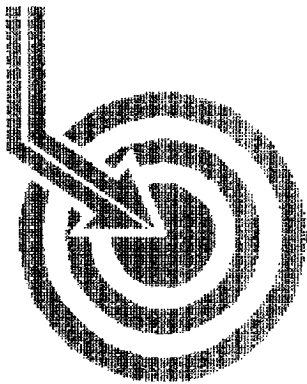




Scientific Drilling



PHILLIPS PETROLEUM

Field: Vacuum Glorietta East
Site: Lea County, NM
Well: EVGSAU #3440-003
Wellpath: VH - Job #32K0502151
Survey: 5/9/02

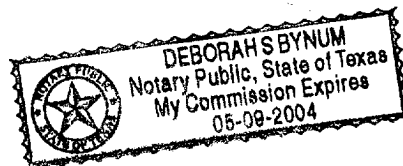
This survey is correct to the best of my knowledge
and is supported by actual field data.

[Signature] Company Representative

Notorized this date 30th of May, 2002.

Deborah Sue Bynum
Notary Signature

County of Midland
State of Texas



Scientific Drilling International

Survey Report

Company: PHILLIPS PETROLEUM	Date: 5/30/2002	Time: 09:05:29	Page: 1
Field: Vacuum Glorietta East	Co-ordinate(NE) Reference:	Site: Lea County, NM, True North	
Site: Lea County, NM	Vertical (TVD) Reference:	SITE: 0.0 above Mean Sea Level	
Well: EVGSAU #3440-003	Section (VS) Reference:	Well: (0.0E,0.0N,263.0Azi)	
Wellpath: VH - Job #32K0502151	Survey Calculation Method:	Minimum Curvature	

Survey: 5/9/02 KSRG 0'-4300'	Start Date:	5/30/2002
Company: Scientific Drilling International	Engineer:	Angel Guebara
Tool: Keeper		

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	0.41	79.46	100.0	-0.4	0.1	0.4	0.4	79.46	0.41
200.0	0.40	79.48	200.0	-1.1	0.2	1.0	1.1	79.47	0.01
300.0	0.30	77.62	300.0	-1.7	0.3	1.6	1.7	79.18	0.10
400.0	0.21	39.94	400.0	-2.1	0.5	2.0	2.1	75.79	0.19
500.0	0.30	53.44	500.0	-2.4	0.8	2.3	2.5	71.02	0.11
600.0	0.47	91.84	600.0	-3.1	1.0	3.0	3.1	72.24	0.30
700.0	0.38	83.56	700.0	-3.8	1.0	3.7	3.8	75.26	0.11
800.0	0.16	116.14	800.0	-4.2	0.9	4.2	4.3	77.14	0.26
900.0	0.15	253.15	900.0	-4.2	0.9	4.2	4.2	78.45	0.29
1000.0	0.36	283.79	1000.0	-3.8	0.9	3.7	3.8	76.63	0.24
1100.0	0.63	281.70	1100.0	-3.0	1.1	2.9	3.1	69.63	0.27
1200.0	0.31	271.12	1200.0	-2.2	1.2	2.1	2.4	60.27	0.33
1300.0	0.13	218.33	1300.0	-1.9	1.1	1.7	2.1	57.60	0.25
1400.0	0.41	205.00	1400.0	-1.6	0.7	1.5	1.7	65.51	0.28
1500.0	0.61	231.12	1500.0	-1.0	0.0	1.0	1.0	87.87	0.30
1600.0	0.65	227.88	1600.0	0.0	-0.7	0.1	0.7	169.72	0.05
1700.0	0.20	209.58	1700.0	0.5	-1.2	-0.4	1.3	197.59	0.46
1800.0	0.12	204.52	1800.0	0.7	-1.5	-0.5	1.5	199.41	0.08
1900.0	0.12	222.84	1900.0	0.8	-1.6	-0.6	1.7	201.08	0.04
2000.0	0.24	46.40	2000.0	0.7	-1.6	-0.5	1.7	199.26	0.36
2100.0	0.26	41.27	2100.0	0.4	-1.2	-0.2	1.3	190.98	0.03
2200.0	0.30	47.79	2200.0	0.0	-0.9	0.1	0.9	173.51	0.05
2300.0	0.50	50.70	2300.0	-0.6	-0.4	0.6	0.8	125.27	0.20
2400.0	0.61	52.47	2400.0	-1.4	0.2	1.4	1.4	83.77	0.11
2500.0	0.71	57.77	2499.9	-2.4	0.8	2.3	2.5	70.96	0.12
2600.0	0.87	66.64	2599.9	-3.7	1.4	3.6	3.8	67.99	0.20
2700.0	1.04	82.41	2699.9	-5.3	1.9	5.1	5.5	70.17	0.31
2800.0	1.12	81.86	2799.9	-7.2	2.1	7.0	7.3	73.22	0.08
2900.0	1.23	79.29	2899.9	-9.3	2.5	9.0	9.4	74.81	0.12
3000.0	1.02	79.02	2999.9	-11.2	2.8	11.0	11.3	75.57	0.21
3100.0	0.95	78.61	3099.9	-12.9	3.2	12.6	13.0	76.09	0.07
3200.0	0.73	75.30	3199.8	-14.4	3.5	14.1	14.5	76.12	0.22
3300.0	0.63	72.01	3299.8	-15.6	3.8	15.2	15.7	75.94	0.11
3400.0	0.50	57.79	3399.8	-16.5	4.2	16.1	16.7	75.34	0.19
3500.0	0.46	44.89	3499.8	-17.2	4.7	16.8	17.4	74.24	0.12
3600.0	0.54	27.59	3599.8	-17.8	5.4	17.3	18.1	72.53	0.17
3700.0	0.69	358.44	3699.8	-18.1	6.5	17.5	18.6	69.73	0.34
3800.0	0.88	345.67	3799.8	-18.1	7.8	17.3	18.9	65.70	0.26
3900.0	1.09	333.20	3899.8	-17.7	9.4	16.6	19.1	60.58	0.30
4000.0	1.28	330.75	3999.8	-16.9	11.2	15.7	19.3	54.43	0.20
4100.0	1.41	324.26	4099.7	-15.9	13.2	14.4	19.5	47.55	0.20
4200.0	1.62	330.14	4199.7	-14.8	15.4	13.0	20.1	40.13	0.26
4300.0	1.67	316.87	4299.7	-13.4	17.7	11.3	21.0	32.53	0.38



**Scientific
Drilling**

Field: Vacuum Glorietta East
Site: Lea County, NM
Well: EVGSAU #3440-003
Wellpath: VH - Job #32K0502151
Survey: 5/9/02

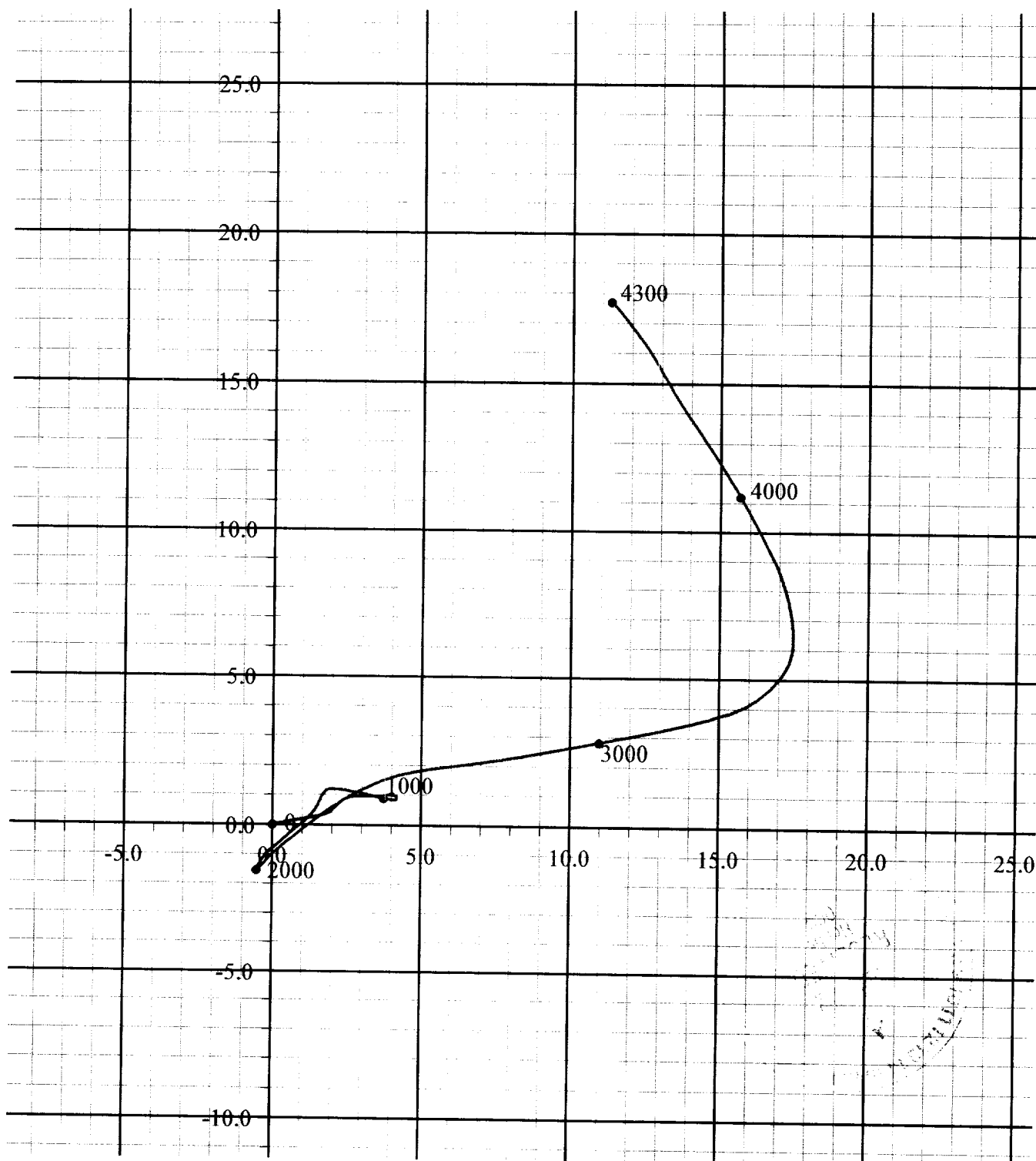
T/M



All Angles Relative
To True North

True North: 0.00
Magnetic North: 0.00

South(-)/North(+) [5ft/in]



West(-)/East(+) [5ft/in]