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S 65.11 W	2.50	
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.88 W	55.98	56.56 S 66.52 W	.81	
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S 68.72 W	1.98	
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S 70.53 W	3.32	
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S 71.63 W	3.43	
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S 71.94 W	2.18	
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S 71.46 W	2.38	
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S 70.35 W	1.79	
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S 68.86 W	1.70	
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S 67.96 W	1.13	
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S 67.21 W	1.55	
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S 66.64 W	1.14	
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S 66.14 W	.41	
2287.00	25.00	S 64.00 W	187.00	2208.70	185.41 S	410.15 W	444.45	450.11 S 65.67 W	.23	
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S 65.42 W	.27	

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOSLEG SEVERITY (DEG/100')
					RECTANGULAR COORDINATES (FT)			DISTANCE (FT)	DIRECTION (DEG)	
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S	585.95 W	636.60	645.65	S 65.17 W	1.38
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S	622.04 W	676.25	686.12	S 65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S	646.09 W	702.75	713.22	S 64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S	681.12 W	741.65	753.17	S 64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S	725.15 W	790.67	803.63	S 64.47 W	.99
3288.00	25.50	S 60.00 W	188.00	3111.03	384.54 S	793.98 W	867.11	882.20	S 64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S	867.48 W	948.73	966.11	S 63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S	942.93 W	1031.85	1051.16	S 63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S	1045.88 W	1144.37	1165.70	S 63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S	1154.84 W	1263.16	1286.41	S 63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S	1209.53 W	1322.79	1347.00	S 63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S	1232.47 W	1347.53	1371.99	S 63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S	1260.59 W	1377.22	1401.51	S 64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S	1286.64 W	1403.68	1427.17	S 64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S	1329.62 W	1445.74	1466.95	S 65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S	1363.68 W	1478.45	1497.68	S 65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S	1392.81 W	1506.09	1523.53	S 66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S	1417.86 W	1529.57	1545.41	S 66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S	1424.96 W	1536.16	1551.53	S 66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S	1437.00 W	1547.16	1561.68	S 66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S	1448.77 W	1557.72	1571.34	S 67.22 W	1.28
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S	1461.20 W	1568.74	1581.39	S 67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S	1473.79 W	1579.91	1591.48	S 67.83 W	.78
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S	1486.87 W	1591.35	1602.05	S 68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S	1499.26 W	1602.40	1612.30	S 68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S	1513.19 W	1614.86	1623.91	S 68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S	1526.23 W	1626.53	1634.81	S 69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S	1538.14 W	1637.10	1644.68	S 69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S	1553.18 W	1650.51	1657.29	S 69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S	1559.39 W	1656.13	1662.62	S 69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S	1566.98 W	1662.91	1669.04	S 69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S	1574.57 W	1669.62	1675.37	S 70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S	1588.96 W	1682.17	1687.18	S 70.35 W	2.63

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47	S 70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27	S 70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40	S 70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38	S 71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08	S 71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84	S 71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63	S 72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88	S 72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03	S 73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20	S 74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at S 74.31 Degrees W

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: COF2M55

**\*\*\* RECORD OF SURVEY \*\*\***

Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DEGREE SEVERITY (DEG/100)
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S 40.00 W	.17	
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S 41.29 W	2.35	
881.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S 45.58 W	3.52	
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S 54.20 W	3.30	
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S 61.49 W	2.48	
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S 65.11 W	2.50	
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.88 W	55.98	56.56 S 66.52 W	.81	
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S 68.72 W	1.78	
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S 70.53 W	3.32	
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S 71.63 W	3.43	
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S 71.94 W	2.18	
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S 71.46 W	2.38	
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S 70.35 W	1.79	
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S 68.86 W	1.70	
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S 67.96 W	1.13	
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S 67.21 W	1.55	
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S 66.64 W	1.14	
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S 66.14 W	.41	
2287.00	25.00	S 64.00 W	187.00	2208.70	185.41 S	410.15 W	444.45	450.11 S 65.67 W	.23	
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S 65.42 W	.27	

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOGLEG SEVERITY (DEG/100')
					RECTANGULAR COORDINATES (FT)			DISTANCE (FT)	DIRECTION (DEG)	
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S	585.95 W	636.60	645.65	S 65.17 W	1.38
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S	622.04 W	676.25	686.12	S 65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S	646.09 W	702.75	713.22	S 64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S	681.12 W	741.65	753.17	S 64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S	725.15 W	790.67	803.63	S 64.47 W	.99
3266.00	25.50	S 60.00 W	188.00	3111.03	384.54 S	793.98 W	867.11	882.20	S 64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S	867.48 W	948.73	966.11	S 63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S	942.93 W	1031.85	1051.16	S 63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S	1045.88 W	1144.37	1165.70	S 63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S	1154.84 W	1263.16	1286.41	S 63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S	1209.53 W	1322.79	1347.00	S 63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S	1232.47 W	1347.53	1371.99	S 63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S	1260.59 W	1377.22	1401.51	S 64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S	1286.64 W	1403.68	1427.17	S 64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S	1329.62 W	1445.74	1466.99	S 65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S	1363.68 W	1478.45	1497.68	S 65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S	1392.81 W	1506.09	1523.53	S 66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S	1417.86 W	1529.57	1545.41	S 66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S	1424.96 W	1536.16	1551.53	S 66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S	1437.00 W	1547.16	1561.68	S 66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S	1448.77 W	1557.72	1571.34	S 67.22 W	1.28
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S	1461.20 W	1568.74	1581.39	S 67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S	1473.79 W	1579.91	1591.48	S 67.83 W	.78
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S	1486.87 W	1591.35	1602.06	S 68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S	1499.26 W	1602.40	1612.30	S 68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S	1513.19 W	1614.86	1623.91	S 68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S	1526.23 W	1626.53	1634.81	S 69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S	1538.14 W	1637.10	1644.63	S 69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S	1553.18 W	1650.51	1657.29	S 69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S	1559.39 W	1656.13	1662.62	S 69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S	1566.98 W	1662.91	1669.04	S 69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S	1574.57 W	1669.62	1675.37	S 70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S	1588.96 W	1682.17	1687.18	S 70.35 W	2.63

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47	S 70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27	S 70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40	S 70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38	S 71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08	S 71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84	S 71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63	S 72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88	S 72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03	S 73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20	S 74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at S 74.31 Degrees W

**SMITH DRILLING SYSTEMS**  
Division of Smith International, Inc

The Dominion Plaza  
600 17th Street, Suite 1100N  
Denver, Colorado 80202  
Phone (303) 629-0586

January 5, 1987

Oil Conservation Division  
State of New Mexico  
P.O. Box 2088  
Santa Fe, New Mexico 87501-2088

Attention: Michael Stogner

Please find the attached Record of Survey for Tenneco Oil Company's City of Farmington #2 well in San Juan County, New Mexico. This survey is calculated based upon single shot surveys taken during the course of drilling the well. For best accuracy, one of two different angle units, 0-20° and 15°-90°, was used when the expected hole angle dictated.

Please review these surveys and advise me if this survey will be acceptable proof of bottom hole location. My phone number is 303-629-0586. Thank you for your concern.

Sincerely,



Terry Kerr  
Technical Sales Representative

TMK/tk

Enclosure



**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: CDF2MSS

**\*\*\* RECORD OF SURVEY \*\*\***  
Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLES SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N	0.00 E	0.00
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S	40.00 W	.17
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S	41.29 W	2.35
981.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S	45.58 W	3.52
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S	54.20 W	3.30
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S	61.49 W	2.48
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S	65.11 W	2.50
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.89 W	55.98	56.56 S	66.52 W	.81
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S	68.72 W	1.98
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S	70.53 W	3.32
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S	71.63 W	3.43
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S	71.94 W	2.18
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S	71.46 W	2.38
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S	70.35 W	1.79
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S	68.86 W	1.70
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S	67.96 W	1.13
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S	67.21 W	1.55
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S	66.64 W	1.14
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S	66.14 W	.41
2287.00	25.00	S 64.00 W	187.00	2209.70	185.41 S	410.15 W	444.45	450.11 S	65.67 W	.23
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S	65.42 W	.27

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L		VERTICAL SECTION (FT)	C L O S U R E		DOGLEG SEVERITY (DEG/100')
					RECTANGULAR COORDINATES (FT)	DISTANCE (FT)		DIRECTION (DEG)		
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S	585.95 W	636.60	645.65	S 65.17 W	1.38
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S	622.04 W	676.25	686.12	S 65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S	646.09 W	702.75	713.22	S 64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S	681.12 W	741.65	753.17	S 64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S	725.15 W	790.67	803.63	S 64.47 W	.99
3288.00	25.50	S 60.00 W	188.00	3111.03	384.54 S	793.98 W	867.11	882.20	S 64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S	867.46 W	948.73	966.11	S 63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S	942.93 W	1031.85	1051.16	S 63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S	1045.88 W	1144.37	1165.70	S 63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S	1154.84 W	1263.16	1286.41	S 63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S	1209.53 W	1322.79	1347.00	S 63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S	1232.47 W	1347.53	1371.99	S 63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S	1260.59 W	1377.22	1401.51	S 64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S	1286.64 W	1403.68	1427.17	S 64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S	1329.62 W	1445.74	1466.99	S 65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S	1363.68 W	1478.45	1497.68	S 65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S	1392.81 W	1506.09	1523.53	S 66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S	1417.86 W	1529.57	1545.41	S 66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S	1424.96 W	1536.16	1551.53	S 66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S	1437.00 W	1547.16	1561.68	S 66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S	1448.77 W	1557.72	1571.34	S 67.22 W	1.28
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S	1461.20 W	1568.74	1581.39	S 67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S	1473.79 W	1579.81	1591.48	S 67.83 W	.79
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S	1486.87 W	1591.35	1602.06	S 68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S	1499.26 W	1602.40	1612.30	S 68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S	1513.19 W	1614.86	1623.91	S 68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S	1526.23 W	1626.53	1634.81	S 69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S	1538.14 W	1637.10	1644.68	S 69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S	1553.18 W	1650.51	1657.29	S 69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S	1559.39 W	1656.13	1662.62	S 69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S	1566.98 W	1662.91	1669.04	S 69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S	1574.57 W	1669.62	1675.37	S 70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S	1588.96 W	1682.17	1687.18	S 70.35 W	2.63

**Sii DATADRIL**  
 Division of Smith International, Inc.

TENNECO OIL COMPANY  
 CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE (FT) DIRECTION (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47 S	70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27 S	70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40 S	70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38 S	71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08 S	71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84 S	71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63 S	72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88 S	72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03 S	73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20 S	74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at S 74.31 Degrees W

*1737.79  
 487.78*

*1819  
 509*

**SMITH DRILLING SYSTEMS**  
Division of Smith International, Inc.

The Dominion Plaza  
600 17th Street, Suite 1100N  
Denver, Colorado 80202  
Phone (303) 629-0586

January 5, 1987

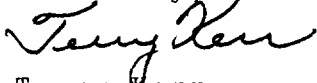
Oil Conservation Division  
State of New Mexico  
P.O. Box 2088  
Santa Fe, New Mexico 87501-2088

Attention: Michael Stogner

Please find the attached Record of Survey for Tenneco Oil Company's City of Farmington #2 well in San Juan County, New Mexico. This survey is calculated based upon single shot surveys taken during the course of drilling the well. For best accuracy, one of two different angle units, 0-20° and 15°-90°, was used when the expected hole angle dictated.

Please review these surveys and advise me if this survey will be acceptable proof of bottom hole location. My phone number is 303-629-0586. Thank you for your concern.

Sincerely,



Terry Kerr  
Technical Sales Representative

TMK/tk

Enclosure

**Sii DATADRIL**  
Division of Smith International, Inc.

TENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO  
DIRECTIONAL SURVEYS

File Name: DOF2MSS

**\*\*\* RECORD OF SURVEY \*\*\***  
Calculated by Sii DATADRIL's C.A.D.D.S. System

Radius of Curvature Method  
All Angles are Decimal  
Vertical Section Plane: S 74.77 W

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
0.00	0.00	N 0.00 E	0.00	0.00	0.00 N	0.00 E	0.00	0.00 N 0.00 E	0.00	
743.00	1.25	S 40.00 W	743.00	742.94	6.21 S	5.21 W	6.66	8.10 S 40.00 W	.17	
819.00	3.00	S 50.00 W	76.00	818.89	8.20 S	7.20 W	9.10	10.91 S 41.29 W	2.35	
881.00	5.00	S 63.00 W	62.00	880.73	10.58 S	10.80 W	13.20	15.12 S 45.58 W	3.52	
975.00	8.00	S 70.00 W	94.00	974.12	14.82 S	20.55 W	23.72	25.34 S 54.20 W	3.30	
1070.00	10.00	S 78.00 W	95.00	1067.94	18.91 S	34.82 W	38.57	39.63 S 61.49 W	2.48	
1130.00	11.50	S 78.00 W	60.00	1126.89	21.24 S	45.77 W	49.74	50.46 S 65.11 W	2.50	
1161.00	11.75	S 78.00 W	31.00	1157.25	22.54 S	51.88 W	55.98	56.56 S 66.52 W	.81	
1224.00	13.00	S 78.00 W	63.00	1218.79	25.35 S	65.09 W	69.46	69.85 S 68.72 W	1.98	
1286.00	15.00	S 80.00 W	62.00	1278.94	28.21 S	79.81 W	84.41	84.65 S 70.53 W	3.32	
1340.00	16.50	S 76.00 W	54.00	1330.91	31.25 S	94.14 W	99.05	99.19 S 71.63 W	3.43	
1381.00	16.75	S 73.00 W	41.00	1370.20	34.39 S	105.44 W	110.77	110.91 S 71.94 W	2.18	
1473.00	17.50	S 66.00 W	92.00	1458.12	43.87 S	130.80 W	137.73	137.96 S 71.46 W	2.38	
1564.00	19.00	S 64.00 W	91.00	1544.54	55.91 S	156.63 W	165.82	166.31 S 70.35 W	1.79	
1688.00	21.00	S 62.00 W	124.00	1661.06	75.16 S	194.41 W	207.33	208.44 S 68.86 W	1.70	
1782.00	22.00	S 63.00 W	94.00	1748.51	91.07 S	224.97 W	240.99	242.71 S 67.96 W	1.13	
1882.00	23.50	S 62.00 W	100.00	1840.73	108.93 S	259.27 W	278.78	281.22 S 67.21 W	1.55	
1977.00	24.50	S 63.00 W	95.00	1927.52	126.77 S	293.54 W	316.54	319.75 S 66.64 W	1.14	
2100.00	25.00	S 63.00 W	123.00	2039.22	150.15 S	339.43 W	366.95	371.15 S 66.14 W	.41	
2287.00	25.00	S 64.00 W	187.00	2208.70	165.41 S	410.15 W	444.45	450.11 S 65.67 W	.23	
2474.00	25.50	S 64.00 W	187.00	2377.83	220.38 S	481.85 W	522.82	529.85 S 65.42 W	.27	

Sii DATADRIL  
 Division of Smith International, Inc.

TENNECO OIL COMPANY  
 CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L G S U R E DISTANCE (FT) DIRECTION (DEG)		DOGLEG SEVERITY (DEG/100')
2727.00	29.00	S 64.00 W	253.00	2602.72	271.15 S	585.95 W	636.60	645.65 S	65.17 W	1.38
2814.00	26.50	S 62.00 W	87.00	2679.70	289.54 S	622.04 W	676.25	696.12 S	65.04 W	3.07
2877.00	24.50	S 63.00 W	63.00	2736.56	302.06 S	646.09 W	702.75	713.22 S	64.94 W	3.25
2975.00	23.75	S 59.00 W	98.00	2826.00	321.48 S	681.12 W	741.65	753.17 S	64.73 W	1.84
3100.00	24.00	S 62.00 W	125.00	2940.31	346.39 S	725.15 W	790.67	803.63 S	64.47 W	.99
3288.00	25.50	S 60.00 W	188.00	3111.03	384.54 S	793.98 W	867.11	882.20 S	64.16 W	.91
3478.00	27.00	S 62.00 W	190.00	3281.44	425.28 S	867.48 W	948.73	966.11 S	63.88 W	.92
3663.00	27.75	S 63.00 W	185.00	3445.72	464.56 S	942.93 W	1031.85	1051.16 S	63.77 W	.48
3908.00	28.00	S 65.00 W	245.00	3662.29	514.77 S	1045.88 W	1144.37	1165.70 S	63.79 W	.40
4161.00	29.00	S 64.00 W	253.00	3884.63	566.74 S	1154.84 W	1263.16	1286.41 S	63.86 W	.44
4286.00	29.00	S 65.00 W	125.00	3993.95	592.83 S	1209.53 W	1322.79	1347.00 S	63.89 W	.39
4338.00	28.50	S 68.00 W	52.00	4039.54	602.80 S	1232.47 W	1347.53	1371.99 S	63.94 W	2.94
4403.00	26.00	S 74.00 W	65.00	4097.33	612.49 S	1260.59 W	1377.22	1401.51 S	64.09 W	5.71
4465.00	24.75	S 84.00 W	62.00	4153.34	617.55 S	1286.64 W	1403.68	1427.17 S	64.36 W	7.19
4573.00	22.25	N 90.00 W	108.00	4252.38	619.80 S	1329.62 W	1445.74	1466.99 S	65.01 W	3.20
4667.00	20.25	N 88.00 W	94.00	4339.98	619.21 S	1363.68 W	1478.45	1497.68 S	65.58 W	2.26
4759.00	16.75	N 85.00 W	92.00	4427.21	617.43 S	1392.81 W	1506.09	1523.53 S	66.09 W	3.94
4854.00	14.00	N 83.00 W	95.00	4518.81	614.79 S	1417.86 W	1529.57	1545.41 S	66.56 W	2.95
4885.00	12.75	N 81.00 W	31.00	4548.96	613.80 S	1424.96 W	1536.16	1551.53 S	66.70 W	4.30
4944.00	11.25	N 77.00 W	59.00	4606.67	611.46 S	1437.00 W	1547.16	1561.68 S	66.95 W	2.91
5005.00	11.75	N 74.00 W	61.00	4666.45	608.41 S	1448.77 W	1557.72	1571.34 S	67.22 W	1.29
5068.00	12.00	N 73.00 W	63.00	4728.10	604.73 S	1461.20 W	1568.74	1581.39 S	67.52 W	.51
5131.00	12.25	N 71.00 W	63.00	4789.69	600.64 S	1473.79 W	1579.81	1591.48 S	67.83 W	.78
5195.00	12.50	N 74.00 W	64.00	4852.21	596.52 S	1486.87 W	1591.35	1602.06 S	68.14 W	1.08
5255.00	12.25	N 75.00 W	60.00	4910.81	593.08 S	1499.26 W	1602.40	1612.30 S	68.42 W	.55
5321.00	13.00	N 75.00 W	66.00	4975.22	589.35 S	1513.19 W	1614.86	1623.91 S	68.72 W	1.14
5384.00	11.75	N 75.00 W	63.00	5036.75	585.85 S	1526.23 W	1626.53	1634.81 S	69.00 W	1.98
5447.00	11.00	N 72.00 W	63.00	5098.51	582.32 S	1538.14 W	1637.10	1644.68 S	69.26 W	1.52
5527.00	11.50	N 77.00 W	80.00	5176.98	578.15 S	1553.18 W	1650.51	1657.29 S	69.58 W	1.37
5559.00	11.50	N 77.00 W	32.00	5208.33	576.72 S	1559.39 W	1656.13	1662.62 S	69.70 W	0.00
5596.00	13.00	N 73.00 W	37.00	5244.49	574.69 S	1566.98 W	1662.91	1669.04 S	69.86 W	4.66
5630.00	14.00	N 73.00 W	34.00	5277.55	572.37 S	1574.57 W	1669.62	1675.37 S	70.02 W	2.94
5691.00	15.00	N 68.00 W	61.00	5336.61	567.27 S	1588.96 W	1682.17	1687.18 S	70.35 W	2.63

**Sii DATADRIL**  
 Division of Smith International, Inc.

TENNECO OIL COMPANY  
 CITY OF FARMINGTON #2

SEC 10-T29N-R13W  
 SAN JUAN COUNTY, NEW MEXICO

MEASURED DEPTH (FT)	INCL ANGLE (DEG)	D R I F T DIRECTION (DEG)	COURSE LENGTH (FT)	TOTAL VERTICAL DEPTH	T O T A L RECTANGULAR COORDINATES (FT)		VERTICAL SECTION (FT)	C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5708.00	15.00	N 68.00 W	17.00	5353.03	565.62 S	1593.04 W	1685.68	1690.47	S 70.45 W	0.00
5752.00	14.25	N 60.00 W	44.00	5395.60	560.76 S	1603.02 W	1694.02	1698.27	S 70.72 W	4.89
5783.00	14.25	N 63.00 W	31.00	5425.65	557.12 S	1609.72 W	1699.54	1703.40	S 70.91 W	2.38
5800.00	15.00	N 63.00 W	17.00	5442.10	555.17 S	1613.55 W	1702.72	1706.38	S 71.01 W	4.41
5841.00	16.00	N 64.00 W	41.00	5481.61	550.28 S	1623.35 W	1710.89	1714.08	S 71.27 W	2.52
5905.00	16.75	N 63.00 W	64.00	5543.01	542.23 S	1639.50 W	1724.36	1726.84	S 71.70 W	1.25
5968.00	17.00	N 62.00 W	63.00	5603.30	533.78 S	1655.72 W	1737.79	1739.63	S 72.13 W	.61
6067.00	19.00	N 61.00 W	99.00	5697.45	519.19 S	1682.60 W	1759.90	1760.88	S 72.85 W	2.04
6163.00	20.00	N 60.00 W	96.00	5787.94	503.41 S	1710.49 W	1782.66	1783.03	S 73.60 W	1.10
6253.00	20.00	N 59.00 W	90.00	5872.51	487.78 S	1737.01 W	1804.15	1804.20	S 74.31 W	.38

BOTTOM HOLE CLOSURE: 1804.20 Feet at 5 74.31 Degrees W



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

TONY ANAYA  
GOVERNOR

September 9, 1986

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Thomas Kellahin  
Kellahin & Kellahin  
Attorneys at Law  
Post Office Box 2265  
Santa Fe, New Mexico

Re: CASE NO. 3915  
ORDER NO. R-3253-A

Applicant:

Tenneco Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

R. L. STAMETS  
Director

RLS/fd

Copy of order also sent to:

Hobbs OCD     x      
Artesia OCD     x      
Aztec OCD     x    

Other \_\_\_\_\_  
\_\_\_\_\_



W. Thomas Kellahin  
Karen Aubrey  
Jason Kellahin  
Of Counsel

KELLAHIN and KELLAHIN  
*Attorneys at Law*  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

September 3, 1986

RECEIVED

SEP 4 1986

Mr. Michael E. Stogner  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87504

OIL CONSERVATION DIVISION

"Hand Delivered"

Re: Tenneco Oil Company  
NMOCD Case 8915  
Order R-8253

Dear Mike:

On July 30, 1986 I sent you the enclosed letter requesting a correction in Order R-8253 to increase the size of the bottom hole target on three of the wells to 100 foot radius. There was an error in the original order in that all four wells were restricted to a 75 foot radius target when the testimony and request was for 75 foot radius target only as to the City of Farmington Well No. 1.

If this matter can be corrected without another hearing we would appreciate it. If you believe another hearing is necessary, please consider this letter our request to be docketed on the next available Examiner docket.

Very truly yours,

  
W. Thomas Kellahin

WTK:ca  
Enc.

cc: Kevin Heringer  
Tenneco Oil Company  
P. O. Box 3249  
Englewood, Colorado 80155

Sam Appell, Esq.  
Tenneco Oil Company  
P. O. Box 3249  
Englewood, Colorado 80155

Jason Kellahin  
W. Thomas Kellahin  
Karen Aubrey

KELLAHIN and KELLAHIN  
*Attorneys at Law*  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

July 30, 1986

Mr. Michael E. Stogner  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87504

"Hand Delivered"

Re: Tenneco Oil Company  
NMOCD Case 8915, Order R-8253

Dear Mike:

In accordance with our telephone conversation yesterday, I would appreciate you reviewing the bottom hole targets approved by the Division for Tenneco's City of Farmington Lease directional drilling wells which I presented at the hearing held on June 25, 1986.

Enclosed for your reference are a copy of the order with Exhibit "A" attached, showing that all four wells had bottom hole locations restricted to a 75 foot radius target.

It is Tenneco's desire to have the 75 foot radius target apply only to the City of Farmington Well #1 as shown on page 17 of the Exhibit book (copy enclosed). This restriction would confine this well to a bottom hole location that would be standard.

The remaining three wells can have a 100 foot radius target and still have standard bottom hole locations. Enclosed are pages 29, 61 and 82 from the Exhibit book which show the requested 100 foot target profiles.

If you concur, we would appreciate receiving an amendment of the bottom hole targets for the three wells mentioned. Please call me if you have any questions.

Very truly yours,

  
W. Thomas Kellahin

WTK:ca

cc: Kevin Heringer  
Sam Appell, Esq.

3 JUN 1986 e 8:54

VENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO



# DATADRILL

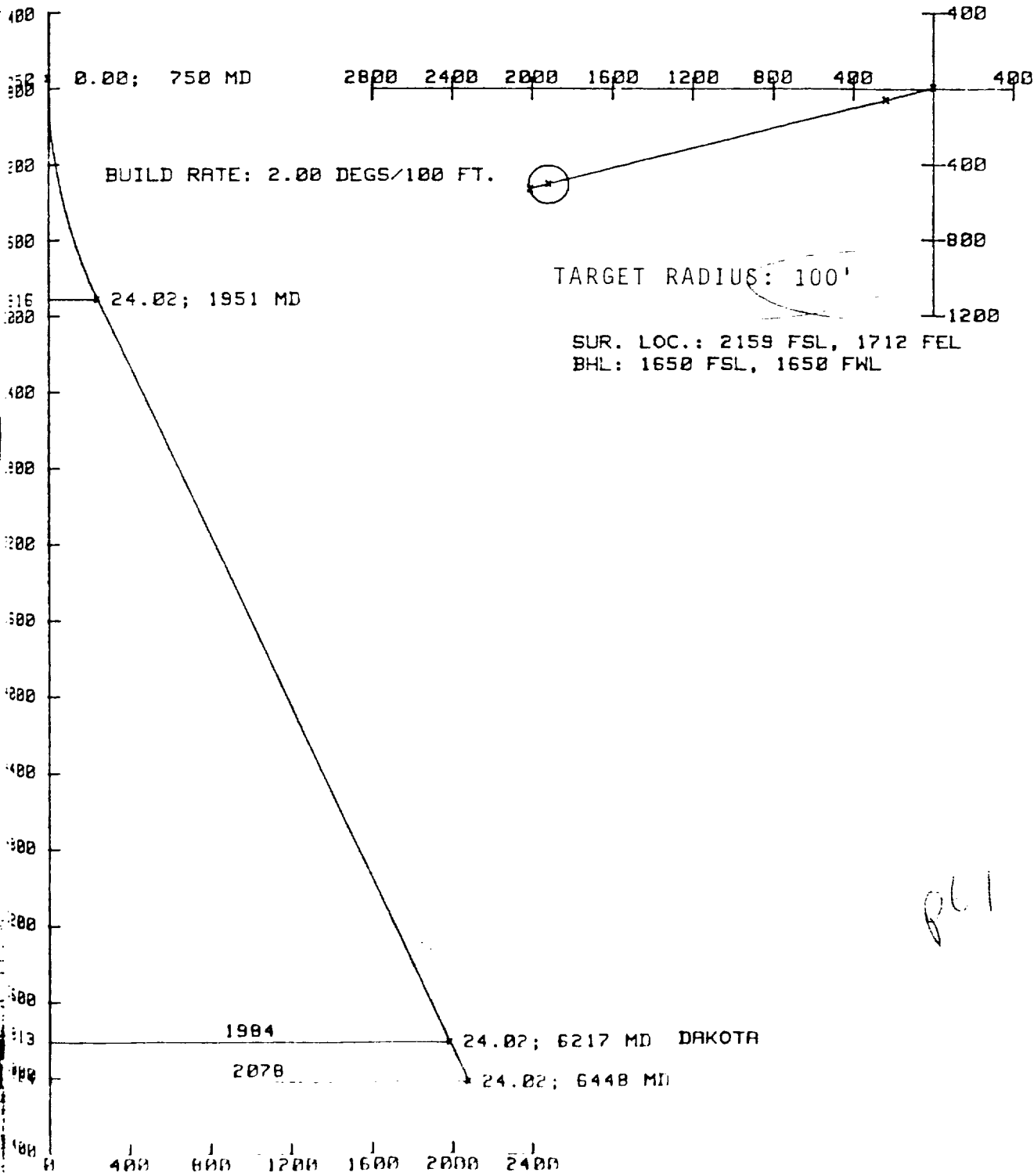
Division of Smith International, Inc.

### VERTICAL PLAN

SCALE: 400 FEET/DIVISION

### HORIZONTAL PLAN

SCALE: 400 FEET/DIVISION



2 JUN 1968 8 5 AM

COMPASS  
ELEVATION #11  
290 RISE  
NEW MEXICO

# 347 ADRI

Division of Earth Resources

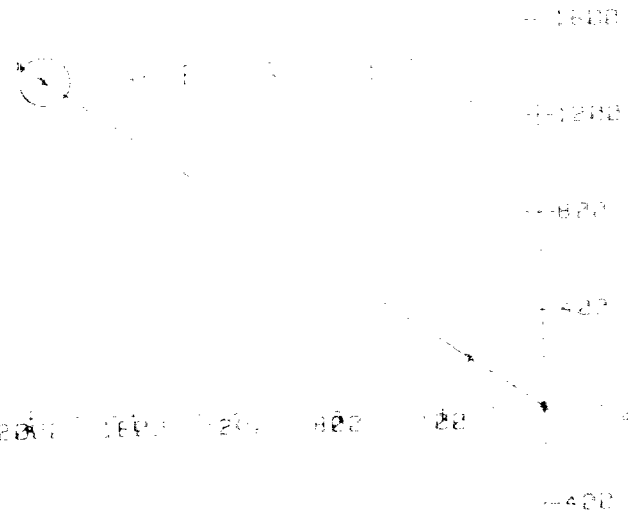
4000 FEET DIVISION

4000 FEET DIVISION

4000 FEET

4000 FEET 80 THOUSAND FT.

4000 FEET



8000 FEET, 10400 FEET, 12000 FEET  
16000 FEET, 18000 FEET

2000

4000 8000 12000 16000 20000

4000

8000 12000 16000 20000

4000 8000

8000 12000 16000 20000

3 JUN 1986 @ 8:46

WNECO OIL COMPANY  
OF FARMINGTON #1E  
10-T29N-R13W  
JUAN COUNTY, NEW MEXICO



# DATA DRILL

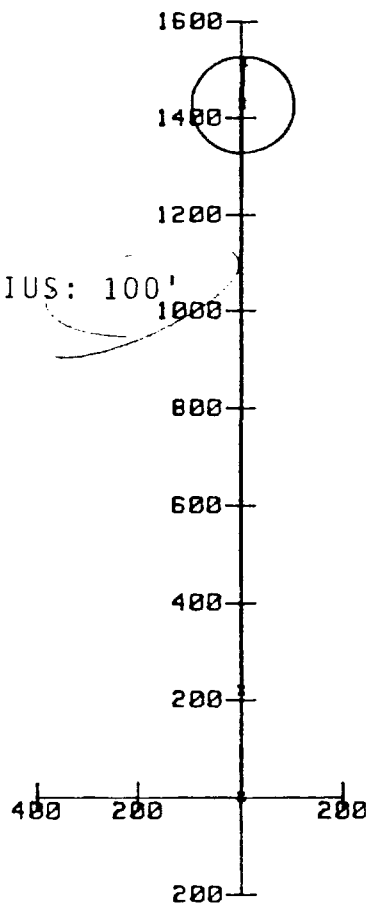
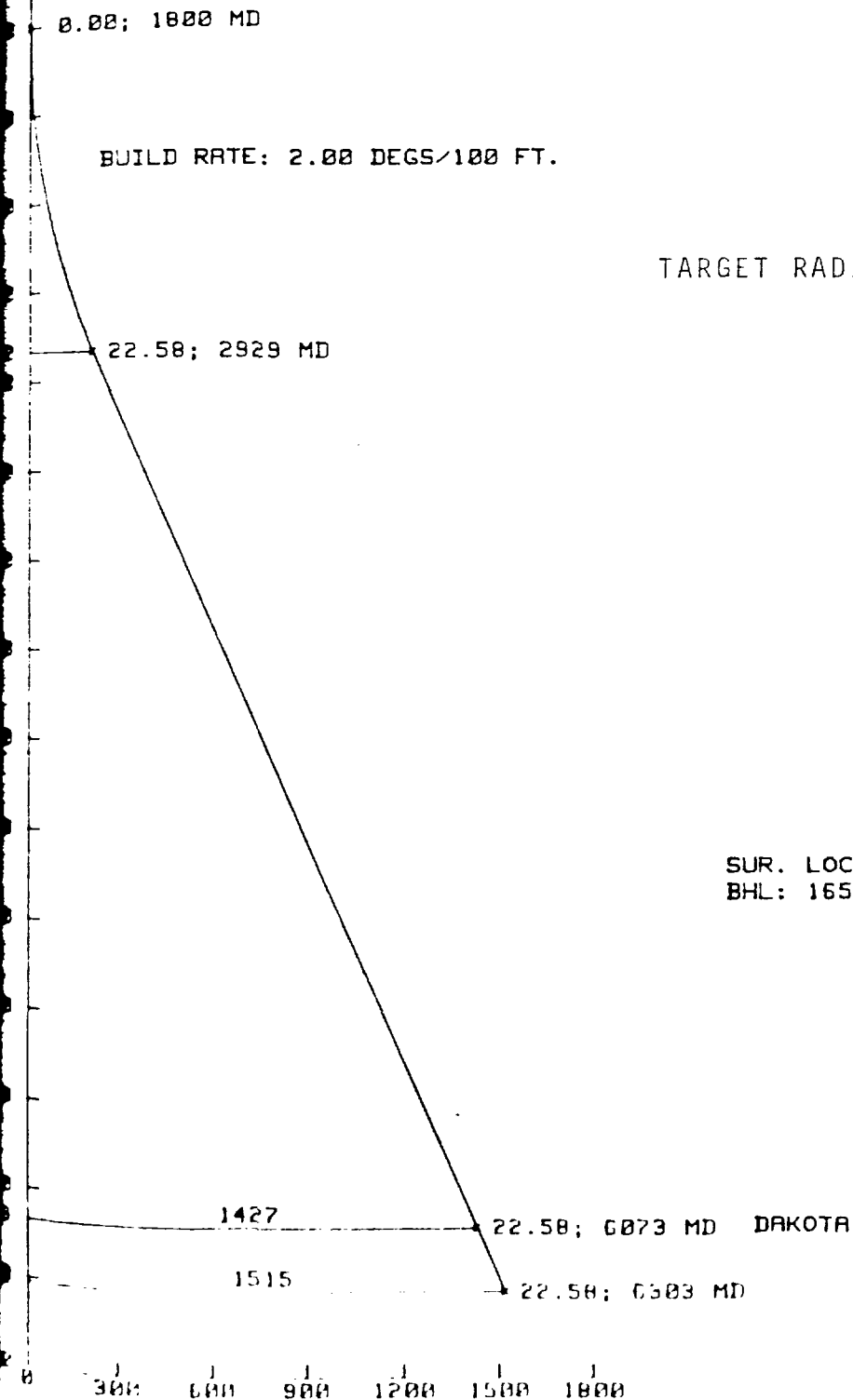
Division of Smith International, Inc.

### VERTICAL PLAN

SCALE: 300 FEET/DIVISION

### HORIZONTAL PLAN

SCALE: 200 FEET/DIVISION

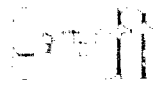


SUR. LOC.: 2203 FSL, 1653 FEL  
BHL: 1650 FNL, 1650 FEL

*p 37*

21 JUN 1971 10 1971

COIL COMPANY  
OF FARMINGTON #1  
1281 R13W  
SHERIDAN COUNTY, NEW MEXICO



**BUREAU OF LAND MANAGEMENT**  
DEPARTMENT OF THE INTERIOR

Division of Earth Resources

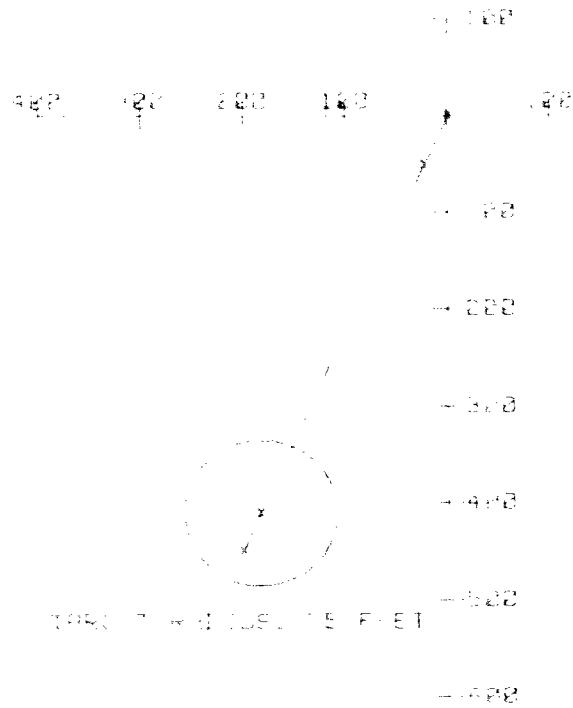
**VERTICAL PLAN**  
100 FEET DIVISION

**HORIZONTAL PLAN**  
100 FEET DIVISION

2075 MD

100 FEET

2041 MD



100 FEET

SUMMARY: 2100 FEET, 2075 MD  
BENCH: 1250 FEET, 2041 MD

2075 MD

2041 MD

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 8915  
Order No. R-8253

APPLICATION OF TENNECO OIL COMPANY  
FOR DIRECTIONAL DRILLING, SAN JUAN  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 25, 1986, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 8th day of July, 1986, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Tenneco Oil Company, seeks authority to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner as described in Exhibit "A" attached hereto and made a part hereof.

(3) The E/2 of said Section 10 is to be dedicated to Wells Nos. 1 and 1-E and the W/2 of said Section 10 is to be dedicated to Wells Nos. 2 and 2-E.

(4) The proposed bottom hole locations including a 75 foot target radius on the four subject wells are standard gas well locations pursuant to the Special Pool Rules governing the Basin Dakota Gas Pool.

(5) The surface locations of all four wells are on a 4.561 acre tract of land in the NE/4 of said Section 10 which lies

within a residential section of the City of Farmington, New Mexico.

(6) The directional drilling of the subject wells is necessitated in order to adequately avoid occupied dwellings, streets, and City Parks located in said Section 10.

(7) Approval of the application is in the best interest of conservation, inasmuch as it will minimize surface damage and correlative rights, provided the applicant should be required to determine the subsurface locations of the bottom of the holes by means of a continuous multi-shot directional survey conducted subsequent to directional drilling, if said wells are to be completed as producing wells.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Tenneco Oil Company, is hereby authorized to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner described in Exhibit "A" attached hereto and made a part hereof.

PROVIDED HOWEVER THAT, prior to the above described directional drilling, the operator shall determine the subsurface location of the kick-off point of each well;

PROVIDED FURTHER THAT, subsequent to the above described directional drilling, should said wells be producers, a continuous multi-shot directional survey shall be made of each wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87504, and the operator shall notify the Division's Aztec District Office of the date and time said survey is to be commenced.

(2) Form C-105's shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths for each well.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.



DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



*acting* R. L. STAMETS,  
Director

S E A L

EXHIBIT "A"  
Order No. R-8253

The following well descriptions all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, Basin Dakota Pool, San Juan County, New Mexico.

City of Farmington Well No. 1:

Surface Location: 2160 feet from the South line and 1591 feet from the East line;  
Approximate Kick-Off Point from Vertical: 3275 feet;  
Bottom Hole Location: Within 75 feet of a point 1750 feet from the South line and 1775 feet from the East line.

City of Farmington Well No. 1-E:

Surface Location: 2203 feet from the South line and 1653 feet from the East line;  
Approximate Kick-Off Point from Vertical: 1800 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and East lines.

City of Farmington Well No. 2:

Surface Location: 2159 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the South and West lines.

City of Farmington Well No. 2-E:

Surface Location: 2246 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and West lines.

RECEIVED

JUL 30 1986

KELLAHIN and KELLAHIN  
*Attorneys at Law*

El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

OIL CONSERVATION DIVISION

Telephone 982-4285  
Area Code 505

Jason Kellahin  
W. Thomas Kellahin  
Karen Aubrey

July 30, 1986

Mr. Michael E. Stogner  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87504

"Hand Delivered"

Re: Tenneco Oil Company  
NMOCD Case 8915, Order R-8253

Dear Mike:

In accordance with our telephone conversation yesterday, I would appreciate you reviewing the bottom hole targets approved by the Division for Tenneco's City of Farmington Lease directional drilling wells which I presented at the hearing held on June 25, 1986.

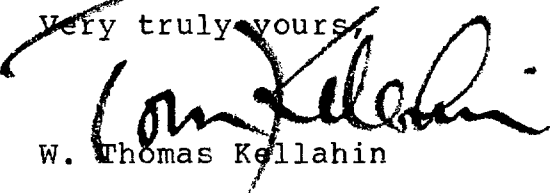
Enclosed for your reference are a copy of the order with Exhibit "A" attached, showing that all four wells had bottom hole locations restricted to a 75 foot radius target.

It is Tenneco's desire to have the 75 foot radius target apply only to the City of Farmington Well #1 as shown on page 17 of the Exhibit book (copy enclosed). This restriction would confine this well to a bottom hole location that would be standard.

The remaining three wells can have a 100 foot radius target and still have standard bottom hole locations. Enclosed are pages 29, 61 and 82 from the Exhibit book which show the requested 100 foot target profiles.

If you concur, we would appreciate receiving an amendment of the bottom hole targets for the three wells mentioned. Please call me if you have any questions.

Very truly yours,

  
W. Thomas Kellahin

WTK:ca

cc: Kevin Heringer  
Sam Appell, Esq.

3 JUN 1986 @ 8:54

ENNECO OIL COMPANY  
CITY OF FARMINGTON #2  
SEC 10-T29N-R13W  
SAN JUAN COUNTY, NEW MEXICO



# DATA DRILL

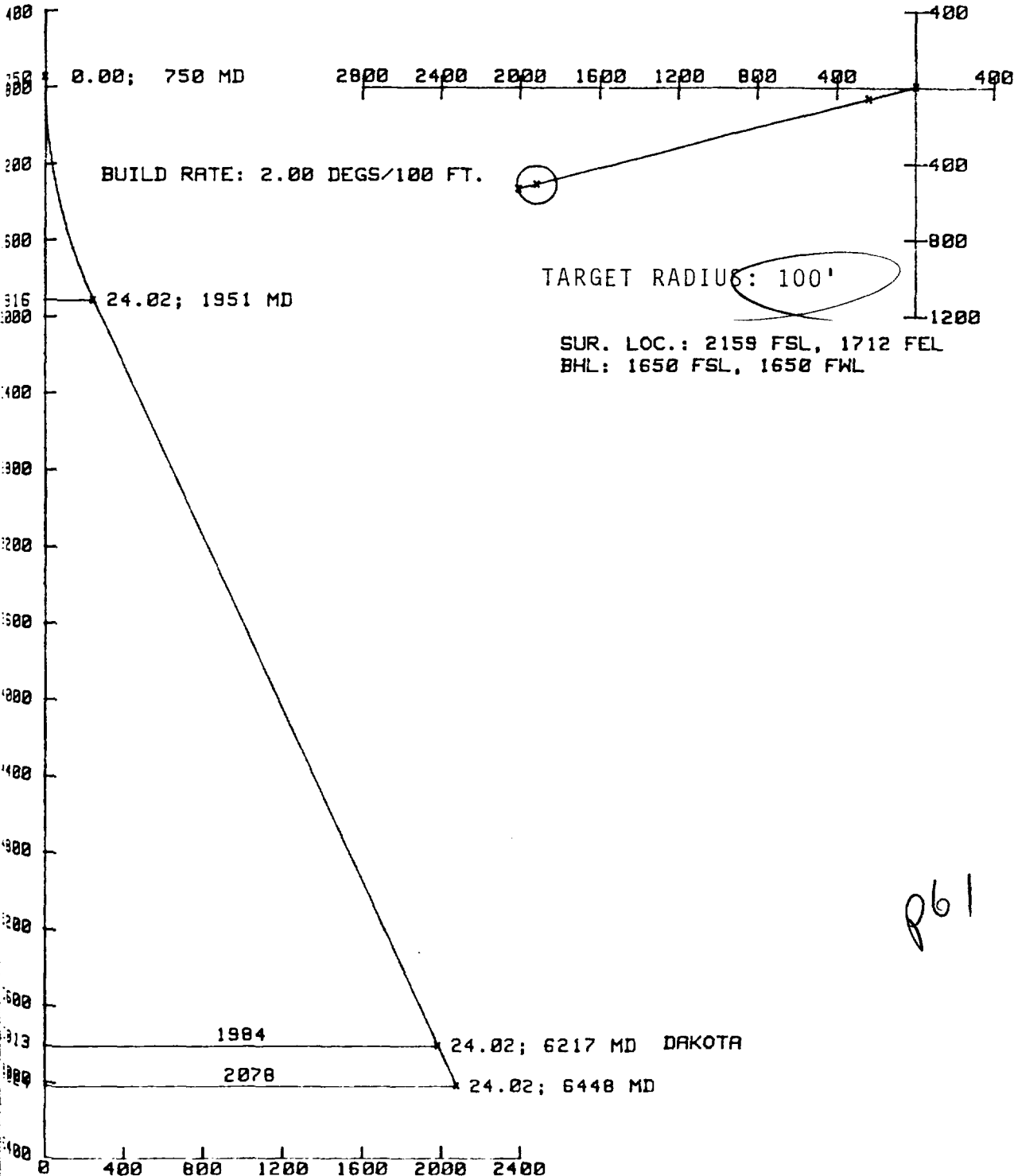
Division of Smith International, Inc.

### VERTICAL PLAN

SCALE: 400 FEET/DIVISION

### HORIZONTAL PLAN

SCALE: 400 FEET/DIVISION



261

VERTICAL SECTION PLANE: S 75.14 W

CITY WELL #2

3 JUN 1986 4 9:00

01. COMPANY  
FARMINGTON #2E  
29N-R13W  
COUNTY, NEW MEXICO

# FIELD RECORD

Division of Swiss International, Inc.

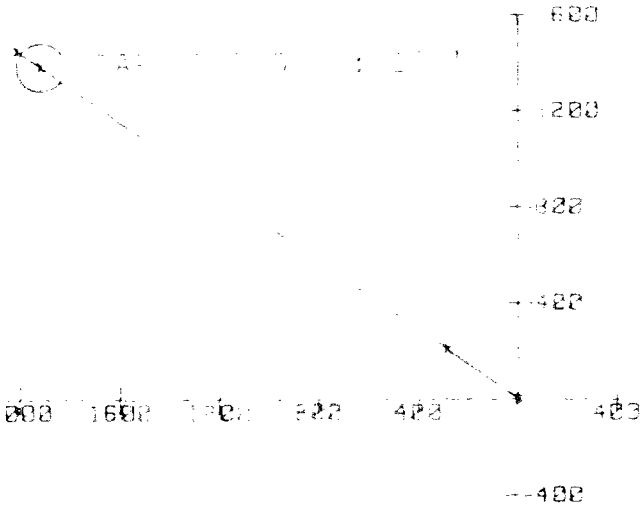
CAL PLAN  
400 FEET DIVISION

HORIZONTAL PLAN  
SCALE 400 FEET DIVISION

10. 750 MB

11. D RATE: 0.22 DEGS/100 FT.

12. 210 MB



SUR 1500 2 40 FSL 1712 FEL  
BH 1650 FN 1650 FWL

2385  
2480  
\* 28.73; 1314 RD 198079  
\* 28.73; 1314 RD 198079

400 800 1200 1600 2000 2400 2800  
TIME OF 11:00 PM 1986: 6.24.18 v

NECO OIL COMPANY  
 Y OF FARMINGTON #1E  
 10-T29N-R13W  
 JUAN COUNTY, NEW MEXICO

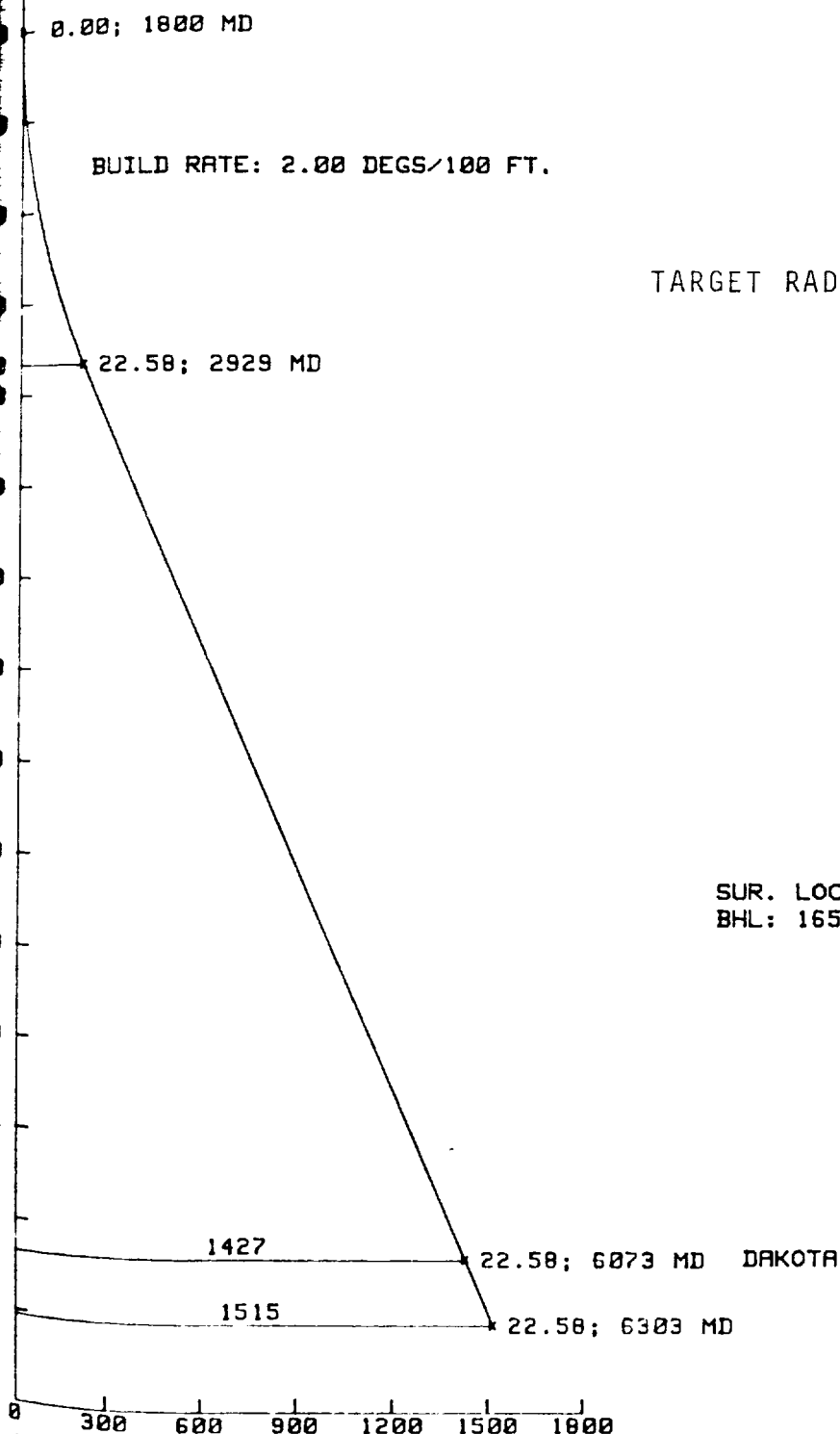
3 JUN 1986 @ 8:46



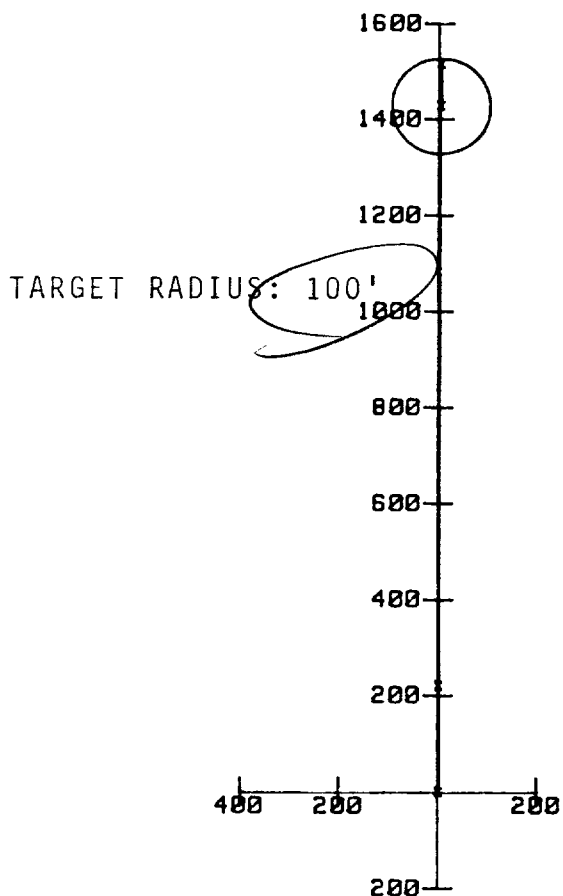
**DATA DRILL**

Division of Smith International, Inc.

**VERTICAL PLAN**  
 SCALE: 300 FEET/DIVISION



**HORIZONTAL PLAN**  
 SCALE: 200 FEET/DIVISION



SUR. LOC.: 2203 FSL, 1653 FEL  
 BHL: 1650 FNL, 1650 FEL

*p39*

VERTICAL SECTION PLANE - N 12 E

City Well #2

City Well #2E

17 JUN 1986 @ 13:57

NECO OIL COMPANY  
WELL OF FARMINGTON #1  
10-T29N-R13W  
JUAN COUNTY, NEW MEXICO

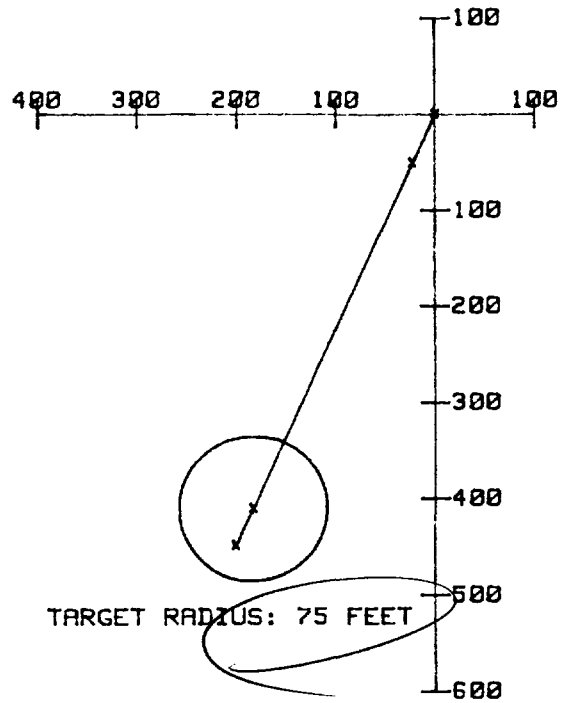
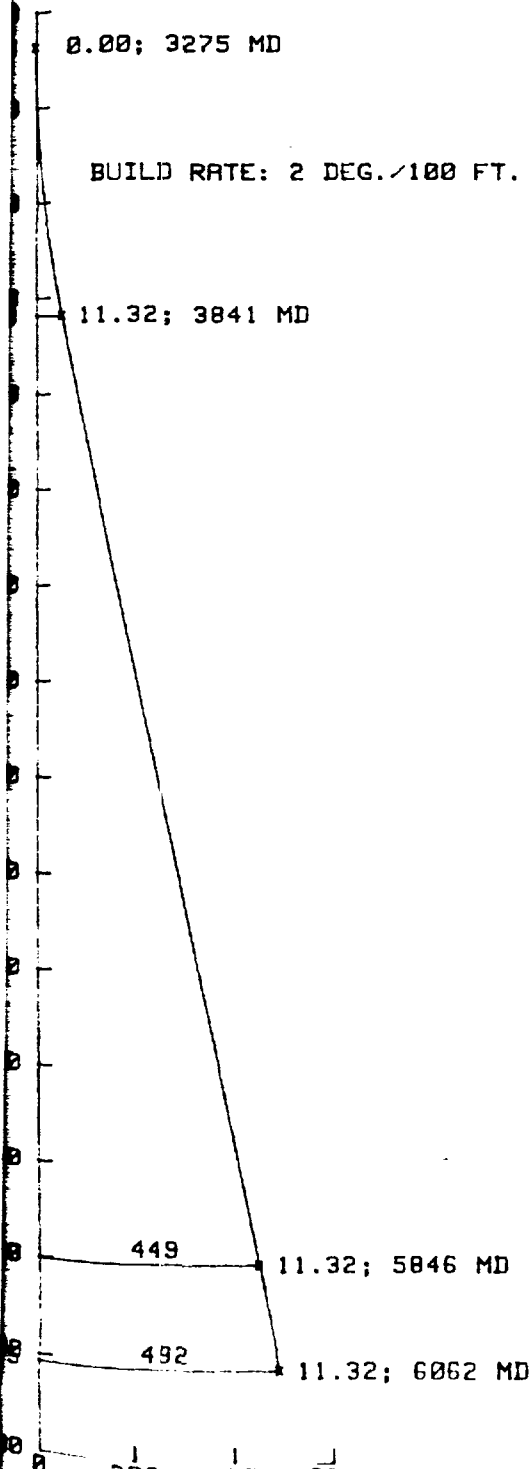


# DATA DRILL

Division of Smith International, Inc.

**VERTICAL PLAN**  
SCALE: 200 FEET/DIVISION

**HORIZONTAL PLAN**  
SCALE: 100 FEET/DIVISION



SUR. LOC.: 2160 FSL, 1591 FEL  
BHL: 1750 FSL, 1775 FEL

P17

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 8915  
Order No. R-8253

APPLICATION OF TENNECO OIL COMPANY  
FOR DIRECTIONAL DRILLING, SAN JUAN  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 25, 1986, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 8th day of July, 1986, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Tenneco Oil Company, seeks authority to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner as described in Exhibit "A" attached hereto and made a part hereof.

(3) The E/2 of said Section 10 is to be dedicated to Wells Nos. 1 and 1-E and the W/2 of said Section 10 is to be dedicated to Wells Nos. 2 and 2-E.

(4) The proposed bottom hole locations including a 75 foot target radius on the four subject wells are standard gas well locations pursuant to the Special Pool Rules governing the Basin Dakota Gas Pool.

(5) The surface locations of all four wells are on a 4.561 acre tract of land in the NE/4 of said Section 10 which lies



within a residential section of the City of Farmington, New Mexico.

(6) The directional drilling of the subject wells is necessitated in order to adequately avoid occupied dwellings, streets, and City Parks located in said Section 10.

(7) Approval of the application is in the best interest of conservation, inasmuch as it will minimize surface damage and correlative rights, provided the applicant should be required to determine the subsurface locations of the bottom of the holes by means of a continuous multi-shot directional survey conducted subsequent to directional drilling, if said wells are to be completed as producing wells.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Tenneco Oil Company, is hereby authorized to directionally drill four wells to the Basin Dakota Pool in its City of Farmington Lease, all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, San Juan County, New Mexico, in the manner described in Exhibit "A" attached hereto and made a part hereof.

PROVIDED HOWEVER THAT, prior to the above described directional drilling, the operator shall determine the subsurface location of the kick-off point of each well;

PROVIDED FURTHER THAT, subsequent to the above described directional drilling, should said wells be producers, a continuous multi-shot directional survey shall be made of each wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico 87504, and the operator shall notify the Division's Aztec District Office of the date and time said survey is to be commenced.

(2) Form C-105's shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths for each well.

(3) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*R. L. Stamets*  
*acting* R. L. STAMETS,  
Director

S E A L

EXHIBIT "A"  
Order No. R-8253

The following well descriptions all in Section 10, Township 29 North, Range 13 West, NMPM, Farmington City Limits, Basin Dakota Pool, San Juan County, New Mexico.

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Approximate Kick-Off Point from Vertical: 3275 feet;  
Bottom Hole Location: Within 75 feet of a point 1750 feet from the South line and 1775 feet from the East line.

City of Farmington Well No. 1-E:

Surface Location: 2203 feet from the South line and 1653 feet from the East line;  
Approximate Kick-Off Point from Vertical: 1800 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and East lines.

City of Farmington Well No. 2:

Surface Location: 2159 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the South and West lines.

City of Farmington Well No. 2-E:

Surface Location: 2246 feet from the South line and 1712 feet from the East line;  
Approximate Kick-Off Point from Vertical: 750 feet;  
Bottom Hole Location: Within 75 feet of a point 1650 feet from the North and West lines.



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

TONY ANAYA  
GOVERNOR

July 10, 1986

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Thomas Kellahin  
Kellahin & Kellahin  
Attorneys at Law  
Post Office Box 2265  
Santa Fe, New Mexico

Re: CASE NO. 8915  
ORDER NO. R-2253

Applicant:

Tenneco Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced  
Division order recently entered in the subject case.

Sincerely,

R. L. STAMETS  
Director

RLS/fd

Copy of order also sent to:

Hobbs OCD   x    
Artesia OCD   x    
Aztec OCD   x  

Other \_\_\_\_\_  
\_\_\_\_\_

OIL CONSERVATION DIVISION

JUN 24 1986

RECEIVED

IPM06NM

4-0374825175 06/24/86

ICS IPMRNCZ CSP

5053273311 TDRN FARMINGTON NM 47 06-24 0357P EST

PMS MR MIKE STOGNER, DLR

STATE LAND OFFICE

OIL CONSERVATION DIVISION RPT DLY MGM, MUST. DLR BEFORE 10A 6-25, DLR

311 OLD SANTA FE TRAIL, ROOM 208

SANTA FE NM 87504-2088

RE APPLICATION GATE 8915 TENECO OIL COMPANY

RUSTY SON TOWNHOME ASSOCIATION OBJECTS TO THIS APPLICATION. ITEM #6

IS DUE TO RESIDENTIAL TOWNHOMES WITHIN 225 FEET. TOPOGRAPHICAL

RESTRICTIONS, UNTIL WE UNDERSTAND THE HAZARDS AND DANGER OF THIS TYPE

OF DRILLING. WE ASK FOR POSTPONEMENT OF THIS APPLICATION.

SINCERELY

CHARLES L PEARSON, 1050 EAST NAVAJO, FARMINGTON, NEW MEXICO, 87401

1050 EAST NAVAJO

FARMINGTON NM 87401

1555 EST

IPM06NM

Jason Kellahin  
W. Thomas Kellahin  
Karen Aubrey

KELLAHIN and KELLAHIN  
*Attorneys at Law*  
El Patio - 117 North Guadalupe  
Post Office Box 2265  
Santa Fe, New Mexico 87504-2265

Telephone 982-4285  
Area Code 505

July 10, 1986

RECEIVED

JUL 11 1986

OIL CONSERVATION DIVISION

Mr. Michael E. Stogner  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87504

"Hand Delivered"

Re: Tenneco Oil Company  
NMOCD Case 8915

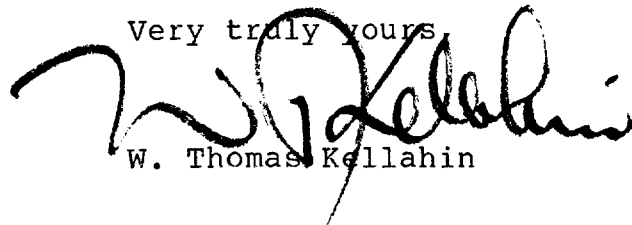
Dear Mike:

At the hearing on June 25, 1986, you requested that we furnish you with a copy of the action taken by the City of Farmington in accordance with the City's rules and regulations, on drilling within the city. I have enclosed a copy of the rules and copies of Tenneco's correspondence with the City on those rules.

In addition, I am enclosing an extra copy of the Tenneco Exhibits submitted at the hearing so that there will be an additional copy in the Division records.

As you know, Tenneco is most anxious to have your earliest approval of its application. If there is anything I can do to assist that process, please call me.

Very truly yours,



W. Thomas Kellahin

WTK:ca

cc: Kevin Heringer  
Sam Appell, Esq.



CITY OF FARMINGTON, NEW MEXICO  
800 MUNICIPAL DR. / P.O. BOX 900  
FARMINGTON, NEW MEXICO 87499  
505/327-7701

June 6, 1986

Ken Russell, Senior Materials Analyst  
3400 Southside River Road  
Farmington, NM 87401

RE: Petition No. 930

Dear Mr. Russell:

Enclosed please find the information and the Planning and Development Department recommendation regarding your petition which is being forwarded to the Planning and Zoning Commission for consideration at their meeting of Thursday, June 12, 1986 at 2:00 p.m. in the City Council Chambers, 800 Municipal Drive, Farmington, New Mexico.

You are encouraged to attend this meeting. Should you have any questions, please feel free to contact me.

Sincerely,



Joseph A. Schmitz  
Principal Planner

JAS/ww

Enclosures

cc: Tenneco Oil Company, P.O. Box 3249, Englewood, CO 80155

RECEIVED  
JUN 10 1986  
TENNECO OIL CO.  
WRMD Accounting

A G E N D A

PLANNING AND ZONING COMMISSION  
June 12, 1986 2:00 P.M.

<u>ITEM</u>		<u>PAGE</u>
1.	Call meeting to order.	
2.	Approval of the minutes from the regular meeting of May 29, 1986.	68
*3.	Approval of the Agenda.	
4.	Petition No. 930 from Tenneco Oil Company, represented by Ken Russell, which requests a Special Use Permit in an R-3, Multiple Family Residential, district to allow the drilling and establishment of four natural gas wells on 4.6 acres located on the east side of Vine Avenue, northeast of the intersection of Vine Avenue and Navajo Street and immediately north of Rusty Sun Townhomes.	1
5.	Petition No. 931 from James D. Couch which requests a Special Use Permit in an R-1B, Single Family Residential, district to allow the continued, temporary placement of a 10' X 36' mobile home to be used by an elderly family member for a period of five years at 903 N. Wall Avenue.	44
6.	Petition No. 932 from Chapel of the Valley Church, represented by George A. Russell, Jr., which requests a Special Use Permit in a C-2, General, Commercial, district to allow the temporary placement (18 months) of a portable office building or office trailer to be used for Sunday School classes at 2016 E. 16th Street.	57
7.	Petition No. 933 from Kyrk Westbrook which requests a zone change from the C-2, General Commercial, district to the R-1B, Single Family Residential, district/SMHA, Special Mobile Home Area for 2.0 acres at 2901-2907 Southside River Road.	62
8.	Business from the Floor.	

\*There will be a 10-minute break at 3:30 P.M. or at the end of the Agenda item being discussed at that time.



9. Business from: Chairman - Selection of a representative to the June 26, 1986 City Council meeting

Members - Report from representative to the June 24, 1986 City Council meeting

Staff -

10. Adjournment.

The next regularly-scheduled meeting of the Planning and Zoning Commission will be held on Thursday, June 26, 1986 at 2:00 P.M. in the City Council Chambers, 800 Municipal Drive, Farmington, New Mexico.

PLEASE NOTE: All Agenda items forwarded by the Planning and Zoning Commission to the City Council will be heard at its meeting on Tuesday, June 24, 1986 at 7:30 P.M. in the City Council Chambers, 800 Municipal Drive, Farmington, New Mexico.

For further information regarding any of the items scheduled on this Agenda, please contact the Planning and Development Department at 327-7701, Extension 1280.

Petition No. 930 - Tenneco Oil Co.

Petition No. 930 from Tenneco Oil Company, represented by Ken Russell, requests a Special Use Permit in an R-3, Multiple Family Residential, district to allow the drilling and establishment of four natural gas wells on 4.6 acres located on the east side of Vine Avenue, northeast of the intersection of Vine Avenue and Navajo Street and immediately north of Rusty Sun Townhomes.

Departmental Review: Gus Byrom, Transportation Director, said fencing must not cause view obstruction for drivers leaving the site to enter Vine or for motorist on Vine. Now is the time to get dedication of Vine Street. T.W. McCurdo, Fire Department, said petitioner should be required to have a clearly established emergency plan and have gone over it with Fire Department officials before commencing operations. At least three copies of the emergency plan should be supplied to the Fire Department to be carried in command vehicles. Lynn Tetterington, Assistant City Attorney, said if approved, City of Farmington needs to be named insured on Tenneco's liability policy (see memo also). Bob Hudson, Director of Parks, Recreation and Cultural Affairs, submitted a memo (also attached). No other comments or objections were received from the other departments.

Planning and Development Department Check: Publication of notice for this hearing appeared in the Daily Times on May 28, 1986. Adjoining property owners were notified by certified mail on May 23, 1986. A sign was posted on the property on May 28, 1986. The existing land use of subject property is undeveloped land in an R-3, Multiple Family Residential, district. The land use of the surrounding area is comprised of City parks and ball fields to the north and east, a townhouse development to the south, and single family residences to the northwest across Vine Avenue.

The petitioner has requested a Special Use Permit, pursuant to Section 15 of Article XX of the Zoning Ordinance, to allow the drilling and establishment of four natural gas wells on 4.6 acres located 100-300 feet northeast of the intersection of Vine Avenue and E. Navajo Street immediately north of the Rusty Sun Townhome development. All four wells will be directionally drilled to access the natural gas under mineral leases in Section 10, T.29N., R.13W. At the present time, there are no wells in this section. The four proposed wells represent the two wells permitted in each proration unit (320 acres) and the two infill wells. The exact location of each of the wells is as follows:

- (1) Well No. 1 - 2160' FSL AND 1591' FEL of Section 10  
(bottom hole location in SE 1/4 of Section 10);
- (2) Well No. 1E - 2203' FSL and 1653' FEL of Section 10  
(bottom hole location in NE 1/4 of Section 10);
- (3) Well No. 2 - 2159' FSL and 1712' FEL of Section 10  
(bottom hole location in SW 1/4 of Section 10); and
- (4) Well No. 2E - 2246' FSL and 1712' FEL of Section 10  
(bottom hole location in NW 1/4 of Section 10).

A detailed description of the proposal is contained in the attached support material which includes two letters from the petitioner - one describing the

proposal to drill four gas wells and a second letter which requests a variance from the Noise Ordinance during the drilling and completion of each of the four wells.

A letter of protest has been received from H.W. Fausch, P.O. Box 65, Gurde Rock, NE, owner of two townhouse units in the Rusty Sun Townhome development, located immediately south of the subject property. As of the writing of the agenda, no other written protests had been received, however, the Planning and Development Department has responded to a number of telephone inquiries regarding this petition.

The Planning and Development Department notes that the establishment of a gas well within the City limits is subject to several sections of the City Code, namely: (1) Appendix I, Zoning Ordinance; (2) Chapter 22, Oil and Gas Wells; (3) Chapter 20A, Noise Control; and (4) Chapter 12, Fire Protection, which in turn references the AIA Fire Prevention Code and the NFPA Life Safe Code Pamphlet 101.

Under Appendix I, Zoning Ordinance, Article XX, Section 15, a Special use Permit is required for the "Extraction processing, removal, and storing of sand, gravel, stone, oil, or gas." This section of Article XX requires compliance with Chapter 22 of the City Code and also requires that "adequate provisions (be) made to control noise, dust, traffic, and odors." This reference implies that compliance with Chapter 20A will be necessary. The application of each of these codes will be discussed separately:

- (1) Zoning Ordinance - Article XX requires a Special Use Permit before any well is drilled within the City limits. The application for a Special Use Permit shall include a detailed site plan, a statement as to the proposed use, and a showing of compliance with the minimum requirements enumerated under each applicable section of Article XX. The Zoning Ordinance submission requirements have been met with the possible exception of compliance with Chapters 20A and 22. The basic purpose of the Special Use Permit mechanism is to ensure that the proposed use is compatible with the surrounding area, is in the interest of the public health, safety, morals, and general welfare of the community, and complies with all other applicable City Codes and Ordinances. Compliance with the standards of the Zoning Ordinance will be discussed in detail after a review of the other code requirements.
- (2) Chapter 22 - Oil and Gas Wells - Chapter 22 establishes more specific basic guidelines for the drilling and operation of oil and gas wells within the City limits. Some of these guidelines are the following:
  - (a) No street shall be blocked by a well drilling operation. (22-2)
  - (b) No well shall be drilled or storage tank located

nearer than 200 feet to any residence or commercial building without written permission of the City Council. No building shall be constructed within 100 feet of a well or its facilities. (22-3)

- (c) Drilling rig shall be removed from the premises within 30 days after completion of the well. Until the well site is enclosed, a watchman shall be on the premises. (22-4)
- (d) No earthen slush pits will be permitted. All waste substances shall be retained in water-right containers. (22-5)
- (e) All operations shall comply with applicable State and Federal laws. (22-7)
- (f) A permit from the City Council must be obtained prior to any drilling. (22-10)
- (g) After securing a permit, a bond of certificate of insurance shall be placed on file with the City Clerk-Treasurer. (22-20)
- (h) All well operations shall be conducted in accordance with the practices of a reasonable and prudent operation and with the regulations of the State Oil Conservation Commission. (22-23)
- (i) Location of pipeline shall conform to applicable ASA codes and shall be indicated on a plan layout, marked in the field approved by the Oil and Gas Inspector. (22-24, 25)
- (j) If internal combustion engines are used, mufflers shall be installed on the mud pumps and on the engines to reduce noise to a minimum. (22-28)
- (k) No materials or equipment shall be delivered to the site except between the hours of 9:00 a.m. and 8:00 p.m. on any day. (22-27)
- (l) Proven technological improvements in methods of production shall be adopted as they become available if capable of reducing factors of nuisance or annoyance. There shall be no venting of gas into the open air. (22-28)
- (m) All drilling sites shall be enclosed by a minimum six-foot chainlink fence with double strands of barbed wire across the top. At such time that residential developments come within 300 feet of the well site, the site

shall be landscaped as reasonably prescribed by the City Council for the purposes of screening from outside view the production facilities being maintained on the premises. (22-30)

- (n) Gas shall not be flared or burned except for a limited time during the completion of a well. Adequate firefighting apparatus shall be maintained on the site at all times during drilling and production operation. (22-31)
- (o) The premises shall be kept in a clean and sanitary condition. Suitable and adequate toilet facilities shall be made available in a clean and sanitary condition at all times during drilling operations. (22-32)

The petitioner, through correspondence dated May 15, 1986, has indicated his intent to comply with all the provisions of Chapter 22. All of the proposed well sites appear to comply with the separation requirements, and the drilling procedures appear to generally comply with the requirements of Chapter 22. There are four points, however, that need to be addressed in relation to Chapter 22. First is the access proposed to the site. Access will be gained from Vine Avenue near the northwest corner of the site. Since there is a change in grade from Vine Avenue to the site, plans for the construction of this access should be approved by the City's Public Works Department. Also, any fencing installed must be setback at least 25 feet from the property line so as to not create a sight obstruction for vehicles entering or leaving this site or adjoining properties. A second point is the amount of performance bond to be provided under Section 22-20. In the past, the City Council has required the posting of a bond for the \$10,000 minimum required under Section 22-20. The City's Director of Risk Management has suggested a \$25,000 minimum with a maximum of \$50,000. This is a departure from previous practice and a requirement of which the applicant may not be aware. A third point involves the location of the gathering lines. Although this is apparently the responsibility of El Paso Natural Gas Company, the petitioner should understand that the placement of gas lines in the City street right-of-way must be done in compliance with the provisions of Chapter 29 pertaining to streets and sidewalks. New pavement that is cut will have to be replaced full width. Additionally, an easement will be needed for the gathering line where it crosses the Fairview Park site (SW corner of 16th Street and Farmington Avenue) to connect to the existing Tenneco gas well. At a minimum, restoration of the recently landscaped park site will be expected as well as some compensation for the physical disturbance of the park facility. A fourth point relates to the adequacy of the screening proposed. The petitioner proposes the installation of a six-foot chain link fence with wooden slats similar to the fence used at the well site at 16th Street and Farmington Avenue. Since the proposed well site is close to residential areas and an existing park facility, additional landscaping may be necessary to supplement the slatted fence proposed by the petitioner.

- (3) Chapter 20A - Noise Control - Chapter 20A of the City Code establishes maximum permissible sound level which may be received by these land uses in 60dBA between

the hours of 7:00 a.m. and 7:00 p.m. and 50dBA between the hours of 7:00 p.m. and 7:00 a.m. The actual sound level measurements could be conducted at the property line of any one of the adjoining properties. However, Chapter 20A-5 does provide a mechanism whereby the City Council may grant variances when it is determined that:

- (a) Strict conformance with the provisions of this chapter would cause a hardship upon any person, or
- (b) The offending noise will be for short duration and compliance with this chapter will be impractical, or
- (c) The benefit to the community of the activity creating the offending noise is greater than the adverse effect on the community of the noise created, or
- (d) The applicant needs additional time to modify equipment or take other action in order to comply with the provisions of this chapter.

Although the City Manager, with permission of the Mayor, may grant a temporary variance to exceed permitted noise levels, the actual variance must be granted by the City Council, after legal notice publication, at a public hearing or a regularly scheduled meeting.

Tenneco has formally requested a variance to the noise ordinance during the drilling and completion of the well by correspondence dated May 15, 1986. Notice has been published for a public hearing to be held at the same City Council meeting at which the Special Use Permit will be reviewed. Tenneco has indicated that in order to minimize the noise generated by the drilling operations, they will do the following:

- (1) use City electric to eliminate the use of a light generator;
- (2) use City water to reduce the number of trips made by water-hauling trucks;
- (3) drill the well during winter months when outdoor activities are likely to be less and the doors and windows of the residences in the area would be closed;
- (4) use double mufflers on all diesel motors; and
- (5) conduct completion activities only during daylight hours.

In the past, variances to the noise ordinance have been approved by the City Council for wells drilled within the City limits. During consideration of Petition No. 611, from Elliot Oil Company for a well north of 30th Street and east of Crestridge Drive, noise levels were measured on two well sites during actual drilling. The results of these measurements (summarized in the attached table) indicate that as the distance from the well increased, the noise levels fell. While the noise levels measured still exceeded the maximum of 50 dba at some distances, the levels measured were close to maximums allowed by the ordinance.

With the exception of one complaint from a tenant in an apartment building on the north side of 16th Street, the drilling of the gas well at 16th Street and Farmington Avenue was done without significant problems or objections. However, the duration of drilling for the proposed wells exceeds that of all of the previously approved wells. Since two wells will be drilled consecutively, the drilling time will be from 32 to 34 days, plus an additional three days for completion of each well. This same drilling and completion period is expected to occur again in the fall of 1987. While the drilling of a single well at this location is not substantially different from some of the previously approved well sites, the fact that this request is for four wells raises a question if the variances requested can comply with the standards of Chapter 20-A with respect to the offending noise being of short duration and the benefit to the community being greater than the adverse affect on the surrounding community. It appears that the applicant is prepared to do whatever is possible to minimize the impact of the drilling operations, but is impossible to drill a gas well without some disturbance. The City Council must determine if the noise variances requested are reasonable. If the Special Use Permit is approved, the noise variances would also be appropriate subject to the drilling operations being conducted as proposed by the petitioner in the letter dated May 15, 1986.

- (4) Chapter 12 - Fire Prevention - Chapter 12 would require the petitioner to comply with all applicable Fire Code regulations under the AIA Fire Prevention Code. Additionally, the petitioner would have to comply with all applicable State Laws, including the NFPA Life Safety Code Pamphlet 101 and must receive approvals from the New Mexico State Fire Marshall Office.

In addition to compliance with the sections of the code referenced herein, there are several other issues which must be resolved before any Special Use Permit is considered for approval. The first issue involves the land use relationship of establishing a new gas well in proximity to residential structure. In recent years, the Planning and Zoning Commission and City Council have reviewed and approved a number of new residential subdivisions near existing gas wells. Generally, established gas wells do not adversely affect adjoining properties if they are properly screened and maintained. There are gas wells located on Carlton Avenue in Northridge No. 3, Dustin Avenue in Cardon Robles No. 4, and Thomas Avenue in Crestwood Estates. Judging from the value of the homes constructed in these areas, the presence of an existing gas well has not adversely affected adjoining properties.

The problems associated with gas wells usually occur during the drilling and completion of the well when there is a considerable amount of traffic and

activity on the site which results in noise that may disturb neighboring residents. But if the well can be drilled and completed in a safe manner, then the basic issue is whether or not the inconvenience to the residents outweighs the right of the well operator to access his minerals. Given the fact that the City has approved other gas wells within the City limits that were as close as 240 feet from residential structures and those wells were established with a minimal amount of disturbance to neighboring residences, approval of a Special Use Permit for a single gas well would be in order. As noted in the discussion relative to the noise variances, the issue is complicated by the fact that this Special Use Permit involves not one, but four gas wells. Once established it is expected that the noise level will be no greater than that of a single well on adjoining properties than one. But the time needed for drilling the wells will be over double that necessary for one. Again, it is the responsibility of the City Council to determine if the benefit to the community outweighs the short-term disturbance to the surrounding area.

It is the opinion of the Planning and Development Department that a review which uses this type of standard is particularly appropriate for this petition in view of the number of wells involved. If the surrounding area is somehow benefitted from this proposal, approval of the Special Use Permit could be better justified. There are possibly three ways in which the surrounding area could benefit:

- (1) While development of this site will generate additional storm water runoff, if properly handled, this problem could be avoided and an existing drainage problem in this area could be cured. This would involve the preparation of a drainage plan for the site and possibly dedication of certain drainage easements to the City along the south side of the subject tract;
- (2) The Tenneco site is comprised of 4.6 acres, of which only 3.91 will be used for drilling and production equipment. The remaining 0.69 acres at the southeast corner of the site could be conveyed to the City as an addition to the existing ballfield complex. This area would be particularly well suited for development of a passive picnic area and small playground. This type of park development and installation of vegetative screening would be beneficial to the community as a whole as well as to the neighboring residents. The exact amount of additional vegetative screening cannot be determined until after the site is cleared for drilling and will depend on how much of the existing vegetation will remain; and
- (3) At some point it may be necessary to widen Vine Avenue, but a sufficient amount of right-of-way may not be presently available. An additional benefit to the community would be the dedication of right-of-way for Vine Avenue.



If the petitioner is willing to commit to these improvements which will benefit the surrounding area, then the Special Use Permit should be considered for approval as requested.

Planning and Development Department Recommendation: Provided the petitioner is willing to make certain improvements to the property which will benefit the community and based on the fact other similarly situated wells have been drilled and are operated without adversely affecting adjoining properties, approval of Petition No. 930 is recommended subject to the following conditions:

- (a) the petitioner conducting drilling and completion operations as represented with only two wells being drilled in each year for the next two years (1986 and 1987);
- (b) compliance with Chapter 22 including submission of plans and permit application to the City Clerk for review by the Oil and Gas Inspector (the Building Inspector) as provided for in Chapter 22;
- (c) compliance with all other applicable City Codes or Ordinances including Chapter 12;
- (d) submission of a landscape plan to be approved by the City Council which includes additional vegetative screening adjacent to City park land and a setback of 25 feet from Vine Avenue right-of-way so as to not create a sight obstruction;
- (e) no "trips" or removal of pipe being permitted between the hours of 7:00 p.m. and 9:00 a.m., except in the case of an emergency;
- (f) compliance with all applicable State and Federal regulations including the NFPA Life Safety Code Pamphlet 101 and approval by the State Fire Marshall's office;
- (g) immediate fencing of the well site prior to the start of the drilling;
- (h) petitioner being responsible for keeping adjacent City streets free of dirt and mud from the well site;
- (i) submission of a drainage plan for the storm water and natural drainage entering and leaving the site and dedication of the easements necessary to convey such water;
- (j) rotating heads being installed on top of the blow-out preventer through the Pictured Cliffs formation;
- (k) a watchman not involved in the drilling operations to be on duty from 7:00 a.m. to 7:00 p.m.;

- (l) dedication of a sufficient amount of right-of-way for Vine Avenue to provide a 60 foot right-of-way width;
- (m) the excess land not used for drilling or production consisting of approximately 0.69 acres at the southeast corner of the site (the easterly 190 feet of the tract) being conveyed to the City for park expansion purposes; and
- (n) submission of suitable agreement or indemnity approved as to form by the City Attorney in an amount not less than \$25,000 and not more than \$50,000, as determined by the City Council to guarantee performance by Tenneco and conformance to all City Codes, ordinances, and requirements.

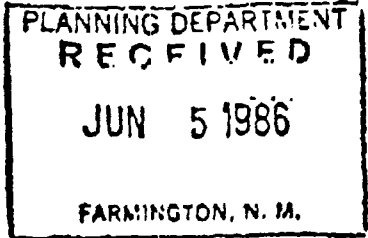
Comment from Bob Hudson, Director, Parks, Recreation  
and Cultural Affairs Dept.

Attachments: Planning memorandum - Tenneco Oil Company

- Point 1:** Due the nature of the area being adjacent to the Fairgrounds Park we would recommend that in addition to the wood slats within the fence that additional landscaping be provided such as trees and shrubs.
- Point 2:** The Southeast end of the area is a desirable area to relieve some drainage problems as well as providing for additional park space to relieve a congested area. We would recommend that we explore the possible use of this area after wall completion.
- Point 3:** The Distribution system as we understand will impact the Fairview Park area in that an additional line is needed across the newly developed park area. We would like updated information on the distribution system of this request.

# ENTERED OFFICE MEMORANDUM

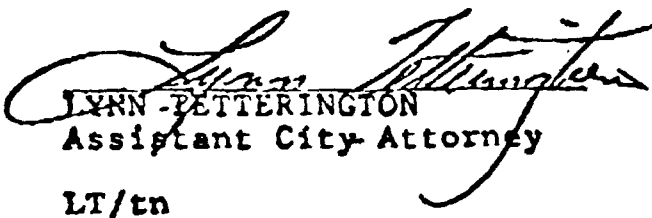
CITY OF FARMINGTON



Date: June 4, 1986  
To: Planning  
From: Lynn Tettersington  
Subject: Petition No. 930: SUP for Tenneco Oil Company

The following are comments on the above-referenced petition:

1. Section 22-5: Require production of state permits to be filed with the City of Farmington prior to commencement of drilling.
2. Section 22-20: Suggest that the City of Farmington be made named additional insured on Tenneco Insurance throughout drilling and life of well, provided Tenneco insurance meets the minimum requirements of Chapter 22, Farmington Municipal Code.  
  
Section 22-20: Director of Risk Management suggests bond to be set at a minimum of \$25,000.00 and a maximum of \$50,000.00.
3. Section 22-19: Suggest that assurances be obtained from El Paso Natural Gas Company prior to commencing drilling of wells.
4. Section 22-24: See Comment No. 3 above.
5. Section 22-30: Suggest additional landscaping because of proximity to residential areas.
6. Section 22-33: Require Tenneco to comply with current federal and state regulations regarding buried tanks as those regulations currently exist or may be amended.

  
LYNN TETTERSINGTON  
Assistant City Attorney  
  
LT/tn

G. DE ROCK, NE.  
68742-

PLANNING & DEVELOPMENT DEPT.     JUNE 7, 1986  
805 MUNICIPAL DRIVE  
P.O. BOX 700  
FARMINGTON, NEW MEXICO 87499

This letter is written to protest the approval of a special use permit under petition No. 930 as requested by Tenneco Oil Company for drilling and establishment of four natural gas wells in Farmington.

- I own and rent out two townhouses at the north side of Rusty Sun Development.

The proposed change in zoning will definitely detract from and will not enhance the value of my investment. If the change is allowed, it will be more difficult for me to rent the two townhouses and may force me to lower the amount of rent charged.

cc:  
FARMINGTON  
CITY COUNCIL

Respectfully yours

H.W. Fausch  
H. W. FAUSCH

**Tenneco Oil**  
**Exploration and Production**  
A Tenneco Company

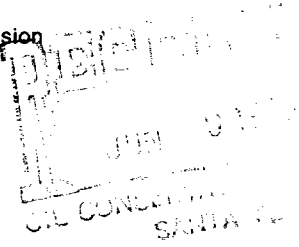
6162 South Willow Drive  
P.O. Box 3249  
Englewood, Colorado 80155  
(303) 740-4800



Western Rocky Mountain Division

*DRC*  
*6-10-86*

June 4, 1986



*Case 8915*

**CERTIFIED MAIL**  
Return Receipt Requested

New Mexico Oil Conservation Commission  
R. L. Stamets  
P.O. Box 2088  
Santa Fe, New Mexico 87501

New Mexico Oil Conservation Commission  
Frank Chavez  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Offset Operators and Surface Owners as shown on attached mailing list.

Gentlemen:

The purpose of this letter is to notify you that an application for an unorthodox location and directional drilling (copy enclosed) has been filed by Tenneco Oil Company. This application may affect an interest which you have in Section 10, T29N, R13W, NMPM, San Juan County, New Mexico, as shown in the attached application. This application has been set for hearing by the Oil Conservation Division on June 25, 1986 at the State Land Office, Santa Fe, New Mexico. You have the right to appear at this hearing, either in opposition or in support of the application.

Sincerely,

TENNECO OIL COMPANY,

Scott McKinney  
Senior Regulatory Analyst

SM/cc

Attachments

May 15, 1986

Joe Schmitz, Principal Planner  
Development Services  
City of Farmington  
P.O. Box 900  
Farmington, NM 87401

Re: Application for Noise Variance  
City of Farmington Wells 1, 1E, 2, 2E

Dear Mr. Schmitz:

With this letter and as an attachment to our Application for Special Use Permit, Tenneco Oil Company is applying for a noise variance for the drilling and completion of the referenced wells.

We are reducing noise levels as much as possible with the following measures:

1. Using city power - This will eliminate the need for a diesel-powered light generator.
2. Using city water - This will eliminate traffic noise caused by water trucks.
3. Drilling during winter - During the winter months, windows and doors are closed and surrounding residents are less likely to be disturbed.
4. Using double mufflers on all diesel engines - The use of double mufflers will help to reduce noise levels of diesel engines used to power the rig.
5. Completion during daylight hours - Completion activities will occur only during daylight hours, thus creating no disturbance during normal sleeping hours.

Joe Schmitz, City Planner  
May 15, 1986  
Page 2

Even with the above practices, there is a possibility noise will exceed permissible levels of 50-60 dBA. Consequently, I am submitting this application for a noise variance based on the provisions of Chapter 20A - Noise Control - of the city code:

1. "Strict conformance with the provisions of this chapter would cause a hardship upon any person."

Drilling operations, once begun, must continue without stopping. If the rig is shut down, the chance of having downhole problems will be greatly increased.

2. "The offending noise will be for a short duration and compliance with this chapter will be impractical, (and)"

Drilling will be for a short time, estimated at 16-17 days per well. Completion activities should last no more than three days for each well.

3. "The benefit to the community of the activity creating the offending noise is greater than the adverse effect on the community of the noise created."

Development of oil and gas reserves has a significant impact on the local economy. Jobs are provided during drilling, completion and production phases. Royalties also provide income to local mineral owners.

If you have any questions relating to this application, please call me at (505) 327-0217.

Very truly yours,

TENNECO OIL COMPANY

Ken Russell  
Senior Materials Analyst

KR/wt



May 15, 1986

Joe Schmitz, Principal Planner  
Development Services  
City of Farmington  
P.O. Box 900  
Farmington, NM 87401

Re: City of Farmington Wells 1, 1E, 2, 2E  
Application for Special Use Permit

Dear Mr. Schmitz:

As we have discussed during the past few weeks, Tenneco Oil Company has plans to drill four natural gas wells within the City of Farmington city limits. All four wells will be directionally drilled from a 4.60 acre tract of land Tenneco owns south of Vine Avenue and west of Ricketts Ballpark. The drilling time for each well is estimated to be 16-17 days. Completion time should be three days per well. We expect to drill and complete Well #1 and Well #2 during the fourth quarter of 1986 and the remaining two infill wells during the fourth quarter of 1987. This letter is a supplement to our Application for Special Use Permit to drill these wells.

#### BACKGROUND

Tenneco has been an active oil and gas production and exploration company in the San Juan Basin for more than 20 years. Since 1980 we have drilled several hundred new wells, including the Irvin Com 1E in the City of Farmington during 1984. Tenneco presently operates approximately 2400 wells in the San Juan Basin.

#### SITE SELECTION

This site was selected because it provides enough area from which to safely drill four wells and provide a safe production equipment layout. Additionally, this area is not as densely populated as other smaller sites considered; consequently a minimal amount of disturbance will occur to surrounding residents. Other sites were considered, but rejected as not being suitable, considering setback requirements, directional drilling requirements and access requirements.

In support of our application, below I have addressed each section of Chapter 22 of the City Code.

Sec. 22-2. Obstructing City Streets by Drilling, etc.

All drilling and completion equipment will be completely located off city streets and alleys during these operations. City water will be used from a nearby hydrant so the use of water trucks to haul water will not be necessary. Other traffic will be kept to a minimum so as not to obstruct city streets. Access to the well sites will be off of Vine Avenue on the northwest corner of the property. This access has been discussed with Mr. Gus Byrom of the City Transportation Department.

Sec 22-3. Proximity of Well, Tanks or Pipelines to Building

- A. The wells and storage facilities will be at least 200 feet from any residence or commercial building. Production equipment will include a separator, buried oil tank, dehydrator and meter house for each well. Additionally, a buried tank will be used for storage of produced water from all four wells. This equipment will be similar to that used on the Irvin Com 1E near Sixteenth Street and Farmington Avenue.
- B. These are not injection wells.
- C. No residential, institutional, commercial or industrial structure will be built within 100 feet of these wells or production facilities.
- D. The gathering line for these wells will be permitted, built and operated by El Paso Natural Gas Company. It will be located along city streets. The road right-of-way, along with set-back requirements, will insure that no structures will be built or moved to within thirty feet of the pipeline. (See Attachment 4 for proposed location of gathering lines.)

Sec 22-4. Derrick and Rig Types Regulated; Watchman

Only modern, diesel-powered drilling and completion rigs will be used for these wells. All rigs will be removed from the site immediately upon completion of operations. During drilling operations a Tenneco representative will be on location at all times. Additionally, the location will be fenced (see Sec 22-30). During completion, a Tenneco representative will be on location during working hours. During non-working hours the gates will be locked to prevent admittance.

Sec 22-5. Steel Slush and Reserve Pits

Steel slush and reserve pits will be used during drilling and completion operations. They will be removed immediately upon completion of operations. No earthen pits will be used. All fluids such as drilling mud, oil, brine, etc., will be hauled to a state-approved facility for disposal.

Sec 22-6. Abandonment and Plugging

Tenneco will comply.

Sec 22-7. Federal and State Laws Apply

Tenneco will comply.

Sec 22-8. Planning and Zoning Commission

Sec 22-9. Penalties

Tenneco will comply with the provisions of Chapter 22.

Sec 22-10. Required

Tenneco will comply.

Sec 22-11 Authority and Rights Conferred

Tenneco will comply.

Sec 22-12. Limitations on Permit Authority

Sec 22-13. Existing wells, etc., Exempt from Permit Requirements and Filing Fee

Sec 22-14. Application; Filing Fee

Tenneco will comply.

Sec 22-15. Issuance or Denial; Contents

Tenneco is aware of the conditions for approval of this application.  
Tenneco will comply.

Sec 22-16. Suspension or Cancellation for Non-compliance

Tenneco will comply.

Sec 22-17. Hearing Required in all Permit Refusals, Suspensions or Revocations

Sec 22-18. Supplemental Permit for Deep Drilling

Tenneco will comply.

Sec 22-19. Permit for Conduits on or under Streets and Alleys; Additional Regulations therefor

The natural gas produced from these wells will be purchased by El Paso Natural Gas Company. Their right-of-way department will work closely with the city to insure that all provisions of Section 22-19 are complied with.

Sec 22-20. Bond Required; Amounts

Tenneco will comply.

Sec 22-21. Public Liability Insurance Required; Amounts

Tenneco will comply with all insurance requirements.

Sec 22-22. Exceptions to Sections 22-20 and 22-21

See Sec 22-20 above.

Sec 22-23. Operations to be Conducted Consistent with Reasonable and Prudent Operator; State Regulations

Tenneco will conduct all operations in a prudent manner, complying with all applicable state regulations.

Sec 22-24. Pipelines and Valves

El Paso Natural Gas Company will install and operate gathering lines for these wells.

Sec 22-25. Pipeline Locations Markers

See Sec 22-24 above.

Sec 22-26. Internal Combustion Engines, Electrical Equipment, etc.

The drilling and completion equipment will be similar to that used on the Irvin Com 1E near Sixteenth Street and Farmington Avenue. All internal combustion engines will be double-muffled. We are working with the city electrical department to provide electricity in order that we won't have to use a diesel engine for a light generating plant. All electrical work done will be in compliance with applicable codes. Our well casing and cementing program will be designed so that ground water will not be adversely affected and that all city and state regulations concerning ground water will be observed.

Sec 22-27. Hours of Delivering or Removing Tools and Materials

Tenneco will comply.

Sec 22-28. Nuisances and Annoyances

Tenneco will comply to the extent possible; however, during the drilling operation there are certain periods of noise which are annoying to nearby residents. Tenneco will use all resources available to reduce the noise level and duration as much as possible.

Joe Schmitz, City Planner  
May 15, 1986  
Page 5

Sec 22-29. Storage at Well Site

Tenneco will comply.

Sec 22-30. Fencing and Landscaping of Well Site

Tenneco will construct a six-foot chain link fence, with double strands of barbed wire across the top, around the well sites. Cedar slats will be installed in the fence to provide screening from outside view. We will leave as many existing trees as possible on the site, however, most will have to be removed in order to provide a suitable working area.

Sec 22-31. Fire Prevention

Tenneco will comply.

Sec 22-32. Cleanliness and Sanitation at Well Site

Steel pits will be used for containment of mud, wastewater, oil, slush or other waste material during drilling and completion operations. These items will be disposed of at a state-approved disposal facility. Suitable toilet facilities will be maintained during drilling and completion operations.

Sec 22-33. Tanks to be Buried

Tenneco will comply.

Additionally, for your information, I have enclosed the following attachments:

1. Plat showing distances between our well and surrounding buildings.
2. Production Equipment Layout
3. Drilling Equipment Layout
4. Location of Gathering Lines
5. Copy of State Application for Permit to Drill
6. Sound Level Tests of Well Drilling Operations in dBA.

If you have any questions or need additional information, please call me at (505) 327-0217.

Very truly yours,

TENNECO OIL COMPANY

Ken Russell  
Senior Materials Analyst

KR/wt  
Attachments

Tenneco Oil Company  
Denver, CO  
Scott McKinney - (303-740-2594)

Callahan  
5/19/86

~~Mr. Stagner~~

(San Juan Co)

10-29N-13W

20  
2  
2640

- City of Farmington Well No. 1  
Basin Dakota

S.L. 2160' FSL - 1591' FEL

B.H.L. 1750' FSL - 1775' FEL

320 - E/2

forced pooling  
pending

- City of Farm Well No. 1-E  
Basin Dakota

E/2

S.L. 2203' FSL - 1653' FEL

B.H.L. 1650' FNL - 1650' FEL

S-T

City of Farming No 2  
W/2

S.L. - 1712' FEL - 2159' FSL  
BHL - 1650' FSL - 1650' FWL

Basin Photo

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2 E

W/2

S.L. - 2246' FSL - 1712' FEL  
BHL - 1650' FSL - 1650' FWL

TB