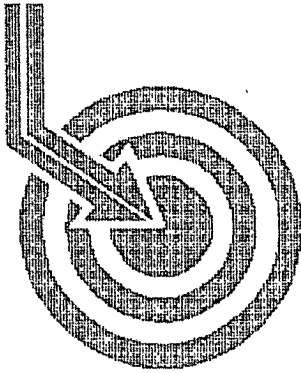




Scientific Drilling

CIMAREX ENERGY

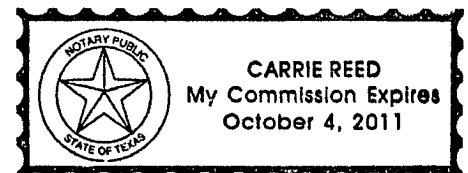
Field: Delaware
Site: Eddy County, NM
Well: Marquardt Federal #8
Wellpath: VH - Job #32K1108902
Survey: 11/12/08

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

.....Luha.....Company Representative

Notorized this date 22nd of December, 2008.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific
Drilling

Scientific Drilling International Survey Report

Company: CIMAREX ENERGY
Field: Delaware
Site: Eddy County, NM
Well: Marquardt Federal #8
Wellpath: VH - Job #32K1108902

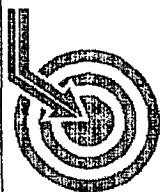
Date: 12/17/2008 **Time:** 14:57:56 **Page:** 1
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,5.77Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey: 11/12/08
KSRG 0'-2790'
Company: Scientific Drilling Internatio
Tool: Keeper;Keeper Gyro

Start Date: 11/12/2008
Engineer: Garza w/GeoGyro
Tied-to: From Surface

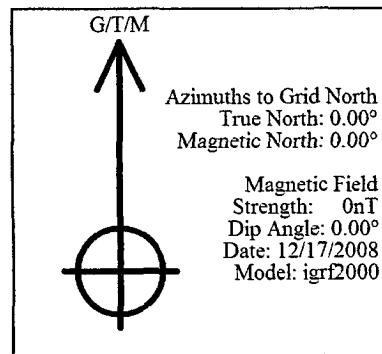
Survey

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	359.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.31	225.74	100.00	-0.21	-0.19	-0.19	0.31	0.27	225.74
200.00	0.54	221.89	200.00	-0.80	-0.73	-0.70	0.23	1.01	223.95
300.00	0.16	219.12	299.99	-1.29	-1.19	-1.10	0.38	1.62	222.93
400.00	0.34	46.69	399.99	-1.19	-1.09	-0.98	0.50	1.47	221.81
500.00	0.23	35.31	499.99	-0.79	-0.73	-0.65	0.12	0.97	221.66
600.00	0.17	222.51	599.99	-0.73	-0.67	-0.63	0.40	0.92	223.18
700.00	0.09	33.69	699.99	-0.78	-0.71	-0.69	0.26	0.99	223.83
800.00	0.21	316.25	799.99	-0.59	-0.52	-0.77	0.21	0.93	236.10
900.00	0.33	199.55	899.99	-0.75	-0.66	-0.99	0.46	1.19	236.54
1000.00	0.34	324.01	999.99	-0.81	-0.69	-1.26	0.59	1.44	241.45
1100.00	0.43	270.73	1099.99	-0.62	-0.44	-1.81	0.35	1.87	256.29
1200.00	0.35	261.08	1199.99	-0.73	-0.48	-2.49	0.10	2.54	258.98
1300.00	0.32	139.20	1299.99	-1.00	-0.74	-2.61	0.59	2.71	254.09
1400.00	0.24	32.33	1399.99	-1.01	-0.78	-2.31	0.45	2.44	251.42
1500.00	0.46	116.65	1499.98	-0.96	-0.78	-1.84	0.50	2.00	247.04
1600.00	0.30	109.04	1599.98	-1.17	-1.05	-1.24	0.17	1.62	229.77
1700.00	1.16	97.07	1699.97	-1.25	-1.26	0.01	0.87	1.26	179.33
1800.00	1.06	115.94	1799.95	-1.59	-1.79	1.85	0.38	2.57	133.97
1900.00	1.35	103.97	1899.93	-2.08	-2.47	3.83	0.38	4.56	122.90
2000.00	0.95	91.09	1999.91	-2.18	-2.77	5.80	0.47	6.43	115.58
2100.00	1.24	102.95	2099.89	-2.25	-3.03	7.68	0.37	8.26	111.55
2200.00	1.18	100.60	2199.87	-2.47	-3.47	9.75	0.08	10.35	109.57
2300.00	1.07	112.68	2299.85	-2.83	-4.01	11.62	0.26	12.30	109.06
2400.00	0.90	112.42	2399.84	-3.32	-4.67	13.21	0.17	14.01	109.49
2500.00	1.29	105.88	2499.82	-3.75	-5.28	15.02	0.41	15.92	109.38
2600.00	0.80	124.58	2599.80	-4.28	-5.99	16.68	0.59	17.72	109.75
2700.00	0.74	119.86	2699.79	-4.88	-6.70	17.81	0.09	19.03	110.63
2790.00	0.70	119.42	2789.79	-5.34	-7.26	18.79	0.04	20.15	111.13



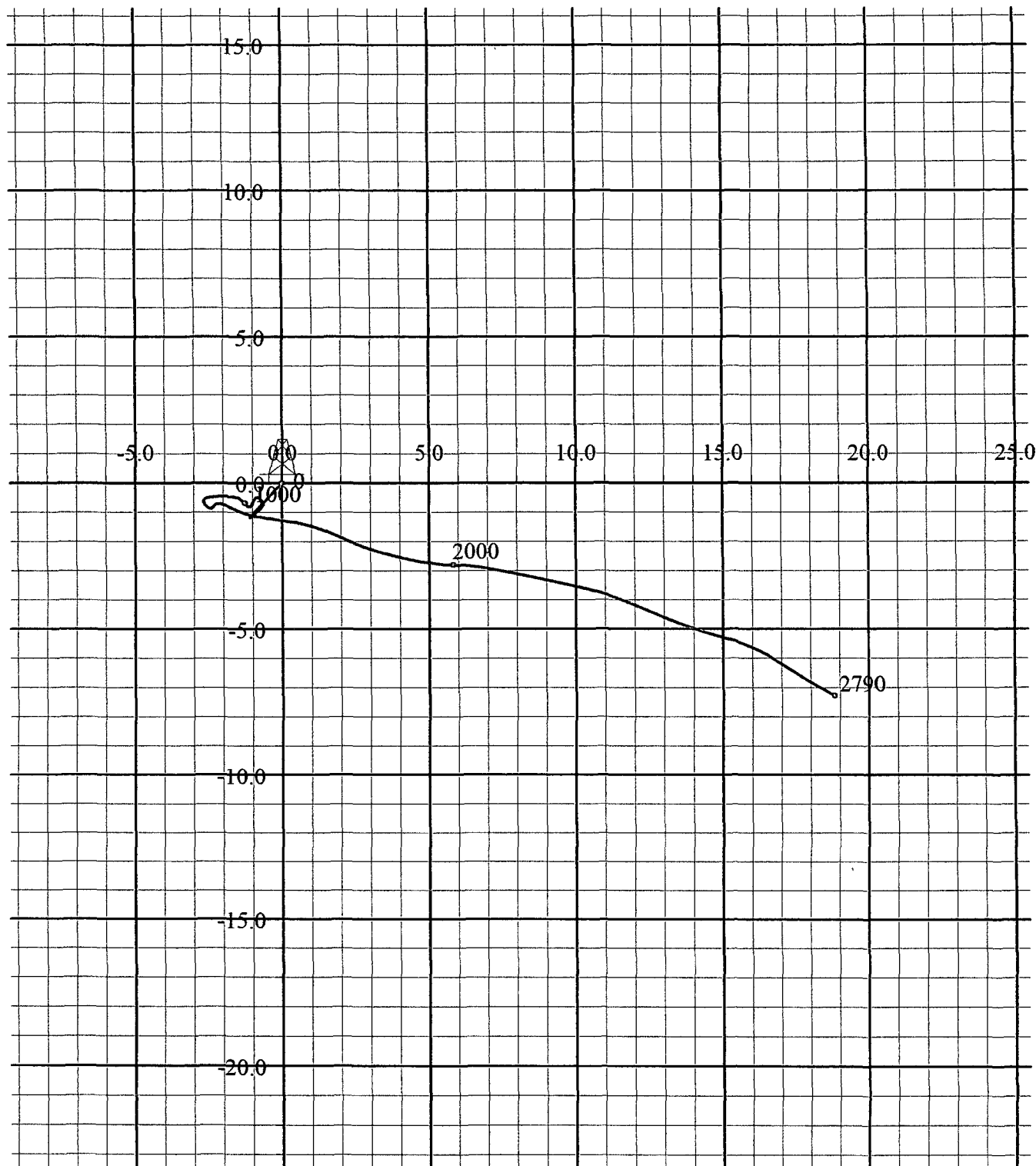
Scientific
Drilling

Field: Delaware
Site: Eddy County, NM
Well: Marquardt Federal #8
Wellpath: VH - Job #32K1108902
Survey: 11/12/08



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

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





Survey Report

MIN. CURVATURE CALCULATIONS (SPE-3362)

OPERATOR: Cimarex
WELL: Marquardt 1 FED #8
LOCATION: 0

START: 11/11/2008
FINISH:
JOB #: 2008140

VERTICAL SECTION AZIMUTH: 5.77
TOTAL CORRECTION: 0.04

STATION NUMBER	SURVEY DEPTH	INC	AZMTH	TVD	N-S	E-W	VERT. SECTION	DLS/ 100
Tie-In	2790	0.70	119.42	2789.79	-7.26	18.79	-5.34	0.00
1	2828	0.70	40.50	2827.79	-7.20	19.14	-5.24	2.34
2	2859	0.90	35.00	2858.78	-6.85	19.41	-4.87	0.69
3	2890	9.60	2.60	2889.63	-4.07	19.66	-2.07	28.56
4	2921	21.20	4.90	2919.46	4.13	20.26	6.14	37.46
5	2953	33.40	4.60	2947.85	18.73	21.47	20.79	38.13
6	2985	42.10	2.00	2973.12	38.27	22.55	40.34	27.63
7	3017	50.00	1.90	2995.32	61.27	23.33	63.31	24.69
8	3048	56.90	3.80	3013.77	86.13	24.59	88.16	22.79
9	3077	61.90	6.20	3028.53	110.98	26.77	113.11	18.65
10	3109	67.60	7.20	3042.17	139.71	30.16	142.04	18.04
11	3141	74.40	7.10	3052.58	169.72	33.92	172.27	21.25
12	3172	80.10	7.10	3059.42	199.71	37.65	202.48	18.39
13	3206	85.50	6.70	3063.68	233.18	41.71	236.20	15.93
14	3238	88.80	7.10	3065.27	264.91	45.54	268.15	10.39
15	3269	88.80	6.90	3065.92	295.67	49.32	299.13	0.65
16	3301	88.80	6.60	3066.59	327.44	53.08	331.12	0.94
17	3332	89.10	5.20	3067.16	358.27	56.27	362.11	4.62
18	3364	89.50	5.10	3067.55	390.14	59.14	394.11	1.29
19	3395	91.30	3.60	3067.33	421.05	61.49	425.10	7.56
20	3427	91.70	3.50	3066.50	452.98	63.47	457.06	1.29
21	3458	91.70	3.70	3065.58	483.90	65.42	488.03	0.64
22	3490	91.70	4.00	3064.63	515.81	67.57	519.99	0.94
23	3521	92.40	3.90	3063.52	546.72	69.70	550.96	2.28
24	3552	92.70	3.60	3062.14	577.62	71.72	581.91	1.37
25	3584	92.10	3.10	3060.80	609.54	73.59	613.85	2.44
26	3615	92.30	3.40	3059.61	640.47	75.35	644.80	1.16
27	3646	91.00	4.30	3058.72	671.38	77.43	675.77	5.10
28	3677	90.40	5.00	3058.34	702.28	79.94	706.76	2.97
29	3710	90.40	5.00	3058.11	735.15	82.82	739.76	0.00
30	3741	89.00	5.50	3058.27	766.02	85.66	770.75	4.80
31	3772	89.30	5.40	3058.73	796.88	88.60	801.75	1.02
32	3803	89.40	5.00	3059.08	827.75	91.41	832.74	1.33
33	3835	88.80	4.70	3059.58	859.63	94.11	864.74	2.10
34	3867	89.50	4.20	3060.06	891.53	96.60	896.72	2.69
35	3898	89.90	4.10	3060.22	922.45	98.84	927.71	1.33



Survey Report

MIN. CURVATURE CALCULATIONS (SPE-3362)

OPERATOR: Cimarex
WELL: Marquardt 1 FED #8
LOCATION: 0

START: 11/11/2008
FINISH:
JOB #: 2008140

VERTICAL SECTION AZIMUTH: 5.77
TOTAL CORRECTION: 0.04

STATION NUMBER	SURVEY DEPTH	INC	AZMTH	TVD	N-S	E-W	VERT. SECTION	DLS/ 100
36	3930	89.40	4.50	3060.42	954.36	101.24	959.70	2.00
37	3962	88.80	4.50	3060.92	986.25	103.75	991.69	1.88
38	3993	89.10	4.30	3061.49	1017.16	106.13	1022.67	1.16
39	4024	89.60	4.30	3061.84	1048.07	108.45	1053.66	1.61
40	4055	89.90	4.50	3061.98	1078.98	110.83	1084.65	1.16
41	4086	89.40	5.50	3062.16	1109.86	113.53	1115.65	3.61
42	4117	89.60	5.20	3062.43	1140.72	116.42	1146.65	1.16
43	4148	89.90	5.10	3062.57	1171.60	119.20	1177.64	1.02
44	4180	90.30	5.40	3062.51	1203.46	122.13	1209.64	1.56
45	4212	90.70	5.60	3062.24	1235.31	125.20	1241.64	1.40
46	4243	91.20	5.60	3061.72	1266.16	128.22	1272.64	1.61
47	4275	91.40	6.00	3061.00	1297.99	131.46	1304.63	1.40
48	4307	90.90	6.70	3060.35	1329.79	135.00	1336.62	2.69
49	4339	90.20	6.80	3060.05	1361.56	138.76	1368.61	2.21
50	4371	90.80	7.00	3059.77	1393.33	142.60	1400.61	1.98
51	4403	91.00	7.20	3059.26	1425.08	146.56	1432.59	0.88
52	4435	90.10	6.60	3058.96	1456.85	150.40	1464.59	3.38
53	4466	89.70	6.10	3059.01	1487.66	153.83	1495.58	2.07
54	4498	89.70	6.00	3059.18	1519.48	157.20	1527.58	0.31
55	4530	89.40	5.60	3059.43	1551.31	160.43	1559.58	1.56
56	4560	89.40	5.50	3059.74	1581.17	163.34	1589.58	0.33
57	4592	89.70	5.30	3060.00	1613.03	166.35	1621.58	1.13
58	4623	89.80	5.00	3060.13	1643.90	169.13	1652.58	1.02
59	4656	90.10	4.20	3060.16	1676.79	171.78	1685.57	2.59
60	4687	90.20	4.10	3060.08	1707.71	174.02	1716.56	0.46
61	4718	91.00	4.10	3059.75	1738.63	176.24	1747.54	2.58
62	4750	91.10	3.60	3059.17	1770.55	178.38	1779.52	1.59
63	4783	91.30	3.50	3058.48	1803.48	180.43	1812.49	0.68
64	4814	91.00	3.80	3057.85	1834.41	182.40	1843.46	1.37
65	4846	90.40	4.70	3057.46	1866.32	184.77	1875.44	3.38
66	4878	89.70	4.60	3057.43	1898.22	187.37	1907.44	2.21
67	4909	89.50	4.20	3057.65	1929.13	189.74	1938.43	1.44
68	4921	89.50	4.20	3057.76	1941.09	190.62	1950.42	0.00
Proj to BIT	4955	89.50	4.20	3058.05	1975.00	193.11	1984.41	0.00