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Case No. 11324

BECFIELD SURVEY AND TARGET TRACKING PROGRAM

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OPERATOR: TEXACO, INC.
WELL: L.L. McCONNELL NO. 13
LOCATION: RIO ARriba COUNTY, NEW MEXICO

START: 09/22/95
FINISH: 10/31/95
BECFIELD DIR.COORD.
STEVE BLOUNT
ALAN PEDERSON
11.2 degs applied = TRUE

Survey number 0 is a Tie-In to a
GYRO survey run by SCIENTIFIC DRILLING

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MINIMUM CURVATURE CALCULATIONS(SPE-3362)

PROPOSED DIR.

78.50

SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
0	6778.0	1.15	198.90	6775.37	-110.65	-78.87	-99.35	0.00
1	6785.0	3.30	129.20	6782.37	-110.84	-78.74	-99.25	44.21
2	6787.0	4.40	122.20	6784.36	-110.92	-78.63	-99.16	59.71
3	6789.0	5.70	117.00	6786.35	-111.01	-78.47	-99.03	68.85
4	6791.0	7.40	113.20	6788.34	-111.10	-78.27	-98.85	87.67
5	6793.0	9.20	109.40	6790.32	-111.21	-78.00	-98.60	94.04
6	6795.0	11.40	106.10	6792.29	-111.31	-77.66	-98.29	113.84
7	6797.0	13.30	103.60	6794.24	-111.42	-77.24	-97.91	98.67
8	6799.0	15.30	101.40	6796.18	-111.53	-76.76	-97.46	103.61
9	6801.0	16.90	99.90	6798.10	-111.63	-76.22	-96.94	82.65
10	6803.0	18.80	98.40	6800.00	-111.73	-75.61	-96.37	97.73
11	6805.0	20.70	97.10	6801.89	-111.82	-74.94	-95.73	97.50
12	6807.0	22.40	96.30	6803.75	-111.91	-74.21	-95.03	86.26
13	6809.0	24.30	95.70	6805.58	-111.99	-73.42	-94.28	95.74
14	6811.0	26.30	95.80	6807.39	-112.07	-72.57	-93.46	100.02
15	6813.0	28.10	96.50	6809.17	-112.17	-71.66	-92.59	91.41
16	6815.0	30.10	97.50	6810.92	-112.29	-70.70	-91.67	102.91
17	6817.0	31.90	98.30	6812.63	-112.43	-69.68	-90.69	92.33
18	6819.0	33.90	98.20	6814.31	-112.59	-68.60	-89.67	100.04
19	6821.0	35.90	97.10	6815.95	-112.74	-67.47	-88.59	104.83
20	6823.0	37.70	95.10	6817.55	-112.87	-66.28	-87.45	108.10
21	6825.0	39.50	92.60	6819.11	-112.95	-65.03	-86.25	119.07
22	6827.0	41.30	90.30	6820.64	-112.98	-63.74	-84.98	116.84
23	6829.0	43.20	87.50	6822.12	-112.96	-62.39	-83.66	133.72
24	6831.0	45.00	85.40	6823.55	-112.87	-61.00	-82.28	115.92
25	6833.0	47.00	83.30	6824.94	-112.73	-59.57	-80.85	125.31

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SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
26	6835.0	48.80	81.40	6826.28	-112.53	-58.10	-79.37	114.31
27	6837.0	50.40	79.70	6827.58	-112.28	-56.60	-77.85	102.90
28	6839.0	51.60	78.40	6828.84	-111.98	-55.07	-76.30	78.43
29	6841.0	52.70	77.40	6830.07	-111.65	-53.53	-74.72	67.70
30	6843.0	53.50	76.80	6831.27	-111.30	-51.97	-73.12	46.64
31	6845.0	54.40	76.20	6832.44	-110.92	-50.40	-71.50	51.12
32	6847.0	55.00	75.60	6833.60	-110.52	-48.82	-69.87	38.72
33	6850.0	55.70	75.20	6835.31	-109.90	-46.43	-67.41	25.78
34	6855.0	56.70	75.00	6838.09	-108.83	-42.41	-63.26	20.27
35	6860.0	57.60	75.10	6840.80	-107.75	-38.35	-59.07	18.08
36	6865.0	58.50	75.10	6843.45	-106.66	-34.25	-54.83	18.00
37	6870.0	59.50	75.40	6846.02	-105.56	-30.11	-50.55	20.65
38	6875.0	60.40	75.70	6848.52	-104.48	-25.92	-46.23	18.73
39	6880.0	61.40	75.90	6850.96	-103.41	-21.68	-41.87	20.30
40	6885.0	62.30	76.10	6853.31	-102.35	-17.41	-37.46	18.34
41	6890.0	63.20	76.30	6855.60	-101.29	-13.09	-33.02	18.35
42	6895.0	64.10	76.60	6857.82	-100.24	-8.73	-28.54	18.79
43	6900.0	64.90	77.00	6859.98	-99.21	-4.34	-24.03	17.55
44	6910.0	66.50	77.90	6864.09	-97.23	4.56	-14.92	17.98
45	6920.0	68.30	78.00	6867.93	-95.30	13.58	-5.69	18.02
46	6930.0	70.40	77.90	6871.46	-93.35	22.73	3.67	21.02
47	6940.0	72.50	77.40	6874.64	-91.32	32.00	13.15	21.53
48	6950.0	74.40	76.60	6877.49	-89.16	41.33	22.73	20.49
49	6960.0	76.10	75.40	6880.04	-86.82	50.72	32.39	20.58
50	6970.0	77.80	75.90	6882.29	-84.41	60.15	42.12	17.68
51	6980.0	79.60	75.60	6884.25	-81.99	69.66	51.91	18.24

BECSFIELD SURVEY AND TARGET TRACKING PROGRAM

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OPERATOR:	TEXACO, INC.	START:	09/22/95
WELL:	L.L. McCONNELL NO. 13	FINISH:	10/31/95
LOCATION:	RIO ARriba COUNTY, NEW MEXICO	BECSFIELD DIR.COORD.	
		STEVE BLOUNT	
Survey number 0 is a Tie-In to a		ALAN PEDERSON	
GYRO survey run by SCIENTIFIC DRILLING		11.2 degs applied = TRUE	

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MINIMUM CURVATURE CALCULATIONS(SPE-3362)	PROPOSED DIR.	78.50
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SUR			TRUE					DLS/
NUM	MD	INC	AZM	TVD	N-S	E-W	SECT	100
52	6990.0	81.50	75.20	6885.89	-79.51	79.20	61.76	19.41
53	7000.0	82.70	75.60	6887.27	-77.01	88.79	71.65	12.64
54	7010.0	83.20	75.50	6888.50	-74.53	98.40	81.56	5.10
55	7020.0	83.50	76.60	6889.65	-72.14	108.04	91.49	11.33
56	7030.0	83.70	76.80	6890.77	-69.85	117.71	101.42	2.82
57	7040.0	83.70	76.90	6891.87	-67.59	127.39	111.36	0.99
58	7070.0	83.50	77.60	6895.21	-61.01	156.47	141.16	2.41
59	7100.0	84.10	78.20	6898.45	-54.76	185.63	170.98	2.82
60	7130.0	84.30	77.80	6901.48	-48.56	214.82	200.83	1.48
61	7160.0	84.20	79.20	6904.49	-42.60	244.07	230.68	4.66
62	7190.0	84.30	79.30	6907.49	-37.04	273.40	260.52	0.47
63	7220.0	84.30	79.00	6910.47	-31.42	302.72	290.37	1.00
64	7250.0	84.40	78.20	6913.43	-25.52	331.98	320.23	2.67
65	7280.0	84.10	78.20	6916.43	-19.41	361.20	350.08	1.00
66	7310.0	83.70	78.30	6919.62	-13.34	390.40	379.91	1.37
67	7340.0	84.20	78.90	6922.78	-7.44	419.65	409.74	2.59
68	7370.0	84.00	76.90	6925.87	-1.19	448.82	439.58	6.66
69	7400.0	84.20	76.90	6928.95	5.58	477.89	469.41	0.67
70	7430.0	84.60	76.80	6931.88	12.37	506.96	499.25	1.37
71	7460.0	84.60	76.90	6934.70	19.16	536.05	529.11	0.33
72	7490.0	84.40	77.20	6937.58	25.86	565.15	558.96	1.20
73	7520.0	84.00	77.10	6940.61	32.49	594.25	588.80	1.37
74	7550.0	84.10	76.90	6943.72	39.21	623.32	618.62	0.74
75	7580.0	84.40	76.10	6946.72	46.17	652.34	648.45	2.84
76	7610.0	84.70	75.80	6949.57	53.42	681.32	678.29	1.41
77	7640.0	83.90	71.20	6952.55	61.90	709.93	708.02	15.49

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SUR NUM	MD	INC	TRUE AZM	TVD	N-S	E-W	SECT	DLS/ 100
78	7670.0	84.80	71.10	6955.51	71.55	738.18	737.63	3.02
79	7713.0	85.40	71.00	6959.18	85.46	778.70	780.11	1.41
80	7744.0	85.60	70.70	6961.61	95.60	807.90	810.74	1.16
81	7774.0	86.00	70.50	6963.81	105.53	836.12	840.37	1.49
82	7805.0	86.30	70.40	6965.89	115.88	865.27	871.00	1.02
83	7835.0	86.20	73.50	6967.85	125.16	893.72	900.74	10.32
84	7868.0	85.80	73.60	6970.16	134.48	925.30	933.53	1.25
85	7899.0	85.80	71.00	6972.43	143.88	954.75	964.27	8.36
86	7929.0	86.60	71.80	6974.41	153.43	983.12	993.97	3.77
87	7961.0	88.50	72.10	6975.78	163.33	1013.51	1025.73	6.01
88	7990.0	88.80	72.80	6976.47	172.07	1041.16	1054.56	2.63
89	8022.0	87.10	72.20	6977.61	181.69	1071.65	1086.36	5.63
90	8053.0	83.60	71.80	6980.12	191.24	1101.03	1117.06	11.36
91	8084.0	82.00	71.30	6984.01	200.97	1130.21	1147.59	5.40
92	8115.0	84.60	71.80	6987.63	210.71	1159.41	1178.15	8.54
93	8145.0	86.90	71.90	6989.85	220.03	1187.84	1207.86	7.67
94	8175.0	88.60	72.20	6991.03	229.27	1216.36	1237.65	5.75
95	8206.0	88.50	72.80	6991.81	238.59	1245.91	1268.47	1.96
96	8236.0	88.00	73.70	6992.73	247.23	1274.62	1298.33	3.43
97	8265.0	88.20	73.90	6993.69	255.32	1302.46	1327.21	0.98
98	8296.0	88.10	74.60	6994.69	263.73	1332.28	1358.11	2.28
99	8326.0	89.60	74.90	6995.29	271.62	1361.22	1388.04	5.10
100	8357.0	90.60	74.30	6995.24	279.85	1391.10	1418.97	3.76
101	8388.0	90.90	73.50	6994.83	288.44	1420.88	1449.86	2.76
102	8419.0	89.90	74.30	6994.61	297.04	1450.67	1480.76	4.13
103	8449.0	89.40	74.20	6994.80	305.18	1479.54	1510.68	1.70

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			ALAN PEDERSON
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GYRO survey run by SCIENTIFIC DRILLING			

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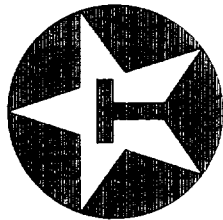
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MINIMUM CURVATURE CALCULATIONS(SPE-3362)	PROPOSED DIR.	78.50
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SUR			TRUE					DLS/
NUM	MD	INC	AZM	TVD	N-S	E-W	SECT	100
104	8478.0	89.20	74.10	6995.15	313.10	1507.43	1539.59	0.77
105	8509.0	89.80	74.40	6995.42	321.52	1537.27	1570.51	2.16
106	8539.0	90.50	74.30	6995.34	329.61	1566.16	1600.43	2.36
107	8570.0	90.30	74.20	6995.13	338.02	1595.99	1631.34	0.72
108	8605.0	90.30	74.20	6994.94	347.55	1629.67	1666.24	0.00

Survey No. 0 is a gyro run by Scientific Drilling
 1 thru 107 is an all angle tensor steering tool
 Steering tool surveys ran by Becfield Drlg. Services
 Survey No. 108 is a projection to bit-depth.
 Bottom Hole location from Surface Location.
 Horizontal Displacement = 1666.32
 Displacement Bearing = North 77.96 East (True)

BECHFIELD DRILLING SERVICES

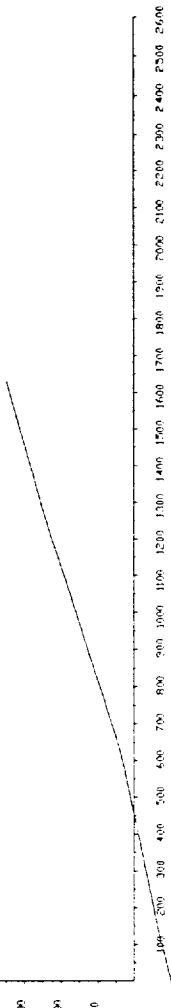


TEXACO INC.
L.L. MCCONNELL NO. 13
RIO ARriba COUNTY, NM

Drawn By: RFP	Checked By: DRG
Date: 12/08/95	
HORIZONTAL PROJECTION The Surface Location on this drawing is represented by the coordinates of these lines and meridians are drawn in relation to the Surface Location	
Magnetic Dec: 112° E	

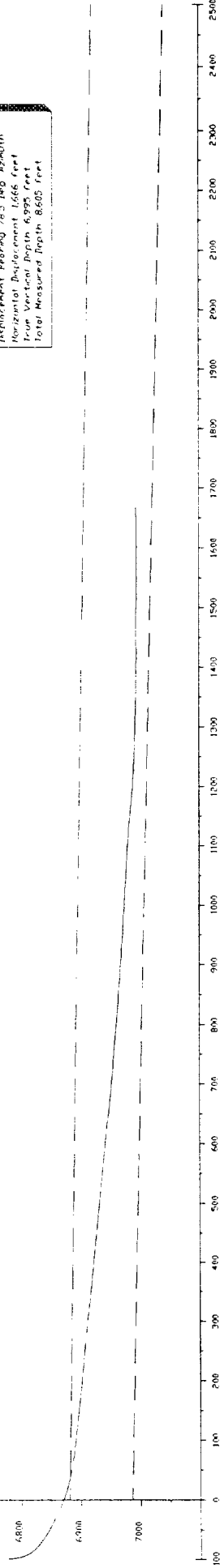


2600
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0



Actual Bottom Hole Location
from Surface Location
Horizontal Displacement 785 feet Azimuth
Horizontal Displacement 1666 feet
True Vertical Depth 6995 feet
Total Measured Depth 8605 feet

6400
6500
6600
6700
6800
6900
7000



2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
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