

# Scientific Drilling

### OXY PERMIAN

Field: South Hobbs  
Site: Lea County, NM  
Well: SHU #241  
Wellpath: CH - Job #32K0101020/015  
Survey: 1/10/01-1/17/01

SUR: 1063/N & 498/W  
D-4-19s-38e  
BHL: 628/N & 67/E  
A-5-19s-38e  
30-025-35318

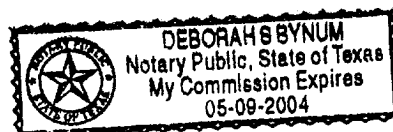
This survey is correct to the best of my knowledge and is supported by actual field data.

Scott Nandy.....Company Representative

Notorized this date 20<sup>th</sup> of February, 2001.

Deborah Sue Bynum  
Notary Signature

County of Midland  
State of Texas



# Scientific Drilling International Survey Report

<b>Company:</b> OXY PERMIAN	<b>Date:</b> 2/14/2001	<b>Time:</b> 12:01:57	<b>Page:</b> 1
<b>Field:</b> South Hobbs	<b>Co-ordinate(NE) Reference:</b>	<b>Site:</b> Lea County, NM, True North	
<b>Site:</b> Lea County, NM	<b>Vertical (TVD) Reference:</b>	<b>SITE</b> 0.0 above Mean Sea Level	
<b>Well:</b> SHU #241	<b>Section (VS) Reference:</b>	<b>Well</b> (0.0E,0.0N,307.3Azi)	
<b>Wellpath:</b> CH - Job #32K0101020/015	<b>Survey Calculation Method:</b>	Minimum Curvature	

<b>Survey:</b> 1/10/01-1/17/01 KSRG 0°-1514'/ST 1608'-4385'	<b>Start Date:</b> 2/14/2001
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<b>Company:</b> Scientific Drilling Internatio	<b>Engineer:</b> RD Brusenhan
<b>Tool:</b>	

**Survey**

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00
100.0	0.34	198.34	100.0	-0.1	-0.3	-0.1	0.3	198.34
200.0	0.39	178.85	200.0	-0.4	-0.9	-0.2	0.9	191.26
300.0	0.30	191.31	300.0	-0.7	-1.5	-0.2	1.5	188.51
400.0	0.26	209.70	400.0	-0.9	-2.0	-0.4	2.0	191.23
500.0	0.26	208.50	500.0	-0.9	-2.4	-0.6	2.4	194.52
600.0	0.16	218.01	600.0	-1.0	-2.7	-0.8	2.8	196.80
700.0	0.14	222.12	700.0	-1.0	-2.9	-1.0	3.0	198.75
800.0	0.08	337.45	800.0	-0.9	-2.9	-1.1	3.1	200.51
900.0	0.14	9.06	900.0	-0.8	-2.7	-1.1	2.9	201.92
1000.0	0.12	103.81	1000.0	-0.8	-2.6	-1.0	2.8	200.34
1100.0	0.08	144.42	1100.0	-1.0	-2.7	-0.8	2.8	197.04
1200.0	0.07	147.18	1200.0	-1.1	-2.8	-0.8	2.9	195.02
1300.0	0.20	159.77	1300.0	-1.3	-3.0	-0.7	3.1	192.30
1400.0	0.14	102.86	1400.0	-1.6	-3.2	-0.5	3.2	188.48
1500.0	0.22	144.16	1500.0	-1.9	-3.4	-0.2	3.4	184.15
1514.0	0.30	188.46	1514.0	-1.9	-3.4	-0.2	3.5	183.91
1608.0	0.30	276.00	1608.0	-1.8	-3.7	-0.5	3.7	188.03
1671.0	1.00	286.90	1671.0	-1.1	-3.5	-1.2	3.7	199.10
1767.0	2.70	297.50	1766.9	1.9	-2.2	-4.0	4.6	241.32
1863.0	5.60	313.00	1862.7	8.8	2.0	-9.4	9.7	282.21
1953.0	7.60	311.10	1952.1	19.1	9.0	-17.1	19.3	297.57
2047.0	10.10	309.20	2044.9	33.5	18.2	-28.2	33.6	302.89
2140.0	12.30	307.30	2136.2	51.6	29.4	-42.4	51.6	304.73
2233.0	14.60	308.50	2226.6	73.2	42.7	-59.5	73.2	305.68
2327.0	16.70	309.90	2317.1	98.5	58.7	-79.1	98.5	306.60
2420.0	18.20	311.10	2405.8	126.4	76.9	-100.3	126.4	307.46
2514.0	18.00	307.20	2495.2	155.5	95.3	-122.9	155.5	307.78
2608.0	17.20	306.80	2584.8	184.0	112.4	-145.6	184.0	307.66
2700.0	16.70	306.20	2672.8	210.8	128.4	-167.2	210.8	307.52
2794.0	16.40	308.00	2762.9	237.6	144.5	-188.5	237.6	307.47
2888.0	16.60	309.80	2853.0	264.2	161.3	-209.3	264.2	307.61
2983.0	16.70	308.40	2944.0	291.4	178.4	-230.4	291.5	307.75
3077.0	16.30	308.80	3034.2	318.1	195.1	-251.3	318.1	307.82
3167.0	16.60	306.10	3120.5	343.6	210.6	-271.5	343.6	307.79
3262.0	17.20	305.40	3211.4	371.2	226.7	-294.0	371.2	307.64
3355.0	16.80	304.80	3300.3	398.4	242.4	-316.2	398.4	307.47
3448.0	15.60	305.00	3389.6	424.3	257.2	-337.5	424.3	307.31
3540.0	16.00	308.70	3478.2	449.4	272.2	-357.5	449.4	307.29
3634.0	17.00	305.40	3568.3	476.0	288.3	-378.8	476.0	307.27
3727.0	17.80	306.40	3657.0	503.8	304.6	-401.3	503.8	307.20
3790.0	17.70	305.80	3717.0	523.0	315.9	-416.9	523.0	307.16
3853.0	17.80	309.60	3777.0	542.2	327.6	-432.1	542.2	307.17
3914.0	17.90	305.90	3835.1	560.9	339.1	-446.8	560.9	307.19
3977.0	18.10	309.50	3895.0	580.4	351.0	-462.2	580.4	307.21
4040.0	18.70	310.00	3954.8	600.3	363.7	-477.5	600.3	307.30
4103.0	18.60	309.50	4014.5	620.4	376.6	-493.0	620.4	307.38
4196.0	19.30	309.50	4102.4	650.6	395.8	-516.3	650.6	307.47

# Scientific Drilling International

## Survey Report

<b>Company:</b> OXY PERMIAN	<b>Date:</b> 2/14/2001	<b>Time:</b> 12:01:57	<b>Page:</b> 2
<b>Field:</b> South Hobbs	<b>Co-ordinate(NE) Reference:</b>	<b>Site:</b> Lea County, NM, True North	
<b>Site:</b> Lea County, NM	<b>Vertical (TVD) Reference:</b>	<b>SITE</b> 0.0 above Mean Sea Level	
<b>Well:</b> SHU #241	<b>Section (VS) Reference:</b>	<b>Well</b> (0.0E,0.0N,307.3Azi)	
<b>Wellpath:</b> CH - Job #32K0101020/015	<b>Survey Calculation Method:</b>	Minimum Curvature	

**Survey**

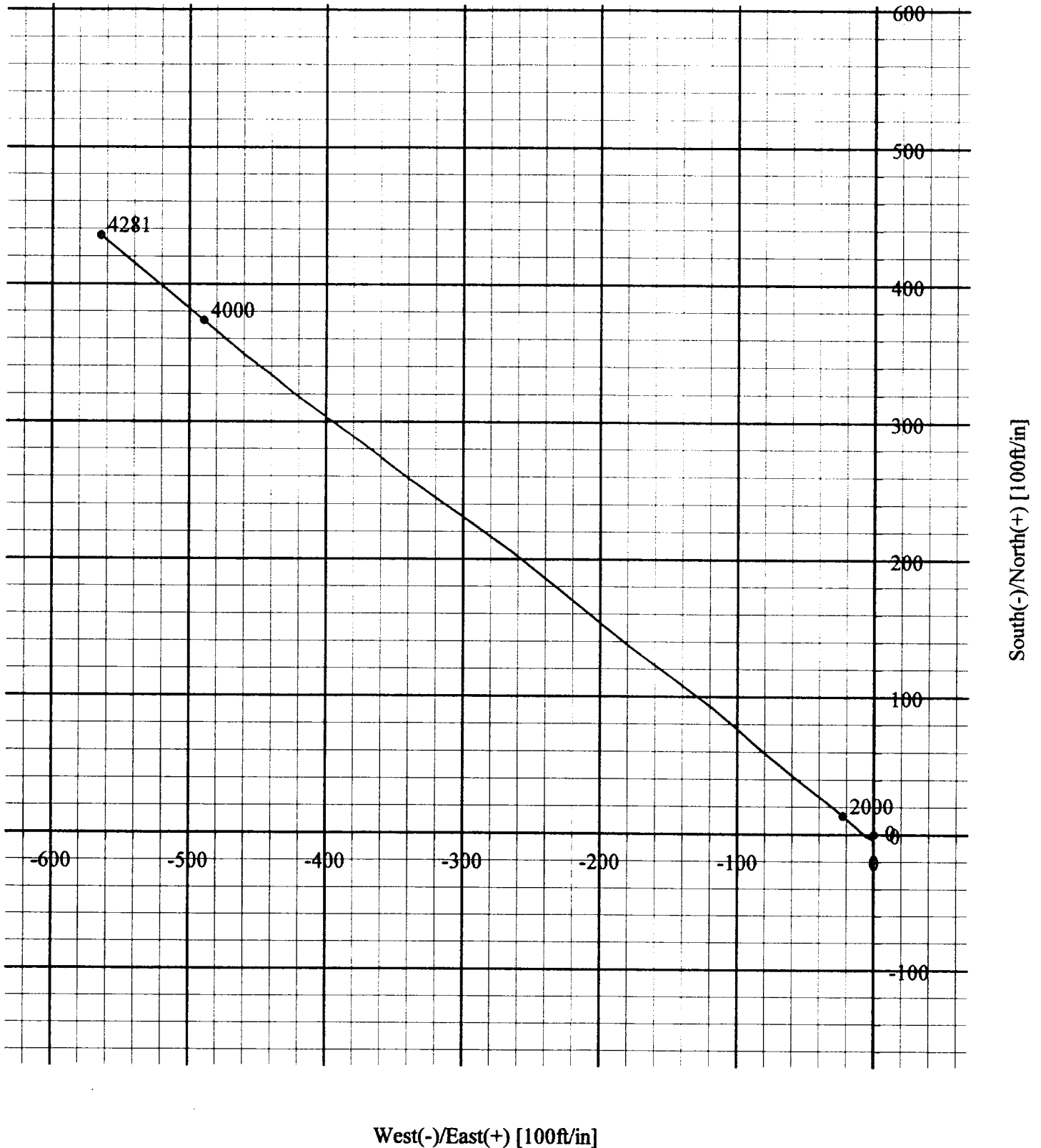
MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg
4289.0	19.30	309.50	4190.2	681.3	415.4	-540.0	681.3	307.57
4385.0	19.30	309.50	4280.8	713.0	435.5	-564.5	713.0	307.65



Scientific  
Drilling

Field: South Hobbs  
Location: Lea County, NM  
Well: SHU #241  
Wellpath: CH - Job #32K0101020/015  
Survey: 1/10/01-1/17/01

1/M  
↑  
All Angles Relative  
To True North  
True North: 0.00  
Magnetic North: 0.00





KEY ENERGY DRILLING, INC.  
P.O. Box 1295  
Midland, Texas 79702  
Phone 915-570-0494  
Fax 915-570-0465

To Whom It May Concern:

RE: STATE OF NEW MEXICO  
OIL AND GAS DIVISION  
INCLINATION REPORT

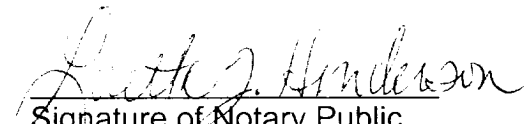
Lease Name: SOUTH HOBBS UNIT  
Well Number: #241  
County/State: LEA, NM  
Operator: OCCIDENTAL PERMIAN, LTD(Operator No. 617544)  
Address: P.O. BOX 4294  
Address: HOUSTON, TX 77210-4294  
Location:

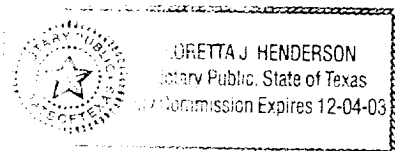
I, **CHOYR GILBERT**, Contract Manager for Key Energy Drilling, Inc., PO Box 1295, Midland, TX 79702, declare that I am authorized to make this certification, that I have personal knowledge of the inclination data and facts placed on this form and that such data and facts are true, correct, and complete to the best of my knowledge.

Sworn to and Subscribed Before Me by the said

  
\_\_\_\_\_  
CHOYR GILBERT  
Contract Manager

This the 26TH day of JANUARY, 2001

  
\_\_\_\_\_  
Signature of Notary Public  
In and for the State of Texas



LORETTA J. HENDERSON  
Print Name of Notary Public

**STATE OF NEW MEXICO  
OIL AND GAS DIVISION**

**INCLINATION REPORT**

<b>FIELD NAME</b> Hobbs; Grayburg-San Andres	<b>LEASE NAME</b> <b>SOUTH HOBBS (GSA) Unit</b>	<b>WELL NUMBER</b> <b>241</b>
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<b>OPERATOR</b> <b>OCCIDENTAL PERMIAN</b> Limited Partnership	<b>COUNTY</b> <b>LEA</b>
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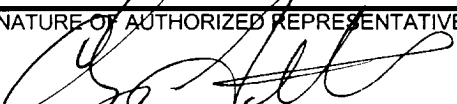
<b>ADDRESS</b> <b>P.O. BOX 4294, HOUSTON TX 77210-4294</b>
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<b>LOCATION</b> Lot No. 1, Sec. 5, T-19-S, R-38-E
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**RECORD OF INCLINATION**

MEASURED DEPTH FEET	COURSE LENGTH HUNDREDS OF FEET	ANGLE OF INCLINATION DEGREE	DISPLACEMENT PER HUNDRED FEET	COURSE DISPLACEMENT FEET	ACCUMULATIVE DISPLACEMENT
246	2.46	1.50	2.62	6.44	6.44
500	2.54	1.25	2.18	5.54	11.98
731	2.31	0.50	0.87	2.02	14.00
1227	4.96	1.00	1.75	8.66	22.65
1514	2.87	0.30	0.52	1.50	24.16
1608	0.94	0.30	0.52	0.49	24.65
1671	0.63	1.00	1.75	1.10	25.75
1764	0.93	2.70	4.71	4.38	30.13
1863	0.99	5.60	9.76	9.66	39.79
1953	0.90	7.60	13.23	11.90	51.69
2047	0.94	10.10	17.54	16.48	68.18
2140	0.93	12.30	21.30	19.81	87.99
2233	0.93	14.60	25.21	23.44	111.43
2327	0.94	16.70	28.74	27.01	138.44
2420	0.93	18.20	31.23	29.05	167.49
2514	0.94	18.00	30.90	29.05	196.54
2608	0.94	17.20	29.57	27.80	224.33
2700	0.92	16.70	28.74	26.44	250.77
2794	0.94	16.40	28.23	26.54	277.31
2888	0.94	16.60	28.57	26.85	304.17
2983	0.95	16.70	28.74	27.30	331.46
3077	0.94	16.30	28.07	26.38	357.85
3167	0.90	16.60	28.57	25.71	383.56
3262	0.95	17.20	29.57	28.09	411.65
3355	0.93	16.80	28.90	26.88	438.53
3448	0.93	15.60	26.89	25.01	463.54
3540	0.92	16.00	27.56	25.36	488.90
3634	0.94	17.00	29.24	27.48	516.38
4040	4.06	18.70	32.06	130.17	646.55
4103	0.63	18.60	31.90	20.09	666.65
4196	0.93	19.30	33.05	30.74	697.38
4289	0.93	19.30	33.05	30.74	728.12
4385	0.96	19.30	33.05	31.73	759.85

THIS INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

<b>SIGNATURE OF AUTHORIZED REPRESENTATIVE</b> 	<b>NAME OF COMPANY</b> <b>KEY ENERGY DRILLING, INC.</b>
<b>NAME OF PERSON AND TITLE</b> <b>CHOYR GILBERT - CONTRACT MANAGER</b>	<b>TELEPHONE NUMBER</b> <b>(915) 570-0494</b>