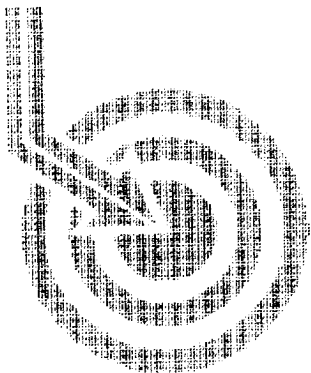




Scientific Drilling



TEXACO E & P INC.

Field: Justis Abo
Site: Lea County, NM
Well: AB Coates "C" #15
Wellpath: VH/HH - Job #32K0399061/062
Survey: 3/17/00-3/25/00

API #: 30-025-11728
Gyro Footage: 0'-6270'
MWD Footage: 6297'-7722'
Survey: Sec. 24, T25S, R37E
K.O.P.: 6270'

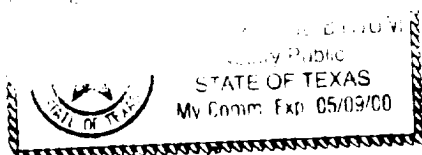
SUR: 660/S & 1980/E
S- 24-25S-37E

BHL: 1251/S & 752/E
P- 24-25S-37E

This survey is correct to the best of my knowledge
and is supported by actual field data.

George Noody Company Representative

Notorized this date 2/27/00 of Midland, 2000.



Adriah Lee Korman
Midland Co., Tex

AW

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Justis Abo
Site: Lea County, NM
Well: AB Coates "C" #15
Wellpath: VH/HH - Job #32K0399061/0

Date: 3/14/2000 Time: 09:16:08 Page: 1
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,0.0Az)
Survey Calculation Method: Minimum Curvature

Survey: 3/17/00-3/25/00
KSRG 0-6270/MWD 6297-7722

Start Date: 3/14/2000

Company: SDI/DMI
Tool: KEEPER

Engineer: DeSpain/Holland

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ChA deg	ChD ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0
100.0	0.47	278.27	100.0	0.1	-0.4	0.1	0.47	278.27	0.4
200.0	0.36	247.71	200.0	0.0	-1.1	0.0	0.24	269.94	1.1
300.0	0.38	239.93	300.0	-0.3	-1.7	-0.3	0.05	260.32	1.7
400.0	0.40	251.90	400.0	-0.6	-2.3	-0.6	0.08	256.28	2.4
500.0	0.45	249.37	500.0	-0.8	-3.0	-0.8	0.05	254.92	3.1
600.0	0.34	232.70	600.0	-1.1	-3.6	-1.1	0.16	252.64	3.8
700.0	0.30	215.28	700.0	-1.5	-4.0	-1.5	0.10	249.15	4.3
800.0	0.38	130.09	800.0	-1.9	-3.9	-1.9	0.46	243.39	4.3
900.0	0.65	107.74	900.0	-2.3	-3.1	-2.3	0.33	232.97	3.9
1000.0	0.78	107.39	1000.0	-2.7	-1.9	-2.7	0.13	215.08	3.3
1100.0	0.77	102.80	1100.0	-3.1	-0.6	-3.1	0.06	191.05	3.1
1200.0	0.75	97.50	1200.0	-3.3	0.7	-3.3	0.07	167.91	3.4
1300.0	0.85	89.01	1299.9	-3.4	2.1	-3.4	0.15	148.10	4.0
1400.0	1.04	92.19	1399.9	-3.4	3.7	-3.4	0.20	132.15	5.1
1500.0	1.25	89.05	1499.9	-3.4	5.7	-3.4	0.22	120.68	6.7
1600.0	1.58	82.37	1599.9	-3.2	8.2	-3.2	0.37	111.36	8.8
1700.0	1.99	71.09	1699.8	-2.5	11.2	-2.5	0.54	102.38	11.5
1800.0	2.22	68.92	1799.8	-1.2	14.7	-1.2	0.24	94.68	14.7
1900.0	2.29	71.13	1899.7	0.1	18.4	0.1	0.11	89.56	18.4
2000.0	2.24	73.03	1999.6	1.4	22.1	1.4	0.09	86.49	22.2
2100.0	2.19	75.93	2099.5	2.4	25.8	2.4	0.12	84.71	25.9
2200.0	1.89	78.38	2199.5	3.2	29.3	3.2	0.31	83.79	29.5
2300.0	1.46	87.66	2299.4	3.6	32.2	3.6	0.51	83.67	32.4
2400.0	1.07	101.17	2399.4	3.4	34.4	3.4	0.49	84.28	34.6
2500.0	0.66	113.29	2499.4	3.0	35.8	3.0	0.45	85.16	36.0
2600.0	0.50	112.55	2599.4	2.6	36.8	2.6	0.16	85.89	36.9
2700.0	0.34	130.57	2699.4	2.3	37.4	2.3	0.21	86.51	37.5
2800.0	0.25	131.24	2799.4	1.9	37.8	1.9	0.09	87.05	37.8
2900.0	0.07	166.51	2899.4	1.7	38.0	1.7	0.20	87.37	38.0
3000.0	0.12	276.31	2999.4	1.7	37.9	1.7	0.16	87.44	37.9
3100.0	0.31	289.87	3099.4	1.8	37.5	1.8	0.20	87.26	37.6
3200.0	0.32	274.13	3199.4	1.9	37.0	1.9	0.09	87.04	37.0
3300.0	0.19	253.31	3299.4	1.9	36.5	1.9	0.16	87.05	36.6
3400.0	0.25	283.25	3399.4	1.9	36.2	1.9	0.13	87.02	36.2
3500.0	0.48	305.46	3499.4	2.2	35.6	2.2	0.27	86.50	35.7
3600.0	0.38	308.55	3599.4	2.6	35.0	2.6	0.10	85.71	35.1
3700.0	0.46	301.27	3699.4	3.0	34.4	3.0	0.10	84.95	34.5
3800.0	0.50	313.29	3799.4	3.5	33.8	3.5	0.11	84.00	33.9
3900.0	0.43	301.20	3899.4	4.0	33.1	4.0	0.12	83.04	33.4
4000.0	0.55	305.02	3999.4	4.5	32.4	4.5	0.12	82.07	32.7
4100.0	0.39	3.59	4099.4	5.1	32.0	5.1	0.48	80.90	32.4
4200.0	0.36	18.51	4199.4	5.8	32.1	5.8	0.10	79.83	32.7
4300.0	0.44	23.83	4299.4	6.4	32.4	6.4	0.09	78.80	33.0
4400.0	0.46	7.77	4399.3	7.2	32.6	7.2	0.13	77.61	33.4
4500.0	0.44	28.97	4499.3	7.9	32.9	7.9	0.17	76.48	33.8
4600.0	0.47	359.98	4599.3	8.6	33.0	8.6	0.23	75.34	34.1
4700.0	0.46	28.39	4699.3	9.4	33.2	9.4	0.23	74.19	34.5

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Justis Abo
Site: Lea County, NM
Well: AB Coates "C" #15
Wellpath: VH/VH - Job #32K0399061/0

Date: 3/14/2000 Time: 09:16:08 Page: 2
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E, 0.0N, 0.0Az)
Survey Calculation Method: Minimum Curvature

SURVEY

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClA deg	ClD ft
4800.0	0.53	16.02	4799.3	10.2	33.5	10.2	0.13	73.08	35.1
4900.0	0.45	0.79	4899.3	11.0	33.7	11.0	0.15	71.85	35.4
5000.0	0.35	12.00	4999.3	11.7	33.7	11.7	0.13	70.83	35.7
5100.0	0.41	6.94	5099.3	12.4	33.9	12.4	0.07	69.90	36.0
5200.0	0.28	338.69	5199.3	13.0	33.8	13.0	0.21	69.01	36.2
5300.0	0.25	4.07	5299.3	13.4	33.7	13.4	0.12	68.32	36.3
5400.0	0.38	357.72	5399.3	14.0	33.7	14.0	0.13	67.52	36.5
5500.0	0.20	319.30	5499.3	14.4	33.6	14.4	0.26	66.77	36.6
5600.0	0.11	289.15	5599.3	14.6	33.4	14.6	0.12	66.41	36.5
5700.0	0.15	261.15	5699.3	14.6	33.2	14.6	0.07	66.25	36.3
5800.0	0.06	268.71	5799.3	14.6	33.0	14.6	0.09	66.17	36.1
5900.0	0.15	267.77	5899.3	14.6	32.8	14.6	0.09	66.06	35.9
6000.0	0.04	246.13	5999.3	14.6	32.7	14.6	0.11	65.98	35.8
6100.0	0.18	255.54	6099.3	14.5	32.5	14.5	0.14	65.94	35.6
6200.0	0.13	247.05	6199.3	14.4	32.2	14.4	0.05	65.89	35.3
6270.0	0.28	270.22	6269.3	14.4	32.0	14.4	0.24	65.77	35.1
6297.0	3.20	62.00	6296.3	14.7	32.6	14.7	12.78	65.65	35.8
6300.0	4.00	62.00	6299.3	14.8	32.7	14.8	26.67	65.63	35.9
6305.0	5.60	62.00	6304.3	15.0	33.1	15.0	32.00	65.59	36.4
6310.0	7.30	62.00	6309.2	15.3	33.6	15.3	34.00	65.53	36.9
6320.0	11.00	61.00	6319.1	16.1	35.0	16.1	37.03	65.36	38.5
6330.0	14.90	61.00	6328.9	17.1	37.0	17.1	39.00	65.12	40.7
6340.0	18.90	60.00	6338.4	18.6	39.5	18.6	40.10	64.81	43.6
6350.0	22.70	58.30	6347.8	20.4	42.5	20.4	38.47	64.38	47.2
6360.0	26.70	57.40	6356.9	22.6	46.1	22.6	40.18	63.85	51.3
6370.0	30.60	56.60	6365.6	25.2	50.1	25.2	39.19	63.26	56.1
6380.0	34.50	55.60	6374.1	28.2	54.6	28.2	39.37	62.63	61.4
6390.0	38.50	55.30	6382.1	31.6	59.5	31.6	40.04	62.00	67.3
6400.0	42.40	55.80	6389.7	35.3	64.8	35.3	39.13	61.44	73.8
6410.0	46.40	56.60	6396.9	39.2	70.6	39.2	40.39	60.98	80.7
6420.0	50.50	57.70	6403.5	43.2	76.9	43.2	41.82	60.66	88.2
6430.0	54.60	59.00	6409.6	47.4	83.7	47.4	42.28	60.47	96.1
6440.0	58.50	59.00	6415.1	51.7	90.8	51.7	39.00	60.35	104.5
6450.0	62.50	59.30	6420.0	56.1	98.3	56.1	40.09	60.26	113.2
6469.0	70.30	59.50	6427.6	65.0	113.3	65.0	41.06	60.15	130.6
6489.0	77.80	59.40	6433.1	74.8	129.8	74.8	37.50	60.06	149.8
6505.0	78.70	61.70	6436.3	82.5	143.4	82.5	15.16	60.10	165.5
6522.0	78.70	63.50	6439.7	90.1	158.2	90.1	10.38	60.33	182.1
6553.0	78.40	63.40	6445.8	103.7	185.4	103.7	1.02	60.78	212.5
6584.0	78.50	63.50	6452.0	117.3	212.6	117.3	0.45	61.11	242.8
6616.0	79.50	64.60	6458.1	131.0	240.8	131.0	4.60	61.45	274.2
6647.0	79.80	64.60	6463.7	144.1	268.4	144.1	0.97	61.76	304.6
6679.0	79.70	64.40	6469.4	157.7	296.8	157.7	0.69	62.02	336.1
6709.0	79.60	64.60	6474.8	170.4	323.4	170.4	0.74	62.22	365.6
6741.0	79.50	65.40	6480.6	183.7	352.0	183.7	2.48	62.44	397.0
6772.0	79.60	65.40	6486.2	196.4	379.7	196.4	0.32	62.65	427.5
6804.0	79.70	65.40	6492.0	209.5	408.3	209.5	0.31	62.84	458.9
6840.0	79.30	65.60	6498.5	224.2	440.5	224.2	1.24	63.03	494.3
6869.0	80.40	65.60	6503.6	235.9	466.5	235.9	3.79	63.17	522.8
6900.0	80.00	65.30	6508.9	248.6	494.3	248.6	1.60	63.30	553.3
6932.0	79.50	65.00	6514.6	261.9	522.9	261.9	1.81	63.40	584.8
6962.0	79.70	64.40	6520.0	274.5	549.5	274.5	2.08	63.46	614.3

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Justin Abo
Site: Lea County, NM
Well: AB Coates "C" #15
Wellpath: VHHH - Job #32K0399061/0

Date: 3/14/2000 Time: 09:16:08 Page: 3
Co-ordinate(N/E) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E, 0.0N, 0.0Az)
Survey Calculation Method: Minimum Curvature

SURVEY

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
6998.0	79.30	64.30	6526.6	289.8	581.5	289.8	1.14	63.51	649.7
7025.0	79.60	64.20	6531.5	301.3	605.4	301.3	1.17	63.54	676.2
7057.0	83.00	65.00	6536.4	314.9	633.9	314.9	10.91	63.58	707.8
7090.0	86.70	66.00	6539.3	328.5	663.8	328.5	11.61	63.67	740.7
7122.0	88.20	66.30	6540.8	341.5	693.1	341.5	4.78	63.77	772.6
7153.0	86.40	65.50	6542.2	354.1	721.3	354.1	6.35	63.85	803.6
7185.0	86.20	65.30	6544.3	367.4	750.4	367.4	0.88	63.91	835.5
7217.0	90.80	65.80	6545.1	380.6	779.5	380.6	14.46	63.97	867.5
7249.0	91.60	65.30	6544.5	393.9	808.6	393.9	2.95	64.03	899.4
7280.0	91.90	65.00	6543.5	406.9	836.7	406.9	1.37	64.07	930.4
7315.0	92.50	64.90	6542.2	421.7	868.4	421.7	1.74	64.10	965.4
7344.0	93.10	64.30	6540.7	434.1	894.6	434.1	2.92	64.11	994.3
7375.0	95.10	64.60	6538.5	447.5	922.5	447.5	6.52	64.12	1025.3
7405.0	96.20	64.60	6535.6	460.3	949.4	460.3	3.67	64.14	1055.1
7436.0	96.40	64.40	6532.2	473.5	977.2	473.5	0.91	64.15	1085.9
7468.0	98.90	65.00	6527.9	487.1	1005.9	487.1	8.03	64.16	1117.6
7501.0	98.90	64.50	6522.8	501.0	1035.4	501.0	1.50	64.18	1150.2
7533.0	100.70	65.30	6517.4	514.4	1064.0	514.4	6.14	64.20	1181.8
7565.0	102.60	65.30	6510.9	527.5	1092.4	527.5	5.94	64.23	1213.1
7596.0	105.40	64.50	6503.4	540.2	1119.7	540.2	9.37	64.24	1243.2
7628.0	107.80	65.10	6494.3	553.3	1147.4	553.3	7.71	64.26	1273.8
7659.0	108.30	65.00	6484.7	565.7	1174.1	565.7	1.64	64.27	1303.3
7691.0	107.10	64.50	6474.9	578.7	1201.7	578.7	4.03	64.29	1333.8
7722.0	106.80	64.80	6465.9	591.4	1228.5	591.4	1.34	64.29	1363.5



**Scientific
Drilling**

TEXACO E & P INC

Field: Justis Abo

Site: Lea County, NM

Well: AB Coates "C" #15

Wellpath: VH/HH - Job #32K0399061/062

Survey: 3/17/00-3/25/00

