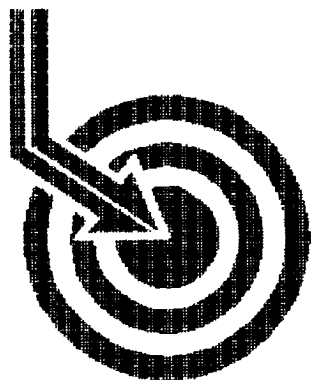




Scientific Drilling

RECEIVED
OCD - ARTESIA



TEXACO E & P INC.
Field: Indian Basin Penn.
Site: Eddy County, NM
Well: N.M. "DF" State Com #3
Wellpath: HH - Job #32D0400144
Survey: 4/30/00-5/5/00

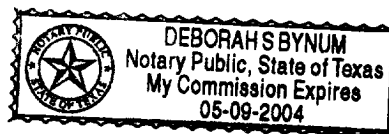
This survey is correct to the best of my knowledge
and is supported by actual field data.

Deborah S. Bynum Company Representative

Notorized this date 26th of July, 2000.

Deborah S. Bynum

Notary Signature
County of Midland
State of Texas



SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC. Field: Indian Basin Penn. Site: Eddy County, NM Well: N.M. "DF" State Com #3 Wellpath: VH - Job #32K0500149	Date: 7/19/2000 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 17:38:27 Page: 1
Site: Eddy County, NM, True North SITE: 0.0 above Mean Sea Level Slot (0.0E,0.0N,325.0Azi) Minimum Curvature		

Survey: 4/29/00
KSRG 0'-6800'

Start Date: 5/10/2000

Company: SDI
Tool: KEEPER

Engineer: Jon Valenzuela

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0
100.0	0.24	99.41	100.0	0.0	0.2	-0.1	0.24	99.41	0.2
200.0	0.34	82.42	200.0	0.0	0.7	-0.4	0.13	92.38	0.7
300.0	0.42	76.84	300.0	0.1	1.4	-0.7	0.09	86.07	1.4
400.0	0.41	83.28	400.0	0.2	2.1	-1.0	0.05	83.97	2.1
500.0	0.52	85.40	500.0	0.3	2.9	-1.4	0.11	84.11	2.9
600.0	0.34	78.74	600.0	0.4	3.6	-1.8	0.19	83.84	3.6
700.0	0.30	79.07	700.0	0.5	4.2	-2.0	0.04	83.18	4.2
800.0	0.17	65.42	800.0	0.6	4.6	-2.1	0.14	82.38	4.6
900.0	0.20	50.92	900.0	0.8	4.8	-2.1	0.06	80.81	4.9
1000.0	0.09	73.41	1000.0	0.9	5.0	-2.1	0.12	79.72	5.1
1100.0	0.08	21.16	1100.0	1.0	5.1	-2.1	0.08	78.98	5.2
1200.0	0.18	10.15	1200.0	1.2	5.2	-2.0	0.10	76.77	5.3
1300.0	0.14	62.14	1300.0	1.4	5.3	-1.9	0.14	74.95	5.5
1400.0	0.23	343.94	1400.0	1.7	5.4	-1.7	0.24	72.64	5.6
1500.0	0.30	343.90	1500.0	2.1	5.3	-1.3	0.07	67.96	5.7
1600.0	0.33	318.22	1600.0	2.6	5.0	-0.7	0.14	62.54	5.6
1700.0	0.36	319.74	1700.0	3.0	4.6	-0.1	0.03	56.45	5.5
1800.0	0.40	326.80	1800.0	3.6	4.2	0.5	0.06	49.57	5.5
1900.0	0.47	337.66	1900.0	4.3	3.9	1.3	0.11	42.20	5.7
2000.0	0.45	342.01	2000.0	5.0	3.6	2.0	0.04	35.57	6.2
2100.0	0.46	347.52	2100.0	5.8	3.4	2.8	0.04	30.29	6.7
2200.0	0.39	339.93	2200.0	6.5	3.2	3.5	0.09	26.04	7.2
2300.0	0.42	324.56	2300.0	7.1	2.8	4.2	0.11	21.78	7.6
2400.0	0.50	325.18	2400.0	7.8	2.4	5.0	0.08	17.03	8.1
2500.0	0.51	334.06	2500.0	8.5	1.9	5.9	0.08	12.78	8.7
2600.0	0.60	343.64	2599.9	9.4	1.6	6.8	0.13	9.58	9.6
2700.0	0.55	339.37	2699.9	10.4	1.3	7.8	0.07	7.00	10.4
2800.0	0.56	342.63	2799.9	11.3	1.0	8.7	0.03	4.85	11.3
2900.0	0.61	354.14	2899.9	12.3	0.8	9.6	0.13	3.53	12.3
3000.0	0.49	347.84	2999.9	13.2	0.6	10.5	0.13	2.66	13.2
3100.0	0.51	353.59	3099.9	14.1	0.5	11.3	0.05	1.93	14.1
3200.0	0.55	354.41	3199.9	15.0	0.4	12.1	0.04	1.44	15.0
3300.0	0.65	358.14	3299.9	16.1	0.3	13.0	0.11	1.11	16.1
3400.0	0.73	1.95	3399.9	17.3	0.3	14.0	0.09	1.05	17.3
3500.0	0.65	8.25	3499.9	18.5	0.4	14.9	0.11	1.30	18.5
3600.0	0.62	13.56	3599.9	19.5	0.6	15.6	0.07	1.84	19.6
3700.0	0.56	29.07	3699.9	20.5	1.0	16.2	0.17	2.77	20.5
3800.0	0.53	29.64	3799.9	21.3	1.5	16.6	0.03	3.91	21.4
3900.0	0.53	30.71	3899.9	22.1	1.9	17.0	0.01	4.97	22.2
4000.0	0.49	26.19	3999.9	22.9	2.3	17.4	0.06	5.85	23.0
4100.0	0.33	41.32	4099.9	23.5	2.7	17.7	0.19	6.62	23.7
4200.0	0.23	65.10	4199.9	23.8	3.1	17.7	0.15	7.41	24.0
4300.0	0.29	73.08	4299.9	24.0	3.5	17.6	0.07	8.36	24.2
4400.0	0.24	87.18	4399.9	24.0	4.0	17.4	0.08	9.38	24.4
4500.0	0.22	78.30	4499.9	24.1	4.4	17.2	0.04	10.28	24.5
4600.0	0.33	16.55	4599.9	24.4	4.6	17.3	0.30	10.76	24.8
4700.0	0.61	0.74	4699.9	25.2	4.7	17.9	0.31	10.62	25.7

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Indian Basin Penn.
Site: Eddy County, NM
Well: N.M. "DF" State Corn #3
Wellpath: VH - Job #32K0500149

Date: 7/19/2000 Time: 17:38:27 Page: 2
Co-ordinate(NE) Reference: Site: Eddy County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,325.0Azi)
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
4800.0	1.03	2.12	4799.9	26.7	4.8	19.1	0.42	10.15	27.1
4900.0	1.15	0.74	4899.8	28.6	4.8	20.6	0.12	9.57	29.0
5000.0	1.26	359.42	4999.8	30.7	4.8	22.3	0.11	8.93	31.0
5100.0	1.35	357.88	5099.8	32.9	4.8	24.2	0.10	8.23	33.3
5200.0	1.35	356.88	5199.8	35.3	4.7	26.2	0.02	7.52	35.6
5300.0	1.37	359.02	5299.7	37.7	4.6	28.2	0.05	6.92	37.9
5400.0	1.41	1.86	5399.7	40.1	4.6	30.2	0.08	6.53	40.3
5500.0	1.41	4.44	5499.7	42.5	4.7	32.1	0.06	6.34	42.8
5600.0	1.49	10.68	5599.6	45.0	5.1	34.0	0.18	6.41	45.3
5700.0	1.44	13.67	5699.6	47.5	5.6	35.7	0.09	6.72	47.9
5800.0	1.17	22.39	5799.6	49.7	6.3	37.1	0.33	7.21	50.1
5900.0	1.28	23.67	5899.6	51.7	7.1	38.2	0.11	7.85	52.2
6000.0	1.82	29.19	5999.5	54.1	8.3	39.5	0.56	8.77	54.7
6100.0	2.38	20.36	6099.5	57.4	9.8	41.4	0.65	9.73	58.3
6200.0	2.70	12.95	6199.4	61.7	11.1	44.1	0.46	10.20	62.6
6300.0	2.26	14.76	6299.3	65.9	12.1	47.0	0.45	10.43	67.0
6400.0	2.16	31.52	6399.2	69.4	13.6	49.0	0.65	11.10	70.7
6500.0	2.16	36.92	6499.1	72.5	15.7	50.4	0.20	12.24	74.2
6600.0	1.50	15.22	6599.1	75.3	17.2	51.8	0.95	12.88	77.2
6700.0	1.53	24.69	6699.0	77.7	18.1	53.3	0.25	13.11	79.8
6800.0	1.98	44.61	6799.0	80.2	19.9	54.3	0.75	13.92	82.6

SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Indian Basin Penn.
Site: Eddy County, NM
Well: N.M. "DF" State Com #3
Wellpath: HH - Job #32D0400144

Date: 7/19/2000 **Time:** 17:36:25 **Page:** 1
Co-ordinate(NE) Reference: Site: Eddy County, NM, True North
Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level
Section (VS) Reference: Slot (0.0E,0.0N,325.0Azi)
Survey Calculation Method: Minimum Curvature

Survey: 4/30/00-5/5/00
 S/T 6791'-7252'

Start Date: 7/19/2000

Company: SDI
Tool: S/T

Engineer: Jon Valenzuela

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS d/100ft	ClsA deg	ClsD ft
6700.0	1.53	24.69	6699.0	77.7	18.1	53.3	0.00	13.11	79.8
6791.0	1.93	43.22	6790.0	80.0	19.7	54.2	0.75	13.82	82.3
6823.0	6.94	313.20	6821.9	81.7	18.6	56.2	22.51	12.84	83.8
6878.0	25.87	306.14	6874.4	91.1	6.4	71.0	34.55	4.02	91.3
6883.0	29.72	306.18	6878.9	92.5	4.5	73.2	77.00	2.79	92.6
6916.0	54.57	314.03	6903.1	106.9	-12.0	94.5	76.85	353.58	107.6
6933.0	60.26	316.87	6912.3	117.1	-22.1	108.6	36.30	349.33	119.2
6965.0	66.61	317.75	6926.6	138.1	-41.5	136.9	20.00	343.30	144.2
6996.0	69.92	317.17	6938.1	159.3	-60.9	165.5	10.82	339.08	170.6
7028.0	70.43	316.96	6948.9	181.4	-81.4	195.3	1.71	335.82	198.8
7060.0	68.14	316.60	6960.3	203.2	-101.9	224.9	7.23	333.36	227.3
7091.0	67.76	313.79	6971.9	223.6	-122.2	253.2	8.49	331.35	254.8
7123.0	67.24	314.04	6984.1	244.1	-143.5	282.2	1.78	329.55	283.1
7155.0	67.66	314.87	6996.4	264.8	-164.6	311.3	2.73	328.14	311.8
7186.0	69.05	313.45	7007.8	284.9	-185.2	339.6	6.18	326.97	339.8
7217.0	69.04	310.67	7018.9	304.2	-206.7	367.8	8.37	325.81	367.8
7252.0	69.04	310.67	7031.5	325.5	-231.5	399.5	0.00	324.58	399.5