



**REPORT  
of  
SUB-SURFACE  
DIRECTIONAL  
SURVEY**

GEOTHERMAL RESOURCES INC.

COMPANY

PRATTI #2

WELL NAME

GEYSERS

LOCATION

JOB NUMBER

P0681-M0512  
P0781-D0789

TYPE OF SURVEY

SINGLE-SHOTS  
SINGLE-SHOTS

DATE

7-16-81  
7-20-81

SURVEY BY

LONG BEACH

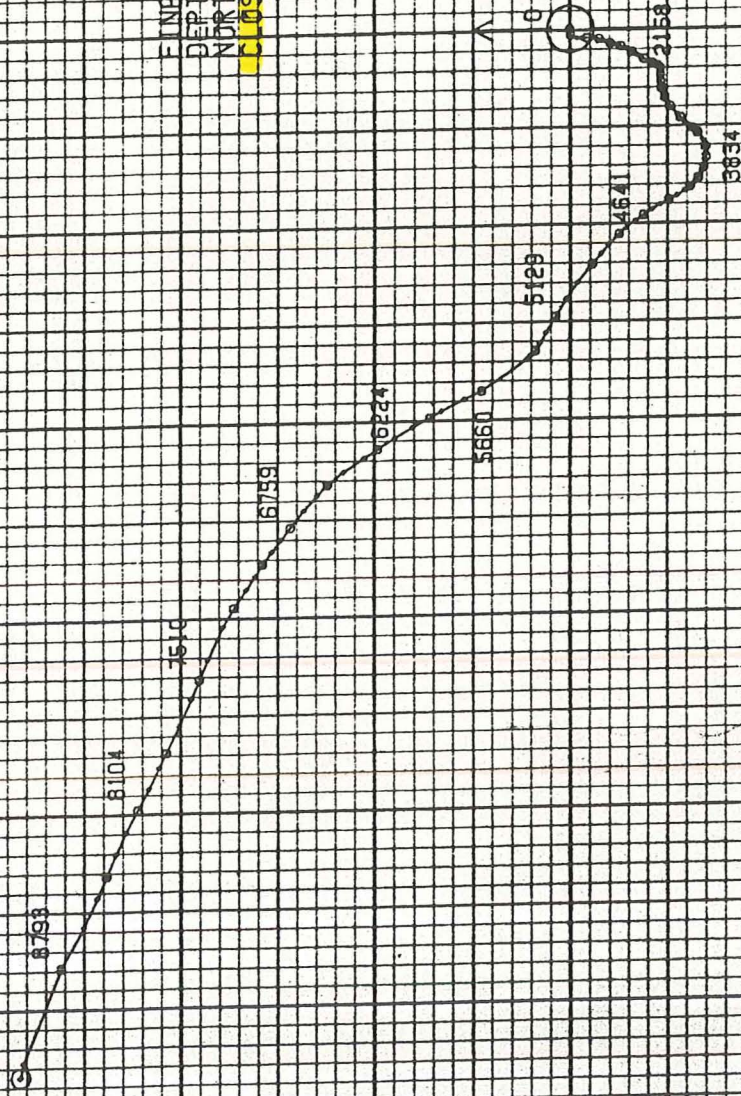
OFFICE

S.R.I. PROJECT 2  
LOCATION: GEYSERS

EASTMAN WHITESTOCK, INC.

HORIZONTAL PROJECTION

SCALE 1 IN. = 200 FEET  
DEPTH INDICATOR: NO



FINAL STATION:  
DEPTH 9157 MD. 9009.98 FTD  
NORTH 565.92 WEST 1070.42  
CLOSURE 1210.82 N. 82.8 6.4

B.R.I.  
WELL: PRATTI 2  
LOCATION: GEYSERS  
FILE: B2-45  
DATE: 7-16-81 & 7-20-81  
ELEV:  
DECL: 17E  
TYPE: SINGLE-SHOTS  
SEC. BEARING:  
JOB: P0681-M0512 & P0781-D0789  
VENDOR: EASTMAN WHIPSTOCK  
SURVEYOR: KEN WALKER & DAN MCMULLEN



Eastman  
Whipstock  
RECORD OF SURVEY

ANGLE AVERAGING METHOD

PRATTI 2  
 ION: GEYSERS

COMPUTATION  
 TIME DATE  
 23:45:06 00--00

PAGE NO. 1

MEASURED DEPTH FEET	DRIFT ANGLE		DRIFT DIRECTION		COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	RECTANGULAR COORDINATES		CLOSURE		DOGLEG SEVERITY DG/100FT
	D	M	D	M			FEET	FEET	DIRECTION	D	
0.	0	0	0	0	0.	0.00	0.00		0.00	0 0	0.00
411.	0	30	N 68	0 W	411.	411.00	0.67 N	1.66 W	1.79	N 68 0 W	0.12
504.	1	0	S 78	0 W	93.	503.99	0.78 N	2.88 W	2.98	N 74 52 W	0.70
659.	1	30	S 54	0 W	155.	658.95	0.60 S	5.96 W	5.99	S 84 17 W	0.46
816.	4	0	S 2	0 W	157.	815.77	7.25 S	9.50 W	11.95	S 52 40 W	2.10
877.	4	45	S 3	0 E	61.	876.59	11.90 S	9.46 W	15.20	S 38 29 W	1.38
938.	4	45	S 2	0 W	61.	937.38	16.95 S	9.42 W	19.39	S 29 3 W	0.68
1001.	3	45	S 0	0 E	63.	1000.21	21.62 S	9.50 W	23.61	S 23 43 W	1.60
1064.	3	30	S 6	0 W	63.	1063.08	25.60 S	9.71 W	27.38	S 20 46 W	0.72
1126.	3	45	S 10	0 W	62.	1124.96	29.48 S	10.25 W	31.21	S 19 10 W	0.57
1187.	3	45	S 28	0 W	61.	1185.83	33.25 S	11.55 W	35.20	S 19 9 W	1.92
1248.	4	15	S 27	0 W	61.	1246.68	37.03 S	13.52 W	39.42	S 20 3 W	0.83
1311.	4	15	S 12	0 W	63.	1309.51	41.43 S	15.07 W	44.09	S 20 0 W	1.76
1373.	3	15	S 7	0 W	62.	1371.37	45.43 S	15.74 W	48.08	S 19 7 W	1.70
1440.	3	15	S 21	0 W	67.	1438.27	49.11 S	16.66 W	51.86	S 18 44 W	1.18
1497.	4	0	S 26	0 W	57.	1495.15	52.42 S	18.10 W	55.45	S 19 3 W	1.43
1558.	4	0	S 26	0 W	61.	1556.00	56.24 S	19.96 W	59.68	S 19 33 W	0.00
1619.	4	0	S 28	0 W	61.	1616.86	60.03 S	21.90 W	63.90	S 20 2 W	0.23
1679.	4	15	S 34	0 W	60.	1676.70	63.73 S	24.12 W	68.14	S 20 44 W	0.83
1743.	4	45	S 29	0 W	64.	1740.50	68.01 S	26.74 W	73.08	S 21 28 W	0.99
1805.	4	30	S 31	0 W	62.	1802.30	72.34 S	29.24 W	78.03	S 22 1 W	0.48
1867.	4	45	S 28	0 W	62.	1864.10	76.70 S	31.70 W	82.99	S 22 28 W	0.56
1930.	4	45	S 29	0 W	63.	1926.88	81.28 S	34.19 W	88.18	S 22 49 W	0.13
1961.	4	45	S 27	0 W	31.	1957.78	83.55 S	35.40 W	90.74	S 22 58 W	0.53
1979.	4	45	S 20	0 W	18.	1975.71	84.91 S	35.99 W	92.23	S 22 58 W	3.22
2008.	4	0	S 20	0 W	29.	2004.63	86.99 S	36.75 W	94.44	S 22 54 W	2.59
2039.	3	45	S 22	0 W	31.	2035.56	88.95 S	37.50 W	96.53	S 22 52 W	0.92
2068.	3	15	S 25	0 W	29.	2064.51	90.57 S	38.21 W	98.30	S 22 52 W	1.84
2098.	2	30	S 40	0 W	30.	2094.47	91.84 S	39.01 W	99.78	S 23 1 W	3.52
2133.	2	30	S 57	0 W	35.	2129.43	92.85 S	40.16 W	101.16	S 23 23 W	2.11

R.I.  
 WELL: PRATTI 2  
 LOCATION: GEYSERS

COMPUTATION  
 TIME 23:45:06 DATE 00--00

MEASURED DEPTH FEET	DRIFT		COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET		C L O S U R E D I S T A N C E D I R E C T I O N D I M FEET		DOGLEG SEVERITY DG/100FT	
	D	M			D	M	S	W		S
2158.	2	15	S 67 0 W	25.	2154.41	93.34	S 41.07 W	101.98	S 23 45 W	1.93
2215.	2	0	N 90 0 W	57.	2211.37	93.76	S 43.14 W	103.21	S 24 43 W	1.55
2299.	2	0	N 84 0 W	84.	2295.32	93.61	S 46.07 W	104.33	S 26 12 W	0.25
2359.	2	0	N 83 0 W	60.	2355.29	93.37	S 48.15 W	105.05	S 27 17 W	0.06
2423.	2	0	S 85 0 W	64.	2419.25	93.33	S 50.39 W	106.06	S 28 22 W	0.65
2484.	2	0	S 87 0 W	61.	2480.21	93.48	S 52.51 W	107.22	S 29 19 W	0.11
2545.	2	15	N 86 0 W	61.	2541.17	93.46	S 54.77 W	108.33	S 30 22 W	0.59
2608.	2	15	N 83 0 W	63.	2604.12	93.22	S 57.23 W	109.39	S 31 33 W	0.19
2667.	2	15	S 72 0 W	59.	2663.07	93.44	S 59.54 W	110.80	S 32 30 W	1.65
2729.	2	30	S 70 0 W	62.	2725.02	94.28	S 61.97 W	112.82	S 33 19 W	0.42
2796.	3	15	S 67 0 W	67.	2791.94	95.51	S 65.09 W	115.59	S 34 17 W	1.14
2858.	3	0	S 66 0 W	62.	2853.84	96.86	S 68.19 W	118.46	S 35 9 W	0.41
2919.	3	0	S 66 0 W	61.	2914.76	98.16	S 71.11 W	121.21	S 35 55 W	0.00
2980.	3	30	S 63 0 W	61.	2975.66	99.65	S 74.23 W	124.26	S 36 41 W	0.87
3041.	3	15	S 58 0 W	61.	3036.56	101.42	S 77.36 W	127.55	S 37 20 W	0.63
3105.	3	45	S 53 0 W	64.	3100.44	103.63	S 80.58 W	131.27	S 37 52 W	0.91
3167.	4	0	S 47 0 W	62.	3162.29	106.32	S 83.79 W	135.37	S 38 14 W	0.77
3273.	4	0	S 50 0 W	106.	3268.04	111.22	S 89.32 W	142.65	S 38 46 W	0.20
3334.	4	30	S 48 0 W	61.	3328.87	114.19	S 92.74 W	147.10	S 39 5 W	0.85
3394.	5	0	S 41 0 W	60.	3388.66	117.73	S 96.22 W	152.05	S 39 16 W	1.27
3454.	5	0	S 41 0 W	60.	3448.43	121.68	S 99.65 W	157.28	S 39 19 W	0.00
3518.	5	30	S 43 0 W	64.	3512.17	126.03	S 103.57 W	163.13	S 39 25 W	0.83
3551.	5	30	S 44 0 W	33.	3545.01	128.32	S 105.75 W	166.28	S 39 29 W	0.29
3581.	6	0	S 43 0 W	30.	3574.86	130.50	S 107.81 W	169.28	S 39 34 W	1.70
3591.	6	15	S 45 0 W	10.	3584.81	131.27	S 108.56 W	170.34	S 39 35 W	3.29
3677.	6	30	S 62 0 W	86.	3670.27	136.95	S 116.23 W	179.63	S 40 19 W	2.21
3708.	6	45	S 69 0 W	31.	3701.07	138.44	S 119.49 W	182.87	S 40 48 W	2.73
3740.	6	45	S 77 0 W	32.	3732.85	139.53	S 123.08 W	186.06	S 41 25 W	2.94
3771.	6	45	S 84 0 W	31.	3763.63	140.14	S 126.68 W	188.91	S 42 7 W	2.65
3802.	7	0	N 90 0 W	31.	3794.41	140.33	S 130.38 W	191.55	S 42 54 W	2.45

I.  
: PRATTI 2  
ATION: GEYSERS

COMPUTATION  
TIME DATE  
23:45:06 00--00

PAGE NO. 3

MEASURED DEPTH FEET	DRIFT ANGLE		DRIFT DIRECTION		COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S		C L O S U R E		DOGLEG SEVERITY DG/100FT							
	D	M	D	M			FEET	FEET	DIRECTION	DIRECTION		D	M					
3834.	7	0	N	84	0	W	32.	3826.17	140.13	S	134.28	W	194.08	S	43	47	W	2.28
3865.	6	45	N	78	0	W	31.	3856.95	139.55	S	137.94	W	196.22	S	44	40	W	2.45
3895.	6	45	N	71	0	W	30.	3886.74	138.60	S	141.34	W	197.96	S	45	34	W	2.74
3926.	7	15	N	68	0	W	31.	3917.51	137.28	S	144.88	W	199.59	S	46	33	W	2.00
3957.	7	15	N	65	0	W	31.	3948.26	135.72	S	148.47	W	201.15	S	47	34	W	1.22
3987.	7	45	N	61	0	W	30.	3978.00	133.94	S	151.96	W	202.56	S	48	36	W	2.41
4018.	7	45	N	56	0	W	31.	4008.72	131.76	S	155.52	W	203.83	S	49	44	W	2.17
4050.	7	30	N	50	0	W	32.	4040.44	129.20	S	158.91	W	204.81	S	50	53	W	2.61
4080.	7	45	N	45	0	W	30.	4070.17	126.51	S	161.85	W	205.43	S	51	59	W	2.36
4110.	7	45	N	40	0	W	30.	4099.90	123.53	S	164.58	W	205.78	S	53	7	W	2.25
4156.	8	0	N	35	0	W	46.	4145.46	118.53	S	168.42	W	205.95	S	54	52	W	1.58
4223.	8	30	N	28	0	W	67.	4211.77	110.33	S	173.44	W	205.56	S	57	32	W	1.67
4286.	8	45	N	27	0	W	63.	4274.06	101.95	S	177.80	W	204.96	S	60	10	W	0.46
4349.	9	0	N	28	0	W	63.	4336.30	93.33	S	182.29	W	204.79	S	62	53	W	0.47
4412.	9	45	N	31	0	W	63.	4398.46	84.40	S	187.34	W	205.48	S	65	45	W	1.42
4471.	10	15	N	33	0	W	59.	4456.57	75.71	S	192.77	W	207.11	S	68	33	W	1.03
4532.	10	45	N	37	0	W	61.	4516.54	66.61	S	199.15	W	209.99	S	71	30	W	1.45
4594.	11	0	N	38	0	W	62.	4577.43	57.33	S	206.27	W	214.09	S	74	28	W	0.51
4641.	11	30	N	41	0	W	47.	4623.53	50.25	S	212.10	W	217.97	S	76	40	W	1.64
4718.	11	45	N	49	0	W	77.	4698.95	39.28	S	223.07	W	226.50	S	80	1	W	2.12
4779.	12	0	N	49	0	W	61.	4758.64	31.04	S	232.55	W	234.61	S	82	24	W	0.41
4840.	13	0	N	51	0	W	61.	4818.20	22.56	S	242.66	W	243.71	S	84	41	W	1.79
4943.	13	15	N	53	0	W	103.	4918.51	8.16	S	261.09	W	261.22	S	88	13	W	0.50
5036.	13	0	N	56	0	W	93.	5009.08	4.11	N	278.28	W	278.31	N	89	9	W	0.78
5129.	12	45	N	61	0	W	93.	5099.74	14.93	N	295.95	W	296.33	N	87	7	W	1.23
5222.	11	45	N	59	0	W	93.	5190.62	24.80	N	313.04	W	314.02	N	85	28	W	1.17
5285.	11	30	N	63	0	W	63.	5252.33	30.95	N	324.14	W	325.62	N	84	33	W	1.34
5327.	11	45	N	51	0	W	42.	5293.47	35.56	N	331.24	W	333.15	N	83	52	W	5.78
5357.	11	45	N	46	0	W	30.	5322.84	39.61	N	335.82	W	338.15	N	83	16	W	3.39
5387.	11	45	N	42	0	W	30.	5352.21	44.01	N	340.06	W	342.90	N	82	38	W	2.71

R.I.

 WELL: PRATTI 2  
 LOCATION: GEYSERS

 COMPUTATION  
 TIME 23:45:06 DATE 00--00

PAGE NO. 4

MEASURED DEPTH FEET	DRIFT ANGLE D M		DRIFT DIRECTION D M		COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	R E C T A N G U L A R C O O R D I N A T E S FEET		C L O S U R E DISTANCE FEET		DIRECTION D M		DOGLEG SEVERITY DG/100FT
	D	M	D	M							D	M	
5660.	12	0	N 26	0 W	273.	5619.37	90.58	N 371.48	W 382.36	N 76	18 W	1.21	
5754.	12	15	N 23	0 W	94.	5711.27	108.55	N 379.66	W 394.88	N 74	3 W	0.72	
5879.	12	0	N 31	0 W	125.	5833.48	131.94	N 391.58	W 413.21	N 71	23 W	1.36	
5942.	12	15	N 27	0 W	63.	5895.08	143.51	N 398.00	W 423.08	N 70	10 W	1.39	
6035.	12	45	N 29	0 W	93.	5985.87	161.29	N 407.45	W 438.21	N 68	24 W	0.71	
6130.	12	30	N 33	0 W	95.	6078.58	179.08	N 418.14	W 454.88	N 66	49 W	0.96	
6224.	13	0	N 33	0 W	94.	6170.26	196.48	N 429.44	W 472.26	N 65	25 W	0.53	
6299.	12	45	N 33	0 W	75.	6243.37	210.50	N 438.54	W 486.45	N 64	22 W	0.33	
6413.	12	45	N 35	0 W	114.	6354.56	231.36	N 452.61	W 508.32	N 62	56 W	0.39	
6508.	12	45	N 43	0 W	95.	6447.22	247.65	N 465.81	W 527.55	N 62	0 W	1.86	
6571.	13	0	N 47	0 W	63.	6508.63	257.58	N 475.73	W 540.99	N 61	34 W	1.47	
6664.	13	45	N 49	0 W	93.	6599.11	271.97	N 491.72	W 561.92	N 61	3 W	0.95	
6759.	14	0	N 52	0 W	95.	6691.34	286.46	N 509.30	W 584.33	N 60	39 W	0.80	
6821.	14	0	N 52	0 W	62.	6751.50	295.70	N 521.12	W 599.17	N 60	26 W	0.00	
6885.	14	30	N 53	0 W	64.	6813.53	305.29	N 533.62	W 614.77	N 60	14 W	0.87	
6948.	14	30	N 56	0 W	63.	6874.52	314.45	N 546.46	W 630.47	N 60	5 W	1.19	
7003.	14	30	N 57	0 W	55.	6927.77	322.05	N 557.94	W 644.22	N 60	0 W	0.46	
7072.	14	0	N 54	0 W	69.	6994.65	331.67	N 571.94	W 661.15	N 59	53 W	1.29	
7165.	14	0	N 58	0 W	93.	7084.88	344.25	N 590.59	W 683.60	N 59	46 W	1.04	
7259.	14	0	N 62	0 W	94.	7176.09	355.62	N 610.29	W 706.34	N 59	46 W	1.03	
7416.	13	30	N 67	0 W	157.	7328.59	371.69	N 643.97	W 743.54	N 60	0 W	0.82	
7510.	13	15	N 68	0 W	94.	7420.04	380.01	N 664.06	W 765.10	N 60	13 W	0.36	
7605.	13	30	N 67	0 W	95.	7512.47	388.42	N 684.36	W 786.90	N 60	25 W	0.36	
7729.	13	45	N 63	0 W	124.	7632.98	400.76	N 710.83	W 816.02	N 60	35 W	0.79	
7855.	14	45	N 65	0 W	126.	7755.10	414.36	N 738.71	W 846.99	N 60	43 W	0.88	
7918.	15	0	N 64	0 W	63.	7815.99	421.32	N 753.31	W 863.12	N 60	47 W	0.57	
8012.	15	0	N 62	0 W	94.	7906.79	432.37	N 774.98	W 887.43	N 60	51 W	0.55	
8104.	16	0	N 62	0 W	92.	7995.44	443.91	N 796.69	W 912.02	N 60	52 W	1.09	
8198.	15	45	N 63	0 W	94.	8085.85	455.78	N 819.50	W 937.72	N 60	55 W	0.39	
8292.	15	0	N 66	0 W	94.	8176.49	466.51	N 841.99	W 962.59	N 61	1 W	1.16	

I.  
 : PRATTI 2  
 ATION: GEYSERS

COMPUTATION  
 TIME DATE  
 23:45:06 00--00

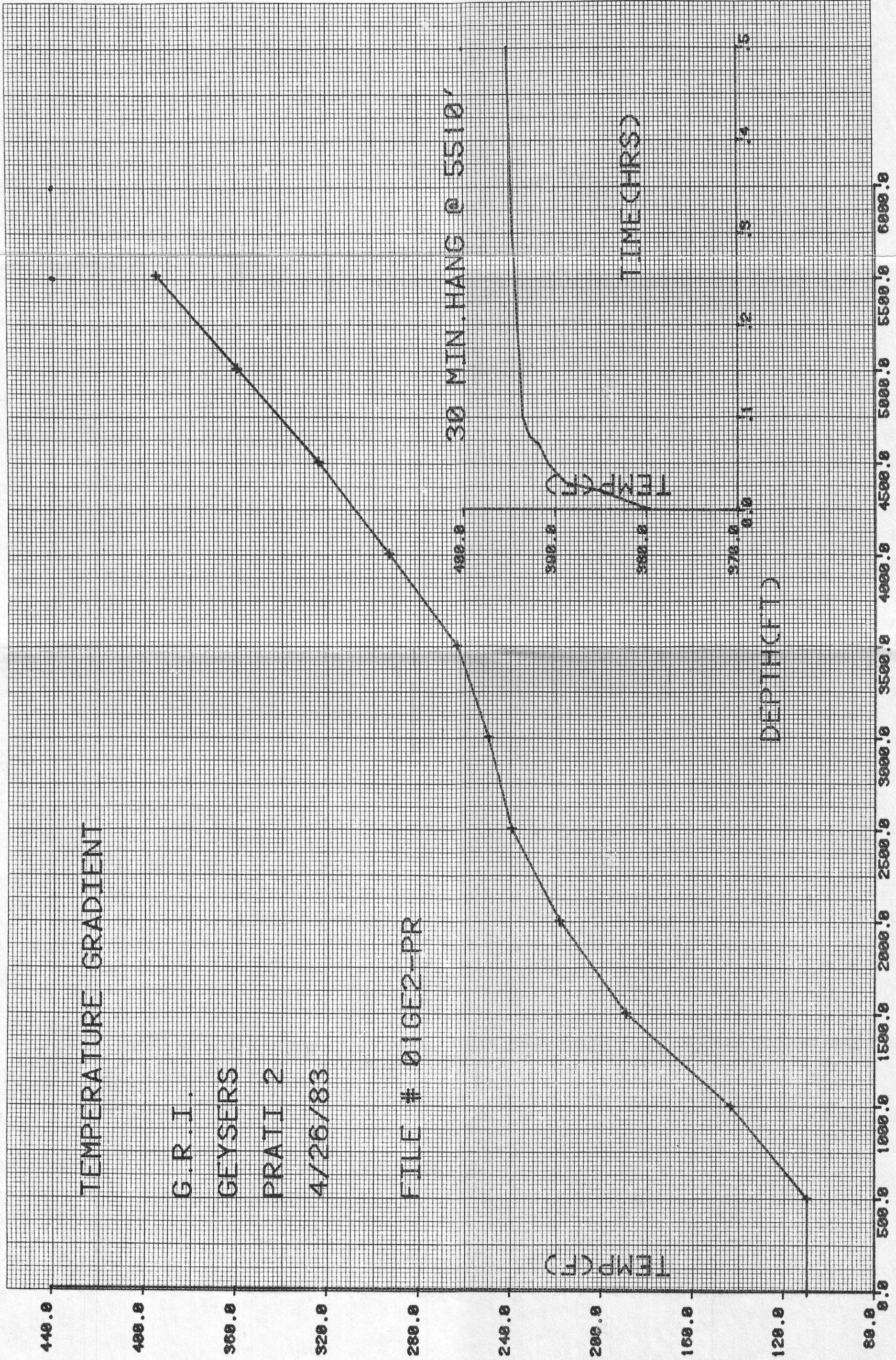
MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D M	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	RECTANGULAR COORDINATES FEET	CLOSURE DISTANCE FEET	DIRECTION D M	DOGLEG SEVERITY IG/100FT
8385.	15 0	N 68 0 W	93.	8266.32	475.92 N 864.15 W	986.54	N 61 9 W	0.56
8478.	15 0	N 67 0 W	93.	8356.15	485.13 N 886.39 W	1010.46	N 61 18 W	0.28
8605.	15 0	N 62 0 W	127.	8478.83	499.28 N 916.06 W	1043.28	N 61 25 W	1.02
8793.	15 0	N 59 0 W	188.	8660.42	523.24 N 958.41 W	1091.93	N 61 22 W	0.41
9117.	22 45	N 77 0 W	324.	8967.00	562.50 N 1055.59 W	1196.11	N 61 57 W	2.97
9157.	22 0	N 77 0 W	40.	9003.98	565.93 N 1070.43 W	1210.82	N 62 8 W	1.87

STATION AT MD. 9157' IS PROJECTED.

FINAL CLOSURE - DIRECTION: N 62 DEGS 8 MINS W  
 DISTANCE: 1210.82 FEET







WELL PRATT-#1 of 2 THE GEYSERS COMPANY GEOTHERMAL RESOURCES INT. COUNTY SONOMA STATE CALIFORNIA LOCATION

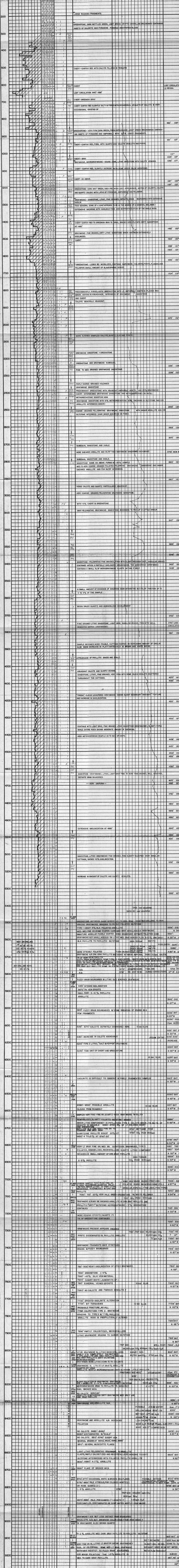
LOGGING RUNS DATE INTERVAL SERVICES TEMPERATURES TC

SPUD DATE 6-25-81 COMPLETION DATE DRILLING CONTRACTOR LOFFLAND BROS. ENGINEERS PRYDE GEOLOGISTS MOORE

CASING RECORD DIA 30 INTERVAL

RIG TEST DATE TIME SVTIME WHP FLP DP FLT ORIFICE RATE

EXPLANATION DRILLING LITHOLOGY MINERALS PHYSICAL-CHEMICAL



REMARKS