

DRILL HOLE DATA SHEETHole Number: L-3Type of Hole: Shallow thermal gradient wellLocation: County Napa State CaliforniaDescription SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 28 Township 10NRange 6W Meridian MDM Elevation 2,400'Surface Ownership: Fee - Norman B. Livermore (620-3024)Minerals Ownership: Fee - Norman B. Livermore (620-3024)Date of: Spud in 7-17-75 Drilling Completed 7-17-75Completion 9-2-75 Abandonment 3-26-76Depth: Permitted 150 m Actual 500'Drilling Information: Lith Log and Temperature/Depth Log attachedWater Encountered: 120'

Bond Number

Agency Permit Number

AMAX Permit Number

Federal		
State BND 2-02-60-14	N/A	CA-OG-2003
County N/A	U-467475	CA-NA-3001

Activity

Date

By

Cost of Survey
Support Cost

Drilled	7-17-75	Doshier-Gregson Drilling, Inc.	
TG Logging	8-11-75	AMAX	

Total

LITHOLOGIC LOG

PROPERTY: LIVERMORE 3
Sec 28 T10N R6W

ELEVATION: 2400'
Drilled 7-17-75

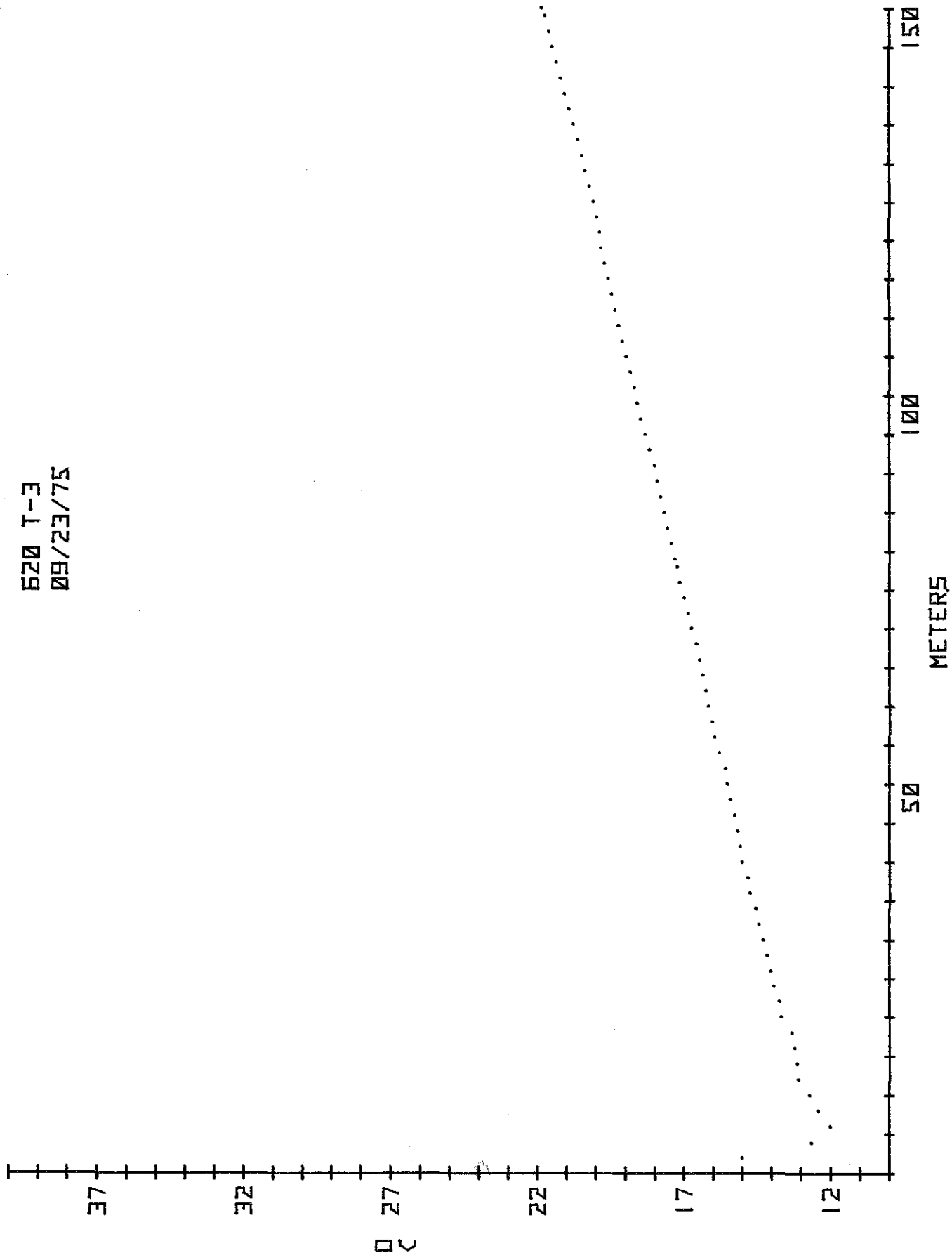
Feet	Description
0-40	clay
40-70	tuff (?)
70-80	sandstone
80-90	sandstone
100-110	shale
110-160	sandstone
160-190	shale
190-200	shale with some sandstone and serpentine?
210-500	shale (some sandstone at 365) water at 120'

TEMPERATURE VS DEPTH LOG FOR WELL-620 T-3
09/23/75

L-3

DEPTH METERS	TEMPERATURE DEGREES C	GRADIENT C/KM
2	15.03	-1190
4	12.65	-312.5
6	12.025	190
8	12.405	147.5
10	12.7	195
12	13.09	30
14	13.15	42.5
16	13.235	50
18	13.335	165
20	13.665	40
22	13.745	92.5
24	13.93	60
26	14.05	55
28	14.16	72.5
30	14.305	70
32	14.445	55
34	14.555	100
36	14.755	40
38	14.835	95
40	15.025	32.5
42	15.09	42.5
44	15.175	57.5
46	15.29	65
48	15.42	57.5
50	15.535	30
52	15.595	100
54	15.795	77.5
56	15.95	52.5
58	16.055	62.5
60	16.18	45
62	16.27	52.5
64	16.375	52.5
66	16.48	55
68	16.59	80
70	16.75	57.5
72	16.865	65
74	16.995	75
76	17.145	37.5
78	17.22	115
79	17.335	60
81	17.455	62.5
83	17.58	60
85	17.7	60
87	17.82	62.5
89	17.945	52.5
91	18.05	72.5
93	18.195	75
95	18.345	72.5
97	18.49	65
99	18.62	55
101	18.73	65
103	18.86	67.5
105	18.995	62.5
107	19.12	57.5
109	19.235	62.5
111	19.36	55
113	19.47	57.5
115	19.585	65
117	19.715	60
119	19.835	17.5
121	19.87	60
123	19.99	65
125	20.12	65
127	20.25	67.5
129	20.385	60
131	20.505	65
133	20.635	77.5
135	20.79	70
137	20.93	72.5
139	21.075	70
141	21.215	72.5
143	21.36	72.5
145	21.505	70
147	21.645	65
149	21.775	55
151	21.885	144.9337748

620 T-3
09/23/75



TEMPERATURE - DEPTH LOG

Location 3115725A 3015 Date 11 Aug 1975

Map DEPT 08500000 0040

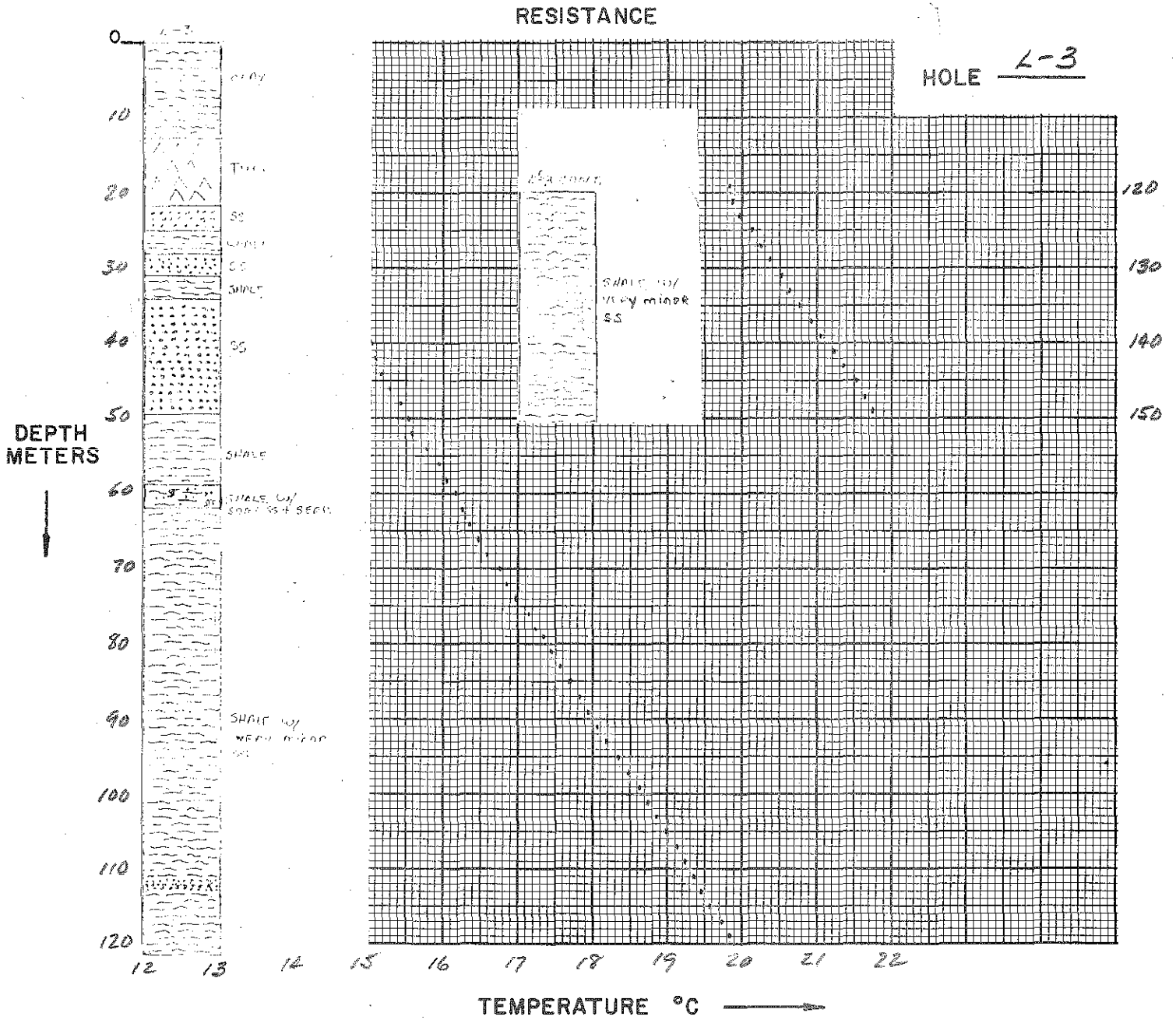
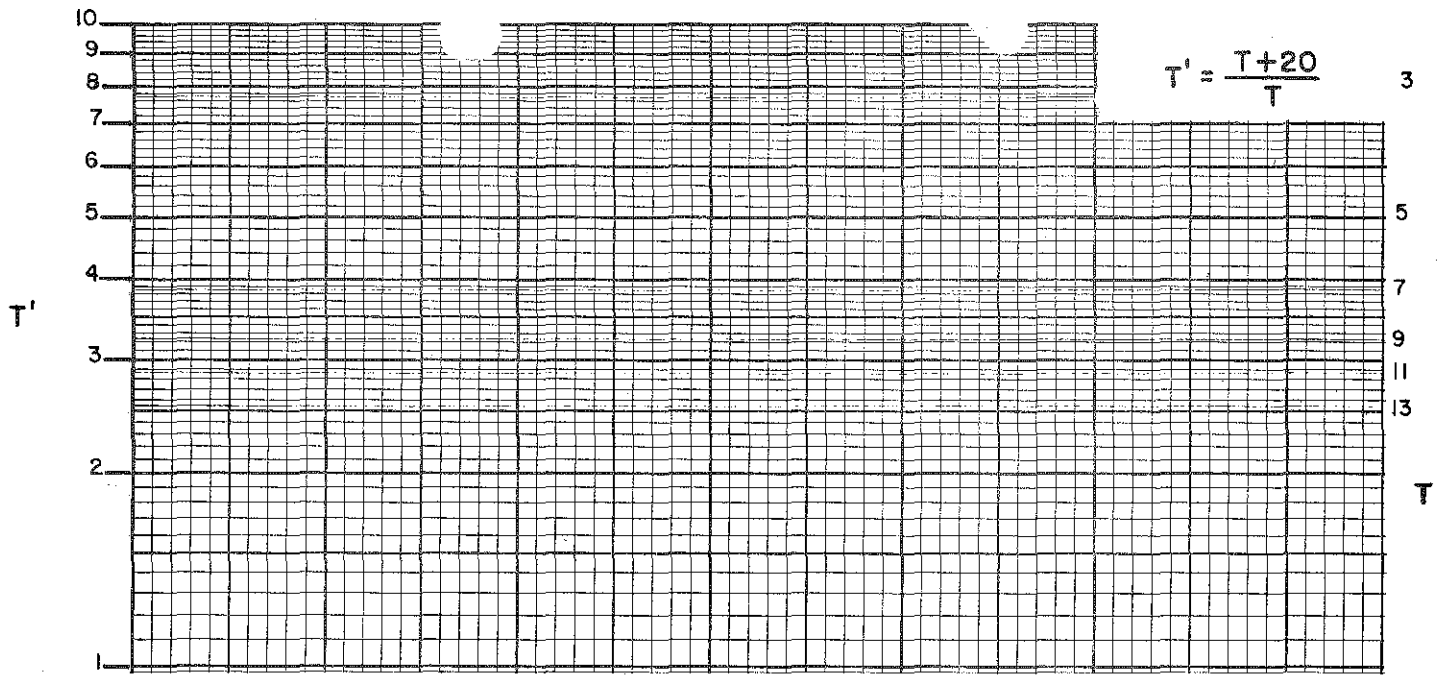
Property USGPO T 10N R 6W sec 28

Drill Hole L-3 Date Drilled 7/17/75 Elevation 9400 ft.

Instrument _____ Operator H.J. Olson, E.D. Trower, W. Lockman

Comments _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Gradient °C/Km Avg.	Comments
2	5712 5717	15.03			
4	5727 5742 5742	12.65			
6	5799 5799 5799.2	12.025	-.625	-312.5	
8	5707 5707.4 5707	12.405	.38	190	AVE (44-149m) 62.3°C/km
10	5726 5726	12.70	.295	147.5	
12	5745	13.09	.39	195	
14	5731	13.15	.06	30	
16	5711	13.235	.085	42.5	
18	5688	13.335	.10	50	
20	5613	13.665	.33	165	
22	5594	13.745	.08	40	
24	5553	13.93	.185	92.5	
26	5526	14.05	.12	60	
28	5501	14.16	.11	55	
30	5470	14.305	.145	72.5	
32	5439	14.445	.14	70	
34	5415	14.555	.11	55	
36	5372	14.755	.20	100	
38	5354	14.835	.08	40	
40	5314	15.025	.19	95	
42	5300	15.09	.065	32.5	
			.085	42.5	



TEMPERATURE - DEPTH LOG

Location CAJON PASS Date 11 August 75

Map _____

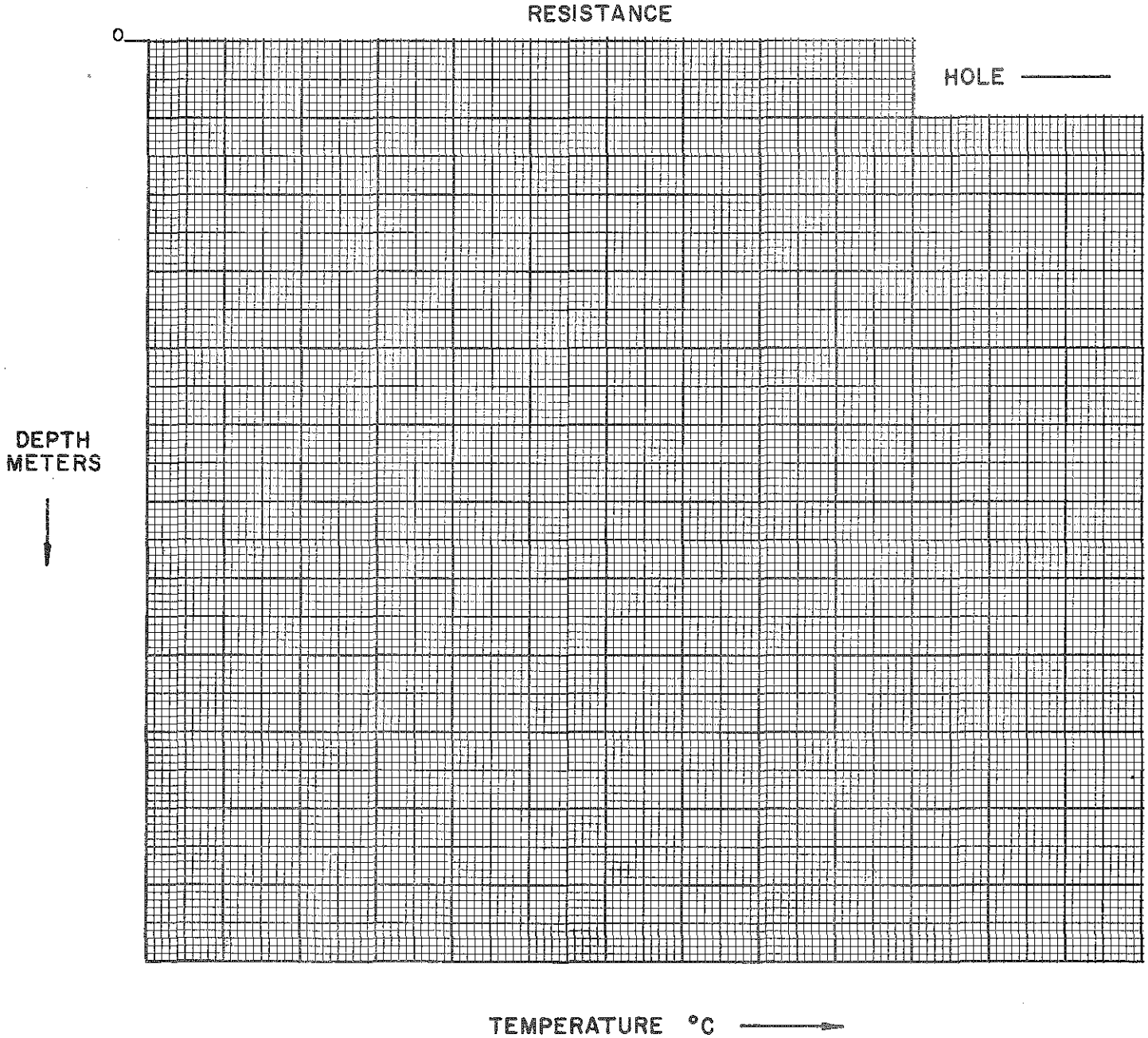
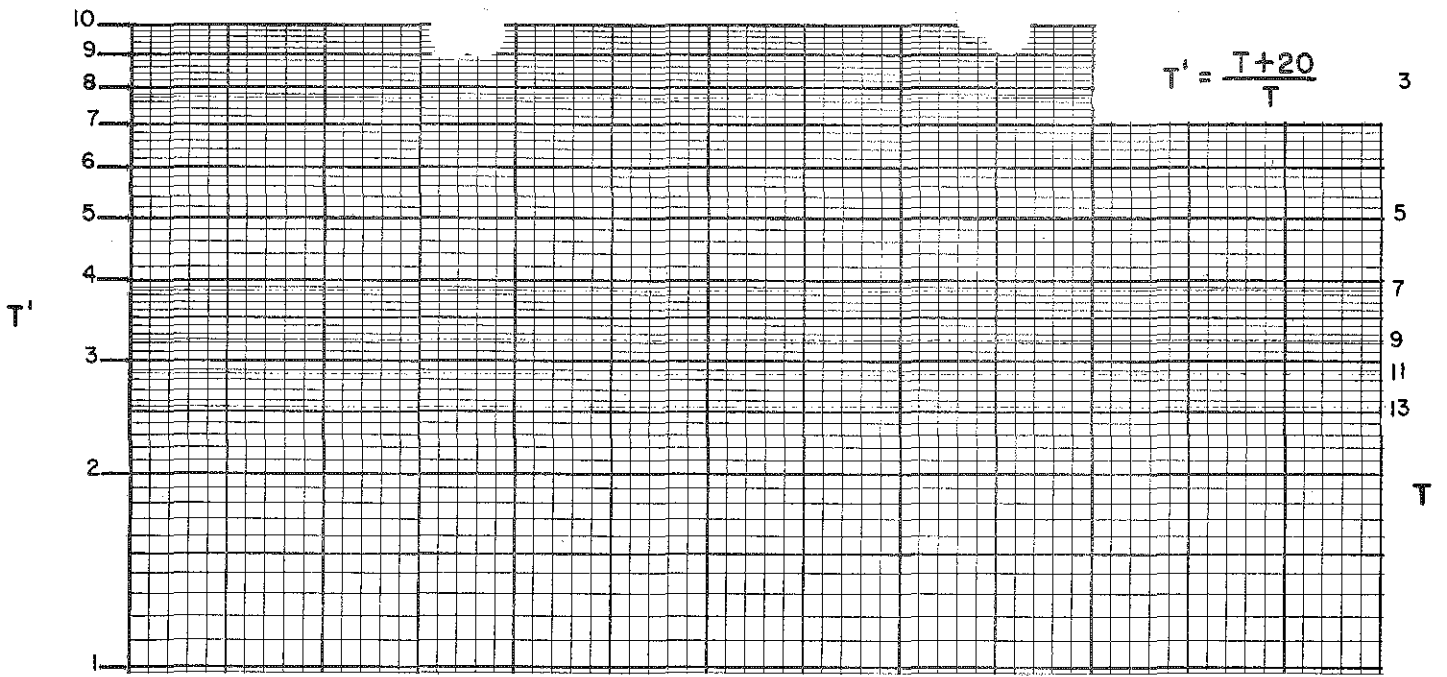
Property _____ T _____ R _____ sec _____

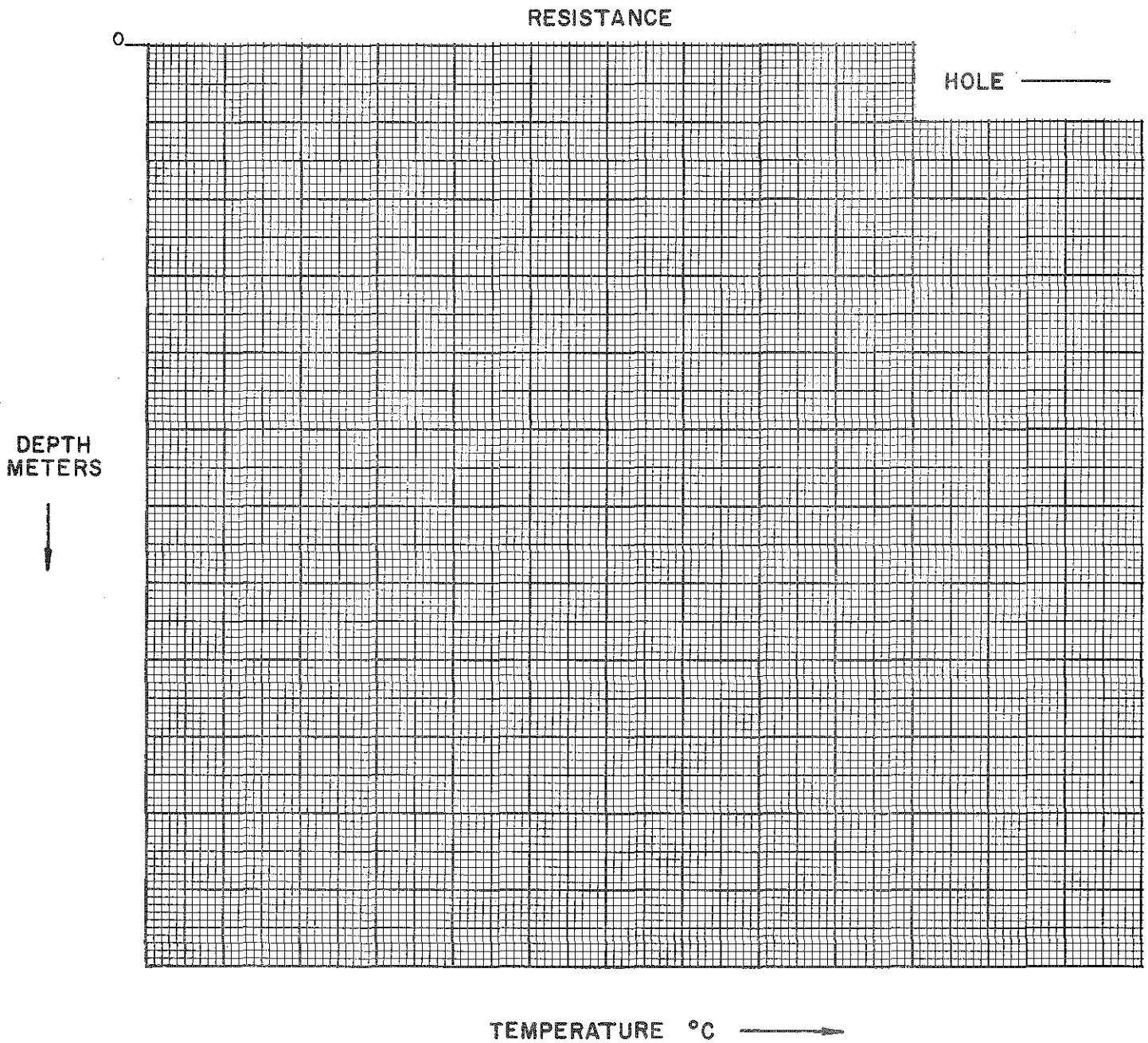
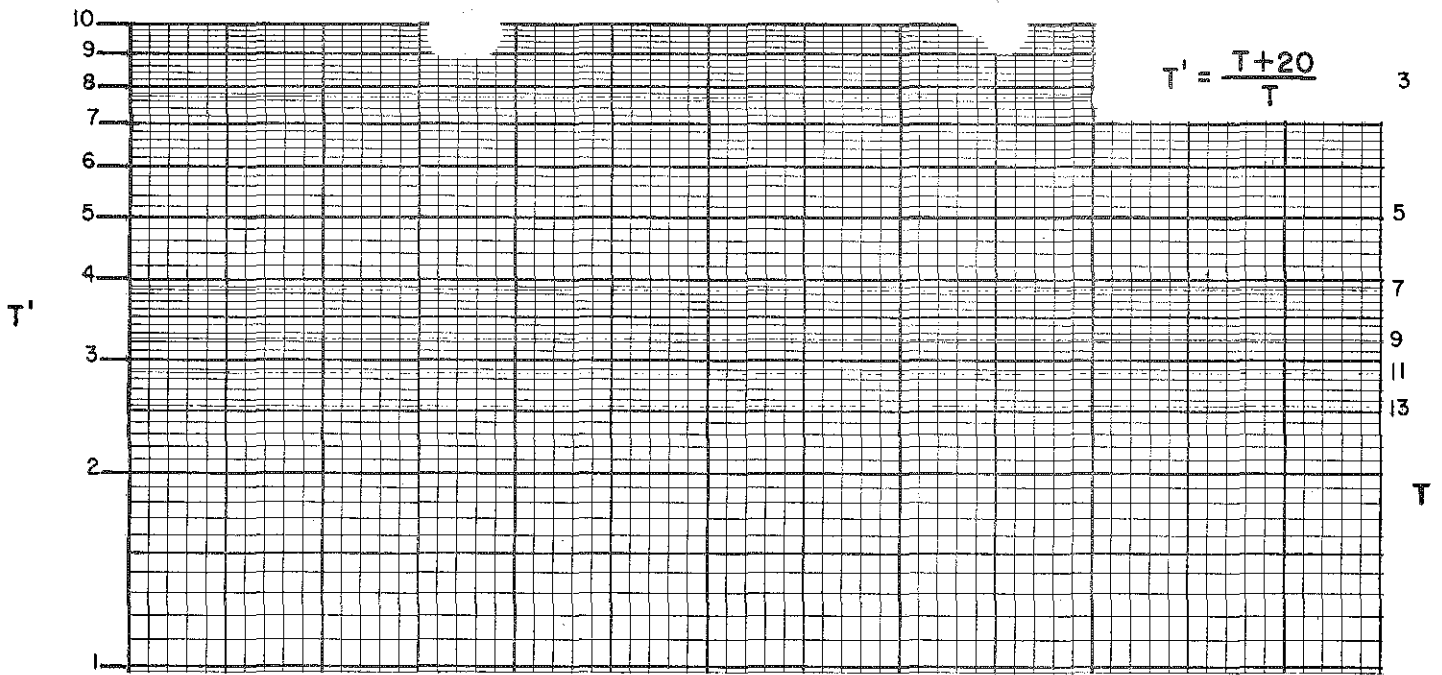
Drill Hole L-2 Date Drilled _____ Elevation _____ ft.

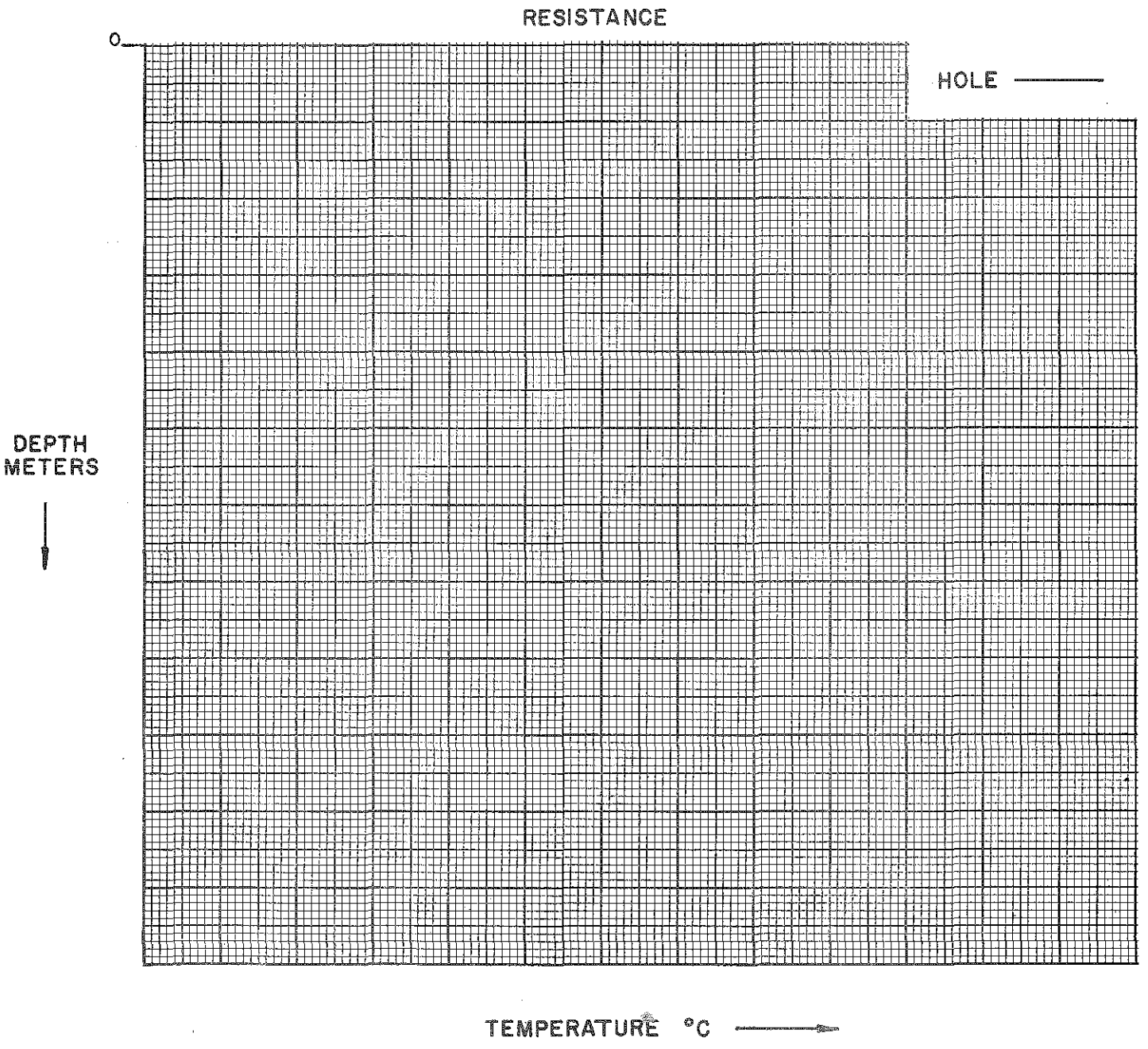
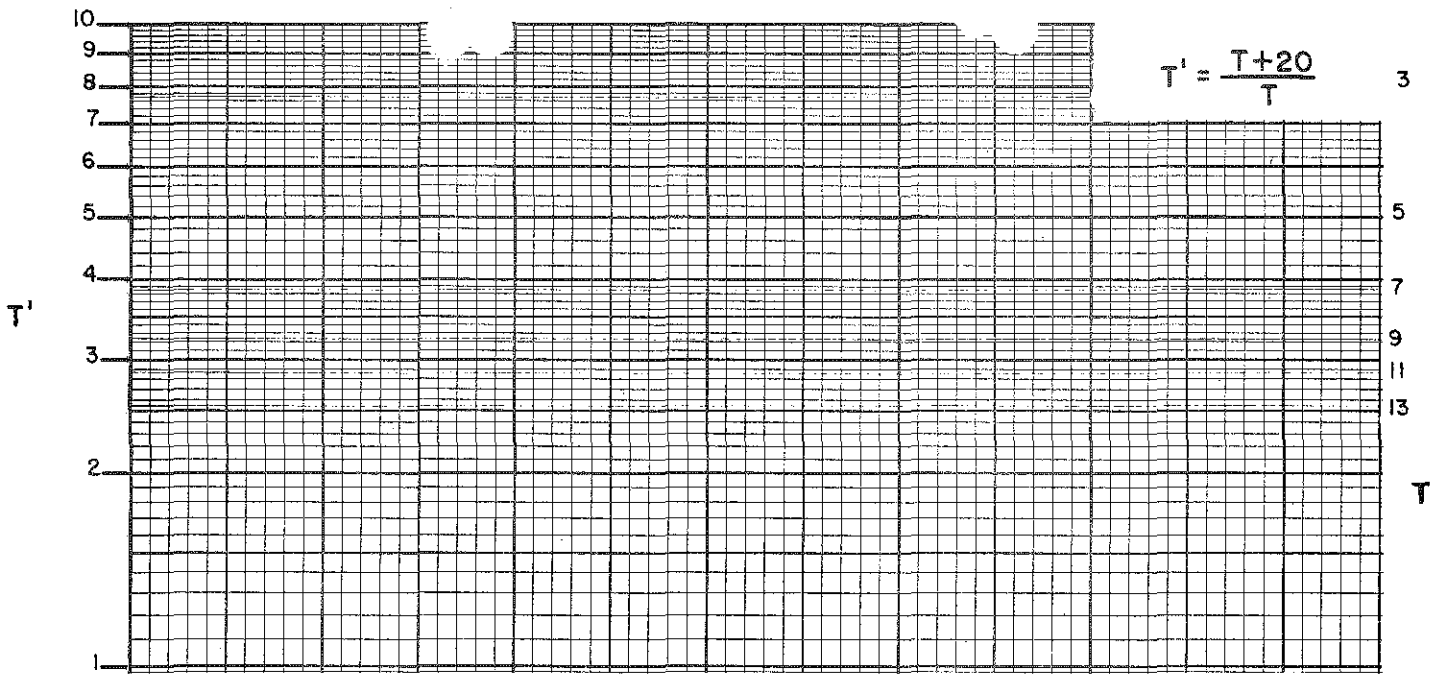
Instrument _____ Operator _____

Comments _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Gradient °C/Km Avg.	Comments
44	5282	15.175			
			.115	57.5	
46	5258	15.29			
			.13	65	
48	5230	15.42			
			.115	57.5	
50	5206	15.535			
			.06	30	
52	5194	15.595			
			.20	100	
54	5153	15.775			
			.155	77.5	
56	5121	15.95			
			.105	52.5	
58	5100	16.055			
			.125	62.5	
60	5074	16.18			
			.09	45	
62	5056	16.27			
			.105	52.5	
64	5035	16.375			
			.105	52.5	
66	5014	16.48			
			.11	55	
68	4993	16.59			
			.16	80	
70	4961	16.75			
			.115	57.5	
72	4938	16.865			
			.13	65	
74	4913	16.995			
			.15	75	
76	4884	17.145			
			.075	37.5	
78	4870	17.22			
			.115	57.5	
79	4848	17.335			
			.12	60	
81	4825	17.455			
			.125	62.5	
83	4801	17.58			
			.12	60	







TEMPERATURE - DEPTH LOG

Location CALCICLOSKI TAIL Date 8/5/75

Map SEVENTH FEDERAL QUAD

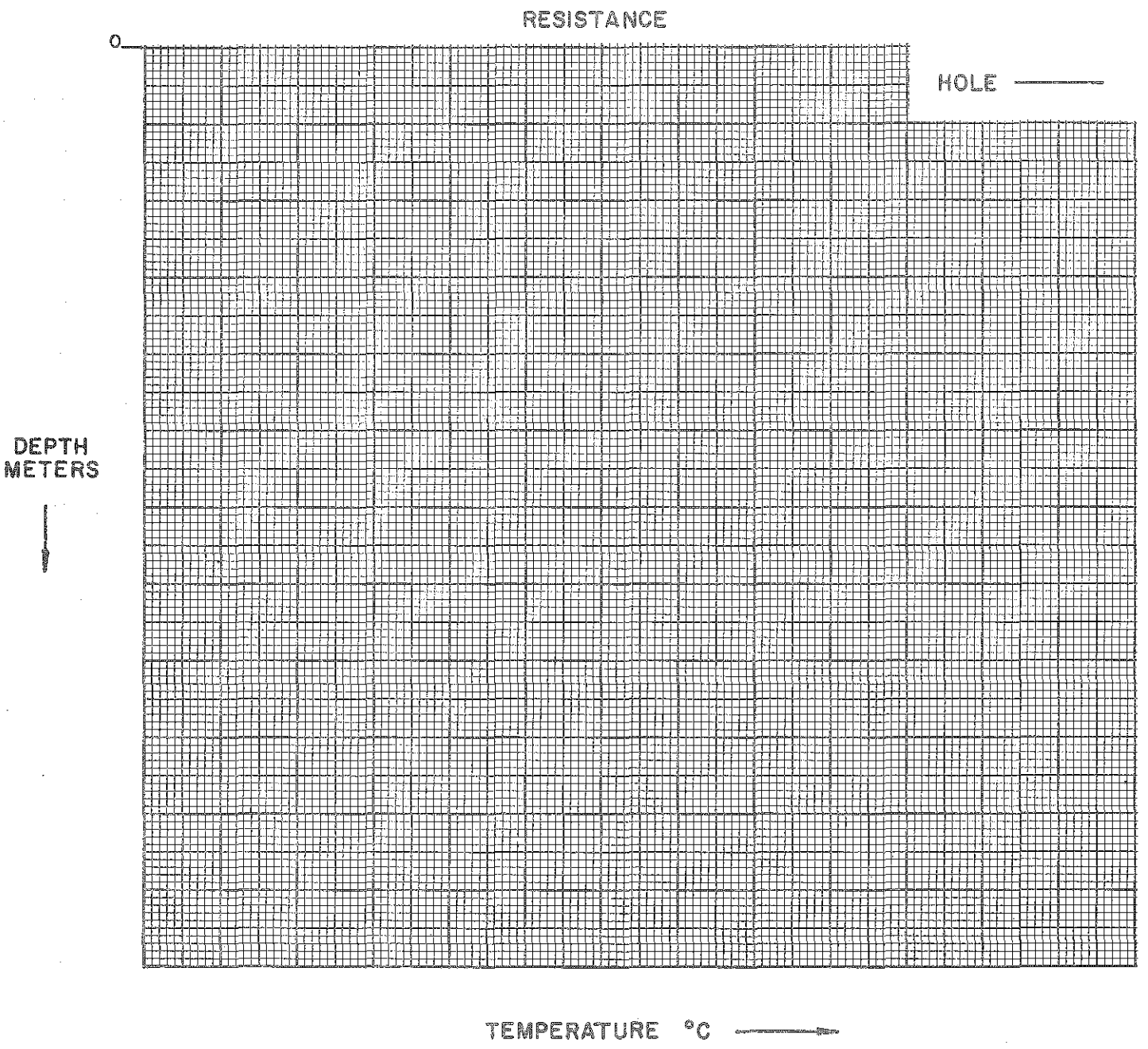
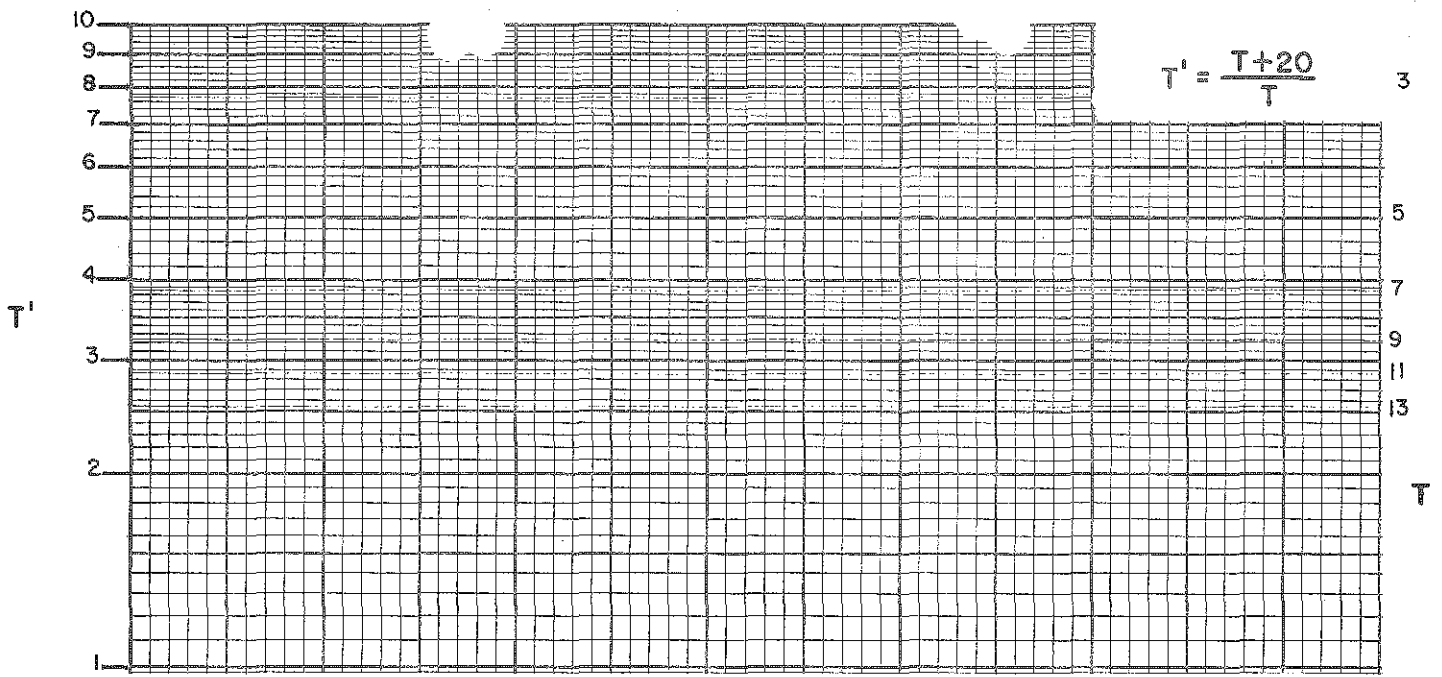
Property LIVERMORE T 211 R 521 sec 28

Drill Hole L-3 Date Drilled 7/7/75 Elevation 2400 ft.

Instrument _____ Operator VII

Comments _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Gradient °C/Km Avg.	Comments
2	5355	14.820			
				-1280	
	5392	12.860			
				-92.5	
	5987	12.075			
				200	
	5890	12.475			
				152.5	
10	5818	12.780			
				170	
	5738	13.120			
				35	
	5722	13.170			
				45	
	5701	13.250			
				35	
	5685	13.350			
				210	
20	5580	13.770			
				20	
	5590	13.810			
				105	
	5523	14.060			
				47.5	
	5511	14.115			
				57.5	
	5486	14.250			
				70	
30	5455	14.370			
				67.5	
	5426	14.505			
				52.5	
	5403	14.610			
				82.5	
	5367	14.775			
				67.5	
	5339	14.910			
				67.5	
40	5300	15.045			
				50	
	5288	15.145			
				50	



TEMPERATURE - DEPTH LOG

Location 00127731 2011 Date 8/5/75

Map _____

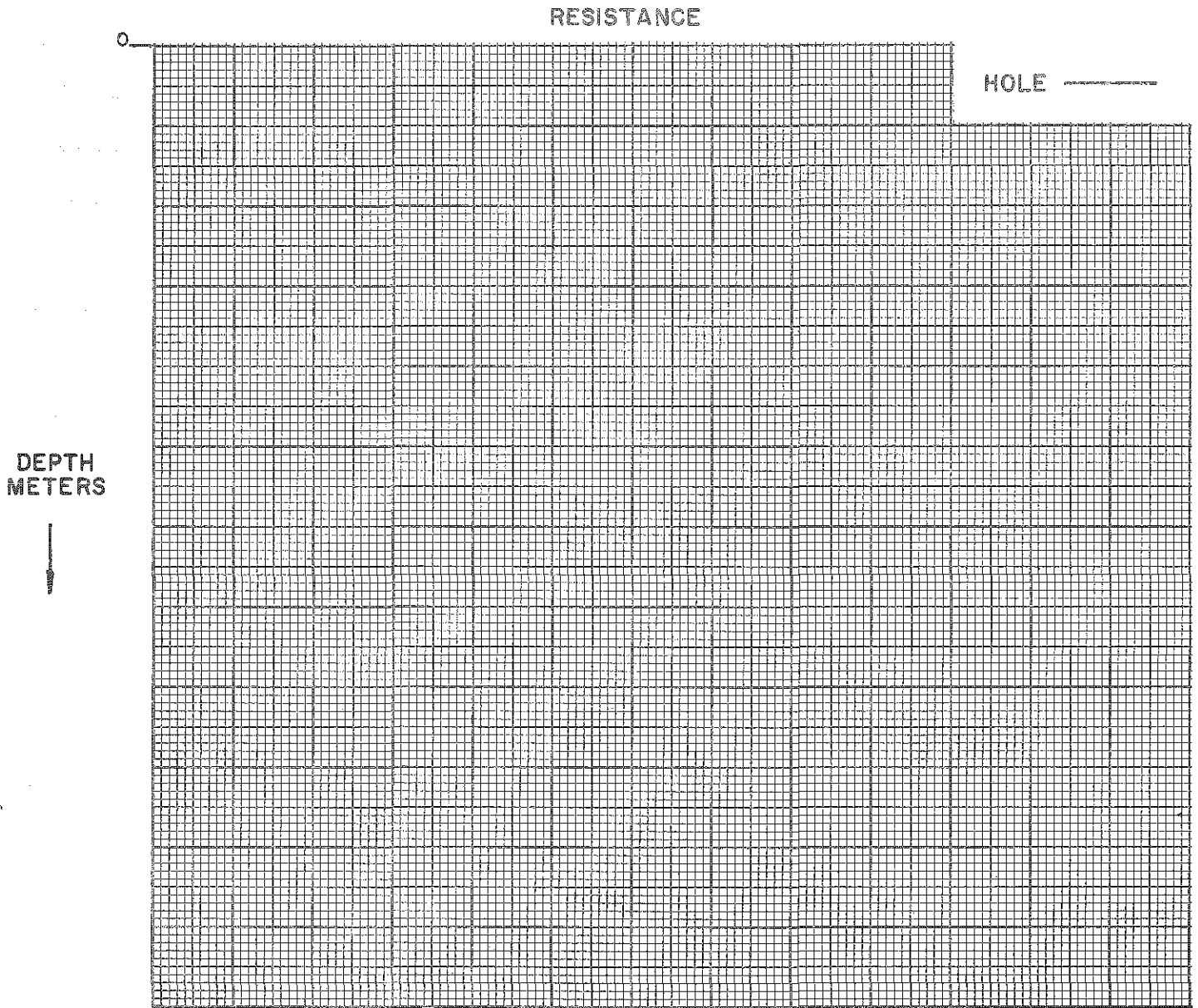
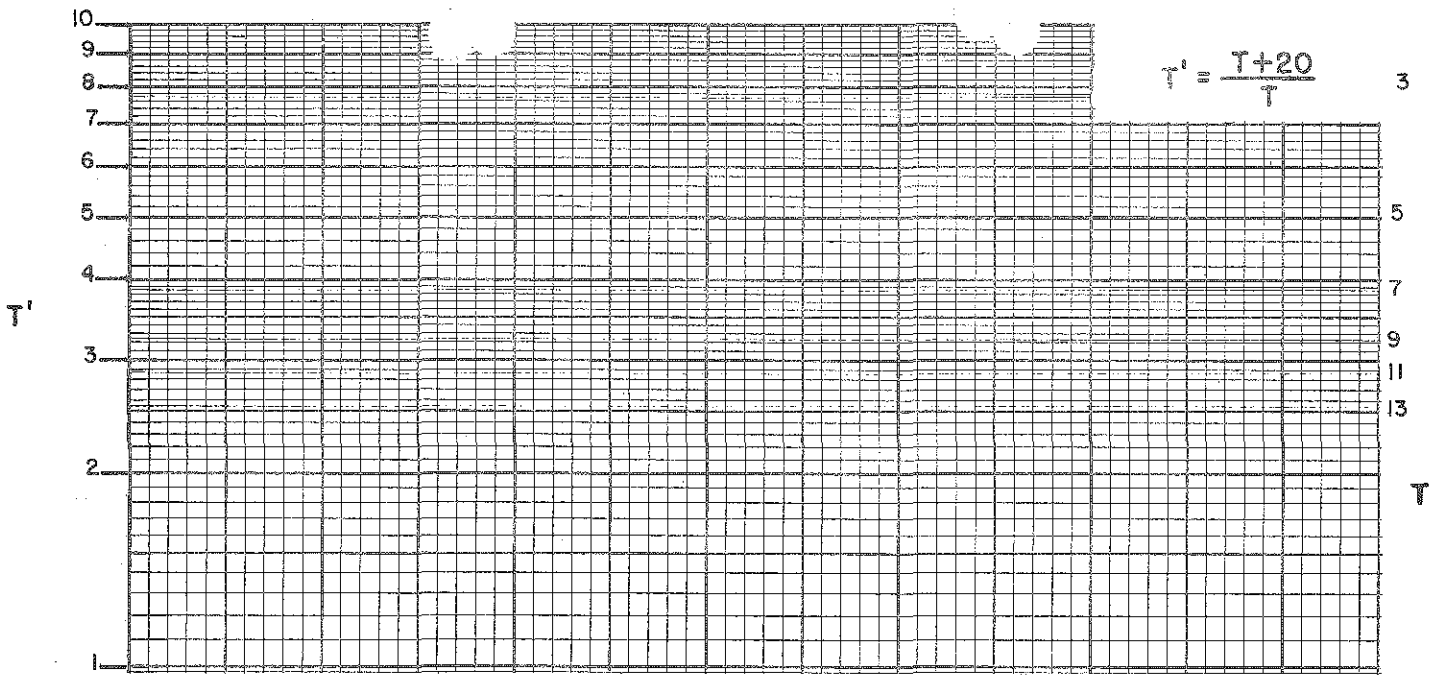
Property _____ T _____ R _____ sec _____

Drill Hole 1-3 Date Drilled _____ Elevation _____ ft.

Instrument _____ Operator _____

Comments _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Gradient °C/Km Avg.	Comments
44	5267	15.245			
				52.5	
46	5245	15.370			
				60	
48	5220	15.470			
				62.5	
50	5194	15.595			
				27.5	
52	5133	15.680			
				75	
54	5152	15.800			
				105	
56	5109	16.010			PROBE STUCK HAD TO RAISE AND
				27.5	LOWER 5 CM
58	5095	16.035			
				77.5	
60	5066	16.060			
				45	
62	5048	16.310			
				50	
64	5028	16.410			
				50	
66	5008	16.510			
				65	
68	4983	16.640			
				75	
70	4953	16.700			
				57.5	
72	4931	16.905			
				62.5	
74	4906	17.030			
				45	
76	4887	17.100			
				62.5	
78	4865	17.045			
				65	
79	4840	17.375			
				60	
81	4817	17.495			
				60	
83	4794	17.615			
				60	



TEMPERATURE °C —————>

