

BECFIELD
DRILLING SERVICES

N-31-25N-30J

January 29, 1996

Mr. Ernie Busch
NM Energy, Minerals & Natural Resources Dept.
1000 Rio Brazos Road
Aztec, New Mexico 87410

RECEIVED
FEB - 5 1996

OIL CON. DIV.
DIST. 3

Re: L L McCONNELL NO. 13
RIO ARRIBA CO., NM

Dear Mr. Busch,

Please find attached the survey reports for the above referenced well. I certify that these are true and correct to the best of my knowledge.

Sincerely,

David B. Gaudin

David B. Gaudin
District Engineer/Asst. Operations Mgr.

DBG/wli

State of Texas

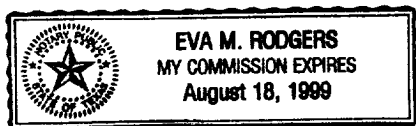
County of Harris

SWORN TO AND SUBSCRIBED before me on the 2nd day of

February, 1996.

(seal)

Eva M. Rodgers
Notary of Public Signature



RECEIVED
JAN - 8 1996

BECFIELD SURVEY AND TARGET TRACKING PROGRAM

OIL COAL DATE
PAGE 3

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

< 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

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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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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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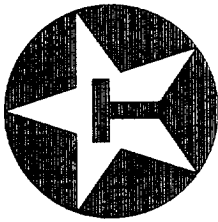
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104	8478.0	89.20	74.10	6995.15	313.10	1507.43	1539.59	0.77
105	8509.0	89.80	74.40	6995.42	321.52	1537.27	1570.51	2.16
106	8539.0	90.50	74.30	6995.34	329.61	1566.16	1600.43	2.36
107	8570.0	90.30	74.20	6995.13	338.02	1595.99	1631.34	0.72
108	8605.0	90.30	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 Beckfield 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: BCB

Date: 12/08/95

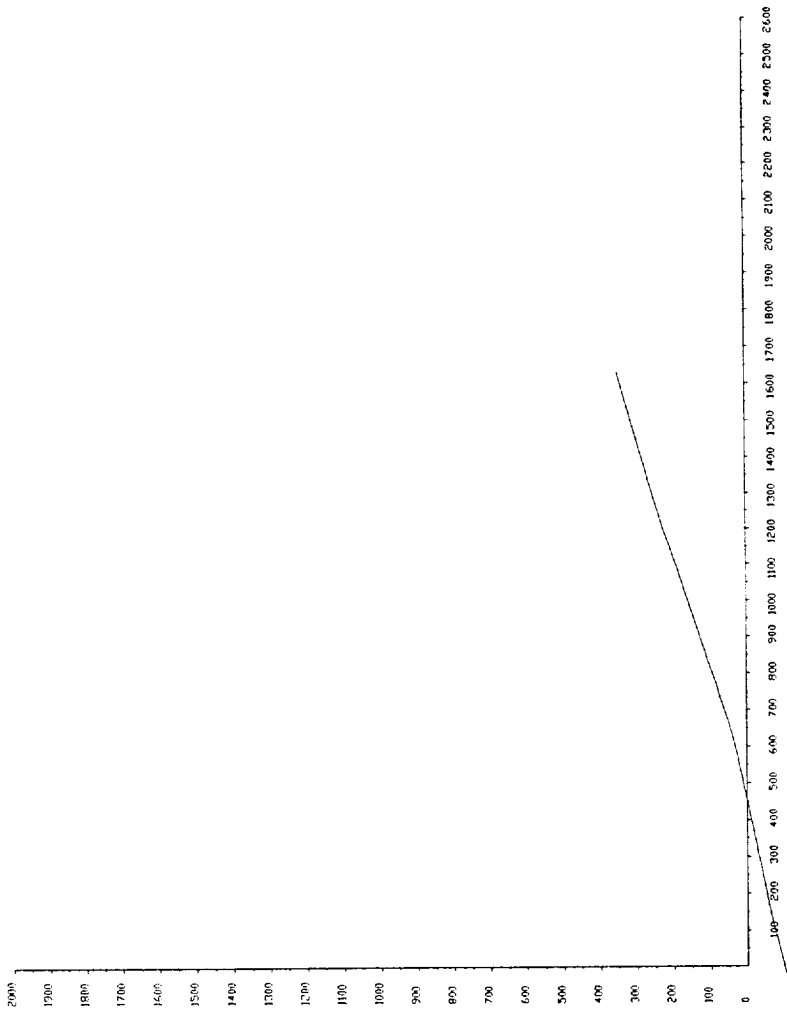
HORIZONTAL
PROJECTION

The Surface Location
on this map is determined
by the coordinates 0.0

Least Lines and Head Lines
are shown in relation to
the Surface Location



Magnetic Dec: 112° E



Actual Bottom Hole Location
From Surface Location
Displacement Bearing 78.5 Deg. Azimuth
Horizontal Displacement 1666 Feet
True Vertical Depth 6995 Feet
Total Measured Depth 8605 Feet

