Scientific Drilling

Scientific Drilling International

Survey Completion Report

15175218670-01-00

Company:	CHAPARRAL ENERGY, INC	**Date:** 02/04/2002	**Time:** 11:12:49	**Page:**	1
Field:	HUGOTON	**Co-ordinate(NE) Reference:**	Site: SECTION 5-31S-32W, True North		
Site:	SECTION 5-31S-32W	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	VAUGHN 1-5	**Section (VS) Reference:**	Well (0.00N,0.00E,0.00Azi)		
Wellpath:	ORIGINAL	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey:	ORIGINAL WELL	**Start Date:**	01/24/2002
Company:	Scientific Drilling Internatio	**Engineer:**	Deanna Jacobs
Tool:		**Tied-to:**	From Surface

COPY

Field:	HUGOTON		
Map System:	Universal Transverse Mercator	**Map Zone:**	UTM Zone 31, North 0 to 6E
Geo Datum:	ED50 (International 1924)	**Coordinate System:**	Site Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	igrf2000

Site:	SECTION 5-31S-32W				
	SEWARD COUNTY KANSAS				
Site Position:		**Northing:**	ft	**Latitude:**	
From:	Local Only	**Easting:**	ft	**Longitude:**	
Position Uncertainty:	0.0 ft			**North Reference:**	True
Ground Level:	0.0 ft			**Grid Convergence:**	deg

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Well:	VAUGHN 1-5				**Slot Name:**	
Well Position:	+N/-S	0.0 ft	**Northing:**	ft	**Latitude:**	
	+E/-W	0.0 ft	**Easting :**	ft	**Longitude:**	
Position Uncertainty:		0.0 ft				

Wellpath:	ORIGINAL			**Drilled From:**	Surface
				Tie-on Depth:	0.0 ft
Current Datum:	SITE	**Height**	0.0 ft	**Above System Datum:**	Mean Sea Level
Magnetic Data:	11/28/2001			**Declination:**	8.61 deg
Field Strength:	52736 nT			**Mag Dip Angle:**	65.09 deg

Vertical Section:	**Depth From (TVD)** ft	**+N/-S** ft	**+E/-W** ft	**Direction** deg
	0.0	0.0	0.0	0.00

Survey

Stn	MD ft	Incl deg	Azim deg	CLen ft	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
1	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2	677.0	0.40	131.50	677.0	677.0	-1.6	-1.6	1.8	2.4	131.50	0.06
3	1240.0	0.90	264.00	563.0	1240.0	-3.3	-3.3	-1.2	3.5	199.14	0.21
4	1803.0	0.20	167.70	563.0	1802.9	-4.8	-4.8	-5.3	7.2	228.35	0.17
5	2085.0	0.50	196.70	282.0	2084.9	-6.4	-6.4	-5.6	8.5	221.10	0.12
6	2125.0	0.50	248.70	40.0	2124.9	-6.6	-6.6	-5.8	8.8	221.15	1.10
7	2157.0	1.20	327.70	32.0	2156.9	-6.4	-6.4	-6.1	8.9	223.65	3.78
8	2190.0	2.80	341.50	33.0	2189.9	-5.4	-5.4	-6.6	8.5	230.76	5.03
9	2221.0	4.90	346.70	31.0	2220.8	-3.3	-3.3	-7.1	7.8	244.76	6.86
10	2253.0	7.30	350.40	32.0	2252.7	0.0	0.0	-7.8	7.8	269.91	7.60
11	2284.0	11.00	359.00	31.0	2283.3	4.9	4.9	-8.1	9.5	301.01	12.69
12	2316.0	14.90	5.40	32.0	2314.4	12.0	12.0	-7.8	14.3	327.07	12.97
13	2346.0	18.80	10.10	30.0	2343.2	20.6	20.6	-6.6	21.7	342.30	13.76
14	2376.0	22.90	13.10	30.0	2371.2	31.1	31.1	-4.4	31.4	351.92	14.12
15	2408.0	27.30	16.00	32.0	2400.2	44.2	44.2	-1.0	44.2	358.73	14.27
16	2439.0	31.30	17.80	31.0	2427.2	58.7	58.7	3.4	58.8	3.35	13.21
17	2470.0	35.80	17.00	31.0	2453.0	75.1	75.1	8.6	75.6	6.50	14.59
18	2503.0	41.60	13.40	33.0	2478.8	95.0	95.0	13.9	96.0	8.34	18.85
19	2532.0	46.70	9.30	29.0	2499.6	114.8	114.8	17.9	116.2	8.85	20.15
20	2561.0	51.60	6.00	29.0	2518.5	136.5	136.5	20.8	138.1	8.65	18.96
21	2592.0	57.50	3.60	31.0	2536.5	161.7	161.7	22.9	163.3	8.05	20.05
22	2623.0	65.00	0.80	31.0	2551.4	188.8	188.8	23.9	190.3	7.21	25.45
23	2655.0	72.00	358.30	32.0	2563.1	218.5	218.5	23.6	219.8	6.17	23.05
24	2686.0	77.70	357.30	31.0	2571.2	248.4	248.4	22.5	249.4	5.17	18.65

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Survey Completion Report

Company: CHAPARRAL ENERGY, INC
Field: HUGOTON
Site: SECTION 5-31S-32W
Well: VAUGHN 1-5
Wellpath: ORIGINAL

Date: 02/04/2002 **Time:** 11:12:49 **Page:** 2
Co-ordinate(NE) Reference: Site: SECTION 5-31S-32W, True North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

Stn	MD ft	Incl deg	Azim deg	CLen ft	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
25	2716.0	83.10	355.40	30.0	2576.2	277.9	277.9	20.6	278.7	4.24	19.05
26	2747.0	86.50	355.50	31.0	2579.0	308.7	308.7	18.1	309.2	3.36	10.97
27	2777.0	87.90	356.00	30.0	2580.5	338.6	338.6	15.9	339.0	2.69	4.95
28	2808.0	87.20	356.00	31.0	2581.8	369.5	369.5	13.8	369.7	2.13	2.26
29	2840.0	85.20	355.10	32.0	2584.0	401.3	401.3	11.3	401.5	1.61	6.85
30	2865.0	85.00	355.10	25.0	2586.1	426.1	426.1	9.1	426.2	1.23	0.80
31	2896.0	84.60	353.50	31.0	2588.9	456.9	456.9	6.1	456.9	0.76	5.30
32	2961.0	83.10	356.30	65.0	2595.9	521.2	521.2	0.3	521.2	0.04	4.86
33	2993.0	83.40	356.70	32.0	2599.6	552.9	552.9	-1.6	552.9	359.83	1.56
34	3025.0	83.40	356.60	32.0	2603.3	584.7	584.7	-3.5	584.7	359.66	0.31
35	3055.0	82.80	357.20	30.0	2606.9	614.4	614.4	-5.1	614.4	359.53	2.82
36	3087.0	84.00	357.20	32.0	2610.6	646.2	646.2	-6.6	646.2	359.41	3.75
37	3118.0	84.80	356.40	31.0	2613.6	677.0	677.0	-8.3	677.0	359.29	3.64
38	3149.0	84.00	357.50	31.0	2616.6	707.8	707.8	-10.0	707.8	359.19	4.37
39	3180.0	84.40	357.80	31.0	2619.8	738.6	738.6	-11.3	738.7	359.13	1.61
40	3212.0	85.10	358.30	32.0	2622.7	770.4	770.4	-12.3	770.5	359.08	2.68
41	3245.0	86.50	359.50	33.0	2625.1	803.3	803.3	-13.0	803.4	359.08	5.58
42	3276.0	87.10	0.10	31.0	2626.8	834.3	834.3	-13.1	834.4	359.10	2.74
43	3308.0	86.90	0.30	32.0	2628.5	866.2	866.2	-13.0	866.3	359.14	0.88
44	3340.0	86.80	1.10	32.0	2630.3	898.2	898.2	-12.6	898.3	359.20	2.52
45	3371.0	86.10	359.80	31.0	2632.2	929.1	929.1	-12.3	929.2	359.24	4.76
46	3403.0	86.40	0.70	32.0	2634.3	961.1	961.1	-12.2	961.1	359.27	2.96
47	3435.0	87.00	359.90	32.0	2636.1	993.0	993.0	-12.0	993.1	359.31	3.12
48	3466.0	87.20	1.50	31.0	2637.7	1024.0	1024.0	-11.6	1024.0	359.35	5.19
49	3498.0	87.70	1.90	32.0	2639.1	1055.9	1055.9	-10.7	1056.0	359.42	2.00
50	3530.0	88.00	360.00	32.0	2640.3	1087.9	1087.9	-10.2	1087.9	359.46	6.01
51	3559.0	87.50	1.10	29.0	2641.5	1116.9	1116.9	-9.9	1116.9	359.49	4.16
52	3591.0	86.70	1.00	32.0	2643.1	1148.8	1148.8	-9.3	1148.9	359.54	2.52
53	3622.0	86.20	3.00	31.0	2645.0	1179.7	1179.7	-8.2	1179.8	359.60	6.64
54	3653.0	87.10	3.00	31.0	2646.8	1210.6	1210.6	-6.6	1210.7	359.69	2.90
55	3685.0	87.40	1.20	32.0	2648.3	1242.6	1242.6	-5.4	1242.6	359.75	5.70
56	3716.0	87.40	1.80	31.0	2649.8	1273.5	1273.5	-4.6	1273.5	359.79	1.93
57	3748.0	87.00	1.40	32.0	2651.3	1305.5	1305.5	-3.7	1305.5	359.84	1.77
58	3779.0	86.20	2.70	31.0	2653.2	1336.4	1336.4	-2.6	1336.4	359.89	4.92
59	3811.0	86.10	2.20	32.0	2655.3	1368.3	1368.3	-1.3	1368.3	359.95	1.59
60	3842.0	86.60	3.10	31.0	2657.3	1399.2	1399.2	0.2	1399.2	0.01	3.32
61	3873.0	87.20	0.70	31.0	2659.0	1430.1	1430.1	1.2	1430.2	0.05	7.97
62	3904.0	87.90	1.70	31.0	2660.3	1461.1	1461.1	1.8	1461.1	0.07	3.94
63	3936.0	88.10	2.50	32.0	2661.4	1493.1	1493.1	3.0	1493.1	0.12	2.58
64	3965.0	87.90	1.10	29.0	2662.4	1522.0	1522.0	3.9	1522.0	0.15	4.87
65	3996.0	88.10	2.60	31.0	2663.5	1553.0	1553.0	4.9	1553.0	0.18	4.88
66	4028.0	88.10	1.80	32.0	2664.6	1585.0	1585.0	6.2	1585.0	0.22	2.50
67	4059.0	88.00	1.20	31.0	2665.6	1615.9	1615.9	7.0	1615.9	0.25	1.96
68	4091.0	87.90	0.70	32.0	2666.8	1647.9	1647.9	7.5	1647.9	0.26	1.59
69	4122.0	87.70	359.00	31.0	2667.9	1678.9	1678.9	7.4	1678.9	0.25	5.52
70	4154.0	87.60	358.80	32.0	2669.3	1710.9	1710.9	6.8	1710.9	0.23	0.70
71	4185.0	87.40	358.40	31.0	2670.6	1741.8	1741.8	6.0	1741.8	0.20	1.44
72	4217.0	87.30	358.60	32.0	2672.1	1773.8	1773.8	5.2	1773.8	0.17	0.70
73	4248.0	87.20	1.00	31.0	2673.6	1804.7	1804.7	5.1	1804.7	0.16	7.74
74	4280.0	87.20	358.50	32.0	2675.1	1836.7	1836.7	5.0	1836.7	0.15	7.80
75	4311.0	87.50	359.40	31.0	2676.6	1867.7	1867.7	4.4	1867.7	0.13	3.06
76	4342.0	87.80	358.90	31.0	2677.8	1898.6	1898.6	3.9	1898.6	0.12	1.88

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Company:	CHAPARRAL ENERGY, INC	**Date:** 02/04/2002	**Time:** 11:12:49	**Page:**	3
Field:	HUGOTON	**Co-ordinate(NE) Reference:**	Site: SECTION 5-31S-32W, True North		
Site:	SECTION 5-31S-32W	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	VAUGHN 1-5	**Section (VS) Reference:**	Well (0.00N,0.00E,0.00Azi)		
Wellpath:	ORIGINAL	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

Stn	MD ft	Incl deg	Azim deg	CLen ft	TVD ft	VS ft	N/S ft	E/W ft	ClsD ft	ClsA deg	DLS deg/100ft
77	4373.0	87.90	359.40	31.0	2679.0	1929.6	1929.6	3.5	1929.6	0.10	1.64
78	4404.0	88.10	359.90	31.0	2680.1	1960.6	1960.6	3.3	1960.6	0.10	1.74
79	4435.0	87.70	359.90	31.0	2681.2	1991.6	1991.6	3.2	1991.6	0.09	1.29
80	4467.0	87.70	359.30	32.0	2682.5	2023.5	2023.5	3.0	2023.5	0.09	1.87
81	4498.0	87.50	358.90	31.0	2683.8	2054.5	2054.5	2.5	2054.5	0.07	1.44
82	4530.0	88.10	3.10	32.0	2685.0	2086.5	2086.5	3.1	2086.5	0.08	13.25
83	4560.0	87.40	357.70	30.0	2686.2	2116.4	2116.4	3.3	2116.4	0.09	18.14
84	4591.0	88.50	357.30	31.0	2687.3	2147.4	2147.4	1.9	2147.4	0.05	3.78
85	4622.0	88.60	357.30	31.0	2688.1	2178.3	2178.3	0.5	2178.3	0.01	0.32
86	4654.0	86.80	358.50	32.0	2689.4	2210.3	2210.3	-0.7	2210.3	359.98	6.76
87	4685.0	86.40	357.60	31.0	2691.2	2241.2	2241.2	-1.7	2241.2	359.96	3.17
88	4716.0	86.50	357.50	31.0	2693.1	2272.1	2272.1	-3.1	2272.1	359.92	0.46
89	4748.0	85.80	356.80	32.0	2695.3	2304.0	2304.0	-4.7	2304.0	359.88	3.09
90	4780.0	85.30	357.10	32.0	2697.8	2335.9	2335.9	-6.4	2335.9	359.84	1.82
91	4809.0	86.10	358.90	29.0	2700.0	2364.8	2364.8	-7.4	2364.8	359.82	6.78
92	4840.0	86.00	1.00	31.0	2702.1	2395.7	2395.7	-7.4	2395.7	359.82	6.77
93	4872.0	87.40	1.30	32.0	2703.9	2427.6	2427.6	-6.7	2427.6	359.84	4.47
94	4903.0	88.50	3.10	31.0	2705.0	2458.6	2458.6	-5.6	2458.6	359.87	6.80
95	4934.0	88.10	0.70	31.0	2706.0	2489.6	2489.6	-4.5	2489.6	359.90	7.85
96	4965.0	89.90	0.10	31.0	2706.5	2520.5	2520.5	-4.3	2520.6	359.90	6.12
97	4996.0	92.20	2.50	31.0	2705.9	2551.5	2551.5	-3.6	2551.5	359.92	10.72
98	5027.0	91.80	2.60	31.0	2704.8	2582.5	2582.5	-2.2	2582.5	359.95	1.33
99	5059.0	99.80	5.50	32.0	2701.6	2614.2	2614.2	0.0	2614.2	0.00	26.57
100	5090.0	89.90	3.50	31.0	2699.0	2645.0	2645.0	2.4	2645.0	0.05	32.57
101	5121.0	89.20	5.40	31.0	2699.2	2675.9	2675.9	4.8	2675.9	0.10	6.53
102	5152.0	86.20	5.80	31.0	2700.5	2706.7	2706.7	7.8	2706.7	0.17	9.76
103	5182.0	84.90	4.20	30.0	2702.8	2736.5	2736.5	10.5	2736.5	0.22	6.86
104	5213.0	84.80	3.40	31.0	2705.6	2767.3	2767.3	12.5	2767.3	0.26	2.59
105	5244.0	84.70	1.70	31.0	2708.4	2798.1	2798.1	13.9	2798.2	0.28	5.47
106	5276.0	84.90	3.40	32.0	2711.3	2830.0	2830.0	15.3	2830.0	0.31	5.33
107	5308.0	86.40	5.10	32.0	2713.8	2861.8	2861.8	17.7	2861.8	0.35	7.07
108	5339.0	86.40	2.50	31.0	2715.7	2892.7	2892.7	19.7	2892.7	0.39	8.37
109	5370.0	86.80	4.70	31.0	2717.5	2923.5	2923.5	21.7	2923.6	0.42	7.20
110	5401.0	87.10	4.20	31.0	2719.2	2954.4	2954.4	24.1	2954.5	0.47	1.88
111	5433.0	86.10	5.40	32.0	2721.1	2986.2	2986.2	26.7	2986.3	0.51	4.88
112	5446.0	86.20	3.40	13.0	2722.0	2999.2	2999.2	27.7	2999.3	0.53	15.37
113	5486.0	86.20	3.40	40.0	2724.6	3039.0	3039.0	30.1	3039.1	0.57	0.00

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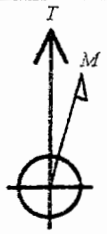
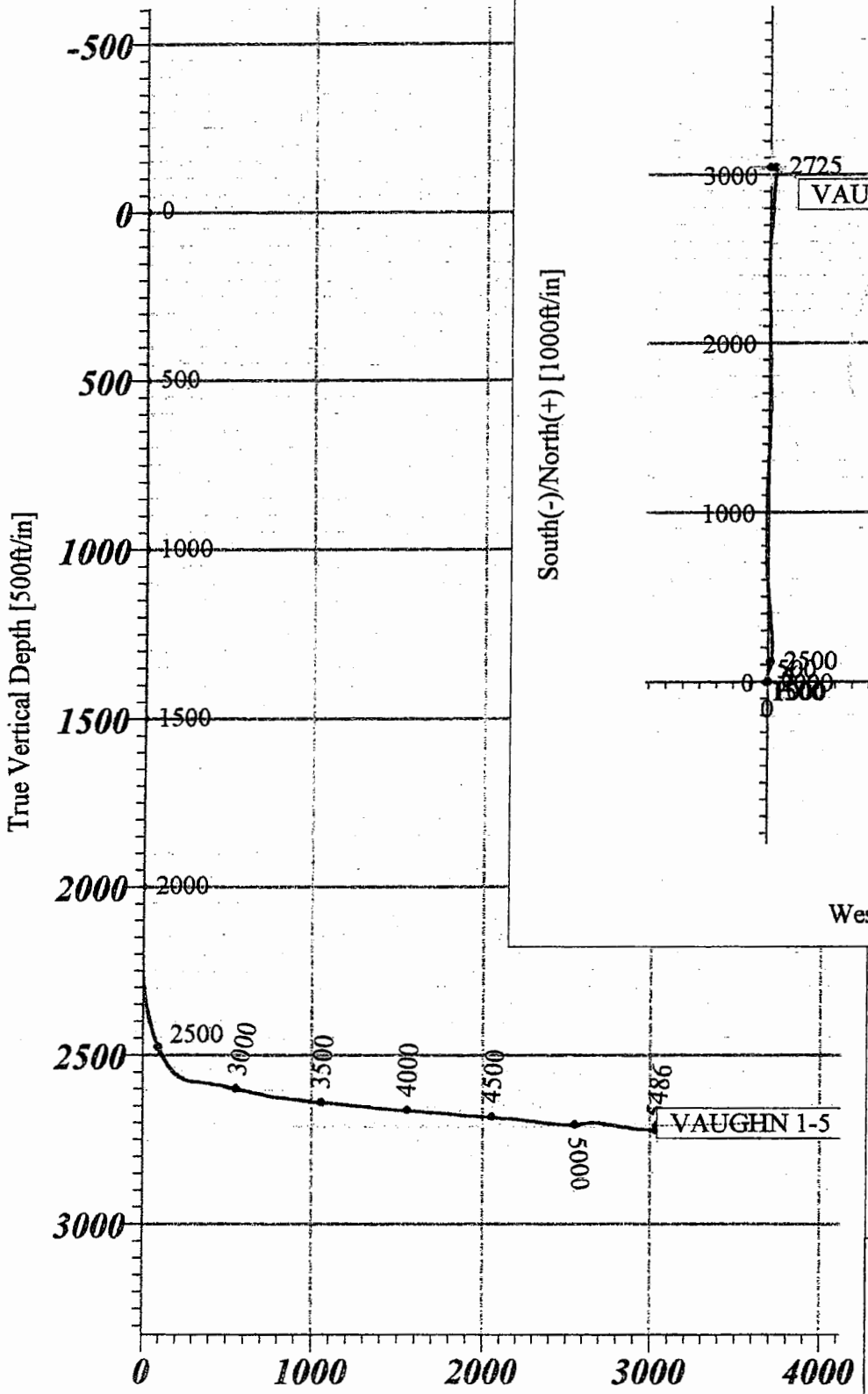
CHAPARRAL ENERGY, INC

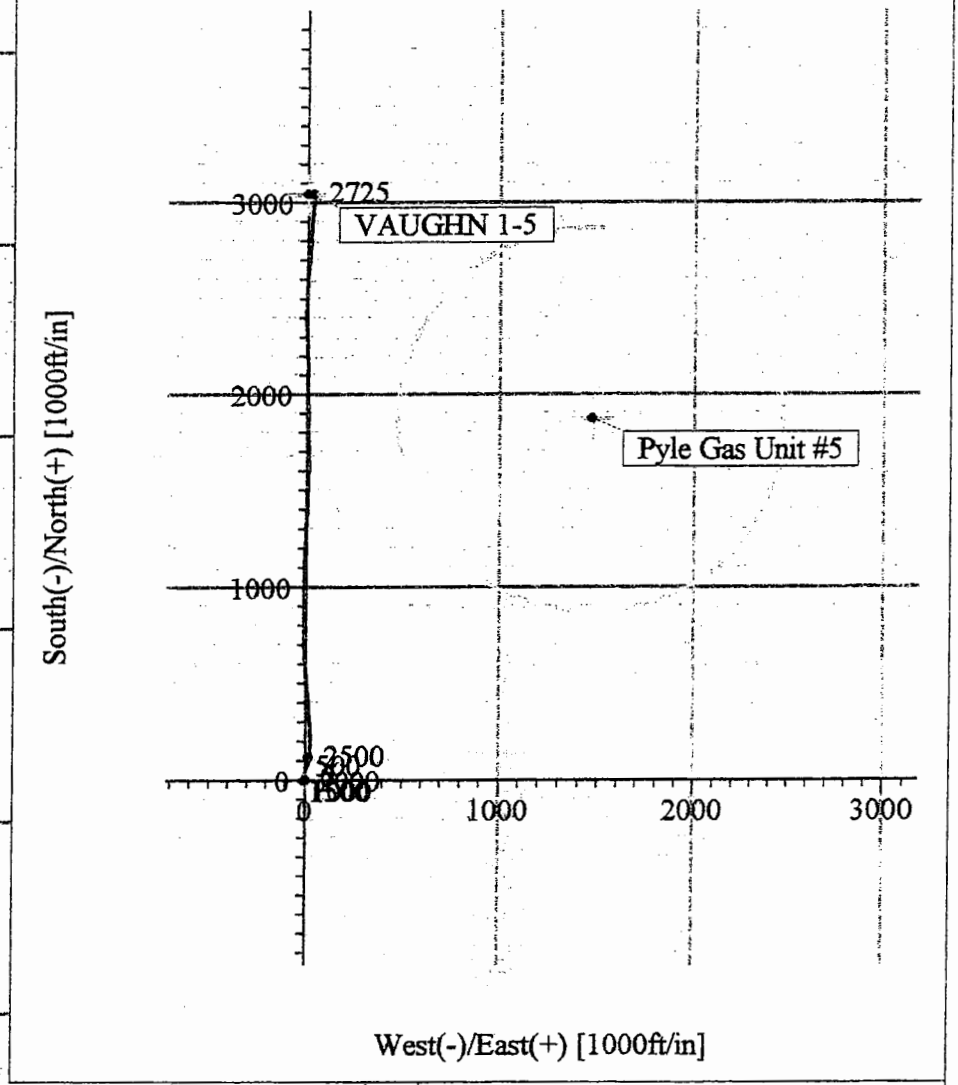
Field: HUGOTON
Site: SECTION 5-31S-32W
Well: VAUGHN 1-5
Wellpath: ORIGINAL
Survey: ORIGINAL WELL



Azimuths to True North
Magnetic North: 8.61°

Magnetic Field
Strength: 52736nT
Dip Angle: 65.09°
Date: 11/28/2001
Model: igrf2000





Bottom Hole Location from Surface
2724.6 TVD 3039.1' North 30.1' East

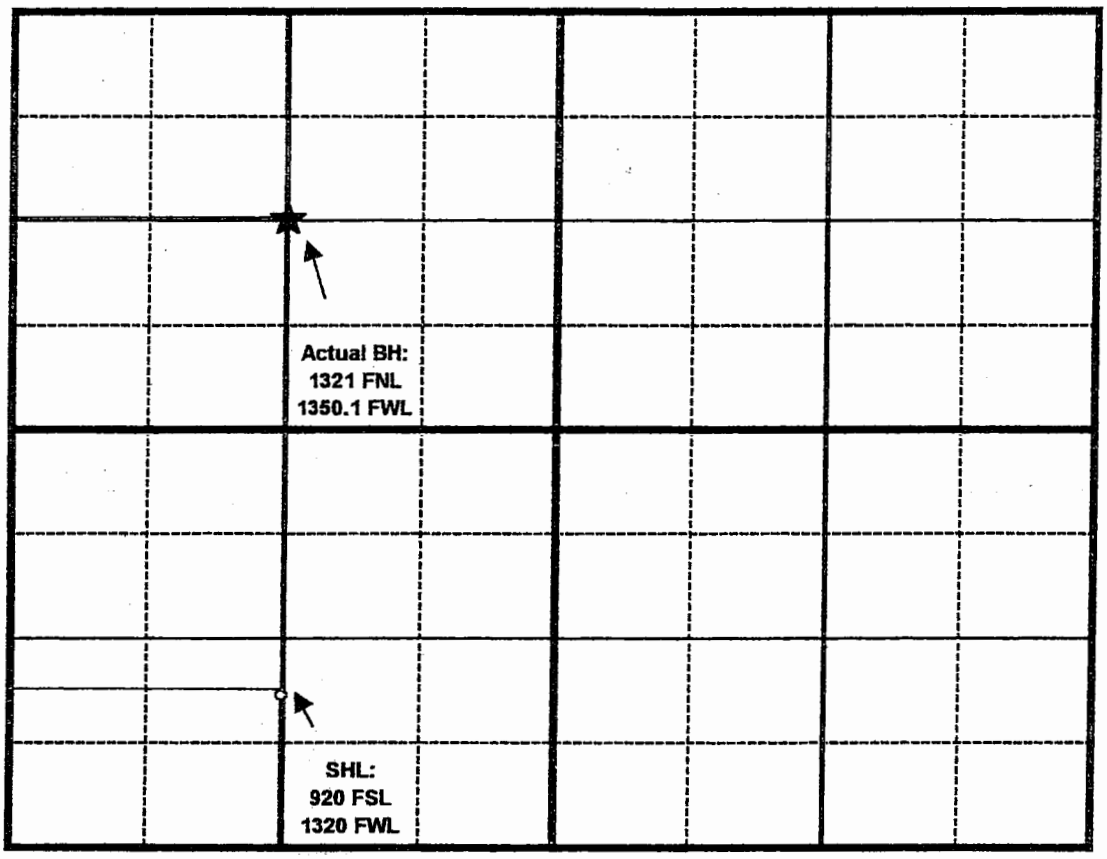
Bottom Hole Vertical Section
5486' MD 3039.1 feet @ 0 Azimuth

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

Company Representative

Scientific Drilling

Final Location Statement



County *Seward County* **State** *Kansas*
Section 5 **Township** 31S **Range** 32W

Customer Name: Chaparral Energy
Well Name: Vaughn #1H-5

SHL: 920 FSL 1320 FWL SW/4
BHL: 1320 FNL 1320 FWL NW/4
Actual BH: 1321 FNL 1350.1 FWL NW/4

Actual BHL Coordinates:
3039' North
30.1' East
3039 feet Diplacement @ 0 Az.

COORDINATES FROM SHL: 3040 feet North of Surface
3040 feet Displacement @ 0 Azimuth

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