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Schlumberger Soundings in the Medicine Lake Area, California

by

A. A. R. Zohdy and R. J. Bisdorf

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Introduction

In 1981 the U.S. Geological Survey made 50 Schlumberger soundings in the Medicine Lake area of northern California. These soundings were made as part of the USGS's geothermal research program effort.

The purpose of this report is to release the observed Schlumberger sounding data, to present the automatic inversion of the sounding curves, and to outline a procedure which was used for making soundings along winding roads.

Field Procedure and Data Reduction

In the Medicine Lake area, there are practically no straight roads of sufficient length for making deep Schlumberger soundings with AB/2 electrode spacings that would reach several kilometers. Furthermore, the presence of pumice deposits near the surface resulted in high contact resistances that severely limited the intensity of the current injected in the ground. In addition to both these limitations, the area is too densely forested to allow the straddling of the road and the use of the equatorial or azimuthal arrays for deep soundings. Therefore, it was decided to make Schlumberger soundings along the winding roads and to reduce the data in the manner described below.

In the field, as the crew expanded the distance between the current electrodes along the winding road and used the length of unreeled cable to measure the distance to the successive conventional spacings, the operator computed an apparent resistivity at each spacing using the corresponding, precalculated, geometric factor for the linear symmetric Schlumberger array. This was done in order to obtain an idea about the shape of the sounding

curve, which became progressively more distorted at the larger electrode spacings. The errors in the computed apparent resistivities are caused by two opposing factors: (1) The straight-line distance from either current electrode to the center of the array progressively gets shorter than the length of unreeled cable along the winding road. This results in computed apparent resistivities that are too large. (2) Whenever the four electrodes A, M, N, and B are not on a straight line, only a component of the electric field is measured, instead of the full field. This results in computed apparent resistivities that are too small.

In order to correct both these errors, the road map for each sounding station was traced on a piece of paper at the scale of 1:24,000. The distances to each current electrode position (which in the field were equal to the successive lengths of unreeled cable) were measured on the road trace along each direction from the sounding center by an odometer or by summing short straight line segments. Using the location of the sounding station as the center of coordinates and alining the x-axis with the initial straight line direction of expansion, it is easy to determine the x and y coordinates for each current and potential electrode location on the road map.

Figure 1 shows an example of a road map with current electrode locations for AB/2 spacings from 1,000 feet to 16,000 feet and the corresponding x and y coordinate values.

The most general geometric factor for any AMNB quadrupole array can be computed from the formula:

$$K_Q = \frac{2\pi}{\frac{1}{AM} - \frac{1}{AN} - \frac{1}{BM} + \frac{1}{BN}}$$

where,

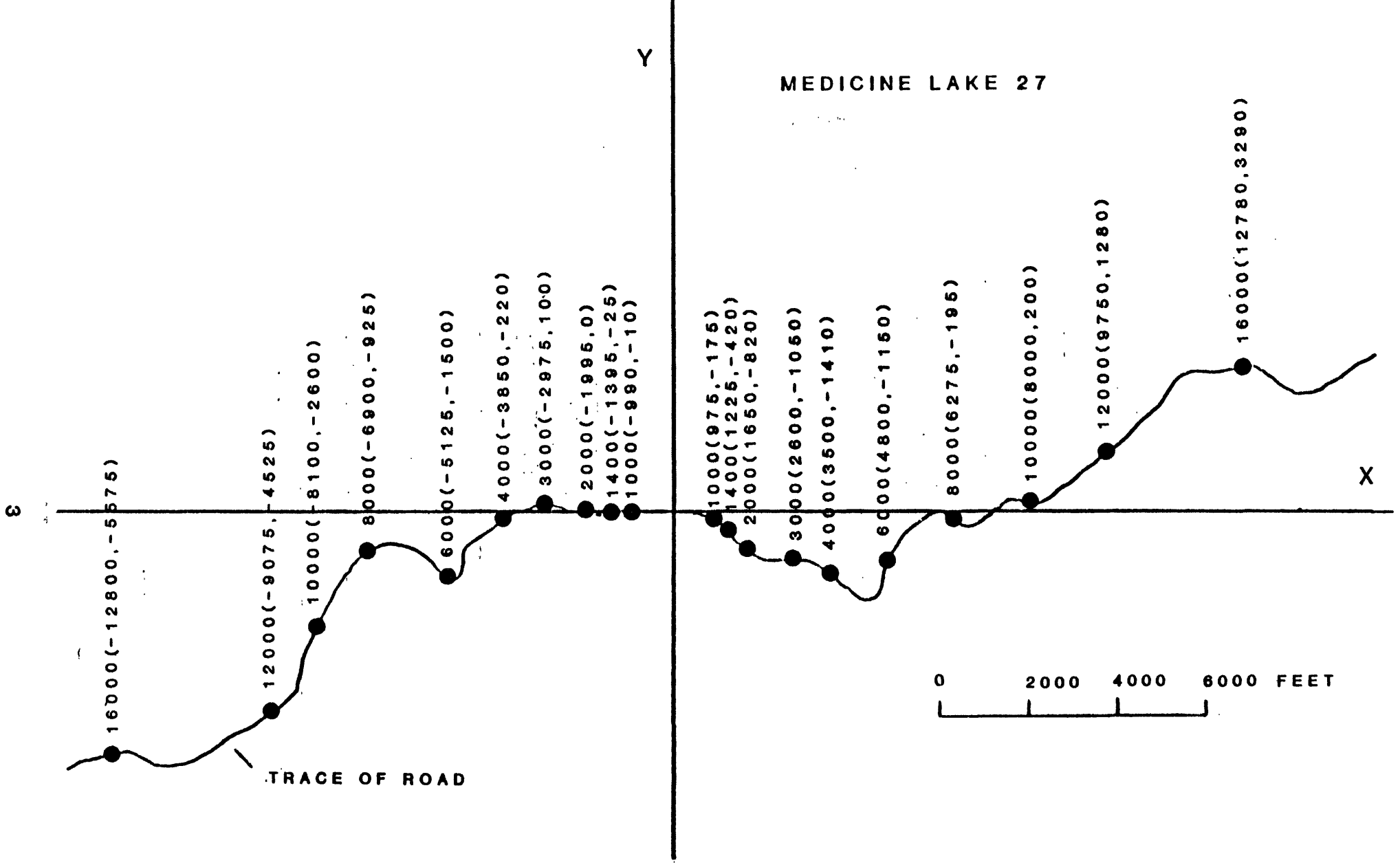


Figure 1. Road map for sounding Medicine Lake 27. Center of sounding is located at center of coordinates. Solid circles show locations of current electrodes. Numbers designate unreeled cable distances and (x, y) coordinates, in feet.

$$AM = [(x_A - x_M)^2 + (y_A - y_M)^2]^{1/2},$$

$$AN = [(x_A - x_N)^2 + (y_A - y_N)^2]^{1/2},$$

$$BM = [(x_B - x_M)^2 + (y_B - y_M)^2]^{1/2},$$

$$BN = [(x_B - x_N)^2 + (y_B - y_N)^2]^{1/2},$$

and (x_A, y_A), (x_B, y_B), (x_M, y_M), and (x_N, y_N) are the coordinates of the A, B, M, and N electrodes, respectively.

By dividing the erroneous apparent resistivity that was computed in the field by the geometric factor for the linear Schlumberger array and multiplying the result by the correct geometric factor K_Q, we obtain the correct apparent resistivity $\bar{\rho}_Q$. This apparent resistivity may or may not be equal to the Schlumberger apparent resistivity $\bar{\rho}_s$.

In order to examine the conditions for which the value of $\bar{\rho}_Q$ is equal or nearly equal to $\bar{\rho}_s$, we consider the following. For a horizontally stratified medium, the electric field components E^A_{MN} and E^B_{MN}, which are caused by the electrodes A and B at a point O and along the direction of MN are given by (Zohdy, 1978):

$$E^A_{MN} = \frac{\bar{\rho}_s(AO)\ I}{2\pi} \frac{1}{AO^2} \cos\alpha$$

$$E^B_{MN} = \frac{\bar{\rho}_s(BO)\ I}{2\pi} \frac{1}{BO^2} \cos\beta$$

where

$\bar{\rho}_s(AO)$, $\bar{\rho}_s(BO)$ = Schlumberger apparent resistivities at the current electrode spacing distances AO and BO, respectively.

α, β = angles measured between the lines AO and MN, and BO and MN, respectively.

I = current intensity.

The total electric field component along the direction of MN is

$$E_{MN}^{A,B} = \frac{I}{2\pi}\left[\frac{\bar{\rho}_s(AO)}{AO^2}\cos\alpha + \frac{\bar{\rho}_s(BO)}{BO^2}\cos\beta\right] \qquad (1)$$

The apparent resistivity, $\bar{\rho}_\gamma$, which would be computed from the measurement of $E_{MN}^{A,B}$ is given by

$$\bar{\rho}_\gamma = \frac{2\pi}{\frac{\cos\alpha}{AO^2} + \frac{\cos\beta}{BO^2}} \quad \frac{E_{MN}^{A,B}}{I} \qquad (2)$$

substituting equation (1) in equation (2), we get

$$\bar{\rho}_\gamma = \frac{1}{\frac{\cos\alpha}{AO^2} + \frac{\cos\beta}{BO^2}} \left[\frac{\bar{\rho}_s(AO)}{AO^2}\cos\alpha + \frac{\bar{\rho}_s(BO)}{BO^2}\cos\beta\right] \qquad (3)$$

For AO = BO, $\bar{\rho}_s(AO) = \bar{\rho}_s(BO)$ and equation (3) simplifies to

$$\bar{\rho}_\gamma = \bar{\rho}_s(AO) \qquad (4)$$

This means that regardless of the values of the angles α and β, if AO = BO then the measured apparent resistivity, $\bar{\rho}_\gamma$, equals the Schlumberger apparent resistivity, $\bar{\rho}_s$, provided that $\bar{\rho}_\gamma$ is calculated using the correct geometric factor which is given in equation 2. The bipole-dipole equatorial array is a special case of the above theorem in which $\alpha = \beta$.

Computations using equation (3) have shown that for $0.77 \leq \frac{AO}{BO} \leq 1.3$, the computed value of $\bar{\rho}_Y$ was practically equal to $\bar{\rho}_s$ when $\bar{\rho}_Y$ is plotted at the electrode spacing $AB/2 = [AO \cdot BO]^{1/2}$ where

$$AO = (x_A^2 + y_A^2)^{1/2} \quad \text{and} \quad BO = (x_B^2 + y_B^2)^{1/2}$$

The above analysis is based on the assumption of horizontal layers and on the measurement of an electric field $E_{MN}^{A,B}$. Thus if the distance, MN, between the potential electrodes is sufficiently small so that

$$E \simeq \frac{\Delta V}{MN} ,$$

then the above analysis is equally applicable for practical field data and $\bar{\rho}_Q \simeq \bar{\rho}_s$ for $0.77 \leq AO/BO \leq 1.3$.

To summarize, the erroneous apparent resistivities were corrected by dividing by the Schlumberger geometric factors and multiplying by the correct geometric factor. The corrected values then were plotted at the electrode spacing $AB/2 = [AO \cdot BO]^{1/2}$. Figure 2 shows an example of a corrected sounding curve.

One of two other field procedures may have been followed. The operator could have determined the proper distance for the cable to be unreeled along the winding road in each direction, and for each electrode spacing, so that AO is always equal to BO, and then instructed the crew accordingly. Also, he would have used the correct geometric factor to compute the required Schlumberger apparent resistivity. This procedure, however, is very time consuming for the operator and can be very confusing to the crew members since each unreeled-cable distance will be different for each side and for each spacing. The second procedure would have been to measure the total electric field at the center, by measuring two of its components instead of one, and

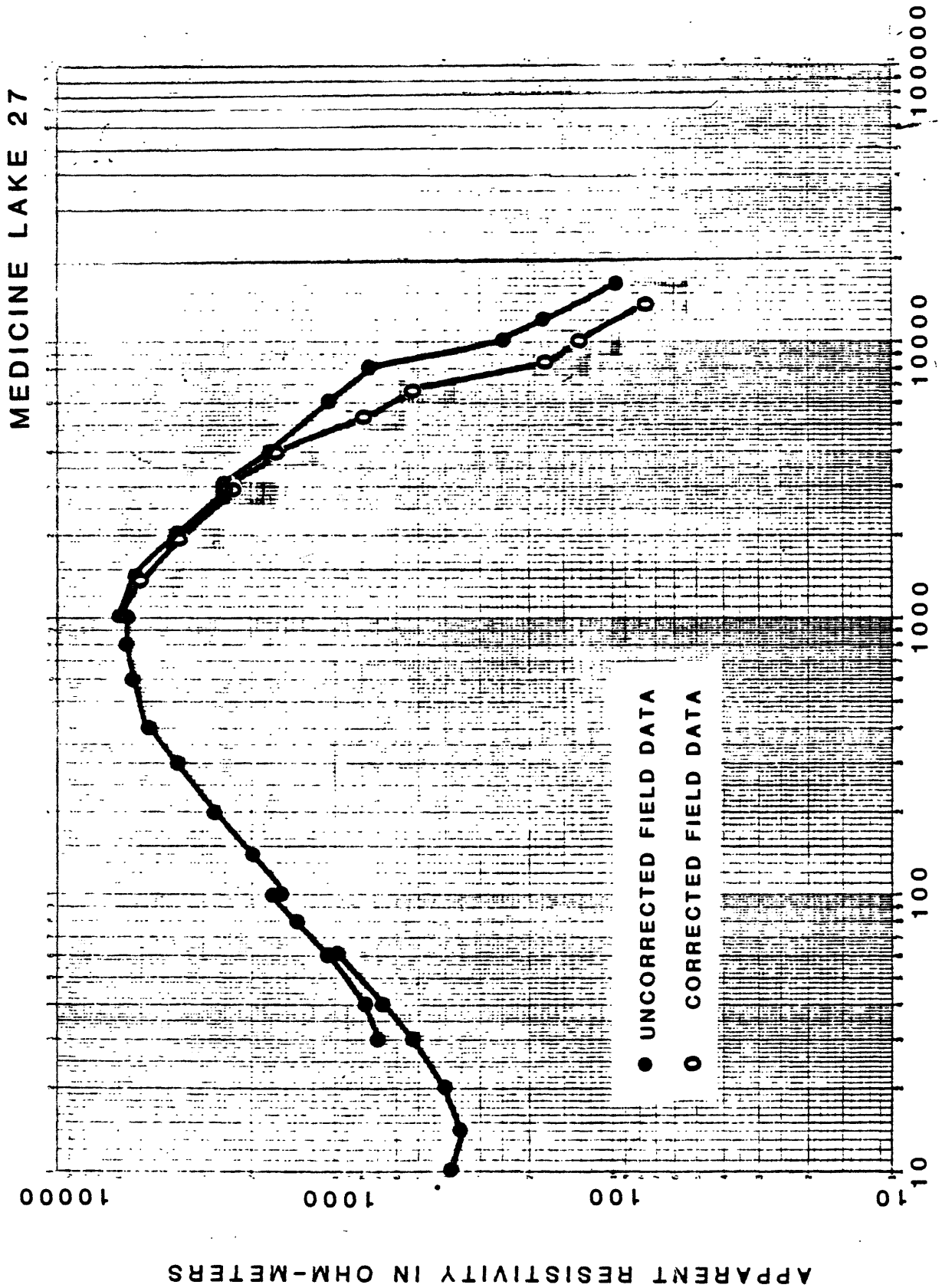


Figure 2. Log-log plot of sounding Medicine Lake 27.

then computing two Schlumberger apparent resistivities $\bar{\rho}_s$ (AO) and $\bar{\rho}_s$ (BO), when AO ≠ BO as described by Zohdy (1978) for total field measurements. Either approach requires the use of a map of appropriate scale to determine the x and y coordinates of the electrodes A and B, and the use of more complex calculations of the geometric factor. All of this is more suitable for office data reduction than to be done in the field.

Schlumberger Soundings

Figure 3 is a map showing the station locations, numbers, and azimuths of the Schlumberger soundings. The soundings are numbered consecutively from Medicine Lake 1 to Medicine Lake 50. The sounding curves and their automatic inversions are given in the Appendix. The given field data (electrode spacings AB/2, and apparent resistivities) are those which have been corrected, where necessary, for the effects of winding roads.

All the sounding data were automatically processed and interpreted (Zohdy, 1973 and 1975) as shown in the graphs in the Appendix. The curves were interpreted on a Hewlitt-Packard[1] 9845-B desk top computer using a program based on the program of Zohdy (1973). The HP program was modified to use O'Neill coefficients (O'Neill, 1975) in place of Ghosh coefficients (Ghosh, 1971).

For each sounding, the data in the Appendix include:

1) A tabulation of the AB/2 electrode spacings (converted from feet to meters) and corresponding apparent resistivities (in ohm-m). Both electrode spacings and apparent resistivities are corrected for winding road geometry.

[1]Use of a trade name is for descriptive purposes only and does not constitute endorsement by the U.S. Geological Survey.

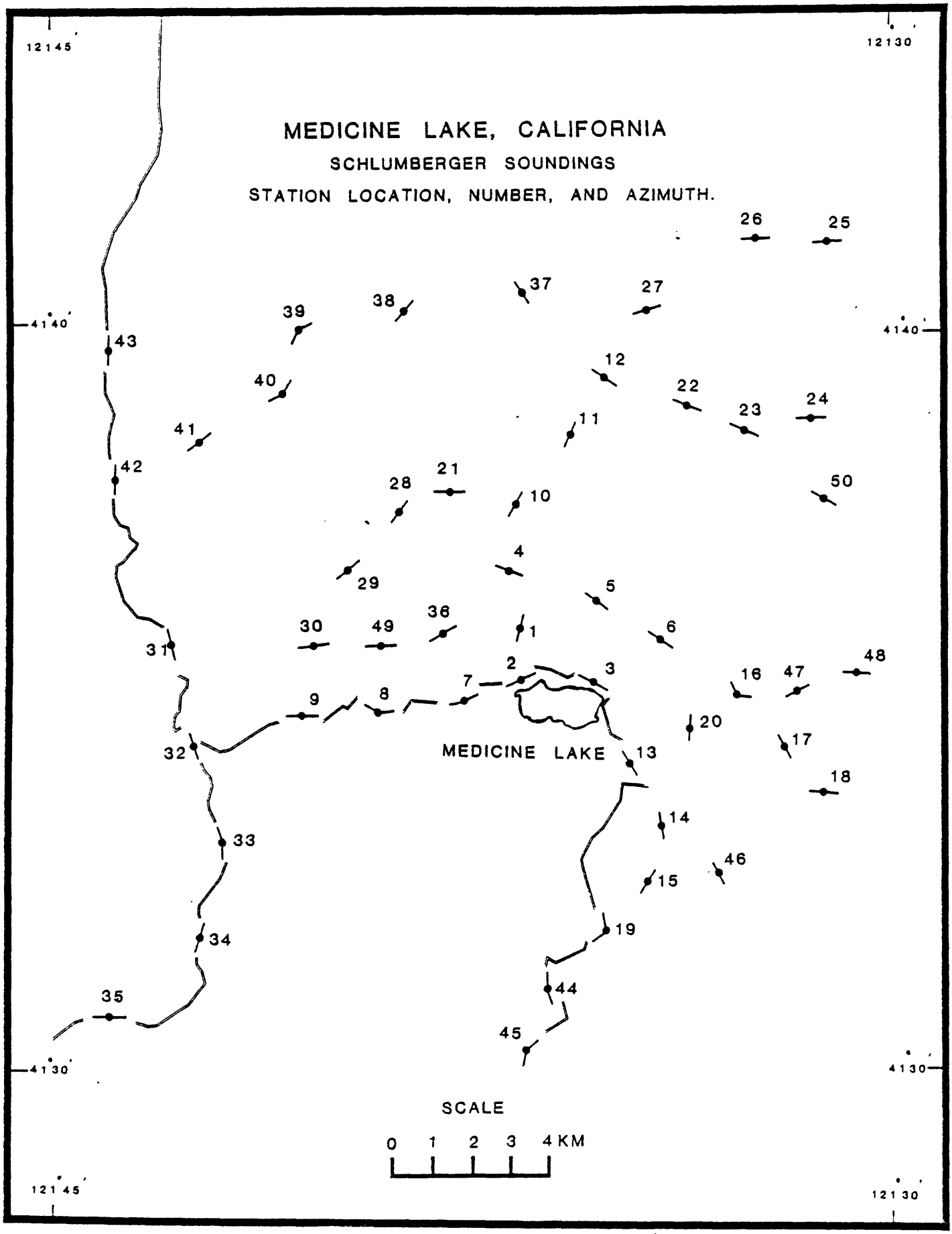


Figure 3. Schlumberger sounding location map.

2) A log-log plot of the above, in which the "0"'s represent the field data points. Each set of data points that was made with the same potential electrode spacing (MN) is connected with a solid line. Measurements were made at the fixed MN/2 spacings of 2, 6, 20, 60, 200, and 600 feet.

3) A log-log plot of the output of the automatic inversion program in which:

   a) The continuous curve represents the shifted-digitized field curve (Bisdorf and Zohdy, 1979).

   b) The step-function curve represents the distribution of interpreted-true resistivity with depth.

   c) The plus "+" signs represent points on the theoretical sounding curve for the given distribution of resistivity with depth. These points are given to show how well the interpreted model fits the shifted-digitized curve.

Where the letter "S" is appended to the title and number of an interpreted sounding curve, it means that distortions caused by lateral inhomogeneities were smoothed manually so that the undistorted portions of the curve could be fitted better.

References

Bisdorf, R. J., and Zohdy, A. A. R., 1979, Geoelectric investigations with Schlumberger soundings near Brunswick, Georgia: U.S. Geological Survey Open-file Report 79-1551, 125 p.

Ghosh, D. P., 1971, Inverse filter coefficients for the computation of apparent resistivity standard curves over horizontally stratified earth: Geophysical Prospecting [Netherlands], v. 19, no. 4, p. 769-775.

O'Neill, D. J., 1975, Improved linear filter coefficients for application in apparent resistivity computations: Bulletin Australian Society Exploration Geophysics, v. 6, no. 4, p. 104-109.

Zohdy, A. A. R., 1973, A computer program for the automatic interpretation of Schlumberger sounding curves over horizontally layered media: NTIS (National Technical Information Service) PB-232 703/AS, 25 p., Springfield, Va.

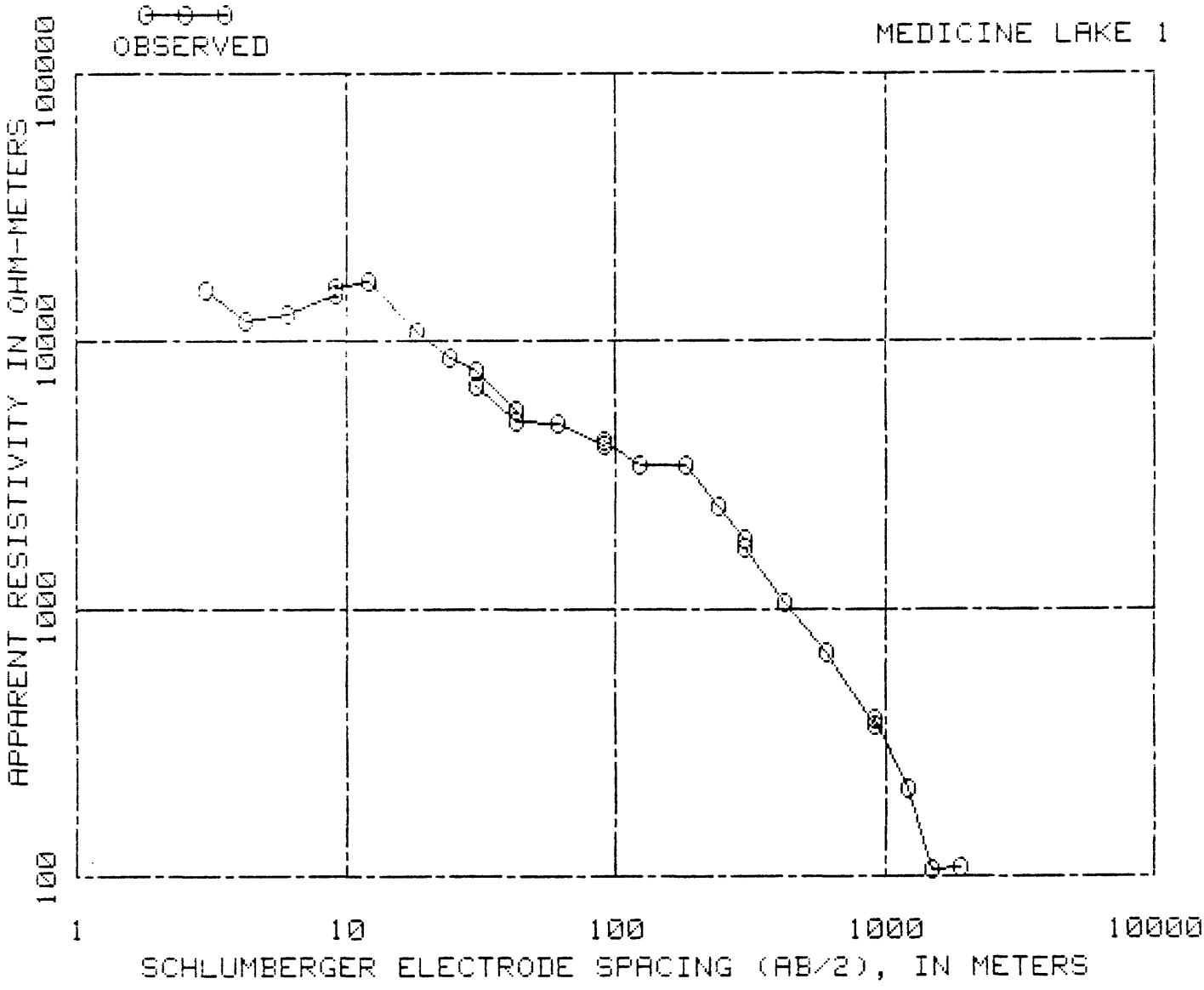
_____1975, Automatic interpretation of Schlumberger sounding curves using modified Dar Zarrouk functions: U.S. Geological Survey Bulletin 1313-E, 39 p.

_____1978, Total field resistivity mapping and sounding over horizontally layered media: Geophysics, v. 43, p. 748-766.

APPENDIX

MEDICINE LAKE 1

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	15410.00
4.27	11930.00
6.10	12621.00
9.14	14873.00
9.14	15870.00
12.19	16666.00
18.29	10792.00
24.38	8636.00
30.48	7685.00
42.67	5537.00
30.48	6823.00
42.67	4983.00
60.96	4885.00
91.44	4101.00
91.44	4243.00
121.92	3437.00
182.88	3431.00
243.84	2395.00
304.80	1828.00
304.80	1679.00
426.72	1058.00
609.60	679.00
914.40	371.00
914.40	391.00
1219.20	215.00
1498.70	106.20
1917.50	108.80


OBSERVED
MEDICINE LAKE 1
APPARENT RESISTIVITY IN OHM-METERS
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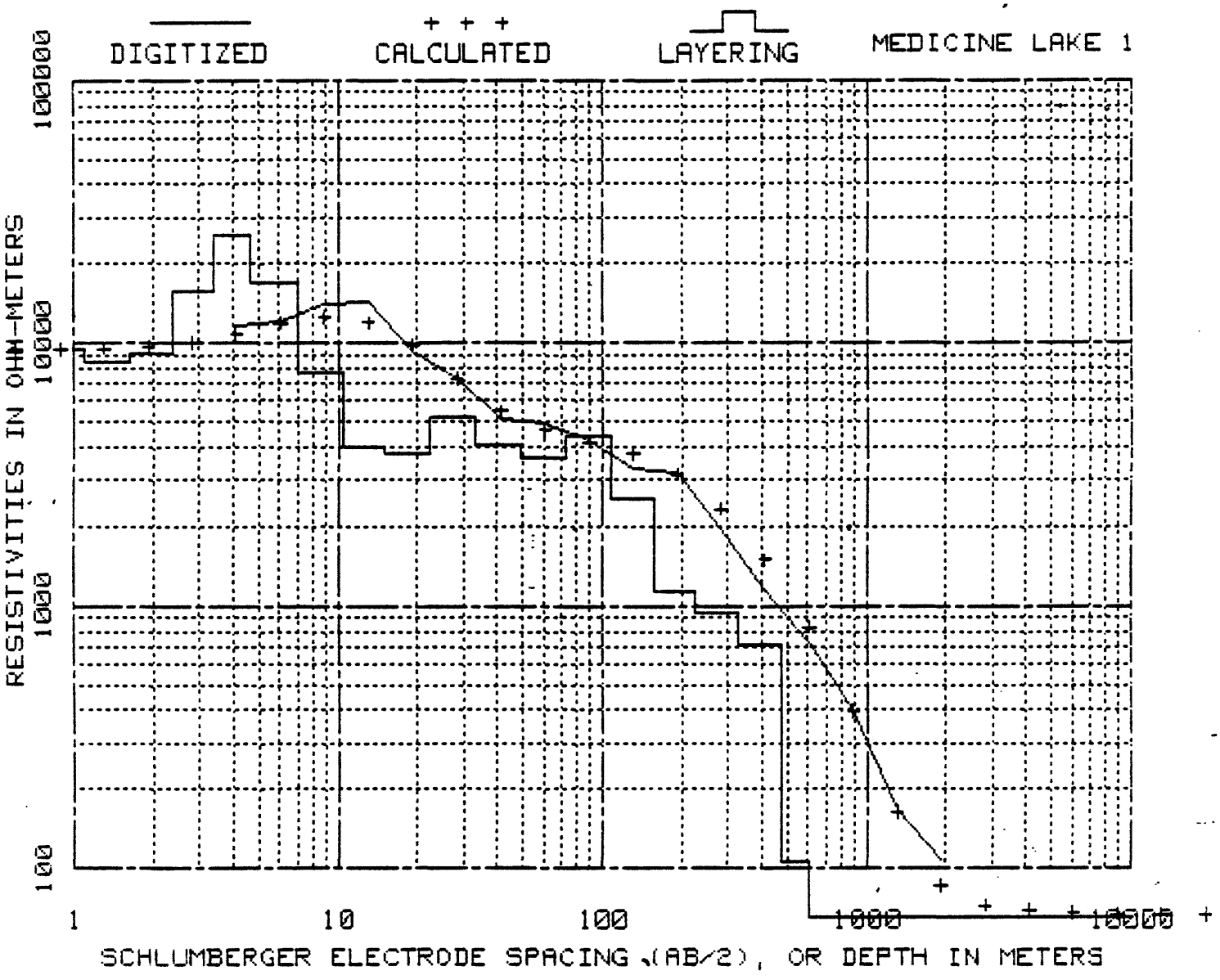
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 1
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 2

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	910.00
4.27	420.00
6.10	200.00
9.14	136.00
12.19	113.00
9.14	160.00
12.19	123.00
18.29	106.00
24.38	96.00
30.48	85.00
42.67	75.00
30.48	96.00
42.67	90.00
60.96	108.00
91.44	105.00
91.44	107.00
121.92	95.00
178.00	76.70
232.87	67.90
295.96	67.80
295.96	76.80
402.95	62.00
592.84	69.30
853.74	60.40
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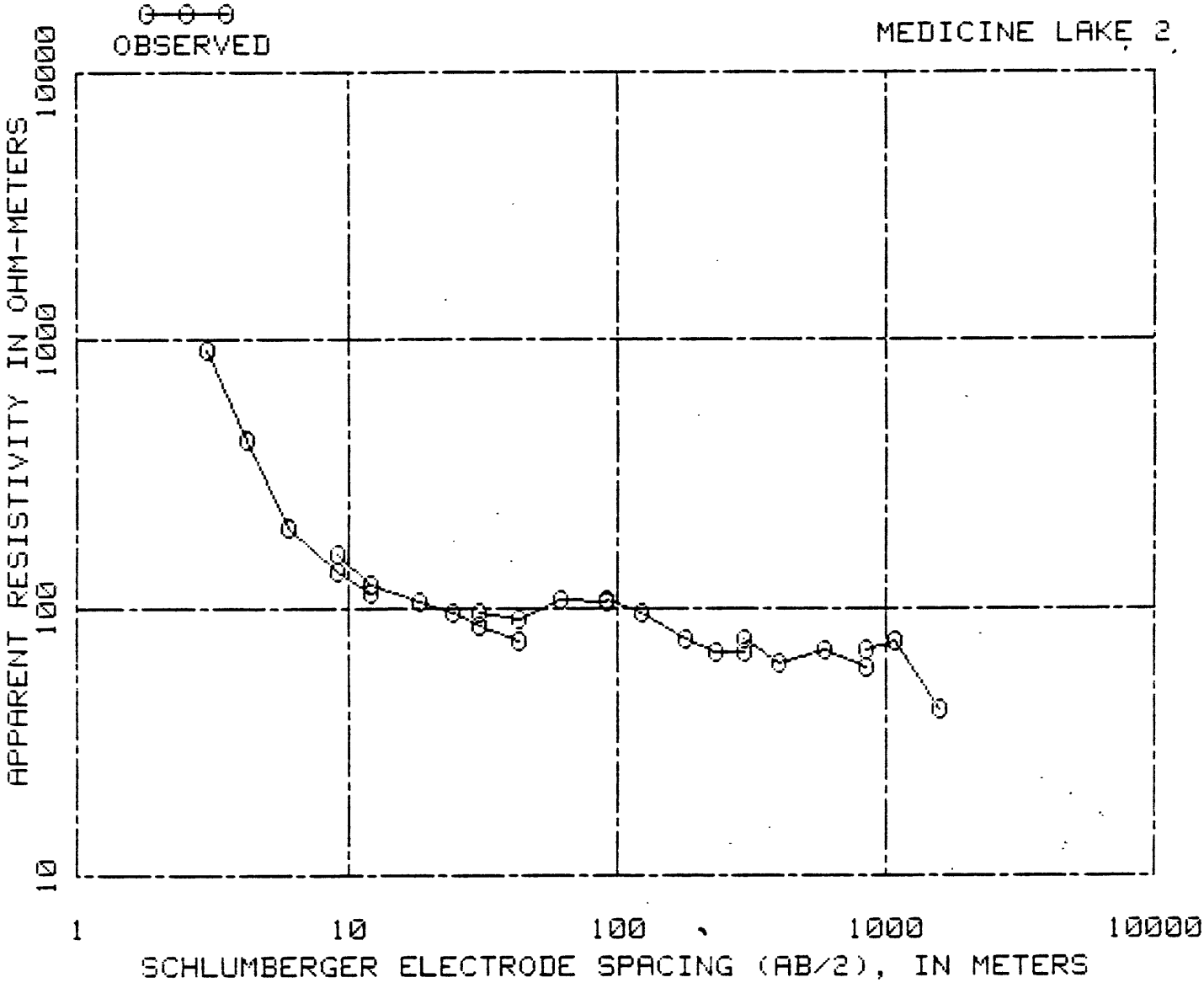
1583.44	42.00


OBSERVED
MEDICINE LAKE 2
APPARENT RESISTIVITY IN OHM-METERS
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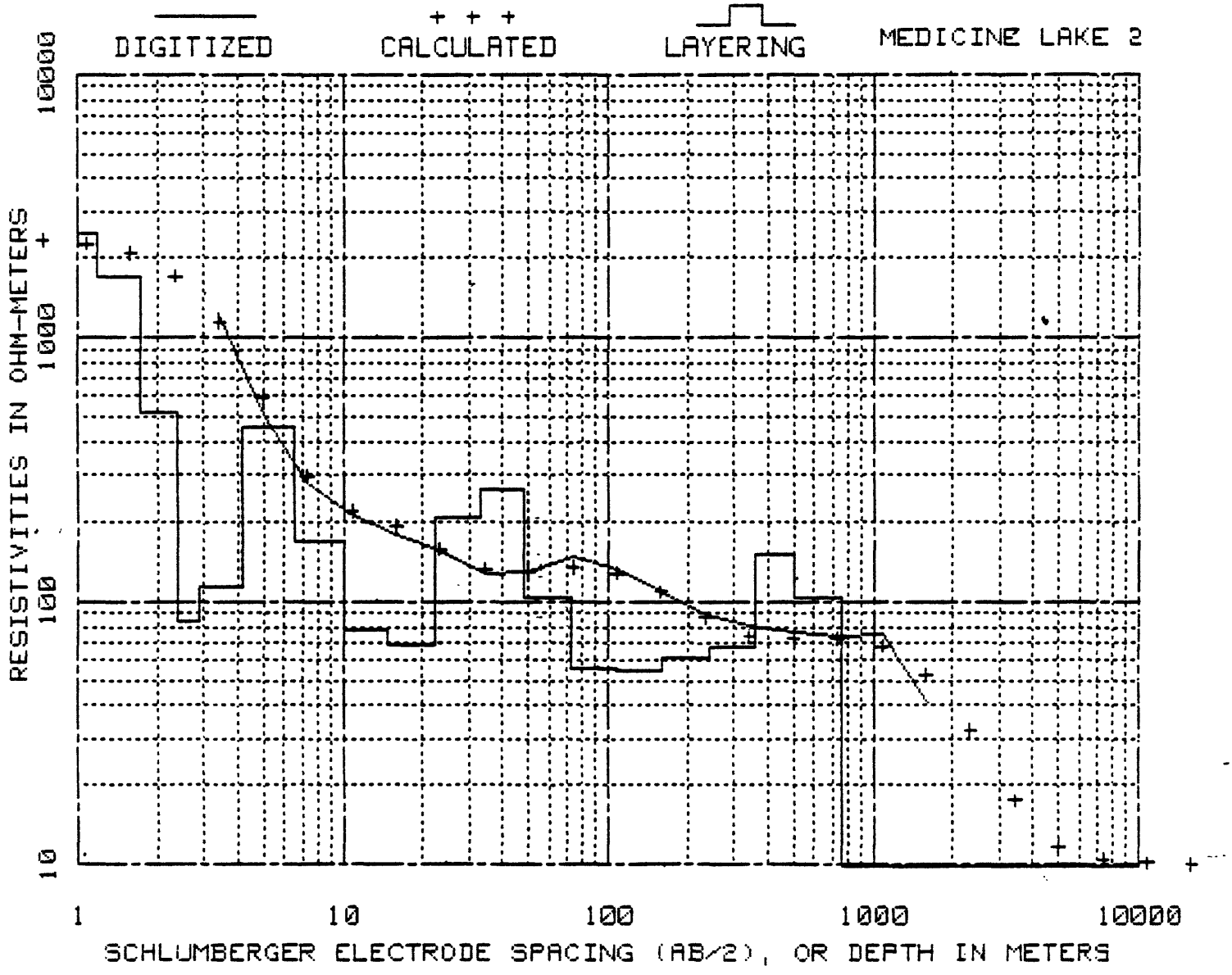
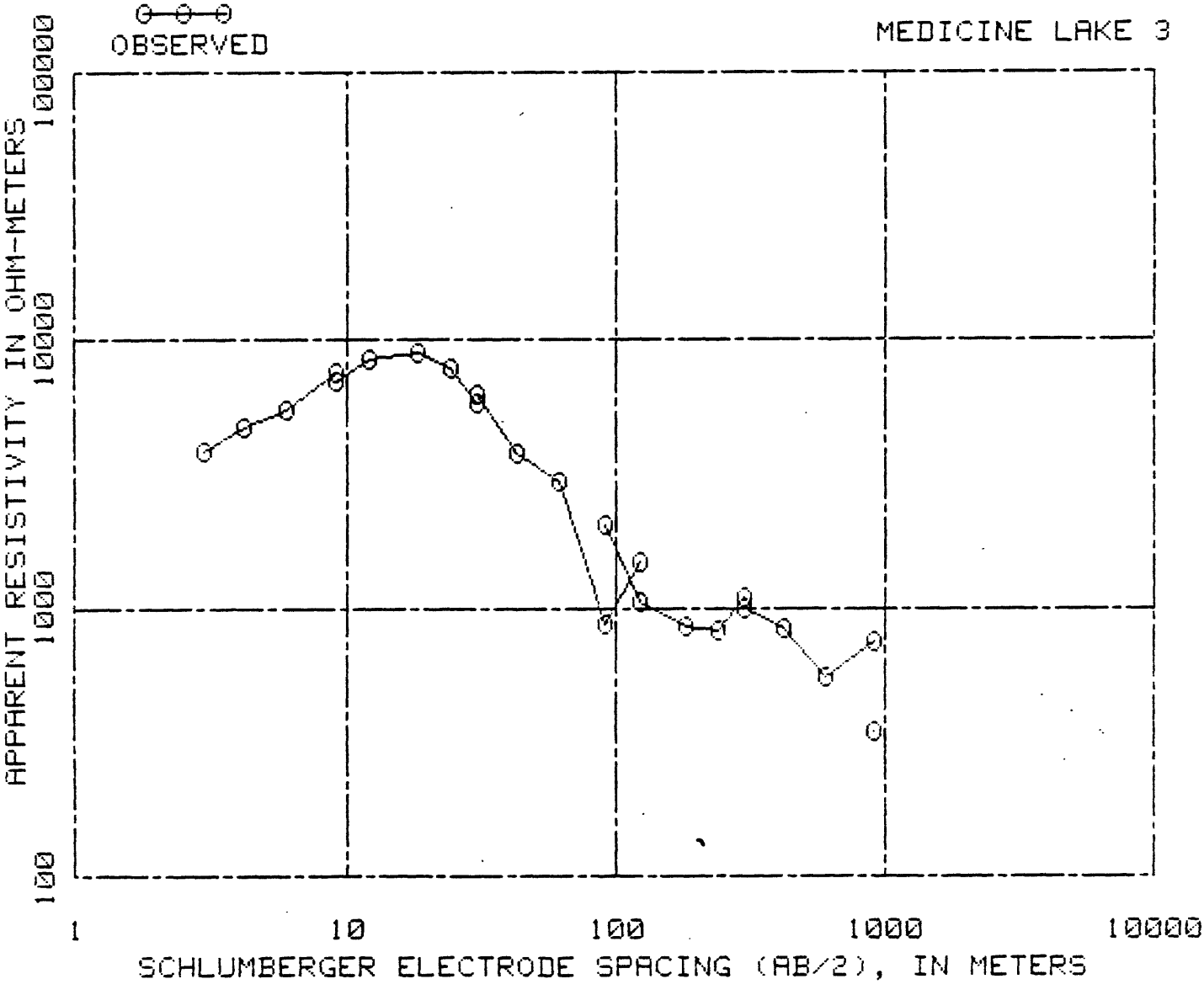
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 2
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 3

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	3850.00
4.27	4750.00
6.10	5550.00
9.14	7600.00
9.14	7000.00
12.19	8430.00
18.29	9050.00
24.38	7800.00
30.48	5830.00
30.48	6300.00
42.67	3800.00
60.96	2970.00
91.44	865.00
121.92	1470.00
91.44	2050.00
121.92	1050.00
182.88	850.00
243.84	826.00
304.80	1086.00
304.80	1000.00
426.72	840.00
609.60	558.00
914.40	749.00
914.40	345.00


OBSERVED
MEDICINE LAKE 3
APPARENT RESISTIVITY IN OHM-METERS
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10000
1000
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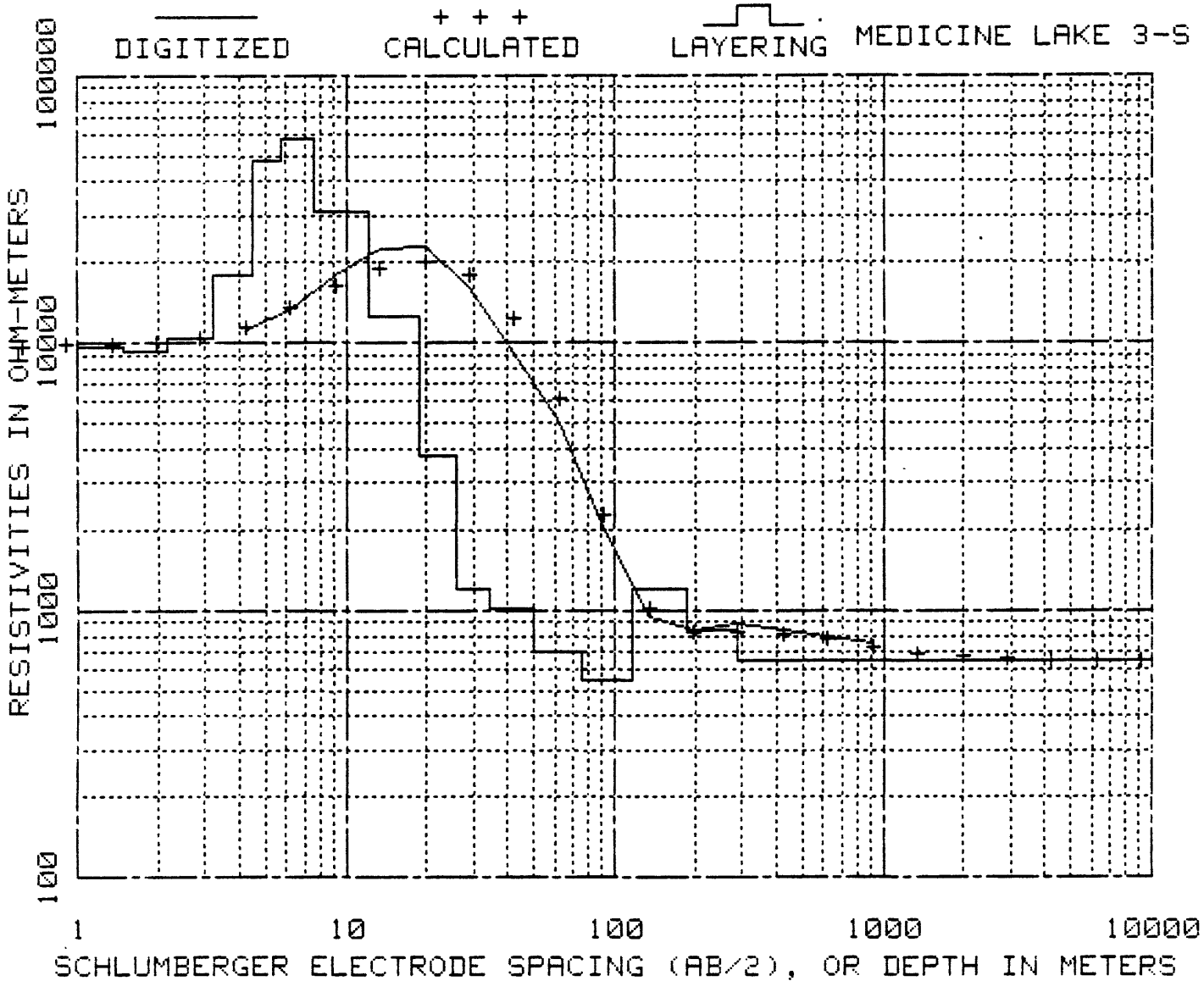
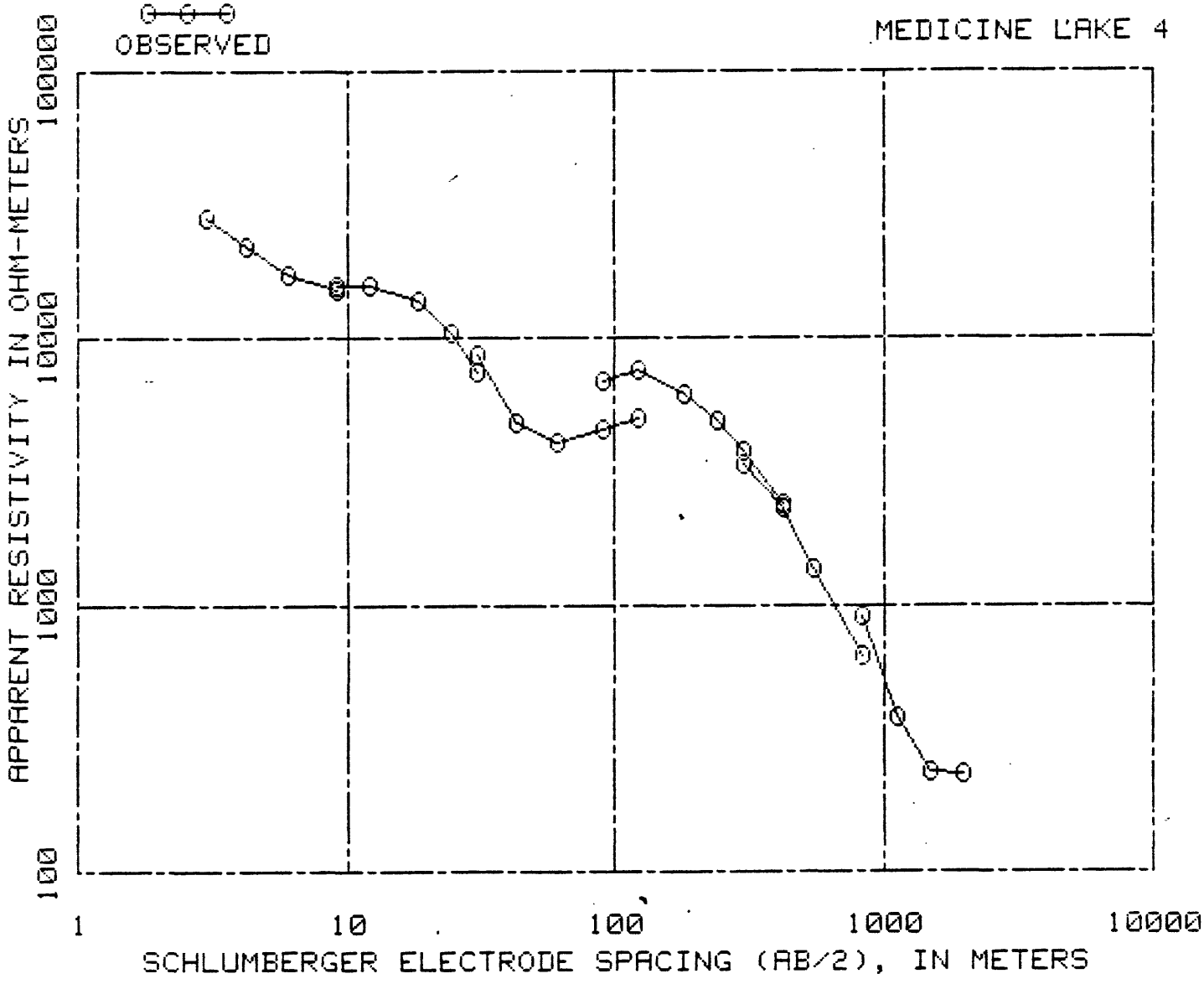
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 3-S
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 4

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	28000.00
4.27	22000.00
6.10	17200.00
9.14	15200.00
9.14	15800.00
12.19	15800.00
18.29	13900.00
24.38	10400.00
30.48	7450.00
30.48	8600.00
42.67	4800.00
60.96	4100.00
91.44	4600.00
121.92	5000.00
91.44	6850.00
121.92	7580.00
182.88	6150.00
243.84	4877.00
304.80	3802.00
426.72	2418.00
304.80	3400.00
426.72	2300.00
550.77	1361.00
834.54	650.00
834.54	911.00
1130.50	385.00
1491.39	238.00
2003.45	234.00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MEDICINE LAKE 4
APPARENT RESISTIVITY IN OHM-METERS
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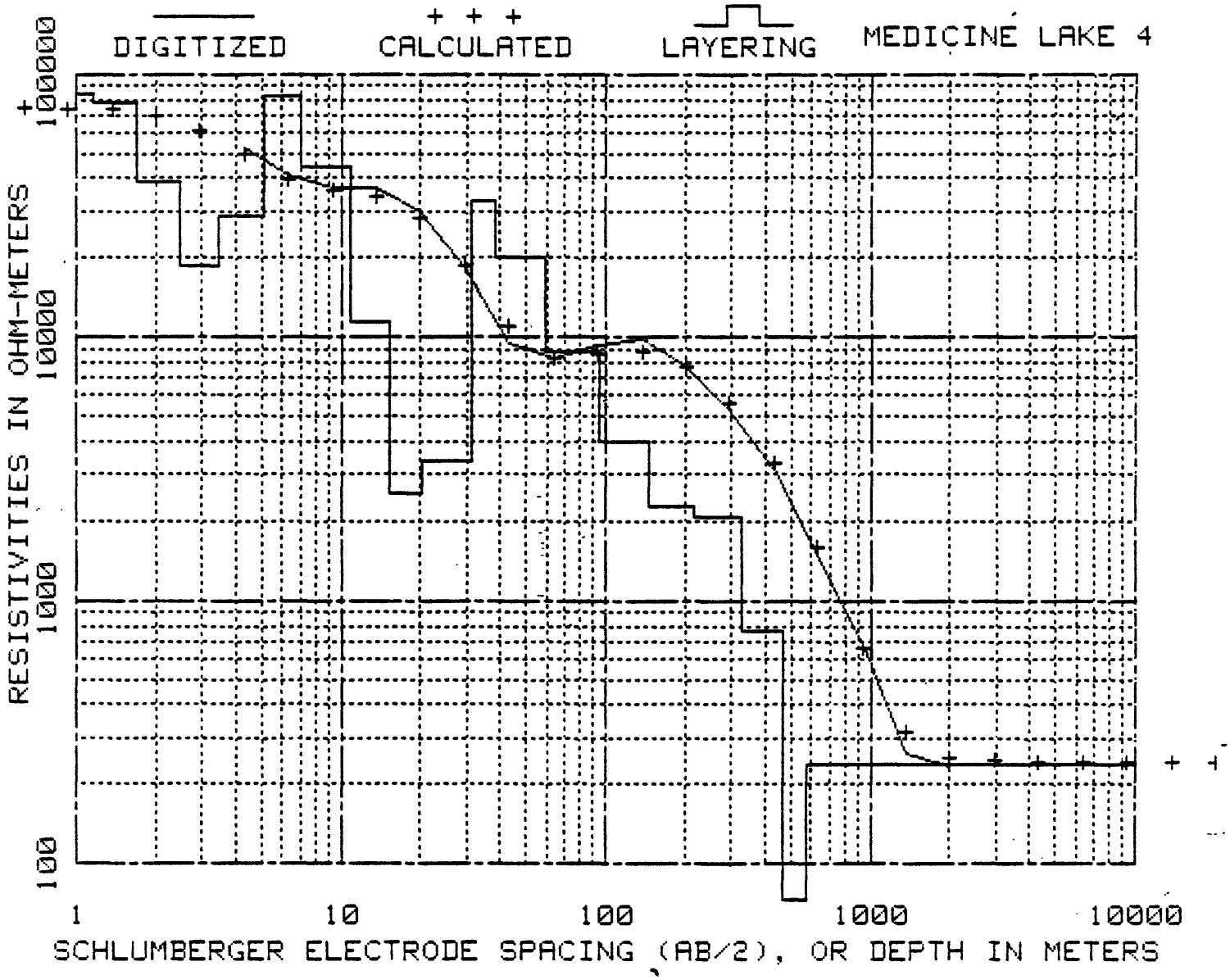
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 4
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 5

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	20240.00
4.27	21160.00
6.10	17812.00
9.14	14500.00
9.14	14500.00
12.19	11500.00
18.29	5964.00
24.38	5080.00
30.48	3975.00
42.67	3666.00
30.48	4815.00
42.67	3922.00
60.96	4552.00
91.44	4708.00
91.44	4255.00
121.92	4360.00
182.88	3937.00
243.84	3048.00
285.60	2535.00
285.60	2672.00
374.60	2166.00
580.34	1420.00
833.02	899.00
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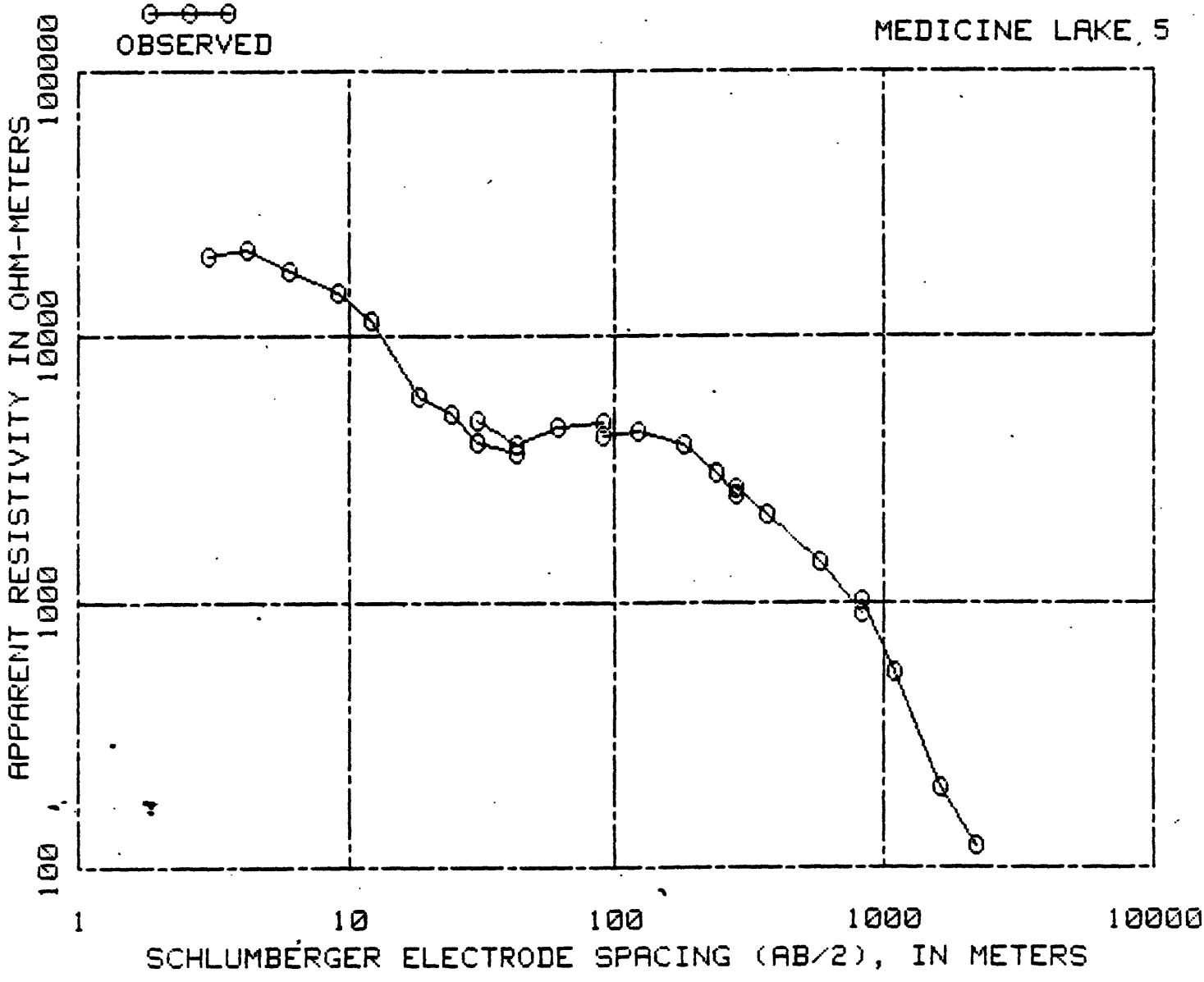
1655.06	202.00
2211.93	122.00


OBSERVED
MEDICINE LAKE 5
APPARENT RESISTIVITY IN OHM-METERS
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100
1
10
100
1000
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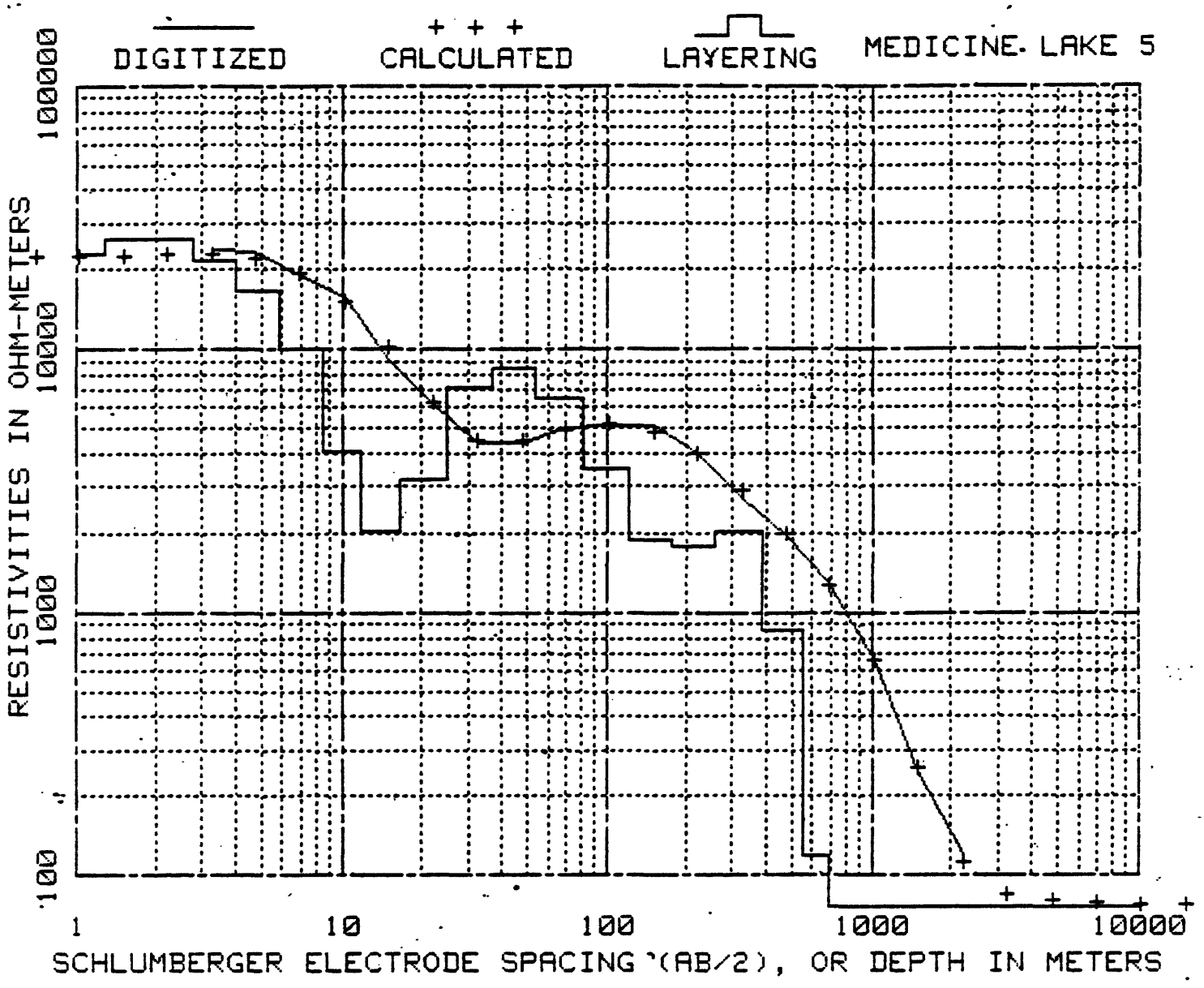
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS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CALCULATED
LAYERING
MEDICINE LAKE 5
RESISTIVITIES IN OHM-METERS
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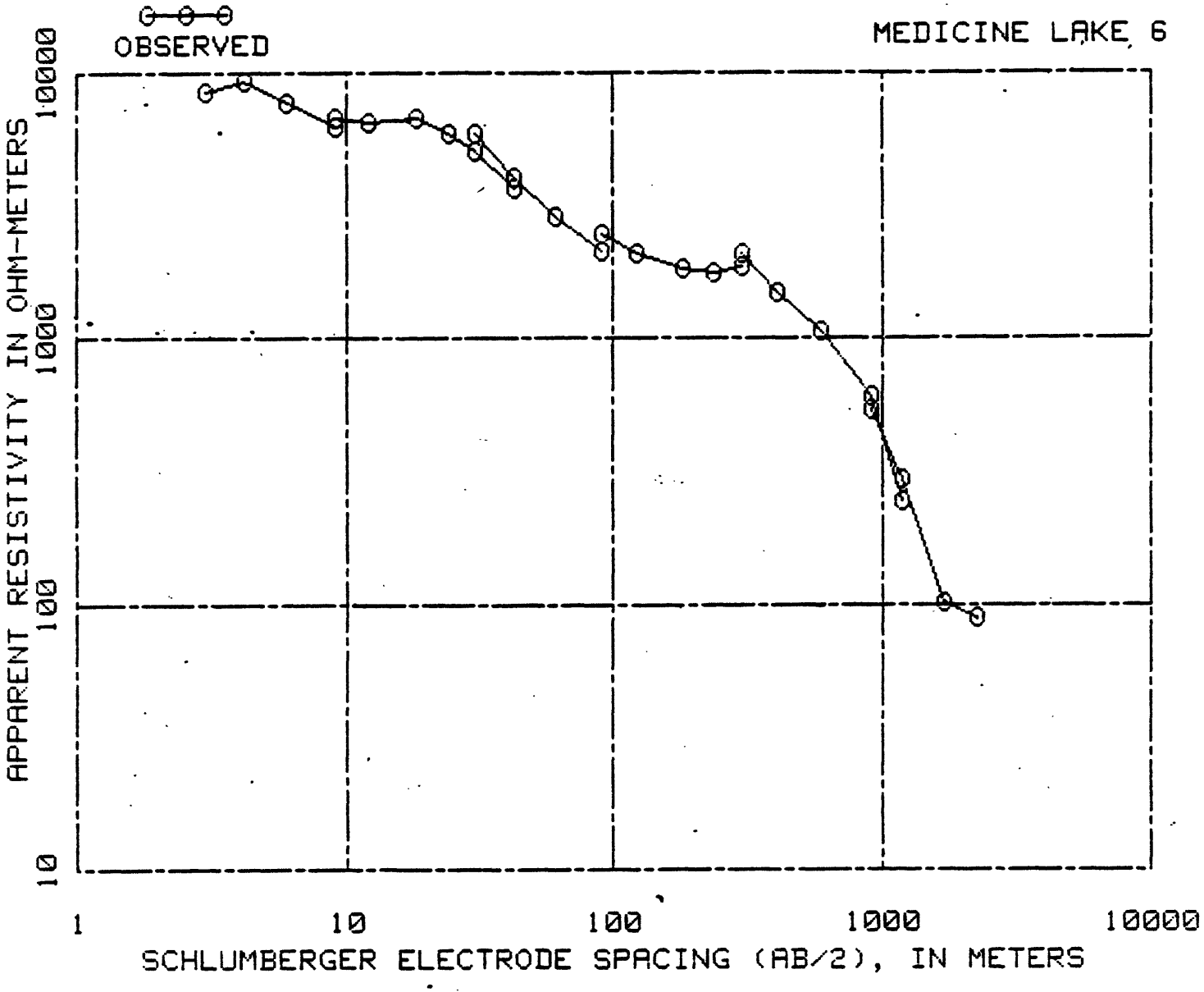
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 6

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	8400.00
4.27	9200.00
6.10	7700.00
9.14	6250.00
9.14	6700.00
12.19	6500.00
18.29	6700.00
24.38	5900.00
30.48	5100.00
42.67	3646.00
30.48	5900.00
42.67	4050.00
60.96	2900.00
91.44	2150.00
91.44	2470.00
121.92	2100.00
182.88	1850.00
238.66	1755.00
304.80	1853.00
304.80	2108.00
405.69	1488.00
596.80	1073.00
911.35	601.00
1197.56	244.00
911.35	542.00
1197.56	298.00
1713.59	101.00
2271.67	88.70


OBSERVED
MEDICINE LAKE 6
APPARENT RESISTIVITY IN OHM-METERS
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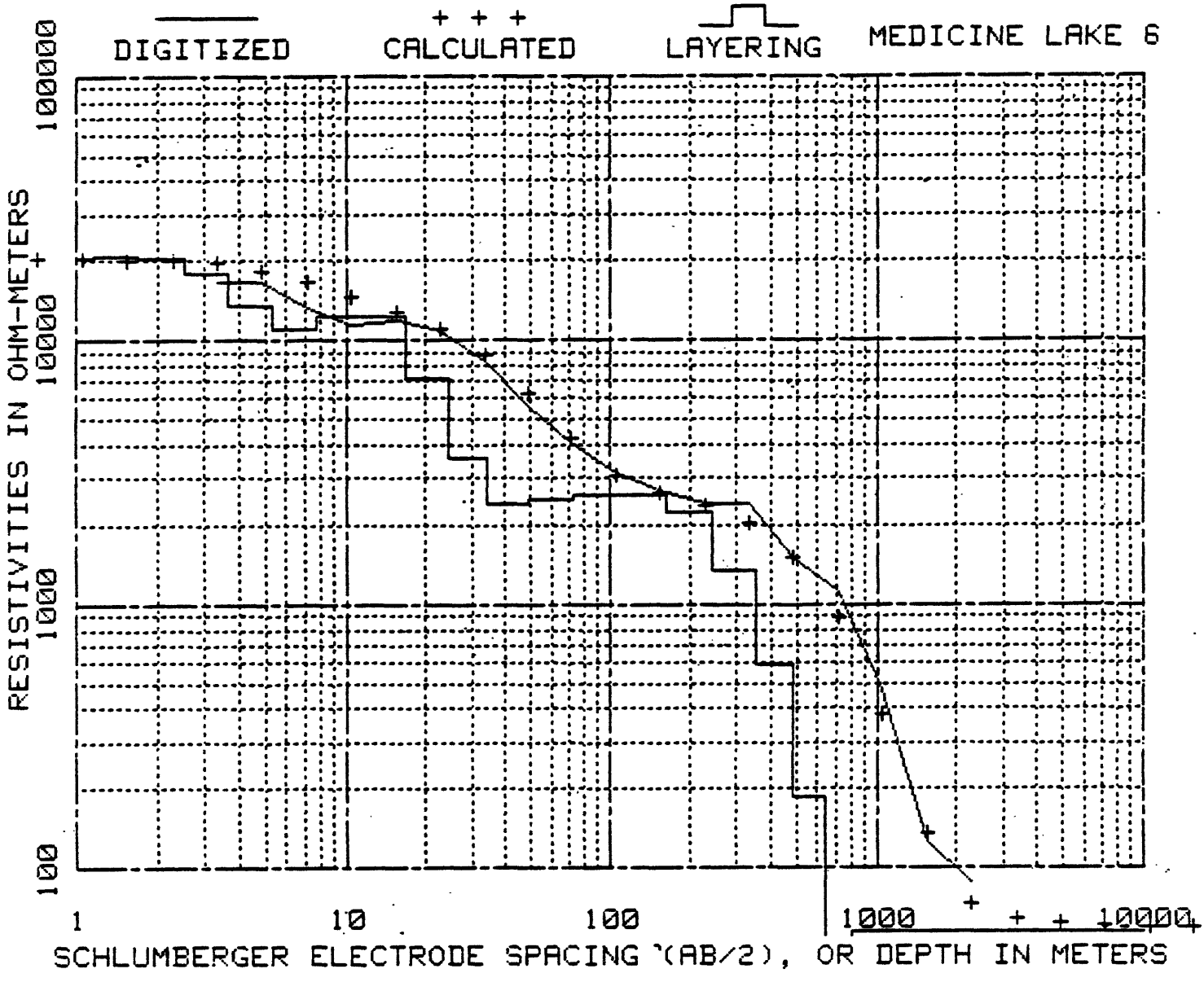
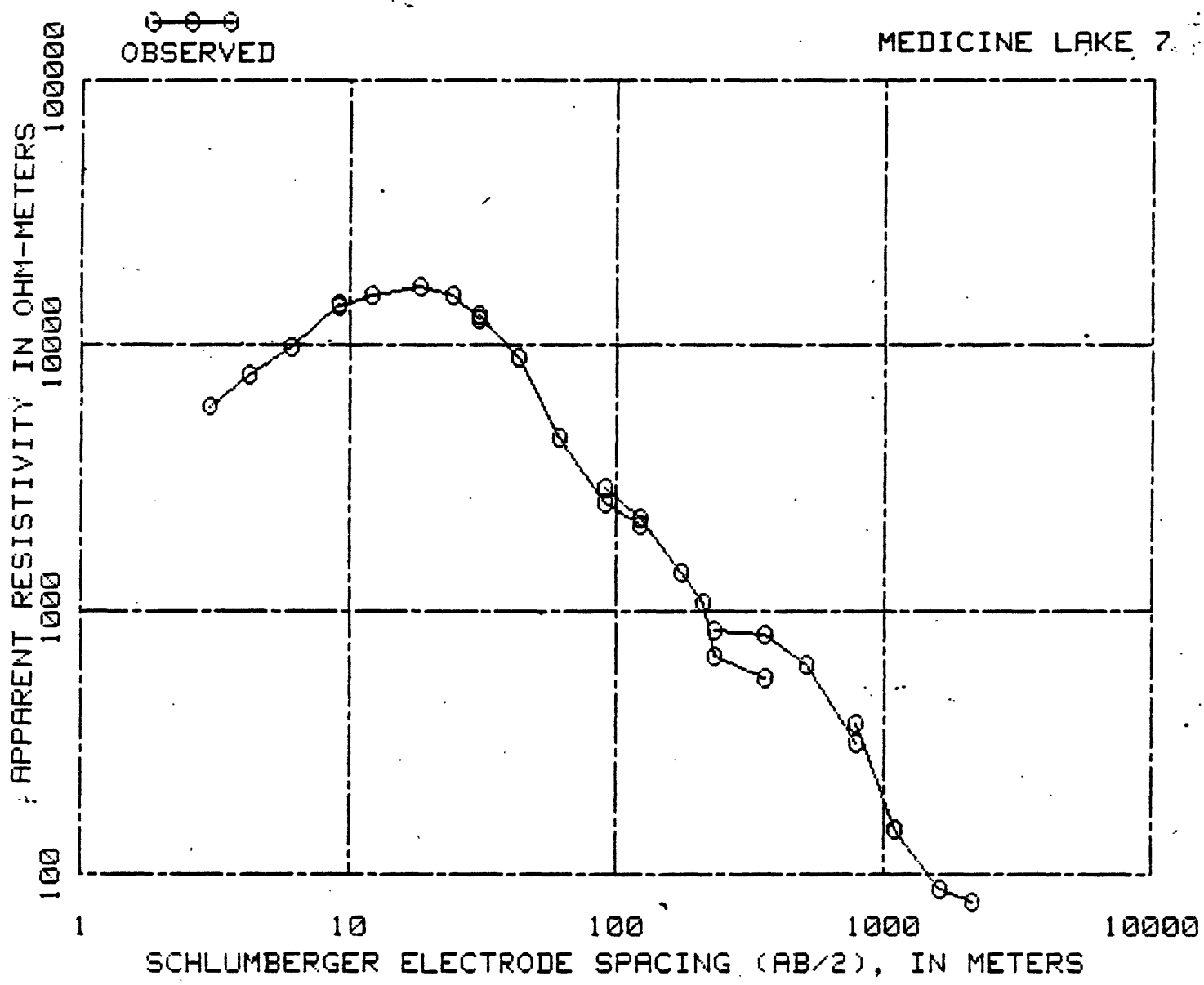
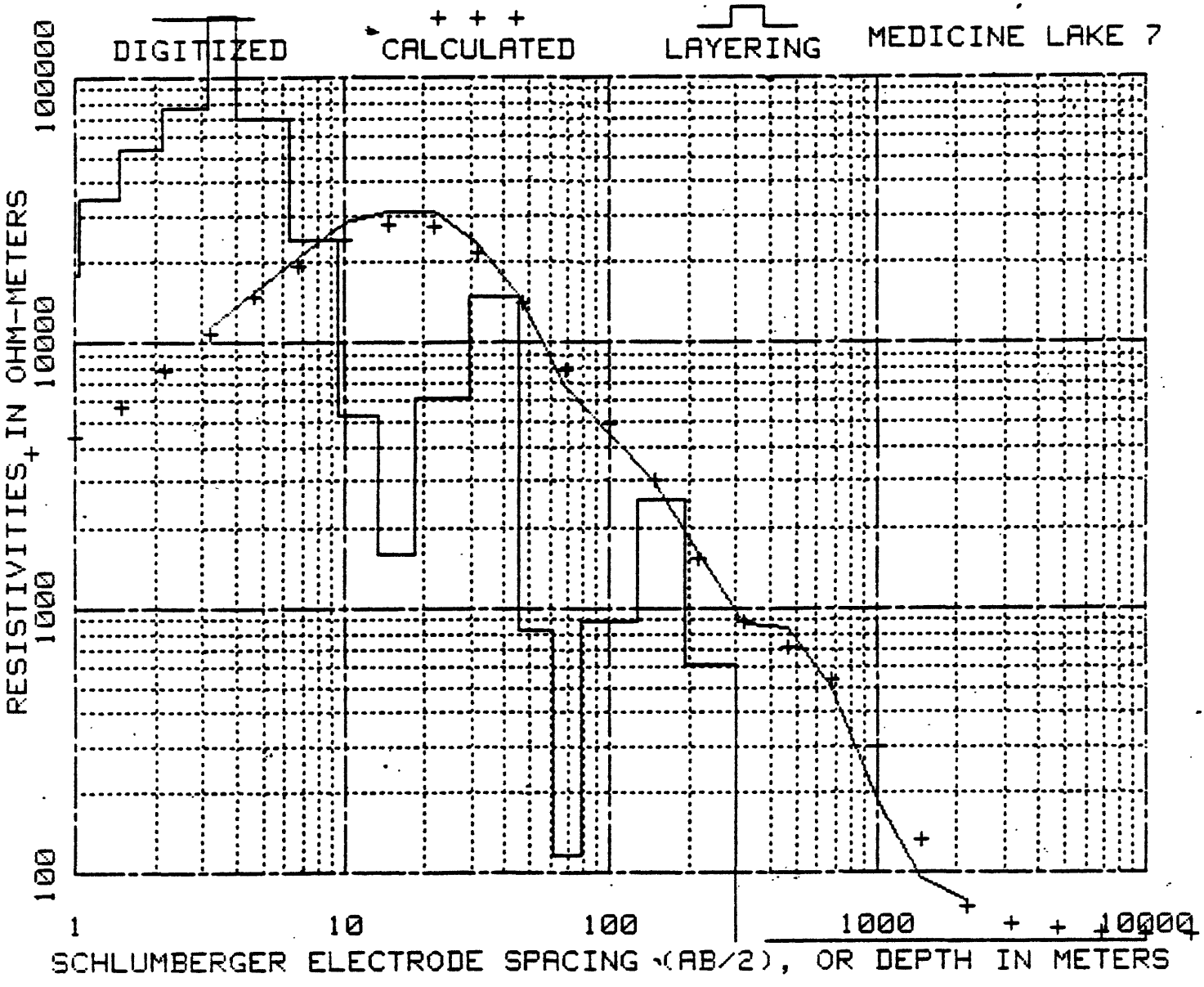
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 6
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 7.

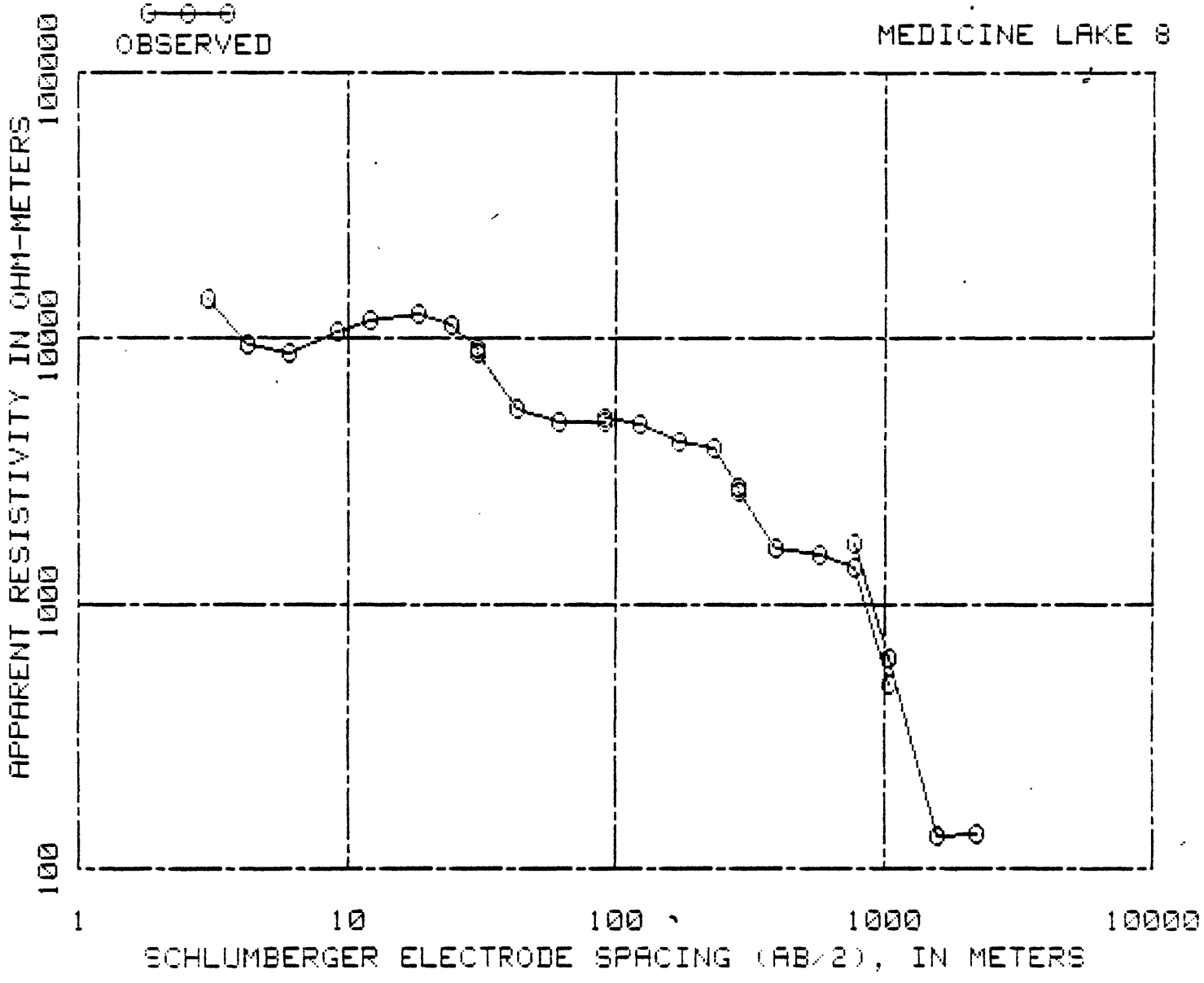
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	5880.00
4.27	7700.00
6.10	9950.00
9.14	14300.00
9.14	14200.00
12.19	15500.00
18.29	16800.00
24.38	15400.00
30.48	12700.00
30.48	13000.00
42.67	9000.00
60.96	4500.00
91.44	2550.00
121.92	2100.00
91.44	2900.00
121.92	2250.00
175.56	1393.00
210.62	1073.00
231.65	670.00
359.36	556.00
231.65	836.00
359.36	812.00
514.81	624.00
785.47	314.00
785.47	374.00
1099.41	148.00
1652.32	88.00
2169.57	79.00

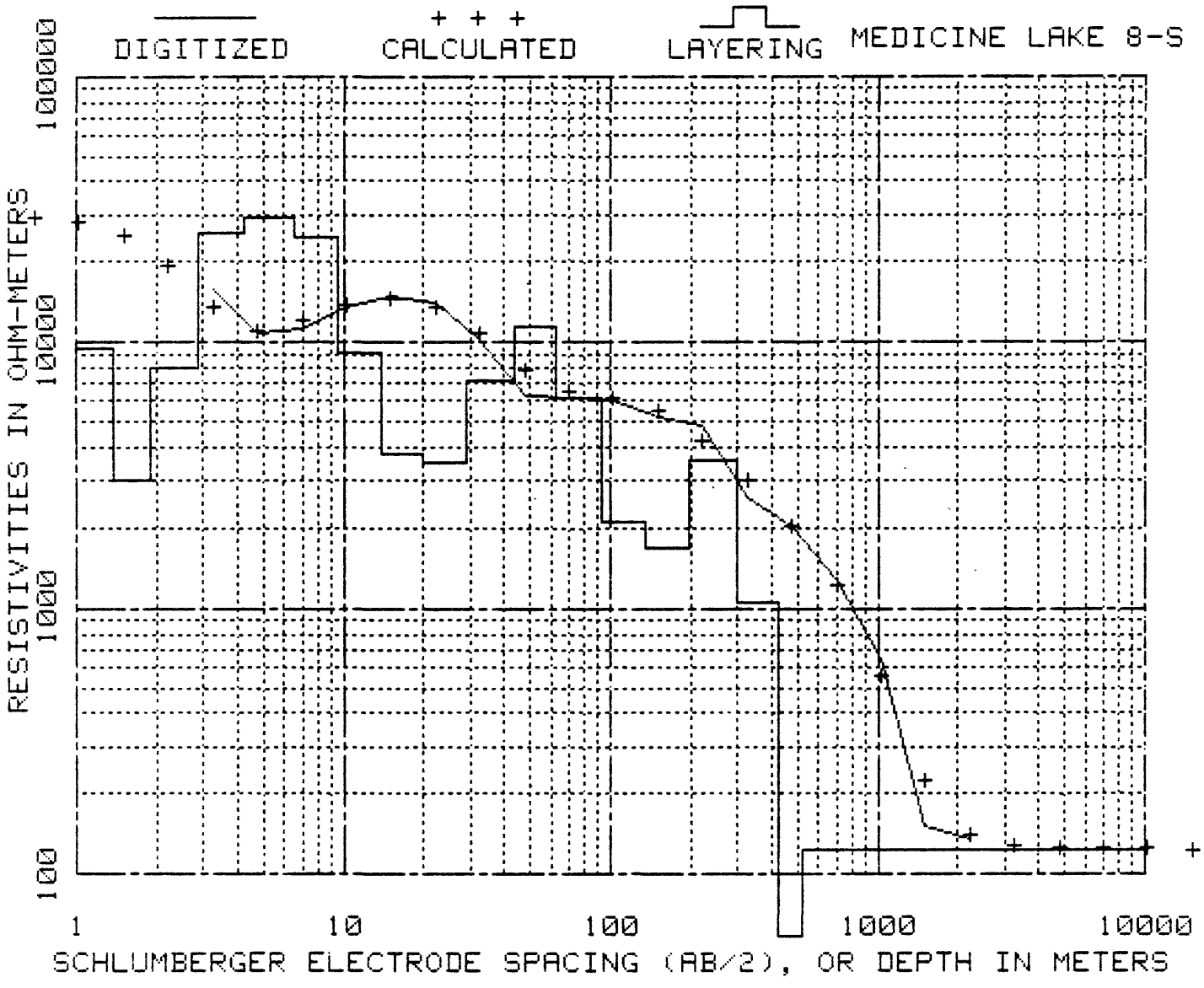

OBSERVED
MEDICINE LAKE 7
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 7
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 8

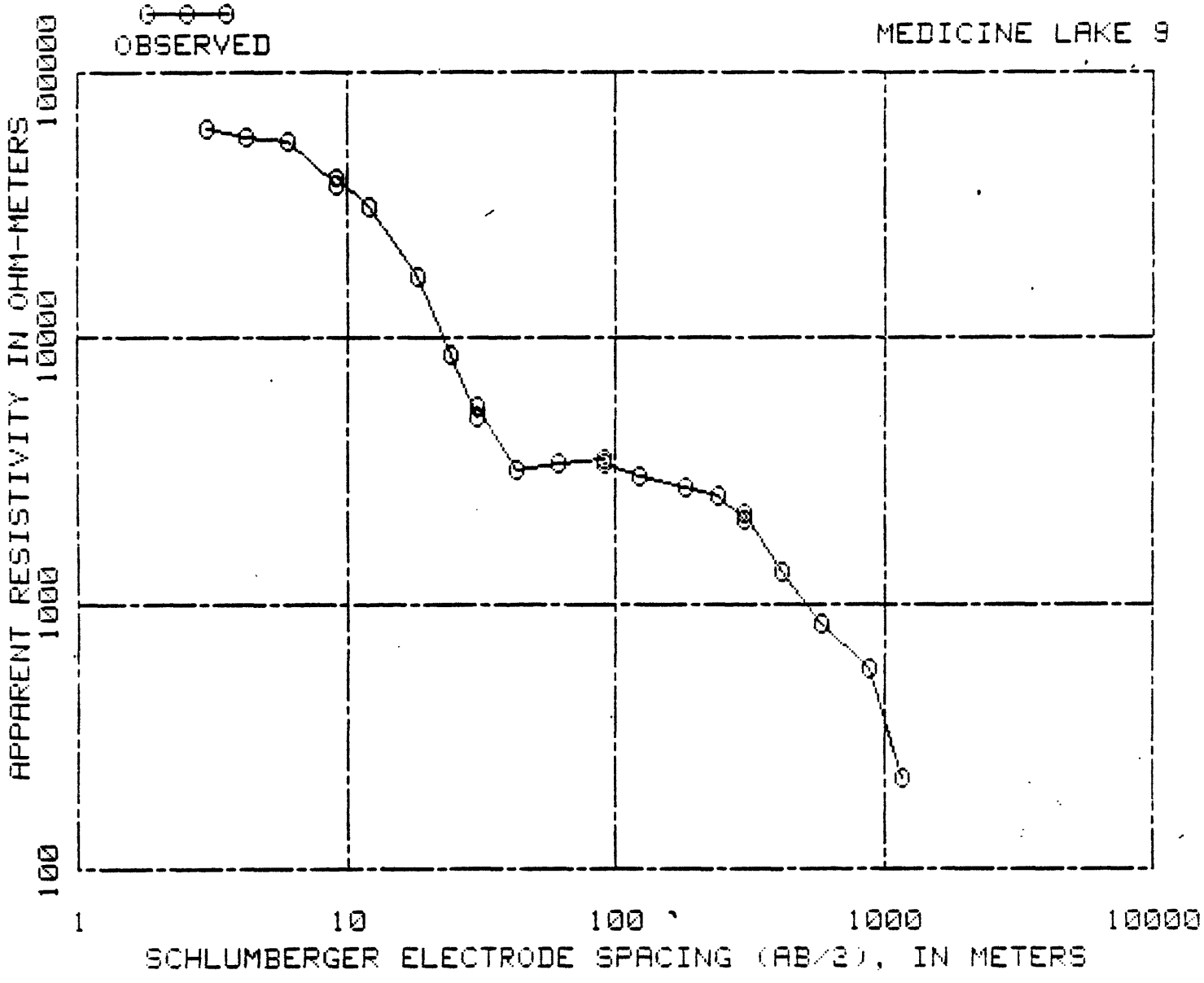
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	14100.00
4.27	9530.00
6.10	8821.00
9.14	10700.00
9.14	10700.00
12.19	11720.00
18.29	12336.00
24.38	11180.00
30.48	9215.00
30.48	8800.00
42.67	5367.00
60.96	4823.00
91.44	4800.00
91.44	5000.00
121.92	4700.00
171.30	4080.00
231.04	3827.00
284.68	2734.00
284.68	2651.00
391.67	1623.00
571.50	1533.00
781.20	1371.00
1041.50	498.00
781.20	1700.00
1041.50	626.00
1594.71	132.00
2213.76	135.00

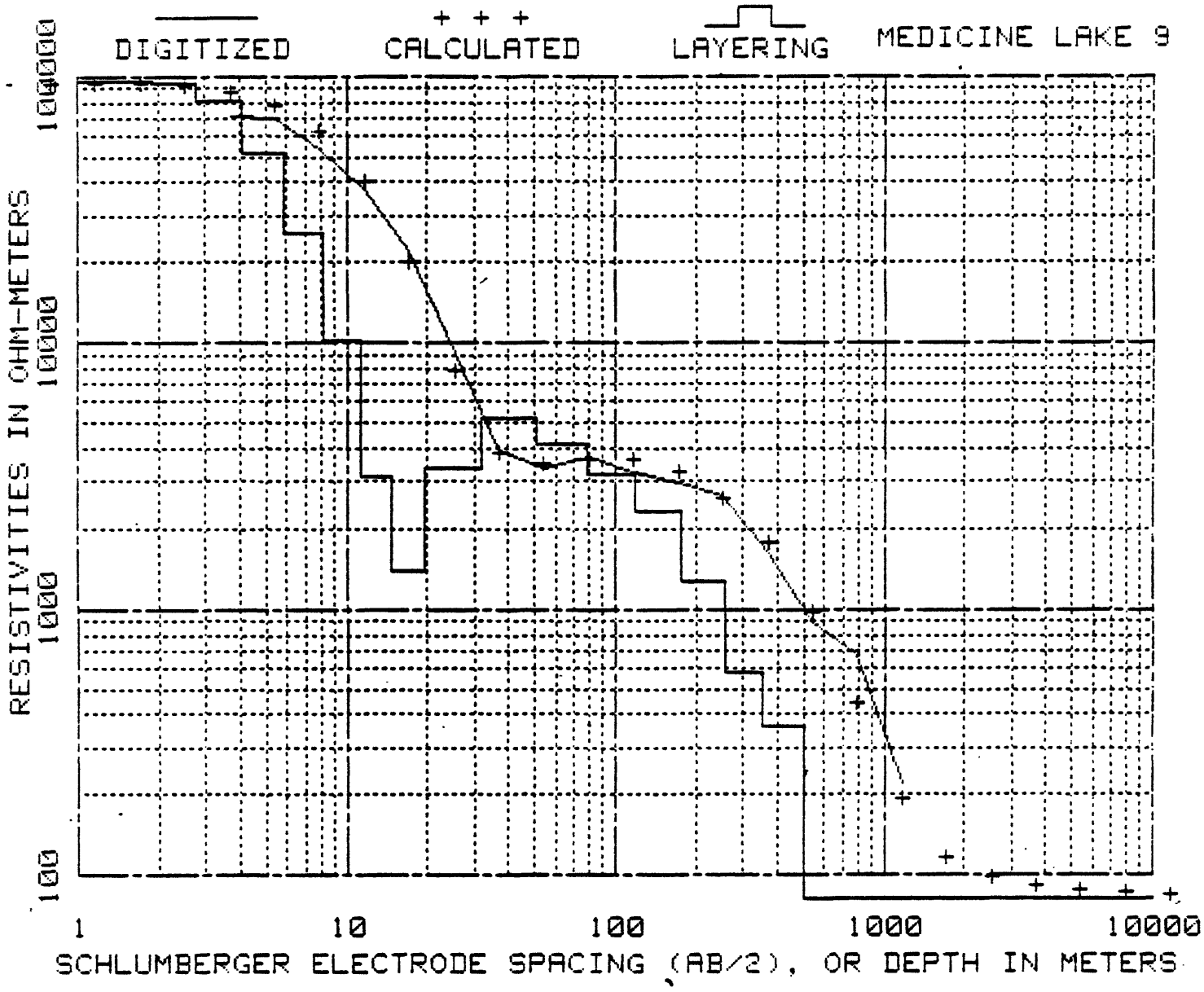

OBSERVED
MEDICINE LAKE 8
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 8-S
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 9

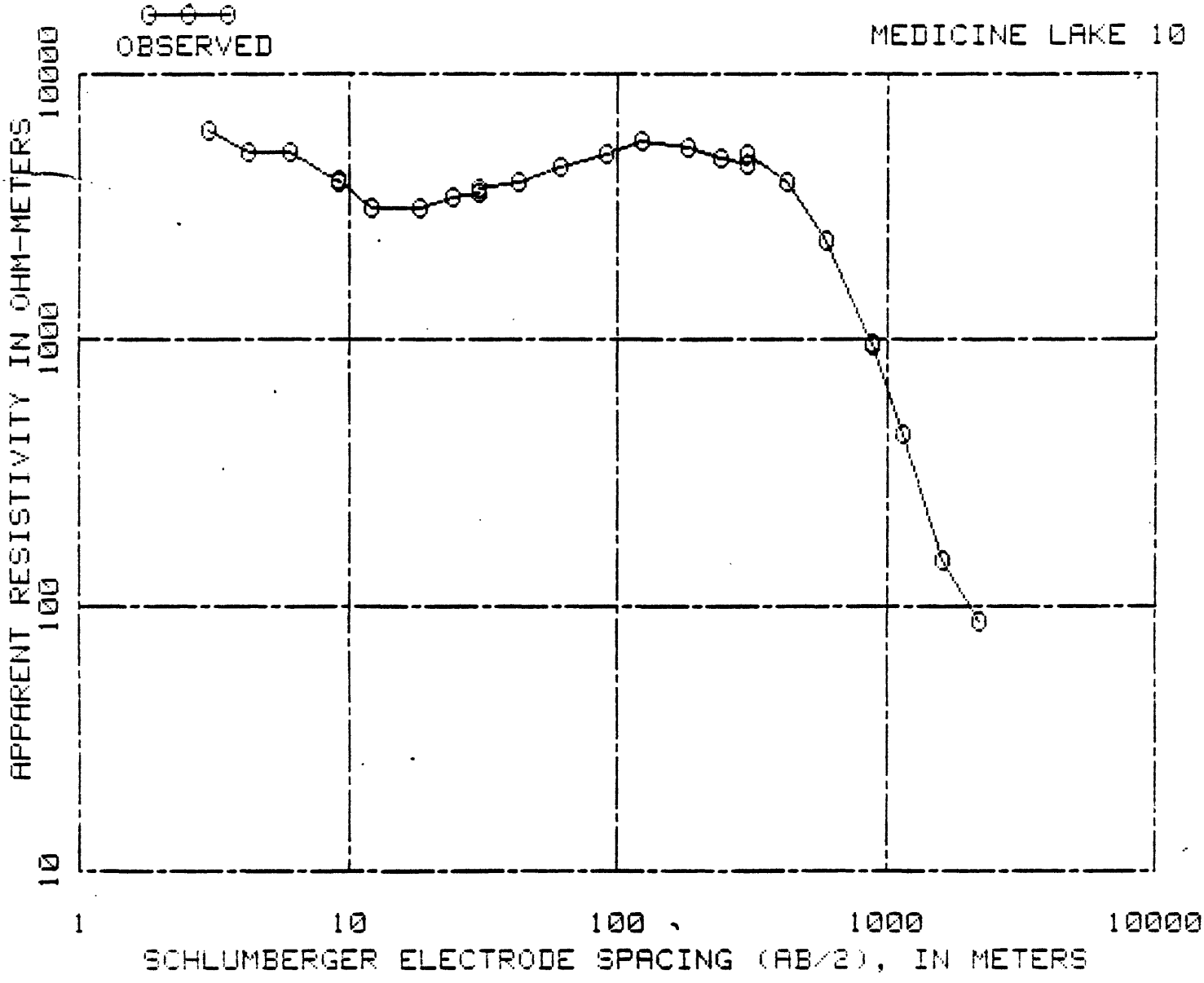
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	61010.00
4.27	57040.00
6.10	55000.00
9.14	37450.00
9.14	40000.00
12.19	31000.00
18.29	16860.00
24.38	8700.00
30.48	5000.00
30.48	5500.00
42.67	3200.00
60.96	3400.00
91.44	3477.00
91.44	3400.00
121.92	3000.00
182.88	2760.00
243.84	2540.00
304.80	2059.00
304.80	2200.00
413.61	1322.00
585.22	834.00
877.21	569.00
1168.30	220.00

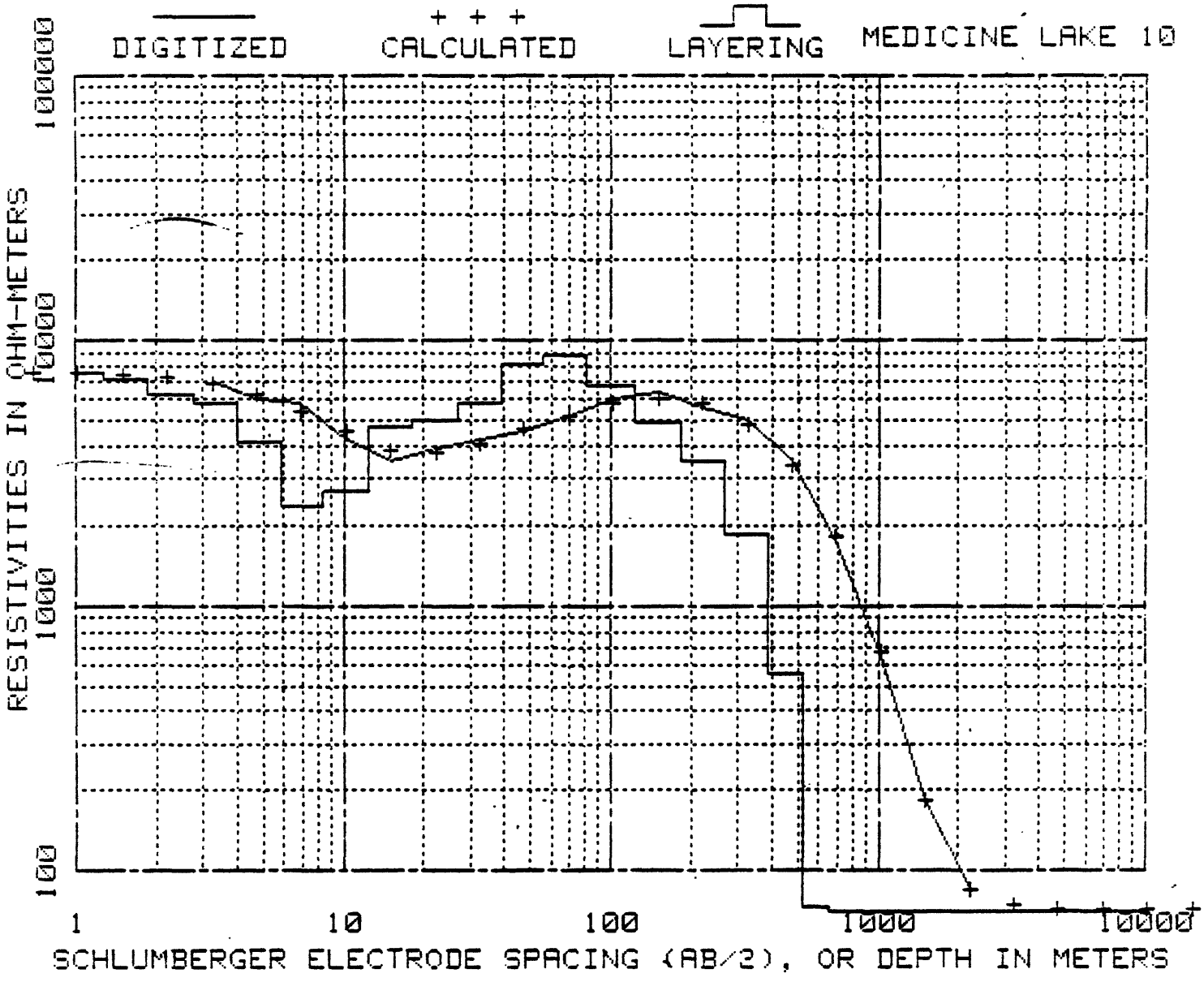

OBSERVED
MEDICINE LAKE 9
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 9
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 10

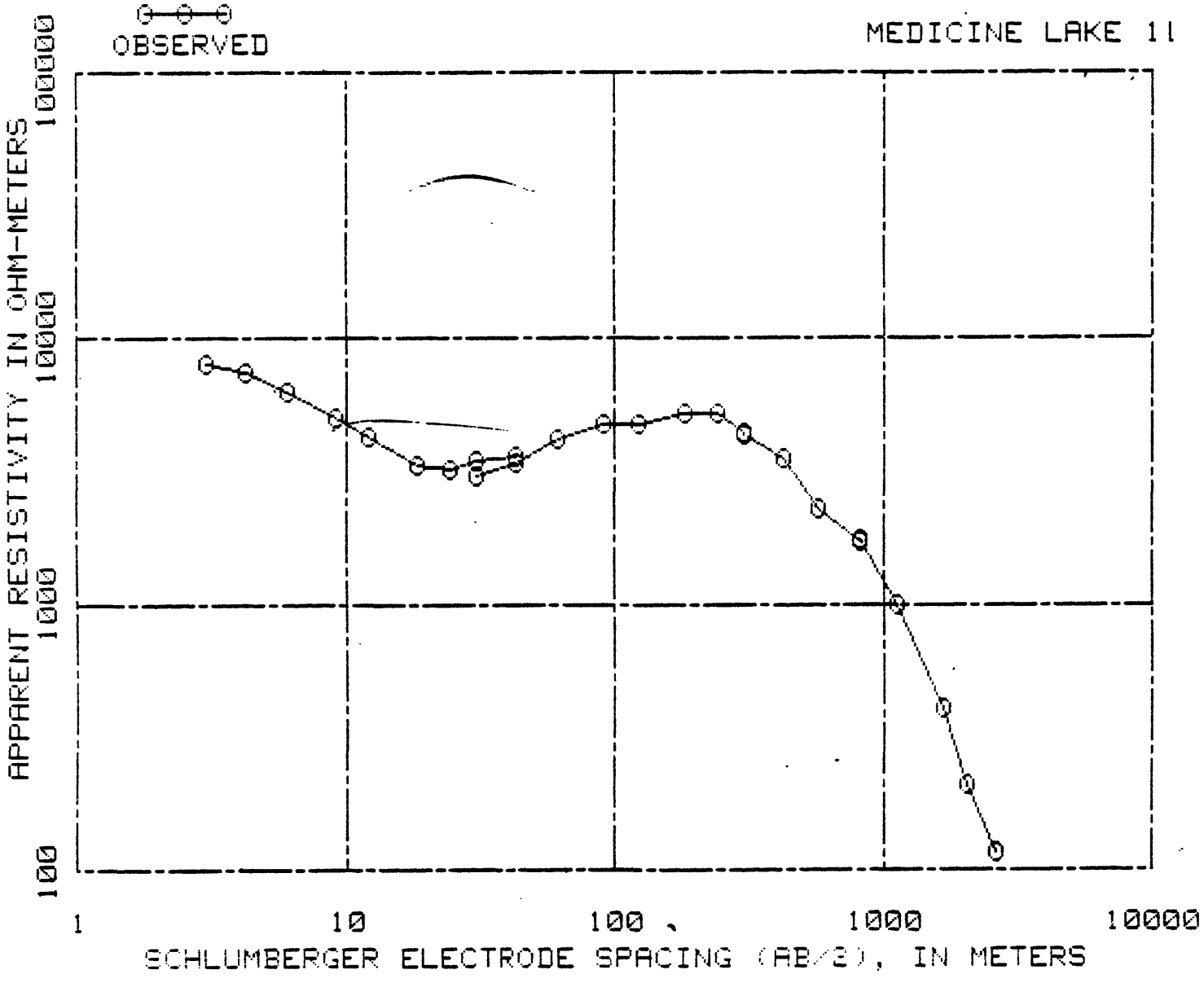
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	6150.00
4.27	5100.00
6.10	5067.00
9.14	3920.00
9.14	3975.00
12.19	3110.00
18.29	3100.00
24.38	3400.00
30.48	3520.00
30.48	3650.00
42.67	3900.00
60.96	4400.00
91.44	5000.00
91.44	5000.00
121.92	5600.00
182.88	5300.00
243.84	4800.00
304.80	4500.00
304.80	5000.00
421.23	3920.00
599.54	2339.00
883.92	951.00
883.92	976.00
1162.20	439.00
1614.83	149.00
2206.75	86.60

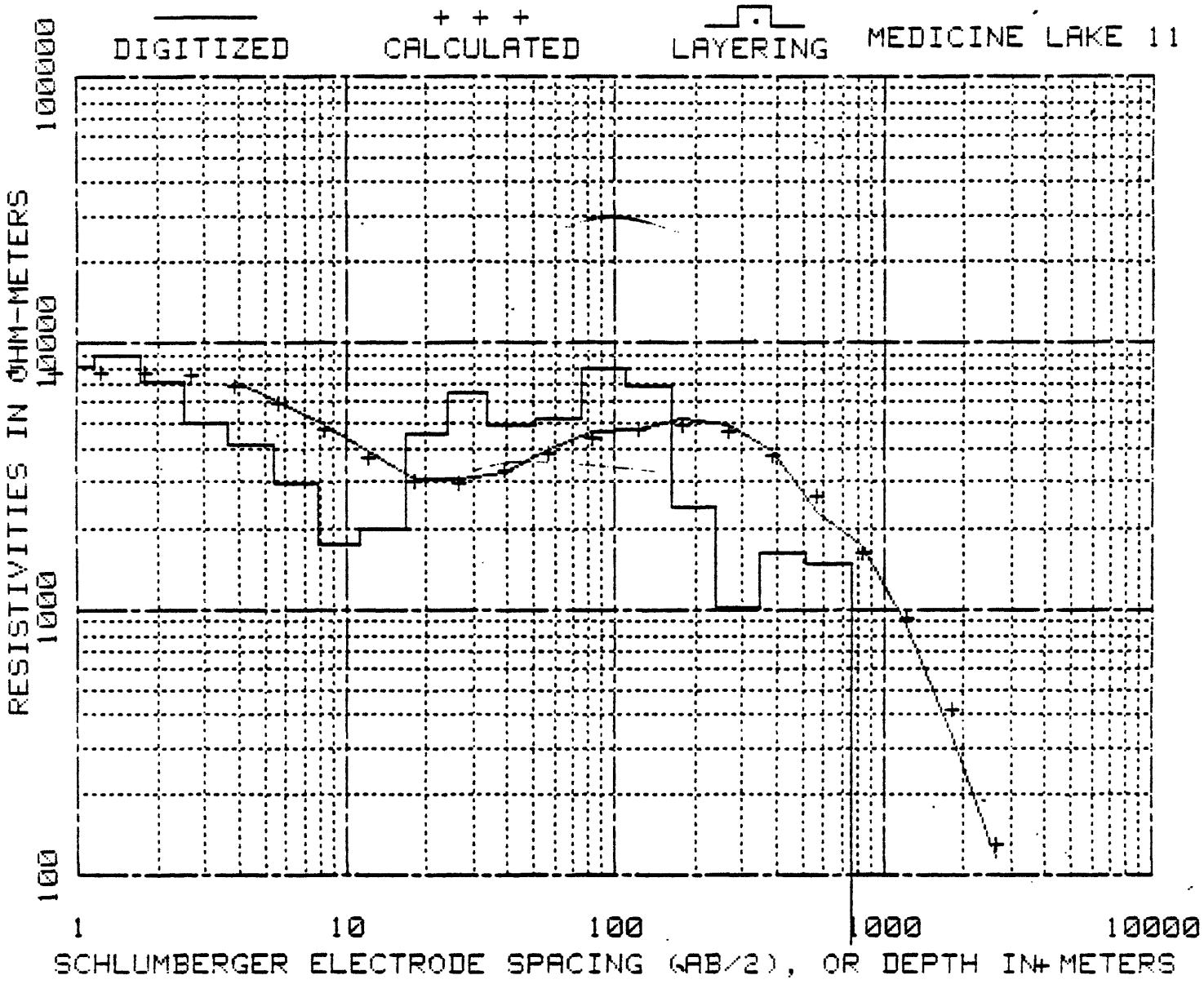

OBSERVED
MEDICINE LAKE 10
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 10
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 11

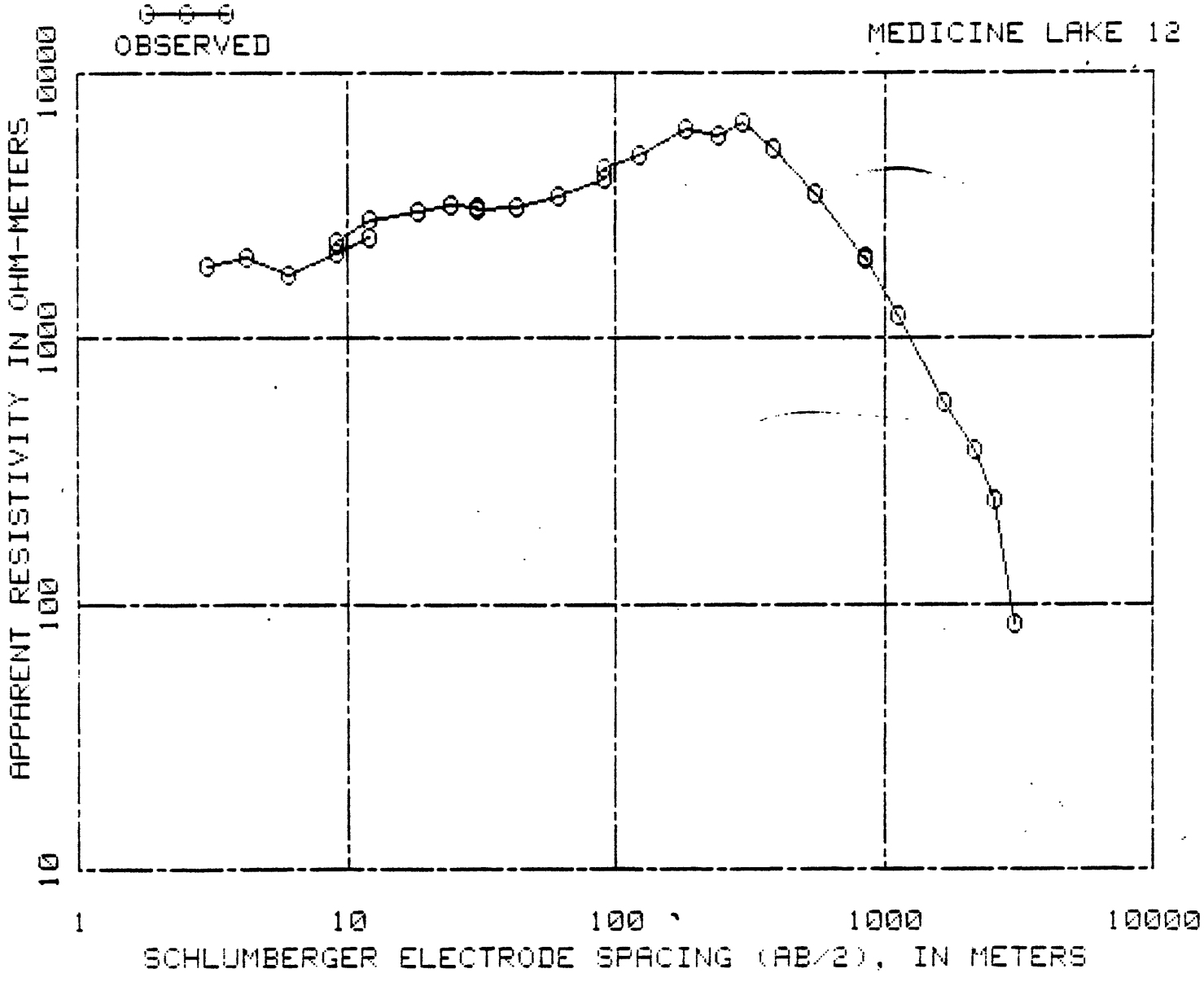
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	8070.00
4.27	7500.00
6.10	6300.00
9.14	5000.00
9.14	5000.00
12.19	4200.00
18.29	3300.00
24.38	3220.00
30.48	3420.00
42.67	3600.00
30.48	3020.00
42.67	3350.00
60.96	4150.00
91.44	4700.00
91.44	4700.00
121.92	4750.00
182.88	5230.00
243.84	5200.00
304.80	4400.00
304.80	4300.00
426.72	3500.00
572.72	2255.00
822.96	1709.00
822.96	1750.00
1136.29	1001.00
1691.64	407.00
2074.47	211.00
2637.74	117.00

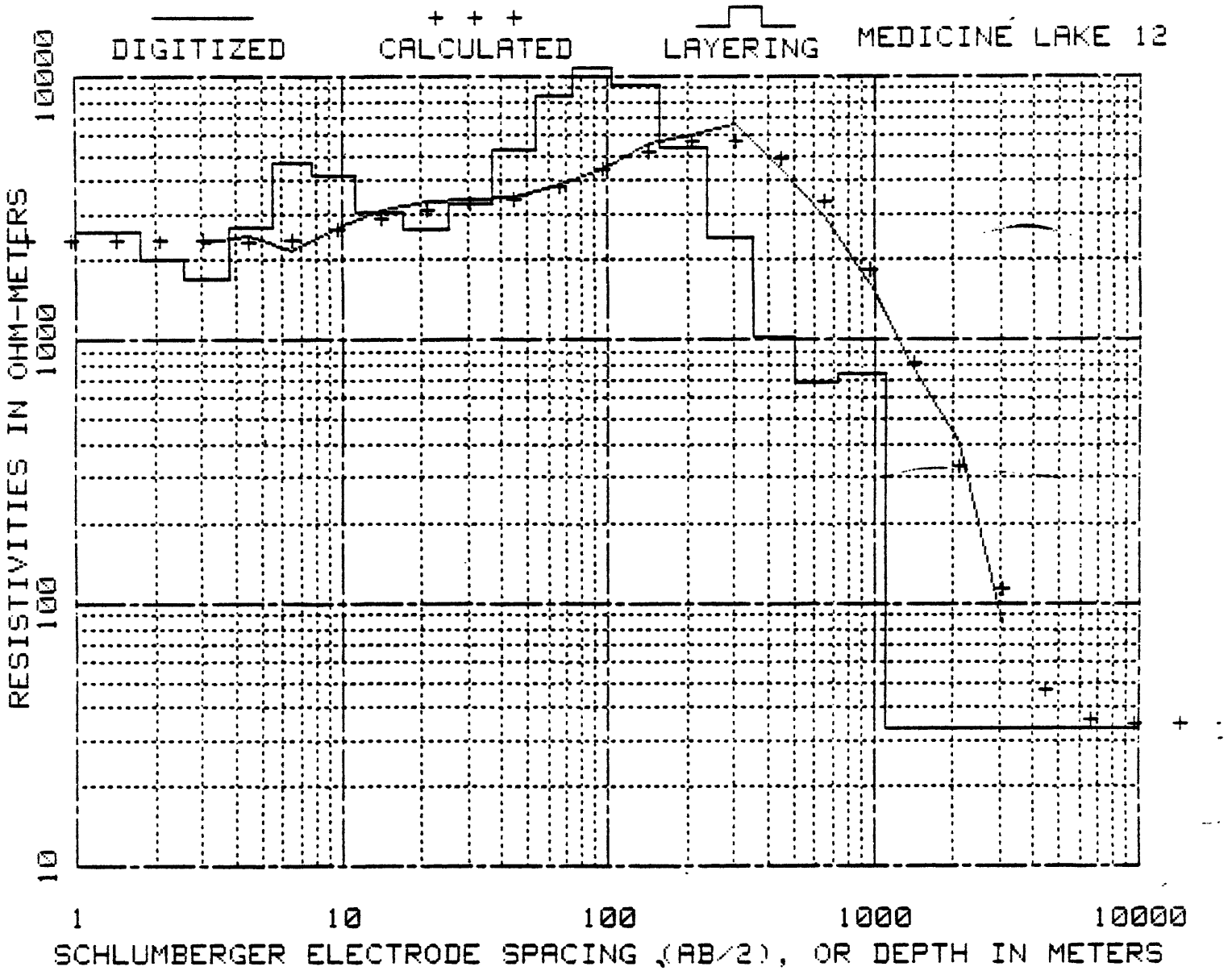

OBSERVED
MEDICINE LAKE 1
APPARENT RESISTIVITY IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 11
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 12

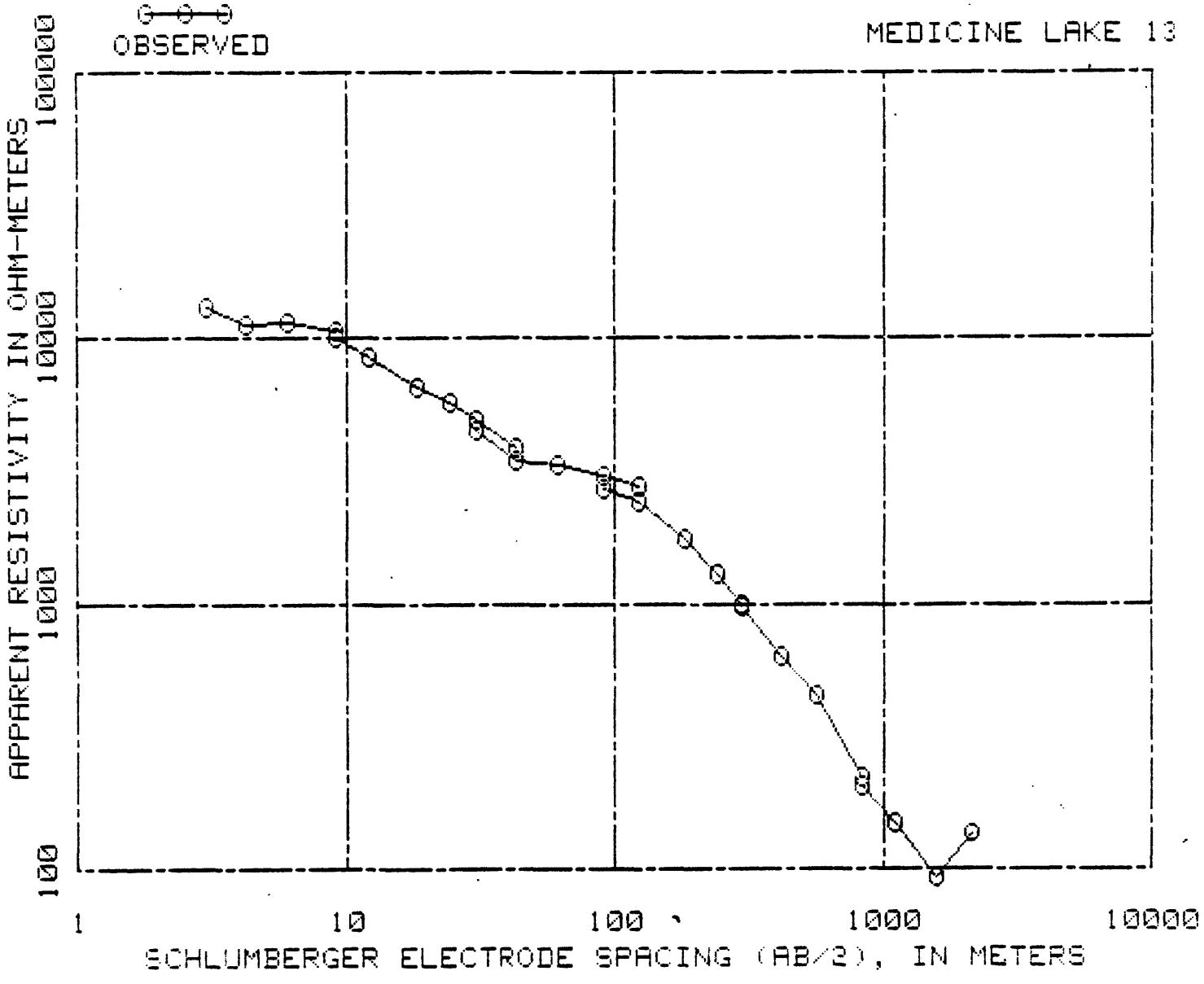
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	1870.00
4.27	2010.00
6.10	1740.00
9.14	2080.00
12.19	2400.00
9.14	2300.00
12.19	2750.00
18.29	3000.00
24.38	3150.00
30.48	3120.00
30.48	3050.00
42.67	3090.00
60.96	3400.00
91.44	3950.00
91.44	4320.00
121.92	4900.00
182.88	6117.00
241.40	5800.00
300.23	6460.00
300.23	6425.00
386.49	5110.00
554.13	3456.00
851.92	1978.00
851.92	2021.00
1120.14	1208.00
1676.40	577.00
2182.67	379.00
2590.80	246.00
3055.62	84.00

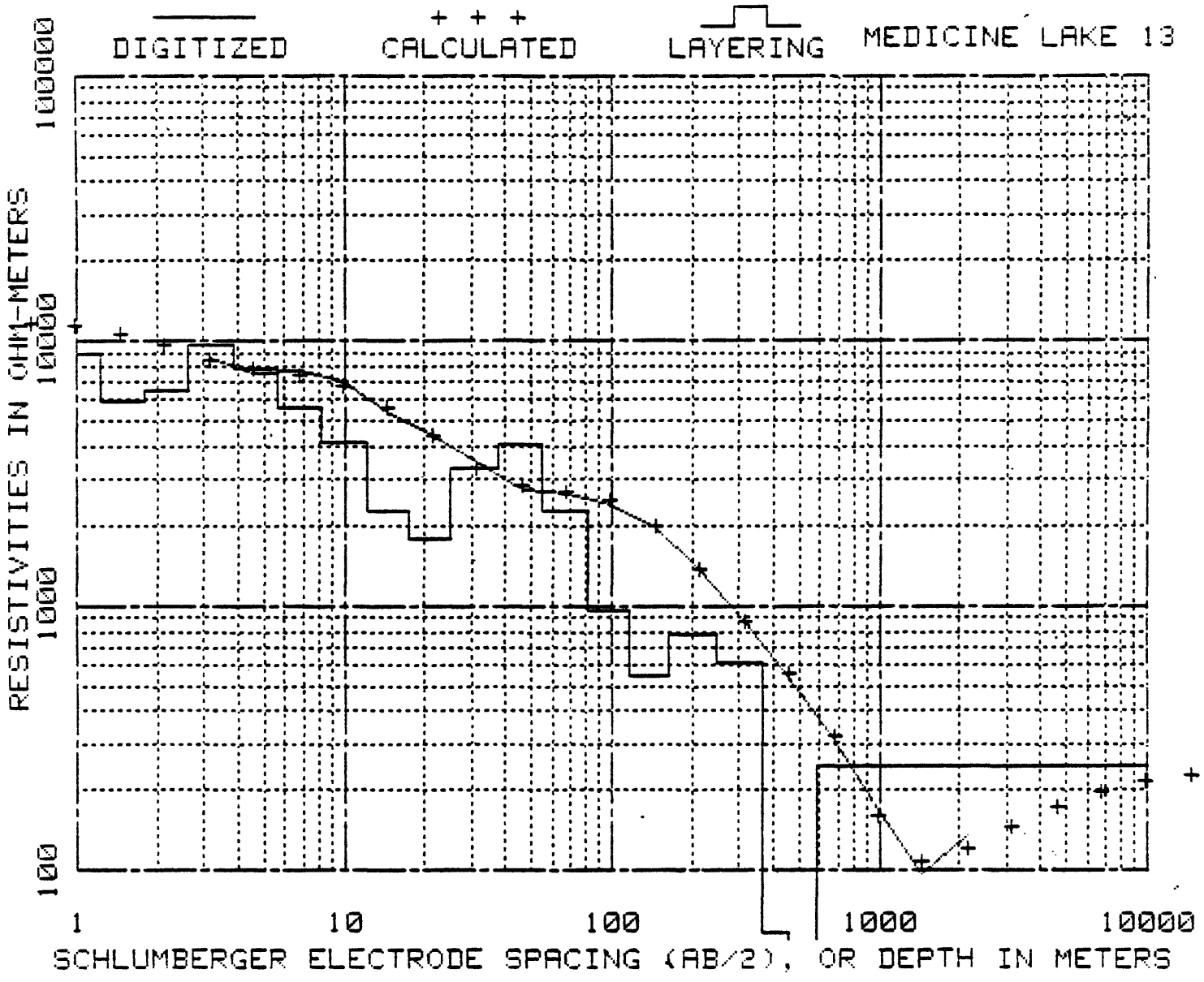

OBSERVED
MEDICINE LAKE 12
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 12
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 13

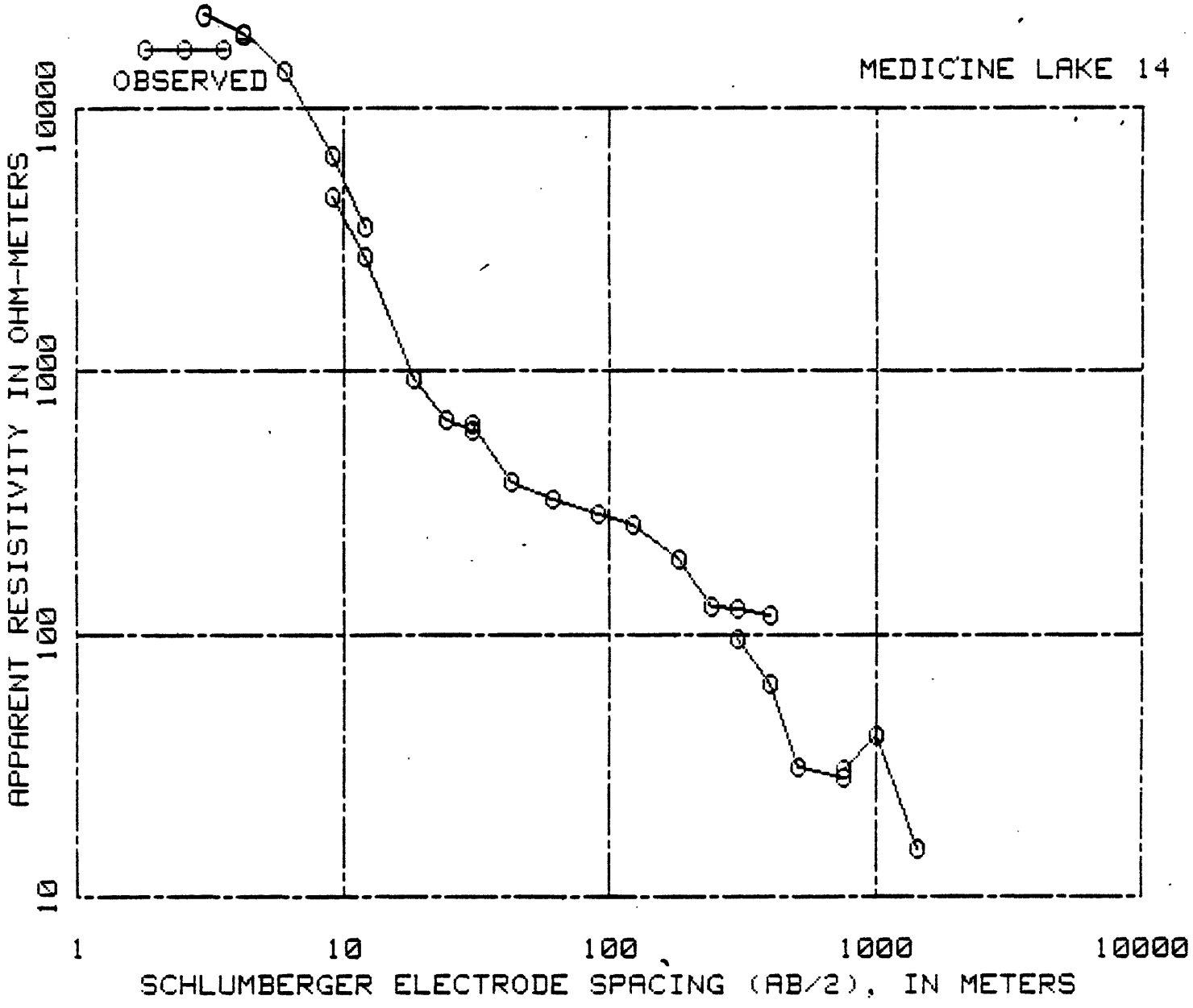
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	13000.00
4.27	11200.00
6.10	11400.00
9.14	10700.00
9.14	10000.00
12.19	8500.00
18.29	6500.00
24.38	5750.00
30.48	4950.00
42.67	3850.00
30.48	4500.00
42.67	3450.00
60.96	3325.00
91.44	3040.00
121.92	2750.00
91.44	2680.00
121.92	2420.00
182.88	1750.00
243.23	1300.00
300.23	1001.00
300.23	977.00
413.61	629.00
565.40	448.00
839.42	220.00
839.42	207.00
1105.51	148.00
1592.58	92.40
2133.60	137.00

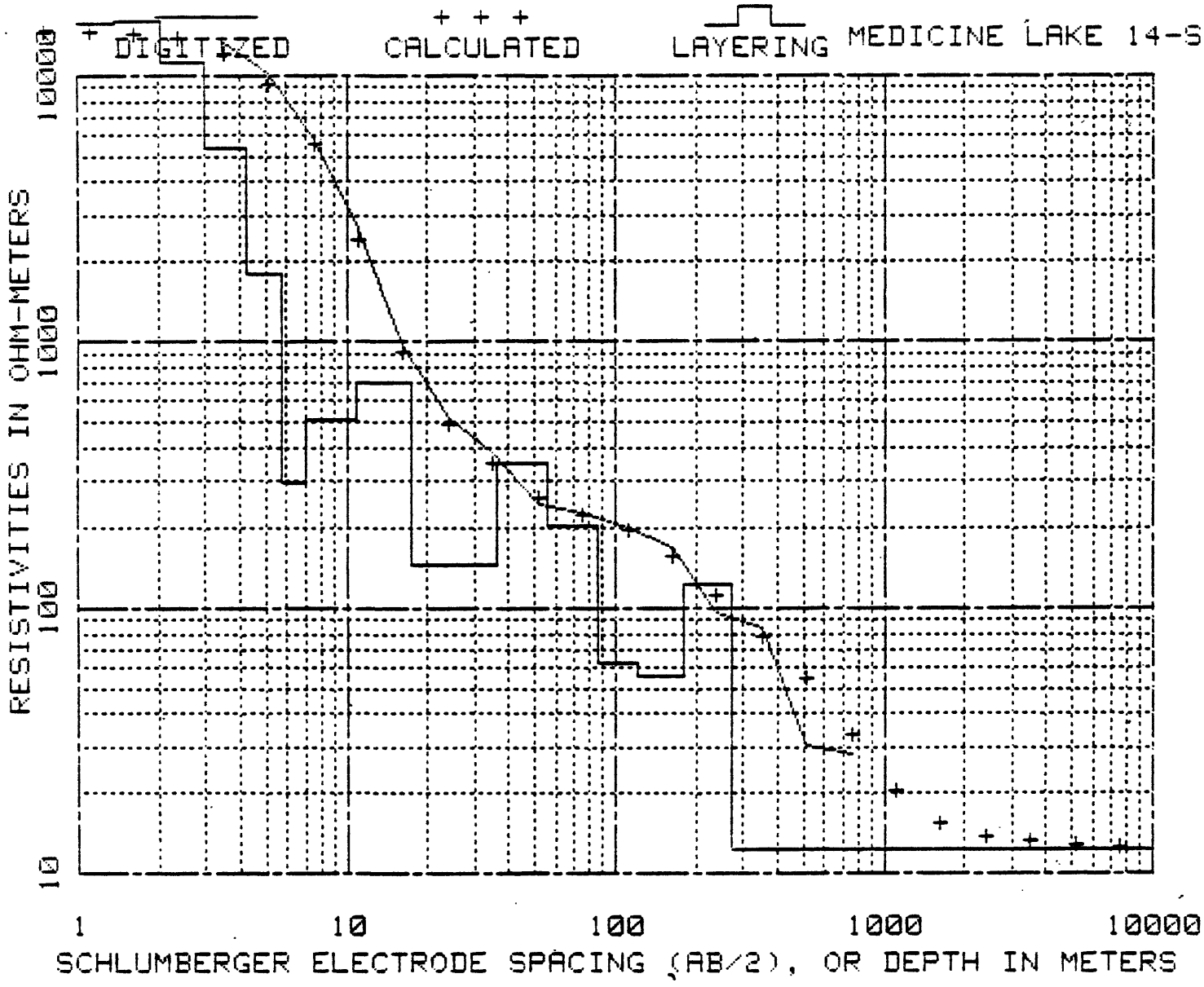

OBSERVED
MEDICINE LAKE 13
APPARENT RESISTIVITY IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 13
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 14

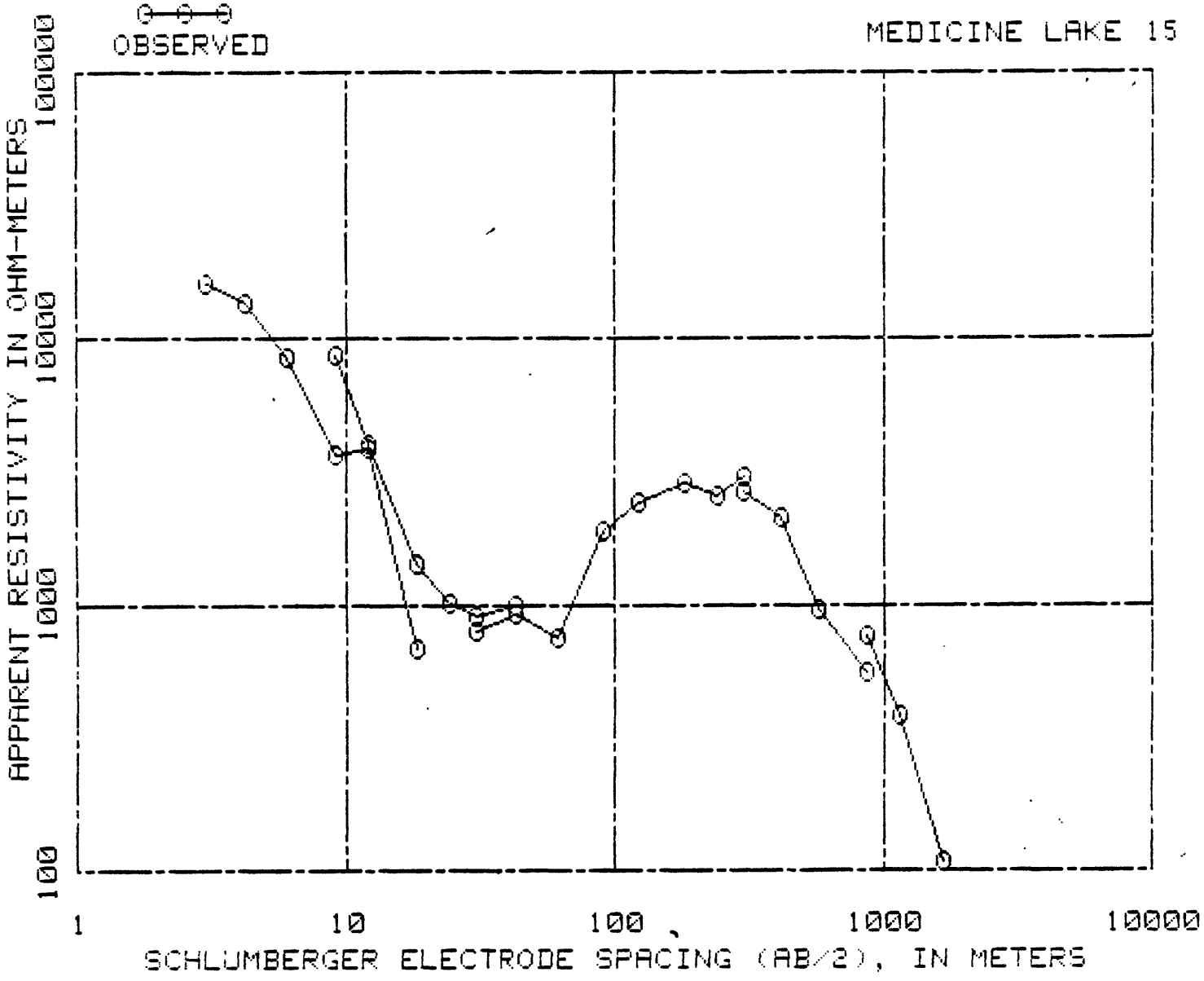
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	23000.00
4.27	19500.00
6.10	13800.00
9.14	6600.00
12.19	3550.00
9.14	4600.00
12.19	2730.00
18.29	930.00
24.38	649.00
30.48	596.00
30.48	630.00
42.67	375.00
60.96	323.00
91.44	285.00
91.44	283.00
121.92	260.00
182.88	193.00
243.84	126.00
304.80	125.00
401.73	117.00
304.80	96.00
401.73	64.00
509.63	31.30
756.51	28.10
756.51	30.60
1016.81	40.80
1438.96	15.20

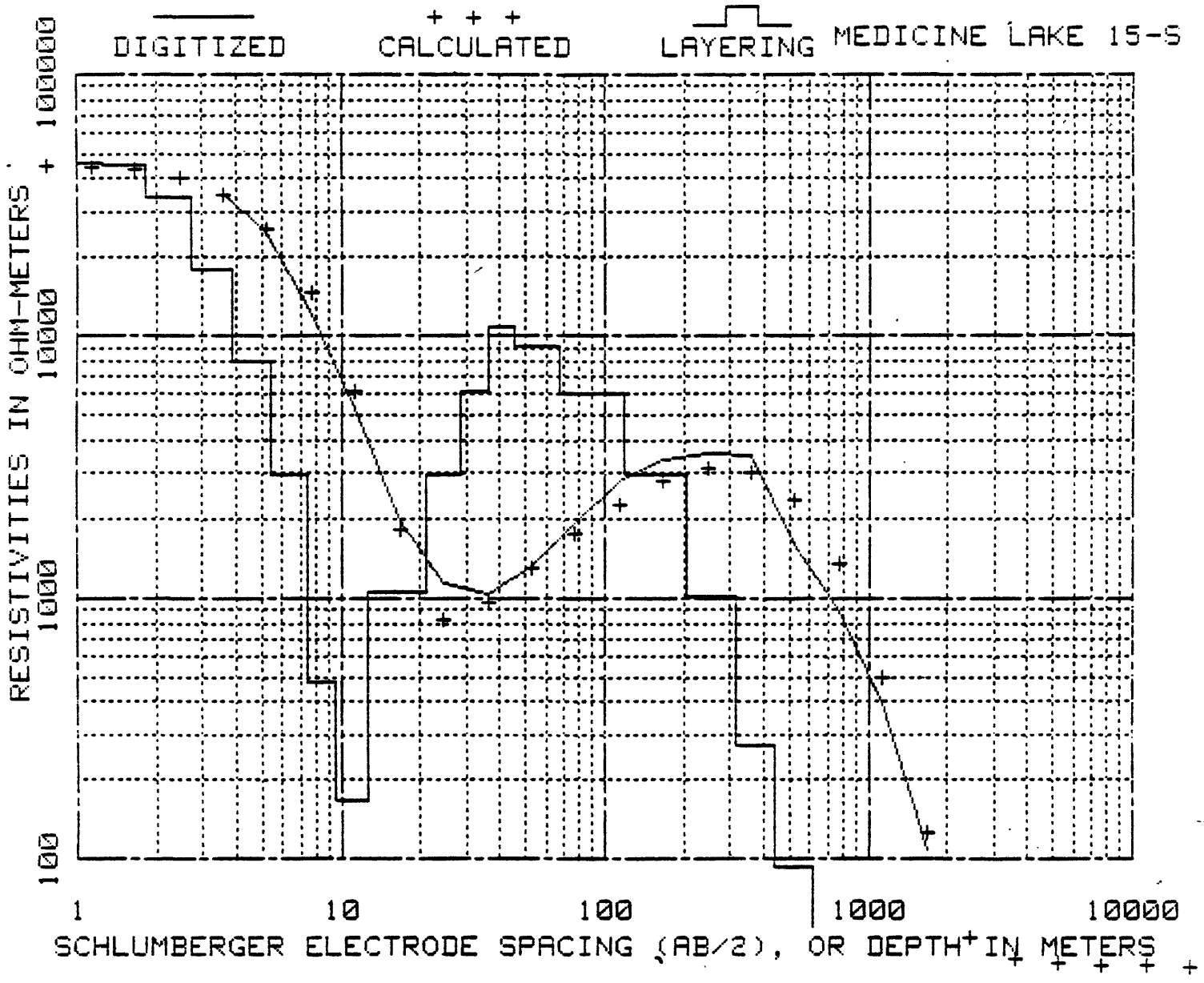

MEDICINE LAKE 14
OBSERVED
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 14-S
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 15

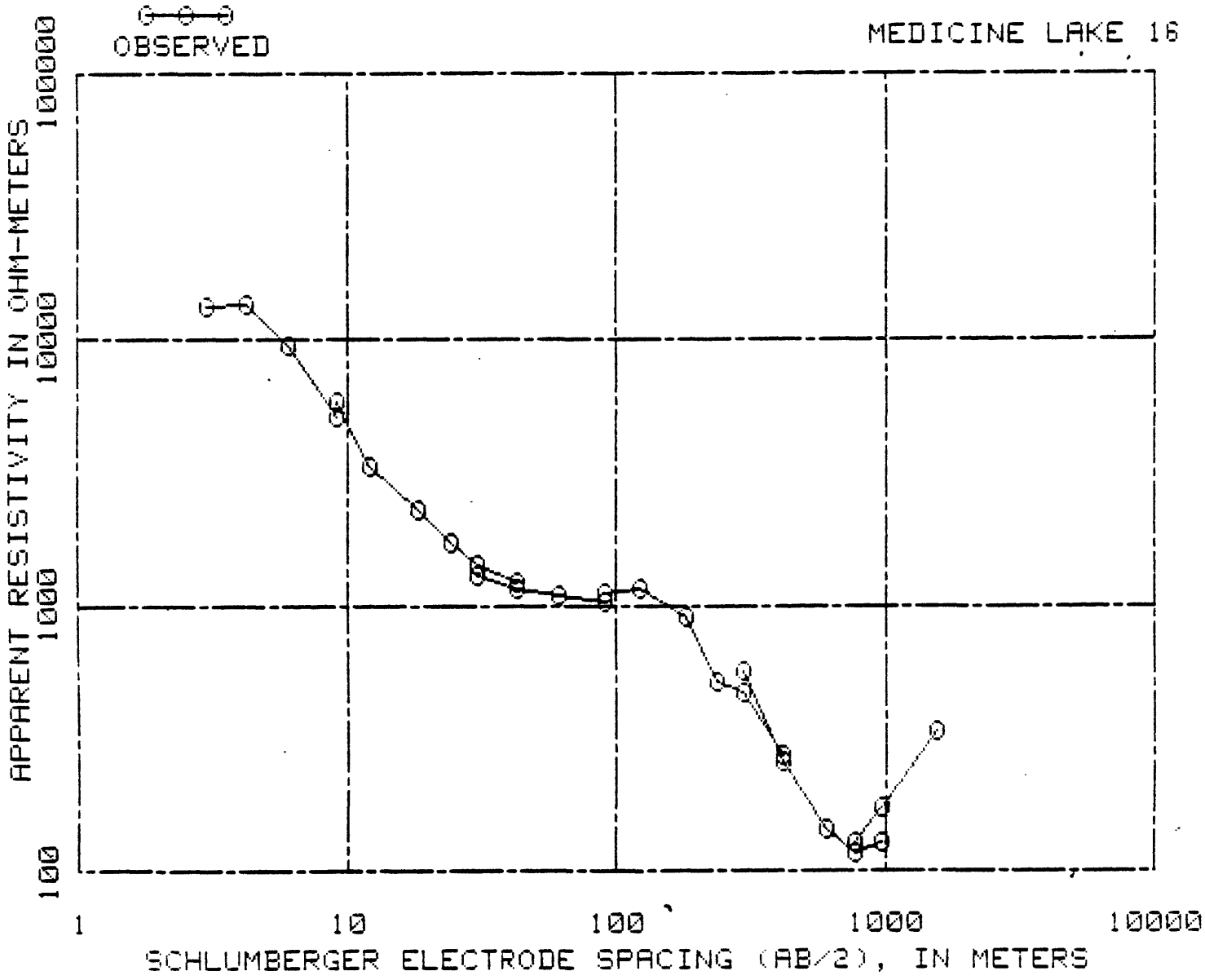
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	16100.00
4.27	13500.00
6.10	8500.00
9.14	3611.00
12.19	3820.00
18.29	684.00
9.14	8600.00
12.19	4000.00
18.29	1420.00
24.38	1016.00
30.48	902.00
42.67	1003.00
30.48	790.00
42.67	920.00
60.96	750.00
91.44	1872.00
91.44	1898.00
121.92	2410.00
182.88	2854.00
243.84	2557.00
304.80	3015.00
304.80	2669.00
420.93	2100.00
573.02	960.00
868.98	557.00
868.98	761.00
1152.14	383.00
1667.26	109.00

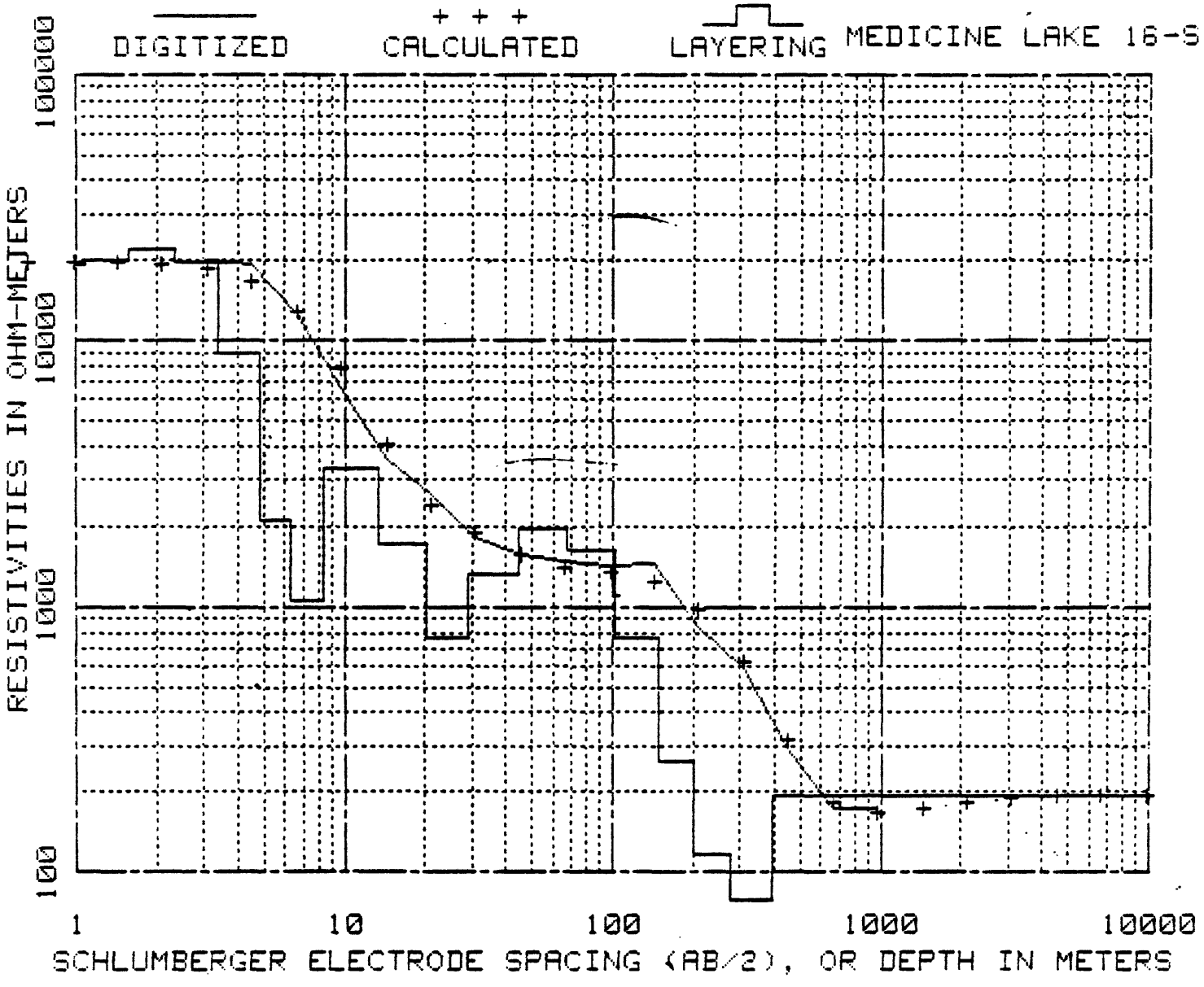

OBSERVED
MEDICINE LAKE 15
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 15-S
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 16

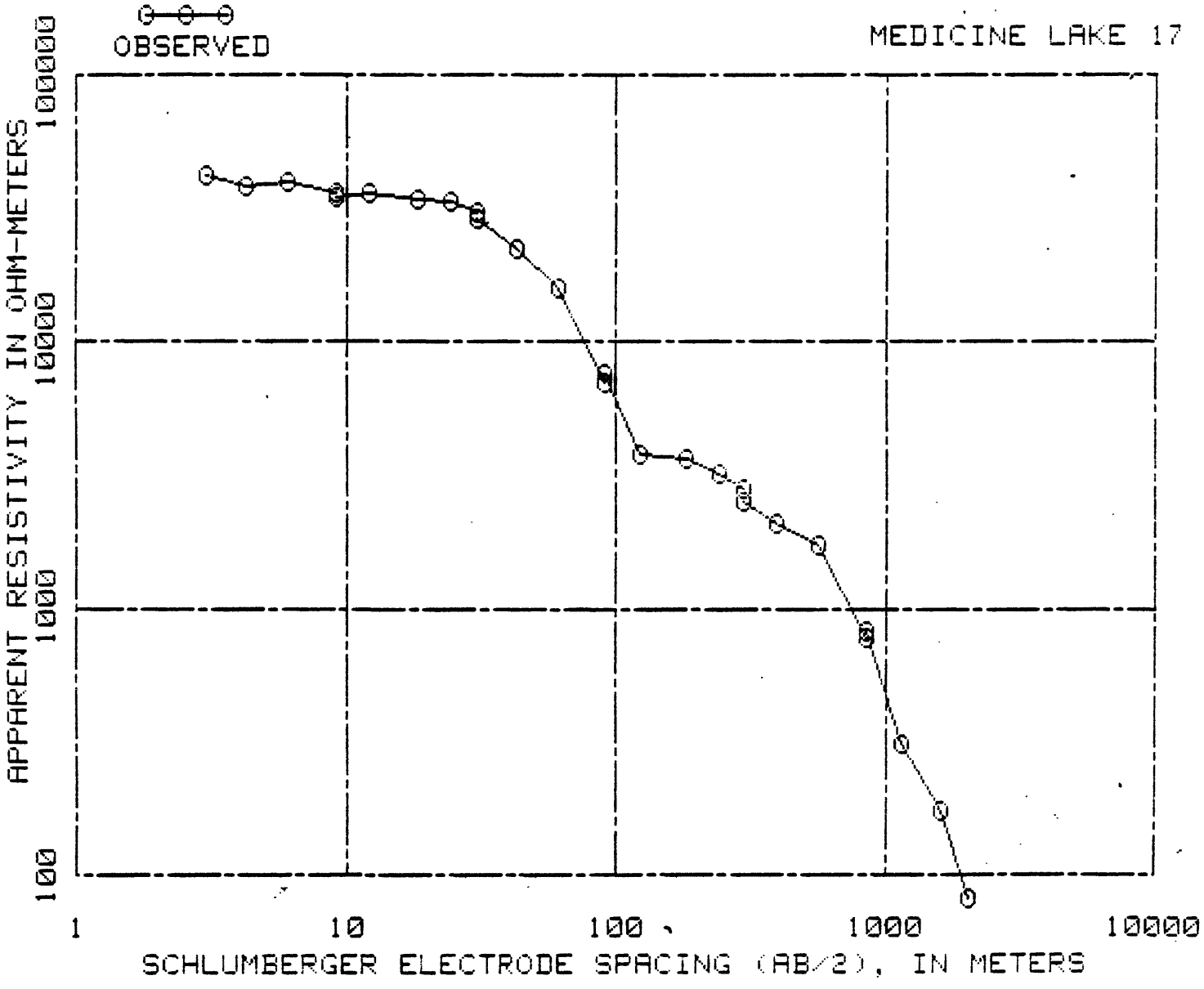
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	13400.00
4.27	13600.00
6.10	9500.00
9.14	5100.00
9.14	5800.00
12.19	3300.00
18.29	2272.00
24.38	1727.00
30.48	1411.00
42.67	1217.00
30.48	1300.00
42.67	1160.00
60.96	1100.00
91.44	1040.00
91.44	1120.00
121.92	1150.00
182.88	907.00
237.44	518.00
300.23	469.00
416.97	271.00
300.23	564.00
416.97	257.00
605.03	143.00
771.75	116.00
974.75	129.00
771.75	129.00
974.75	173.00
1565.76	337.00

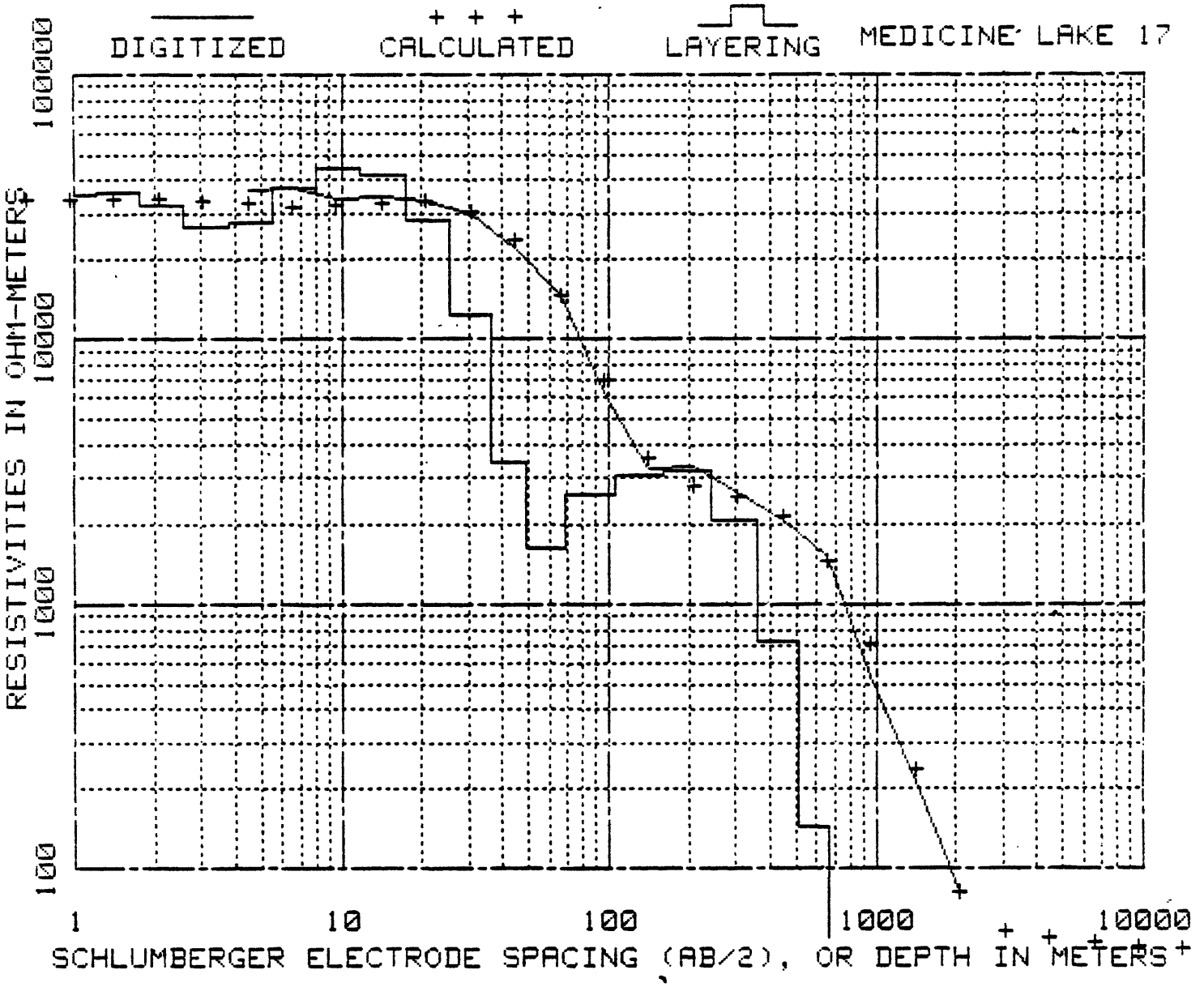

OBSERVED
MEDICINE LAKE 16
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 16-S
RESISTIVITIES IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 17

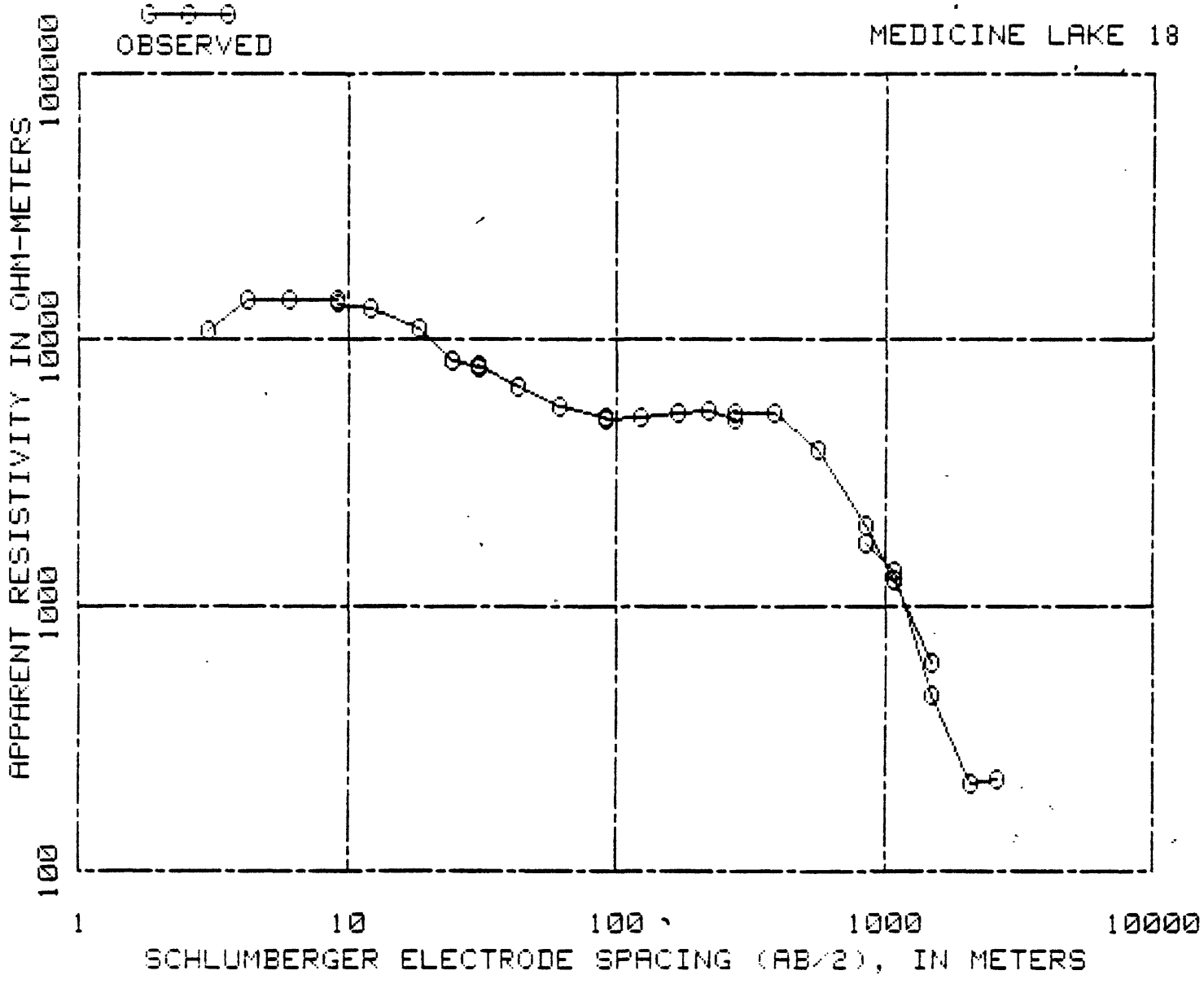
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	42167.00
4.27	38333.00
6.10	39500.00
9.14	36000.00
9.14	35000.00
12.19	35800.00
18.29	34000.00
24.38	33500.00
30.48	30475.00
30.48	28670.00
42.67	21965.00
60.96	15675.00
91.44	7000.00
91.44	7650.00
121.92	3810.00
182.88	3615.00
243.84	3200.00
299.92	2812.00
299.92	2518.00
397.15	2070.00
566.01	1707.00
852.22	773.00
852.22	821.00
1141.17	312.00
1609.34	172.00
2073.55	81.00

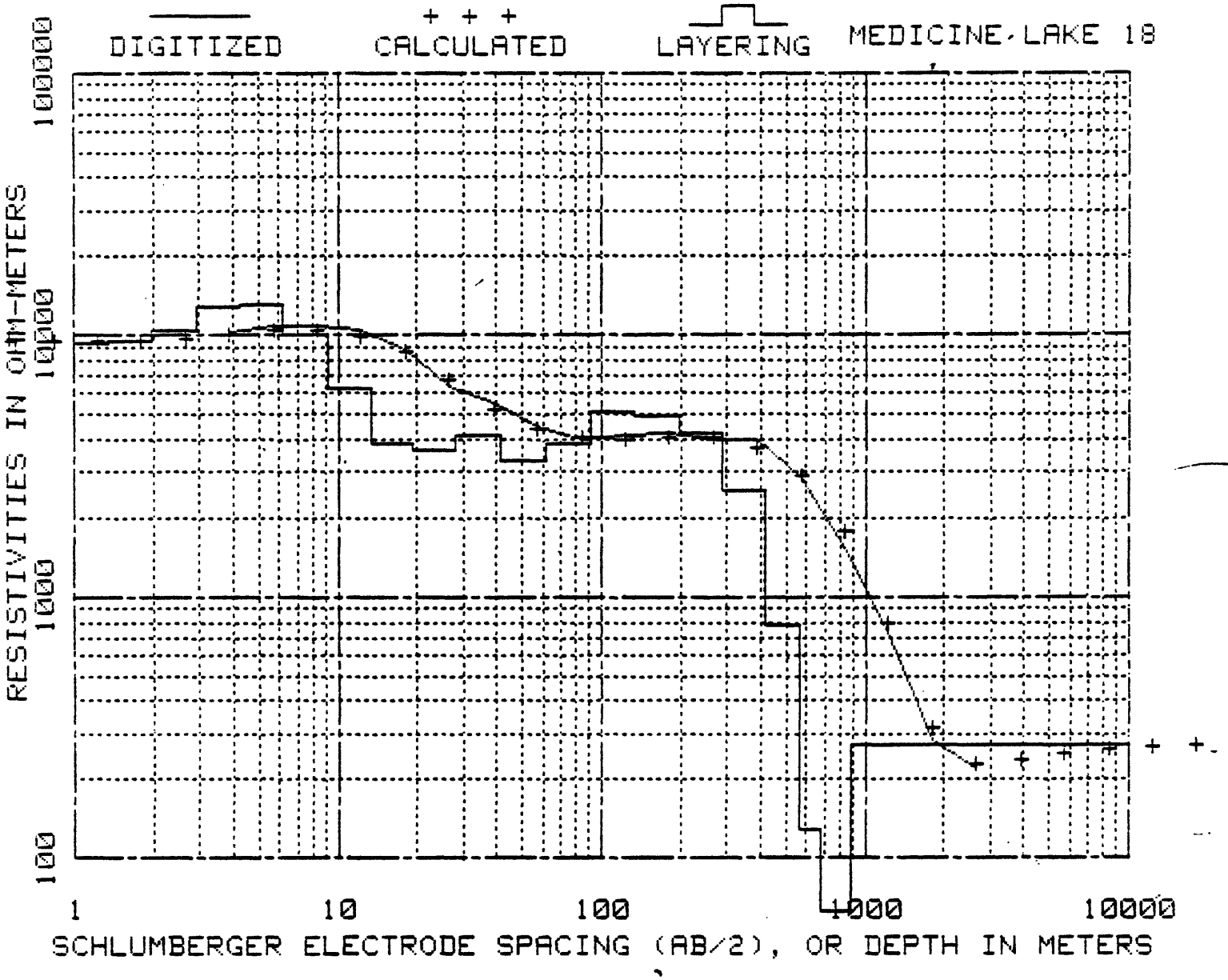

OBSERVED
MEDICINE LAKE 17
APPARENT RESISTIVITY IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 17
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 18

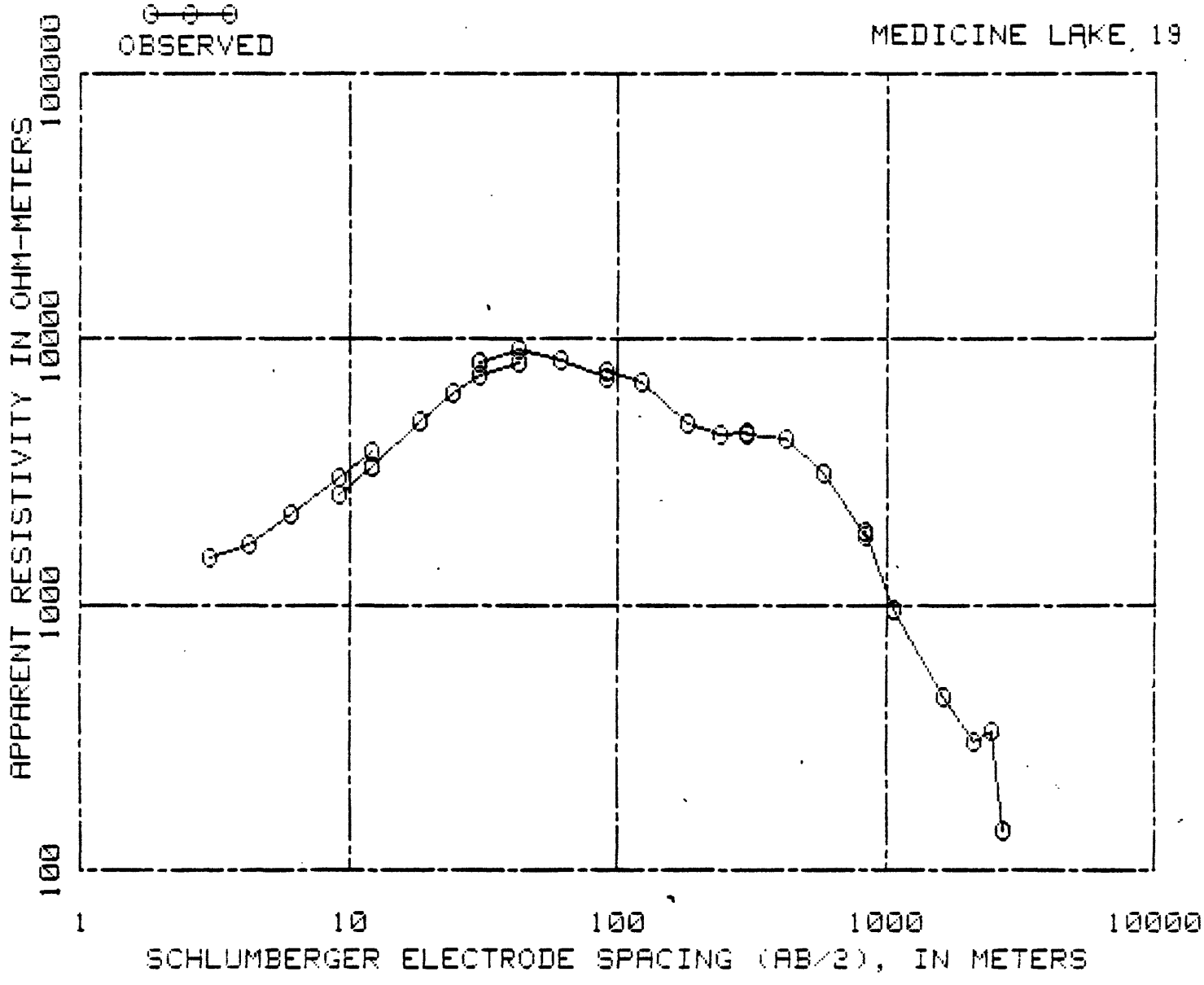
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	10800.00
4.27	14000.00
6.10	14100.00
9.14	14200.00
9.14	13700.00
12.19	13100.00
18.29	11000.00
24.38	8400.00
30.48	7800.00
30.48	7950.00
42.67	6700.00
60.96	5605.00
91.44	5114.00
91.44	5000.00
121.92	5150.00
168.55	5286.00
220.37	5359.00
275.54	4966.00
275.54	5261.00
388.92	5347.00
559.00	3870.00
847.04	2003.00
1079.60	1248.00
1507.54	614.00
847.04	1708.00
1079.60	1340.00
1507.54	463.00
2085.44	213.00
2647.49	220.00

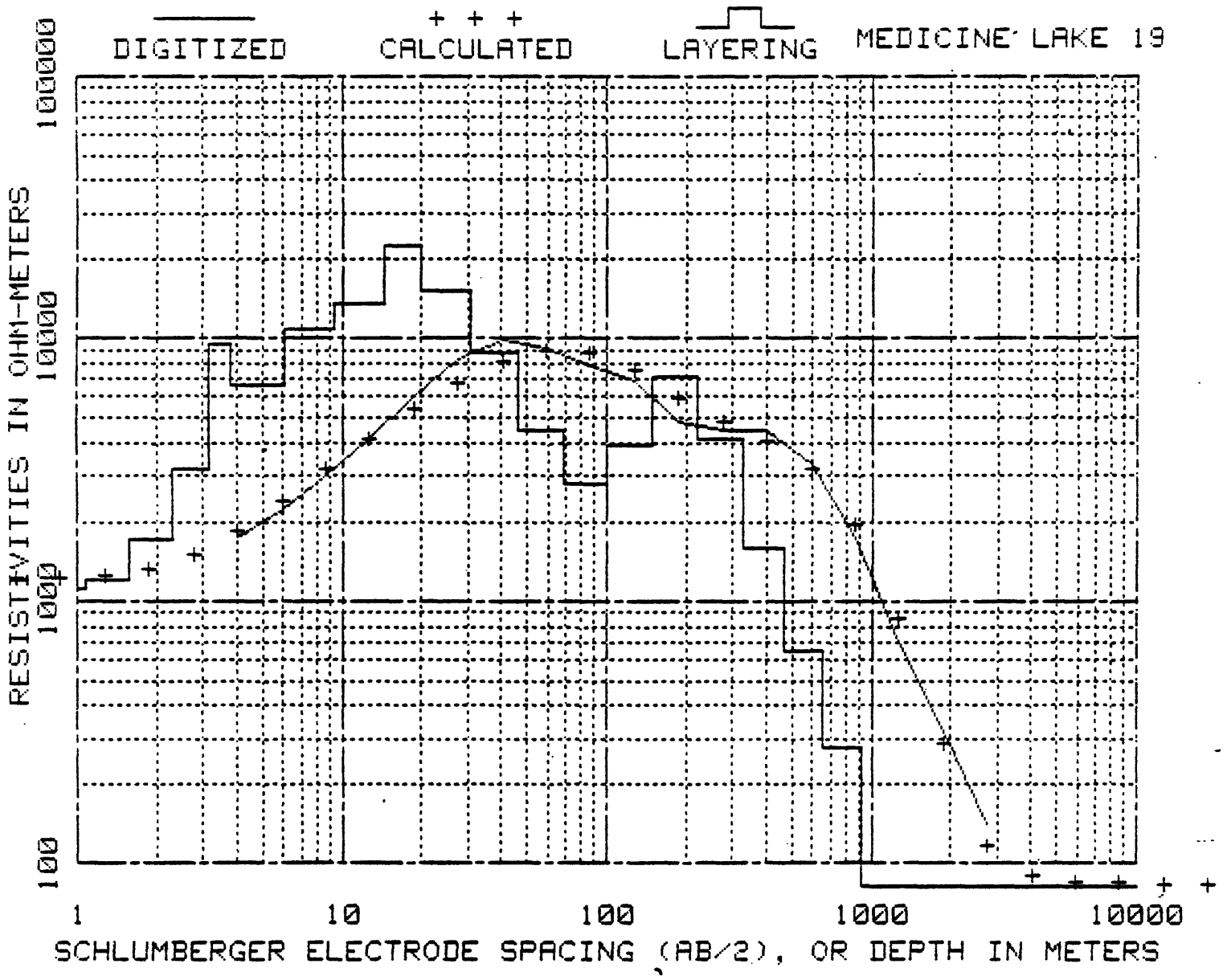

OBSERVED
MEDICINE LAKE 18
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE-LAKE 18
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 19

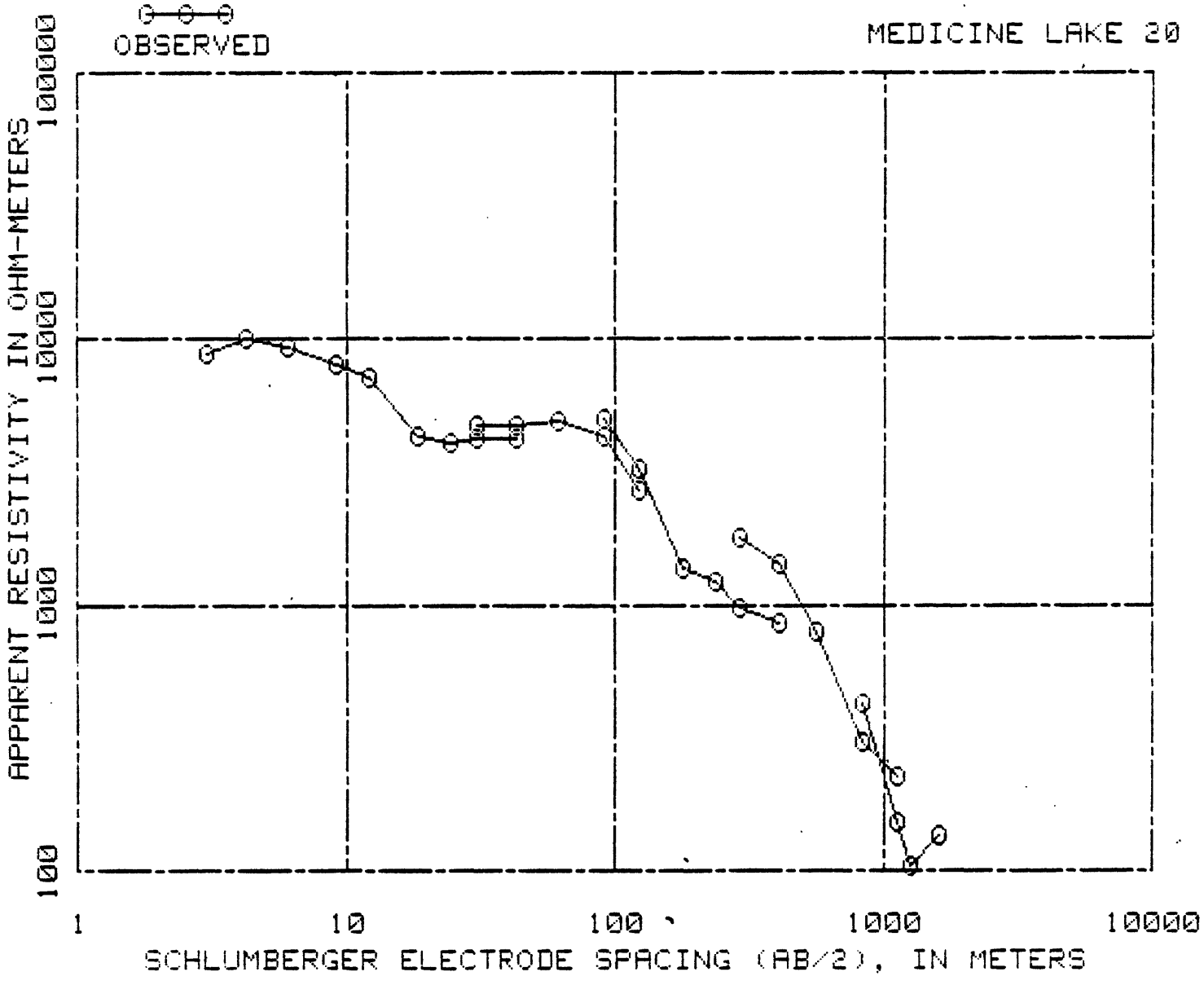
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	1500.00
4.27	1700.00
6.10	2180.00
9.14	3000.00
12.19	3800.00
9.14	2600.00
12.19	3300.00
18.29	4900.00
24.38	6300.00
30.48	7350.00
42.67	8200.00
30.48	8200.00
42.67	9180.00
60.96	8300.00
91.44	7180.00
91.44	7600.00
121.92	6900.00
182.88	4800.00
243.84	4370.00
304.80	4470.00
304.80	4380.00
425.50	4206.00
589.79	3154.00
840.94	1813.00
840.94	1895.00
1065.28	960.00
1638.00	449.00
2123.54	302.00
2476.20	337.00
2745.64	140.00

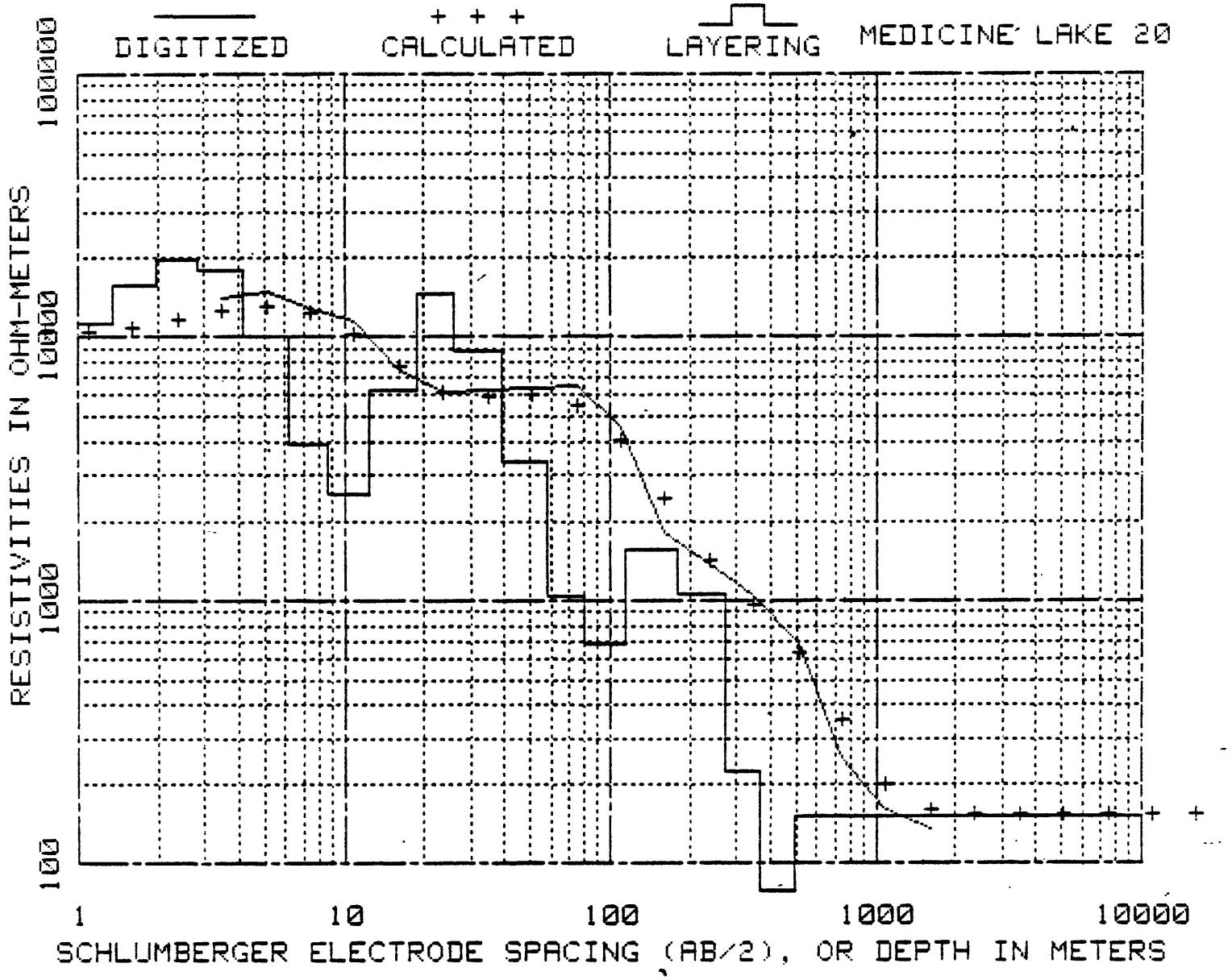

OBSERVED
MEDICINE LAKE 19
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 19
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 20

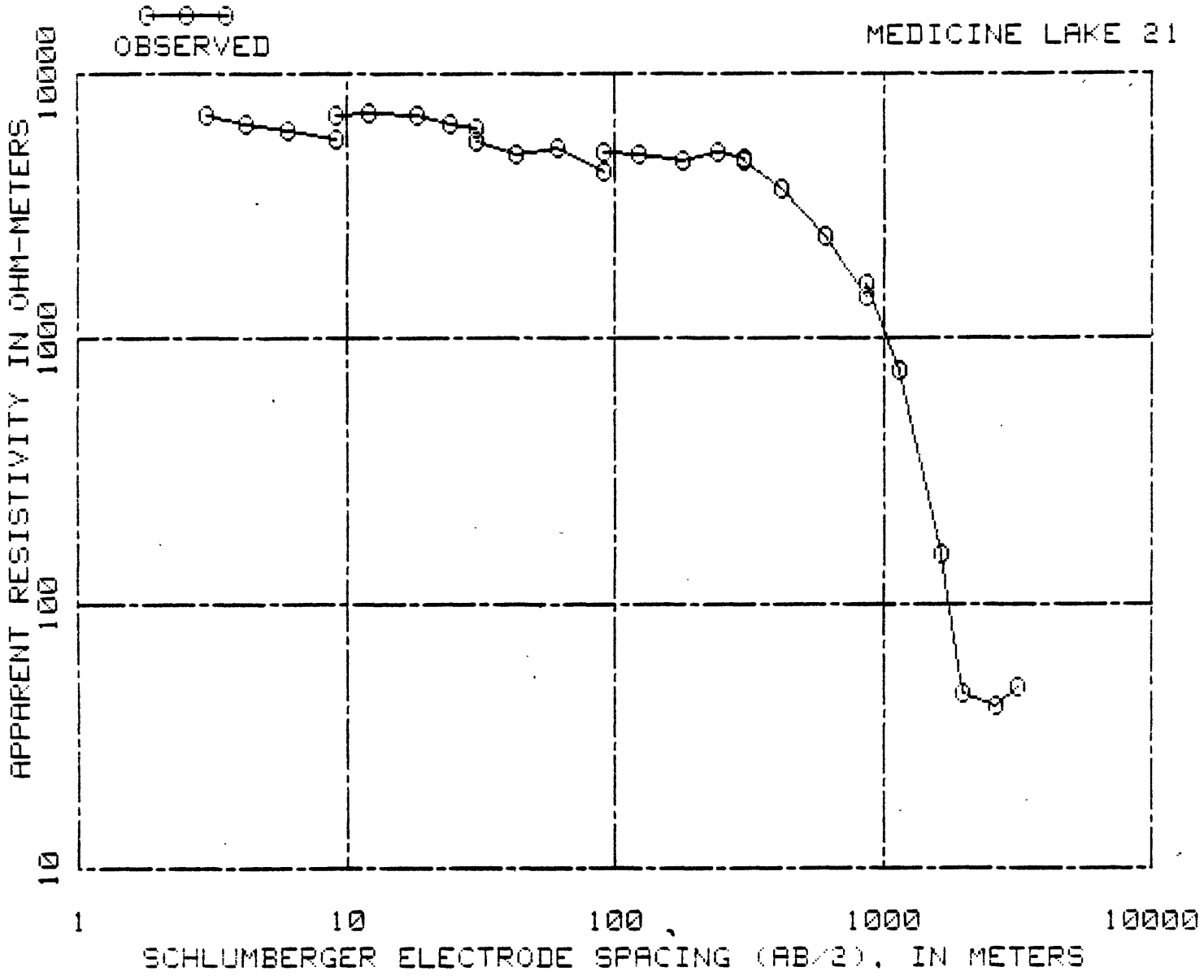
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	8800.00
4.27	10000.00
6.10	9400.00
9.14	8050.00
9.14	8000.00
12.19	7150.00
18.29	4300.00
24.38	4100.00
30.48	4200.00
42.67	4200.00
30.48	4700.00
42.67	4700.00
60.96	4900.00
91.44	4300.00
121.92	2720.00
91.44	5000.00
121.92	3250.00
178.00	1374.00
237.13	1228.00
290.78	981.00
412.09	855.00
290.78	1779.00
412.09	1425.00
564.49	789.00
843.08	306.00
1127.15	224.00
843.08	430.00
1127.15	151.00
1274.37	104.00
1611.17	136.00

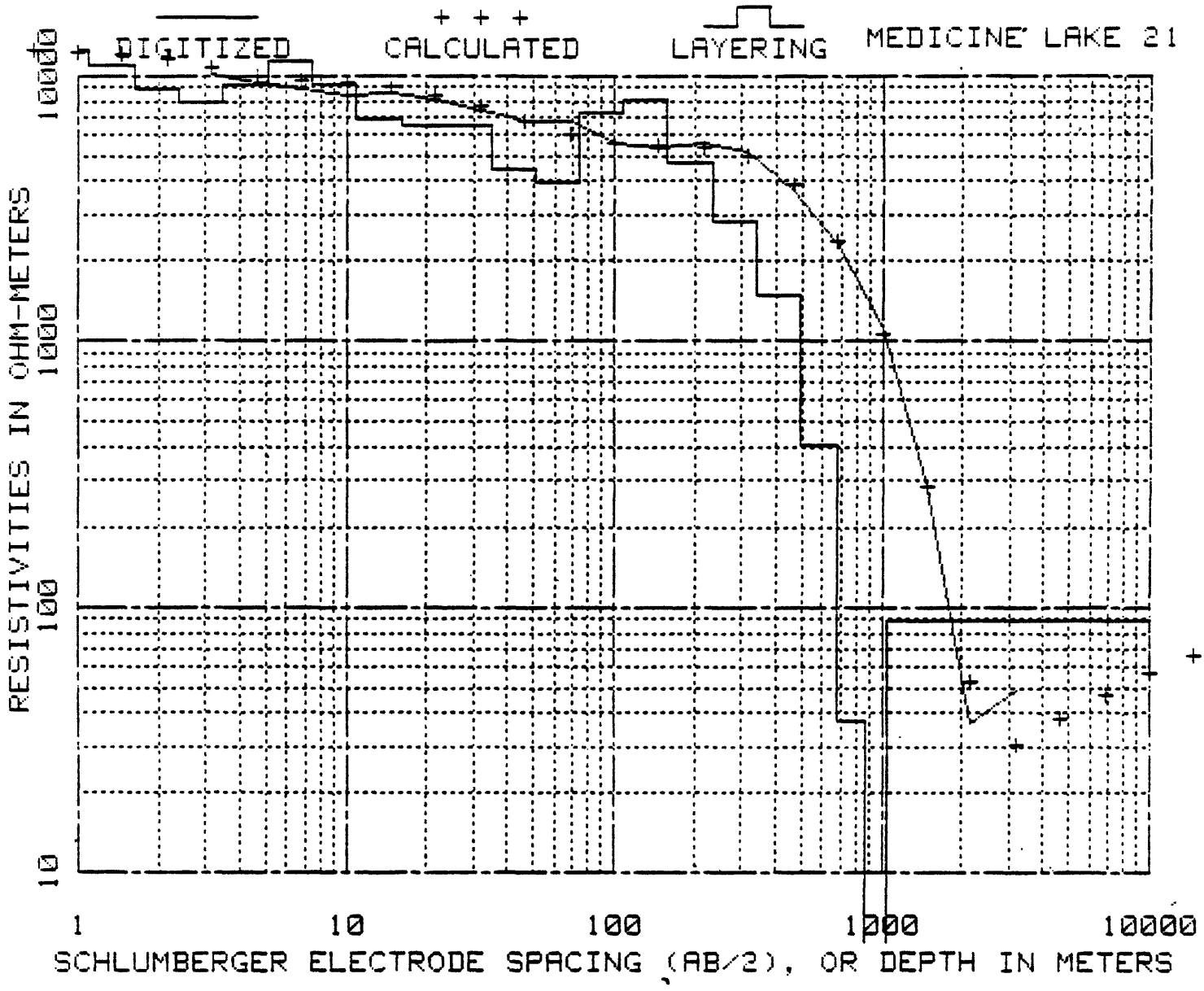

OBSERVED
MEDICINE LAKE 20
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 20
RESISTIVITIES IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 21

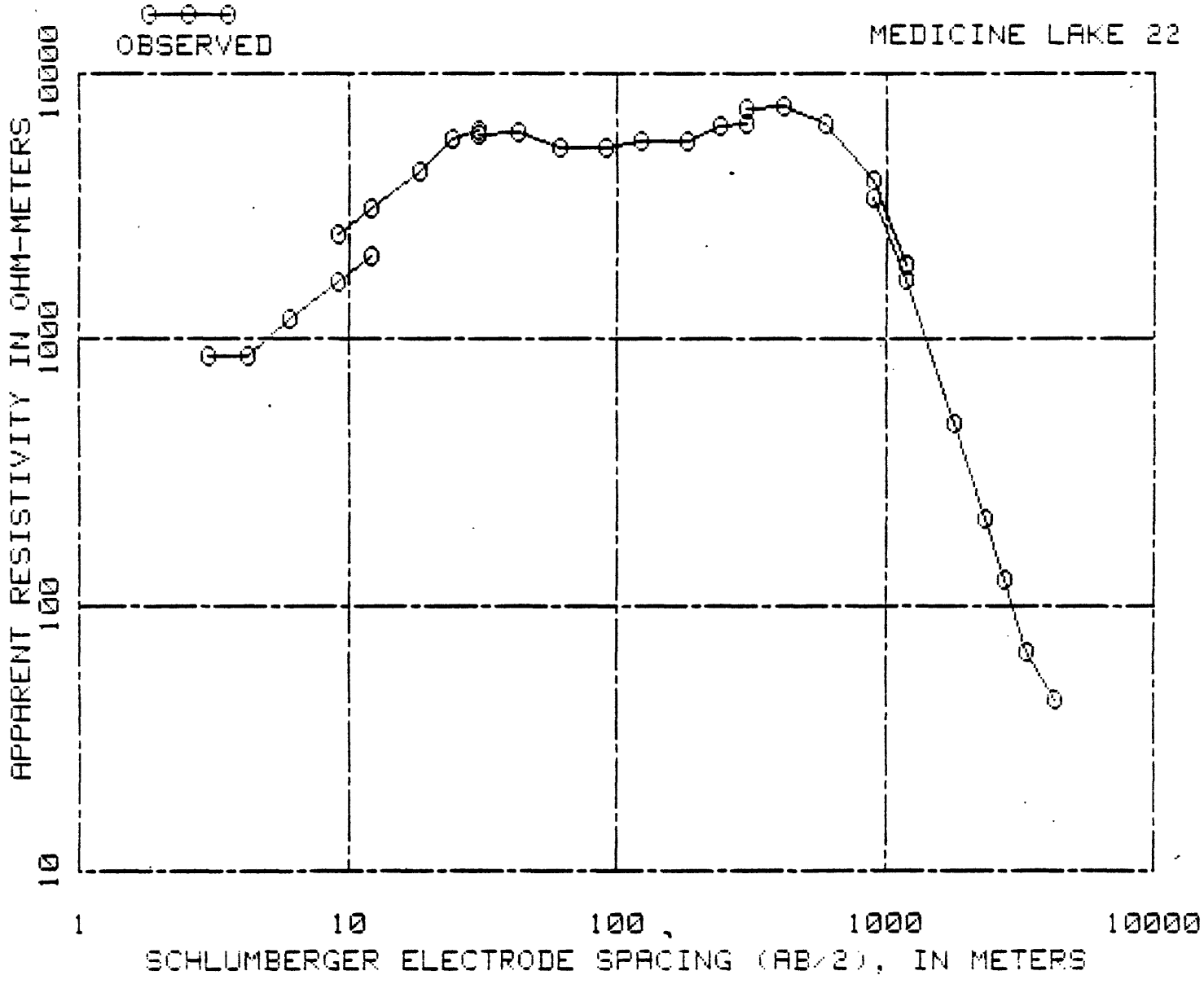
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	7000.00
4.27	6500.00
6.10	6162.00
9.14	5706.00
9.14	7000.00
12.19	7100.00
18.29	7000.00
24.38	6500.00
30.48	6200.00
30.48	5600.00
42.67	5000.00
60.96	5300.00
91.44	4280.00
91.44	5096.00
121.92	5000.00
178.00	4706.00
241.10	5069.00
301.75	4760.00
301.75	4683.00
416.97	3649.00
604.72	2416.00
861.06	1433.00
861.06	1620.00
1143.00	754.00
1634.03	154.00
1981.81	46.00
2646.27	40.80
3165.65	49.00

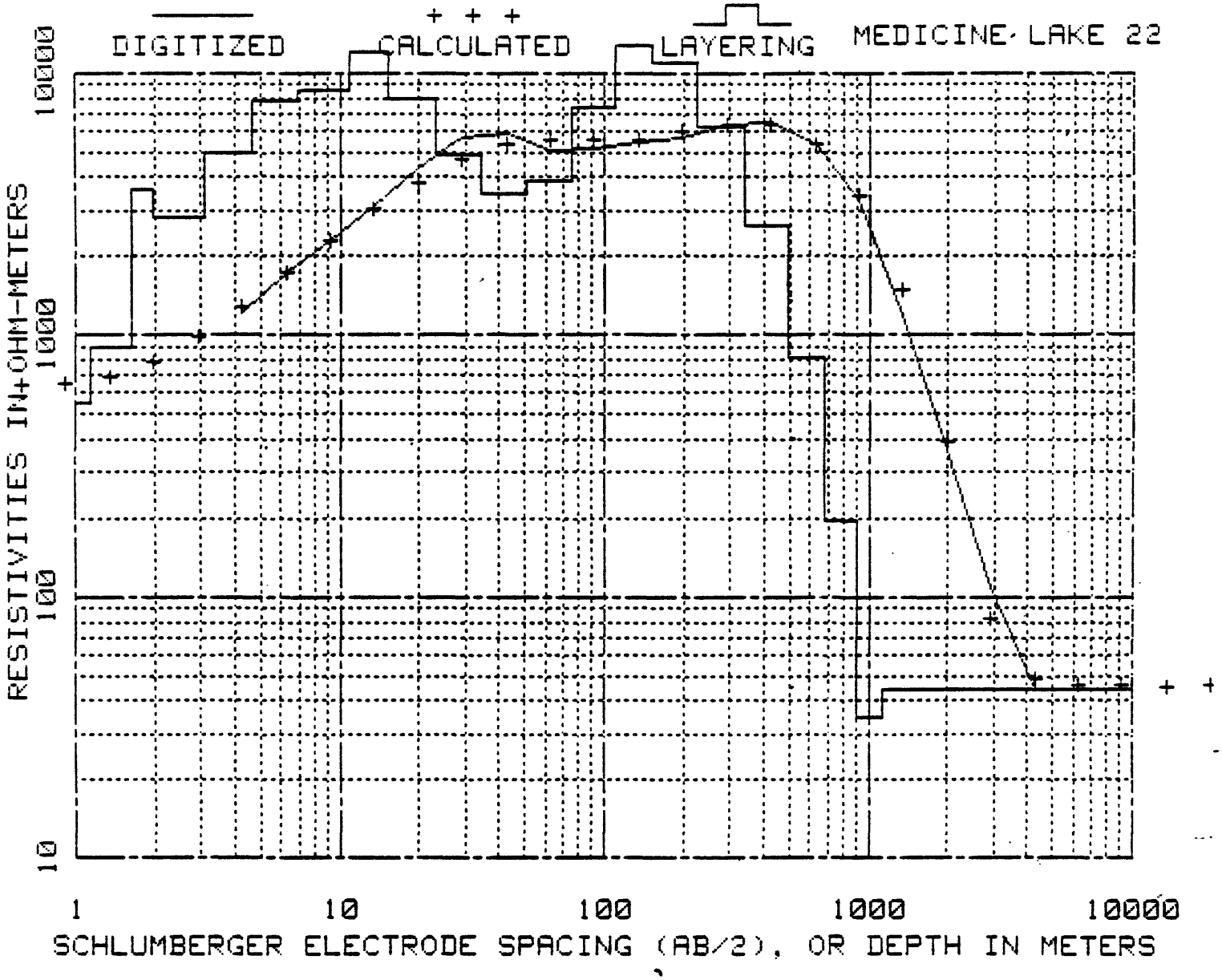

OBSERVED
MEDICINE LAKE 21
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 21
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 22

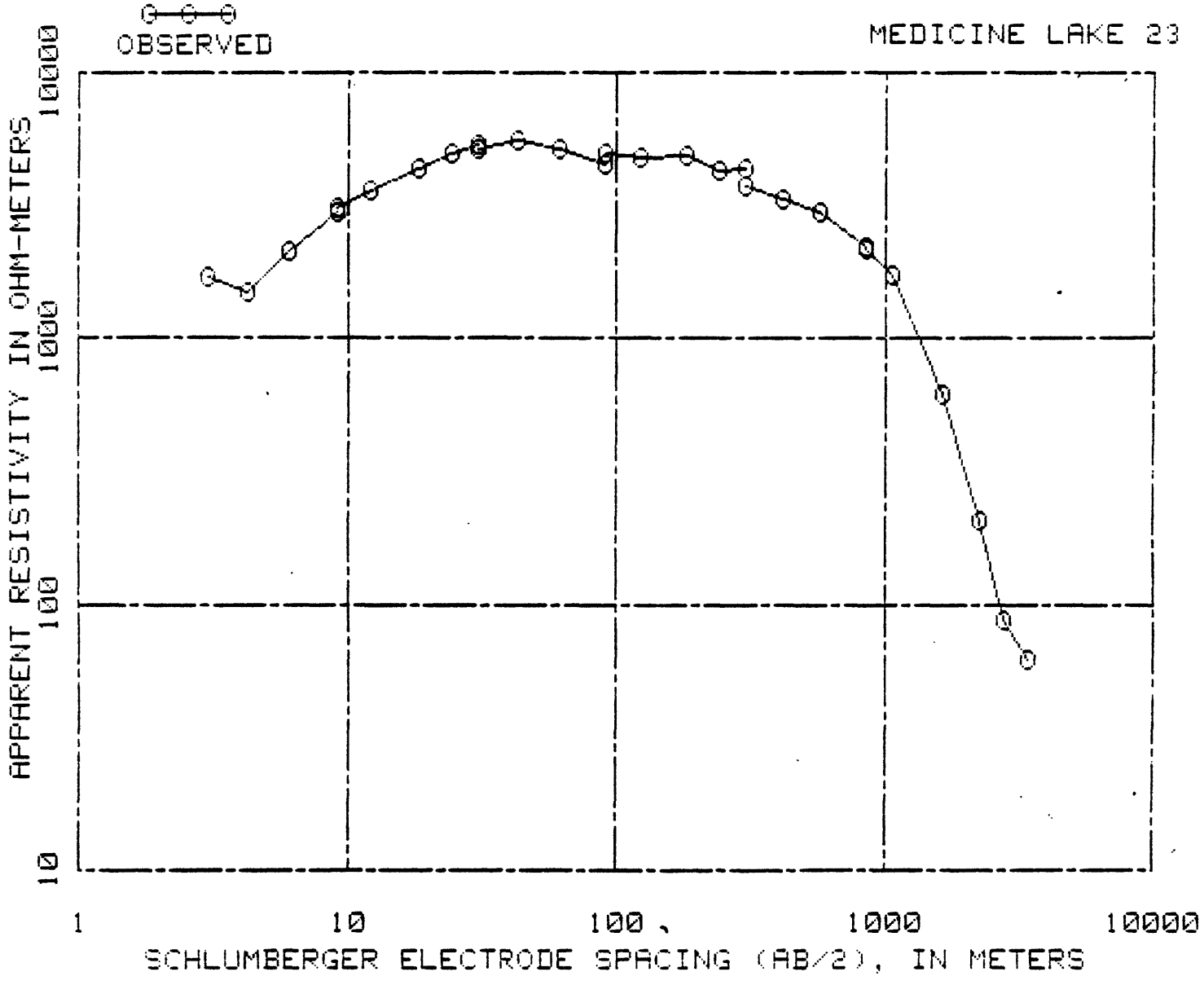
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	860.00
4.27	870.00
6.10	1200.00
9.14	1640.00
12.19	2050.00
9.14	2470.00
12.19	3080.00
18.29	4300.00
24.38	5650.00
30.48	6150.00
30.48	5900.00
42.67	6000.00
60.96	5220.00
91.44	5300.00
91.44	5250.00
121.92	5600.00
182.88	5600.00
243.84	6380.00
304.19	6438.00
304.19	7306.00
416.36	7514.00
593.14	6400.00
899.16	3963.00
1203.96	1912.00
899.16	3429.00
1203.96	1655.00
1800.76	486.00
2371.34	210.00
2801.11	124.00
3371.70	67.20
4259.58	44.00

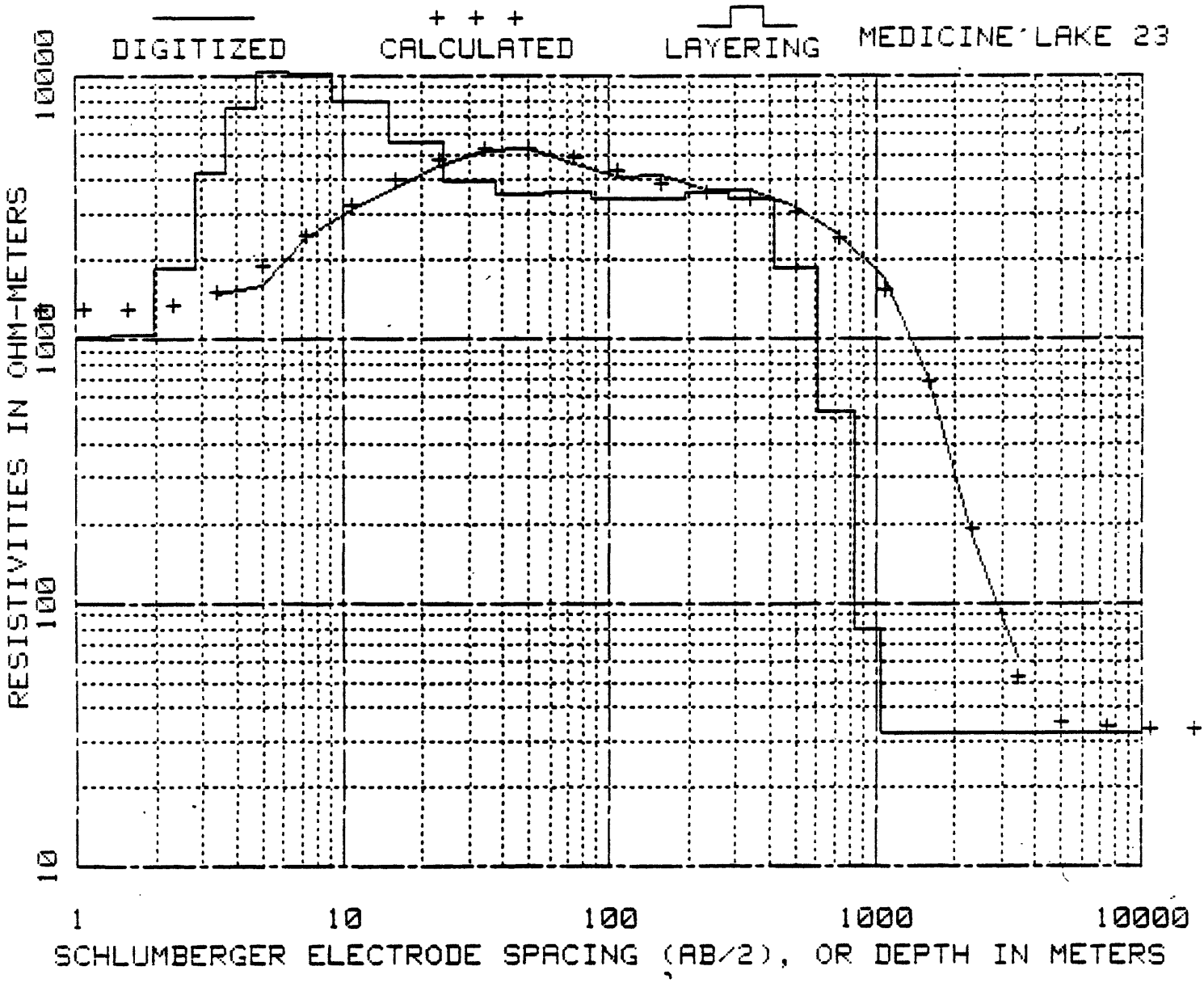

OBSERVED
MEDICINE LAKE 22
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 22
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 23

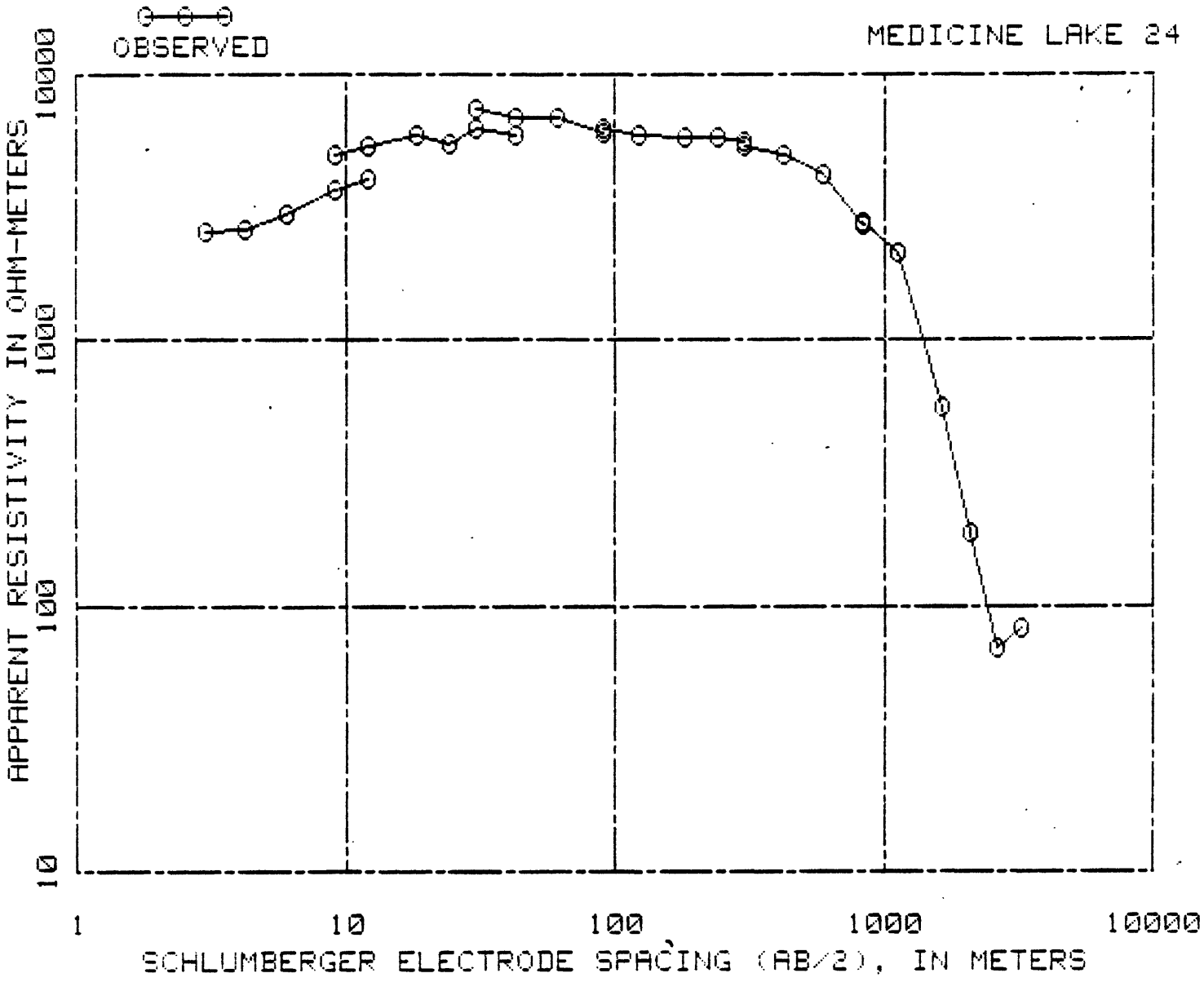
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	1700.00
4.27	1495.00
6.10	2133.00
9.14	3000.00
9.14	3100.00
12.19	3580.00
18.29	4375.00
24.38	4990.00
30.48	5366.00
30.48	5200.00
42.67	5600.00
60.96	5200.00
91.44	4500.00
91.44	4995.00
121.92	4800.00
182.88	4828.00
243.84	4250.00
301.45	4366.00
301.45	3743.00
416.05	3370.00
579.12	2970.00
851.00	2194.00
851.00	2190.00
1063.75	1740.00
1655.98	620.00
2252.17	206.00
2810.87	87.70
3413.76	61.90

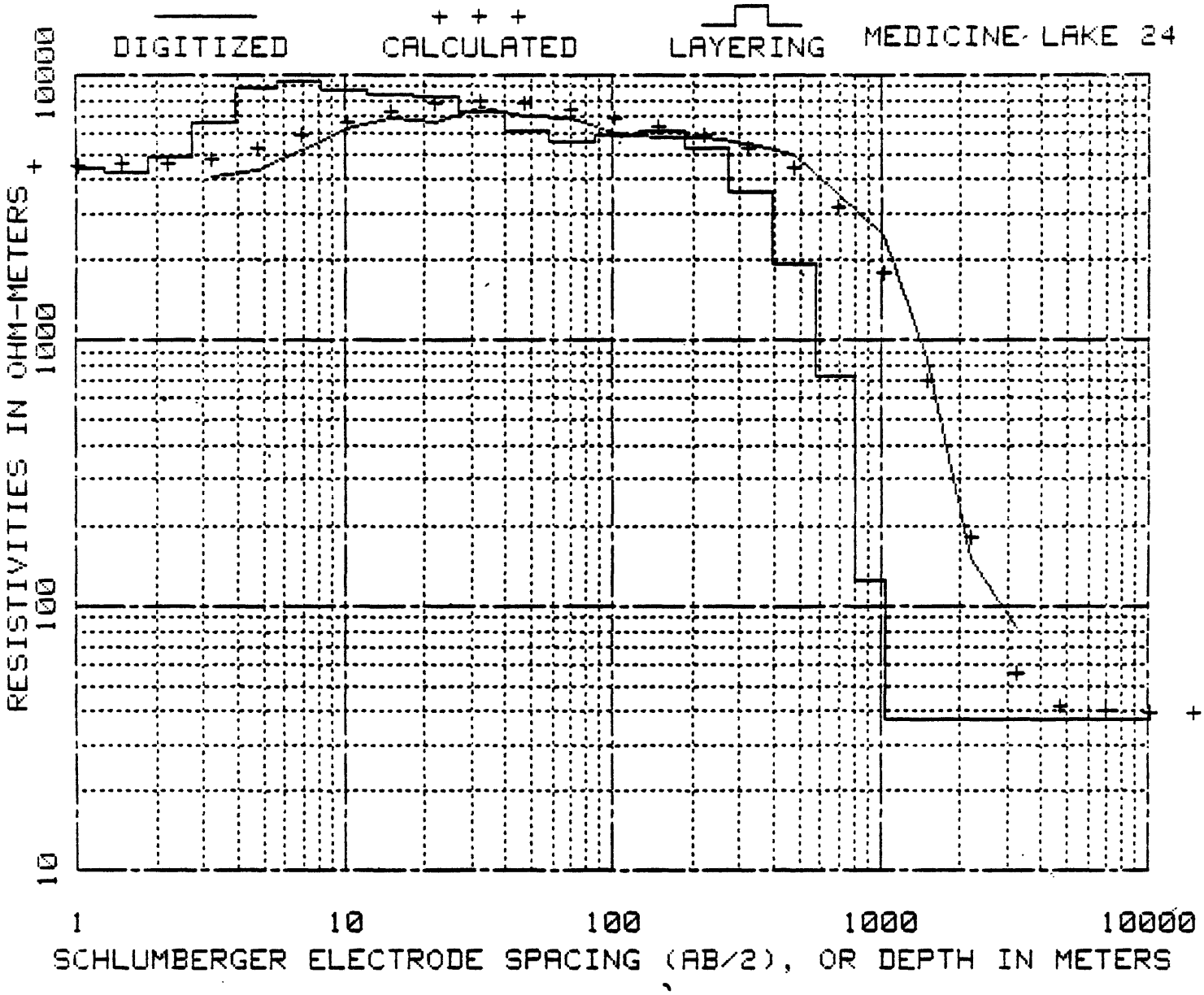

OBSERVED
MEDICINE LAKE 23
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 23
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 24

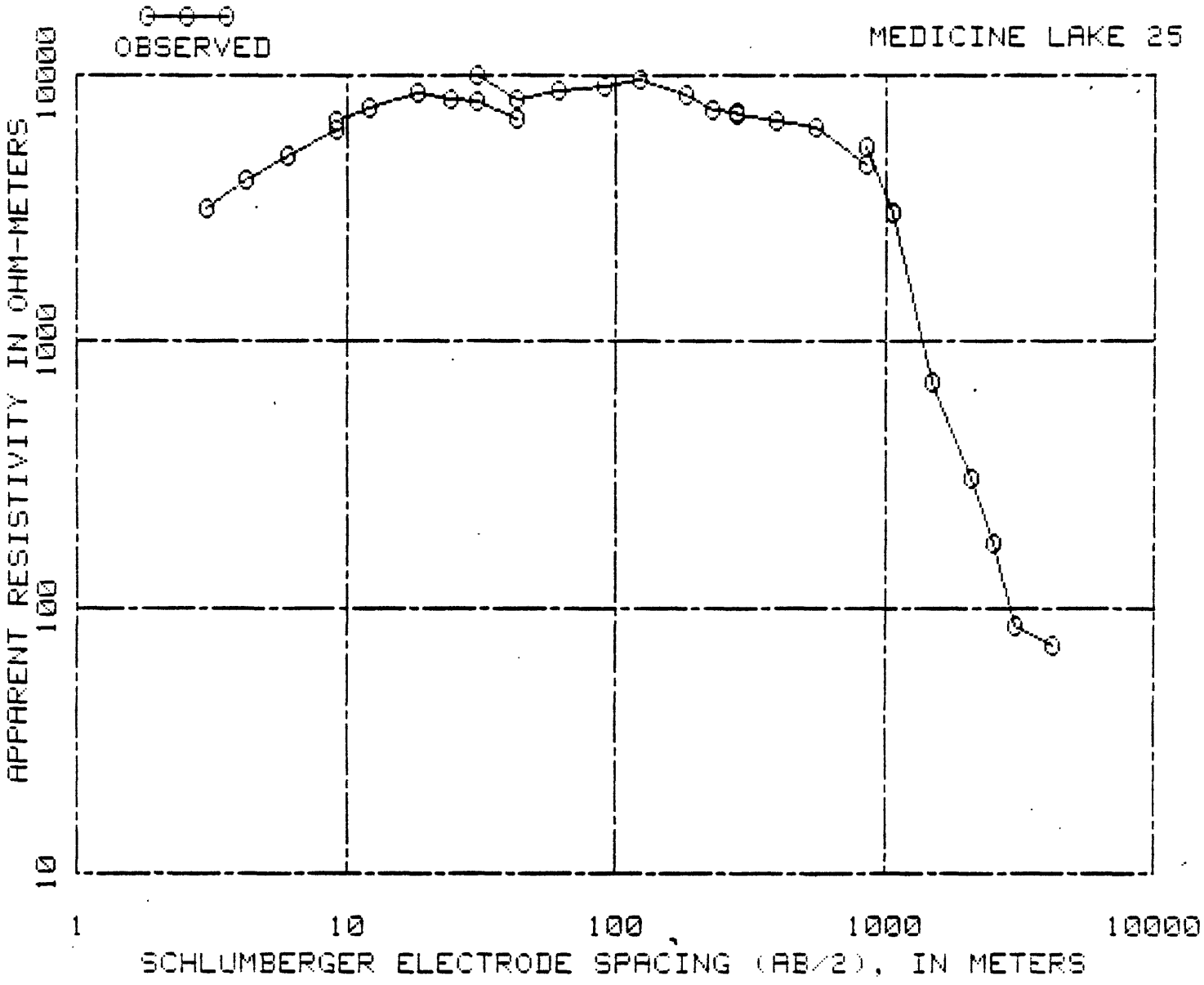
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	2550.00
4.27	2640.00
6.10	2980.00
9.14	3710.00
12.19	4000.00
9.14	4950.00
12.19	5400.00
18.29	5860.00
24.38	5500.00
30.48	6200.00
42.67	5850.00
30.48	7400.00
42.67	6800.00
60.96	6880.00
91.44	6000.00
91.44	6200.00
121.92	5910.00
182.88	5800.00
243.84	5800.00
304.80	5580.00
304.80	5400.00
426.72	4950.00
600.15	4180.00
833.93	2715.00
833.93	2790.00
1135.99	2121.00
1644.09	565.00
2106.17	187.00
2650.24	69.80
3223.26	83.00

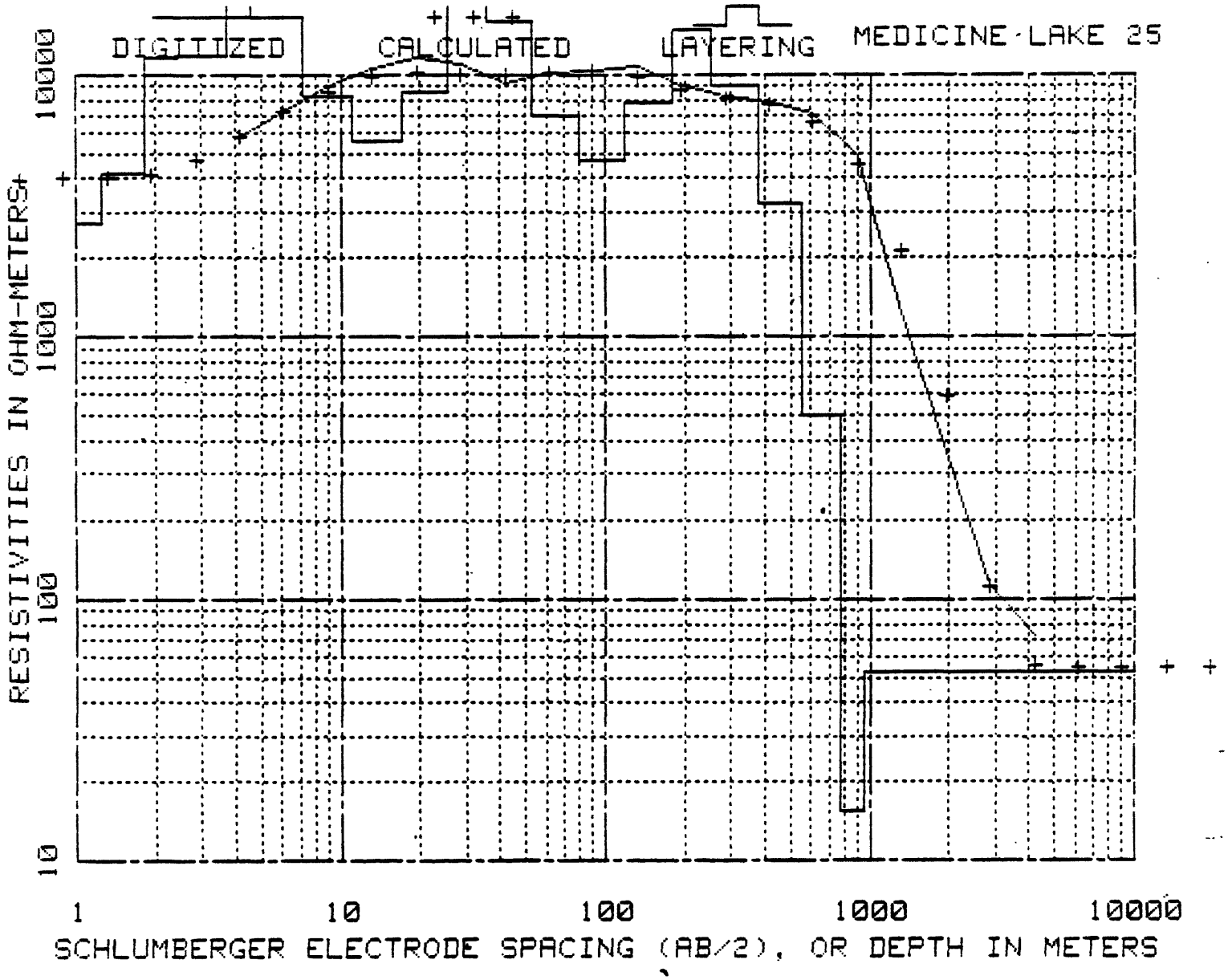

OBSERVED
MEDICINE LAKE 24
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 24
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 25

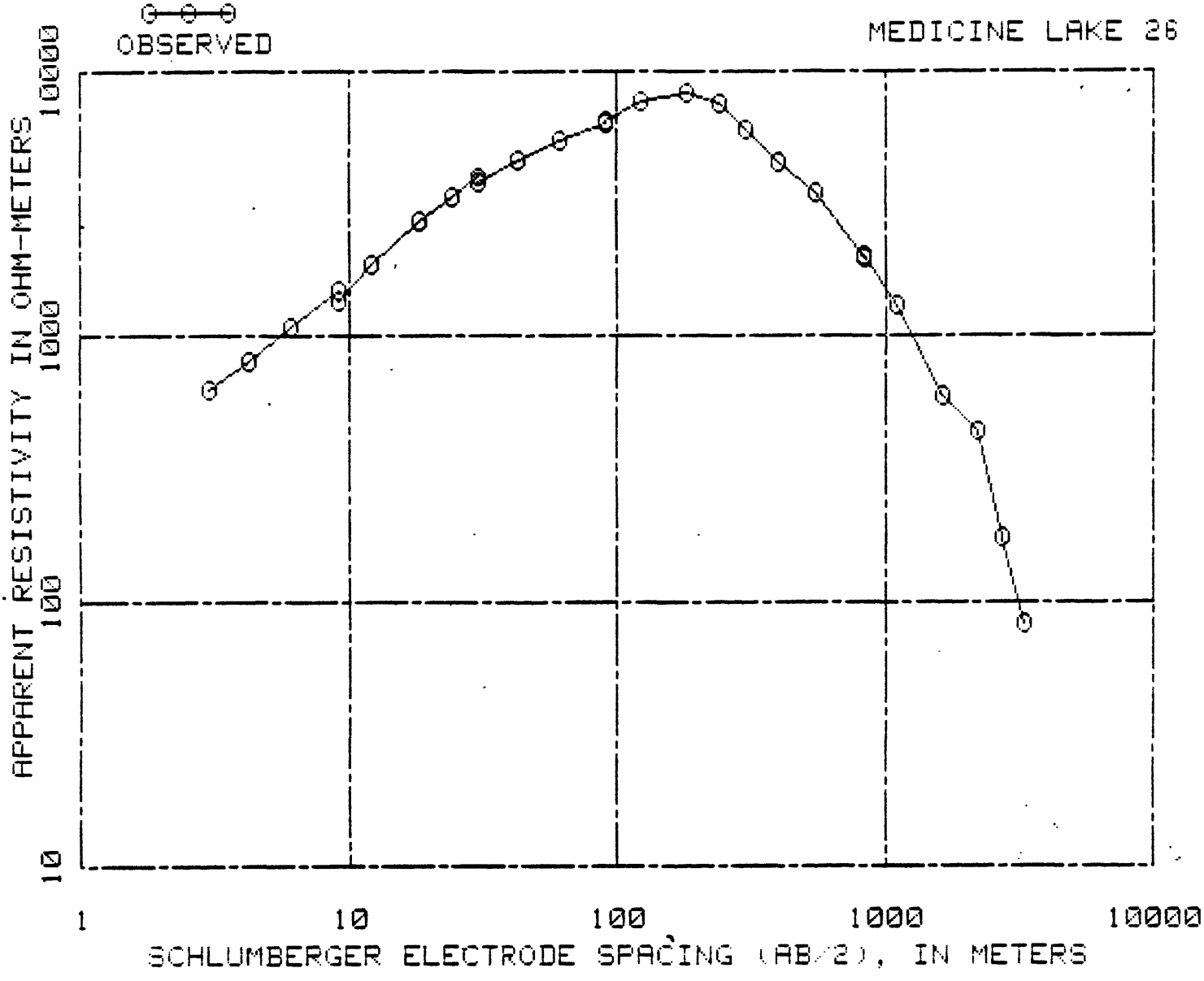
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	3150.00
4.27	4050.00
6.10	4950.00
9.14	6250.00
9.14	6700.00
12.19	7500.00
18.29	8500.00
24.38	8100.00
30.48	8000.00
42.67	6800.00
30.48	10000.00
42.67	8080.00
60.96	8800.00
91.44	9000.00
91.44	9100.00
121.92	9500.00
182.88	8400.00
228.30	7410.00
280.72	7288.00
280.72	7070.00
394.72	6709.00
558.09	6331.00
848.56	4607.00
848.56	5356.00
1073.51	3060.00
1507.24	704.00
2101.60	305.00
2553.61	174.00
3082.75	85.70
4174.24	72.40

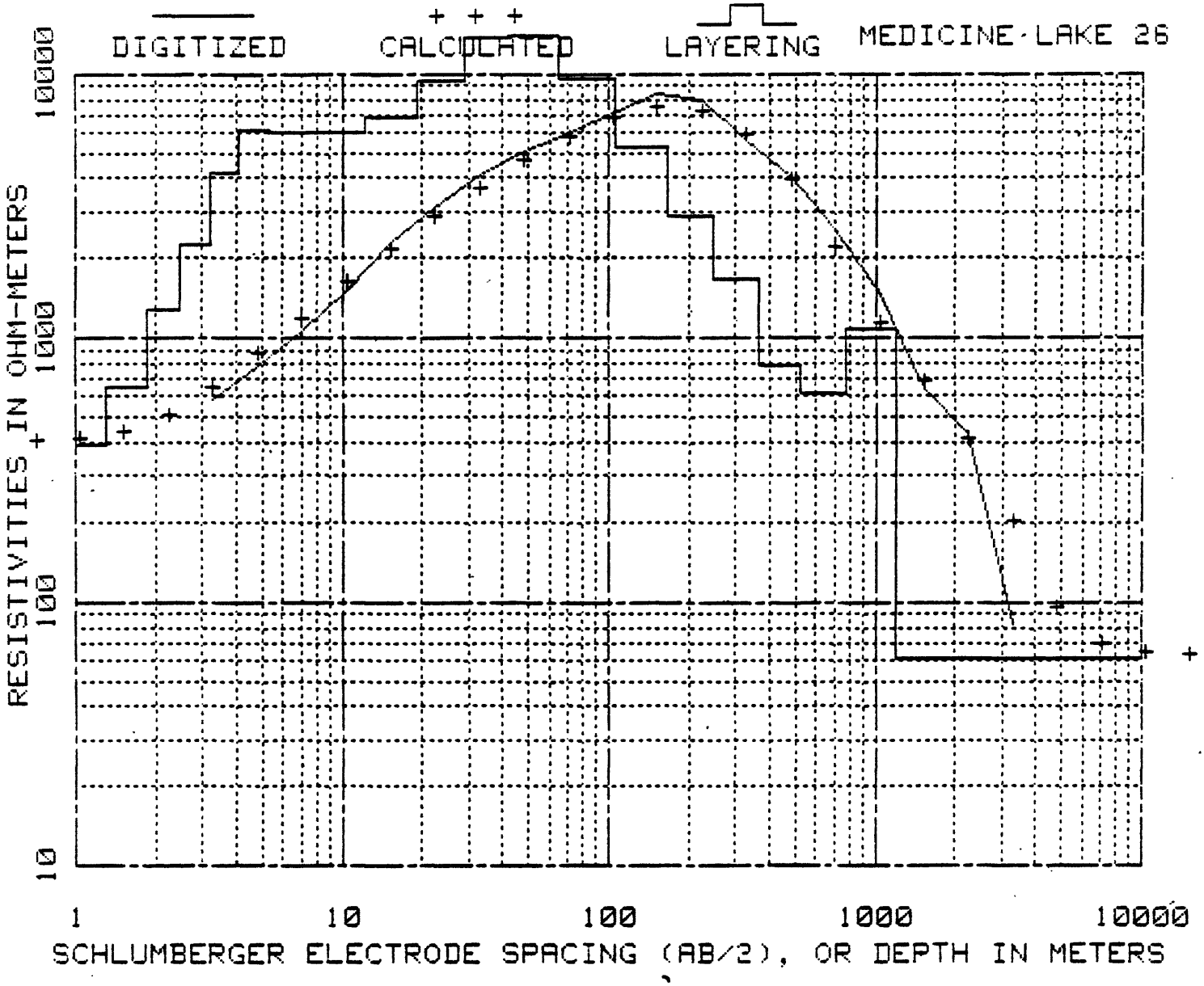

OBSERVED
MEDICINE LAKE 25
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE-LAKE 25
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 26

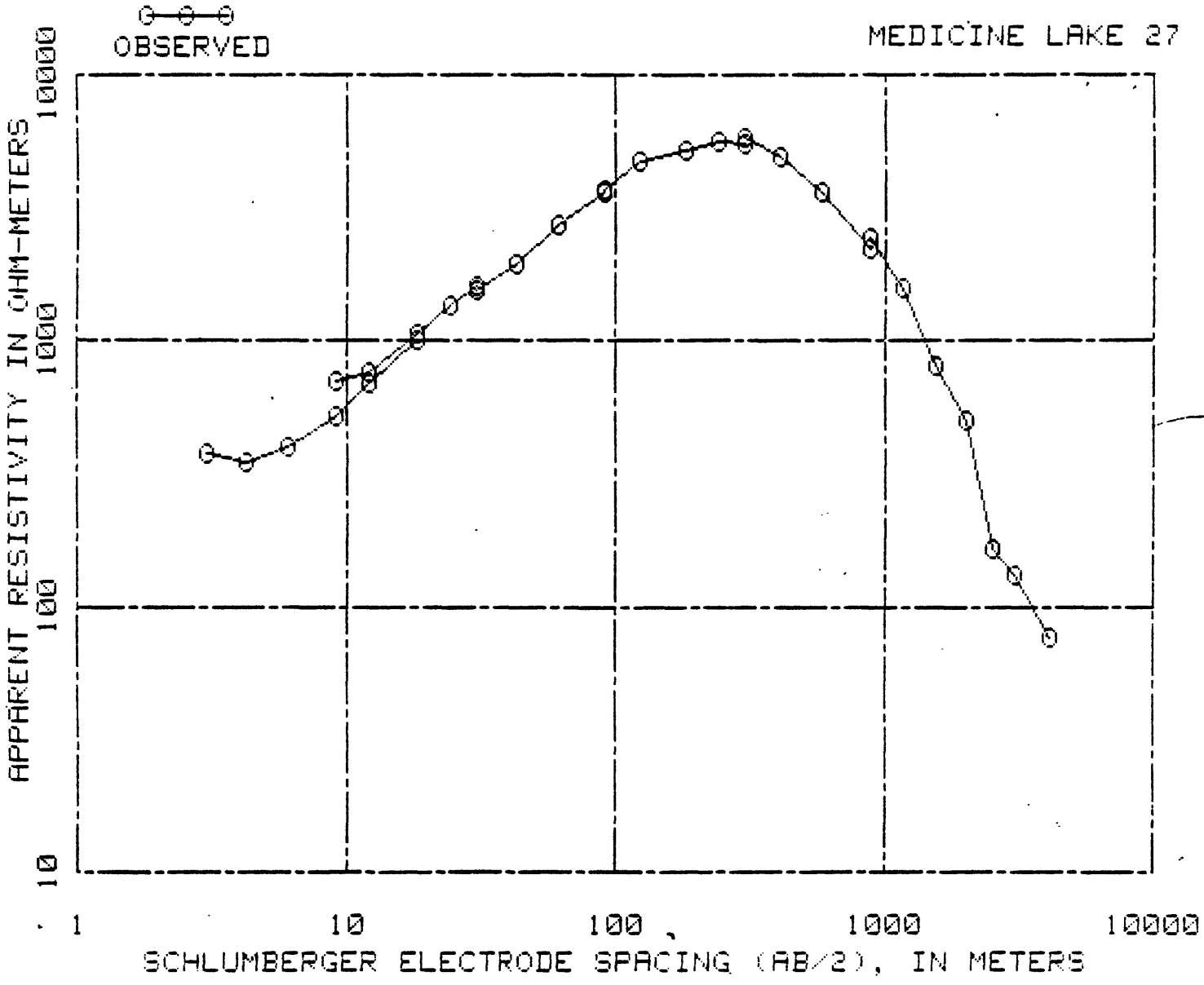
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	625.00
4.27	800.00
6.10	1080.00
9.14	1500.00
9.14	1350.00
12.19	1875.00
18.29	2700.00
24.38	3350.00
30.48	4000.00
30.48	3800.00
42.67	4600.00
60.96	5500.00
91.44	6300.00
91.44	6400.00
121.92	7600.00
182.88	8236.00
243.84	7450.00
300.84	6000.00
300.84	6000.00
404.77	4525.00
553.21	3490.00
837.59	1985.00
837.59	2025.00
1103.99	1308.00
1633.73	591.00
2225.04	443.00
2710.59	176.00
3288.18	81.90

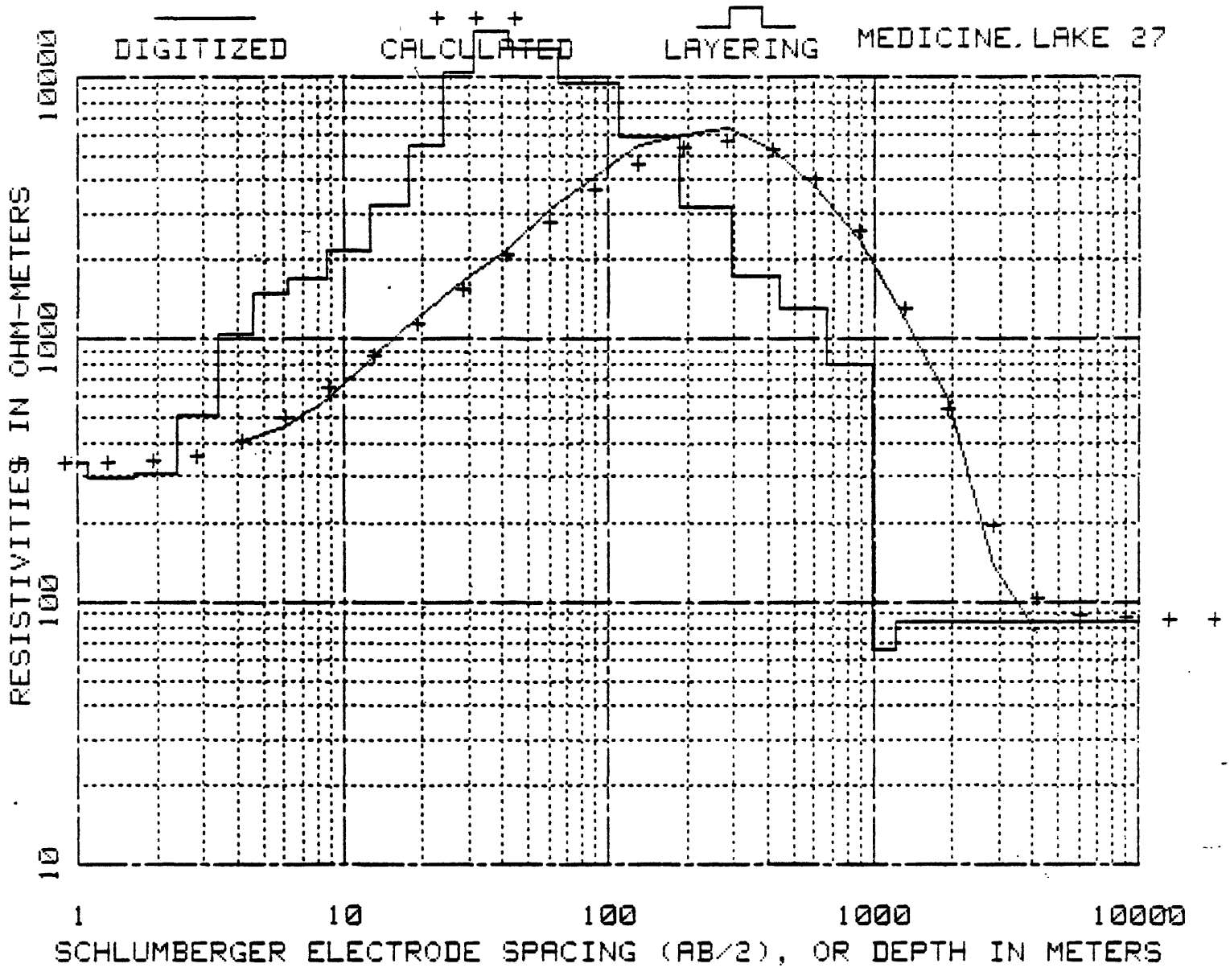

OBSERVED
MEDICINE LAKE 26
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 26
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 27

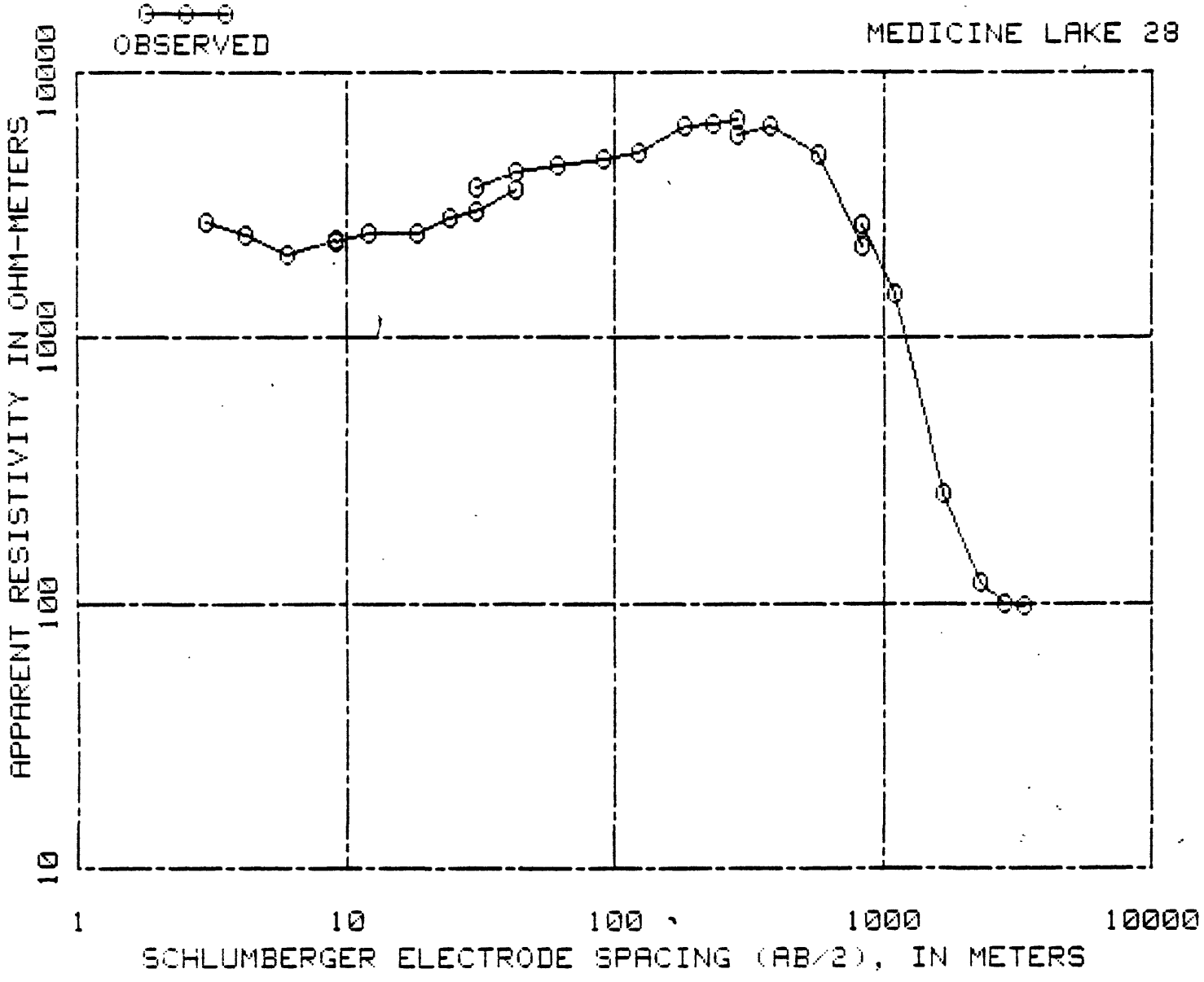
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	380.00
4.27	350.00
6.10	400.00
9.14	525.00
12.19	690.00
18.29	1000.00
9.14	700.00
12.19	760.00
18.29	1060.00
24.38	1350.00
30.48	1620.00
30.48	1540.00
42.67	1940.00
60.96	2700.00
91.44	3640.00
91.44	3680.00
121.92	4650.00
182.88	5200.00
243.84	5600.00
301.75	5500.00
301.75	5738.00
409.65	4836.00
584.30	3600.00
880.87	2216.00
880.87	2421.00
1162.51	1586.00
1564.84	795.00
2015.03	503.00
2514.90	165.00
3043.73	131.00
4137.36	75.80

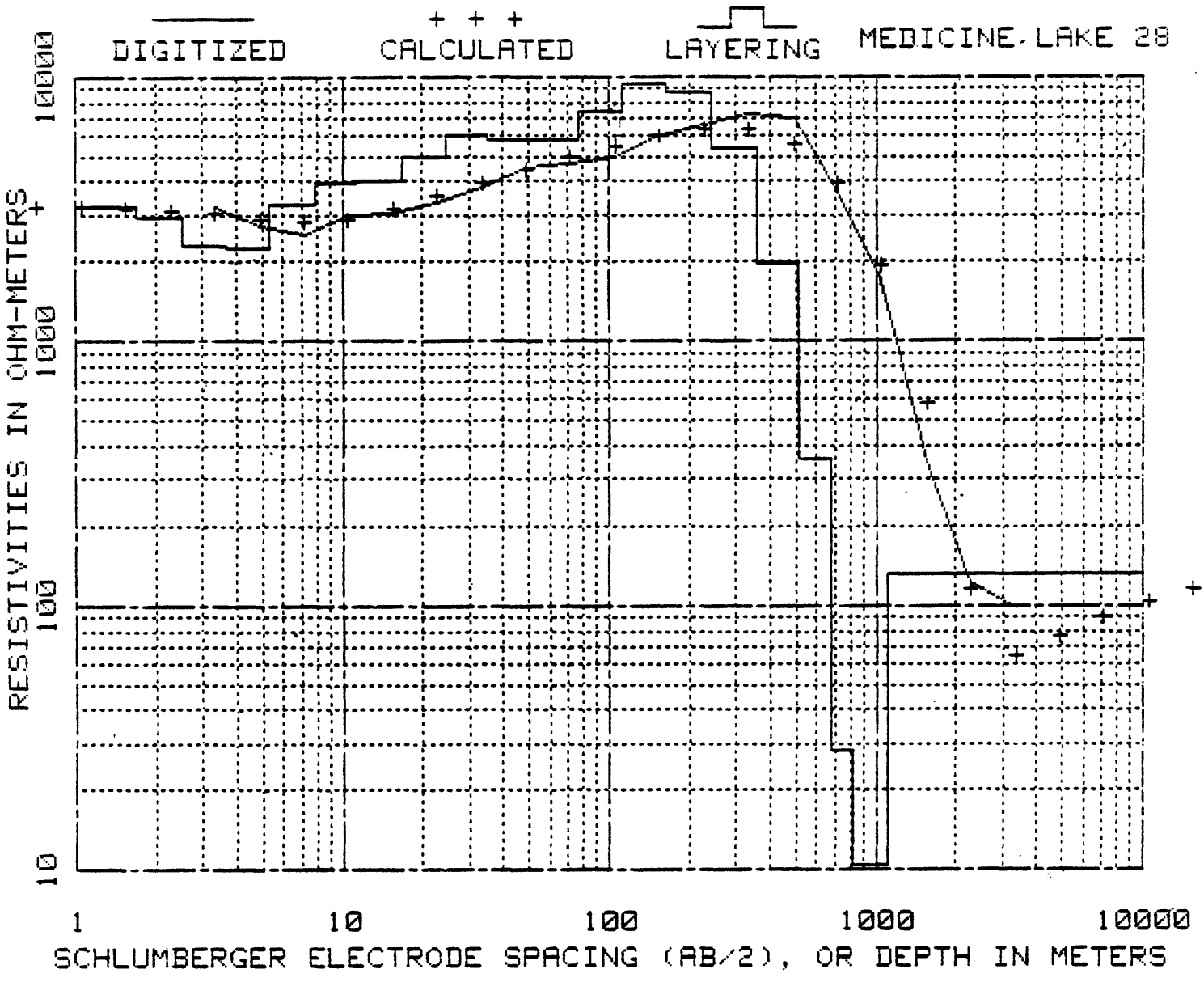

OBSERVED
MEDICINE LAKE 27
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 27
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 28

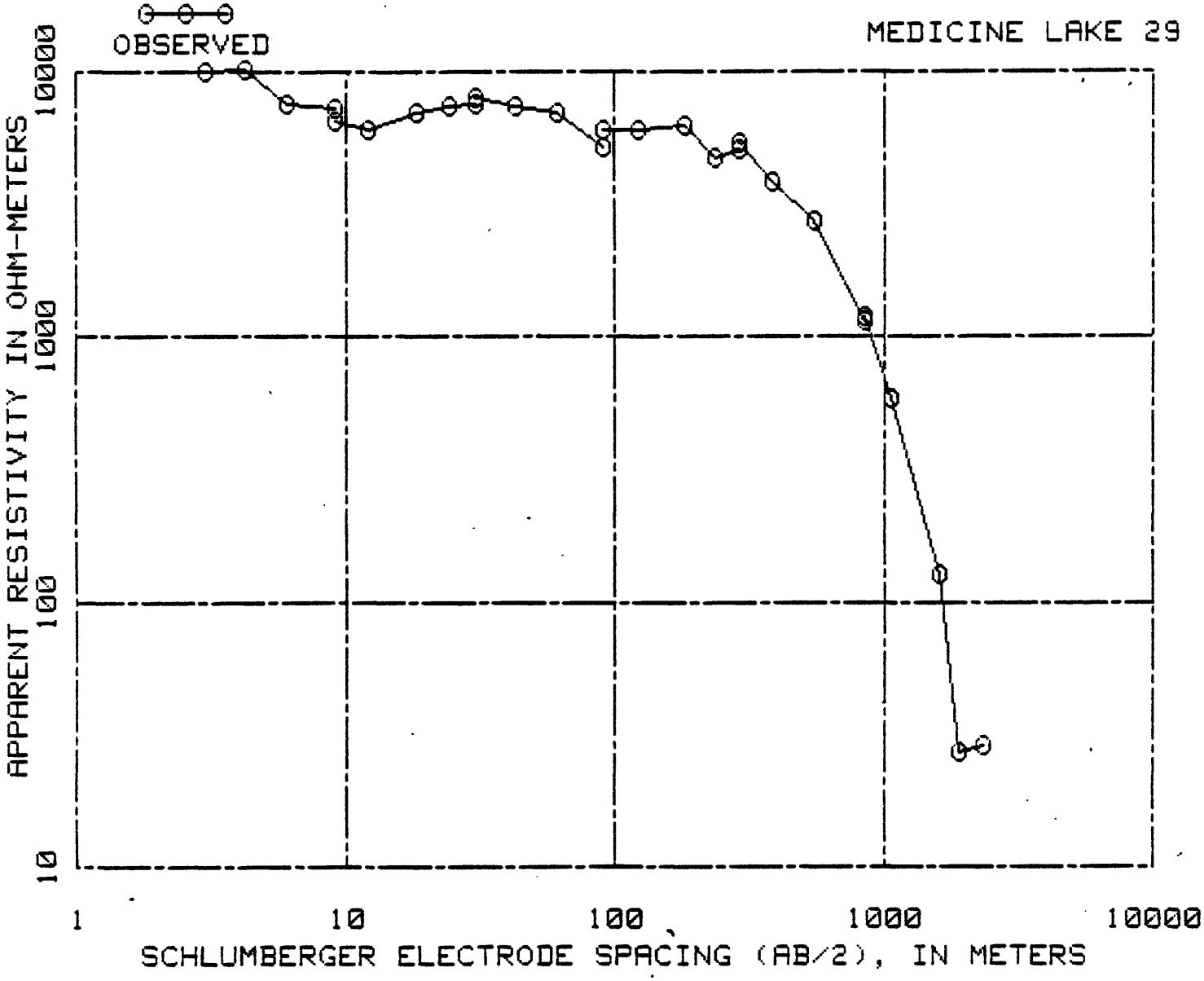
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	2700.00
4.27	2440.00
6.10	2050.00
9.14	2320.00
9.14	2300.00
12.19	2500.00
18.29	2500.00
24.38	2800.00
30.48	3000.00
42.67	3588.00
30.48	3700.00
42.67	4200.00
60.96	4424.00
91.44	4650.00
91.44	4700.00
121.92	5000.00
181.66	6224.00
231.95	6318.00
284.68	6620.00
284.68	5739.00
381.00	6178.00
571.20	4914.00
837.59	2229.00
837.59	2658.00
1113.13	1474.00
1666.34	262.00
2319.83	119.00
2846.83	99.10
3338.17	98.20

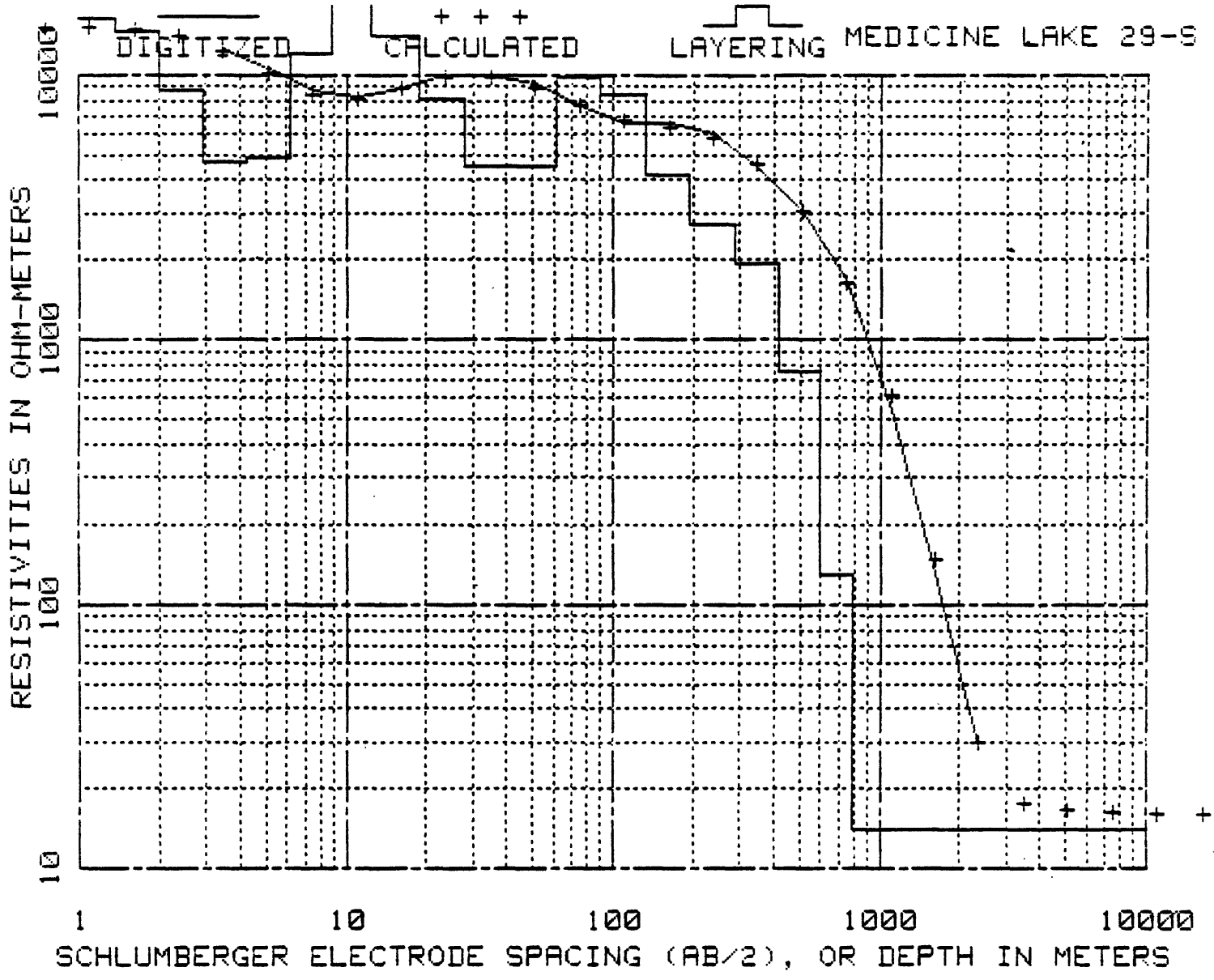

OBSERVED
MEDICINE LAKE 28
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 28
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 29

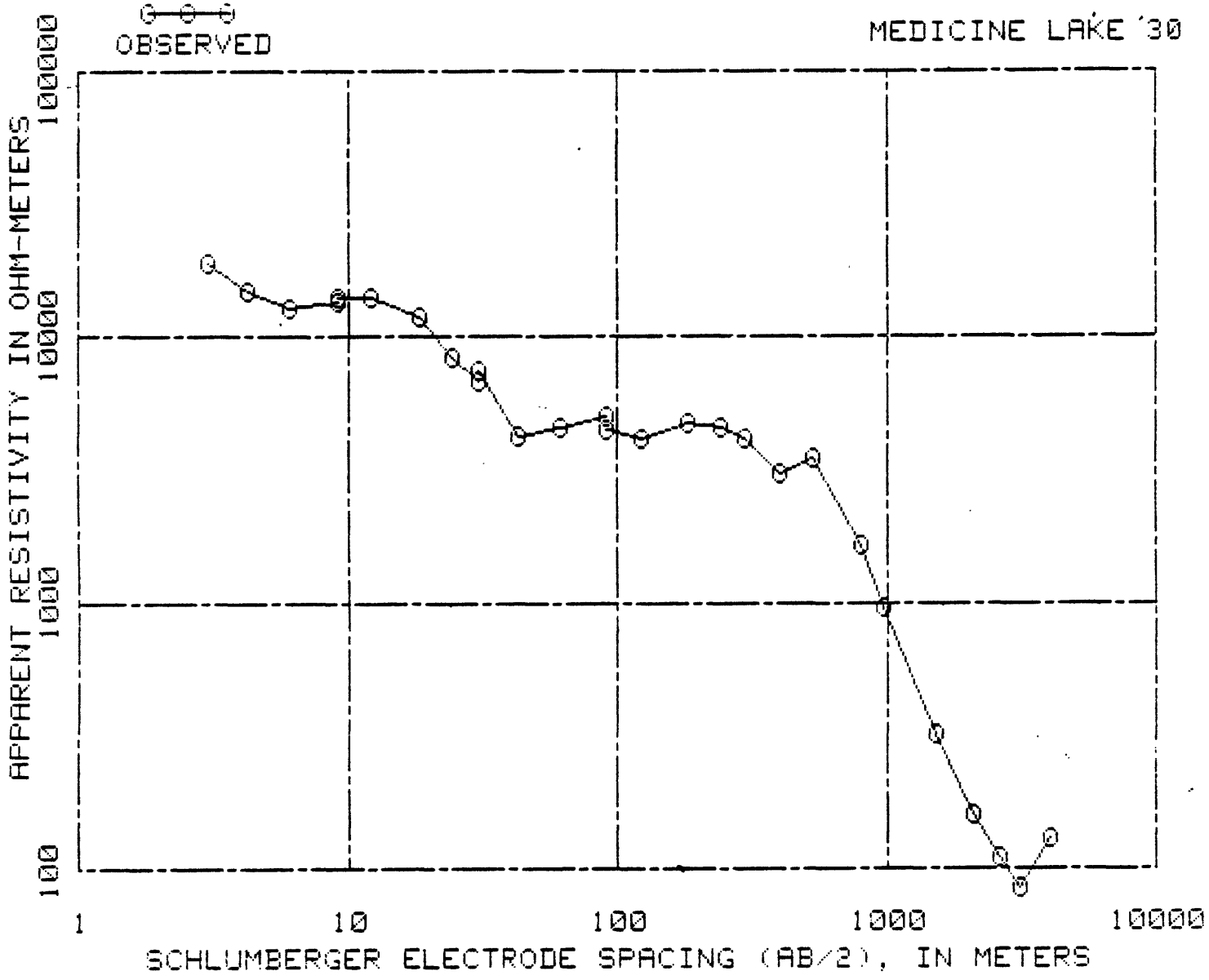
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	9900.00
4.27	10200.00
6.10	7520.00
9.14	7200.00
9.14	6400.00
12.19	5941.00
18.29	7000.00
24.38	7400.00
30.48	7500.00
30.48	7950.00
42.67	7400.00
60.96	6900.00
91.44	5200.00
91.44	6000.00
121.92	6000.00
182.88	6250.00
235.92	4707.00
293.83	5031.00
293.83	5372.00
384.96	3819.00
552.30	2710.00
851.61	1138.00
851.61	1184.00
1062.23	581.00
1625.50	126.00
1918.72	27.10
2373.48	29.00

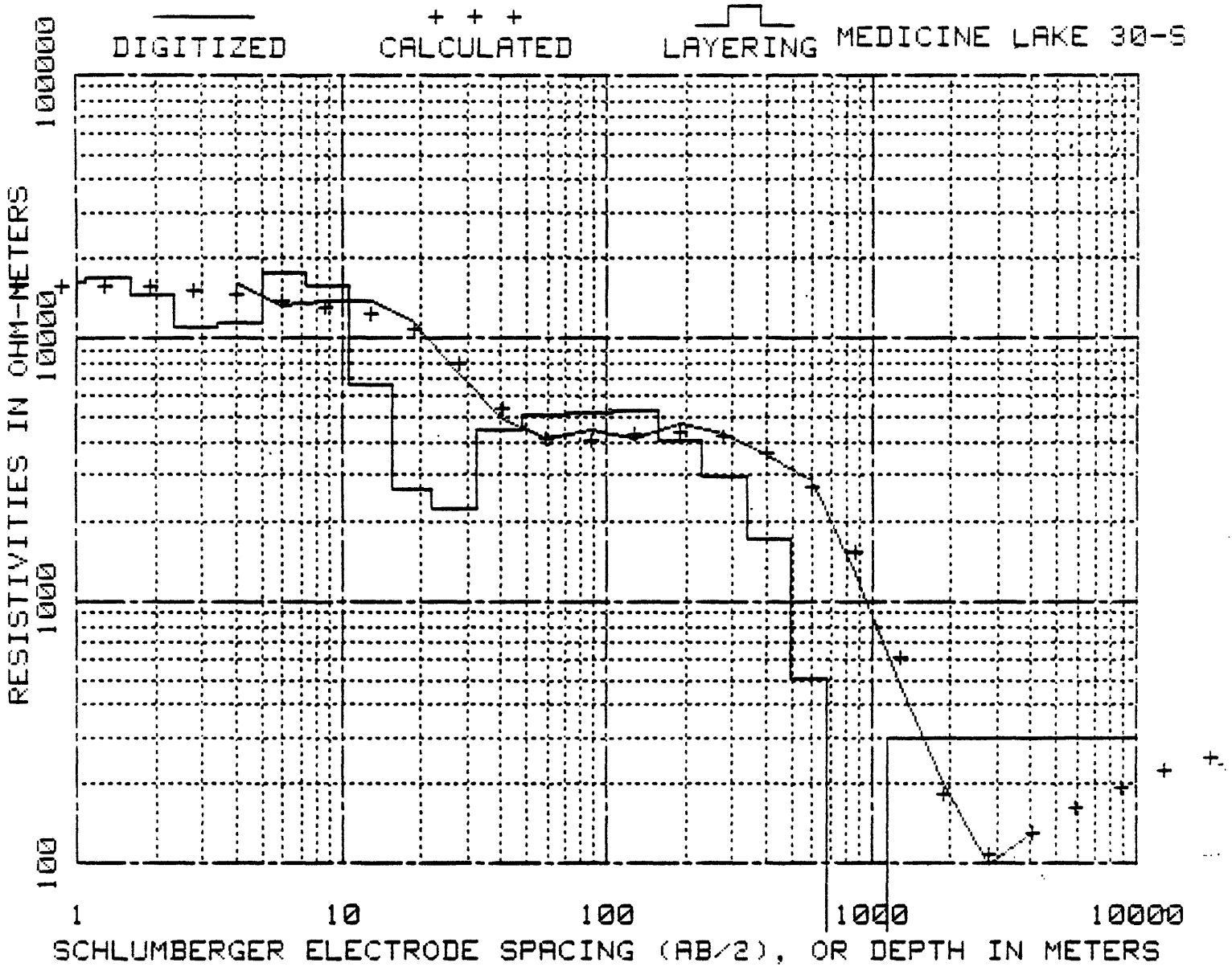

OBSERVED
MEDICINE LAKE 29
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 29-S
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 30

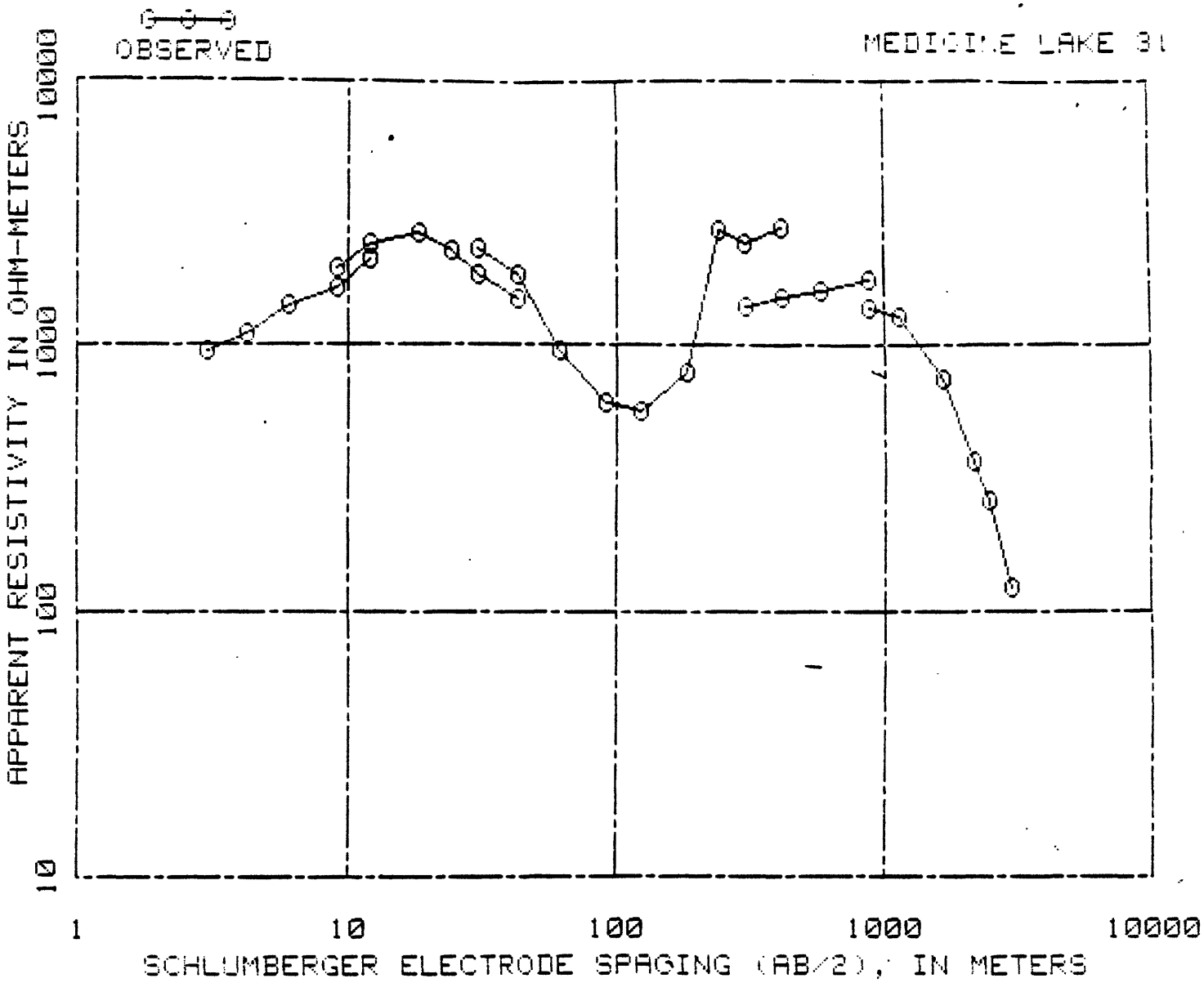
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	19000.00
4.27	15000.00
6.10	12800.00
9.14	13500.00
9.14	14000.00
12.19	14000.00
18.29	12000.00
24.38	8300.00
30.48	6800.00
30.48	7500.00
42.67	4250.00
60.96	4600.00
91.44	5000.00
91.44	4500.00
121.92	4150.00
182.88	4750.00
243.84	4600.00
299.01	4158.00
299.01	4158.00
404.47	3074.00
531.27	3506.00
799.19	1644.00
799.19	1644.00
968.65	950.00
1537.41	321.00
2110.44	160.00
2614.27	110.00
3145.23	84.60
4054.45	130.00

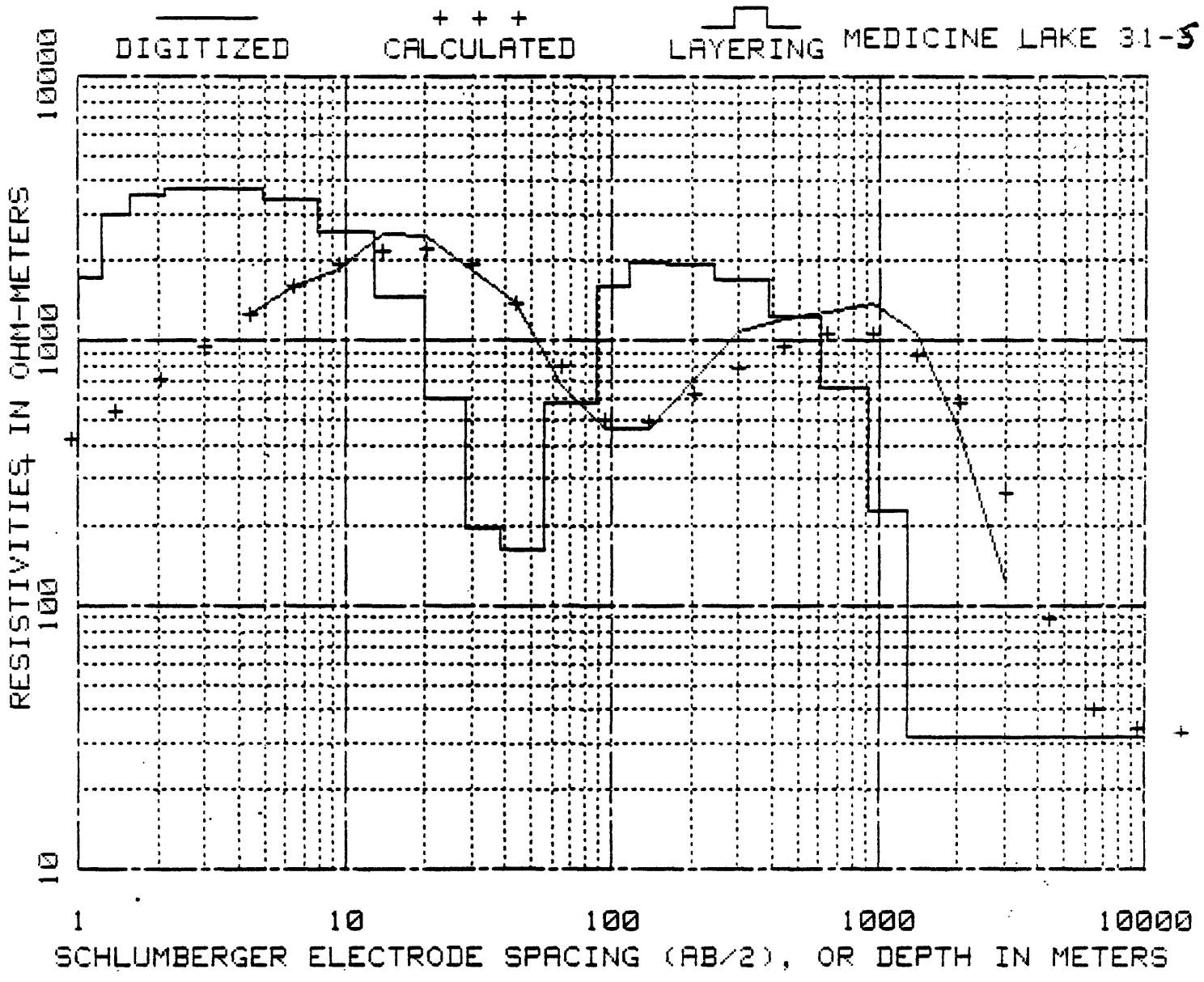

OBSERVED
MEDICINE LAKE '30
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 30-S
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 31

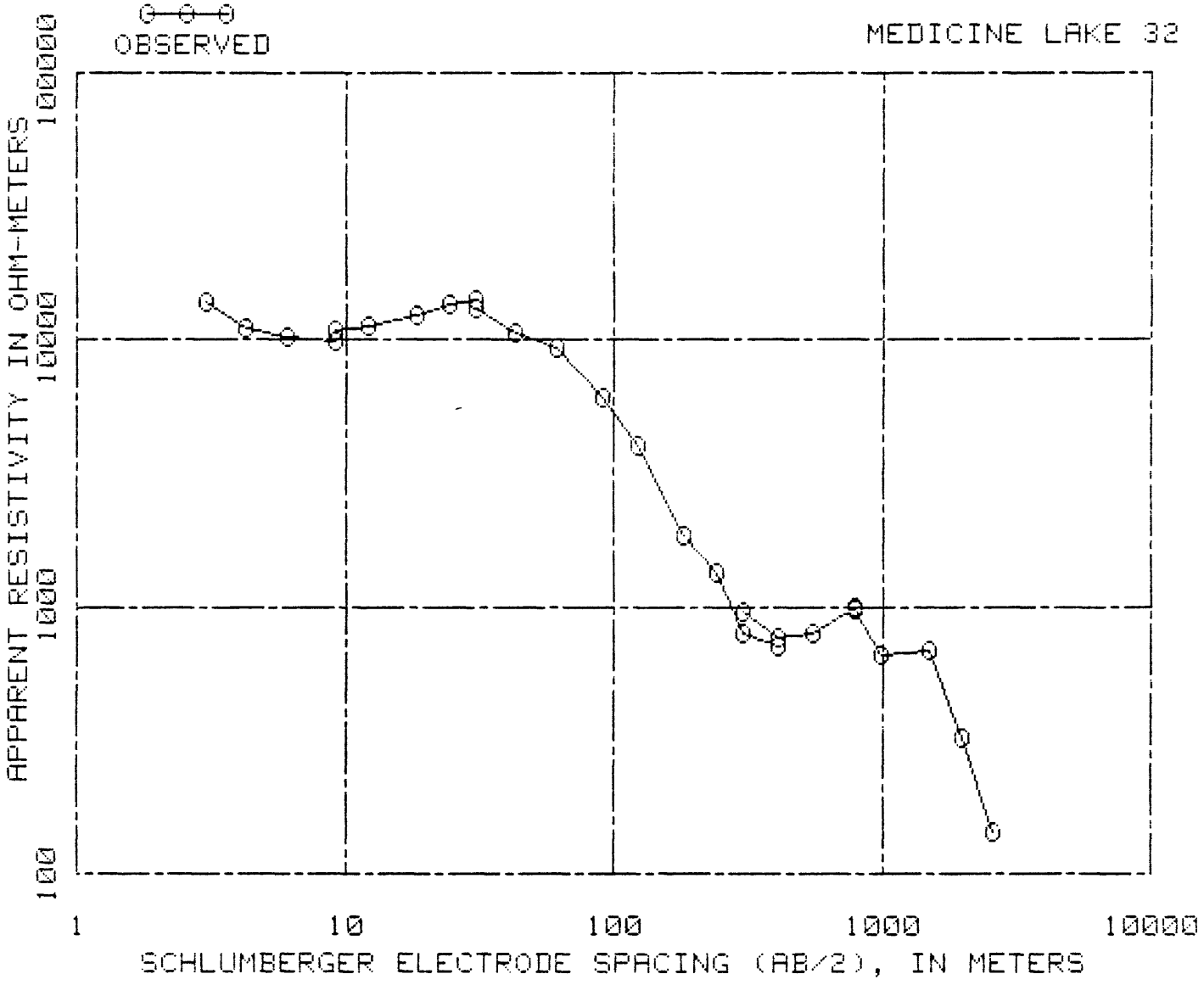
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	950.00
4.27	1100.00
6.10	1420.00
9.14	1650.00
12.19	2100.00
9.14	1950.00
12.19	2400.00
18.29	2625.00
24.38	2250.00
30.48	1850.00
42.67	1490.00
30.48	2300.00
42.67	1850.00
60.96	950.00
91.44	600.00
91.44	600.00
121.92	562.00
182.88	790.00
243.84	2700.00
304.80	2450.00
417.27	2792.00
304.80	1400.00
417.27	1530.00
588.26	1602.00
879.96	1755.00
879.96	1375.00
1151.84	1286.00
1668.17	750.00
2199.74	363.00
2478.33	260.00
2993.14	122.00

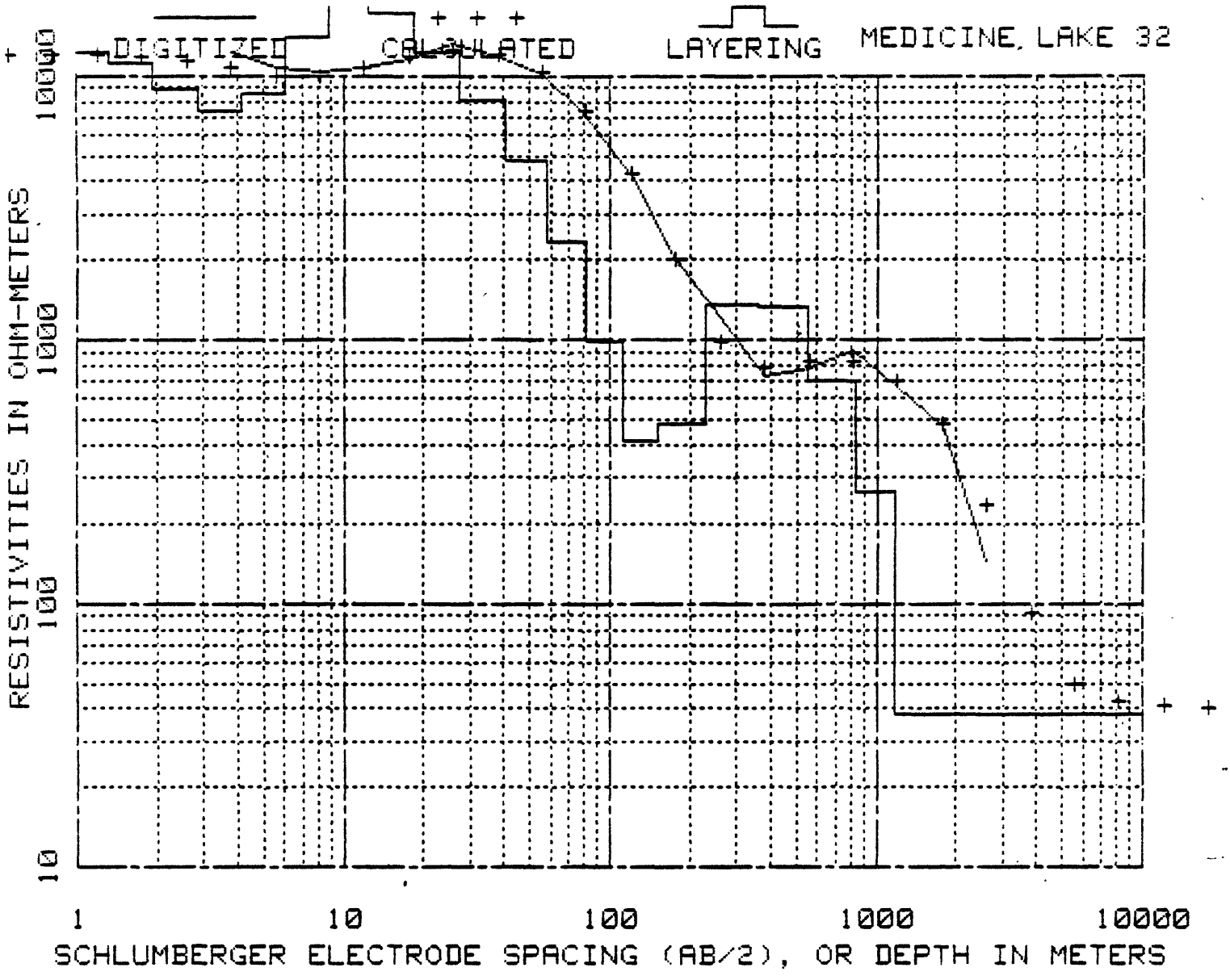

OBSERVED
MEDICINE LAKE 3
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 31-5
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 32

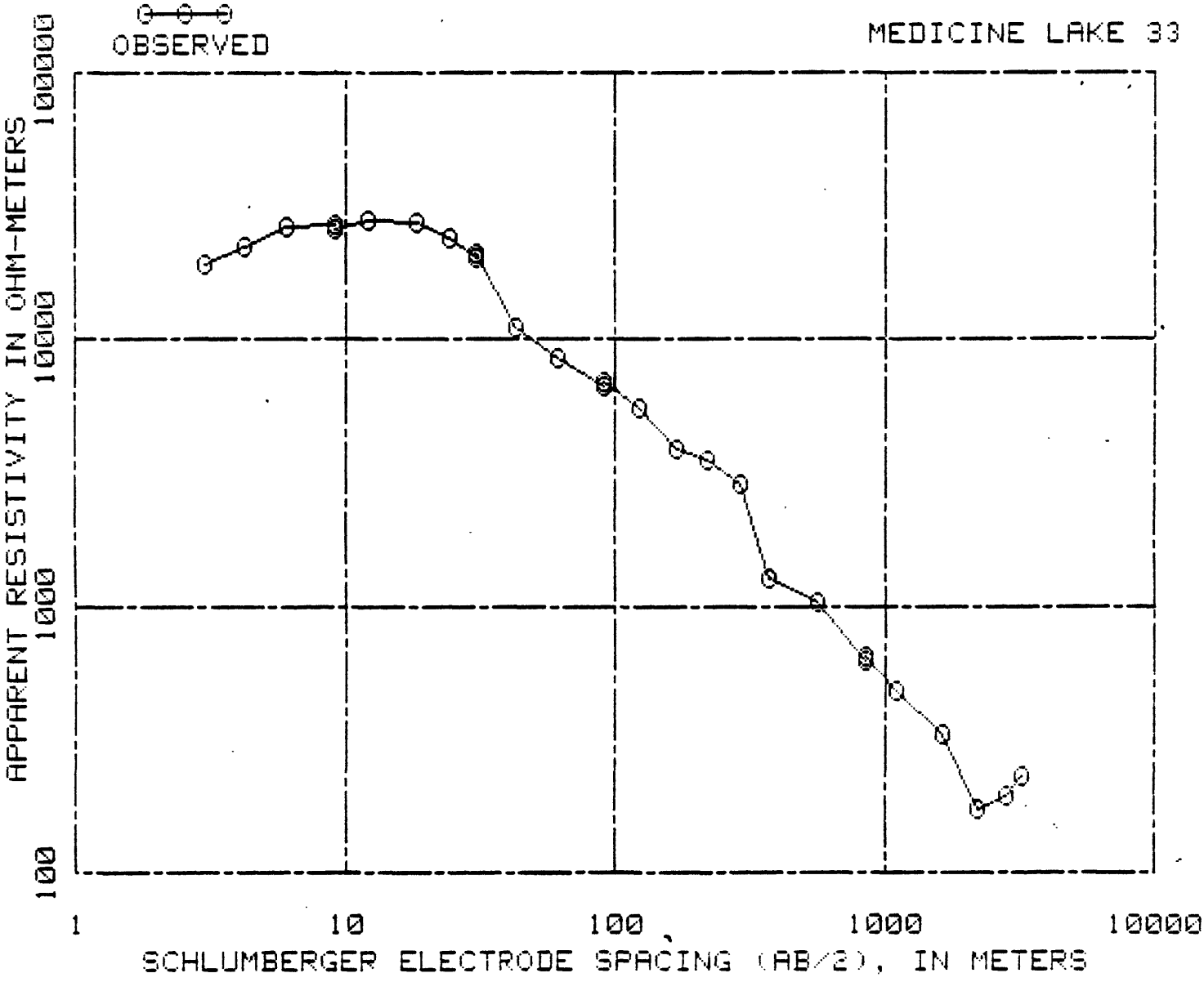
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	13900.00
4.27	11000.00
6.10	10300.00
9.14	9900.00
9.14	10750.00
12.19	11200.00
18.29	12250.00
24.38	13500.00
30.48	14000.00
30.48	13000.00
42.67	10600.00
60.96	9400.00
91.44	6000.00
91.44	6000.00
121.92	4000.00
182.88	1850.00
243.84	1350.00
304.80	800.00
411.78	715.00
304.80	950.00
411.78	760.00
549.55	798.00
783.95	1003.00
783.95	975.00
984.20	661.00
1489.56	678.00
2001.32	324.00
2593.24	144.00

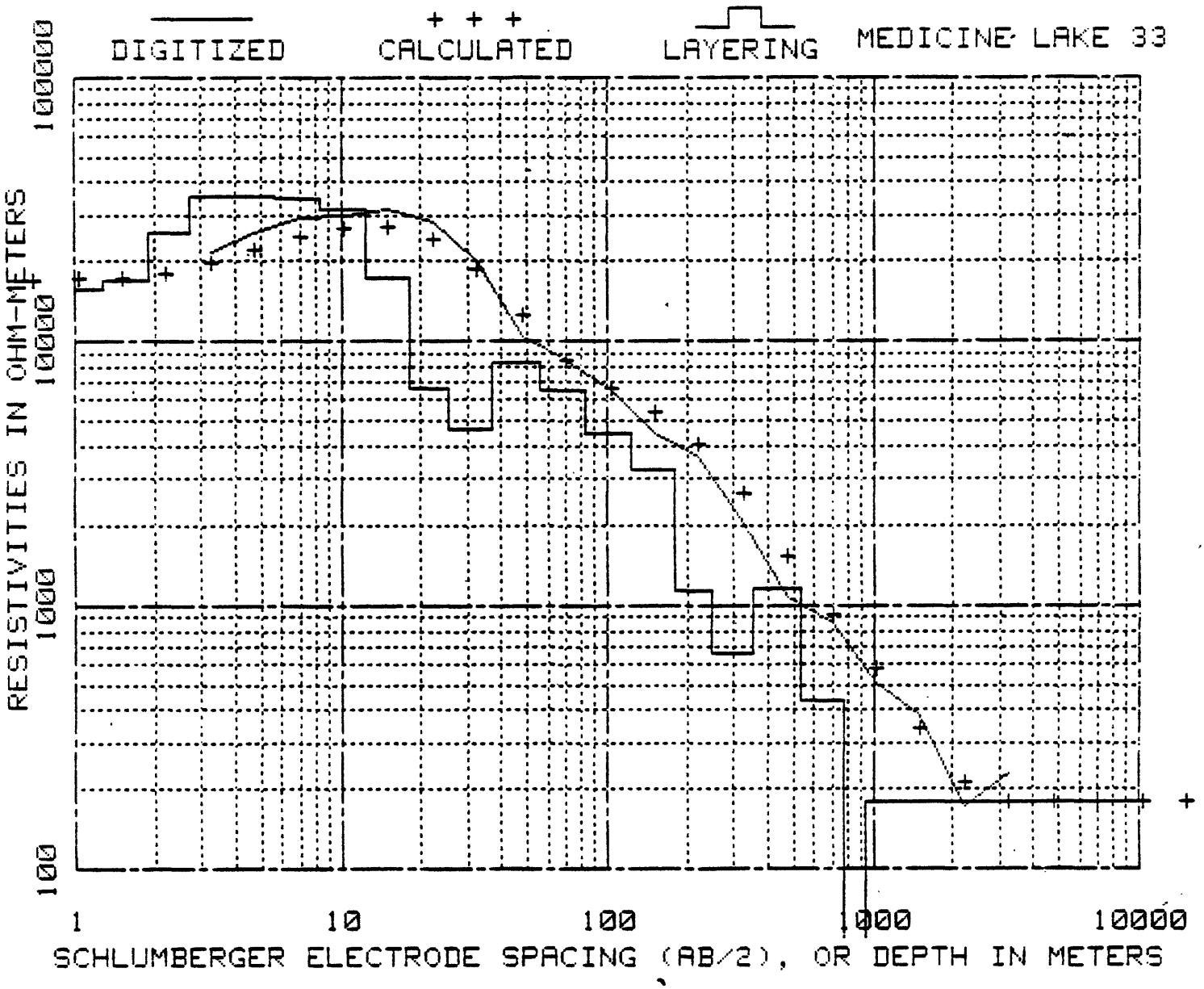

OBSERVED
MEDICINE LAKE 32
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 32
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 33

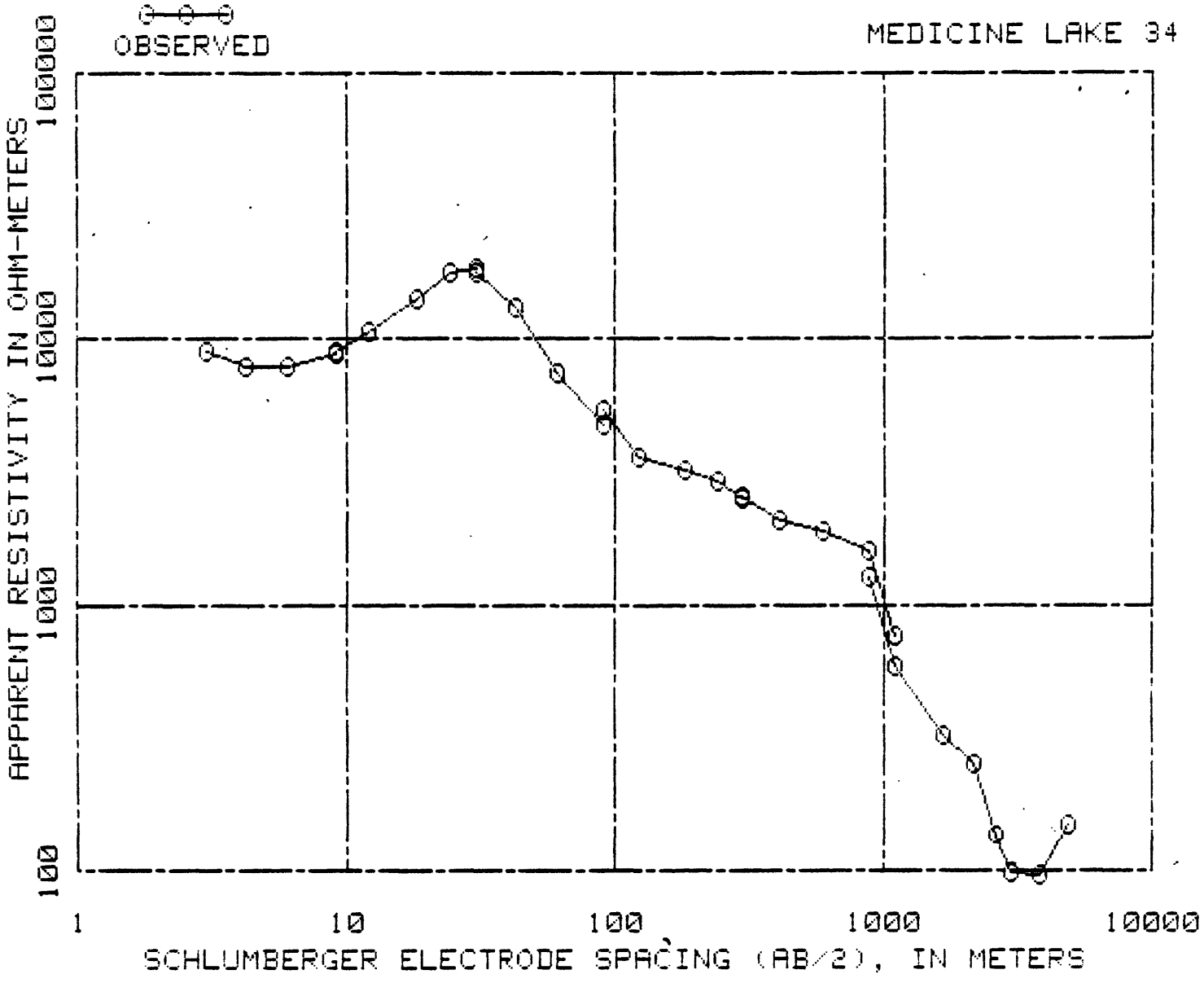
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	19120.00
4.27	22000.00
6.10	26000.00
9.14	26500.00
9.14	25900.00
12.19	27500.00
18.29	27000.00
24.38	24000.00
30.48	20000.00
30.48	20800.00
42.67	11000.00
60.96	8500.00
91.44	6600.00
91.44	6950.00
121.92	5500.00
169.77	3882.00
219.46	3526.00
289.56	2860.00
289.56	2858.00
375.21	1269.00
562.66	1040.00
848.26	624.00
848.26	642.00
1101.24	478.00
1657.81	330.00
2207.97	174.00
2813.61	194.00
3257.09	230.00

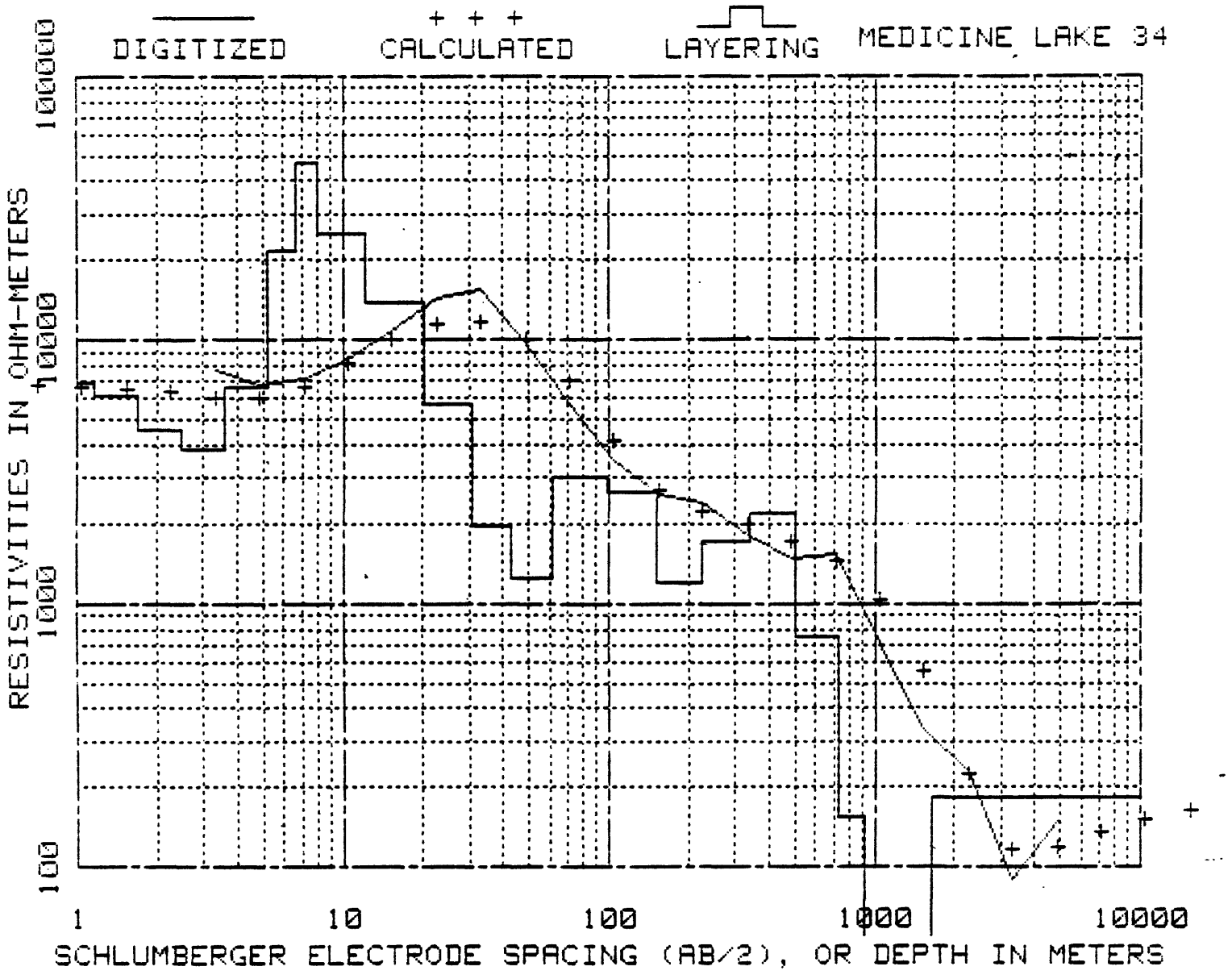

OBSERVED
MEDICINE LAKE 33
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 33
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 34

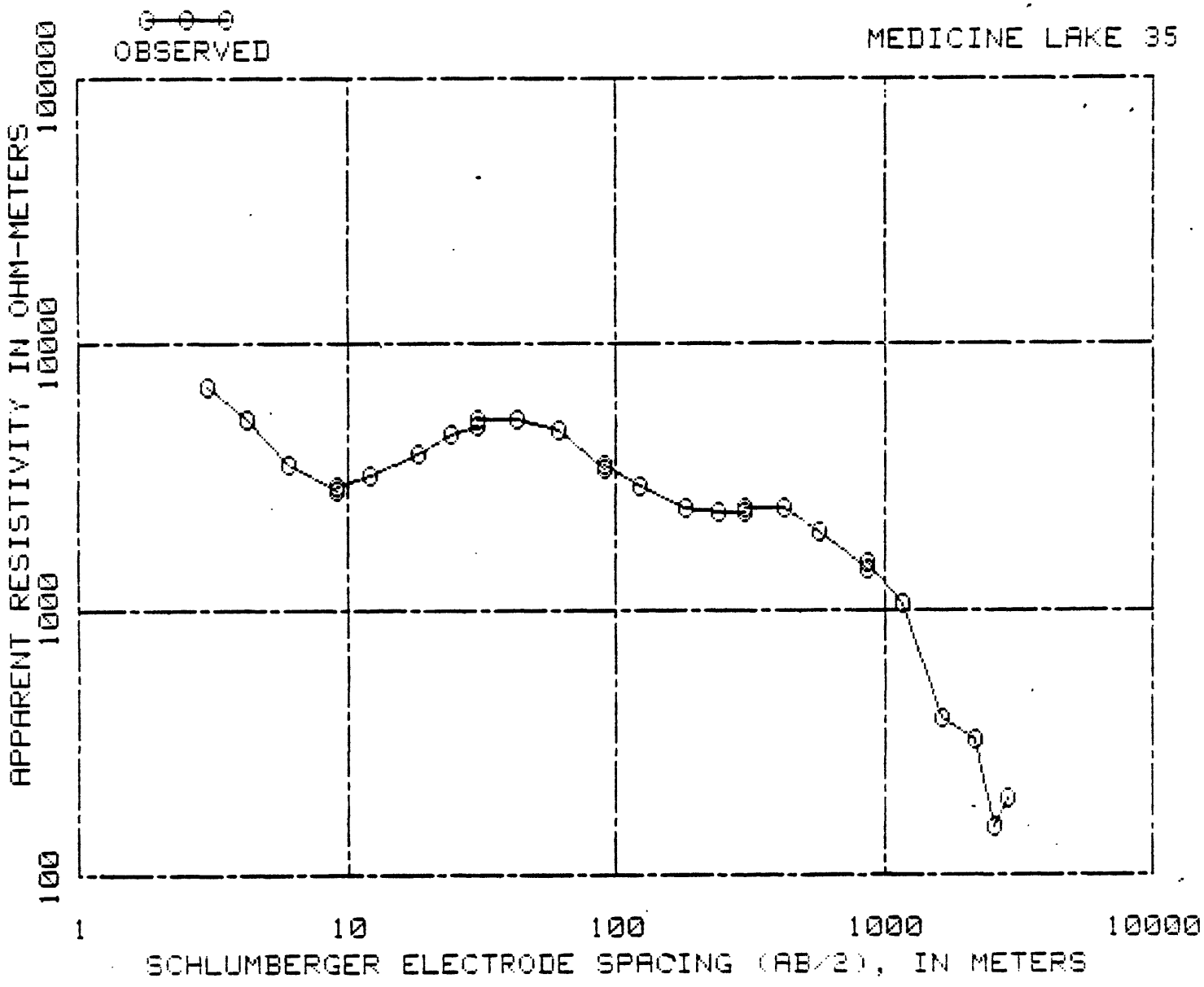
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	9020.00
4.27	7800.00
6.10	7800.00
9.14	8800.00
9.14	9000.00
12.19	10700.00
18.29	14000.00
24.38	17500.00
30.48	18500.00
30.48	17500.00
42.67	13000.00
60.96	7400.00
91.44	4700.00
91.44	5400.00
121.92	3600.00
182.88	3200.00
243.84	2880.00
295.66	2477.00
295.66	2549.00
412.39	2054.00
596.49	1891.00
880.87	1601.00
1108.25	760.00
880.87	1269.00
1108.25	590.00
1668.78	320.00
2179.02	253.00
2633.17	137.00
2993.75	98.00
3812.44	96.00
4858.82	150.00

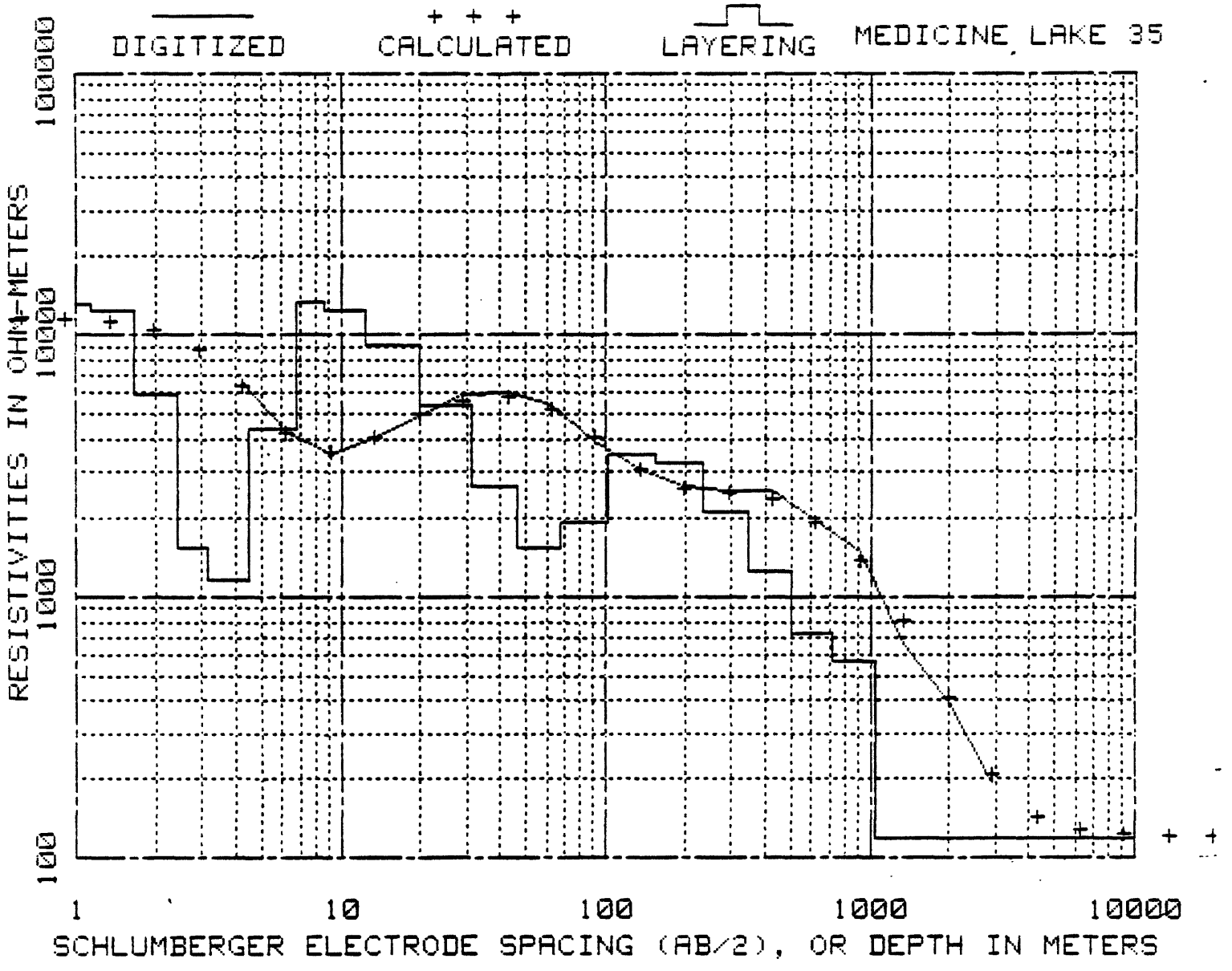

OBSERVED
MEDICINE LAKE 34
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 34
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 35

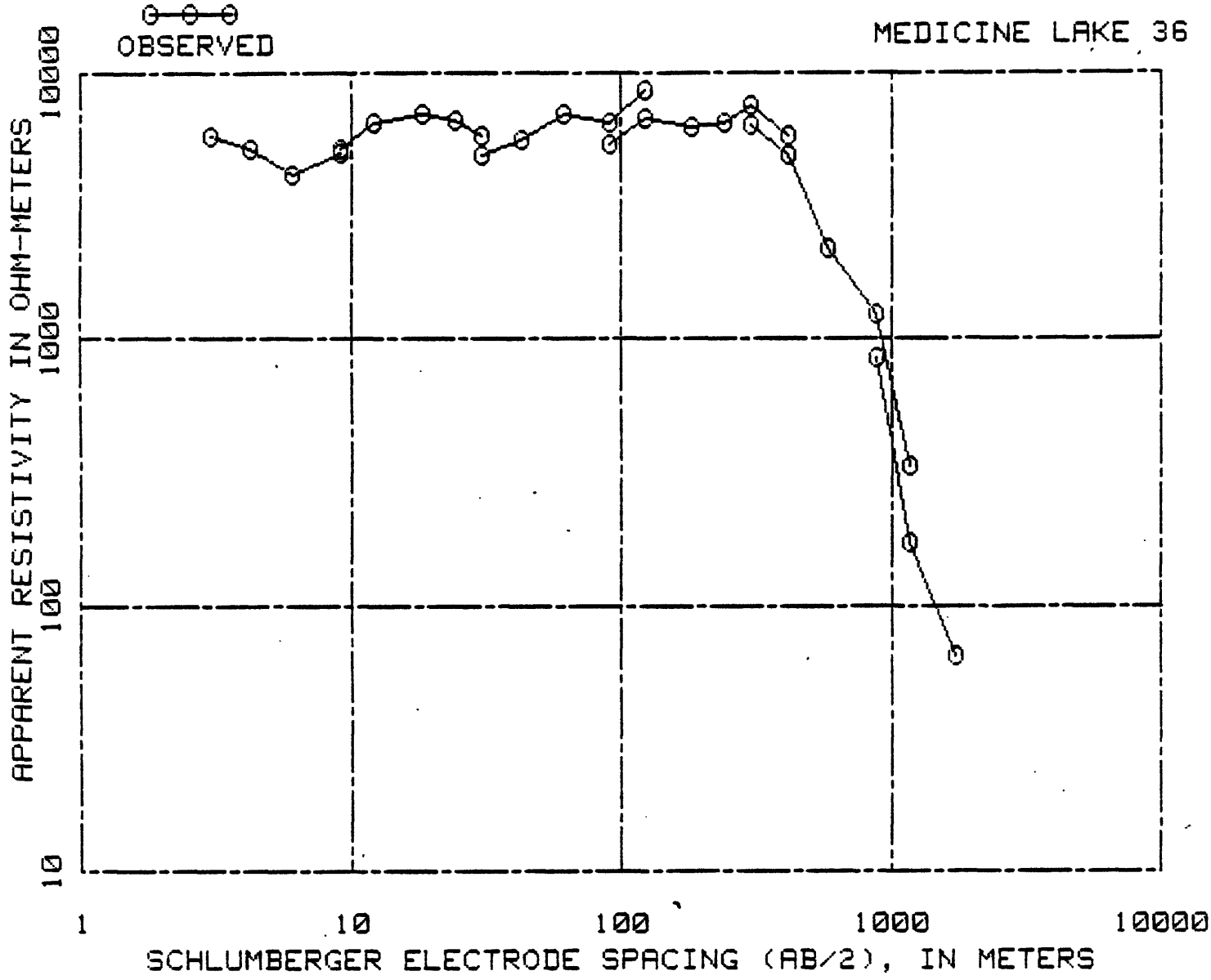
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	6850.00
4.27	5250.00
6.10	3500.00
9.14	2800.00
9.14	2900.00
12.19	3200.00
18.29	3840.00
24.38	4600.00
30.48	4900.00
30.48	5200.00
42.67	5250.00
60.96	4750.00
91.44	3400.00
91.44	3500.00
121.92	2900.00
182.88	2400.00
243.84	2300.00
304.80	2300.00
304.80	2400.00
426.72	2400.00
572.11	1963.00
874.17	1417.00
874.17	1516.00
1170.74	1056.00
1649.88	389.00
2190.29	320.00
2568.85	151.00
2897.43	193.00

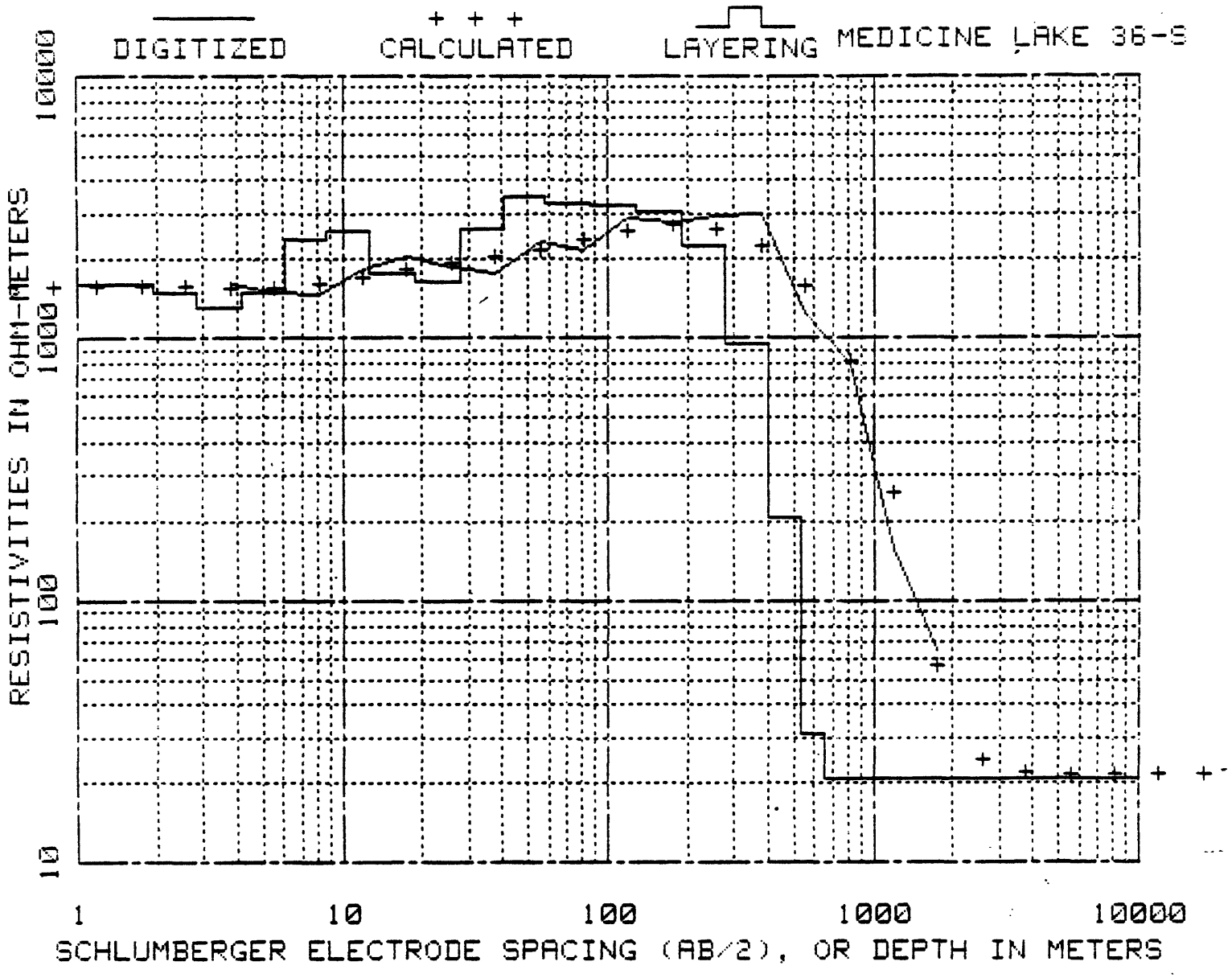

OBSERVED
MEDICINE LAKE 35
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 35
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 36

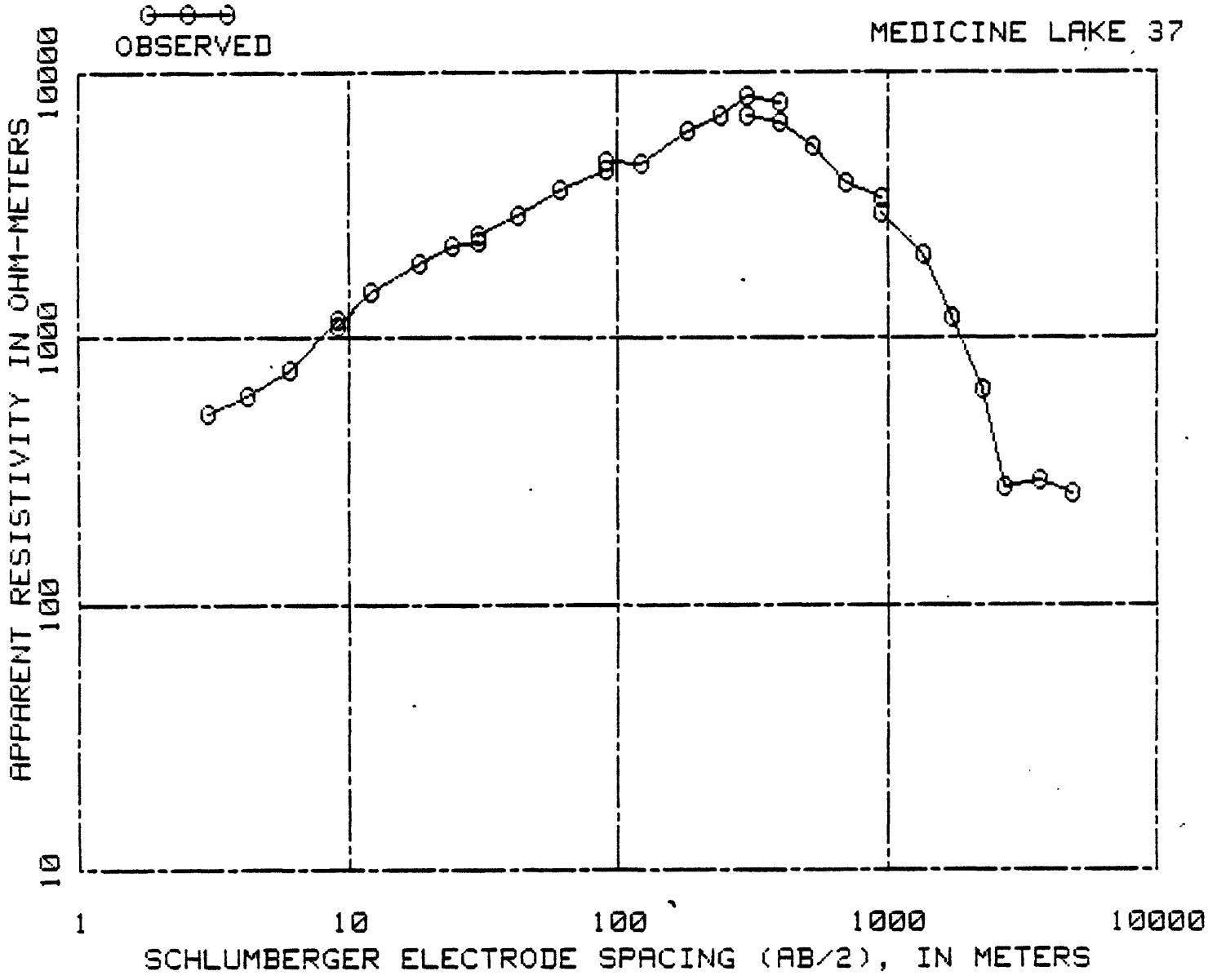
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	5750.00
4.27	5200.00
6.10	4100.00
9.14	5000.00
9.14	5200.00
12.19	6400.00
18.29	7000.00
24.38	6600.00
30.48	5800.00
30.48	4880.00
42.67	5600.00
60.96	7000.00
91.44	6420.00
121.92	8500.00
91.44	5400.00
121.92	6750.00
182.88	6250.00
242.32	6510.00
302.36	7446.00
419.10	5760.00
302.36	6360.00
419.10	4862.00
584.30	2160.00
883.92	1247.00
1171.04	332.00
883.92	844.00
1171.04	171.00
1752.60	64.00

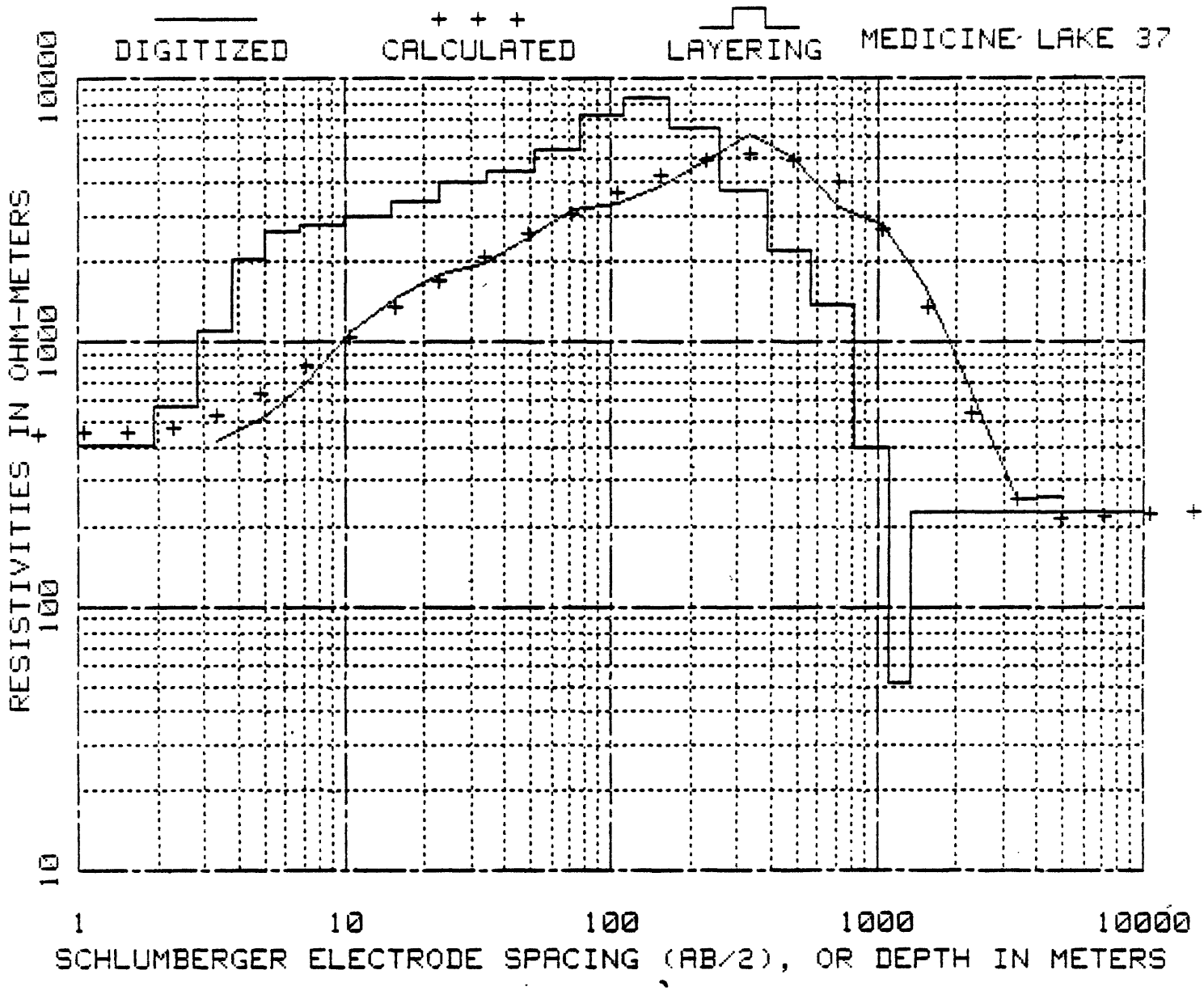

OBSERVED
MEDICINE LAKE 36
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 36-S
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 37

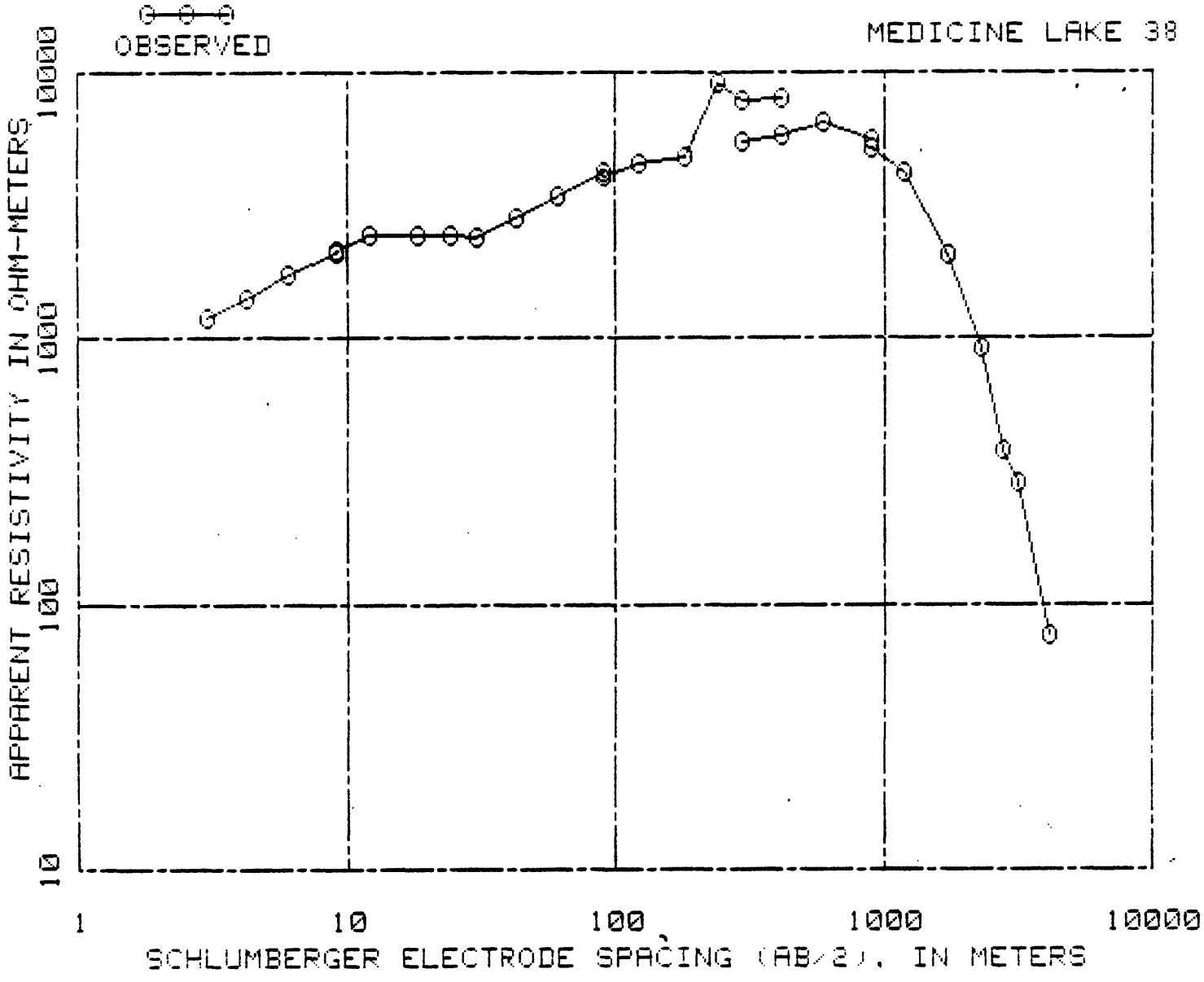
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	525.00
4.27	600.00
6.10	760.00
9.14	1175.00
9.14	1100.00
12.19	1490.00
18.29	1900.00
24.38	2200.00
30.48	2300.00
30.48	2450.00
42.67	2880.00
60.96	3600.00
91.44	4300.00
91.44	4600.00
121.92	4500.00
182.88	6000.00
243.84	6840.00
304.80	8100.00
403.56	7656.00
304.80	6800.00
403.56	6483.00
536.45	5242.00
703.78	3797.00
957.68	3367.00
957.68	2928.00
1367.03	2043.00
1755.04	1186.00
2282.34	635.00
2723.08	274.00
3699.36	288.00
4892.95	258.00

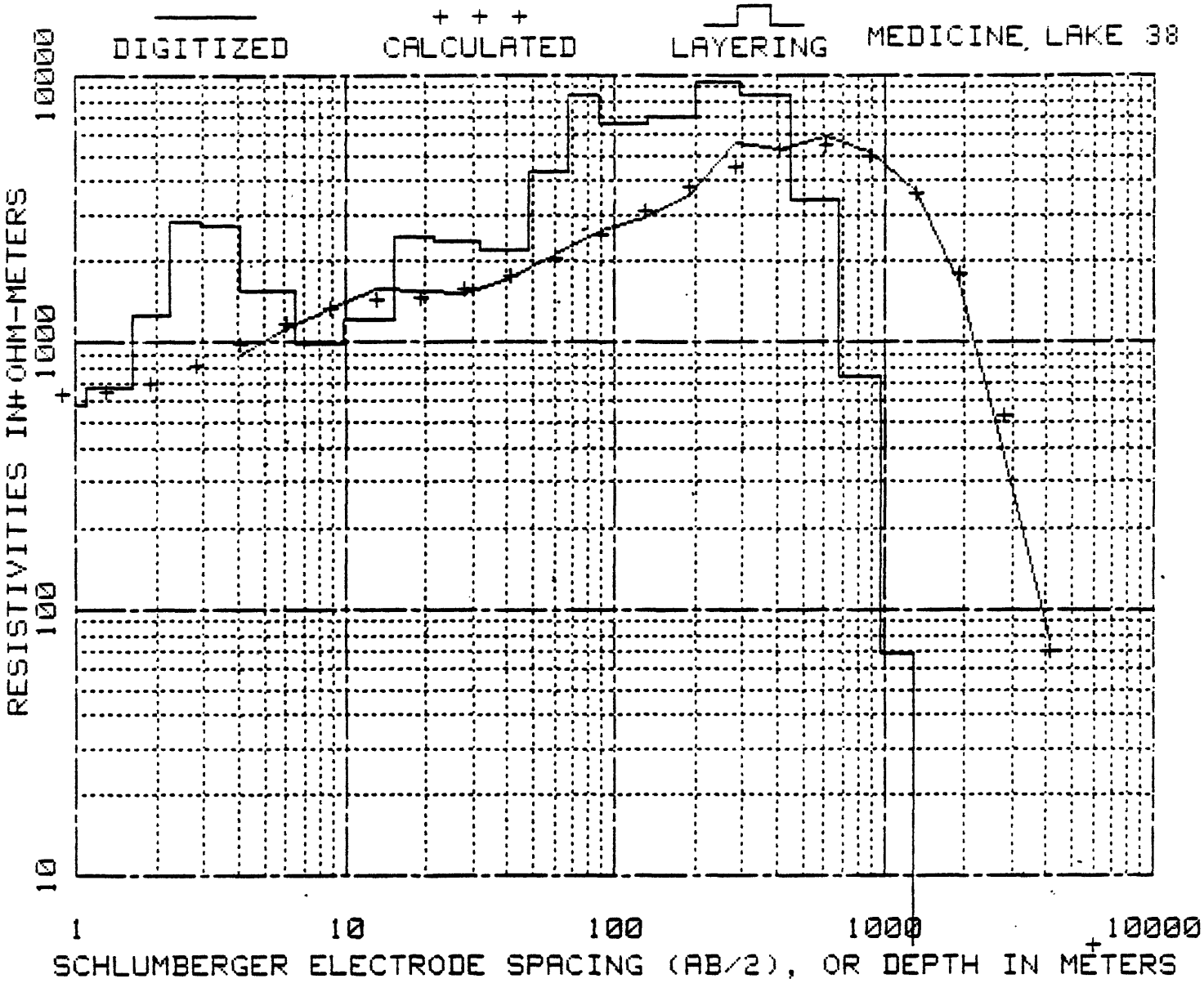

OBSERVED
MEDICINE LAKE 37
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 37
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 38

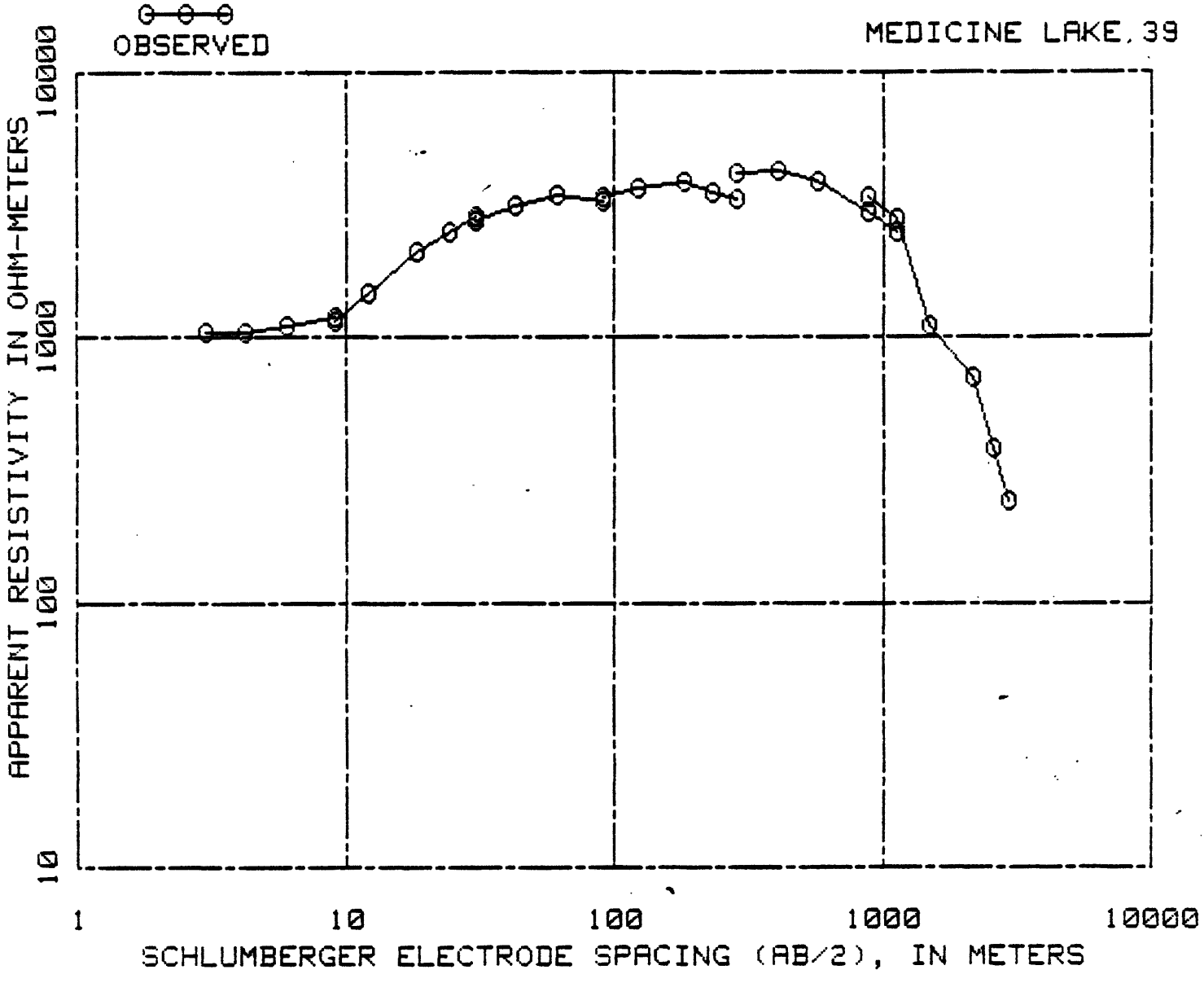
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	1200.00
4.27	1400.00
6.10	1725.00
9.14	2100.00
9.14	2150.00
12.19	2450.00
18.29	2425.00
24.38	2425.00
30.48	2400.00
30.48	2400.00
42.67	2800.00
60.96	3380.00
91.44	4200.00
91.44	4000.00
121.92	4500.00
182.88	4800.00
239.88	9136.00
296.88	7792.00
414.53	7913.00
296.88	5473.00
414.53	5757.00
597.41	6445.00
899.16	5597.00
899.16	5128.00
1197.25	4186.00
1726.39	2035.00
2293.62	911.00
2798.98	379.00
3204.06	287.00
4116.63	76.00

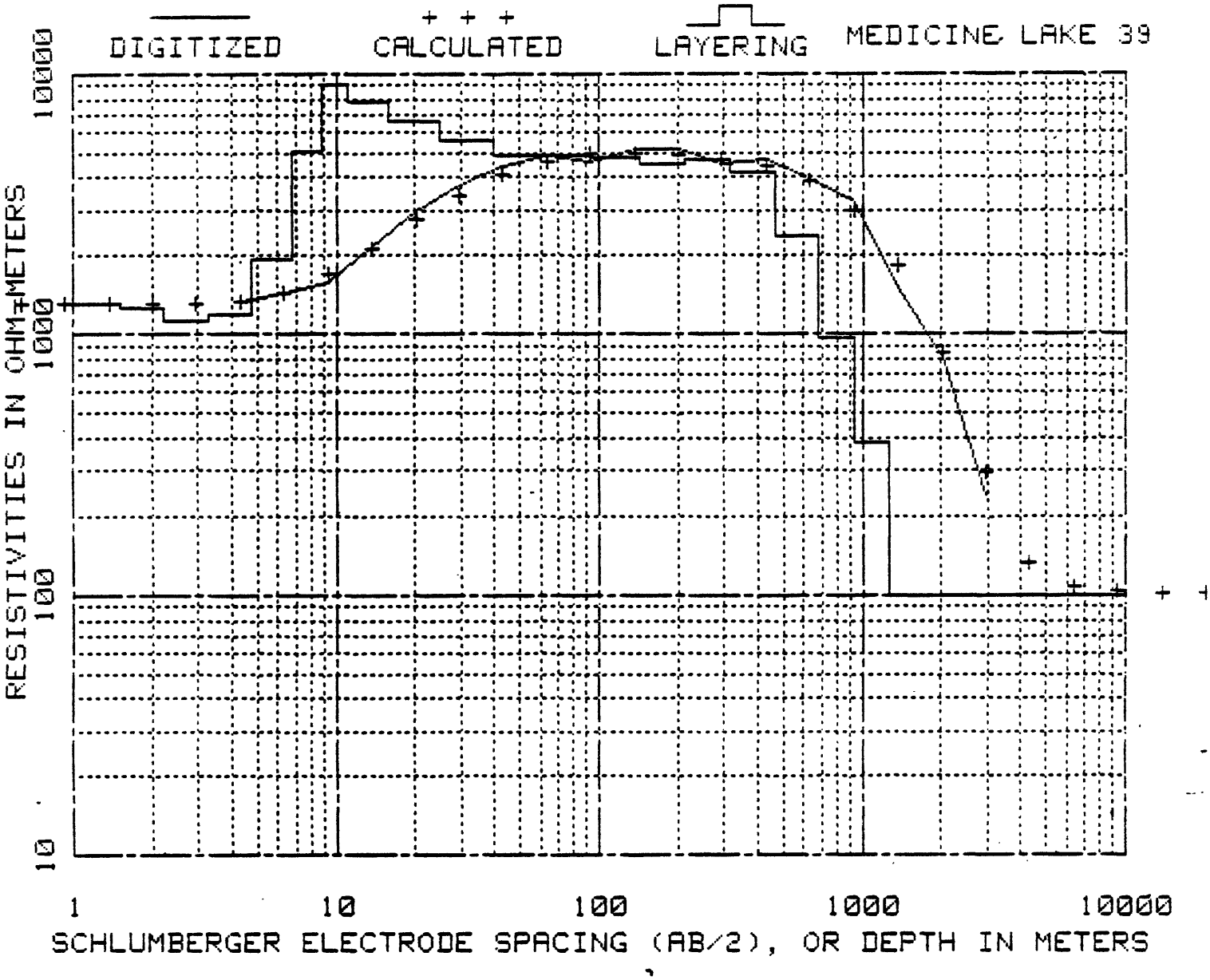

OBSERVED
MEDICINE LAKE 38
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 38
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 39

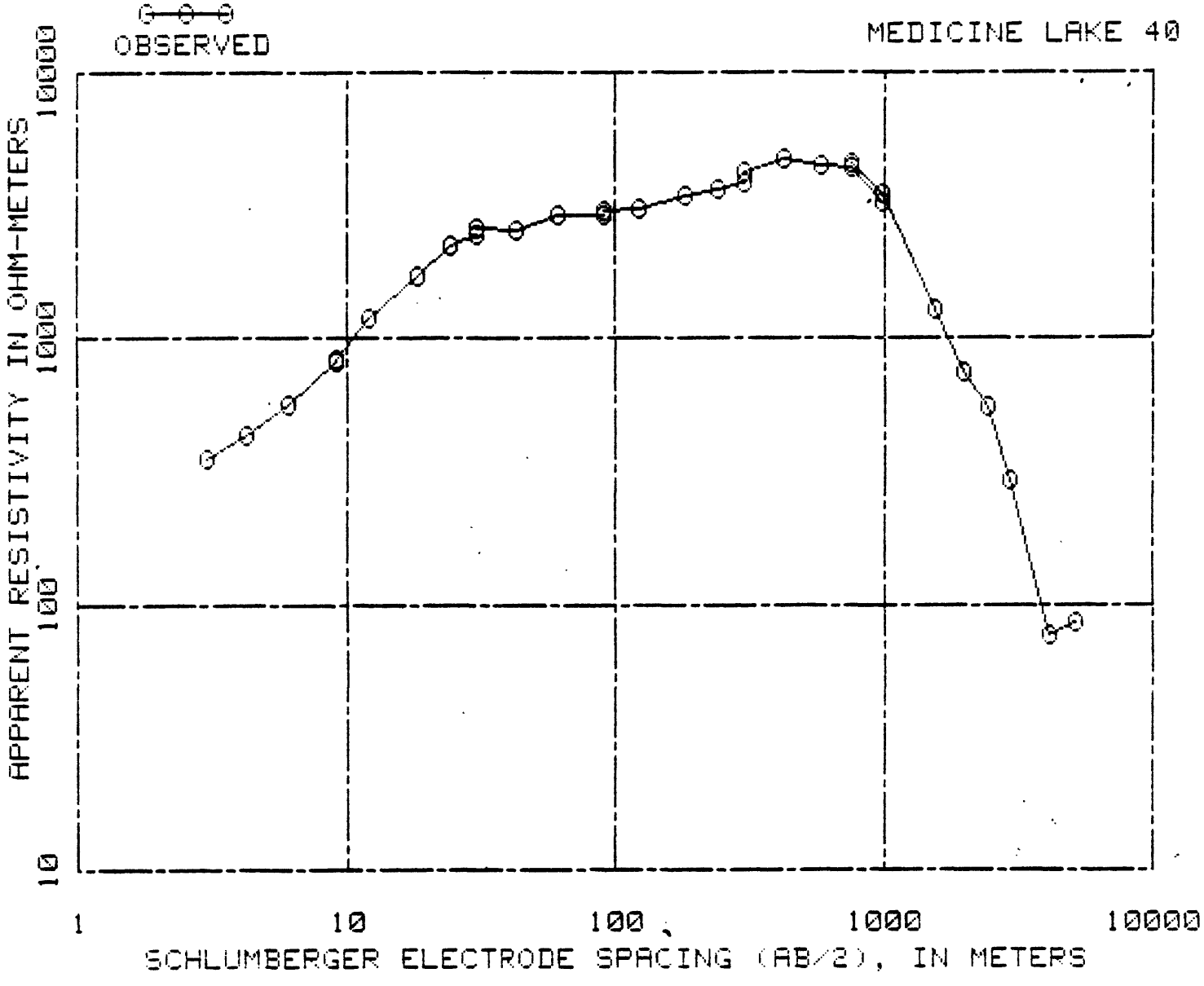
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	1040.00
4.27	1035.00
6.10	1100.00
9.14	1200.00
9.14	1150.00
12.19	1450.00
18.29	2080.00
24.38	2470.00
30.48	2850.00
30.48	2700.00
42.67	3080.00
60.96	3440.00
91.44	3250.00
91.44	3350.00
121.92	3625.00
182.88	3800.00
234.70	3500.00
288.95	3300.00
288.95	4077.00
408.43	4210.00
573.94	3787.00
880.87	2925.00
1133.25	2471.00
880.87	3335.00
1133.25	2760.00
1508.76	1110.00
2176.27	705.00
2600.55	376.00
2945.89	239.00

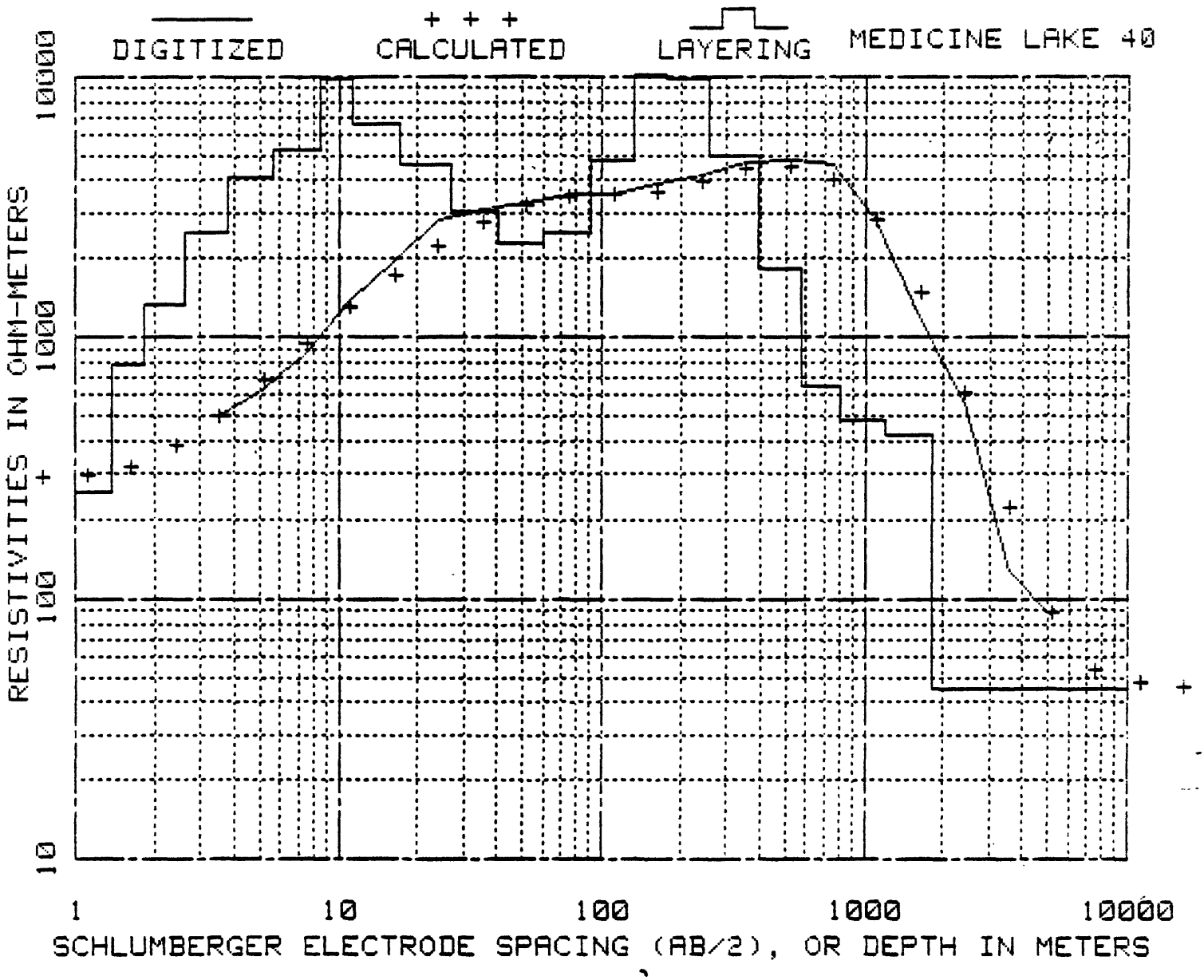

OBSERVED
MEDICINE LAKE.39
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 39
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 40

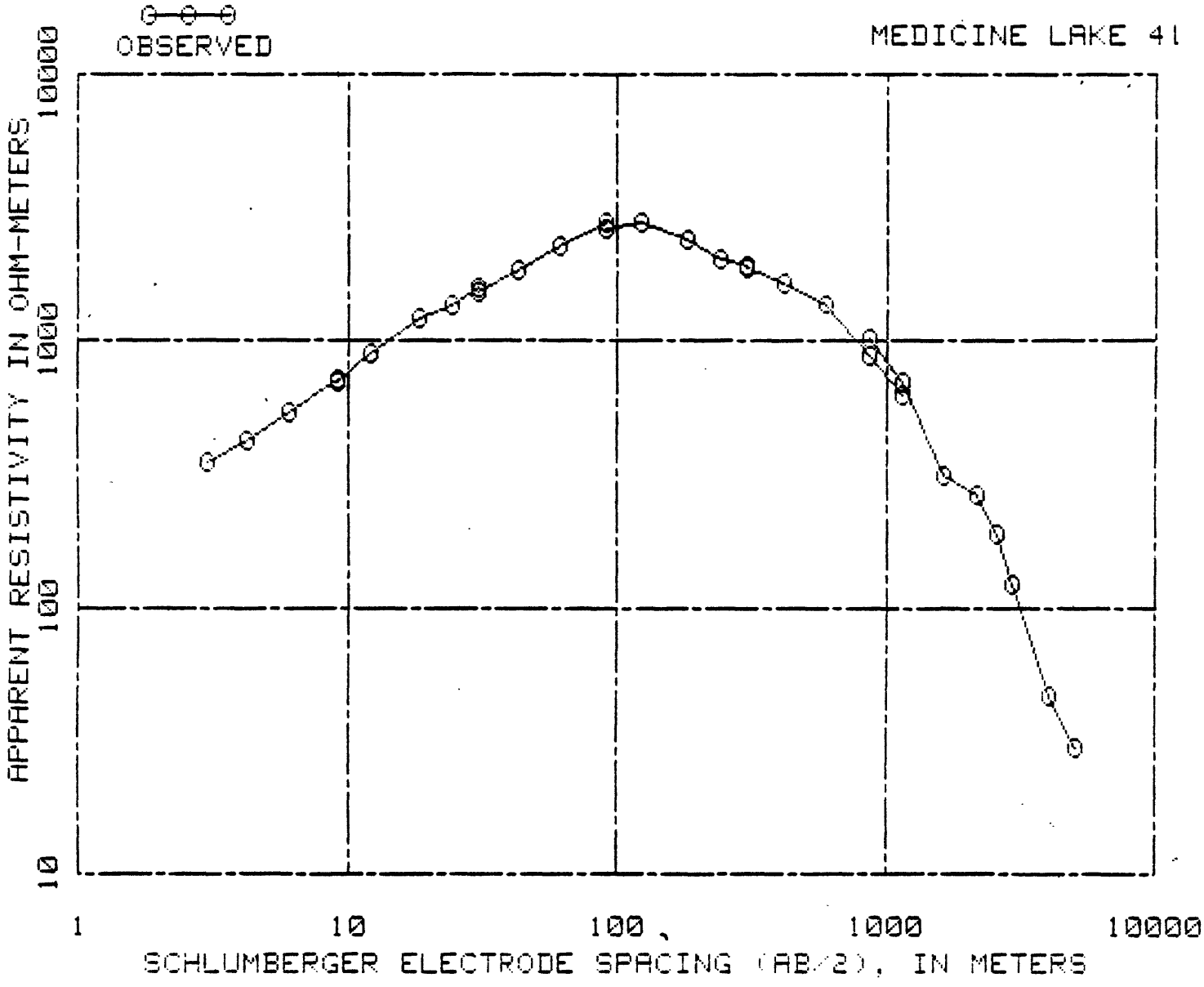
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	353.00
4.27	430.00
6.10	560.00
9.14	820.00
9.14	830.00
12.19	1190.00
18.29	1700.00
24.38	2200.00
30.48	2420.00
30.48	2560.00
42.67	2520.00
60.96	2880.00
91.44	2900.00
91.44	3000.00
121.92	3050.00
182.88	3400.00
243.84	3600.00
304.80	3800.00
304.80	4200.00
426.72	4650.00
582.78	4414.00
768.10	4318.00
988.77	3244.00
768.10	4547.00
988.77	3447.00
1566.67	1287.00
1987.60	744.00
2443.28	549.00
2961.74	293.00
4110.53	76.00
5186.17	85.00

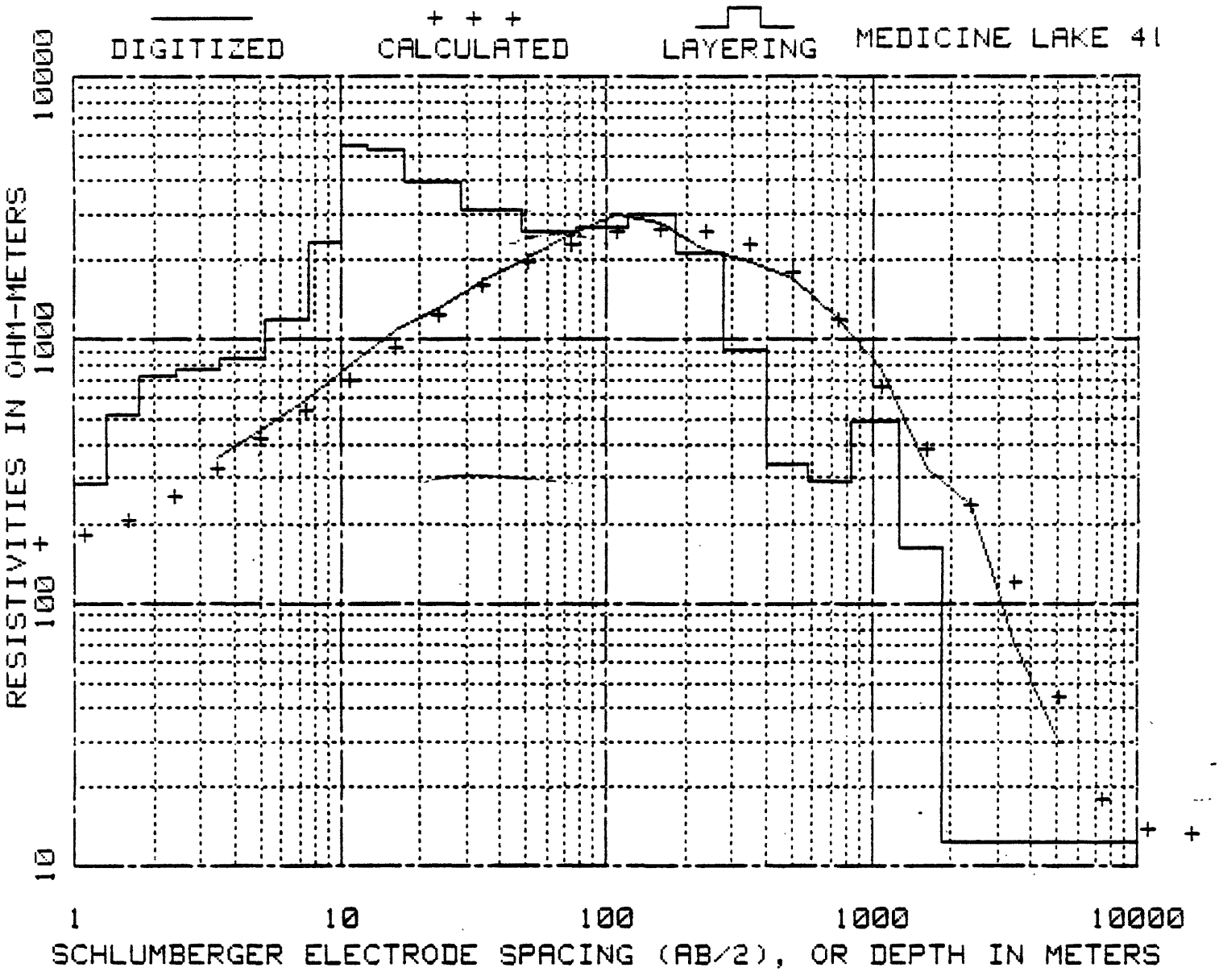

OBSERVED
MEDICINE LAKE 40
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 40
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 41

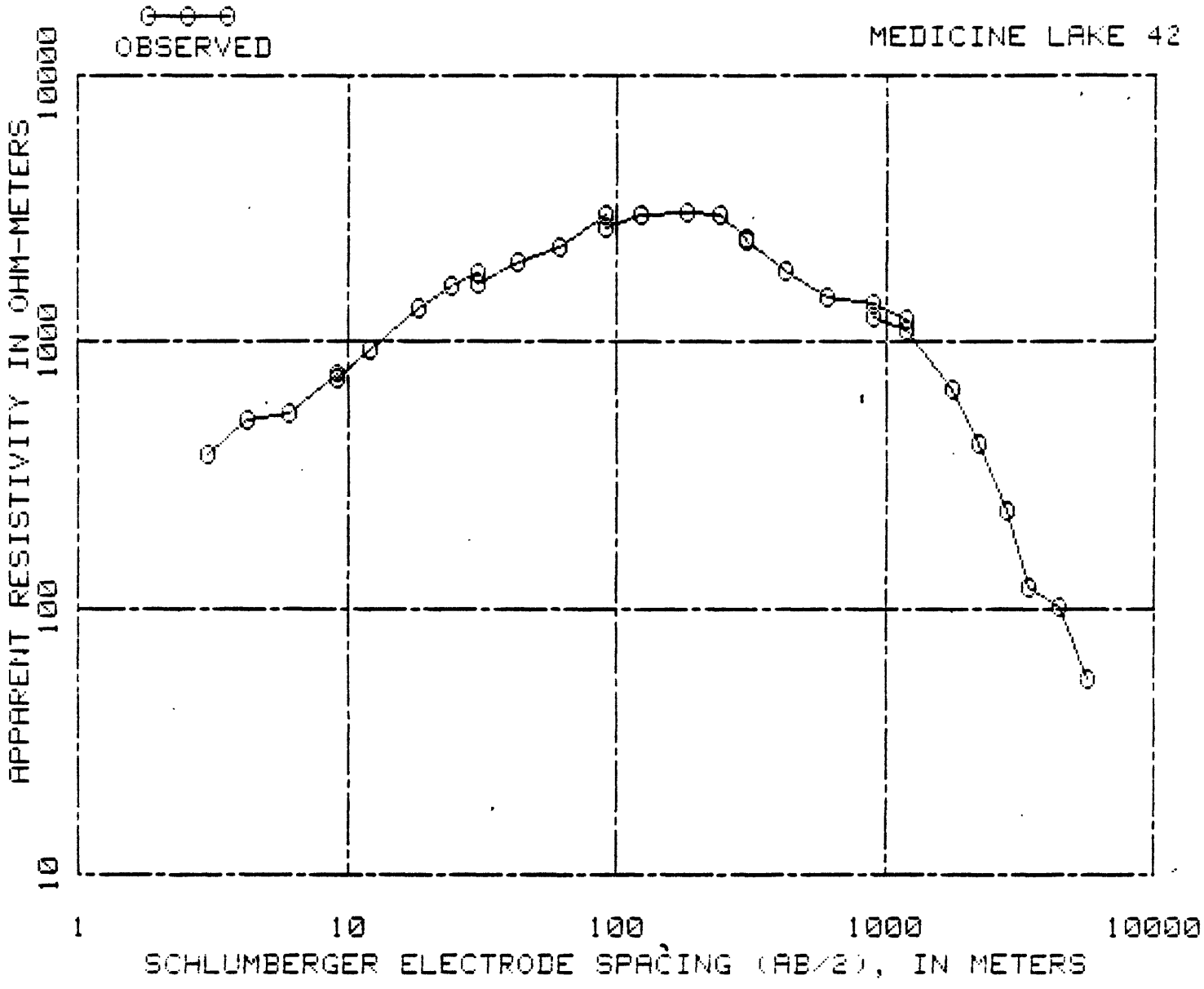
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	350.00
4.27	425.00
6.10	538.00
9.14	720.00
9.14	705.00
12.19	890.00
18.29	1205.00
24.38	1350.00
30.48	1580.00
30.48	1520.00
42.67	1840.00
60.96	2240.00
91.44	2750.00
91.44	2600.00
121.92	2780.00
182.88	2400.00
243.84	2000.00
304.80	1920.00
304.80	1860.00
420.62	1653.00
594.36	1370.00
874.17	887.00
1158.24	632.00
874.17	1015.00
1158.24	703.00
1633.73	315.00
2194.56	266.00
2598.42	187.00
2948.33	123.00
4043.17	47.00
5074.92	30.00

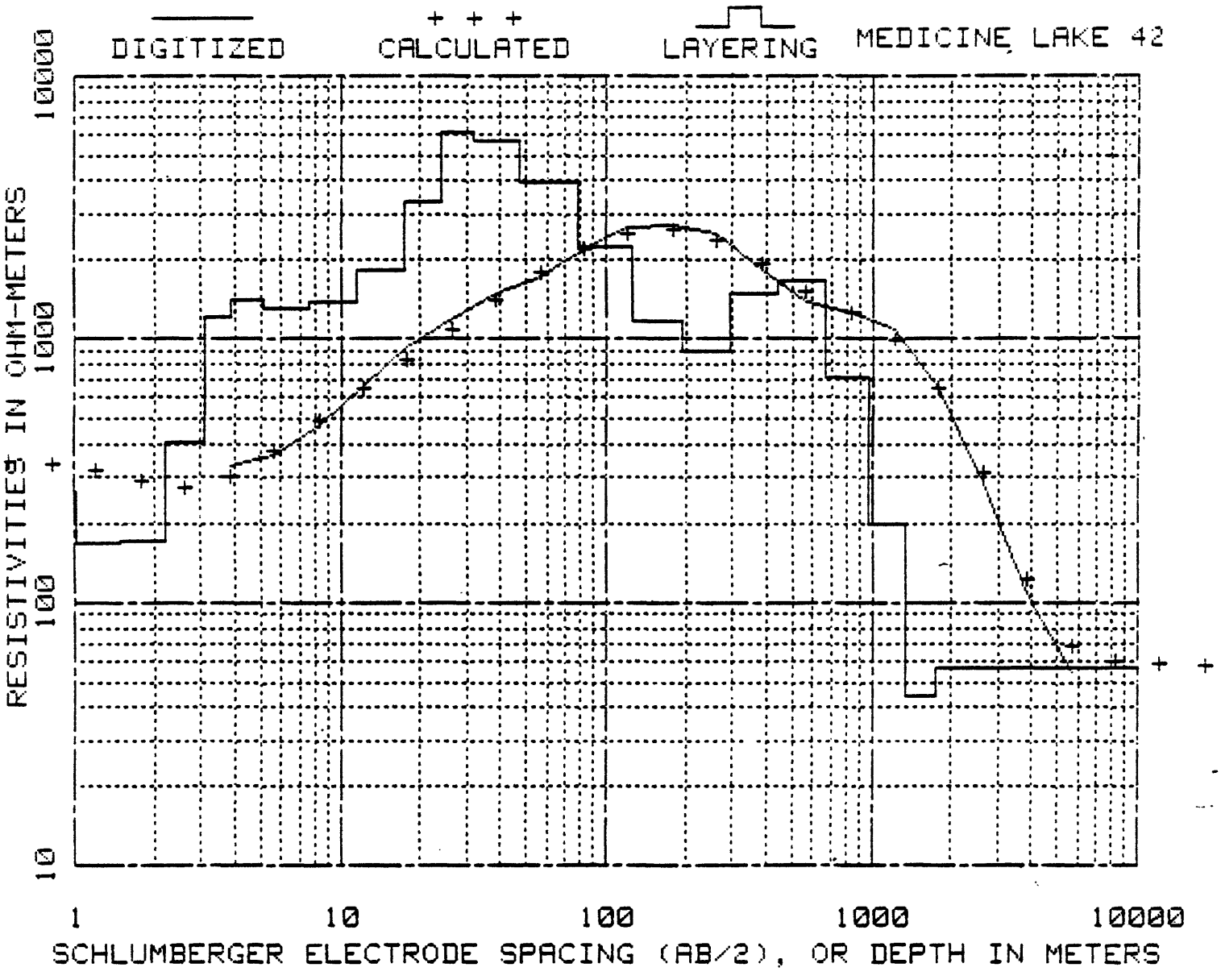

OBSERVED
MEDICINE LAKE 41
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 41
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 42

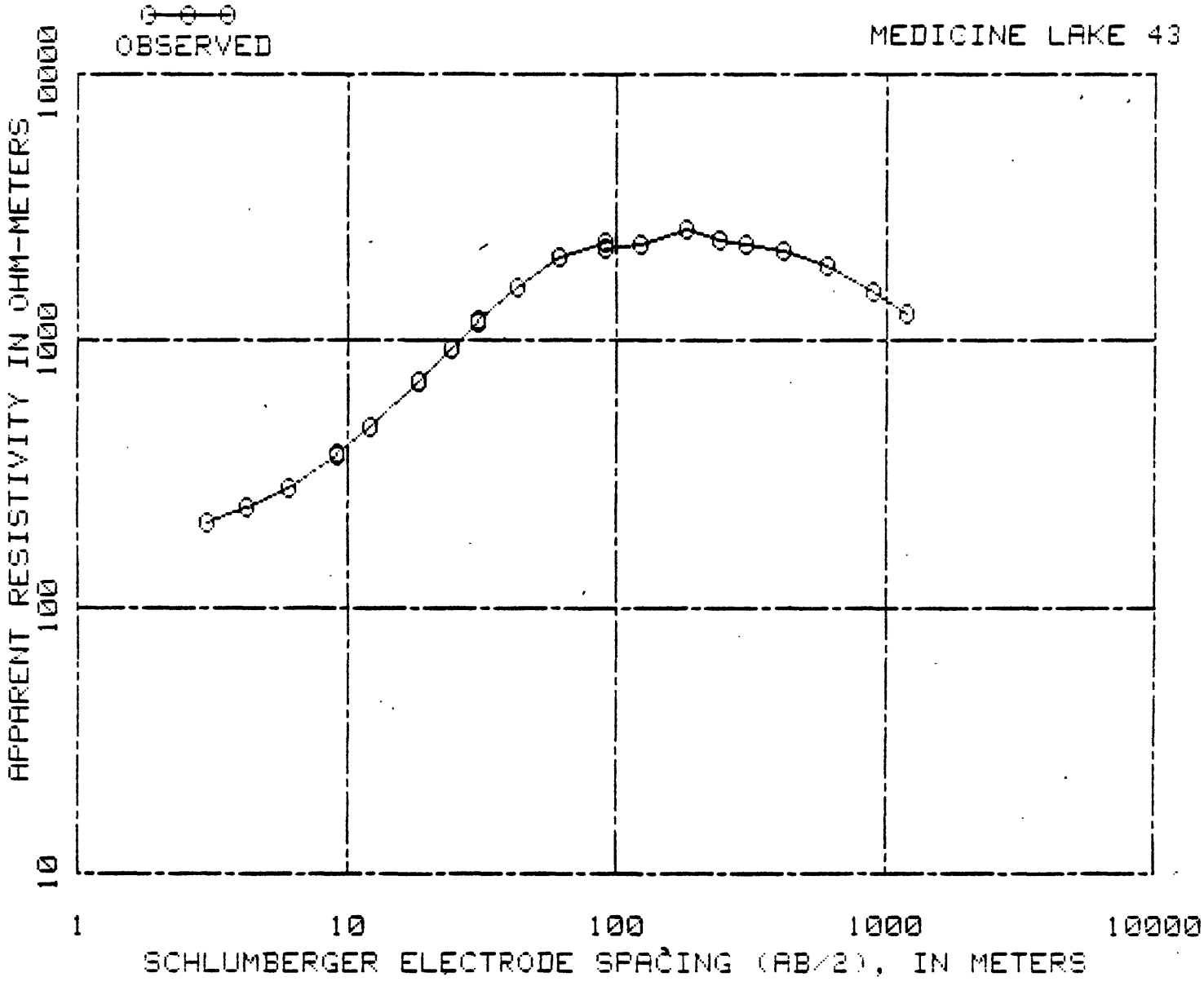
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	380.00
4.27	512.00
6.10	545.00
9.14	765.00
9.14	730.00
12.19	935.00
18.29	1330.00
24.38	1600.00
30.48	1800.00
30.48	1625.00
42.67	1980.00
60.96	2250.00
91.44	2980.00
91.44	2650.00
121.92	2980.00
182.88	3050.00
243.84	3000.00
304.80	2450.00
304.80	2400.00
426.72	1850.00
602.59	1467.00
905.56	1376.00
1194.82	1215.00
905.56	1228.00
1194.82	1108.00
1767.84	662.00
2237.23	418.00
2812.08	230.00
3407.66	121.00
4475.68	101.00
5649.16	55.00

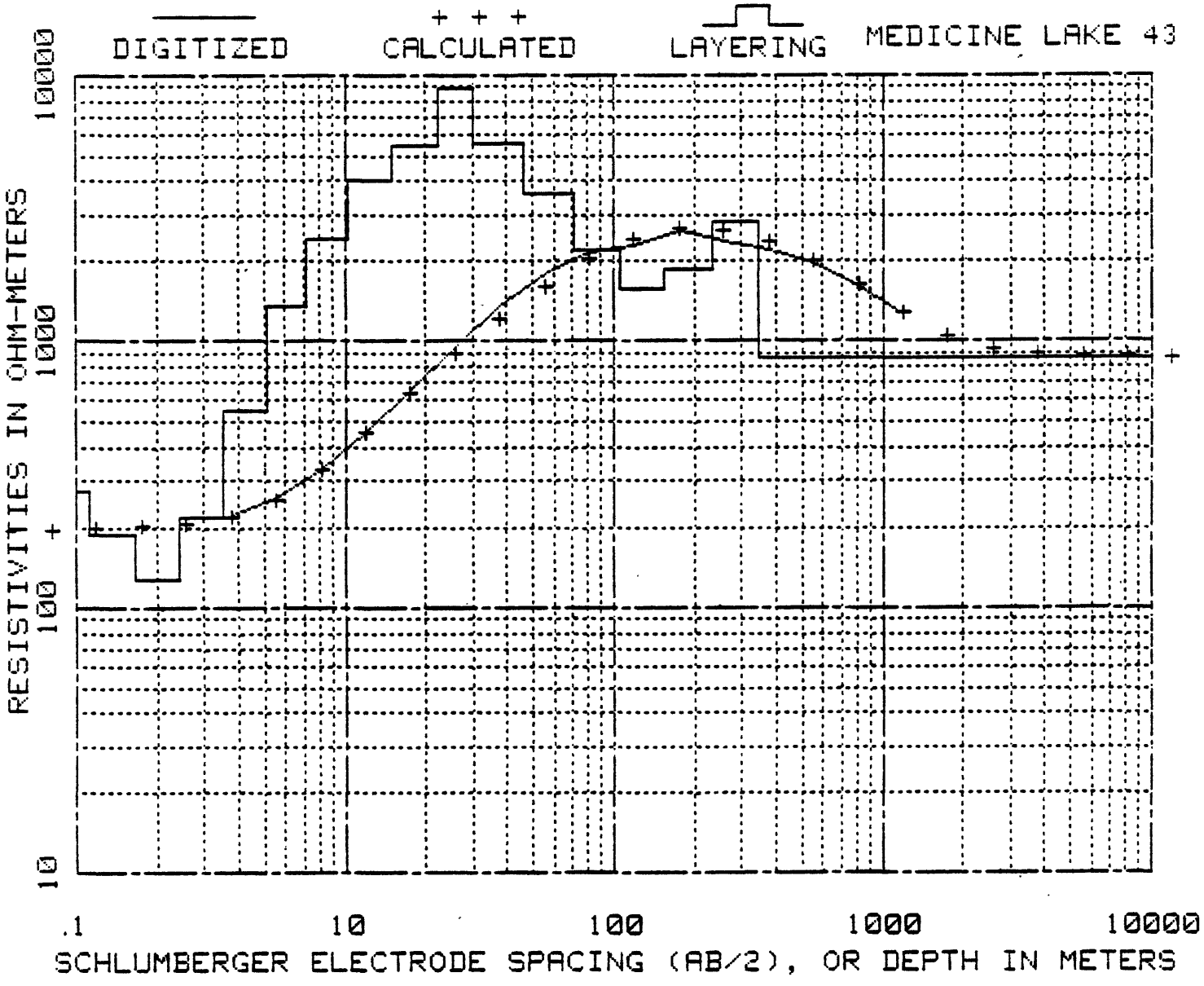

OBSERVED
MEDICINE LAKE 42
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 42
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 43

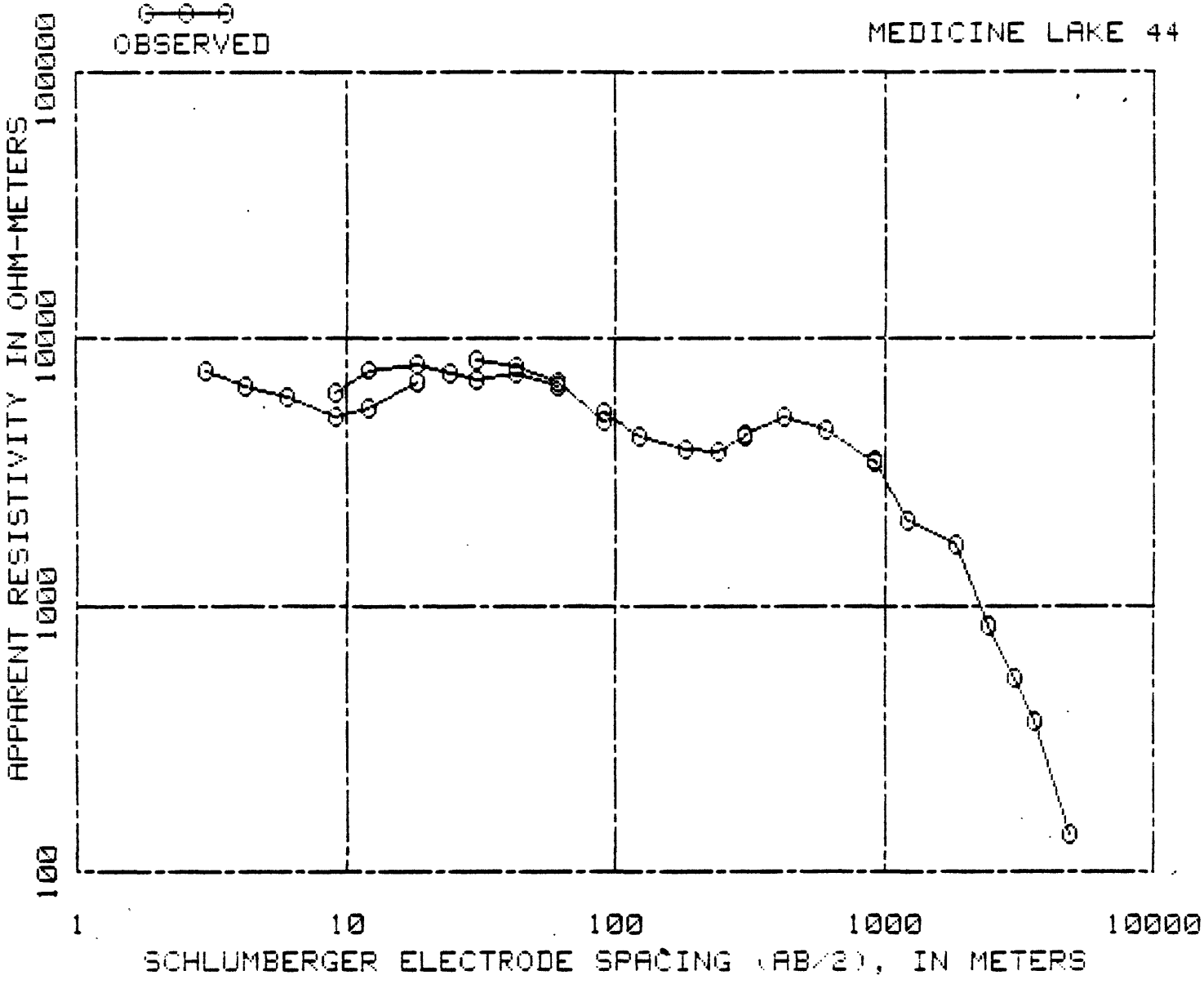
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	208.00
4.27	238.00
6.10	278.00
9.14	370.00
9.14	375.00
12.19	478.00
18.29	700.00
24.38	930.00
30.48	1160.00
30.48	1192.00
42.67	1580.00
60.96	2040.00
91.44	2360.00
91.44	2210.00
121.92	2300.00
182.88	2600.00
243.84	2400.00
304.80	2290.00
304.80	2300.00
420.01	2186.00
602.59	1907.00
901.90	1510.00
1195.12	1249.00

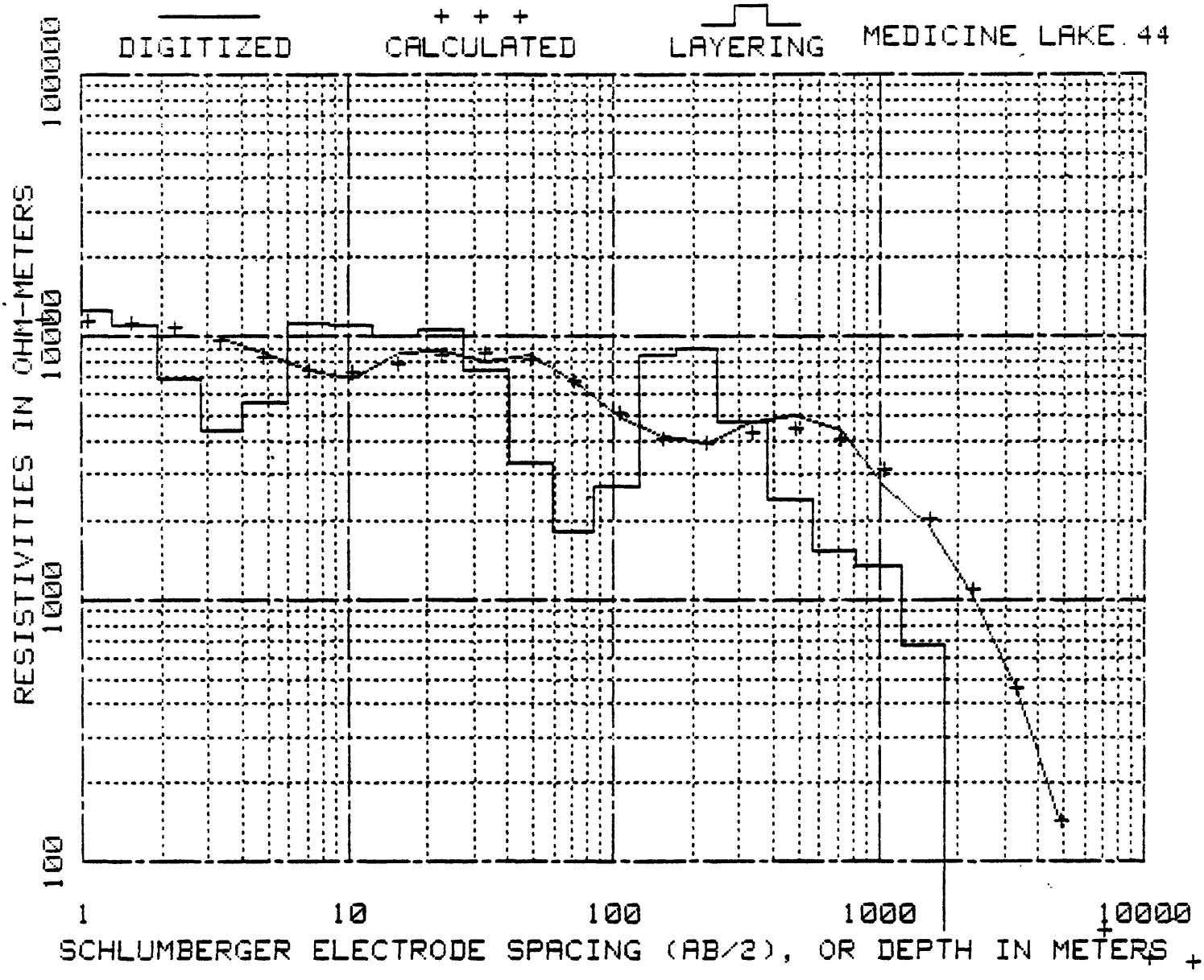

OBSERVED
MEDICINE LAKE 43
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 43
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
.1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 44

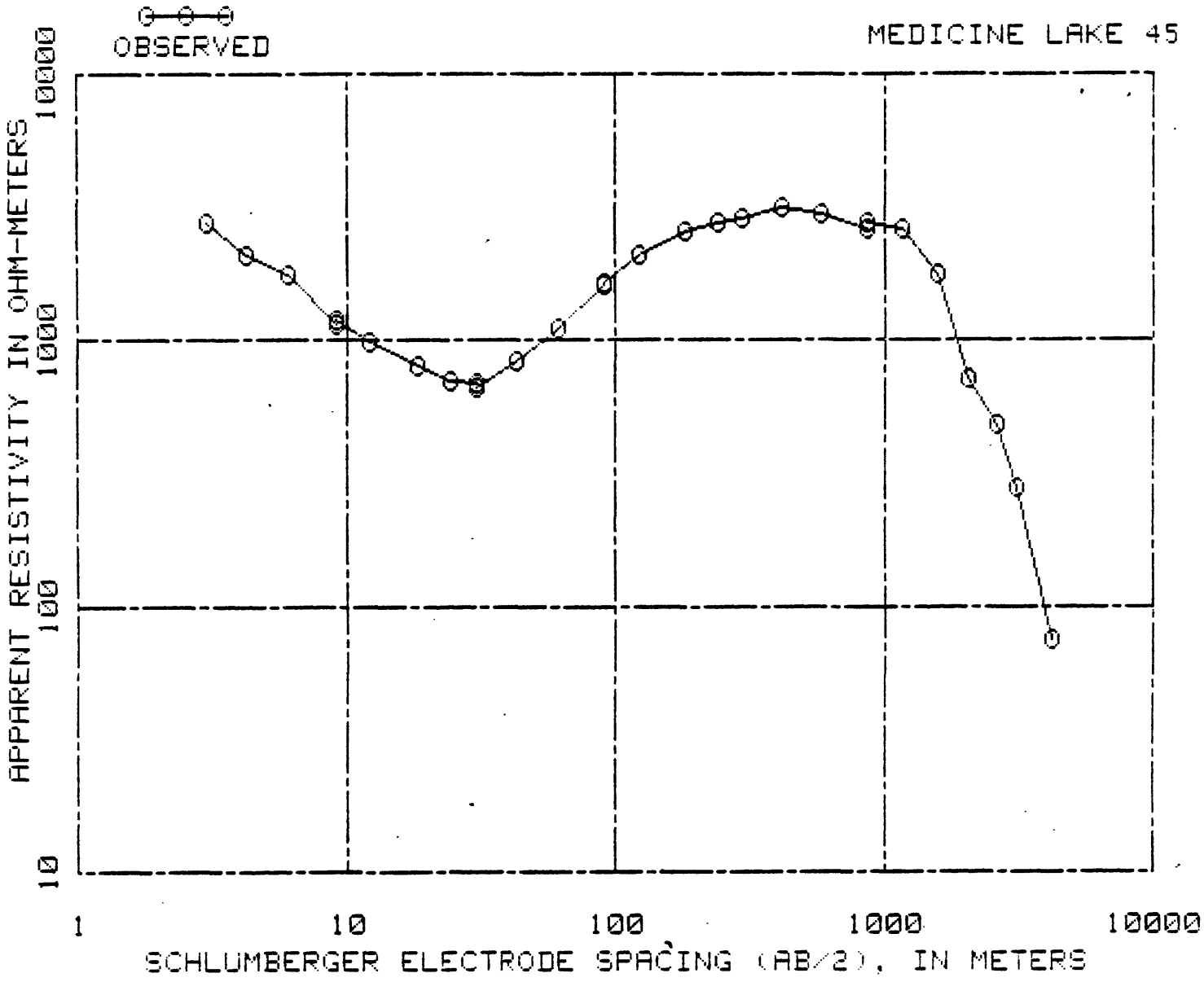
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	7625.00
4.27	6700.00
6.10	6000.00
9.14	5100.00
12.19	5500.00
18.29	6900.00
9.14	6300.00
12.19	7650.00
18.29	8000.00
24.38	7500.00
30.48	7000.00
42.67	7400.00
60.96	6700.00
30.48	8400.00
42.67	7800.00
60.96	6900.00
91.44	4900.00
91.44	5280.00
121.92	4300.00
182.88	3858.00
243.84	3809.00
304.80	4291.00
304.80	4422.00
426.72	5129.00
609.60	4588.00
914.40	3473.00
914.40	3493.00
1219.20	2073.00
1828.80	1676.00
2438.40	847.00
3048.00	535.00
3657.60	369.00
4876.80	138.00

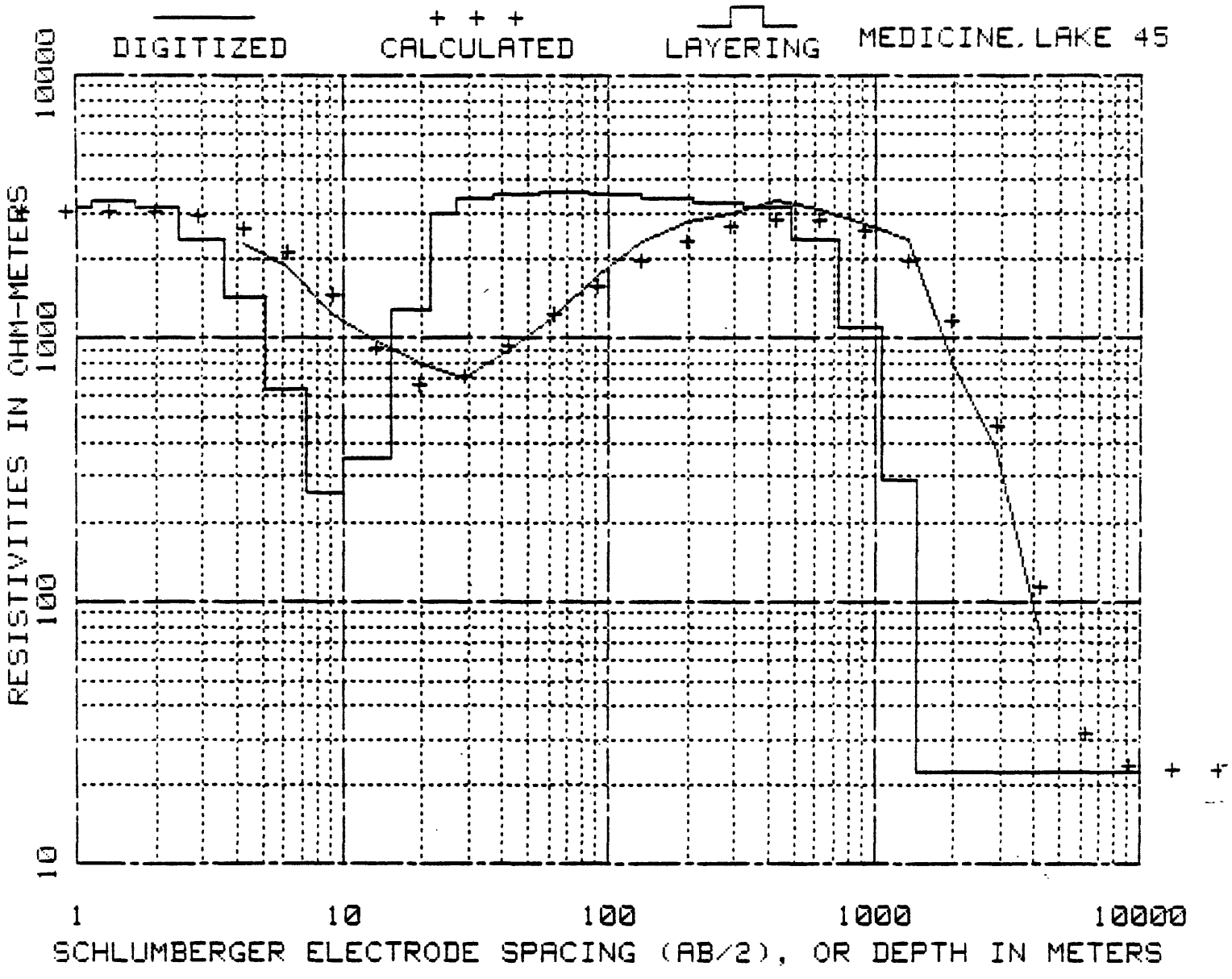

OBSERVED
MEDICINE LAKE 44
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 44
RESISTIVITIES IN OHM-METERS
1000000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 45

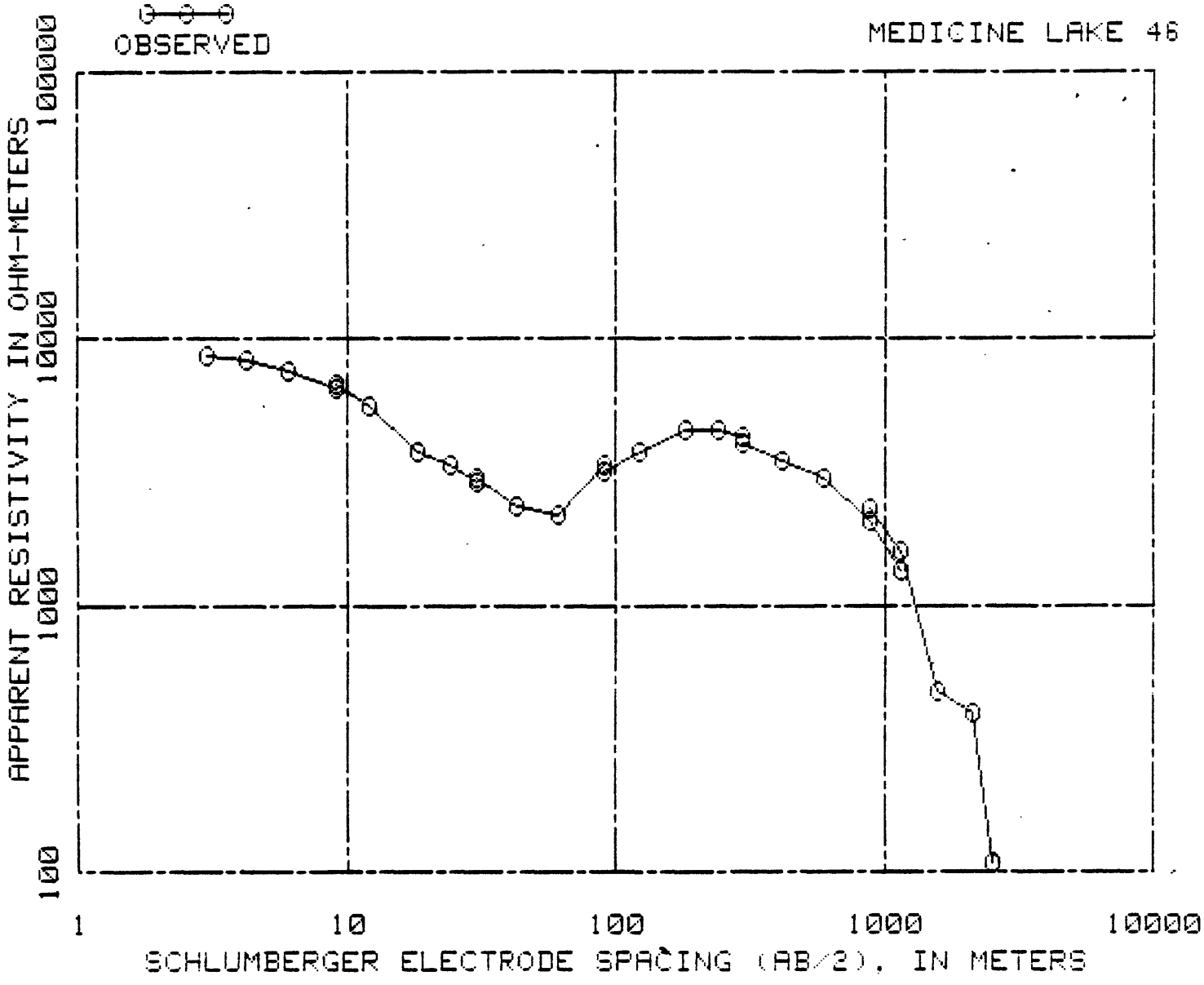
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	2750.00
4.27	2100.00
6.10	1750.00
9.14	1150.00
9.14	1200.00
12.19	980.00
18.29	800.00
24.38	700.00
30.48	690.00
30.48	660.00
42.67	834.00
60.96	1100.00
91.44	1600.00
91.44	1640.00
121.92	2075.00
182.88	2550.00
243.84	2750.00
297.79	2870.00
297.79	2867.00
413.61	3141.00
583.08	2996.00
876.60	2616.00
876.60	2762.00
1177.44	2618.00
1572.46	1759.00
2066.24	719.00
2625.85	484.00
3100.73	280.00
4226.66	75.00

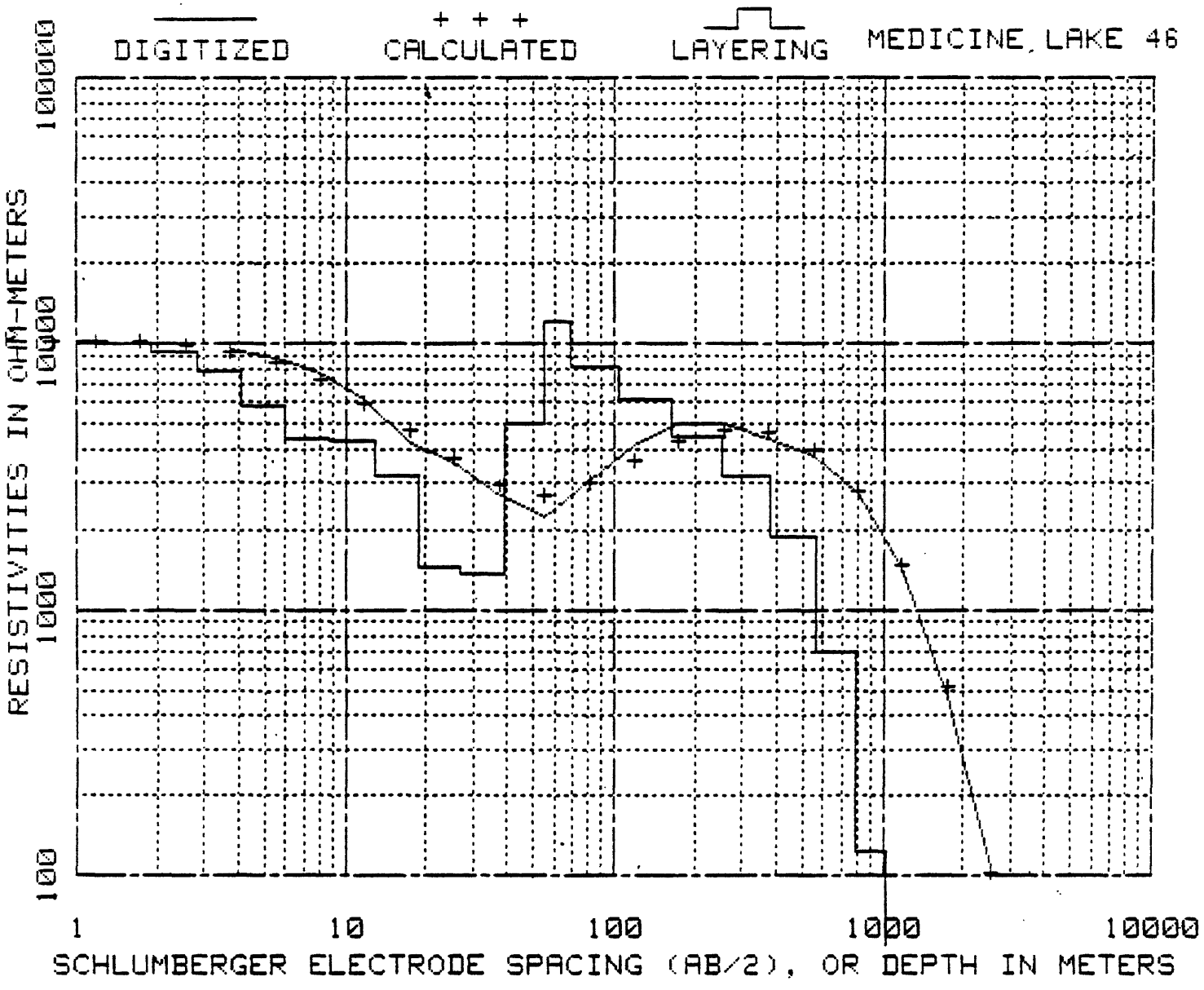

OBSERVED
MEDICINE LAKE 45
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 45
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 46

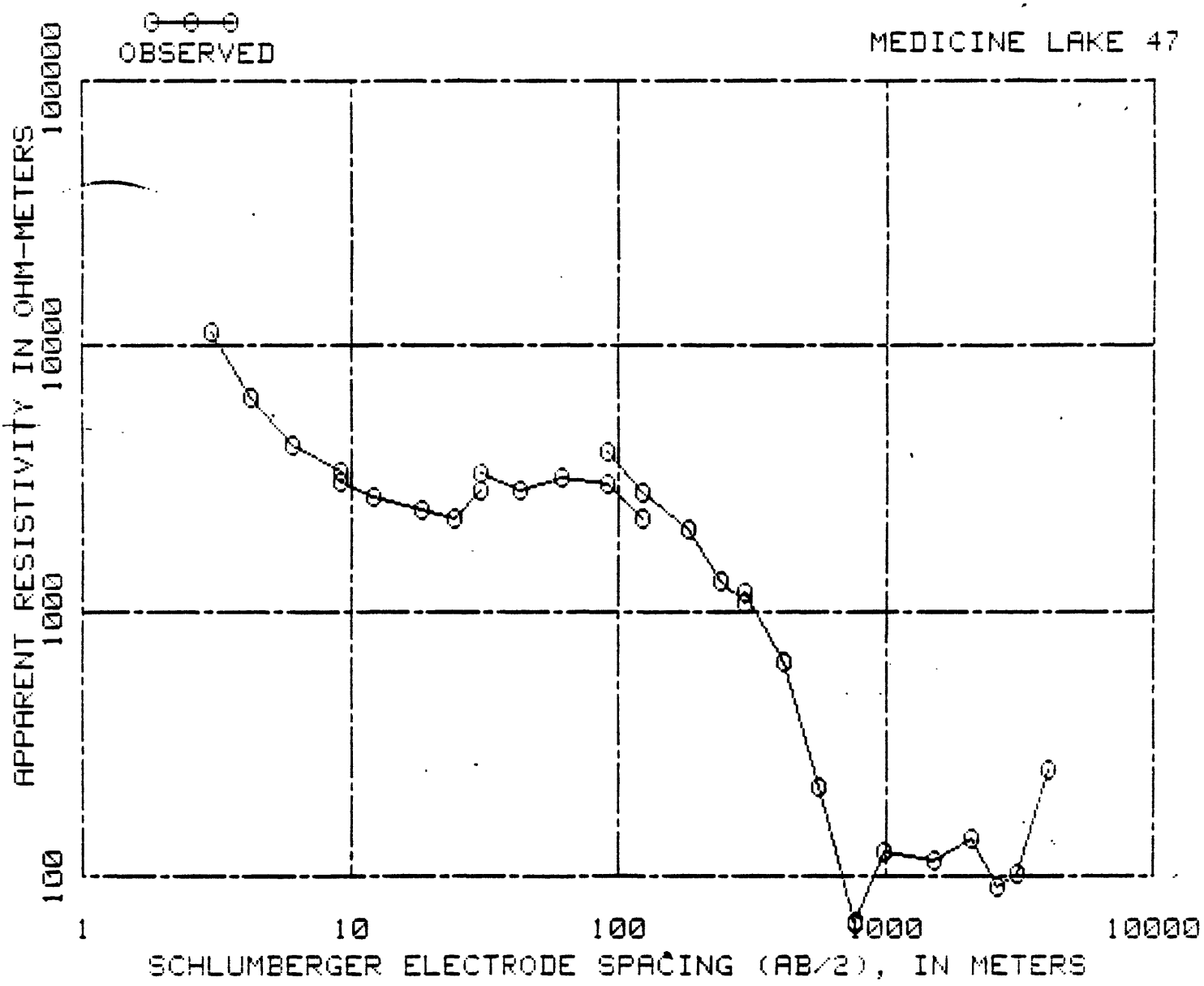
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	8600.00
4.27	8300.00
6.10	7600.00
9.14	6500.00
9.14	6800.00
12.19	5600.00
18.29	3800.00
24.38	3400.00
30.48	2900.00
30.48	3000.00
42.67	2350.00
60.96	2200.00
91.44	3400.00
91.44	3200.00
121.92	3800.00
182.88	4600.00
242.62	4595.00
297.18	4345.00
297.18	4038.00
417.27	3491.00
592.23	3032.00
888.80	2091.00
1152.14	1343.00
888.80	2327.00
1152.14	1603.00
1578.86	477.00
2126.59	399.00
2549.04	109.00

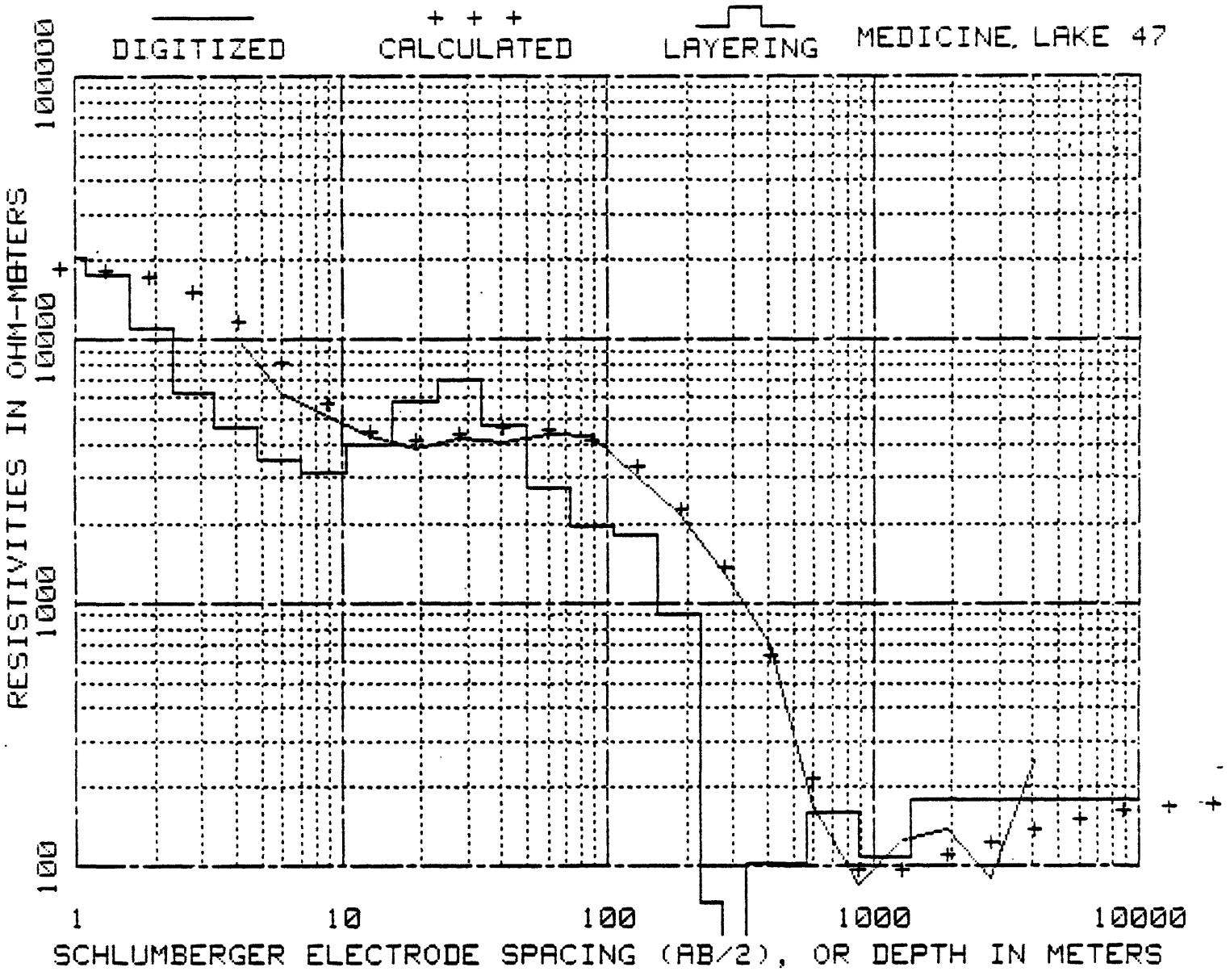

OBSERVED
MEDICINE LAKE 46
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 46
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 47

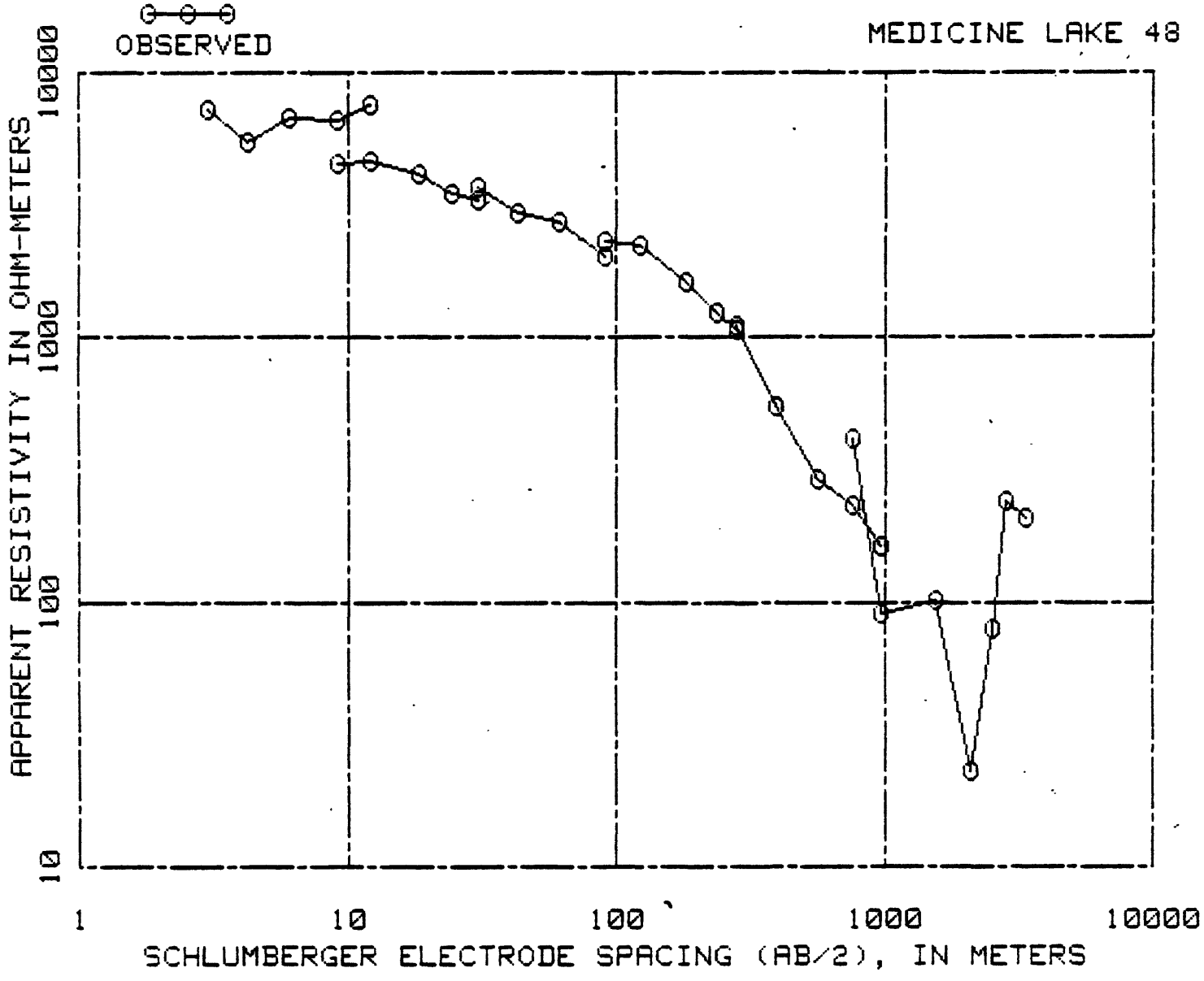
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	11200.00
4.27	6400.00
6.10	4200.00
9.14	3400.00
9.14	3100.00
12.19	2700.00
18.29	2420.00
24.38	2250.00
30.48	2850.00
30.48	3300.00
42.67	2850.00
60.96	3190.00
91.44	3000.00
121.92	2250.00
91.44	4000.00
121.92	2800.00
182.88	2016.00
242.62	1306.00
299.01	1075.00
299.01	1174.00
414.53	646.00
568.76	217.00
777.24	66.00
777.24	68.00
994.87	123.00
1528.57	115.00
2118.06	138.00
2655.72	92.00
3119.32	103.00
4084.93	252.00

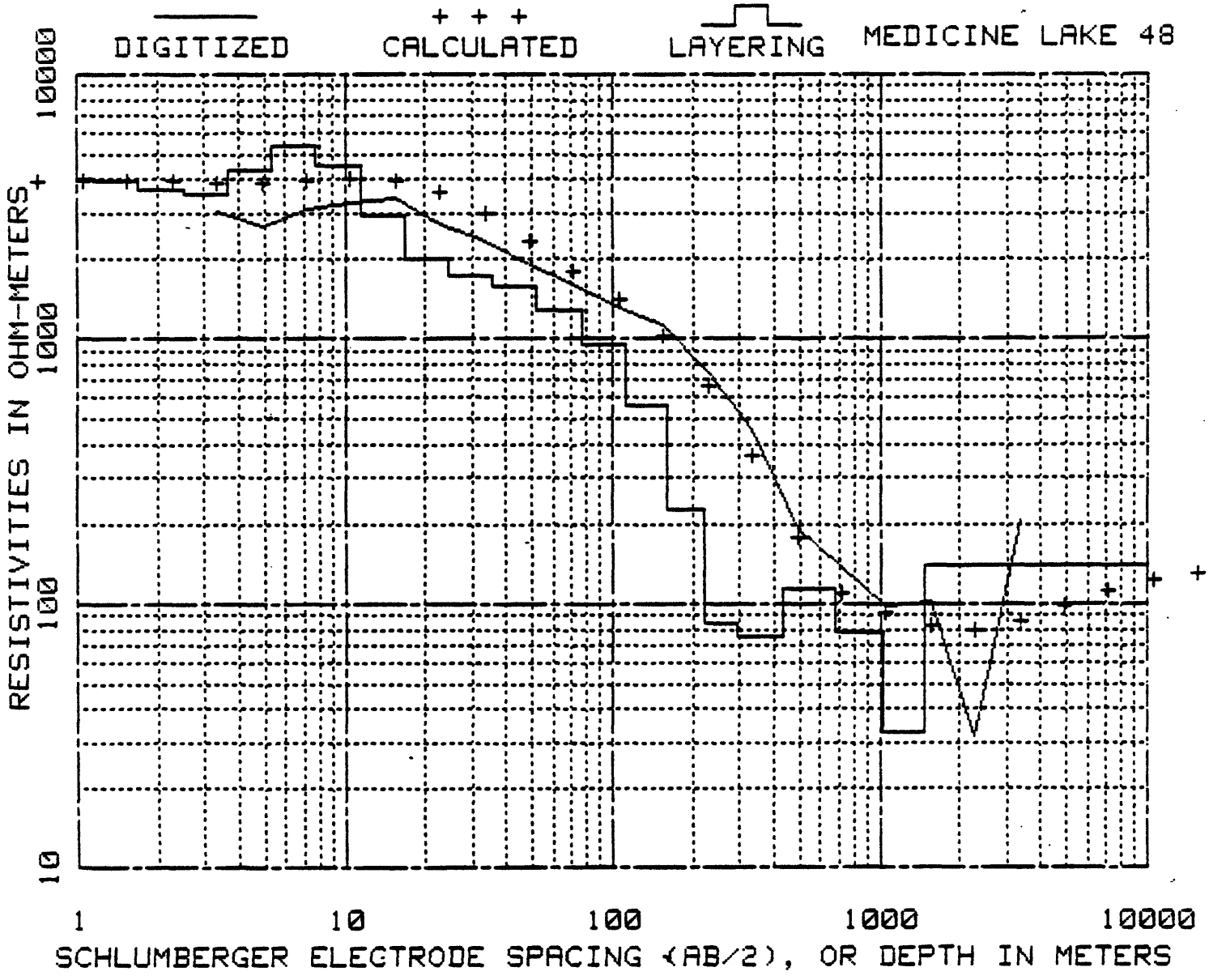

OBSERVED
MEDICINE LAKE 47
APPARENT RESISTIVITY IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 47
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 48

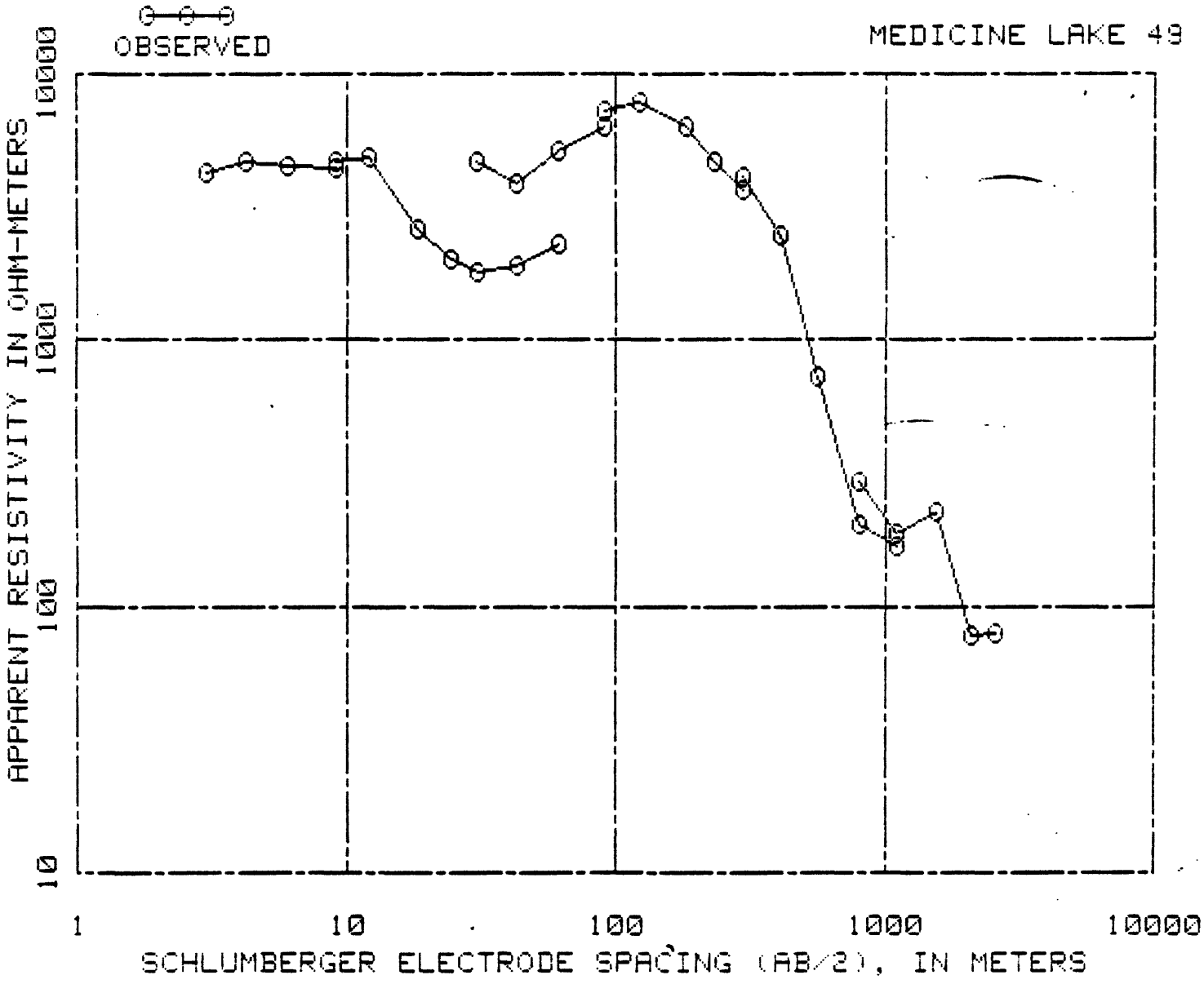
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	7250.00
4.27	5500.00
6.10	6650.00
9.14	6600.00
12.19	7500.00
9.14	4500.00
12.19	4600.00
18.29	4100.00
24.38	3500.00
30.48	3300.00
30.48	3700.00
42.67	2940.00
60.96	2700.00
91.44	2000.00
91.44	2300.00
121.92	2200.00
182.58	1608.00
235.61	1224.00
282.55	1065.00
282.55	1112.00
391.06	546.00
562.66	289.00
758.34	230.00
973.23	162.00
758.34	415.00
973.23	91.00
1552.96	101.00
2088.79	23.00
2524.66	79.00
2860.85	240.00
3336.04	207.00

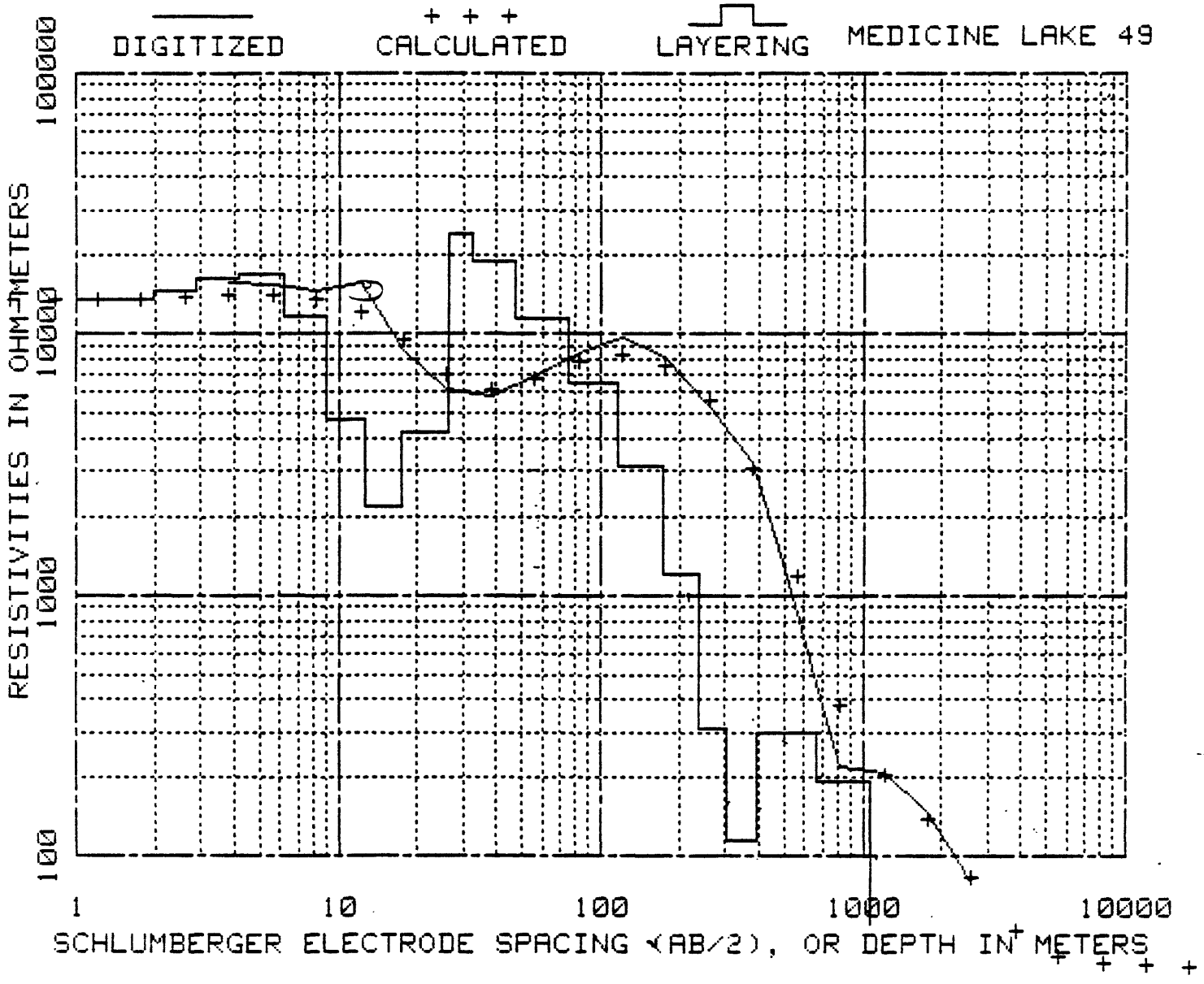

OBSERVED
MEDICINE LAKE 48
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 48
RESISTIVITIES IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 49

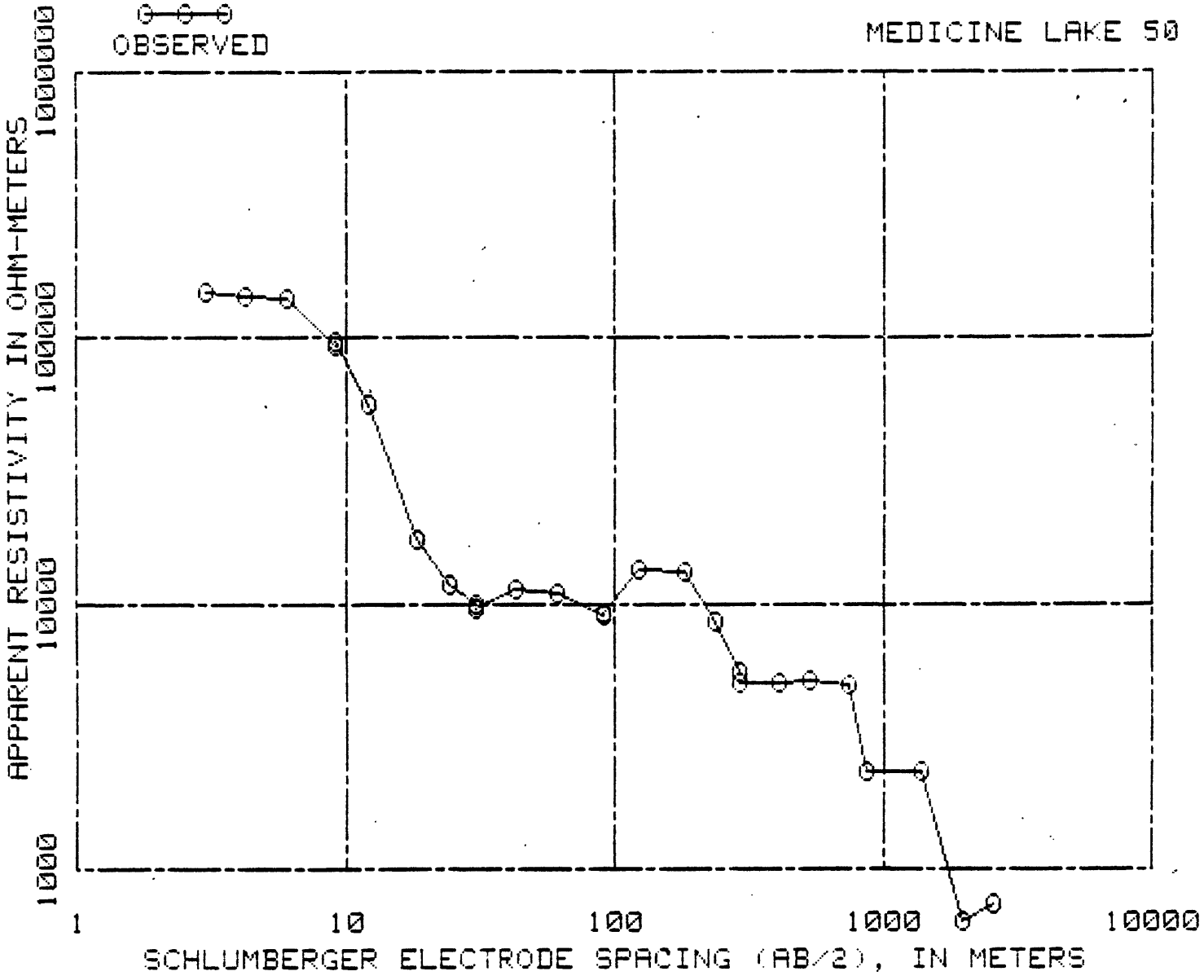
AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	4300.00
4.27	4700.00
6.10	4500.00
9.14	4400.00
9.14	4700.00
12.19	4900.00
18.29	2600.00
24.38	2000.00
30.48	1800.00
42.67	1900.00
60.96	2300.00
30.48	4700.00
42.67	3900.00
60.96	5120.00
91.44	6300.00
91.44	7180.00
121.92	7800.00
181.36	6331.00
235.00	4736.00
295.66	3707.00
295.66	4151.00
408.74	2472.00
566.01	730.00
809.85	204.00
1116.79	170.00
809.85	296.00
1116.79	190.00
1556.00	227.00
2118.97	78.00
2600.86	80.00

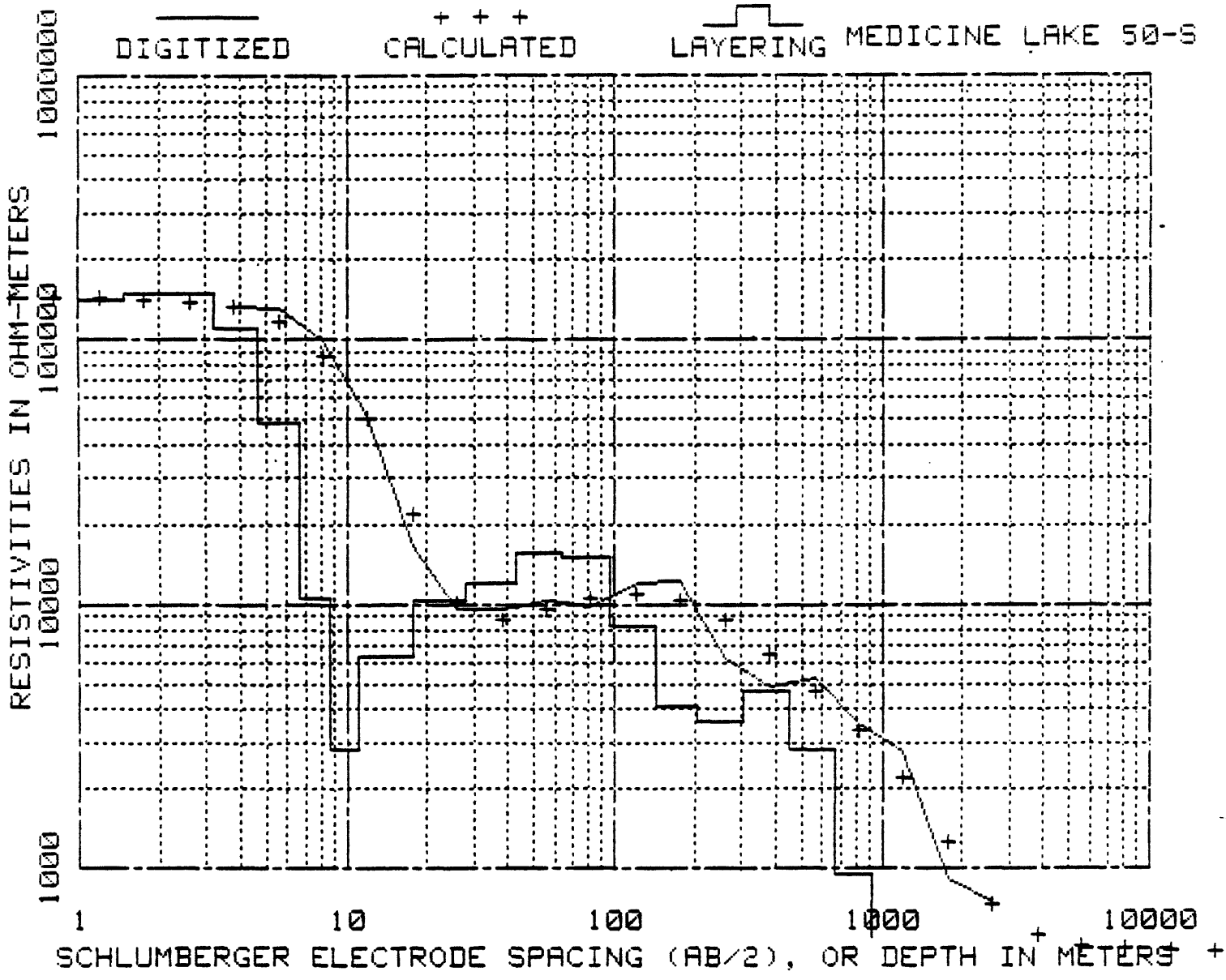

OBSERVED
MEDICINE LAKE 49
APPARENT RESISTIVITY IN OHM-METERS
10000
1000
100
10
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 49
RESISTIVITIES IN OHM-METERS
100000
10000
1000
100
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS

MEDICINE LAKE 50

AB/2 IN METERS	OBSERVED RESISTIVITY IN OHM-METERS
3.05	150000.00
4.27	143750.00
6.10	140000.00
9.14	92500.00
9.14	97000.00
12.19	56250.00
18.29	17500.00
24.38	11800.00
30.48	10000.00
30.48	9500.00
42.67	11250.00
60.96	11000.00
91.44	9000.00
91.44	9200.00
121.92	13500.00
182.88	13135.00
237.13	8537.00
292.61	5585.00
292.61	5023.00
407.21	5035.00
532.18	5201.00
753.16	4965.00
876.00	2327.00
1387.14	2346.00
1995.22	636.00
2592.32	743.00


OBSERVED
MEDICINE LAKE 50
APPARENT RESISTIVITY IN OHM-METERS
1000000
100000
10000
1000
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), IN METERS


DIGITIZED
CALCULATED
LAYERING
MEDICINE LAKE 50-S
RESISTIVITIES IN OHM-METERS
1000000
100000
10000
1000
1
10
100
1000
10000
SCHLUMBERGER ELECTRODE SPACING (AB/2), OR DEPTH IN METERS