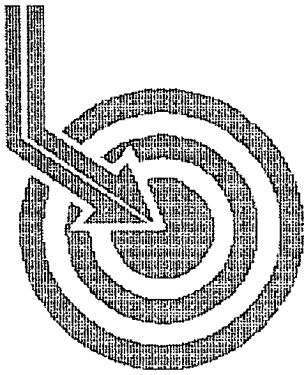


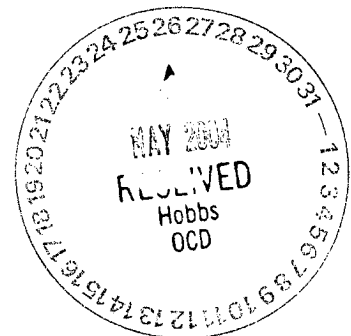


Scientific Drilling

SUR: J-35-17s-34e, 1980/S & 1785/E
BHL: L-36-17s-34e, 1979/S & 526/W
API # 30-025-20781

CHEVRONTEXACO

Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: DH - Job #32D0304179
Survey: 3/15/04-3/24/04



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

David Neely Company Representative

Notorized this date 16th of April, 2004.

Deborah Sue Bynum
Notary Signature

County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Vacuum Goriotta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: VH - Job #32K0304182

Date: 4/16/2004 Time: 10:57:37 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 03/16/04
KSRG 0'-5740'
Company: Scientific Drilling
Tool: Keeper, Keeper Gyro

Start Date: 3/16/2004
Engineer: Guebara/Drake/Gonzales
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	359.49	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.19	97.95	100.0	0.2	0.0	0.2	0.19	0.2	97.95
200.0	0.17	93.52	200.0	0.5	-0.1	0.5	0.02	0.5	96.58
300.0	0.05	81.94	300.0	0.7	-0.1	0.7	0.12	0.7	94.96
400.0	0.06	207.73	400.0	0.7	-0.1	0.7	0.10	0.7	98.14
500.0	0.38	233.58	500.0	0.4	-0.3	0.4	0.33	0.5	130.81
600.0	0.27	260.14	600.0	-0.1	-0.6	-0.1	0.18	0.6	190.15
700.0	0.37	243.93	700.0	-0.6	-0.8	-0.6	0.13	1.0	219.43
800.0	0.35	192.34	800.0	-1.0	-1.2	-1.0	0.31	1.6	219.24
900.0	0.35	242.59	900.0	-1.3	-1.6	-1.3	0.30	2.1	218.77
1000.0	0.36	186.85	1000.0	-1.6	-2.1	-1.6	0.33	2.7	217.85
1100.0	0.38	192.69	1100.0	-1.7	-2.7	-1.7	0.04	3.2	212.48
1200.0	0.55	119.49	1200.0	-1.4	-3.3	-1.4	0.57	3.6	202.94
1300.0	0.66	88.08	1300.0	-0.4	-3.5	-0.4	0.34	3.5	186.48
1400.0	0.59	101.68	1400.0	0.7	-3.6	0.7	0.16	3.7	169.25
1500.0	0.78	68.45	1500.0	1.8	-3.4	1.8	0.43	3.9	152.16
1600.0	0.56	101.41	1600.0	2.9	-3.3	2.9	0.43	4.4	138.31
1700.0	0.84	75.48	1700.0	4.1	-3.2	4.1	0.42	5.2	127.87
1800.0	0.74	73.74	1799.9	5.4	-2.8	5.4	0.10	6.1	117.52
1900.0	0.30	59.82	1899.9	6.3	-2.5	6.3	0.45	6.8	111.87
2000.0	0.48	40.88	1999.9	6.8	-2.1	6.8	0.22	7.1	107.00
2100.0	0.41	80.52	2099.9	7.4	-1.7	7.4	0.31	7.6	102.92
2200.0	0.75	42.76	2199.9	8.2	-1.2	8.2	0.49	8.3	98.05
2300.0	0.86	43.51	2299.9	9.2	-0.1	9.2	0.11	9.2	90.86
2400.0	1.08	47.62	2399.9	10.4	1.0	10.4	0.23	10.4	84.28
2500.0	1.41	55.11	2499.9	12.1	2.4	12.1	0.37	12.3	78.87
2600.0	1.90	46.06	2599.8	14.3	4.2	14.3	0.55	14.9	73.51
2700.0	2.59	46.50	2699.8	17.1	6.9	17.1	0.69	18.5	67.95
2800.0	2.80	54.04	2799.7	20.8	9.9	20.8	0.41	23.0	64.43
2900.0	3.19	57.16	2899.5	25.1	12.9	25.1	0.42	28.2	62.82
3000.0	2.92	57.49	2999.4	29.6	15.8	29.6	0.27	33.5	61.94
3100.0	2.92	59.33	3099.2	33.9	18.4	33.9	0.09	38.6	61.48
3200.0	2.19	58.03	3199.1	37.7	20.7	37.7	0.73	43.0	61.20
3300.0	2.00	65.23	3299.1	40.9	22.5	40.9	0.32	46.7	61.22
3400.0	1.55	64.92	3399.0	43.7	23.8	43.7	0.45	49.8	61.46
3500.0	1.47	61.18	3499.0	46.1	25.0	46.1	0.13	52.4	61.54
3600.0	1.28	57.78	3599.0	48.1	26.2	48.1	0.21	54.8	61.46
3700.0	1.42	68.51	3698.9	50.2	27.2	50.2	0.29	57.1	61.54
3800.0	1.28	60.36	3798.9	52.4	28.2	52.4	0.24	59.5	61.66
3900.0	1.37	70.07	3898.9	54.5	29.2	54.5	0.24	61.8	61.80
4000.0	1.04	57.44	3998.9	56.3	30.1	56.3	0.42	63.9	61.89
4100.0	0.87	50.92	4098.8	57.7	31.1	57.7	0.20	65.5	61.70
4200.0	1.10	47.61	4198.8	59.0	32.2	59.0	0.24	67.2	61.38
4300.0	0.88	53.35	4298.8	60.3	33.3	60.3	0.24	68.9	61.10
4400.0	0.83	34.30	4398.8	61.3	34.3	61.3	0.29	70.3	60.75
4500.0	0.87	52.24	4498.8	62.3	35.4	62.3	0.27	71.7	60.41
4600.0	0.78	38.75	4598.8	63.4	36.4	63.4	0.21	73.1	60.12
4700.0	1.03	46.52	4698.8	64.5	37.6	64.5	0.28	74.6	59.77
4800.0	0.84	61.26	4798.8	65.7	38.5	65.7	0.31	76.2	59.63



Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Vacuum Goriotta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: VH - Job #32K0304182

Date: 4/16/2004 Time: 10:57:37 Page: 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)
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
4900.0	0.86	50.93	4898.7	67.0	39.4	67.0	0.15	77.7	59.56
5000.0	0.70	86.95	4998.7	68.2	39.9	68.2	0.51	79.0	59.68
5100.0	0.59	126.32	5098.7	69.2	39.6	69.2	0.45	79.7	60.22
5200.0	0.96	107.50	5198.7	70.4	39.0	70.4	0.44	80.5	61.00
5300.0	0.86	116.31	5298.7	71.9	38.4	71.9	0.17	81.5	61.86
5400.0	0.67	94.30	5398.7	73.1	38.1	73.1	0.35	82.4	62.50
5500.0	0.70	97.06	5498.7	74.3	37.9	74.3	0.04	83.4	62.95
5600.0	0.44	80.27	5598.7	75.3	37.9	75.3	0.31	84.3	63.26
5700.0	0.63	100.66	5698.7	76.2	37.9	76.2	0.27	85.1	63.56
5740.0	0.88	74.02	5738.7	76.7	37.9	76.7	1.06	85.6	63.69



Scientific
Drilling

Scientific Drilling Survey Report

Company: CHEVRONTXACO
Field: Vacuum Goriotta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: DH - Job #32D0304179

Date: 4/16/2004 Time: 11:06:15 Page: 1
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 3/15/04-3/24/04
MWD 5752'-8073'
Company: Scientific Drilling
Tool: MWD.MWD

Start Date: 3/15/2004
Engineer: Lamb/Melendez/Hendrix
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
5740.0	0.88	74.02	5738.7	76.7	37.9	76.7	0.00	85.6	63.69
5752.0	0.88	74.02	5750.7	76.9	38.0	76.9	0.00	85.8	63.71
5797.0	18.03	91.06	5794.9	84.3	38.0	84.3	38.20	92.4	65.75
5829.0	30.51	89.56	5824.0	97.4	37.9	97.4	39.04	104.5	68.72
5860.0	42.30	92.38	5848.9	115.7	37.6	115.7	38.40	121.7	72.02
5892.0	54.43	95.80	5870.2	139.5	35.8	139.5	38.73	144.1	75.62
5924.0	66.57	95.54	5885.9	167.2	33.0	167.2	37.94	170.4	78.82
5929.0	68.59	95.36	5887.8	171.8	32.6	171.8	40.54	174.9	79.25
5954.0	78.26	95.01	5894.9	195.6	30.4	195.6	38.70	198.0	81.15
5986.0	85.21	93.52	5899.5	227.2	28.1	227.2	22.20	228.9	82.95
6017.0	85.82	93.34	5901.9	258.1	26.2	258.1	2.05	259.4	84.19
6049.0	85.56	94.04	5904.3	289.9	24.2	289.9	2.33	290.9	85.23
6081.0	89.60	94.48	5905.7	321.8	21.8	321.8	12.70	322.5	86.12
6113.0	89.87	95.10	5905.8	353.7	19.1	353.7	2.11	354.2	86.90
6144.0	93.91	94.92	5904.8	384.5	16.4	384.5	13.05	384.9	87.55
6176.0	94.26	93.61	5902.5	416.4	14.1	416.4	4.23	416.6	88.06
6207.0	93.21	94.57	5900.5	447.2	11.9	447.2	4.58	447.4	88.48
6239.0	92.42	94.57	5898.9	479.1	9.3	479.1	2.47	479.2	88.89
6271.0	91.98	94.66	5897.7	510.9	6.7	510.9	1.40	511.0	89.24
6303.0	89.60	94.13	5897.3	542.8	4.3	542.8	7.62	542.9	89.55
6334.0	89.78	94.13	5897.4	573.8	2.1	573.8	0.58	573.8	89.79
6366.0	91.01	90.35	5897.2	605.7	0.8	605.7	12.42	605.7	89.92
6398.0	91.89	90.35	5896.4	637.7	0.6	637.7	2.75	637.7	89.94
6430.0	89.87	90.44	5895.9	669.7	0.4	669.7	6.32	669.7	89.97
6462.0	91.80	90.35	5895.5	701.7	0.2	701.7	6.04	701.7	89.99
6493.0	94.26	90.18	5893.8	732.7	0.0	732.7	7.95	732.7	90.00
6525.0	94.18	89.91	5891.5	764.6	0.0	764.6	0.88	764.6	90.00
6557.0	94.35	90.00	5889.1	796.5	0.0	796.5	0.60	796.5	90.00
6594.0	94.00	89.74	5886.4	833.4	0.1	833.4	1.18	833.4	89.99
6620.0	92.68	88.86	5884.9	859.3	0.4	859.3	6.10	859.3	89.97
6651.0	92.86	89.74	5883.4	890.3	0.8	890.3	2.89	890.3	89.95
6683.0	91.89	90.88	5882.0	922.3	0.6	922.3	4.68	922.3	89.96
6715.0	92.24	90.71	5880.9	954.2	0.2	954.2	1.22	954.2	89.99
6747.0	91.28	90.79	5879.9	986.2	-0.2	986.2	3.01	986.2	90.01
6779.0	93.74	90.35	5878.5	1018.2	-0.5	1018.2	7.81	1018.2	90.03
6810.0	92.42	89.65	5876.8	1049.1	-0.5	1049.1	4.82	1049.1	90.03
6842.0	91.63	89.12	5875.7	1081.1	-0.2	1081.1	2.97	1081.1	90.01
6874.0	90.75	89.12	5875.1	1113.1	0.3	1113.1	2.75	1113.1	89.99
6905.0	92.24	89.04	5874.2	1144.1	0.8	1144.1	4.81	1144.1	89.96
6937.0	91.63	89.12	5873.2	1176.1	1.3	1176.1	1.92	1176.1	89.94
6969.0	92.68	90.35	5872.0	1208.1	1.4	1208.1	5.05	1208.1	89.93
7000.0	92.68	90.18	5870.5	1239.0	1.3	1239.0	0.55	1239.0	89.94
7032.0	92.86	90.44	5869.0	1271.0	1.1	1271.0	0.99	1271.0	89.95
7063.0	92.33	90.44	5867.6	1301.9	0.9	1301.9	1.71	1301.9	89.96
7095.0	91.19	89.39	5866.6	1333.9	0.9	1333.9	4.84	1333.9	89.96
7127.0	90.31	88.68	5866.2	1365.9	1.5	1365.9	3.53	1365.9	89.94
7159.0	91.10	90.09	5865.8	1397.9	1.8	1397.9	5.05	1397.9	89.93
7191.0	91.54	90.88	5865.0	1429.9	1.6	1429.9	2.83	1429.9	89.94
7222.0	90.92	90.88	5864.4	1460.9	1.1	1460.9	2.00	1460.9	89.96



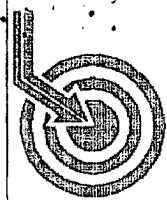
Scientific Drilling Survey Report

Company: CHEVRONTEXACO
Field: Vacuum Glorieta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: DH - Job #32D0304179

Date: 4/16/2004 Time: 11:06:15 Page: 2
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)
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
7254.0	91.36	91.14	5863.7	1492.9	0.5	1492.9	1.60	1492.9	89.98
7286.0	90.04	91.14	5863.3	1524.9	-0.1	1524.9	4.12	1524.9	90.00
7318.0	90.31	91.23	5863.2	1556.9	-0.8	1556.9	0.89	1556.9	90.03
7349.0	89.78	90.79	5863.2	1587.9	-1.3	1587.9	2.22	1587.9	90.05
7380.0	88.46	89.65	5863.7	1618.9	-1.5	1618.9	5.63	1618.9	90.05
7412.0	87.76	89.74	5864.7	1650.8	-1.3	1650.8	2.21	1650.8	90.04
7444.0	89.78	90.53	5865.4	1682.8	-1.4	1682.8	6.78	1682.8	90.05
7474.0	90.13	90.44	5865.5	1712.8	-1.6	1712.8	1.20	1712.8	90.05
7506.0	90.31	90.27	5865.3	1744.8	-1.8	1744.8	0.77	1744.8	90.06
7537.0	88.81	89.39	5865.6	1775.8	-1.7	1775.8	5.61	1775.8	90.06
7569.0	89.34	89.47	5866.1	1807.8	-1.4	1807.8	1.68	1807.8	90.04
7600.0	91.19	89.74	5865.9	1838.8	-1.2	1838.8	6.03	1838.8	90.04
7632.0	89.43	88.42	5865.8	1870.8	-0.7	1870.8	6.87	1870.8	90.02
7663.0	91.54	89.47	5865.5	1901.8	-0.1	1901.8	7.60	1901.8	90.00
7696.0	92.86	89.39	5864.2	1934.8	0.2	1934.8	4.01	1934.8	89.99
7728.0	91.63	88.68	5863.0	1966.7	0.8	1966.7	4.44	1966.7	89.98
7759.0	92.07	88.86	5862.0	1997.7	1.4	1997.7	1.53	1997.7	89.96
7791.0	92.24	88.86	5860.8	2029.7	2.1	2029.7	0.53	2029.7	89.94
7823.0	92.59	88.51	5859.4	2061.7	2.8	2061.7	1.55	2061.7	89.92
7855.0	92.33	91.58	5858.1	2093.6	2.8	2093.6	9.62	2093.6	89.92
7886.0	91.98	90.97	5856.9	2124.6	2.1	2124.6	2.27	2124.6	89.94
7918.0	89.34	90.79	5856.5	2156.6	1.6	2156.6	8.27	2156.6	89.96
7950.0	86.53	90.53	5857.7	2188.6	1.2	2188.6	8.82	2188.6	89.97
7982.0	87.05	90.71	5859.5	2220.5	0.9	2220.5	1.72	2220.5	89.98
8013.0	86.44	91.06	5861.2	2251.5	0.4	2251.5	2.27	2251.5	89.99
8028.0	87.05	91.41	5862.1	2266.4	0.1	2266.4	4.69	2266.4	90.00
8073.0	87.05	91.41	5864.4	2311.4	-1.0	2311.4	0.00	2311.4	90.03



**Scientific
Drilling**

Field: Vacuum Glorietta West
Site: Lea County, NM
Well: VGWU #83H
Wellpath: DH - Job #32D0304179
Survey: 3/15/04-3/24/04



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 4/16/2004
Model: Wmm_95

