

June 22, 1996

11:06 pm

PathTracker 4.0

Survey Calculation Program

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PERFORMANCE DRILLING SPECIALISTS, INC.

Customer: TEXACO EXPLORATION AND PRODUCTION, INC.

30-025-33464

WellName: Vacuum Grayburg San Andres Unit # 159

Unit Letter A

1-185-34e

Location: Section 1 Township 18-S Range 34-E

Sur

907/N

Q

350/E

Lea County, New Mexico

BHL

569/N

Q

84/E

Vertical Section Calculated on: 39.0700

Survey Calculation Method: Minimum Curvature

FileName: C:\PATHTRKR\WELLS\VGSAU159.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 to bottom of casing.										
1	1550.00	0.00	0.00	1550.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1583.00	0.70	187.10	1583.00	-0.20	-0.02	-0.17	2.12	2.12	0.00
3	2075.00	0.60	107.90	2074.98	-3.97	2.06	-1.79	0.17	-0.02	-16.10
4	2190.00	1.10	69.70	2189.96	-3.78	3.66	-0.62	0.63	0.43	-33.22
5	2253.00	2.30	62.20	2252.94	-2.98	5.35	1.06	1.93	1.90	-11.90
6	2317.00	3.60	51.00	2316.85	-1.11	8.05	4.21	2.21	2.03	-17.50
7	2380.00	5.10	50.20	2379.67	1.92	11.74	8.89	2.38	2.38	-1.27
8	2443.00	6.60	51.50	2442.34	5.97	16.72	15.17	2.39	2.38	2.06
9	2505.00	8.10	47.20	2503.83	11.16	22.71	22.98	2.58	2.42	-6.94
10	2569.00	8.80	46.50	2567.13	17.59	29.57	32.30	1.11	1.09	-1.09
11	2632.00	9.80	44.10	2629.30	24.76	36.80	42.42	1.70	1.59	-3.81
12	2694.00	11.00	40.10	2690.28	33.07	44.28	53.59	2.26	1.94	-6.45
13	2702.00	12.70	36.60	2698.11	34.36	45.30	55.23	23.06	21.25	-43.75
14	2757.00	12.60	36.70	2751.78	44.03	52.49	67.26	0.19	-0.18	0.18
15	2820.00	13.90	35.40	2813.10	55.70	60.98	81.68	2.12	2.06	-2.06
16	2883.00	15.10	35.40	2874.09	68.56	70.12	97.42	1.90	1.90	0.00
17	2946.00	16.30	35.10	2934.74	82.48	79.95	114.43	1.91	1.90	-0.48
18	3008.00	17.40	37.30	2994.08	96.98	90.57	132.38	2.05	1.77	3.55
19	3071.00	18.60	38.70	3053.99	112.31	102.57	151.84	2.02	1.90	2.22
20	3134.00	19.60	38.10	3113.52	128.47	115.37	172.45	1.62	1.59	-0.95
21	3197.00	20.20	37.40	3172.76	145.43	128.49	193.89	1.02	0.95	-1.11
22	3260.00	19.60	37.90	3232.00	162.40	141.59	215.33	0.99	-0.95	0.79
23	3323.00	19.00	38.30	3291.46	178.79	154.44	236.15	0.98	-0.95	0.63
24	3386.00	17.90	38.40	3351.22	194.43	166.81	256.08	1.75	-1.75	0.16
25	3449.00	16.70	38.90	3411.37	209.06	178.51	274.82	1.92	-1.90	0.79
26	3512.00	15.20	39.20	3471.94	222.50	189.41	292.13	2.38	-2.38	0.48
27	3575.00	13.80	40.30	3532.93	234.64	199.49	307.90	2.26	-2.22	1.75
28	3639.00	12.90	37.90	3595.21	246.10	208.82	322.67	1.65	-1.41	-3.75
29	3702.00	12.70	36.60	3656.64	257.20	217.27	336.62	0.56	-0.32	-2.06
30	3765.00	11.40	36.70	3718.25	267.76	225.12	349.76	2.06	-2.06	0.16

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Customer: TEXACO EXPLORATION AND PRODUCTION, INC.
WellName: Vacuum Grayburg San Andres Unit # 159
Location: Section 1 Township 18-S Range 34-E
Lea County, New Mexico

Vertical Section Calculated on: 39.0700
Survey Calculation Method: Minimum Curvature
FileName: C:\PATHTRKR\WELLS\VGSAU159.SR3

#	Depth Feet	Inc Degrees	Azimuth Degrees	TVD Feet	North Feet	East Feet	Section Feet	Dogleg /100f	BldRate /100f	TrnRate /100f
31	3827.00	10.00	37.60	3779.17	276.93	232.06	361.27	2.27	-2.26	1.45
32	3889.00	9.60	35.80	3840.27	285.39	238.37	371.81	0.81	-0.65	-2.90
33	3950.00	9.50	34.30	3900.42	293.68	244.19	381.91	0.44	-0.16	-2.46
34	4014.00	9.10	32.60	3963.58	302.30	249.89	392.20	0.76	-0.62	-2.66
35	4077.00	8.40	32.50	4025.85	310.38	255.04	401.72	1.11	-1.11	-0.16
36	4139.00	7.60	34.70	4087.24	317.57	259.81	410.31	1.38	-1.29	3.55
37	4201.00	6.30	41.00	4148.79	323.51	264.38	417.80	2.43	-2.10	10.16
38	4296.00	4.60	45.40	4243.35	330.12	270.51	426.79	1.84	-1.79	4.63
39	4359.00	2.50	32.10	4306.23	333.06	273.04	430.67	3.56	-3.33	-21.11
40	4390.00	1.90	19.10	4337.21	334.12	273.57	431.82	2.51	-1.94	-41.94
41	4454.00	0.90	48.70	4401.19	335.45	274.29	433.31	1.88	-1.56	46.25
42	4517.00	0.70	304.80	4464.18	336.00	274.35	433.77	2.01	-0.32	-164.92
43	4612.00	1.40	284.50	4559.17	336.62	272.75	433.25	0.82	0.74	-21.37
44	4675.00	1.50	284.70	4622.15	337.02	271.21	432.59	0.16	0.16	0.32
45	4738.00	1.60	285.40	4685.13	337.46	269.56	431.89	0.16	0.16	1.11
46	4808.00	1.60	274.00	4755.10	337.79	267.64	430.94	0.45	0.00	-16.29
Bit Projection										
47	4850.00	1.60	274.00	4797.08	337.87	266.47	430.27	0.00	0.00	0.00

Closure is 430.3086 Feet on an azimuth of 38.2621