

June 3, 1996
5:33 am

PathTracker 4.0
Survey Calculation Program
PERFORMANCE DRILLING SPECIALISTS, INC.

Page 1 of 2

Customer: TEXACO EXPLORATION & PRODUCTION, INC.
WellName: CENTRAL VACUUM UNIT, WELL #187
Location: SECTION 31, TP. 17S, RGE 34E
LEA COUNTY, NEW MEXICO

SUR: 974/S + 1199/W
BHL: 663/S + 1287/W

30-025-33329

Vertical Section Calculated on: 163.5000

Survey Calculation Method: Minimum Curvature

FileName: C:\PATHTRKR\WELLS\CVU187.SR3

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	Section Feet	Dogleg /100f	BldRate /100f	TrnRate /100f
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ASSUME VERTICAL @ BOTTOM OF CASING

1	1552.00	0.00	0.00	1552.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1627.00	1.10	89.10	1627.00	0.01	0.72	0.19	1.47	1.47	0.00
3	2029.00	0.90	105.10	2028.93	-0.75	7.63	2.89	0.08	-0.05	3.98
4	2510.00	2.00	35.50	2509.80	5.10	16.15	-0.30	0.39	0.23	-14.47
5	2573.00	1.70	55.20	2572.77	6.53	17.55	-1.27	1.11	-0.48	31.27
6	2637.00	2.20	118.90	2636.74	6.48	19.41	-0.70	3.28	0.78	99.53
7	2698.00	3.30	148.80	2697.67	4.41	21.34	1.84	2.91	1.80	49.02
8	2761.00	4.40	154.20	2760.53	0.68	23.34	5.97	1.84	1.75	8.57
9	2825.00	5.90	155.90	2824.27	-4.53	25.75	11.66	2.36	2.34	2.66
10	2887.00	7.70	159.40	2885.83	-11.33	28.51	18.96	2.98	2.90	5.65
11	2950.00	8.80	165.50	2948.18	-19.95	31.20	27.99	2.23	1.75	9.68
12	3013.00	10.20	173.30	3010.31	-30.15	33.06	38.30	3.01	2.22	12.38
13	3077.00	12.10	174.40	3073.10	-42.46	34.37	50.47	2.99	2.97	1.72
14	3140.00	14.50	174.70	3134.41	-56.88	35.75	64.70	3.81	3.81	0.48
15	3202.00	15.80	174.70	3194.25	-73.02	37.24	80.59	2.10	2.10	0.00
16	3265.00	17.20	172.80	3254.66	-90.80	39.20	98.20	2.38	2.22	-3.02
17	3328.00	17.70	170.80	3314.76	-109.50	41.90	116.89	1.24	0.79	-3.17
18	3391.00	16.80	170.40	3374.93	-127.93	44.95	135.43	1.44	-1.43	-0.63
19	3454.00	16.90	169.00	3435.22	-145.89	48.22	153.58	0.66	0.16	-2.22
20	3517.00	16.80	165.90	3495.52	-163.71	52.18	171.79	1.43	-0.16	-4.92
21	3581.00	16.60	166.40	3556.82	-181.57	56.59	190.16	0.38	-0.31	0.78
22	3644.00	15.30	166.80	3617.39	-198.41	60.60	207.45	2.07	-2.06	0.63
23	3707.00	14.70	166.10	3678.24	-214.26	64.42	223.73	0.99	-0.95	-1.11
24	3770.00	13.40	166.60	3739.36	-229.12	68.03	239.01	2.07	-2.06	0.79
25	3834.00	13.20	168.50	3801.64	-243.50	71.21	253.69	0.75	-0.31	2.97
26	3897.00	12.40	170.00	3863.08	-257.21	73.82	267.58	1.37	-1.27	2.38
27	3959.00	10.70	167.60	3923.82	-269.39	76.21	279.94	2.85	-2.74	-3.87
28	4022.00	8.70	160.90	3985.92	-279.60	79.02	290.53	3.64	-3.17	-10.63

June 3, 1996
5:35 am

PathTracker 4.0
Survey Calculation Program
PERFORMANCE DRILLING SPECIALISTS, INC.

Page 2 of 2

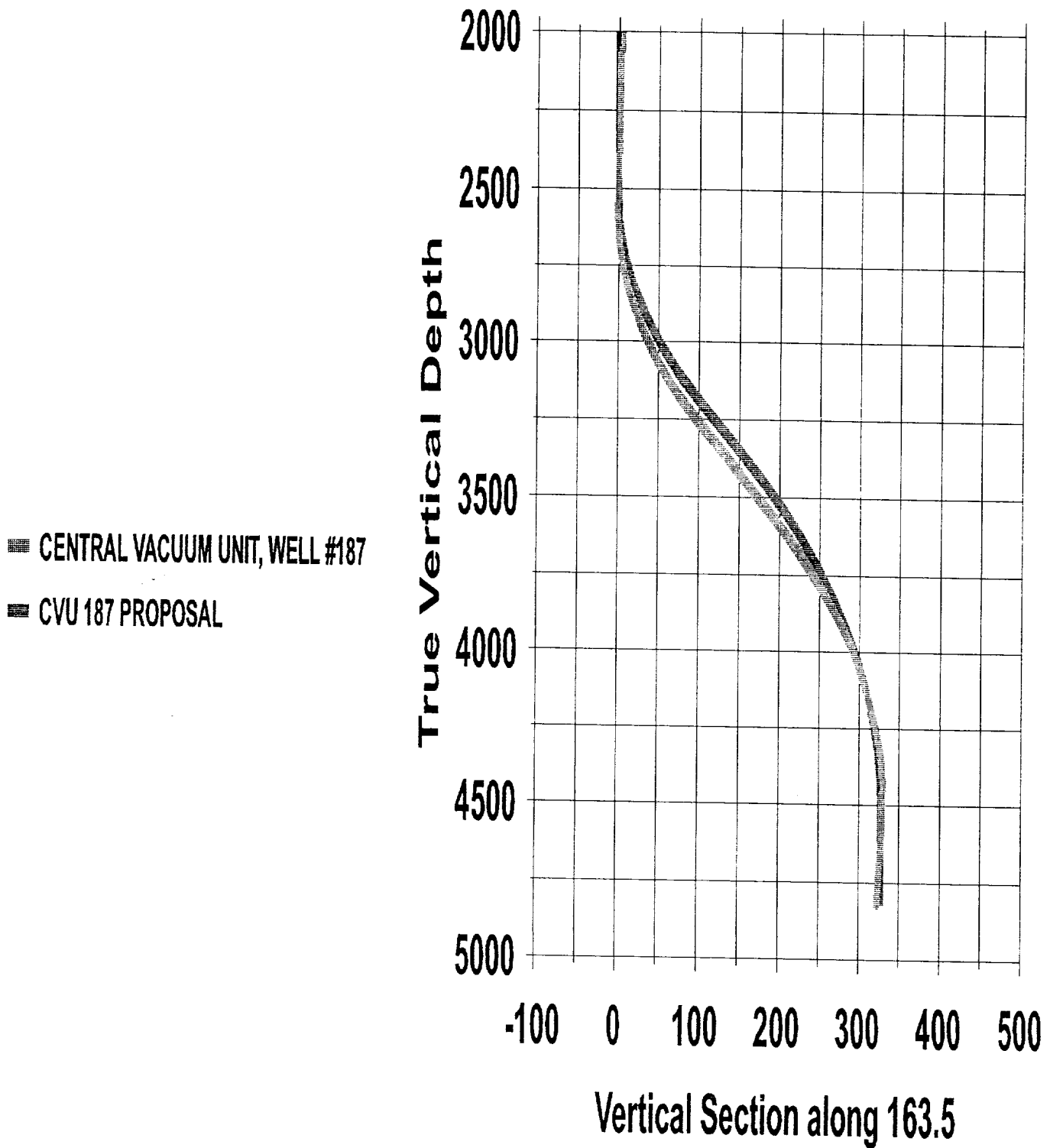
Customer: TEXACO EXPLORATION & PRODUCTION, INC.
WellName: CENTRAL VACUUM UNIT, WELL #187
Location: SECTION 31, TP. 17S, RGE 34E
LEA COUNTY, NEW MEXICO

Vertical Section Calculated on: 163.5000
Survey Calculation Method: Minimum Curvature
FileName: C:\PATHTRKR\WELLS\CVU187.SR3

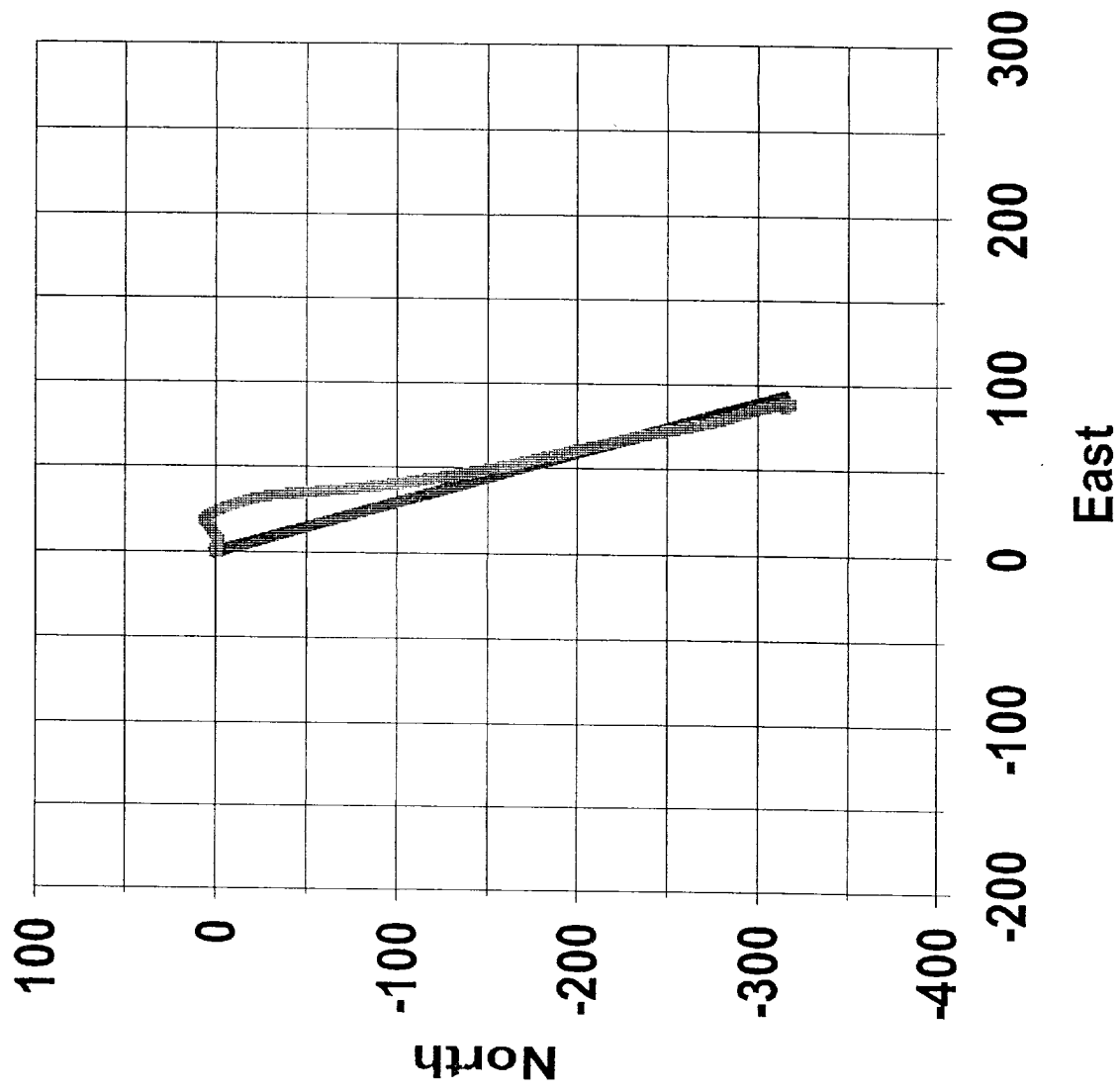
#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	Section Feet	Dogleg /100f	BldRate /100f	TrnRate /100f
29	4085.00	7.20	162.40	4048.31	-287.87	81.78	299.24	2.40	-2.38	2.38
30	4148.00	6.70	163.70	4110.85	-295.16	84.00	306.86	0.83	-0.79	2.06
31	4217.00	5.60	164.60	4179.45	-302.27	86.02	314.25	1.60	-1.59	1.30
32	4274.00	5.30	170.10	4236.19	-307.54	87.22	319.65	1.06	-0.53	9.65
33	4338.00	4.30	163.60	4299.97	-312.76	88.40	324.98	1.78	-1.56	-10.16
34	4400.00	2.30	171.60	4361.86	-316.22	89.24	328.54	3.30	-3.23	12.90
35	4462.00	0.80	253.50	4423.84	-317.57	89.01	329.77	3.75	-2.42	132.10
36	4526.00	1.00	270.20	4487.83	-317.70	88.02	329.61	0.51	0.31	26.09
37	4589.00	0.80	296.90	4550.83	-317.49	87.08	329.15	0.73	-0.32	42.38
38	4652.00	1.50	354.10	4613.81	-316.48	86.60	328.04	2.00	1.11	90.79
39	4715.00	1.80	10.60	4676.79	-314.68	86.70	326.35	0.89	0.48	26.19
40	4778.00	1.80	12.70	4739.76	-312.74	87.10	324.60	0.10	0.00	3.33
41	4810.00	1.60	12.60	4771.74	-311.82	87.31	323.77	0.63	-0.62	-0.31
BIT PROJECTION										
-1	4850.00	1.35	12.48	4811.73	-310.81	87.53	322.87	0.63	-0.63	-0.30

Closure is 322.9030 Feet on an azimuth of 164.2721

Section View



Plan View



CENTRAL VACUUM UNIT, WELL #187
CVU 187 PROPOSAL