Scientific Drilling

SUR: P-1-18s-34e, 660/S & 660/E
BHL: I-1-18s-34e, 2452/S & 345/E
API # 30-025-02206

CHEVRON

Field: Vacuum Grayburg San Andres
Site: Lea County, NM
Well: VGSAU #13H
Wellpath: DH - Job #32D1105859
Survey: 11/22/05-12/01/05

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

.....Company Representative

Notorized this date 19th of January, 2006.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas

NOTARY PUBLIC STATE OF TEXAS
DEBORAH SUE BYNUM
Notary Public, State of Texas
My Commission Expires
5/9/08

Scientific Drilling

Scientific Drilling International
Survey Report

Company:	CHEVRON	**Date:**	1/19/2006	**Time:** 18:31:33	**Page:** 1
Field:	Vacuum Grayburg San Andres	**Co-ordinate(NE) Reference:**	Site: Lea County, NM, Grid North		
Site:	Lea County, NM	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	VGSAU #13H	**Section (VS) Reference:**	Well (0.00N,0.00E,10.00Azi)		
Wellpath:	VH - Job #32K1105822	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey:	11/09/05 KSRG 0'-4695'	**Start Date:**	11/9/2005
Company:	Scientific Drilling Internatio	**Engineer:**	Gonzales w/P&M
Tool:	Keeper;Keeper Gyro	**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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.08	324.77	100.00	0.05	0.06	-0.04	0.08	0.07	324.77
200.00	0.14	355.94	200.00	0.22	0.24	-0.09	0.08	0.25	339.29
300.00	0.03	165.75	300.00	0.31	0.33	-0.09	0.17	0.34	344.63
400.00	0.07	119.35	400.00	0.27	0.28	-0.03	0.05	0.28	353.47
500.00	0.07	346.04	500.00	0.30	0.31	0.01	0.13	0.31	1.27
600.00	0.10	53.11	600.00	0.42	0.42	0.06	0.10	0.42	8.42
700.00	0.05	320.62	700.00	0.51	0.50	0.10	0.11	0.51	11.65
800.00	0.18	17.36	800.00	0.70	0.69	0.12	0.16	0.70	10.15
900.00	0.19	36.29	900.00	1.00	0.97	0.27	0.06	1.01	15.43
1000.00	0.25	39.25	1000.00	1.34	1.27	0.50	0.06	1.37	21.60
1100.00	0.16	47.68	1100.00	1.64	1.54	0.75	0.09	1.71	25.88
1200.00	0.24	41.33	1200.00	1.93	1.79	0.99	0.08	2.04	28.90
1300.00	0.41	27.12	1300.00	2.45	2.26	1.29	0.19	2.60	29.65
1400.00	0.86	15.61	1399.99	3.54	3.31	1.65	0.47	3.70	26.58
1500.00	0.97	14.33	1499.98	5.13	4.85	2.07	0.11	5.27	23.07
1600.00	0.98	23.18	1599.96	6.81	6.45	2.61	0.15	6.96	22.03
1700.00	1.04	33.41	1699.95	8.48	8.00	3.45	0.19	8.71	23.32
1800.00	1.07	34.33	1799.93	10.16	9.53	4.47	0.03	10.52	25.15
1900.00	1.06	29.17	1899.91	11.88	11.11	5.45	0.10	12.37	26.14
2000.00	0.90	27.58	1999.90	13.51	12.61	6.27	0.16	14.08	26.42
2100.00	0.92	29.48	2099.88	15.01	14.00	7.02	0.04	15.67	26.64
2200.00	0.89	33.87	2199.87	16.48	15.35	7.85	0.08	17.24	27.09
2300.00	1.03	30.65	2299.86	18.03	16.77	8.74	0.15	18.91	27.54
2400.00	0.86	35.65	2399.84	19.55	18.15	9.64	0.19	20.55	27.97
2500.00	0.95	37.85	2499.83	20.96	19.41	10.58	0.10	22.11	28.60
2600.00	0.94	30.10	2599.82	22.46	20.78	11.50	0.13	23.75	28.97
2700.00	0.91	32.37	2699.81	23.96	22.16	12.34	0.05	25.36	29.12
2800.00	0.91	35.19	2799.79	25.42	23.48	13.22	0.04	26.95	29.39
2900.00	0.80	22.57	2899.78	26.82	24.77	13.95	0.22	28.43	29.39
3000.00	0.67	18.06	2999.77	28.08	25.97	14.40	0.14	29.70	29.00
3100.00	0.55	1.80	3099.77	29.13	27.01	14.60	0.21	30.70	28.39
3200.00	0.82	358.58	3199.76	30.31	28.20	14.59	0.27	31.75	27.36
3300.00	0.94	3.65	3299.75	31.82	29.74	14.63	0.14	33.14	26.19
3400.00	0.98	358.11	3399.73	33.48	31.41	14.65	0.10	34.66	25.01
3500.00	0.99	2.21	3499.72	35.17	33.13	14.66	0.07	36.22	23.87
3600.00	0.85	349.34	3599.71	36.72	34.72	14.55	0.25	37.65	22.74
3700.00	1.08	335.86	3699.69	38.19	36.31	14.03	0.32	38.93	21.13
3800.00	1.36	329.38	3799.67	39.87	38.19	13.04	0.31	40.35	18.85
3900.00	1.71	330.50	3899.63	41.93	40.51	11.70	0.35	42.17	16.11
4000.00	2.15	324.86	3999.58	44.40	43.34	9.89	0.48	44.46	12.85
4100.00	2.72	320.99	4099.49	47.28	46.72	7.31	0.59	47.29	8.90
4200.00	2.83	328.54	4199.37	50.69	50.67	4.53	0.38	50.87	5.11
4300.00	2.82	328.51	4299.25	54.38	54.87	1.96	0.01	54.91	2.04
4400.00	3.15	331.44	4399.11	58.37	59.38	-0.64	0.36	59.39	359.38
4500.00	3.69	333.76	4498.93	63.11	64.68	-3.38	0.56	64.77	357.01
4600.00	4.07	337.55	4598.71	68.70	70.85	-6.15	0.46	71.12	355.04
4695.00	3.82	336.40	4693.48	74.19	76.87	-8.71	0.28	77.36	353.54

Scientific Drilling

Scientific Drilling International
Survey Report

Company:	CHEVRON	**Date:** 1/19/2006	**Time:** 18:30:51	**Page:**	1
Field:	Vacuum Grayburg San Andres	**Co-ordinate(NE) Reference:**	Site: Lea County, NM, Grid North		
Site:	Lea County, NM	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	VGSAU #13H	**Section (VS) Reference:**	Well (0.00N,0.00E,10.00Azi)		
Wellpath:	DH - Job #32D1105859	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey:	11/22/05-12/01/05 MWD 4182'-6170'	**Start Date:**	11/22/2005
Company:	Scientific Drilling Internatio	**Engineer:**	Melendez/Houston MWD
Tool:	MWD;MWD	**Tied-to:**	User Defined

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4135.00	2.75	323.70	4134.45	48.40	48.04	6.29	0.00	48.45	7.46
4182.00	9.57	2.43	4181.16	53.06	52.86	5.79	16.21	53.18	6.25
4213.00	9.82	5.96	4211.72	58.25	58.06	6.17	2.08	58.39	6.07
4245.00	9.49	7.31	4243.27	63.61	63.39	6.79	1.25	63.76	6.11
4276.00	9.60	7.50	4273.84	68.75	68.49	7.45	0.37	68.90	6.21
4307.00	9.56	4.17	4304.41	73.89	73.62	7.98	1.79	74.05	6.18
4335.00	9.57	4.75	4332.02	78.52	78.26	8.34	0.35	78.70	6.08
4367.00	14.18	8.38	4363.33	85.09	84.79	9.13	14.59	85.28	6.15
4398.00	24.57	10.64	4392.53	95.36	94.91	10.88	33.60	95.53	6.54
4429.00	35.59	11.05	4419.31	110.87	110.15	13.81	35.55	111.01	7.15
4460.00	46.43	11.00	4442.67	131.18	130.08	17.69	34.97	131.28	7.74
4491.00	54.78	11.77	4462.33	155.11	153.54	22.42	27.00	155.17	8.31
4523.00	61.76	13.20	4479.15	182.28	180.10	28.32	22.14	182.31	8.94
4554.00	69.25	14.39	4491.99	210.41	207.47	35.05	24.41	210.41	9.59
4585.00	76.89	14.06	4501.01	239.96	236.20	42.33	24.67	239.96	10.16
4617.00	84.28	13.35	4506.24	271.44	266.85	49.80	23.20	271.45	10.57
4648.00	91.01	13.06	4507.52	302.35	296.98	56.87	21.73	302.38	10.84
4679.00	96.84	10.70	4505.40	333.24	327.23	63.24	20.28	333.29	10.94
4711.00	96.40	11.02	4501.71	365.03	358.45	69.23	1.70	365.07	10.93
4742.00	97.65	9.38	4497.92	395.79	388.73	74.67	6.62	395.84	10.87
4774.00	98.85	7.87	4493.32	427.45	420.04	79.42	5.99	427.48	10.71
4805.00	98.64	7.69	4488.61	458.07	450.40	83.57	0.89	458.08	10.51
4836.00	98.30	7.20	4484.04	488.70	480.80	87.54	1.91	488.71	10.32
4867.00	92.83	7.16	4481.04	519.50	511.40	91.40	17.65	519.50	10.13
4898.00	92.83	6.39	4479.51	550.42	542.15	95.05	2.48	550.42	9.94
4930.00	94.41	9.97	4477.49	582.33	573.75	99.59	12.21	582.33	9.85
4961.00	94.27	8.93	4475.14	613.24	604.24	104.67	3.38	613.24	9.83
4993.00	93.77	8.91	4472.90	645.15	635.78	109.62	1.56	645.16	9.78
5024.00	95.89	11.76	4470.29	676.04	666.16	115.16	11.43	676.04	9.81
5055.00	94.23	10.38	4467.55	706.91	696.46	121.09	6.95	706.91	9.86
5087.00	94.40	10.40	4465.15	738.82	727.85	126.84	0.53	738.82	9.89
5118.00	95.56	10.86	4462.46	769.70	758.20	132.54	4.02	769.70	9.92
5149.00	95.62	11.54	4459.44	800.55	788.47	138.53	2.19	800.55	9.96
5180.00	94.45	11.09	4456.71	831.42	818.75	144.59	4.04	831.42	10.02
5212.00	94.95	9.13	4454.09	863.31	850.14	150.19	6.30	863.31	10.02
5243.00	95.59	9.83	4451.25	894.17	880.59	155.27	3.05	894.17	10.00
5274.00	94.68	9.36	4448.47	925.05	911.03	160.42	3.30	925.05	9.99
5304.00	91.85	9.41	4446.76	955.00	940.58	165.30	9.43	955.00	9.97
5336.00	91.88	8.67	4445.72	986.97	972.17	170.33	2.31	986.97	9.94
5367.00	93.02	9.84	4444.40	1017.94	1002.73	175.31	5.27	1017.94	9.92
5398.00	93.09	10.71	4442.74	1048.90	1033.19	180.83	2.81	1048.90	9.93
5429.00	92.63	10.49	4441.20	1079.86	1063.63	186.53	1.64	1079.86	9.95
5460.00	92.72	10.59	4439.75	1110.82	1094.07	192.19	0.43	1110.82	9.96
5491.00	95.05	11.96	4437.65	1141.74	1124.40	198.24	8.71	1141.74	10.00
5523.00	95.11	12.45	4434.82	1173.59	1155.55	204.97	1.54	1173.59	10.06
5554.00	95.01	12.44	4432.08	1204.44	1185.71	211.63	0.32	1204.44	10.12
5585.00	94.17	10.41	4429.60	1235.33	1215.99	217.75	7.07	1235.34	10.15
5617.00	94.07	10.67	4427.30	1267.25	1247.37	223.59	0.87	1267.25	10.16
5648.00	93.53	10.69	4425.25	1298.18	1277.77	229.32	1.74	1298.18	10.17

Scientific Drilling

Scientific Drilling International
Survey Report

Company:	CHEVRON	**Date:** 1/19/2006	**Time:** 18:30:51	**Page:**	2
Field:	Vacuum Grayburg San Andres	**Co-ordinate(NE) Reference:**	Site: Lea County, NM, Grid North		
Site:	Lea County, NM	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	VGSAU #13H	**Section (VS) Reference:**	Well (0.00N,0.00E,10.00Azi)		
Wellpath:	DH - Job #32D1105859	**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
5679.00	92.25	8.77	4423.68	1329.13	1308.28	234.55	7.44	1329.14	10.16
5710.00	92.22	8.84	4422.48	1360.10	1338.89	239.29	0.25	1360.11	10.13
5742.00	92.05	9.74	4421.28	1392.08	1370.45	244.46	2.86	1392.08	10.11
5773.00	91.28	10.08	4420.38	1423.07	1400.97	249.79	2.72	1423.07	10.11
5804.00	92.76	10.18	4419.29	1454.05	1431.47	255.24	4.79	1454.05	10.11
5835.00	92.92	10.43	4417.75	1485.01	1461.93	260.78	0.96	1485.01	10.11
5866.00	91.24	9.67	4416.63	1515.99	1492.44	266.18	5.95	1515.99	10.11
5898.00	90.37	8.54	4416.18	1547.98	1524.03	271.24	4.46	1547.98	10.09
5929.00	90.34	8.92	4415.99	1578.97	1554.67	275.95	1.23	1578.97	10.07
5960.00	90.77	8.43	4415.69	1609.96	1585.31	280.63	2.10	1609.96	10.04
5992.00	90.97	8.88	4415.20	1641.95	1616.95	285.44	1.54	1641.95	10.01
6023.00	91.31	8.96	4414.58	1672.93	1647.56	290.25	1.13	1672.93	9.99
6054.00	92.15	8.71	4413.65	1703.91	1678.18	295.00	2.83	1703.91	9.97
6086.00	89.23	9.99	4413.26	1735.91	1709.75	300.20	9.96	1735.91	9.96
6117.00	89.13	10.05	4413.71	1766.90	1740.27	305.60	0.38	1766.90	9.96
6131.00	88.39	10.11	4414.01	1780.90	1754.06	308.05	5.30	1780.90	9.96
6170.00	88.39	10.11	4415.11	1819.88	1792.43	314.89	0.00	1819.88	9.96

2452'S 345'E

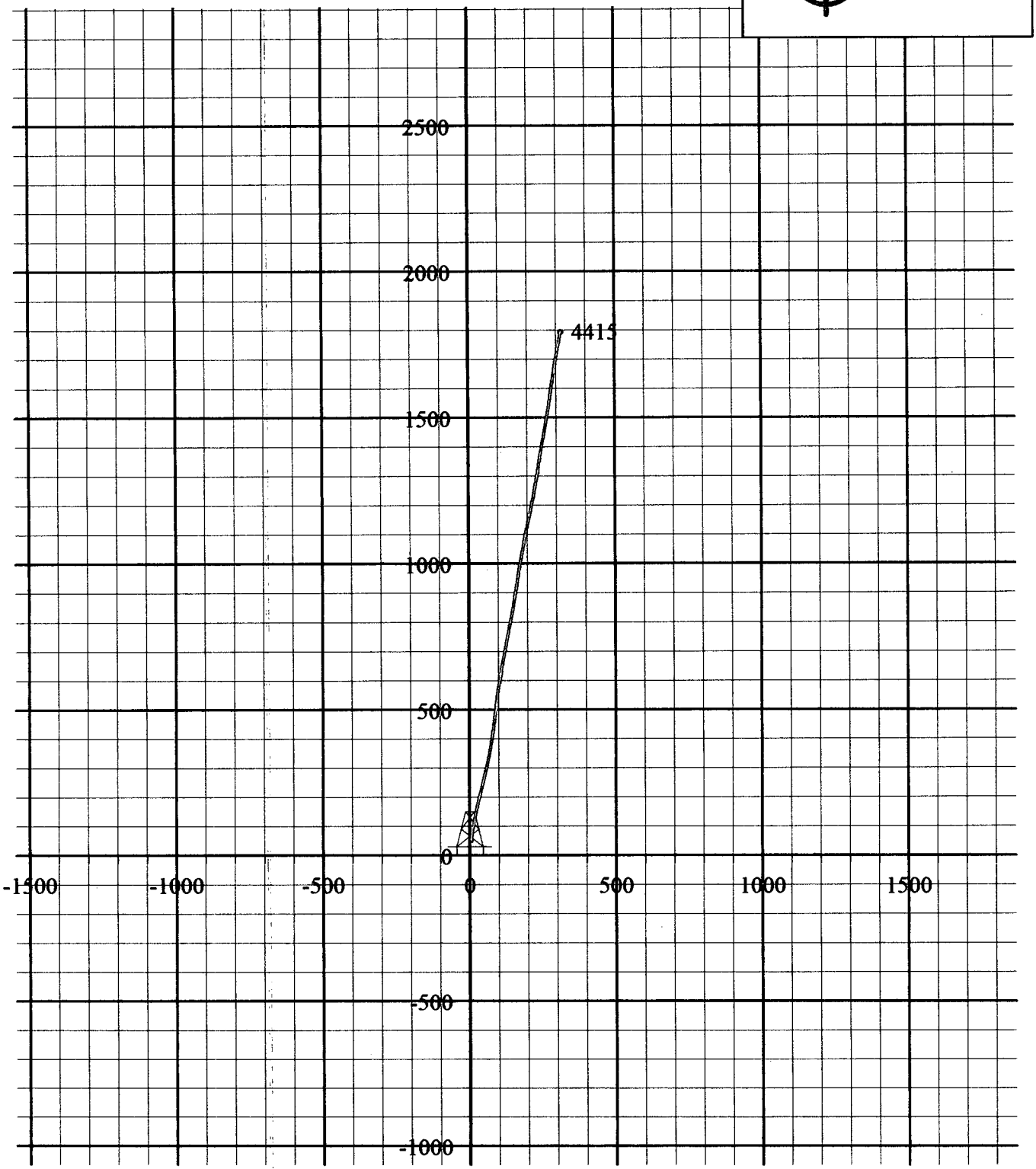
Scientific Drilling

Field: Vacuum Grayburg San Andres
Site: Lea County, NM
Well: VGSAU #13H
Wellpath: DH - Job #32D1105859
Survey: 11/22/05-12/01/05

G/T/M

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

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 1/19/2006
Model: igrf2000



South(-)/North(+) [200ft/in]

West(-)/East(+) [200ft/in]