

Directional Survey

SMITH DRILLING SYSTEMS
Division of Smith International Inc.

Well File

RAPICOM COVER SHEET

DATE: December 1, 1986
TO: Tenneco Oil Company - Farmington, NM
FROM: Smith Drilling Systems - Denver, CO
Terry Kerr

4 PAGES TO FOLLOW EXCLUDING THE COVER SHEET
SUBJECT: City of Farmington #1 - Multi-Shot Survey
MESSAGE: J-10-29N-13W
SMITH DRILLING SYSTEMS Multi-Shot Survey
Tied into Christensen's Survey's.

If you have any questions, please call.

Terry Kerr

RECEIVED

DEC 02 1986

OIL CON. DIV.
DIST. 3

SMITH DRILLING SYSTEMS DENVER OFFICE #.... (303) 621-0586
(303) 621-6606

SMITH DRILLING SYSTEMS DENVER RAPICOM #..... (303) 621-0900

PLEASE CALL EXTENSION (#) IF ALL PAGES WERE NOT RECEIVED. THANK YOU.

Sii DATADRIL
Division of Smith International, Inc.

TENNECO OIL COMPANY
CITY OF FARMINGTON #1
SEC 10-T29N-13W
SAN JUAN COUNTY, NEW MEXICO

File Name: ENCOFIMMS

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

Radius of Curvature Method
All Angles are Decimal

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)		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 N	0.00 E	0.00
540.00	0.00	N 0.00 E	540.00	540.00	0.00 N	0.00 E	0.00 N	0.00 E	0.00
598.00	1.50	N 53.00 W	56.00	597.99	.46 N	.61 W	.76 N	53.00 W	2.59
659.00	1.25	N 55.00 W	61.00	658.98	1.32 N	1.79 W	2.22 N	53.66 W	.42
720.00	1.50	N 60.00 W	61.00	719.96	2.10 N	3.02 W	3.68 N	55.18 W	.45
780.00	1.50	N 63.00 W	60.00	779.94	3.02 N	4.29 W	5.25 N	54.83 W	.52
843.00	1.50	N 57.00 W	63.00	842.92	4.03 N	5.60 W	6.90 N	54.27 W	.37
906.00	1.00	N 47.00 W	63.00	905.90	4.87 N	6.68 W	8.27 N	53.90 W	.86
968.00	1.00	N 50.00 W	62.00	967.89	5.59 N	7.49 W	9.35 N	53.27 W	.08
1030.00	1.00	N 60.00 W	62.00	1029.88	6.21 N	8.38 W	10.43 N	53.45 W	.28
1092.00	1.25	N 62.00 W	62.00	1091.87	6.80 N	9.44 W	11.64 N	54.24 W	.41
1154.00	1.00	N 61.00 W	62.00	1153.86	7.38 N	10.51 W	12.84 N	54.93 W	.40
1216.00	1.00	N 67.00 W	62.00	1215.85	7.68 N	11.54 W	13.86 N	56.37 W	.73
1278.00	1.25	S 57.00 W	62.00	1277.84	7.37 N	12.70 W	14.68 N	59.88 W	1.19
1339.00	1.00	S 57.00 W	61.00	1338.82	6.71 N	13.70 W	15.26 N	63.90 W	.41
1402.00	1.00	S 50.00 W	63.00	1401.82	6.06 N	14.59 W	15.80 N	67.44 W	.19
1464.00	1.50	S 57.00 W	62.00	1463.80	5.26 N	15.67 W	16.53 N	71.46 W	.64
1526.00	1.50	S 61.00 W	62.00	1525.78	4.42 N	17.06 W	17.63 N	75.48 W	.17
1589.00	1.75	S 70.00 W	63.00	1588.75	3.68 N	18.69 W	18.05 N	78.86 W	.57
1653.00	1.25	S 70.00 W	64.00	1652.73	3.11 N	20.26 W	20.50 N	81.28 W	.78
1716.00	1.00	S 76.00 W	63.00	1715.72	2.75 N	21.45 W	21.62 N	82.70 W	.44

S11 DATADRIL Division of Smith International, Inc.

TENNECO OIL COMPANY
CITY OF FARMINGTON #1

SEC 10-T29N- 3W
SAN JUAN CO. LY, 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)		C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
1779.00	1.25	S 70.00 W	63.00	1778.71	2.38 N	22.63 W	22.75 N	83.98 W	.44
1842.00	1.00	S 73.00 W	63.00	1841.69	1.99 N	23.80 W	23.88 N	85.21 W	.41
1905.00	1.00	S 62.00 W	63.00	1904.69	1.67 N	24.81 W	24.86 N	86.37 W	.30
1968.00	1.50	S 80.00 W	63.00	1967.67	1.13 N	26.11 W	26.13 N	87.53 W	1.00
2028.00	1.50	S 85.00 W	60.00	2027.65	.92 N	27.67 W	27.68 N	88.09 W	.22
2091.00	1.25	S 80.00 W	63.00	2090.63	.72 N	29.16 W	29.17 N	88.58 W	.44
2153.00	1.50	S 75.00 W	62.00	2152.61	.40 N	30.62 W	30.62 N	89.25 W	.45
2213.00	1.25	S 70.00 W	60.00	2212.60	.03 S	31.99 W	31.99 S	89.95 W	.46
2276.00	1.50	S 80.00 W	63.00	2275.58	.42 S	33.45 W	33.45 S	89.28 W	.55
2339.00	1.00	S 81.00 W	63.00	2338.56	.65 S	34.80 W	34.81 S	88.93 W	.79
2403.00	1.00	S 85.00 W	64.00	2402.55	.78 S	35.91 W	35.92 S	88.75 W	.11
2464.00	1.00	S 78.00 W	61.00	2463.54	.94 S	36.96 W	36.97 S	88.54 W	.20
2535.00	1.00	S 55.00 W	71.00	2534.53	1.43 S	38.09 W	38.12 S	87.25 W	.56
2588.00	1.00	S 75.00 W	53.00	2587.52	1.82 S	38.93 W	38.97 S	87.32 W	.66
2651.00	1.00	S 65.00 W	63.00	2650.52	2.20 S	39.96 W	40.02 S	86.85 W	.28
2713.00	1.00	S 65.00 W	62.00	2712.51	2.65 S	40.94 W	41.02 S	86.29 W	0.00
2774.00	1.00	S 55.00 W	61.00	2773.50	3.19 S	41.86 W	41.98 S	85.65 W	.29
2835.00	1.00	S 60.00 W	61.00	2834.49	3.76 S	42.76 W	42.92 S	84.98 W	.14
2898.00	1.25	S 55.00 W	63.00	2897.47	4.42 S	43.80 W	44.02 S	84.24 W	.43
2960.00	1.00	S 60.00 W	62.00	2959.46	5.08 S	44.83 W	45.11 S	83.54 W	.43
3023.00	1.00	S 52.00 W	63.00	3022.45	5.69 S	45.74 W	46.09 S	82.91 W	.22
3086.00	1.00	S 5.00 W	63.00	3085.44	6.25 S	46.25 W	46.72 S	81.84 W	1.27
3149.00	1.00	S 25.00 W	63.00	3148.43	7.69 S	46.53 W	47.16 S	80.62 W	.55
3212.00	1.00	S 13.00 W	63.00	3211.42	8.72 S	46.89 W	47.69 S	79.46 W	.33
3275.00	1.50	S 0.00 E	63.00	3274.41	10.09 S	47.04 W	48.11 S	77.90 W	.91
3337.00	1.00	S 0.00 E	62.00	3336.39	11.44 S	47.04 W	48.41 S	76.33 W	.81
3400.00	.75	S 45.00 W	63.00	3399.39	12.30 S	47.40 W	48.97 S	75.45 W	1.12
3463.00	1.00	S 64.00 W	63.00	3462.38	12.86 S	48.18 W	49.87 S	75.05 W	.60
3526.00	1.25	S 43.00 W	63.00	3525.37	13.59 S	49.17 W	51.01 S	74.55 W	.76
3588.00	1.00	S 60.00 W	62.00	3587.36	14.35 S	50.12 W	52.13 S	74.02 W	.67
3650.00	1.25	S 41.00 W	62.00	3649.34	15.12 S	51.05 W	53.25 S	73.50 W	.72
3713.00	1.50	S 43.00 W	63.00	3712.33	16.24 S	52.07 W	54.54 S	72.67 W	.40
3776.00	1.00	S 55.00 W	63.00	3775.31	17.14 S	53.10 W	55.80 S	72.11 W	.69

Sii DATADRIL

Division of Smith International, Inc.

TENNECO OIL COMPANY
CITY OF FARMINGTON #1SEC 10-T29N- 1W
SAN JUAN COO 'Y. 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)		C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOUBLE SEVERITY (DEG/100')
SMITH DRILLING SYSTEMS MULTI-SHOT 3803' TO 6035'									
3803.00	1.00	S 30.00 W	27.00	3802.31	17.49 S	53.42 W	56.21 S	71.87 W	1.60
3865.00	1.50	S 3.00 W	62.00	3864.29	18.77 S	53.80 W	56.98 S	70.76 W	1.23
3927.00	3.00	S 3.00 W	62.00	3926.24	21.20 S	53.92 W	57.94 S	68.54 W	2.42
3989.00	4.50	S 13.00 W	62.00	3988.11	25.21 S	54.49 W	60.04 S	65.17 W	2.63
4051.00	6.75	S 22.00 W	62.00	4049.80	31.00 S	55.31 W	64.28 S	61.17 W	3.89
4113.00	7.00	S 25.00 W	62.00	4111.36	37.61 S	59.27 W	70.30 S	57.47 W	.71
4175.00	8.00	S 24.00 W	62.00	4172.83	45.17 S	62.63 W	77.22 S	54.20 W	1.63
4237.00	9.00	S 19.00 W	62.00	4234.15	53.69 S	65.99 W	85.07 S	50.86 W	2.00
4299.00	5.00	S 18.00 W	62.00	4295.38	62.89 S	69.06 W	93.41 S	47.68 W	.25
4361.00	9.75	S 18.00 W	62.00	4356.55	72.50 S	72.18 W	102.31 S	44.88 W	1.21
4423.00	10.00	S 27.00 W	62.00	4417.64	82.31 S	76.25 W	112.20 S	42.81 W	2.32
4485.00	11.00	S 32.00 W	62.00	4478.60	92.14 S	81.81 W	123.22 S	41.60 W	2.18
4547.00	11.75	S 27.00 W	62.00	4539.38	102.78 S	87.83 W	135.20 S	40.52 W	2.00
4609.00	12.00	S 28.00 W	62.00	4600.05	114.10 S	93.72 W	147.65 S	39.40 W	.52
4671.00	12.00	S 29.00 W	62.00	4660.70	125.43 S	99.87 W	160.33 S	38.53 W	.34
4733.00	11.00	S 28.00 W	62.00	4721.45	136.29 S	105.77 W	172.52 S	37.81 W	1.64
4795.00	11.50	S 19.00 W	62.00	4782.26	147.37 S	110.59 W	184.25 S	36.89 W	2.94
4857.00	11.50	S 23.00 W	62.00	4843.01	158.91 S	115.02 W	196.16 S	35.90 W	1.29
4914.00	11.50	S 15.00 W	57.00	4898.87	169.64 S	119.71 W	207.05 S	34.98 W	2.80
4981.00	12.00	S 11.00 W	67.00	4964.47	182.93 S	121.78 W	219.76 S	33.65 W	1.43
5043.00	13.00	S 11.00 W	62.00	5025.00	195.11 S	124.34 W	232.20 S	32.38 W	1.61
5105.00	13.50	S 11.00 W	62.00	5085.34	210.06 S	127.05 W	245.49 S	31.17 W	.81
5167.00	14.00	S 11.00 W	62.00	5145.57	224.52 S	129.87 W	259.37 S	30.05 W	.61
5229.00	15.00	S 9.00 W	62.00	5205.59	239.81 S	132.56 W	274.01 S	28.93 W	1.80
5291.00	13.50	S 13.00 W	62.00	5265.68	254.79 S	135.47 W	288.56 S	28.00 W	2.89
5353.00	15.00	S 13.00 W	62.00	5325.77	269.66 S	138.91 W	303.33 S	27.25 W	2.42
5415.00	17.50	S 15.00 W	62.00	5385.29	286.49 S	143.10 W	320.24 S	26.54 W	4.13
5477.00	18.75	S 15.00 W	62.00	5444.21	305.12 S	148.09 W	339.16 S	25.89 W	2.02
5539.00	20.00	S 13.00 W	62.00	5502.70	325.07 S	153.07 W	359.31 S	25.21 W	2.28
5601.00	18.50	S 9.00 W	62.00	5561.23	345.13 S	156.97 W	379.15 S	24.46 W	3.22

Sii DATADRIL
Division of Smith International, Inc.

TENNECO OIL COMPANY
CITY OF FARMINGTON #1

SEC 10-T29N 13W
SAN JUAN CO. IITY, 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)		C L O S U R E DISTANCE DIRECTION (FT) (DEG)		DOGLEG SEVERITY (DEG/100')
5663.00	19.50	S 7.00 W	62.00	5619.86	365.12 S	159.78 W	399.55 S	23.63 W	1.92
5725.00	20.00	S 6.00 W	62.00	5678.21	385.94 S	162.15 W	418.62 S	22.79 W	.97
5787.00	19.00	S 7.00 W	62.00	5736.65	406.50 S	164.49 W	438.52 S	22.03 W	1.70
5849.00	19.00	S 8.00 W	62.00	5795.27	426.51 S	167.13 W	458.09 S	21.40 W	.53
5911.00	19.00	S 7.00 W	62.00	5853.90	446.53 S	169.76 W	477.71 S	20.82 W	.53
5973.00	18.25	S 9.00 W	62.00	5912.65	466.13 S	172.52 W	497.03 S	20.31 W	1.59
6035.00	18.00	S 9.00 W	62.00	5971.57	485.18 S	175.54 W	515.96 S	19.89 W	.40

BOTTOM HOLE CLOSURE: 515.96 Feet at S 19.89 Degr es W