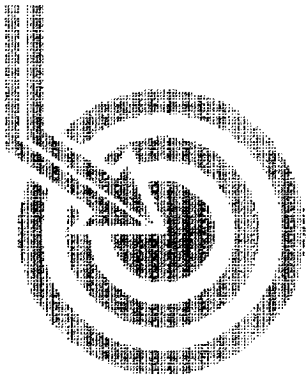




Scientific Drilling



PHILLIPS PETROLEUM

Field: Vacuum Glorietta East
Site: Lea County, NM
Well: EVGSAU #0449-039
Wellpath: VH - Job #32K0502144
Survey: 5/2/02

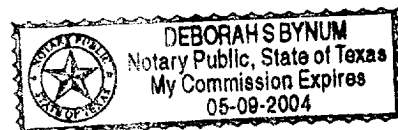
This survey is correct to the best of my knowledge
and is supported by actual field data.

Scott N. Noddy Company Representative

Notorized this date 30th of May, 2002.

Deborah S. Bynum

Notary Signature
County of Midland
State of Texas



Scientific Drilling International Survey Report

Company: PHILLIPS PETROLEUM Field: Vacuum Gioriella East Site: Lea County, NM Well: EVGSAU #0449-039 Wellpath: VH - Job #32K0502144	Date: 5/30/2002 Time: 09:24:45 Page: 1 Co-ordinate(NE) Reference: Site: Lea County, NM, True North Vertical (TVD) Reference: SITE 0.0 above Mean Sea Level Section (VS) Reference: Well (0.0E,0.0N,308.6Azi) Survey Calculation Method: Minimum Curvature
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Survey: 5/2/02 KSRG 0'-4418'	Start Date: 5/8/2002
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Company: Scientific Drilling Internatio Tool: Keeper	Engineer: Gary DeSpain
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Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.00
100.0	0.39	338.48	100.0	0.3	0.3	-0.1	0.3	338.48	0.39
200.0	0.40	324.56	200.0	0.9	0.9	-0.5	1.0	333.77	0.10
300.0	0.44	303.21	300.0	1.6	1.4	-1.0	1.7	325.36	0.16
400.0	0.51	293.63	400.0	2.5	1.8	-1.7	2.5	316.57	0.11
500.0	0.46	272.05	500.0	3.2	2.0	-2.5	3.2	308.42	0.19
600.0	0.76	288.48	600.0	4.2	2.2	-3.5	4.2	302.05	0.34
700.0	0.70	298.48	700.0	5.4	2.7	-4.7	5.4	300.01	0.14
800.0	0.63	300.14	800.0	6.5	3.3	-5.7	6.6	299.88	0.07
900.0	1.15	306.85	900.0	8.1	4.2	-7.0	8.1	300.75	0.53
1000.0	0.98	298.86	999.9	9.9	5.2	-8.6	10.0	301.20	0.23
1100.0	0.75	302.38	1099.9	11.4	5.9	-9.9	11.5	301.09	0.24
1200.0	0.56	288.20	1199.9	12.5	6.4	-10.9	12.6	300.67	0.25
1300.0	0.17	282.75	1299.9	13.1	6.6	-11.5	13.3	300.01	0.39
1400.0	0.29	310.38	1399.9	13.5	6.8	-11.8	13.6	300.02	0.16
1500.0	0.32	279.97	1499.9	14.0	7.0	-12.3	14.2	299.82	0.16
1600.0	0.40	284.65	1599.9	14.6	7.2	-12.9	14.8	299.09	0.09
1700.0	0.39	290.14	1699.9	15.2	7.4	-13.6	15.4	298.57	0.04
1800.0	0.79	274.71	1799.9	16.1	7.6	-14.6	16.4	297.42	0.43
1900.0	0.74	289.53	1899.9	17.3	7.8	-15.9	17.7	296.28	0.20
2000.0	0.81	280.56	1999.9	18.5	8.2	-17.2	19.0	295.47	0.14
2100.0	1.25	286.18	2099.9	20.1	8.6	-18.9	20.8	294.48	0.45
2200.0	1.62	284.78	2199.8	22.4	9.3	-21.3	23.2	293.51	0.37
2300.0	1.55	274.85	2299.8	24.9	9.7	-24.0	25.9	292.08	0.28
2400.0	1.38	274.97	2399.8	27.0	10.0	-26.6	28.4	290.55	0.17
2500.0	1.37	276.73	2499.7	29.0	10.2	-29.0	30.7	289.42	0.04
2600.0	1.30	279.05	2599.7	31.0	10.5	-31.3	33.0	288.61	0.09
2700.0	1.12	281.55	2699.7	32.9	10.9	-33.4	35.1	288.10	0.19
2800.0	1.17	286.61	2799.7	34.7	11.4	-35.3	37.1	287.89	0.11
2900.0	1.32	294.59	2899.6	36.8	12.2	-37.3	39.2	288.05	0.23
3000.0	1.35	299.58	2999.6	39.0	13.2	-39.4	41.5	288.56	0.12
3100.0	1.36	301.56	3099.6	41.4	14.4	-41.4	43.9	289.20	0.05
3200.0	1.64	303.18	3199.6	44.0	15.8	-43.6	46.4	289.94	0.28
3300.0	1.47	307.60	3299.5	46.7	17.4	-45.8	49.0	290.78	0.21
3400.0	1.25	319.52	3399.5	49.0	19.0	-47.6	51.2	291.78	0.36
3500.0	1.30	323.10	3499.5	51.2	20.7	-49.0	53.2	292.96	0.09
3600.0	1.56	330.10	3599.4	53.6	22.8	-50.3	55.3	294.41	0.31
3700.0	1.68	331.88	3699.4	56.2	25.3	-51.7	57.5	296.09	0.13
3800.0	1.85	342.16	3799.3	58.9	28.1	-52.9	59.9	298.02	0.36
3900.0	2.09	343.50	3899.3	61.7	31.4	-53.9	62.4	300.25	0.24
4000.0	2.40	345.48	3999.2	64.9	35.2	-54.9	65.2	302.65	0.32
4100.0	2.31	347.24	4099.1	68.1	39.2	-55.9	68.3	305.03	0.12
4200.0	2.67	343.39	4199.0	71.6	43.4	-57.0	71.6	307.27	0.40
4300.0	1.89	322.90	4299.0	75.1	46.9	-58.7	75.1	308.66	1.12
4400.0	2.31	298.55	4398.9	78.7	49.2	-61.4	78.7	308.70	0.98
4418.0	2.34	295.32	4416.9	79.4	49.5	-62.1	79.4	308.59	0.75



**Scientific
Drilling**

Field: Vacuum Glorietta East
Site: Lea County, NM
Well: EVGSAU #0449-039
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T/M



All Angles Relative
To True North

True North: 0.00
Magnetic North: 0.00

