

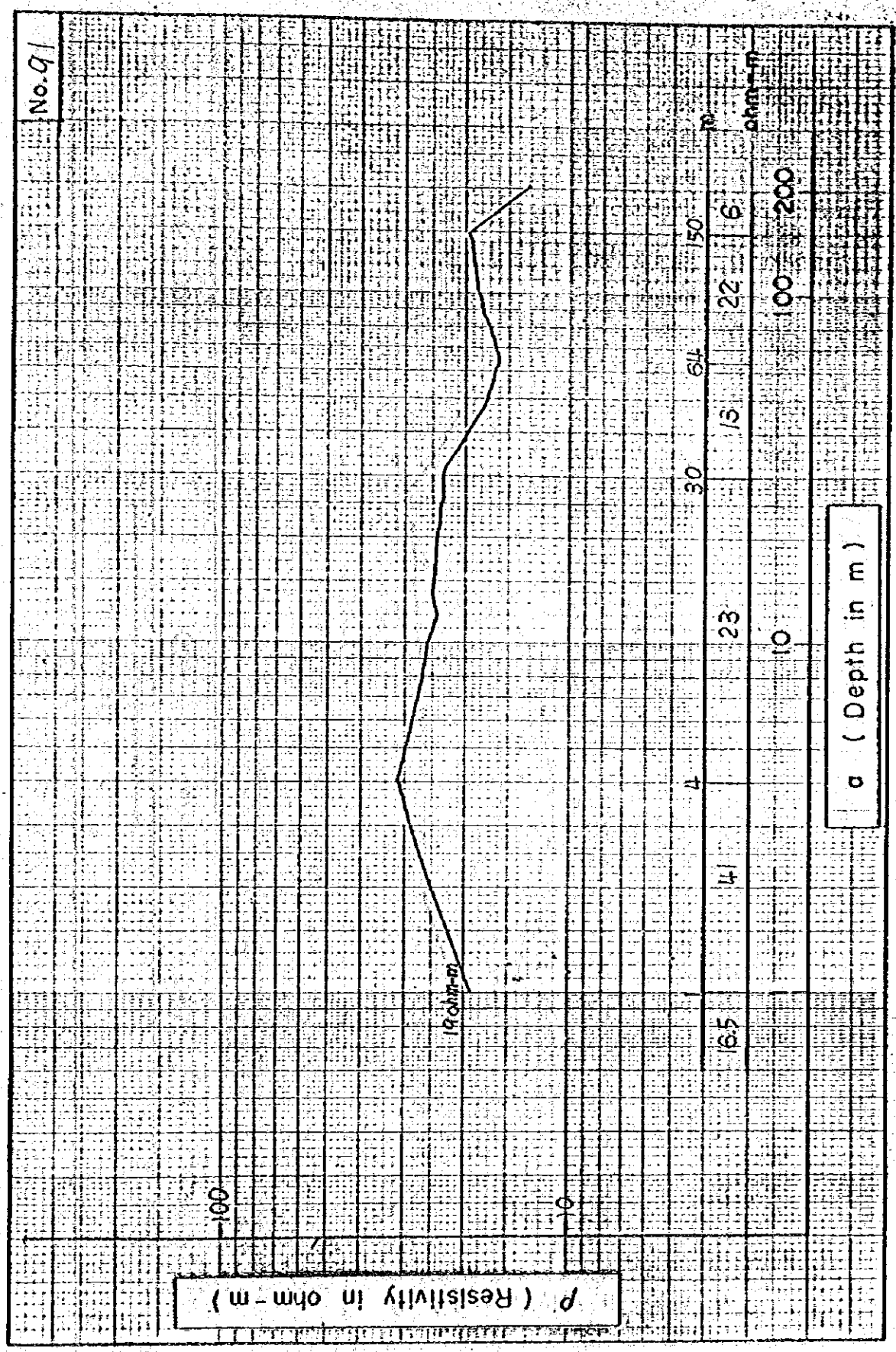
No. 90

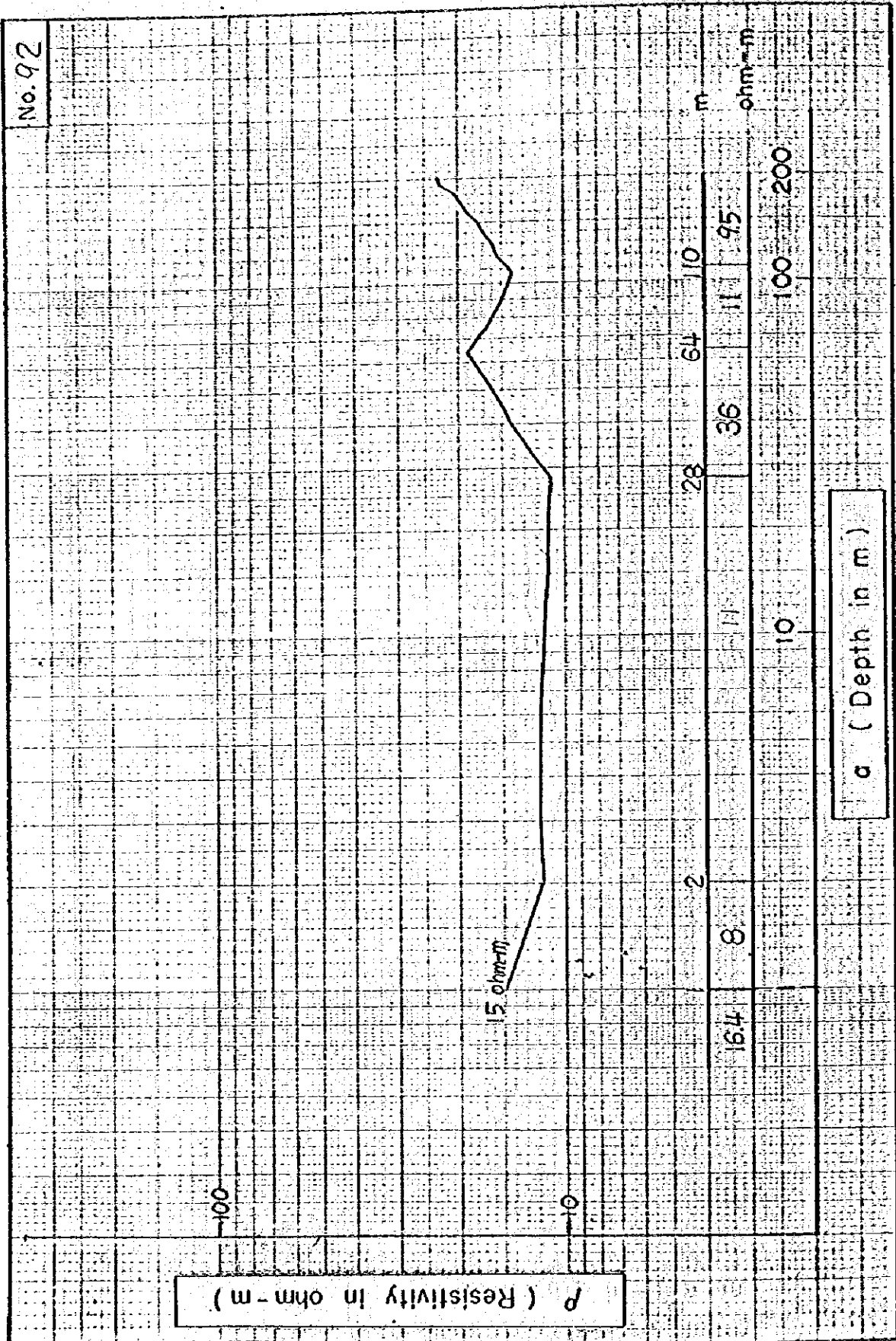
P (Resistivity in ohm-m)

a (Depth in m)

22ohm-m

ohm-m

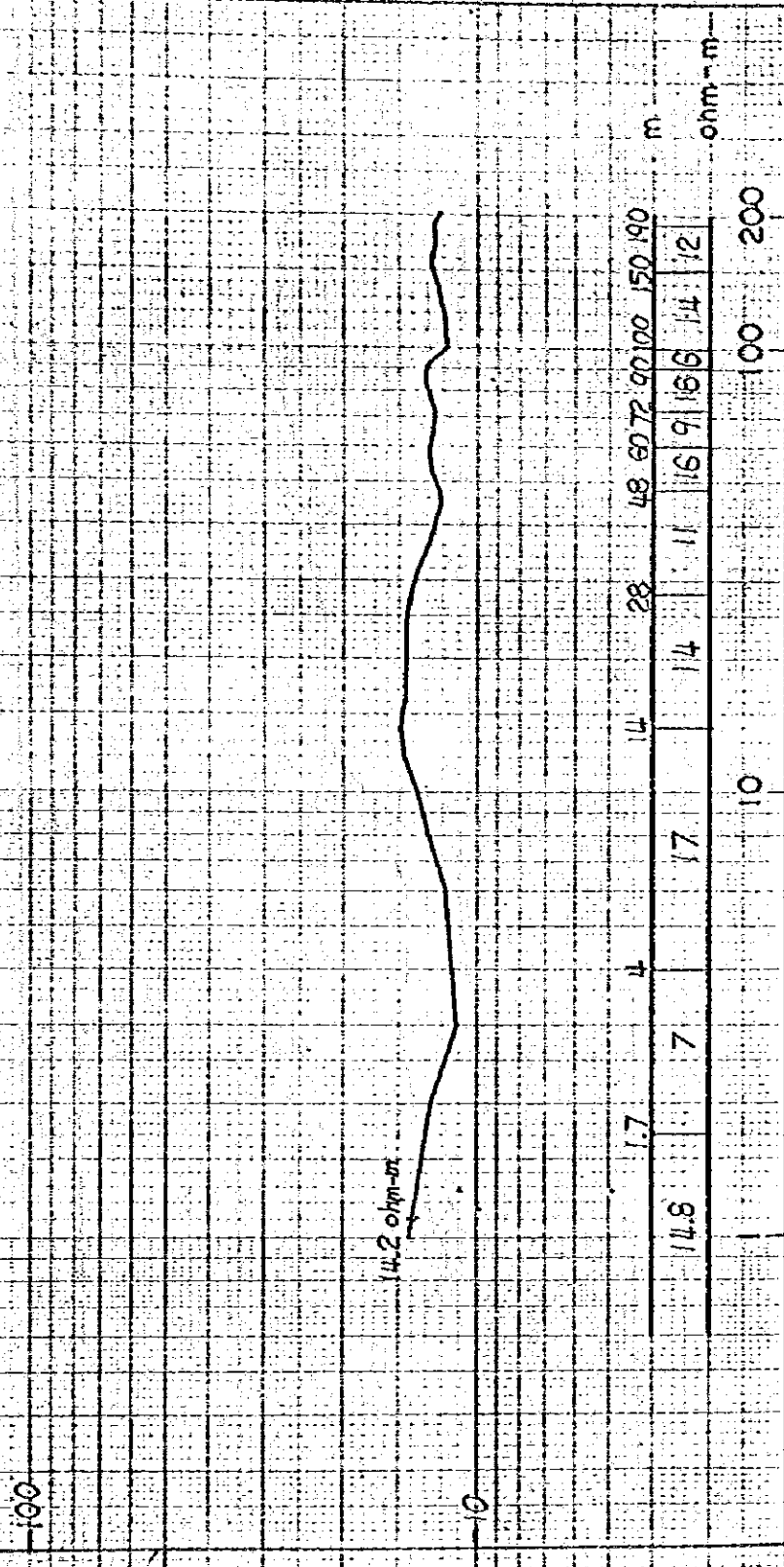




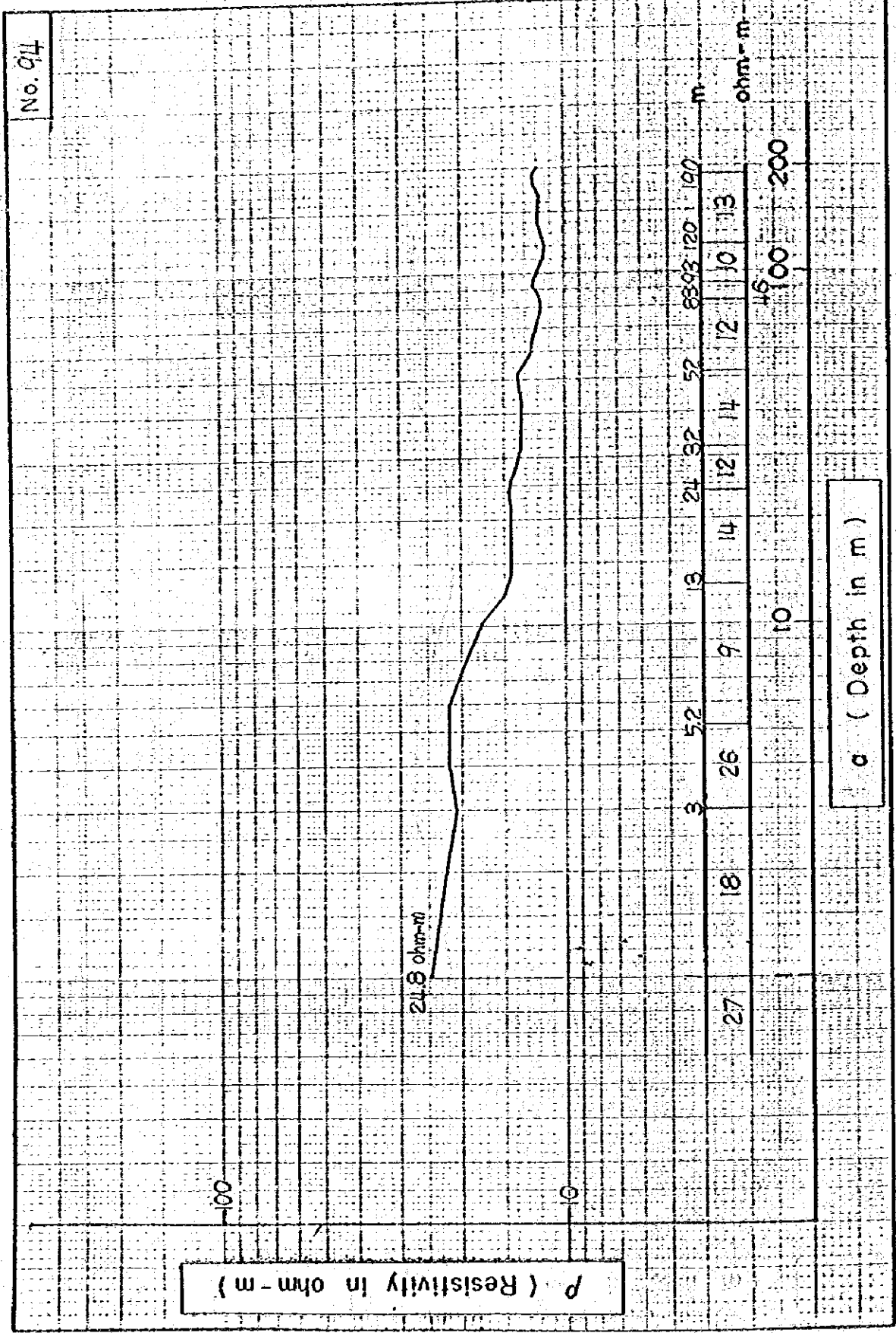
No. 93

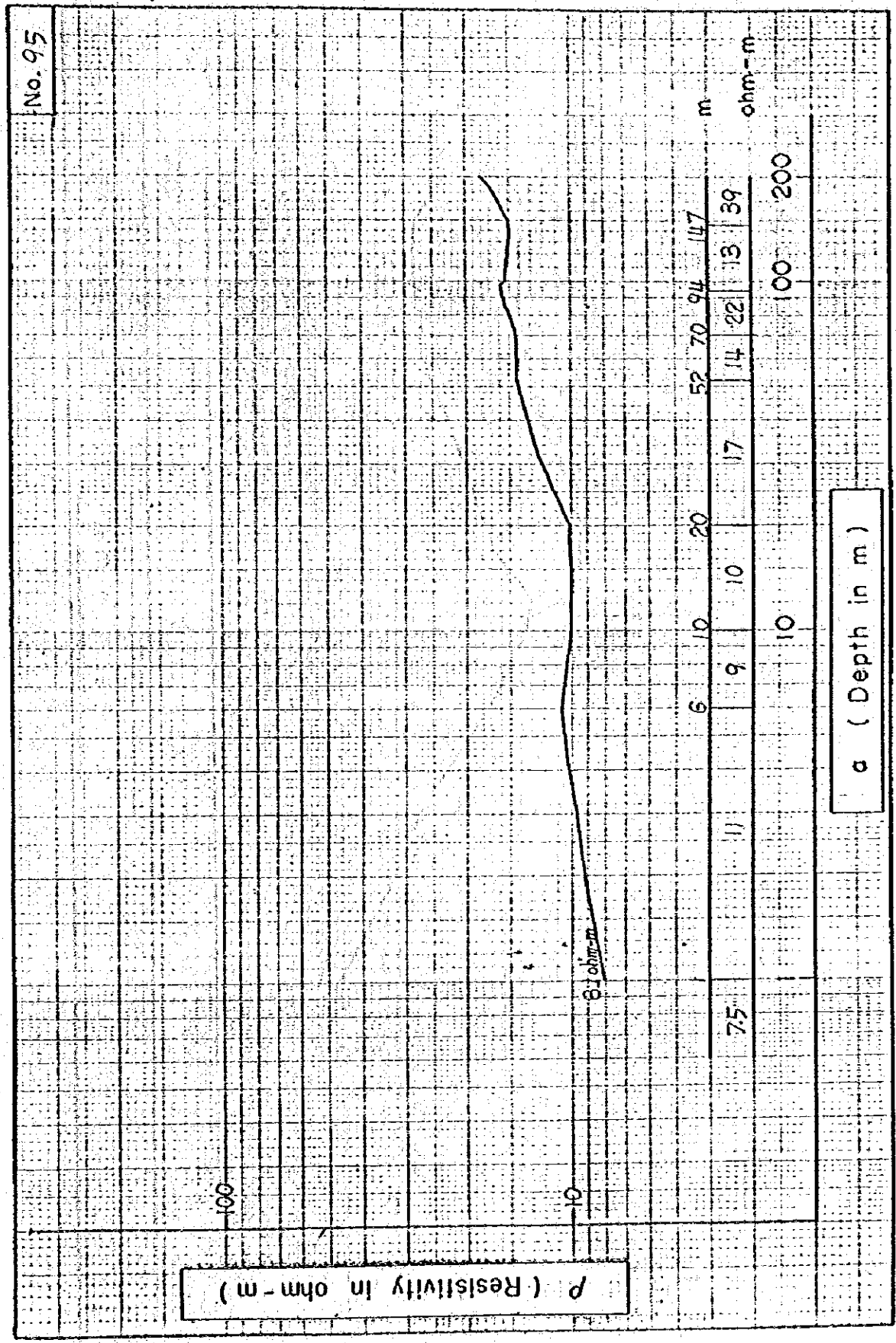
ρ (Resistivity in ohm-m)

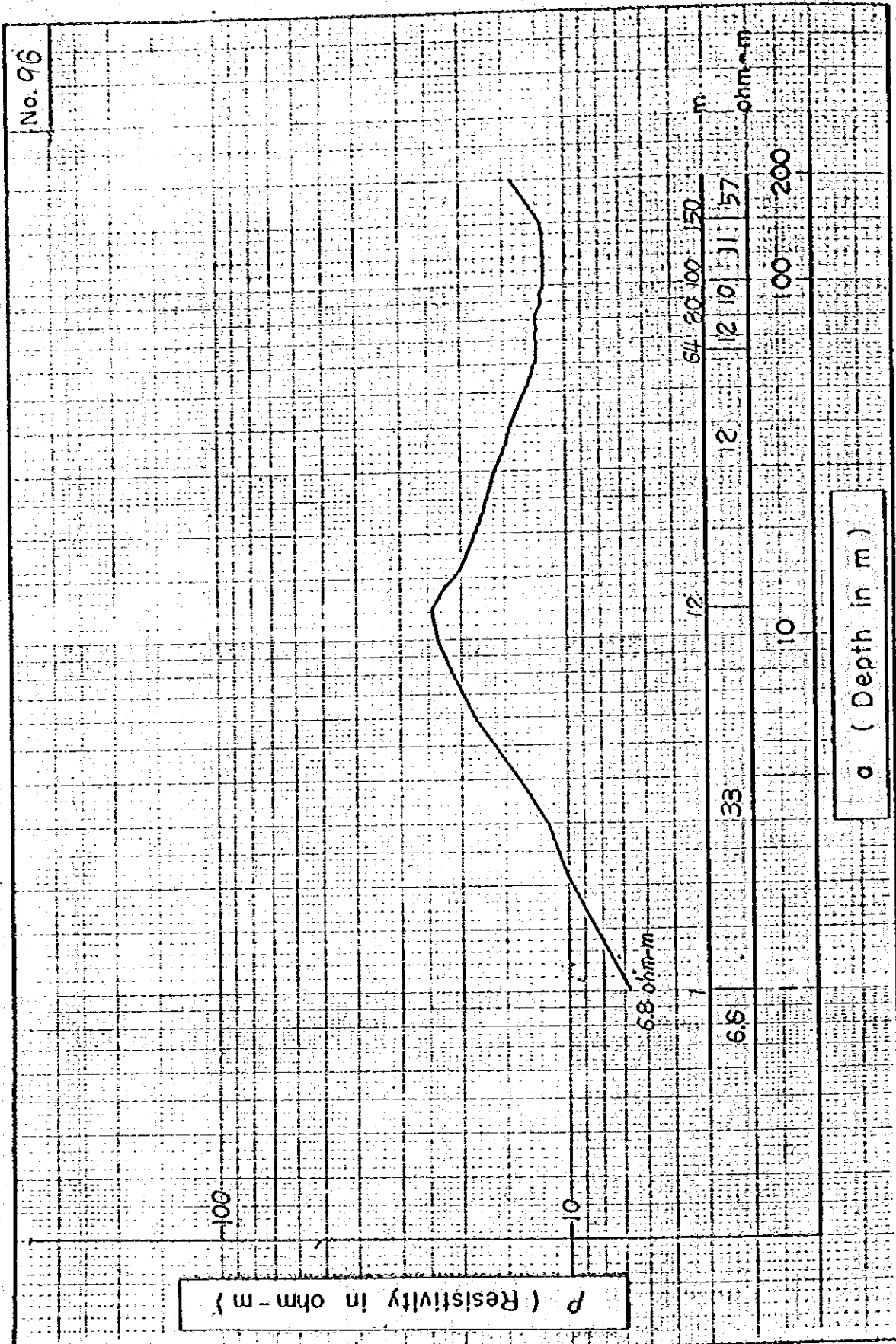
a (Depth in m)

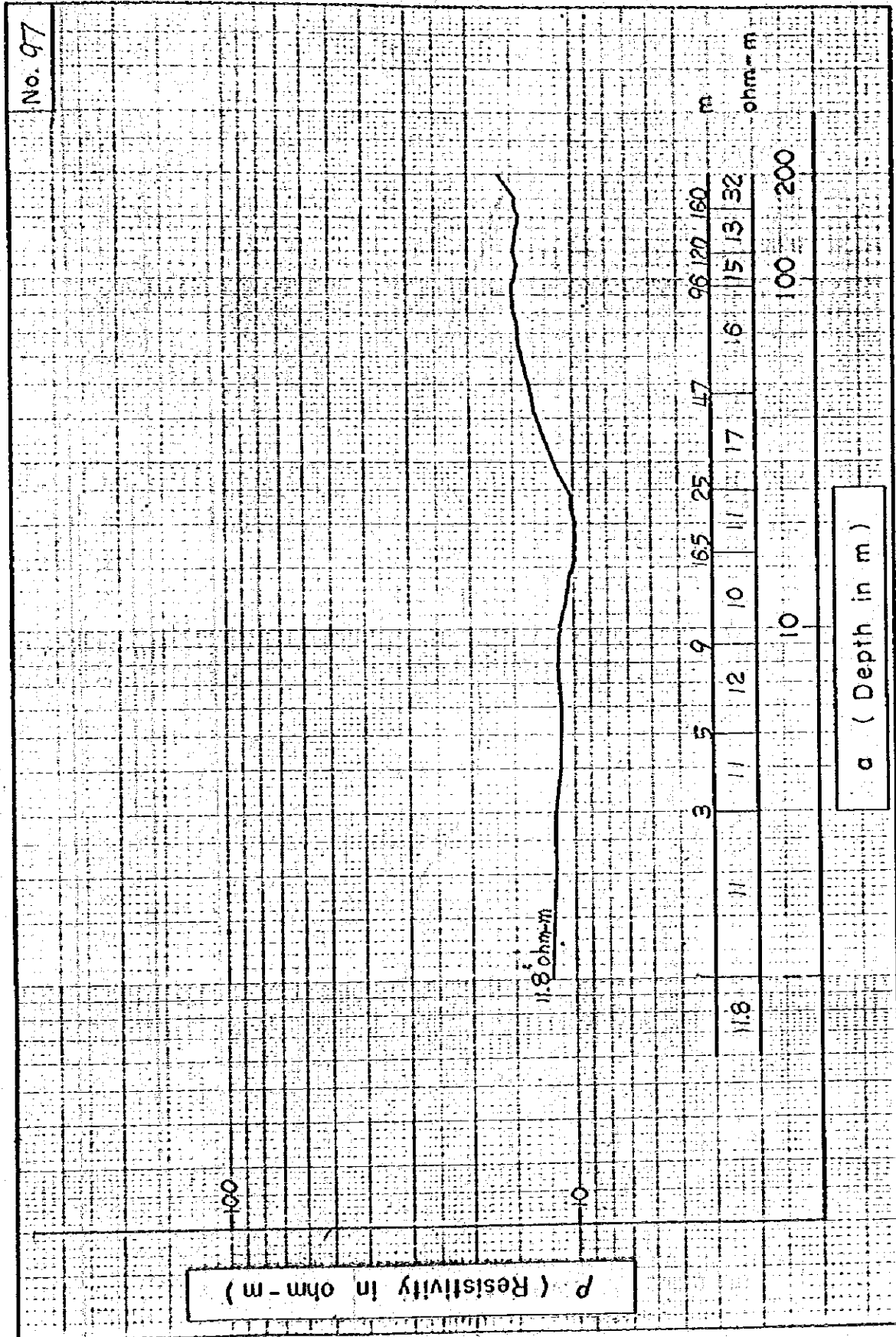


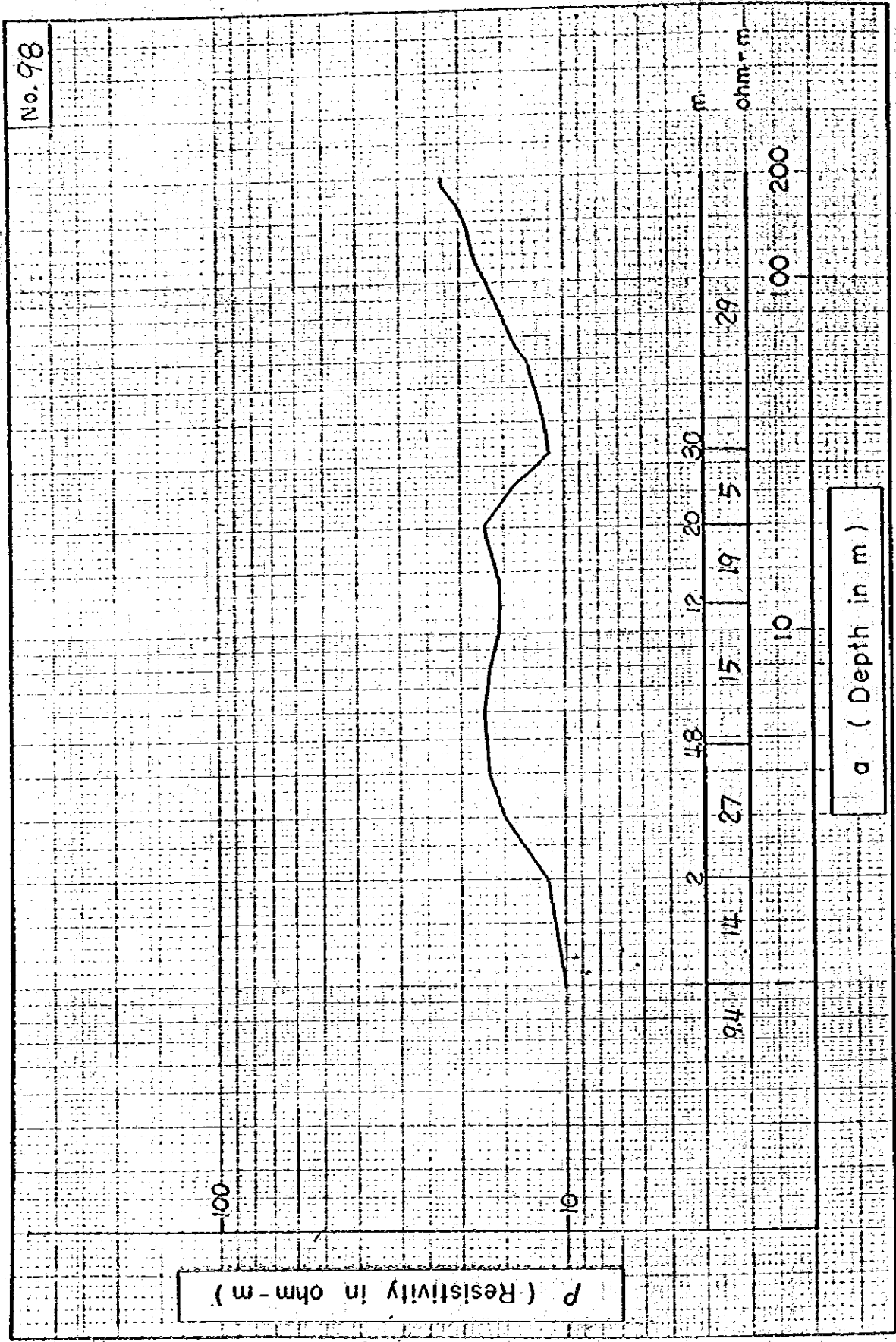
Depth (m)	Resistivity (ohm-m)
1.7	14.8
7	17
14	28
28	48
56	72
84	91
112	116
140	142
170	166
200	190

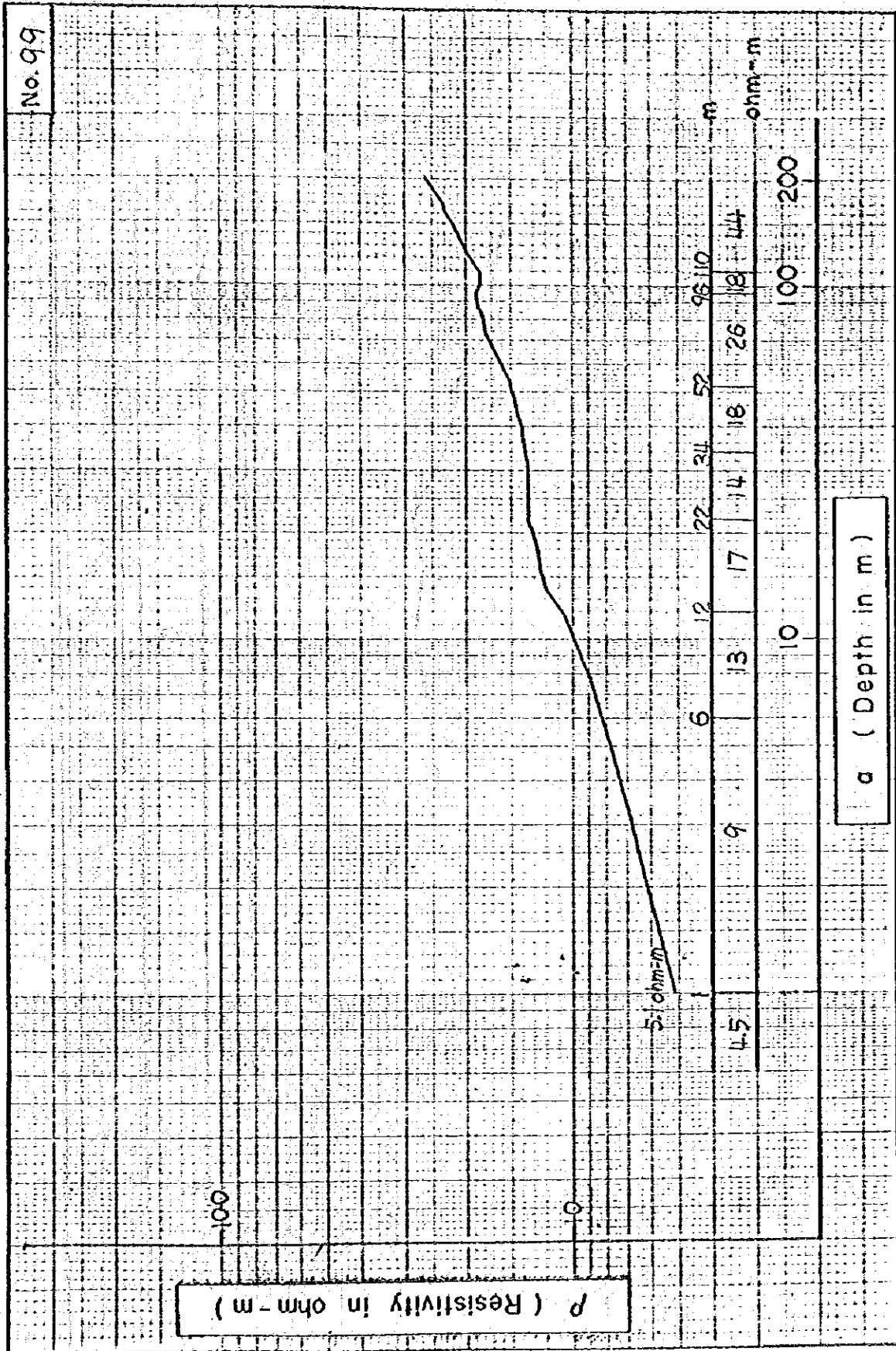


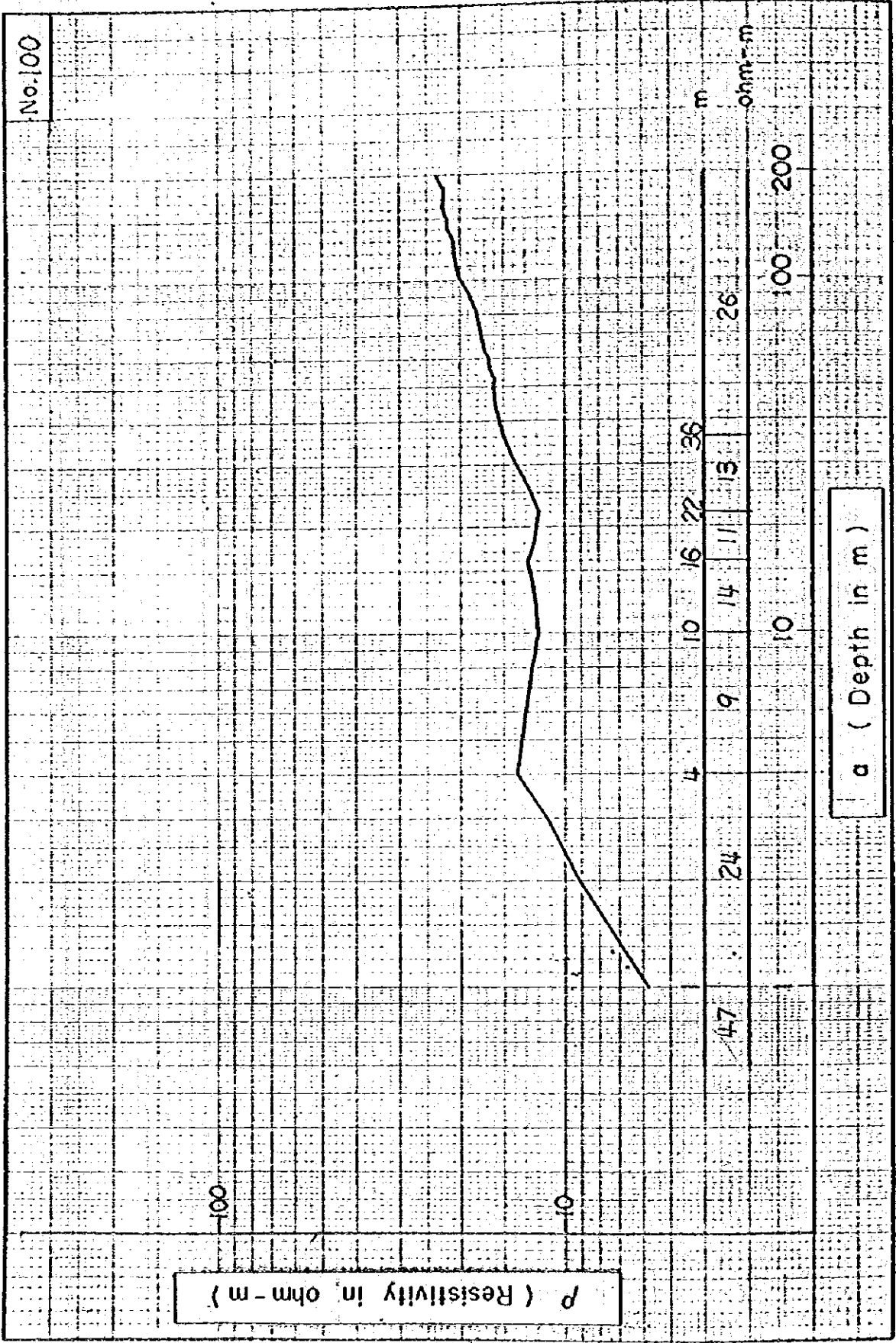


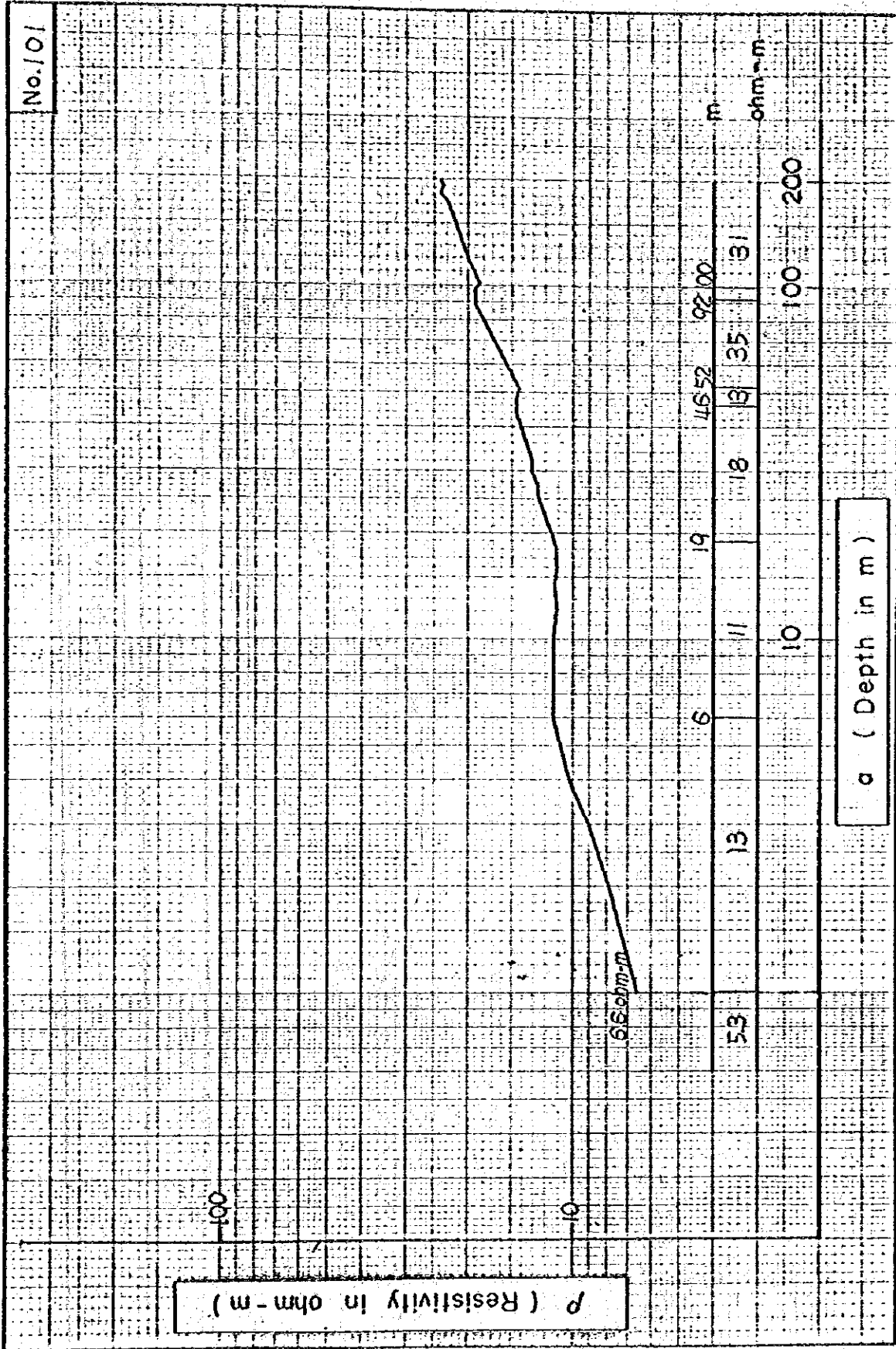


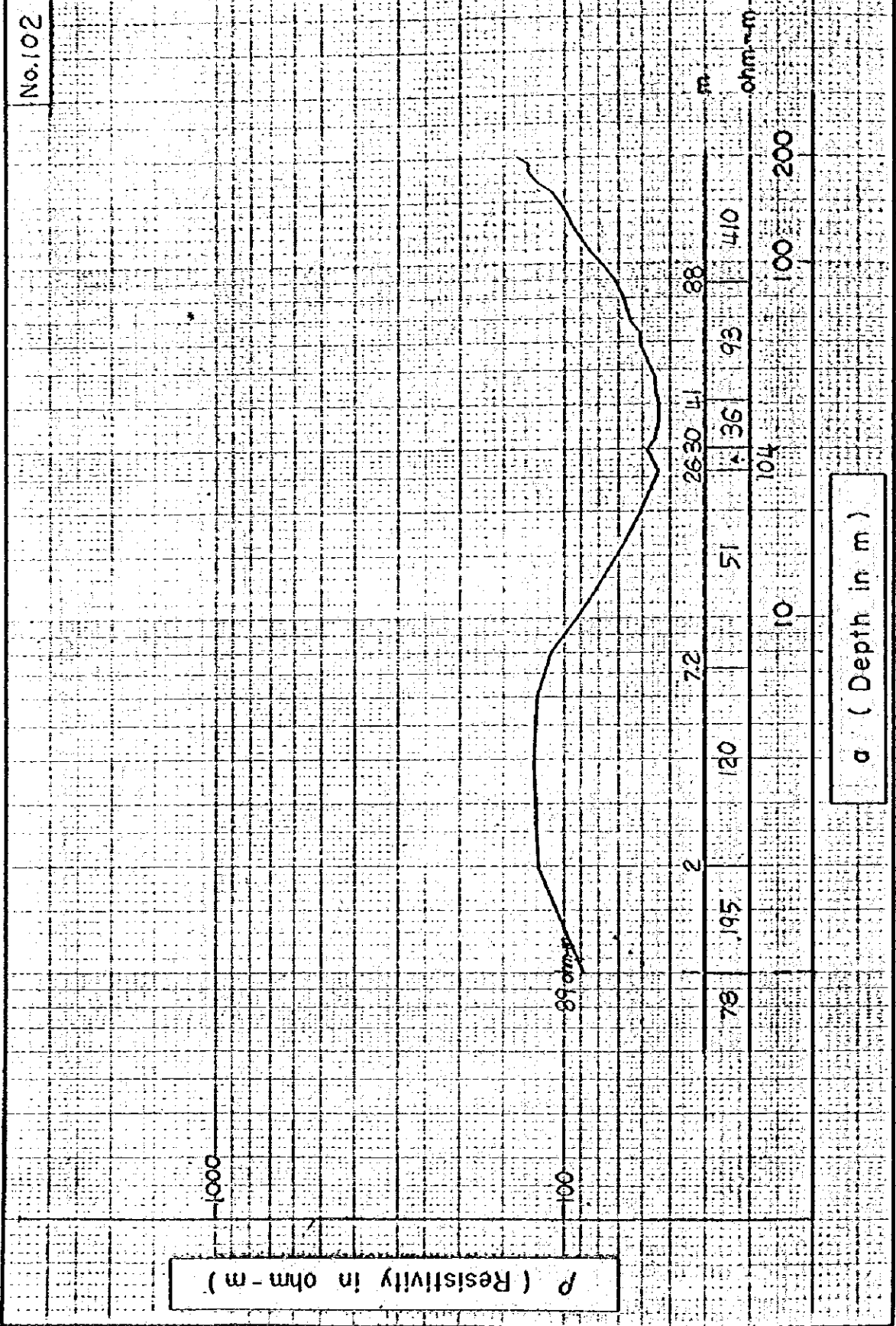


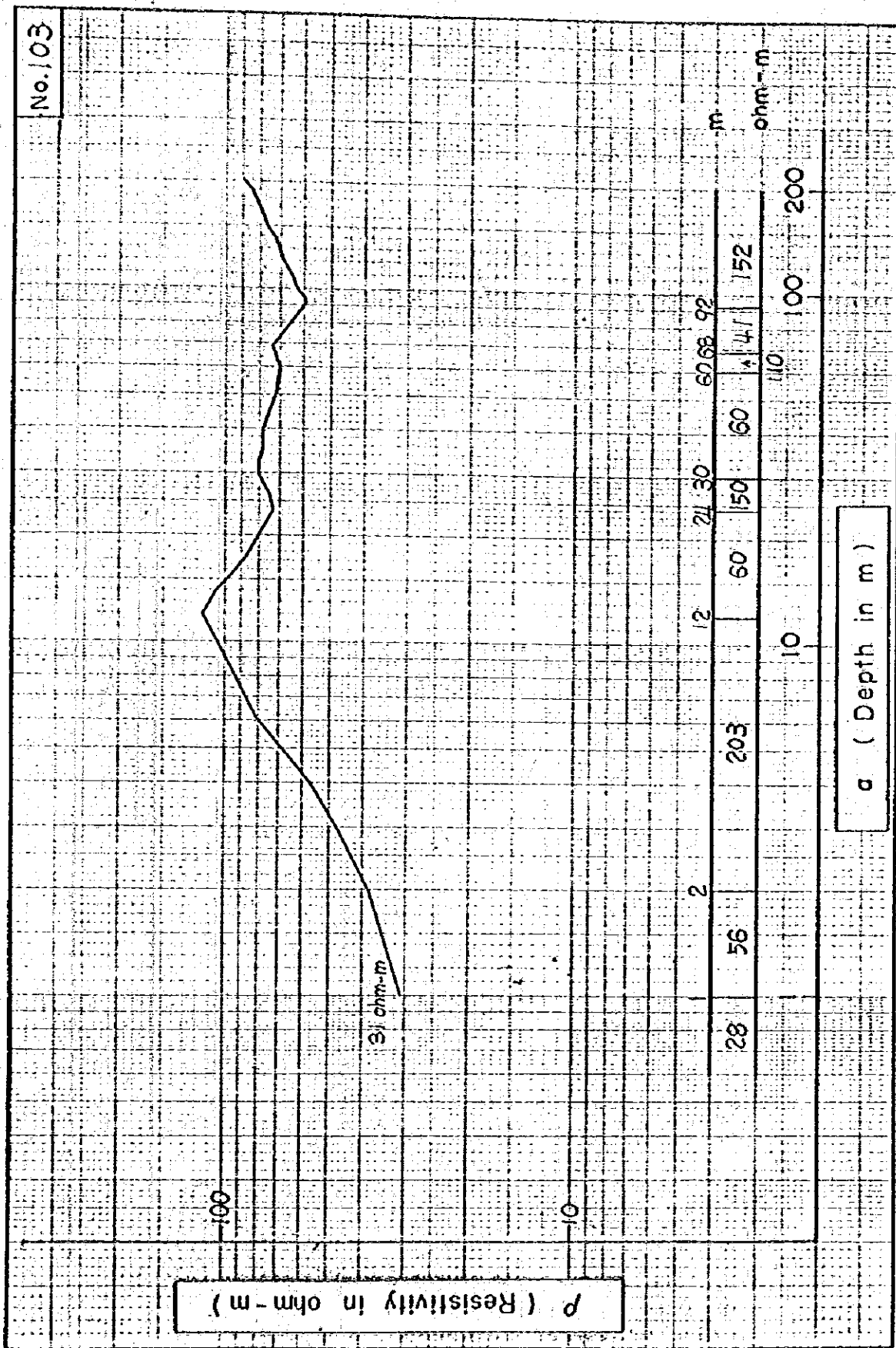


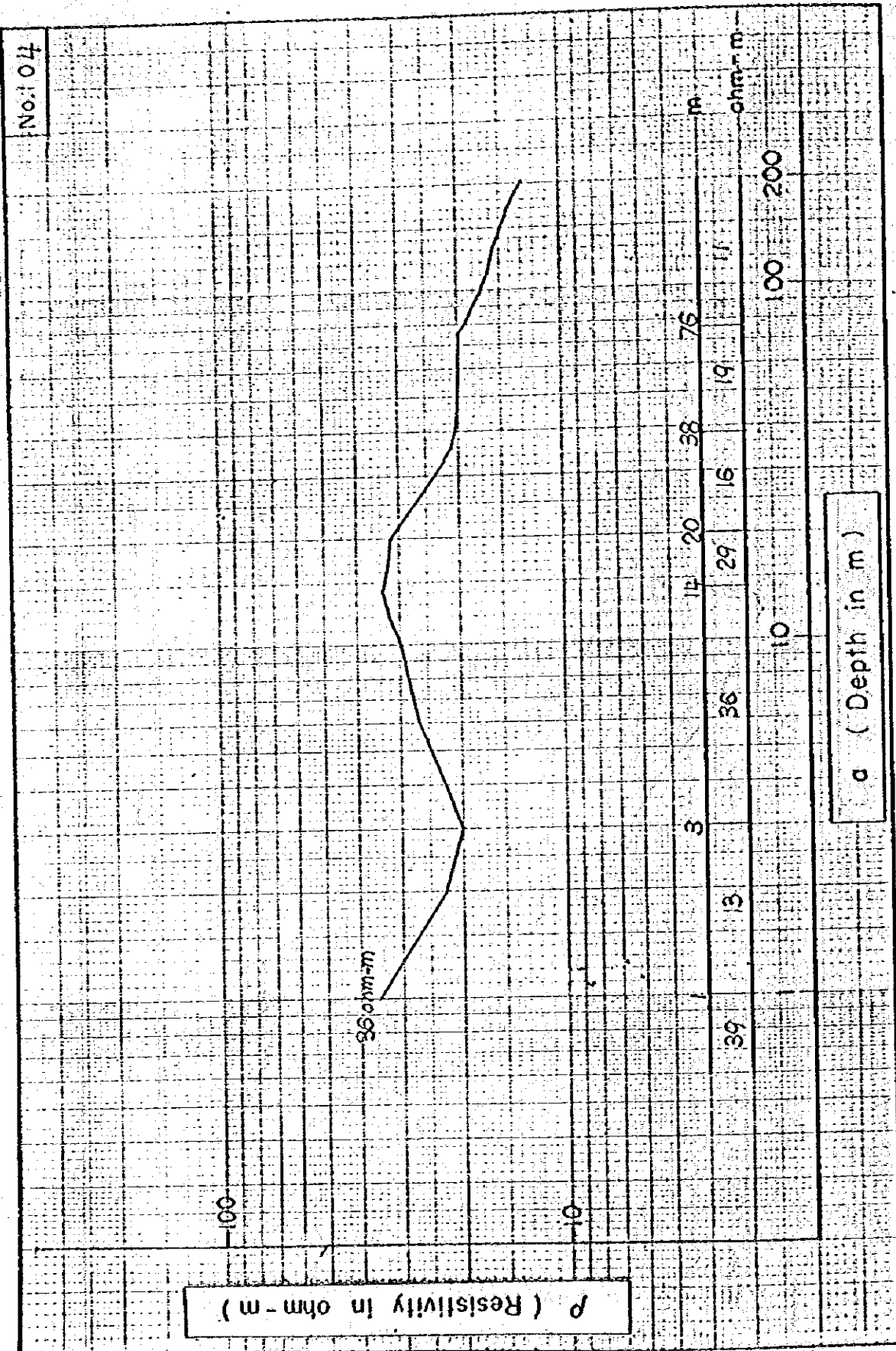


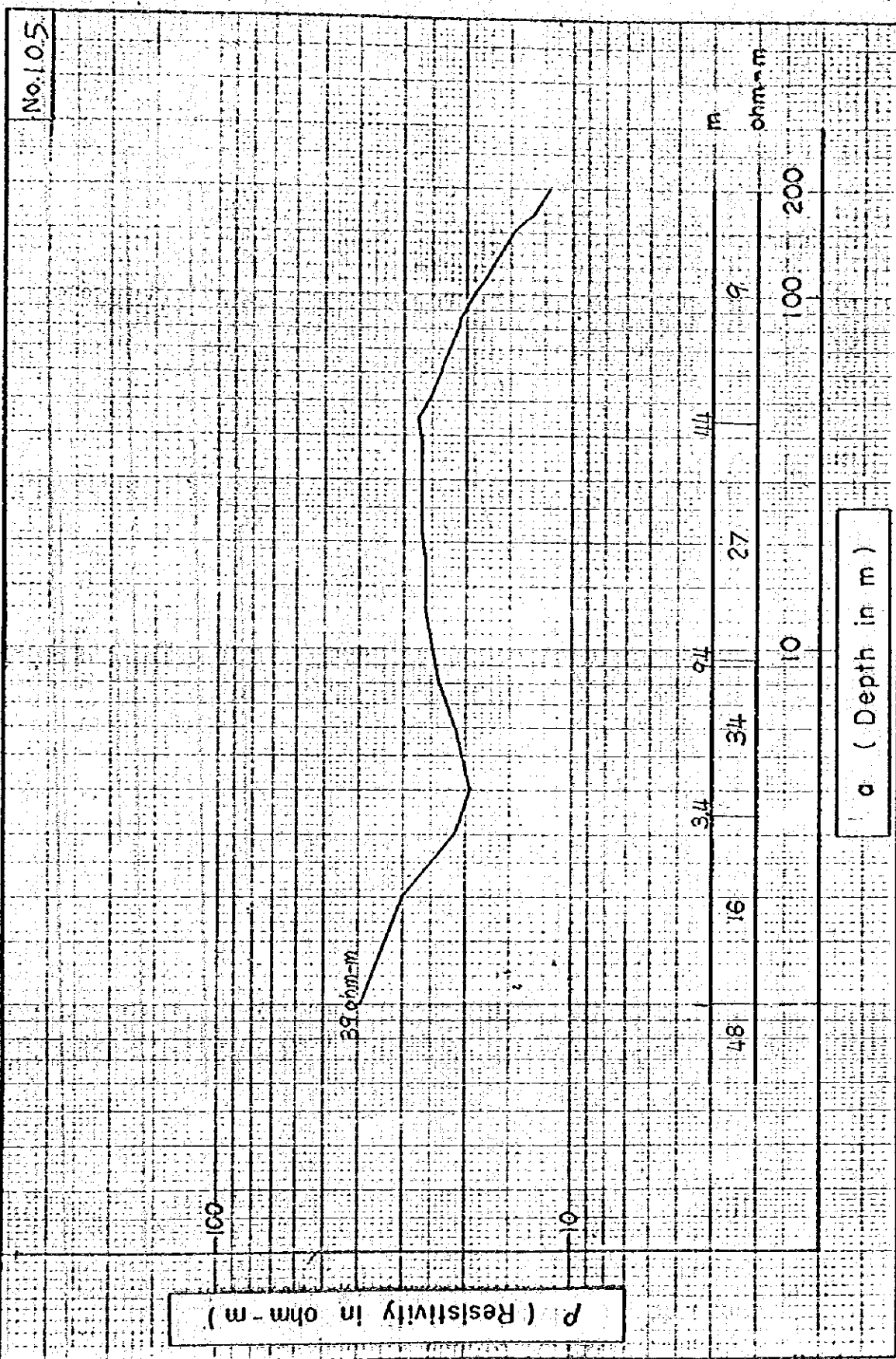


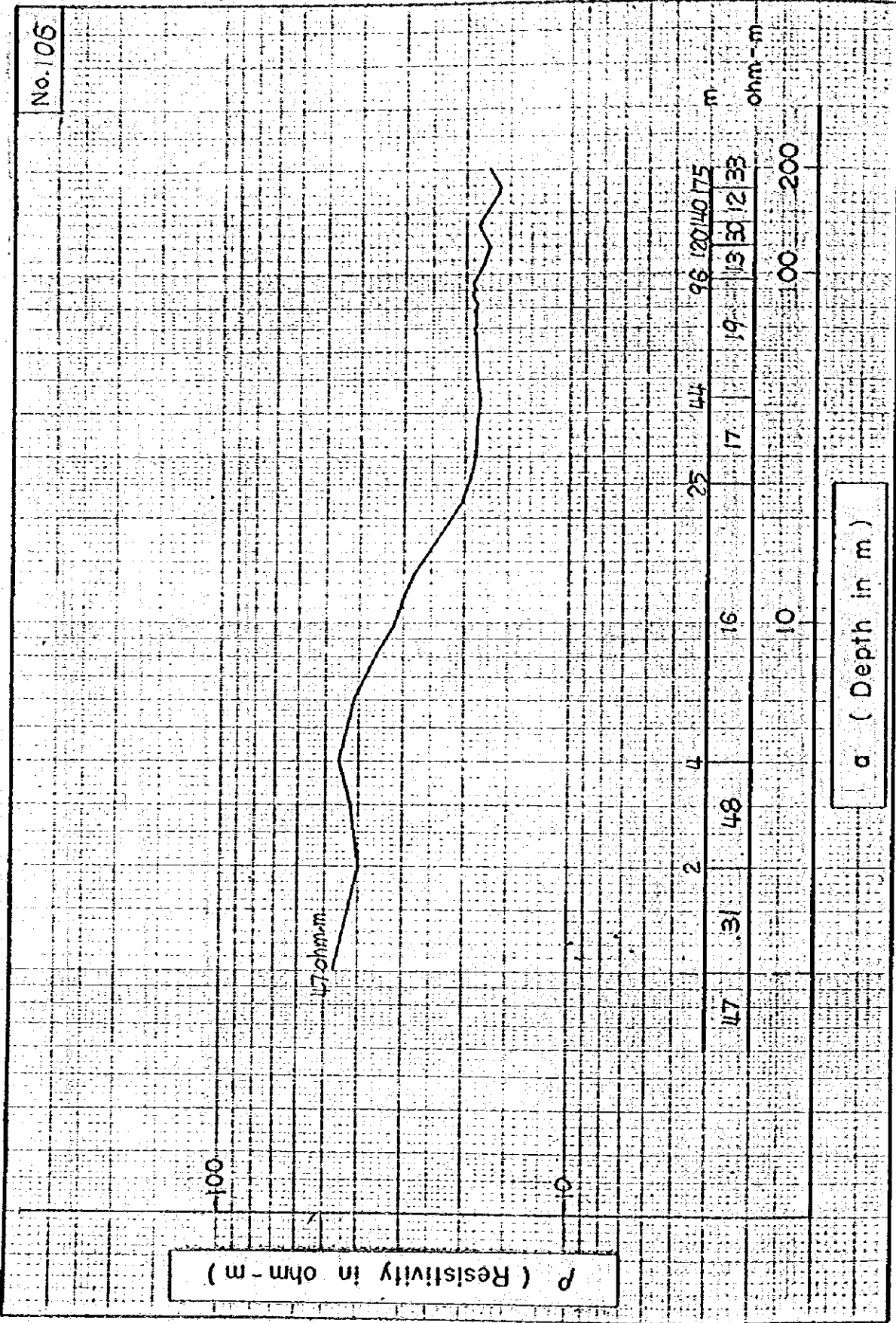


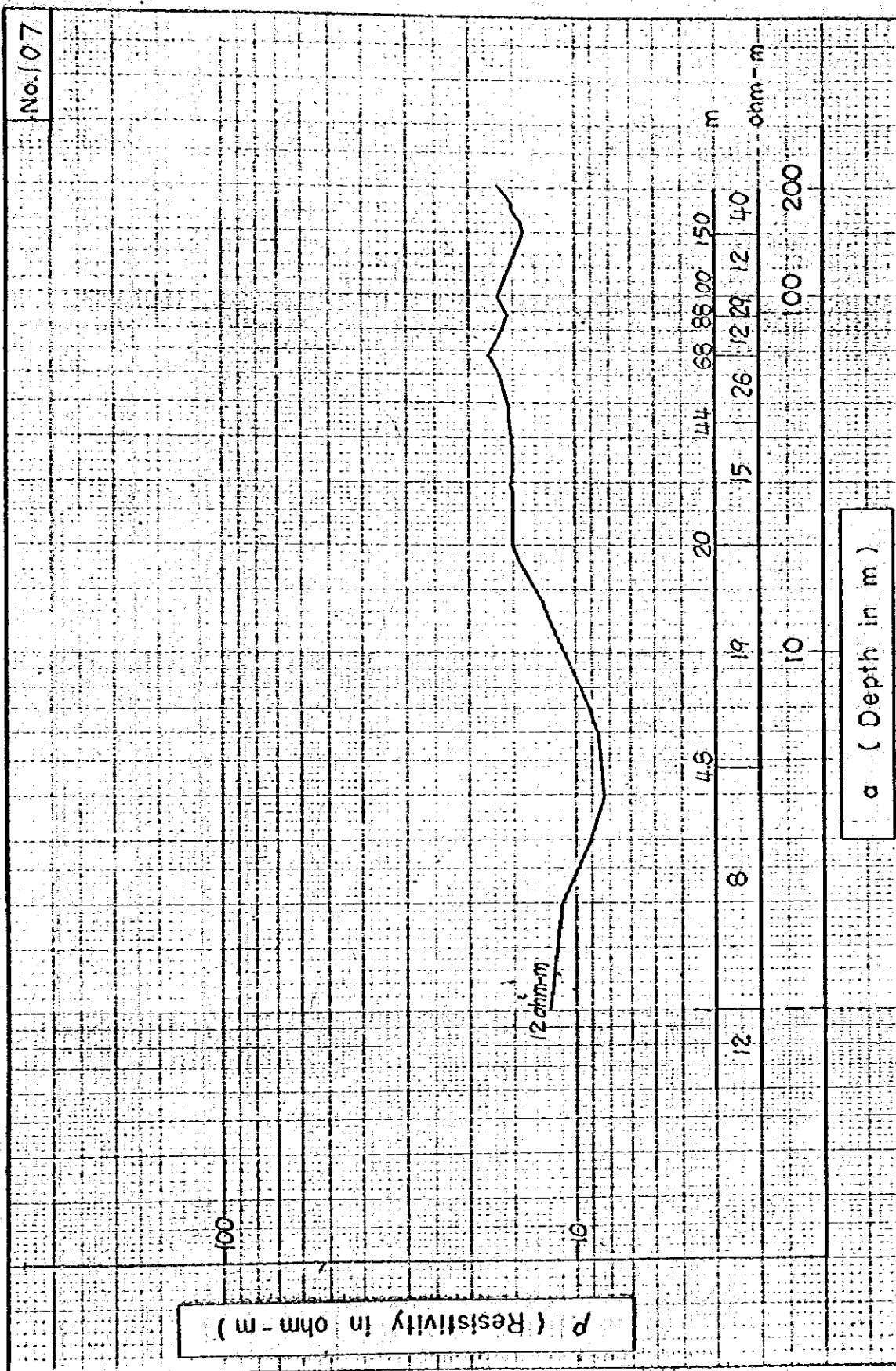












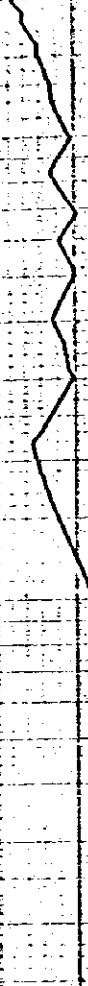
No. 108

ρ (Resistivity in ohm-m)

100

10

50 ohm-m



22 30 40 52 60 80 91 100

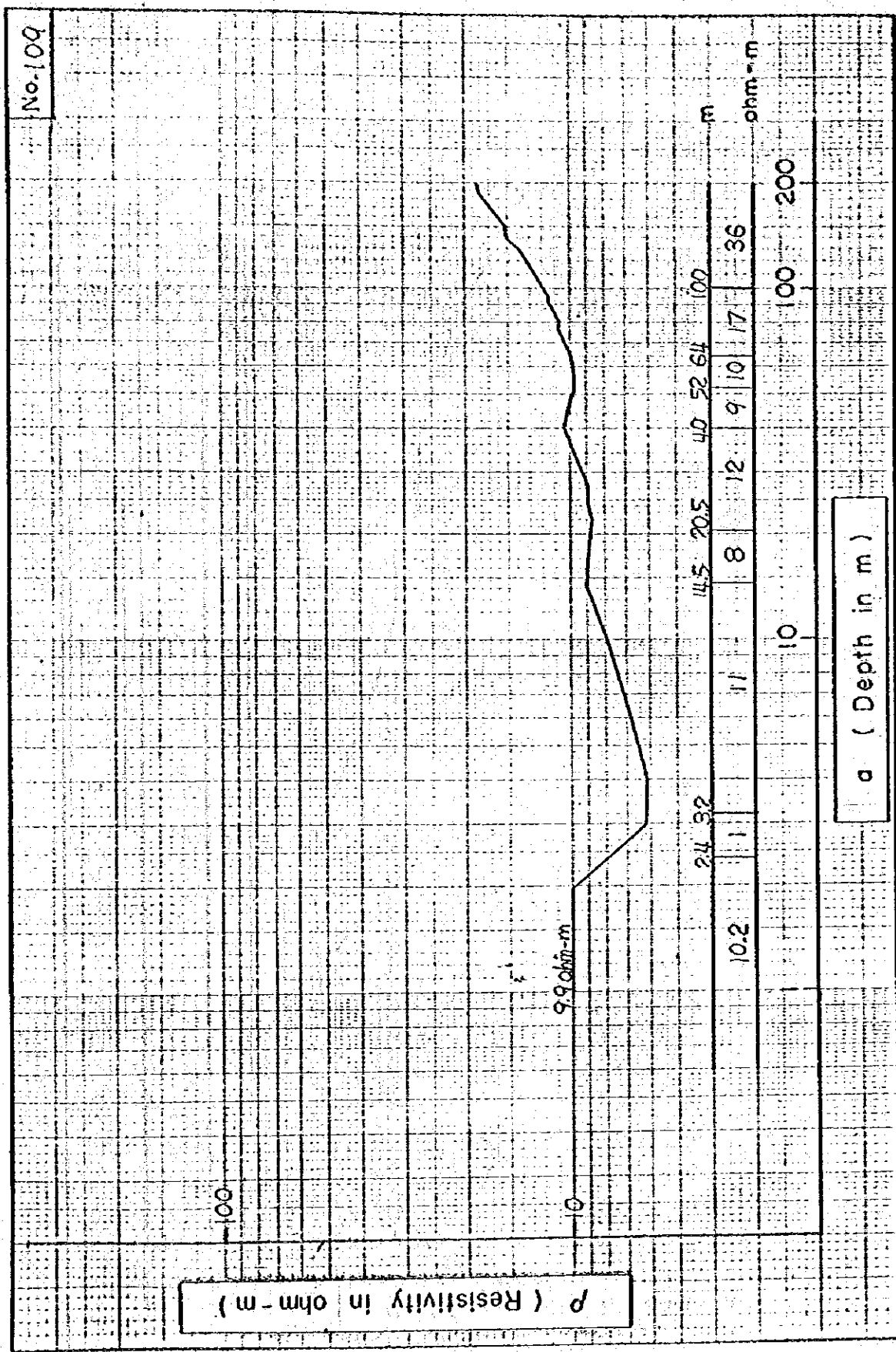
7 16 8 53 52 0 7 19

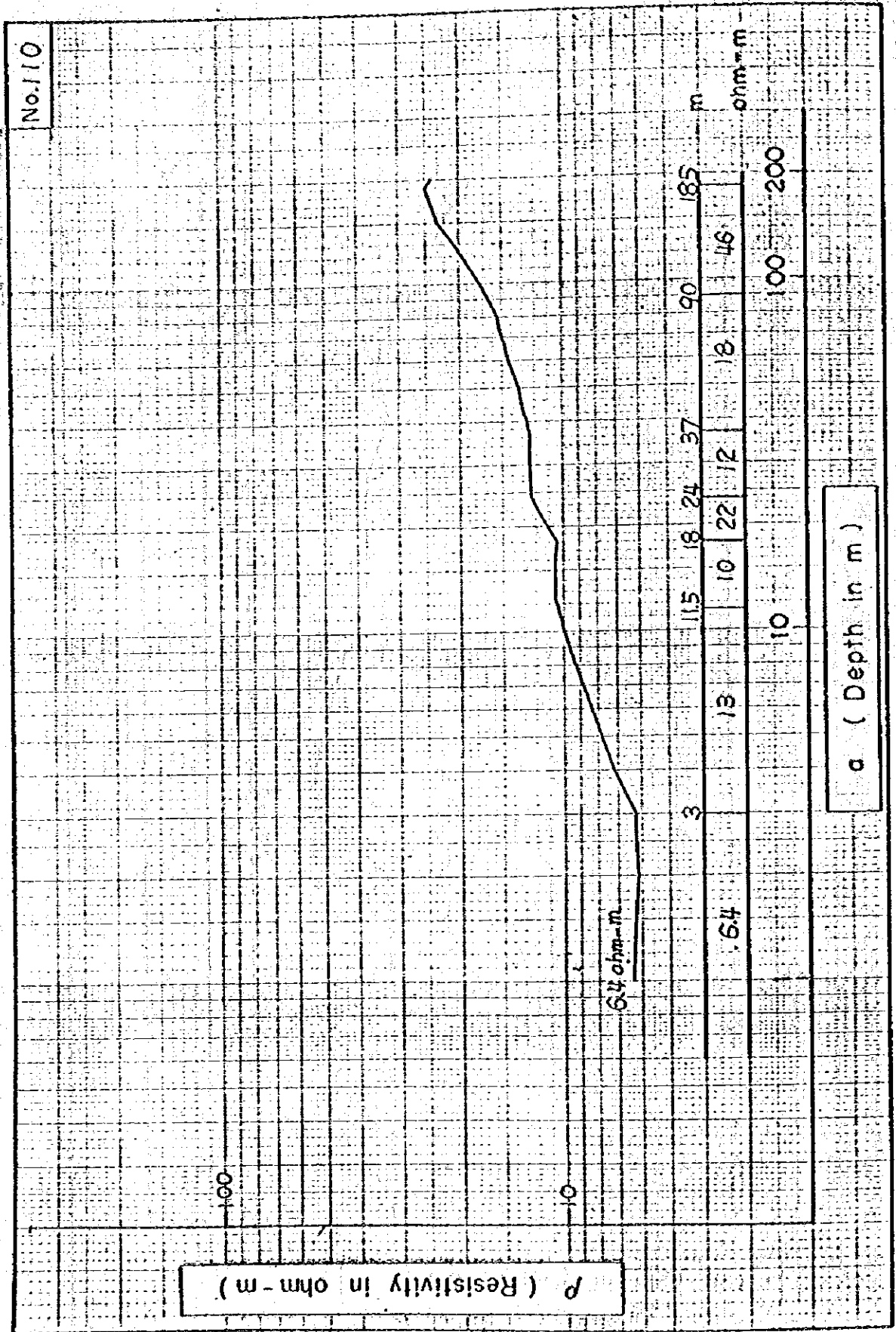
100 200

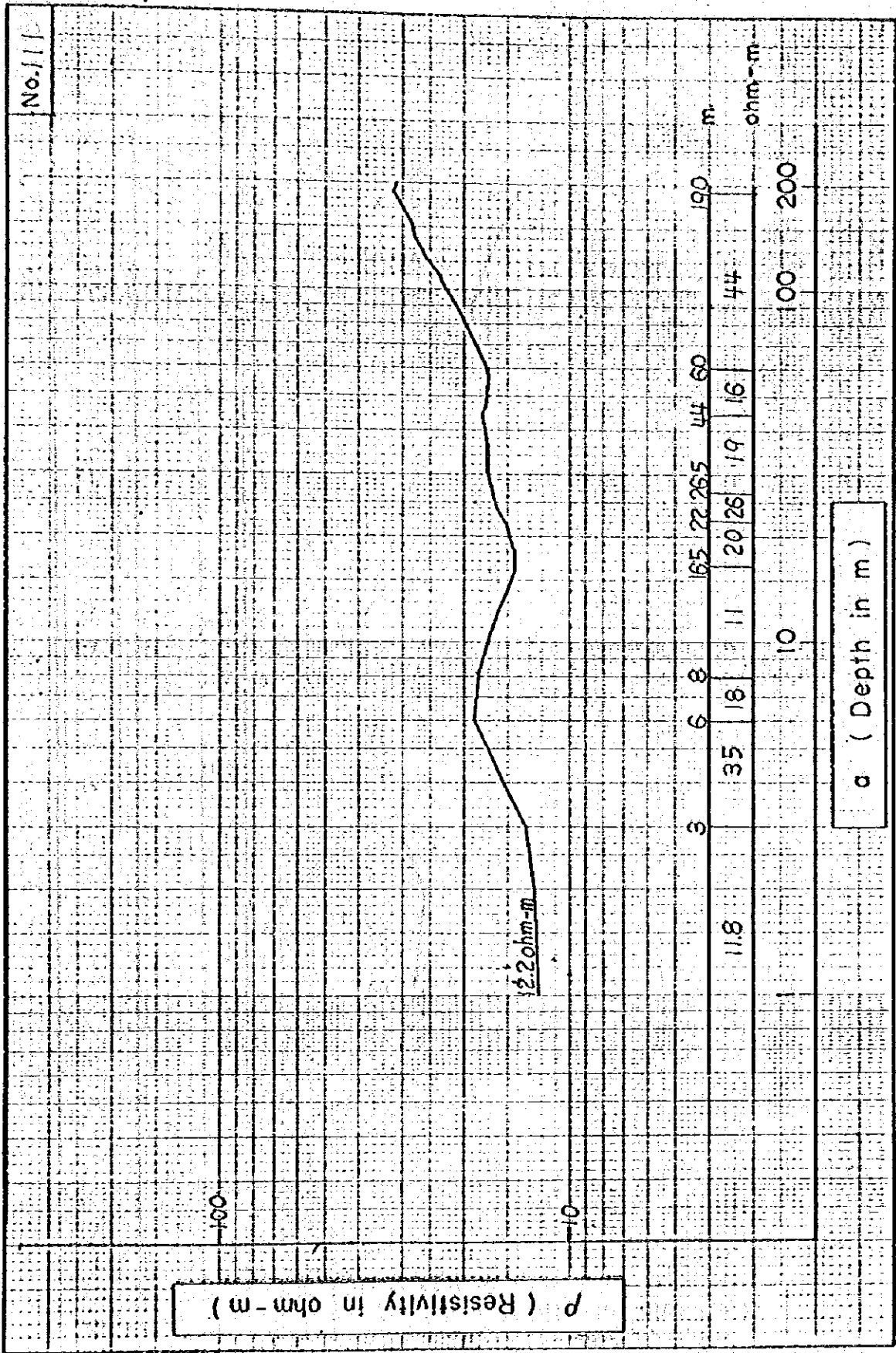
a (Depth in m)

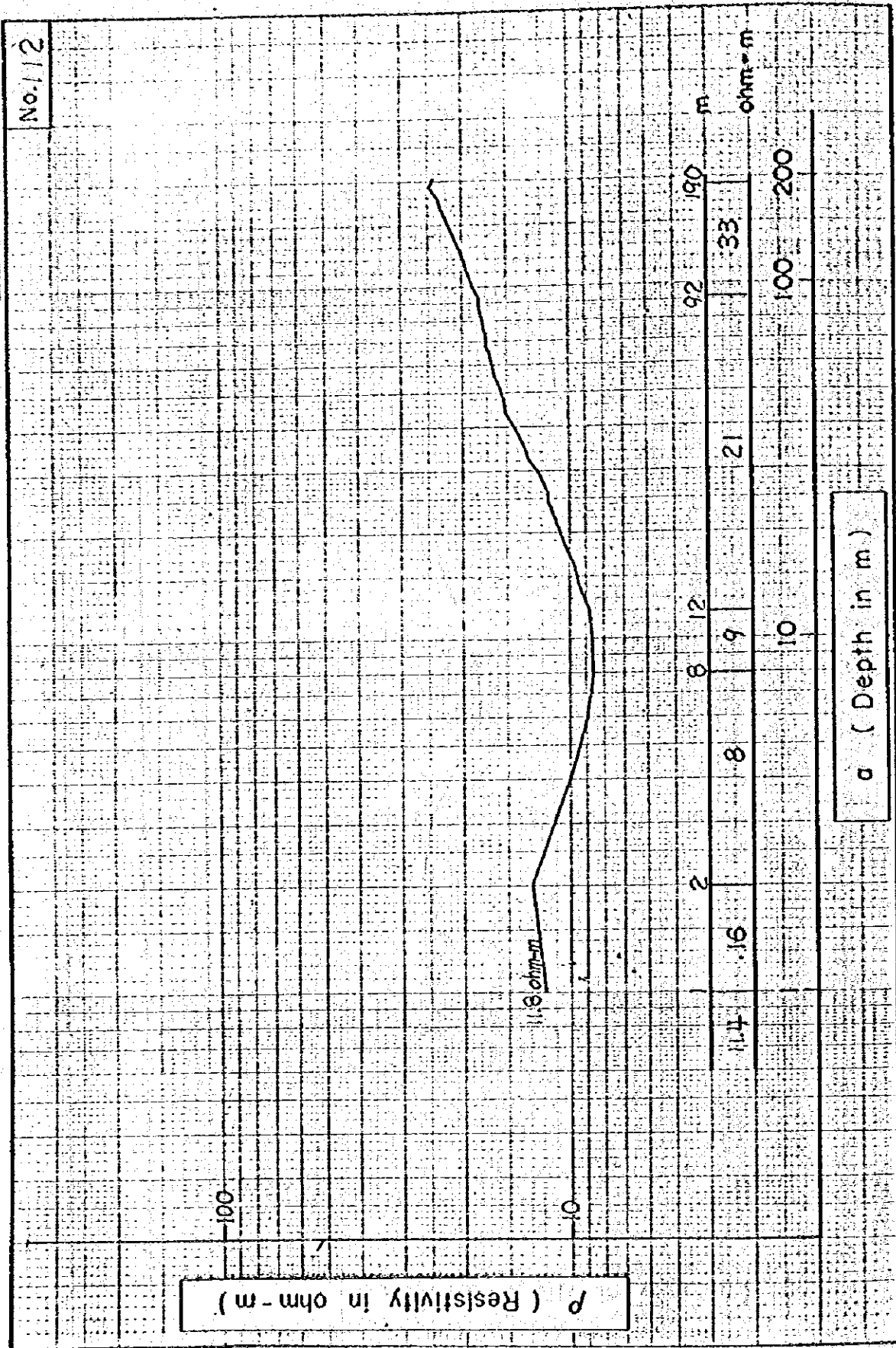
m

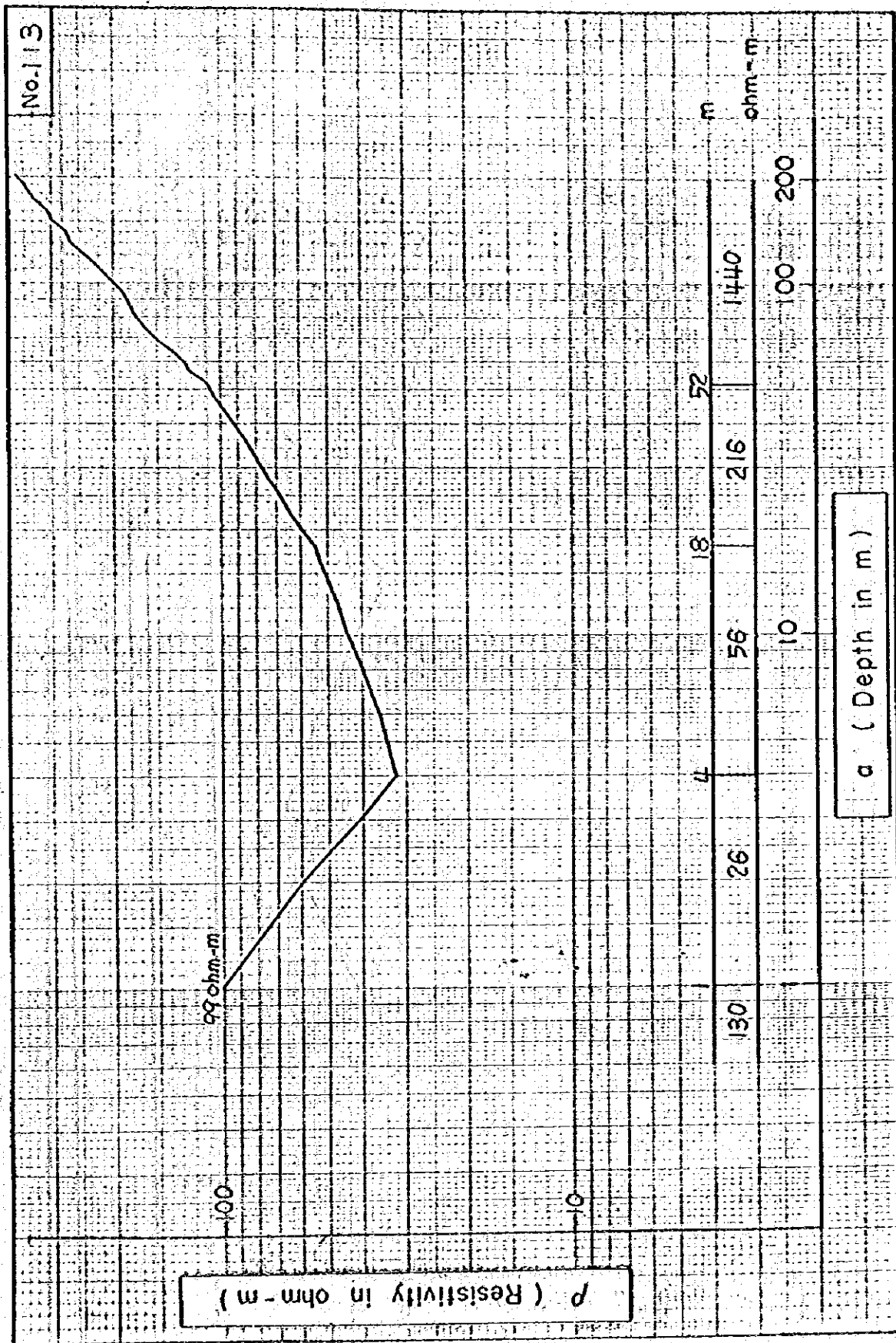
ohm-m

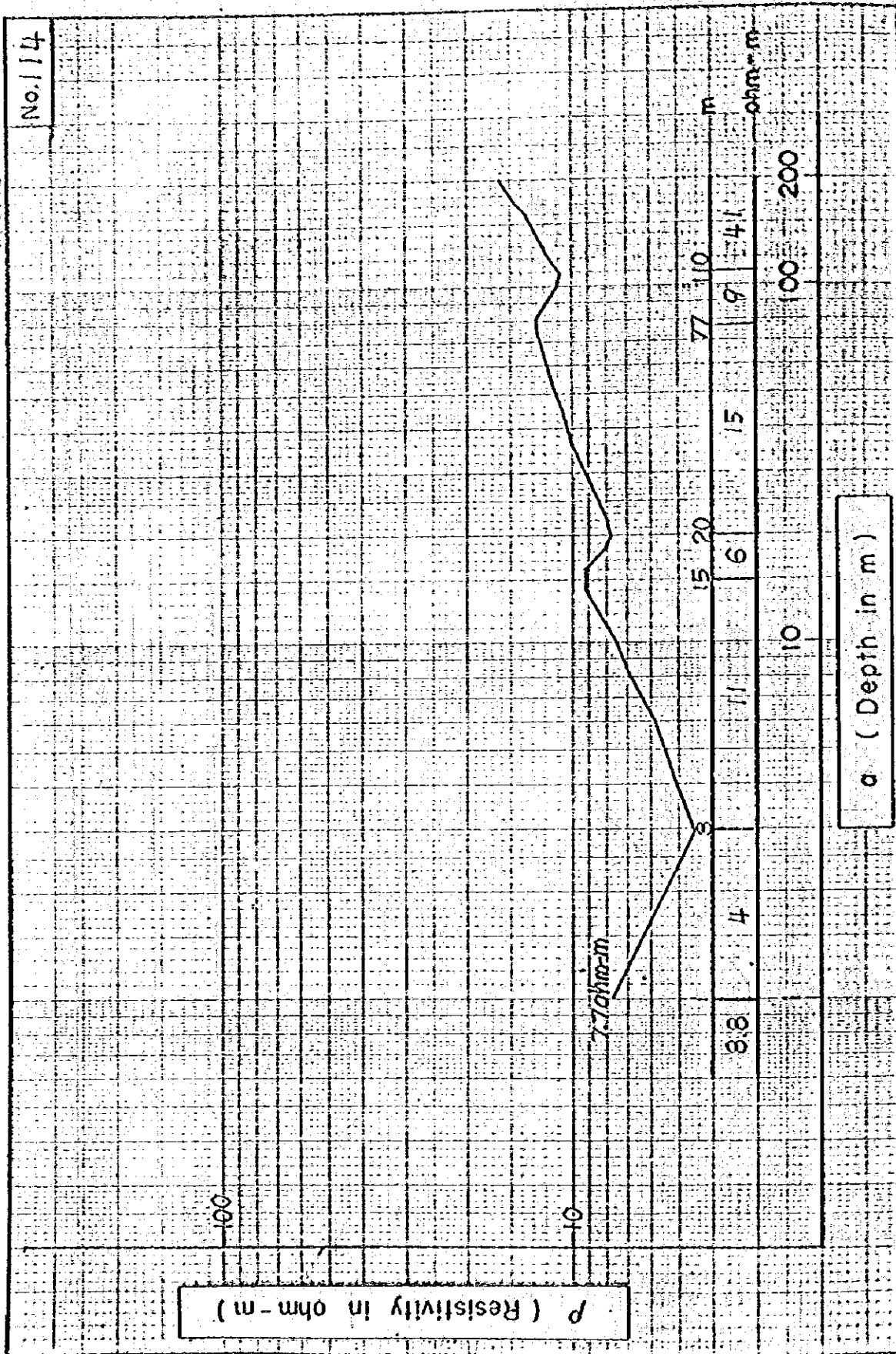






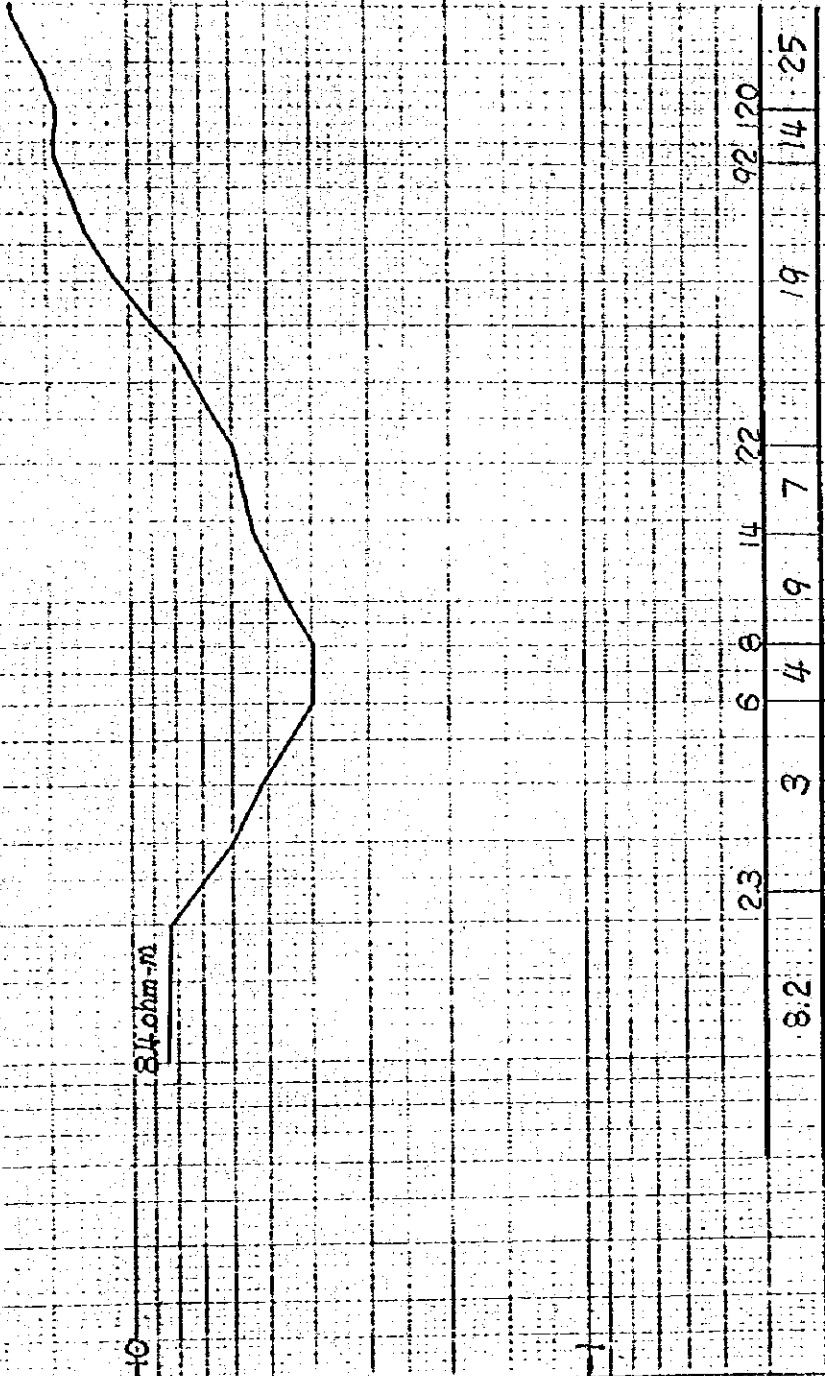






No. 115

ρ (Resistivity in ohm-m)



24 ohm-m

a (Depth in m)

4.2 Pumping Test Records

PUMPING TEST RECORDS

WELL NUMBER W-5 (52/71)

DATE 2 June 1972

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW-DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	Sr M	m ³ /MIN	t/t'
						First day
8:17	0		2.75			S.W.L.
					6.8	(138.3 l/sec)
						Second day
6:45	1348	0	13.25	10.5	0	pump stopped -
½	1348½	½	11.52	8.77		2697
46	1349	1	10.00	7.25		1349
½	1349½	1½	8.48	5.72		899.7
47	1350	2	7.43	4.68		675
½	1350½	2½	6.10	3.35		540.2
48	1351	3	5.27	2.52		450.2
½	1351½	3½	4.65	1.90		386.1
49	1352	4	4.25	1.50		338
½	1352½	4½	4.17	1.42		300.6
50	1353	5	4.15	1.40		270.6
55	1358	10	"	"		135.8
7:00	1363	15	"	"		90.9

PUMPING TEST RECORDS

WELL NUMBER W-6 (21/72)

DATE 2 June 1972

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW-DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	Sr M	M ³ /MIN	t/t'
			2.925			S.W.L
	0				7.140	Pump started (119 l/sec)
	2760	0	13.25	10.325	0	Pump stopped -
	2760.5	½	11.50	8.575		5521
	2761	1	10.00	7.075		2761
	2761.5	1½	8.48	5.555		1841
	2762	2	7.43	4.505		1381
	2762.5	2½	6.10	3.175		1105
	2763	3	5.27	2.345		921
	2763.5	3½	4.65	1.725		789.6
	2764	4	4.25	1.325		691
	2764.5	4½	4.17	1.245		614.3
	2765	5	4.15	1.225		553
	2770	10	4.15	1.225		277
	2775	15	4.15	1.225		185

PUMPING TEST RECORDSWELL NUMBER W-15 (36/64)DATE 10 Feb. 1976

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	t/t'
9:58			4.00			S.W.L.
10:00	0		15.00	11.00	1.404	pump started
01 1/4	1 1/4		16.31	12.31	"	(23.4 l/sec)
03	3		"	"	"	
03 1/2	3 1/2		16.335	12.335	"	
04	4		16.325	12.325	"	
04 1/2	4 1/2		16.35	12.35	"	
05	5		"	"	"	
05 1/2	5 1/2		16.37	12.37	"	
06	6		16.40	12.40	"	
07	7		16.41	12.41	"	
08	8		"	"	"	
08 1/2	8 1/2		"	"	"	
09	9		16.43	12.43	"	
09 1/2	9 1/2		"	"	"	
10	10		16.42	12.42	"	
15	15		16.45	12.45	"	
20	20		"	"	"	
25	25		16.46	12.46	"	

PUMPING TEST RECORDSWELL NUMBER W-15 (36/64)DATE 10 Feb. 1976

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	t/t'
10:30	30		16.475	12.475	1.404	
35	35		16.46	12.46	"	
40	40		"	"	"	
45	45		16.465	12.465	"	
50	50		"	"	"	
55	55		16.46	12.46	"	
11:00	60		16.46	"	"	
30	90		16.47	12.47	"	
12:00	120		"	"	"	
30	150		16.48	12.48	"	
13:00	180		16.475	12.475	"	
25	205		16.46	12.46	"	
30	210	0	16.38	12.38	0	pump stopped
30 8/60	210 8/60	8/60	10.00	6.00		1576
30 5/6	210 5/6	5/6	4.97	0.97		253
31 1/3	211 1/3	1 1/3	4.43	0.43		158.5
32	212	2	4.29	0.29		106
33	213	3	4.19	0.19		71
33 1/2	213 1/2	3 1/2	4.155	0.155		61

PUMPING TEST RECORDSWELL NUMBER W-15 (36/64)DATE 10 Feb. 1976

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	t/t'
13:34	214	4	4.135	0.135		53.5
34½	214½	4½	4.125	0.125		47.7
35	215	5	4.095	0.095		43
36	216	6	4.09	0.09		36
36½	216½	6½	4.07	0.07		33.3
37	217	7	4.065	0.065		31
37½	217½	7½	"	"		29
38	218	8	4.06	0.06		27.2
39	219	9	4.05	0.05		24.3
40	220	10	4.045	0.045		22.0
41	221	11	4.04	0.04		20.1
42	222	12	"	"		18.5
43	223	13	4.03	0.03		17.1
44	224	14	"	"		16
45	225	15	4.025	0.025		15
46	226	16	4.02	0.02		14.1
47	227	17	4.013	0.013		13.4
48	228	18	4.01	0.01		12.7
49	229	19	4.005	0.005		12.1
50	230	20	4.00	0		11.5

PUMPING TEST RECORDSWELL NUMBER W-19 (204/77)DATE 12 March 1980

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	
9:59			3.57			S.W.L.
10:00	0				0.240	Pump started
$\frac{1}{2}$	$\frac{1}{2}$		7.37	3.80	"	(4.0 (/sec)
01	1		7.64	4.07	"	
$\frac{1}{2}$	$1\frac{1}{2}$		7.95	4.38	"	
02	2		7.90	4.33	"	
$\frac{1}{2}$	$2\frac{1}{2}$		7.99	4.42	"	
03	3		8.01	4.44	"	
04	4		8.04	4.47	"	
05	5		8.00	4.43	"	
06	6		8.02	4.45	"	
07	7		8.04	4.47	"	
08	8		8.04	4.47	"	
09	9		8.10	4.53	"	
10	10		8.09	4.52	"	
15	15		8.11	4.54	"	
20	20		8.16	4.59	"	
25	25		8.15	4.58	"	
30	30		8.12	4.55	"	
40	40		8.20	4.63	"	
50	50		8.26	4.69	"	

PUMPING TEST RECORDSWELL NUMBER W-19 (204/77)DATE 12 March 1980

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	
11:00	60		8.43	4.86	0.240	
10	70		8.495	4.925	"	
20	80		8.50	4.93	"	
30	90		8.50	4.93	"	
12:00	120		8.52	4.95	"	
30	150		8.495	4.925	"	
13:00	180		8.32	4.75	"	
30	210		8.41	4.84	"	
14:00	240	0	8.39	4.82	0	Pump stopped
$\frac{1}{2}$	240 $\frac{1}{2}$	$\frac{1}{2}$	3.60			
01	241	1	3.56			
02	242	2	3.56			
05	245	5	3.56			
10	250	10	3.56			

PUMPING TEST RECORDS

WELL NUMBER W-20 (49/70)

DATE Jun 1970

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE
H:MIN	t MIN	t' MIN	M	M	M ³ /MIN	t/t'
			6.17			S.W.L.
	0				0.454	Pump started
	720	0			0	Pump stopped -
	721	1	6.93	0.76		721
	722	2	6.40	0.23		361
	723	3	6.35	0.18		241
	724	4	"	"		181
	725	5	"	"		145
	726	6	6.32	0.15		121
	727	7	6.30	0.13		103.9
	728	8	"	"		91
	729	9	"	"		81
	730	10	"	"		73
	731	11	6.27	0.10		66.5
	732	12	"	"		61
	735	15	"	"		49
	740	20	"	"		37

PUMPING TEST RECORDSWELL NUMBER W-25 (43/79)DATE 20 April 1979

TIME	TIME AFTER PUMPING STARTED	TIME AFTER PUMPING STOPPED	WATER LEVEL	DRAW- DOWN	DISCHARGE RATE	NOTE	
H:MIN	t MIN	t' MIN	M	Sr	M	M ³ /MIN	t/t'
11:58			3.40				S.W.L.
12:00	0					1.000	Pump started (16.7//S)
10	10		3.86				
17:34	334	0	4.22	0.82		0	Pump stopped
35	335	1	3.58	0.18			335
36	336	2	3.57	0.17			168
37	337	3	3.56	0.16			112
38	338	4	3.55	0.15			84
39	339	5	3.54	0.14			67
40	340	6	3.53	0.13			56
45	345	11	3.52	0.12			30
50	350	16	3.50	0.10			21
18:00	360	26	3.49	0.09			15
10	370	36	"	"			10
20	380	46	3.47	0.07			8
30	390	56	"	"			6
45	405	71	3.46	0.06			5
19:00	420	86	3.45	0.05			4

V. SOIL MECHANICAL DATA

5.1 Summary of Soil Test

**SUMMARY OF SOIL TEST
(RELEVÉ DES ESSAIS DES SOLS)**

FOR REPORTING
(POUR DE RAPPORT)

NAME OF SURVEY & LOCALITY
(DÉNOMINATION DE L'ENQUÊTE ET LOCALITÉ)

Lower-Moshi Agricultural Development Project

SAMPLE NO. (N° DE L'ÉCHANTILLON)		MIWALENI	CHEKERENI			
SAMPLE DEPTH (PROFONDEUR DE L'ÉCHANTILLON) (m)		~	~	~	~	~
GRADATION (GRANDULOMÉTRIE)	GRAVEL (GRAVER) (%)	0.0	1.0			
	SAND (SABLE) (%)	3.0	25.0			
	SLT (SLT) (%)	77.0	61.0			
	CLAY (ARGILE) (%)	20.0	13.0			
	MAX DIAMETER (DIAMÈTRE MAX) (mm)	2.00	4.76			
	COEFFICIENT OF UNIFORMITY (COEFFICIENT D'UNIFORMITÉ) U_c	-	9.1			
	COEFFICIENT OF CURVATURE (COEFFICIENT DE COURBURE) U_c	-	1.6			
CONSISTENCY (CONSISTANCE)	LIQUID LIMIT (LIMITE DE LIQUIDITÉ) w_L (%)	76.0	46.3			
	PLASTIC LIMIT (LIMITE DE PLASTICITÉ) w_p (%)	30.7	20.2			
	PLASTICITY INDEX (INDICE DE PLASTICITÉ) I_p	45.3	26.1			
	Shrinkage Limit SL (%)	11.9	15.2			
* Test	Compaction Optimum Moisture Content w_{opt} (%)	33.8	19.2			
	Max. Dry Density $\gamma_d \max$ (g/cm ³)	1.387	1.60			
SPECIFIC GRAVITY OF SOIL (POIDS SPÉCIFIQUE DU SOL) G_s		2.89	2.70			
NATURAL STATE (ÉTAT NATURAL)	WATER CONTENT (TENEUR EN EAU) w (%)	18.68	16.54			
	WET DENSITY (DENSITÉ HUMIDE) γ_s (g/m ³)					
	VOID RATIO (INDICE DES VIDES) e					
	DEGREE OF SATURATION (DEGRÉ DE SATURATION) S_r (%)					
MECHANICAL PROPERTIES (PROPRIÉTÉS MÉCANIQUES)	UNCONFINED COMPRESSION (UNIAXE)	COMPRESSIVE STRENGTH (RÉSISTANCE À LA COMPRESSION) q_u (kg/cm ²)	1.113	0.714		
		MODULUS OF ELASTICITY (MODULE D'ÉLASTICITÉ) E_{50} (kg/cm ²)	50.9	51.0		
		SENSITIVITY RATIO (INDICE DE SENSIBILITÉ) S_t				
	** (1)	TYPE OF TEST (TYPE DE L'ESSAI) ***	UU	UU*	UU	UU*
		COHESION (COHÉSION) C (kg/cm ²)	0.46	0.24	0.3	0.17
	(2)	ANGLE OF INTERNAL FRICTION (ANGLE DE FROTTEMENT INTERNE) ϕ (°)	6.7	5.0	9.3	3.5
		YIELD STRESS OF CONSOLIDATION (LIMITE D'ÉLASTICITÉ DE CONSOLIDATION) P_y (kg/cm ²)	1.68	1.35		
CONSOLIDATION	COMPRESSION INDEX (INDICE DE COMPRESSION) C_c	0.322	0.17			
Coef. of Permeability (Falling Head) K (cm/sec)		4.4×10^{-8}	5.6×10^{-7}			

* CLASSIFICATION (CLASSIFICATION)

** (1): DIRECT SHEAR (CISAILLEMENT); (2): TRIAXIAL COMPRESSION (COMPRESSION TRIAXIAL)

*** UNCONSOLIDATED, UNDRAINED (NON CONSOLIDÉ, NON DRAINÉ); UU: CONSOLIDATED, UNDRAINED (CONSOLIDÉ, NON DRAINÉ); CU: CONSOLIDATED, DRAINED (CONSOLIDÉ DRAINÉ); CD:

(BAR OVER THE SYMBOL SHOWS THE MEASUREMENT OF PORE WATER PRESSURE (LE TRAIT AU DESSUS DU SYMBOL MONTRE LA PRESSION DE L'EAU INTERSTITIELLE.))

* After Saturation

