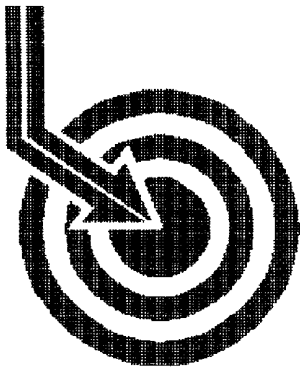




Scientific Drilling



TEXACO E & P INC.
Field: Vacuum Glorieta West
Site: Lea County, NM
Well: VGWU #90
Wellpath: HH - Job #32D0500168
Survey: 5/17/00-5/21/00

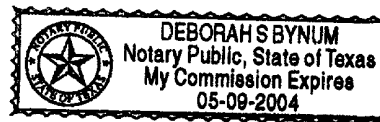
SUR: 2130/S & 660/W
L-31-17s-35e
BHL: 2128/S & 620/E
I-36-17s-34e
30-025-20270

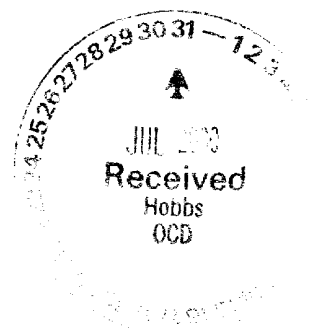
This survey is correct to the best of my knowledge
and is supported by actual field data.

Scott Nedy Company Representative

Notorized this date 26th of July, 2000.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





SCIENTIFIC DRILLING SURVEY REPORT

Company: TEXACO E & P INC.
Field: Vacuum Gloria West
Site: Lea County, NM
Well: VGVWJ #90
Wellpath: VH - Job #32K0500169

Date: 7/19/2000 Time: 18:04:33 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, 270.0Azi)
Survey Calculation Method: Minimum Curvature

Survey: 5/17/00
KSRG 0'-5917'

Start Date: 7/19/2000

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	0.17	270.62	100.0	0.0	-0.1	0.1	0.17	270.62	0.1
200.0	0.06	346.05	200.0	0.1	-0.3	0.3	0.17	279.91	0.3
300.0	0.09	277.59	300.0	0.1	-0.4	0.4	0.09	286.08	0.4
400.0	0.20	209.89	400.0	0.0	-0.6	0.6	0.19	267.39	0.6
500.0	0.33	208.36	500.0	-0.4	-0.8	0.8	0.13	241.37	0.9
600.0	0.30	183.48	600.0	-0.9	-0.9	0.9	0.14	224.87	1.3
700.0	0.26	195.54	700.0	-1.4	-1.0	1.0	0.07	215.53	1.8
800.0	0.37	196.20	800.0	-2.0	-1.2	1.2	0.11	210.89	2.3
900.0	0.34	185.72	900.0	-2.6	-1.3	1.3	0.07	206.72	2.9
1000.0	0.28	200.72	1000.0	-3.1	-1.4	1.4	0.10	204.49	3.4
1100.0	0.38	184.93	1100.0	-3.6	-1.5	1.5	0.13	202.64	3.9
1200.0	0.36	176.56	1200.0	-4.3	-1.5	1.5	0.06	199.63	4.6
1300.0	0.77	164.49	1300.0	-5.2	-1.3	1.3	0.42	194.23	5.4
1400.0	0.54	154.36	1400.0	-6.3	-0.9	0.9	0.26	188.52	6.4
1500.0	0.47	157.43	1500.0	-7.1	-0.6	0.6	0.08	184.70	7.1
1600.0	0.69	124.03	1600.0	-7.8	0.1	-0.1	0.39	179.48	7.8
1700.0	0.75	101.25	1700.0	-8.3	1.2	-1.2	0.29	171.70	8.4
1800.0	0.90	96.99	1799.9	-8.5	2.6	-2.6	0.16	162.84	8.9
1900.0	0.87	97.41	1899.9	-8.7	4.2	-4.2	0.03	154.46	9.7
2000.0	0.99	93.78	1999.9	-8.9	5.8	-5.8	0.13	146.92	10.6
2100.0	0.98	91.68	2099.9	-9.0	7.5	-7.5	0.04	140.07	11.7
2200.0	0.69	78.78	2199.9	-8.9	8.9	-8.9	0.34	134.75	12.6
2300.0	0.78	70.94	2299.9	-8.5	10.2	-10.2	0.13	129.95	13.3
2400.0	0.69	75.84	2399.9	-8.2	11.4	-11.4	0.11	125.57	14.0
2500.0	0.81	61.18	2499.9	-7.7	12.6	-12.6	0.23	121.31	14.8
2600.0	0.80	58.26	2599.9	-7.0	13.8	-13.8	0.04	116.73	15.5
2700.0	0.85	53.78	2699.9	-6.2	15.0	-15.0	0.08	112.29	16.2
2800.0	0.82	57.01	2799.8	-5.3	16.2	-16.2	0.06	108.19	17.1
2900.0	0.83	52.34	2899.8	-4.5	17.4	-17.4	0.07	104.49	18.0
3000.0	0.38	61.01	2999.8	-3.9	18.2	-18.2	0.46	102.04	18.7
3100.0	0.25	33.53	3099.8	-3.5	18.7	-18.7	0.20	100.77	19.0
3200.0	0.13	39.00	3199.8	-3.3	18.9	-18.9	0.12	99.87	19.1
3300.0	0.14	347.09	3299.8	-3.1	18.9	-18.9	0.12	99.23	19.1
3400.0	0.17	349.30	3399.8	-2.8	18.8	-18.8	0.03	98.47	19.0
3500.0	0.32	331.54	3499.8	-2.4	18.7	-18.7	0.17	97.37	18.8
3600.0	0.53	334.86	3599.8	-1.8	18.3	-18.3	0.21	95.45	18.4
3700.0	0.77	327.98	3699.8	-0.8	17.8	-17.8	0.25	92.45	17.8
3800.0	0.80	334.20	3799.8	0.4	17.1	-17.1	0.09	88.54	17.1
3900.0	0.96	328.44	3899.8	1.8	16.4	-16.4	0.18	83.81	16.5
4000.0	0.91	333.18	3999.8	3.2	15.6	-15.6	0.09	78.40	15.9
4100.0	1.05	334.04	4099.8	4.7	14.8	-14.8	0.14	72.31	15.6
4200.0	1.00	334.83	4199.7	6.3	14.1	-14.1	0.05	65.71	15.4
4300.0	1.11	337.77	4299.7	8.0	13.3	-13.3	0.12	58.92	15.6
4400.0	1.08	338.51	4399.7	9.8	12.6	-12.6	0.03	52.14	16.0
4500.0	1.45	358.50	4499.7	11.9	12.2	-12.2	0.57	45.69	17.1
4600.0	1.48	353.88	4599.7	14.5	12.1	-12.1	0.12	39.77	18.9
4700.0	1.53	357.77	4699.6	17.1	11.9	-11.9	0.11	34.76	20.8

