4.2 Carbon Dioxide Content Measurement in Soil Air

In the whole survey area, the distribution of CO_2 content in soil air is shown in Table III – 3. Three figures Fig. III – 8, Fig. III – 9 and Fig. III – 10 are showing the histogram of CO_2 content for the respective three divisional areas, the Northern, the Central, and the Southern areas.

The distributional trend which is noticed in the three figures is almost the same. However, the values of ratio of "number of total survey stations to number of stations with $0.5\% < CO_2$" and those of ratio of "number of total survey station to number of stations with $1.0\% < CO_2$" show slight difference.

The Central and Southern areas are more abundant with anomalous values of CO_2 content in soil air compared with the Northern area. On the contrary, the ground temperature at 1 meter depth is generally higher in the Northern area.

It is believed, as a rule, that the area from which a large amount of CO_2 is escaping is relatively high potential in geothermal and such an area must be paid attention from the exploration viewpoint.

The small scaled CO_2 distributions may be controlled by the faults (lineament) and the reason of the repeated distributial patterns of CO_2 along the N–S faults may be caused by the difference in CO_2 feeding from the depths and/or by the difference in permeability in the near surface portions of the faults.

The interpretation of the data on 1 meter depth ground temperature and CO_2 content in soil air, led us to the assumption that the water table in the Central area is deeper than that in the Northern area.

The topography in the Northern and Central areas shows that the general direction of underground water flow is from south to north.

According to the previous report prepared by the UN expert (gas geochemical expert) the following points are noticed by us:

(1) Only in the Southern area and in the southern part of the Central area, natural steams without air contamination ($O_2 = 0\%$) are recognized.

(2) About 20 steam samples from the Northern area and from the northern half of the Central area have high air contamination, regardless the blow out strength of the steam holes.

(3) The CO_2 content in the no-contamination steam samples ranges approximately from 0.1 to 0.4%.

Standing on the data stated above, it is supposed by us that the CO_2 content in steams from the reservoirs in the Southern area and the southern part of the Central area may be less than 0.4%. Furthermore, in the Central and Southern areas, the natural steam may be reserved in the reservoirs with relatively shallow depth (less than several hundreds meters deep), however, in the Northern area, in the relatively shallow reservoirs hot water may be reserved.

In the Northern area, many lineaments (faults) with relatively large and small scale and having coincidence with the distribution of CO_2 in soil air can easily be noticed, however, in the Central and Southern areas, a few number and large scale lineaments can be noticed. The areal distribution pattern of CO_2 in the whole survey area is likely to be same, in general.

The problem, stated above, is important from the standpoint of geology and geochemistry. Thus, studies on the stratigraphy for the youngest formation and on the history of faults should be continued.

Table III – 1 Observation Lines and Stations for Geochemical Survey in the Eburru Prospet

Area	Line	Initial Station	Final Station	Total Stations	Length of Observation Line	Hg in Soil air	CO_2in Soil air	Ground Temp.	Hg in Soil air	Number of Undetectable Stations	Remarks
Northern Area	Q	74	139	66	3.25(km)	66	59	59	59	7	
	P	75	130	56	2.75	56	43	43	43	13	
	O	74	132	59	2.95	59	47	47	47	12	
	N	73	125	53	2.60	53	46	46	46	7	
	M	70	131	62	3.05	62	42	42	42	20	
	L	74	122	49	2.40	49	35	35	35	14	
Central Area	K	91	130	40	1.95	40	34	34	34	6	
	J	100	131	32	1.55	28	24	24	24	8	*4
	I	93	133	41	2.00	40	31	31	31	10	*1
	H	84	156	73	3.60	73	57	57	57	16	
	G	82	159	78	3.95	78	69	69	69	9	
Southern Area	F	109	147	39	1.90	39	39	39	39	0	
	E	98	140	43	2.10	43	42	42	42	1	
	(B)	(15)	(25)	(11)	(1.00)	(20)	(20)	(20)	(20)	(0)	
	A	62 (10)	99 (30)	38 (21)	1.90 (2.00)	38 (31)	38 (31)	38 (31)	38 (31)	0 (0)	
	C	55 131 (15)	109 140 (25)	55 10 (11)	2.75 1.00 (1.00)	55 10 (20)	55 10 (20)	55 10 (20)	55 10 (20)	0 0 (0)	
	D	86	138	53	2.60	53	51	51	51	2	
Total		–	–	847	42.30	842	722	722	722	125	*5

( ) Numbers in brackets show previously surveyed station (Jan. – Feb. 1980).

* Show the number of stations from which Hg soil samples could not be taken.

Fig. III – 3

Hisogram of 1 Meter Depth Ground Temperature

in the Eburru Prospect

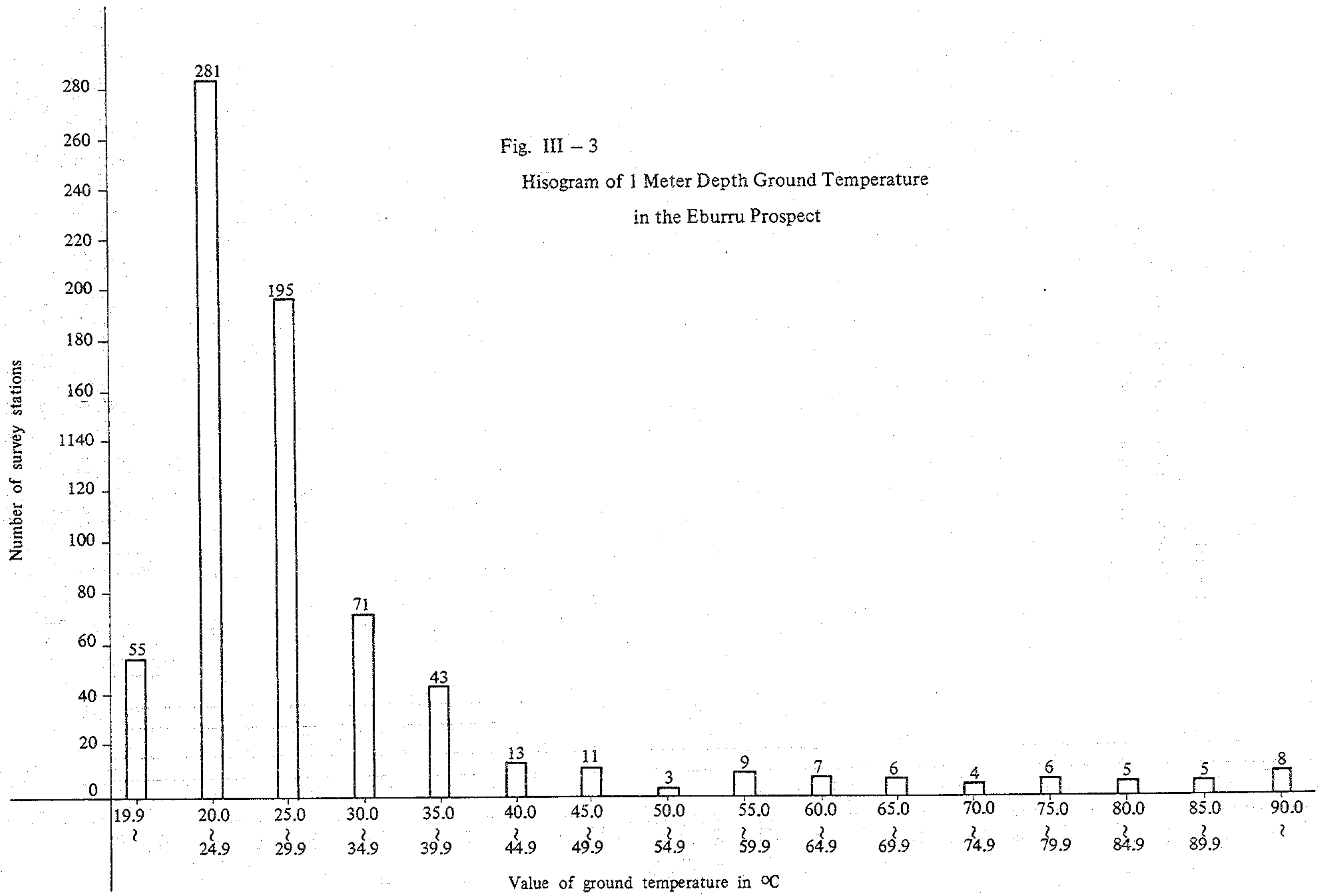

Fig. III – 4

Histogram of CO_2 (%) in Soil Air in the Eburru Prospect

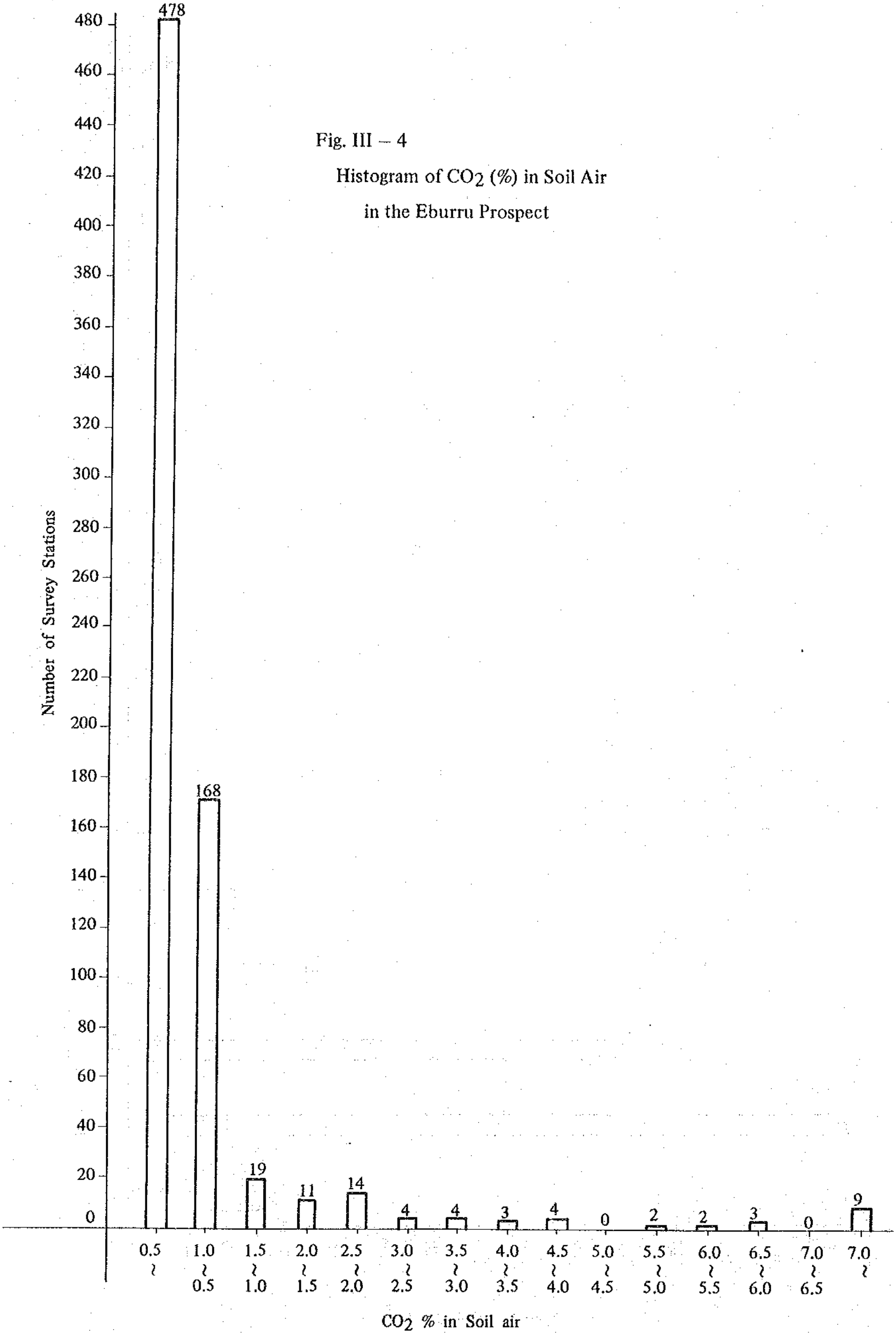

Fig. III – 5

Histogram of 1 Meter Depth Ground Temperature

in the Northern Area (line Q – L)

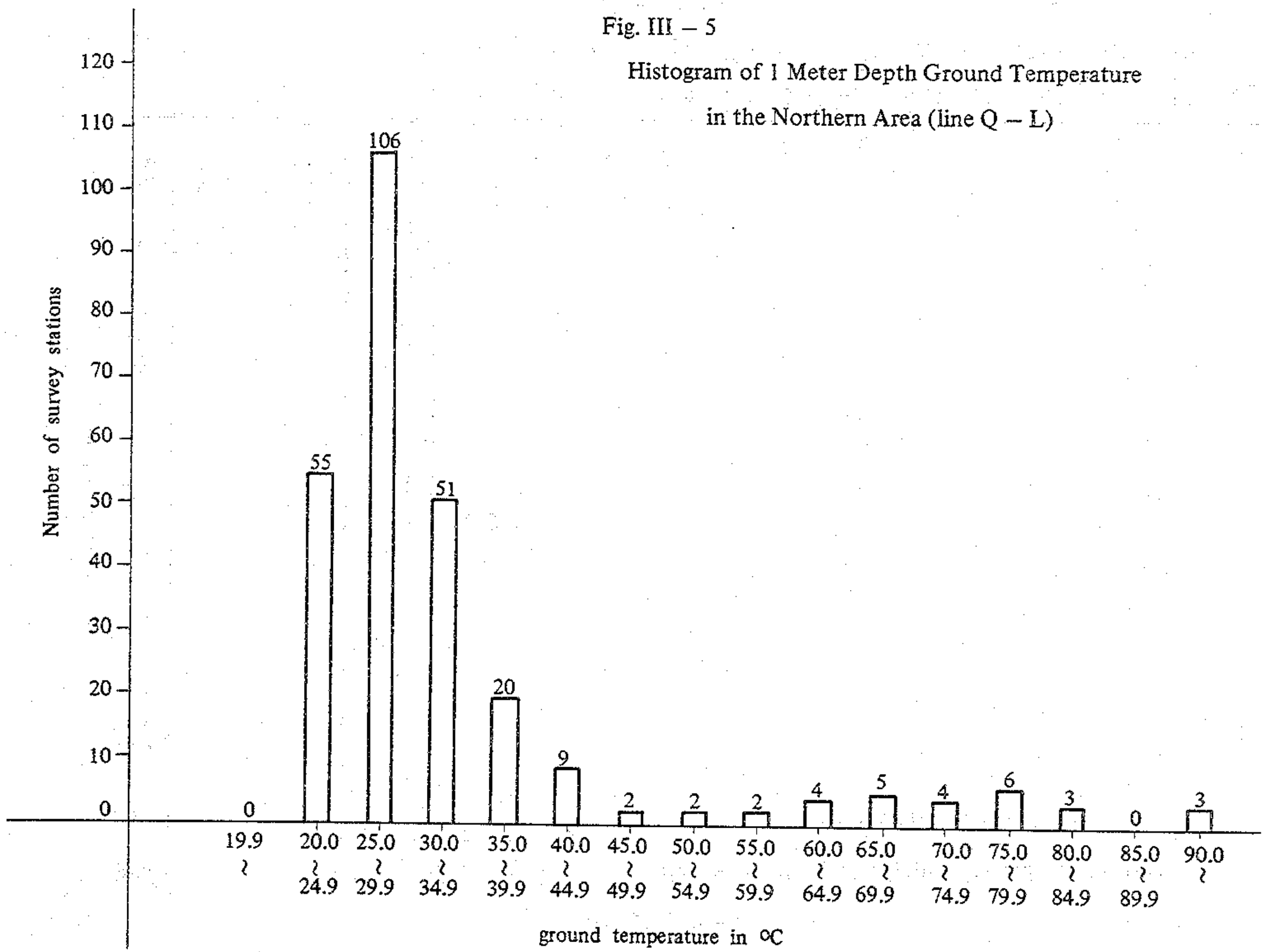

Fig. III – 6

Histogram of 1 Meter Depth Ground Temperature
in the Central Area (line K – F)

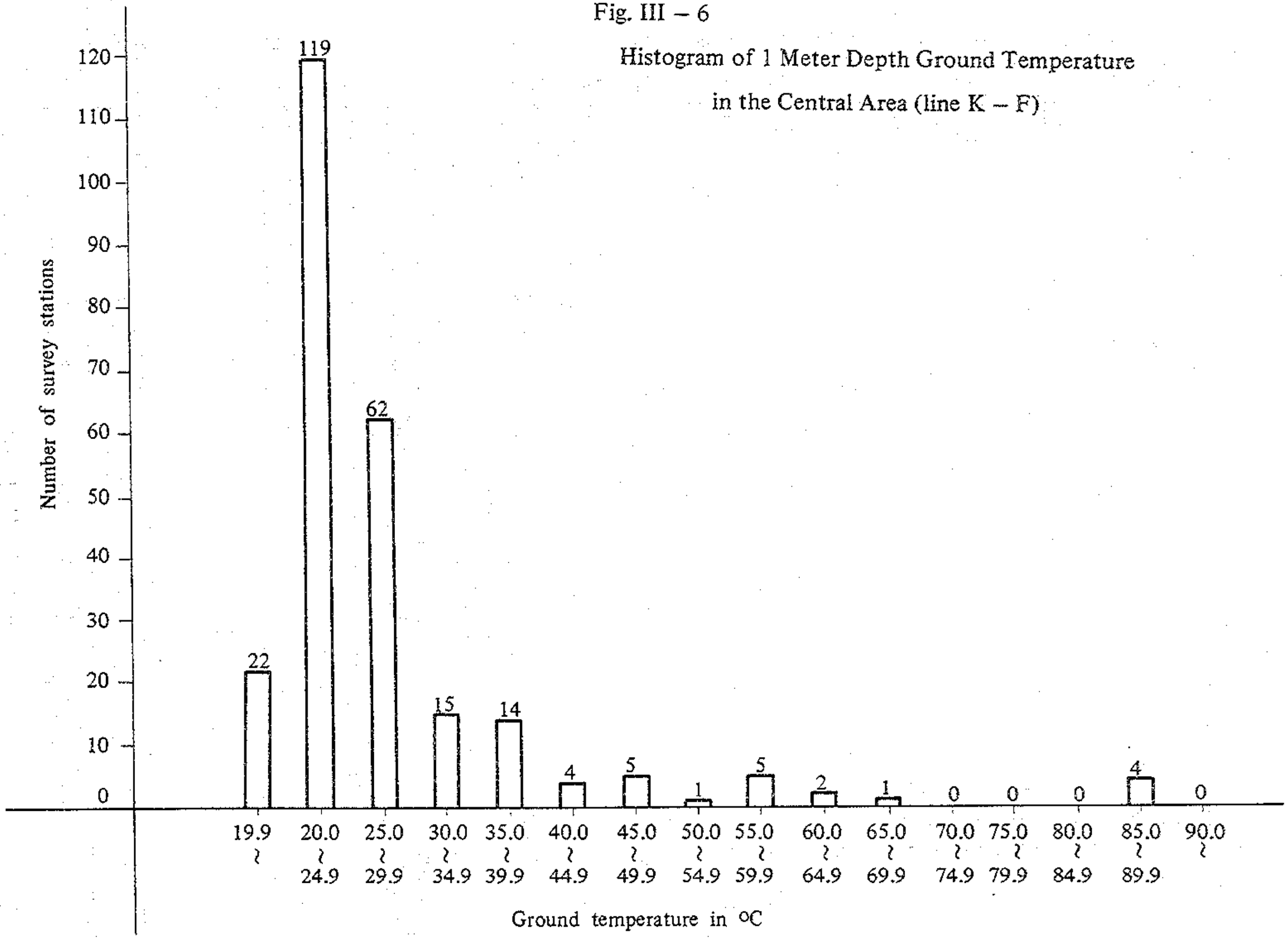

Fig. III – 7

Histogram of 1 Meter Depth Ground Temperature in the Southern Area (line E – A)

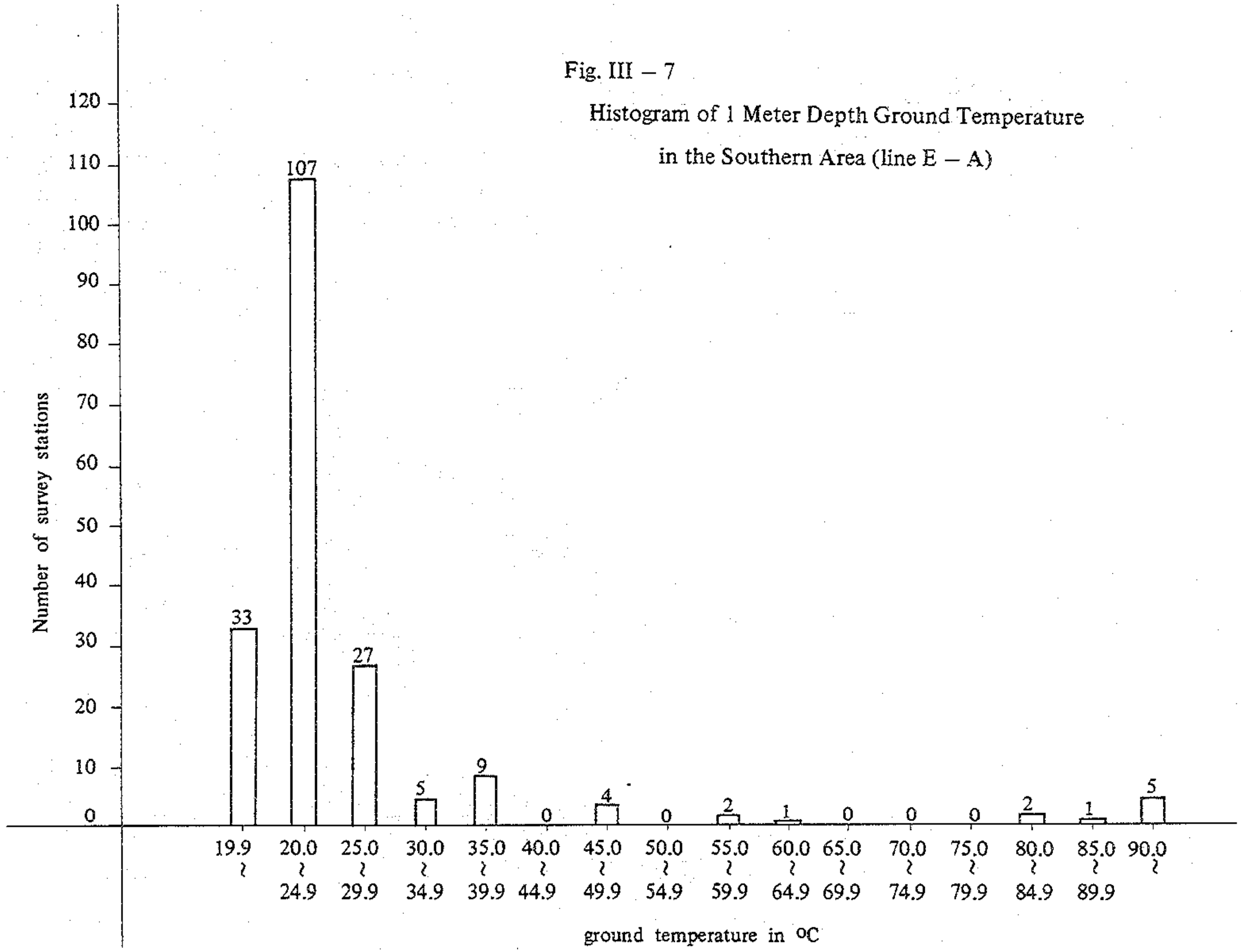

Fig. III – 8

Histogram of CO_2 Content in Soil Air

in the Northern Area (line Q – L)

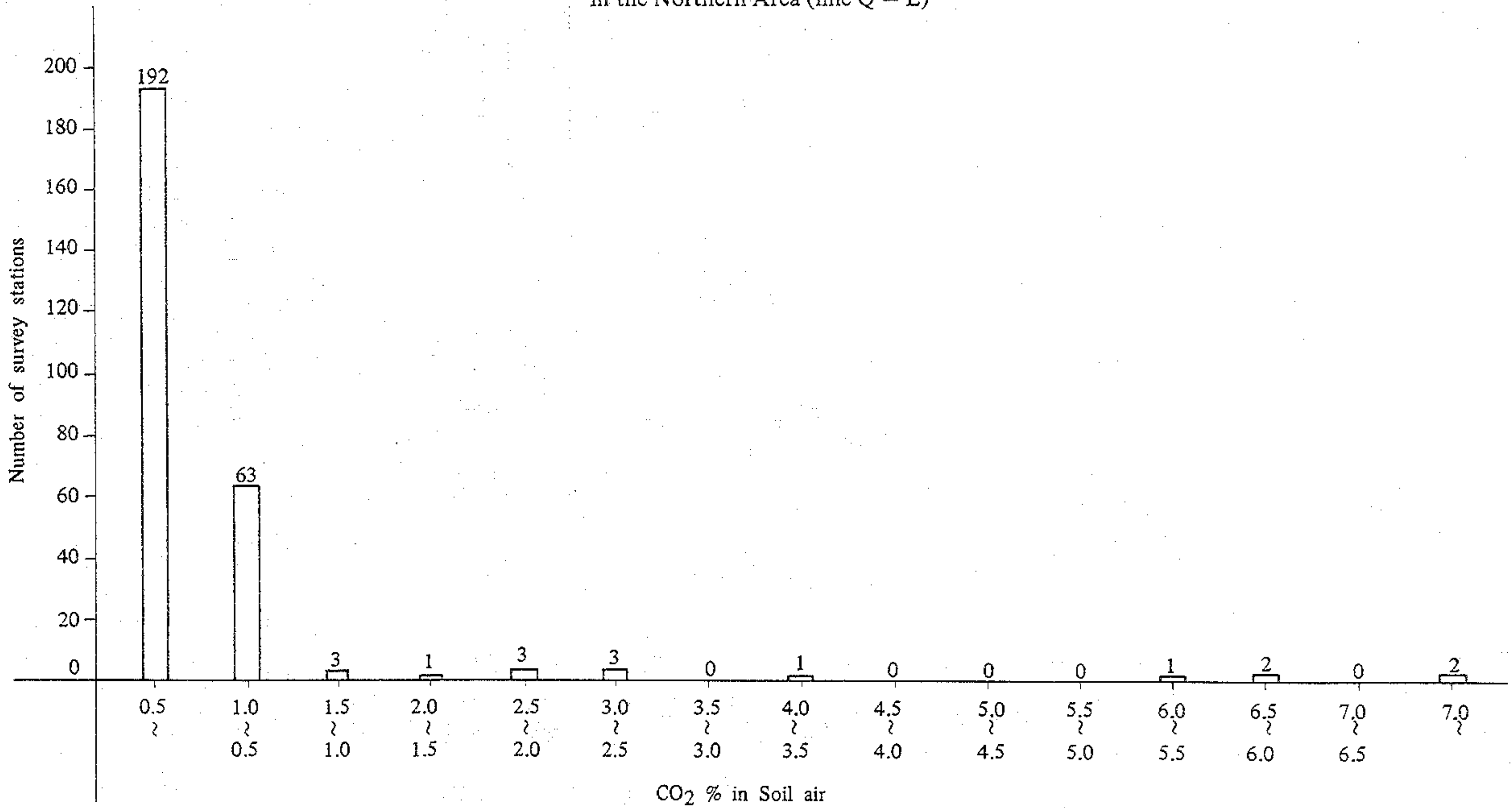

Fig. III – 9

Histogram of CO_2 Content in Soil Air
in the Central Area (line K – F)

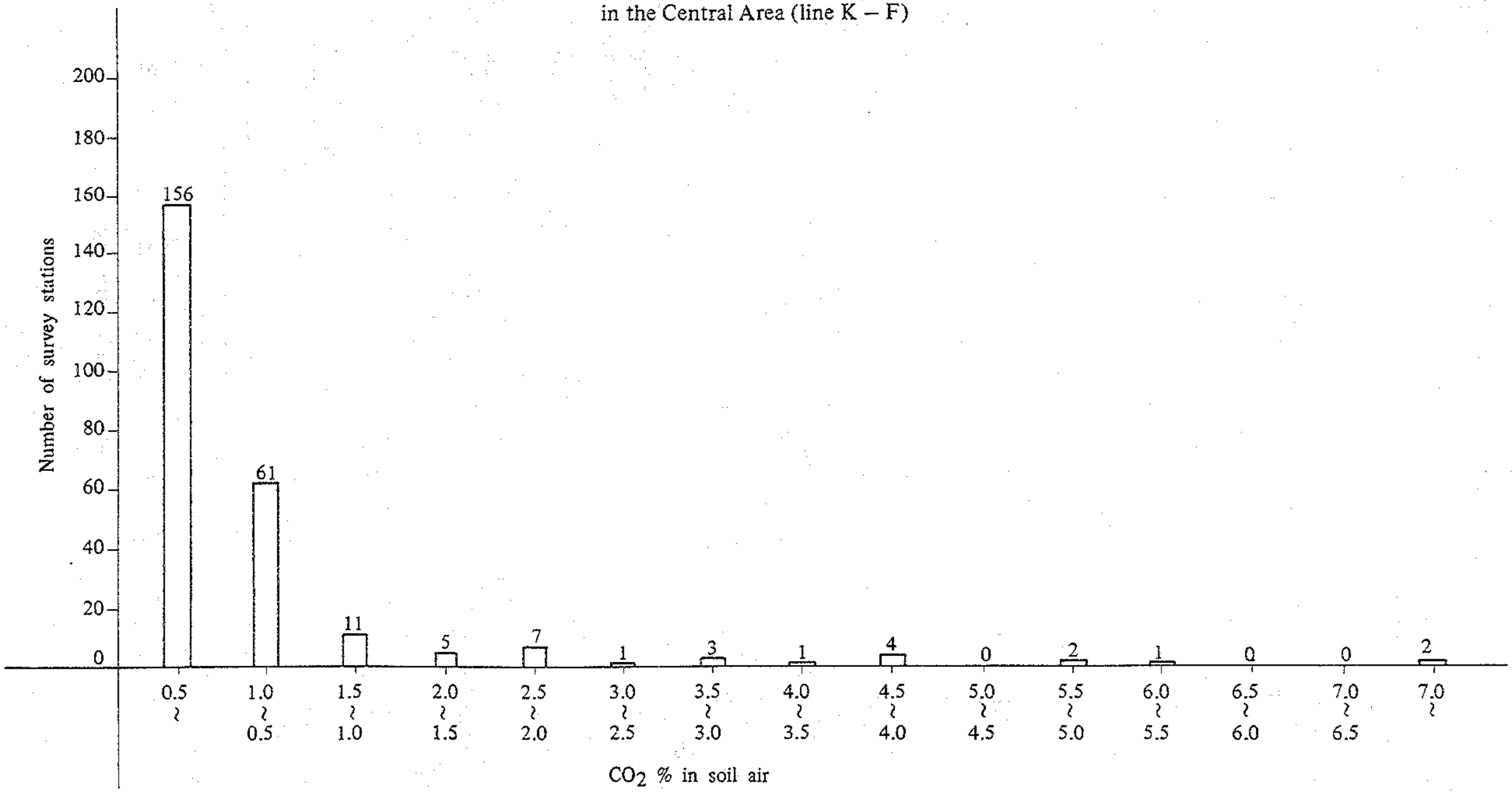

Fig. III – 10

Histogram of CO_2 Content in Soil Air

in the Southern Area (line E – A)

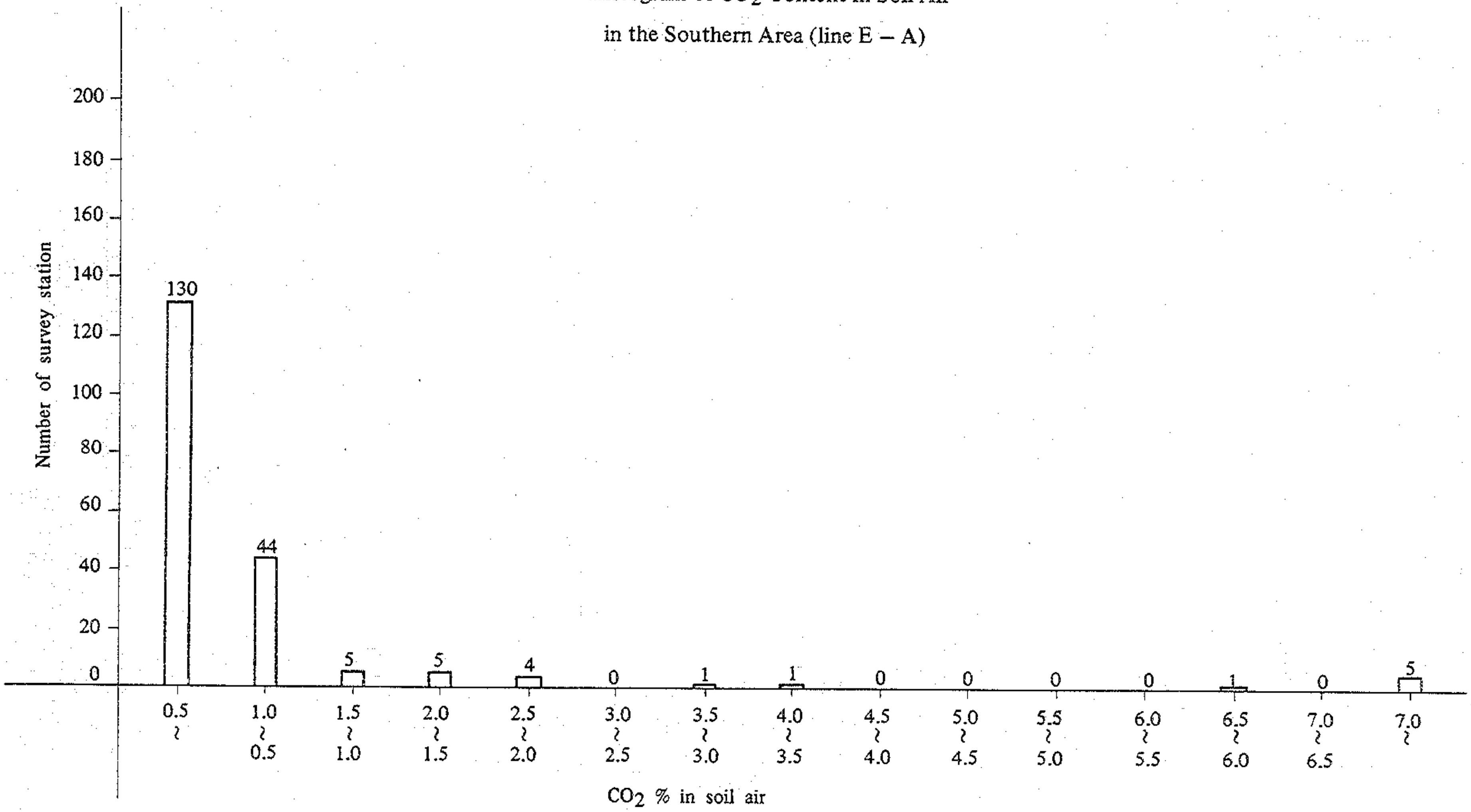

Table III – 2 Distribution of Values of 1 Meter Depth Ground Temperature

Range of Temp. (°C)	Northern Area (line Q–L)	Central Area (line K–F)	Southern Area (line E–A)	Whole Area	Remarks
~ 19.9	0	22	33	55	
20.0 ~ 24.9	55	119	107	281	
25.0 ~ 29.9	106	62	27	195	
30.0 ~ 34.9	51	15	5	71	
35.0 ~ 39.9	20	14	9	43	
40.0 ~ 44.9	9	4	0	13	
45.0 ~ 49.9	2	5	4	11	
50.0 ~ 54.9	2	1	0	3	
55.0 ~ 59.9	2	5	2	9	
60.0 ~ 64.9	4	2	1	7	
65.0 ~ 69.9	5	1	0	6	
70.0 ~ 74.9	4	0	0	4	
75.0 ~ 79.9	6	0	0	6	
80.0 ~ 84.9	3	0	2	5	
85.0 ~ 89.9	0	4	1	5	
90.0 ~	3	0	5	8	
Total	272	254	196	722	

Table III – 3 Distribution of Values of CO_2 in Soil Air

CO_2 % in Soil Air	Northern Area (line Q–L)	Central Area (line K–F)	Southern Area (line E–A)	Whole Area	Remarks
~ 0.5	192	156	130	478	
0.5 ~ 1.0	63	61	44	168	
1.0 ~ 1.5	3	11	5	19	
1.5 ~ 2.0	1	5	5	11	
2.0 ~ 2.5	3	7	4	14	
2.5 ~ 3.0	3	1	0	4	
3.0 ~ 3.5	0	3	1	4	
3.5 ~ 4.0	1	1	1	3	
4.0 ~ 4.5	0	4	0	4	
4.5 ~ 5.0	0	0	0	0	
5.0 ~ 5.5	0	2	0	2	
5.5 ~ 6.0	1	1	0	2	
6.0 ~ 6.5	2	0	1	3	
6.5 ~ 7.0	0	0	0	0	
7.0 ~	2	2	5	9	
Total	*271	254	196	*721	

* Station N–109 was neglected because of its strong microfial fermentation.

TABLE Ⅲ-4 FIELD DATA

Explanation
ID1: Name of Station
ID2: Environment of Sample
L—Field
F—Farm Land
E—Soil in 1 Meter Depth
S—Soil at the Surface
—9999,00 means "not measured"

SRW-2(STATISTICAL REPORT WRITER)   SEPT. TO NOV. 1980 (   )

* LIST OF DATA SELECTED.

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
1	77	Q-74	L-E	0.227	0.846	0.245
2	77	Q-75	L-E	0.340	0.859	0.245
3	77	Q-76	L-S	0.340	0.795	0.184
4	77	Q-77	L-E	0.340	0.781	0.245
5	77	Q-78	L-E	0.340	0.846	0.245
6	77	Q-79	L-E	0.227	0.819	0.245
7	77	Q-80	L-E	0.113	0.829	0.245
8	77	Q-81	L-E	0.227	0.795	0.245
9	77	Q-82	L-E	0.340	0.795	0.184
10	77	Q-83	L-E	0.227	0.846	0.245
11	77	Q-84	L-E	0.340	0.996	0.184
12	77	Q-85	L-E	0.567	0.913	0.184
13	77	Q-86	L-E	0.567	0.913	0.245
14	0	Q-87	L-S	-9999.000	-9999.000	0.184
15	0	Q-88	L-S	-9999.000	-9999.000	0.184
16	0	Q-89	L-S	-9999.000	-9999.000	0.184
17	77	Q-90	L-S	0.227	1.099	0.245
18	77	Q-91	L-S	0.454	0.978	0.245
19	77	Q-92	L-E	0.454	0.890	0.184
20	77	Q-93	L-S	0.113	0.856	0.307
21	77	Q-94	L-E	0.227	0.866	0.184
22	77	Q-95	L-S	0.113	0.845	0.245
23	77	Q-96	L-S	0.113	0.920	0.184
24	77	Q-97	L-S	0.113	0.893	0.184
25	77	Q-98	L-S	0.113	1.201	0.184
26	77	Q-99	L-S	0.113	1.025	0.184
27	77	Q-100	L-E	0.113	0.947	0.184
28	77	Q-101	L-S	0.113	0.845	0.184
29	77	Q-102	L-S	0.113	0.768	0.245
30	77	Q-103	L-S	0.113	1.218	0.245
31	77	Q-104	L-S	0.113	1.532	0.184
32	77	Q-105	L-S	0.113	1.516	0.184
33	77	Q-106	L-S	0.113	0.998	0.184
34	77	Q-107	L-E	0.113	0.785	0.307
35	77	Q-108	L-S	0.113	0.761	0.245
36	77	Q-109	L-S	0.113	0.795	0.245
37	77	Q-110	L-E	0.227	0.846	0.245
38	77	Q-111	L-S	0.227	0.920	0.245
39	77	Q-112	L-E	0.227	0.827	0.245
40	77	Q-113	L-S	0.227	0.866	0.245
41	77	Q-114	L-E	0.227	0.798	0.245
42	77	Q-115	L-S	0.227	0.856	0.184
43	77	Q-116	L-E	0.454	0.849	0.184
44	77	Q-117	L-E	0.454	1.099	0.184
45	77	Q-118	L-S	0.907	1.164	0.245
46	77	Q-119	L-E	0.340	1.235	0.245
47	77	Q-120	L-E	0.227	1.015	0.245
48	77	Q-121	L-S	0.227	0.920	0.184
49	77	Q-122	L-S	0.113	0.964	0.245
50	77	Q-123	L-E	0.454	0.998	0.245
51	0	Q-124	L-S	-9999.000	-9999.000	0.245
52	0	Q-125	L-S	-9999.000	-9999.000	0.245

DW	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
53	0	Q-126	L-S	-9999.000	-9999.000	0.245
54	77	Q-127	L-E	0.340	1.039	0.245
55	77	Q-128	L-E	0.454	0.860	0.245
56	77	Q-129	L-E	0.454	0.846	0.184
57	77	Q-130	L-S	0.340	0.917	0.184
58	77	Q-131	L-S	0.113	0.846	0.245
59	77	Q-132	L-S	0.227	1.015	0.184
60	77	Q-133	L-E	0.340	0.927	0.184
61	77	Q-134	L-E	0.227	0.880	0.184
62	77	Q-135	L-S	0.227	0.883	0.184
63	77	Q-136	L-S	0.227	1.099	0.184
64	77	Q-137	L-S	0.227	0.981	0.184
65	77	Q-138	L-S	0.227	0.981	0.123
66	0	Q-139	L-S	-9999.000	-9999.000	0.123
67	0	P-75	L-S	-9999.000	-9999.000	0.368
68	77	P-76	L-S	0.454	0.859	0.245
69	77	P-77	L-S	0.113	0.873	0.184
70	77	P-78	L-S	0.227	1.130	0.184
71	77	P-79	L-E	0.340	0.991	0.184
72	0	P-80	L-E	-9999.000	-9999.000	0.184
73	77	P-81	L-E	0.340	0.967	0.184
74	77	P-82	L-E	0.113	0.860	0.245
75	77	P-83	L-E	0.227	0.903	0.245
76	77	P-84	L-E	0.227	0.846	0.307
77	77	P-85	L-E	0.227	0.819	0.184
78	77	P-86	L-E	0.227	0.822	0.245
79	77	P-87	L-E	0.227	0.795	0.245
80	77	P-88	L-E	0.340	0.812	0.307
81	77	P-89	L-E	0.680	0.849	0.307
82	77	P-90	L-E	0.340	0.880	0.307
83	77	P-91	L-E	0.567	0.771	0.245
84	77	P-92	L-E	7.027	2.352	0.736
85	77	P-93	L-E	0.227	0.883	0.245
86	77	P-94	L-E	0.227	1.035	0.307
87	77	P-95	L-S	0.227	0.785	0.245
88	0	P-96	L-S	-9999.000	-9999.000	0.245
89	77	P-97	L-S	0.227	0.859	0.184
90	0	P-98	L-S	-9999.000	-9999.000	0.184
91	0	P-99	L-S	-9999.000	-9999.000	0.245
92	77	P-100	L-E	0.340	1.049	0.245
93	77	P-101	L-E	0.340	1.015	0.245
94	0	P-102	L-S	-9999.000	-9999.000	0.245
95	0	P-103	L-S	-9999.000	-9999.000	0.245
96	0	P-104	L-S	-9999.000	-9999.000	0.368
97	77	P-105	L-E	0.680	2.347	0.674
98	0	P-106	L-S	-9999.000	-9999.000	0.184
99	0	P-107	L-S	-9999.000	-9999.000	0.123
100	0	P-108	L-S	-9999.000	-9999.000	0.245
101	77	P-109	L-S	0.567	0.880	0.307
102	77	P-110	L-E	0.454	0.819	0.245
103	77	P-111	L-S	0.227	0.829	0.245
104	77	P-112	L-S	0.340	0.883	0.245
105	77	P-113	L-S	0.340	0.880	0.184
106	77	P-114	L-E	1.587	0.896	0.245

O#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
107	77	P-115	L-E	0.340	1.407	0.245
108	77	P-116	L-E	0.567	2.509	0.307
109	77	P-117	L-E	0.907	1.783	0.184
110	77	P-118	L-E	2.381	3.105	0.307
111	77	P-119	L-E	3.288	2.635	0.307
112	77	P-120	L-S	0.227	0.947	0.245
113	77	P-121	L-E	0.680	0.975	0.245
114	0	P-122	L-S	-9999.000	-9999.000	0.307
115	77	P-123	L-S	0.227	1.150	0.307
116	77	P-124	L-S	0.794	1.083	0.245
117	77	P-125	L-E	0.454	1.099	0.184
118	0	P-126	L-S	-9999.000	-9999.000	0.245
119	77	P-127	L-S	0.567	0.981	0.245
120	77	P-128	L-E	0.680	1.376	0.245
121	77	P-129	L-E	0.340	0.913	0.184
122	77	P-130	L-S	0.567	0.363	0.245
123	77	O-74	L-E	0.113	0.734	0.307
124	77	O-75	L-E	0.113	0.751	0.368
125	77	O-76	L-E	0.340	0.765	0.368
126	0	O-77	L-S	-9999.000	-9999.000	0.368
127	77	O-78	L-E	0.454	1.218	0.307
128	77	O-79	L-E	0.794	1.305	0.368
129	0	O-80	L-S	-9999.000	-9999.000	0.307
130	77	O-81	L-S	0.227	0.924	0.307
131	77	O-82	L-S	0.454	1.163	0.245
132	0	O-83	L-S	-9999.000	-9999.000	0.245
133	77	O-84	L-S	0.227	1.001	0.245
134	77	O-85	L-E	1.021	1.762	0.245
135	0	O-86	L-S	-9999.000	-9999.000	0.245
136	0	O-87	L-S	-9999.000	-9999.000	0.245
137	77	O-88	L-S	0.454	0.808	0.245
138	77	O-89	L-E	0.340	0.776	0.307
139	77	O-90	L-S	0.560	0.812	0.307
140	77	O-91	L-E	0.340	0.869	0.245
141	77	O-92	L-E	0.340	0.998	0.245
142	0	O-93	L-S	-9999.000	-9999.000	0.245
143	77	O-94	L-E	0.794	2.754	0.490
144	77	O-95	L-E	0.113	1.035	0.368
145	77	O-96	L-S	0.113	0.839	0.368
146	77	O-97	L-S	0.113	0.765	0.429
147	77	O-98	L-S	0.113	0.892	0.429
148	0	O-99	L-S	-9999.000	-9999.000	0.307
149	77	O-100	L-S	0.113	1.482	0.245
150	77	O-101	L-S	0.113	0.964	0.307
151	77	O-102	L-S	0.113	0.981	0.307
152	0	O-103	L-S	-9999.000	-9999.000	0.245
153	77	O-104	L-S	0.113	0.947	0.245
154	77	O-105	L-S	0.113	0.767	0.245
155	77	O-106	L-E	0.113	0.947	0.307
156	77	O-107	L-S	0.113	0.815	0.307
157	77	O-108	L-S	0.340	0.846	0.245
158	77	O-109	L-S	0.340	0.627	0.307
159	77	O-110	L-S	0.113	0.880	0.245
160	77	O-111	L-E	0.113	0.863	0.307

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
161	77	O-112	L-S	0.340	0.880	0.307
162	77	O-113	L-S	0.340	0.798	0.307
163	77	O-114	L-S	0.567	0.920	0.307
164	77	O-115	L-S	0.680	1.140	0.307
165	77	O-116	L-E	0.907	2.077	0.307
166	77	O-117	L-S	0.794	2.791	0.245
167	77	O-118	L-E	7.256	2.818	0.245
168	77	O-119	L-E	1.020	2.300	0.307
169	77	O-120	L-S	0.227	1.032	0.245
170	77	O-121	L-E	2.154	2.568	0.674
171	77	O-122	L-E	1.020	2.622	0.245
172	0	O-123	L-S	-9999.000	-9999.000	0.307
173	77	O-124	L-S	0.227	1.150	0.245
174	77	O-125	L-S	0.567	1.133	0.245
175	0	O-126	L-S	-9999.000	-9999.000	0.245
176	77	O-127	L-E	0.340	1.269	0.307
177	77	O-128	L-E	0.113	1.421	0.245
178	77	O-129	L-E	0.794	2.097	0.245
179	0	O-130	L-S	-9999.000	-9999.000	0.245
180	0	O-131	L-S	-9999.000	-9999.000	0.307
181	77	O-132	L-S	0.340	1.218	0.368
182	77	N-73	L-E	0.113	0.788	0.245
183	77	N-74	L-S	0.454	0.812	0.245
184	77	N-75	L-E	0.567	1.008	0.245
185	77	N-76	L-E	0.567	1.032	0.245
186	77	N-77	L-E	0.550	1.052	0.245
187	77	N-78	L-E	0.680	1.267	0.245
188	77	N-79	L-E	0.794	1.360	0.245
189	0	N-80	L-S	-9999.000	-9999.000	0.184
190	77	N-81	L-S	0.227	1.083	0.245
191	77	N-82	L-E	0.567	2.192	0.245
192	77	N-83	L-S	11.338	3.180	0.245
193	77	N-84	L-S	0.794	2.216	0.245
194	77	N-85	L-E	0.113	1.370	0.245
195	77	N-86	L-E	0.227	0.964	0.184
196	77	N-87	L-E	0.340	0.396	0.184
197	77	N-88	L-E	0.227	0.842	0.184
198	77	N-89	L-E	0.227	0.778	0.184
199	77	N-90	L-S	0.227	0.859	0.184
200	77	N-91	L-S	0.113	0.863	0.184
201	77	N-92	L-S	0.567	1.087	0.184
202	77	N-93	L-S	0.113	1.218	0.245
203	77	N-94	L-S	0.227	0.880	0.245
204	77	N-95	L-S	0.113	0.829	0.184
205	77	N-96	L-S	0.113	0.829	0.245
206	77	N-97	L-S	0.113	0.961	0.245
207	77	N-98	L-S	0.113	1.069	0.245
208	77	N-99	L-S	0.113	1.213	0.307
209	77	N-100	L-S	0.113	1.015	0.245
210	77	N-101	L-S	0.113	0.947	0.245
211	77	N-102	L-S	0.113	1.025	0.245
212	77	N-103	L-S	0.113	0.737	0.245
213	77	N-104	L-S	0.113	0.812	0.245
214	0	N-105	L-S	-9999.000	-9999.000	0.307

SRW-2(STATISTICAL REPORT WRITER) SEPT. TO NOV. 1980 (   )

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
215	77	N-106	L-S	0.113	1.137	0.368
216	0	N-107	L-S	-9999.000	-9999.000	0.368
217	77	N-108	L-S	0.227	1.015	0.307
218	0	N-109	F-E	-9999.000	0.934	0.245
219	77	N-110	L-S	0.227	0.866	0.245
220	77	N-111	L-S	0.227	0.947	0.184
221	77	N-112	L-S	0.454	1.032	0.245
222	77	N-113	L-S	0.454	0.933	0.245
223	0	N-114	L-S	-9999.000	-9999.000	0.245
224	0	N-115	L-S	-9999.000	-9999.000	0.368
225	0	N-116	L-S	-9999.000	-9999.000	0.307
226	0	N-117	L-S	-9999.000	-9999.000	0.307
227	77	N-118	L-S	0.340	0.913	0.245
228	77	N-119	L-S	0.227	1.032	0.490
229	77	N-120	L-E	0.794	2.385	0.981
230	77	N-121	L-S	0.113	1.062	0.245
231	77	N-122	L-E	3.175	2.595	0.920
232	77	N-123	L-S	0.454	1.590	0.307
233	77	N-124	L-S	0.227	1.404	0.307
234	77	N-125	L-E	0.340	2.351	0.368
235	77	M-70	L-E	0.340	0.785	0.245
236	77	M-71	L-E	0.227	0.812	0.245
237	77	M-72	L-S	0.454	0.859	0.307
238	77	M-73	L-S	0.340	0.846	0.245
239	0	M-74	L-S	-9999.000	-9999.000	0.307
240	77	M-75	L-S	0.227	0.795	0.307
241	77	M-76	L-E	0.454	0.862	0.245
242	77	M-77	L-E	0.680	0.744	0.245
243	77	M-78	L-E	0.340	0.744	0.245
244	77	M-79	L-E	0.113	0.829	0.307
245	77	M-80	L-E	0.340	0.947	0.245
246	77	M-81	L-S	0.227	0.781	0.307
247	77	M-82	L-S	0.340	0.907	0.245
248	77	M-83	L-S	0.227	1.225	0.245
249	77	M-84	L-E	3.288	2.395	0.245
250	77	M-85	L-S	0.227	1.147	0.245
251	77	M-86	L-E	9.977	3.146	2.575
252	77	M-87	L-E	0.794	1.137	0.368
253	77	M-88	L-E	0.227	0.913	0.307
254	0	M-89	L-S	-9999.000	-9999.000	0.307
255	0	M-90	L-S	-9999.000	-9999.000	0.245
256	77	M-91	L-S	0.454	1.221	0.307
257	77	M-92	L-S	0.567	1.116	0.245
258	77	M-93	L-E	0.907	1.184	0.184
259	77	M-94	L-E	0.794	1.165	0.184
260	77	M-95	L-E	0.454	1.015	0.184
261	77	M-96	L-E	0.227	0.937	0.184
262	77	M-97	L-E	0.680	0.947	0.245
263	77	M-98	L-S	0.340	1.242	0.245
264	77	M-99	L-S	0.794	1.332	0.184
265	0	M-100	L-S	-9999.000	-9999.000	0.245
266	0	M-101	L-S	-9999.000	-9999.000	0.245
267	0	M-102	L-S	-9999.000	-9999.000	0.245
268	0	M-103	L-S	-9999.000	-9999.000	0.245

D#	TG	ID1	ID2	1 CO_2/M	2 TEMP/M	3 HG/M
269	77	M-104	L-S	0.227	0.859	0.245
270	0	M-105	L-S	-9999.000	-9999.000	0.245
271	0	M-106	L-S	-9999.000	-9999.000	0.184
272	0	M-107	L-S	-9999.000	-9999.000	0.245
273	0	M-108	L-S	-9999.000	-9999.000	0.245
274	0	M-109	L-S	-9999.000	-9999.000	0.245
275	77	M-110	L-S	0.454	0.951	0.245
276	77	M-111	L-S	0.340	0.934	0.245
277	0	M-112	L-S	-9999.000	-9999.000	0.245
278	0	M-113	L-S	-9999.000	-9999.000	0.245
279	77	M-114	L-S	0.680	0.920	0.184
280	0	M-115	L-S	-9999.000	-9999.000	0.184
281	0	M-116	L-S	-9999.000	-9999.000	0.184
282	77	M-117	L-S	0.907	1.164	0.184
283	77	M-118	L-E	4.422	2.639	0.184
284	77	M-119	L-S	0.454	1.072	0.184
285	0	M-120	L-S	-9999.000	-9999.000	0.184
286	77	M-121	L-E	6.463	2.503	0.184
287	0	M-122	L-S	-9999.000	-9999.000	0.184
288	77	M-123	L-S	0.567	1.150	0.184
289	0	M-124	L-S	-9999.000	-9999.000	0.429
290	0	M-125	L-S	-9999.000	-9999.000	0.245
291	77	M-126	L-S	0.454	1.079	0.245
292	77	M-127	L-E	0.794	1.373	0.245
293	77	M-128	L-E	0.680	2.135	0.245
294	77	M-129	L-S	0.907	1.018	0.184
295	77	M-130	L-E	0.340	1.262	0.184
296	77	M-131	L-E	0.454	2.229	0.245
297	77	L-74	L-S	0.680	0.920	0.184
298	77	L-75	L-S	0.454	0.981	0.184
299	77	L-76	L-S	1.020	0.880	0.307
300	0	L-77	L-S	-9999.000	-9999.000	0.307
301	77	L-78	L-S	0.680	0.967	0.307
302	77	L-79	L-S	1.247	1.170	0.245
303	77	L-80	L-S	2.268	2.297	0.307
304	77	L-81	L-S	1.134	1.218	0.490
305	77	L-82	L-S	2.381	1.147	0.184
306	77	L-83	L-S	0.340	1.319	0.245
307	77	L-84	L-S	0.454	1.167	0.245
308	77	L-85	L-S	0.794	1.032	0.245
309	77	L-86	L-S	0.340	0.930	0.307
310	0	L-87	L-S	-9999.000	-9999.000	0.245
311	0	L-88	L-S	-9999.000	-9999.000	0.307
312	0	L-89	L-S	-9999.000	-9999.000	0.307
313	0	L-90	L-S	-9999.000	-9999.000	0.307
314	77	L-91	L-S	0.907	0.798	0.307
315	0	L-92	L-S	-9999.000	-9999.000	0.245
316	0	L-93	L-S	-9999.000	-9999.000	0.307
317	77	L-94	L-S	0.340	1.032	0.245
318	77	L-95	L-S	0.454	0.974	0.245
319	77	L-96	L-S	0.340	0.998	0.307
320	77	L-97	L-S	0.680	1.066	0.368
321	0	L-98	L-S	-9999.000	-9999.000	0.429
322	0	L-99	L-S	-9999.000	-9999.000	0.368

D#	TG	101	102	1 CO2/M	2 TEMP/M	3 HG/M
323	77	L-100	L-S	0.454	1.045	0.429
324	77	L-101	L-S	0.794	0.930	0.368
325	77	L-102	L-S	0.454	0.924	0.245
326	77	L-103	L-S	0.227	0.829	0.245
327	0	L-104	L-S	-9999.000	-9999.000	0.245
328	0	L-105	L-S	-9999.000	-9999.000	0.245
329	77	L-106	L-S	0.227	1.015	0.184
330	77	L-107	L-S	0.567	0.964	0.245
331	77	L-108	L-S	0.567	1.745	0.368
332	77	L-109	L-S	0.567	1.319	0.307
333	77	L-110	L-S	0.454	0.819	0.245
334	0	L-111	L-S	-9999.000	-9999.000	0.245
335	77	L-112	L-S	0.227	0.734	0.307
336	77	L-113	L-S	0.227	0.812	0.245
337	77	L-114	L-S	0.680	0.356	0.245
338	77	L-115	L-S	0.567	0.853	0.245
339	0	L-116	L-S	-9999.000	-9999.000	0.307
340	0	L-117	L-S	-9999.000	-9999.000	0.245
341	77	L-118	L-S	0.567	0.744	0.307
342	77	L-119	L-S	0.567	0.717	0.245
343	77	L-120	L-S	0.907	0.754	0.245
344	77	L-121	L-S	0.113	1.375	0.245
345	77	L-122	L-S	0.227	0.721	0.307
346	77	K-91	L-S	0.794	0.976	0.184
347	77	K-92	L-S	1.474	1.254	0.245
348	0	K-93	L-S	-9999.000	-9999.000	0.245
349	77	K-94	L-S	0.227	0.913	0.245
350	77	K-95	L-S	0.227	0.580	0.307
351	0	K-96	L-S	-9999.000	-9999.000	0.245
352	77	K-97	L-S	0.340	0.883	0.184
353	77	K-98	L-S	0.227	0.976	0.307
354	77	K-99	L-S	0.340	0.869	0.245
355	77	K-100	L-S	0.454	0.954	0.184
356	77	K-101	L-S	0.454	0.751	0.307
357	77	K-102	L-S	0.340	0.863	0.245
358	77	K-103	L-S	0.680	0.781	0.245
359	77	K-104	L-S	0.340	0.761	0.184
360	77	K-105	L-S	0.567	1.370	0.245
361	77	K-106	L-S	0.227	0.947	0.245
362	77	K-107	L-S	0.567	0.734	0.245
363	0	K-108	L-S	-9999.000	-9999.000	0.245
364	0	K-109	L-S	-9999.000	-9999.000	0.184
365	77	K-110	L-S	0.340	0.812	0.184
366	77	K-111	L-S	0.454	0.302	0.245
367	77	K-112	L-S	0.454	0.781	0.245
368	77	K-113	L-S	0.227	0.812	0.184
369	77	K-114	L-S	0.567	0.734	0.245
370	0	K-115	L-S	-9999.000	-9999.000	0.245
371	0	K-116	L-S	-9999.000	-9999.000	0.245
372	77	K-117	L-S	0.794	0.836	0.245
373	77	K-118	L-S	0.567	0.744	0.245
374	77	K-119	L-S	0.680	0.744	0.184
375	77	K-120	L-S	0.227	0.744	0.245
376	77	K-121	L-S	0.340	0.744	0.245

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
377	77	K-122	L-S	0.340	0.748	0.245
378	77	K-123	L-S	0.227	0.717	0.245
379	77	K-124	L-S	0.454	0.727	0.184
380	77	K-125	L-S	0.454	0.795	0.184
381	77	K-126	L-S	0.794	0.778	0.184
382	77	K-127	L-S	1.361	1.164	0.184
383	77	K-128	L-S	22.676	3.031	0.245
384	77	K-129	L-S	0.454	1.377	0.245
385	77	K-130	L-S	0.340	0.704	0.307
390	77	J-104	L-S	0.113	0.957	0.368
391	77	J-105	L-S	0.227	1.032	0.245
392	77	J-106	L-S	0.227	0.981	0.184
393	77	J-107	L-S	0.454	1.167	0.245
394	77	J-108	L-S	0.945	2.064	0.245
395	77	J-109	L-S	1.020	1.522	0.245
396	77	J-110	L-S	1.701	1.275	0.184
397	77	J-111	L-S	1.134	0.981	0.245
398	77	J-112	L-S	0.680	0.971	0.307
399	77	J-113	L-S	0.567	0.880	0.245
400	77	J-114	L-S	0.113	0.793	0.245
401	77	J-115	L-S	0.454	0.822	0.184
402	77	J-116	L-S	0.340	0.859	0.184
403	0	J-117	L-S	-9999.000	-9999.000	0.184
404	77	J-118	L-S	0.227	0.802	0.245
405	77	J-119	L-S	0.227	0.744	0.184
406	77	J-120	L-S	0.340	0.768	0.184
407	77	J-121	L-S	0.113	0.792	0.184
408	77	J-122	L-S	0.113	0.765	0.245
409	77	J-123	L-S	0.227	0.805	0.307
410	0	J-124	L-S	-9999.000	-9999.000	0.368
411	0	J-125	L-S	-9999.000	-9999.000	0.245
412	77	J-126	L-S	0.340	0.836	0.245
413	0	J-127	L-S	-9999.000	-9999.000	0.245
414	77	J-128	L-S	10.317	1.945	0.429
415	77	J-129	L-S	4.649	1.708	0.245
416	77	J-130	L-S	3.401	1.154	0.307
417	77	J-131	L-S	0.454	0.846	0.245
419	77	I-94	L-S	0.227	1.022	0.368
420	77	I-95	L-S	0.340	0.937	0.368
421	77	I-96	L-S	0.113	0.947	0.184
422	0	I-97	L-S	-9999.000	-9999.000	0.245
423	0	I-98	L-S	-9999.000	-9999.000	0.307
424	77	I-99	L-S	0.227	0.937	0.368
425	77	I-100	L-S	0.340	0.930	0.368
426	77	I-101	L-S	0.340	0.755	0.307
427	77	I-102	F-S	0.113	0.829	0.245
428	77	I-103	F-S	0.113	0.859	0.307
429	77	I-104	F-S	0.340	0.339	0.245
430	77	I-105	F-S	0.227	0.765	0.245
431	77	I-106	F-S	0.794	0.856	0.245
432	77	I-107	F-S	0.794	0.907	0.245
433	77	I-108	L-S	0.454	0.937	0.490
434	77	I-109	L-S	0.340	1.262	0.307
435	77	I-110	L-S	0.907	1.265	0.429

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
436	77	I-111	L-S	0.567	0.934	0.429
437	0	I-112	L-S	-9999.000	-9999.000	0.368
438	77	I-113	L-S	2.381	0.896	0.307
439	0	I-114	L-S	-9999.000	-9999.000	0.245
440	0	I-115	L-S	-9999.000	-9999.000	0.307
441	77	I-116	L-S	2.268	0.954	0.307
442	0	I-117	L-S	-9999.000	-9999.000	0.307
443	77	I-118	L-S	0.907	0.964	0.245
444	0	I-119	L-S	-9999.000	-9999.000	0.245
445	77	I-120	L-S	0.567	0.880	0.307
446	0	I-121	L-S	-9999.000	-9999.000	0.307
447	77	I-122	L-S	0.227	0.761	0.245
448	77	I-123	L-S	0.340	0.846	0.307
449	0	I-124	L-S	-9999.000	-9999.000	0.245
450	77	I-125	L-S	0.454	0.849	0.245
451	77	I-126	L-S	1.361	0.927	0.245
452	77	I-127	L-S	1.134	0.353	0.134
453	77	I-128	L-S	1.247	0.896	0.307
454	77	I-129	L-S	1.134	0.805	0.245
455	77	I-130	L-S	0.685	0.886	0.368
456	77	I-131	L-S	0.340	0.312	0.245
457	77	I-132	L-S	1.020	0.896	0.245
458	77	I-133	L-E	2.154	1.269	0.307
459	77	H-84	L-S	0.794	1.015	0.490
460	77	H-85	L-S	0.794	1.053	0.490
461	77	H-86	L-S	0.680	1.123	0.490
462	77	H-87	L-S	0.567	0.995	0.490
463	0	H-88	L-S	-9999.000	-9999.000	0.613
464	77	H-89	L-S	0.227	0.903	11.036
465	0	H-90	L-S	-9999.000	-9999.000	2.452
466	0	H-91	L-S	-9999.000	-9999.000	3.679
467	0	H-92	L-S	-9999.000	-9999.000	3.066
468	0	H-93	L-S	-9999.000	-9999.000	2.085
469	0	H-94	L-S	-9999.000	-9999.000	11.036
470	0	H-95	L-S	-9999.000	-9999.000	11.036
471	0	H-96	L-S	-9999.000	-9999.000	5.131
472	0	H-97	L-S	-9999.000	-9999.000	1.962
473	0	H-98	L-S	-9999.000	-9999.000	1.339
474	77	H-99	L-S	0.340	0.856	2.330
475	0	H-100	L-S	-9999.000	-9999.000	11.036
476	77	H-101	L-S	0.227	0.795	11.036
477	77	H-102	F-S	0.340	0.744	11.036
478	77	H-103	F-S	0.454	0.721	11.036
479	77	H-104	F-S	0.227	0.727	7.357
480	0	H-105	L-S	-9999.000	-9999.000	8.584
481	77	H-106	L-S	0.454	0.785	11.035
482	77	H-107	L-S	0.567	0.761	9.810
483	77	H-108	L-S	0.340	0.792	11.036
484	77	H-109	L-S	0.454	0.710	11.036
485	77	H-110	L-S	0.340	0.345	4.905
486	77	H-111	L-S	0.454	0.846	11.036
487	77	H-112	L-S	0.340	0.846	11.036
488	77	H-113	L-E	0.669	2.967	11.036
489	77	H-114	L-E	0.009	2.977	11.036

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
490	77	H-115	L-S	4.535	1.898	5.518
491	77	H-116	L-S	0.454	0.748	11.036
492	77	H-117	L-S	0.454	0.717	6.131
493	77	H-118	L-S	0.567	0.727	5.518
494	77	H-119	L-S	0.454	0.744	3.066
495	77	H-120	L-S	2.268	1.150	3.679
496	77	H-121	L-S	0.680	0.812	5.518
497	77	H-122	L-S	0.567	0.843	11.036
498	77	H-123	F-S	0.113	0.727	9.810
499	77	H-124	F-S	0.113	0.717	4.905
500	77	H-125	F-E	0.227	0.754	3.066
501	77	H-126	F-S	0.340	0.771	4.292
502	77	H-127	F-S	0.454	0.856	5.518
503	77	H-128	F-S	0.340	0.727	11.036
504	77	H-129	F-S	0.227	0.676	6.131
505	77	H-130	F-E	0.340	0.778	6.131
506	77	H-131	L-S	0.567	0.819	4.905
507	77	H-132	L-E	0.794	0.981	2.452
508	77	H-133	L-S	0.340	0.737	2.452
509	77	H-134	L-E	0.340	0.553	3.066
510	77	H-135	L-S	0.680	0.727	1.717
511	77	H-136	L-E	1.361	1.381	1.594
512	77	H-137	L-S	0.113	0.765	1.717
513	77	H-138	F-S	0.340	0.758	1.962
514	77	H-139	F-S	0.907	1.123	3.066
515	77	H-140	F-E	0.340	0.896	2.452
516	77	H-141	F-E	0.227	0.778	1.226
517	77	H-142	F-S	0.340	0.778	1.471
518	0	H-143	L-S	-9999.000	-9999.000	1.594
519	0	H-144	L-S	-9999.000	-9999.000	1.349
520	77	H-145	L-S	0.113	0.761	1.962
521	77	H-146	L-S	0.113	0.744	3.066
522	0	H-147	L-S	-9999.000	-9999.000	3.066
523	77	H-148	L-E	0.340	0.737	2.452
524	77	H-149	L-S	0.227	0.856	2.207
525	0	H-150	L-S	-9999.000	-9999.000	2.085
526	77	H-151	L-E	0.907	1.607	1.471
527	77	H-152	L-S	0.227	0.795	3.066
528	77	H-153	L-E	0.454	1.346	3.679
529	77	H-154	L-E	0.454	1.187	4.905
530	77	H-155	L-E	0.454	1.184	11.036
531	77	H-155	L-E	0.340	0.785	3.066
532	0	G-82	L-S	-9999.000	-9999.000	0.981
533	0	G-83	L-S	-9999.000	-9999.000	2.820
534	0	G-84	L-S	-9999.000	-9999.000	1.594
535	77	G-85	L-S	0.794	0.829	1.594
536	77	G-86	L-S	0.907	1.083	1.594
537	0	G-87	L-S	-9999.000	-9999.000	1.471
538	77	G-88	L-S	0.340	0.792	1.226
539	77	G-89	L-S	0.340	0.735	1.104
540	77	G-90	L-S	0.680	0.744	1.104
541	77	G-91	L-S	0.340	0.744	0.981
542	77	G-92	L-S	0.454	0.798	1.717
543	77	G-93	L-S	0.680	0.795	1.839

D#	TG	ID1	ID2	1 CH2/M	2 TEMP/M	3 HS/M
544	77	G-94	L-E	2.041	1.362	1.226
545	77	G-95	L-S	0.454	0.896	1.594
546	77	G-96	L-S	0.680	0.913	2.452
547	77	G-97	L-S	1.134	1.137	1.349
548	77	G-98	L-S	0.454	0.947	2.207
549	77	G-99	L-S	0.340	0.829	2.085
550	0	G-100	L-S	-9999.000	-9999.000	1.349
551	0	G-101	L-S	-9999.000	-9999.000	1.471
552	0	G-102	L-S	-9999.000	-9999.000	0.429
553	0	G-103	L-S	-9999.000	-9999.000	0.490
554	0	G-104	L-S	-9999.000	-9999.000	0.429
555	77	G-105	L-S	0.227	0.670	0.429
556	77	G-106	L-E	0.340	0.785	0.674
557	77	G-107	L-S	0.113	0.785	0.490
558	77	G-108	L-S	0.227	0.766	0.490
559	77	G-109	L-S	0.227	0.744	0.490
560	77	G-110	L-S	0.113	0.677	0.429
561	77	G-111	L-S	0.113	0.677	0.429
562	77	G-112	L-S	0.113	0.778	0.552
563	77	G-113	L-S	0.340	0.772	0.490
564	77	G-114	L-S	0.227	0.744	0.490
565	77	G-115	L-S	0.227	0.700	0.552
566	77	G-116	F-E	0.227	0.731	0.490
567	77	G-117	F-E	0.227	0.693	0.552
568	77	G-118	F-E	0.113	0.677	0.490
569	77	G-119	F-S	0.113	0.693	0.552
570	77	G-120	F-S	0.113	0.812	0.490
571	77	G-121	F-S	0.340	0.734	0.674
572	77	G-122	F-S	0.340	0.744	0.552
573	77	G-123	F-E	0.227	0.755	0.490
574	77	G-124	F-S	0.227	0.761	0.613
575	77	G-125	F-S	0.227	0.697	0.552
576	77	G-126	F-S	0.227	0.778	0.490
577	77	G-127	L-S	0.340	0.710	0.552
578	77	G-128	L-S	0.454	0.915	0.490
579	77	G-129	L-S	3.401	1.365	0.490
580	77	G-130	L-S	0.689	1.367	0.490
581	77	G-131	L-S	0.454	0.717	0.490
582	77	G-132	L-S	0.907	0.761	0.490
583	77	G-133	L-E	0.680	0.727	0.429
584	77	G-134	L-E	0.340	0.693	0.429
585	77	G-135	L-S	0.907	0.778	0.490
586	77	G-136	L-S	2.268	0.998	0.552
587	77	G-137	L-S	1.020	0.915	0.552
588	77	G-138	L-S	1.134	0.903	0.490
589	77	G-139	L-S	0.454	0.737	0.490
590	77	G-140	L-E	0.567	1.201	0.490
591	77	G-141	L-S	0.680	0.747	0.490
592	77	G-142	L-S	0.454	0.930	0.490
593	77	G-143	L-S	0.340	0.812	0.552
594	77	G-144	L-E	0.567	0.930	0.552
595	77	G-145	L-S	0.454	1.360	0.429
596	77	G-146	L-S	0.794	0.822	0.552
597	77	G-147	L-E	0.340	0.693	0.490

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
598	77	G-148	L-E	0.340	0.744	0.490
599	77	G-149	L-E	0.340	0.727	0.490
600	77	G-150	L-E	0.340	0.829	0.490
601	77	G-151	L-E	0.794	1.245	0.552
602	77	G-152	L-E	1.701	2.131	0.858
603	77	G-153	L-E	4.535	2.307	0.674
604	77	G-154	L-E	2.268	1.641	0.613
605	77	G-155	L-E	4.422	1.634	0.736
606	77	G-156	L-E	4.762	2.967	0.674
607	77	G-157	L-E	0.680	0.734	0.552
608	77	G-158	L-E	0.454	0.548	0.490
609	77	G-159	L-E	0.227	0.558	0.490
610	77	F-109	F-E	2.268	1.279	0.858
611	77	F-110	F-E	0.567	1.218	0.674
612	77	F-111	F-E	0.680	0.771	0.490
613	77	F-112	F-E	0.567	1.262	0.552
614	77	F-113	F-E	2.268	1.069	0.490
615	77	F-114	F-E	3.401	1.644	0.613
616	77	F-115	F-E	0.340	0.967	0.552
617	77	F-116	F-E	1.020	1.394	0.490
618	77	F-117	F-S	0.454	0.873	0.429
619	77	F-118	F-E	0.227	1.015	0.429
620	77	F-119	F-E	0.113	0.643	0.490
621	77	F-120	F-E	0.340	0.710	0.490
622	77	F-121	F-E	0.680	0.670	0.490
623	77	F-122	F-E	0.567	0.566	0.490
624	77	F-123	F-S	0.680	0.563	0.490
625	77	F-124	F-E	0.567	0.660	0.490
626	77	F-125	F-E	0.454	0.633	0.429
627	77	F-125	F-S	0.227	0.539	0.429
628	77	F-127	F-E	0.340	0.509	0.490
629	77	F-128	F-E	0.340	0.592	0.490
630	77	F-129	F-E	0.340	0.629	0.552
631	77	F-130	F-S	0.227	0.577	0.490
632	77	F-131	F-E	0.227	0.575	0.490
633	77	F-132	F-E	0.227	0.565	0.429
634	77	F-133	F-E	0.113	0.635	0.429
635	77	F-134	F-E	0.227	0.643	0.429
636	77	F-135	F-E	0.567	0.856	0.429
637	77	F-136	F-E	0.567	0.788	0.490
638	77	F-137	F-E	0.227	0.768	0.552
639	77	F-138	L-E	0.340	0.593	0.490
640	77	F-139	L-S	1.701	0.747	0.613
641	77	F-140	L-E	0.567	0.829	0.552
642	77	F-141	L-E	0.340	0.690	0.490
643	77	F-142	L-S	0.454	0.961	0.490
644	77	F-143	L-S	0.794	1.001	0.429
645	77	F-144	L-E	1.134	1.211	0.490
646	77	F-145	L-E	0.454	0.690	0.552
647	77	F-146	L-E	0.567	0.560	0.552
648	77	F-147	L-E	0.340	0.626	0.490
649	77	E-98	L-S	0.227	0.954	0.552
650	77	E-99	L-S	0.113	0.998	0.490
651	77	E-100	L-S	0.227	0.927	0.490

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O#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
652	77	E-101	L-S	0.227	0.693	0.368
653	0	E-102	L-S	-9999.000	-9999.000	0.307
654	77	E-103	L-S	0.567	0.609	0.368
655	77	E-104	L-S	0.227	0.619	0.368
656	77	E-105	F-E	0.227	0.629	0.307
657	77	E-106	F-E	0.113	0.714	0.429
658	77	E-107	F-E	0.340	0.622	0.307
659	77	E-108	F-E	0.454	0.577	0.307
660	77	E-109	F-E	0.113	0.577	0.307
661	77	E-110	L-S	0.680	0.737	0.307
662	77	E-111	L-S	0.907	1.216	0.307
663	77	E-112	L-E	0.794	1.086	0.307
664	77	E-113	L-S	0.227	0.609	0.307
665	77	E-114	L-E	0.680	0.934	0.307
666	77	E-115	L-E	0.680	1.571	0.307
667	77	E-116	L-E	0.227	0.710	0.552
668	77	E-117	L-E	0.567	0.731	0.981
669	77	E-118	L-E	0.794	1.015	0.735
670	77	E-119	L-E	0.567	0.771	0.429
671	77	E-120	L-E	0.227	0.710	0.368
672	77	E-121	F-E	0.794	1.302	0.736
673	77	E-122	F-E	0.227	0.693	0.490
674	77	E-123	F-E	0.113	0.550	0.429
675	77	E-124	F-E	0.340	0.527	0.429
676	77	E-125	F-S	0.454	0.643	0.490
677	77	E-126	F-E	0.454	0.629	0.490
678	77	E-127	F-E	0.340	0.609	0.429
679	77	E-128	F-E	1.474	0.677	0.429
680	77	E-129	F-E	0.680	0.609	0.429
681	77	E-130	F-E	0.454	0.516	0.429
682	77	E-131	F-E	0.340	0.575	0.552
683	77	E-132	F-E	0.227	0.575	0.429
684	77	E-133	F-E	0.454	0.629	0.552
685	77	E-134	F-E	0.567	0.744	0.490
686	77	E-135	L-S	0.794	1.063	0.613
687	77	E-136	L-E	1.361	1.201	11.036
688	77	E-137	L-E	3.401	1.499	11.036
689	77	E-138	L-S	0.907	0.798	11.036
690	77	E-139	L-S	2.154	0.930	3.066
691	77	E-140	L-E	2.381	0.846	11.036
692	77	B-15	L-E	1.134	0.795	0.061
693	77	B-16	L-E	1.020	0.778	0.184
694	77	B-16.5	L-E	0.227	0.666	0.061
695	77	B-17	L-E	0.567	0.934	0.552
696	77	B-17.5	L-E	1.361	1.164	2.391
697	77	B-18	L-E	3.503	1.591	1.104
698	77	B-18.5	F-E	37.633	3.028	0.125
699	77	B-19	F-E	0.680	0.721	2.698
700	77	B-19.5	F-E	1.701	1.387	2.085
701	77	B-20	F-E	10.821	1.164	1.901
702	77	B-20.5	F-E	0.680	0.714	0.674
703	77	B-21	F-E	0.794	0.845	0.552
704	77	B-21.5	L-E	0.794	1.025	0.552
705	77	B-22	L-E	7.937	2.131	2.330

D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HU/M
706	77	B-22.5	L-E	1.814	1.042	3.556
707	77	B-23	L-E	1.020	1.008	2.146
708	77	B-23.5	L-E	0.454	0.863	0.490
709	77	B-24	L-E	0.794	1.042	0.981
710	77	B-24.5	L-E	1.701	1.133	0.981
711	77	B-25	L-E	3.963	1.184	4.108
712	77	A-62	F-S	0.227	0.852	0.674
713	77	A-63	F-S	0.454	0.825	0.797
714	77	A-64	F-S	0.340	0.768	1.962
715	77	A-65	F-S	0.227	0.846	0.736
716	77	A-66	F-S	0.340	0.768	0.736
717	77	A-67	F-S	0.454	0.751	0.797
718	77	A-68	F-S	0.113	0.924	2.514
719	77	A-69	F-S	0.454	0.793	0.981
720	77	A-70	F-S	0.113	0.768	0.981
721	77	A-71	F-S	0.227	0.846	0.981
722	77	A-72	F-S	0.454	0.761	1.104
723	77	A-73	L-S	0.340	0.815	1.042
724	77	A-74	L-S	0.680	0.974	0.920
725	77	A-75	L-S	0.680	0.947	0.858
726	77	A-76	L-S	0.227	0.802	0.490
727	77	A-77	F-S	0.340	0.775	0.368
728	77	A-78	F-S	0.340	0.792	0.797
729	77	A-79	F-S	0.113	0.781	0.674
730	77	A-80	F-S	0.113	0.727	1.104
731	77	A-81	F-S	0.113	0.743	1.349
732	77	A-82	F-S	0.113	0.704	1.594
733	77	A-83	F-S	0.227	0.717	1.104
734	77	A-84	F-S	0.227	0.724	0.858
735	77	A-85	L-S	0.227	0.795	1.042
736	77	A-86	L-S	0.567	0.721	1.165
737	77	A-87	F-S	0.113	0.744	1.104
738	77	A-88	F-S	0.340	0.846	0.981
739	77	A-89	F-S	0.227	0.880	1.349
740	77	A-90	F-S	0.227	0.815	1.655
741	77	A-91	F-S	0.340	0.812	1.533
742	77	A-92	L-S	0.680	0.846	2.023
743	77	A-93	L-S	0.630	0.930	2.330
744	77	A-94	L-S	3.070	3.092	2.146
745	77	A-95	L-S	2.268	1.522	2.575
746	77	A-96	L-S	3.966	3.078	1.639
747	77	A-97	L-S	3.303	1.935	4.047
748	77	A-98	L-S	7.937	2.964	2.452
749	77	A-99	L-S	0.340	1.593	1.962
750	77	A-10	L-E	0.454	1.150	1.533
751	77	A-11	L-E	1.134	1.252	0.797
752	77	A-12	L-E	1.701	1.448	0.674
753	77	A-13	L-E	3.401	0.947	1.165
754	77	A-14	L-E	1.134	0.768	0.245
755	77	A-15	L-E	0.454	0.566	0.307
756	77	A-16	L-E	0.454	0.714	0.797
757	77	A-16.5	L-E	0.567	0.663	0.245
758	77	A-17	F-E	0.680	0.998	0.184
759	77	A-17.5	F-E	1.314	0.896	1.042

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OB#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
760	77	A-18	F-E	0.494	0.934	0.245
761	77	A-18.5	F-E	1.474	0.896	0.123
762	77	A-19	F-E	0.794	0.866	0.245
763	0	A-19.5	F-E	1.247	0.863	-9999.000
764	77	A-20	F-E	0.567	0.704	0.490
765	77	A-20.5	F-E	0.794	0.710	0.184
766	77	A-21	F-E	0.794	0.683	0.552
767	77	A-21.5	F-E	1.020	0.744	1.042
768	77	A-22	F-E	22.676	1.558	0.490
769	77	A-22.5	L-E	62.358	3.078	1.225
770	77	A-23	L-E	7.596	1.911	1.285
771	77	A-23.5	L-E	0.907	1.333	0.674
772	77	A-24	L-E	0.567	1.093	0.674
773	77	A-24.5	L-E	1.020	1.103	0.552
774	77	A-25	L-E	0.680	0.775	0.061
775	77	A-25.5	L-E	1.474	1.001	0.184
776	77	A-26	L-E	1.134	1.156	1.536
777	77	A-27	L-E	0.340	0.727	0.061
778	77	A-28	L-E	0.227	0.575	0.061
779	77	A-29	L-E	0.227	0.545	0.061
780	77	A-30	L-E	0.567	0.575	0.552
781	77	C-55	F-S	0.227	0.812	0.490
782	77	C-56	F-S	0.113	0.906	0.490
783	77	C-57	F-S	0.227	0.758	0.552
784	77	C-58	F-S	0.113	0.795	0.490
785	77	C-59	F-S	0.227	0.781	0.368
786	77	C-60	F-S	0.227	0.795	0.368
787	77	C-61	F-S	0.227	0.852	0.368
788	77	C-62	F-S	0.340	0.775	0.368
789	77	C-63	F-S	0.567	0.812	0.368
790	77	C-64	F-S	0.454	0.829	0.429
791	77	C-65	F-S	0.340	0.727	0.368
792	77	C-66	F-S	0.340	0.798	0.368
793	77	C-67	F-S	0.454	0.693	0.368
794	77	C-68	F-S	0.454	0.693	0.490
795	77	C-69	F-S	0.454	0.785	0.368
796	77	C-70	F-S	0.454	0.829	0.368
797	77	C-71	F-S	0.340	0.829	0.429
798	77	C-72	F-S	0.227	0.865	0.429
799	77	C-73	F-S	0.113	0.812	0.429
800	77	C-74	F-S	0.113	0.795	0.429
801	77	C-75	F-E	0.227	0.717	0.429
802	77	C-76	F-E	0.340	0.815	0.429
803	77	C-77	F-E	0.227	0.731	0.429
804	77	C-78	F-E	0.113	0.758	0.490
805	77	C-79	F-E	0.227	0.751	0.552
806	77	C-80	F-E	0.227	0.744	0.613
807	77	C-81	F-E	0.794	0.724	0.552
808	77	C-82	F-S	0.794	0.792	0.552
809	77	C-83	F-S	0.680	0.710	0.490
810	77	C-84	F-S	0.454	0.693	0.552
811	77	C-85	F-S	0.113	0.677	0.490
812	77	C-86	F-S	0.113	0.693	0.613
813	77	C-87	F-S	0.113	0.693	0.552

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D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
814	77	C-88	F-S	0.113	0.710	0.552
815	77	C-89	F-S	0.227	0.829	0.552
816	77	C-90	F-S	0.454	0.795	0.552
817	77	C-91	F-S	0.454	0.754	0.490
818	77	C-92	F-E	0.113	0.744	0.674
819	77	C-93	F-E	1.587	1.336	0.613
820	77	C-94	F-E	0.113	0.697	0.797
821	77	C-95	F-E	0.227	0.643	0.981
822	77	C-96	F-E	0.113	0.795	0.490
823	77	C-97	F-E	0.340	0.930	0.674
824	77	C-98	F-E	0.567	0.974	1.042
825	77	C-99	F-E	22.675	3.045	1.104
826	77	C-100	L-E	6.844	3.045	0.736
827	77	C-101	L-E	0.113	0.856	0.552
828	77	C-102	L-E	0.113	0.717	0.490
829	77	C-103	L-S	0.113	0.710	0.368
830	77	C-104	L-S	0.113	0.687	0.368
831	77	C-105	L-S	0.113	0.625	0.429
832	77	C-106	L-S	0.113	0.724	0.307
833	77	C-107	L-S	0.113	0.724	0.490
834	77	C-108	L-E	0.113	0.734	0.429
835	77	C-109	L-S	0.113	0.721	0.490
836	77	C-15	L-E	0.227	0.592	0.061
837	77	C-16	L-E	0.340	0.727	0.061
838	77	C-16.5	L-E	0.340	0.727	0.061
839	77	C-17	L-E	1.134	0.737	0.061
840	77	C-17.5	F-E	0.567	0.699	0.061
841	77	C-18	F-E	1.020	0.795	0.061
842	77	C-18.5	F-E	0.567	0.768	0.368
843	77	C-19	F-E	0.567	0.744	0.061
844	77	C-19.5	F-E	1.020	0.731	0.061
845	77	C-20	F-E	0.907	0.734	0.061
846	77	C-20.5	F-E	0.567	0.646	0.061
847	77	C-21	F-E	0.794	0.727	0.061
848	77	C-21.5	F-E	1.134	0.927	0.061
849	77	C-22	F-E	2.721	1.015	1.165
850	77	C-22.5	L-E	1.814	1.001	0.797
851	77	C-23	L-E	2.948	1.167	0.368
852	77	C-23.5	L-E	2.494	1.028	0.061
853	77	C-24	L-E	0.567	0.845	0.061
854	77	C-24.5	L-E	0.907	0.964	0.061
855	77	C-25	L-E	0.794	0.802	0.061
856	77	C-131	L-S	0.227	0.697	0.429
857	77	C-132	L-E	1.701	1.143	0.797
858	77	C-133	L-E	0.113	0.890	0.613
859	77	C-134	L-E	2.256	1.658	0.490
860	77	C-135	L-E	0.680	0.812	0.490
861	77	C-136	L-S	0.113	0.592	0.368
862	77	C-137	L-E	0.680	0.558	0.429
863	77	C-138	L-E	0.113	0.751	0.429
864	77	C-139	L-E	0.454	0.575	0.490
865	77	C-140	L-E	0.567	0.575	0.490
866	77	C-86	L-E	0.227	0.656	11.036
867	77	C-87	L-S	0.227	0.643	1.717

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D#	TG	ID1	ID2	1 CO2/M	2 TEMP/M	3 HG/M
868	77	D-88	L-S	0.113	0.609	2.207
869	77	D-89	L-S	0.227	0.727	1.594
870	77	D-90	L-S	0.340	0.751	6.131
871	77	D-91	L-S	0.454	0.754	1.962
872	77	D-92	L-S	1.701	0.778	3.066
873	77	D-93	L-S	0.227	0.829	5.131
874	77	D-94	L-S	0.227	0.880	2.452
875	77	D-95	L-S	0.227	0.734	1.226
876	77	D-96	L-S	0.907	0.761	1.349
877	77	D-97	L-S	0.567	0.940	0.981
878	77	D-98	L-S	1.340	0.600	0.858
879	77	D-99	L-S	2.721	1.928	1.839
880	77	D-100	L-S	1.134	1.201	1.471
881	0	D-101	L-S	-9999.000	-9999.000	1.225
882	0	D-102	L-S	-9999.000	-9999.000	1.104
883	77	D-103	L-E	0.227	0.666	2.207
884	77	D-104	L-S	0.454	0.710	1.471
885	77	D-105	L-S	0.340	0.744	0.858
886	77	D-106	L-E	0.567	0.778	0.920
887	77	D-107	L-S	0.680	0.717	1.471
888	77	D-108	L-E	0.454	0.795	2.085
889	77	D-109	L-S	0.680	1.150	4.292
890	77	D-110	L-S	0.227	0.595	3.066
891	77	D-111	L-S	0.227	0.592	3.679
892	77	D-112	L-E	0.794	0.636	3.679
893	77	D-113	L-E	0.340	0.575	4.905
894	77	D-114	L-E	0.340	0.626	3.066
895	77	D-115	L-E	0.340	0.580	3.065
896	77	D-116	L-E	0.227	0.589	3.066
897	77	D-117	L-E	0.454	0.670	2.820
898	77	D-118	L-E	0.680	0.727	2.698
899	77	D-119	L-E	0.567	0.778	3.924
900	77	D-120	L-E	0.454	0.724	9.810
901	77	D-121	L-E	0.794	0.710	4.905
902	77	D-122	L-S	0.907	0.666	4.905
903	77	D-123	L-E	0.557	0.626	3.066
904	77	D-124	L-S	0.557	0.771	0.736
905	77	D-125	L-E	22.370	2.325	1.104
906	77	D-126	L-E	2.154	3.102	0.490
907	77	D-127	L-E	1.020	1.346	0.920
908	77	D-128	L-E	0.567	0.995	0.552
909	77	D-129	L-S	0.680	1.225	0.552
910	77	D-130	L-S	0.227	0.758	0.490
911	77	D-131	L-S	0.340	0.778	0.490
912	77	D-132	L-E	0.454	0.812	0.429
913	77	D-133	L-E	0.680	0.791	0.613
914	77	D-134	L-E	1.134	1.302	0.552
915	77	D-135	L-E	0.567	0.751	0.552
916	77	D-136	L-E	0.340	0.595	0.429
917	77	D-137	L-E	0.340	0.998	0.429
918	77	D-138	L-E	1.701	2.108	0.490

* COUNT OF OBSERVATIONS SELECTED (TG>0) : NOS = 791
COUNT OF OBSERVATIONS ON "ADF" FILE : NADF = 918

Ⅵ. SURVEY OF WATER SUPPLY FOR DRILLING

CHAPTER 1 INTRODUCTION

Electircal soundings with Schlumberger array have been carried out along seven survey lines from September to November, 1980. Centers of electrical soundings were set at every 250 meters interval in general and in some lines the interval of sounding centers is 500 meters. The areas surveyed by electrical sounding technique are inside and the east of Eburru Crater (three survey lines), around Eburru Station (three survey lines), and at the middle between these two survey areas (one line).

All these survey lines are approximately east-west direction so that they cut general direction of geological structure in the Rift Valley (north-south).

For this survey, Schlumberger electrical soundings were carried out. However, because the centers of soundings are arranged generally every 250 meters along each survey line, geoelectrical profile of the survey lines could be infered from the data collected.

CHAPTER 2 FIELD WORK

The field geophysical survey was conducted during October and November, 1980. On October the weather of the area was generally fair and occasionally it rained in the afternoon. However, on November it rained even during the morning hour. The crew worked in the morning to avoid encountering rain or lightning, but on November it sometimes was forced to stop the operation by rainfall.

The field crew was consisted by one geophysicist, Dr. Takashi Ohya, one geophysicist trainee, Mr. Daniel K. Kilele and about 20 casual labourers.

2.1 Instruments

Following instruments were used for the geophysical survey:

(i) Transmitter

	Yokohama Electronics Lab. Model L5202
Maximum Power	800 v, 5A
Frequency	0.1 Hz to 5 Hz and D.C.
Wave Form	Time Domain and Frequency Domain
Weight	50 kg

(ii) Engine Generator

	Shindaiwa Kogyo Model 2400
Output Power	2400 vA
Voltage	100 v
Frequency	60 Hz

(iii) Recorder

	Toa Electronics Model EPR – 100 A
Range	1 mv – 100 v, 16 ranges
Accuracy	0.5% (full scale)
Input Impedance	2 MΩ

2.2 Field Procedure

2.2.1 Electrode Configuration

The Schlumberger electrode configuration, which is most commonly used electrode configuration for electrical sounding, is used for the survey. In this configuration the four electrodes are positioned symmetrically along a straight line, the current electrodes on the outside and the potential electrodes on the inside. To change the depth range of the measurements, the current electrodes are symmetrically displaced outward while the potential electrodes, in general, are left at the same position. However, when the ratio of the distance between the current electrodes to that between the potential electrodes becomes too large, the potential difference between the potential electrodes becomes too small to be measured with sufficient accuracy. Therefore the potential electrodes also must be displaced outward. On the measurement the ratio of the distance between the current electrodes to that between the potential electrodes is tried not to be less than five to one. When the potential electrodes are displaced outward measurements were carried out at two consecutive values of the potential electrodes spacing, combined with the same value of the current electrodes spacing, and repeat measurements for the same current electrodes spacing is also repreated at two consecutive values of the current electrodes spacing. This procedure provide a good amount of information on the effect of the dispalcement of the potential electrodes upon measurement. Illustration of the Schlumberger electorde configuration is showin in Fig. IV – 1 and the wiring of the equipments is shown in Fig. IV – 2.

2.3 Data Reduction

Current and potential data were recorded by two pen-recorders. At the field, data were reduced to check general agreement to the data collected before. After coming back to the camp, recorded paper was read and data were reduced into apparent resistivities using following equation.

$$\rho a = \pi \cdot \frac{\frac{(AB)^2}{2} - \frac{(MN)^2}{2}}{MN} \quad \frac{\Delta V}{I} \qquad \text{(IV – 1)}$$

where

ρa : apparent resistivity (Ωm)

ΔV : potential difference (volt)

I : transmitting current (ampere)

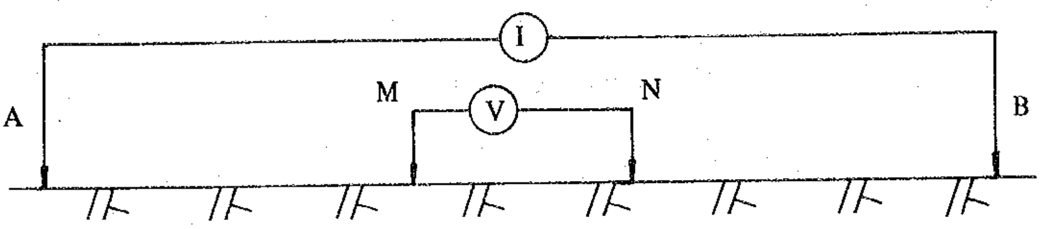

Fig. IV – 1 Schlumberger Electrode Configuration

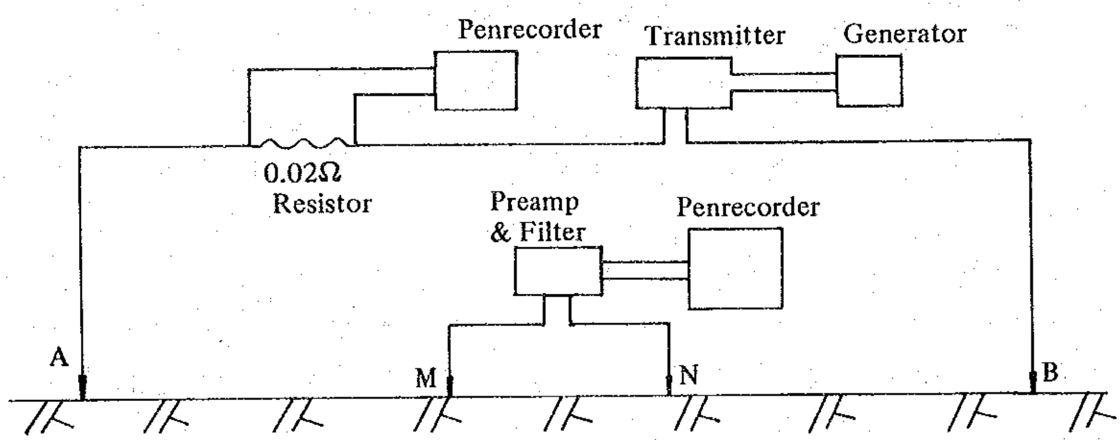

Fig. IV – 2 Wiring of Equipment

In the equation (IV – 1), a geometric constant K is defined.

$$K = \pi \cdot \frac{\frac{(AB)^2}{2} - \frac{(MN)^2}{2}}{MN}$$

The equation (IV – 1) can be rewritten

$$\rho a = K. \frac{\Delta V}{I} \qquad \text{(IV – 2)}$$

In the equation (IV – 2) the geometric constant only depends on electrode configuration.

The calculated apparent resistivities were plotted against one half of current electrode spacing (usually written as AB/2) on a log-log paper. The ρa vs AB/2 curves are used to be interpreted as a sequence of several resistivity layers.

2.4 Interpretation of Data

The collected Schlumberger data contain not only geological (more correctly geoelectrical) informations but also some topographical effects and other technical limitations as an error. Electrical measurements and topographical line cuts were carried out within an accuracy of around one per cent. Therefore the collected apparent resistivity data may have a few per cent of measurement error.

There are many techniques being suggested to interpret Schlumberger resistivity sounding (see, for instance, Koefoed, 1979, Keller and Frischknicht, 1966). All of these suggested techniques are based upon the assumption of horizontally layered earth and can be interpreted an apparent resistivity curve into a sequence of resistivity layers. In the real world, we scarcely meet horizontally layered earth continuous down to several hundreds meters and laterally a few kilometers where our assumption of horizontally stratified earth for interpreting an apparent resistivity curves can be supported.

On this report curve matching technique was used to interpret all collected appareent resistivity data into sequences of horizontally stratified layers. Interpreted sequences of layers were inputed to a computer to get the theoretical apparent resistivity curves for each sequences. Thus obtained theoretical apparent resistivity curves were compared with the apparent resistivity curves from field operations.

Standard two-layer apparent resistivity curves and auxiliary graphs used for interpretation are published by Orellana and Mooney (1966).

CHAPTER 3 RESULTS

Electrical depth soundings by Schlumberger electrode array were carried out along seven survey lines, namely, the lines A, C, D, I, O, P and Q. They are in three areas in the Eburru Geothermal prospect. The lines A, C and D are in and the east of Eburru Crater, the lines O, P and Q are in the Eburru Station area and the line I is at the Cedar West area. Their locations are shown in Fig. IV – 3.

Fig. IV – 3 shows the distribution of apparent resistivities measured by AB/2 being 500 m. The resistivity sections along the above mentioned lines are shown in Fig. IV – 4. Each electrical sounding curves (VES curves) are shown in Fig. IV – 5. The TAble IV – 1 shows the interpretations of the Schlumberger soundings in the Eburru Geothermal prospect. In the figures, Fig. IV – 3 and Fig. IV – 4, and the table, Table IV – 1, the data collected by the first phase of this exploration project are included, also electrical informations given by Bhogal (1972) and Group Seven (1972) are used to contour the figures.

The resistivity sections of lines A, B and C in the Fig. IV – 4 show geoelectrical sections in and the east of Eburru Crater. The eastern fringe of Eburru Crater is at the points A–12.5, C–109 and D–109. In and the east of Eburru Crater, the resistivity distribution is generally simple. The low resistivity layer with resistivity ranging from 10 Ωm to 30 Ωm is overlain by the higher resistivity layers of which resistivity varies widely from 50 Ωm to over 1,000 Ωm. The only exceptional area of the sequence of resistivity layers is the area between the points A–17.5 and A–22.5, where a high resistivity layer with resistivity of over 100 Ωm is covered by a lower resistivity layer with 13 Ωm to 50 Ωm. In the general sequence of resistivity layers in and the east of Eburru Crater, the thickness of the overlying high resistivity layer is between several meters and 70 meters. At the four sounding centers, namely the points A–92, C–85, C–95 and D–107, we detected high resistivity layer under the low resistivity layer. Depth to the top of the bottom high resistivity layer, of which resistivity is over 30 Ωm and likely as high as or higher than several hundreds of ohm meters, ranges 340 m at the point C–85 to 950 m at the point C–95.

The resistivity sections along the lines O, P and Q in the Eburru Station area show the same sequence of resistivity layers as the Eburru Crater area. The overlying high resistivity layer, of which resistivity ranges 30 Ωm to over 10,000 Ωm, has a thickness of between 10 m and 150 m. Resistivity of the underlying low resistivity layer ranges 3 Ωm to about 30 Ωm. The exception of the general sequence of resistivity layers is the Schlumberger sounding at the point P–115 where the low resistivity layer with resistivity of 28 Ωm overlies the high resistivity layer with resistivity of 120 Ωm. In the Eburru Station area, any high resistivity layer could not be detected under the thick underlying low resistivity layer, but a high resistivity layer with resistivity of 1300 Ωm and thickness of about 30 m was seen as an interlayer of the underlying low resistivity layer at the point Q–84.

On the resistivity section along the I line, only three Schlumberger soundings were carried out. The outer two soundings at the points I–103 and I–123 show the similar layering and differ from the sounding at I–113. The sequence of the resistivity layers at the outer soundings is the medium resistivity layer with resistivity of 110 Ωm to 140 Ωm at the bottom and the high resistivity layer with resistivity of 750 Ωm to 1,000 Ωm overlying it. The thickness of high resistivity layer is between 30 m and 52 m. However, at the point I–113, the low resistivity layer with resistivity of 15 Ωm is at the bottom and the three layers of higher resistivity with resistivity of between 40 Ωm and 450 Ωm overlie the low resistivity layer. The total thickness of the upper higher resistivity layers is 70 m.

The distribution of the apparent resistivities for the half of the current electrode separation (AB/2) being 500 m is shown in Fig. IV – 3. The apparent resistivity figures used in Fig. IV – 3 are the algebraic mean of the apparent resistivities if there exist more than two apparent resistivity figures for AB/2 being 500 m.

In the Eburru Station area, the distribution of the apparent resistivities for AB/2 being 500 m tends to line up north-south direction. Only at the points P–120, P–115, O–94, O–99, O–114 and O–119, the apparent resistivities of AB/2 = 500 m are over 30 Ωm and those at other points are less than 30 Ωm. The algebraic means of the apparent resistivities AB/2 = 500 m are 19.1 Ωm with the standard deviation of 4.18 at all soundings along the Q line, 28 Ωm with the standard deviation of 12.1 at all soundings along the P line and 31.7 Ωm with the standard deviation of 15.7 at all soundings along the O line. The algebraic means and the standard deviations of the apparent resistivities along the lines O, P and Q show that there exists a tendency of resistivity at a few hundred meter deep in the ground getting lower and less variable northward.

In the Eburru Crater area, the high apparent resistivity zone exists at the center of Eburru Crater. At the outside of Eburru Crater, the apparent resistivities of AB/2 = 500 m do not change much but those at the A line are higher than those of the lines C and D.

Along the I line, the apparent resistivities of AB/2 = 500 m show clearly that those at the point I–113 are about one tenth of those at the points I–103 and I–123.

CHAPTER 4 INTERPRETATION

4.1 Relation Between Resistivity and Rocks

The relation between resistivity and rocks has been discussed by many people (Perkhomenko, 1967, Keller and Frischknecht, 1966). Here it is reviewed after Keller and Frischknecht (1966).

Electrical conduction in near-surface rocks is almost entirely through the water filling spaces in rocks. Conduction through mineral grains is important only in rare cases in near-surface rocks, such as where large concentrations of minerals such as magnetite, graphite or pyrrhotite are found, or at depth within the earth, where pore structure in the rock are closed by over-burden pressure.

In water-bearing rocks, there is an indirect relation between resistivity and lithology or geologic age, since these two factors tend to controle the porosity or water storage capacity of a rock, and to a lesser extent, the salinity of the water contained in a rock.

A great deal of work has been done in correlating resistivity with water content for petroleum bearings rocks. For these rocks, which are primarily porous sandstones and lime-stones, it has been observed that resistivity varies approximately as the inverse square of the porosity and also the inverse square of the fraction of the pore space filled with water. The observation has led to the widespread use of an empirical function relating resistivity, porosity and water saturation which is known as Archie's law:

$$\rho_t = aS_w^{-n} \rho_w \phi^{-m} \qquad \text{(IV – 3)}$$

where ρ_t is the bulk resistivity of the rock,
S_w is the fraction of the total pore volume filled with the water,
ρ_w is the resistivity of the water contained in the pore structure,
ϕ is the porosity expressed as a fraction per unit volume of rock,
and
a, m and n are parameters whose values are assigned arbitrarily to make the equation fit a particular group of measurements. m and n are usually approximately two.

Extreme ranges in temperature may affect the resistivity of water-bearing rock markedly, particularly if the temperature is high enough to drive water from the rock as steam or low enough to freeze the water in the pores of a rock. At moderate temperature, a change in temperature changes the conductivity of a rock only in so far as the conductivity of the electrolyte in the rock is changed. Around a geothermal reservoir since the water contained in a rock has higher salinity because of increase in solubility of salt in the water and temperature of the pore water increases, the bulk resistivity of rocks in and around geothermal reservoir is significantly lower than that of surrounding rocks.

4.2 Interpretation

In the center of Eburru Crater the sequences of the resistivity layers at the points A–17.5, A–20 and A–22.5 differ from those of all other Schlumberger soundings in the Eburru Geothermal prospect. Those at the points A–17.5, A–20 and A–22.5 are that the lower resistivity layer overlies the high resistivity layer. On the contrary, at the other points, the thick low resistivity layer is underlaid by the thin higher resistivity layer. The possible reasons why the thick high resistivity layer underlie the lower resistivity layer at only the points A–17.5, A–20 and A–22.5 are as follows:

1. very compact intrusive rocks exist under the points A–17.5, A–20 and A–22.5,
2. air-filled space, for instance being caused by many cracks, under the concerned area is large,
3. rocks under the concerned area were altered by hydrothermal activities and formed very compact rocks,
4. pore water is not contained in pore spaces of rocks under the concerned area,

or the combination of some or all of them.

Because the gravity map of the area (U.N.D.P., 1972) does not show significant low gravity or high gravity anomalies in Eburru Crater, we cannot assume any significant density change of rocks in Eburru Crater. Therefore the reason (2) is very unlikely to the situation at Eburru Crater. It is impossible without any further underground geological information to infer which is the most possible cause of the thick high resistivity layer underlying the lower resistivity layer in Eburru Crater. This resistivity layer sequence might be very local, because the results of dipole mapping by Group Seven (1972) do not show any significant apparent resistivity change at or around Eburru Crater.

In the east of Eburru Crater and along the lines C and D, the thick low resistivity layer is very thick and it is considered that its thickness is at least 300 m and in some place, like at the point C–95, it becomes as thick as 900 m. It is infered that the underlying high resistivity layer might be well crystallized compact basement rocks. The basement-like high resistivity layer is detected only at several points and at the other Schlumberger sounding centers, it is assumed that the depth to the top of the basement-like high resistivity layer must be deeper than about 500 m from the surface because the high resistivity layer could not be detected by the maximum current electrode separation, half of which is between 500 m at the edge of the survey lines and 1,500 m at the middle of the survey lines.

The resistivities of the thick low resistivity layer vary between 10 Ωm and 30 Ωm. The cause of the variation may be change of the porosity of rocks or change of the salinity of the pore water. Without geological logs of the area, the cause of existence of the interface of the upper high resistivity layer and the underlying low reistivity layer at the depth of between 10 m and 70 m cannot be defined.

The resistivity interface might be an interface of the rock formation, an underground water surface or significant change of temperature.

In the Eburru Station area, the same kind of the resistivity interface of the high resistivity layer and the thick underlying low resistivity layer exists at the depth between 10 m and 110 m. At the points O–114, P–95, Q–99, Q–119 and Q–124, the underlying low resistivity layer is devided into the two layers, an upper higher resistivity layer with resistivity of between 30 Ωm and 70 Ωm and an underlaying lower resistivity layer with it of between 9 Ωm and 25 Ωm. At the other points, the underlaying low resistivity layer may be devided into the same two layers, but because the thickness of the upper higher resistivity layer is not thick enough or the resistivity contrast is not large enough, it cannot separated into two layers by using the Schlumberger sounding curves.

The resistivity change can be caused by change of the rock types, change of the porosity, change of the salinity of the pore water or change of the temperature. It is also impossible to define the cause of the resistivity change without geological information tying to the resistivity informations.

The only Schlumberger sounding in the Eburru Station area which shows the underlying thick high resistivity layer being covered by the low resistivity layer is at the point P–115. At the point P–115, the high resistivity layer with resistivity of 120 Ωm is covered by the low resistivity layer with resistivity of 20 Ωm. Because this sounding is the only Schlumberger sounding showing the underlying high resistivity layer, this high resistivity layer can be falsely shown by electromagnetic coupling, but still there exists a possibility of the underlying high resistivity layer at the point P–115 being a highly crystalized basement rock.

At the I line, the only three Schlumberger soundings were carried out. Therefore, the soundings cannot be interpreted areally, but the three soundings are clearly divided into two types, the one at the point I–113 and the other at the points I–103 and I–123. At the former one, the low resistivity layer with resistivity of 15 Ωm is covered by a series of the high resistivity layers with resistivity of between 40 Ωm and 450 Ωm. At the latter the relatively high resistivity layer with resistivity of between 110 Ωm and 140 Ωm is covered by a series of the higher resistivity layers with resistivity of between 280 Ωm and 1,000 Ωm. At around the point P–113, there is a large alteration zone where condensed water is collected, and altitude of the point P–113 is several tens of meters lower than them of the points P–103 and P–123. It is infered that the lower elevation of the area may provide a pass of hot water where are the alteration zones and the resistivity is lower than that of the area in higher elevation.

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TABLE IV – 1 Interpretation of Schlumberger Soundings in the Eburru Geothermal Prospect

Sounding Center	Depth	Resistivity
A–72	1.6 meters	25 Ωm
	9.6	470
	120	25
	130	720
	>130	18
A–77	5	60
	14	1,300
	>14	18
A–82	2.5	70
	40	490
	>40	29
A–87	2.4	51
	28	210
	>28	24
A–92	3.2	55
	25	220
	540	26
	>540	>50
A–97	6.0	10
	66	70
	>66	30
A–15	35	190
	>35	10
A–17.5	1.5	500
	47	13
	>47	>100
A–20	4	100
	150	50
	>150	>100

Sounding Center	Depth	Resistivity
A–22.5	3.5 meters	13 Ωm
	40	30
	230	20
	>230	>70
A–25	8	280
	>8	28
C–65	1.9	13
	30	1,300
	>30	<50
C–75	1.3	28
	7.8	2,800
	110	50
	>110	23
C–85	1.5	90
	28	1,700
	340	14
	>340	>40
C–95	50	90
	70	500
	950	14
	>950	>30
C–105	1.4	200
	4.5	4,000
	63	110
	>63	14
C–20	3.2	84
	9.5	28
	19	680
	>19	16
C–25	28	58
	>28	15

Sounding Center	Depth	Resistivity
D–97	60 meters	38 Ωm
	>60	10
D–102	4.5	560
	37	150
	>37	13
D–107	19	1,000
	620	19
	>620	>30
D–112	26	900
	>26	19
D–117	5.2	100
	11	1,500
	>11	20
D–122	5.2	270
	36	140
	>36	19
D–127	2.1	68
	120	10
	>120	30
I–103	6.5	280
	52	750
	>52	110
I–113	23	150
	46	40
	60	2,000
	>60	15
I–123	30	1,000
	>30	140
O–84	24	200
	40	1,400
	>40	28

Sounding Center	Depth	Resistivity
O–89	1.6 meters	50 Ωm
	25	2,000
	>25	3
O–94	2.7	55
	30	550
	>30	20
O–99	1.7	900
	17	8,100
	>17	25
O–104	6.4	9,000
	110	500
	>110	12
O–114	7.0	280
	140	70
	>140	25
O–119	2.1	21
	30	180
	>30	36
P–85	2.6	240
	42	1,700
	>42	18
P–90	8.0	800
	14	350
	55	1,200
	>55	17
P–95	3.5	800
	11	8,000
	290	35
	>290	11
P–100	2.9	470
	14	3,500
	>14	14

Sounding Center	Depth	Resistivity
P–115	8.0 meters	85 Ωm
	140	28
	>140	120
P–120	3.9	34
	26	170
	>26	45
Q–84	3.5	110
	11	250
	92	22
	120	200
	>120	<19
Q–89	2.1	240
	11	48
	35	95
	>35	20
Q–94	2.8	1,300
	15	12,000
	>15	23
Q–99	2.1	600
	6.0	24,000
	74	54
	>74	13
Q–104	11	1,050
	22	9,000
	>22	14
Q–109	42	2,400
	>42	14
Q–114	1.2	90
	31	1,000
	>31	14
Q–119	110	54
	>110	14

Sounding Center	Depth	Resistivity
Q–124	3.9 meters	120 Ωm
	150	30
	>150	9
Q–129	16	180
	50	360
	>50	<20

Table IV – 2 Schlumberger Electrical Sounding Data

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 21 / 10 / 1980

Center Point A−72 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω − m)
3	1	12.6	1.00	3,330	42.0
5	1	37.7	1.01	1,750	65.3
7	1	75.4	1.01	1,130	84.4
10	1	156	0.812	590	113
10	3	47.6	0.812	1,770	104
15	3	113	0.600	753	142
15	1	352	0.603	257	150
20	3	205	0.503	388	158
30	3	467	0.503	192	178
50	3	1,300	0.503	58.0	150
50	10	377	0.503	200	150
70	10	754	0.780	107	103
70	3	2,560	0.783	31.8	104
100	10	1,560	0.503	12.3	38.1
150	10	3,520	0.503	37.0	25.9
200	10	6,270	0.503	2.00	24.9
200	50	1,180	0.503	12.1	28.4
250	50	1,880	0.503	8.93	33.4
250	10	9,800	0.503	1.49	29.0
300	50	2,750	0.807	10.6	36.1
400	50	4,950	0.793	5.27	32.9
500	50	7,780	0.807	2.53	24.4
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 21 / 10 / 1980

Center Point A–77 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.640	3,300	65.0
5	1	37.7	0.720	1,300	68.1
7	1	75.4	0.507	590	87.7
10	1	156	0.507	357	110
10	3	47.6	0.507	1,070	100
15	3	113	0.507	583	130
15	1	352	0.507	198	137
20	3	205	0.507	375	152
30	3	467	0.447	161	168
50	3	1,300	0.507	70.0	179
50	10	377	0.507	248	184
70	10	754	0.507	121	180
70	3	2,560	0.507	34.3	173
100	10	1,560	0.507	43.8	135
150	10	3,520	0.507	8.27	57.4
200	10	6,270	0.507	3.10	38.3
200	50	1,180	0.507	18.8	43.8
250	50	1,880	0.507	8.00	29.7
250	10	9,800	0.507	1.43	27.6
300	50	2,750	0.507	4.23	22.9
400	50	4,950	0.507	2.03	19.8
500	50	7,780	1.01	2.67	20.6
500	100	3,770			
700	100	7,540			
700	50	15,300	1.01	1.25	18.9
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 21 / 10 / 1980

Center Point A–82 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.363	2,500	86.8
5	1	37.7	0.393	1,130	108
7	1	75.4	0.383	697	137
10	1	156	0.443	493	174
10	3	47.6	0.443	1,450	156
15	3	113	0.433	783	204
15	1	352	0.433	273	222
20	3	205	0.500	570	234
30	3	467	0.467	288	288
50	3	1,300	0.500	123	320
50	10	377	0.500	423	319
70	10	754	0.450	173	290
70	3	2,560	0.450	50.7	288
100	10	1,560	0.500	59.7	186
150	10	3,520	0.500	13.5	95.0
200	10	6,270	0.500	4.00	50.2
200	50	1,180	0.500	24.8	58.5
250	50	1,880	0.500	11.3	42.5
250	10	9,800	0.500	1.95	38.2
300	50	2,750	0.787	10.9	38.1
400	50	4,950	0.657	4.33	32.6
500	50	7,780	1.21	4.87	31.3
500	100	3,770			
700	100	7,540			
700	50	15,300	1.52	3.25	32.7
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			
1,000	50	31,300	1.15	1.10	29.9

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 25 / 10 / 1980

Center Point A−87 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω − m)
3	1	12.6	0.720	3,250	56.9
5	1	37.7	0.443	1,590	135
7	1	75.4	0.800	920	86.7
10	1	156	0.787	537	106
10	3	47.6	0.806	1,700	100
15	3	113	0.873	983	127
15	1	352	0.893	345	136
20	3	205	0.907	577	130
30	3	467	0.933	240	120
50	3	1,300	0.813	63.7	102
50	10	377	0.820	227	104
70	10	754	0.607	68.3	84.8
70	3	2,560	0.617	20.2	83.8
100	10	1,560	0.940	30.5	50.6
150	10	3,520	0.780	7.20	32.5
200	10	6,270	1.01	4.33	26.9
200	50	1,180	1.01	27.2	31.8
250	50	1,880	0.947	14.1	28.0
250	10	9,800	0.807	1.98	24.0
300	50	2,750	1.01	9.53	25.9
400	50	4,950	1.01	5.33	26.1
500	50	7,780	1.41	5.03	27.8
500	100	3,770	1.44	11.5	30.1
700	100	7,540	1.51	6.13	30.6
700	50	15,300	1.51	2.43	24.6
1,000	100	15,600	0.947	1.80	29.7
1,200	100	22,500	0.640	1.15	40.4
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 25 / 10 / 1980

Center Point A–92 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	1.52	2,780	23.0
5	1	37.7	1.52	1,020	25.3
7	1	75.4	1.52	613	30.4
10	1	156	1.51	372	38.4
10	3	47.6	1.50	1,230	39.0
15	3	113	1.51	670	50.1
15	1	352	1.52	208	48.2
20	3	205	1.52	427	57.6
30	3	467	1.43	184	60.1
50	3	1,300	1.52	52.3	44.7
50	10	377	1.52	179	44.4
70	10	754	1.16	67.3	43.7
70	3	2,560	1.17	20.2	44.2
100	10	1,560	1.52	43.2	44.3
150	10	3,520	1.52	17.4	40.3
200	10	6,270	1.52	8.37	34.5
200	50	1,180	1.52	48.7	37.8
250	50	1,880	1.10	18.7	32.0
250	10	9,800	1.12	3.43	30.0
300	50	2,750	1.01	5.27	14.3
400	50	4,950	1.01	2.40	11.8
500	50	7,780	1.02	1.53	11.7
500	100	3,770	1.02	2.70	9.98
700	100	7,540	1.01	1.35	10.1
700	50	15,300	1.01	0.780	11.8
1,000	100	15,600	0.377	0.520	21.5
1,200	100	22,500	0.657	0.687	23.5
1,500	100	35,200	0.520	0.373	25.2

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 26 / 10 / 1980

Center Point A–97 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.737	987	16.9
5	1	37.7	0.677	262	14.6
7	1	75.4	0.807	125	11.7
10	1	156	0.690	59.7	13.5
10	3	47.6	0.690	208	14.3
15	3	113	0.807	144	20.2
15	1	352	0.807	42.7	18.6
20	3	205	0.493	63.7	26.5
30	3	467	0.567	43.5	35.8
50	3	1,300	0.723 0.507	19.2 13.3	34.5 34.1
50	10	377	0.507	47.0	34.9
70	10	754	1.01	45.3	33.8
70	3	2,560	1.01	13.2	33.5
100	10	1,560	1.01	28.5	44.0
150	10	3,520	1.01	12.1	42.2
200	10	6,270	1.51	10.0	41.5
200	50	1,180	1.51	55.7	43.5
250	50	1,880	0.927	22.2	45.0
250	10	9,800	0.907	3.93	42.5
300	50	2,750	0.807	12.9	44.0
400	50	4,950	0.473	4.17	43.6
500	50	7,780	0.683	3.57	40.7
500	100	3,770	0.660	6.03	34.4
700	100	7,540	0.550	2.32	31.8
700	50	15,300	0.550	1.37	38.1
1,000	100	15,600	0.593	1.24	32.6
1,200	100	22,500	0.513	0.773	33.9
1,500	100	35,200	0.430	0.480	39.3

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 17 / 10 / 1980

Center Point C–65 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.720	1,070	18.7
5	1	37.7	0.807	930	43.4
7	1	75.4	0.807	553	51.7
10	1	156	1.01	430	66.4
10	3	47.6	1.01	1,340	63.2
15	3	113	1.01	833	93.2
15	1	352	1.01	273	95.1
20	3	205	1.01	607	123
30	3	467	1.01	365	169
50	3	1,300	1.01	173	223
50	10	377	1.01	620	231
70	10	754	1.01	365	272
70	3	2,560	1.05	109	266
100	10	1,560	0.993	185	291
150	10	3,520	1.25	100	282
200	10	6,270	0.500	18.3	229
200	50	1,180	0.500	102	241
250	50	1,880	0.493	49.0	187
250	10	9,800	0.480	8.60	176
300	50	2,750	0.803	38.2	131
400	50	4,950	0.717	10.7	73.9
500	50	7,780			
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 17 / 10 / 1980

Center Point C-75 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.713	2,650	46.8
5	1	37.7	0.780	1,050	50.8
7	1	75.4	0.800	1,050	99.0
10	1	156	0.800	1,070	209
10	3	47.6	0.800	3,350	199
15	3	113	0.727	2,100	326
15	1	352	0.727	633	306
20	3	205	0.570	1,030	370
30	3	467	0.707	540	357
50	3	1,300	0.573	113	256
50	10	377	0.587	430	276
70	10	754	0.507	151	225
70	3	2,560	0.510	42.7	214
100	10	1,560	0.500	47.0	147
150	10	3,520	0.500	14.4	107
200	10	6,270	0.500	6.10	76.5
200	50	1,180	0.503	39.5	92.7
250	50	1,880	0.503	15.7	58.7
250	10	9,800	0.503	2.68	52.2
300	50	2,750	0.503	6.73	36.8
400	50	4,950	1.03	5.33	25.6
500	50	7,780	0.860	1.21	10.9
500	100	3,770	0.840	3.08	13.8
700	100	7,540	0.860	2.72	23.8
700	50	15,300	0.827	1.24	22.9
1,000	100	15,600	1.21	1.95	25.1
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 18 / 10 / 1980

Center Point C–85 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.527	3,230	77.2
5	1	37.7	0.623	3,270	198
7	1	75.4	0.637	3,250	385
10	1	156	0.843	2,350	435
10	3	47.6	0.847	3,200	180
15	3	113	0.750	3,120	470
15	1	352	0.760	1,090	505
20	3	205	0.657	1,620	505
30	3	467	0.817	813	465
50	3	1,300	0.697	228	425
50	10	377	0.700	800	431
70	10	754	0.567	680	904
70	3	2,560	0.573	197	880
100	10	1,560	0.527	267	790
150	10	3,520	1.04	81.0	274
200	10	6,270	0.627	11.7	117
200	50	1,180	0.633	63.7	119
250	50	1,880	0.987	35.0	66.7
250	10	9,800	0.987	6.70	66.5
300	50	2,750	0.707	11.7	45.5
400	50	4,950	0.923	4.60	24.7
500	50	7,780	1.47	4.30	22.8
500	100	3,770	1.47	9.53	24.4
700	100	7,540	0.56	1.80	24.2
700	50	15,300	0.56	0.907	24.8
1,000	100	15,600	0.393	0.720	28.6
1,200	100	22,500	0.363	0.500	31.0
1,500	100	35,200	1.31	1.23	33.1

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 18 / 10 / 1980

Center Point C–95 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.923	3,270	44.6
5	1	37.7	0.857	1,820	80.1
7	1	75.4	0.790	933	89.0
10	1	156	0.807	503	97.2
10	3	47.6	0.810	1,390	81.7
15	3	113	0.863	647	84.7
15	1	352	0.870	238	96.3
20	3	205	0.840	360	87.9
30	3	467	0.797	156	91.4
50	3	1,300	0.763	54.0	92.0
50	10	377	0.747	203	102
70	10	754	0.793	120	114
70	3	2,560	0.187	7.50	103
100	10	1,560	0.957	77.3	126
150	10	3,520	0.813	27.7	120
200	10	6,270	0.617	6.70	68.1
200	50	1,180	0.617	18.8	36.0
250	50	1,880	0.657	8.53	24.4
250	10	9,800	0.650	3.07	46.3
300	50	2,750	0.520	4.23	22.4
400	50	4,950	0.760	1.36	8.86
500	50	7,780	0.367	0.947	20.1
500	100	3,770	0.380	1.67	16.0
700	100	7,540	0.287	0.680	17.9
700	50	15,300	0.292	0.413	21.6
1,000	100	15,600	1.29	1.53	18.5
1,200	100	22,500	1.13	1.04	20.7
1,500	100	35,200	1.31	0.893	24.0

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 19 / 10 / 1980

Center Point C–105 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.237	3,180	169
5	1	37.7	0.201	3,300	619
7	1	75.4	0.309	3,270	798
10	1	156	0.299	2,170	1130
10	3	47.6	0.299	3,330	530
15	3	113	0.256	2,120	936
15	1	352	0.256	633	870
20	3	205	0.220	766	714
30	3	467	0.229	166	339
50	3	1,300	0.319	27.2	111
50	10	377	0.319	109	129
70	10	754	0.417	59.3	107
70	3	2,560	0.413	18.3	113
100	10	1,560	0.225	12.9	89.4
150	10	3,520	0.530	7.10	47.2
200	10	6,270	0.309	1.60	32.5
200	50	1,180	0.309	6.93	26.5
250	50	1,880	0.273	3.45	23.8
250	10	9,800	0.275	0.853	30.4
300	50	2,750	0.540	3.40	17.3
400	50	4,950	0.284	0.980	17.1
500	50	7,780	1.19	2.62	17.1
500	100	3,770	1.21	4.77	14.9
700	100	7,540	0.713	1.58	16.7
700	50	15,300	0.727	0.913	19.2
1,000	100	15,600	0.797	0.887	17.4
1,200	100	22,500	0.907	0.767	19.0
1,500	100	35,200	0.880	0.487	19.5

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 19 / 10 / 1980

Center Point C-25 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.410	3,200	98.3
5	1	37.7	0.463	580	47.2
7	1	75.4	0.324	202	47.0
10	1	156	0.507	173	53.2
10	3	47.6	0.507	580	54.5
15	3	113	0.367	21.3	65.6
15	1	352	0.283	49.3	61.3
20	3	205	0.410	130	65.0
30	3	467	0.513	60.0	54.6
50	3	1,300	0.304	14.4	61.6
50	10	377	0.304	28.5	35.3
70	10	754	0.304	9.40	23.3
70	3	2,560	0.304	2.53	21.3
100	10	1,560	0.407	5.13	19.7
150	10	3,520	0.221	1.43	22.8
200	10	6,270	0.450	1.41	19.6
200	50	1,180	0.450	7.80	20.5
250	50	1,880	0.507	5.07	18.8
250	10	9,800	0.507	0.940	18.2
300	50	2,750	0.217	1.41	17.9
400	50	4,950	0.507	1.59	15.5
500	50	7,780	0.507	0.913	14.0
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 7 / 10 / 1980

Center Point D–97 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.960	3,300	43.3
5	1	37.7	0.313	680	81.9
7	1	75.4	0.513	250	36.7
10	1	156	0.413	92.0	34.8
10	3	47.6	0.420	338	38.3
15	3	113	0.687	111	18.3
15	1	352	0.593	26.2	15.6
20	3	205	0.430	73.0	34.8
30	3	467	0.353	28.0	37.0
50	3	1,300	0.420	13.5	41.8
50	10	377			
70	10	754	0.320	21.2	50.0
70	3	2,560	0.317	4.67	37.7
100	10	1,560	0.470	6.60	21.9
150	10	3,520	0.150	0.440	10.3
200	10	6,270	0.050	0.076	9.53
200	50	1,180	0.053	0.717	16.0
250	50	1,880	0.093	0.683	13.8
250	10	9,800			
300	50	2,750	0.293	1.17	11.0
400	50	4,950	0.036	0.078	10.7
500	50	7,780	0.296	0.427	11.2
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			
50	7	550	0.423	36.0	46.8

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 8 / 10 / 1980

Center Point D–102 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.0730	3,250	561
5	1	37.7	0.0680	2,200	1,220
7	1	75.4	0.113	810	540
10	1	156	0.0520	95.3	286
10	3	47.6	0.0507	318	299
15	3	113	0.0893	162	205
15	1	352	0.0893	59.0	233
20	3	205	0.0827	80.3	199
30	3	467	0.0567	23.7	195
50	3	1,300	0.0840	9.53	147
50	10	377	0.0880	25.0	107
70	10	754	0.104	13.1	95.0
70	3	2,560	0.104	5.33	131
100	10	1,560	0.260	11.5	69.0
150	10	3,520	0.197	1.03	18.4
200	10	6,270	0.340	0.713	13.1
200	50	1,180	0.340	3.60	12.5
250	50	1,880	0.337	2.50	13.9
250	10	9,800	0.337	0.500	14.5
300	50	2,750	0.263	1.50	15.7
400	50	4,950	0.223	0.673	14.9
500	50	7,780	0.337	0.677	15.6
500	100	3,770			
700	100	7,540	0.540	0.573	8.00
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 9 / 10 / 1980

Center Point D–107 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.135	3,200	299
5	1	37.7	0.125	3,280	989
7	1	75.4	0.119	2,880	1,820
10	1	156	0.209	1,380	1,030
10	3	47.6	0.209	3,230	736
15	3	113	0.0827	1,220	1,670
15	1	352	0.0800	327	1,440
20	3	205	0.164	920	1,150
30	3	467	0.207	337	760
50	3	1,300	0.136	43.3	414
50	10	377	0.136	153	424
70	10	754	0.249	50.7	154
70	3	2,560	0.255	10.3	103
100	10	1,560	0.297	8.93	46.9
150	10	3,520	0.185	1.27	24.2
200	10	6,270	0.245	0.867	22.2
200	50	1,180	0.245	2.83	13.6
250	50	1,880	0.167	1.72	19.4
250	10	9,800	0.168	0.380	22.2
300	50	2,750	0.123	0.860	19.2
400	50	4,950	0.295	0.980	16.4
500	50	7,780	0.473	1.00	16.4
500	100	3,770	0.467	2.15	17.4
700	100	7,540	0.477	1.37	21.7
700	50	15,300	0.487	0.670	21.0
1,000	100	15,600	0.430	0.660	23.9
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 10 / 10 / 1980

Center Point D–112 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.320	3,270	129
5	1	37.7	0.228	3,320	549
7	1	75.4	0.407	3,330	617
10	1	156	0.377	3,230	1,340
10	3	47.6	0.410	3,400	395
15	3	113	0.407	3,170	880
15	1	352	0.403	1,630	1,420
20	3	205	0.403	2,650	1,350
30	3	467	0.500	967	903
50	3	1,300	0.497	183	479
50	10	377	0.463	720	586
70	10	754	0.497	198	300
70	3	2,560	0.497	22.7	117
100	10	1,560	0.200	19.2	150
150	10	3,520	0.307	3.03	34.7
200	10	6,270	0.0933	0.0787	5.29
200	50	1,180	0.0827	1.60	22.8
250	50	1,880	0.204	2.00	18.4
250	10	9,800	0.205	0.178	8.51
300	50	2,750	0.360	2.52	19.3
400	50	4,950	0.0907	0.447	24.4
500	50	7,780	0.112	0.293	20.4
500	100	3,770	0.111	0.533	18.1
700	100	7,540	0.500	1.17	17.6
700	50	15,300	0.500	0.593	18.1
1,000	100	15,600	0.800	1.10	21.5
1,200	100	22,500	0.790	0.780	22.2
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 11 / 10/ 1980

Center Point D–117 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.480	3,200	84.0
5	1	37.7	0.493	1,510	115
7	1	75.4	0.293	432	111
10	1	156	0.293	273	145
10	3	47.6	0.293	927	151
15	3	113	0.293	477	184
15	1	352	0.293	158	190
20	3	205	0.295	330	229
30	3	467	0.293	172	274
50	3	1,300	0.293	35.8	159
50	10	377	0.293	124	160
70	10	754	0.293	23.0	59.2
70	3	2,560	0.295	6.40	55.5
100	10	1,560	0.173	2.23	20.1
150	10	3,520	0.125	0.587	16.5
200	10	6,270	0.296	0.633	13.4
200	50	1,180	0.296	6.17	24.6
250	50	1,880	0.295	3.32	21.2
250	10	9,800	0.295	0.393	13.1
300	50	2,750	0.296	2.28	21.2
400	50	4,950	0.793	3.62	22.6
500	50	7,780	0.327	0.860	20.5
500	100	3,770	0.320	1.65	19.4
700	100	7,540	0.353	0.987	21.1
700	50	15,300	0.353	0.507	22.0
1,000	100	15,600	0.400	0.527	20.6
1,200	100	22,500			
1,500	100	35,200			
150	50	628	0.127	7.73	

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 11 / 10 / 1980

Center Point D–122 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.191	3,300	218
5	1	37.7	0.209	1,330	240
7	1	75.4	0.168	623	280
10	1	156	0.151	187	193
10	3	47.6	0.143	683	224
15	3	113	0.223	312	158
15	1	352	0.175	124	145
20	3	205	0.261	77.7	139
30	3	467	0.207	11.1	69.7
50	3	1,300	0.208	56.3	102
50	10	377	0.283	24.3	64.7
70	10	754	0.283	8.40	76.0
70	3	2,560	0.135	3.22	37.2
100	10	1,560	0.490	3.53	25.4
150	10	3,520	0.973	3.30	21.3
200	10	6,270	0.967	10.7	13.1
200	50	1,180	0.309	3.13	19.0
250	50	1,880	0.312	0.727	22.8
250	10	9,800	0.423	2.98	19.4
300	50	2,750	0.483	1.87	19.2
400	50	4,950	0.500	1.27	19.8
500	50	7,780			
500	100	3,770			
700	100	7,540	0.208	0.260	19.1
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 12 / 10 / 1980

Center Point D--127 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.200	880	55.4
5	1	37.7	0.200	126	23.8
7	1	75.4	0.200	45.2	17.0
10	1	156	0.155	13.6	13.7
10	3	47.6	0.155	58.7	18.0
15	3	113	0.149	13.7	10.4
15	1	352	0.147	3.77	9.03
20	3	205	0.380	18.1	9.76
30	3	467	0.403	10.6	10.7
50	3	1,300	0.507	4.87	12.5
50	10	377	0.503	16.6	12.4
70	10	754	1.01	14.1	10.5
70	3	2,560	1.01	41.7	10.6
100	10	1,560	0.480	2.97	9.65
150	10	3,520	0.296	1.03	12.2
200	10	6,270	0.296	0.653	13.8
200	50	1,180	0.300	5.10	20.1
250	50	1,880	0.303	3.17	19.7
250	10	9,800	0.303	0.400	12.9
300	50	2,750	0.507	3.48	18.9
400	50	4,950	0.277	0.973	17.8
500	50	7,780	0.333	0.700	16.4
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 15 / 11 / 1980

Center Point I–103 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.173	4,500	328
5	1	37.7	0.289	2,280	297
7	1	75.4	0.215	926	325
10	1	156	0.281	607	337
10	3	47.6	0.281	3,320	562
15	3	113	0.188	860	517
15	1	352	0.188	392	734
20	3	205	0.192	462	493
30	3	467	0.204	217	497
50	3	1,300	0.324	132	525
50	10	377	0.327	497	573
70	10	754	0.335	255	574
70	3	2,560	0.335	153	1,170
100	10	1,560	0.203	52.7	405
150	10	3,520	0.115	14.8	453
200	10	6,270	0.276	8.93	203
200	50	1,180	0.281	24.5	103
250	50	1,880	0.423	28.0	124
250	10	9,800			
300	50	2,750	0.313	14.9	128
400	50	4,950	0.325	7.30	111
500	50	7,780	0.440	6.33	112
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			
1	3	20.9	0.215	5,770	556

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 15 / 11 / 1980

Center Point I--113 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.513	6,100	150
5	1	37.7	0.493	2,240	171
7	1	75.4	0.373	860	174
10	1	156	0.363	351	151
10	3	47.6	0.363	1,370	180
15	3	113	0.315	507	182
15	1	352	0.315	148	165
20	3	205	0.298	189	130
30	3	467	0.280	97.1	162
50	3	1,300	0.393	30.8	102
50	10	377	0.393	99.4	95.4
70	10	754	0.200	23.8	89.7
70	3	2,560	0.202	7.97	101
100	10	1,560	0.143	10.7	117
150	10	3,520	0.427	17.5	144
200	10	6,270	0.0893	2.30	161
200	50	1,180	0.0893	9.76	129
250	50	1,880	0.184	7.83	80.0
250	10	9,800	0.185	1.88	99.6
300	50	2,750	0.240	4.46	51.1
400	50	4,950	0.270	0.829	15.2
500	50	7,780	0.417	1.05	19.6
500	100	3,770	0.413	1.59	14.5
700	100	7,540	0.703	1.18	12.7
700	50	15,300	0.703	0.868	18.9
1,000	100	15,600	0.547	0.705	20.1
1,200	100	22,500			
1,500	100	35,200			
5	3	8.38	0.490	8,140	139
30	10	126	0.280	297	134

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 15 / 11 / 1980

Center Point I–123 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.245	23,800	1,220
5	1	37.7	0.325	10,700	1,240
7	1	75.4	0.288	4,400	1,150
10	1	156	0.191	1,350	1,100
10	3	47.6	0.191	3,520	877
15	3	113	0.325	2,400	834
15	1	352	0.327	1,050	1,130
20	3	205	0.195	893	939
30	3	467	0.204	407	932
50	3	1,300	0.377	283	976
50	10	377	0.377	770	770
70	10	754	0.168	74.0	332
70	3	2,560	0.168	32.7	498
100	10	1,560	0.237	23.8	157
150	10	3,520	0.284	12.0	149
200	10	6,270	0.352	12.1	216
200	50	1,180	0.355	45.7	152
250	50	1,880	0.086	7.46	163
250	10	9,800	0.086	1.33	151
300	50	2,750	0.144	9.01	172
400	50	4,950	0.203	5.86	143
500	50	7,780	0.500	10.3	160
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 16 / 11 / 1980

Center Point O–84 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.860	15,300	419
5	1	37.7	0.863	4,370	356
7	1	75.4	0.281	793	213
10	1	156	0.430	450	174
10	3	47.6	0.430	2,220	246
15	3	113	0.259	640	279
15	1	352	0.273	117	151
20	3	205	0.355	405	234
30	3	467	0.447	218	228
50	3	1,300	0.341	72.0	274
50	10	377			
70	10	754	0.308	335	820
70	3	2,560	0.285	42.7	384
100	10	1,560	0.437	179	639
150	10	3,520	0.460	68.7	526
200	10	6,270	1.23	46.8	239
200	50	1,180	1.23	65.0	62.4
250	50	1,880	0.553	12.7	43.2
250	10	9,800	0.570	7.3	126
300	50	2,750	0.883	12.3	38.3
400	50	4,950	1.01	6.73	33.0
500	50	7,780	1.24	4.65	29.2
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 11 / 11 / 1980

Center Point O–89 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.720	3,270	57.2
5	1	37.7	0.780	3,250	157
7	1	75.4	0.487	2,670	413
10	1	156	0.477	1,850	605
10	3	47.6	0.296	1,970	317
15	3	113	0.343	1,130	372
15	1	352	0.343	867	890
20	3	205	0.843	833	203
30	3	467	0.597	640	501
50	3	1,300	1.07	537	652
50	10	377	1.07	517	182
70	10	754	1.29	217	127
70	3	2,560	1.31	182	356
100	10	1,560	0.653	10.1	24.1
150	10	3,520	0.660	15.3	81.6
200	10	6,270	0.943	8.13	54.0
200	50	1,180	0.957	30.2	37.2
250	50	1,880	1.10	14.5	24.8
250	10	9,800	–	–	–
300	50	2,750	0.463	3.08	18.3
400	50	4,950	0.430	1.05	12.1
500	50	7,780	0.377	0.307	6.34
500	100	3,770			
700	100	7,540			
700	50	15,300	0.430	0.070	2.49
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			
70	10	754	1.32	228	130
150	50	628	0.663	55.3	52.4

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 11 / 11 / 1980

Center Point O–94 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	1.23	606	6.21
5	1	37.7	1.23	310	9.50
7	1	75.4	1.23	230	14.1
10	1	156	1.23	147	18.6
10	3	47.6	1.23	477	18.5
15	3	113	1.27	310	27.6
15	1	352	1.27	109	30.2
20	3	205	1.23	112	18.7
30	3	467	1.23	94.7	36.0
50	3	1,300	0.820	40.7	64.5
50	10	377	0.827	265	121
70	10	754	0.300	50	126
70	3	2,560	0.303	7.23	61.1
100	10	1,560	0.205	5.83	44.4
150	10	3,520	0.348	5.70	57.7
200	10	6,270	0.317	1.61	31.8
200	50	1,180	0.320	4.37	16.1
250	50	1,880	0.229	3.36	27.6
250	10	9,800	0.227	1.23	53.1
300	50	2,750	0.470	3.68	21.5
400	50	4,950	0.507	1.53	14.9
500	50	7,780	0.141	0.600	33.2
500	100	3,770	0.137	1.03	28.3
700	100	7,540	0.308	0.969	23.7
700	50	15,300	0.304	0.500	25.2
1,000	100	15,600	0.710	1.10	24.2
1,200	100	22,500			
1,500	100	35,200			
150	50	628	0.345	40.8	74.3
400	100	2,360	0.510	8.20	37.9

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 16 / 11 / 1980

Center Point O–99 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.149	13,300	1,120
5	1	37.7	0.183	9,600	1,980
7	1	75.4	0.179	6,830	2,860
10	1	156	0.177	2,300	2,030
10	3	47.6	0.179	17,800	4,730
15	3	113	0.201	9,530	5,360
15	1	352	0.201	1,470	2,750
20	3	205	0.189	3,030	3,290
30	3	467	0.217	487	1,050
50	3	1,300	0.235	385	2,100
50	10	377	0.237	857	1,360
70	10	754	0.203	302	1,120
70	3	2,560	0.203	130	1,640
100	10	1,560	0.205	68.7	523
150	10	3,520	0.208	39.2	663
200	10	6,270	0.233	7.50	202
200	50	1,180	0.232	64.3	327
250	50	1,880	0.149	6.00	75.7
250	10	9,800	0.148	1.27	84.1
300	50	2,750	0.510	4.97	26.8
400	50	4,950	0.980	5.97	30.2
500	50	7,780	0.312	2.86	71.3
500	100	3,770	0.319	3.87	45.7
700	100	7,540	0.663	2.47	28.1
700	50	15,300	0.667	2.40	55.0
1,000	100	15,600	0.947	1.70	28.0
1,200	100	22,500	1.16	1.61	31.2
1,500	100	35,200			
150	50	628	0.209	358	1,160

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 13 / 11 / 1980

Center Point O–104 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.11	9,070	1,040
5	1	37.7	0.13	16,500	4,790
7	1	75.4	0.15	16,500	8,290
10	1	156	0.107	6,200	9,040
10	3	47.6	0.107	6,130	2,730
15	3	113	0.127	1,760	1,570
15	1	352	0.129	1,290	3,520
20	3	205	0.101	687	1,390
30	3	467	0.293	325	518
50	3	1,300	0.140	1,117	1,090
50	10	377	0.148	258	657
70	10	754	0.225	125	419
70	3	2,560	0.233	99.3	1,090
100	10	1,560	0.656	268	637
150	10	3,520	0.289	50.3	613
200	10	6,270	0.151	7.47	310
200	50	1,180	0.148	10.9	86.9
250	50	1,880	0.133	4.2	59.4
250	10	9,800	0.136	3.93	283
300	50	2,750	0.197	4.73	66.0
400	50	4,950	0.129	2.13	81.7
500	50	7,780	0.216	0.733	26.4
500	100	3,770	0.216	1.32	13.2
700	100	7,540	1.53	5.83	28.7
700	50	15,300	1.53	1.32	13.2
1,000	100	15,600	0.663	0.270	9.16
1,200	100	22,500	0.940	0.400	9.57
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 14 / 11 / 1980

Center Point O–114 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.286	6,880	303
5	1	37.7	0.119	912	289
7	1	75.4	0.200	507	191
10	1	156	0.115	190	258
10	3	47.6	0.115	548	227
15	3	113	0.238	274	130
15	1	352	0.238	103	152
20	3	205	0.152	74.1	99.9
30	3	467	0.133	26.1	91.6
50	3	1,300	0.200	12.8	83.2
50	10	377	0.200	39.5	74.5
70	10	754	0.301	30.3	75.9
70	3	2,560	0.301	9.45	80.4
100	10	1,560	0.636	32.0	78.5
150	10	3,520	0.623	13.7	77.4
200	10	6,270	0.587	5.70	60.9
200	50	1,180	0.597	32.8	64.8
250	50	1,880	0.463	15.6	63.3
250	10	9,800	0.463	2.65	56.1
300	50	2,750	0.233	4.74	55.9
400	50	4,950	3.51	30.3	42.7
500	50	7,780	0.121	0.533	34.3
500	100	3,770			
700	100	7,540	0.533	2.18	30.8
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 14 / 11 / 1980

Center Point O–119 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.96	2,180	28.6
5	1	37.7	1.20	1,340	42.1
7	1	75.4	0.91	677	56.1
10	1	156	0.94	393	65.2
10	3	47.6	1.00	1,390	66.2
15	3	113	0.83	583	79.4
15	1	352	0.88	177	70.8
20	3	205	0.64	280	89.7
30	3	467	1.18	307	121
50	3	1,300	1.20	173	187
50	10	377	1.20	537	169
70	10	754	0.80	167	157
70	3	2,560	0.80	61.7	197
100	10	1,560	0.90	60.7	105
150	10	3,520	1.23	24.3	69.5
200	10	6,270	0.31	3.07	62.1
200	50	1,180	0.31	14.4	54.8
250	50	1,880	0.33	9.67	55.1
250	10	9,800	0.33	1.35	40.1
300	50	2,750	0.425	11.1	71.8
400	50	4,950	0.62	5.50	43.9
500	50	7,780	0.47	2.68	44.4
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 4 / 11/ 1980

Center Point P-85 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.720	15,700	275
5	1	37.7	0.440	4,970	426
7	1	75.4	0.443	2,970	506
10	1	156	0.433	1,790	645
10	3	47.6	0.433	5,530	608
15	3	113	0.470	3,000	721
15	1	352	0.470	1,010	756
20	3	205	0.457	1,880	843
30	3	467	0.570	1,030	843
50	3	1,300	0.500	317	824
50	10	377	0.503	1,250	937
70	10	754	0.356	413	874
70	3	2,560	0.356	109	783
100	10	1,560	0.803	385	748
150	10	3,520	0.610	60.3	348
200	10	6,270	1.27	49.0	242
200	50	1,180	1.35	267	233
250	50	1,880	0.960	60.3	118
250	10	9,800	0.960	10.4	106
300	50	2,750	0.807	12.1	41.2
400	50	4,950	0.590	4.10	34.4
500	50	7,780	0.930	3.08	25.8
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 4/ 11/ 1980

Center Point P–90 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.563	33,000	139
5	1	37.7	0.477	9,930	785
7	1	75.4	0.650	6,100	708
10	1	156	0.720	2,550	553
10	3	47.6	0.730	7,830	511
15	3	113	0.750	3,380	509
15	1	352	0.757	1,210	563
20	3	205	0.410	1,100	550
30	3	467	0.567	743	612
50	3	1,300	0.980	537	712
50	10	377	0.993	1,810	687
70	10	754	0.717	713	750
70	3	2,560	0.717	210	750
100	10	1,560	1.03	370	560
150	10	3,520	0.830	107	454
200	10	6,270	0.800	48.0	376
200	50	1,180	0.803	163	240
250	50	1,880	0.733	62.0	159
250	10	9,800	0.737	18.3	243
300	50	2,750	0.697	22.5	88.8
400	50	4,950	0.259	1.38	26.4
500	50	7,780	1.33	3.42	20.0
500	100	3,770			
700	100	7,540			
700	50	15,300	0.420	0.507	18.5
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 4 / 11 / 1980

Center Point P–95 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6			
5	1	37.7			
7	1	75.4			
10	1	156			
10	3	47.6	0.393	14,800	1,790
15	3	113	0.533	11,500	2,440
15	1	352	0.533	3,730	2,460
20	3	205	0.453	6,530	2,960
30	3	467	0.477	3,250	3,180
50	3	1,300	0.380	627	2,150
50	10	377	0.390	2,330	2,250
70	10	754	0.373	573	1,160
70	3	2,560	0.373	160	1,100
100	10	1,560	0.547	176	502
150	10	3,520	0.373	5.60	52.8
200	10	6,270	0.430	3.05	44.5
200	50	1,180	0.430	12.5	34.3
250	50	1,880	0.547	9.87	33.9
250	10	9,800	0.547	2.62	46.9
300	50	2,750	0.320	3.93	33.8
400	50	4,950	0.617	3.88	31.1
500	50	7,780	1.27	4.08	25.0
500	100	3,770	1.29	6.67	19.5
700	100	7,540	0.760	1.68	16.7
700	50	15,300	0.760	0.900	18.1
1,000	100	15,600	0.872	1.52	27.2
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 5 / 11 / 1980

Center Point P–100 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.533	21,700	513
5	1	37.7	0.467	8,270	668
7	1	75.4	0.483	5,270	823
10	1	156	0.341	3,320	1,520
10	3	47.6	0.344	5,270	729
15	3	113	0.200	2,700	1,530
15	1	352	0.200	973	1,710
20	3	205	0.224	1,970	1,800
30	3	467	0.192	740	1,800
50	3	1,300	0.309	278	1,170
50	10	377	0.309	807	985
70	10	754	0.259	73.3	213
70	3	2,560	0.252	19.2	195
100	10	1,560	0.117	10.8	144
150	10	3,520	0.387	2.86	26.0
200	10	6,270	0.293	0.873	18.7
200	50	1,180	0.296	3.63	14.5
250	50	1,880	1.20	9.93	15.6
250	10	9,800	1.21	1.61	13.0
300	50	2,750	0.547	2.63	13.2
400	50	4,950	0.620	0.940	7.50
500	50	7,780	1.00	1.77	13.8
500	100	3,770	1.01	3.72	13.9
700	100	7,540	1.00	1.63	12.3
700	50	15,300	1.00	0.700	10.7
1,000	100	15,600	1.21	0.920	11.9
1,200	100	22,500	1.21	0.567	10.5
1,500	100	35,200			
150	50	628	0.387	19.5	31.6
100	50	236	0.120	109	214

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 12 / 11 / 1980

Center Point P–115 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.80	3,270	52
5	1	37.7	0.75	1,690	85
7	1	75.4	0.90	1,030	86
10	1	156	0.80	432	84
10	3	47.6	0.85	982	55
15	3	113	0.95	273	32
15	1	352	0.95	205	76
20	3	205	0.80	181	46
30	3	467	1.00	76.0	35
50	3	1,300	0.85	36.8	56
50	10	377	0.90	115	48
70	10	754	1.00	65.0	49
70	3	2,560	1.00	15.3	39
100	10	1,560	1.00	40.3	63
150	10	3,520	1.00	6.97	25
200	10	6,270	1.00	3.47	22
200	50	1,180	1.00	47.3	56
250	50	1,880	0.90	30.0	63
250	10	9,800	0.90	2.83	31
300	50	2,750	0.43	6.47	41
400	50	4,950	0.75	7.23	48
500	50	7,780	0.75	3.37	35
500	100	3,770			
700	100	7,540			
700	50	15,300	0.75	3.83	78
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 12 / 10 / 1980

Center Point P–120 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.640	3,530	69.5
5	1	37.7	0.610	620	38.3
7	1	75.4	1.01	583	43.5
10	1	156	1.05	367	54.5
10	3	47.6	1.05	1,350	61.2
15	3	113	1.21	953	89.0
15	1	352	1.23	275	78.7
20	3	205	1.23	610	102
30	3	467	1.27	287	106
50	3	1,300	0.767	77.3	131
50	10	377	0.780	196	94.7
70	10	754	0.620	52.7	64.1
70	3	2,560	0.650	17.1	67.3
100	10	1,560	1.24	53.7	67.6
150	10	3,520	1.01	11.3	39.4
200	10	6,270	1.29	13.1	63.7
200	50	1,180	1.33	77.3	68.6
250	50	1,880	0.593	30.7	97.3
250	10	9,800	0.593	3.60	59.5
300	50	2,750	0.630	9.97	43.5
400	50	4,950	0.803	6.21	38.3
500	50	7,780	0.557	3.65	51.0
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 23 / 10 / 1980

Center Point Q–84 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.281	1,350	60.5
5	1	37.7	0.227	787	131
7	1	75.4	0.260	490	142
10	1	156	0.490	530	169
10	3	47.6	0.500	1,630	155
15	3	113	0.384	607	179
15	1	352	0.390	215	194
20	3	205	0.430	395	188
30	3	467	0.275	86.0	146
50	3	1,300	0.503	16.3	42.1
50	10	377	0.503	72.0	54.0
70	10	754	0.503	22.2	33.3
70	3	2,560	0.503	5.23	26.6
100	10	1,560	0.503	9.33	28.9
150	10	3,520	0.503	4.83	33.8
200	10	6,270	0.241	1.17	30.4
200	50	1,180	0.247	8.73	41.7
250	50	1,880	0.147	2.65	33.9
250	10	9,800	0.147	0.380	25.3
300	50	2,750	0.297	3.27	30.3
400	50	4,950	0.503	2.05	20.2
500	50	7,780	0.343	0.807	18.3
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 23 / 10 / 1980

Center Point Q–89 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.169	2,700	201
5	1	37.7	0.172	397	87.0
7	1	75.4	0.0787	70.0	67.1
10	1	156	0.163	64.0	61.3
10	3	47.6	0.157	159	48.2
15	3	113	0.140	70.3	56.7
15	1	352	0.137	27.2	69.9
20	3	205	0.115	33.7	60.1
30	3	467	0.155	23.0	69.3
50	3	1,300	0.180	7.90	57.1
50	10	377	0.187	35.7	72.0
70	10	754	0.173	13.7	59.7
70	3	2,560	0.157	3.00	48.9
100	10	1,560	0.295	7.33	38.8
150	10	3,520	0.295	2.62	31.3
200	10	6,270	0.0640	0.280	27.4
200	50	1,180	0.0667	1.66	29.4
250	50	1,880	0.303	5.07	31.5
250	10	9,800	0.303	0.860	27.8
300	50	2,750	0.151	1.66	30.2
400	50	4,950	0.191	1.08	28.0
500	50	7,780	0.135	0.373	21.5
500	100	3,770			
700	100	7,540			
700	50	15,300	0.203	1.44	109
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 23 / 10 / 1980

Center Point Q–94 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.0880	3,280	470
5	1	37.7	0.0587	3,280	2,110
7	1	75.4	0.0613	2,270	2,790
10	1	156	0.0800	1,610	3,140
10	3	47.6	0.0773	3,250	2,000
15	3	113	0.0613	2,620	4,830
15	1	352	0.587	667	4,000
20	3	205	0.0867	2,220	5,250
30	3	467	0.103	1,440	6,530
50	3	1,300	0.0520	185	4,630
50	10	377	0.0520	693	5,020
70	10	754	0.107	348	2,450
70	3	2,560	0.105	96.0	2,340
100	10	1,560	0.295	21.0	111
150	10	3,520	0.263	5.77	77.2
200	10	6,270	0.0867	0.966	69.9
200	50	1,180	0.0827	7.73	110
250	50	1,880	0.0707	1.50	39.9
250	10	9,800	0.0680	1.47	212
300	50	2,750	0.170	1.59	25.7
400	50	4,950	0.0546	0.327	29.6
500	50	7,780	0.243	0.820	26.3
500	100	3,770			
700	100	7,540			
700	50	15,300	0.228	0.413	27.7
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			
1,000	50	31,300	0.233	0.197	26.5

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 24 / 10 / 1980

Center Point Q–99 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.0907	3,370	468
5	1	37.7	0.112	3,370	1,130
7	1	75.4	0.128	3,400	2,000
10	1	156	0.0587	2,020	5,370
10	3	47.6	0.0587	3,330	2,700
15	3	113	0.0547	2,830	5,850
15	1	352	0.0560	900	5,660
20	3	205	0.0573	1,590	5,690
30	3	467	0.0787	607	3,600
50	3	1,300	0.0880	103	1,520
50	10	377	0.0920	372	1,520
70	10	754	0.241	375	1,170
70	3	2,560	0.241	116	1,230
100	10	1,560	0.177	90.7	799
150	10	3,520	0.0613	4.00	230
200	10	6,270	0.129	12.5	608
200	50	1,180	0.132	11.1	99.2
250	50	1,880	0.215	4.33	37.9
250	10	9,800	0.203	5.33	257
300	50	2,750	0.0553	0.480	23.9
400	50	4,950	0.377	0.720	9.45
500	50	7,780	0.119	0.280	18.3
500	100	3,770	0.123	0.627	19.2
700	100	7,540	0.590	1.02	13.0
700	50	15,300	0.593	0.347	8.95
1,000	100	15,600	0.101	0.700	108
1,200	100	22,500	0.833	0.480	13.0
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 24 / 10 / 1980

Center Point Q–104 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.044	3,270	936
5	1	37.7	0.063	1,750	1,050
7	1	75.4	0.061	840	1,040
10	1	156	0.051	355	1,090
10	3	47.6	0.049	1,130	1,100
15	3	113	0.119	1,360	1,290
15	1	352	0.116	425	1,290
20	3	205	0.116	843	1,490
30	3	467	0.088	388	2,060
50	3	1,300	0.269	763	3,690
50	10	377	0.272	2,430	3,370
70	10	754	0.112	613	4,130
70	3	2,560	0.109	188	4,420
100	10	1,560	0.040	45.7	1,780
150	10	3,520	0.171	41.3	850
200	10	6,270	0.161	3.97	155
200	50	1,180	0.161	21.5	158
250	50	1,880	0.084	0.887	19.9
250	10	9,800	0.084	0.240	28.0
300	50	2,750	0.153	0.873	15.7
400	50	4,950	0.311	0.927	14.8
500	50	7,780	0.463	0.767	12.9
500	100	3,770	0.460	3.35	27.5
700	100	7,540	0.370	0.987	20.1
700	50	15,300	0.340	0.220	9.9
1,000	100	15,600	0.427	0.760	27.8
1,200	100	22,500	0.733	0.667	20.5
1,500	100	35,200	0.777	0.480	21.7

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 31 / 10/ 1980

Center Point Q–109 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.103	3,280	401
5	1	37.7	–	–	–
7	1	75.4	0.059	3,270	4,180
10	1	156	0.080	1,810	3,530
10	3	47.6	0.080	3,500	2,080
15	3	113	–	–	–
15	1	352	–	–	–
20	3	205	–	–	–
30	3	467	0.177	860	2,270
50	3	1,300	0.125	151	1,570
50	10	377	0.128	537	1,580
70	10	754	0.061	131	1,620
70	3	2,560	0.060	35.7	1,520
100	10	1,560	0.136	48.0	551
150	10	3,520	0.063	17.20	402
200	10	6,270	0.259	2.92	70.7
200	50	1,180	0.253	37.0	173
250	50	1,880	0.115	3.60	58.9
250	10	9,800	0.111	0.493	43.5
300	50	2,750	0.163	1.63	27.5
400	50	4,950	0.183	0.653	17.7
500	50	7,780	0.160	0.303	14.7
500	100	3,770	0.156	0.633	15.3
700	100	7,540	0.087	0.153	13.3
700	50	15,300	0.085	0.080	14.4
1,000	100	15,600	0.283	0.255	14.1
1,200	100	22,500	1.01	0.567	12.6
1,500	100	35,200	0.460	0.18	13.8

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 31 / 10 / 1980

Center Point Q–114 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.447	3,320	93.6
5	1	37.7	0.480	3,330	262
7	1	75.4	0.383	2,250	443
10	1	156	0.301	953	494
10	3	47.6	0.305	3,300	515
15	3	113	0.413	2,030	555
15	1	352	0.413	617	526
20	3	205	0.453	1,270	575
30	3	467	0.385	417	506
50	3	1,300	0.307	110	466
50	10	377	0.313	455	548
70	10	754	0.244	151	467
70	3	2,560	0.247	37.3	387
100	10	1,560	0.507	132	406
150	10	3,520	0.245	12.0	172
200	10	6,270	0.510	7.47	91.8
200	50	1,180	0.510	41.3	95.6
250	50	1,880	0.204	7.53	69.4
250	10	9,800	0.202	1.38	67.0
300	50	2,750	0.185	4.37	65.0
400	50	4,950	0.100	0.873	43.2
500	50	7,780	0.247	0.793	25.0
500	100	3,770	0.244	1.40	21.6
700	100	7,540	0.493	1.15	17.6
700	50	15,300	0.493	0.653	20.3
1,000	100	15,600	0.440	0.460	16.3
1,200	100	22,500	0.557	0.393	15.9
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 1/ 11/ 1980

Center Point Q–119 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.800	2,730	43.0
5	1	37.7	0.800	1,210	57.0
7	1	75.4	0.800	747	70.4
10	1	156	0.807	427	82.5
10	3	47.6	0.807	1,290	76.1
15	3	113	0.773	395	57.7
15	1	352	0.780	137	61.8
20	3	205	0.807	157	39.9
30	3	467	0.807	120	69.4
50	3	1,300	0.807	40.3	64.9
50	10	377	0.807	143	66.8
70	10	754	0.807	66.7	62.3
70	3	2,560	0.807	19.3	61.2
100	10	1,560	0.540	16.1	46.5
150	10	3,520	0.433	5.27	42.8
200	10	6,270	0.520	3.45	41.6
200	50	1,180	0.520	24.2	54.9
250	50	1,880	0.567	7.93	26.3
250	10	9,800	0.583	1.24	20.8
300	50	2,750	0.125	1.50	33.0
400	50	4,950	0.259	1.17	22.4
500	50	7,780	0.168	0.333	15.4
500	100	3,770	0.175	0.513	11.1
700	100	7,540	0.300	0.713	17.9
700	50	15,300	0.299	0.420	21.5
1,000	100	15,600	1.41	1.13	12.5
1,200	100	22,500			
1,500	100	35,200			

SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 1 / 11 / 1980

Center Point Q–124 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.373	3,170	107
5	1	37.7	0.069	137	74.9
7	1	75.4	0.223	187	63.2
10	1	156	0.287	98.0	53.3
10	3	47.6	0.288	333	55.0
15	3	113	0.231	82.0	40.1
15	1	352	0.221	23.5	37.4
20	3	205	0.256	49.0	39.2
30	3	467	0.204	15.5	35.5
50	3	1,300	0.160	3.97	32.3
50	10	377	0.162	15.9	37.0
70	10	754	0.547	24.3	33.5
70	3	2,560	0.553	6.40	29.6
100	10	1,560	0.196	3.97	31.6
150	10	3,520	0.393	3.02	27.0
200	10	6,270	0.627	2.77	27.7
200	50	1,180	0.630	10.7	20.0
250	50	1,880	0.800	8.73	20.5
250	10	9,800	0.800	2.23	27.3
300	50	2,750	0.563	5.93	29.0
400	50	4,950	0.803	3.18	19.6
500	50	7,780	0.497	0.840	13.1
500	100	3,770			
700	100	7,540			
700	50	15,300	0.987	0.680	10.5
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

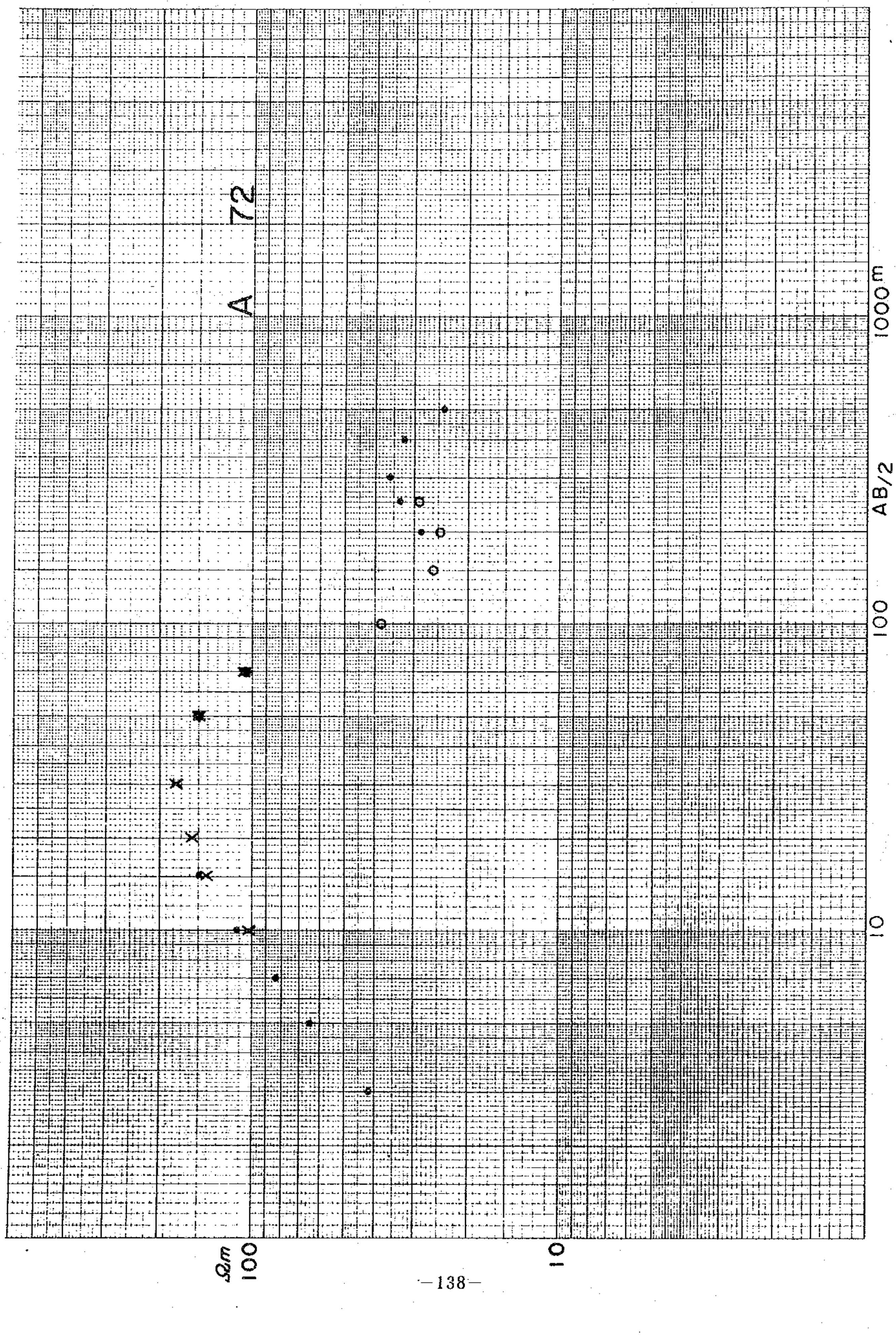
SCHLUMBERGER ELECTRICAL SOUNDING

Eburru Prospect, Rift Valley, Kenya 1 / 11 / 1980

Center Point Q–129 Measured by Takashi Ohya

AB/2	MN/2	K	I (Amp)	V (mV)	R (Ω – m)
3	1	12.6	0.583	3,320	71.8
5	1	37.7	0.447	2,220	187
7	1	75.4	0.503	1,220	183
10	1	156	0.363	437	188
10	3	47.6	0.370	1,440	185
15	3	113	0.597	1,030	195
15	1	352	0.600	333	195
20	3	205	0.467	490	215
30	3	467	0.433	213	230
50	3	1,300	0.373	75.7	264
50	10	377	0.380	237	235
70	10	754	0.600	173	217
70	3	2,560	0.613	58.3	243
100	10	1,560	0.347	42.2	190
150	10	3,520	0.276	8.37	107
200	10	6,270	0.165	2.22	84.4
200	50	1,180	0.165	7.83	56.0
250	50	1,880	0.370	9.53	48.4
250	10	9,800	0.373	2.75	72.3
300	50	2,750	0.403	6.53	44.6
400	50	4,950	0.403	2.53	31.1
500	50	7,780	0.580	1.71	22.9
500	100	3,770			
700	100	7,540			
700	50	15,300			
1,000	100	15,600			
1,200	100	22,500			
1,500	100	35,200			

Fig. IV – 5 Schlumberger Electrical Sounding Curves (VES Curve)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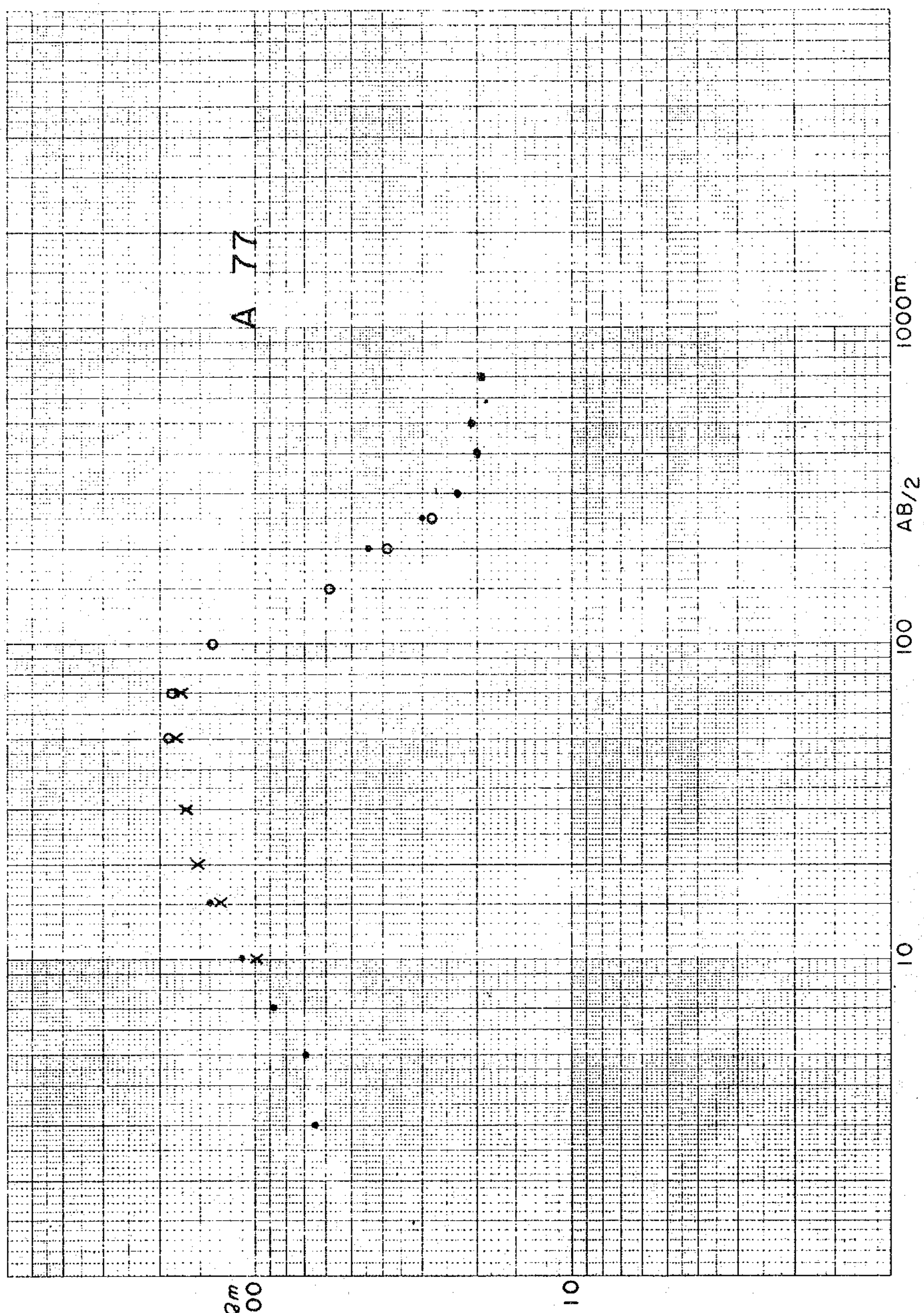
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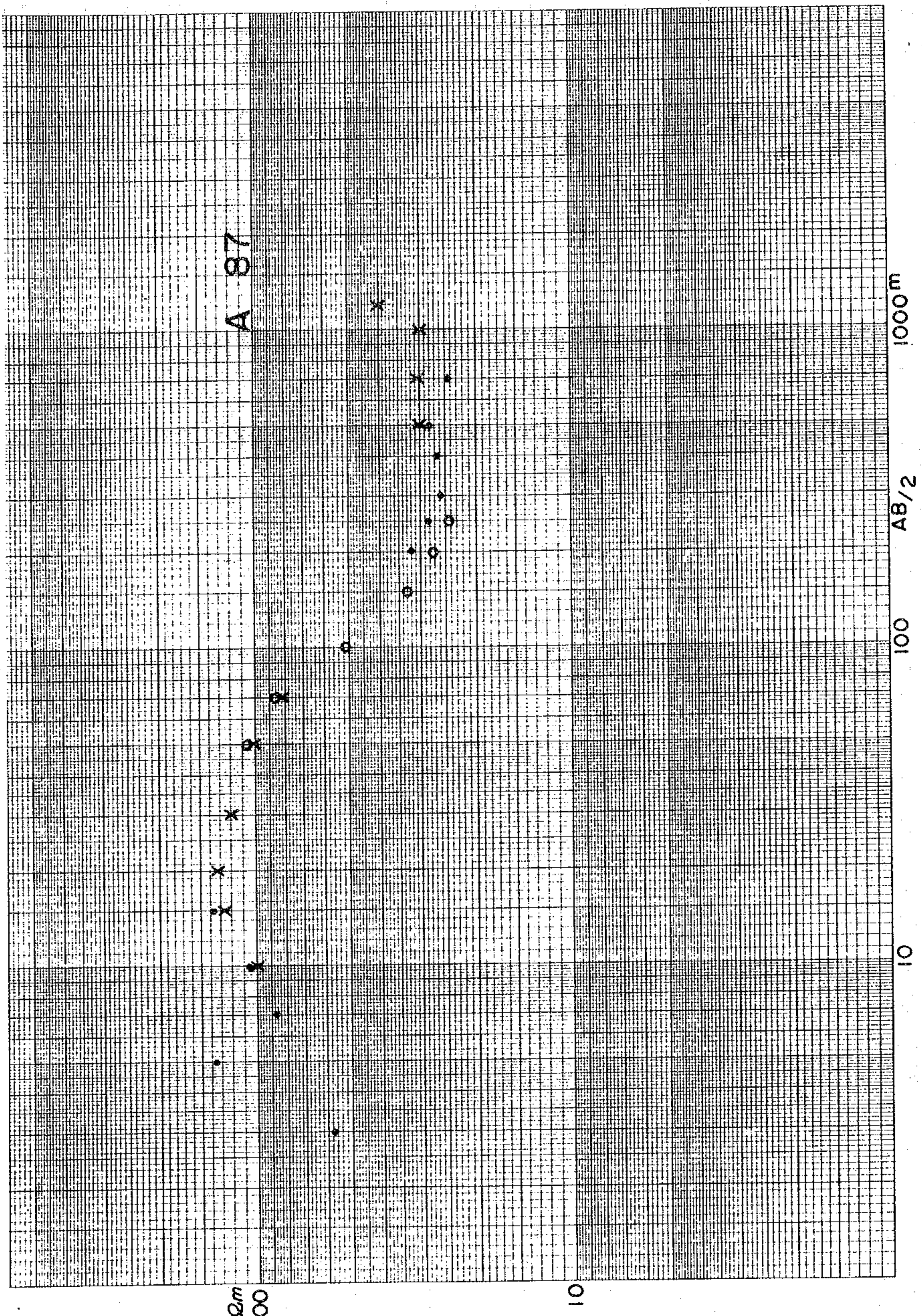
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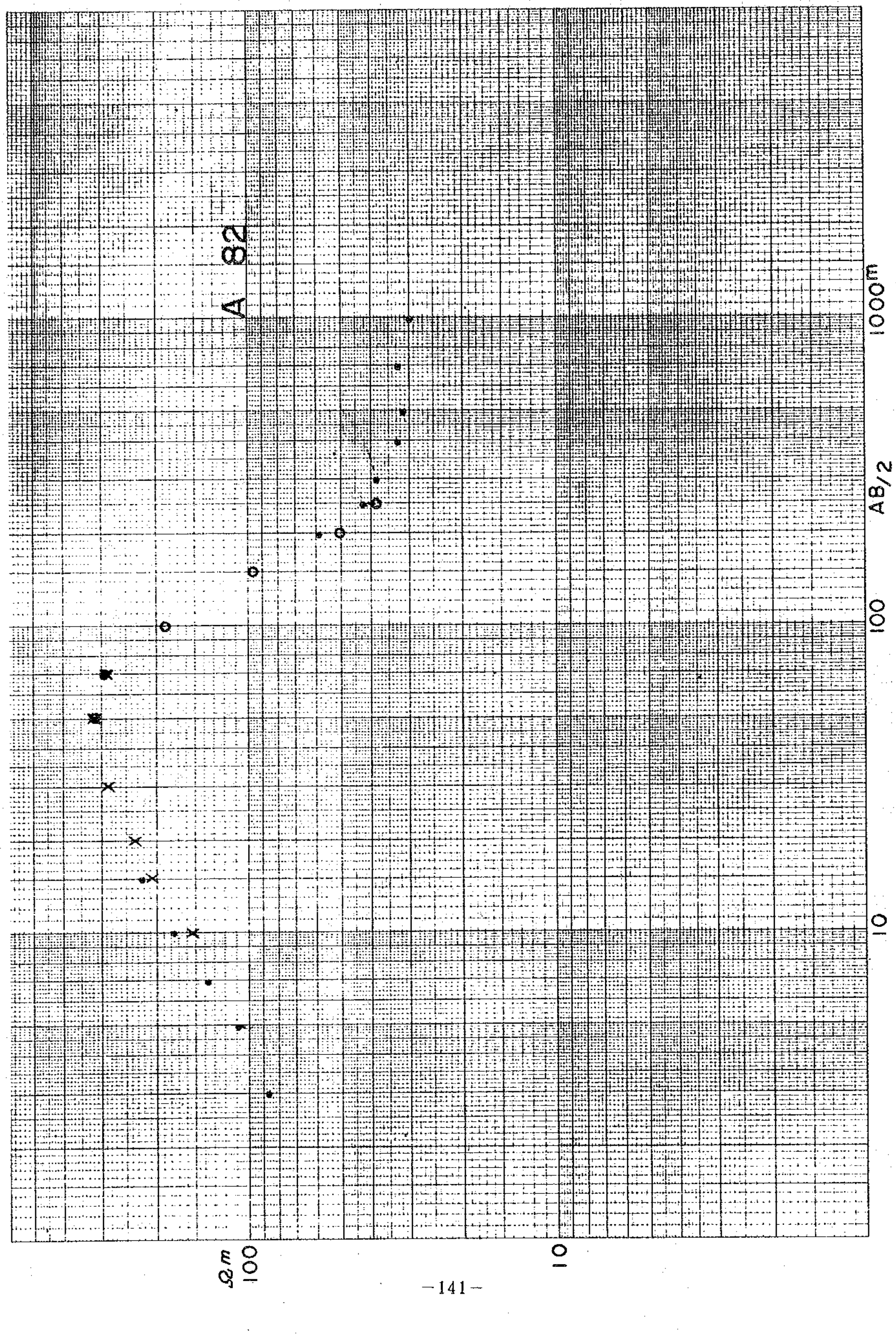
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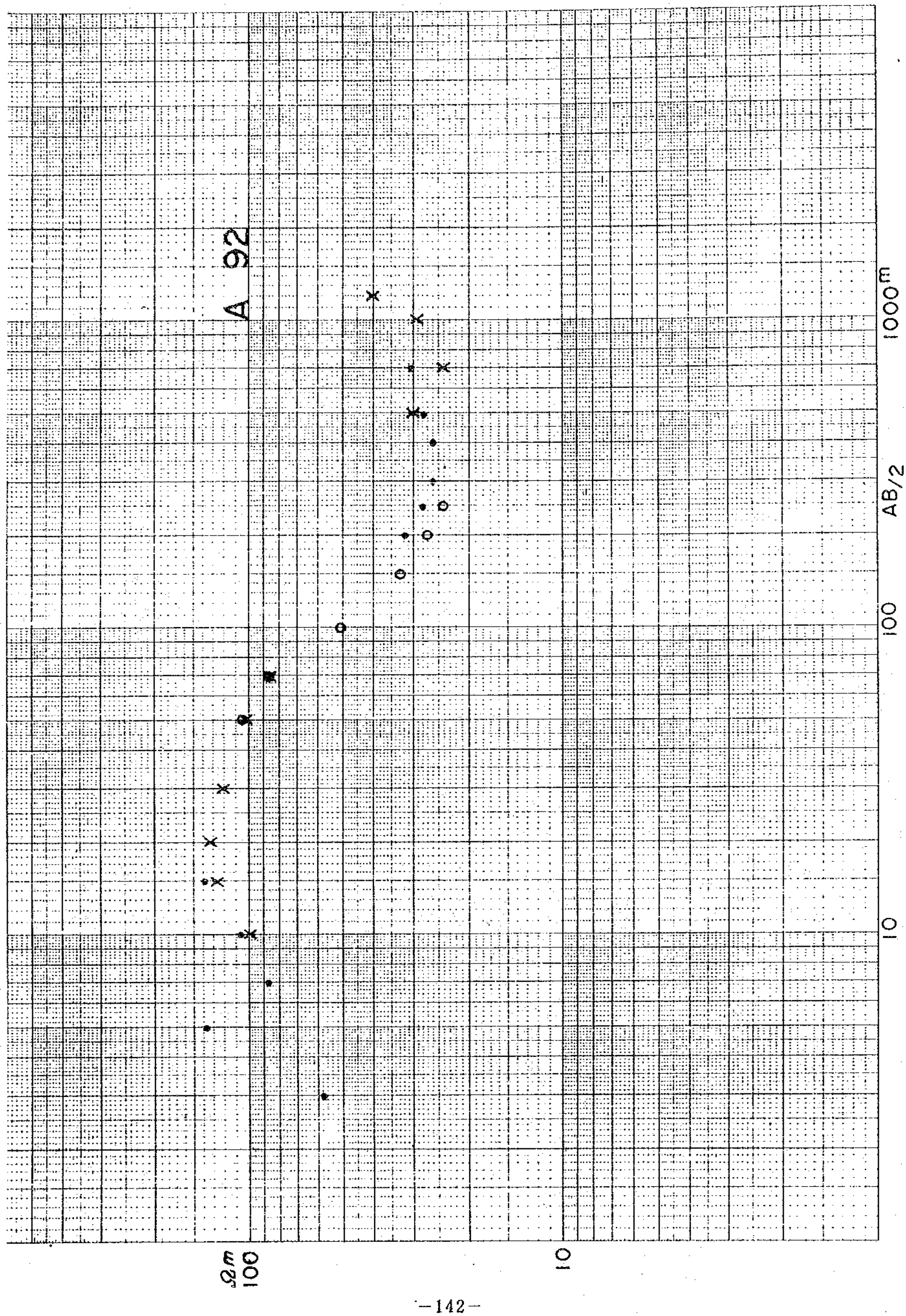
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