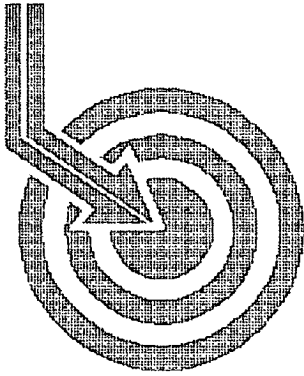




Scientific Drilling

CHEVRONTEXACO

Field: Arrowhead Grayburg
Site: Lea County, NM
Well: AGU #352
Wellpath: HH - Job #32D0703389
Survey: 07/28/03-08/05/03

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

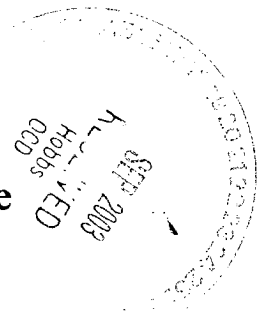
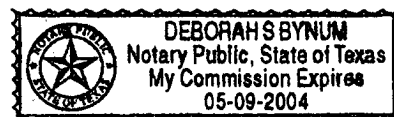
David Moody

Company Representative

Notorized this date 17th of September, 2003.

Deborah Sue Bynum

Notary Signature
County of Midland
State of Texas



Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Arrowhead Grayburg
Site: Lea County, NM
Well: AGU #352
Wellpath: HH - Job #32D0703389

Date: 9/17/2003 **Time:** 16:28:46 **Page:** 1
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,61.99Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey: 07/28/03-08/05/03
 MWD 3777'-6080'
Company: Scientific Drilling
Tool: MWD,MWD

Start Date: 7/28/2003
Engineer: Hoffman/Melendez
Tied-to: From: Definitive Path

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
3769.0	0.88	245.84	3767.3	58.8	27.6	52.0	0.00	58.8	61.99
3777.0	0.88	245.84	3775.2	58.7	27.6	51.8	0.00	58.7	61.98
3821.0	23.10	266.60	3818.0	50.4	26.9	42.8	50.63	50.6	57.83
3831.0	29.40	267.40	3827.0	46.4	26.7	38.4	63.10	46.8	55.18
3841.0	35.70	268.50	3835.4	41.6	26.5	33.0	63.28	42.3	51.23
3853.0	43.40	267.70	3844.7	34.7	26.3	25.4	64.31	36.5	44.03
3863.0	50.00	267.70	3851.5	28.2	26.0	18.1	66.00	31.7	34.91
3874.0	57.20	266.90	3858.0	20.2	25.5	9.3	65.71	27.2	19.96
3905.0	77.40	265.20	3869.9	-5.8	23.6	-19.1	65.35	30.3	320.96
3943.0	84.60	265.40	3875.9	-40.2	20.5	-56.5	18.95	60.1	289.93
3974.0	89.40	265.40	3877.5	-68.6	18.0	-87.3	15.48	89.2	281.64
4004.0	94.60	266.20	3876.5	-96.1	15.8	-117.2	17.54	118.3	277.68
4037.0	94.70	266.40	3873.8	-126.0	13.7	-150.0	0.68	150.7	275.21
4068.0	97.40	267.70	3870.5	-154.0	12.1	-180.8	9.66	181.2	273.83
4101.0	98.50	267.80	3865.9	-183.4	10.8	-213.5	3.35	213.8	272.90
4133.0	99.30	267.50	3861.0	-211.9	9.5	-245.1	2.67	245.3	272.22
4164.0	97.60	269.40	3856.4	-239.3	8.7	-275.7	8.17	275.9	271.80
4196.0	97.60	269.60	3852.2	-267.5	8.4	-307.4	0.62	307.6	271.57
4228.0	97.80	269.40	3847.9	-295.6	8.1	-339.1	0.88	339.2	271.37
4260.0	97.70	269.30	3843.6	-323.8	7.8	-370.9	0.44	370.9	271.20
4292.0	97.60	269.30	3839.3	-351.9	7.4	-402.6	0.31	402.6	271.05
4324.0	97.80	269.30	3835.1	-380.1	7.0	-434.3	0.62	434.3	270.92
4355.0	96.40	269.70	3831.2	-407.4	6.7	-465.0	4.69	465.1	270.83
4387.0	97.00	269.40	3827.5	-435.6	6.5	-496.8	2.09	496.9	270.75
4419.0	97.00	269.80	3823.6	-463.7	6.3	-528.6	1.24	528.6	270.68
4451.0	95.90	268.90	3820.0	-492.0	5.9	-560.4	4.43	560.4	270.60
4483.0	96.30	268.60	3816.6	-520.4	5.2	-592.2	1.56	592.2	270.50
4515.0	95.20	268.10	3813.4	-548.9	4.3	-624.0	3.77	624.0	270.39
4546.0	92.50	268.70	3811.3	-576.6	3.4	-654.9	8.92	654.9	270.30
4578.0	93.20	268.80	3809.7	-605.1	2.7	-686.9	2.21	686.9	270.23
4609.0	92.60	269.10	3808.2	-632.7	2.2	-717.8	2.16	717.8	270.17
4641.0	91.30	269.10	3807.1	-661.2	1.7	-749.8	4.06	749.8	270.13
4673.0	91.80	269.20	3806.2	-689.7	1.2	-781.8	1.59	781.8	270.09
4705.0	90.70	268.50	3805.5	-718.2	0.5	-813.8	4.07	813.8	270.04
4736.0	91.50	269.10	3804.9	-745.9	-0.1	-844.8	3.23	844.8	269.99
4770.0	92.70	270.50	3803.7	-775.9	-0.2	-878.7	5.42	878.7	269.99
4802.0	93.20	270.40	3802.0	-804.0	0.0	-910.7	1.59	910.7	270.00
4833.0	91.50	271.20	3800.7	-831.2	0.5	-941.7	6.06	941.7	270.03
4865.0	89.00	271.10	3800.6	-859.1	1.1	-973.7	7.82	973.7	270.06
4897.0	86.30	270.30	3801.9	-887.1	1.5	-1005.6	8.80	1005.6	270.08
4929.0	86.40	269.90	3804.0	-915.3	1.5	-1037.6	1.29	1037.6	270.09
4961.0	86.20	269.10	3806.0	-943.6	1.3	-1069.5	2.57	1069.5	270.07
4991.0	88.40	270.00	3807.4	-970.2	1.0	-1099.5	7.92	1099.5	270.05
5022.0	87.80	270.50	3808.5	-997.5	1.2	-1130.4	2.52	1130.4	270.06
5055.0	83.90	269.80	3810.8	-1026.5	1.3	-1163.3	12.01	1163.3	270.06
5087.0	84.50	269.70	3814.1	-1054.7	1.1	-1195.2	1.90	1195.2	270.05
5118.0	84.60	269.10	3817.0	-1082.1	0.8	-1226.0	1.95	1226.0	270.04
5150.0	85.40	269.40	3819.8	-1110.4	0.4	-1257.9	2.67	1257.9	270.02
5182.0	85.70	269.20	3822.3	-1138.7	0.0	-1289.8	1.13	1289.8	270.00

Scientific Drilling Survey Report

Company: CHEVRONTExACO
Field: Arrowhead Grayburg
Site: Lea County, NM
Well: AGU #352
Wellpath: HH - Job #32D0703389

Date: 9/17/2003 **Time:** 16:28:46 **Page:** 2
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,61.99Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
5214.0	86.20	269.10	3824.6	-1167.1	-0.5	-1321.7	1.59	1321.7	269.98
5246.0	86.50	268.50	3826.6	-1195.6	-1.2	-1353.7	2.09	1353.7	269.95
5277.0	86.80	269.10	3828.4	-1223.3	-1.8	-1384.6	2.16	1384.6	269.93
5309.0	85.80	270.50	3830.5	-1251.5	-1.9	-1416.5	5.37	1416.5	269.92
5341.0	86.40	270.60	3832.6	-1279.5	-1.6	-1448.5	1.90	1448.5	269.94
5371.0	86.70	270.80	3834.4	-1305.8	-1.2	-1478.4	1.20	1478.4	269.95
5405.0	86.40	271.20	3836.5	-1335.5	-0.7	-1512.3	1.47	1512.3	269.98
5437.0	84.30	271.20	3839.1	-1363.3	0.0	-1544.2	6.56	1544.2	270.00
5468.0	84.10	270.90	3842.2	-1390.3	0.6	-1575.1	1.16	1575.1	270.02
5500.0	85.50	271.00	3845.1	-1418.2	1.1	-1606.9	4.39	1606.9	270.04
5532.0	88.00	271.00	3846.9	-1446.1	1.7	-1638.9	7.81	1638.9	270.06
5563.0	88.20	271.80	3848.0	-1473.1	2.4	-1669.8	2.66	1669.8	270.08
5613.0	86.00	274.40	3850.5	-1515.8	5.1	-1719.7	6.81	1719.7	270.17
5644.0	85.90	273.40	3852.7	-1542.1	7.2	-1750.5	3.23	1750.6	270.24
5677.0	84.70	269.10	3855.4	-1570.8	7.9	-1783.4	13.49	1783.4	270.26
5709.0	85.00	269.20	3858.3	-1599.1	7.5	-1815.3	0.99	1815.3	270.24
5741.0	84.80	269.50	3861.1	-1627.4	7.1	-1847.1	1.12	1847.2	270.22
5773.0	84.30	268.30	3864.1	-1655.8	6.5	-1879.0	4.05	1879.0	270.20
5805.0	84.70	267.30	3867.2	-1684.5	5.3	-1910.8	3.35	1910.8	270.16
5836.0	84.70	266.90	3870.1	-1712.5	3.7	-1941.7	1.28	1941.7	270.11
5868.0	85.40	267.40	3872.8	-1741.3	2.1	-1973.5	2.68	1973.5	270.06
5900.0	84.10	269.20	3875.8	-1769.9	1.2	-2005.3	6.92	2005.3	270.03
5932.0	86.00	269.10	3878.5	-1798.3	0.7	-2037.2	5.95	2037.2	270.02
5964.0	85.50	269.10	3880.9	-1826.7	0.2	-2069.1	1.56	2069.1	270.01
5995.0	85.80	269.10	3883.2	-1854.2	-0.3	-2100.0	0.97	2100.0	269.99
6027.0	86.40	270.60	3885.4	-1882.4	-0.4	-2132.0	5.04	2132.0	269.99
6080.0	86.40	270.60	3888.8	-1928.8	0.2	-2184.9	0.00	2184.9	270.00

Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Arrowhead Grayburg
Site: Lea County, NM
Well: AGU #352
Wellpath: VH - Job #32K003384

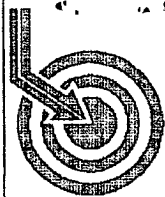
Date: 9/17/2003 Time: 16:11:09 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,61.99Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 07/28/03
KSRG 0'-3769'
Company: Scientific Drilling
Tool: Keeper, Keeper Gyro

Start Date: 7/28/2003
Engineer: Ron Drake
Tied-to: From Surface

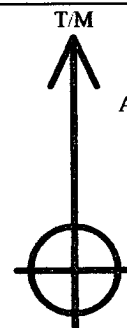
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	359.41	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.32	201.74	100.0	-0.2	-0.3	-0.1	0.32	0.3	201.74
200.0	0.97	132.71	200.0	-0.1	-1.1	0.4	0.91	1.2	159.20
300.0	0.86	117.33	300.0	0.6	-2.0	1.7	0.27	2.6	139.74
400.0	0.94	139.77	400.0	1.2	-3.0	2.9	0.36	4.2	135.80
500.0	1.03	182.01	500.0	0.9	-4.5	3.4	0.71	5.6	142.98
600.0	0.57	263.70	599.9	0.0	-5.5	2.9	1.10	6.2	152.25
700.0	0.90	305.52	699.9	-0.8	-5.1	1.7	0.61	5.3	161.03
800.0	0.98	330.69	799.9	-1.2	-3.9	0.7	0.42	3.9	169.98
900.0	0.83	349.65	899.9	-1.0	-2.4	0.1	0.33	2.4	176.84
1000.0	0.85	352.34	999.9	-0.5	-1.0	-0.1	0.04	1.0	185.81
1100.0	0.69	334.33	1099.9	-0.2	0.3	-0.5	0.29	0.6	305.67
1200.0	0.98	297.06	1199.9	-0.7	1.3	-1.5	0.60	1.9	310.42
1300.0	0.59	310.41	1299.9	-1.4	2.0	-2.6	0.43	3.3	306.98
1400.0	1.03	45.67	1399.9	-0.7	2.9	-2.4	1.23	3.8	321.03
1500.0	1.14	41.74	1499.9	1.1	4.3	-1.1	0.13	4.4	345.99
1600.0	1.18	45.21	1599.8	3.0	5.8	0.3	0.08	5.8	3.14
1700.0	1.34	41.63	1699.8	5.1	7.4	1.8	0.18	7.6	13.88
1800.0	1.68	47.97	1799.8	7.6	9.2	3.7	0.38	9.9	21.78
1900.0	2.21	52.72	1899.7	10.9	11.4	6.3	0.55	13.0	29.01
2000.0	2.42	52.18	1999.6	14.9	13.8	9.5	0.21	16.8	34.49
2100.0	3.19	54.10	2099.5	19.7	16.8	13.4	0.78	21.5	38.69
2200.0	3.85	57.96	2199.3	25.8	20.2	18.5	0.70	27.4	42.56
2300.0	4.02	59.99	2299.1	32.7	23.7	24.4	0.22	34.0	45.83
2400.0	3.74	62.28	2398.9	39.5	27.0	30.3	0.32	40.6	48.34
2500.0	3.49	64.33	2498.7	45.8	29.8	36.0	0.28	46.7	50.33
2600.0	2.84	68.79	2598.5	51.3	32.0	41.0	0.69	52.1	52.01
2700.0	2.42	76.12	2698.4	55.8	33.4	45.4	0.54	56.4	53.61
2800.0	1.36	70.26	2798.3	59.0	34.4	48.5	1.08	59.5	54.72
2900.0	1.20	84.40	2898.3	61.1	34.9	50.7	0.35	61.5	55.50
3000.0	0.68	115.32	2998.3	62.5	34.7	52.3	0.71	62.8	56.43
3100.0	0.66	128.98	3098.3	63.0	34.1	53.3	0.16	63.2	57.39
3200.0	0.55	149.27	3198.3	63.3	33.3	54.0	0.24	63.4	58.31
3300.0	0.62	145.86	3298.3	63.4	32.5	54.5	0.08	63.4	59.23
3400.0	0.63	189.58	3398.3	63.1	31.5	54.7	0.47	63.1	60.10
3500.0	0.79	205.04	3498.3	62.2	30.3	54.3	0.25	62.2	60.86
3600.0	0.90	215.16	3598.3	61.0	29.0	53.6	0.18	61.0	61.56
3700.0	0.60	232.97	3698.3	59.7	28.1	52.7	0.38	59.7	61.97
3769.0	0.88	245.84	3767.3	58.8	27.6	52.0	0.47	58.8	61.99



**Scientific
Drilling**

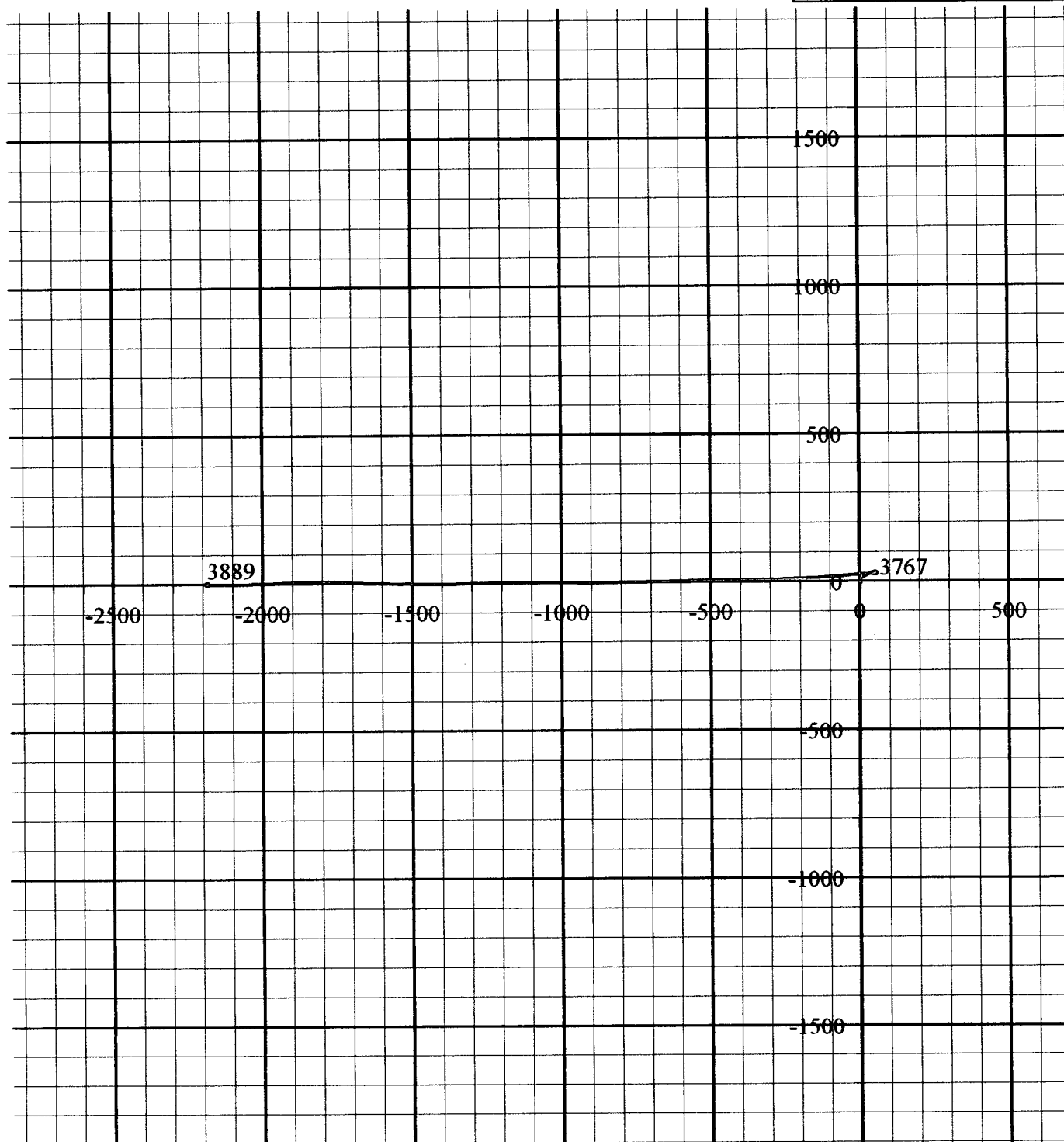
Field: Arrowhead Grayburg
Site: Lea County, NM
Well: AGU #352
Wellpath: HH - Job #32D0703389
Survey: 07/28/03-08/05/03



Azimuths to True North
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 9/17/2003
Model: Wmm_95

South(-)/North(+) [500ft/in]



West(-)/East(+) [500ft/in]