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A Direct-Current Resistivity Survey near the Marine Corps Logistics Bases at Nebo and Yermo, Barstow, California

By

Adel A.R. Zohdy [1]

Robert J. Bisdorf [1]

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1. Box 25046, M.S. 964, Denver Federal Center, Denver, Colorado 80225.

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INTRODUCTION

In 1992 and 1993, the U.S. Geological Survey (USGS), in cooperation with the Department of the Navy (represented by the Southwest Division, Naval Facilities Engineering Command), made a direct-current resistivity survey near the Marine Corps Logistics Bases at Nebo and Yermo which are located about 4 and 9 km, respectively, east of Barstow, California (these two bases are referred to as Marine Corps Supply Centers on the USGS topographic maps published in the early 1970's). The resistivity survey consisted of 101 Schlumberger soundings (Kunetz, 1966, Zohdy and others, 1974) and was completed in about four weeks. Geologic mapping (Cox and Wilshire, 1993) and hydrologic investigations including drilling of test holes (Peter Martin, USGS, oral and written communications) were made during 1992 and 1993. In the Nebo area, the resistivity survey consisted of several profiles of deep soundings to help map the location of faults that may act as barriers to ground-water flow. In the Yermo area, the survey was made using an areal distribution of sounding stations to generate both maps and cross sections of interpreted resistivity.

In the Marine Corps Logistics Bases at Nebo and Yermo, and in their vicinities, ground water is the only dependable source of water. Water pumped from the Barstow and Yermo ground-water subunits of the Mojave River system, is used for irrigation, industrial, public, military, and domestic needs (Miller, 1969).

In this report we present: a) a brief description of the Schlumberger sounding method, b) the field data of the 101 Schlumberger soundings, c) interpretation of all the sounding curves, d) Sixteen interpreted-resistivity cross sections, e) a figure that shows four-equivalent representations of the same cross section, f) an interpreted-resistivity block diagram, g) eight maps showing the interpreted-resistivity distribution at various depths, and h) a map showing the location of geoelectrically inferred faults.

FUNDAMENTALS OF THE SCHLUMBERGER SOUNDING METHOD

Schlumberger Electrode Configuration:

Figure 1 shows a schematic diagram of the symmetric Schlumberger electrode configuration with two current electrodes (A and B) and two potential electrodes (M and N). The figure also shows a current power supply, an ammeter for measuring the intensity of the electric current injected into the ground via the electrodes A and B, and a potentiometric chart recorder for measuring the electric-potential difference between the electrodes M and N. The direction of expanding the distance between the current electrodes is indicated by the arrows. Note that the current-electrode spacing (AB/2) is defined as half the distance between the current electrodes A and B, and that the potential-electrode spacing (MN/2) is defined as half the distance between the potential electrodes M and N.

Apparent Resistivity:

A resistivity is computed at each electrode setup from a formula that contains the current- and potential-electrode spacings, the intensity of the electric current, and the electric-potential difference between the electrodes M and N (Zohdy and others, 1974). If the ground is composed of an infinitely thick homogeneous and isotropic medium, then the calculated resistivity will be the *true resistivity* of that medium, otherwise the calculated resistivity is called an *apparent resistivity*.

Schlumberger Sounding Procedure:

To make a Schlumberger sounding, an apparent resistivity is calculated at each current-electrode spacing as the distance between the current electrodes is increased at a succession of logarithmically nearly equal increments (usually at the rate of 7 points per decade). The distance between the potential electrodes is held fixed for a succession of expanding current-electrode spacings. The current-electrode expansion is periodically stopped and the distance between the potential electrodes is increased. The apparent resistivity is recalculated at the increased potential-electrode spacing, and then the expansion of the distance between the current electrodes is resumed. The purpose of periodically expanding the distance between the potential electrodes is to maintain an adequate level of potential-difference signal between the potential electrodes M and N.

On the sounding curve, each set of apparent resistivity points made with a fixed distance between the potential electrodes is called a *segment*. A field Schlumberger sounding curve is usually composed of two to four segments, depending on the maximum current-electrode spacing reached. The condition that (AB/2) must be greater than or equal to five times (MN/2) is maintained in order to adequately approximate a measurement of the electric field (which is the gradient of the electric potential) at the center of the electrode array.

The calculated apparent resistivity is plotted against the current-electrode spacing, AB/2, on a log-log scale. The plotted curve is called a sounding curve. *See appendix 1 for details of electrode-spacing measurement procedures and for a brief description of the equipment used in this survey; and see appendix 2 for the values of the current-electrode spacings, that were used in this survey, listed beneath the plot of each field-sounding curve.*

Principles of Sounding Interpretation:

The interpretation of a sounding curve consists of finding an earth model composed of materials with different resistivities such that the computed sounding curve for the model matches the field-sounding curve. The obtained model is only one amongst many other models yielding sounding curves that fit the observed curve equally well. This none-uniqueness is also referred to as equivalence. Common sense and geologic constraints based on typical measured resistivities often help eliminate many of the mathematically-equivalent models from being considered. In this survey we used an automatic interpretation method (Zohdy, 1989; Zohdy and Bisdorf, 1990) that finds a geologically reasonable model composed of horizontal, laterally homogeneous and isotropic, layers. The sounding curve of the model will always fit the digitized-sounding curve very well, provided the digitized-sounding curve adequately represents a horizontally layered medium (for a definition of a digitized-sounding curve, see section on data processing and interpretation).

DATA ACQUISITION PROCEDURE

The sounding curves were plotted in the field as the measurements were made. We always use this procedure in order to identify and correct mistakes made by the operator or the crew, and to recognize spurious readings caused by man-made structures (fences, buried pipes, etc), by current leakage from damaged cable insulation, or by equipment malfunction. At the end of each sounding, a test for current leakage (Zohdy, 1968) was made. No current-leakage effects were observed on any of the tests (see appendix 1 for additional details on data acquisition).

DATA PROCESSING AND INTERPRETATION

Data processing of the field-sounding curves consisted of:

a) Converting the current-electrode spacings (AB/2) from feet to meters.

b) Shifting the field-curve segments, obtained with fixed potential-electrode spacings (MN/2), upward or downward to obtain a continuous unsegmented curve. Generally, the segment measured with the largest potential-electrode spacing is kept fixed in position and the other segments are shifted up or down.

c) Sampling the continuous curve at the rate of 6 points per logarithmic cycle to obtain a digitized-sounding curve. The sampling of apparent resistivities is done from right to left, starting at the largest current-electrode spacing.

Both the processing and the subsequent automatic interpretation of the sounding curves were made using the automatic-interpretation computer program that we developed (Zohdy and Bisdorf, 1989).

FIELD CONDITIONS

At the time of the survey (April, 1992 and April-May, 1993), the field conditions in the study area were generally favorable for making direct current resistivity soundings. The weather was generally good and effects of man-made structures such as gas lines, metal water lines, fences with metal posts, metal-sheathed telephone cables, and grounded power-line posts, were not severe except at a few sounding stations (which are discussed in a separate section below).

The Mojave River dry bed is characterized by the presence of a near-surface layer of loose-dry sand with a high resistivity of about 1000 ohm-m and a thickness of about 3 to 10 m. For soundings made along the river bed, this dry layer caused high-contact resistance at the current electrodes which in turn limited the amount of current that could be injected into the ground, but not to the extent to prevent us from expanding the current-electrode spacing AB/2 up to 3.6 km. These large current-electrode spacings were possible only because of the relatively high-power equipment we used (see appendix 1).

Several gas lines exist in the area but they were sufficiently insulated from the ground by highly-resistive wrappings that no induced polarization effects were observed and the measured resistivities were comparable to those measured away from the pipeline. The wrapped gas lines were seen above the ground at stream cuts. We tested the effect of one buried gas line, south of Nebo, by initially setting up the sounding station about 3 m from it and expanding the sounding line parallel to it. When no adverse effects on the measurements were observed, in the form of induced polarization measurements, we proceeded with the profile of sounding stations along the pipeline road. The results of interpretation of this profile of soundings are in agreement with the interpretation of other soundings made nearby but away from the pipeline.

FIELD DATA

The Universal Transverse Mercator coordinates (zone 11) of the sounding stations are given in appendix 3. The station locations and the direction of current-electrode expansions are shown in Figure 2. Most soundings were expanded to maximum current-electrode spacings, AB/2, that ranged from 2,438 m to 3,657 m (8000 ft to 12,000 ft). A few soundings, in the Yermo area, were expanded to shorter maximum current-electrode spacings that ranged from 182 m to 914 m (600 ft to 3000 ft) because of limited open space, and one sounding was expanded to the very short, maximum, current-electrode spacing of only 30.5 m (100 ft) because it was made on a steep hillside over the edge of an outcrop of volcanic rocks.

The field-sounding curves and their interpretations are given in appendix 2. The soundings are numbered consecutively from Barstow 1 to Barstow 101. All the sounding curves were processed and interpreted using an automatic interpretation computer program (Zohdy, 1989; Zohdy and Bisdorf, 1989). The result of the interpretation is a step-function curve that shows the interpreted variation of resistivity with depth beneath the sounding station. We refer to the resistivities in such a model as *interpreted true resistivities* or simply *interpreted resistivities*. Most sounding curves were easily interpretable in terms of horizontally stratified earth models, except for a few that were affected by man-made structures or by geologic lateral inhomogeneities.

SOUNDINGS AFFECTED BY MAN-MADE STRUCTURES

Distorted sounding curves often are defined as curves which do not resemble those measured over horizontally stratified media. The term "distorted", however, should be used to describe only those sounding curves that are affected by man-made features or by measurement errors. Metallic objects such as buried pipelines, fences with metal posts or with grounded wire mesh, or power lines with grounded posts, distort a sounding curve especially when these fences or power lines are discontinuous and the sounding line is expanded *parallel* to them. On the other hand, 60 Hz interference from a power line is strongest when the sounding line is expanded *perpendicular* to the power line.

Sounding 38, in the Nebo area, is shown in appendix 2 with no interpretation. The sounding curve was distorted by the presence of a buried-metallic pipeline running parallel to the western half of the sounding line. The initial apparent resistivities were suspiciously low for that area, the left branch of the sounding curve made an angle of greater than 45 degrees with the abscissa axis, some induced polarization was observed, and a sharp maximum was formed. The measurements were discontinued at the current-electrode spacing of AB/2 = 400 ft.

Sounding 40, located inside the Marine Corps Logistics Base at Nebo, was expanded perpendicular to a pipeline and a canal. These two man-made structures were crossed at current-electrode spacings between 600 and 1000 ft (see appendix 2). This sounding curve was easily smoothed and interpreted.

Soundings 52, 53, and 54, located in the western end of the survey area, were distorted by a fence constructed with wooden posts but with a well grounded wire mesh. The fence was located near the bank of the Mojave River and ran parallel to the sounding line. A discontinuity in the fence line revealed the detrimental effect of the fence on the sounding measurements (see appendix 2).

Soundings 63, 71, and 75 were distorted at *large* current-electrode spacings by buried-telephone lines, pipelines, or fences. By discarding the data at the large current electrode spacings, these soundings were still interpretable to medium depths.

Sounding 95 was made on the service road of a buried-telephone cable. The following distortions were observed:

(1) A cusp was measured at AB/2 = 800 ft (MN/2 = 20 ft).

(2) A very low reading and strong induced polarization were observed at AB/2 = 1000 ft (MN/2 = 20 ft). The polarization disappeared when MN/2 was expanded to 200 ft (at AB/2 = 1000 ft).

(3) The last apparent-resistivity measurement at AB/2 = 4000 ft was too large, making the slope between the last two points very steep.

The field curve of sounding 95 was smoothed and interpreted as shown in appendix 2, but its interpretation at large depths is uncertain and, because of the observed distortions, additional soundings were not made on that service road.

Soundings 93, 90, and 91 were terminated at somewhat shorter current-electrode spacings than planned because of strong 60 Hz interference from power lines that were oriented perpendicular to the sounding line.

SOUNDINGS AFFECTED BY LATERAL-GEOLOGIC INHOMOGENEITIES

On some sounding curves we measured cusps caused by lateral-geologic inhomogeneities (see for example soundings 19, 20, 25, 27, 28, and 37 in appendix 2). Cusps are formed on a sounding curve as the current electrodes are moved across lateral inhomogeneities during the sounding expansion. There are two types of cusps: downward-pointing cusps and upward-pointing cusps. A downward-pointing cusp is formed when a current electrode crosses over a conductive lateral inhomogeneity, whereas an upward-pointing cusp is formed when a current electrode crosses over a resistive inhomogeneity. A knowledge of the behaviour of theoretical Schlumberger sounding curves obtained near lateral inhomogeneities is essential in interpreting the cusps on field curves. Sets of theoretical Schlumberger sounding curves were published for the following configurations: a) electrode array expanded at various azimuths near a single vertical contact (Zohdy, 1970), b) soundings expanded perpendicular to the strike of three vertical layers (Zohdy, 1980), c) soundings made near dipping contacts and over combined vertical and horizontal contacts (Alpin and others, 1966; Kunetz, 1966).

Cusps measured at short current-electrode spacings are usually caused by small lateral inhomogeneities such as boulders and buried-stream channels; whereas, cusps measured at large current-electrode spacings are usually caused by much larger geologic units (assuming that the cusps are not caused by inaccurate measurements). When small lateral inhomogeneities of natural origin, and hence with medium resistivity contrasts, are crossed by the current electrodes at large spacings, they do not affect the measurements to any measurable degree.

The identification of cusps on sounding curves is a useful tool for locating the distance from the center of the sounding station to an interface separating two geologic units with different resistivities. When used in conjunction with the interpretation of a profile of soundings, the location of cusps on the sounding curves can complement the overall interpretation of the geoelectric section (Zohdy and Bisdorf, 1993).

Sounding 19 was made on Ord Mountain Road near the south end of the survey area (see Figure 2 for station location and appendix 2 for sounding curve). The cusp formed at the electrode spacing of about 183 m (600 ft) shows the effect of a dipping high-resistivity material located at a distance of about 183 m (600 ft) from the center of the sounding. To the south of the sounding station, at the correct distance, there is an outcrop of a dipping granitic conglomerate layer followed by an outcrop of biotite quartz monzonite (Diblee, 1970).

Sounding 27 was made at the edge of a small outcrop of highly-weathered, friable, quartz monzonite in the northern part of the survey area (see Figure 2 for station location and appendix 2 for sounding curve). The near surface resistivity is about 25 ohm-m. Two small cusps are present on the sounding curve: a downward-pointing cusp at AB/2 = 6 m and an upward-pointing cusp at AB/2 = 18 m. At larger current-electrode spacings the curve flattens at a resistivity value of about 45 ohm-m. In appendix 2, the curve is interpreted in terms of horizontal layering. This interpretation implies that the highly-weathered quartz monzonite has a resistivity of about 45 ohm-m to a depth of at least 90 m (see definition of maximum probing depth on page 12). The sounding curve could also be interpreted in terms of a dipping interface (Kunetz, 1966) separating a conductive material, of about 25 ohm-m beneath the sounding center, from a resistive material (>200 ohm-m) located perpendicular to the sounding line, outcropping at a distance of about 18 m, and dipping at angle of about 45 degrees toward the center of the sounding. Another interpretation can be in terms of a near vertical contact (Zohdy, 1970) separating two materials with resistivities of about 25 and >200 ohm-m, with the sounding center placed over the conductive material and the sounding line forming an angle of about 60 degrees with the surface trace of the vertical contact. Both these interpretations ignore the small cusp at AB/2 = 6 m. Three-dimensional models that are made of a combination of horizontal and near vertical boundaries are necessary to interpret this sounding more adequately. Therefore, with the possibility of the existance of a >200 ohm-m material in the section, the interpreted-resistivity of 45 ohm-m for the quartz monzonite, using a horizontal layering model, can be misleading.

GENERAL DESCRIPTION OF INTERPRETED-RESISTIVITY CROSS SECTIONS

Several interpreted-resistivity cross sections were generated using the *Kolor-Map & Section* program (Zohdy, 1993) and were edited and annotated using Deluxe Paint III (Silva, 1989). The location of each sounding station on a cross section is depicted by a triangle at the surface of a simplified topography. The simplified topography on each cross section is composed of straight-line segments connecting the elevation of successive sounding stations. The name of each cross section is based on the numbers of the soundings occurring at the beginning and the end of the cross section.

The interpreted resistivity contours shown on the cross sections are derived from the step-function layering model of each sounding as follows:

1) The step-function curve is sampled at the logarithmic center of the horizontal and vertical lines of each step (Zohdy, 1989; Zohdy, 1993). These sampled resistivities represent points on a *continuous variation* of resistivity with depth model which is electrically equivalent to the step-function model.

2) The sampled continuous interpreted-resistivity function (and not the interpreted-resistivity steps) is used to generate the contours on the cross sections.

The interpreted-resistivity contours are approximately equally spaced on a logarithmic scale. The following contour levels were used: 4.5, 7, 10, 15, 20, 30, 45, 70, 100, 150, 200, 300, and 450 ohm-m. The same contour levels were used in contouring the interpreted-resistivity maps at various depths.

The depths at which the continuous interpreted-resistivity function is sampled are shown on the cross sections as black points beneath each sounding station. The location of the deepest sampled point beneath each sounding station shows the "maximum probing depth" of that particular sounding. *Here, we define the "maximum probing depth" as 1.5 times the depth to the top of the last, "infinitely thick", layer.* Whitened areas (with question marks) beneath some soundings indicate the limit of the maximum probing depth beneath these particular soundings. The area beneath a shallow sounding which is flanked on each side by nearby deep soundings may not be whitened especially if the interpolated data between the two adjacent deep soundings shows a reasonably continuous pattern of contour lines.

Long cross sections, that are several kilometers in length, are presented in two parts on the same page: an upper part, which shows the *top* portion of the cross section vertically exaggerated five times (to show the near surface geoelectrical layering in more detail); and a lower part, which shows the *complete* cross section with no vertical exaggeration. Short cross sections are presented, in one part, without vertical exaggeration.

On all cross sections, the depth to the deepest 70 or 100 ohm-m contour represents a reasonable-interpreted depth to the top of a high-resistivity *geoelectric* basement. The zone with moderately-high resistivity contours (45 to 100 ohm-m) at depth may represent a section of coarse sand and gravel deposits, a section of sedimentary rocks containing units of volcanic rocks, or may represent a zone of gradual change from highly-weathered basement rocks at the deepest 45 ohm-m contour level to a less-weathered basement surface at the 100 ohm-m contour level. We consider the third explanation as the least likely when the thickness of that zone is large. The determination of the *exact* depth to basement (without additional knowledge from deep wells) is subject to the various possibilities of equivalent-multilayer models (Zohdy and others; 1974, Zohdy, 1989).

IMPORTANT NOTES ABOUT INFERRED FAULTS

Geoelectrically inferred faults are shown as red vertical lines on several of the cross sections. The reality of some of these faults is subject to the following limitations:

(1) Some of the inferred faults are based on abrupt and significant lateral changes in the interpreted-resistivity and thickness of materials at medium depths. However, these interpreted abrupt-lateral changes may also represent contacts between different rock formations rather than faults; and by using a certain option in the contouring program (Zohdy, 1993), these "abrupt" changes may also be made to resemble intercalations of formations with different resistivities (thus symbolizing a facies change) as shown in the discussion of cross-section 92-91.

(2) Some of the inferred faults are located at large depths and are based on a discontinuity in the interpreted depth to the geoelectric basement, without showing a

significant displacement in the overlying lower-resistivity materials. Such interpreted-irregularities in the basement surface may represent old-erosional features and may not be associated with faulting.

(3) Because of the non-uniqueness of the computed models and because of the small vertical displacement of some of the inferred faults with respect to their depth of burial, the presence of some of the deep inferred faults is uncertain.

(4) We used an option in the cross-section contouring algorithm (Zohdy, 1993) which favors horizontal stratification and therefore a dipping layer may appear to be faulted where faults do not necessarily exist. This reflects the non-uniqueness of contouring methods (especially with lack of data between widely-spaced sounding stations).

(5) If faults exist along a cross section, then their location may or may not be supported by the formation of a cusp on the sounding curve (Zohdy and Bisdorf, 1993) depending on the resistivity contrast, the angle formed between the fault line and the sounding line, and on the depth of the fault below land surface.

(6) The inferred faults are not necessarily vertical nor are they necessarily oriented at right angles to the plane of the cross section.

Inasmuch as part of the purpose of this study was to help locate faults, we have used a contouring algorithm that favors horizontal stratification and almost all abrupt-lateral changes in interpreted resistivity have been marked as inferred faults on the cross sections. It is important to remember the above caveats wherever the location of an inferred fault is closely examined.

EAST-WEST CROSS SECTIONS IN THE NEBO AREA

Cross-Section 47-44 (Along the Mojave River):

Figure 3 shows the interpreted-resistivity cross section along the Mojave River extending from sounding 47 in the west to sounding 44 in the east. The upper part of the figure shows the top 800 m, vertically exaggerated five times, whereas the bottom part of the figure shows the top 2000 m without vertical exaggeration. The cross section is laterally divided into three regions with different resistivity distributions. These regions are described from west to east as follows:

(1) The region west of sounding 45 is primarily characterized by medium-resistivity materials of 30 to <70 ohm-m. On the basis of this resistivity range, these materials should be mainly composed of sand and gravel deposits saturated with water of good quality. However, a test well previously drilled by the USGS near sounding 45 penetrated mostly alluvial deposits to a depth of about 176 m (580 ft) where hard rocks (volcanics?) were encountered (Peter Martin, USGS, oral communication). The results of this test well leads us to consider the 30 to <70 ohm-m materials beneath soundings 45, 46, and 47, at depths of greater than about 200 m, to be primarily composed of sedimentary rocks but possibly mixed with units of volcanic rocks, and that this sequence of sedimentary and volcanic rocks probably extends to a depth of about 1000 m or more. In other words, the sounding data do not support the presence of a ubiquitous high-resistivity (>150 ohm-m) geoelectric basement at shallow depth (<200 m).

(2) The area between soundings 49 and 10, at depths shallower than about 800 m, is characterized by the presence of a medium-low resistivity unit with resistivities in the range of >7 to 20 ohm-m. Generally, medium-low resistivity materials do not represent a good aquifer because typically they are either composed of predominantly clayey and silty sediments of low permeability, or they are predominantly composed of sand and gravel but are saturated with water of low-quality, or both. A drill hole located about 200 m south of sounding 1 shows the presence of low-resistivity materials at a depth of about 100 m with low-quality water (Peter Martin, USGS, oral communication). Based on the geometry of these medium-low resistivity materials along the cross section it is likely that they are primarily composed of clayey sediments mostly saturated with low-quality water.

(3) The area between soundings 10 and 44 is characterized by medium resistivities in the range of 30 to 70 ohm-m. The medium-resistivity materials should represent coarse sediments mostly saturated with fresh water. Some medium-high resistivity materials (70 to >300 ohm-m) are present in the upper 100 m at the eastern end of the cross section. These materials probably represent coarse sediments possibly containing conglomerates or volcanic materials.

Geoelectrically inferred faults on the cross section, from west to east, are discussed below:

1) The abrupt end of the medium-low resistivity materials (>7 to 20 ohm-m) in the western part of the cross section *and* the abrupt end of the high-resistivity geoelectric basement at a depth of about 1000 m, west of sounding 49 and near Interstate Highway 15 (I-15), indicate a possible fault near

I-15. The fact that the direction of the vertical offset in the <20 ohm-m material (at a depth of 200 to 400 m) appears opposite in direction to the vertical offset in the geoelectric basement (at a depth of about 1000 m) can be explained either by assuming the inferred fault to be a strike-slip fault, or by assuming the discontinuities in the <20 ohm-m materials to be pinch outs of two electrically-similar materials at two different depths.

2) The discontinuities in the <15 ohm-m material and in the 20 to 30 ohm-m materials between soundings 2 and 1, indicate a possible fault; and because these discontinuities are not associated with a detectable vertical displacement in the geoelectric basement, the fault is probably a strike-slip fault. This inferred fault may extend to the earth surface, affect the flow of ground-water, and cause variations in the depth to the water table in this area.

3) The disturbed zone in the geoelectric basement at a depth of about 1000 m, beneath soundings 1, 42, 8, 43, and 9, may indicate several deep faults in the geoelectric basement along that segment of the cross section. Some of these deep faults may reach the surface, but there is no evidence for that on the cross section.

4) The termination of the medium-low resistivity materials (>7 to 20 ohm-m) east of sounding 9 indicates the possible presence of a fault between soundings 9 and 10. The absence of a detectable displacement in the geoelectric basement between soundings 9 and 10 makes us assume this fault to be a strike-slip fault.

The Waterman fault (Miller, 1969; Diblee, 1970), is assumed to cross the Mojave River bed (as a concealed fault beneath the river sand) in the vicinity of sounding 43. Recently, five northwest-trending right-lateral strike-slip faults named A, B, C, D, and E (Cox and Wilshire, 1993) were identified, in the Nebo area, on the basis of a combination of evidence from geologic, hydrologic, and geophysical data (including the present resistivity survey). Based on the geologic map of Cox and Wilshire, the location of these faults on the present cross section (from west to east) is as follows:

Fault A is located between soundings 2 and 1, and is closer to sounding 2 than to sounding 1. It corresponds to the geoelectrically inferred fault between soundings 2 and 1.

Fault B is located just west of sounding 42. It corresponds to the geoelectrically-inferred fault which is interpreted to vertically displace the geoelectric-basement surface between soundings 1 and 42.

Faults C and D are located just to the west and east of sounding 43, respectively. The location of these two faults corresponds to the electrically-inferred faults in the geoelectric-basement surface east and west of sounding 43.

Fault E extends from just east of sounding 9 to just west of sounding 10. Its location corresponds to the electrically inferred fault, in the medium-depth and medium-resistivity materials between soundings 9 and 10.

Cross-Section 31-36 (Along Pipeline Road, South of Interstate Highway 40):

Figure 4 shows an east-west interpreted-resistivity cross section along the pipeline road, south of Interstate Highway 40 (I-40), in the Nebo area. The upper part of the figure shows the top 400 m of the cross section vertically exaggerated 5 times, whereas the bottom part shows the top 1500 m without vertical exaggeration. A prominent near-surface layer with high resistivities ranging from 100 to 300 ohm-m extends over a distance of more than 2 km between soundings 32 and 34 and is approximately 50 m thick. This layer is probably composed of coarse sand and gravel deposits and most likely corresponds to old valley deposits of fanglomerate and gravel (Diblee, 1970). At medium depths (30 to as much as 700 m) most of the cross section is characterized by medium-low resistivity materials (>7 to 20 ohm-m) which are similar to those previously shown in Figure 3. A drill hole (Miller, 1969) approximately 50 m south of sounding 5 shows low-resistivity materials at shallow depth (<100 m) (Peter Martin, oral communication). At depths from about 200 to 1500 m most of the cross section in Figure 4 is characterized by medium resistivity materials (20 to <70 ohm-m). These materials are shallowest beneath sounding 33 and almost symmetrically fall to greater depths to the east and west of sounding 33. Deep seated layers with resistivities of >70 ohm-m were not convincingly detected on any of the soundings on this cross section.

Two inferred faults are shown on the cross section. Their existance is uncertain and is mainly based on changes in the form of the 20, 30, and 45 ohm-m contours. The location of these two inferred faults nearly coincides with the ends of the near-surface resistive layer (fanglomerate and gravel layer).

NORTH-SOUTH CROSS SECTIONS IN THE NEBO AREA

Six north-south and northeast-southwest cross sections were constructed from the sounding data in the Nebo area. Four of these cross sections are relatively short (less than 2 km in length). All cross sections show the location of inferred faults. A description of these north-south cross sections, from west to east, follows.

<u>Cross-Section 31-26</u>:

Figure 5 shows cross-section 31-26, which starts on the pipeline road in the south and ends on outcrops of older valley sediments (Diblee, 1970) in the north. Soundings 26 and 28 were made on the hills north of the Mojave River. According to Diblee's map (1970), sounding 26 is located on older valley sediments near a contact with limestone, shale and tuff (Tls) of Miocene or Oligocene age. Similarly, sounding 28 is located on the same older valley sediments and near a contact with a tan felsite (Ttf). There are two types of older valley sediments described by Diblee (1970): Qof (fanglomerate and gravel) and Qoc (clay and marl). Assuming that soundings 26 and 28 were precisely located on the map, then they are located on Qoc (clay and marl) deposits, yet the interpreted resistivities (30 to 200 ohm-m) beneath these two soundings are higher than what one might expect for sediments composed of clays and marls (2 to 10 ohm-m). The high resistivity values are in better agreement with what one might expect for old valley sediments composed of fanglomerate and gravel (Qof). However, the nearest Qof outcrop is about 300 m south of sounding 28. Therefore, either Diblee's map is in error (where Qoc should have been Qof) or the sounding stations were not located on Qoc deposits (clay and marl) but on the nearby limestone, shale, and tuff deposits (Tls) for sounding 26 and on the tan felsite for sounding 28. Except for the shale, these materials are more resistive than clay and marl deposits.

On the cross section, the medium-high resistivity materials (>70 ohm-m), possibly representing the geoelectric basement, occur at greater depths beneath sounding 26 than beneath sounding 28.

Subsequent to the first part of the resistivity survey (April 1991), a test well (MC2) was drilled by the USGS between soundings 10 and 39 (Peter Martin, USGS, written communication). The well penetrated breccia at a depth of 146 m (480 ft). Although this material was hard to drill and seems to have low porosity and permeability (based on visual inspection of a core sample), it does not represent the geoelectric basement of high resistivity which at the location of the well is probably at a depth of 700 to 1000 m. Outcrops of conglomerate and breccia were mapped by Diblee (1970) near the northern bank of the Mojave River in this area. We believe that the breccia encountered in test-well MC2 may be the same conglomerate and breccia mapped at the surface by Diblee.

Figure 5 shows a thick layer of medium-low resistivity (>7 to 20 ohm-m) beneath soundings 31 and 40 in the southern part of the cross section. This layer is about 700 m thick beneath sounding 31 and about 350 m thick beneath sounding 40. The resistivity of this layer (especially in the range from >7 to 15 ohm-m) indicates that it is probably saturated with water of low quality and/or that it contains a significant amount of clay. The high-resistivity (>70 ohm-m) geoelectric basement detected beneath soundings 40, 10, 39, and 28 was not detected beneath sounding 31 down to a probing depth of about 1400 m. Therefore, a fault is inferred to exist between soundings 31 and 40. To the north of sounding 40, and beneath sounding 10 a small graben-like structure may exist, and therefore two more faults are inferred. These two faults are also based on the disappearance of the medium-low resistivity material (>7 to 20 ohm-m) north of sounding 40.

The 20 to 70 ohm-m materials that occupy the major part of the cross section, probably represent coarse grained sedimentary rocks possibly with units of volcanic rocks, conglomerates, and breccia. These layers are probably saturated with fresh water but in places may have low porosity and permeability as evidenced by the brecciated rock penetrated at the bottom of test well MC2.

Cross-Sections: 30-11, 29-12, 5-13, and 33-14:

Figure 6 shows four north-south interpreted resistivity cross sections having the same horizontal scale and without vertical exaggeration. Each cross section extends from the pipeline road in the south to the Mojave River bed in the north. These four cross sections have similar features and they also bear a certain resemblance to cross-section 31-26 (discussed above); therefore, they will be collectively described in this section.

All four cross sections show the presence of the medium-low resistivity layer of >7 to 20 ohm-m. The thickness of this layer diminishes from cross section 30-11 in the west to cross-section 33-14 in the east. This decrease in thickness from west to east is shown more clearly on the previously discussed east-west cross-section 31-36 (Figure 4) made along the pipeline road. Figure 4, however, also shows that the medium-low resistivity layer thickens to the east of sounding 33.

All four cross sections in Figure 6 show the possibility of a fault nearly beneath I-40. To the north of I-40, at a distance ranging from about 0.5 to 1 km, a second fault may exist as shown on cross-sections: 30-11, 29-12, and 5-13.

Cross-Section 20-44 (Along Ord Mountain Road):

Figure 7 shows a southwest-northeast cross section made along Ord Mountain Road and extending from sounding 20 in the southwest, located over an outcrop of weathered quartz monzonite (Diblee, 1970), to sounding 44 in the northeast, located on the Mojave River dry bed. The upper part of Figure 7 shows the top 500 m vertically exaggerated five times whereas the bottom part shows the top 2000 m without vertical exaggeration. This cross section is geophysically interesting for two reasons:

1) The resistivity (both apparent and interpreted) decreased as the sounding stations progressed uphill on Ord Mountain Road. *Normally*, the resistivity is higher at higher elevations because of the presence of coarser material, greater depths to the water table, better quality water, and shallower depths to high-resistivity basement rocks; conversely, the resistivity is *normally* lower at lower elevations because of finer materials, clays, shallower water table, and deep high-resistivity basement rocks. In this cross section, however, the opposite was observed because of a geophysically significant layer probably composed of marly limestone (Tl), sandstone (Tss), and shale and sandstone (Tsh) units (Diblee, 1970) of low resistivity (<4.5 to 10 ohm-m). The marly limestone unit outcrops beneath sounding 18 and dips to the north. Geophysically, this composite layer is an excellent marker bed that was easy, but intriguing, to map as we made the succession of soundings uphill on Ord Mountain Road and finally reached the marly limestone outcrop at sounding 18. The marl and shale content of this composite layer are the cause of its low resistivity. Although this layer is geophysically easy to map, hydrologically it does not represent a good aquifer.

2) Concerns about the possible effects of the pipeline on the soundings made along the pipeline road, are considerably diminished if not eliminated by examining the present cross section (Figure 7). The main concern is that the pipeline could make the medium-low resistivity materials (>7 to 20 ohm-m) appear thicker than they really are because the soundings were expanded parallel to the pipeline. This concern may even be enhanced upon re-examining the five north-south cross sections shown in Figures 5 and 6, and noticing that the larger thickness of the medium-low resistivity layer occurs beneath the soundings made on the pipeline road (south-

end of the cross sections). However, by inspecting the present cross section (Figure 7), we notice that although sounding 34 was made on the pipeline road and expanded parallel to the pipeline, soundings 15, 6, and 21 were made south and away from the pipeline and expanded perpendicular to it, and yet these soundings show unequivocally that the medium-low resistivity material (>7 to 20 ohm-m) is present south of the pipeline and that it has a significant thickness of several hundred meters. This supports the belief that the soundings made along the pipeline road were not affected by the pipeline and that the presence of a fault near I-40, as shown in Figures 5 and 6, is possible.

Several inferred faults are shown on cross section 20-44 (Figure 7); the location of these faults is based on both the sudden changes in depths to a low-resistivity layer (<4.5 to 10 ohm-m) and in the depths to the high resistivity (>70 ohm-m) geoelectric basement. Some of the inferred faults are based only on the variation of the interpreted depth to the high-resistivity geoelectric basement and do not show significant lateral changes in the overlying medium- and low-resistivity materials.

The low-resistivity layer (<4.5 to 10 ohm-m), representing the marly-limestone, sandstone and shale layer, is not detected north of sounding 7, but medium-low resistivity materials of about 10 to 20 ohm-m are present from sounding 7 to sounding 34.

BLOCK DIAGRAM OF THREE CROSS SECTIONS IN THE NEBO AREA

Figure 8 shows a block diagram based on: part of cross-section 20-44 (Ord Mountain Road) extending from sounding 20 to sounding 34, part of cross-section 31-36 (Pipeline Road) extending from sounding 34 to sounding 31, and on cross-section 31-26. This representation helps consolidate the visualization of the subsurface structures of the geoelectrical layers beneath these three cross sections. The individual cross sections have been described above and the block diagram itself is self explanatory. *Note that the colors used to display the top surface of the block diagram, the Interstate Highway, and the bed of the Mojave River, are for illustrative purposes only and do not represent interpreted resistivity values.*

EAST-WEST CROSS SECTIONS IN THE YERMO AREA

Seven east-west and northeast-southwest interpreted resistivity cross sections were made in the Yermo area. We will discuss these in their order of placement from north to south.

<u>Cross-Sections: 96-84, 81-94, and 80-75 (North of Interstate Highway 15)</u>:

Figure 9 shows three east-west interpreted resistivity cross sections located north of I-15, in the Yermo area. Cross-section 96-84 runs parallel to the northern edge of a playa, cross section 81-94 runs essentially in the middle of the playa, and cross- section 80-75 runs near the southern edge of the playa. The outline of the playa is not shown in the station-location map in Figure 2. Several interesting features are depicted on these cross section:

1) The near surface formations (in the upper 150 m) have higher resistivities than anticipated (ranging from 30 to >450 ohm-m). Because of the presence of a playa, one would have expected resistivities of less than 30 ohm-m for the very near surface formation (note: in the top 2 meters near the center of the playa the lowest interpreted resistivities are 45 to 70 ohm-m). The high resistivities are particularly noticeable on cross-sections: 81-94 and 80-75. These measured high resistivities indicate that this playa is the result of a fresh-water lake and that there are very little or no conductive-clay layers in the upper 150 m. The high resistivities also indicate the probable presence of compact sand and silt deposits that may contain evaporites.

2) At a depth of about 150 to 200 m, a medium-low resistivity layer (>10 to 20 ohm-m) exists, with different degrees of abundance, on all three cross sections. It is most abundant on cross-section 96-84 where it extends over a distance of about 4 km. This layer probably does not represent a very good aquifer because its medium-low resistivity reflects the possibility of clay intercalations and/or marginal-quality water. This layer also may represent a Tertiary sand and shale unit which outcrops in the hills north of the playa (Diblee, 1970).

3) Several inferred faults are shown on the cross-sections. The inferred faults: east of sounding 97 (on cross-section 96-84), east of sounding 81 (on cross-section 81-94) , and east of sounding 73 (on cross-section 80-75), probably represent the same fault with a northwest-southeast trend.

Cross-Sections: 68-62, 101-61, and 88-85 (South of Interstate Highway 15):

Figure 10 shows three interpreted-resistivity cross sections that are partially in, and in the vicinity of, the Marine Corps Logistics Base at Yermo, south of I-15. The cross sections trend east-west and northeast-southwest. Most of the soundings made on the Base could not be expanded to large current-electrode spacings because of insufficient open space.

All three cross sections are characterized by the presence of a medium-high to high-resistivity layer (100 to >450 ohm-m) in the upper 100 to 250 m. This resistive layer is similar to the one seen on the above discussed cross sections, and here it is probably primarily composed of compact sand deposits.

The medium-low resistivity layer (>10 to 20 ohm-m) is present beneath sounding 62 (at the east end of cross-section 68-62) and beneath the closely spaced soundings 101, 100, 99, and 98 (at the southwest end of cross-section 101-61).

Soundings 99 and 100, on cross section 101-61, were made in a small inlet or wash in Elephant Mountain (neither the inlet nor Elephant Mountain are shown in Figure 2). Volcanic rocks of Elephant Mountain are present to the north and south of the inlet but the soundings do not show high-resistivity materials underlying the inlet sediments, neither at shallow nor at medium depths. This indicates that either the buried-volcanic rocks have low resistivities, or that the volcanic rocks have been eroded away in the inlet area. We prefer the second explanation because we could see sediments *beneath* the volcanic rocks on the southern side of the inlet.

Sounding 101, on cross section 101-61, was made on the sloping edge of volcanic rocks (laminated grey rhyolite?) near the end of the inlet. The sounding was expanded to very short current-electrode spacing of AB/2 = 100 ft (30.5 m). We expected to measure high or medium-high resistivities of about 100 ohm-m or more on this volcanic material. Instead, the measured apparent resistivity ranged from 20 ohm-m to 16 ohm-m with a small minimum of 14.5 ohm-m (see appendix 2 for sounding 101). There are three possible explanations for these low resistivity measurements:

1) At the location of sounding 101, the volcanic rocks have a thickness of less than 3 m and the sounding is mainly detecting conductive sediments beneath them.

2) The volcanic rocks are partially altered into clay minerals and therefore their resistivity is low. However, a

reflectance-spectroscopy test (made by Greg Swayze, USGS) on a small sample of the rock did not show an abundance of clay minerals.

3) The measured apparent resistivities represent the average longitudinal resistivity which is much smaller than the average transverse resistivity of an anisotropic rock. This explanation is not far fetched because the volcanic rocks were strongly laminated and dipping at the sounding location. The sounding line was expanded perpendicular to the strike of the lamination, and therefore in accordance with the well known *paradox of anisotropy* (see for example Bhattacharya and Patra, p.14-21, 1968) one would measure the *longitudinal* (not the transverse) resistivity of the anisotropic material which is less than its the transverse resistivity. If one would make the sounding parallel to the strike of the anisotropic material, then one would measure an apparent resistivity which equals the square root of the product of the longitudinal and transverse resistivities. From the two orthogonal soundings, one can calculate the transverse resistivity and then compute the coefficient of anisotropy.

It is unfortunate that we did not make measurements parallel to the strike of the laminated volcanic rock, nor did we make measurements at very small current-electrode spacings, with AB/2 < 10 ft, to resolve this problem of what appears as a low-resistivity volcanic rock.

A shallow-inferred fault is shown between soundings 99 and 98, in the west part of cross section 101-66. This fault is near the foot of Elephant Mountain, and it is primarily based on the lateral-discontinuity in the layer resistivities, between soundings 99 and 98.

At sounding 56, on cross-section 101-61, a small outcrop of intrusive andesite (Diblee, 1970) exists. The resistivity of the near-surface material in the vicinity of this outcrop is greater than 100 ohm-m and it is not much different from the resistivity of other near-surface materials in the upper 100 to 250 m along the cross section. The 45 ohm-m contour is discontinuous beneath sounding 56, and the interpreted depth to the geoelectric basement is shallower beneath sounding 56 than beneath soundings 66 and 67. This may indicate that this andesite outcrop is a plug and that the 45 to 70 ohm-m zone, disrupting the continuity of the 45 ohm-m contour, beneath sounding 56, is a manifestation of the three-dimensional character of that plug on the one dimensional interpretation of the sounding data.

Beneath sounding 58, on cross section 101-61, a second rise in the geoelectric basement exists and, near the surface, there is material with very high resistivity (>450 ohm-m).

This may be an indication of another intrusive plug buried at shallow depth in that area. It is also interesting to note that this feature is located directly along the strike of the northwest-southeast fault discussed in Figure 9.

On cross-section 88-85, the medium-low resistivity material is not detected anywhere, and a deep inferred fault is shown between soundings 87 and 86.

The near absence of low resistivity layers on all three cross sections in the Yermo area may be regarded as an encouraging indication on the presence of a fresh ground-water supply in these medium-resistivity materials (30 to 70 ohm-m) unless there are several volcanic units with low permeability in the section.

<u>Cross-Section 92-91 (Southeast of Daggett)</u>:

Figure 11 shows four electrically-equivalent representations of cross section 92-91. The purpose of these different representations is to illustrate *part* of the non-uniqueness in contouring methods and in sounding interpretation, which also apply to most other cross sections. Certain features on cross-section 92-91, however, are common to all four representations: 1) in the eastern half, there is a shallow layer of high-resistivity (>100 ohm-m), 2) beneath all soundings, there is a low to medium-low resistivity material (>4.5 to 20 ohm-m) which attains its greatest thickness beneath sounding 89, and 3) beneath soundings 90 and 91, the resistivity distribution at large depths is undetermined because the soundings could not be expanded to sufficiently large current-electrode spacings (because of the effect of man-made structures, metal pipes, and the interference of 60 Hz signals from power lines oriented perpendicular to the sounding lines).

Figure 11a shows the unconstrained output of the *Kolor-Map & Section* program (Zohdy, 1993) with some minor editing using Deluxe Paint (Silva, 1989). As mentioned earlier, in the section on "important notes on inferred faults", the contouring algorithm was designed to favor horizontal stratification and to show the possible location of lateral-resistivity discontinuities. Consequently, the contour pattern between soundings 92 and 89 shows the possibility of a fault (disregarding the direction of the throw, at this time).

Figure 11b is based on *the same data beneath each sounding* as in cross section 11a, but with major editing of the contour lines *between* soundings 92 and 89. The abrupt change in the thickness of the low to medium-low resistivity material, between soundings 92 and 89 (shown in Figure 11a), is substituted by a gradual change in that thickness; and thus, the suggestion of a fault in this material is removed. However, at a depth of about 1000 m, the lateral change in resistivity, between soundings 92 and 89, may still imply the presence of a fault at large depth.

Figure 11c shows a cross section based on a constrained-interpretation of sounding 92 where the last-layer resistivity beneath sounding 92 was forced to equal the resistivity of the last-layer beneath sounding 89 (94 ohm-m). The automatic interpretation program (Zohdy, 1989; Zohdy and Bisdorf, 1989) generated a curve for the constrained model that fit the digitized curve of sounding 92 quite well (see sounding 92F in appendix 2). Thus, by using a constrained model for sounding 92, the placing of an interpreted-fault at a depth of about 1000 m is unwarranted. However, in the depth range from about 200 to 500 m, the abrupt change in the thickness of the low to medium-low resistivity material, between soundings 92 and 89, is recreated by the *Kolor-Map & Section* program (similar to Figure 11a) but here the abrupt lateral change is accompanied by a noticeable change in the resistivity of the layers below sounding 92; as shown by the introduction of a >30 ohm-m material at a depth of about 300 m. The embedding of this >30 ohm-m layer in the 20 to 30 ohm-m layer, by the automatic interpretation program, is a result of placing the >70 ohm-m layer at a depth of about 1000 m. In general, this simply shows that if a resistive basement is placed at a shallower depth, then the materials above it become more pseudo-anisotropic; that is, most of the layer resistivities become more pronounced (high resistivities become higher and low resistivities become lower). The contour pattern in Figure 11c, implies the presence of a fault in the materials in the depth range between 200 and 500 m. Thus, whereas the possible presence of a fault at a depth of about 1000 m is eliminated, its probable presence at a depth of about 300 m is recreated.

Figure 11d is based on the same interpreted-resistivity data used in Figure 11c. Here, however, an option in the *Kolor-Map & Section* program (Zohdy, 1993) was selected to vary the "X-stretch factor" from a value of 2 at the bottom of the cross section to a value of 75 at the top of the cross section. By using large values of the X-stretch factor in the upper part of a cross section, the computed contours make a cross section have the look of intercalated geoelectric layers (which imply facies changes) between the sounding stations. Such visual effects blur the "abrupt" changes and may divert the viewer's attention from the possible existence of a fault.

Figure 11 shows that regardless of which of the given representations is considered, there is evidence for a lateral variation in the interpreted-resistivity distribution between soundings 92 and 89 and that this variation may imply the presence of a fault or a significant change in facies. Other electrically-equivalent models are possible but were not examined.

The possibility of a second fault between soundings 89 and 90 is evidenced on Figure 11a, b, and c, by the marked change in the depth to the 20 ohm-m contour at a depth of about 500 m, but because soundings 90 and 91 were not expanded to sufficiently large spacings, the presence of this second fault remains uncertain and is unmarked on the cross sections in Figure 11.

NORTH-SOUTH CROSS SECTION IN THE YERMO AREA

Cross-Section 36-95:

Figure 12 shows a north-south interpreted-resistivity cross section, extending from sounding 36, south of Interstate Highway 40 in the south, to sounding 95 north of Interstate Highway 15, and north of the playa, in the north. The top part of Figure 12 shows the upper 600 m vertically exaggerated 5 times and the lower part shows the upper 1000 m without vertical exaggeration. Not all soundings were deep soundings on this cross section, as indicated by the black dots beneath the sounding stations and by the whitened areas and the question marks at large depth beneath some of the soundings. In particular, sounding 93 and sounding 70 probe to depths of about 200 m or less. Sounding 93 could not be expanded to larger spacings because of strong interference from a power line oriented at right angles to the sounding line, and sounding 70 could not be expanded to larger spacings because of limited open space inside the Base at Yermo.

In the south, there is a sudden thickening of the <20 ohm-m material between soundings 36 and 92, in the area beneath Interstate Highway 40 and there is a sudden lateral change in interpreted resistivity between soundings 92 and 93, at shallow depth. Both these changes are similar to changes seen on several north-south cross sections in the Nebo area (see Figures: 5 and 6), and therefore two inferred faults are shown in the south part of the cross section.

In the middle, the geoelectric section is very uniform between soundings 93 and 74.

In the north, the geoelectric section is less uniform and there are three possible inferred faults as indicated by the lateral changes in interpreted resistivity between soundings 74, 79, 83, and 95.

The potential for a ground-water supply of fresh water would be in the 45 to 200 ohm-m materials down to a depth of about 150 m; and also in the >30 to 45 ohm-m material in the deeper part of the cross section. These thick, deep, deposits reaching a depth of about 750 m may contain volcanic materials and should be tested by a deep-test well reaching at least 500 m. The low to medium-low resistivity materials (<7 to 20 ohm-m) in the southern and northern parts of the cross section probably correspond to sand and shale deposits and may not represent good aquifers.

INTERPRETED-RESISTIVITY MAPS

Figures 13 and 14 show eight maps of the interpreted-resistivity distribution at depths of 2, 5, 10, 20, 50, 100, 200, and 500 m. These maps were generated using the *Kolor-Map and Section* program (Zohdy, 1993). Soundings that probe to the depth indicated on a given map are shown as open squares and labeled as deep soundings; whereas those whose maximum probing depth is smaller than the indicated depth, are shown as small solid squares and labeled as shallow soundings. Where appropriate, the area around shallow sounding stations, is whitened to indicate lack of information.

Soundings 38, 52, 53, 54, and 55 were not used in generating the interpreted-resistivity maps either because they are too distorted (sounding 38, see appendix 2) or because they are located too far away from the other soundings (soundings 52, 53, 54, and 55, see Figure 2).

<u>2, 5, 10, and 20 m Depth Maps</u>:

The four maps in Figure 13 (a, b, c, and d) show the resistivity distribution at the shallow depths: 2, 5, 10, and 20 m, which were not clearly depicted on the cross sections.

At a depth of 2 m (Figure 13a), the interpreted-resistivity distribution shows high resistivities (>450 ohm-m) for almost all the sounding stations made along the Mojave River bed. These high-resistivity materials represent the loose-dry sand deposits covering the river channel. The resistivity of these materials can be as high as 1000 ohm-m (see appendix 2). In general, only a few areas on the map show resistivities of less than 70 ohm-m and only two stations show a resistivity of less than 20 ohm-m. These lower-resistivity areas are located: 1) in the Yermo area, approximately one kilometer north of I-15, where the deposits near the center of the playa mostly are characterized by medium-resistivity materials (45 to 70 ohm-m), 2) south of the Nebo area, near I-40, where a medium-low resistivity material

(<30 to 70 ohm-m) exists, and 3) near the south end of Ord Mountain road, where the small low-resistivity anomaly (<30 ohm-m) represents the outcrop of the marly limestone material discussed previously.

At a depth of 5 m (Figure 13b), the interpreted-resistivity distribution is similar to that at the 2 m depth, except that in the Yermo area, north of I-15, most of the medium-resistivity materials (45 to 70 ohm-m) are replaced by higher resistivity materials (70 to 200 ohm-m). A band of medium-low resistivity materials (10 to 45 ohm-m) exists in the northern part of the map. In the area southeast of Daggett, a medium resistivity material (45 to 70 ohm-m) is detected.

At the depths of 10 m and 20 m (Figure 13c and 12d):

1) A medium-resistivity material (45 to 70 ohm-m) is first detected on the 10 m depth map (Figure 13c) near the western part of the Mojave River bed, and then it is seen to cover a much larger area to the east on the 20 m depth map (Figure 13 d). Note that it does not extend to the west of the intersection of I-15 and the Mojave River, where a deep fault was inferred previously (see discussion on cross-section 47-44, along the Mojave River). The location of this boundary does not coincide with the location of the inferred fault (which is further to the west) and therefore it primarily represents a rapid change in facies at these shallow depths.

2) A boundary between <70 and >70 ohm-m materials (located south of the Nebo area, near I-40) is well defined by a steep interpreted-resistivity gradient with an east-west trend.

3) The medium-low resistivity material (>7 to 45 ohm-m) southeast of Daggett first noted on the 5 m depth map is more prominent on the 10 and 20 m depth maps.

4) In general, at a depth of 20 m (Figure 13d), the Nebo area is characterized by a significant coverage of medium-resistivity materials (>20 to 70 ohm-m), whereas the Yermo area is primarily characterized by medium-high and high resistivity materials (70 to >450 ohm-m). Along Ord Mountain Road, the interpreted resistivity is lower than at shallower depths.

<u>50, 100, 200, and 500 m Depth Maps</u>:

These four maps (Figure 14 a, b, c, and d) show the progressive detection of low and medium-low resistivity materials at greater depths. In Figure 14 (c and d), several sounding stations, north of the Mojave River and in the Yermo area, are shown as small black squares to indicate that they are sites of shallow soundings that do not probe to the depths of 200 and 500 meters, respectively.

At the depth of 50 m (Figure 14a), the interpreted-resistivity distribution shows an abundance of medium-resistivity materials (30 to 70 ohm-m) in the northern part of the Nebo area, and mostly low-resistivity materials (10 to 20 ohm-m) in the southern part of the Nebo area (south of I-40) and to the southeast of Daggett. Medium-high resistivity materials (70 to 300 ohm-m) still prevail in the Yermo area at this depth.

At a depth of 100 m (Figure 14b), the medium-low resistivity materials (7 to 20 ohm-m) occupy a large portion of the southern part of the Nebo area. These materials probably do not represent good aquifers. North of I-40, a fault may be inferred along the trend of the steep resistivity gradient which runs nearly east-west, northwest-southeast, and north-south. The fact that the location, the magnitude, and the shape of the resistivity gradient changes on subsequent interpreted-resistivity depth maps can be explained by a dipping fault and it also reflects the general uncertainty in locating faults using the available data. In the Yermo area, at a depth of 100 m, most of the medium-high resistivity materials (70 to 300 ohm-m), north of I-15, are replaced by medium-resistivity materials (30 to 70 ohm-m).

At a depth of 200 m (Figure 14c), medium-low resistivity materials (7 to 20 ohm-m) cover large regions in the Nebo and southeast of Daggett areas and also appear in the northern part of the Yermo area (north of I-15).

At a depth of 500 m (Figure 14d), the low and medium-low resistivity materials (4.5 to 20 ohm-m) diminish in part of the Nebo area and disappear from the Yermo area; however, they are present in the western part of the Mojave River, and along Ord Mountain Road where they represent the marly limestone, sandstone, and shale beds refered to previously. Note that the nearly east-west and north-south resistivity trends near and north of I-40 in the Nebo area, are still present at this depth but they occupy different positions, possibly because the inferred faults dip to the south and southwest. Also note that there is a resistivity gradient in the western part of the map (near the intersection of the Mojave River and I-15) where the possibility of a fault near that location was discussed previously.

At the 200 and 500 m depths (Figure 14 c and d), significant portions of the interpreted-resistivity maps show materials with resistivities in the range from 30 to 70 ohm-m. Ordinarily, such materials should represent aquifers of sand

and gravel saturated with fresh water. At these depths however, it is possible that some volcanic units with low porosity and permeability may exist in parts of the section. This uncertainty cannot be settled without drilling a test well to a depth of at least 500 m (1500 ft) to help understand the deeper subsurface hydrogeologic conditions in this area. The location of such a test well should be based on the study of the interpreted- resistivity maps and the cross sections presented earlier.

MAP OF GEOELECTRICALLY INFERRED FAULTS

Figure 15 shows a map of the average location of most of the *geoelectrically-inferred* faults. The term "average location" is used to encompass the uncertainty in determining the exact location of a fault between two soundings, the uncertainty in projecting the location of deep, dipping, and buried faults at the surface, and the uncertainty of the *existance* of a fault at any given location. In fact, a few faults shown on some cross sections are not included on this map. Some faults are shown with a symbol that indicates the inferred up-down sides, whereas others are shown as a simple line to indicate an inferred strike-slip fault. The direction of the strike slip (right-lateral or left-lateral) is indeterminable from the available resistivity data.

Almost all the geoelectrically inferred faults are concealed by alluvium. Some are based on sudden lateral changes in the interpreted resistivity of materials at medium depths (about 100 to 500 m), some are based only on changes in the depth to the high-resistivity geoelectric basement, and some are based on both types of changes.

Along Ord Mountain Road, an inferred fault is shown between almost every sounding station. These faults represent a combination of shallow faults and of deep faults (which are based only on perturbations in the surface of the high-resistivity geoelectric basement). Such deep faults, if present, may or may not reach the earth's surface.

In the Nebo area, several faults are shown crossing the Mojave River bed. As described previously, in the cross sections, some of these are inferred-deep faults and others may be sufficiently close to the surface, that they may act as barriers to ground-water flow. Other inferred faults are shown near Interstate Highway 40 and near the intersection of Interstate Highway 15 and the Mojave River bed.

In the Yermo area, at least one well-defined northwest-southeast trending fault is shown and other inferred faults are also shown in the figure.

SUMMARY AND CONCLUSIONS

The resistivity survey has shown that there are basically four geoelectrically different materials in the Nebo and Yermo areas. The four geoelectrical units, and what they may represent geologically and hydrogeologically, are described from low- to high-resistivity materials as follows:

(1) Low and medium-low resistivity materials (3 to 7 ohm-m and 7 to 20 ohm-m, respectively) which in general should represent Tertiary sedimentary rocks (clay and marl, marly limestone, or shale). These materials probably do not represent good aquifers, and in areas where the resistivity is less than 15 ohm-m the materials are probably saturated with low-quality water.

(2) Medium resistivity materials (20 to 70 ohm-m) which normally should represent sand and gravel aquifers saturated with fresh water (especially in areas with resistivities in the 45 to 70 ohm-m range). Where these (45 to 70 ohm-m) materials overlie low and medium-low resistivity materials, they probably represent sand and gravel layers saturated with good quality water. However, at greater depths, where these materials overlie the higher-resistivity geoelectric basement, they probably represent a sequence of sedimentary rocks that may also contain units of hard, low-porosity, and low permeability rocks. A few drill holes have penetrated tight conglomerate and brecciated rocks or other hard rocks (volcanics?) at shallow depths of about 200 m or less. The resistivity results, however, indicate that these hard-rock materials do not represent the geoelectric basement of high resistivity, and that the thick portions of the geoelectric section with the medium resistivity materials may be composed of a sequence of layers that contain both good aquifers as well as some units of hard rocks with low porosity and permeability. A deep test well reaching *at least* 500 m, drilled at the appropriate location, should help solve this problem and clarify the deep hydrogeologic conditions.

(3) Medium-high resistivity materials (70 to 300 ohm-m), mapped at shallow depths (0 to 100 m) mostly represent old valley fanglomerate and gravel layers (in the Nebo area), and may represent compact sand and evaporite deposits (in the Yermo and in the playa north of I-15 areas). At depths near 100 m, these medium-resistivity materials may represent aquifers saturated with good quality water. At large depths (>500 m), these resistivities represent the geoelectric basement detected on all soundings made with sufficiently

large current-electrode spacings.

(4) High-resistivity materials (>450 to about 1000 ohm-m) mapped at very shallow depths (<5 meters) represent the loose and dry sand in the Mojave River bed.

In general, at depths ranging from about 50 m to at least 500 m, the area south of I-40 (including southeast of Daggett) is characterized by low and medium-low resistivity materials. These materials also extend (north of I-40) in the area northwest of Nebo and near the intersection of the Mojave River and I-15. In contrast, most of the area north of I-40, to the northeast of Nebo and in the Yermo area, is characterized by medium and medium-high resistivity materials. Therefore, according to the resistivity survey, one should have a better chance of locating sources of better water, in the areas north of I-40.

The location of several inferred faults was postulated from the results of the resistivity survey. Whereas the location of some of these inferred faults agrees with the location of the extension of known faults across the Mojave River bed, the location of other inferred faults have been suggested in both the Nebo and Yermo areas.

ACKNOWLEDGEMENTS

We wish to thank our colleagues: Brett Cox, Gary Dixon, Peter Martin, and Greg Swayze, for sharing their knowledge of the geology and hydrology of the area, and our colleagues: Don Hoover and Eric Livo for reviewing the manuscript.

COMPUTERS AND PERIPHERALS

The sounding interpretations were made on a 386 IBM-compatible computer. The station-location map was generated by digitizing the USGS topographic maps (Selner and Taylor, 1992). The resulting map was annotated using DesignCAD 2-D (American Small Business Computers, 1992) and printed on an HP LaserJet-4m printer. The resistivity maps and cross sections were generated in color on an Amiga 3000 computer using the *Kolor-Map & Section* program (Zohdy, 1993). Deluxe Paint III (Silva, 1989) was used for editing and annotating the interpreted-resistivity maps and cross sections and for constructing and annotating the block diagram. All color maps and cross sections were printed on a Cannon Color Bubble-Jet printer BJC-600.

The tabulations and log-log plots of the sounding curves, shown in appendix 2, were made by using the data files from the automatic interpretation program to generate graphics and text files compatible with WordPerfect 5.1. This was done using a program written by the second author in Microsoft QuickBASIC 4.5. The output was printed on an HP LaserJet III printer.

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APPENDIX 1

Electrode-Spacing Measurements:

All current- and potential-electrode spacings were measured in feet and later converted to meters during data processing and interpretation. In this section, to simplify the discussion, we will refer to the electrode-spacing distances in feet (as they were measured in the field). Current-electrode spacings (AB/2) from 10 to 100 ft were measured using a cloth tape. The current-electrode spacings at 140 ft and at 200 ft were measured using markings on the laid-out potential-electrode cable. Current-electrode spacings greater than 200 ft were measured using truck-mounted "precision-foot-odometers", which measure the distance in feet.

In this survey, most of the field-sounding curves are composed of three segments or less. A segment on a sounding curve is defined as a sequence of measurements made with increasing current-electrode spacings (AB/2) at fixed potential-electrode spacings (MN/2). The segments on the field-sounding curves correspond to fixed MN/2 spacings of: 2, 20, and 200 ft, respectively.

On each sounding curve, the first segment was obtained by successively expanding the current-electrode spacing (AB/2) from 10 ft to 100 ft with the potential-electrode spacing (MN/2) held fixed at 2 ft. At AB/2 = 100 ft, the MN/2 spacing was expanded from 2 ft to 20 ft and the second segment on the sounding curve was obtained by successively expanding AB/2 from 100 to 1000 ft. At AB/2 = 1000 ft, the MN/2 spacing was expanded from 20 ft to 200 ft and the third segment of the sounding curve was obtained by successively expanding AB/2 from 1000 ft up to 12,000 ft (see for example sounding 44).

Three soundings were expanded to current-electrode spacings that were longer than the available straight-line distance by following the turn in the road (see soundings 21C, 50C, and 51C, the suffix C indicates that the soundings were corrected). These three soundings were corrected for non-linear geometry using a method that we developed for making soundings along winding roads in the Medicine Lake area, California (Zohdy and Bisdorf, 1990).

Trucks and Other Equipment:

Three trucks were used for making the resistivity survey: an instrument truck (a carryall) that remained stationary at the center of the sounding, and two pickup trucks that were used to lay out and pick up the current cable. Communication between operator and crew was maintained using 90-watt FM radios. A 5-KVA generator was used for the current-power supply and a potentiometric-chart recorder was used for measuring the potential difference between the potential electrodes. Stainless-steel electrodes were used for current and for potential electrodes.

APPENDIX 2

On the following pages, the data for each sounding curve includes:

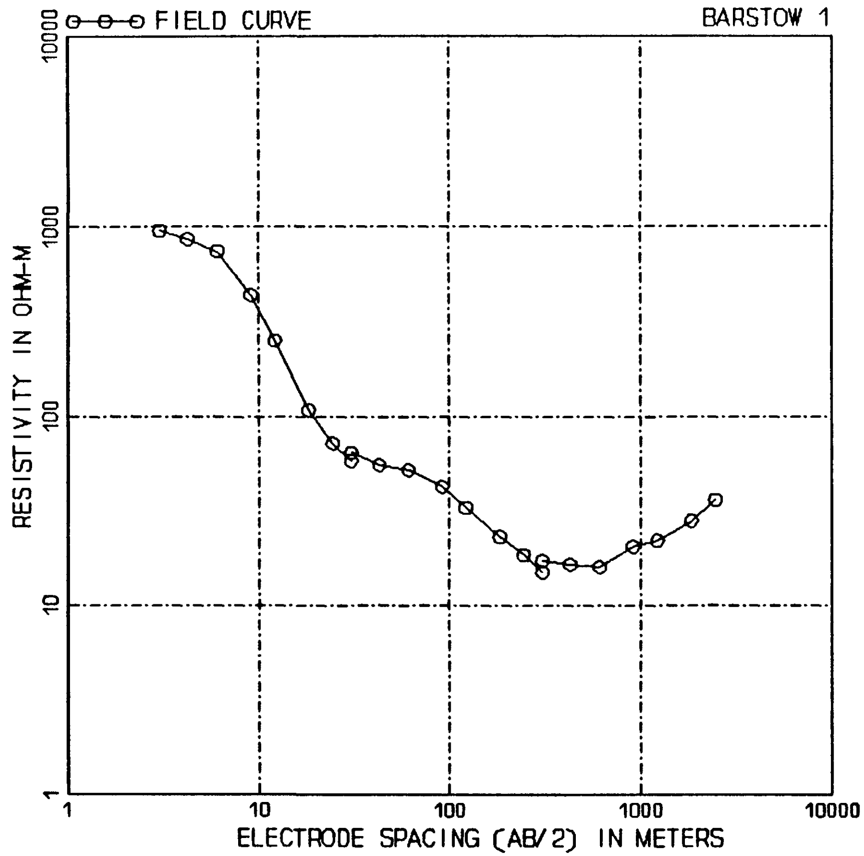
1) A sounding title which is designated by the name of the survey area followed by the sounding number. The suffix S means that the sounding curve was smoothed prior to interpretation, the suffix C means that the last few measurements were corrected for a non-linear electrode geometry, and the suffix F means that the interpretation of the sounding was forced by constraining the last-layer resistivity to a given value.

2) A tabulation of the current-electrode spacings (AB/2) in meters (and in feet) and corresponding apparent resistivities in ohm-meters.

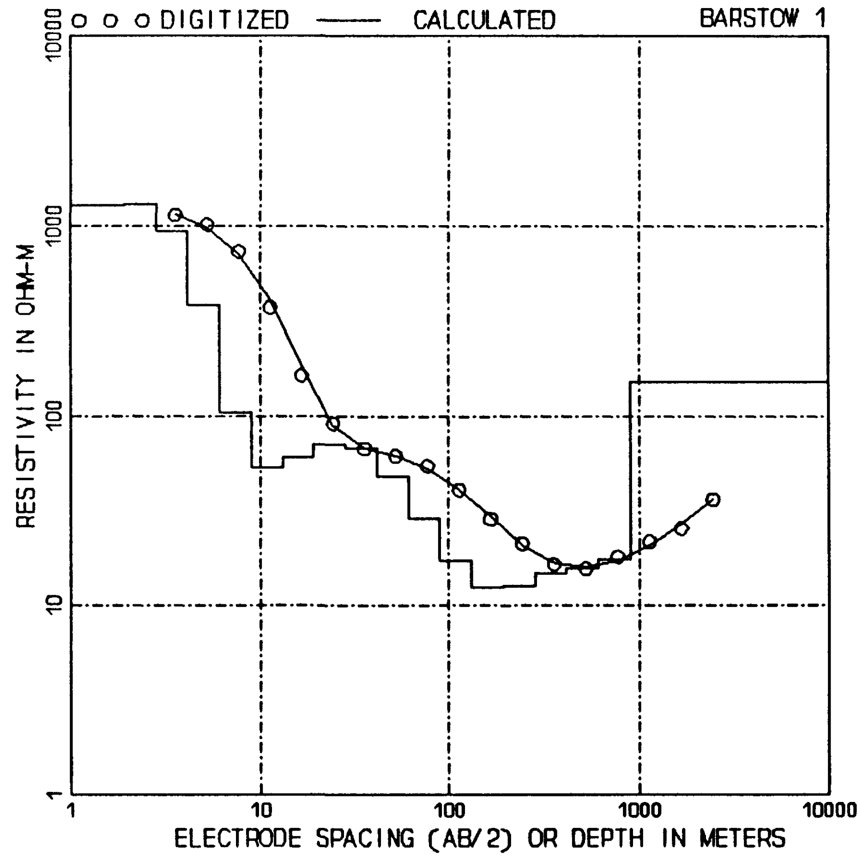
3) A log-log plot of the field-sounding data. Each data set of points made with the same potential-electrode spacing (MN/2) are connected with a solid line to form a segment on the curve. Measurements were made with the potential-electrode spacings fixed at 2, 20, 200, and 600 ft.

4) A tabulation of the automatically interpreted layering; with depths in meters (and in feet) and corresponding interpreted resistivities in ohm-meters.

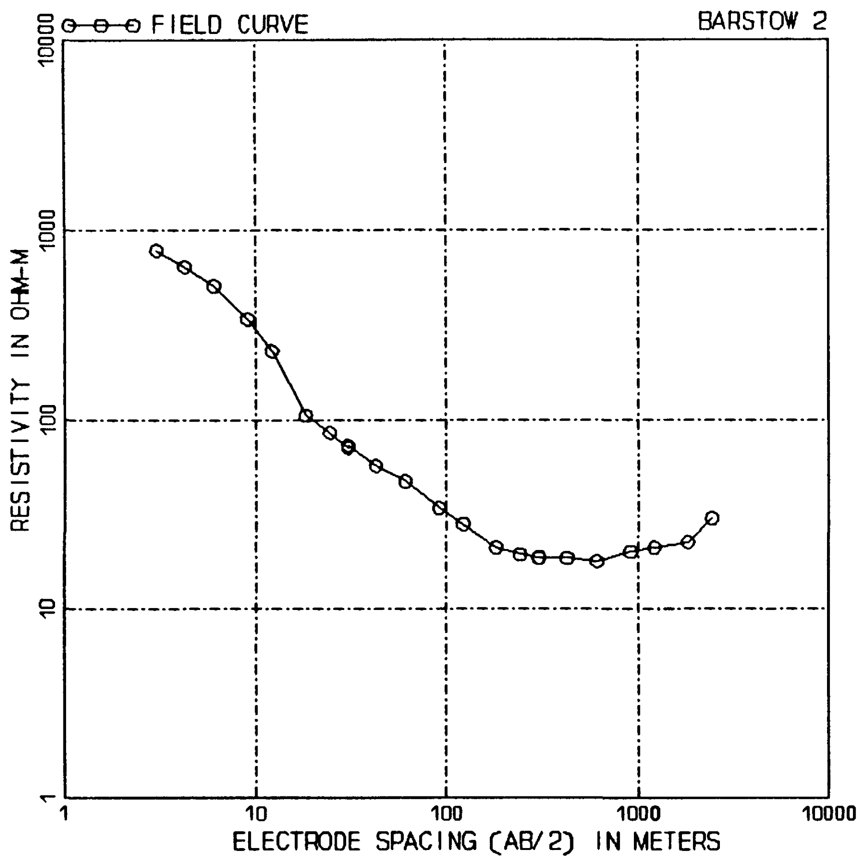
5) A log-log plot of the output of the automatic interpretation program. Circles represent the shifted-digitized sounding curve. The continuous curve represents the calculated sounding curve. The step-function curve represents the interpreted layering model. Note that the abscissa is used to represent the current-electrode spacing for both the digitized and calculated sounding curves as well as the interpreted depth to the various layers. Similarly, the ordinate is used to represent the digitized and calculated apparent resistivities as well as the interpreted resistivity of the various layers in the step-function model.



AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	950.00	91.44	(300.00)	42.50
4.27	(14.00)	860.00	121.92	(400.00)	32.80
6.10	(20.00)	740.00	182.88	(600.00)	23.00
9.14	(30.00)	435.00	243.84	(800.00)	18.50
12.19	(40.00)	250.00	304.80	(1000.00)	15.00
18.29	(60.00)	108.00	304.80	(1000.00)	17.20
24.38	(80.00)	72.00	426.72	(1400.00)	16.50
30.48	(100.00)	58.00	609.60	(2000.00)	16.00
30.48	(100.00)	64.00	914.40	(3000.00)	20.50
42.67	(140.00)	55.00	1219.20	(4000.00)	22.00
60.96	(200.00)	52.00	1828.80	(6000.00)	28.00
			2438.40	(8000.00)	36.00



DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	1286.27	61.12	(200.52)	48.13
2.84	(9.31)	1306.30	89.71	(294.32)	28.66
4.16	(13.66)	941.35	131.67	(432.00)	17.17
6.11	(20.05)	384.63	193.27	(634.09)	12.42
8.97	(29.43)	104.62	283.68	(930.72)	12.65
13.17	(43.20)	53.12	416.39	(1366.10)	14.70
19.33	(63.41)	60.89	611.17	(2005.17)	15.66
28.37	(93.07)	70.67	897.08	(2943.18)	17.48
41.64	(136.61)	67.28	99999.00	(99999.00)	150.00



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4.27	(14.00)	640.00	121.92	(400.00)	28.00
6.10	(20.00)	505.00	182.88	(600.00)	21.00
9.14	(30.00)	340.00	243.84	(800.00)	19.40
12.19	(40.00)	230.00	304.80	(1000.00)	18.70
18.29	(60.00)	105.00	304.80	(1000.00)	18.50
24.38	(80.00)	85.00	426.72	(1400.00)	18.50
30.48	(100.00)	71.00	609.60	(2000.00)	17.80
30.48	(100.00)	73.00	914.40	(3000.00)	20.00
42.67	(140.00)	57.00	1219.20	(4000.00)	21.00
60.96	(200.00)	47.00	1828.80	(6000.00)	22.50
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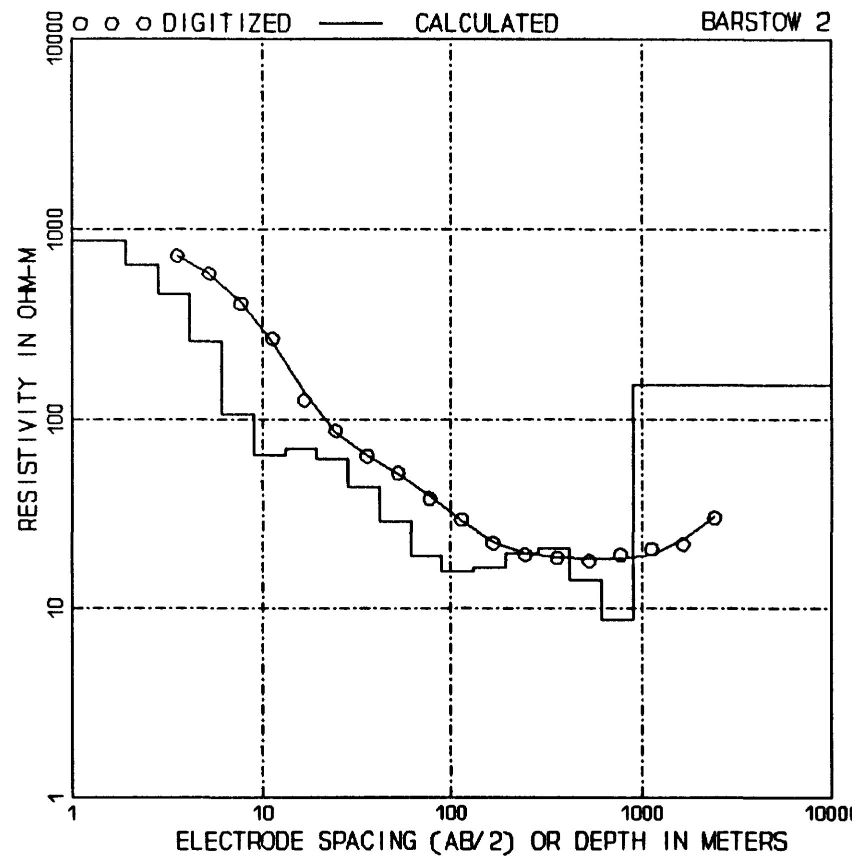
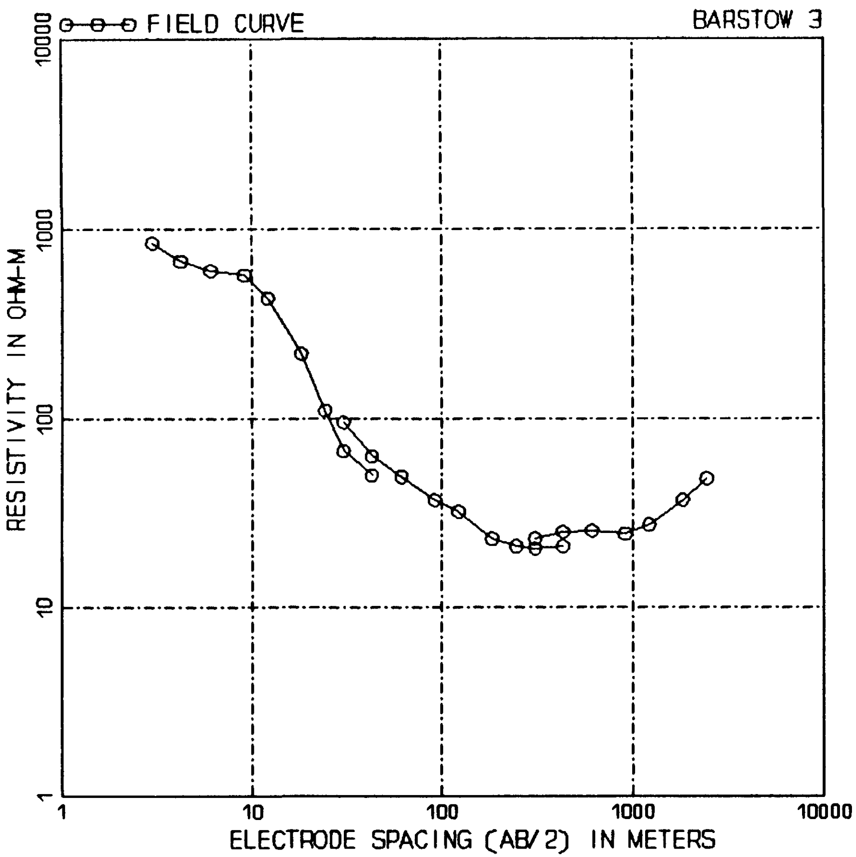


DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	867.76	61.12	(200.52)	28.69
2.84	(9.31)	652.02	89.71	(294.32)	18.92
4.16	(13.66)	451.75	131.67	(432.00)	15.62
6.11	(20.05)	257.40	193.27	(634.09)	16.47
8.97	(29.43)	106.53	283.68	(930.72)	19.61
13.17	(43.20)	64.78	416.39	(1366.10)	20.76
19.33	(63.41)	69.12	611.17	(2005.17)	14.17
28.37	(93.07)	61.40	897.08	(2943.18)	8.67
41.64	(136.61)	43.81	99999.00	(99999.00)	150.00



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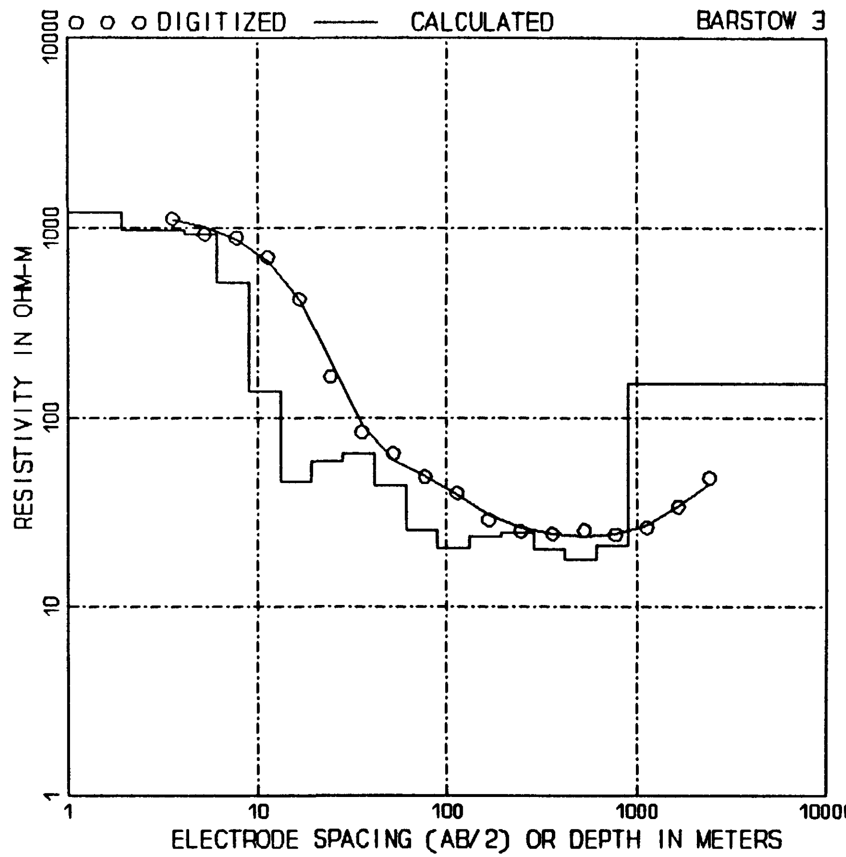
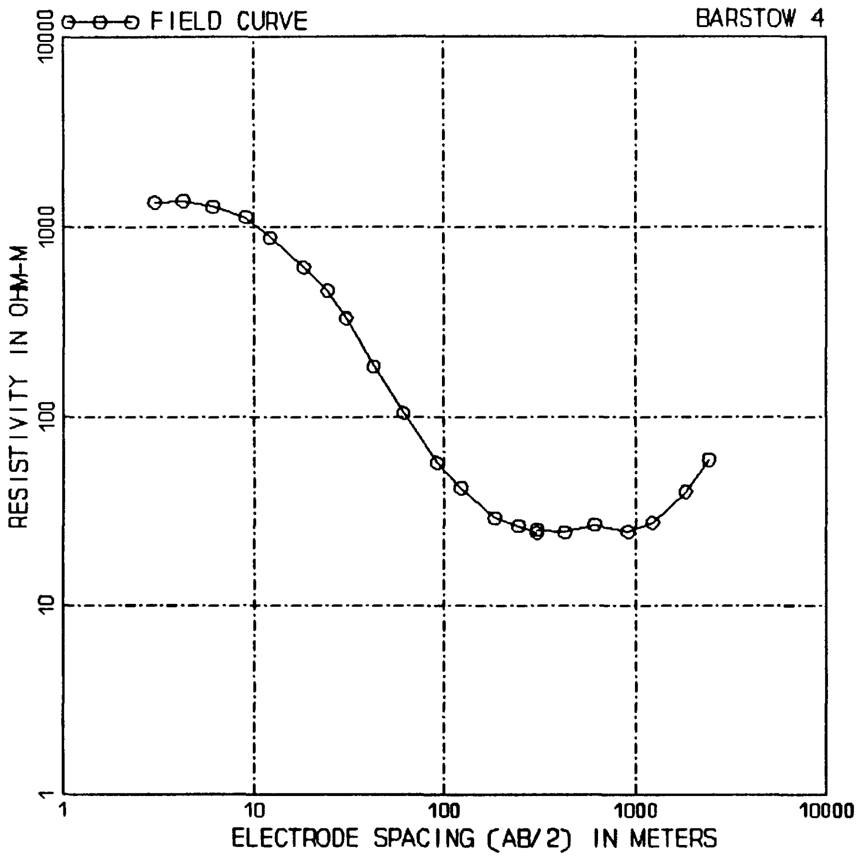
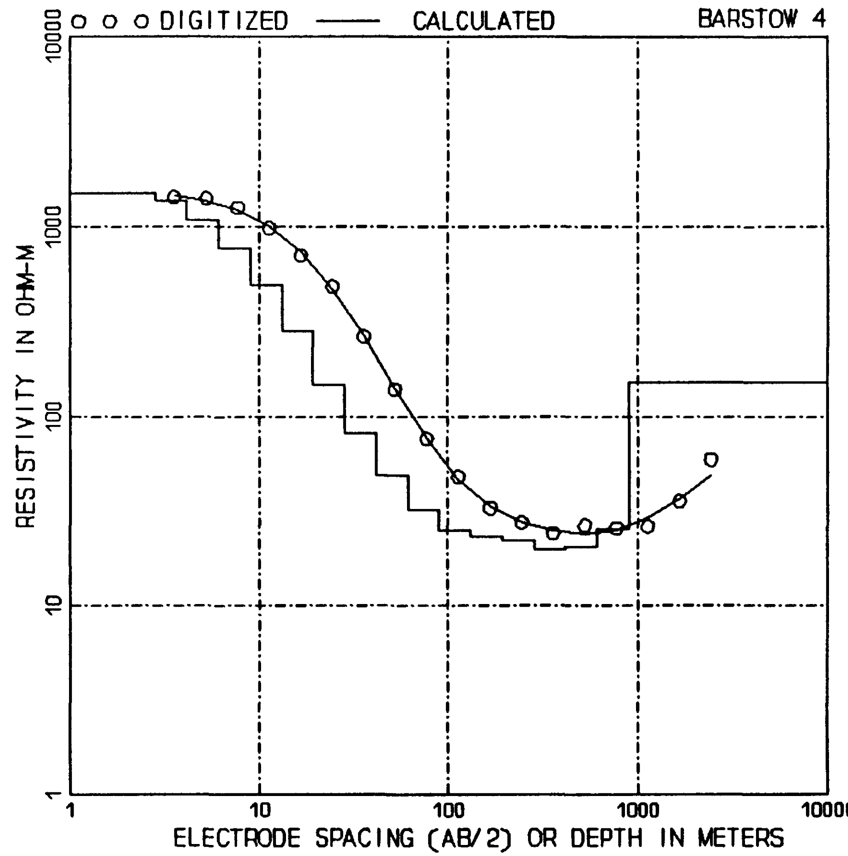
4.27	(14.00)	675.00	121.92	(400.00)	32.00
6.10	(20.00)	600.00	182.88	(600.00)	23.00
9.14	(30.00)	570.00	243.84	(800.00)	21.00
12.19	(40.00)	430.00	304.80	(1000.00)	20.50
18.29	(60.00)	220.00	426.72	(1400.00)	21.00
24.38	(80.00)	110.00	304.80	(1000.00)	23.00
30.48	(100.00)	67.00	426.72	(1400.00)	25.00
42.67	(140.00)	50.00	609.60	(2000.00)	25.50
30.48	(100.00)	95.00	914.40	(3000.00)	24.50
42.67	(140.00)	63.00	1219.20	(4000.00)	27.30
60.96	(200.00)	49.00	1828.80	(6000.00)	37.00
			2438.40	(8000.00)	48.00



DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	1208.97	61.12	(200.52)	43.73
2.84	(9.31)	966.69	89.71	(294.32)	25.28
4.16	(13.66)	974.14	131.67	(432.00)	20.28
6.11	(20.05)	932.01	193.27	(634.09)	23.42
8.97	(29.43)	518.24	283.68	(930.72)	24.55
13.17	(43.20)	137.14	416.39	(1366.10)	20.17
19.33	(63.41)	45.49	611.17	(2005.17)	17.87
28.37	(93.07)	58.35	897.08	(2943.18)	20.97
41.64	(136.61)	64.61	99999.00	(99999.00)	150.00





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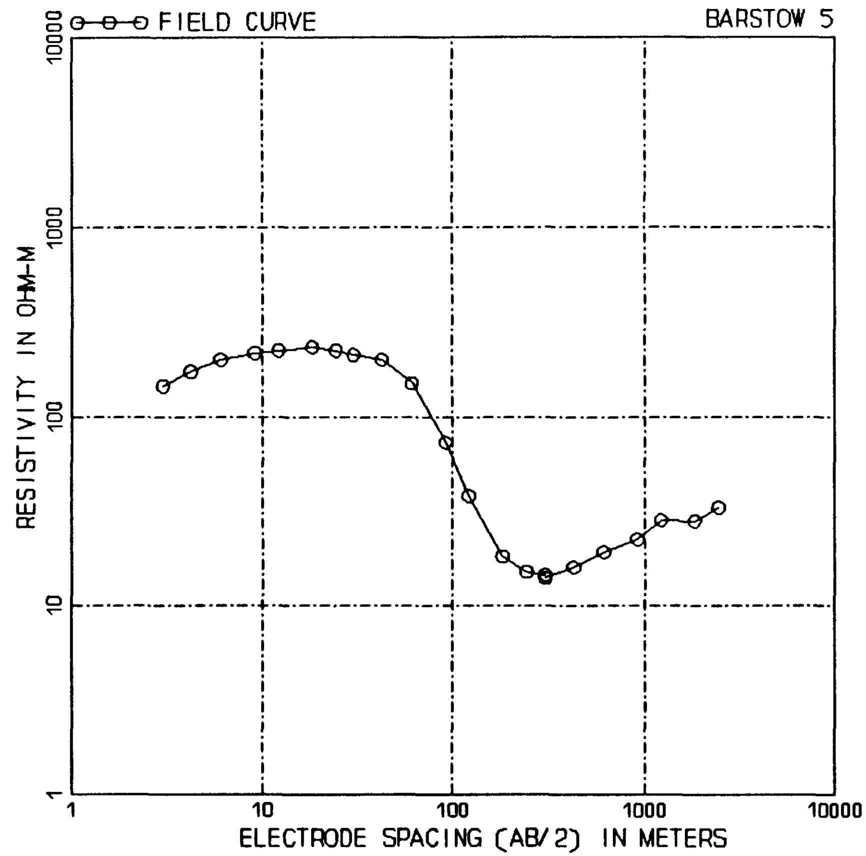
4.27 (	14.00)	1375.00	121.92 (	400.00)	42.00
6.10 (	20.00)	1275.00	182.88 (	600.00)	29.00
9.14 (	30.00)	1125.00	243.84 (	800.00)	26.40
12.19 (	40.00)	880.00	304.80 (	1000.00)	24.20
18.29 (	60.00)	610.00	304.80 (	1000.00)	25.20
24.38 (	80.00)	460.00	426.72 (	1400.00)	24.50
30.48 (	100.00)	328.00	609.60 (	2000.00)	26.80
30.48 (	100.00)	330.00	914.40 (	3000.00)	24.60
42.67 (	140.00)	184.00	1219.20 (	4000.00)	27.50
60.96 (	200.00)	104.00	1828.80 (	6000.00)	40.00
			2438.40 (	8000.00)	59.00

DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	1501.47	61.12 (	200.52)	48.70
2.84 (	9.31)	1503.13	89.71 (	294.32)	31.87
4.16 (	13.66)	1369.65	131.67 (	432.00)	25.06
6.11 (	20.05)	1091.95	193.27 (	634.09)	23.30
8.97 (	29.43)	771.61	283.68 (	930.72)	21.94
13.17 (	43.20)	492.45	416.39 (	1366.10)	19.84
19.33 (	63.41)	279.39	611.17 (	2005.17)	20.27
28.37 (	93.07)	146.88	897.08 (	2943.18)	25.24
41.64 (	136.61)	81.28	99999.00 (	99999.00)	150.00



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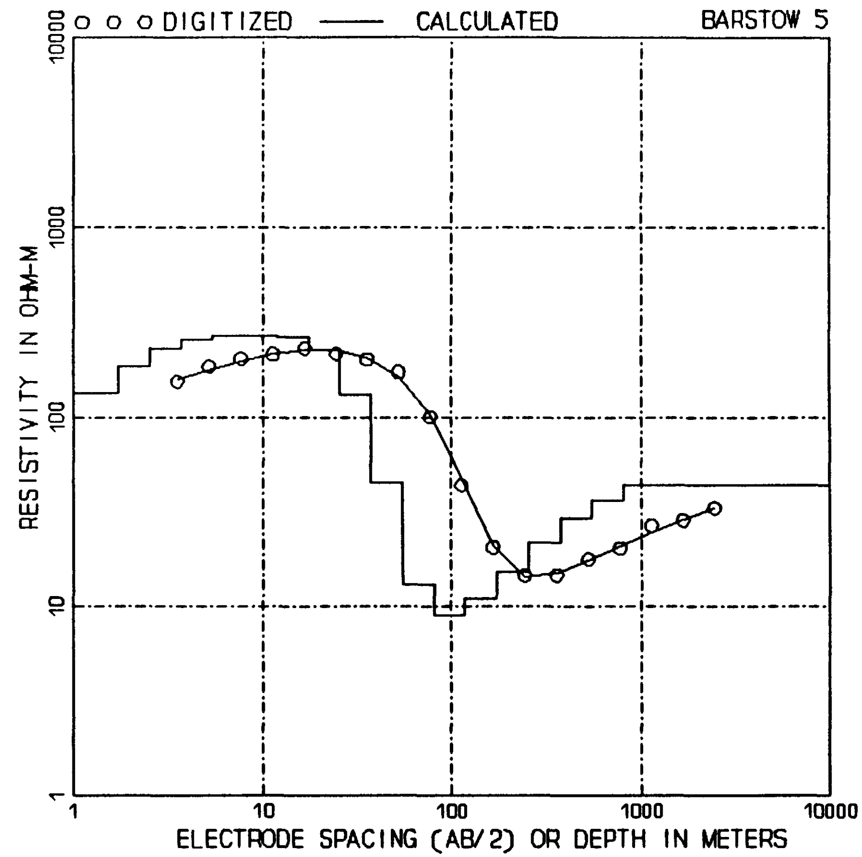
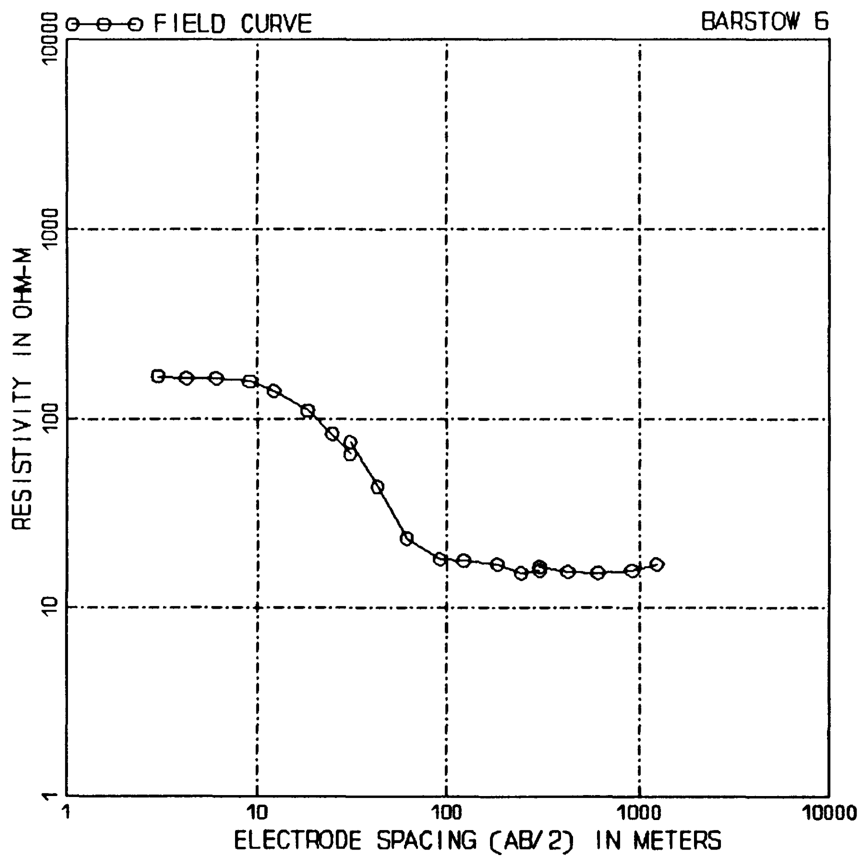
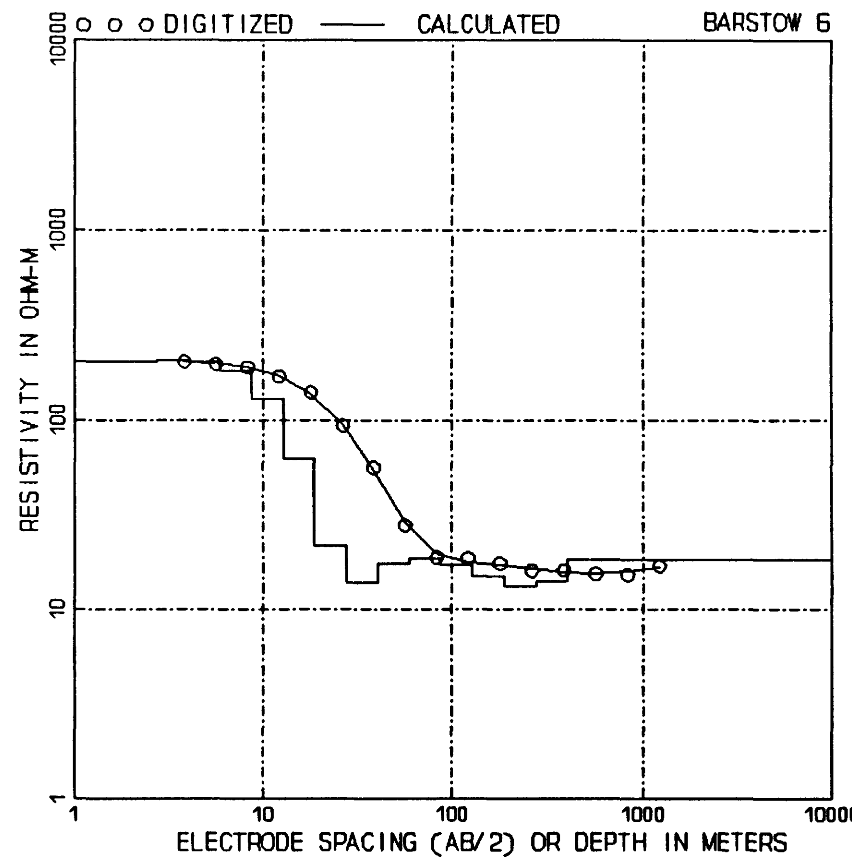
4.27	(14.00)	173.00	121.92	(400.00)	38.00
6.10	(20.00)	200.00	182.88	(600.00)	18.20
9.14	(30.00)	217.00	243.84	(800.00)	15.10
12.19	(40.00)	224.00	304.80	(1000.00)	14.50
18.29	(60.00)	233.00	304.80	(1000.00)	14.00
24.38	(80.00)	224.00	426.72	(1400.00)	16.00
30.48	(100.00)	212.00	609.60	(2000.00)	19.20
30.48	(100.00)	212.00	914.40	(3000.00)	22.50
42.67	(140.00)	200.00	1219.20	(4000.00)	28.30
60.96	(200.00)	150.00	1828.80	(6000.00)	28.00
			2438.40	(8000.00)	33.00



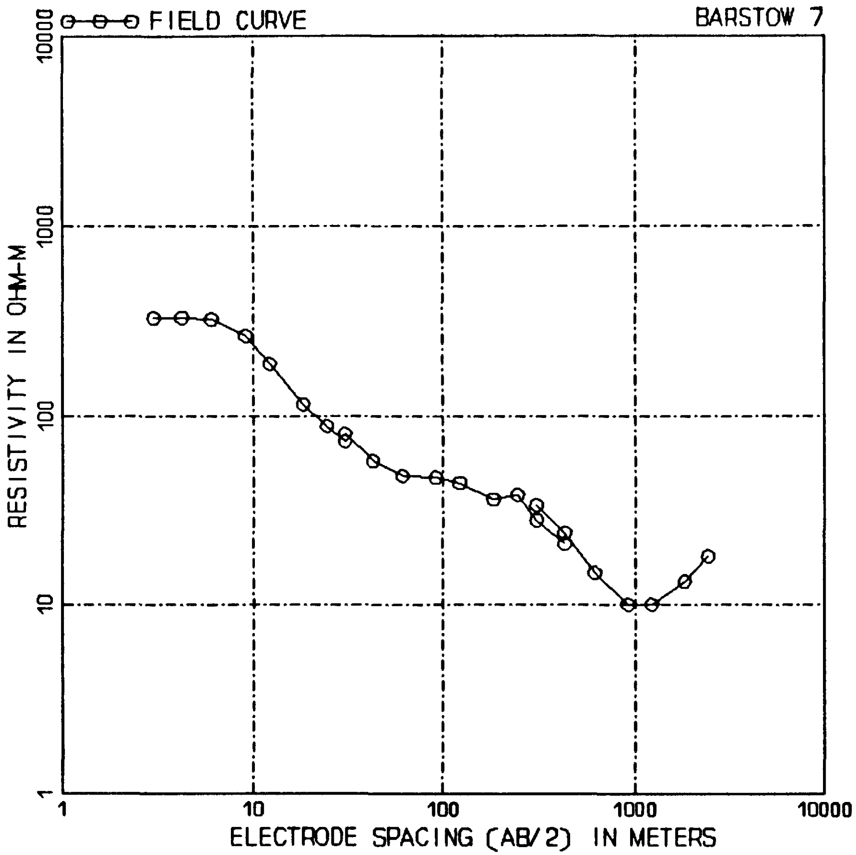
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	133.61	55.01	(180.46)	44.79
2.55	(8.38)	183.80	80.74	(264.89)	13.04
3.75	(12.29)	229.45	118.51	(388.80)	8.94
5.50	(18.05)	257.35	173.94	(570.68)	10.97
8.07	(26.49)	266.50	255.31	(837.64)	15.27
11.85	(38.88)	267.26	374.75	(1229.49)	21.61
17.39	(57.07)	264.07	550.06	(1804.65)	29.07
25.53	(83.76)	226.20	807.37	(2648.86)	36.46
37.47	(122.95)	131.85	99999.00	(99999.00)	43.68



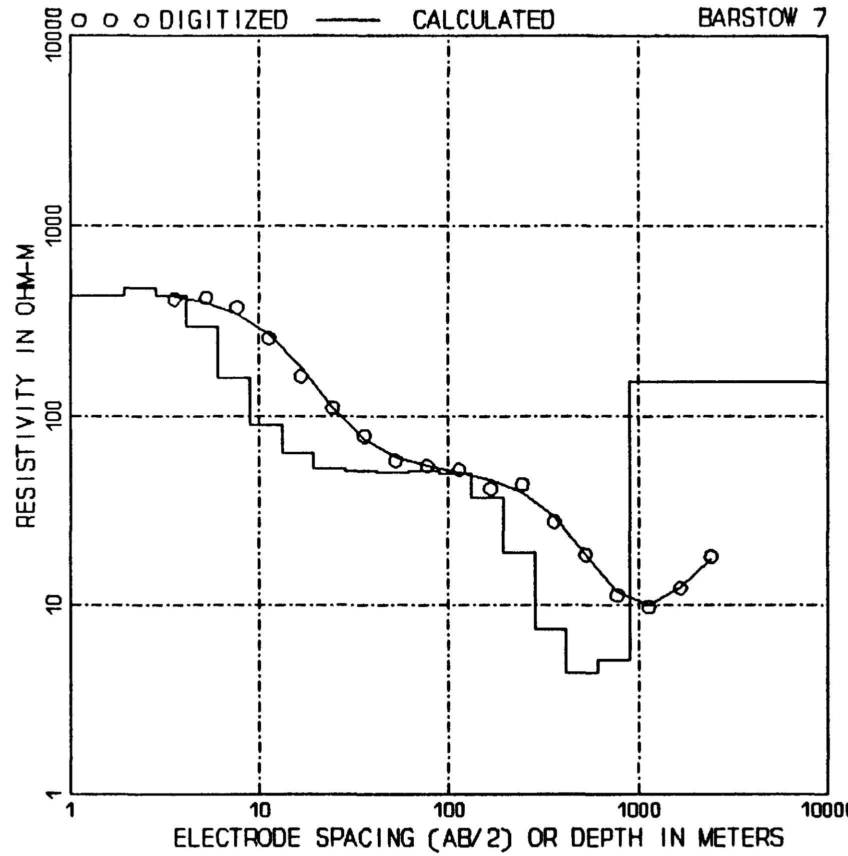
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	167.00	60.96 (	200.00)	23.30
4.27 (	14.00)	163.00	91.44 (	300.00)	18.00
6.10 (	20.00)	163.00	121.92 (	400.00)	17.70
9.14 (	30.00)	157.00	182.88 (	600.00)	17.00
12.19 (	40.00)	140.00	243.84 (	800.00)	15.20
18.29 (	60.00)	110.00	304.80 (	1000.00)	15.70
24.38 (	80.00)	83.00	304.80 (	1000.00)	16.50
30.48 (	100.00)	65.00	426.72 (	1400.00)	15.50
30.48 (	100.00)	75.00	609.60 (	2000.00)	15.30
42.67 (	140.00)	43.50	914.40 (	3000.00)	15.70
			1219.20 (	4000.00)	17.00



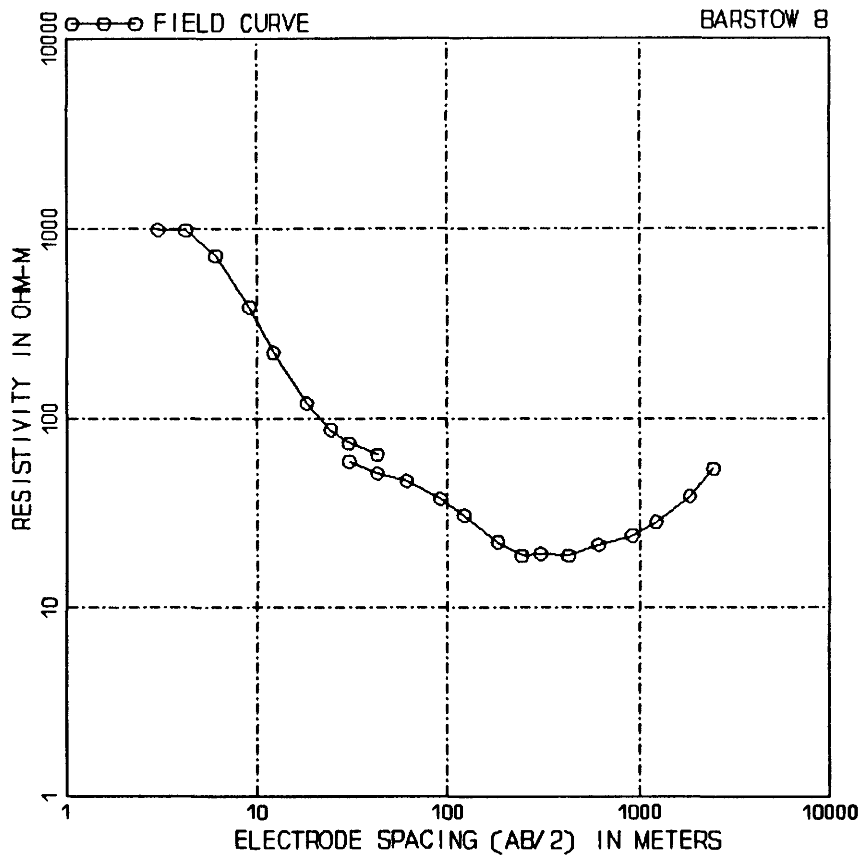
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.87 (	6.15)	203.90	40.37 (	132.44)	13.95
2.75 (	9.02)	202.80	59.25 (	194.40)	17.38
4.04 (	13.24)	205.32	86.97 (	285.34)	18.66
5.93 (	19.44)	203.33	127.66 (	418.82)	17.29
8.70 (	28.53)	180.98	187.37 (	614.75)	15.05
12.77 (	41.88)	129.29	275.03 (	902.33)	13.19
18.74 (	61.47)	62.68	403.69 (	1324.43)	14.01
27.50 (	90.23)	21.62	99999.00 (	99999.00)	18.39



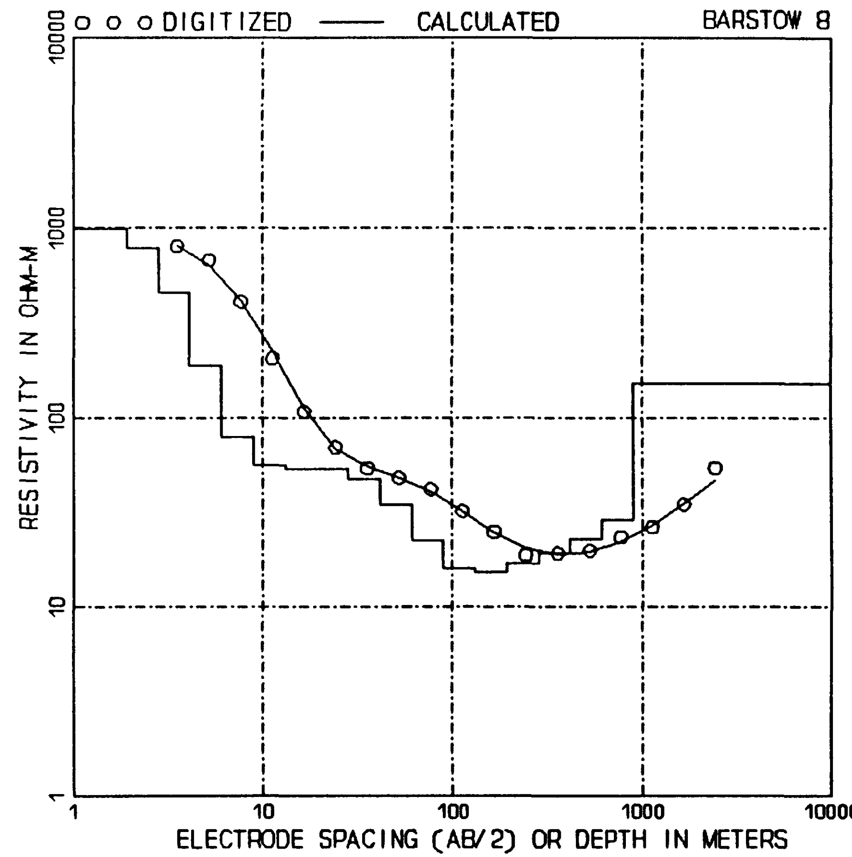
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	327.00	121.92	(400.00)	44.00
4.27	(14.00)	330.00	182.88	(600.00)	36.00
6.10	(20.00)	322.00	243.84	(800.00)	38.00
9.14	(30.00)	265.00	304.80	(1000.00)	28.00
12.19	(40.00)	188.00	426.72	(1400.00)	21.00
18.29	(60.00)	115.00	304.80	(1000.00)	33.50
24.38	(80.00)	88.00	426.72	(1400.00)	24.00
30.48	(100.00)	73.00	609.60	(2000.00)	14.70
30.48	(100.00)	80.00	914.40	(3000.00)	10.00
42.67	(140.00)	57.50	1219.20	(4000.00)	10.00
60.96	(200.00)	48.00	1828.80	(6000.00)	13.20
91.44	(300.00)	47.00	2438.40	(8000.00)	18.00



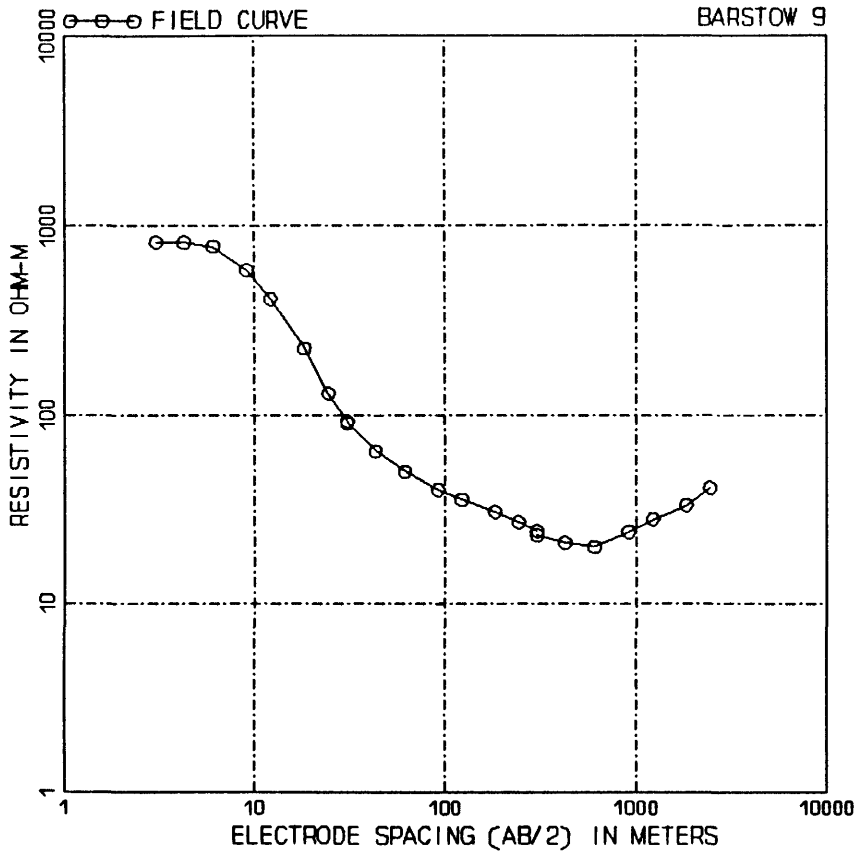
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	430.34	61.12	(200.52)	50.51
2.84	(9.31)	470.71	89.71	(294.32)	50.94
4.16	(13.66)	429.61	131.67	(432.00)	49.15
6.11	(20.05)	293.02	193.27	(634.09)	37.15
8.97	(29.43)	158.26	283.68	(930.72)	19.04
13.17	(43.20)	88.94	416.39	(1366.10)	7.46
19.33	(63.41)	62.95	611.17	(2005.17)	4.42
28.37	(93.07)	52.93	897.08	(2943.18)	5.18
41.64	(136.61)	50.82	99999.00	(99999.00)	150.00



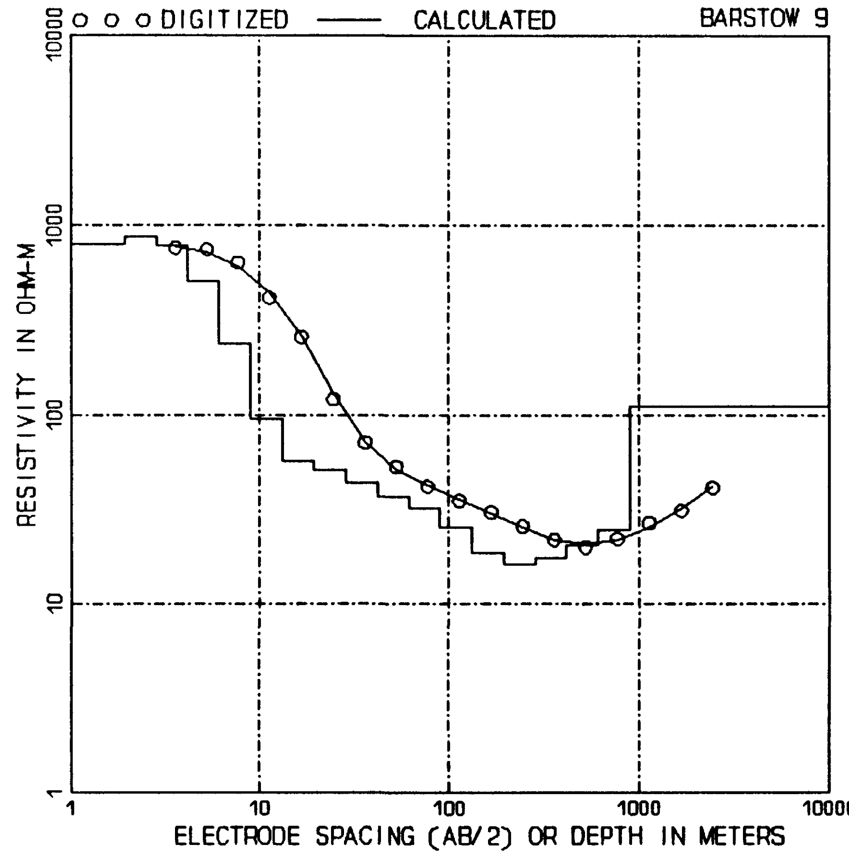
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	985.00	91.44 (	300.00)	37.50
4.27 (	14.00)	980.00	121.92 (	400.00)	30.50
6.10 (	20.00)	720.00	182.88 (	600.00)	22.20
9.14 (	30.00)	385.00	243.84 (	800.00)	18.80
12.19 (	40.00)	222.00	304.80 (	1000.00)	19.20
18.29 (	60.00)	120.00	304.80 (	1000.00)	19.20
24.38 (	80.00)	87.00	426.72 (	1400.00)	18.80
30.48 (	100.00)	73.50	609.60 (	2000.00)	21.50
42.67 (	140.00)	64.00	914.40 (	3000.00)	24.00
30.48 (	100.00)	59.00	1219.20 (	4000.00)	28.20
42.67 (	140.00)	51.00	1828.80 (	6000.00)	38.50
60.96 (	200.00)	46.50	2438.40 (	8000.00)	54.00



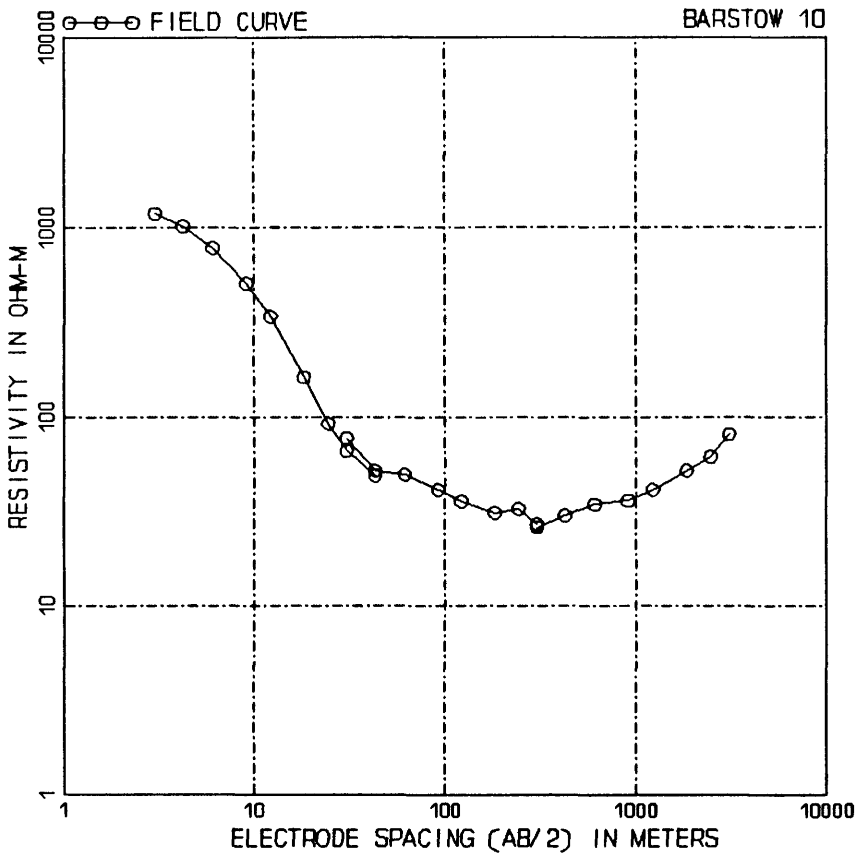
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	990.31	61.12 (	200.52)	34.85
2.84 (	9.31)	785.56	89.71 (	294.32)	22.26
4.16 (	13.66)	455.42	131.67 (	432.00)	15.84
6.11 (	20.05)	188.35	193.27 (	634.09)	15.13
8.97 (	29.43)	79.34	283.68 (	930.72)	16.85
13.17 (	43.20)	55.91	416.39 (	1366.10)	19.17
19.33 (	63.41)	53.65	611.17 (	2005.17)	22.67
28.37 (	93.07)	53.27	897.08 (	2943.18)	28.93
41.64 (	136.61)	47.45	99999.00 (	99999.00)	150.00



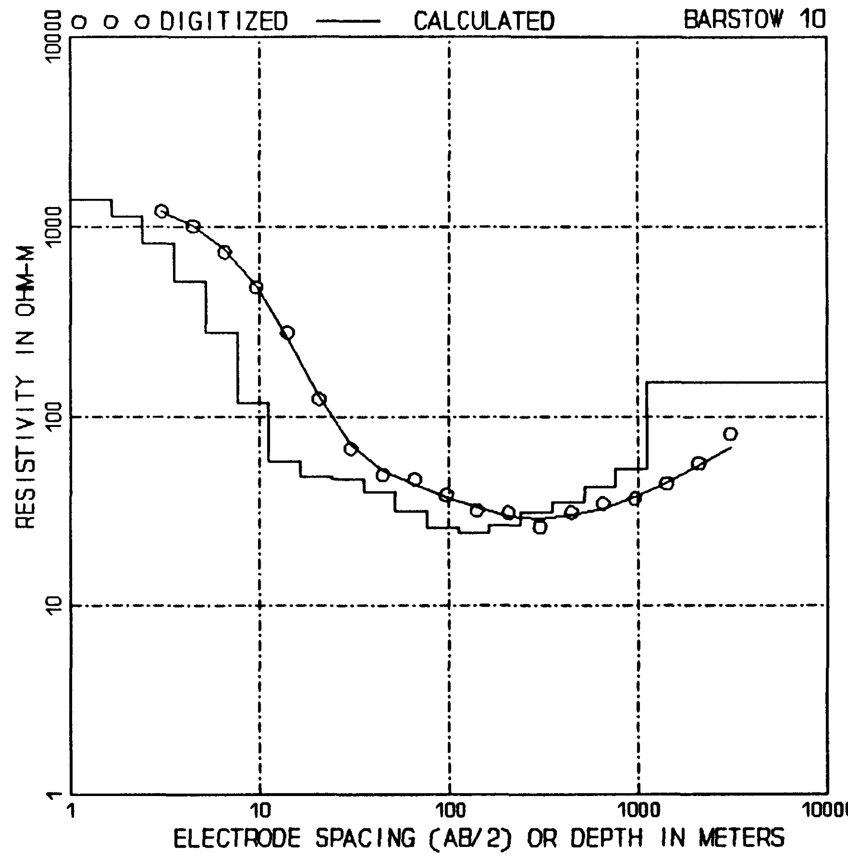
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	820.00	91.44	(300.00)	40.00
4.27	(14.00)	815.00	121.92	(400.00)	35.50
6.10	(20.00)	775.00	182.88	(600.00)	30.50
9.14	(30.00)	580.00	243.84	(800.00)	27.00
12.19	(40.00)	410.00	304.80	(1000.00)	24.20
18.29	(60.00)	225.00	304.80	(1000.00)	23.00
24.38	(80.00)	130.00	426.72	(1400.00)	21.00
30.48	(100.00)	92.00	609.60	(2000.00)	20.00
30.48	(100.00)	90.00	914.40	(3000.00)	24.00
42.67	(140.00)	64.00	1219.20	(4000.00)	28.00
60.96	(200.00)	50.00	1828.80	(6000.00)	33.30
			2438.40	(8000.00)	41.00



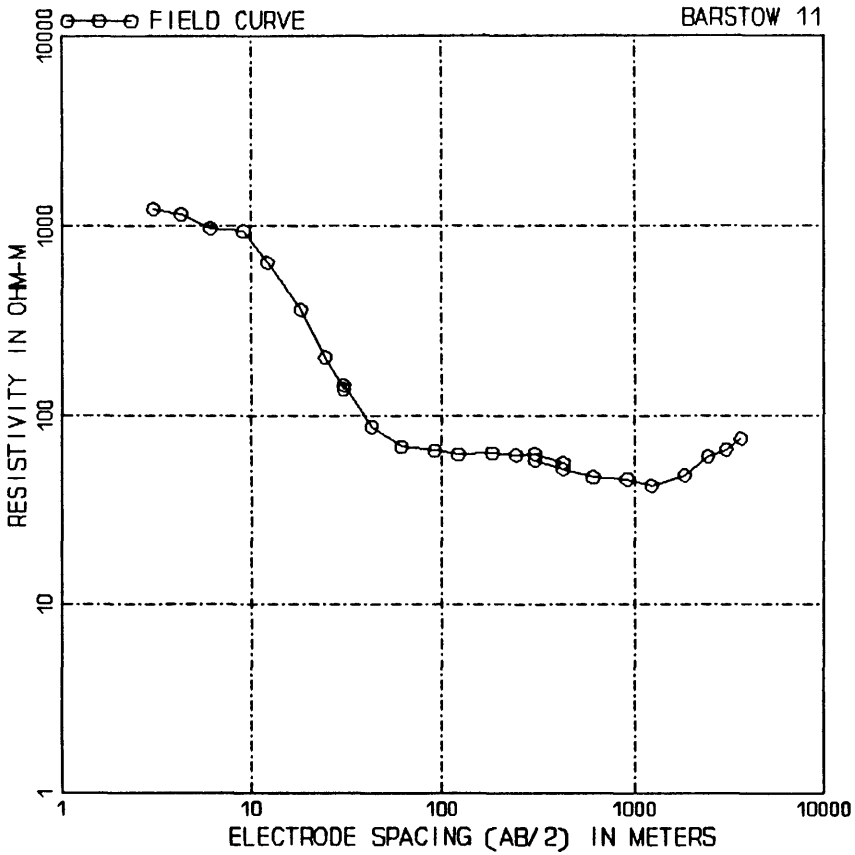
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	797.46	61.12	(200.52)	37.05
2.84	(9.31)	875.00	89.71	(294.32)	32.12
4.16	(13.66)	782.60	131.67	(432.00)	25.33
6.11	(20.05)	508.19	193.27	(634.09)	18.70
8.97	(29.43)	236.67	283.68	(930.72)	16.13
13.17	(43.20)	94.93	416.39	(1366.10)	17.44
19.33	(63.41)	56.58	611.17	(2005.17)	20.28
28.37	(93.07)	50.86	897.08	(2943.18)	24.51
41.64	(136.61)	43.35	99999.00	(99999.00)	110.00



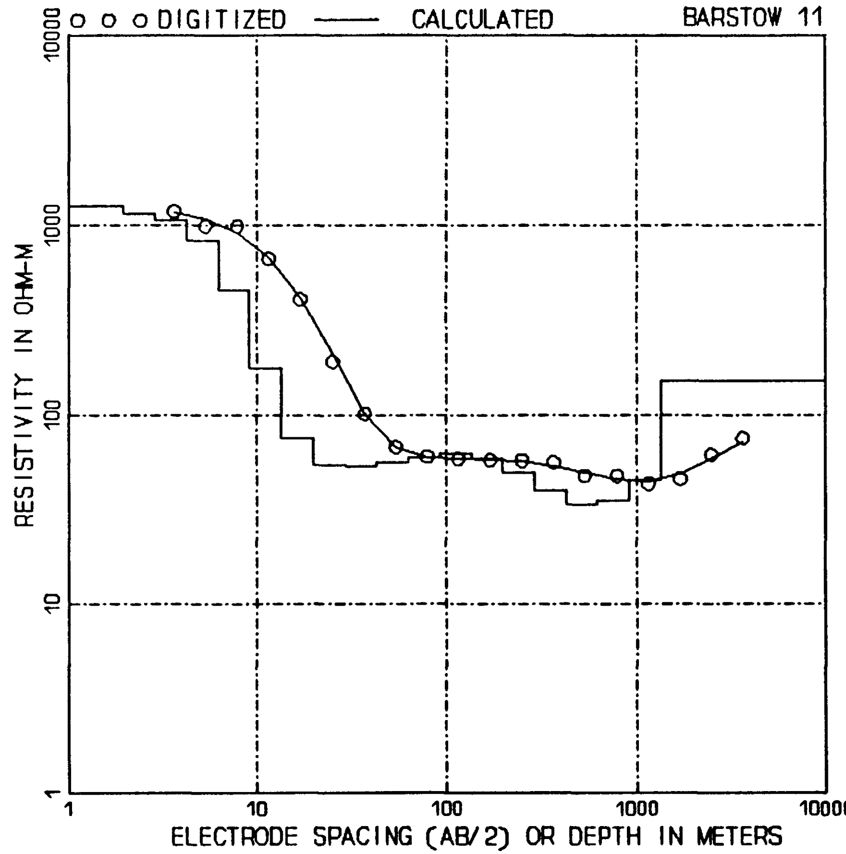
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	1180.00	91.44 (	300.00)	41.00
4.27 (	14.00)	1015.00	121.92 (	400.00)	35.80
6.10 (	20.00)	780.00	182.88 (	600.00)	31.00
9.14 (	30.00)	505.00	243.84 (	800.00)	32.50
12.19 (	40.00)	340.00	304.80 (	1000.00)	27.00
18.29 (	60.00)	162.00	304.80 (	1000.00)	26.00
24.38 (	80.00)	92.00	426.72 (	1400.00)	30.00
30.48 (	100.00)	66.00	609.60 (	2000.00)	34.40
42.67 (	140.00)	49.00	914.40 (	3000.00)	36.00
30.48 (	100.00)	77.00	1219.20 (	4000.00)	41.00
42.67 (	140.00)	52.00	1828.80 (	6000.00)	51.70
60.96 (	200.00)	49.50	2438.40 (	8000.00)	61.20
			3048.00 (	10000.00)	80.80



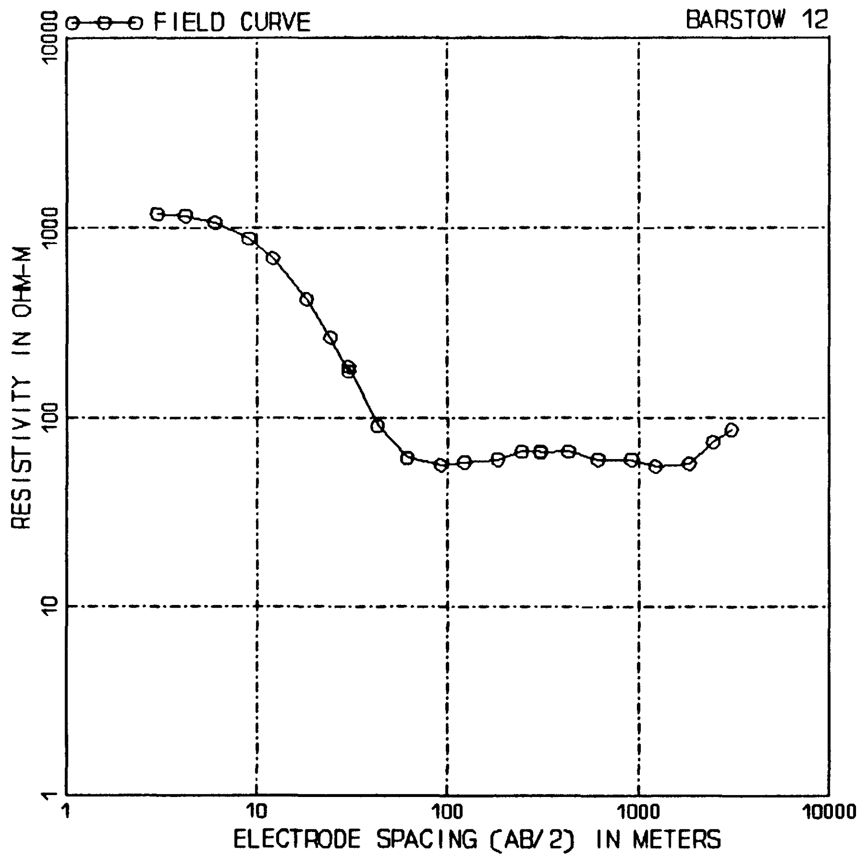
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.65 (	5.40)	1398.50	52.05 (	170.76)	39.81
2.42 (	7.93)	1134.70	76.40 (	250.65)	31.37
3.55 (	11.63)	817.42	112.14 (	367.90)	25.62
5.20 (	17.08)	518.19	164.59 (	540.00)	24.16
7.64 (	25.06)	275.43	241.59 (	792.61)	26.80
11.21 (	36.79)	118.11	354.60 (	1163.40)	30.88
16.46 (	54.00)	57.65	520.49 (	1707.63)	35.33
24.16 (	79.26)	48.11	763.97 (	2506.46)	42.01
35.46 (	116.34)	46.76	1121.35 (	3678.98)	52.47
			99999.00 (	99999.00)	150.00



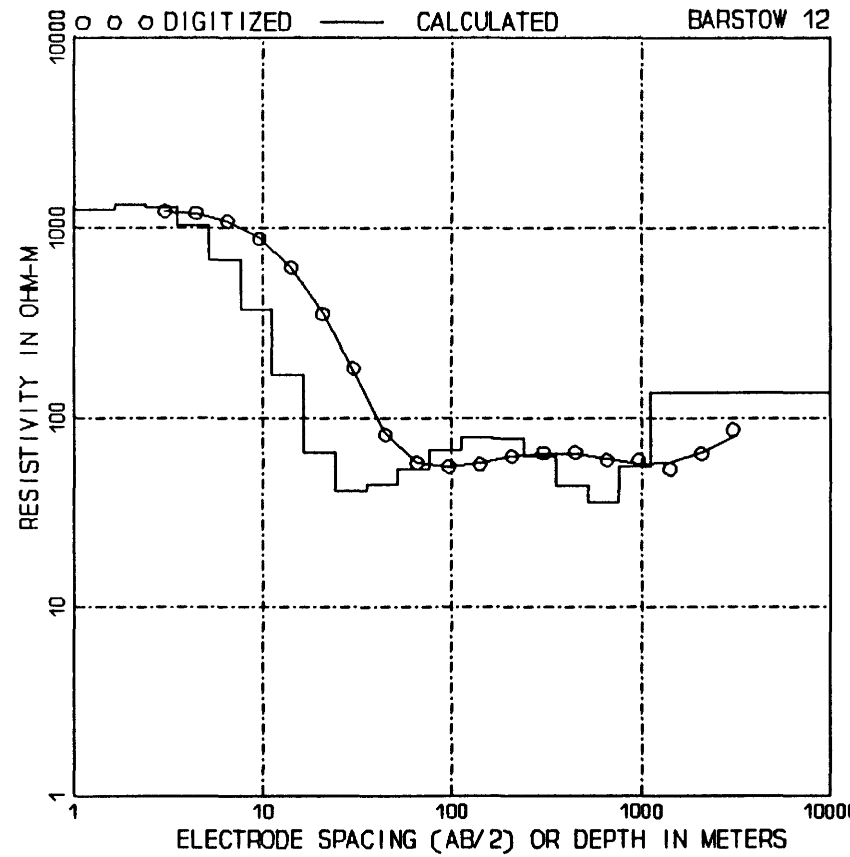
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1225.00	182.88	(600.00)	63.00
4.27	(14.00)	1150.00	243.84	(800.00)	61.60
6.10	(20.00)	970.00	304.80	(1000.00)	62.50
9.14	(30.00)	937.00	426.72	(1400.00)	56.00
12.19	(40.00)	640.00	304.80	(1000.00)	58.00
18.29	(60.00)	360.00	426.72	(1400.00)	52.00
24.38	(80.00)	202.00	609.60	(2000.00)	47.00
30.48	(100.00)	137.00	914.40	(3000.00)	46.00
30.48	(100.00)	144.00	1219.20	(4000.00)	42.30
42.67	(140.00)	87.00	1828.80	(6000.00)	48.00
60.96	(200.00)	68.00	2438.40	(8000.00)	60.80
91.44	(300.00)	65.00	3048.00	(10000.00)	65.80
121.92	(400.00)	62.00	3657.60	(12000.00)	75.00



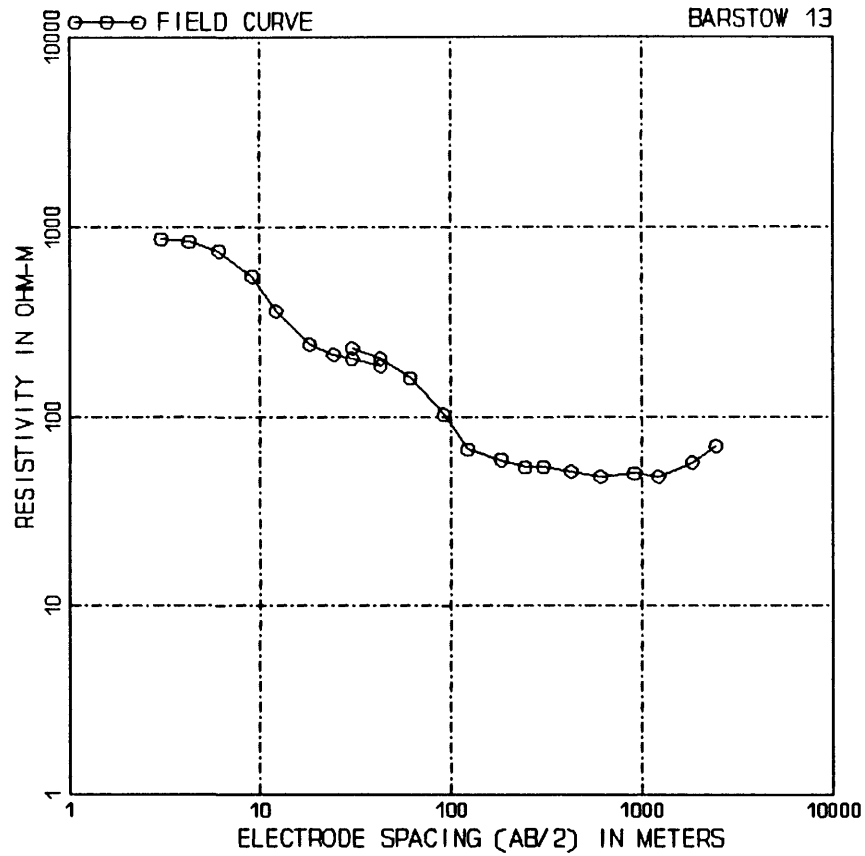
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.98	(6.48)	1262.72	62.46	(204.92)	55.97
2.90	(9.51)	1157.49	91.68	(300.77)	59.88
4.26	(13.96)	1070.83	134.56	(441.48)	62.05
6.25	(20.49)	829.66	197.51	(648.00)	58.46
9.17	(30.08)	451.89	289.91	(951.13)	49.56
13.46	(44.15)	176.18	425.52	(1396.07)	39.76
19.75	(64.80)	74.78	624.58	(2049.16)	33.59
28.99	(95.11)	54.39	916.76	(3007.75)	35.27
42.55	(139.61)	53.18	1345.62	(4414.77)	45.02
			99999.00	(99999.00)	150.00



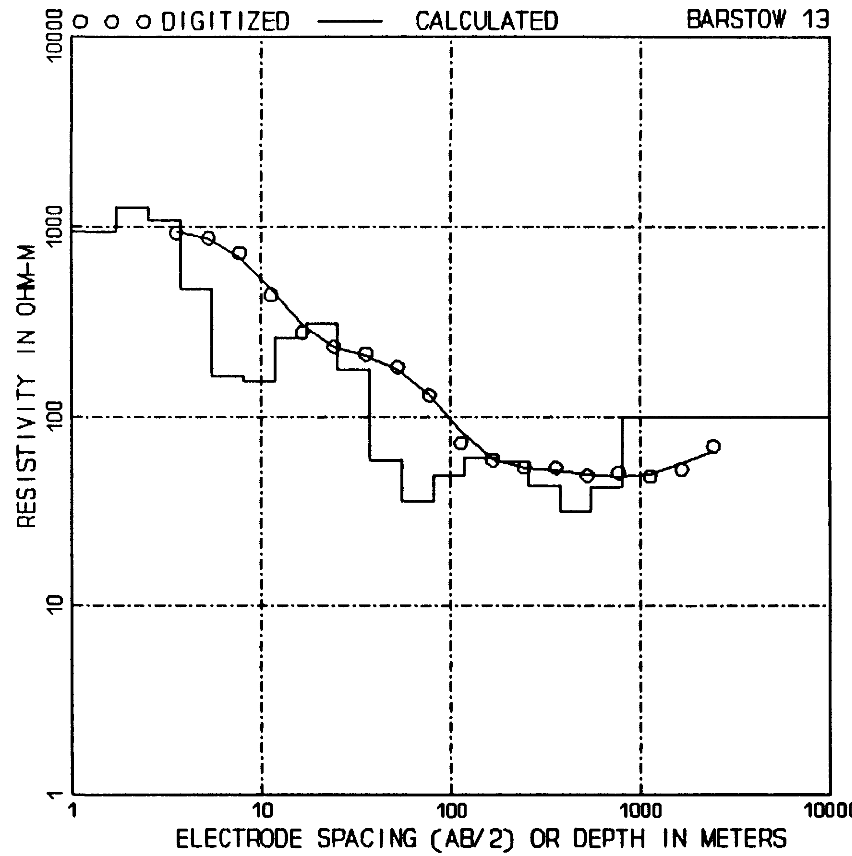
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	1180.00	121.92 (	400.00)	58.00
4.27 (	14.00)	1160.00	182.88 (	600.00)	60.00
6.10 (	20.00)	1070.00	243.84 (	800.00)	66.00
9.14 (	30.00)	880.00	304.80 (	1000.00)	66.00
12.19 (	40.00)	690.00	304.80 (	1000.00)	65.00
18.29 (	60.00)	420.00	426.72 (	1400.00)	66.00
24.38 (	80.00)	265.00	609.60 (	2000.00)	60.00
30.48 (	100.00)	175.00	914.40 (	3000.00)	60.00
30.48 (	100.00)	185.00	1219.20 (	4000.00)	55.00
42.67 (	140.00)	90.00	1828.80 (	6000.00)	57.00
60.96 (	200.00)	61.00	2438.40 (	8000.00)	74.00
91.44 (	300.00)	56.00	3048.00 (	10000.00)	86.00



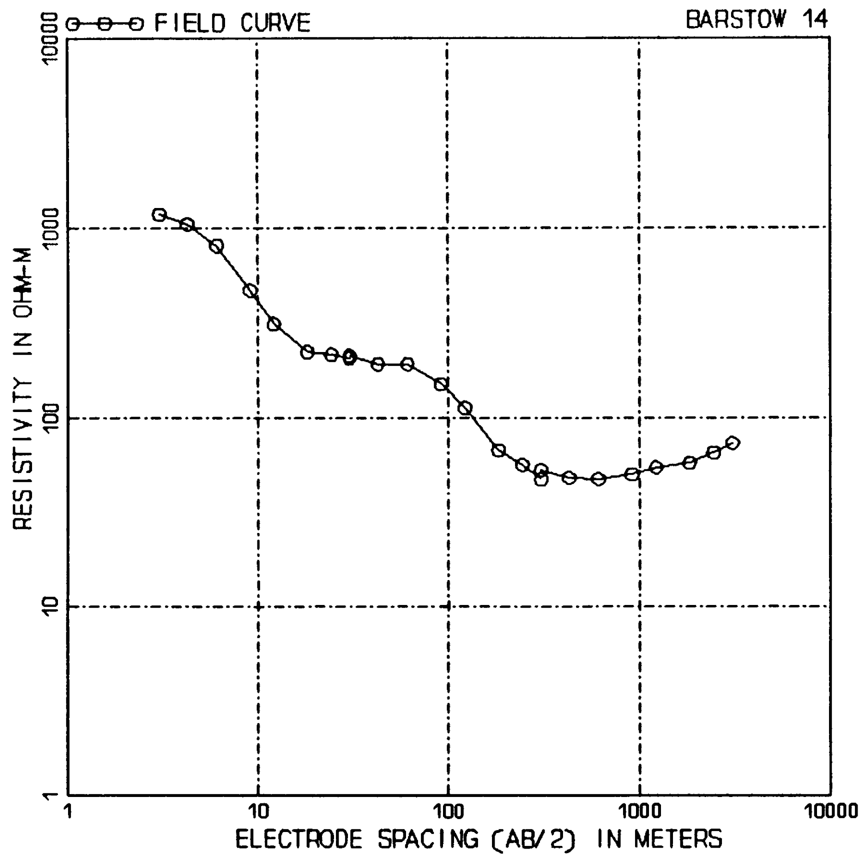
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.65 (	5.40)	1248.26	52.05 (	170.76)	44.52
2.42 (	7.93)	1331.89	76.40 (	250.65)	53.70
3.55 (	11.63)	1276.73	112.14 (	367.90)	67.37
5.20 (	17.08)	1030.39	164.59 (	540.00)	78.42
7.64 (	25.06)	678.51	241.59 (	792.61)	77.30
11.21 (	36.79)	371.05	354.60 (	1163.40)	62.47
16.46 (	54.00)	169.10	520.49 (	1707.63)	43.37
24.16 (	79.26)	65.29	763.97 (	2506.46)	35.83
35.46 (	116.34)	41.21	1121.35 (	3678.98)	55.39
			99999.00 (	99999.00)	134.97

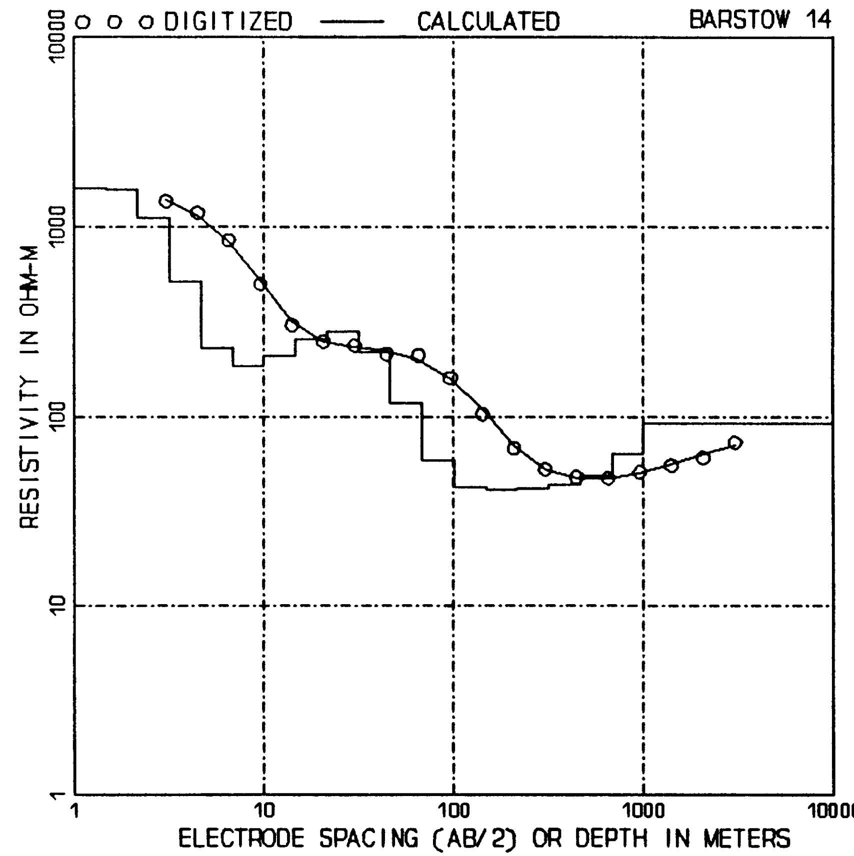


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	865.00	91.44	(300.00)	102.00
4.27	(14.00)	840.00	121.92	(400.00)	67.00
6.10	(20.00)	750.00	182.88	(600.00)	59.00
9.14	(30.00)	550.00	243.84	(800.00)	54.00
12.19	(40.00)	361.00	304.80	(1000.00)	54.00
18.29	(60.00)	240.00	304.80	(1000.00)	54.00
24.38	(80.00)	213.00	426.72	(1400.00)	51.00
30.48	(100.00)	202.00	609.60	(2000.00)	48.00
42.67	(140.00)	185.00	914.40	(3000.00)	50.00
30.48	(100.00)	230.00	1219.20	(4000.00)	48.00
42.67	(140.00)	203.00	1828.80	(6000.00)	57.00
60.96	(200.00)	160.00	2438.40	(8000.00)	69.80



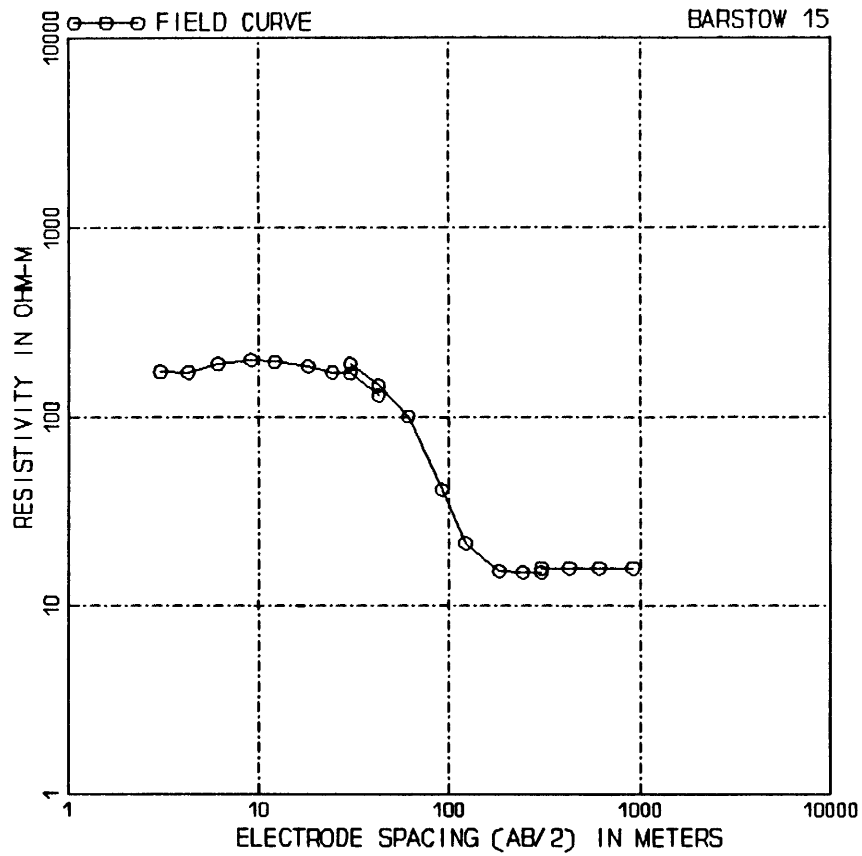
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	948.56	55.01	(180.46)	58.80
2.55	(8.38)	1262.63	80.74	(264.89)	35.46
3.75	(12.29)	1086.64	118.51	(388.80)	48.35
5.50	(18.05)	467.00	173.94	(570.68)	60.16
8.07	(26.49)	162.65	255.31	(837.64)	57.88
11.85	(38.88)	152.51	374.75	(1229.49)	42.85
17.39	(57.07)	261.53	550.06	(1804.65)	31.60
25.53	(83.76)	308.84	807.37	(2648.86)	42.40
37.47	(122.95)	176.55	99999.00	(99999.00)	99.56

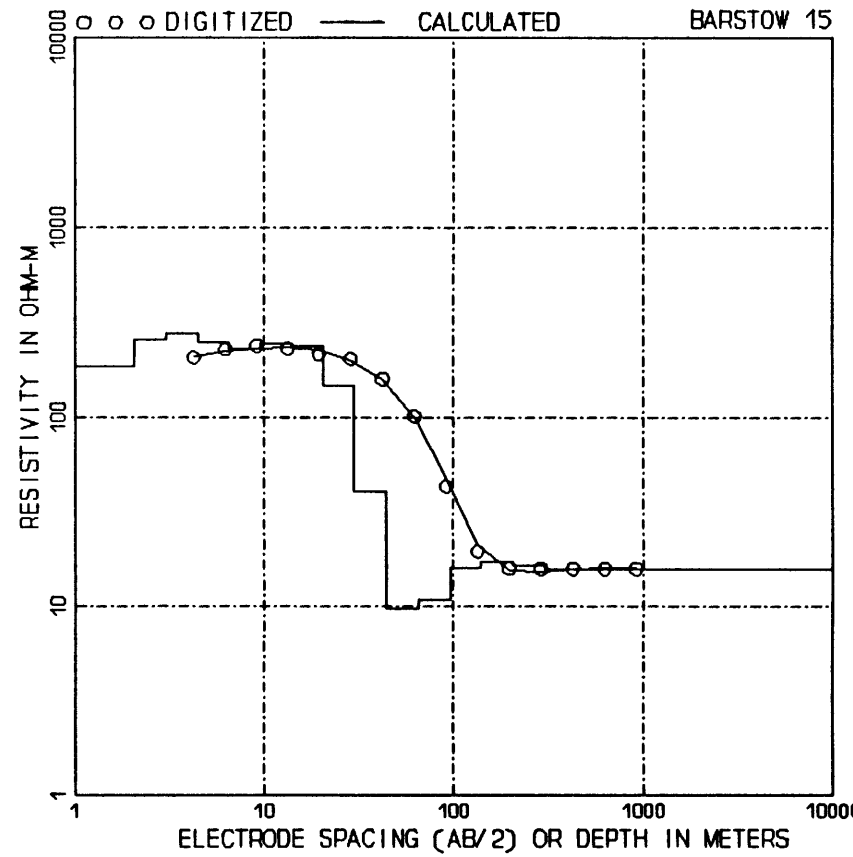




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1180.00	121.92	(400.00)	112.00
4.27	(14.00)	1050.00	182.88	(600.00)	67.00
6.10	(20.00)	810.00	243.84	(800.00)	56.00
9.14	(30.00)	470.00	304.80	(1000.00)	47.00
12.19	(40.00)	312.00	304.80	(1000.00)	52.50
18.29	(60.00)	222.00	426.72	(1400.00)	48.00
24.38	(80.00)	215.00	609.60	(2000.00)	47.20
30.48	(100.00)	205.00	914.40	(3000.00)	50.00
30.48	(100.00)	212.00	1219.20	(4000.00)	54.20
42.67	(140.00)	192.00	1828.80	(6000.00)	57.40
60.96	(200.00)	192.00	2438.40	(8000.00)	65.00
91.44	(300.00)	150.00	3048.00	(10000.00)	73.00

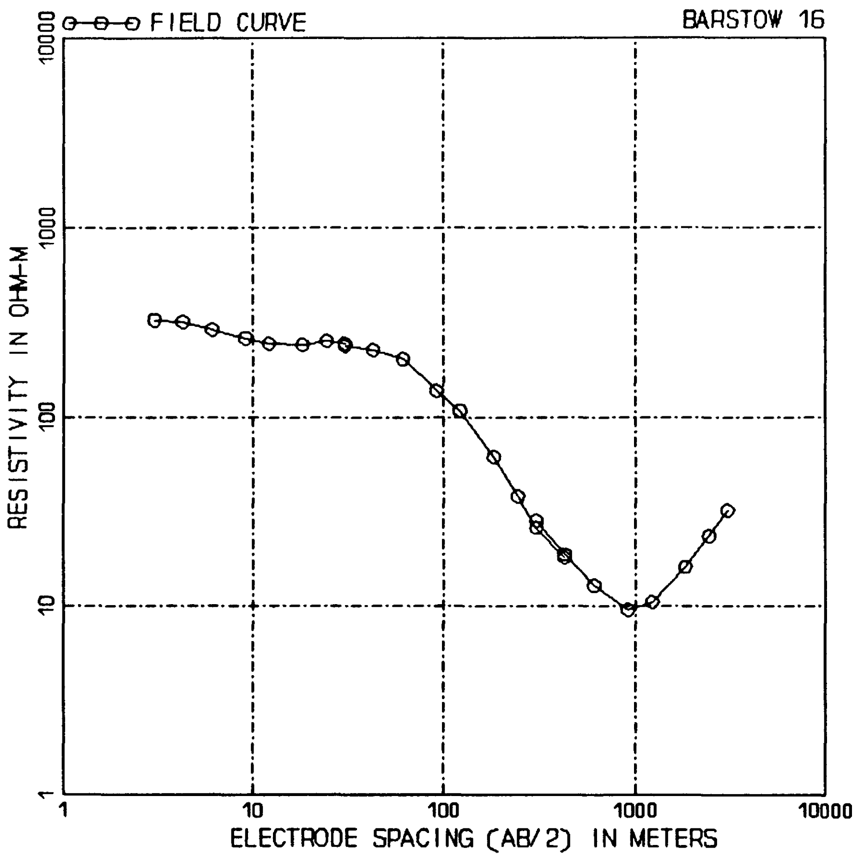
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	1589.29	46.84	(153.69)	220.79
2.17	(7.13)	1564.33	68.76	(225.58)	118.50
3.19	(10.47)	1111.10	100.92	(331.11)	58.61
4.68	(15.37)	513.87	148.13	(486.00)	42.26
6.88	(22.56)	229.17	217.43	(713.35)	40.89
10.09	(33.11)	185.38	319.14	(1047.06)	41.74
14.81	(48.60)	210.45	468.44	(1536.87)	43.45
21.74	(71.34)	255.31	687.57	(2255.81)	48.94
31.91	(104.71)	280.22	1009.22	(3311.08)	63.84
			99999.00	(99999.00)	91.70



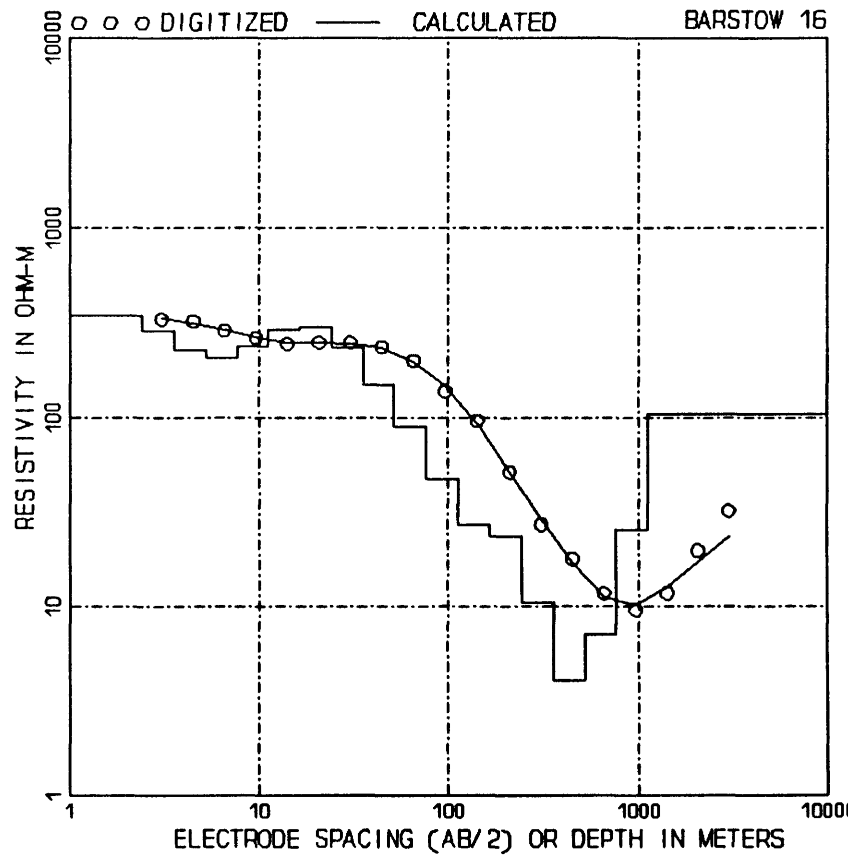


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	173.00	42.67	(140.00)	147.00
4.27	(14.00)	172.00	60.96	(200.00)	100.00
6.10	(20.00)	190.00	91.44	(300.00)	41.00
9.14	(30.00)	200.00	121.92	(400.00)	21.50
12.19	(40.00)	195.00	182.88	(600.00)	15.20
18.29	(60.00)	185.00	243.84	(800.00)	15.00
24.38	(80.00)	172.00	304.80	(1000.00)	15.00
30.48	(100.00)	170.00	304.80	(1000.00)	15.80
42.67	(140.00)	130.00	426.72	(1400.00)	15.80
30.48	(100.00)	190.00	609.60	(2000.00)	15.80
			914.40	(3000.00)	15.80

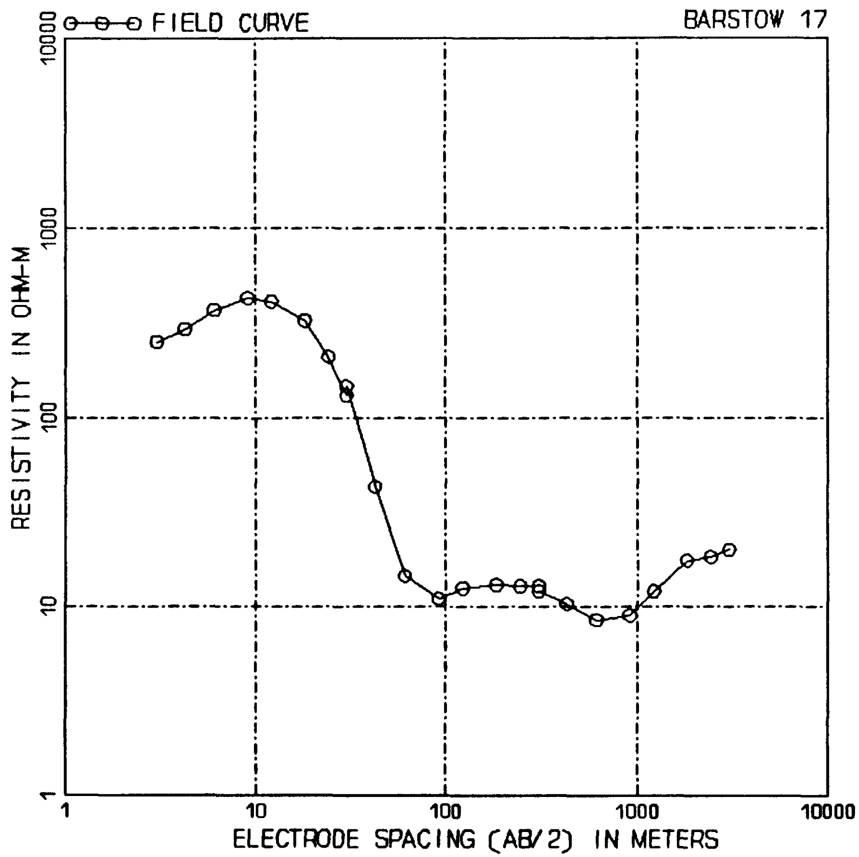
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.06	(6.77)	184.91	30.28	(99.33)	146.40
3.03	(9.93)	254.75	44.44	(145.80)	40.44
4.44	(14.58)	276.76	65.23	(214.01)	9.70
6.52	(21.40)	247.64	95.74	(314.12)	10.81
9.57	(31.41)	229.01	140.53	(461.06)	15.89
14.05	(46.11)	243.13	206.27	(676.74)	17.19
20.63	(67.67)	238.69	302.77	(993.32)	16.53
			99999.00	(99999.00)	15.62



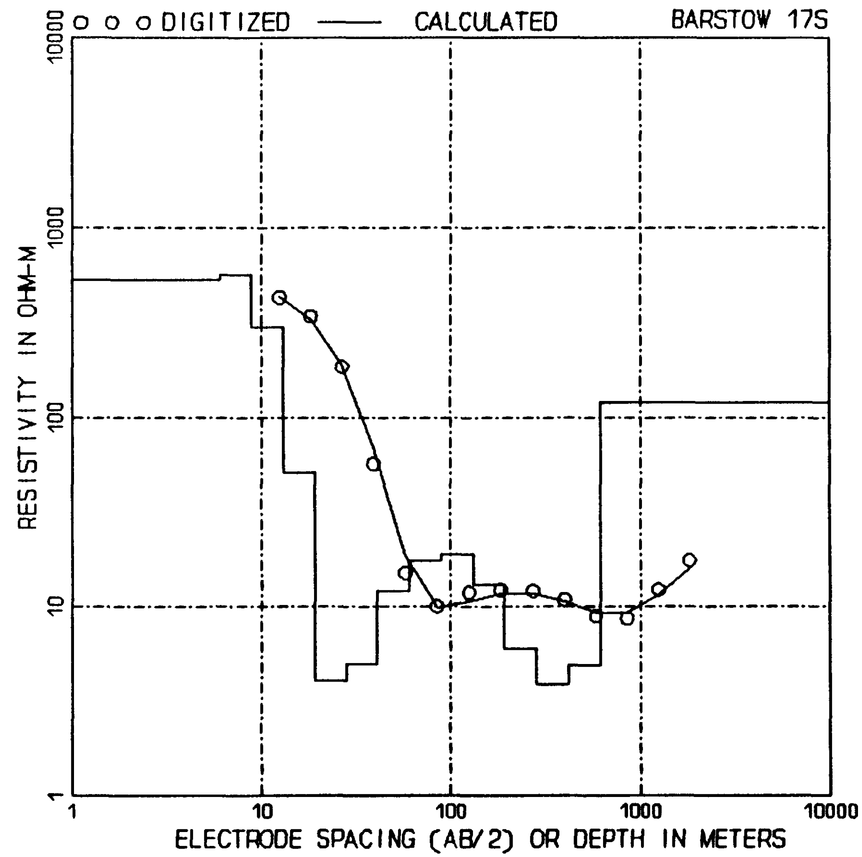
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	325.00	121.92 (	400.00)	108.00
4.27 (	14.00)	319.00	182.88 (	600.00)	61.50
6.10 (	20.00)	290.00	243.84 (	800.00)	38.00
9.14 (	30.00)	262.00	304.80 (	1000.00)	26.00
12.19 (	40.00)	245.00	426.72 (	1400.00)	18.00
18.29 (	60.00)	240.00	304.80 (	1000.00)	28.30
24.38 (	80.00)	252.00	426.72 (	1400.00)	18.80
30.48 (	100.00)	245.00	609.60 (	2000.00)	12.80
30.48 (	100.00)	238.00	914.40 (	3000.00)	9.60
42.67 (	140.00)	227.00	1219.20 (	4000.00)	10.50
60.96 (	200.00)	202.00	1828.80 (	6000.00)	16.10
91.44 (	300.00)	138.00	2438.40 (	8000.00)	23.50
			3048.00 (	10000.00)	32.00



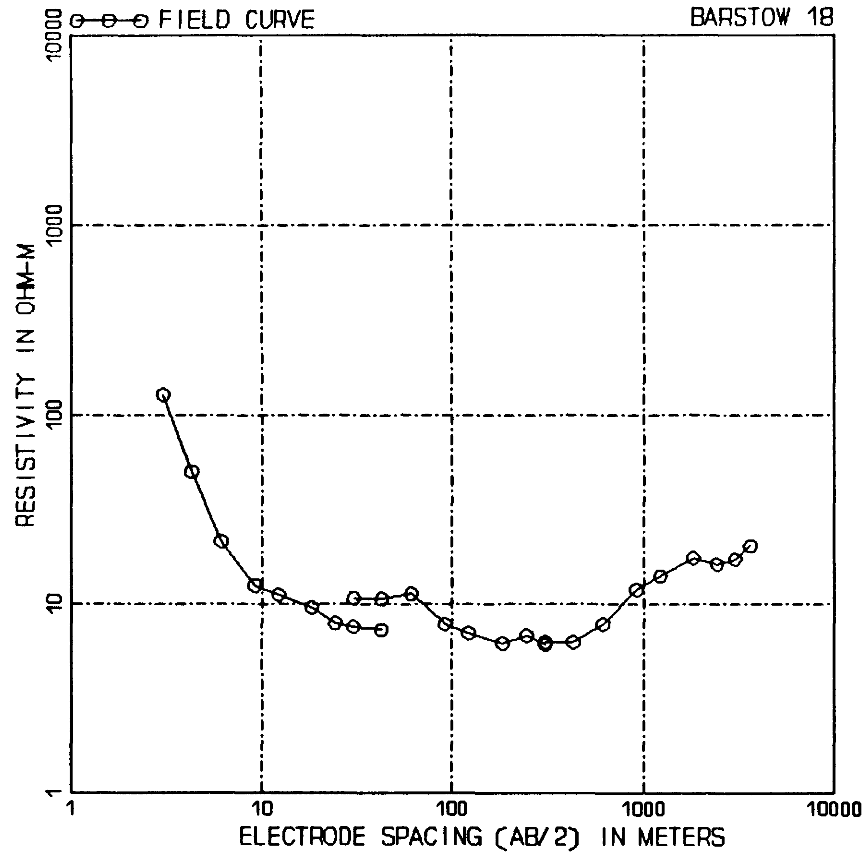
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.65 (	5.40)	346.60	52.05 (	170.76)	149.36
2.42 (	7.93)	342.11	76.40 (	250.65)	89.34
3.55 (	11.63)	287.12	112.14 (	367.90)	46.93
5.20 (	17.08)	224.40	164.59 (	540.00)	27.02
7.64 (	25.06)	205.45	241.59 (	792.61)	23.52
11.21 (	36.79)	238.34	354.60 (	1163.40)	10.51
16.46 (	54.00)	289.60	520.49 (	1707.63)	4.08
24.16 (	79.26)	297.71	763.97 (	2506.46)	7.15
35.46 (	116.34)	233.47	1121.35 (	3678.98)	25.48
			99999.00 (	99999.00)	104.16



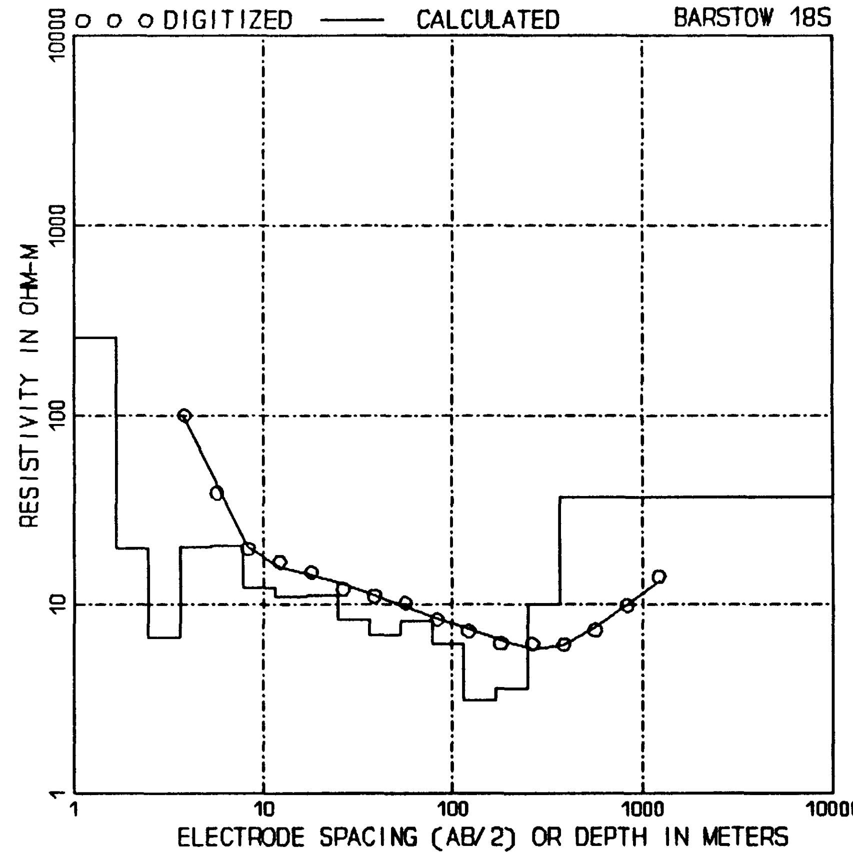
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	250.00	121.92 (	400.00)	12.50
4.27 (	14.00)	292.00	182.88 (	600.00)	13.00
6.10 (	20.00)	368.00	243.84 (	800.00)	12.80
9.14 (	30.00)	428.00	304.80 (	1000.00)	12.80
12.19 (	40.00)	410.00	304.80 (	1000.00)	12.00
18.29 (	60.00)	325.00	426.72 (	1400.00)	10.30
24.38 (	80.00)	210.00	609.60 (	2000.00)	8.50
30.48 (	100.00)	131.00	914.40 (	3000.00)	9.00
30.48 (	100.00)	147.00	1219.20 (	4000.00)	12.00
42.67 (	140.00)	43.00	1828.80 (	6000.00)	17.50
60.96 (	200.00)	14.50	2438.40 (	8000.00)	18.30
91.44 (	300.00)	11.00	3048.00 (	10000.00)	20.00



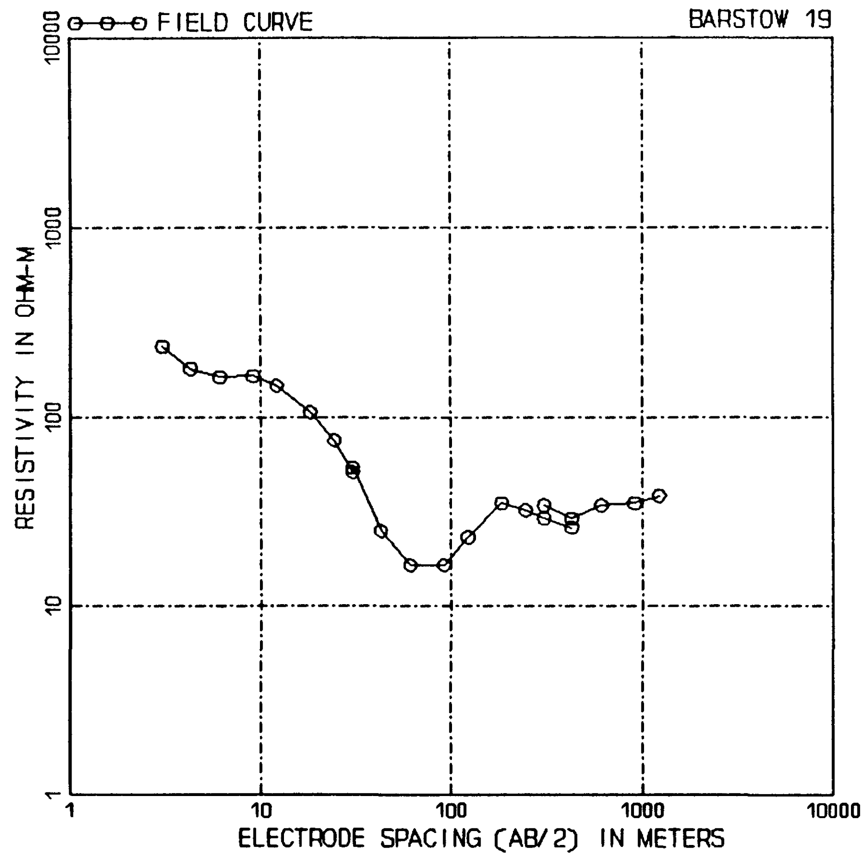
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
6.06 (	19.87)	532.42	88.88 (	291.60)	17.56
8.89 (	29.16)	561.43	130.46 (	428.01)	18.78
13.05 (	42.80)	297.25	191.49 (	628.23)	12.94
19.15 (	62.82)	50.85	281.06 (	922.12)	6.03
28.11 (	92.21)	4.07	412.54 (	1353.49)	3.88
41.25 (	135.35)	4.99	605.53 (	1986.65)	4.93
60.55 (	198.66)	12.03	99999.00 (	99999.00)	120.00



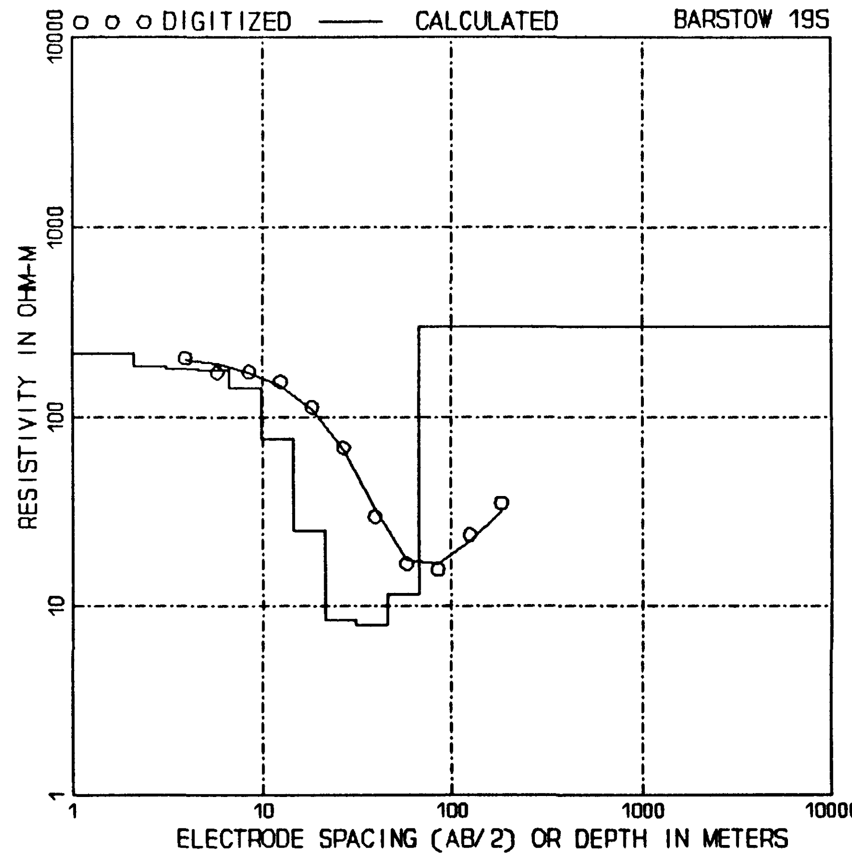
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	128.00	121.92 (	400.00)	7.00
4.27 (	14.00)	50.00	182.88 (	600.00)	6.20
6.10 (	20.00)	21.50	243.84 (	800.00)	6.80
9.14 (	30.00)	12.50	304.80 (	1000.00)	6.10
12.19 (	40.00)	11.20	304.80 (	1000.00)	6.30
18.29 (	60.00)	9.60	426.72 (	1400.00)	6.30
24.38 (	80.00)	7.90	609.60 (	2000.00)	7.80
30.48 (	100.00)	7.60	914.40 (	3000.00)	11.90
42.67 (	140.00)	7.30	1219.20 (	4000.00)	14.00
30.48 (	100.00)	10.70	1828.80 (	6000.00)	17.50
42.67 (	140.00)	10.60	2438.40 (	8000.00)	16.25
60.96 (	200.00)	11.30	3048.00 (	10000.00)	17.30
91.44 (	300.00)	7.85	3657.60 (	12000.00)	20.30



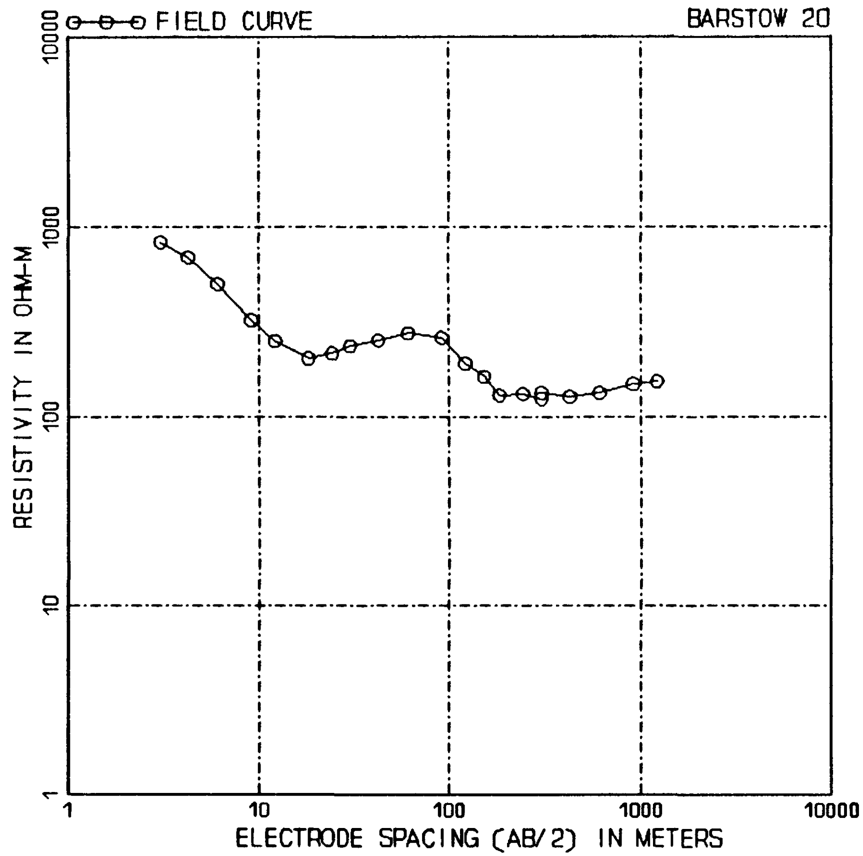
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.69 (	5.53)	255.45	36.33 (	119.20)	8.34
2.48 (	8.12)	19.88	53.33 (	174.96)	6.95
3.63 (	11.92)	6.73	78.27 (	256.81)	8.13
5.33 (	17.50)	20.13	114.89 (	376.94)	6.23
7.83 (	25.68)	20.42	168.64 (	553.27)	3.11
11.49 (	37.69)	12.33	247.53 (	812.09)	3.60
16.86 (	55.33)	11.07	363.32 (	1191.99)	9.96
24.75 (	81.21)	11.22	99999.00 (	99999.00)	36.68



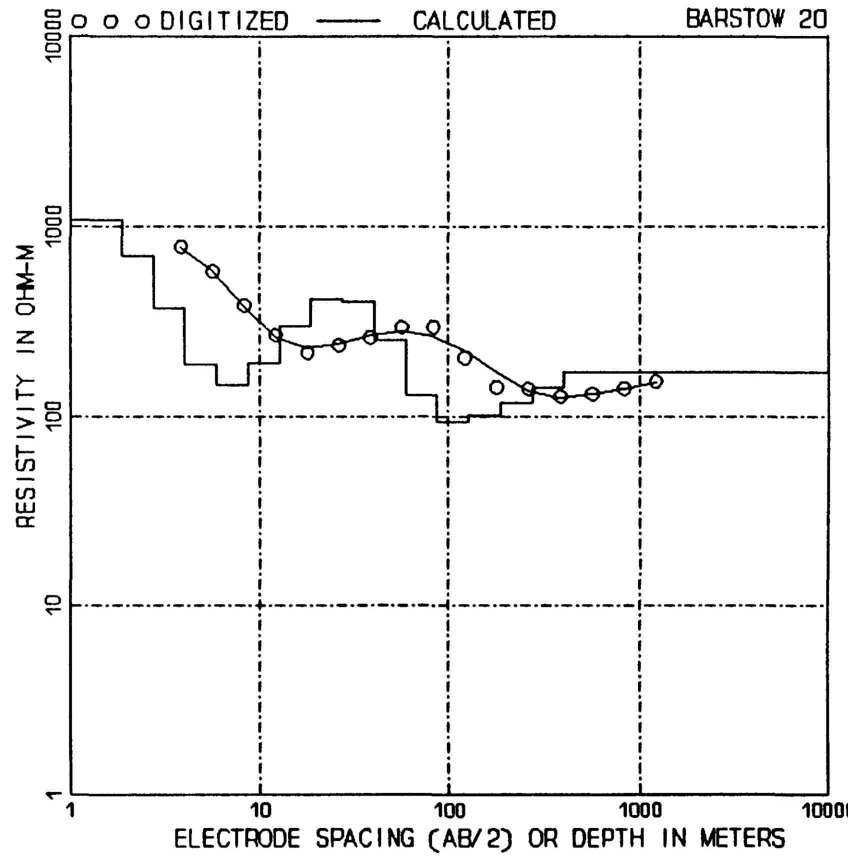
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	235.00	91.44 (	300.00)	16.50
4.27 (	14.00)	180.00	121.92 (	400.00)	23.20
6.10 (	20.00)	162.00	182.88 (	600.00)	35.00
9.14 (	30.00)	165.00	243.84 (	800.00)	32.00
12.19 (	40.00)	147.00	304.80 (	1000.00)	29.00
18.29 (	60.00)	106.00	426.72 (	1400.00)	26.00
24.38 (	80.00)	75.00	304.80 (	1000.00)	34.00
30.48 (	100.00)	51.00	426.72 (	1400.00)	29.00
30.48 (	100.00)	54.00	609.60 (	2000.00)	34.00
42.67 (	140.00)	25.00	914.40 (	3000.00)	35.00
60.96 (	200.00)	16.50	1219.20 (	4000.00)	38.20



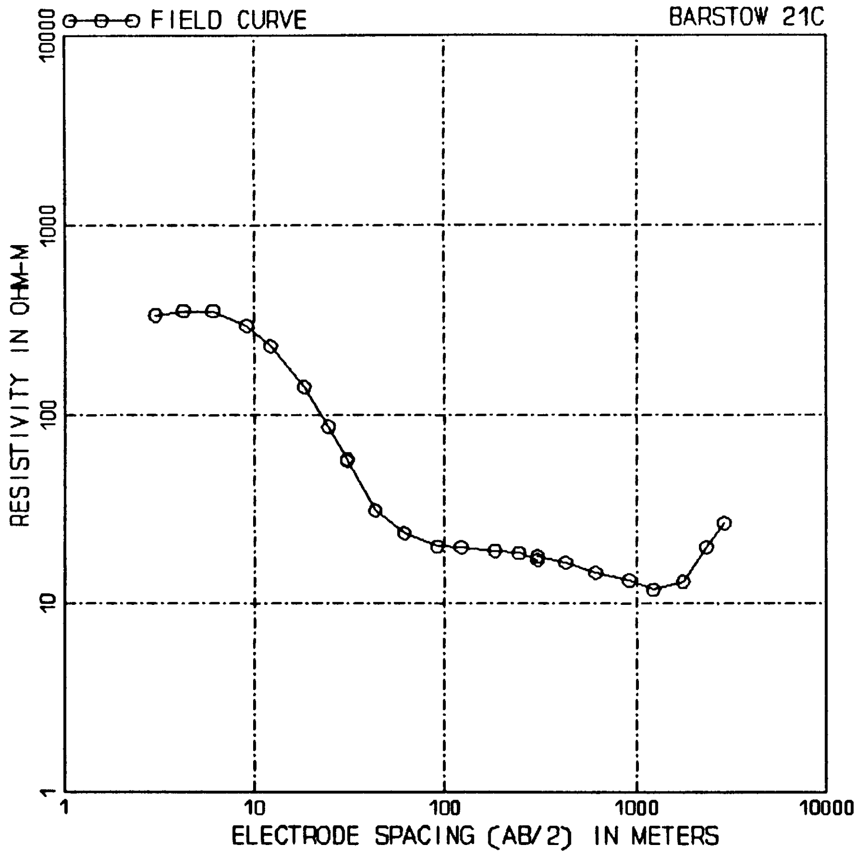
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
2.13 (	6.98)	214.26	14.50 (	47.56)	76.75
3.12 (	10.25)	184.90	21.28 (	69.80)	25.21
4.58 (	15.04)	178.94	31.23 (	102.46)	8.40
6.73 (	22.07)	175.38	45.84 (	150.39)	7.87
9.88 (	32.40)	141.07	67.28 (	220.74)	11.51
			99999.00 (	99999.00)	300.00



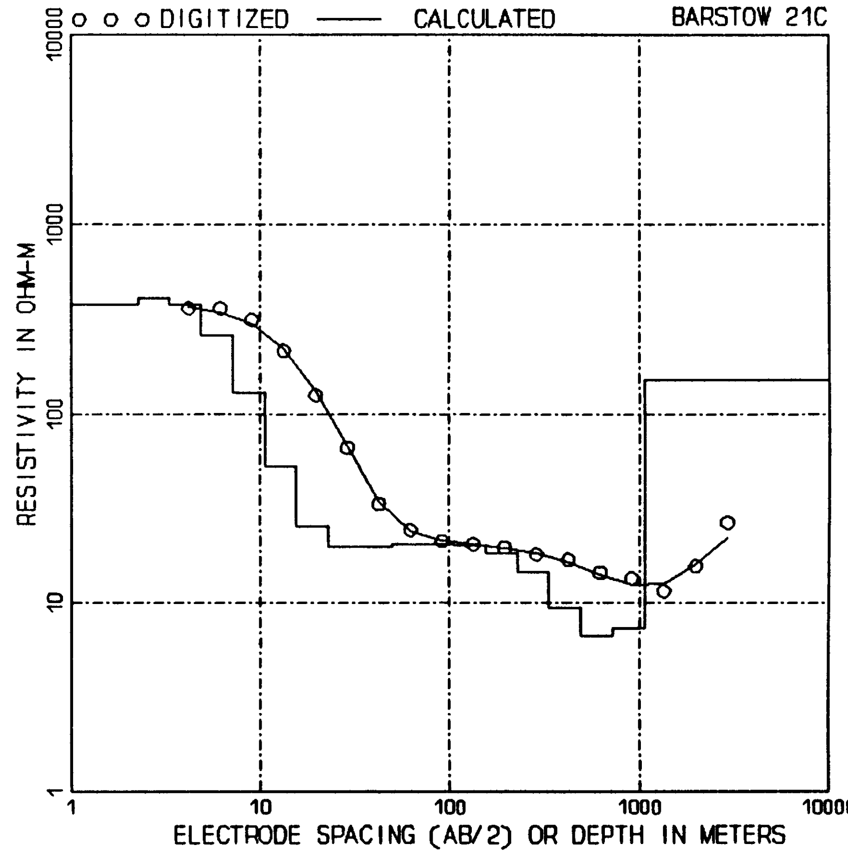
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	835.00	91.44	(300.00)	260.00
4.27	(14.00)	690.00	121.92	(400.00)	190.00
6.10	(20.00)	500.00	152.40	(500.00)	162.00
9.14	(30.00)	322.00	182.88	(600.00)	130.00
12.19	(40.00)	250.00	243.84	(800.00)	132.00
18.29	(60.00)	202.00	304.80	(1000.00)	124.00
24.38	(80.00)	215.00	304.80	(1000.00)	133.00
30.48	(100.00)	235.00	426.72	(1400.00)	127.00
30.48	(100.00)	235.00	609.60	(2000.00)	133.00
42.67	(140.00)	252.00	914.40	(3000.00)	148.00
60.96	(200.00)	275.00	1219.20	(4000.00)	153.00



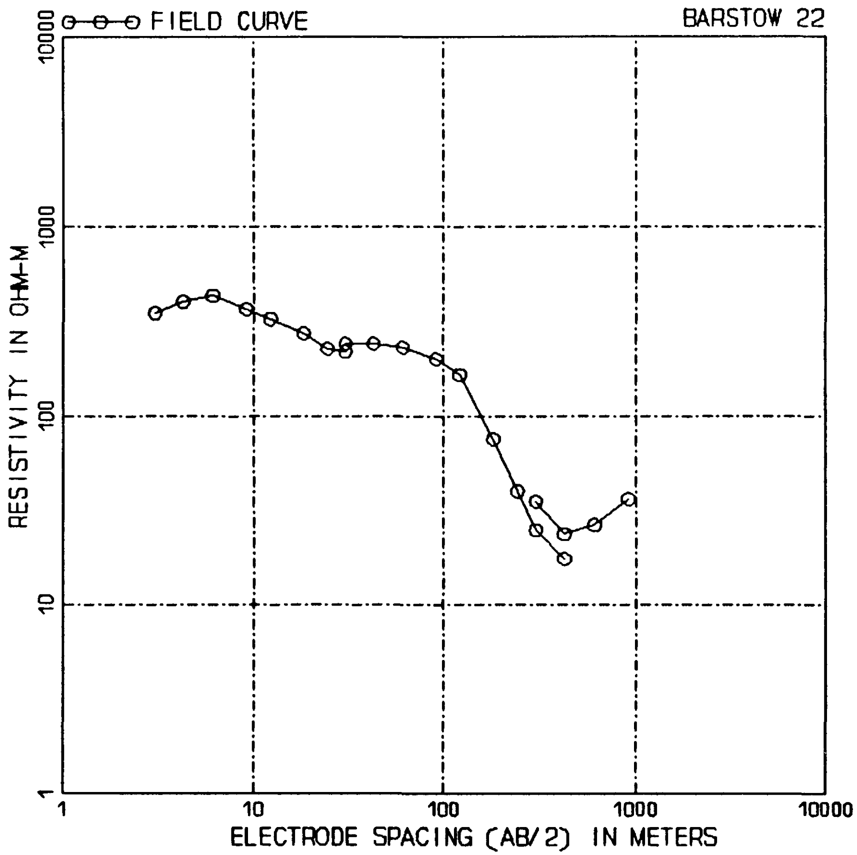
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	1077.27	40.37	(132.44)	403.26
2.75	(9.02)	702.60	59.25	(194.40)	252.48
4.04	(13.24)	373.32	86.97	(285.34)	128.72
5.93	(19.44)	189.06	127.66	(418.82)	92.70
8.70	(28.53)	145.50	187.37	(614.75)	100.57
12.77	(41.88)	190.87	275.03	(902.33)	118.30
18.74	(61.47)	298.03	403.69	(1324.43)	142.28
27.50	(90.23)	412.75	99999.00	(99999.00)	172.28



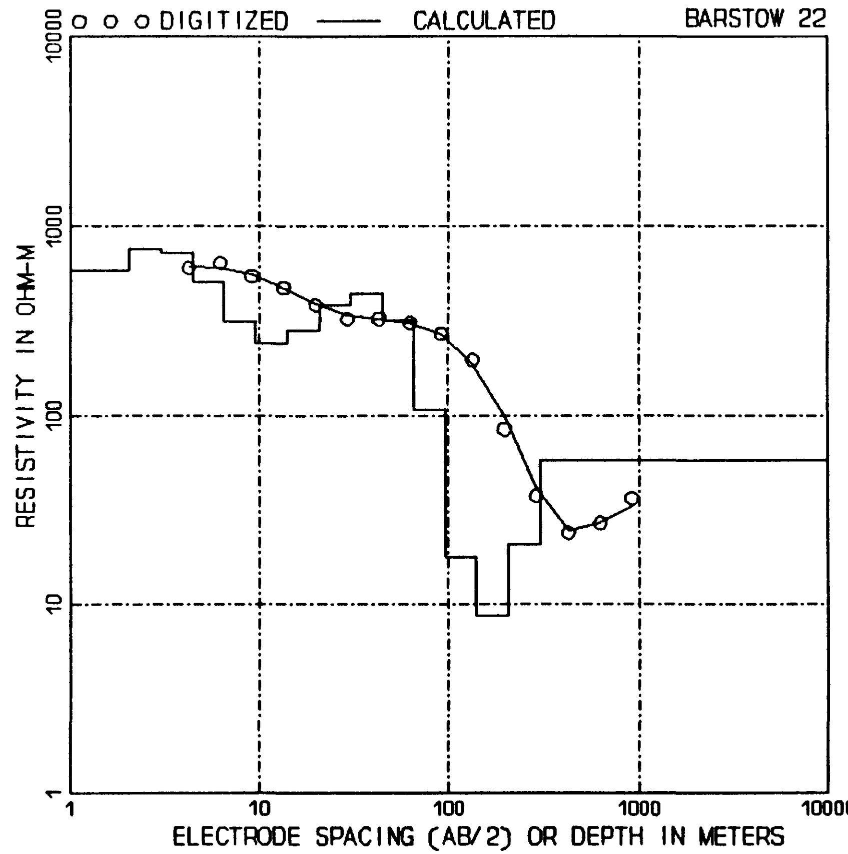
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	335.00	121.92 (	400.00)	19.80
4.27 (	14.00)	352.00	182.88 (	600.00)	19.00
6.10 (	20.00)	352.00	243.84 (	800.00)	18.50
9.14 (	30.00)	295.00	304.80 (	1000.00)	17.00
12.19 (	40.00)	230.00	304.80 (	1000.00)	17.70
18.29 (	60.00)	140.00	426.72 (	1400.00)	16.50
24.38 (	80.00)	86.00	609.60 (	2000.00)	14.50
30.48 (	100.00)	58.00	914.40 (	3000.00)	13.20
30.48 (	100.00)	57.00	1219.20 (	4000.00)	11.80
42.67 (	140.00)	31.00	1742.85 (	5718.00)	13.00
60.96 (	200.00)	23.50	2313.13 (	7589.00)	19.90
91.44 (	300.00)	20.00	2883.41 (	9460.00)	26.70



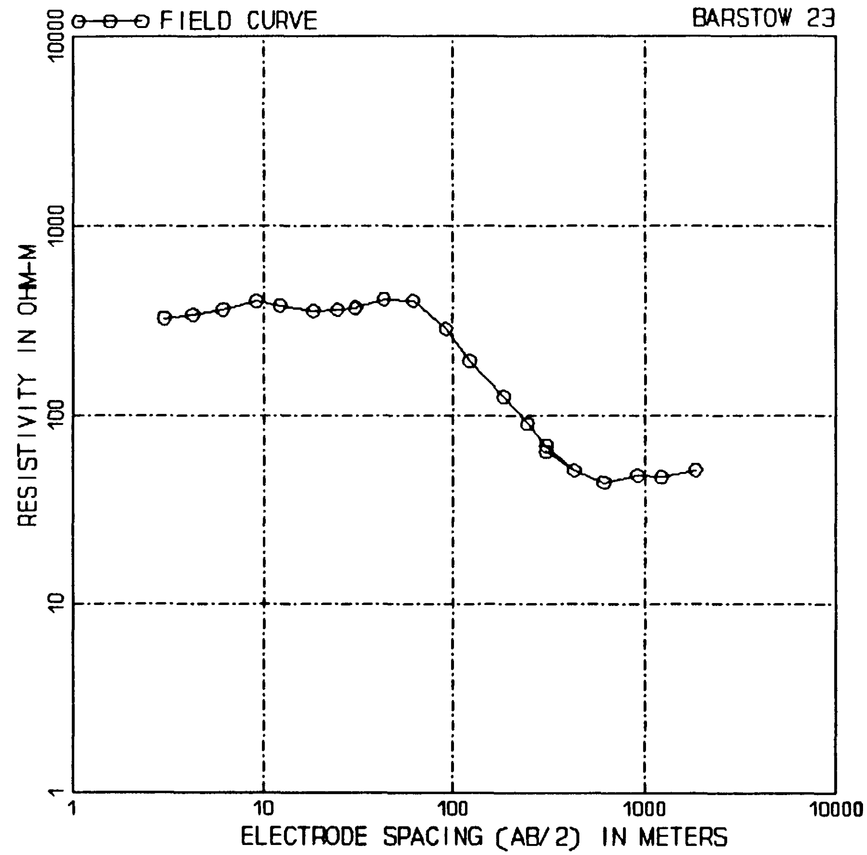
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
2.29 (	7.50)	376.15	72.27 (	237.11)	20.27
3.35 (	11.01)	410.10	106.08 (	348.03)	20.53
4.92 (	16.15)	377.85	155.70 (	510.84)	20.09
7.23 (	23.71)	260.44	228.54 (	749.81)	18.38
10.61 (	34.80)	129.86	335.45 (	1100.57)	14.49
15.57 (	51.08)	52.82	492.38 (	1615.42)	9.46
22.85 (	74.98)	25.43	722.71 (	2371.11)	6.74
33.55 (	110.06)	19.78	1060.80 (	3480.31)	7.36
49.24 (	161.54)	19.65	99999.00 (	99999.00)	150.00



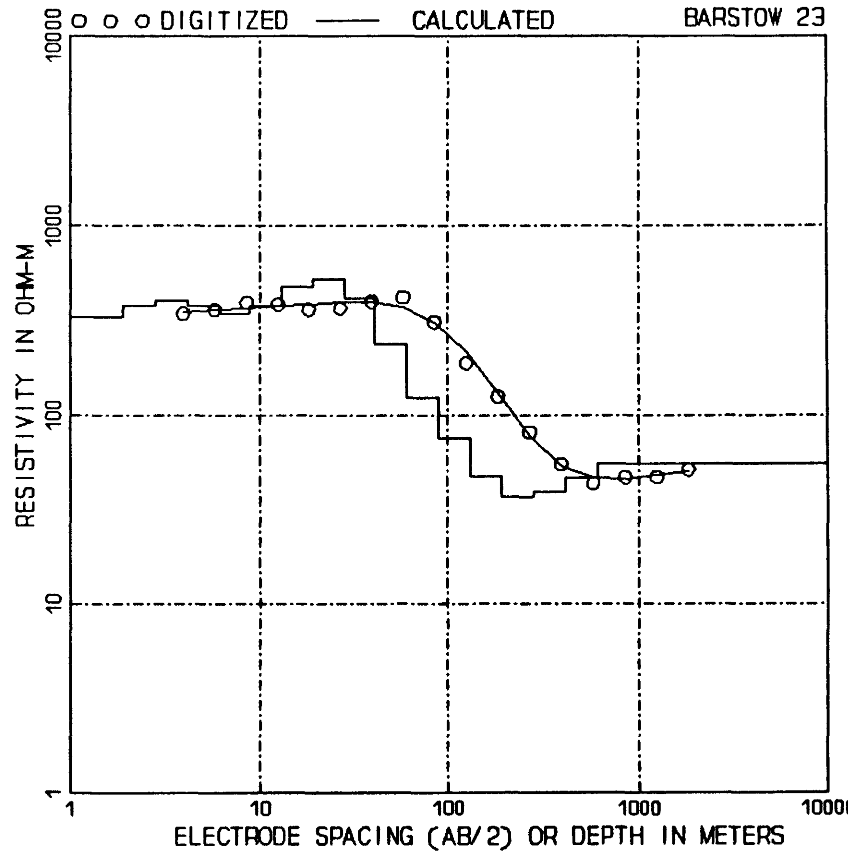
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	348.00	60.96	(200.00)	230.00
4.27	(14.00)	400.00	91.44	(300.00)	200.00
6.10	(20.00)	431.00	121.92	(400.00)	165.00
9.14	(30.00)	365.00	182.88	(600.00)	75.00
12.19	(40.00)	325.00	243.84	(800.00)	40.00
18.29	(60.00)	272.00	304.80	(1000.00)	24.80
24.38	(80.00)	226.00	426.72	(1400.00)	17.50
30.48	(100.00)	218.00	304.80	(1000.00)	35.30
30.48	(100.00)	240.00	426.72	(1400.00)	23.70
42.67	(140.00)	240.00	609.60	(2000.00)	26.50
			914.40	(3000.00)	36.30



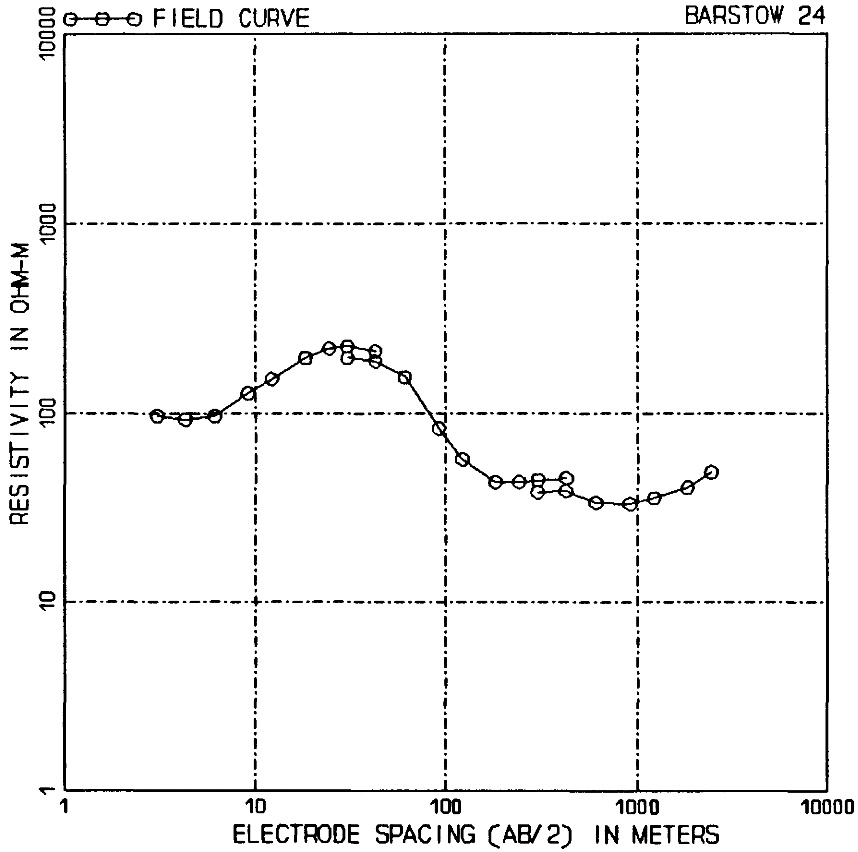
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.06	(6.77)	585.83	30.28	(99.33)	381.06
3.03	(9.93)	756.92	44.44	(145.80)	438.74
4.44	(14.58)	720.87	65.23	(214.01)	319.23
6.52	(21.40)	509.97	95.74	(314.12)	107.46
9.57	(31.41)	312.47	140.53	(461.06)	17.65
14.05	(46.11)	241.27	206.27	(676.74)	8.66
20.63	(67.67)	282.38	302.77	(993.32)	20.81
			99999.00	(99999.00)	57.46



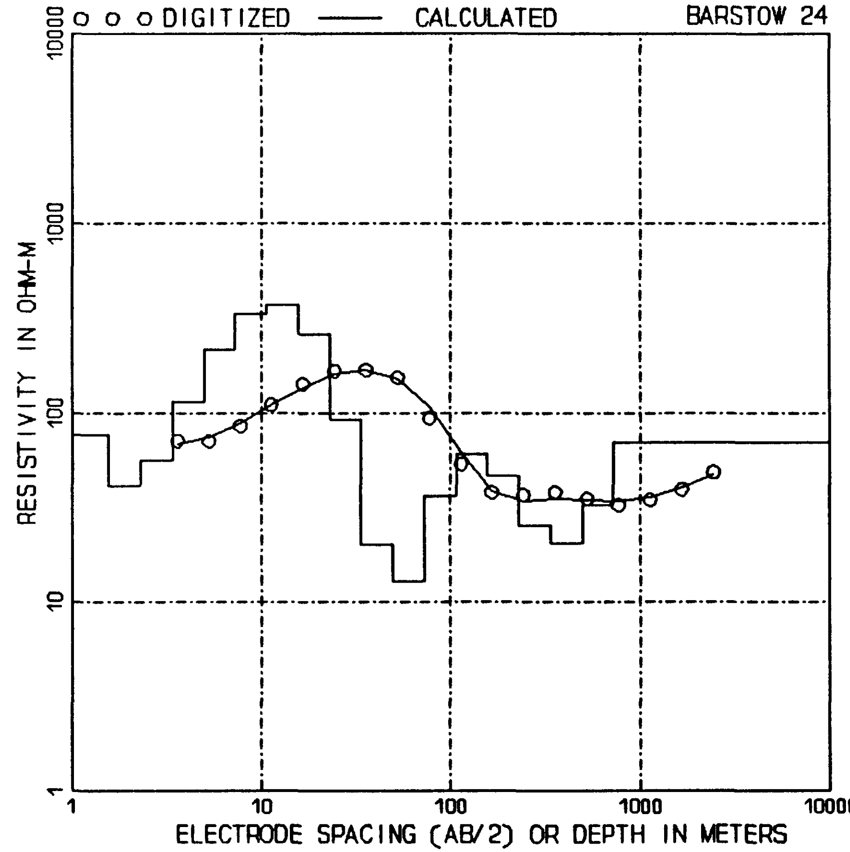
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	325.00	91.44 (	300.00)	286.00
4.27 (	14.00)	340.00	121.92 (	400.00)	193.00
6.10 (	20.00)	362.00	182.88 (	600.00)	125.00
9.14 (	30.00)	400.00	243.84 (	800.00)	90.00
12.19 (	40.00)	380.00	304.80 (	1000.00)	69.00
18.29 (	60.00)	355.00	426.72 (	1400.00)	51.00
24.38 (	80.00)	360.00	304.80 (	1000.00)	64.00
30.48 (	100.00)	365.00	426.72 (	1400.00)	51.00
30.48 (	100.00)	370.00	609.60 (	2000.00)	44.00
42.67 (	140.00)	410.00	914.40 (	3000.00)	48.00
60.96 (	200.00)	403.00	1219.20 (	4000.00)	47.00
			1828.80 (	6000.00)	51.30



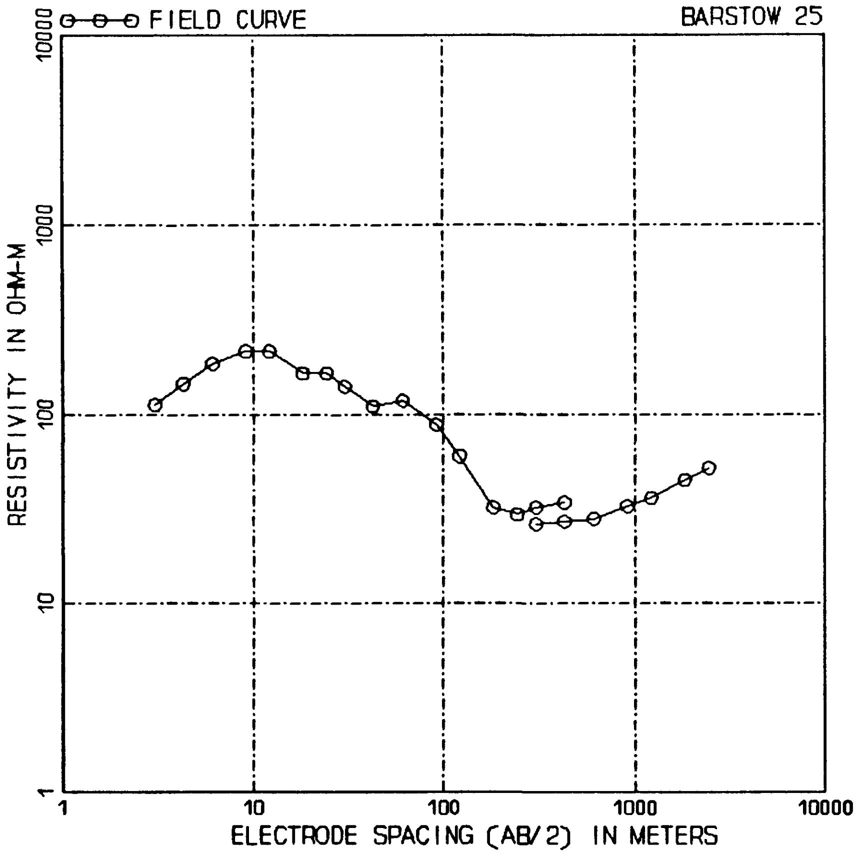
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.91 (	6.28)	327.01	41.25 (	135.35)	411.67
2.81 (	9.22)	378.63	60.55 (	198.66)	235.05
4.13 (	13.53)	404.03	88.88 (	291.60)	123.70
6.06 (	19.87)	376.22	130.46 (	428.01)	74.66
8.89 (	29.16)	345.68	191.49 (	628.23)	47.04
13.05 (	42.80)	377.65	281.06 (	922.12)	36.81
19.15 (	62.82)	472.25	412.54 (	1353.49)	39.21
28.11 (	92.21)	520.81	605.53 (	1986.65)	46.15
			99999.00 (	99999.00)	54.77



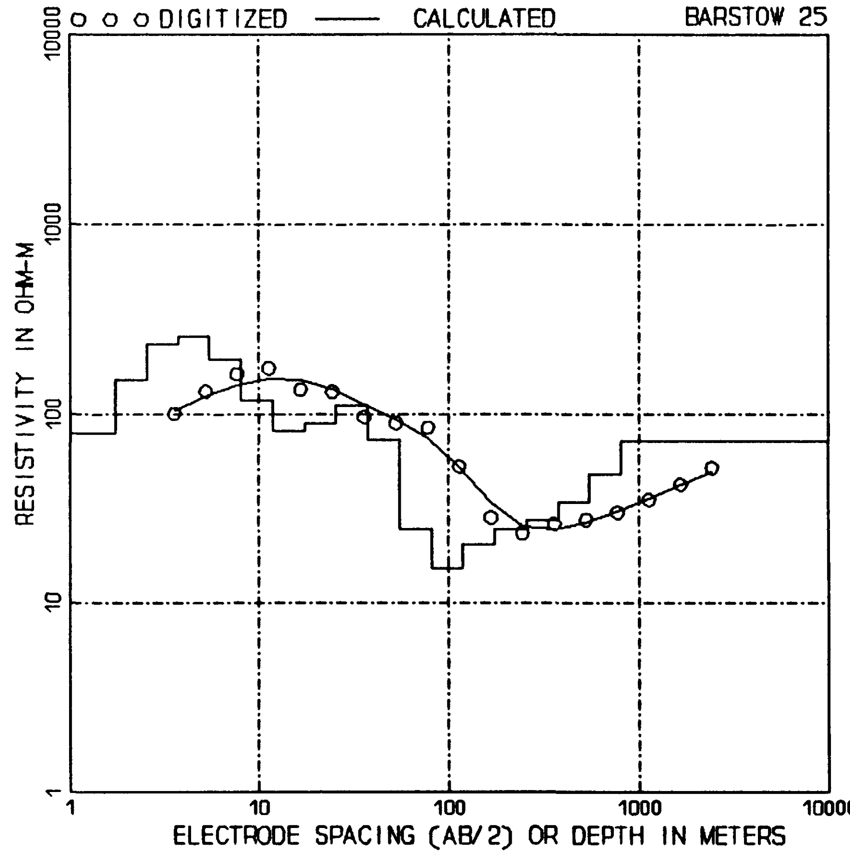
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	96.00	91.44	(300.00)	83.00
4.27	(14.00)	92.50	121.92	(400.00)	57.00
6.10	(20.00)	96.00	182.88	(600.00)	43.00
9.14	(30.00)	127.00	243.84	(800.00)	43.00
12.19	(40.00)	151.00	304.80	(1000.00)	44.00
18.29	(60.00)	195.00	426.72	(1400.00)	45.00
24.38	(80.00)	220.00	304.80	(1000.00)	38.00
30.48	(100.00)	225.00	426.72	(1400.00)	38.50
42.67	(140.00)	212.00	609.60	(2000.00)	33.50
30.48	(100.00)	195.00	914.40	(3000.00)	33.00
42.67	(140.00)	188.00	1219.20	(4000.00)	35.50
60.96	(200.00)	155.00	1828.80	(6000.00)	40.20
			2438.40	(8000.00)	48.50



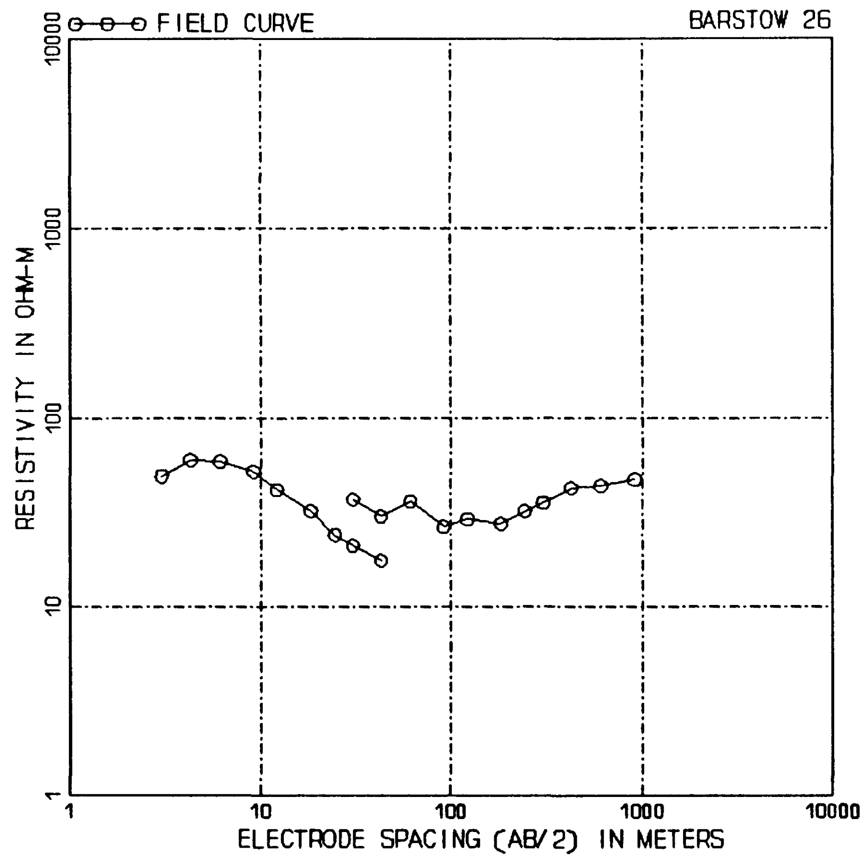
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.57	(5.14)	75.96	49.51	(162.42)	20.21
2.30	(7.54)	41.14	72.66	(238.40)	12.80
3.37	(11.07)	55.98	106.66	(349.92)	36.14
4.95	(16.24)	114.17	156.55	(513.61)	60.88
7.27	(23.84)	216.40	229.78	(753.88)	46.21
10.67	(34.99)	330.82	337.27	(1106.54)	25.29
15.65	(51.36)	372.27	495.05	(1624.19)	20.49
22.98	(75.39)	258.49	726.64	(2383.98)	32.37
33.73	(110.65)	91.58	99999.00	(99999.00)	69.41



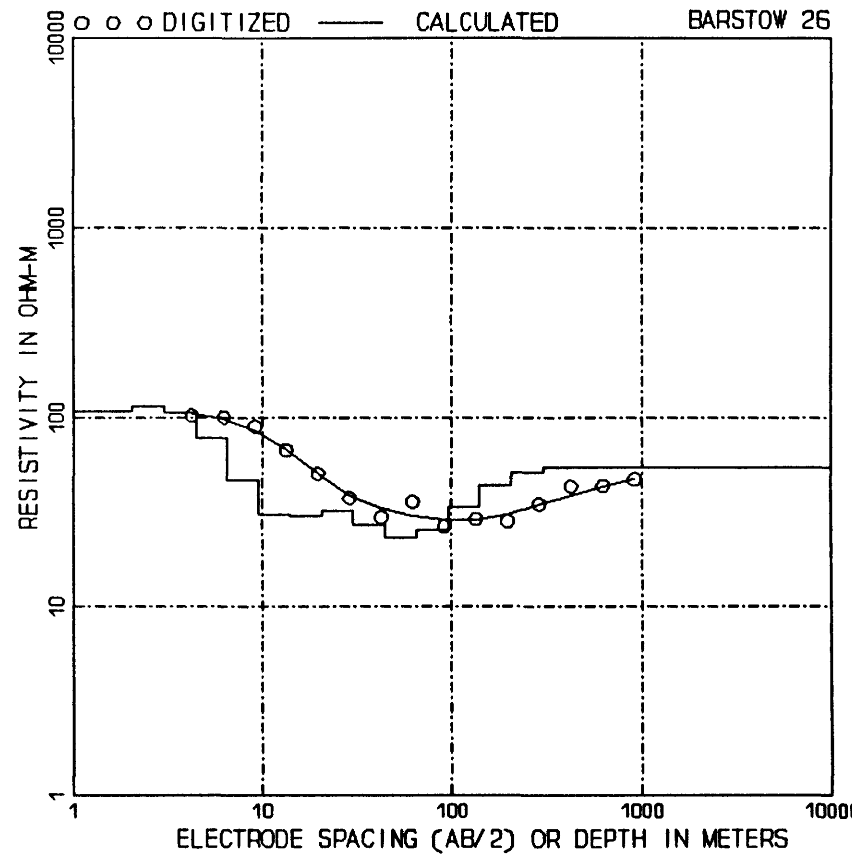
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	112.00	121.92	(400.00)	60.00
4.27	(14.00)	145.00	182.88	(600.00)	32.00
6.10	(20.00)	185.00	243.84	(800.00)	29.50
9.14	(30.00)	215.00	304.80	(1000.00)	32.00
12.19	(40.00)	215.00	426.72	(1400.00)	34.00
18.29	(60.00)	165.00	304.80	(1000.00)	26.30
24.38	(80.00)	165.00	426.72	(1400.00)	27.00
30.48	(100.00)	140.00	609.60	(2000.00)	28.00
30.48	(100.00)	140.00	914.40	(3000.00)	32.50
42.67	(140.00)	110.00	1219.20	(4000.00)	36.00
60.96	(200.00)	118.00	1828.80	(6000.00)	44.80
91.44	(300.00)	88.00	2438.40	(8000.00)	52.00



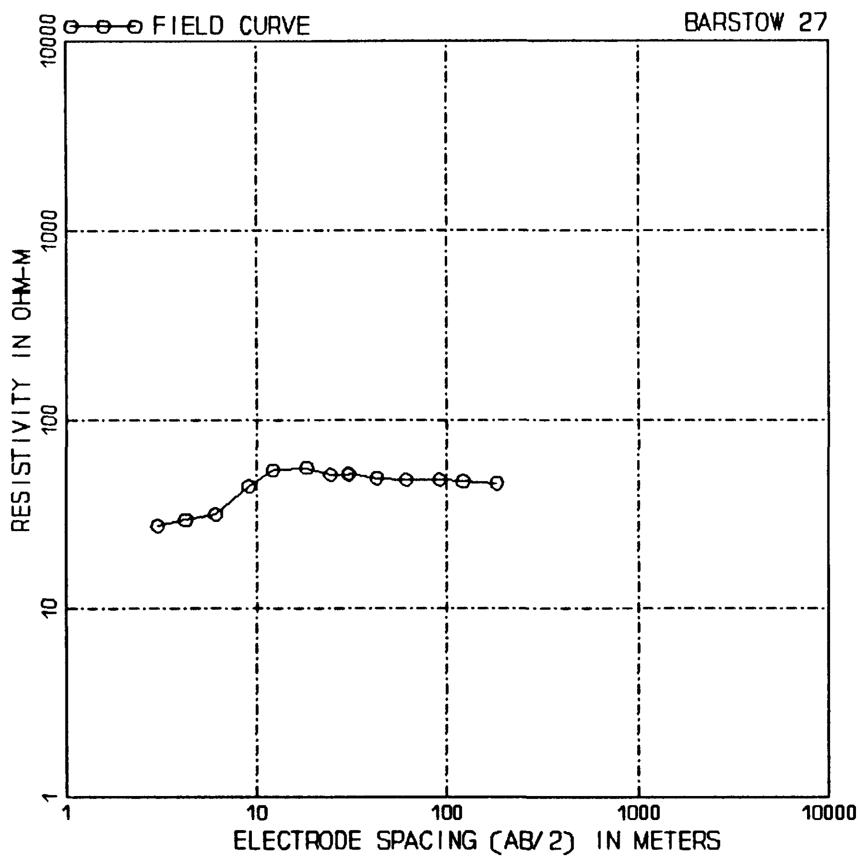
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	78.34	55.01	(180.46)	72.37
2.55	(8.38)	151.06	80.74	(264.89)	24.78
3.75	(12.29)	233.89	118.51	(388.80)	15.18
5.50	(18.05)	254.11	173.94	(570.68)	20.48
8.07	(26.49)	192.81	255.31	(837.64)	24.67
11.85	(38.88)	117.10	374.75	(1229.49)	27.32
17.39	(57.07)	80.74	550.06	(1804.65)	33.95
25.53	(83.76)	89.66	807.37	(2648.86)	48.15
37.47	(122.95)	111.37	99999.00	(99999.00)	71.87



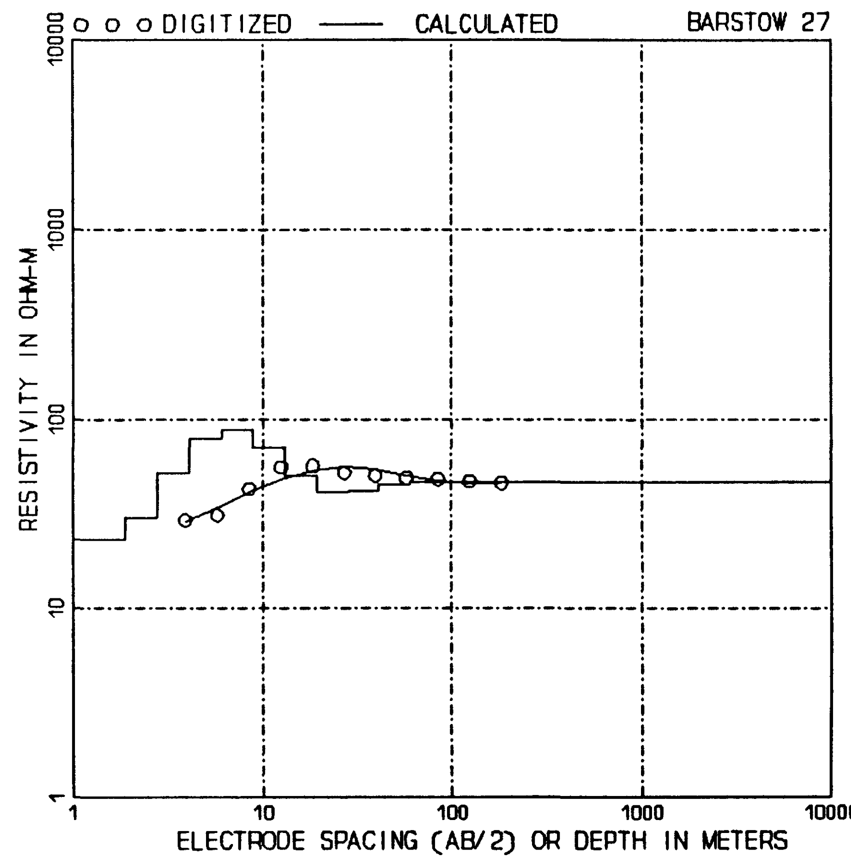
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	49.00	42.67 (	140.00)	30.00
4.27 (	14.00)	59.50	60.96 (	200.00)	36.00
6.10 (	20.00)	58.50	91.44 (	300.00)	26.50
9.14 (	30.00)	52.00	121.92 (	400.00)	29.00
12.19 (	40.00)	41.50	182.88 (	600.00)	27.50
18.29 (	60.00)	32.00	243.84 (	800.00)	32.00
24.38 (	80.00)	24.00	304.80 (	1000.00)	35.50
30.48 (	100.00)	21.00	304.80 (	1000.00)	35.50
42.67 (	140.00)	17.50	426.72 (	1400.00)	42.50
30.48 (	100.00)	37.00	609.60 (	2000.00)	43.50
			914.40 (	3000.00)	47.00



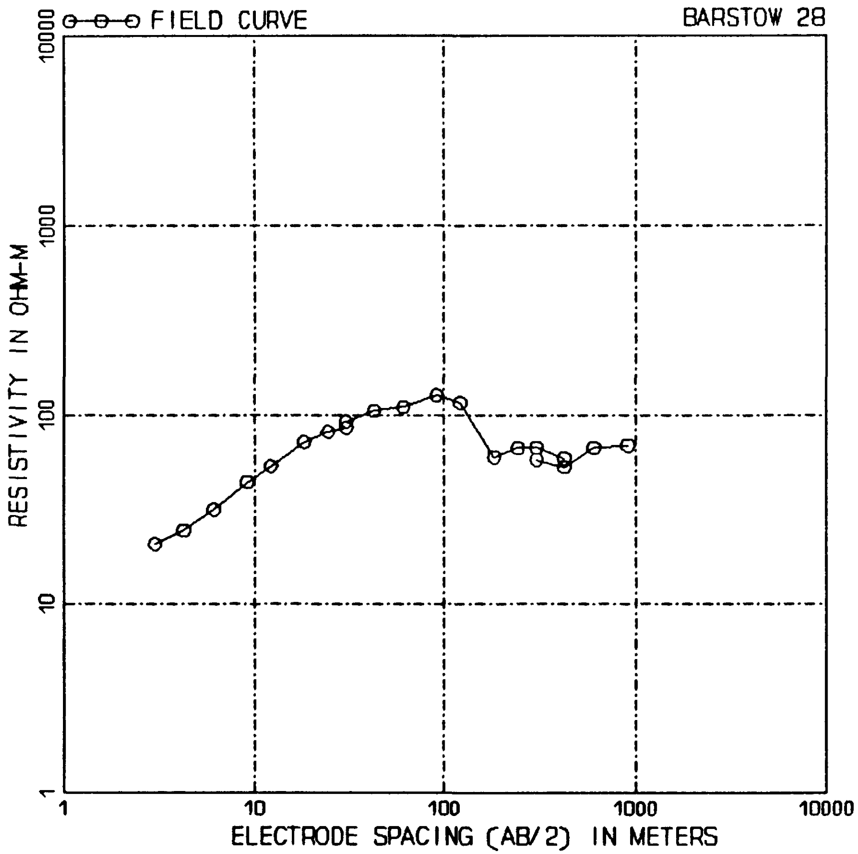
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
2.06 (	6.77)	107.43	30.28 (	99.33)	31.91
3.03 (	9.93)	115.09	44.44 (	145.80)	27.10
4.44 (	14.58)	105.71	65.23 (	214.01)	23.05
6.52 (	21.40)	77.35	95.74 (	314.12)	25.31
9.57 (	31.41)	46.85	140.53 (	461.06)	33.81
14.05 (	46.11)	30.79	206.27 (	676.74)	44.04
20.63 (	67.67)	30.00	302.77 (	993.32)	51.08
			99999.00 (	99999.00)	54.54

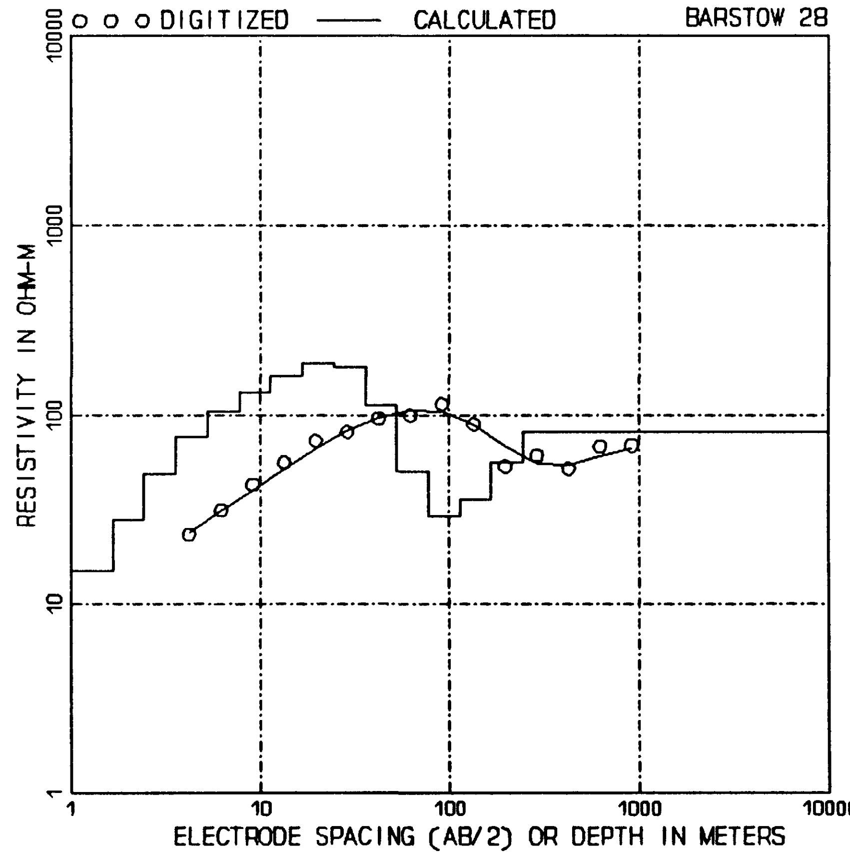


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	27.50	30.48 (	100.00)	51.00
4.27 (	14.00)	29.50	30.48 (	100.00)	52.00
6.10 (	20.00)	31.50	42.67 (	140.00)	49.00
9.14 (	30.00)	44.50	60.96 (	200.00)	48.00
12.19 (	40.00)	54.00	91.44 (	300.00)	48.00
18.29 (	60.00)	55.50	121.92 (	400.00)	47.00
24.38 (	80.00)	51.00	182.88 (	600.00)	46.00



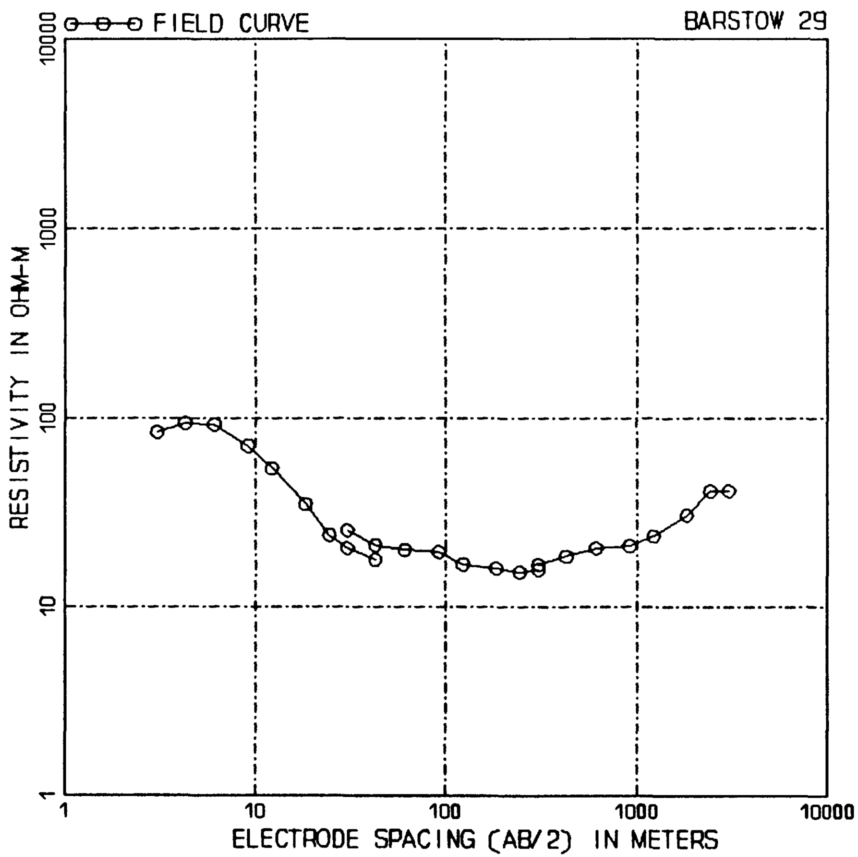
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.91 (	6.28)	23.06	13.05 (	42.80)	71.10
2.81 (	9.22)	30.31	19.15 (	62.82)	50.48
4.13 (	13.53)	52.00	28.11 (	92.21)	40.85
6.06 (	19.87)	79.26	41.25 (	135.35)	41.61
8.89 (	29.16)	87.58	60.55 (	198.66)	45.21
			99999.00 (	99999.00)	46.18

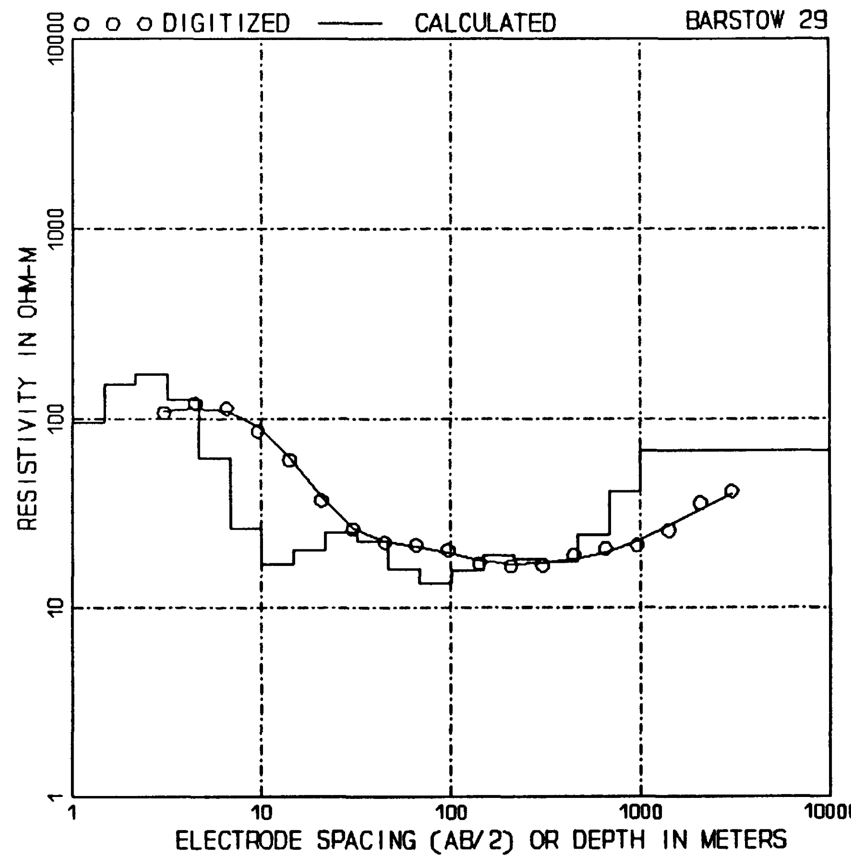




AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	20.80	60.96 (	200.00)	110.00
4.27 (	14.00)	24.50	91.44 (	300.00)	127.00
6.10 (	20.00)	31.50	121.92 (	400.00)	116.00
9.14 (	30.00)	44.00	182.88 (	600.00)	60.00
12.19 (	40.00)	53.60	243.84 (	800.00)	67.00
18.29 (	60.00)	72.00	304.80 (	1000.00)	67.00
24.38 (	80.00)	81.00	426.72 (	1400.00)	59.00
30.48 (	100.00)	85.00	304.80 (	1000.00)	58.00
30.48 (	100.00)	92.00	426.72 (	1400.00)	53.00
42.67 (	140.00)	105.00	609.60 (	2000.00)	67.00
			914.40 (	3000.00)	69.00

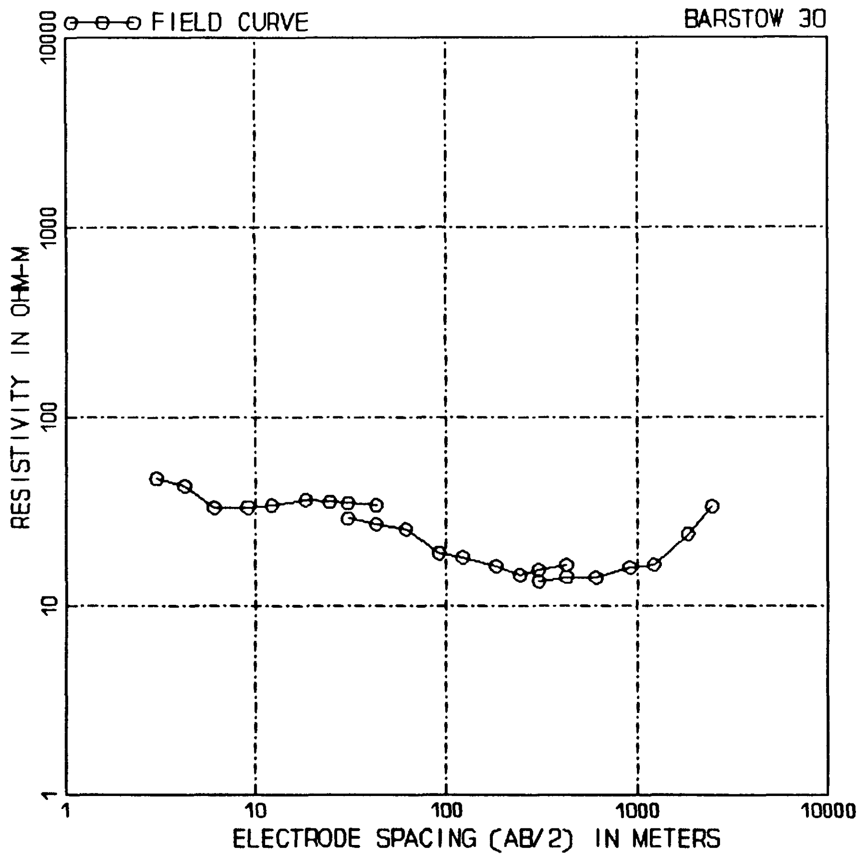
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.67 (	5.48)	15.04	24.52 (	80.46)	187.44
2.45 (	8.05)	27.98	36.00 (	118.10)	177.86
3.60 (	11.81)	48.84	52.84 (	173.34)	112.44
5.28 (	17.33)	75.77	77.55 (	254.43)	50.35
7.76 (	25.44)	103.62	113.83 (	373.46)	29.37
11.38 (	37.35)	130.48	167.08 (	548.16)	35.44
16.71 (	54.82)	160.12	245.24 (	804.59)	56.07
			99999.00 (	99999.00)	81.07



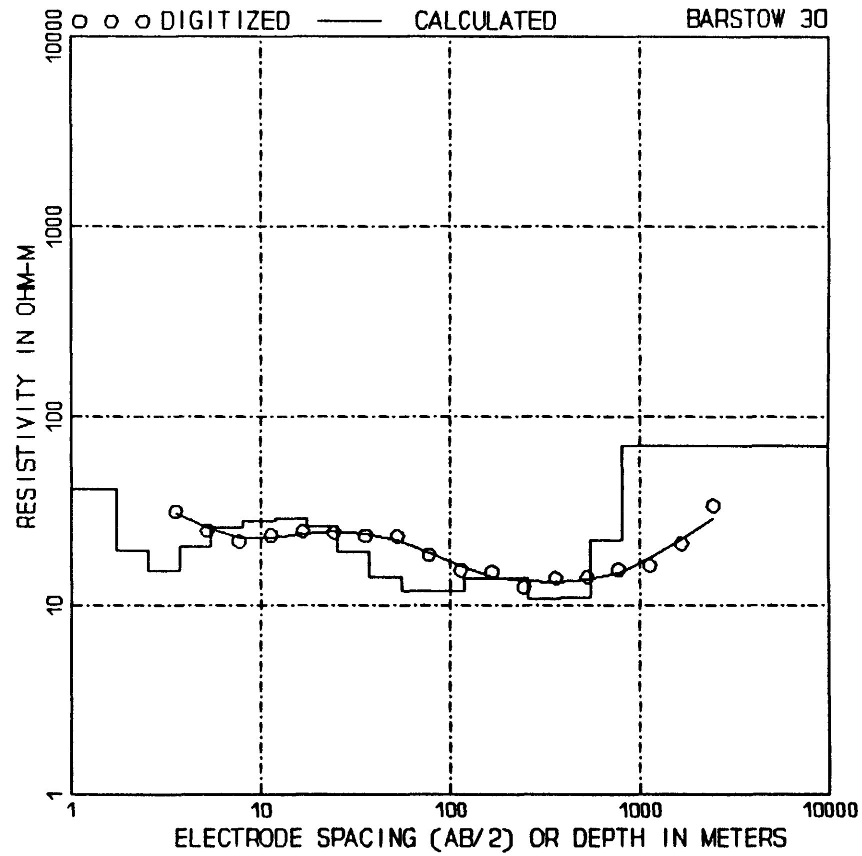


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	84.00	91.44	(300.00)	19.50
4.27	(14.00)	93.50	121.92	(400.00)	16.80
6.10	(20.00)	92.00	182.88	(600.00)	16.00
9.14	(30.00)	71.00	243.84	(800.00)	15.20
12.19	(40.00)	54.00	304.80	(1000.00)	15.75
18.29	(60.00)	35.00	304.80	(1000.00)	16.70
24.38	(80.00)	24.00	426.72	(1400.00)	18.50
30.48	(100.00)	20.50	609.60	(2000.00)	20.50
42.67	(140.00)	17.70	914.40	(3000.00)	21.00
30.48	(100.00)	25.50	1219.20	(4000.00)	23.75
42.67	(140.00)	21.20	1828.80	(6000.00)	30.50
60.96	(200.00)	20.00	2438.40	(8000.00)	41.00
			3048.00	(10000.00)	41.00

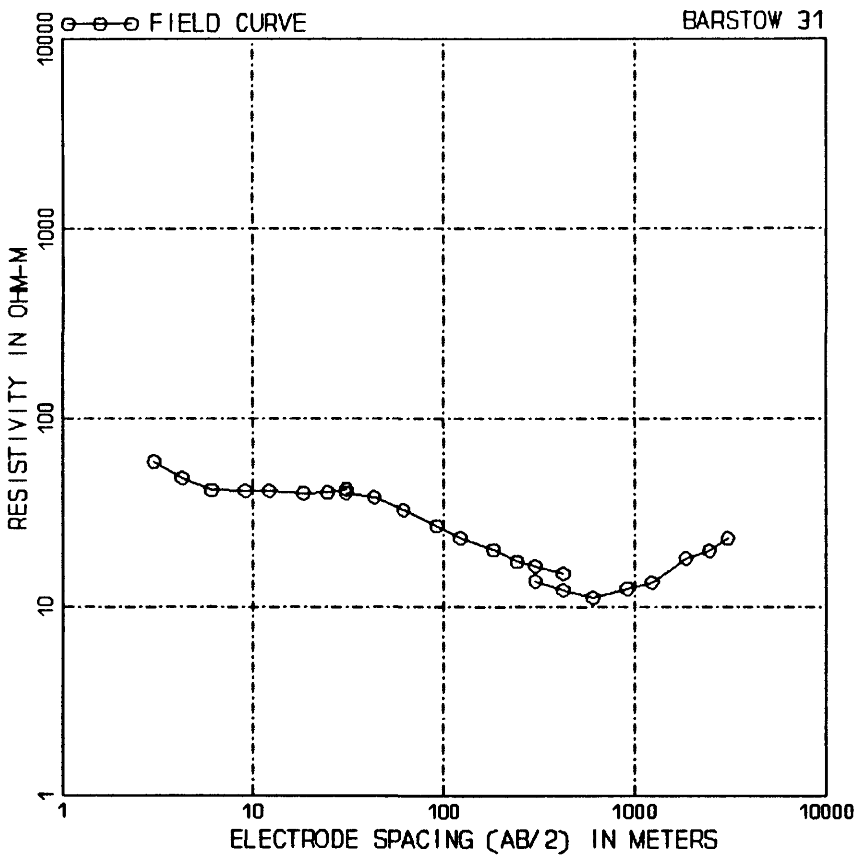
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	94.82	46.84	(153.69)	22.58
2.17	(7.13)	151.30	68.76	(225.58)	16.00
3.19	(10.47)	170.70	100.92	(331.11)	13.36
4.68	(15.37)	125.02	148.13	(486.00)	15.65
6.88	(22.56)	61.58	217.43	(713.35)	18.77
10.09	(33.11)	26.11	319.14	(1047.06)	17.94
14.81	(48.60)	17.02	468.44	(1536.87)	17.55
21.74	(71.34)	20.13	687.57	(2255.81)	24.14
31.91	(104.71)	25.09	1009.22	(3311.08)	40.99
			99999.00	(99999.00)	67.70

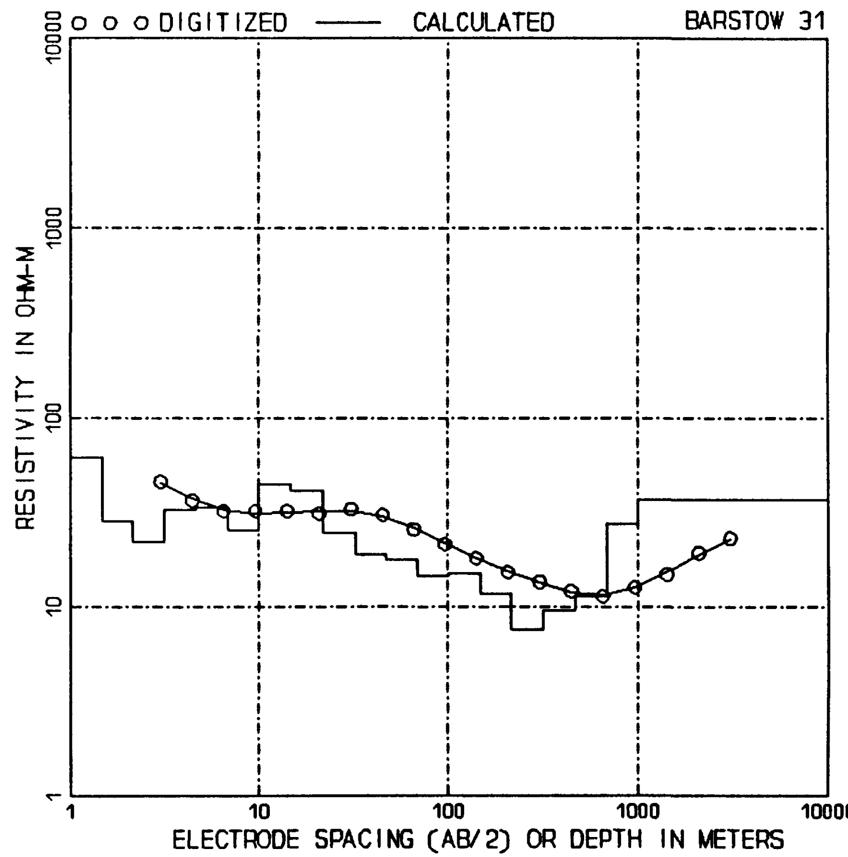


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	47.00	91.44	(300.00)	19.00
4.27	(14.00)	43.00	121.92	(400.00)	18.00
6.10	(20.00)	33.00	182.88	(600.00)	16.20
9.14	(30.00)	33.30	243.84	(800.00)	14.50
12.19	(40.00)	34.00	304.80	(1000.00)	15.50
18.29	(60.00)	36.20	426.72	(1400.00)	16.50
24.38	(80.00)	35.50	304.80	(1000.00)	13.50
30.48	(100.00)	35.00	426.72	(1400.00)	14.20
42.67	(140.00)	34.00	609.60	(2000.00)	14.10
30.48	(100.00)	29.00	914.40	(3000.00)	16.00
42.67	(140.00)	27.00	1219.20	(4000.00)	16.50
60.96	(200.00)	25.50	1828.80	(6000.00)	24.00
			2438.40	(8000.00)	33.60



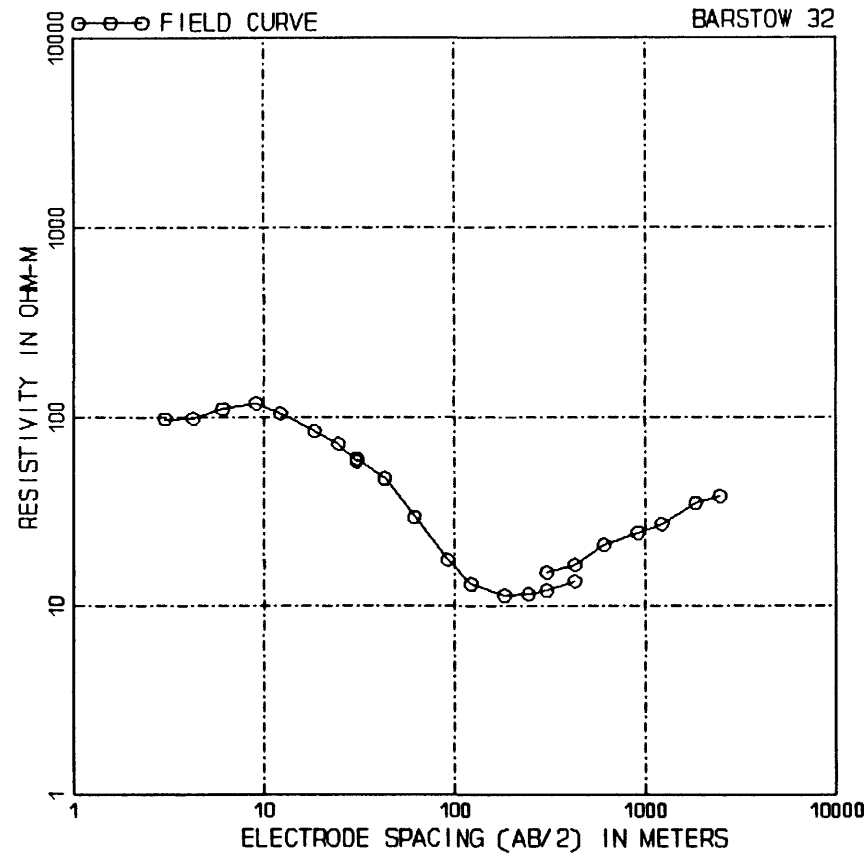
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	41.14	55.01	(180.46)	14.01
2.55	(8.38)	19.49	80.74	(264.89)	11.90
3.75	(12.29)	15.32	118.51	(388.80)	11.81
5.50	(18.05)	20.34	173.94	(570.68)	13.83
8.07	(26.49)	25.87	255.31	(837.64)	13.89
11.85	(38.88)	28.03	374.75	(1229.49)	10.77
17.39	(57.07)	28.90	550.06	(1804.65)	10.96
25.53	(83.76)	26.10	807.37	(2648.86)	22.22
37.47	(122.95)	19.13	99999.00	(99999.00)	69.41

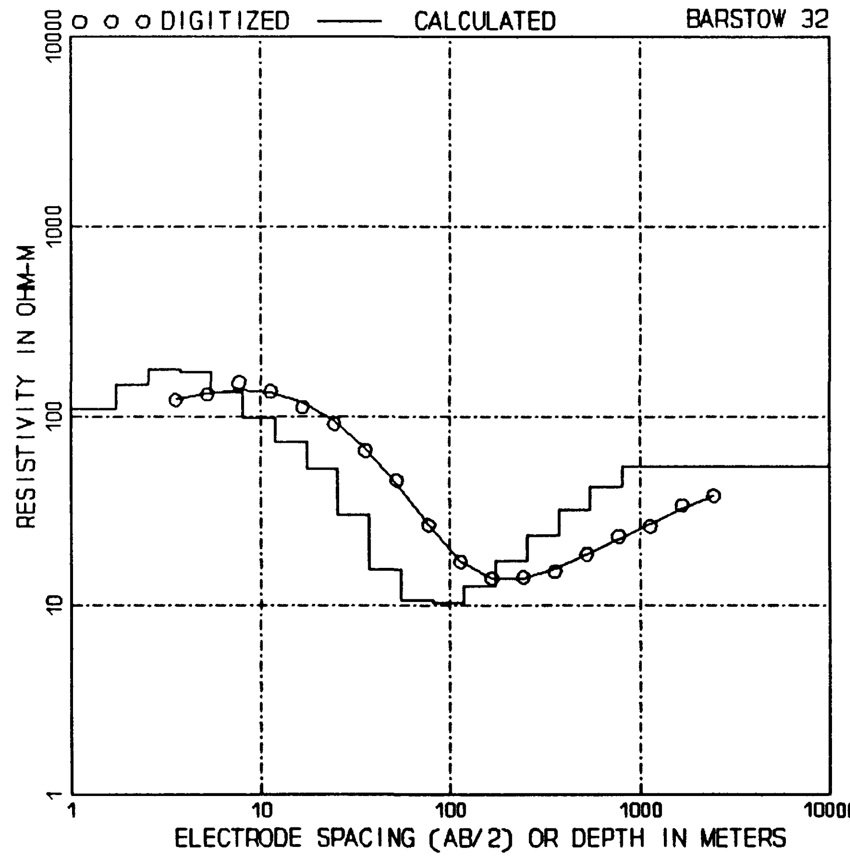




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	58.50	121.92	(400.00)	23.20
4.27	(14.00)	48.00	182.88	(600.00)	20.00
6.10	(20.00)	41.50	243.84	(800.00)	17.40
9.14	(30.00)	41.00	304.80	(1000.00)	16.50
12.19	(40.00)	41.00	426.72	(1400.00)	15.00
18.29	(60.00)	40.00	304.80	(1000.00)	13.70
24.38	(80.00)	40.20	426.72	(1400.00)	12.30
30.48	(100.00)	42.00	609.60	(2000.00)	11.20
30.48	(100.00)	40.00	914.40	(3000.00)	12.50
42.67	(140.00)	38.00	1219.20	(4000.00)	13.50
60.96	(200.00)	32.50	1828.80	(6000.00)	18.10
91.44	(300.00)	26.80	2438.40	(8000.00)	19.90
			3048.00	(10000.00)	23.00

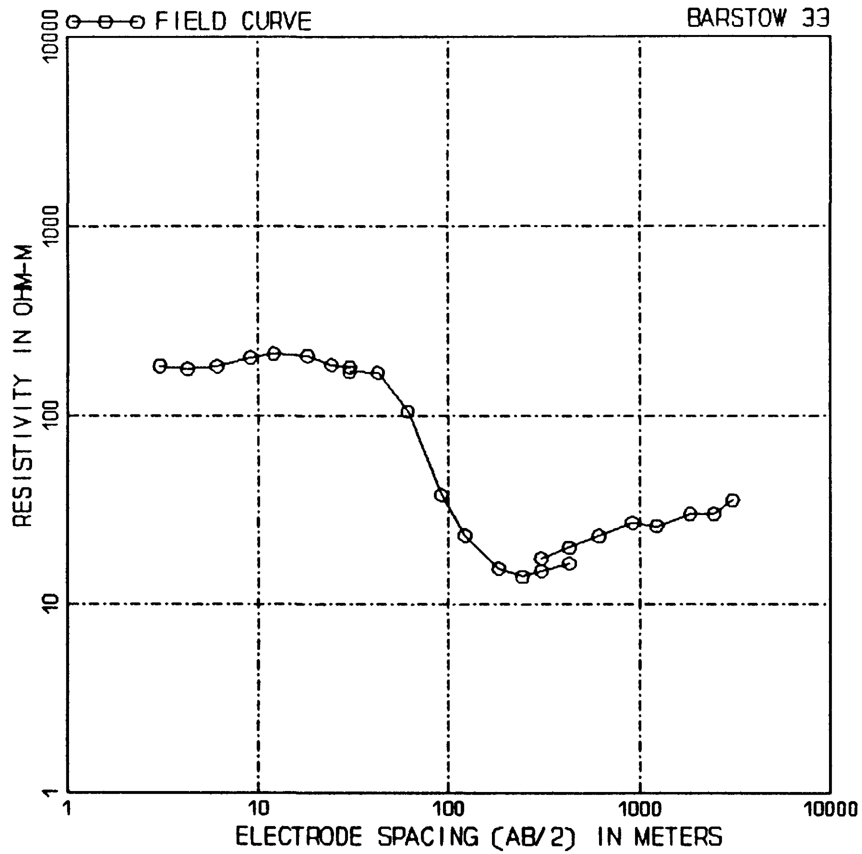
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	61.15	46.84	(153.69)	18.94
2.17	(7.13)	28.24	68.76	(225.58)	17.84
3.19	(10.47)	22.13	100.92	(331.11)	14.56
4.68	(15.37)	32.40	148.13	(486.00)	15.09
6.88	(22.56)	33.37	217.43	(713.35)	11.74
10.09	(33.11)	25.40	319.14	(1047.06)	7.53
14.81	(48.60)	44.44	468.44	(1536.87)	9.51
21.74	(71.34)	41.08	687.57	(2255.81)	11.25
31.91	(104.71)	24.59	1009.22	(3311.08)	27.59
			99999.00	(99999.00)	37.08





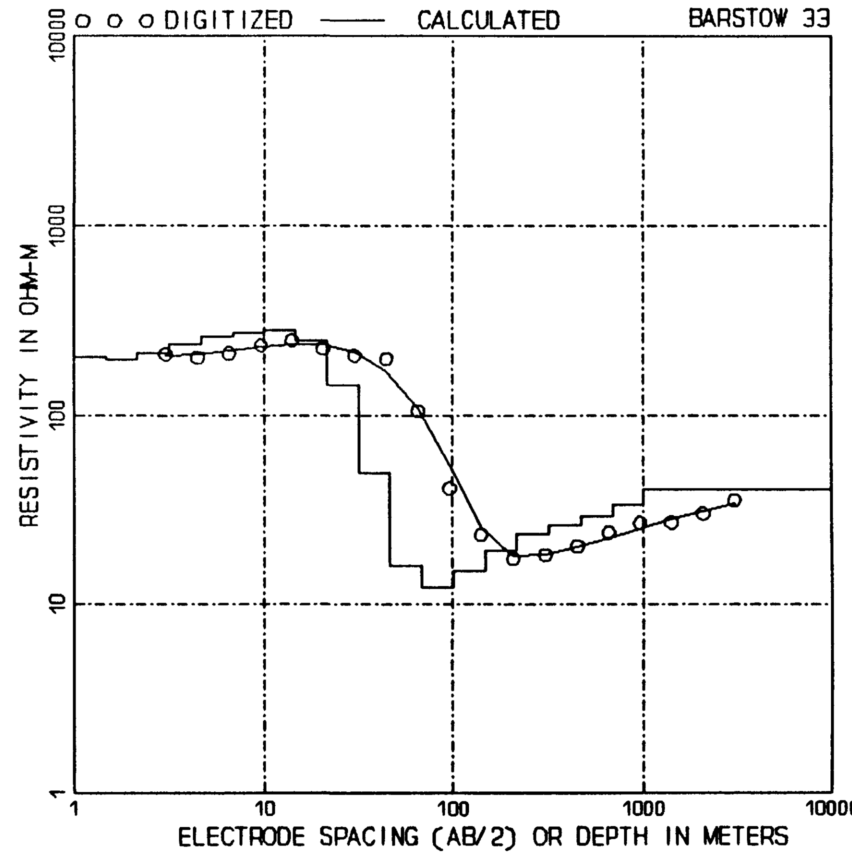
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	97.00	121.92	(400.00)	13.00
4.27	(14.00)	98.00	182.88	(600.00)	11.30
6.10	(20.00)	110.00	243.84	(800.00)	11.50
9.14	(30.00)	118.00	304.80	(1000.00)	12.00
12.19	(40.00)	104.00	426.72	(1400.00)	13.50
18.29	(60.00)	84.00	304.80	(1000.00)	15.00
24.38	(80.00)	72.00	426.72	(1400.00)	16.50
30.48	(100.00)	58.00	609.60	(2000.00)	21.00
30.48	(100.00)	60.00	914.40	(3000.00)	24.40
42.67	(140.00)	47.00	1219.20	(4000.00)	27.00
60.96	(200.00)	29.50	1828.80	(6000.00)	35.00
91.44	(300.00)	17.50	2438.40	(8000.00)	38.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	109.18	55.01	(180.46)	15.57
2.55	(8.38)	145.79	80.74	(264.89)	10.61
3.75	(12.29)	176.36	118.51	(388.80)	10.29
5.50	(18.05)	170.59	173.94	(570.68)	12.69
8.07	(26.49)	134.27	255.31	(837.64)	17.30
11.85	(38.88)	97.59	374.75	(1229.49)	23.61
17.39	(57.07)	73.25	550.06	(1804.65)	31.97
25.53	(83.76)	52.83	807.37	(2648.86)	42.61
37.47	(122.95)	30.36	99999.00	(99999.00)	54.31



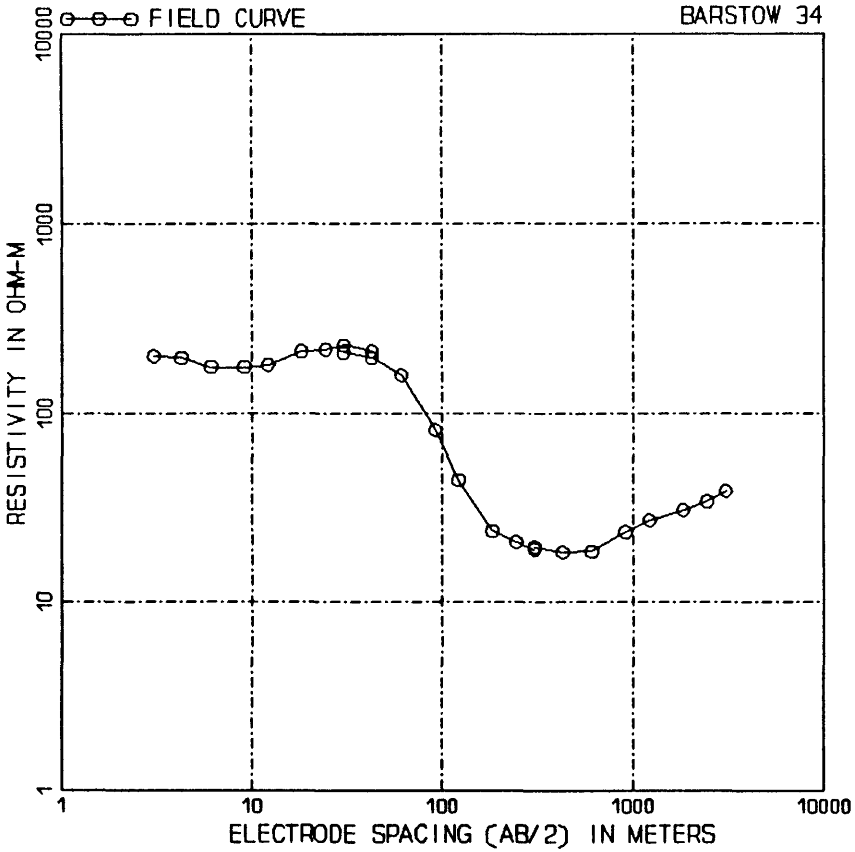
AB/2, m (	ft)	App. Res.
3.05 (	10.00)	183.00
4.27 (	14.00)	176.00
6.10 (	20.00)	182.00
9.14 (	30.00)	202.00
12.19 (	40.00)	212.00
18.29 (	60.00)	207.00
24.38 (	80.00)	185.00
30.48 (	100.00)	180.00
30.48 (	100.00)	170.00
42.67 (	140.00)	168.00
60.96 (	200.00)	105.00
91.44 (	300.00)	38.00

AB/2, m (	ft)	App. Res.
121.92 (	400.00)	23.20
182.88 (	600.00)	15.50
243.84 (	800.00)	14.00
304.80 (	1000.00)	15.00
426.72 (	1400.00)	16.50
304.80 (	1000.00)	17.50
426.72 (	1400.00)	20.00
609.60 (	2000.00)	23.00
914.40 (	3000.00)	27.00
1219.20 (	4000.00)	26.00
1828.80 (	6000.00)	30.00
2438.40 (	8000.00)	30.00
3048.00 (	10000.00)	35.50

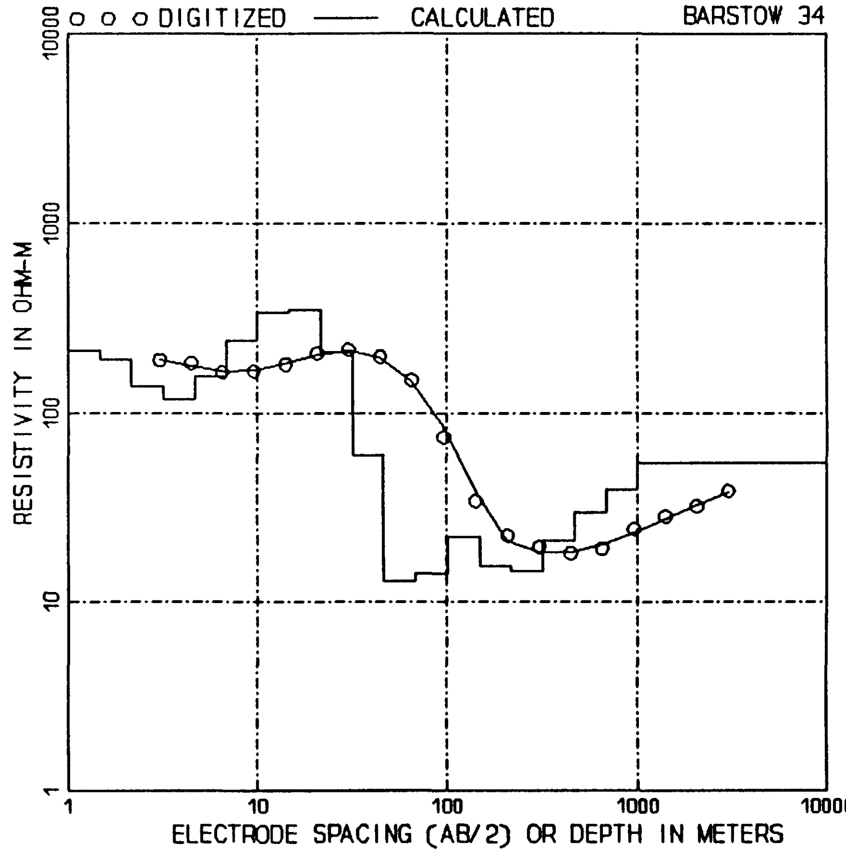


DEPTH, m (	ft)	RESIS.
1.48 (	4.86)	202.92
2.17 (	7.13)	196.73
3.19 (	10.47)	211.12
4.68 (	15.37)	237.78
6.88 (	22.56)	259.22
10.09 (	33.11)	273.84
14.81 (	48.60)	282.63
21.74 (	71.34)	247.77
31.91 (	104.71)	144.04

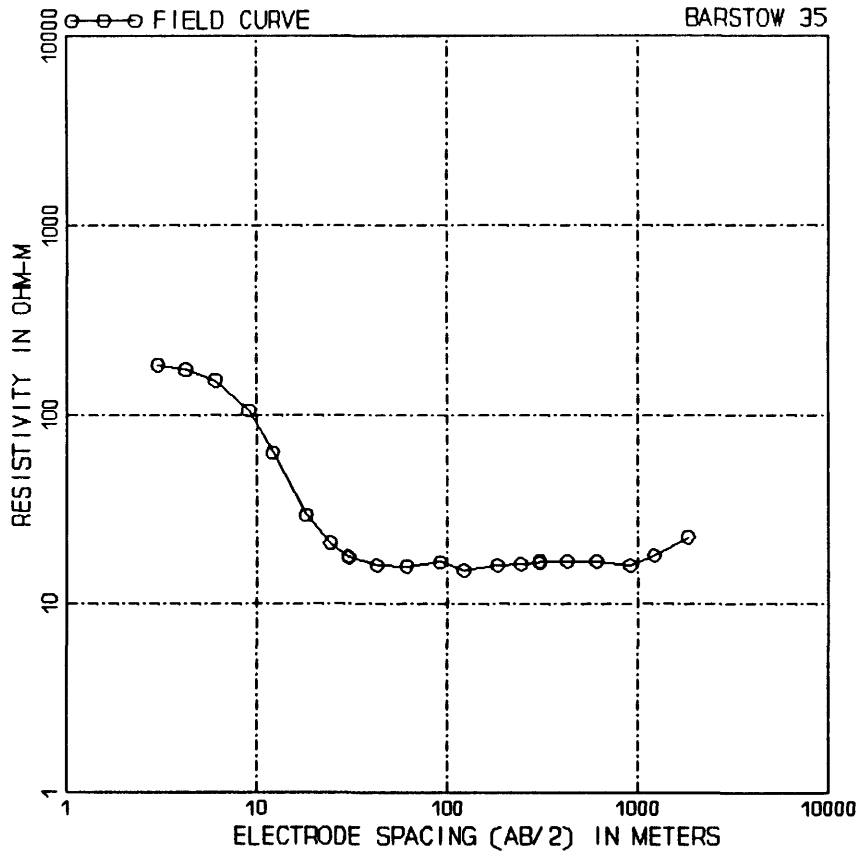
DEPTH, m (	ft)	RESIS.
46.84 (	153.69)	49.11
68.76 (	225.58)	15.92
100.92 (	331.11)	12.24
148.13 (	486.00)	14.94
217.43 (	713.35)	19.18
319.14 (	1047.06)	23.41
468.44 (	1536.87)	26.40
687.57 (	2255.81)	29.10
1009.22 (	3311.08)	33.64
99999.00 (	99999.00)	40.68



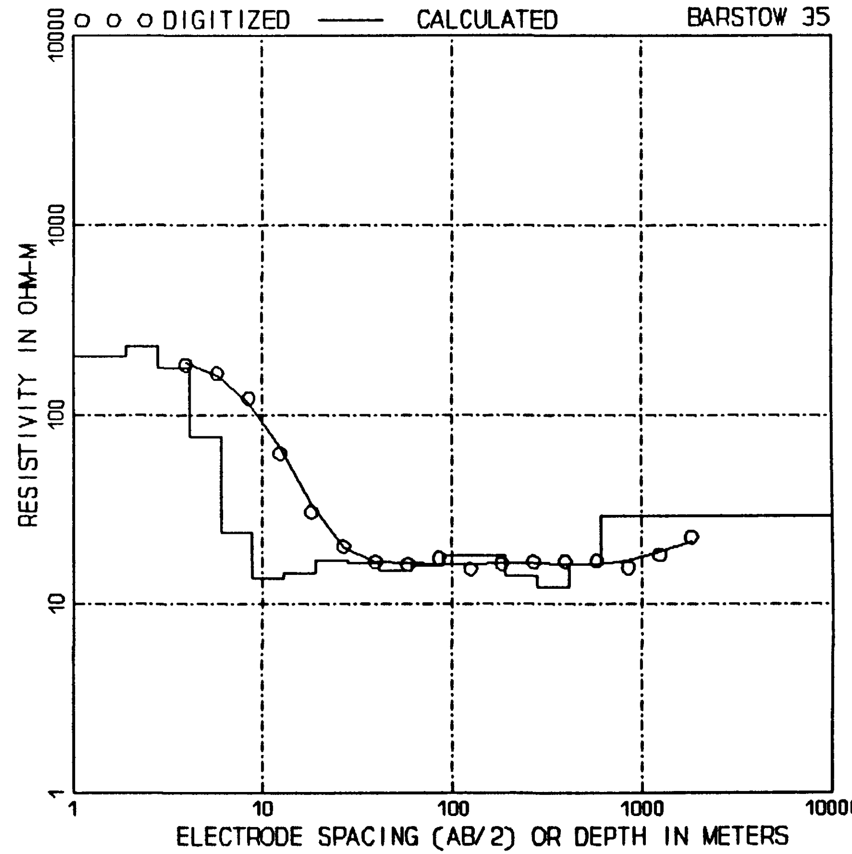
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	200.00	91.44	(300.00)	81.00
4.27	(14.00)	195.00	121.92	(400.00)	44.00
6.10	(20.00)	175.00	182.88	(600.00)	23.70
9.14	(30.00)	175.00	243.84	(800.00)	20.80
12.19	(40.00)	180.00	304.80	(1000.00)	19.00
18.29	(60.00)	212.00	304.80	(1000.00)	19.60
24.38	(80.00)	217.00	426.72	(1400.00)	18.30
30.48	(100.00)	228.00	609.60	(2000.00)	18.50
42.67	(140.00)	212.00	914.40	(3000.00)	23.40
30.48	(100.00)	208.00	1219.20	(4000.00)	27.00
42.67	(140.00)	195.00	1828.80	(6000.00)	30.50
60.96	(200.00)	158.00	2438.40	(8000.00)	34.00
			3048.00	(10000.00)	38.50



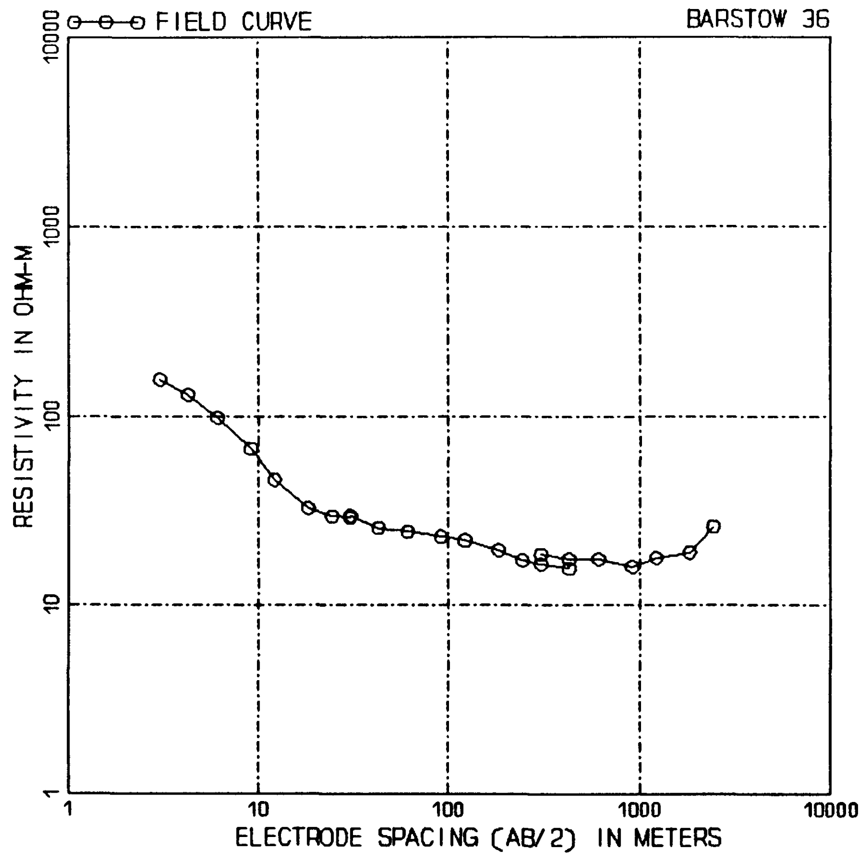
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	211.39	46.84	(153.69)	59.17
2.17	(7.13)	189.18	68.76	(225.58)	12.80
3.19	(10.47)	137.21	100.92	(331.11)	14.03
4.68	(15.37)	118.77	148.13	(486.00)	22.07
6.88	(22.56)	154.71	217.43	(713.35)	15.39
10.09	(33.11)	241.46	319.14	(1047.06)	14.53
14.81	(48.60)	338.13	468.44	(1536.87)	20.93
21.74	(71.34)	348.79	687.57	(2255.81)	29.58
31.91	(104.71)	209.53	1009.22	(3311.08)	39.42
			99999.00	(99999.00)	54.71

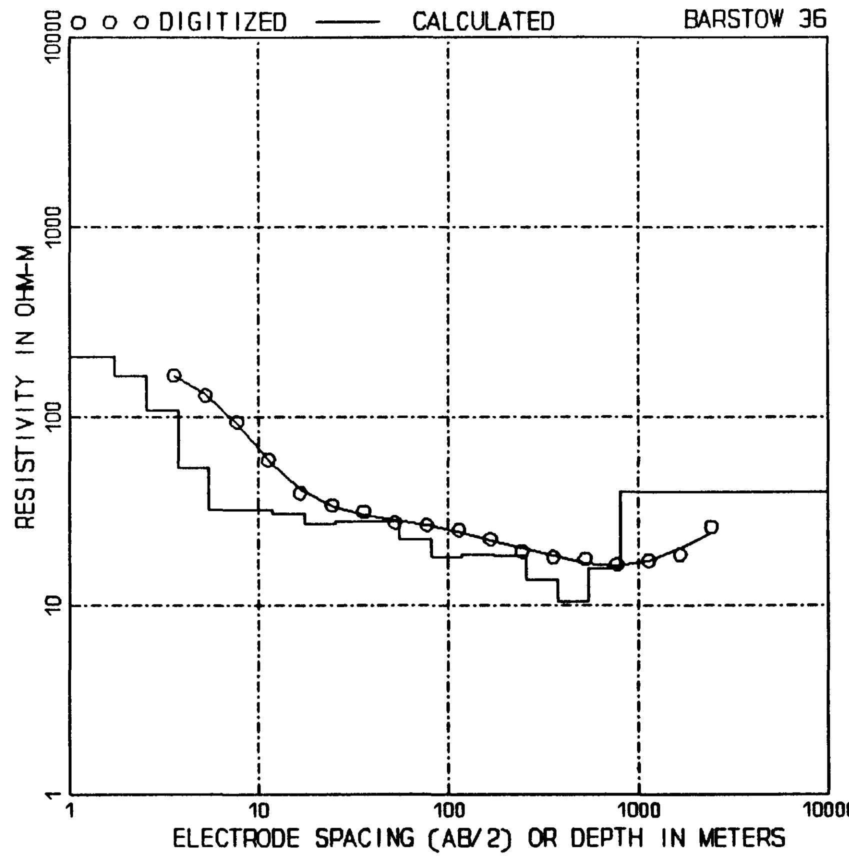


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	183.00	91.44	(300.00)	16.60
4.27	(14.00)	173.00	121.92	(400.00)	15.00
6.10	(20.00)	152.00	182.88	(600.00)	16.00
9.14	(30.00)	105.00	243.84	(800.00)	16.20
12.19	(40.00)	63.00	304.80	(1000.00)	16.50
18.29	(60.00)	29.50	304.80	(1000.00)	16.80
24.38	(80.00)	21.00	426.72	(1400.00)	16.80
30.48	(100.00)	17.50	609.60	(2000.00)	16.80
30.48	(100.00)	17.80	914.40	(3000.00)	16.00
42.67	(140.00)	16.00	1219.20	(4000.00)	18.00
60.96	(200.00)	15.80	1828.80	(6000.00)	22.60



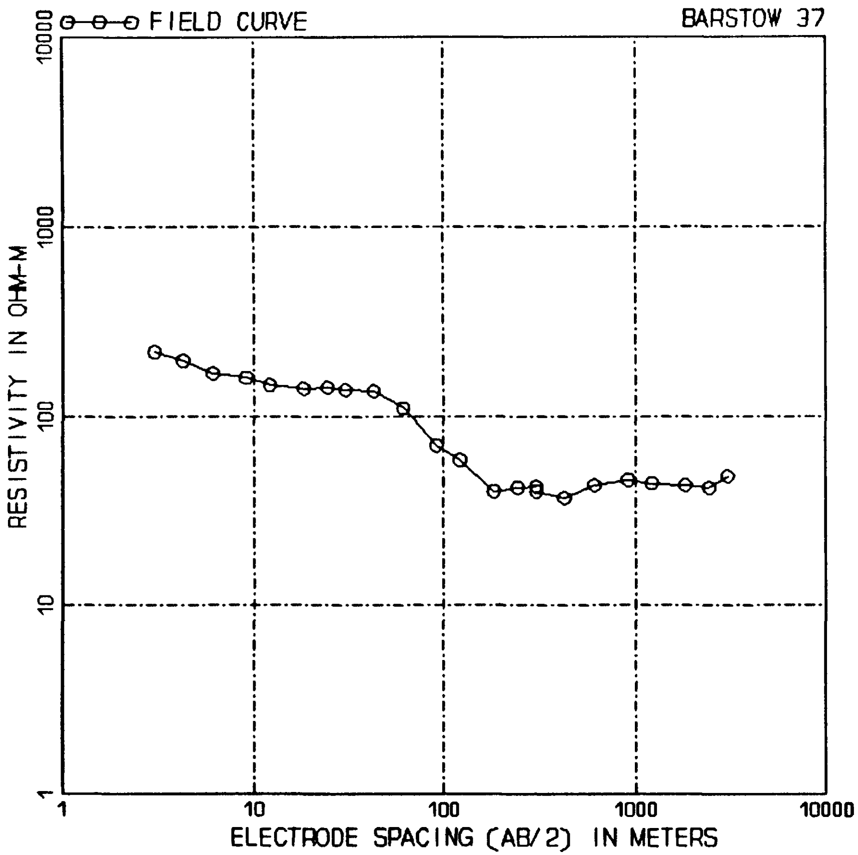
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	202.59	41.25	(135.35)	16.54
2.81	(9.22)	229.38	60.55	(198.66)	15.04
4.13	(13.53)	176.95	88.88	(291.60)	15.87
6.06	(19.87)	76.16	130.46	(428.01)	18.19
8.89	(29.16)	23.85	191.49	(628.23)	18.03
13.05	(42.80)	13.66	281.06	(922.12)	14.20
19.15	(62.82)	14.57	412.54	(1353.49)	12.17
28.11	(92.21)	16.87	605.53	(1986.65)	16.29
			99999.00	(99999.00)	29.32

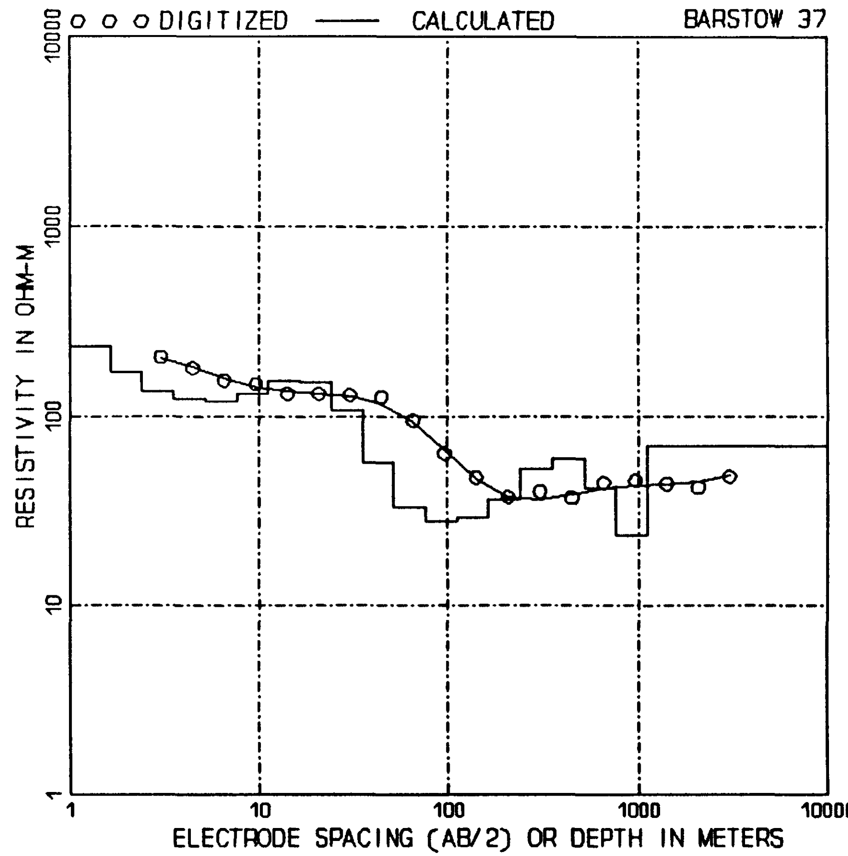




AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	156.00	121.92 (	400.00)	22.00
4.27 (	14.00)	130.00	182.88 (	600.00)	19.50
6.10 (	20.00)	98.00	243.84 (	800.00)	17.20
9.14 (	30.00)	67.00	304.80 (	1000.00)	16.50
12.19 (	40.00)	46.00	426.72 (	1400.00)	15.60
18.29 (	60.00)	32.50	304.80 (	1000.00)	18.50
24.38 (	80.00)	29.50	426.72 (	1400.00)	17.50
30.48 (	100.00)	29.00	609.60 (	2000.00)	17.50
30.48 (	100.00)	29.70	914.40 (	3000.00)	16.00
42.67 (	140.00)	25.60	1219.20 (	4000.00)	17.80
60.96 (	200.00)	24.50	1828.80 (	6000.00)	19.00
91.44 (	300.00)	23.00	2438.40 (	8000.00)	26.00

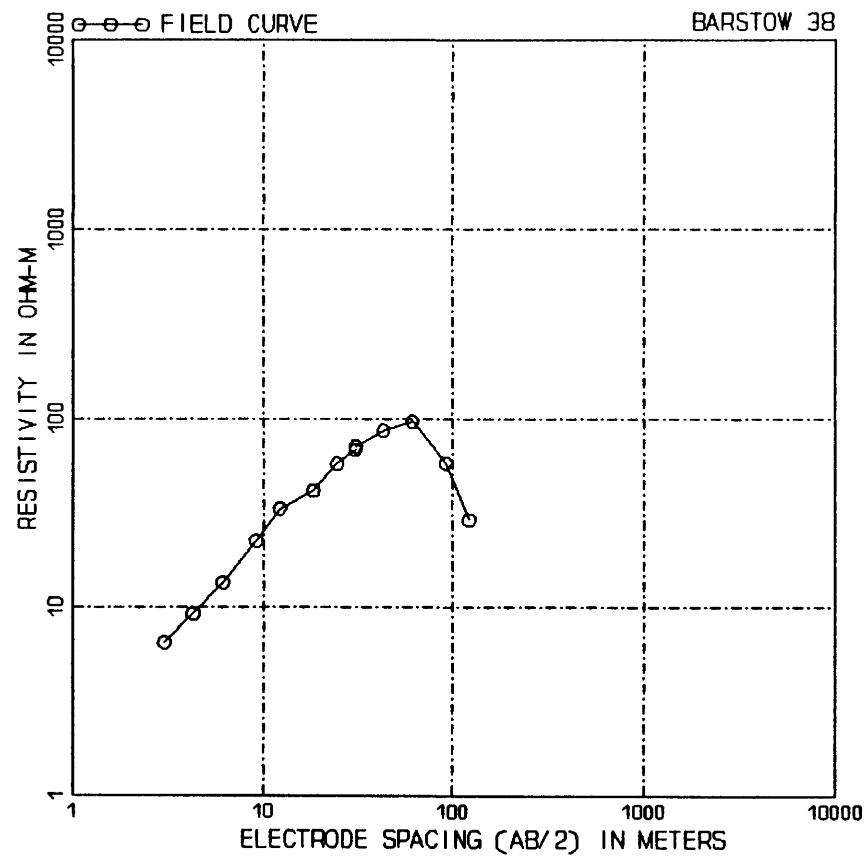
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.74 (	5.71)	204.72	55.01 (	180.46)	27.91
2.55 (	8.38)	162.23	80.74 (	264.89)	22.52
3.75 (	12.29)	107.32	118.51 (	388.80)	18.15
5.50 (	18.05)	53.85	173.94 (	570.68)	18.53
8.07 (	26.49)	32.11	255.31 (	837.64)	18.46
11.85 (	38.88)	32.09	374.75 (	1229.49)	13.56
17.39 (	57.07)	30.50	550.06 (	1804.65)	10.55
25.53 (	83.76)	26.95	807.37 (	2648.86)	15.68
37.47 (	122.95)	27.90	99999.00	(99999.00)	39.88



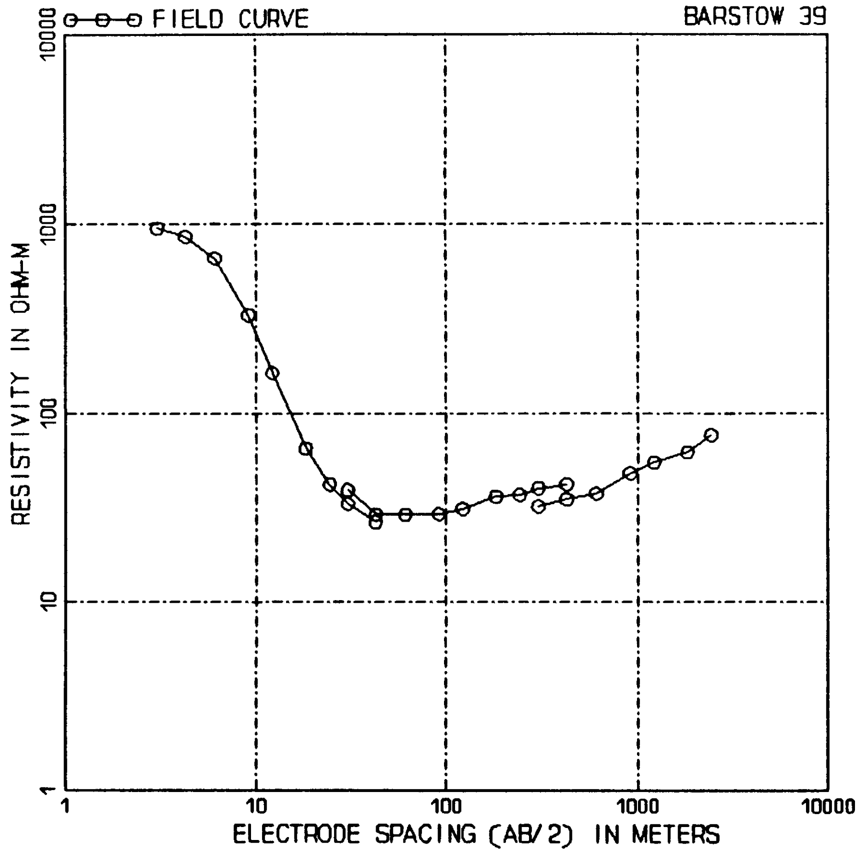


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	10.00	218.00	121.92	400.00	58.50
4.27	14.00	196.00	182.88	600.00	40.00
6.10	20.00	168.00	243.84	800.00	42.00
9.14	30.00	160.00	304.80	1000.00	42.50
12.19	40.00	146.00	304.80	1000.00	40.00
18.29	60.00	140.00	426.72	1400.00	37.00
24.38	80.00	142.00	609.60	2000.00	43.00
30.48	100.00	138.00	914.40	3000.00	46.00
30.48	100.00	137.50	1219.20	4000.00	44.00
42.67	140.00	136.00	1828.80	6000.00	43.00
60.96	200.00	110.00	2438.40	8000.00	41.80
91.44	300.00	70.00	3048.00	10000.00	48.00

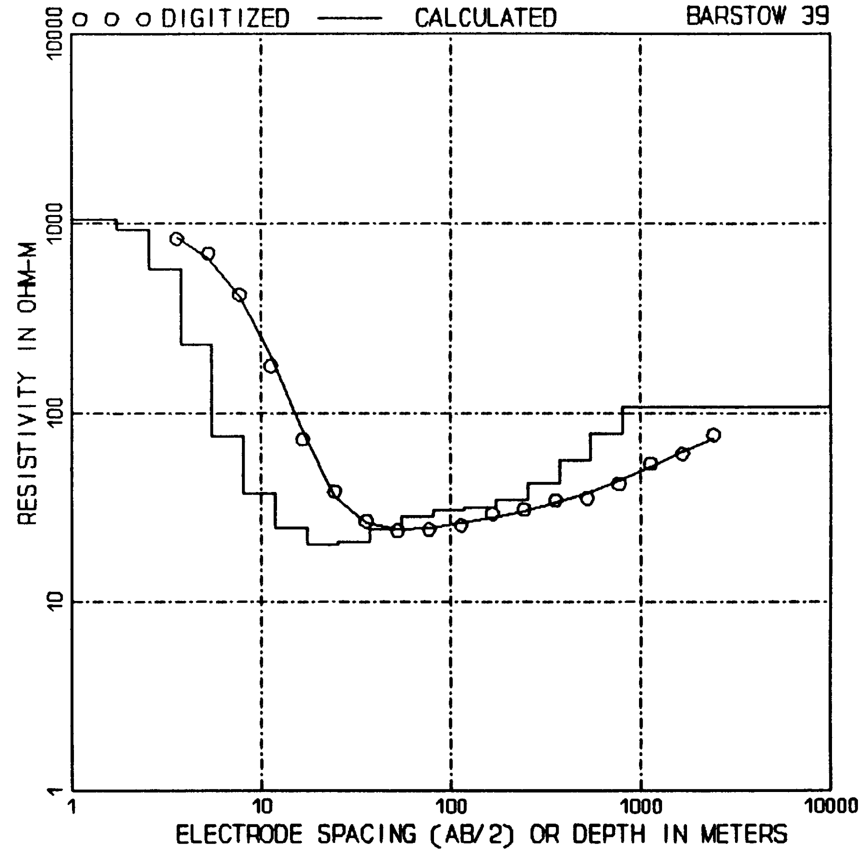
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.65	5.40	234.52	52.05	170.76	57.11
2.42	7.93	169.87	76.40	250.65	33.12
3.55	11.63	135.03	112.14	367.90	27.89
5.20	17.08	123.87	164.59	540.00	28.98
7.64	25.06	119.43	241.59	792.61	36.38
11.21	36.79	130.88	354.60	1163.40	52.25
16.46	54.00	152.38	520.49	1707.63	59.37
24.16	79.26	150.26	763.97	2506.46	41.65
35.46	116.34	107.26	1121.35	3678.98	23.51
			99999.00	99999.00	70.00



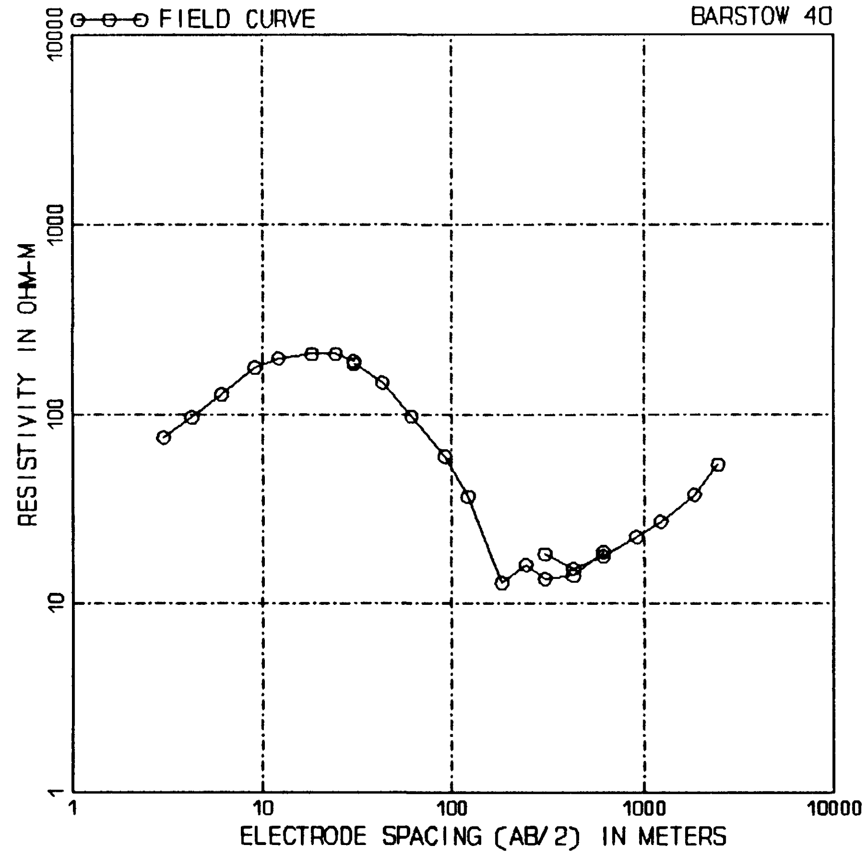
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	6.50	24.38 (	80.00)	57.50
4.27 (	14.00)	9.20	30.48 (	100.00)	68.00
6.10 (	20.00)	13.50	30.48 (	100.00)	71.00
9.14 (	30.00)	22.50	42.67 (	140.00)	86.00
12.19 (	40.00)	33.20	60.96 (	200.00)	96.00
18.29 (	60.00)	41.50	91.44 (	300.00)	58.00
			121.92 (	400.00)	29.00

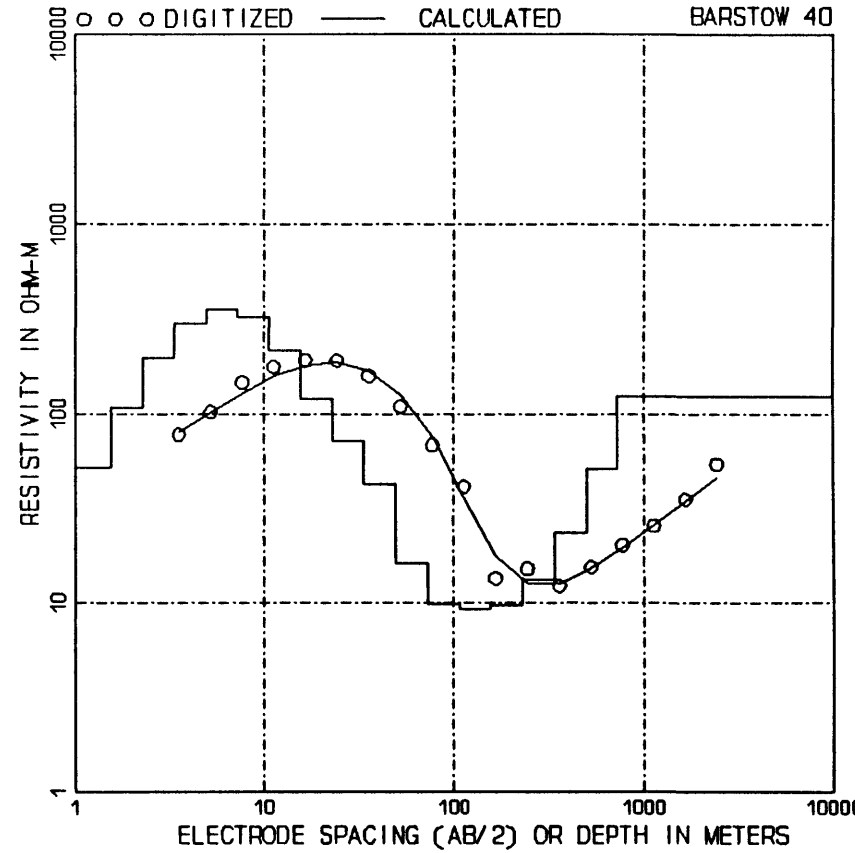


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	950.00	91.44	(300.00)	29.20
4.27	(14.00)	860.00	121.92	(400.00)	31.20
6.10	(20.00)	660.00	182.88	(600.00)	36.00
9.14	(30.00)	330.00	243.84	(800.00)	37.00
12.19	(40.00)	163.00	304.80	(1000.00)	40.00
18.29	(60.00)	65.00	426.72	(1400.00)	42.00
24.38	(80.00)	42.00	304.80	(1000.00)	32.00
30.48	(100.00)	33.00	426.72	(1400.00)	35.00
42.67	(140.00)	26.50	609.60	(2000.00)	37.50
30.48	(100.00)	39.00	914.40	(3000.00)	48.00
42.67	(140.00)	29.00	1219.20	(4000.00)	54.80
60.96	(200.00)	29.00	1828.80	(6000.00)	62.00
			2438.40	(8000.00)	76.50



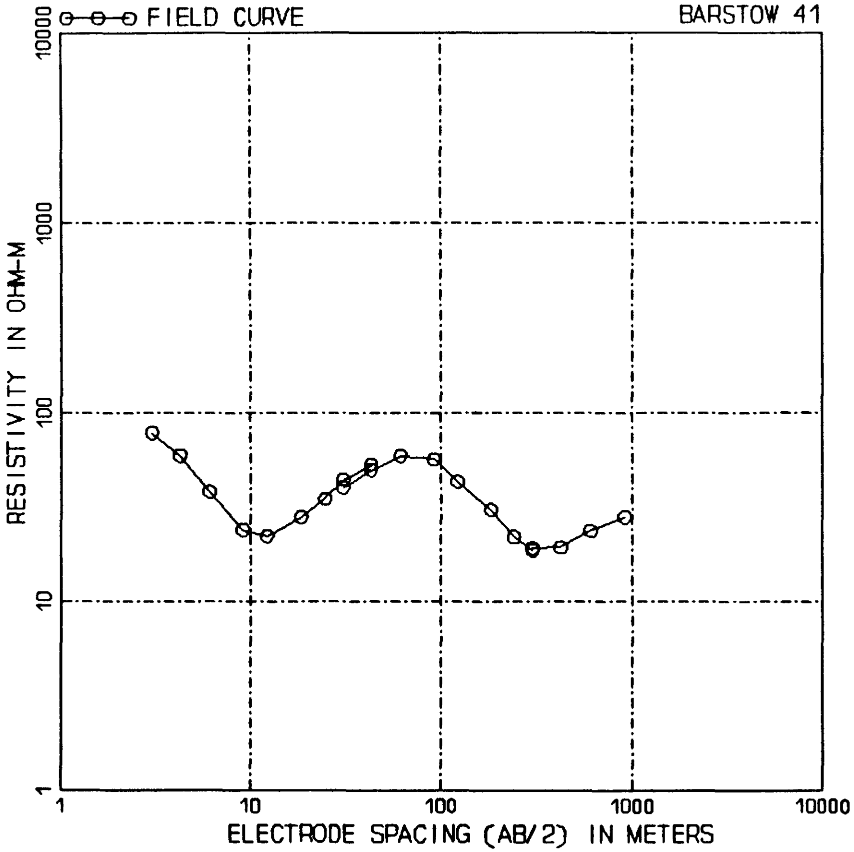
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	1051.71	55.01	(180.46)	24.35
2.55	(8.38)	925.32	80.74	(264.89)	28.24
3.75	(12.29)	575.62	118.51	(388.80)	30.63
5.50	(18.05)	228.11	173.94	(570.68)	31.69
8.07	(26.49)	75.26	255.31	(837.64)	34.38
11.85	(38.88)	37.53	374.75	(1229.49)	42.01
17.39	(57.07)	24.62	550.06	(1804.65)	55.98
25.53	(83.76)	20.18	807.37	(2648.86)	77.11
37.47	(122.95)	20.91	99999.00	(99999.00)	106.61



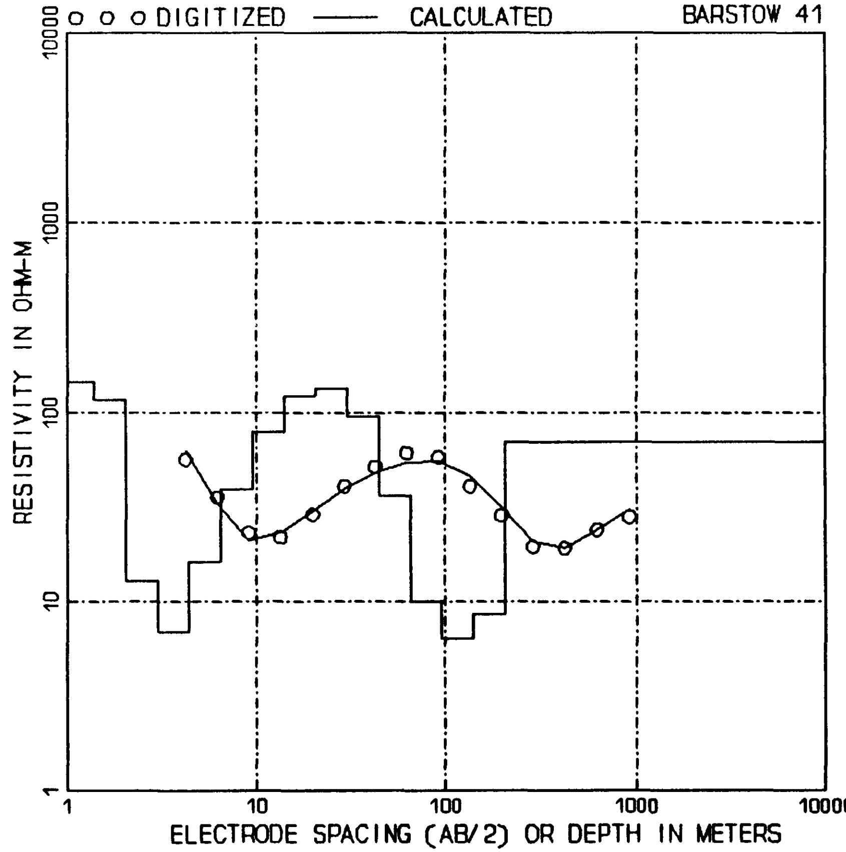


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	75.00	121.92	(400.00)	36.60
4.27	(14.00)	96.00	182.88	(600.00)	12.80
6.10	(20.00)	127.00	243.84	(800.00)	16.00
9.14	(30.00)	176.00	304.80	(1000.00)	13.50
12.19	(40.00)	197.00	426.72	(1400.00)	14.00
18.29	(60.00)	208.00	609.60	(2000.00)	18.70
24.38	(80.00)	208.00	304.80	(1000.00)	18.20
30.48	(100.00)	190.00	426.72	(1400.00)	15.20
30.48	(100.00)	184.00	609.60	(2000.00)	17.70
42.67	(140.00)	147.00	914.40	(3000.00)	22.50
60.96	(200.00)	97.00	1219.20	(4000.00)	27.00
91.44	(300.00)	60.00	1828.80	(6000.00)	37.50
			2438.40	(8000.00)	54.00

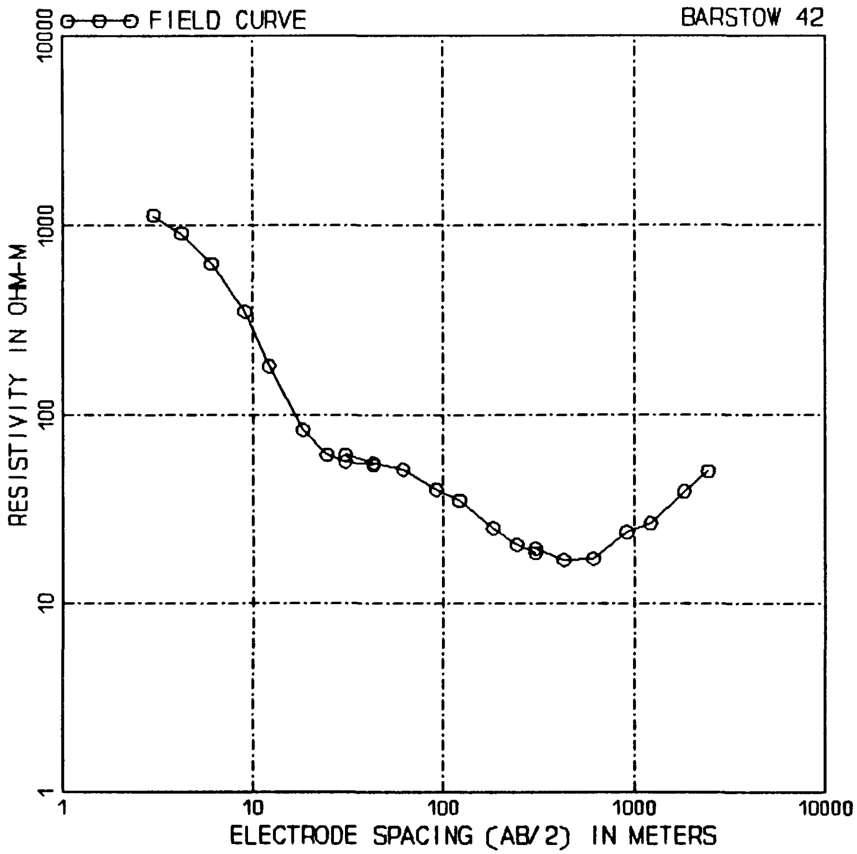
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.57	(5.14)	51.90	49.51	(162.42)	42.38
2.30	(7.54)	107.01	72.66	(238.40)	16.16
3.37	(11.07)	197.74	106.66	(349.92)	9.91
4.95	(16.24)	299.28	156.55	(513.61)	9.20
7.27	(23.84)	356.93	229.78	(753.88)	9.63
10.67	(34.99)	320.90	337.27	(1106.54)	13.25
15.65	(51.36)	214.71	495.05	(1624.19)	23.38
22.98	(75.39)	120.43	726.64	(2383.98)	50.70
33.73	(110.65)	72.11	99999.00	(99999.00)	123.92



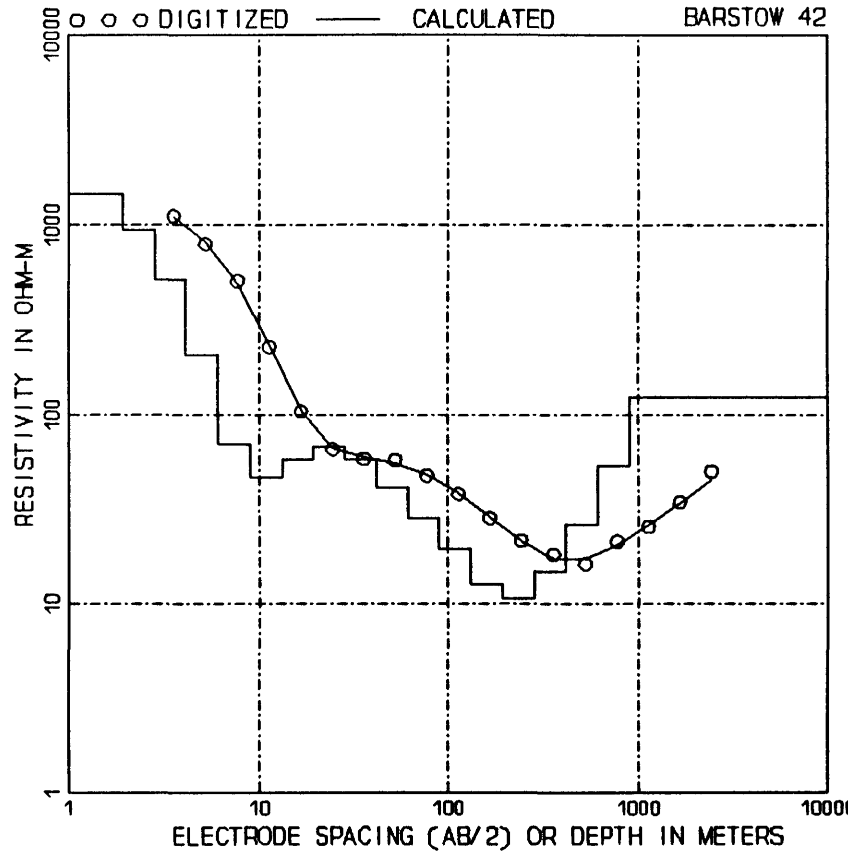
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	78.00	42.67 (	140.00)	49.80
4.27 (	14.00)	59.00	60.96 (	200.00)	59.00
6.10 (	20.00)	38.00	91.44 (	300.00)	56.50
9.14 (	30.00)	24.00	121.92 (	400.00)	43.00
12.19 (	40.00)	22.20	182.88 (	600.00)	30.50
18.29 (	60.00)	28.00	243.84 (	800.00)	22.00
24.38 (	80.00)	35.00	304.80 (	1000.00)	18.70
30.48 (	100.00)	44.00	304.80 (	1000.00)	19.20
42.67 (	140.00)	53.00	426.72 (	1400.00)	19.40
30.48 (	100.00)	40.00	609.60 (	2000.00)	23.70
			914.40 (	3000.00)	28.00



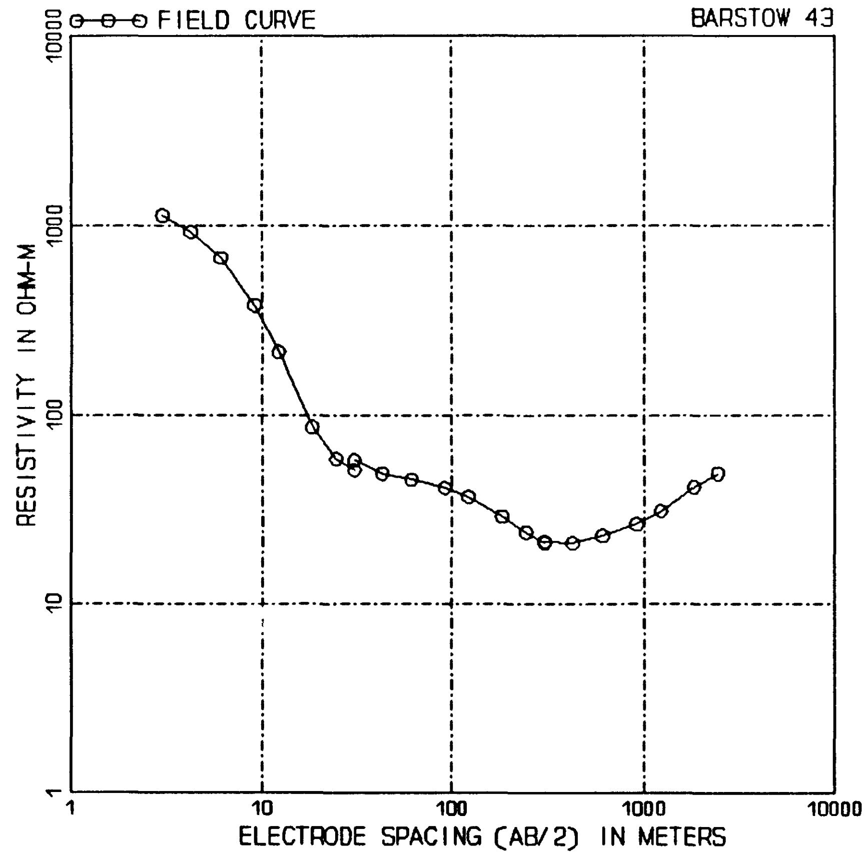
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.40 (	4.60)	143.83	20.56 (	67.45)	121.50
2.06 (	6.74)	115.41	30.18 (	99.00)	134.02
3.02 (	9.90)	12.77	44.29 (	145.31)	94.68
4.43 (	14.53)	6.93	65.01 (	213.29)	36.30
6.50 (	21.33)	16.07	95.42 (	313.07)	9.97
9.54 (	31.31)	39.15	140.06 (	459.52)	6.34
14.01 (	45.95)	78.91	205.58 (	674.48)	8.53
			99999.00 (	99999.00)	70.00

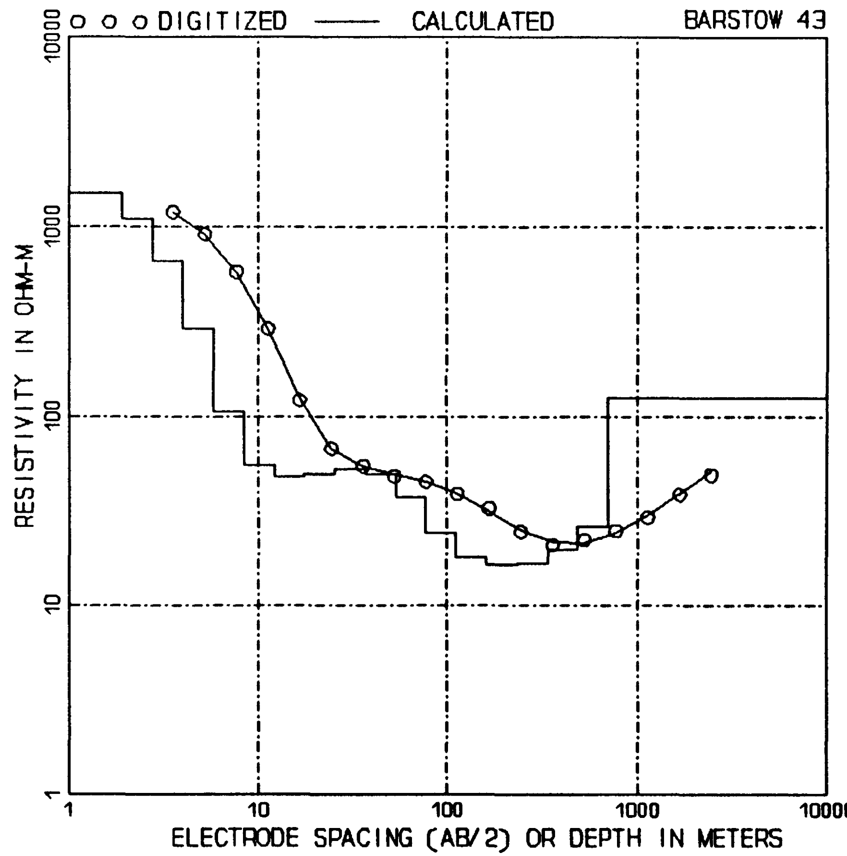


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	1125.00	91.44 (	300.00)	40.00
4.27 (	14.00)	906.00	121.92 (	400.00)	35.00
6.10 (	20.00)	625.00	182.88 (	600.00)	25.00
9.14 (	30.00)	350.00	243.84 (	800.00)	20.50
12.19 (	40.00)	180.00	304.80 (	1000.00)	18.50
18.29 (	60.00)	82.50	304.80 (	1000.00)	19.50
24.38 (	80.00)	61.00	426.72 (	1400.00)	17.00
30.48 (	100.00)	56.00	609.60 (	2000.00)	17.20
42.67 (	140.00)	54.00	914.40 (	3000.00)	23.80
30.48 (	100.00)	61.00	1219.20 (	4000.00)	26.50
42.67 (	140.00)	55.00	1828.80 (	6000.00)	39.00
60.96 (	200.00)	51.00	2438.40 (	8000.00)	50.00



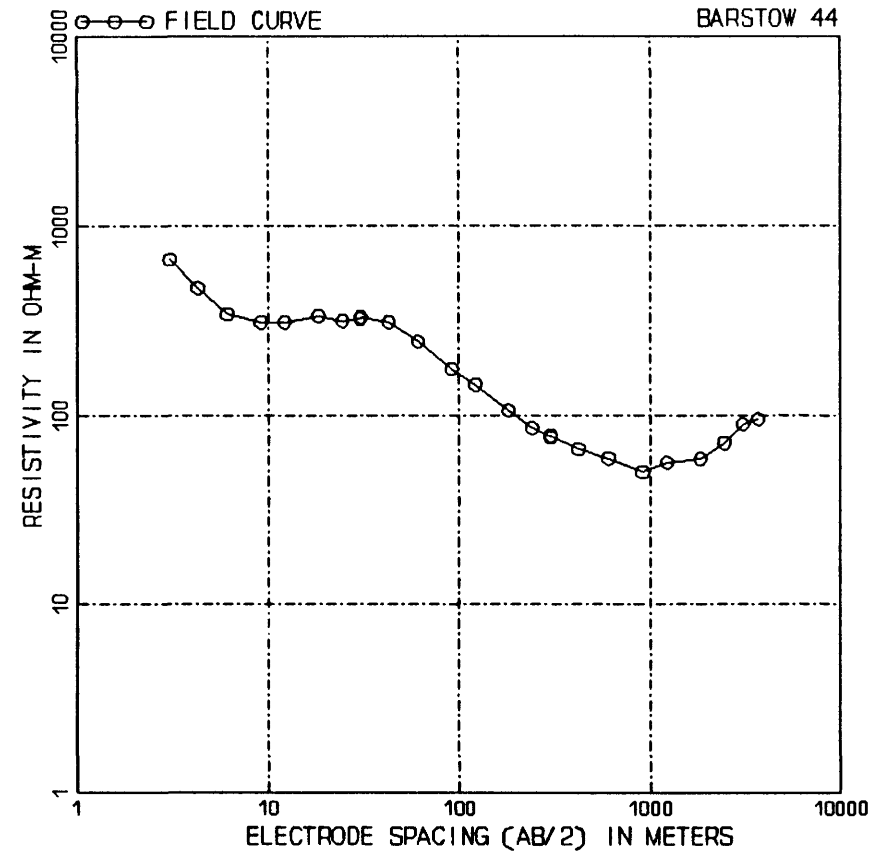
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	1447.06	61.12 (	200.52)	41.29
2.84 (	9.31)	943.05	89.71 (	294.32)	28.26
4.16 (	13.66)	513.59	131.67 (	432.00)	19.56
6.11 (	20.05)	205.68	193.27 (	634.09)	12.67
8.97 (	29.43)	70.11	283.68 (	930.72)	10.62
13.17 (	43.20)	46.38	416.39 (	1366.10)	14.74
19.33 (	63.41)	57.93	611.17 (	2005.17)	26.05
28.37 (	93.07)	67.15	897.08 (	2943.18)	53.73
41.64 (	136.61)	58.11	99999.00 (	99999.00)	124.27



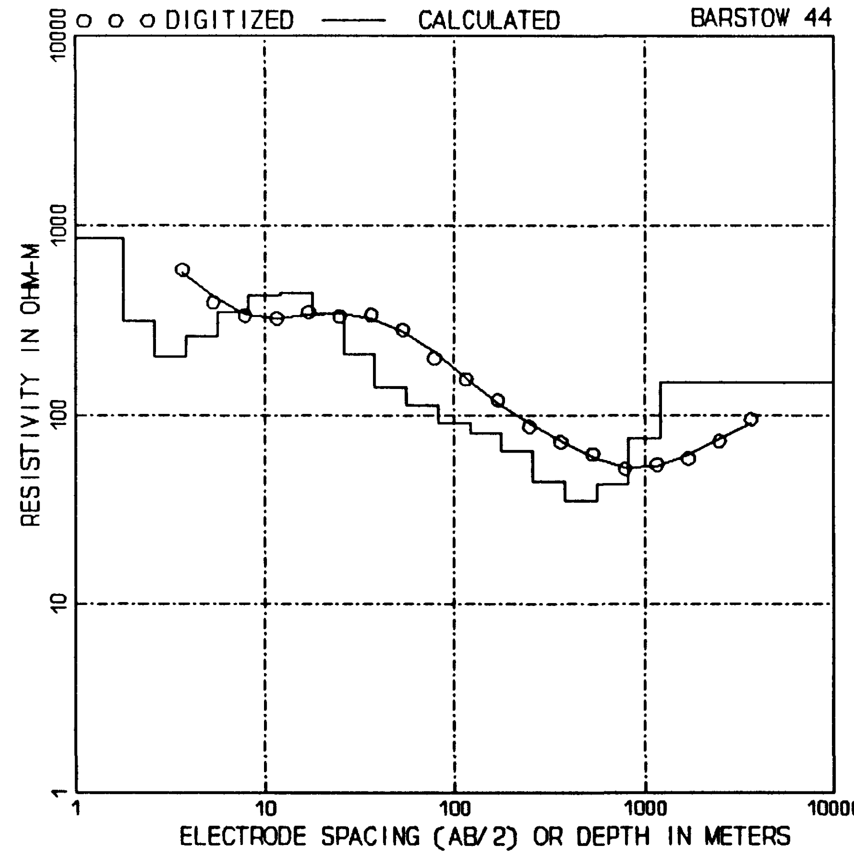


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	1130.00	91.44 (	300.00)	41.00
4.27 (	14.00)	930.00	121.92 (	400.00)	37.00
6.10 (	20.00)	675.00	182.88 (	600.00)	29.00
9.14 (	30.00)	380.00	243.84 (	800.00)	24.00
12.19 (	40.00)	215.00	304.80 (	1000.00)	21.00
18.29 (	60.00)	86.00	304.80 (	1000.00)	21.50
24.38 (	80.00)	58.50	426.72 (	1400.00)	21.00
30.48 (	100.00)	51.00	609.60 (	2000.00)	23.00
30.48 (	100.00)	57.50	914.40 (	3000.00)	26.50
42.67 (	140.00)	49.00	1219.20 (	4000.00)	31.00
60.96 (	200.00)	45.50	1828.80 (	6000.00)	41.60
			2438.40 (	8000.00)	49.00

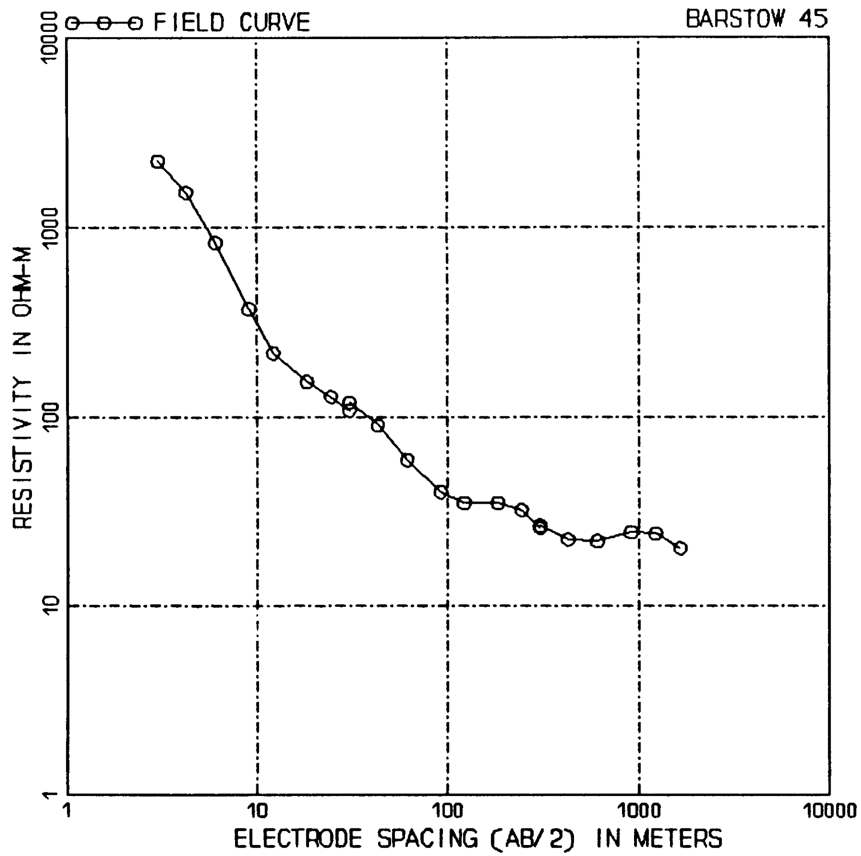
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	1498.90	53.23 (	174.64)	49.76
2.79 (	9.17)	1105.33	76.94 (	252.44)	37.66
4.04 (	13.25)	655.78	111.22 (	364.88)	24.40
5.84 (	19.15)	290.29	160.76 (	527.41)	18.09
8.44 (	27.68)	105.11	232.36 (	762.34)	16.36
12.19 (	40.01)	54.79	335.87 (	1101.92)	16.59
17.63 (	57.83)	47.90	485.47 (	1592.76)	19.69
25.48 (	83.59)	49.29	701.72 (	2302.24)	26.19
36.83 (	120.82)	52.24	99999.00 (	99999.00)	125.00



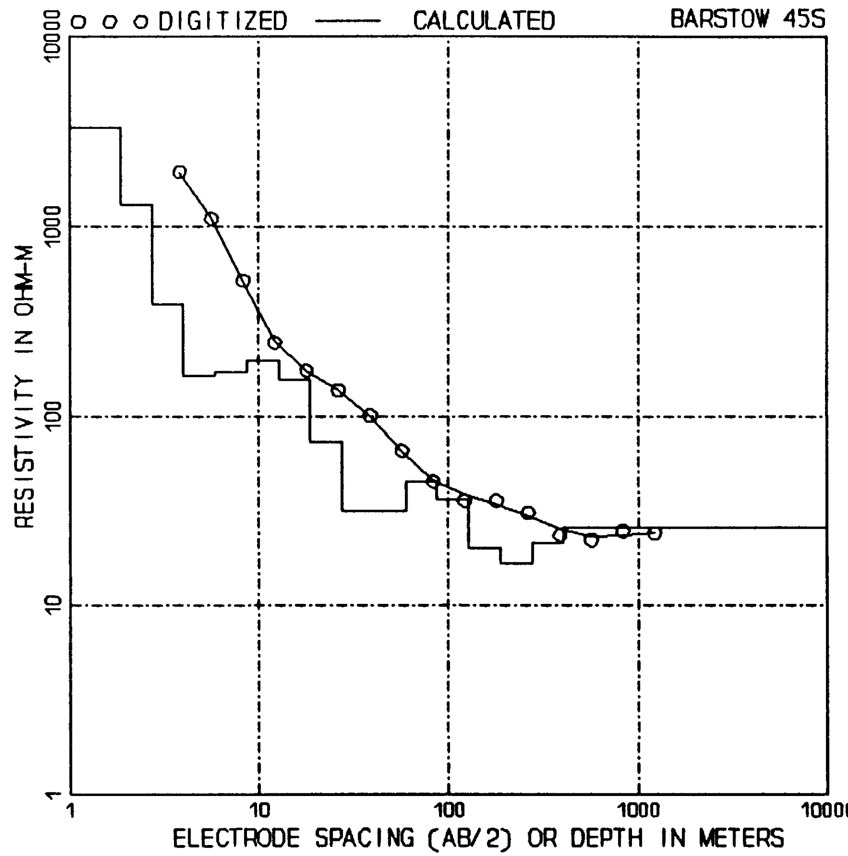
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	665.00	121.92 (	400.00)	145.00
4.27 (	14.00)	470.00	182.88 (	600.00)	106.00
6.10 (	20.00)	342.00	243.84 (	800.00)	85.00
9.14 (	30.00)	310.00	304.80 (	1000.00)	76.00
12.19 (	40.00)	310.00	304.80 (	1000.00)	78.00
18.29 (	60.00)	335.00	426.72 (	1400.00)	66.00
24.38 (	80.00)	315.00	609.60 (	2000.00)	59.00
30.48 (	100.00)	322.00	914.40 (	3000.00)	50.00
30.48 (	100.00)	330.00	1219.20 (	4000.00)	56.00
42.67 (	140.00)	310.00	1828.80 (	6000.00)	58.50
60.96 (	200.00)	245.00	2438.40 (	8000.00)	71.20
91.44 (	300.00)	175.00	3048.00 (	10000.00)	89.20
			3657.60 (	12000.00)	95.00



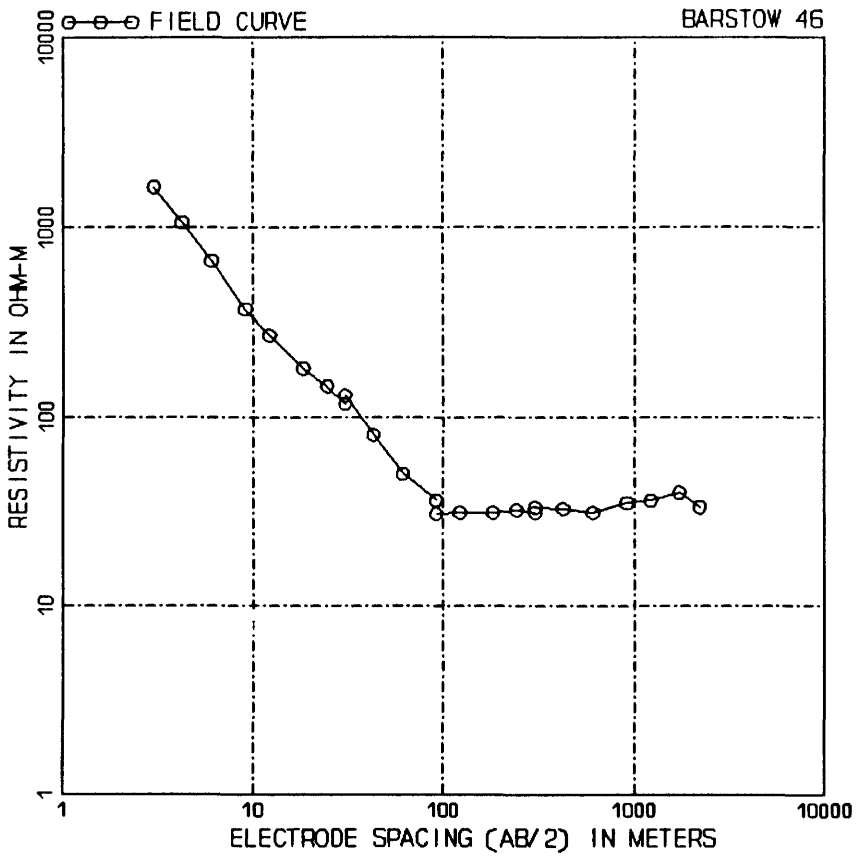
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.78 (	5.83)	861.57	56.21 (	184.42)	140.90
2.61 (	8.56)	311.77	82.51 (	270.70)	111.92
3.83 (	12.56)	203.18	121.11 (	397.33)	90.92
5.62 (	18.44)	260.43	177.76 (	583.20)	80.59
8.25 (	27.07)	351.85	260.92 (	856.02)	64.88
12.11 (	39.73)	427.49	382.97 (	1256.47)	44.29
17.78 (	58.32)	443.92	562.12 (	1844.24)	35.21
26.09 (	85.60)	341.04	825.09 (	2706.98)	42.72
38.30 (	125.65)	208.62	1211.06 (	3973.30)	75.01
			99999.00 (	99999.00)	149.24



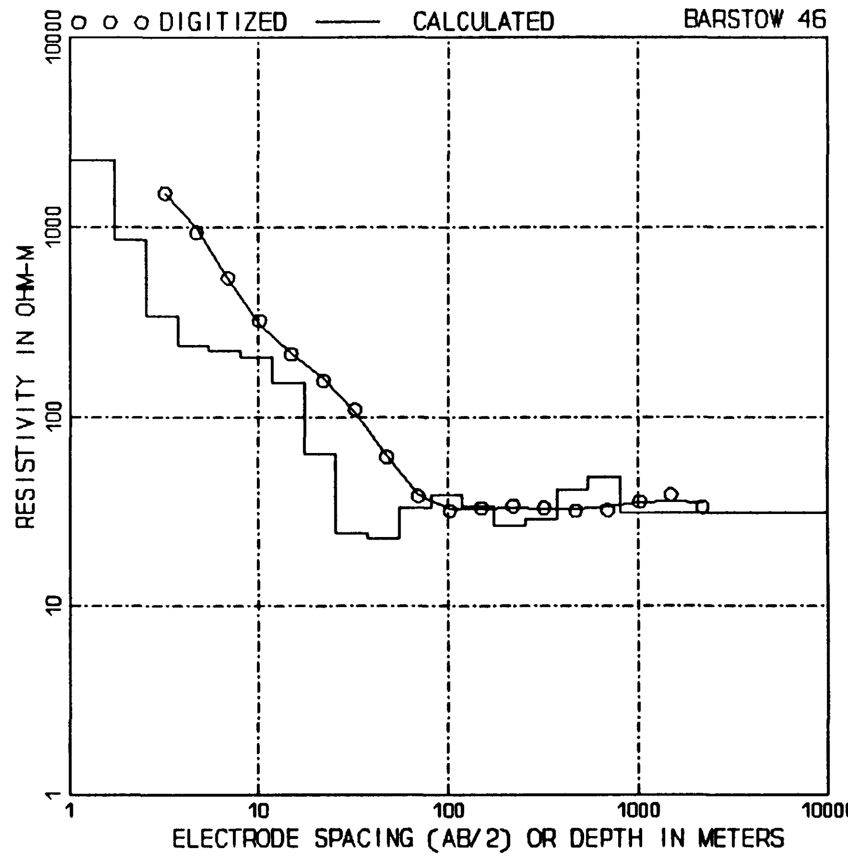
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	2230.00	91.44 (	300.00)	40.00
4.27 (	14.00)	1530.00	121.92 (	400.00)	35.00
6.10 (	20.00)	830.00	182.88 (	600.00)	35.00
9.14 (	30.00)	370.00	243.84 (	800.00)	32.10
12.19 (	40.00)	217.00	304.80 (	1000.00)	25.90
18.29 (	60.00)	153.00	304.80 (	1000.00)	26.50
24.38 (	80.00)	128.00	426.72 (	1400.00)	22.50
30.48 (	100.00)	108.00	609.60 (	2000.00)	22.00
30.48 (	100.00)	119.00	914.40 (	3000.00)	24.50
42.67 (	140.00)	90.00	1219.20 (	4000.00)	24.10
60.96 (	200.00)	59.00	1632.20 (	5355.00)	20.10



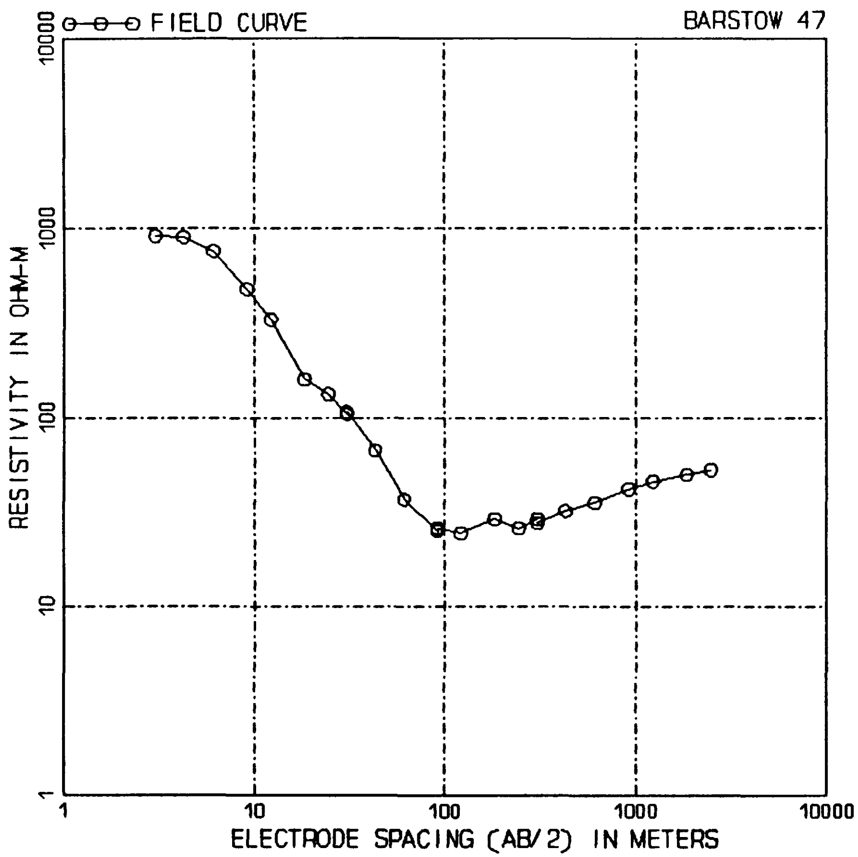
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.87 (	6.15)	3297.95	40.37 (	132.44)	31.42
2.75 (	9.02)	1314.94	59.25 (	194.40)	31.64
4.04 (	13.24)	387.80	86.97 (	285.34)	45.01
5.93 (	19.44)	163.75	127.66 (	418.82)	36.54
8.70 (	28.53)	170.54	187.37 (	614.75)	19.99
12.77 (	41.88)	196.92	275.03 (	902.33)	16.60
18.74 (	61.47)	155.97	403.69 (	1324.43)	21.58
27.50 (	90.23)	73.08	99999.00 (	99999.00)	25.66



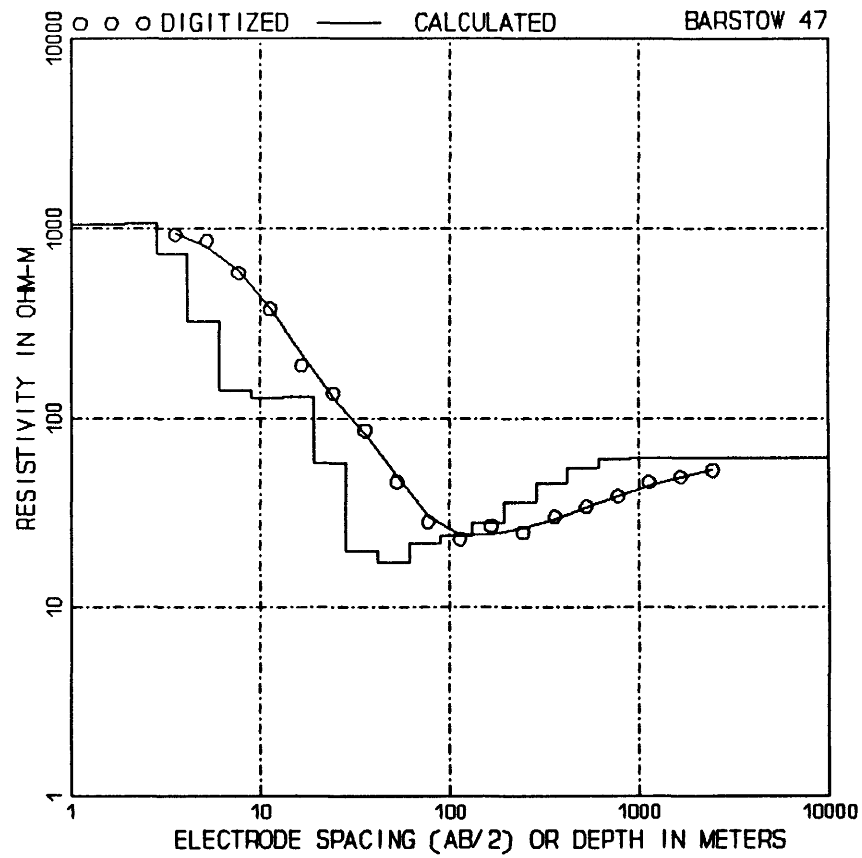
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1630.00	91.44	(300.00)	30.50
4.27	(14.00)	1060.00	121.92	(400.00)	31.00
6.10	(20.00)	665.00	182.88	(600.00)	31.00
9.14	(30.00)	368.00	243.84	(800.00)	32.00
12.19	(40.00)	268.00	304.80	(1000.00)	31.20
18.29	(60.00)	180.00	304.80	(1000.00)	33.00
24.38	(80.00)	145.00	426.72	(1400.00)	32.50
30.48	(100.00)	117.00	609.60	(2000.00)	31.00
30.48	(100.00)	130.00	914.40	(3000.00)	35.00
42.67	(140.00)	80.00	1219.20	(4000.00)	36.00
60.96	(200.00)	50.00	1711.45	(5615.00)	39.70
91.44	(300.00)	36.00	2194.56	(7200.00)	33.30



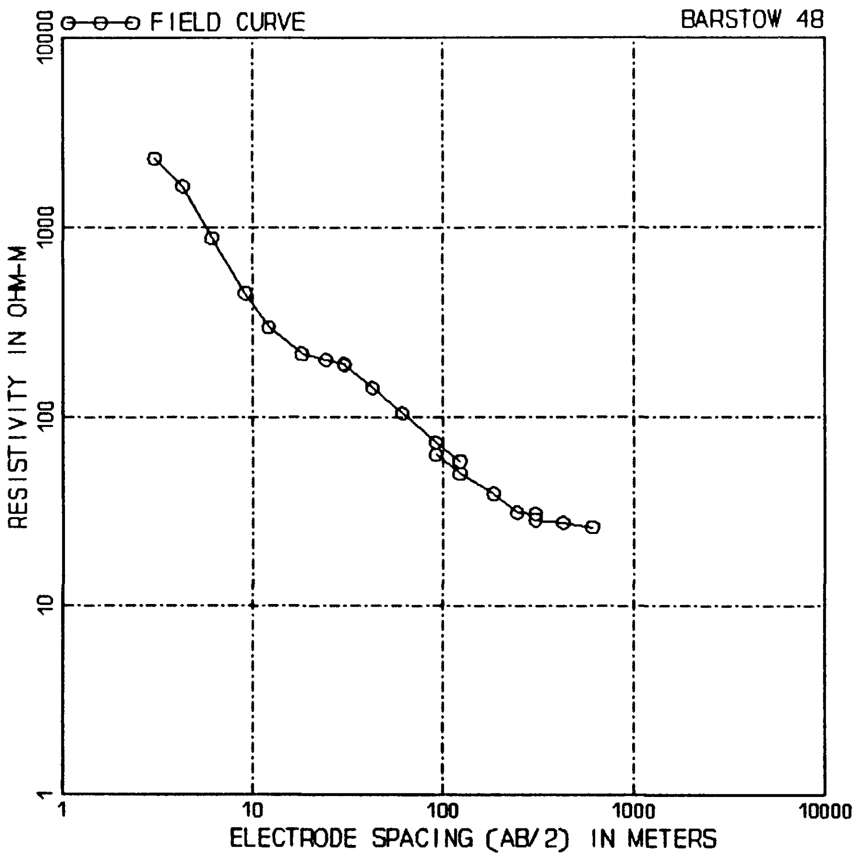
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	2257.80	55.01	(180.46)	22.68
2.55	(8.38)	857.54	80.74	(264.89)	33.08
3.75	(12.29)	338.86	118.51	(388.80)	38.77
5.50	(18.05)	237.59	173.94	(570.68)	33.42
8.07	(26.49)	224.03	255.31	(837.64)	26.62
11.85	(38.88)	206.46	374.75	(1229.49)	28.63
17.39	(57.07)	152.21	550.06	(1804.65)	41.32
25.53	(83.76)	63.77	807.37	(2648.86)	48.30
37.47	(122.95)	24.23	99999.00	(99999.00)	30.97



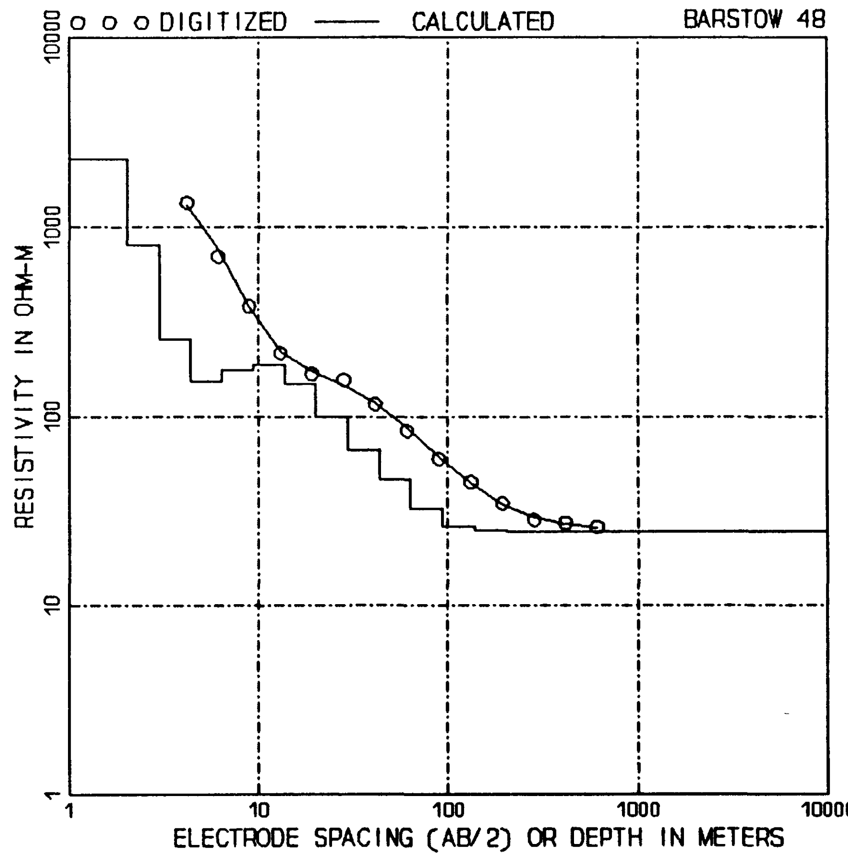
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	910.00	91.44	(300.00)	26.00
4.27	(14.00)	900.00	121.92	(400.00)	24.50
6.10	(20.00)	760.00	182.88	(600.00)	29.00
9.14	(30.00)	475.00	243.84	(800.00)	26.00
12.19	(40.00)	330.00	304.80	(1000.00)	29.00
18.29	(60.00)	160.00	304.80	(1000.00)	27.70
24.38	(80.00)	133.00	426.72	(1400.00)	32.00
30.48	(100.00)	104.00	609.60	(2000.00)	35.50
30.48	(100.00)	107.00	914.40	(3000.00)	42.00
42.67	(140.00)	67.00	1219.20	(4000.00)	46.00
60.96	(200.00)	37.00	1828.80	(6000.00)	50.00
91.44	(300.00)	25.20	2438.40	(8000.00)	52.90



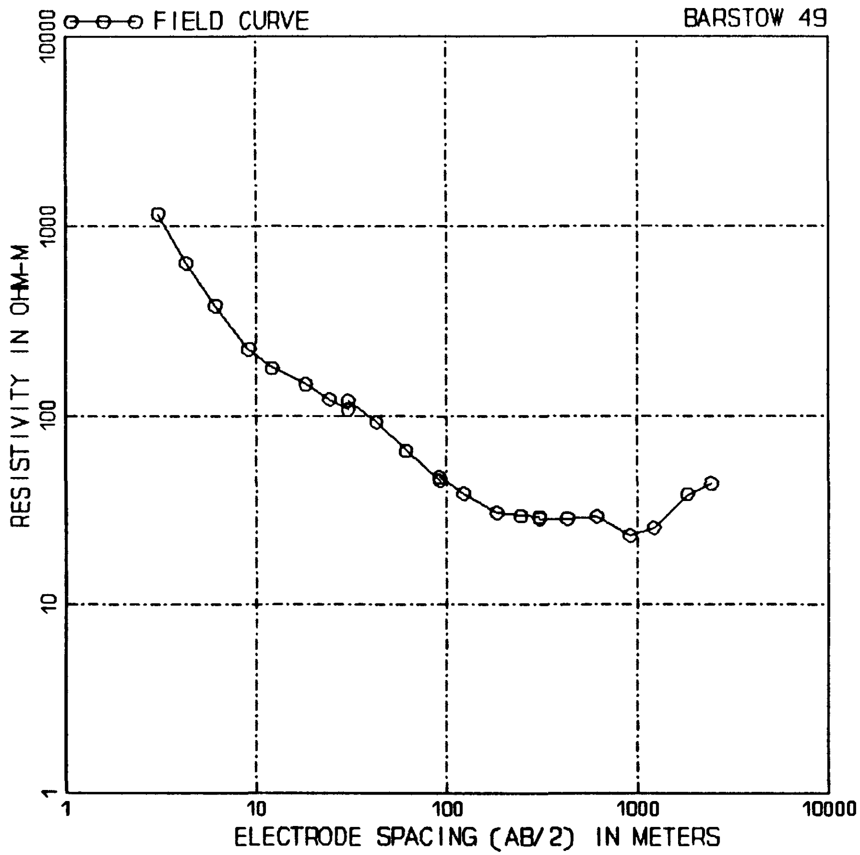
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	1045.67	61.12	(200.52)	17.18
2.84	(9.31)	1058.70	89.71	(294.32)	21.84
4.16	(13.66)	729.57	131.67	(432.00)	23.93
6.11	(20.05)	322.73	193.27	(634.09)	27.92
8.97	(29.43)	139.69	283.68	(930.72)	35.45
13.17	(43.20)	128.18	416.39	(1366.10)	45.19
19.33	(63.41)	130.19	611.17	(2005.17)	54.49
28.37	(93.07)	57.41	897.08	(2943.18)	60.03
41.64	(136.61)	19.72	99999.00	(99999.00)	61.61



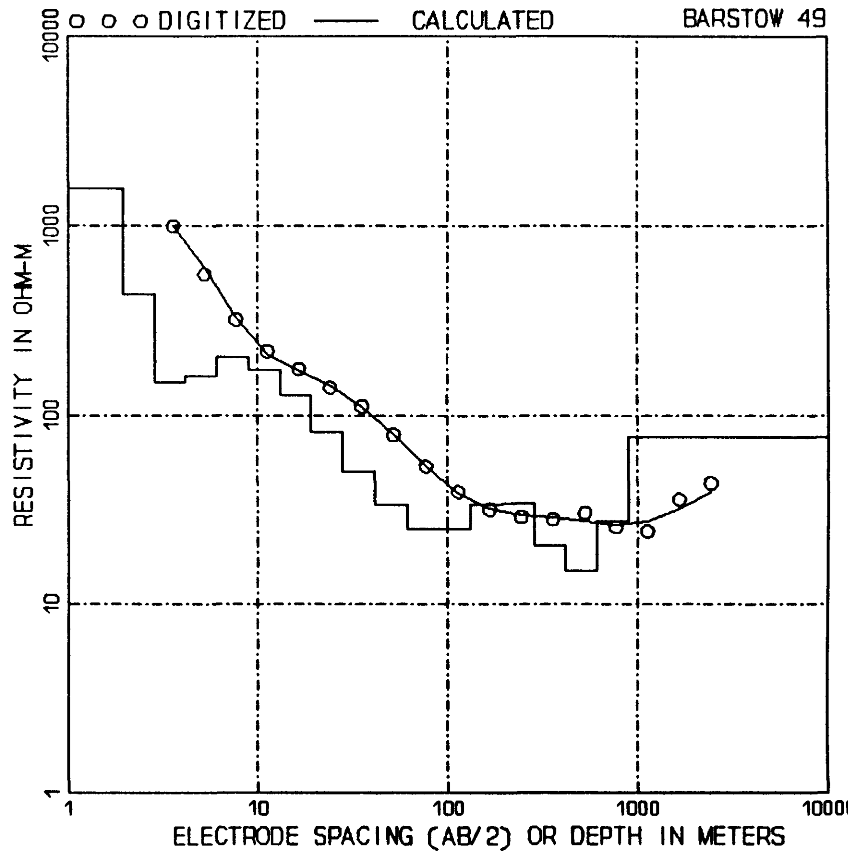
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	2300.00	60.96 (	200.00)	104.00
4.27 (	14.00)	1650.00	91.44 (	300.00)	73.00
6.10 (	20.00)	880.00	121.92 (	400.00)	58.00
9.14 (	30.00)	450.00	91.44 (	300.00)	63.00
12.19 (	40.00)	297.00	121.92 (	400.00)	50.00
18.29 (	60.00)	215.00	182.88 (	600.00)	39.00
24.38 (	80.00)	200.00	243.84 (	800.00)	31.00
30.48 (	100.00)	190.00	304.80 (	1000.00)	30.50
30.48 (	100.00)	188.00	304.80 (	1000.00)	28.50
42.67 (	140.00)	142.00	426.72 (	1400.00)	27.50
			609.60 (	2000.00)	26.00



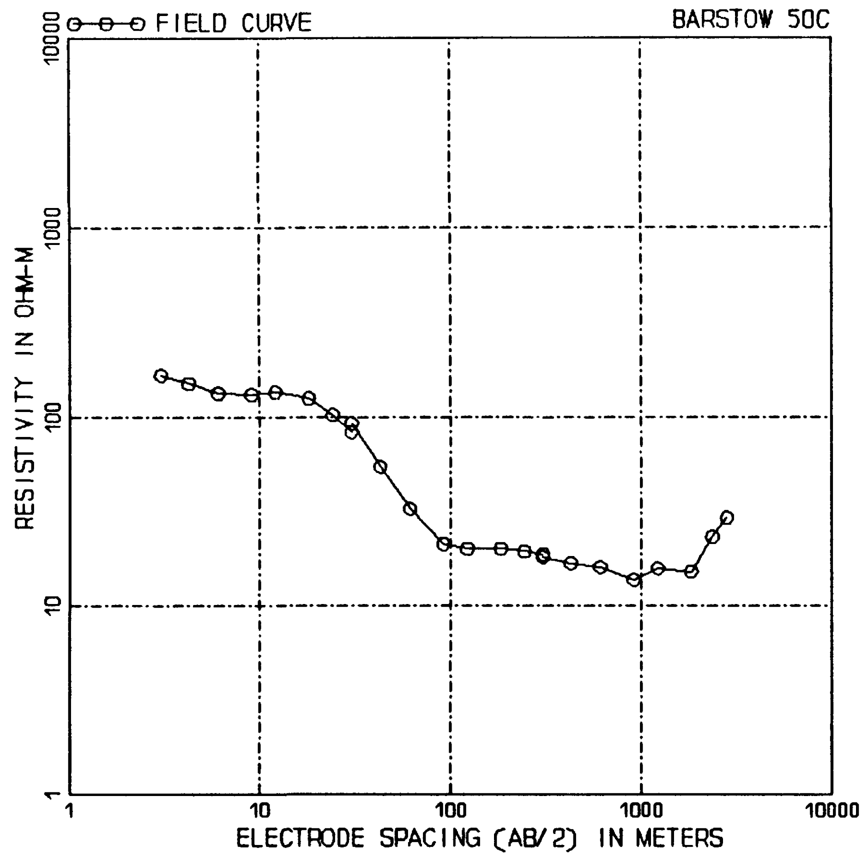
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
2.02 (	6.62)	2282.28	29.63 (	97.20)	99.13
2.96 (	9.72)	802.86	43.49 (	142.67)	66.26
4.35 (	14.27)	257.88	63.83 (	209.41)	46.42
6.38 (	20.94)	153.73	93.69 (	307.37)	32.67
9.37 (	30.74)	175.71	137.51 (	451.16)	26.29
13.75 (	45.12)	188.94	201.84 (	662.22)	24.98
20.18 (	66.22)	149.83	99999.00	(99999.00)	24.78



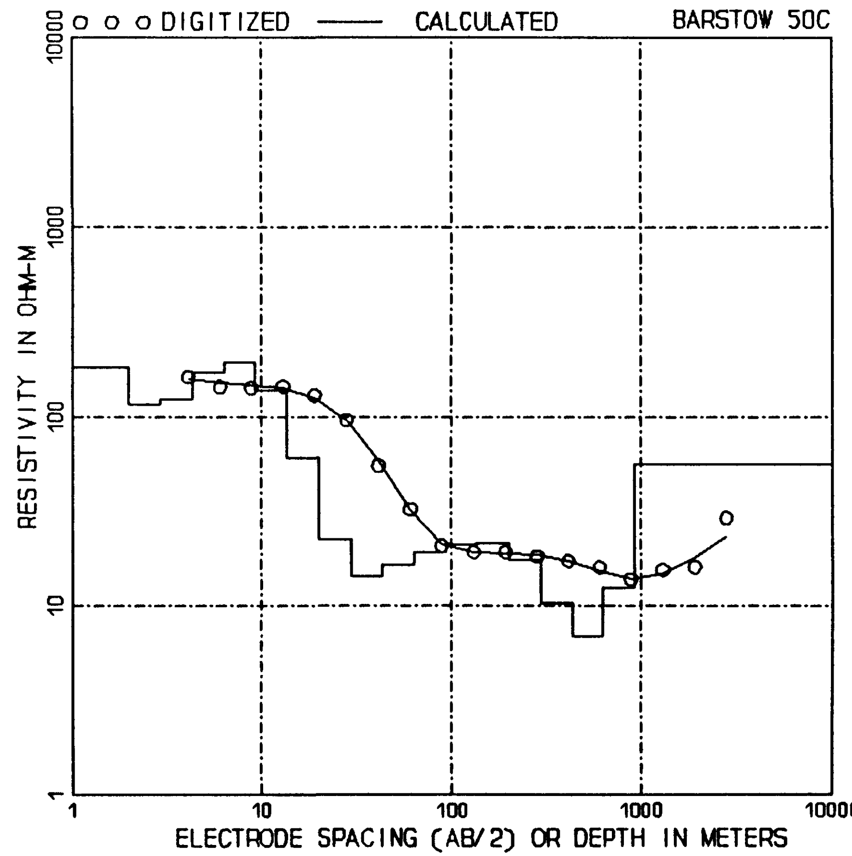
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1160.00	91.44	(300.00)	47.00
4.27	(14.00)	640.00	121.92	(400.00)	38.50
6.10	(20.00)	380.00	182.88	(600.00)	30.50
9.14	(30.00)	224.00	243.84	(800.00)	29.50
12.19	(40.00)	178.00	304.80	(1000.00)	29.00
18.29	(60.00)	146.00	304.80	(1000.00)	28.50
24.38	(80.00)	122.00	426.72	(1400.00)	28.50
30.48	(100.00)	107.00	609.60	(2000.00)	29.30
30.48	(100.00)	120.00	914.40	(3000.00)	23.10
42.67	(140.00)	92.00	1219.20	(4000.00)	25.50
60.96	(200.00)	65.00	1828.80	(6000.00)	38.30
91.44	(300.00)	45.00	2438.40	(8000.00)	43.50



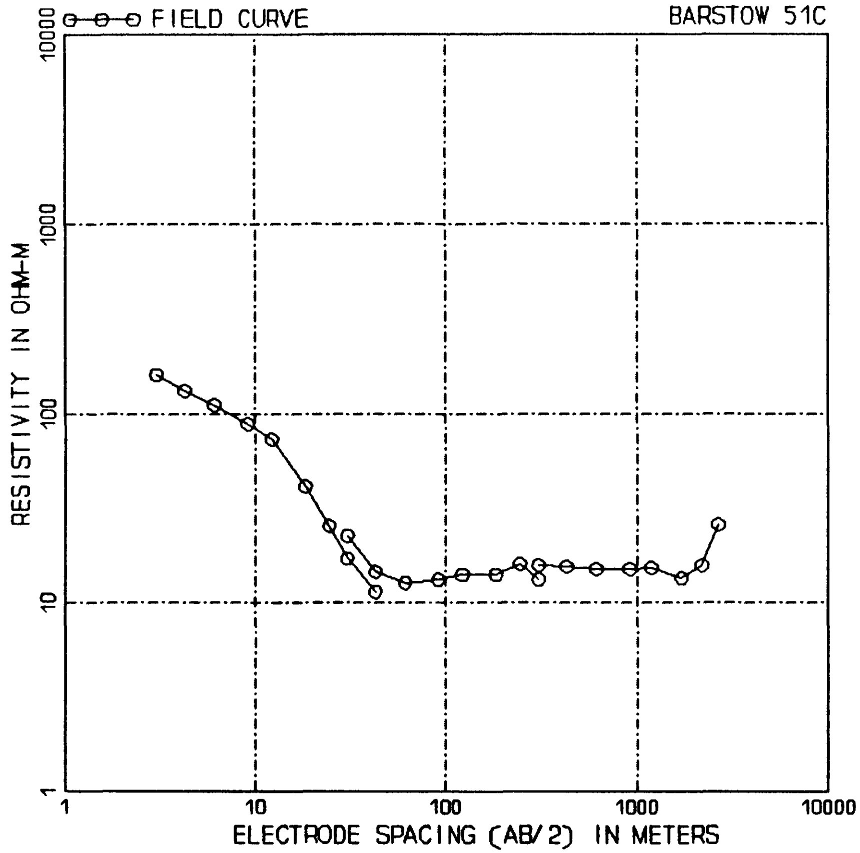
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.93	(6.34)	1582.45	61.12	(200.52)	33.75
2.84	(9.31)	433.34	89.71	(294.32)	25.01
4.16	(13.66)	149.68	131.67	(432.00)	25.08
6.11	(20.05)	160.88	193.27	(634.09)	33.42
8.97	(29.43)	202.89	283.68	(930.72)	34.14
13.17	(43.20)	172.75	416.39	(1366.10)	20.29
19.33	(63.41)	126.38	611.17	(2005.17)	14.97
28.37	(93.07)	81.73	897.08	(2943.18)	27.36
41.64	(136.61)	50.57	99999.00	(99999.00)	76.32

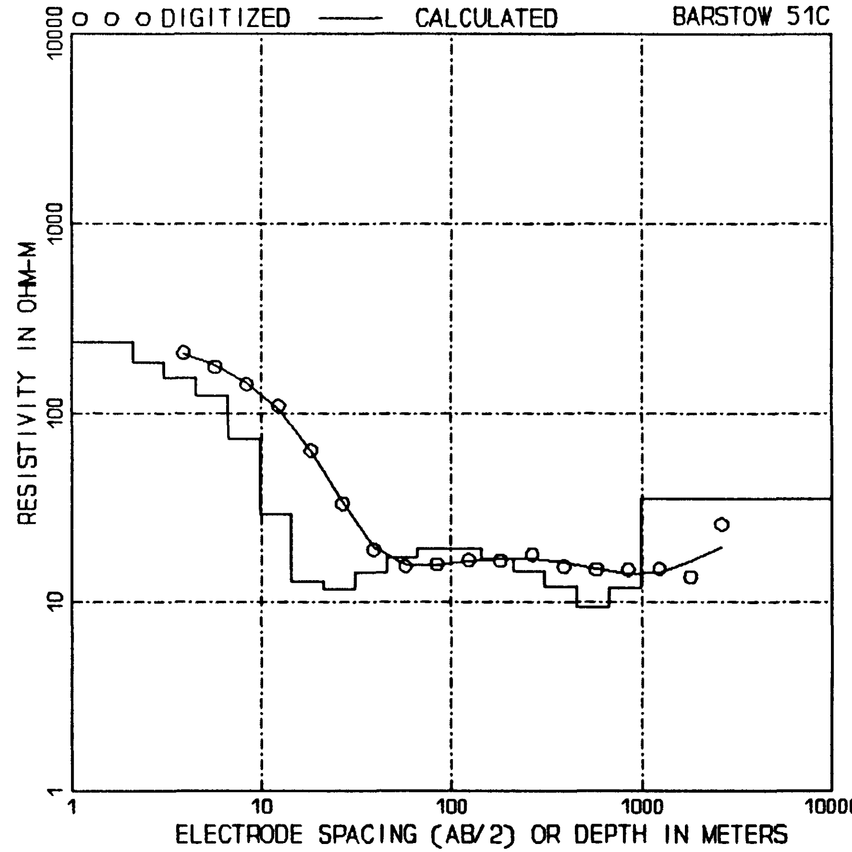


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	166.00	121.92	(400.00)	20.00
4.27	(14.00)	150.00	182.88	(600.00)	20.00
6.10	(20.00)	133.00	243.84	(800.00)	19.40
9.14	(30.00)	131.00	304.80	(1000.00)	18.70
12.19	(40.00)	135.00	304.80	(1000.00)	18.00
18.29	(60.00)	125.00	426.72	(1400.00)	16.80
24.38	(80.00)	102.00	609.60	(2000.00)	16.00
30.48	(100.00)	83.00	914.40	(3000.00)	13.70
30.48	(100.00)	92.00	1219.20	(4000.00)	15.70
42.67	(140.00)	54.50	1828.80	(6000.00)	15.10
60.96	(200.00)	32.50	2360.68	(7745.00)	23.20
91.44	(300.00)	21.20	2809.95	(9219.00)	29.10



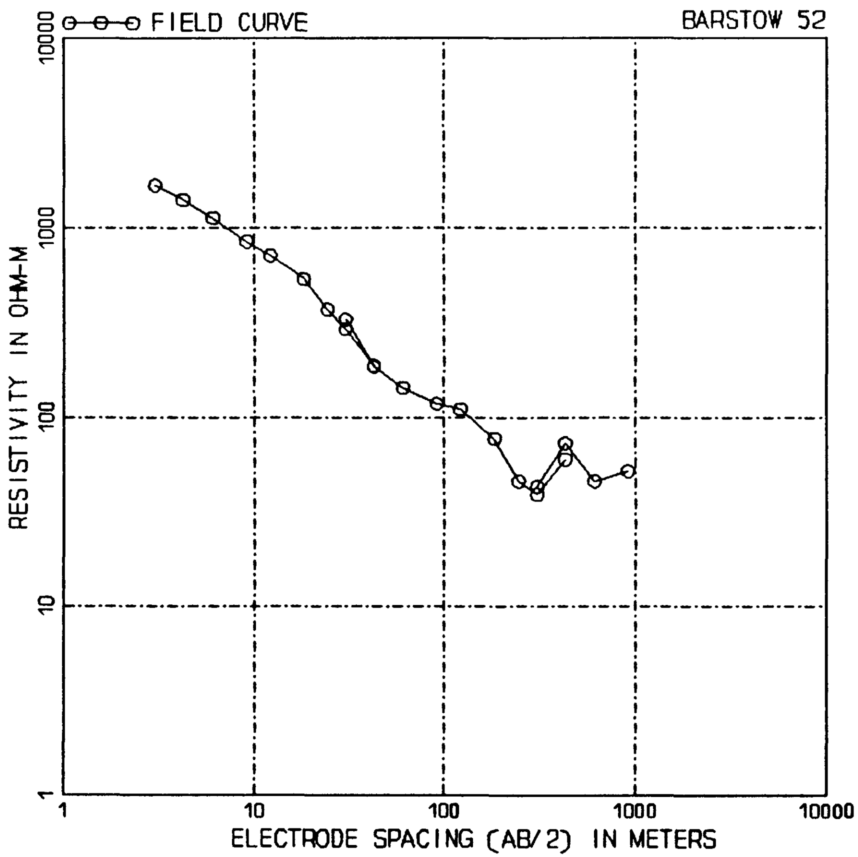
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.00	(6.58)	180.93	63.39	(207.96)	16.45
2.94	(9.65)	117.01	93.04	(305.25)	19.28
4.32	(14.17)	123.63	136.56	(448.04)	21.07
6.34	(20.80)	171.60	200.45	(657.64)	21.58
9.30	(30.52)	193.77	294.22	(965.28)	17.55
13.66	(44.80)	137.85	431.85	(1416.84)	10.37
20.04	(65.76)	60.59	633.87	(2079.63)	6.95
29.42	(96.53)	22.45	930.40	(3052.48)	12.43
43.19	(141.68)	14.27	99999.00	(99999.00)	55.75



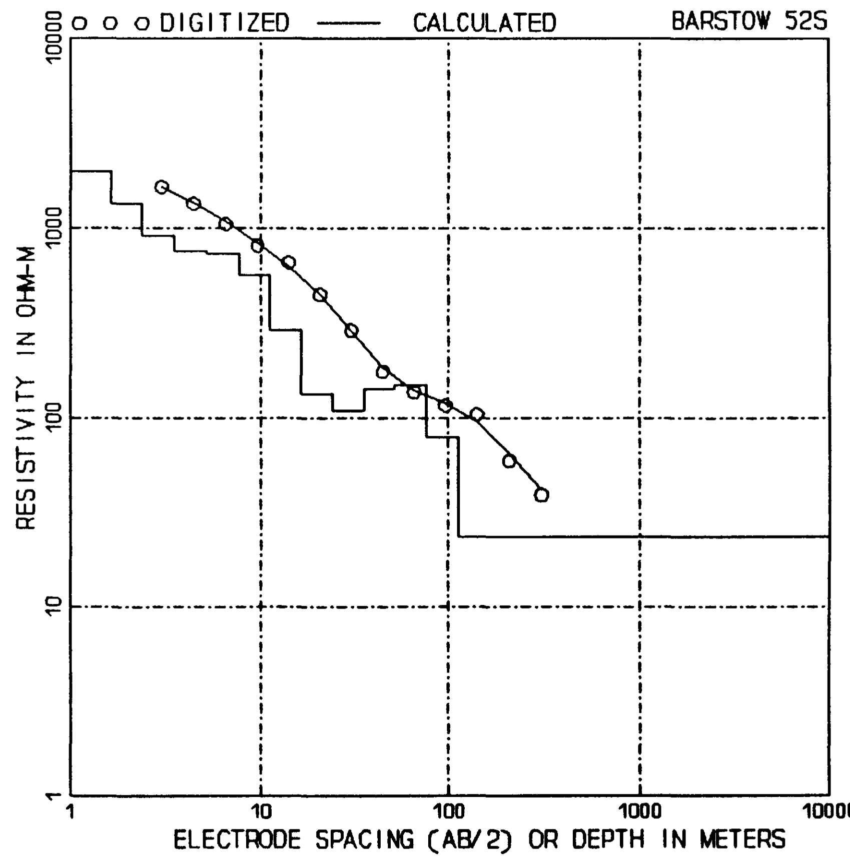


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	10.00	160.00	91.44	300.00	13.20
4.27	14.00	132.00	121.92	400.00	14.00
6.10	20.00	111.00	182.88	600.00	14.00
9.14	30.00	88.00	243.84	800.00	16.00
12.19	40.00	73.00	304.80	1000.00	13.20
18.29	60.00	41.00	304.80	1000.00	15.70
24.38	80.00	25.50	426.72	1400.00	15.50
30.48	100.00	17.10	609.60	2000.00	15.00
42.67	140.00	11.40	914.40	3000.00	15.00
30.48	100.00	22.60	1188.11	3898.00	15.20
42.67	140.00	14.50	1710.54	5612.00	13.40
60.96	200.00	12.70	2180.84	7155.00	15.70
			2665.78	8746.00	25.80

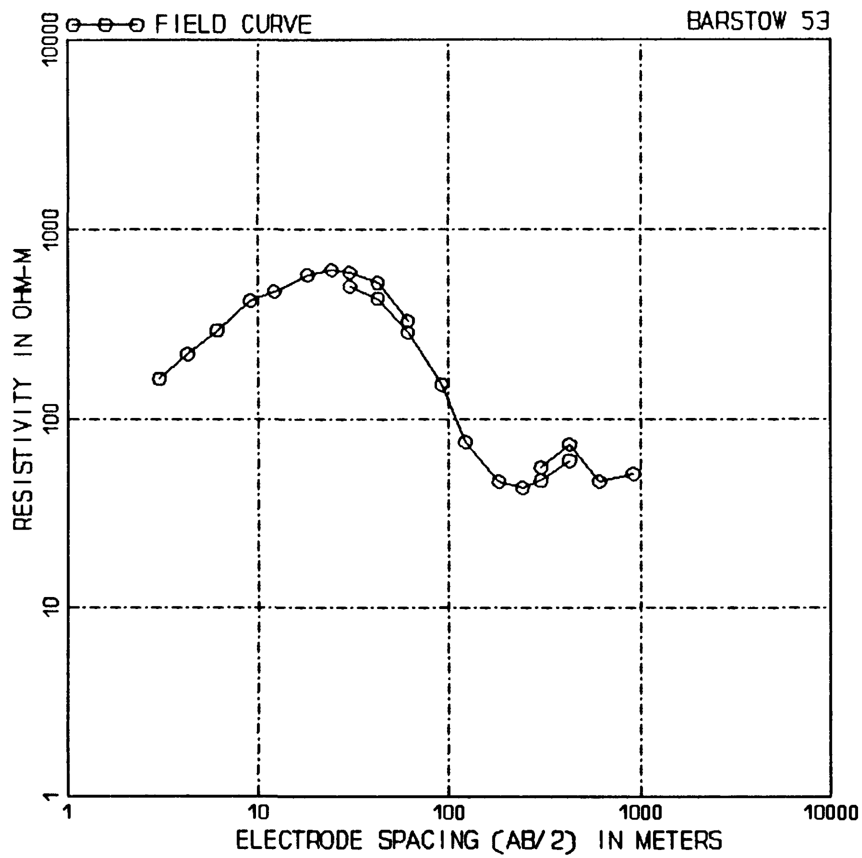
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.11	6.93	235.60	66.82	219.21	17.14
3.10	10.18	185.14	98.07	321.76	19.21
4.55	14.93	152.68	143.95	472.28	19.18
6.68	21.92	122.63	211.29	693.22	16.84
9.81	32.18	73.23	310.14	1017.50	14.51
14.40	47.23	29.18	455.22	1493.49	12.06
21.13	69.32	12.88	668.17	2192.15	9.42
31.01	101.75	11.68	980.73	3217.63	11.92
45.52	149.35	14.39	99999.00	99999.00	35.21



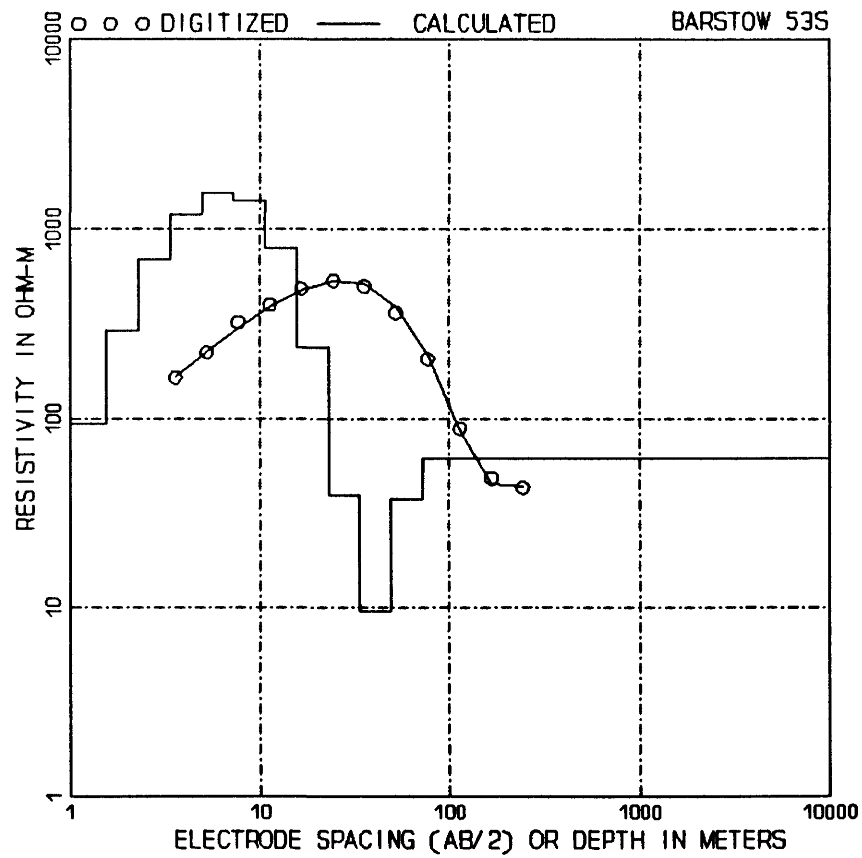
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	10.00	1670.00	60.96	200.00	143.00
4.27	14.00	1400.00	91.44	300.00	118.00
6.10	20.00	1125.00	121.92	400.00	110.00
9.14	30.00	850.00	121.92	400.00	110.00
12.19	40.00	717.00	182.88	600.00	77.00
18.29	60.00	535.00	243.84	800.00	46.00
24.38	80.00	370.00	304.80	1000.00	39.00
30.48	100.00	292.00	426.72	1400.00	60.00
42.67	140.00	187.00	304.80	1000.00	43.00
30.48	100.00	329.00	426.72	1400.00	73.00
42.67	140.00	185.00	609.60	2000.00	46.00
			914.40	3000.00	52.00



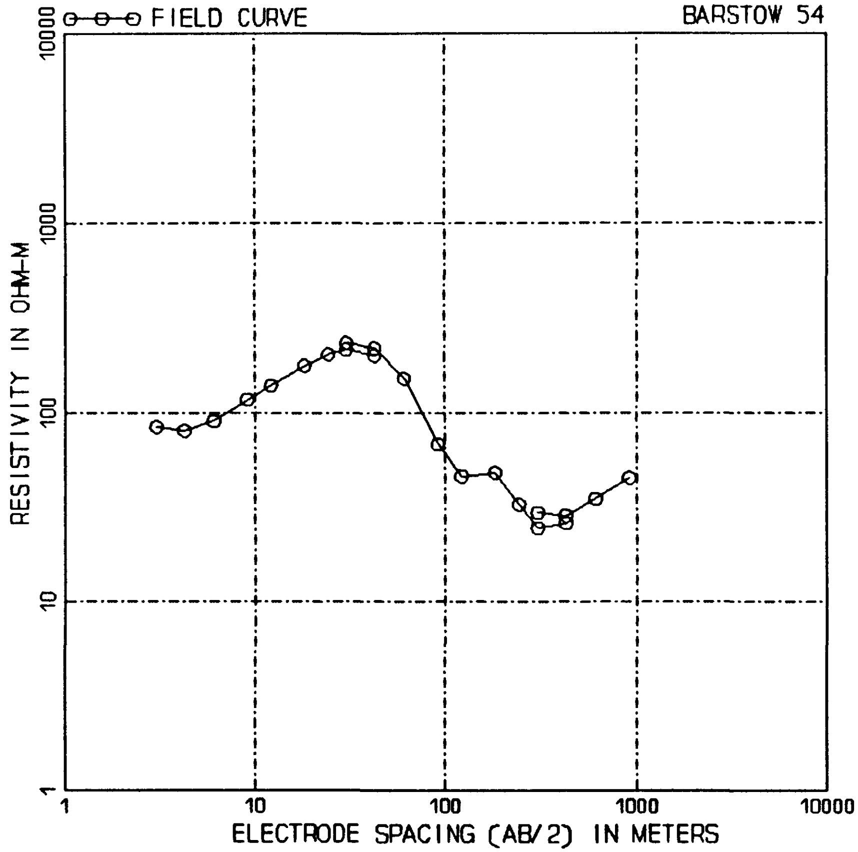
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.65	5.40	1977.85	16.46	54.00	289.21
2.42	7.93	1346.56	24.16	79.26	133.72
3.55	11.63	913.92	35.46	116.34	109.12
5.20	17.08	761.63	52.05	170.76	142.82
7.64	25.06	728.79	76.40	250.65	147.66
11.21	36.79	560.55	112.14	367.90	78.79
			99999.00	99999.00	23.64



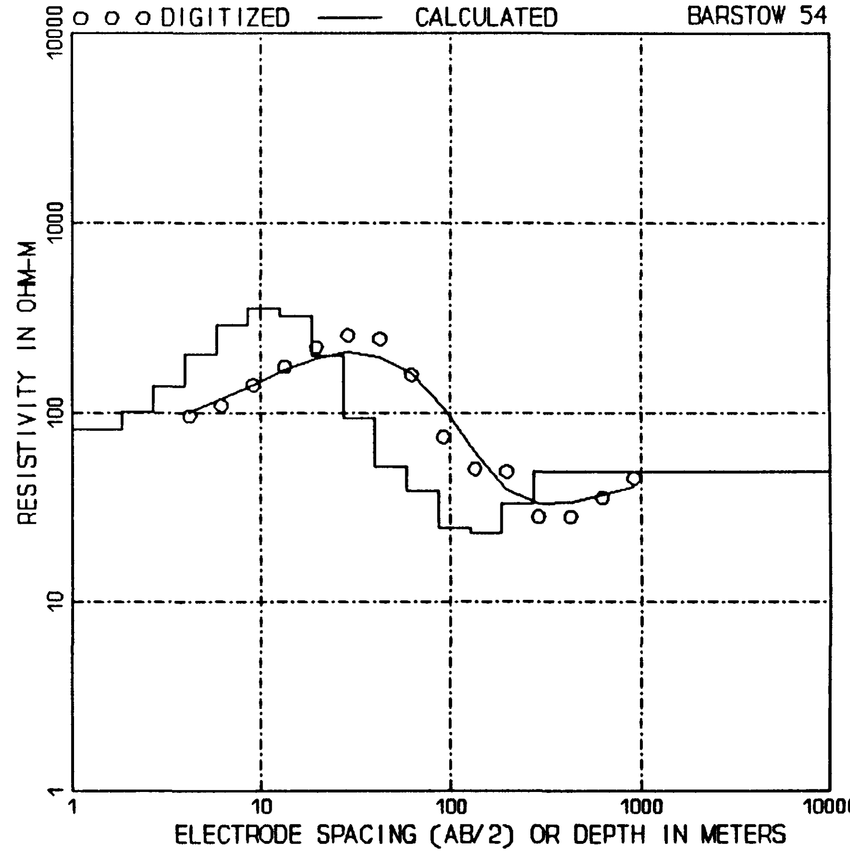
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	162.00	42.67 (	140.00)	430.00
4.27 (	14.00)	220.00	60.96 (	200.00)	286.00
6.10 (	20.00)	292.00	91.44 (	300.00)	152.00
9.14 (	30.00)	420.00	121.92 (	400.00)	75.00
12.19 (	40.00)	470.00	182.88 (	600.00)	46.50
18.29 (	60.00)	575.00	243.84 (	800.00)	43.00
24.38 (	80.00)	610.00	304.80 (	1000.00)	47.00
30.48 (	100.00)	590.00	426.72 (	1400.00)	60.00
42.67 (	140.00)	520.00	304.80 (	1000.00)	55.00
60.96 (	200.00)	327.00	426.72 (	1400.00)	73.00
30.48 (	100.00)	500.00	609.60 (	2000.00)	46.50
			914.40 (	3000.00)	51.00



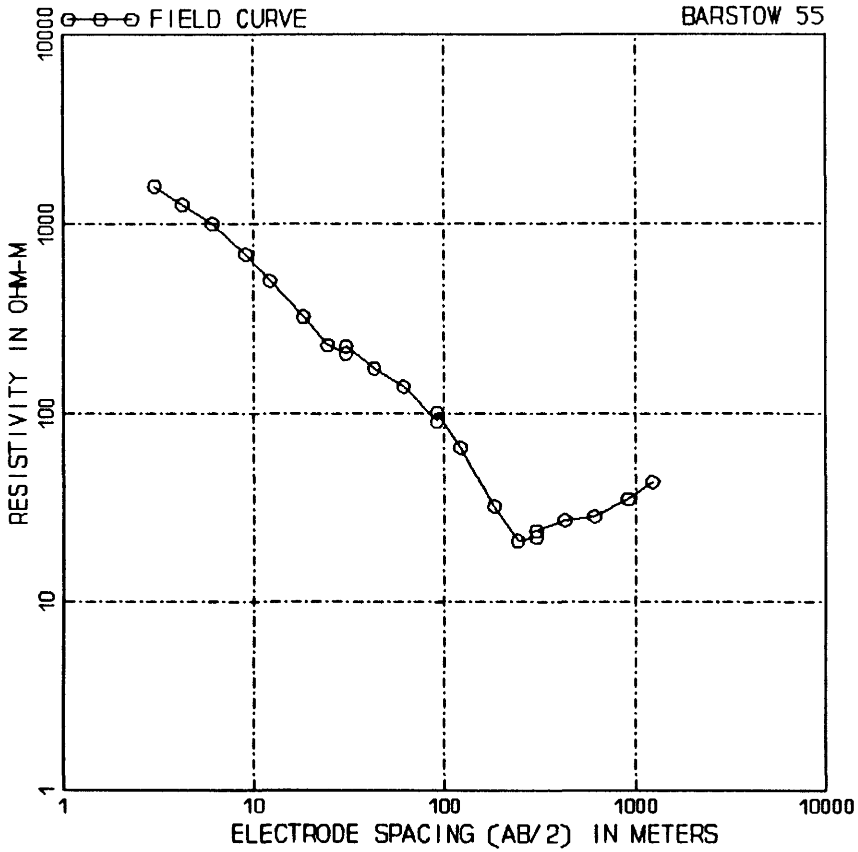
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.57 (	5.14)	93.00	15.65 (	51.36)	791.93
2.30 (	7.54)	289.52	22.98 (	75.39)	237.88
3.37 (	11.07)	686.45	33.73 (	110.65)	39.06
4.95 (	16.24)	1195.13	49.51 (	162.42)	9.62
7.27 (	23.84)	1557.10	72.66 (	238.40)	37.24
10.67 (	34.99)	1417.55	99999.00 (	99999.00)	61.65



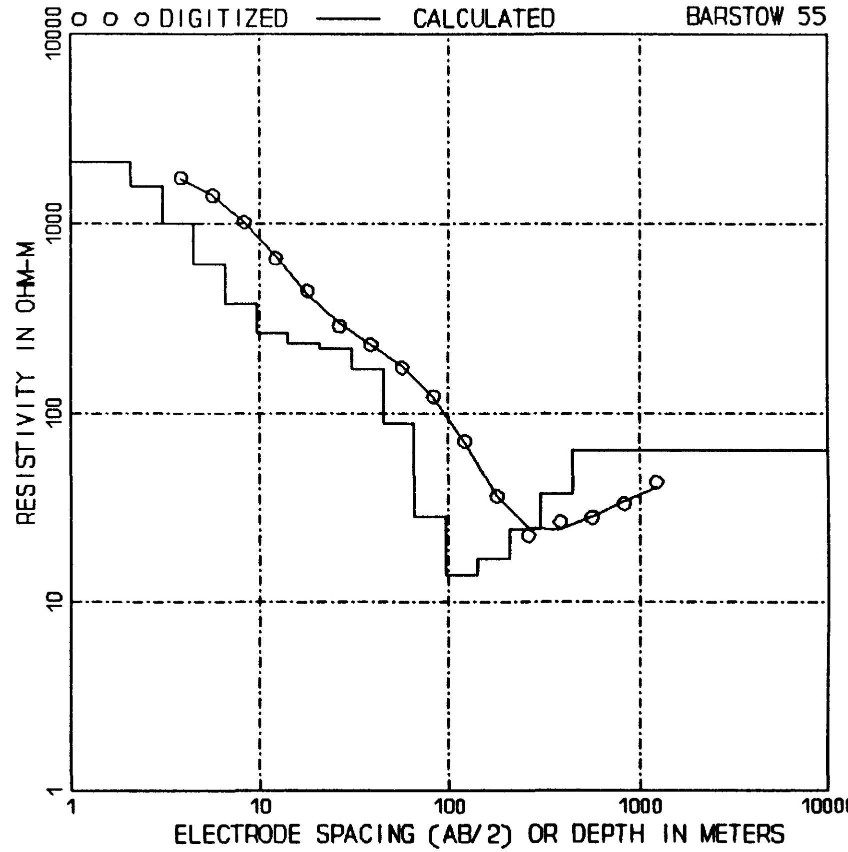
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	84.00	60.96	(200.00)	151.00
4.27	(14.00)	80.00	91.44	(300.00)	68.00
6.10	(20.00)	90.00	121.92	(400.00)	46.00
9.14	(30.00)	117.00	182.88	(600.00)	48.00
12.19	(40.00)	139.00	243.84	(800.00)	32.50
18.29	(60.00)	177.00	304.80	(1000.00)	24.50
24.38	(80.00)	203.00	426.72	(1400.00)	26.00
30.48	(100.00)	215.00	304.80	(1000.00)	29.50
42.67	(140.00)	200.00	426.72	(1400.00)	28.50
30.48	(100.00)	233.00	609.60	(2000.00)	35.00
42.67	(140.00)	218.00	914.40	(3000.00)	45.00



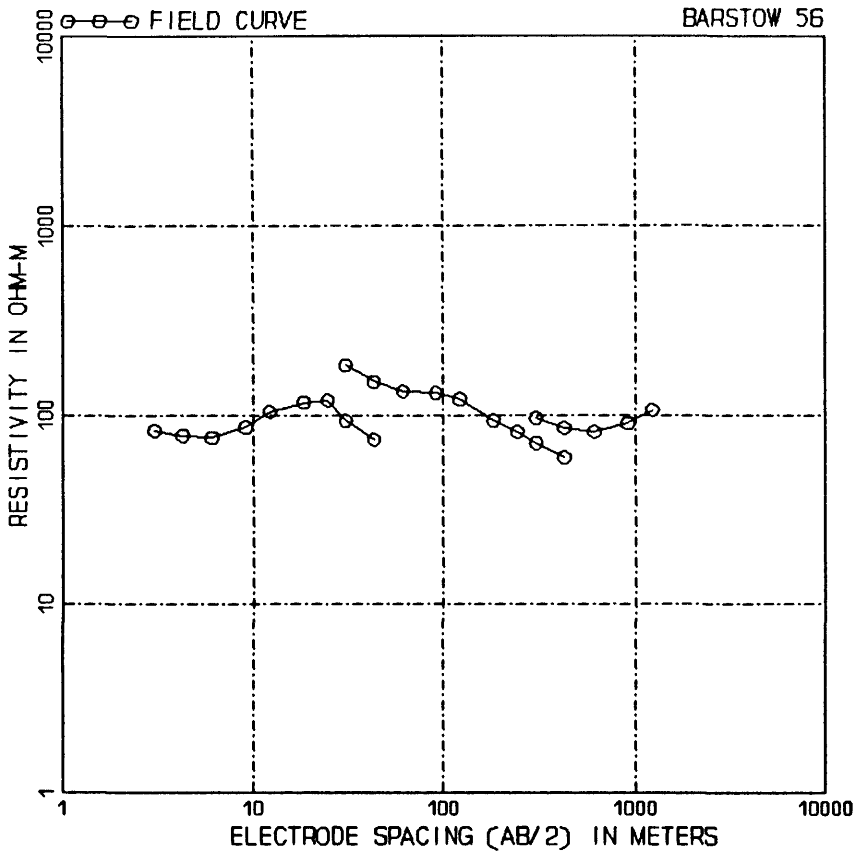
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.86	(6.09)	81.15	27.25	(89.40)	200.56
2.72	(8.94)	100.44	40.00	(131.22)	92.64
4.00	(13.12)	138.74	58.71	(192.60)	51.60
5.87	(19.26)	202.81	86.17	(282.71)	38.71
8.62	(28.27)	288.70	126.48	(414.95)	24.50
12.65	(41.50)	354.69	185.64	(609.07)	23.12
18.56	(60.91)	325.27	272.49	(893.99)	32.80
			99999.00	(99999.00)	48.45



AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1580.00	91.44	(300.00)	90.00
4.27	(14.00)	1260.00	91.44	(300.00)	100.00
6.10	(20.00)	1000.00	121.92	(400.00)	65.50
9.14	(30.00)	690.00	182.88	(600.00)	32.00
12.19	(40.00)	500.00	243.84	(800.00)	21.00
18.29	(60.00)	322.00	304.80	(1000.00)	22.00
24.38	(80.00)	228.00	304.80	(1000.00)	23.70
30.48	(100.00)	205.00	426.72	(1400.00)	27.00
30.48	(100.00)	225.00	609.60	(2000.00)	28.40
42.67	(140.00)	172.00	914.40	(3000.00)	35.00
60.96	(200.00)	138.00	1219.20	(4000.00)	43.00

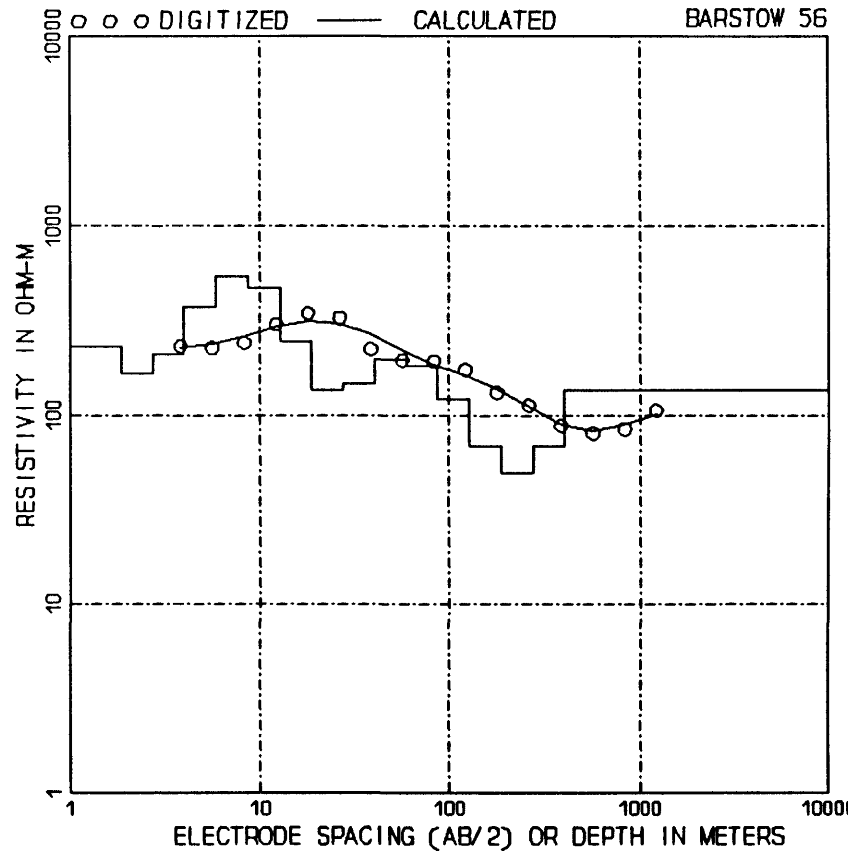


DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.08	(6.83)	2103.05	44.85	(147.16)	171.06
3.06	(10.03)	1561.14	65.84	(216.00)	88.21
4.49	(14.72)	1008.68	96.64	(317.04)	28.08
6.58	(21.60)	605.76	141.84	(465.36)	13.78
9.66	(31.70)	375.00	208.19	(683.05)	16.99
14.18	(46.54)	263.76	305.59	(1002.58)	24.26
20.82	(68.31)	231.31	448.54	(1471.59)	37.47
30.56	(100.26)	217.64	99999.00	(99999.00)	63.20



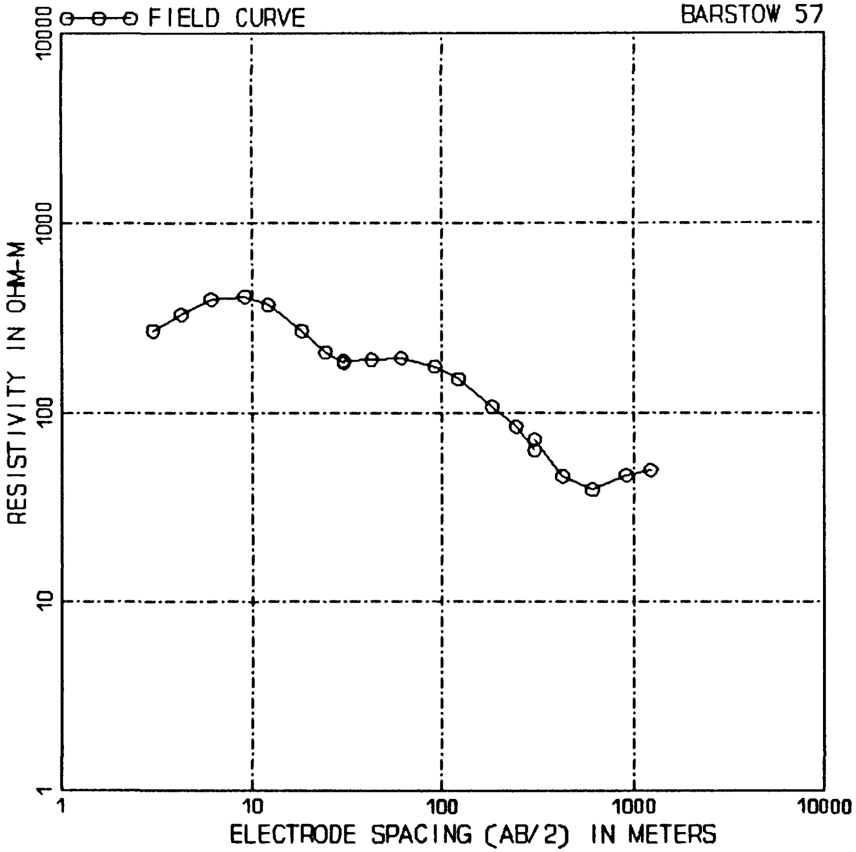
AB/2, m	(ft)	App. Res.
3.05	(10.00)	82.50
4.27	(14.00)	78.00
6.10	(20.00)	76.00
9.14	(30.00)	86.00
12.19	(40.00)	104.00
18.29	(60.00)	117.00
24.38	(80.00)	120.00
30.48	(100.00)	93.00
42.67	(140.00)	74.00
30.48	(100.00)	184.00
42.67	(140.00)	150.00

AB/2, m	(ft)	App. Res.
60.96	(200.00)	134.00
91.44	(300.00)	131.00
121.92	(400.00)	121.00
182.88	(600.00)	93.00
243.84	(800.00)	81.50
304.80	(1000.00)	71.00
426.72	(1400.00)	59.40
304.80	(1000.00)	96.00
426.72	(1400.00)	85.00
609.60	(2000.00)	81.00
914.40	(3000.00)	90.00
1219.20	(4000.00)	106.00

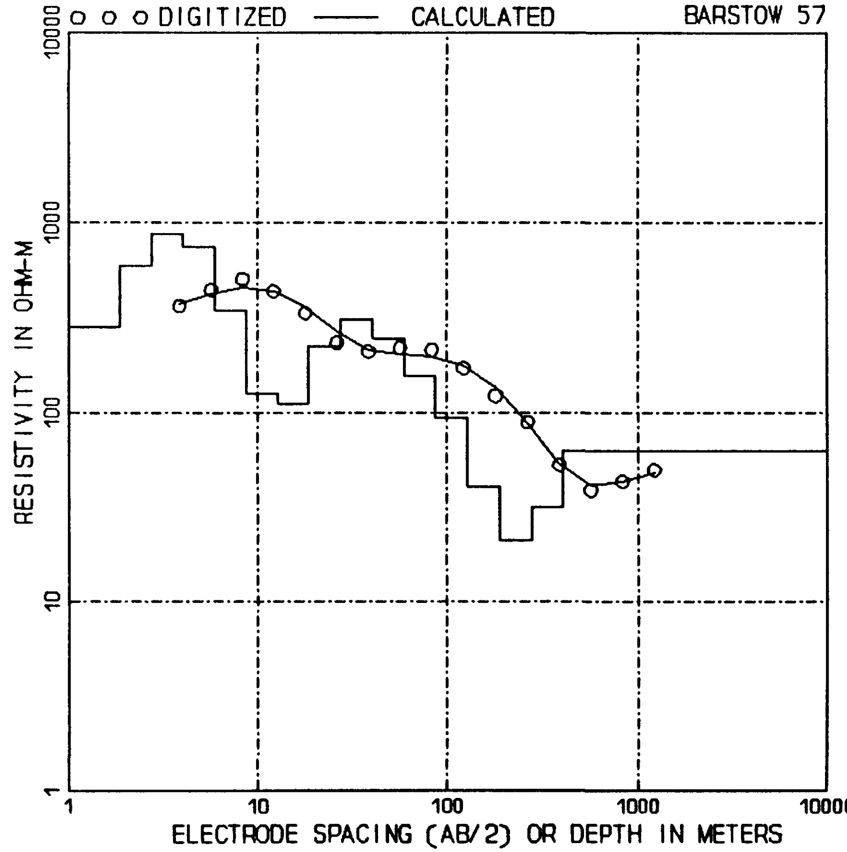


DEPTH, m	(ft)	RESIS.
1.87	(6.15)	230.26
2.75	(9.02)	167.02
4.04	(13.24)	210.71
5.93	(19.44)	373.58
8.70	(28.53)	541.70
12.77	(41.88)	466.27
18.74	(61.47)	245.33
27.50	(90.23)	136.31

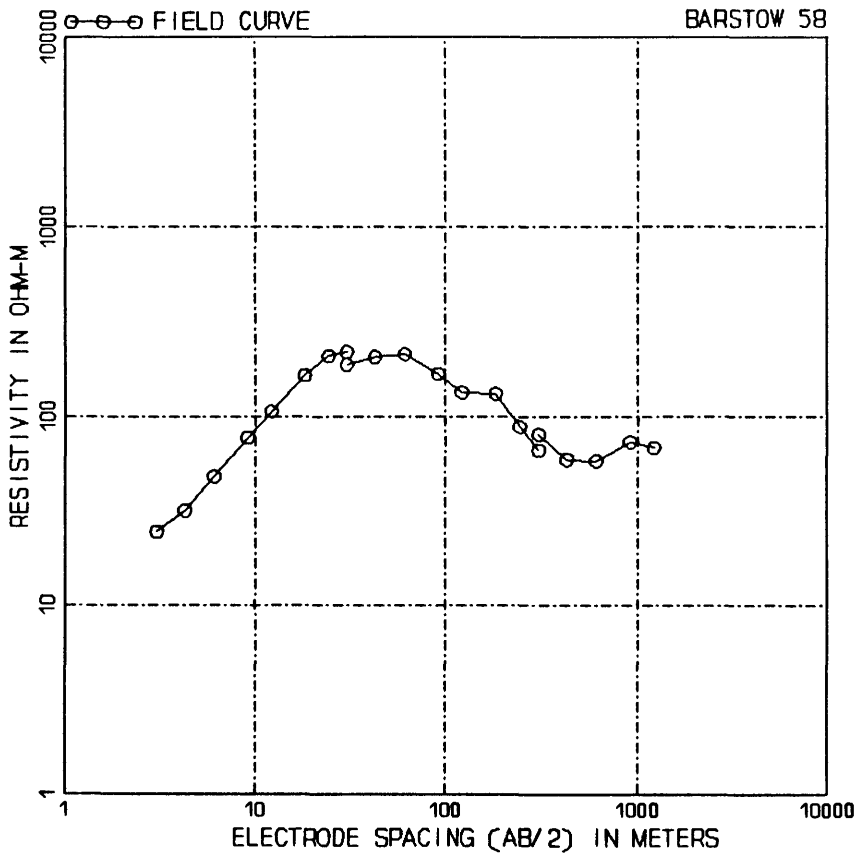
DEPTH, m	(ft)	RESIS.
40.37	(132.44)	147.19
59.25	(194.40)	196.77
86.97	(285.34)	182.03
127.66	(418.82)	121.95
187.37	(614.75)	68.21
275.03	(902.33)	49.21
403.69	(1324.43)	68.73
99999.00	(99999.00)	135.85



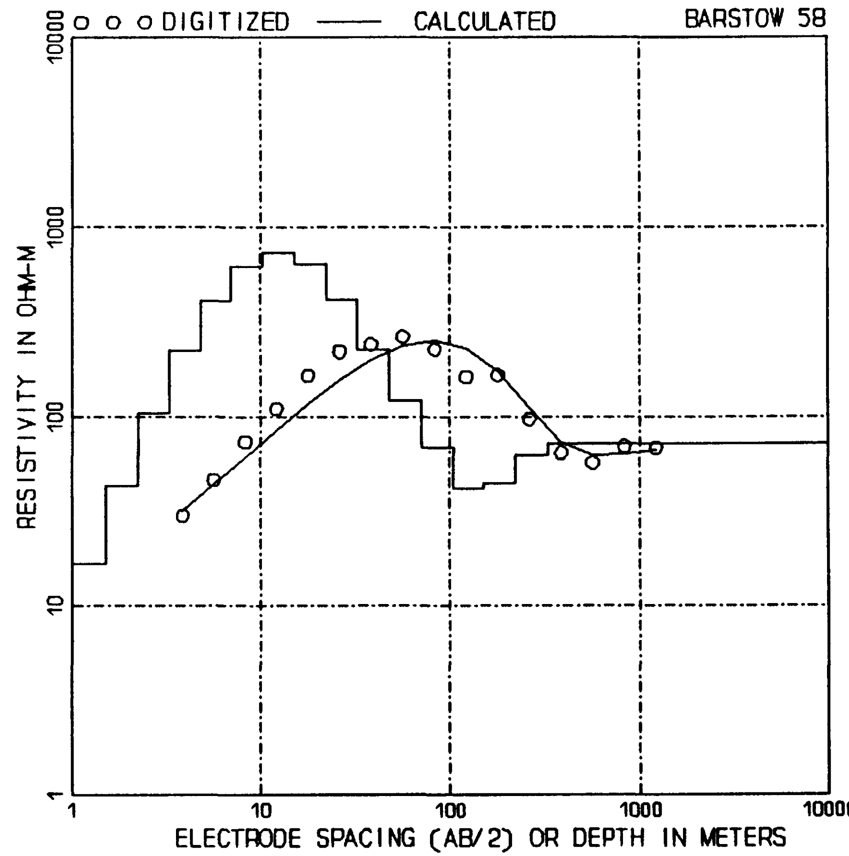
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	270.00	60.96	(200.00)	194.00
4.27	(14.00)	328.00	91.44	(300.00)	175.00
6.10	(20.00)	395.00	121.92	(400.00)	150.00
9.14	(30.00)	410.00	182.88	(600.00)	107.00
12.19	(40.00)	370.00	243.84	(800.00)	84.00
18.29	(60.00)	270.00	304.80	(1000.00)	63.00
24.38	(80.00)	208.00	304.80	(1000.00)	72.00
30.48	(100.00)	182.00	426.72	(1400.00)	46.00
30.48	(100.00)	187.00	609.60	(2000.00)	39.00
42.67	(140.00)	190.00	914.40	(3000.00)	46.50
			1219.20	(4000.00)	49.50



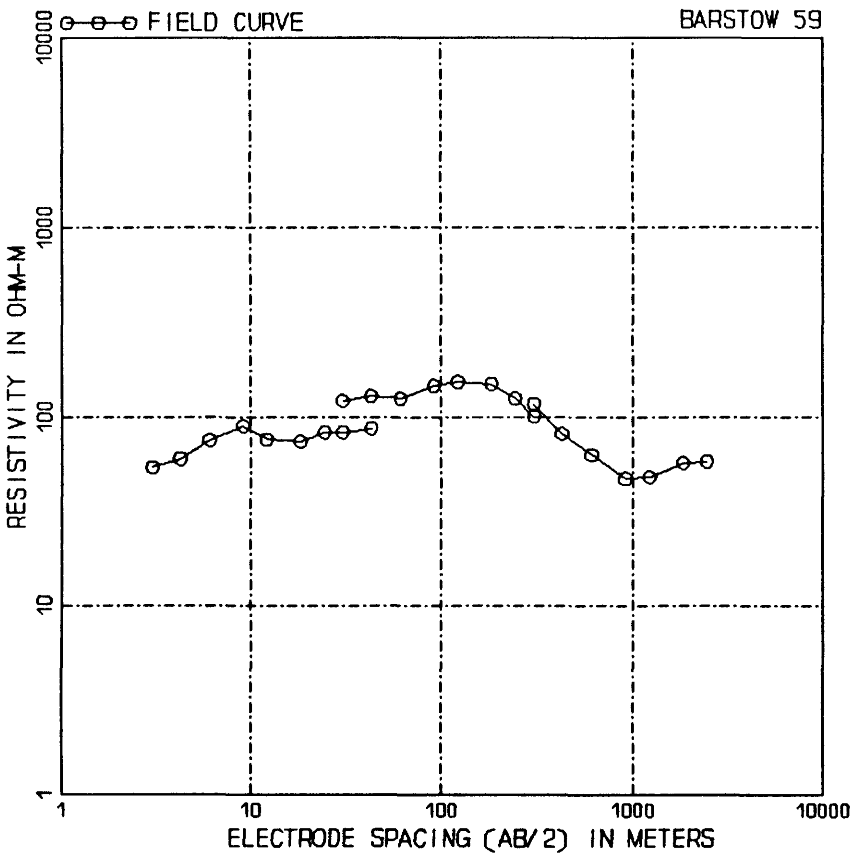
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	281.52	40.37	(132.44)	307.24
2.75	(9.02)	592.55	59.25	(194.40)	244.07
4.04	(13.24)	877.03	86.97	(285.34)	156.74
5.93	(19.44)	744.53	127.66	(418.82)	93.70
8.70	(28.53)	341.85	187.37	(614.75)	40.18
12.77	(41.88)	125.89	275.03	(902.33)	21.19
18.74	(61.47)	111.39	403.69	(1324.43)	31.69
27.50	(90.23)	223.65	99999.00	(99999.00)	62.31



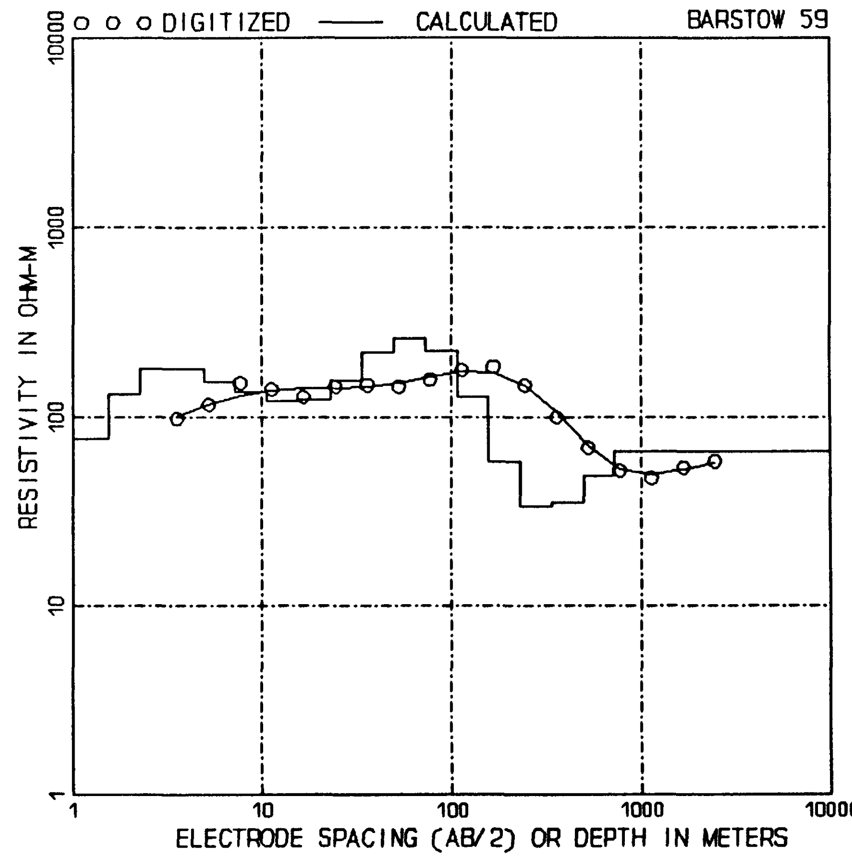
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	24.50	60.96 (	200.00)	213.00
4.27 (	14.00)	31.70	91.44 (	300.00)	167.00
6.10 (	20.00)	48.00	121.92 (	400.00)	134.00
9.14 (	30.00)	77.00	182.88 (	600.00)	132.00
12.19 (	40.00)	106.00	243.84 (	800.00)	88.00
18.29 (	60.00)	165.00	304.80 (	1000.00)	66.00
24.38 (	80.00)	208.00	304.80 (	1000.00)	80.00
30.48 (	100.00)	218.00	426.72 (	1400.00)	59.00
30.48 (	100.00)	187.00	609.60 (	2000.00)	58.00
42.67 (	140.00)	205.00	914.40 (	3000.00)	73.00
			1219.20 (	4000.00)	68.10



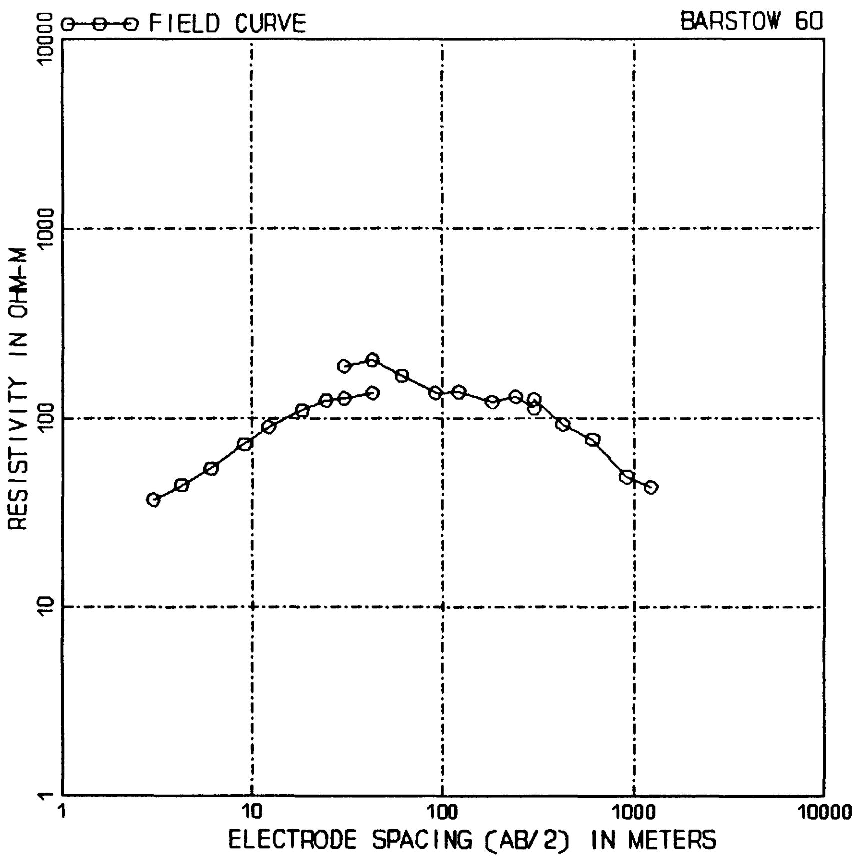
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.52 (	4.98)	16.58	32.70 (	107.28)	417.67
2.23 (	7.31)	43.10	48.00 (	157.46)	227.49
3.27 (	10.73)	103.72	70.45 (	231.13)	121.94
4.80 (	15.75)	222.47	103.40 (	339.25)	68.05
7.04 (	23.11)	409.95	151.77 (	497.95)	41.90
10.34 (	33.92)	621.14	222.77 (	730.88)	44.13
15.18 (	49.79)	733.30	326.99 (	1072.79)	61.97
22.28 (	73.09)	640.96	99999.00 (	99999.00)	71.43



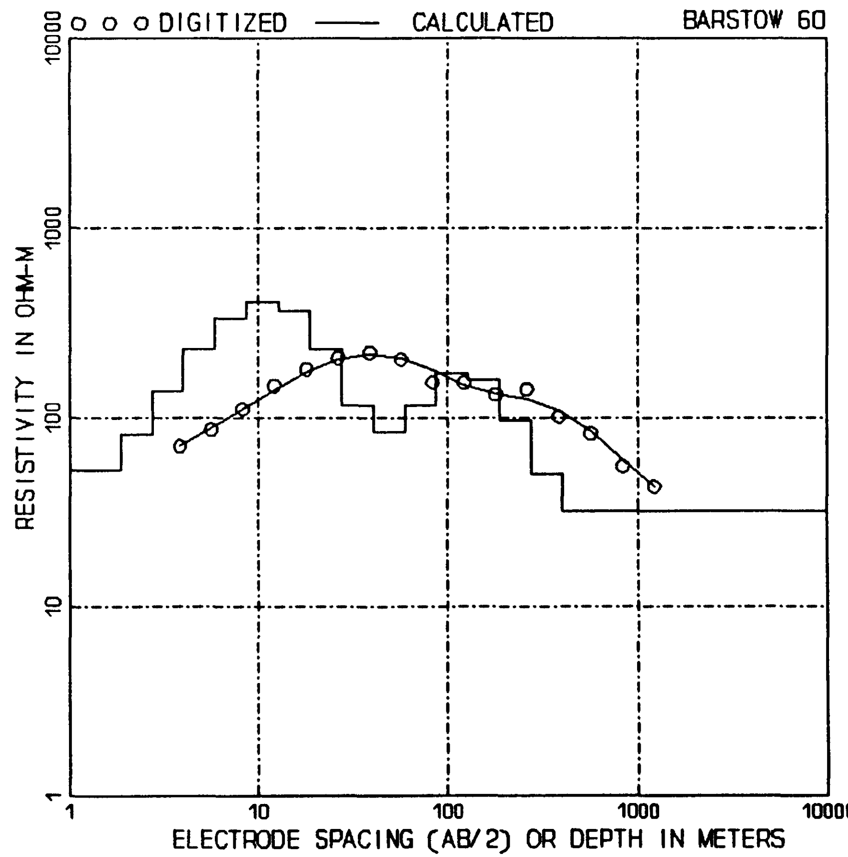
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	54.00	91.44 (	300.00)	146.00
4.27 (	14.00)	60.00	121.92 (	400.00)	153.00
6.10 (	20.00)	75.50	182.88 (	600.00)	149.50
9.14 (	30.00)	89.00	243.84 (	800.00)	125.00
12.19 (	40.00)	76.00	304.80 (	1000.00)	100.00
18.29 (	60.00)	74.00	304.80 (	1000.00)	117.00
24.38 (	80.00)	83.00	426.72 (	1400.00)	81.00
30.48 (	100.00)	83.00	609.60 (	2000.00)	63.00
42.67 (	140.00)	87.00	914.40 (	3000.00)	47.00
30.48 (	100.00)	122.00	1219.20 (	4000.00)	48.00
42.67 (	140.00)	129.00	1828.80 (	6000.00)	57.00
60.96 (	200.00)	125.00	2438.40 (	8000.00)	58.00



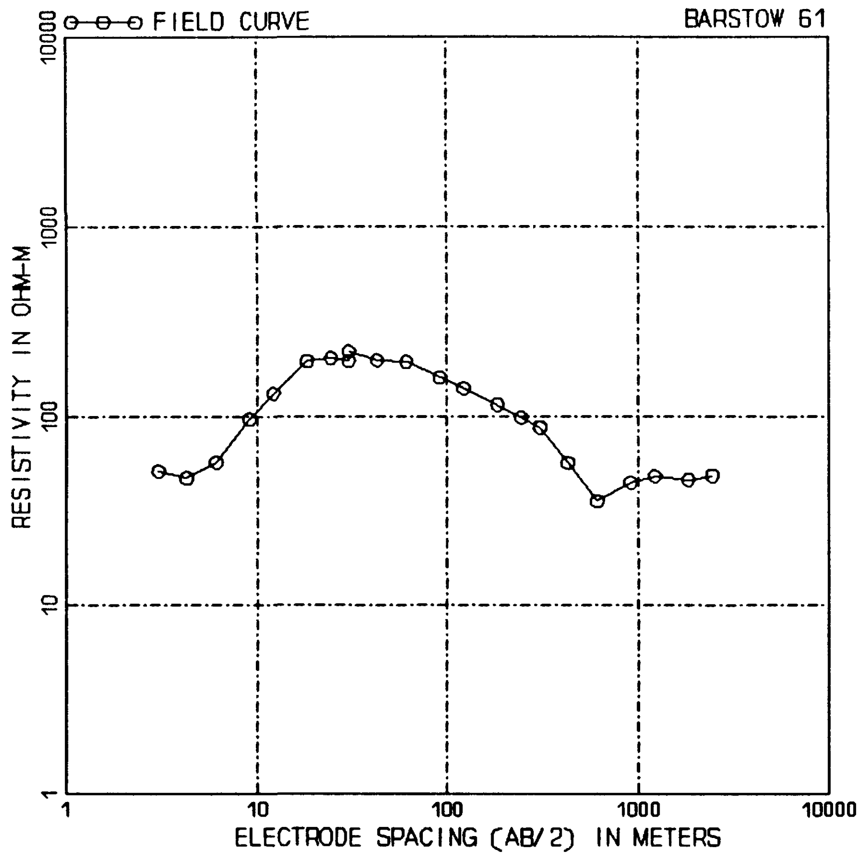
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.57 (	5.14)	76.58	49.51 (	162.42)	220.24
2.30 (	7.54)	132.08	72.66 (	238.40)	261.93
3.37 (	11.07)	178.34	106.66 (	349.92)	221.94
4.95 (	16.24)	179.09	156.55 (	513.61)	128.17
7.27 (	23.84)	154.36	229.78 (	753.88)	58.07
10.67 (	34.99)	134.39	337.27 (	1106.54)	33.45
15.65 (	51.36)	122.14	495.05 (	1624.19)	35.27
22.98 (	75.39)	123.76	726.64 (	2383.98)	48.76
33.73 (	110.65)	156.94	99999.00 (	99999.00)	65.17

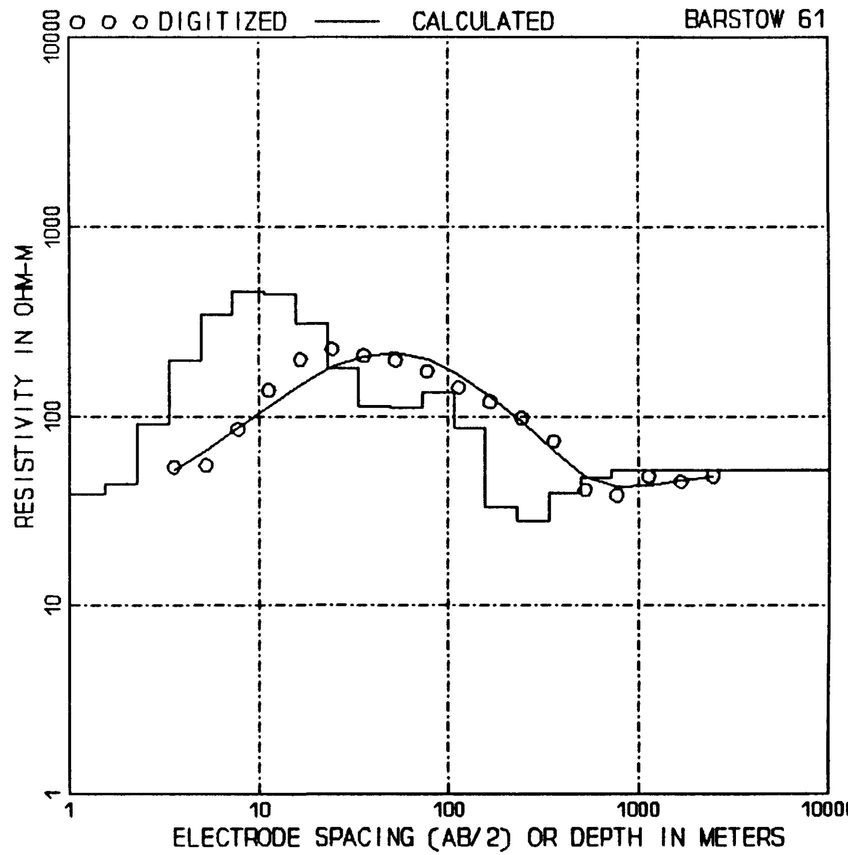


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	37.00	60.96	(200.00)	167.00
4.27	(14.00)	44.00	91.44	(300.00)	136.00
6.10	(20.00)	54.00	121.92	(400.00)	137.00
9.14	(30.00)	72.50	182.88	(600.00)	122.00
12.19	(40.00)	89.00	243.84	(800.00)	130.00
18.29	(60.00)	110.00	304.80	(1000.00)	112.00
24.38	(80.00)	124.00	304.80	(1000.00)	125.00
30.48	(100.00)	127.00	426.72	(1400.00)	92.00
42.67	(140.00)	136.00	609.60	(2000.00)	77.00
30.48	(100.00)	188.00	914.40	(3000.00)	49.00
42.67	(140.00)	202.00	1219.20	(4000.00)	43.00



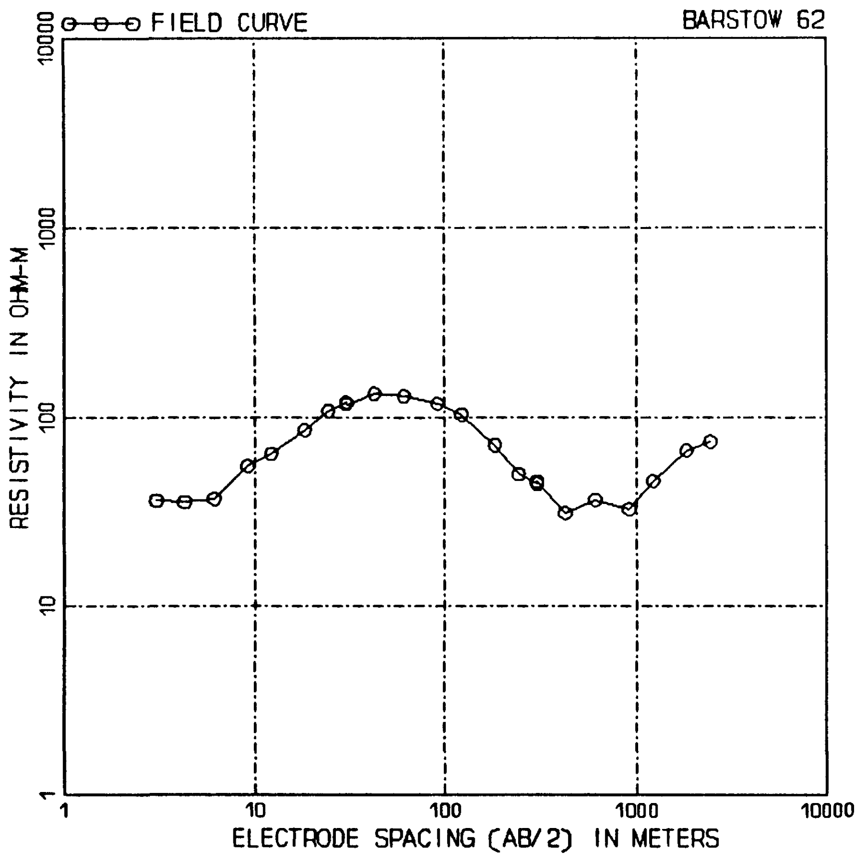
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	52.99	40.37	(132.44)	116.55
2.75	(9.02)	81.43	59.25	(194.40)	83.78
4.04	(13.24)	138.31	86.97	(285.34)	117.00
5.93	(19.44)	228.92	127.66	(418.82)	171.40
8.70	(28.53)	335.41	187.37	(614.75)	157.19
12.77	(41.88)	404.55	275.03	(902.33)	95.96
18.74	(61.47)	364.90	403.69	(1324.43)	50.07
27.50	(90.23)	228.84	99999.00	(99999.00)	32.14



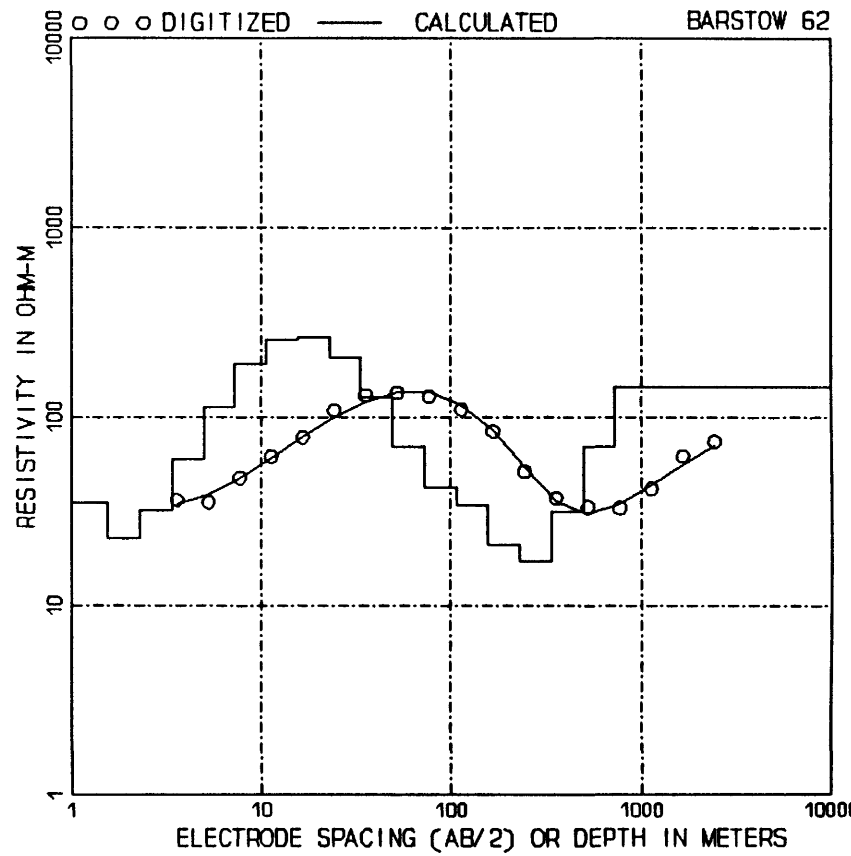


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	51.00	91.44 (	300.00)	160.00
4.27 (	14.00)	47.00	121.92 (	400.00)	140.00
6.10 (	20.00)	57.00	182.88 (	600.00)	115.00
9.14 (	30.00)	96.00	243.84 (	800.00)	98.00
12.19 (	40.00)	132.00	304.80 (	1000.00)	87.00
18.29 (	60.00)	195.00	304.80 (	1000.00)	86.50
24.38 (	80.00)	202.00	426.72 (	1400.00)	56.50
30.48 (	100.00)	195.00	609.60 (	2000.00)	35.50
30.48 (	100.00)	220.00	914.40 (	3000.00)	44.50
42.67 (	140.00)	197.00	1219.20 (	4000.00)	48.00
60.96 (	200.00)	193.00	1828.80 (	6000.00)	46.00
			2438.40 (	8000.00)	48.30

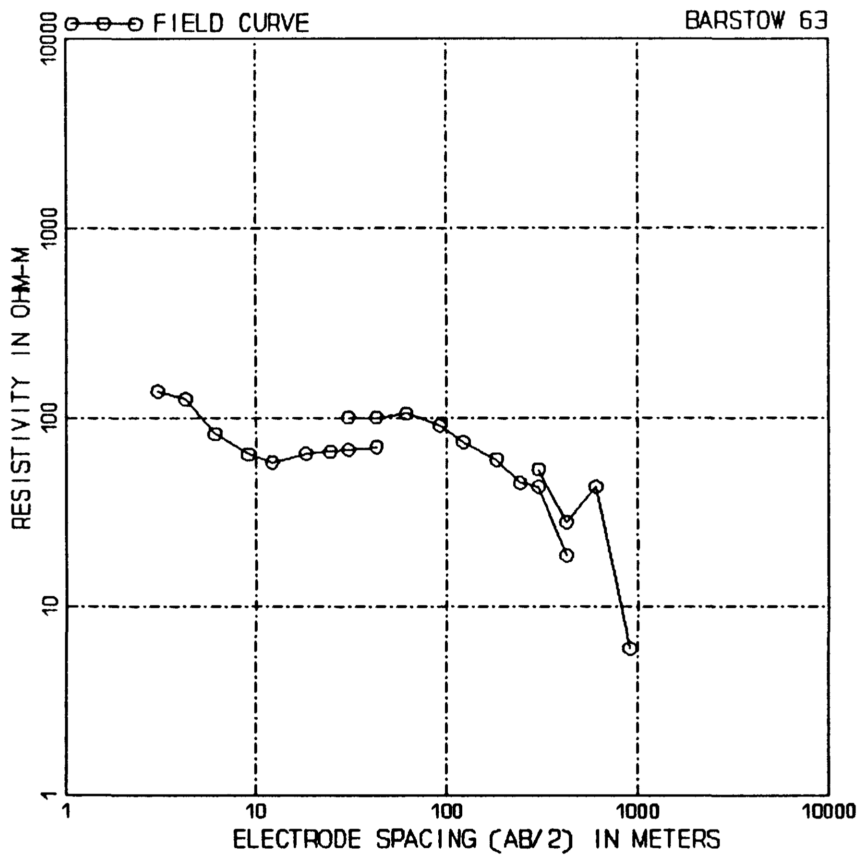
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.57 (	5.14)	38.35	49.51 (	162.42)	113.06
2.30 (	7.54)	43.35	72.66 (	238.40)	109.96
3.37 (	11.07)	89.90	106.66 (	349.92)	132.50
4.95 (	16.24)	196.64	156.55 (	513.61)	86.70
7.27 (	23.84)	346.68	229.78 (	753.88)	32.85
10.67 (	34.99)	457.16	337.27 (	1106.54)	27.87
15.65 (	51.36)	438.30	495.05 (	1624.19)	39.30
22.98 (	75.39)	308.74	726.64 (	2383.98)	47.02
33.73 (	110.65)	178.33	99999.00 (	99999.00)	51.43



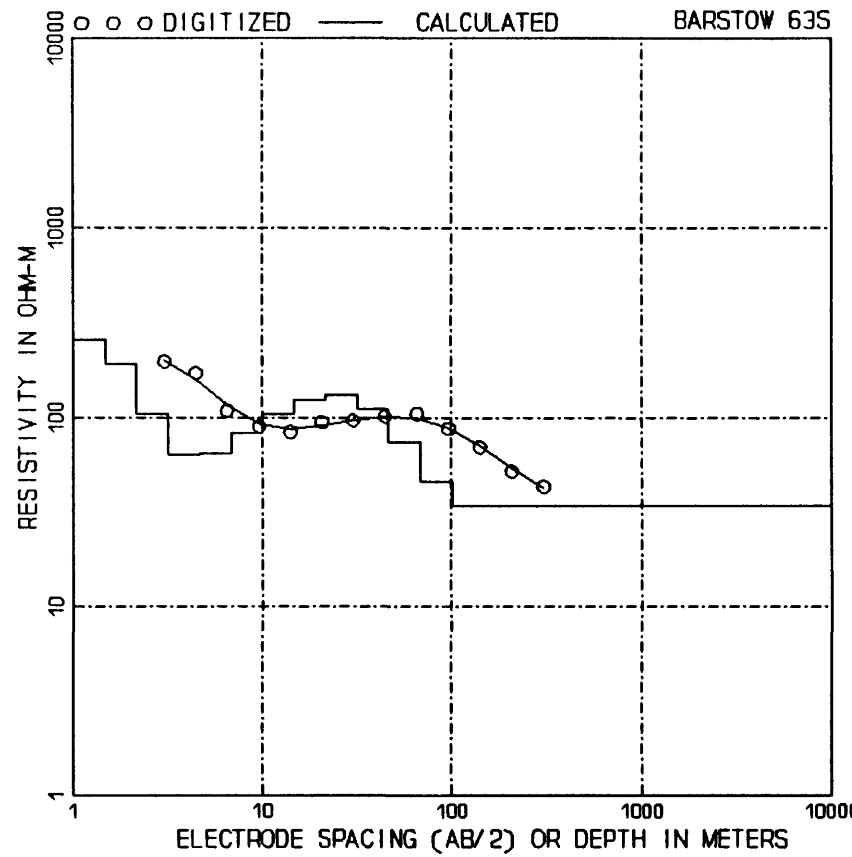
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	36.00	91.44 (	300.00)	118.00
4.27 (	14.00)	35.50	121.92 (	400.00)	103.00
6.10 (	20.00)	37.00	182.88 (	600.00)	71.00
9.14 (	30.00)	55.00	243.84 (	800.00)	50.00
12.19 (	40.00)	64.00	304.80 (	1000.00)	44.20
18.29 (	60.00)	85.00	304.80 (	1000.00)	45.50
24.38 (	80.00)	108.00	426.72 (	1400.00)	31.00
30.48 (	100.00)	120.00	609.60 (	2000.00)	36.50
30.48 (	100.00)	117.00	914.40 (	3000.00)	32.50
42.67 (	140.00)	133.00	1219.20 (	4000.00)	45.80
60.96 (	200.00)	129.00	1828.80 (	6000.00)	66.20
			2438.40 (	8000.00)	74.20



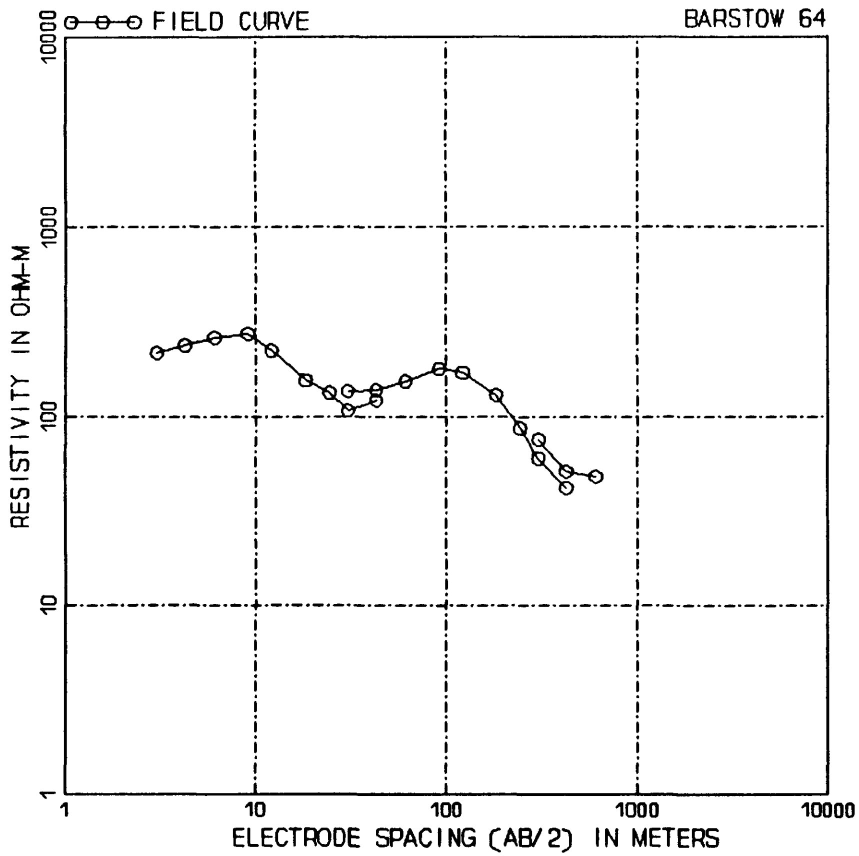
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.57 (	5.14)	35.26	49.51 (	162.42)	127.78
2.30 (	7.54)	22.86	72.66 (	238.40)	69.28
3.37 (	11.07)	32.23	106.66 (	349.92)	42.02
4.95 (	16.24)	59.75	156.55 (	513.61)	34.12
7.27 (	23.84)	113.29	229.78 (	753.88)	21.00
10.67 (	34.99)	191.72	337.27 (	1106.54)	17.23
15.65 (	51.36)	257.65	495.05 (	1624.19)	31.61
22.98 (	75.39)	262.55	726.64 (	2383.98)	69.43
33.73 (	110.65)	204.89	99999.00 (	99999.00)	143.21



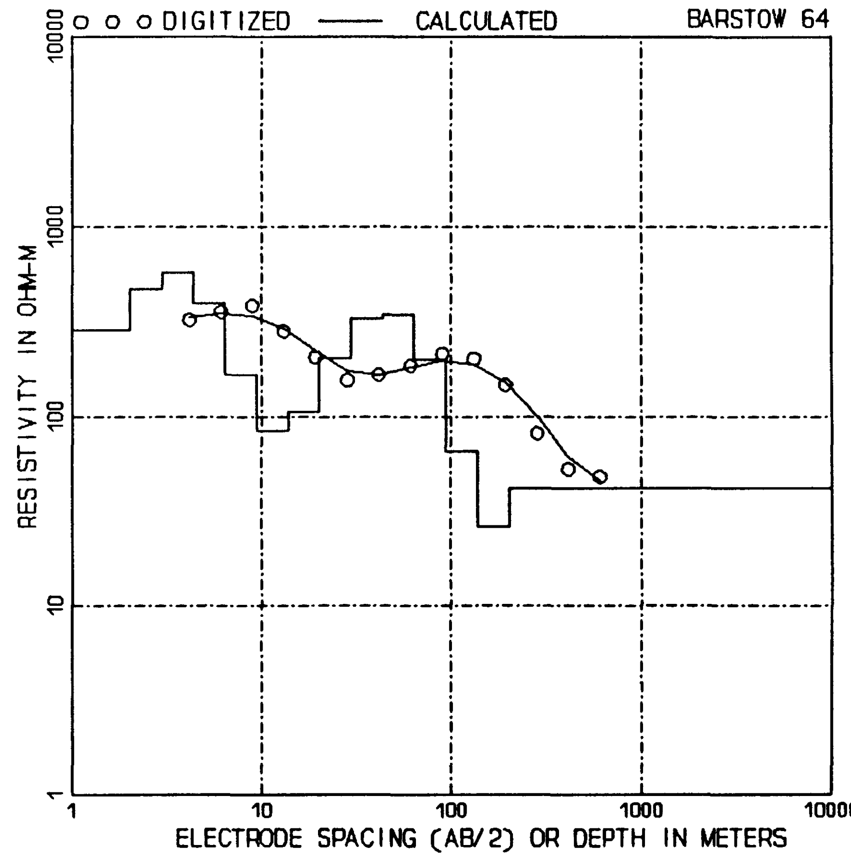
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	138.00	60.96	(200.00)	105.00
4.27	(14.00)	125.00	91.44	(300.00)	91.00
6.10	(20.00)	82.00	121.92	(400.00)	74.00
9.14	(30.00)	64.00	182.88	(600.00)	60.00
12.19	(40.00)	58.00	243.84	(800.00)	45.00
18.29	(60.00)	64.50	304.80	(1000.00)	43.00
24.38	(80.00)	66.00	426.72	(1400.00)	18.70
30.48	(100.00)	67.50	304.80	(1000.00)	53.00
42.67	(140.00)	70.00	426.72	(1400.00)	28.00
30.48	(100.00)	100.00	609.60	(2000.00)	43.00
42.67	(140.00)	100.00	914.40	(3000.00)	6.00



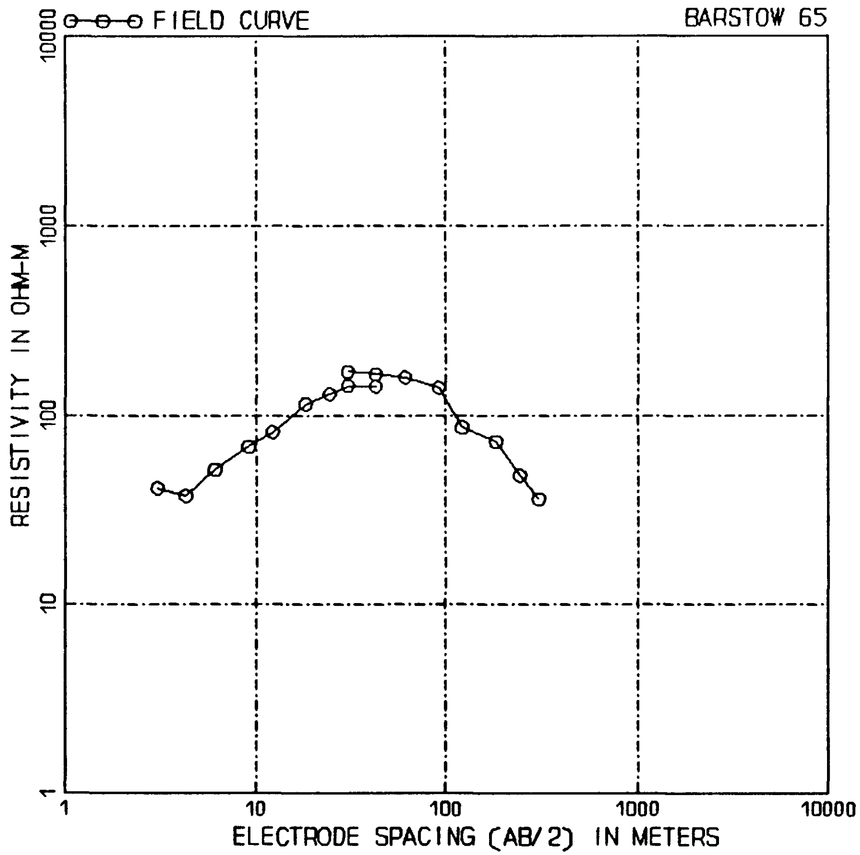
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	256.96	14.81	(48.60)	103.43
2.17	(7.13)	191.67	21.74	(71.34)	124.04
3.19	(10.47)	104.88	31.91	(104.71)	130.83
4.68	(15.37)	63.43	46.84	(153.69)	110.46
6.88	(22.56)	64.22	68.76	(225.58)	74.20
10.09	(33.11)	82.15	100.92	(331.11)	46.11
			99999.00	(99999.00)	34.01



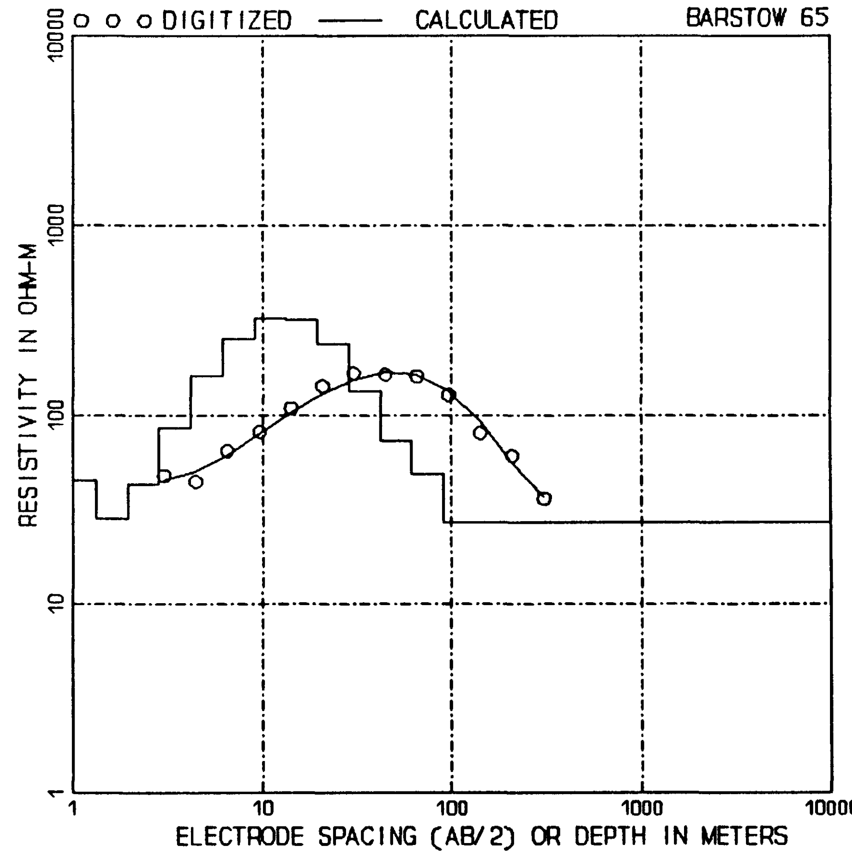
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	216.00	42.67	(140.00)	137.00
4.27	(14.00)	236.00	60.96	(200.00)	153.00
6.10	(20.00)	260.00	91.44	(300.00)	178.00
9.14	(30.00)	272.00	121.92	(400.00)	170.00
12.19	(40.00)	222.00	182.88	(600.00)	130.00
18.29	(60.00)	155.00	243.84	(800.00)	86.00
24.38	(80.00)	133.00	304.80	(1000.00)	60.00
30.48	(100.00)	107.00	426.72	(1400.00)	42.00
42.67	(140.00)	122.00	304.80	(1000.00)	75.00
30.48	(100.00)	136.00	426.72	(1400.00)	51.00
			609.60	(2000.00)	48.00



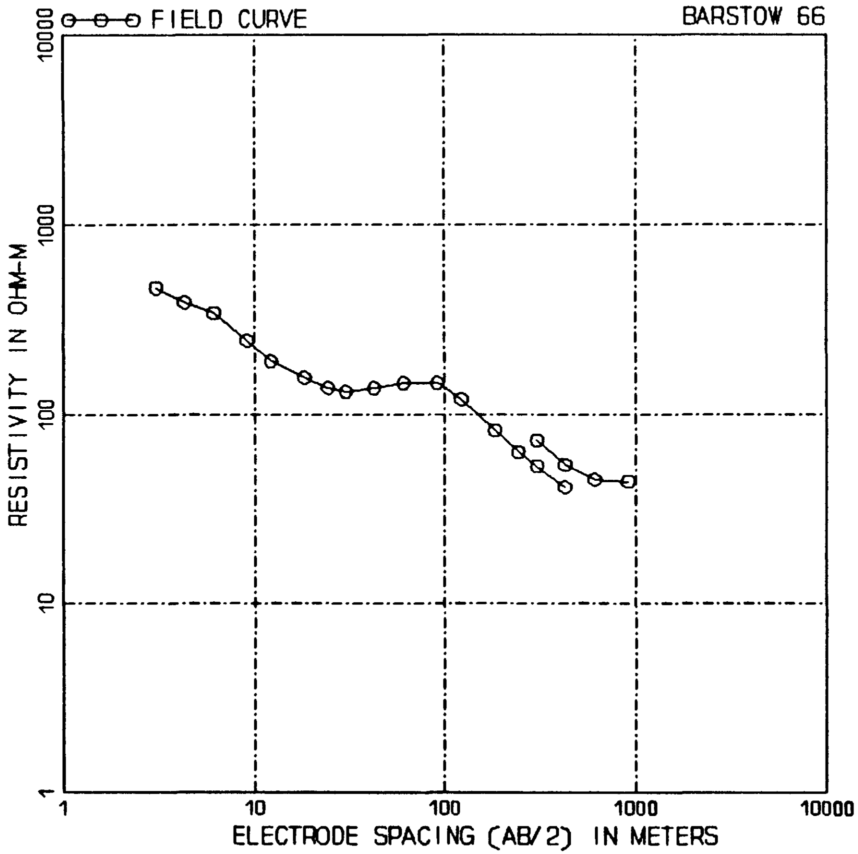
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.02	(6.62)	283.32	29.63	(97.20)	203.50
2.96	(9.72)	469.17	43.49	(142.67)	326.11
4.35	(14.27)	570.20	63.83	(209.41)	344.53
6.38	(20.94)	397.30	93.69	(307.37)	201.08
9.37	(30.74)	166.88	137.51	(451.16)	65.27
13.75	(45.12)	83.64	201.84	(662.22)	26.29
20.18	(66.22)	106.05	99999.00	(99999.00)	41.68



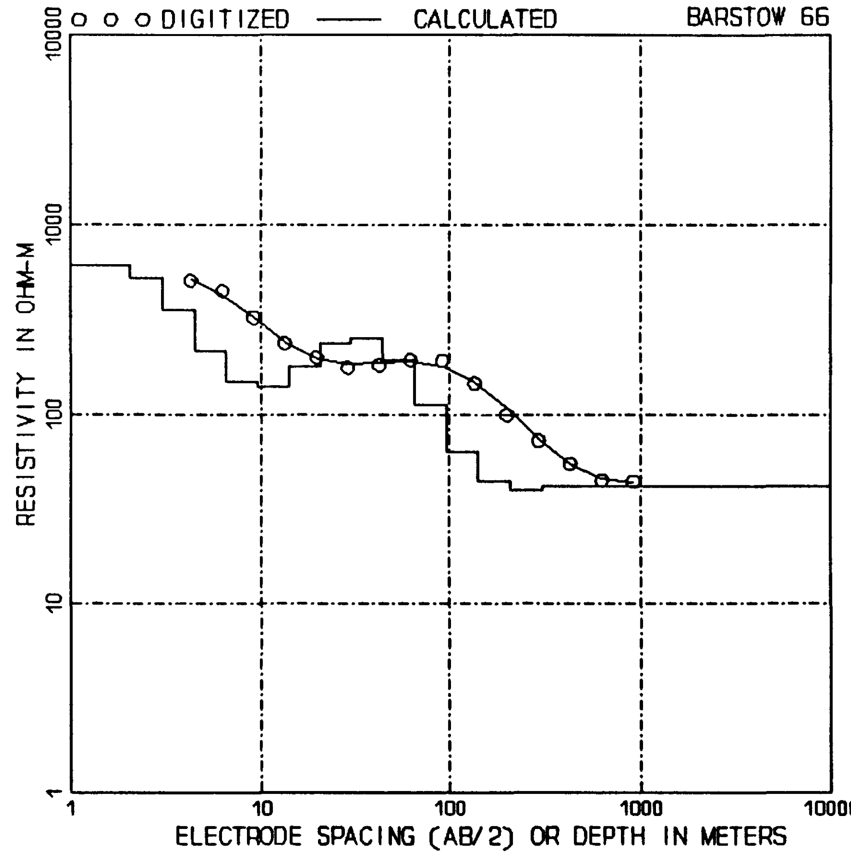
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	41.00	42.67 (	140.00)	142.00
4.27 (	14.00)	37.50	30.48 (	100.00)	170.00
6.10 (	20.00)	51.50	42.67 (	140.00)	165.00
9.14 (	30.00)	68.00	60.96 (	200.00)	158.00
12.19 (	40.00)	81.50	91.44 (	300.00)	140.00
18.29 (	60.00)	115.00	121.92 (	400.00)	86.00
24.38 (	80.00)	130.00	182.88 (	600.00)	72.50
30.48 (	100.00)	143.00	243.84 (	800.00)	48.00
			304.80 (	1000.00)	36.00



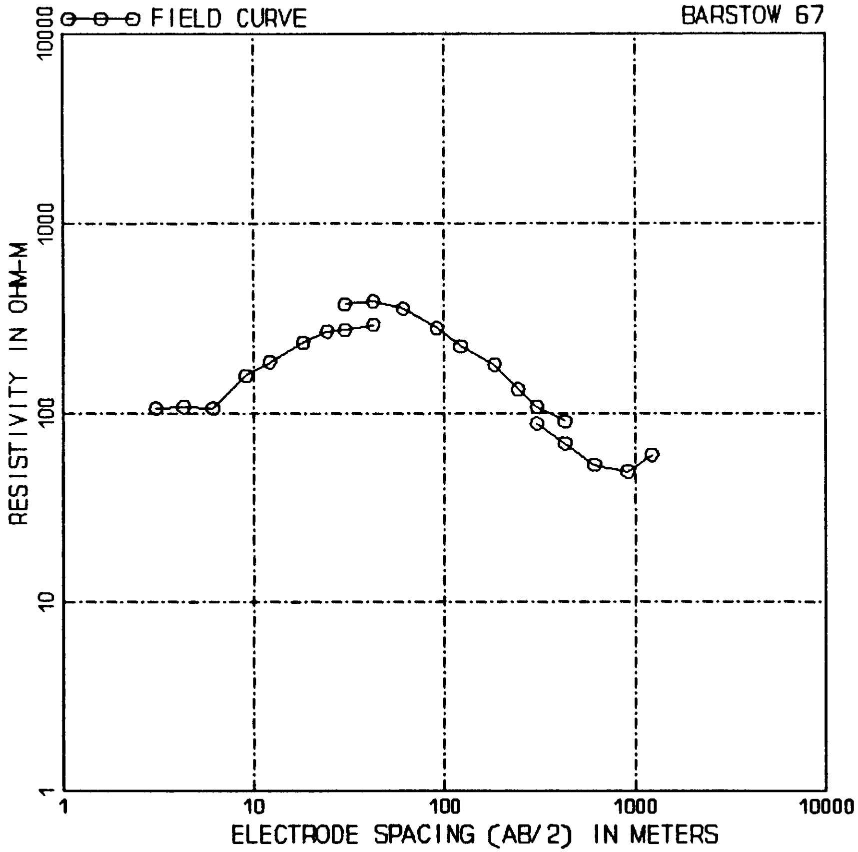
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.33 (	4.37)	45.36	13.33 (	43.74)	322.17
1.96 (	6.42)	28.10	19.57 (	64.20)	317.26
2.87 (	9.42)	43.10	28.72 (	94.23)	235.85
4.22 (	13.83)	85.33	42.16 (	138.32)	134.11
6.19 (	20.30)	159.69	61.88 (	203.02)	72.42
9.08 (	29.80)	253.93	90.83 (	298.00)	48.95
			99999.00 (	99999.00)	27.08



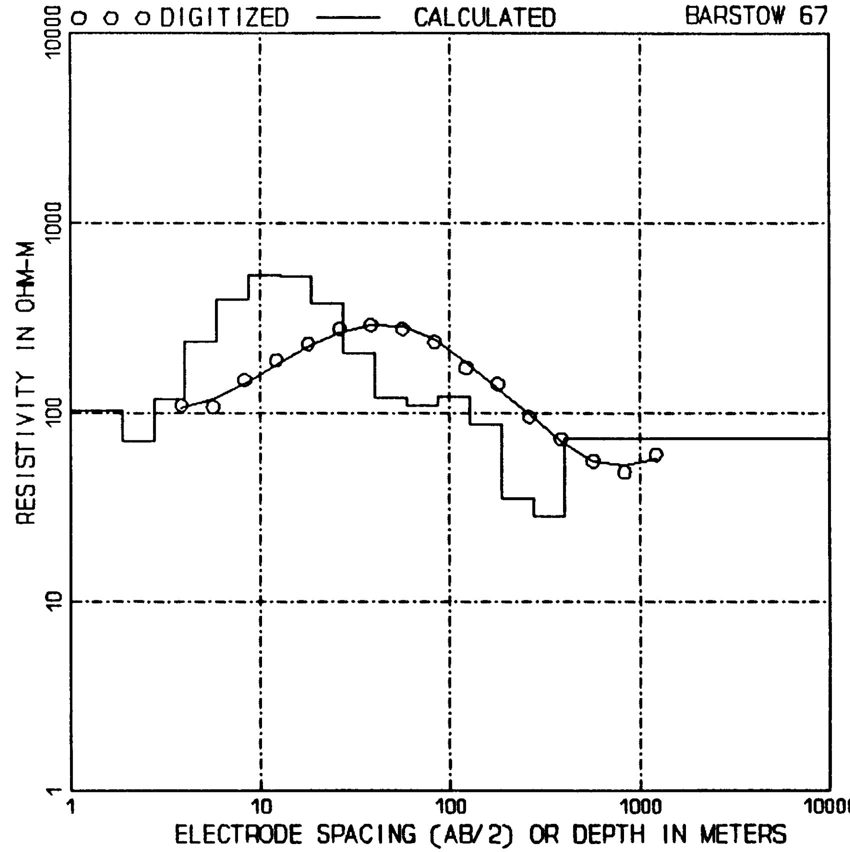
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	465.00	60.96	(200.00)	146.00
4.27	(14.00)	390.00	91.44	(300.00)	146.00
6.10	(20.00)	342.00	121.92	(400.00)	120.00
9.14	(30.00)	245.00	182.88	(600.00)	82.00
12.19	(40.00)	190.00	243.84	(800.00)	63.00
18.29	(60.00)	156.00	304.80	(1000.00)	53.00
24.38	(80.00)	138.00	426.72	(1400.00)	41.00
30.48	(100.00)	131.00	304.80	(1000.00)	72.50
30.48	(100.00)	132.00	426.72	(1400.00)	54.00
42.67	(140.00)	137.00	609.60	(2000.00)	45.00
			914.40	(3000.00)	44.00



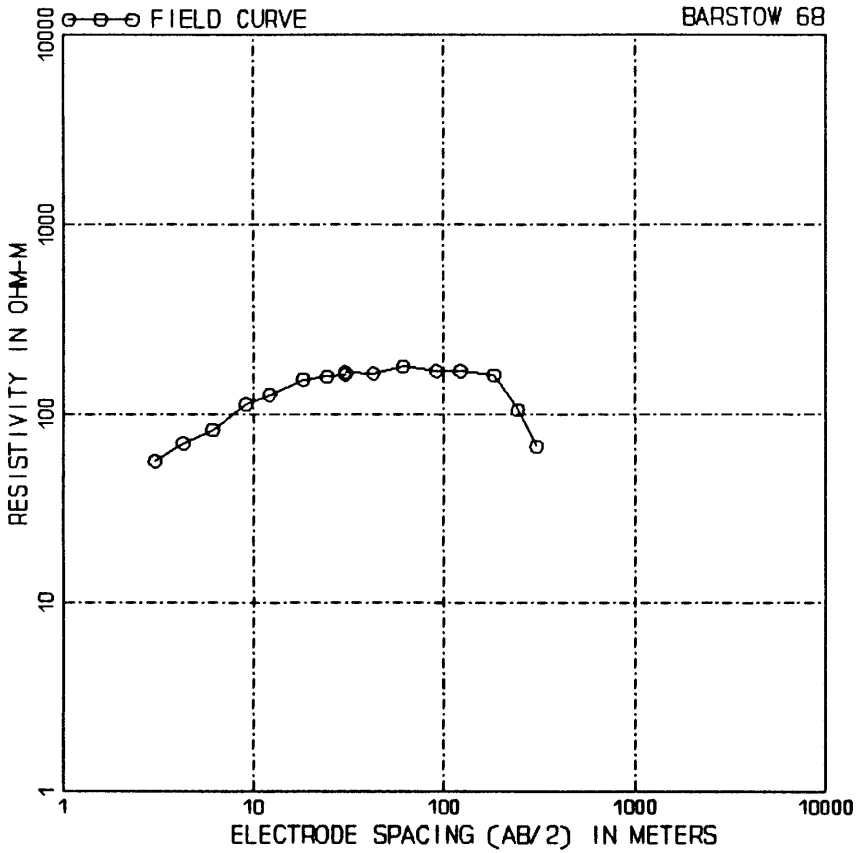
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.06	(6.77)	613.11	30.28	(99.33)	235.48
3.03	(9.93)	523.19	44.44	(145.80)	251.21
4.44	(14.58)	355.69	65.23	(214.01)	192.19
6.52	(21.40)	215.01	95.74	(314.12)	112.16
9.57	(31.41)	148.15	140.53	(461.06)	63.92
14.05	(46.11)	140.23	206.27	(676.74)	44.65
20.63	(67.67)	178.09	302.77	(993.32)	39.75
			99999.00	(99999.00)	41.95



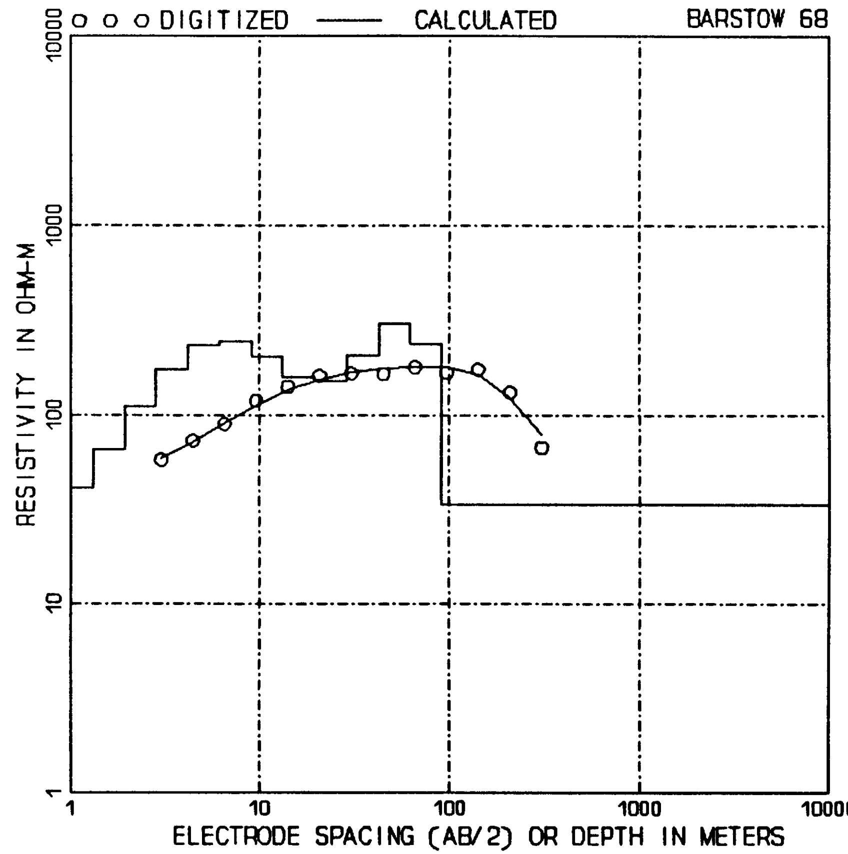
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	106.00	60.96	(200.00)	356.00
4.27	(14.00)	108.00	91.44	(300.00)	280.00
6.10	(20.00)	106.00	121.92	(400.00)	225.00
9.14	(30.00)	157.00	182.88	(600.00)	180.00
12.19	(40.00)	186.00	243.84	(800.00)	133.00
18.29	(60.00)	235.00	304.80	(1000.00)	108.00
24.38	(80.00)	270.00	426.72	(1400.00)	90.00
30.48	(100.00)	275.00	304.80	(1000.00)	88.00
42.67	(140.00)	292.00	426.72	(1400.00)	69.00
30.48	(100.00)	375.00	609.60	(2000.00)	53.00
42.67	(140.00)	388.00	914.40	(3000.00)	49.00
			1219.20	(4000.00)	60.00



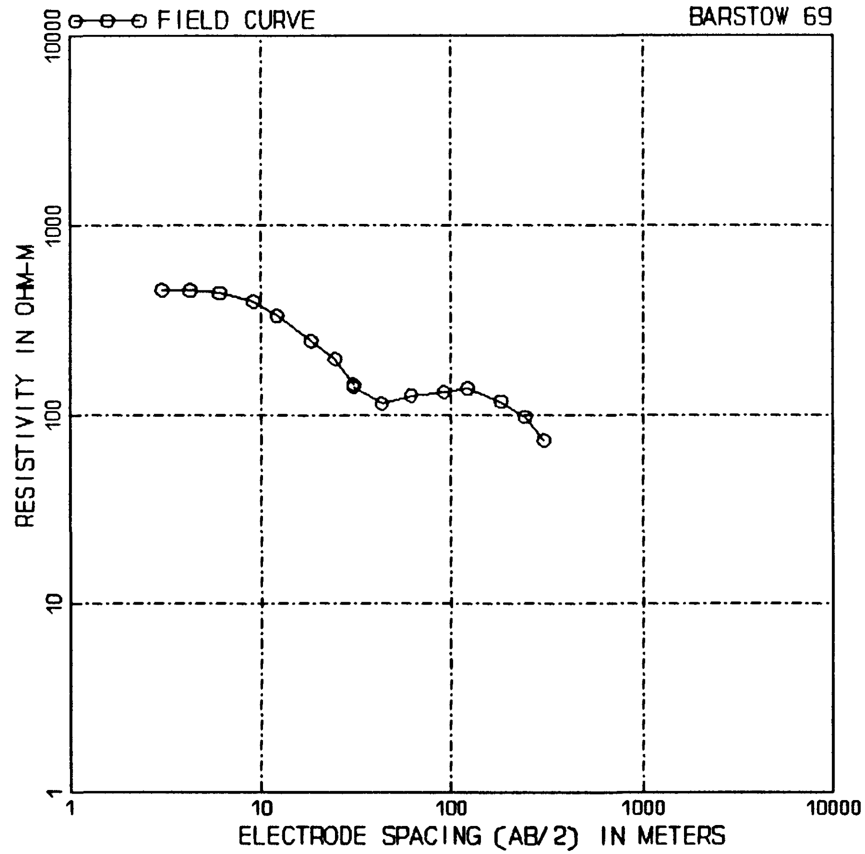
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	103.26	40.37	(132.44)	207.40
2.75	(9.02)	70.57	59.25	(194.40)	120.17
4.04	(13.24)	117.28	86.97	(285.34)	109.50
5.93	(19.44)	236.12	127.66	(418.82)	122.51
8.70	(28.53)	397.78	187.37	(614.75)	86.36
12.77	(41.88)	528.21	275.03	(902.33)	34.99
18.74	(61.47)	525.61	403.69	(1324.43)	28.35
27.50	(90.23)	377.16	99999.00	(99999.00)	72.82



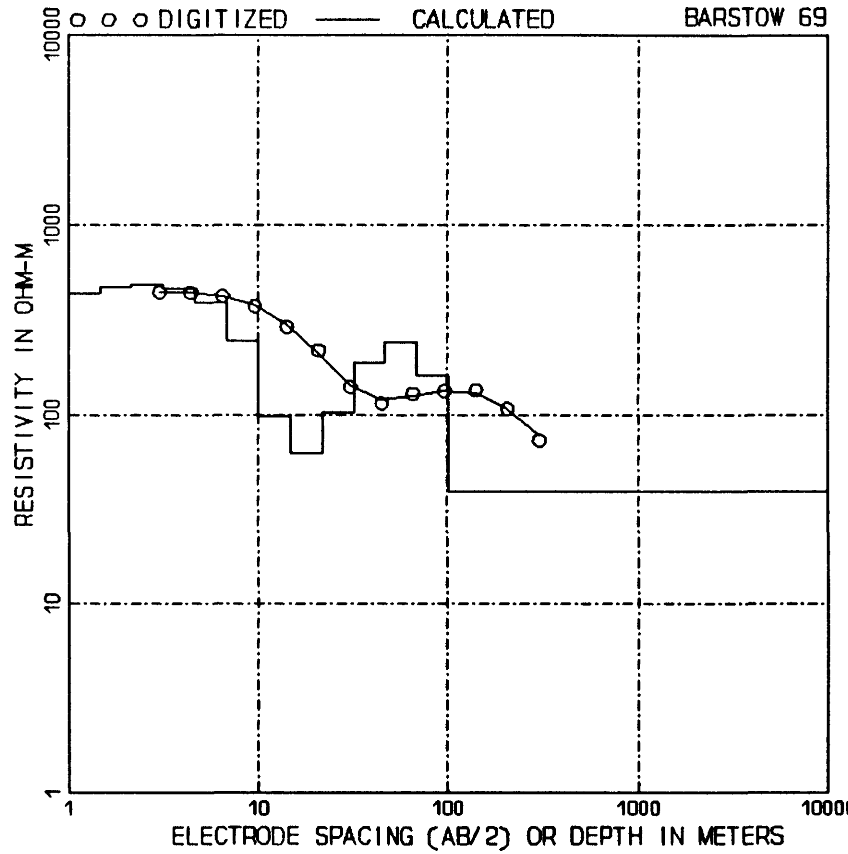
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	56.00	30.48	(100.00)	166.00
4.27	(14.00)	69.50	42.67	(140.00)	164.00
6.10	(20.00)	81.80	60.96	(200.00)	178.00
9.14	(30.00)	112.00	91.44	(300.00)	169.00
12.19	(40.00)	126.00	121.92	(400.00)	168.00
18.29	(60.00)	152.00	182.88	(600.00)	160.00
24.38	(80.00)	157.00	243.84	(800.00)	105.00
30.48	(100.00)	161.00	304.80	(1000.00)	67.00



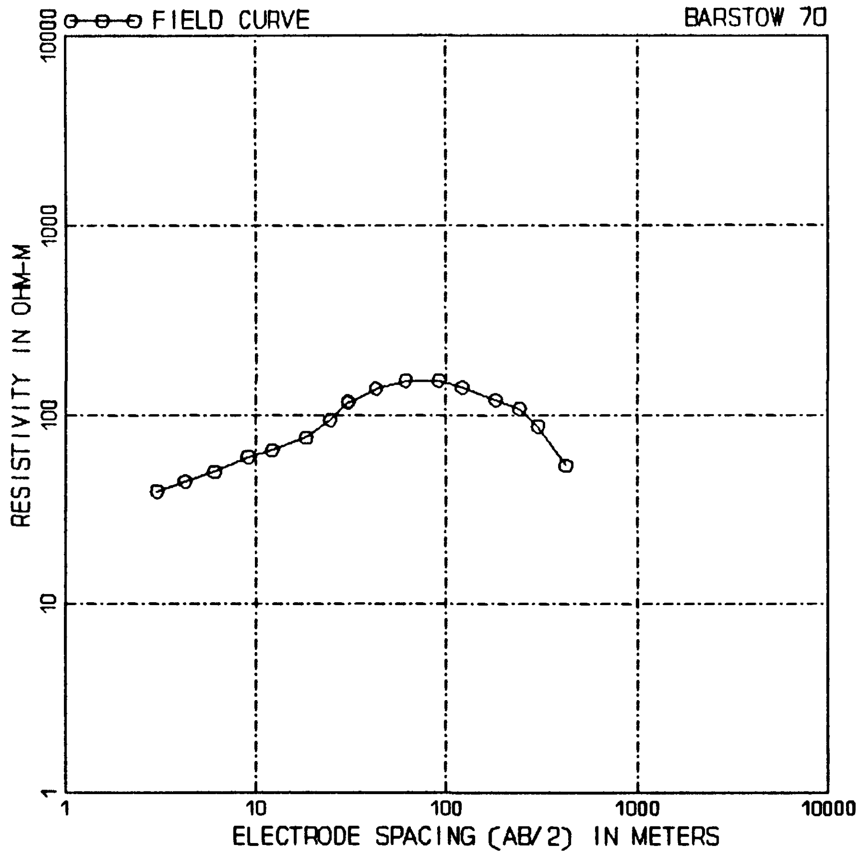
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.33	(4.37)	41.28	13.33	(43.74)	202.41
1.96	(6.42)	65.89	19.57	(64.20)	157.15
2.87	(9.42)	110.31	28.72	(94.23)	150.32
4.22	(13.83)	175.09	42.16	(138.32)	206.09
6.19	(20.30)	233.98	61.88	(203.02)	305.74
9.08	(29.80)	244.25	90.83	(298.00)	236.52
			99999.00	(99999.00)	33.46



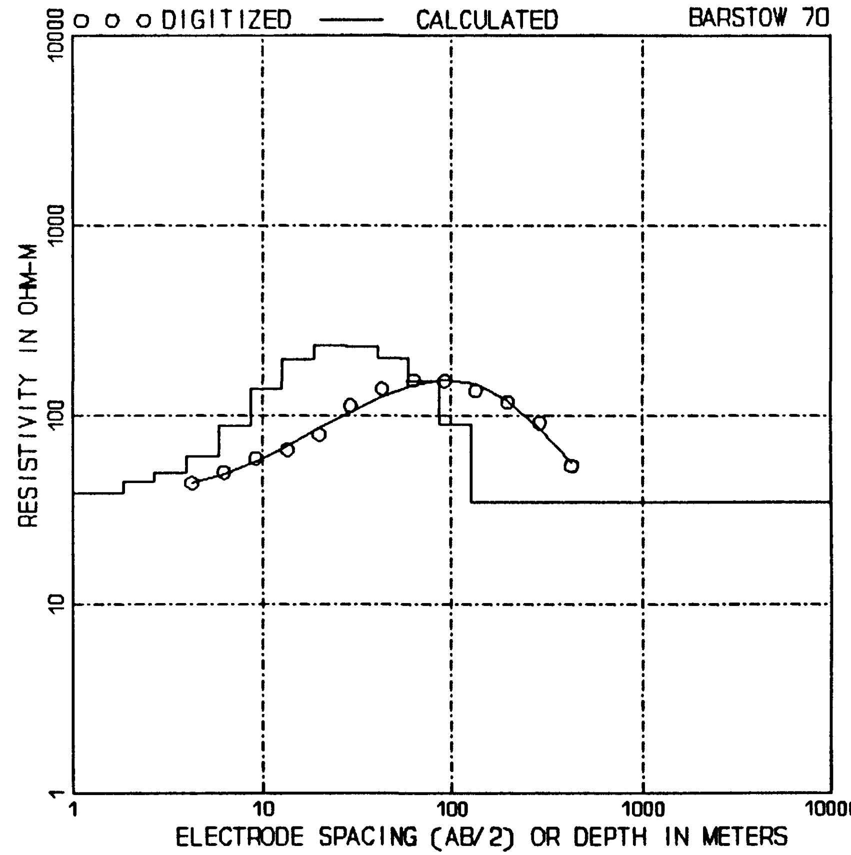
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	455.00	30.48	(100.00)	140.00
4.27	(14.00)	452.00	42.67	(140.00)	114.00
6.10	(20.00)	438.00	60.96	(200.00)	126.00
9.14	(30.00)	395.00	91.44	(300.00)	132.00
12.19	(40.00)	332.00	121.92	(400.00)	137.00
18.29	(60.00)	245.00	182.88	(600.00)	117.00
24.38	(80.00)	197.00	243.84	(800.00)	97.00
30.48	(100.00)	144.00	304.80	(1000.00)	73.00



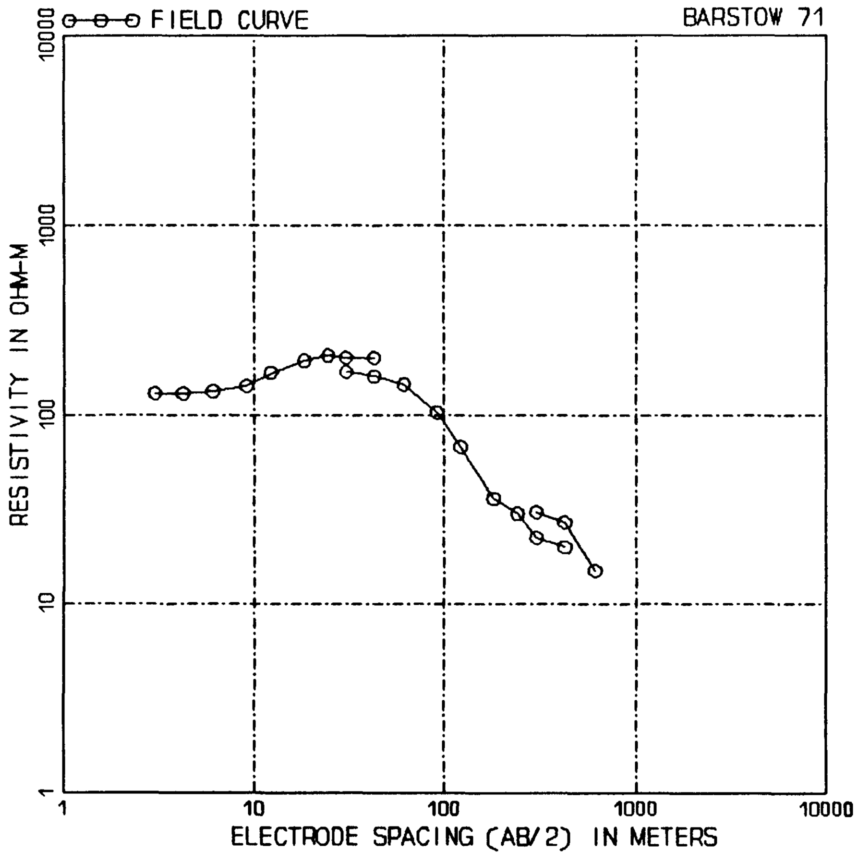
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	434.86	14.81	(48.60)	98.10
2.17	(7.13)	465.22	21.74	(71.34)	62.76
3.19	(10.47)	481.25	31.91	(104.71)	103.01
4.68	(15.37)	458.16	46.84	(153.69)	186.40
6.88	(22.56)	391.90	68.76	(225.58)	240.50
10.09	(33.11)	246.00	100.92	(331.11)	160.60
			99999.00	(99999.00)	39.22



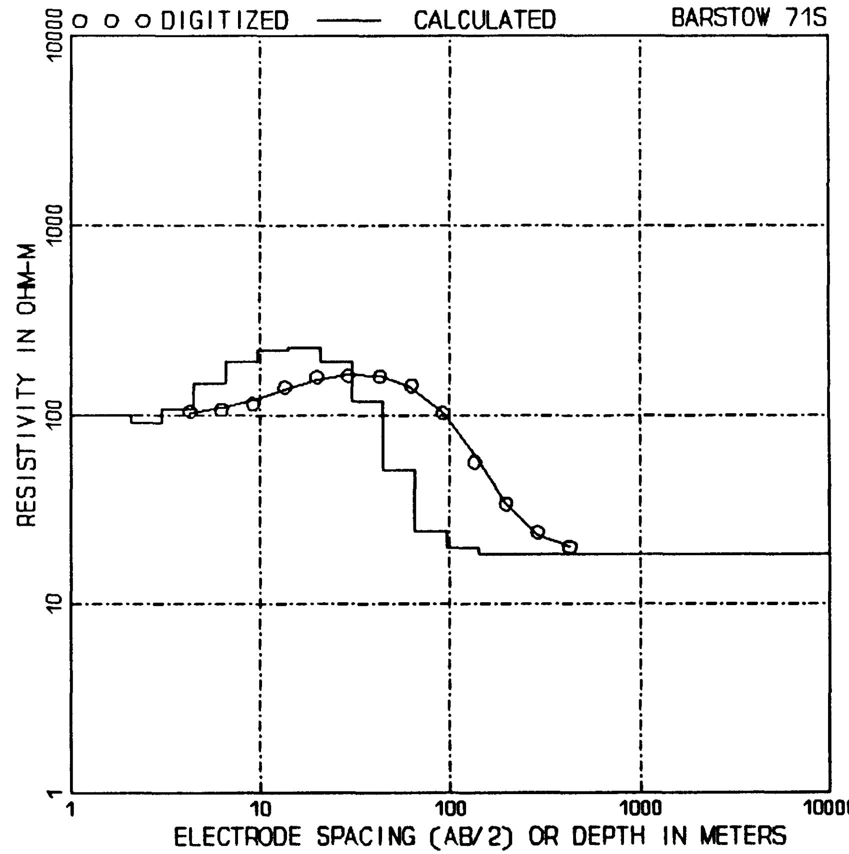
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	39.50	30.48 (	100.00)	116.00
4.27 (	14.00)	44.50	42.67 (	140.00)	138.00
6.10 (	20.00)	50.00	60.96 (	200.00)	152.00
9.14 (	30.00)	60.00	91.44 (	300.00)	152.00
12.19 (	40.00)	65.00	121.92 (	400.00)	140.00
18.29 (	60.00)	76.00	182.88 (	600.00)	120.00
24.38 (	80.00)	94.00	243.84 (	800.00)	108.00
30.48 (	100.00)	118.00	304.80 (	1000.00)	87.00
			426.72 (	1400.00)	54.00



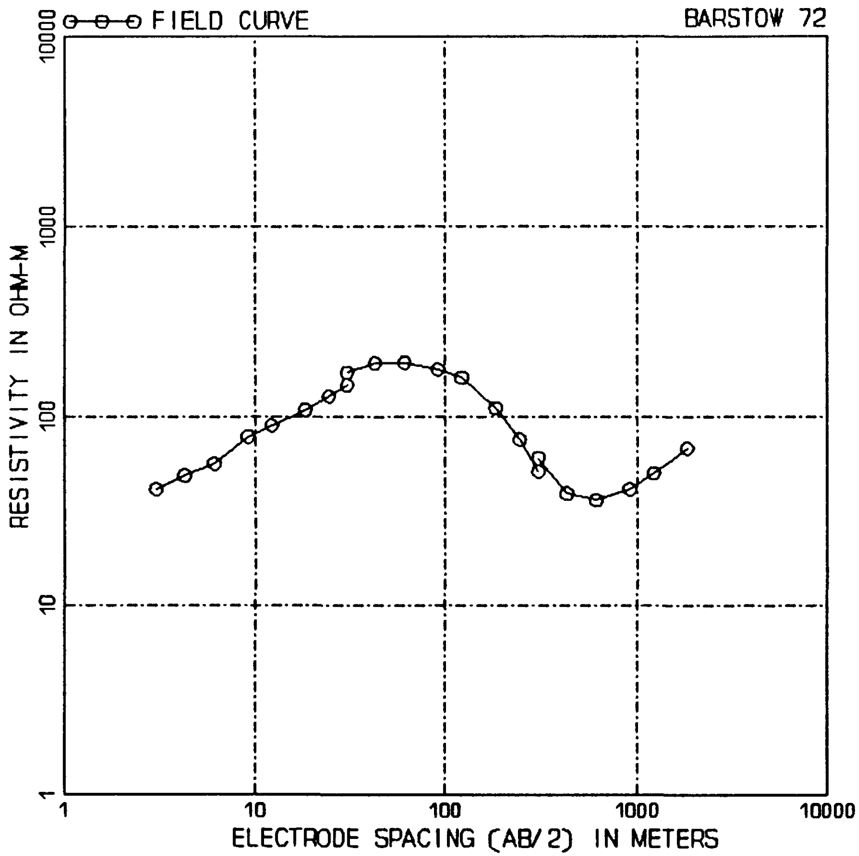
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.87 (	6.12)	38.63	18.66 (	61.24)	196.21
2.74 (	8.99)	44.68	27.40 (	89.88)	233.33
4.02 (	13.19)	49.32	40.21 (	131.93)	231.28
5.90 (	19.36)	60.03	59.02 (	193.65)	198.91
8.66 (	28.42)	88.25	86.63 (	284.23)	150.83
12.72 (	41.72)	138.35	127.16 (	417.20)	88.88
			99999.00 (	99999.00)	34.87



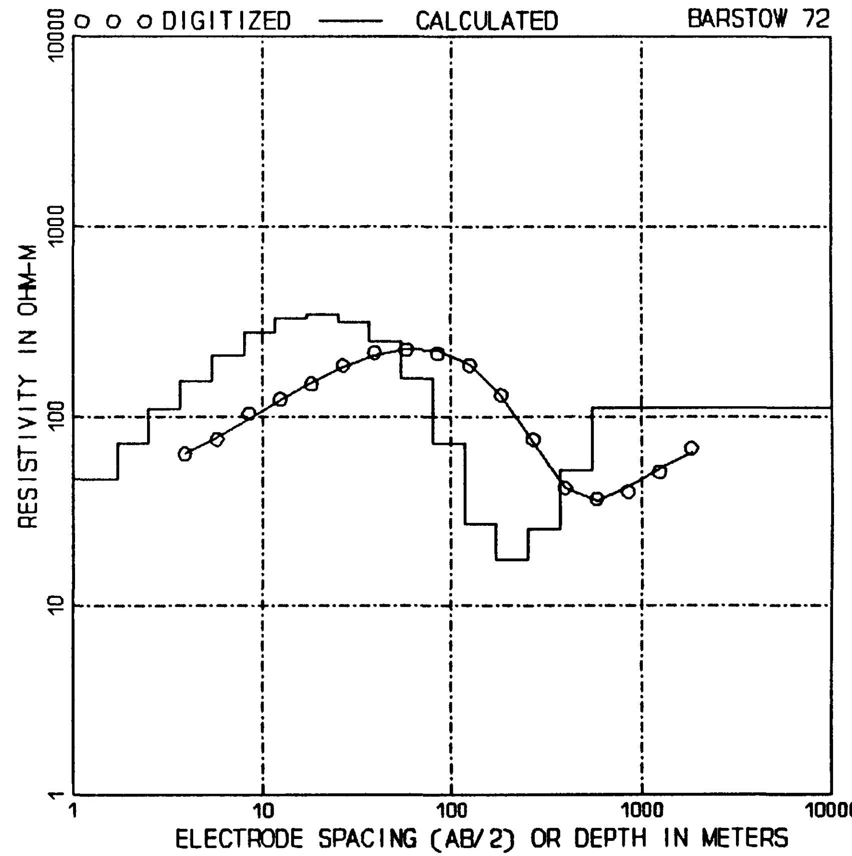
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	130.00	42.67	(140.00)	160.00
4.27	(14.00)	130.00	60.96	(200.00)	145.00
6.10	(20.00)	133.00	91.44	(300.00)	103.00
9.14	(30.00)	142.00	121.92	(400.00)	67.50
12.19	(40.00)	167.00	182.88	(600.00)	36.00
18.29	(60.00)	193.00	243.84	(800.00)	30.00
24.38	(80.00)	205.00	304.80	(1000.00)	22.50
30.48	(100.00)	200.00	426.72	(1400.00)	20.00
42.67	(140.00)	200.00	304.80	(1000.00)	30.50
30.48	(100.00)	168.00	426.72	(1400.00)	27.00
			609.60	(2000.00)	15.00



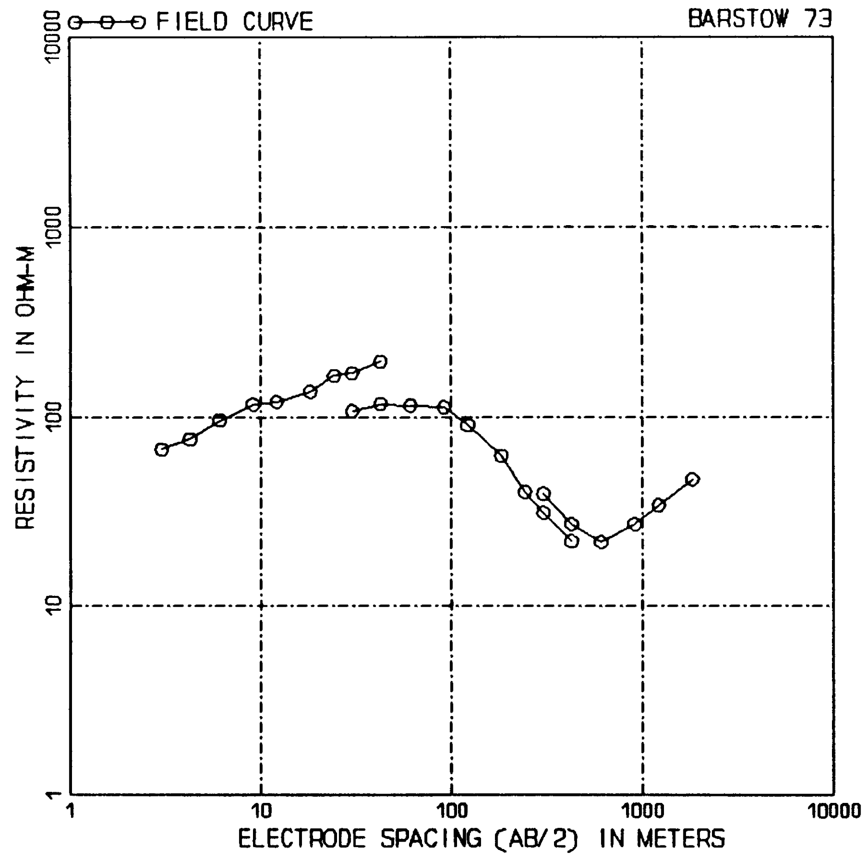
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.07	(6.80)	99.10	20.74	(68.04)	224.90
3.04	(9.99)	90.66	30.44	(99.87)	191.69
4.47	(14.66)	106.88	44.68	(146.59)	117.15
6.56	(21.52)	146.77	65.58	(215.16)	50.61
9.63	(31.58)	190.20	96.26	(315.81)	24.20
14.13	(46.36)	218.88	141.29	(463.55)	19.85
			99999.00	(99999.00)	18.36



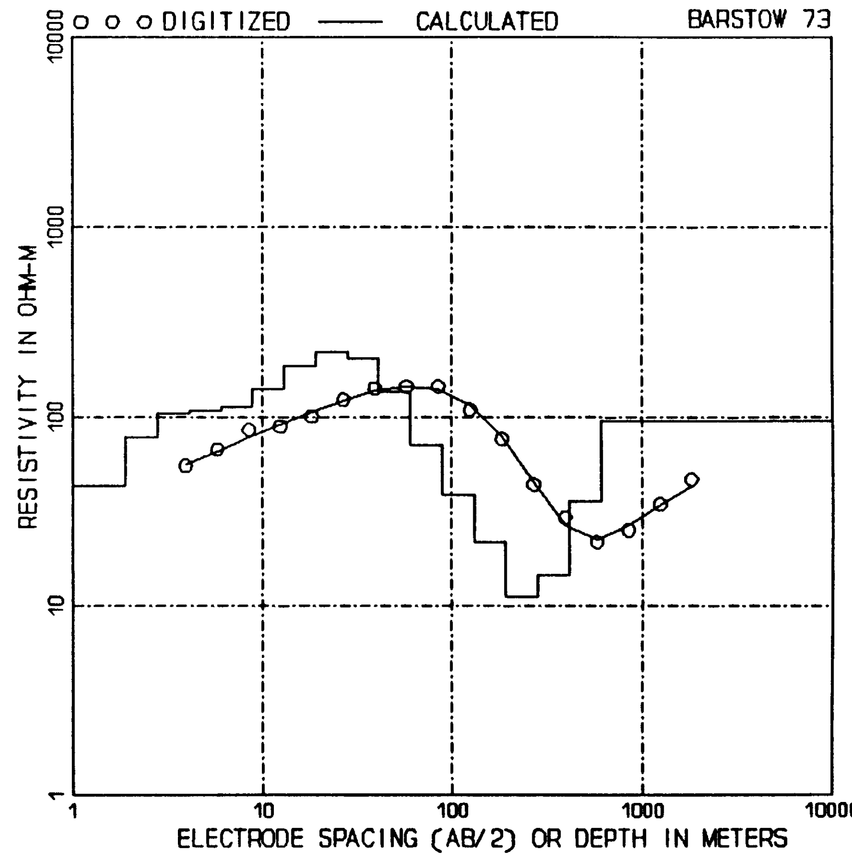
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	41.00	91.44	(300.00)	177.00
4.27	(14.00)	48.50	121.92	(400.00)	160.00
6.10	(20.00)	56.00	182.88	(600.00)	110.00
9.14	(30.00)	78.00	243.84	(800.00)	75.00
12.19	(40.00)	89.00	304.80	(1000.00)	51.00
18.29	(60.00)	108.00	304.80	(1000.00)	60.00
24.38	(80.00)	128.00	426.72	(1400.00)	39.00
30.48	(100.00)	146.00	609.60	(2000.00)	36.00
30.48	(100.00)	170.00	914.40	(3000.00)	41.00
42.67	(140.00)	190.00	1219.20	(4000.00)	50.00
60.96	(200.00)	192.00	1828.80	(6000.00)	67.60



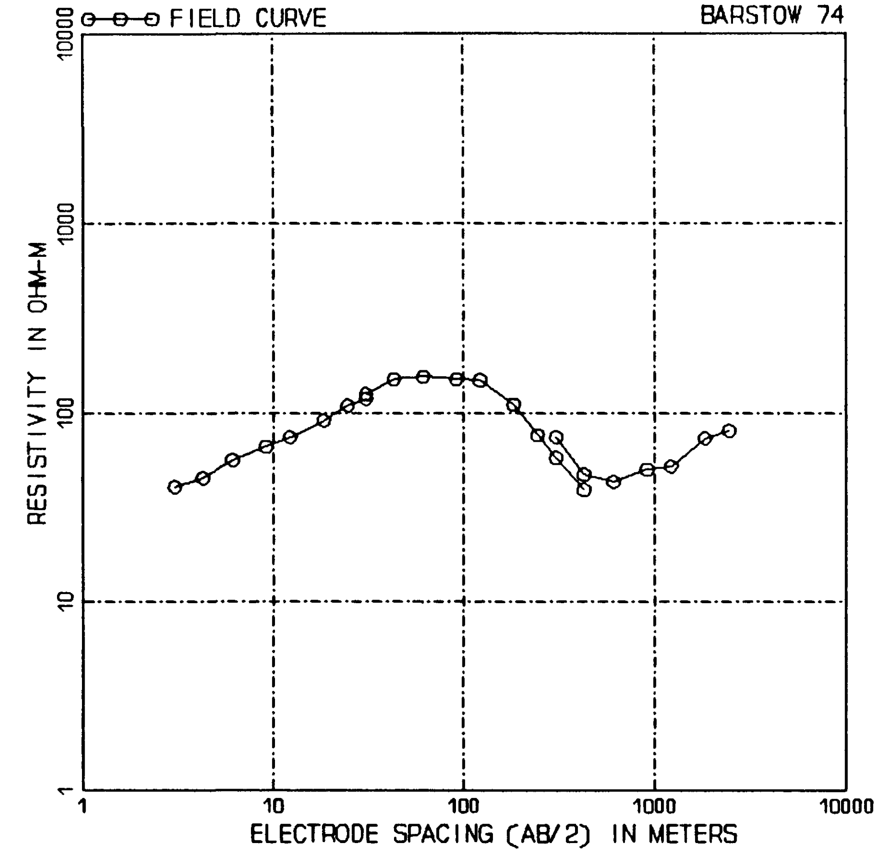
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.72	(5.65)	46.49	37.13	(121.81)	310.95
2.53	(8.30)	72.22	54.50	(178.80)	246.55
3.71	(12.18)	108.75	79.99	(262.44)	157.15
5.45	(17.88)	152.67	117.41	(385.21)	71.95
8.00	(26.24)	209.05	172.34	(565.41)	26.96
11.74	(38.52)	275.66	252.96	(829.91)	17.40
17.23	(56.54)	328.22	371.29	(1218.14)	25.40
25.30	(82.99)	340.86	544.98	(1787.98)	51.81
			99999.00	(99999.00)	110.16

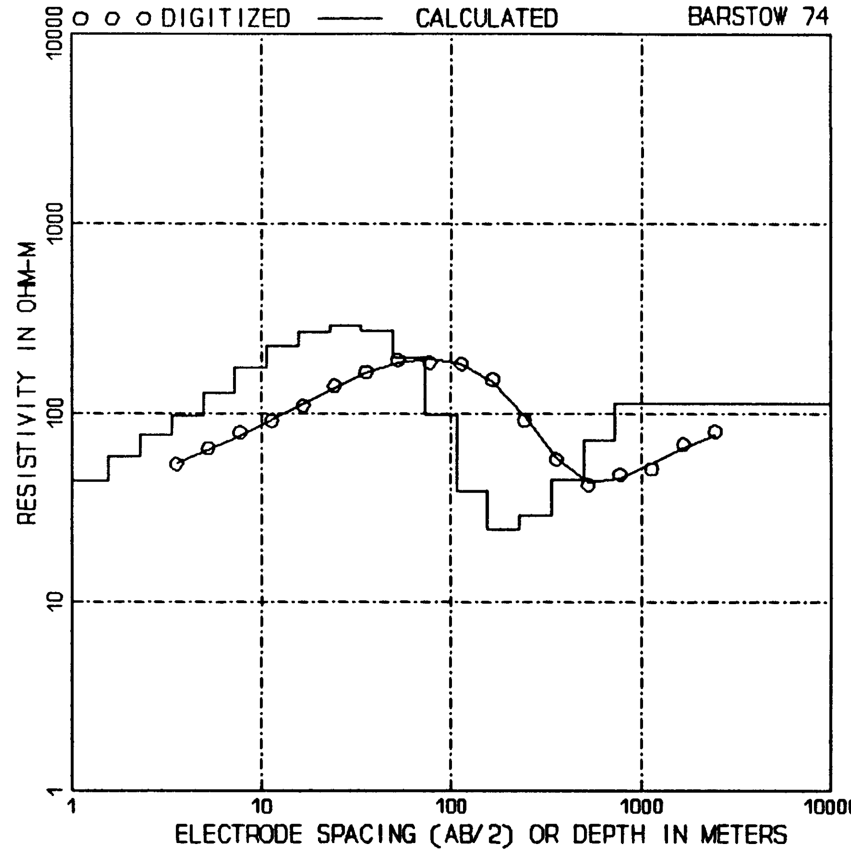


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	67.00	91.44	(300.00)	112.00
4.27	(14.00)	76.00	121.92	(400.00)	90.00
6.10	(20.00)	95.50	182.88	(600.00)	62.00
9.14	(30.00)	116.00	243.84	(800.00)	40.00
12.19	(40.00)	120.00	304.80	(1000.00)	31.00
18.29	(60.00)	136.00	426.72	(1400.00)	22.00
24.38	(80.00)	165.00	304.80	(1000.00)	39.00
30.48	(100.00)	170.00	426.72	(1400.00)	27.00
42.67	(140.00)	195.00	609.60	(2000.00)	21.70
30.48	(100.00)	107.00	914.40	(3000.00)	27.00
42.67	(140.00)	117.00	1219.20	(4000.00)	34.00
60.96	(200.00)	115.00	1828.80	(6000.00)	46.50



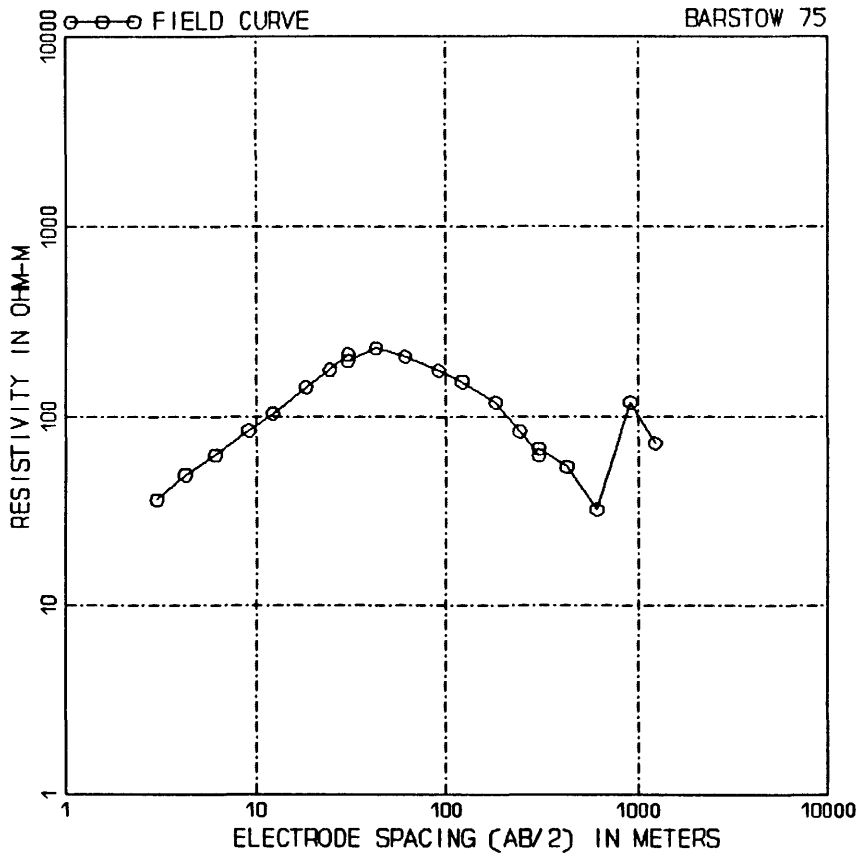
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	42.95	41.25	(135.35)	203.18
2.81	(9.22)	77.07	60.55	(198.66)	135.78
4.13	(13.53)	103.84	88.88	(291.60)	70.77
6.06	(19.87)	107.84	130.46	(428.01)	38.39
8.89	(29.16)	112.96	191.49	(628.23)	21.80
13.05	(42.80)	140.27	281.06	(922.12)	11.13
19.15	(62.82)	185.54	412.54	(1353.49)	14.63
28.11	(92.21)	219.40	605.53	(1986.65)	35.86
			99999.00	(99999.00)	94.73



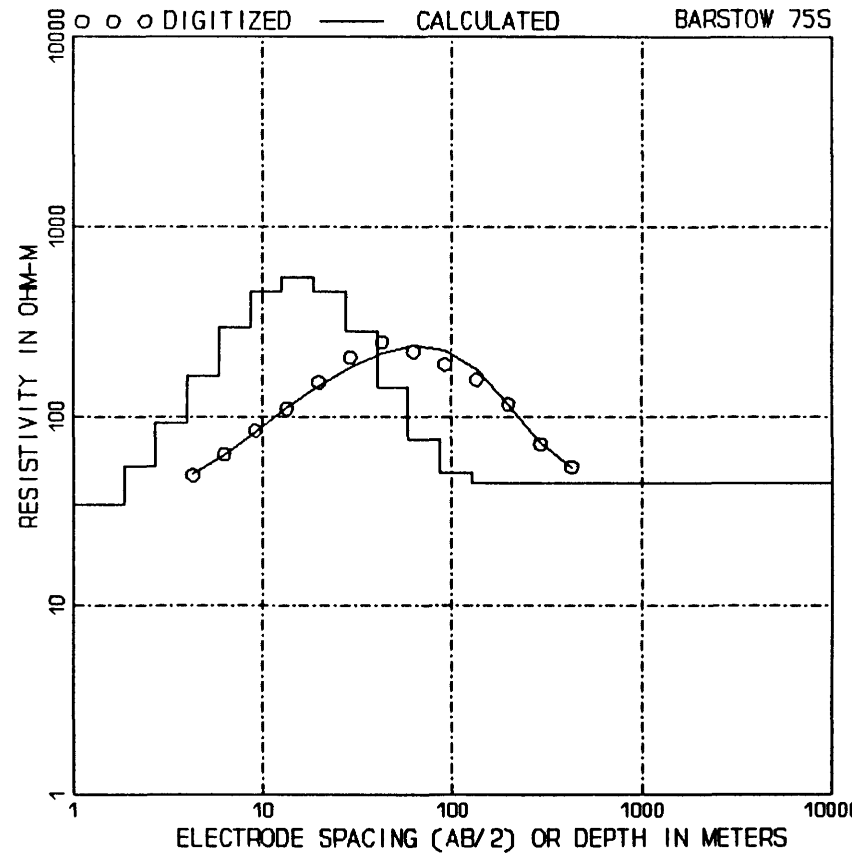


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	40.50	121.92	(400.00)	148.00
4.27	(14.00)	45.00	182.88	(600.00)	110.00
6.10	(20.00)	56.00	243.84	(800.00)	76.00
9.14	(30.00)	66.00	304.80	(1000.00)	57.50
12.19	(40.00)	74.00	426.72	(1400.00)	39.00
18.29	(60.00)	91.00	304.80	(1000.00)	74.00
24.38	(80.00)	109.00	426.72	(1400.00)	47.00
30.48	(100.00)	118.00	609.60	(2000.00)	43.00
30.48	(100.00)	125.00	914.40	(3000.00)	50.00
42.67	(140.00)	150.00	1219.20	(4000.00)	52.00
60.96	(200.00)	155.00	1828.80	(6000.00)	73.00
91.44	(300.00)	150.00	2438.40	(8000.00)	80.00

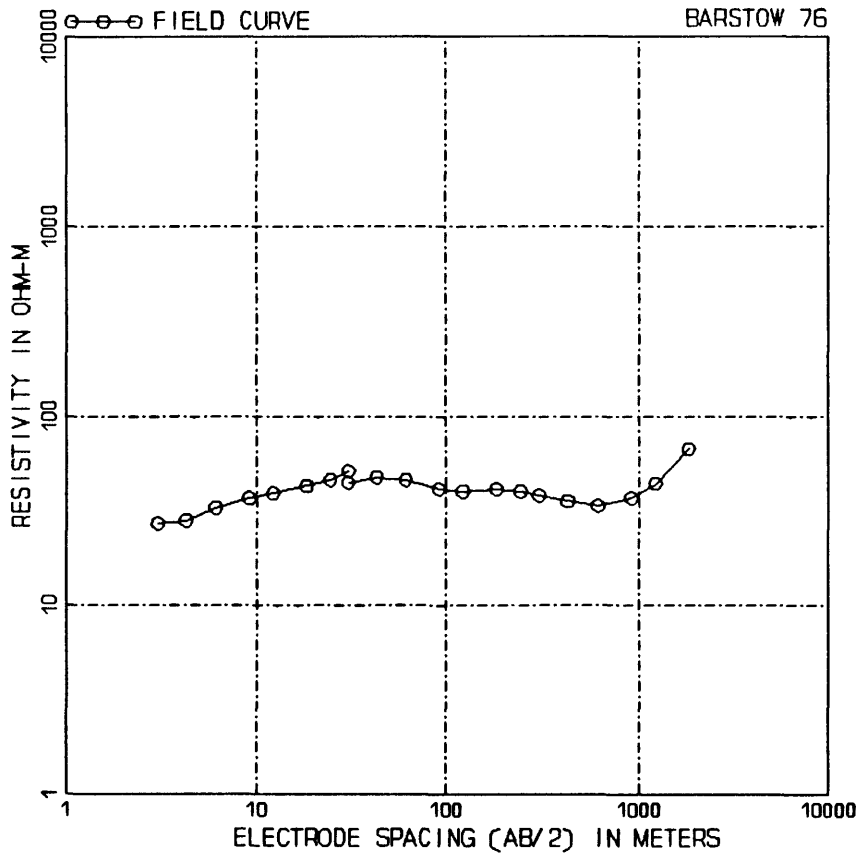
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.57	(5.14)	43.58	49.51	(162.42)	270.99
2.30	(7.54)	59.09	72.66	(238.40)	197.08
3.37	(11.07)	75.78	106.66	(349.92)	98.54
4.95	(16.24)	96.31	156.55	(513.61)	38.85
7.27	(23.84)	127.98	229.78	(753.88)	24.04
10.67	(34.99)	173.93	337.27	(1106.54)	28.77
15.65	(51.36)	226.35	495.05	(1624.19)	44.27
22.98	(75.39)	269.45	726.64	(2383.98)	72.02
33.73	(110.65)	289.68	99999.00	(99999.00)	113.00



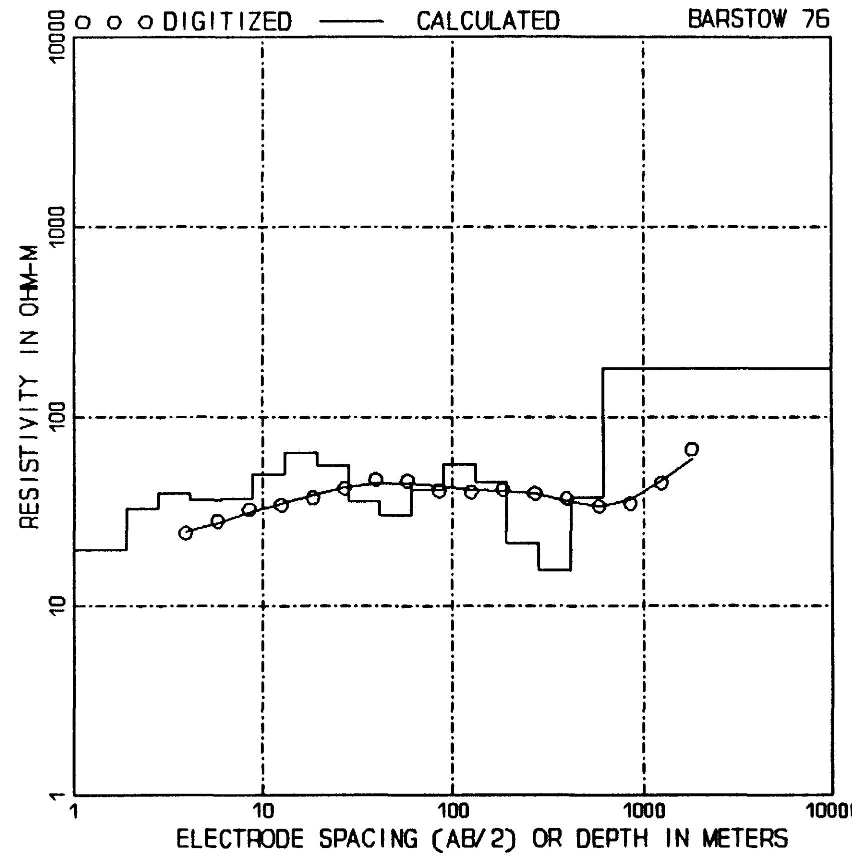
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	36.00	60.96	(200.00)	206.00
4.27	(14.00)	49.00	91.44	(300.00)	174.00
6.10	(20.00)	62.00	121.92	(400.00)	152.00
9.14	(30.00)	84.00	182.88	(600.00)	118.00
12.19	(40.00)	103.00	243.84	(800.00)	83.00
18.29	(60.00)	142.00	304.80	(1000.00)	62.00
24.38	(80.00)	176.00	304.80	(1000.00)	67.00
30.48	(100.00)	212.00	426.72	(1400.00)	54.00
30.48	(100.00)	195.00	609.60	(2000.00)	32.00
42.67	(140.00)	228.00	914.40	(3000.00)	118.00
			1219.20	(4000.00)	72.00



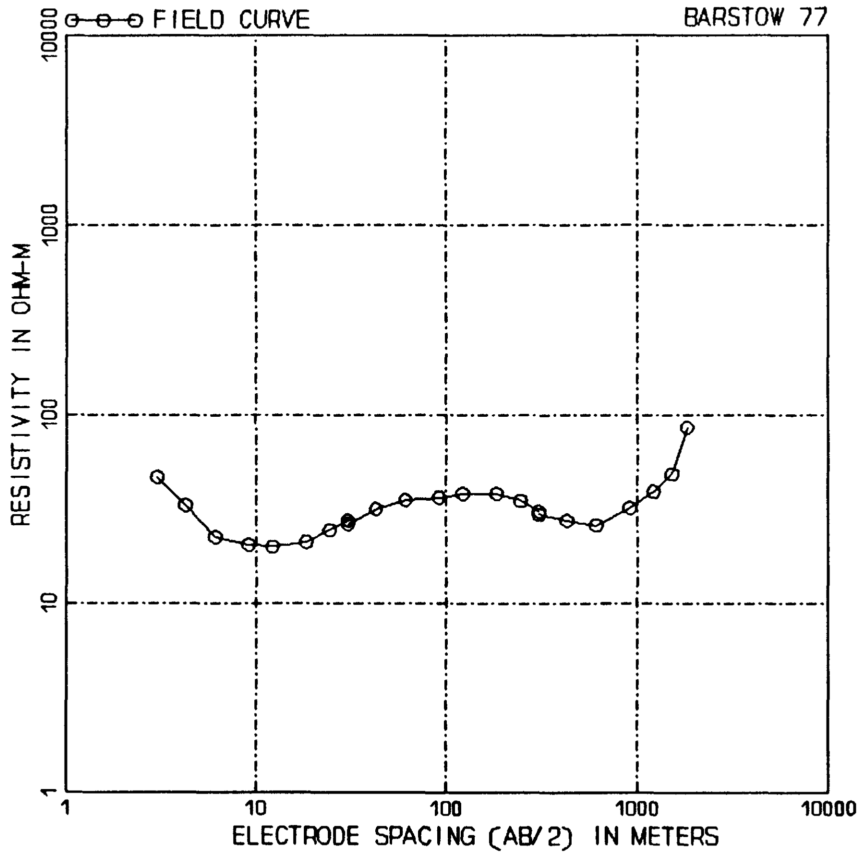
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.12)	34.01	18.66	(61.24)	535.12
2.74	(8.99)	53.98	27.40	(89.88)	453.73
4.02	(13.19)	91.38	40.21	(131.93)	280.80
5.90	(19.36)	164.69	59.02	(193.65)	143.06
8.66	(28.42)	293.71	86.63	(284.23)	74.73
12.72	(41.72)	453.14	127.16	(417.20)	50.24
			99999.00	(99999.00)	44.45

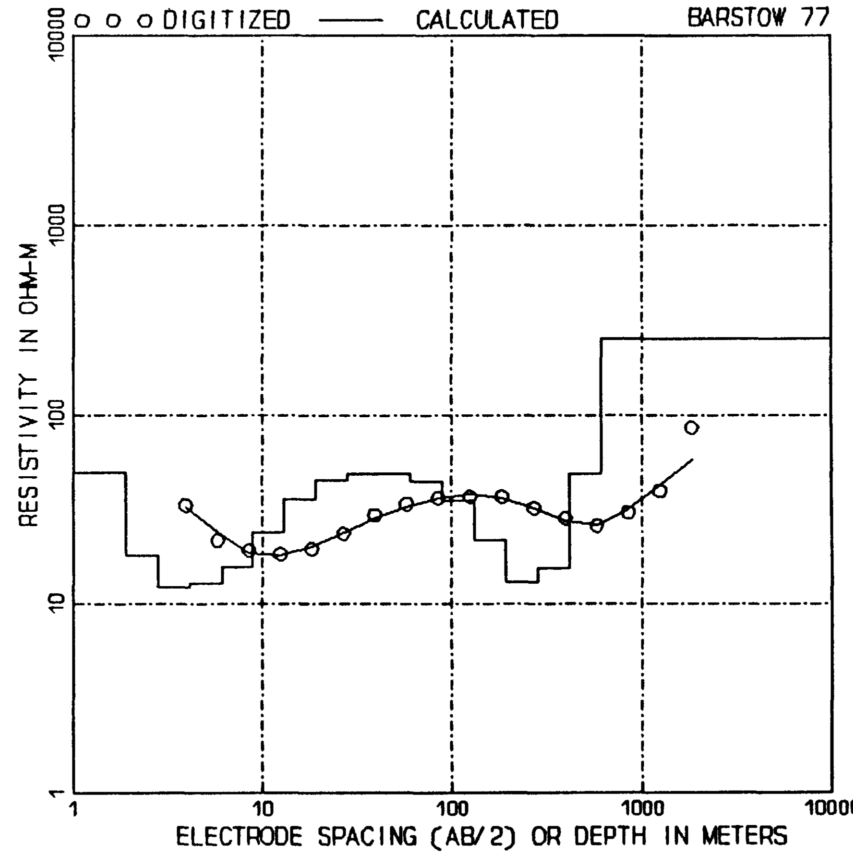


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	27.00	91.44	(300.00)	41.00
4.27	(14.00)	28.00	121.92	(400.00)	40.00
6.10	(20.00)	32.70	182.88	(600.00)	41.00
9.14	(30.00)	36.70	243.84	(800.00)	40.00
12.19	(40.00)	39.00	304.80	(1000.00)	38.00
18.29	(60.00)	42.70	304.80	(1000.00)	38.00
24.38	(80.00)	46.00	426.72	(1400.00)	35.50
30.48	(100.00)	51.00	609.60	(2000.00)	33.50
30.48	(100.00)	44.50	914.40	(3000.00)	37.00
42.67	(140.00)	47.50	1219.20	(4000.00)	44.00
60.96	(200.00)	46.00	1828.80	(6000.00)	67.00



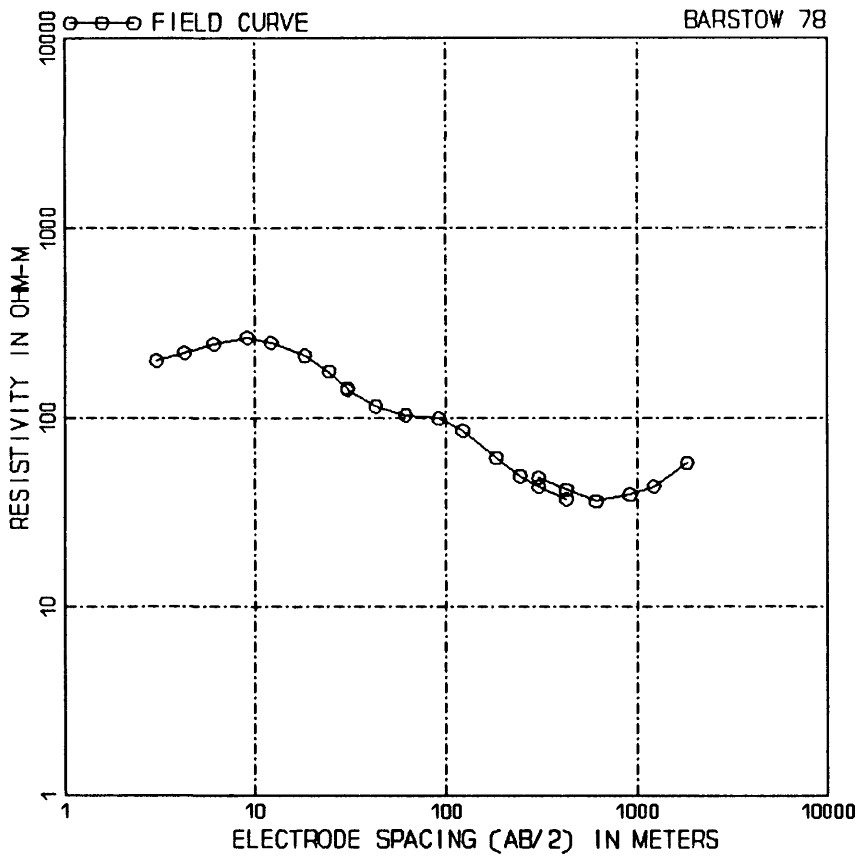
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	19.95	41.25	(135.35)	35.47
2.81	(9.22)	32.66	60.55	(198.66)	29.88
4.13	(13.53)	39.00	88.88	(291.60)	41.11
6.06	(19.87)	36.16	130.46	(428.01)	55.78
8.89	(29.16)	37.07	191.49	(628.23)	45.02
13.05	(42.80)	49.80	281.06	(922.12)	21.27
19.15	(62.82)	64.38	412.54	(1353.49)	15.38
28.11	(92.21)	55.44	605.53	(1986.65)	37.65
			99999.00	(99999.00)	179.27



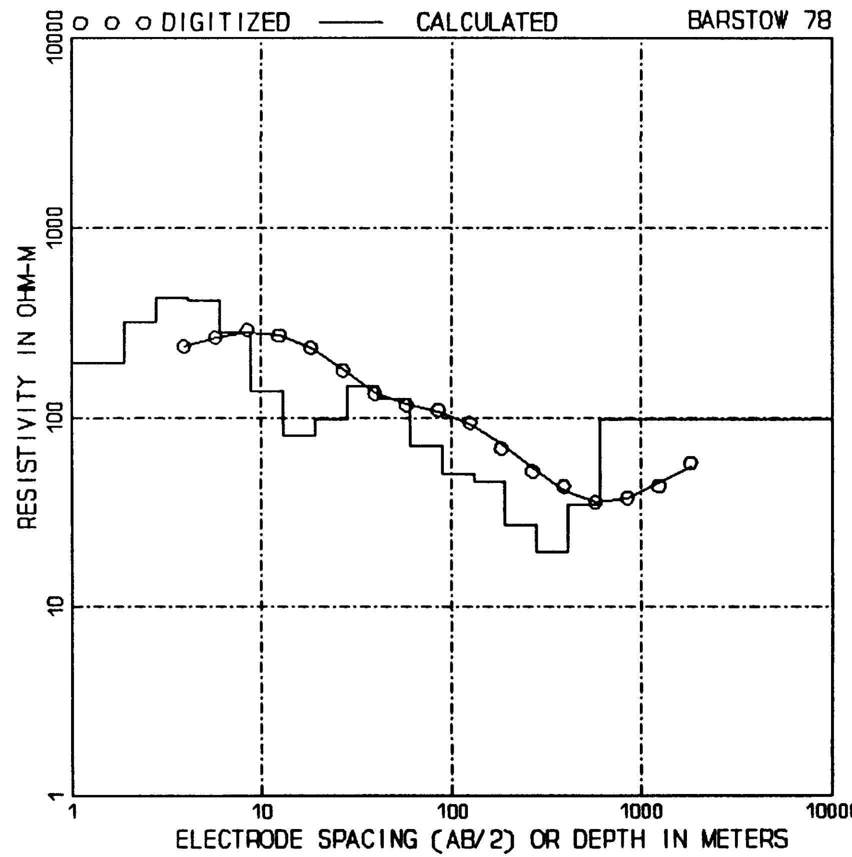


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	46.50	91.44 (	300.00)	36.50
4.27 (	14.00)	33.00	121.92 (	400.00)	38.00
6.10 (	20.00)	22.50	182.88 (	600.00)	38.00
9.14 (	30.00)	20.50	243.84 (	800.00)	35.00
12.19 (	40.00)	20.00	304.80 (	1000.00)	30.50
18.29 (	60.00)	21.20	304.80 (	1000.00)	29.50
24.38 (	80.00)	24.50	426.72 (	1400.00)	27.50
30.48 (	100.00)	27.50	609.60 (	2000.00)	26.00
30.48 (	100.00)	26.20	914.40 (	3000.00)	32.00
42.67 (	140.00)	31.50	1219.20 (	4000.00)	39.00
60.96 (	200.00)	35.20	1524.00 (	5000.00)	48.40
			1828.80 (	6000.00)	85.00

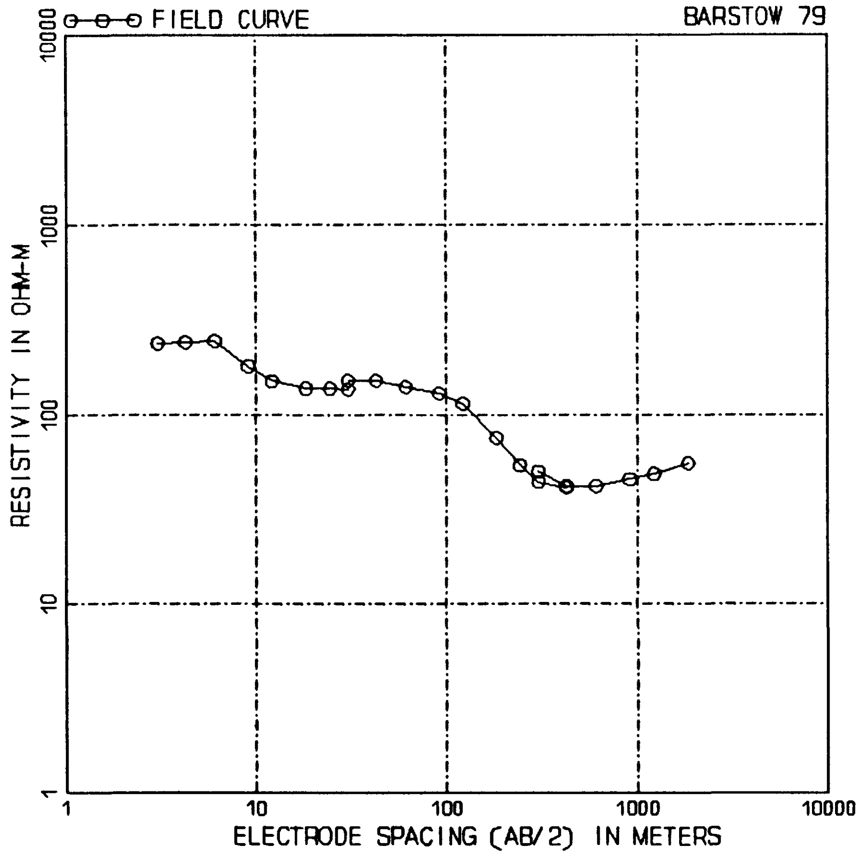
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.91 (	6.28)	49.20	41.25 (	135.35)	48.89
2.81 (	9.22)	17.96	60.55 (	198.66)	48.36
4.13 (	13.53)	12.29	88.88 (	291.60)	44.26
6.06 (	19.87)	12.87	130.46 (	428.01)	35.03
8.89 (	29.16)	15.74	191.49 (	628.23)	21.90
13.05 (	42.80)	23.79	281.06 (	922.12)	13.03
19.15 (	62.82)	35.60	412.54 (	1353.49)	15.56
28.11 (	92.21)	45.10	605.53 (	1986.65)	48.54
			99999.00 (	99999.00)	252.41



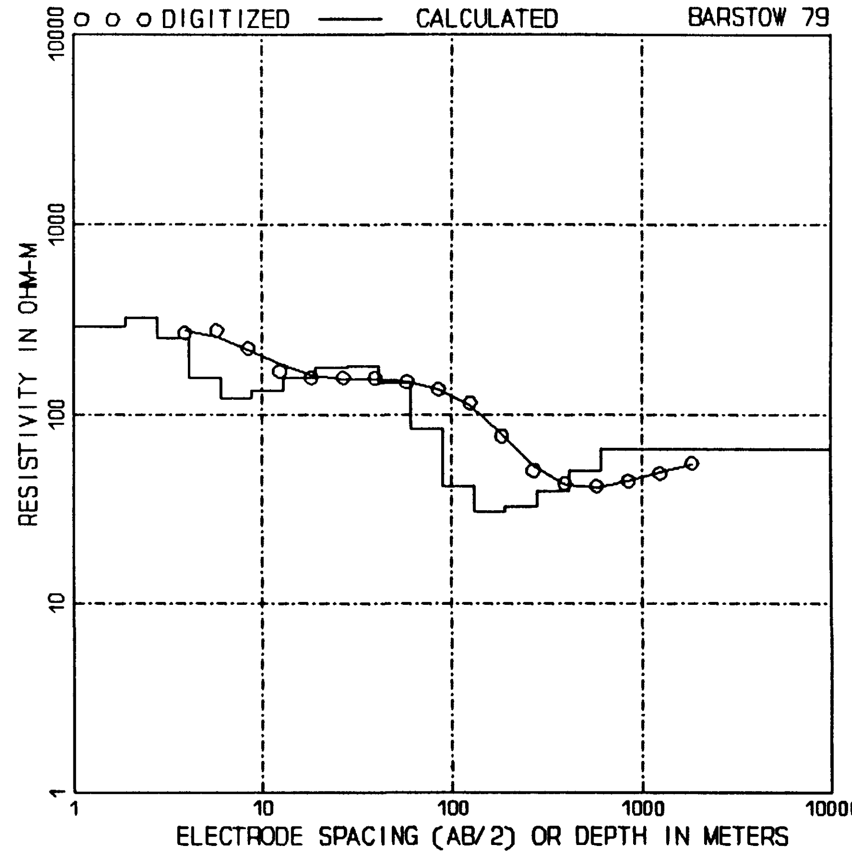
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	200.00	91.44	(300.00)	99.00
4.27	(14.00)	220.00	121.92	(400.00)	85.00
6.10	(20.00)	245.00	182.88	(600.00)	61.00
9.14	(30.00)	264.00	243.84	(800.00)	49.00
12.19	(40.00)	248.00	304.80	(1000.00)	43.00
18.29	(60.00)	212.00	426.72	(1400.00)	37.00
24.38	(80.00)	175.00	304.80	(1000.00)	48.00
30.48	(100.00)	143.00	426.72	(1400.00)	41.50
30.48	(100.00)	140.00	609.60	(2000.00)	36.00
42.67	(140.00)	115.00	914.40	(3000.00)	39.00
60.96	(200.00)	103.00	1219.20	(4000.00)	43.00
			1828.80	(6000.00)	57.40



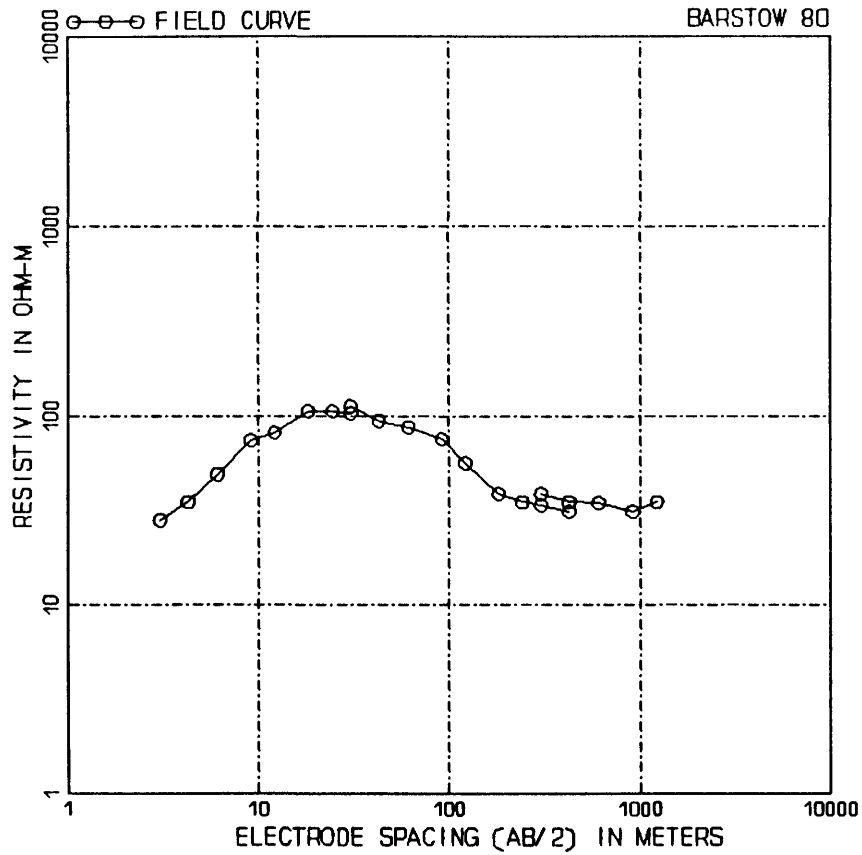
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	194.10	41.25	(135.35)	145.97
2.81	(9.22)	316.54	60.55	(198.66)	125.72
4.13	(13.53)	427.87	88.88	(291.60)	70.38
6.06	(19.87)	416.77	130.46	(428.01)	50.52
8.89	(29.16)	279.16	191.49	(628.23)	45.93
13.05	(42.80)	137.56	281.06	(922.12)	27.05
19.15	(62.82)	80.47	412.54	(1353.49)	19.59
28.11	(92.21)	98.23	605.53	(1986.65)	34.64
			99999.00	(99999.00)	97.81

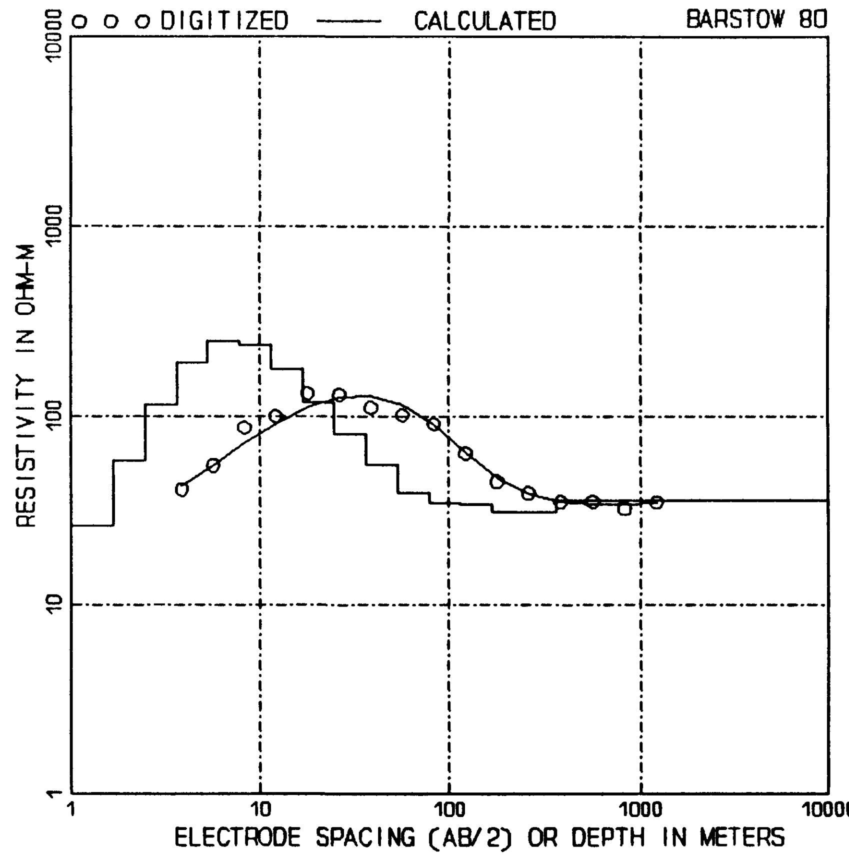


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	238.00	91.44 (	300.00)	130.00
4.27 (	14.00)	240.00	121.92 (	400.00)	114.00
6.10 (	20.00)	244.00	182.88 (	600.00)	75.00
9.14 (	30.00)	180.00	243.84 (	800.00)	54.00
12.19 (	40.00)	150.00	304.80 (	1000.00)	44.00
18.29 (	60.00)	137.00	426.72 (	1400.00)	41.00
24.38 (	80.00)	137.00	304.80 (	1000.00)	50.00
30.48 (	100.00)	136.00	426.72 (	1400.00)	42.00
30.48 (	100.00)	151.00	609.60 (	2000.00)	42.00
42.67 (	140.00)	151.00	914.40 (	3000.00)	45.50
60.96 (	200.00)	140.00	1219.20 (	4000.00)	48.50
			1828.80 (	6000.00)	55.00



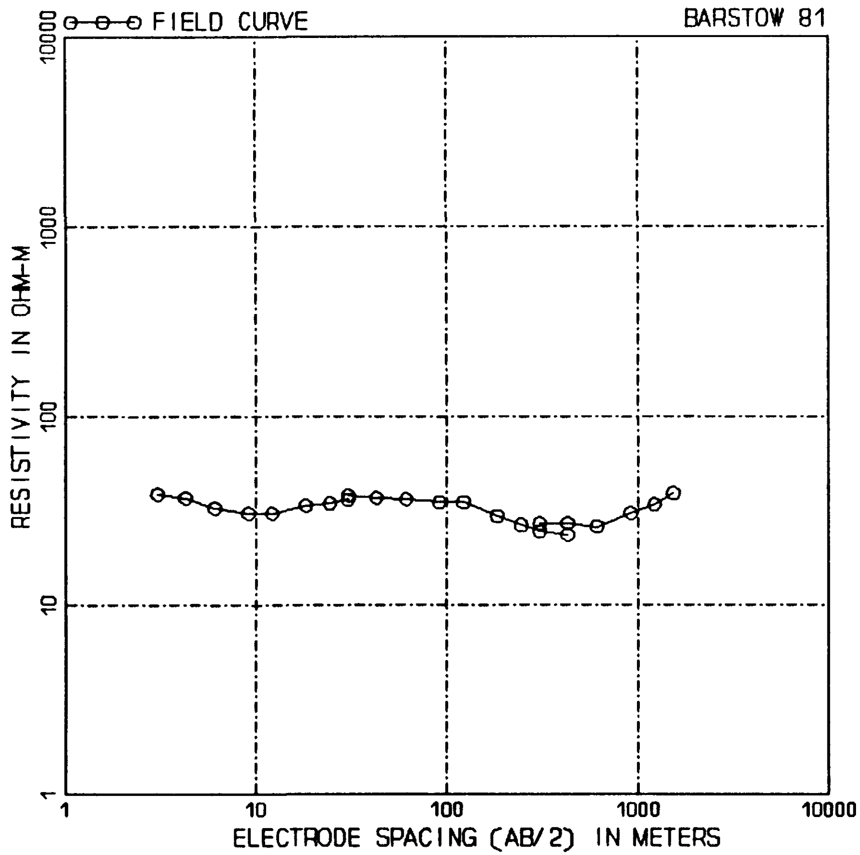
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.91 (	6.28)	289.87	41.25 (	135.35)	180.32
2.81 (	9.22)	321.64	60.55 (	198.66)	147.04
4.13 (	13.53)	250.85	88.88 (	291.60)	83.92
6.06 (	19.87)	156.52	130.46 (	428.01)	41.66
8.89 (	29.16)	121.49	191.49 (	628.23)	30.51
13.05 (	42.80)	133.17	281.06 (	922.12)	32.61
19.15 (	62.82)	156.44	412.54 (	1353.49)	39.19
28.11 (	92.21)	175.43	605.53 (	1986.65)	50.15
			99999.00 (	99999.00)	65.02



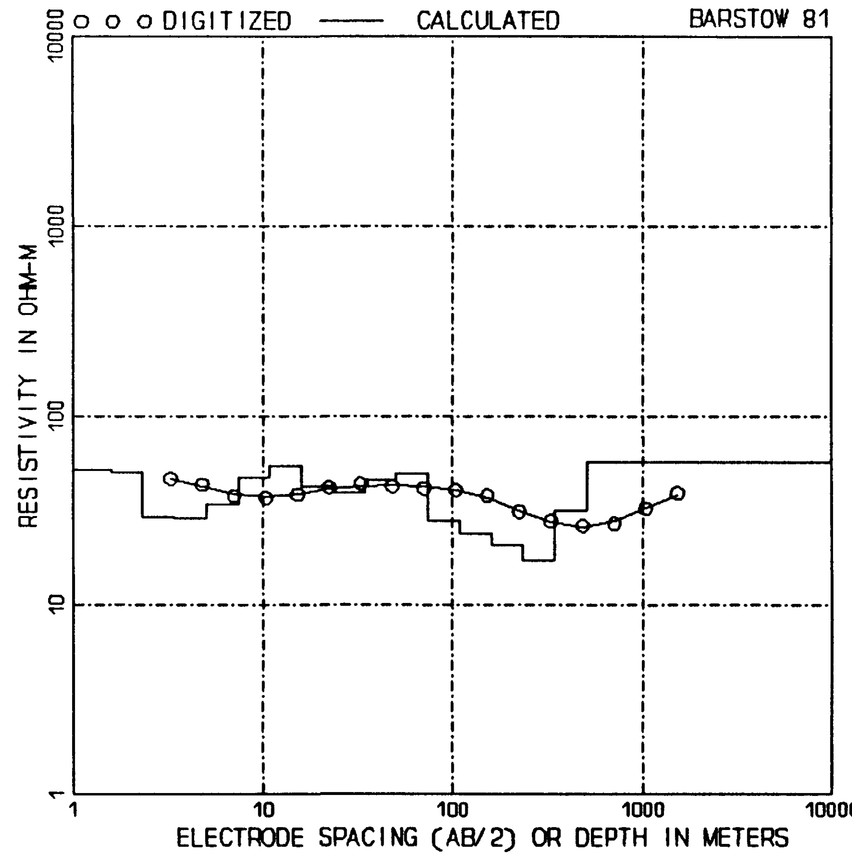


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	28.00	91.44 (	300.00)	75.00
4.27 (	14.00)	35.00	121.92 (	400.00)	56.00
6.10 (	20.00)	49.00	182.88 (	600.00)	38.50
9.14 (	30.00)	74.00	243.84 (	800.00)	35.00
12.19 (	40.00)	81.00	304.80 (	1000.00)	33.50
18.29 (	60.00)	106.00	426.72 (	1400.00)	31.00
24.38 (	80.00)	106.00	304.80 (	1000.00)	38.50
30.48 (	100.00)	103.00	426.72 (	1400.00)	35.00
30.48 (	100.00)	112.00	609.60 (	2000.00)	34.50
42.67 (	140.00)	94.00	914.40 (	3000.00)	31.00
60.96 (	200.00)	87.00	1219.20 (	4000.00)	35.00

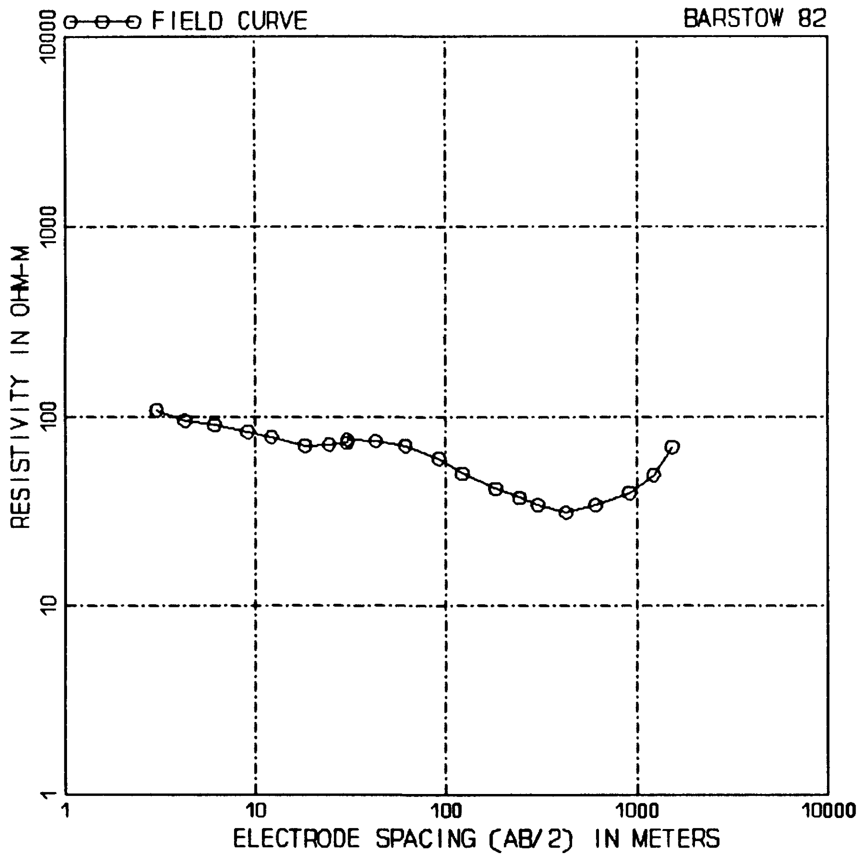
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.69 (	5.53)	26.30	36.33 (	119.20)	80.55
2.48 (	8.12)	57.78	53.33 (	174.96)	55.49
3.63 (	11.92)	115.22	78.27 (	256.81)	39.17
5.33 (	17.50)	191.08	114.89 (	376.94)	34.57
7.83 (	25.68)	247.04	168.64 (	553.27)	34.00
11.49 (	37.69)	237.00	247.53 (	812.09)	31.20
16.86 (	55.33)	176.04	363.32 (	1191.99)	31.00
24.75 (	81.21)	117.49	99999.00 (	99999.00)	35.89

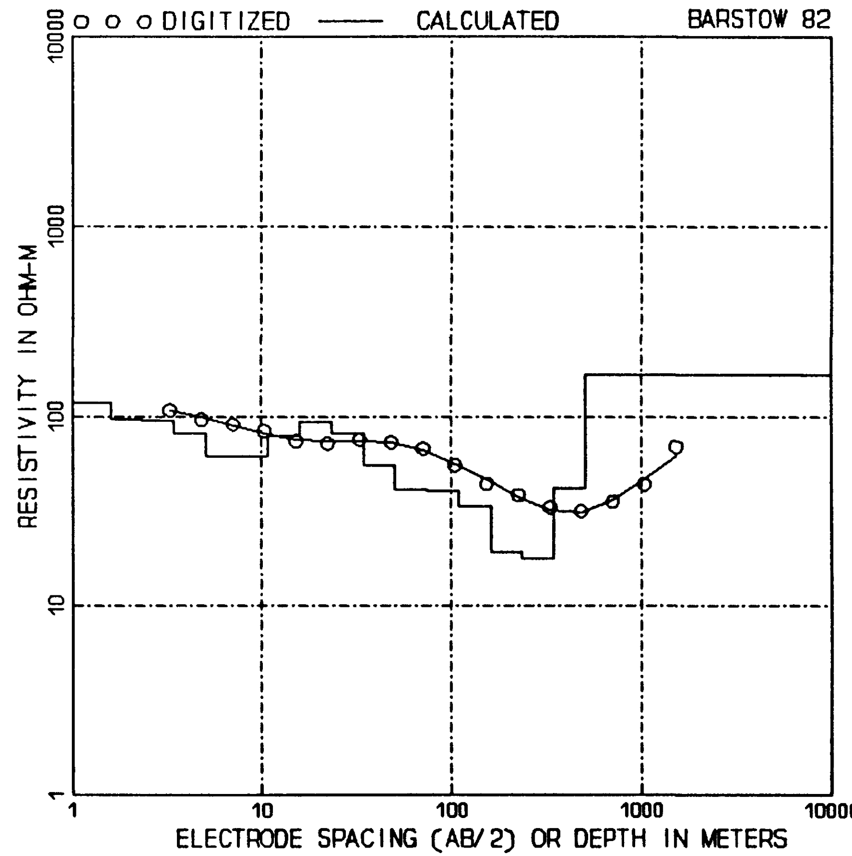


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	38.50	91.44	(300.00)	35.00
4.27	(14.00)	37.00	121.92	(400.00)	35.00
6.10	(20.00)	32.50	182.88	(600.00)	29.50
9.14	(30.00)	30.50	243.84	(800.00)	26.50
12.19	(40.00)	30.50	304.80	(1000.00)	24.50
18.29	(60.00)	33.50	426.72	(1400.00)	23.50
24.38	(80.00)	34.50	304.80	(1000.00)	27.00
30.48	(100.00)	36.00	426.72	(1400.00)	27.00
30.48	(100.00)	38.00	609.60	(2000.00)	26.00
42.67	(140.00)	37.00	914.40	(3000.00)	30.50
60.96	(200.00)	36.20	1219.20	(4000.00)	34.00
			1524.00	(5000.00)	39.00



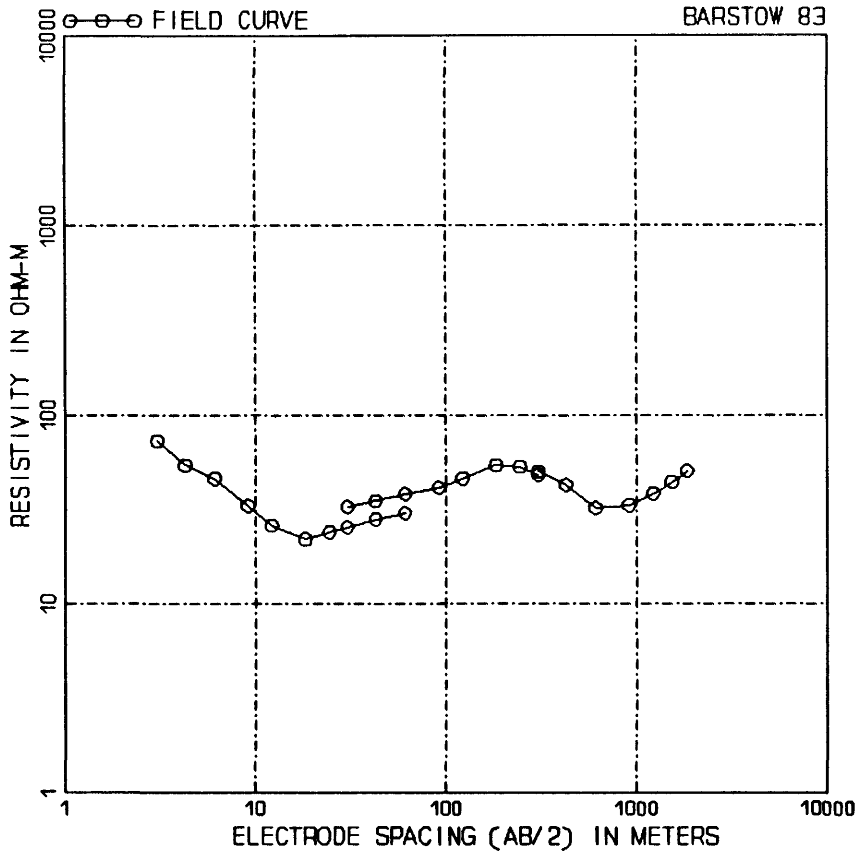
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.60	(5.24)	51.67	34.38	(112.79)	39.34
2.34	(7.68)	50.15	50.46	(165.55)	45.55
3.44	(11.28)	29.35	74.07	(243.00)	49.82
5.05	(16.56)	28.68	108.71	(356.68)	27.81
7.41	(24.30)	34.03	159.57	(523.53)	23.90
10.87	(35.67)	47.49	234.22	(768.43)	20.73
15.96	(52.35)	54.48	343.79	(1127.91)	17.14
23.42	(76.84)	42.06	504.61	(1655.54)	31.47
			99999.00	(99999.00)	57.01



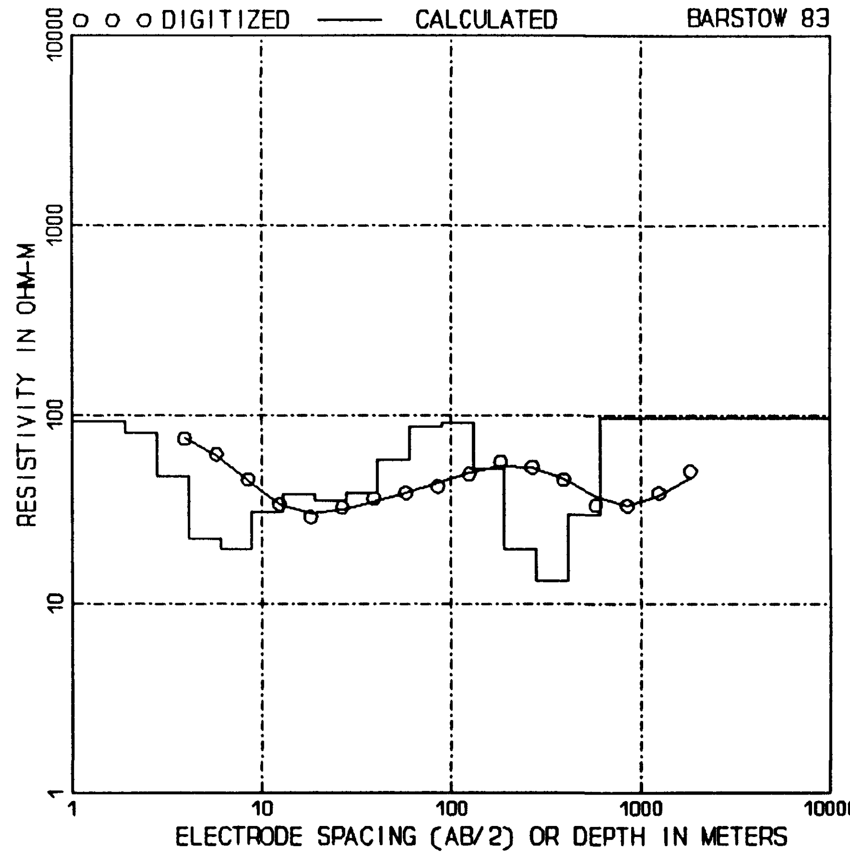


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	108.00	91.44	(300.00)	60.00
4.27	(14.00)	95.00	121.92	(400.00)	50.00
6.10	(20.00)	90.00	182.88	(600.00)	41.50
9.14	(30.00)	83.00	243.84	(800.00)	37.20
12.19	(40.00)	78.00	304.80	(1000.00)	34.00
18.29	(60.00)	70.00	304.80	(1000.00)	34.00
24.38	(80.00)	71.00	426.72	(1400.00)	31.00
30.48	(100.00)	72.50	609.60	(2000.00)	34.00
30.48	(100.00)	75.00	914.40	(3000.00)	39.50
42.67	(140.00)	74.00	1219.20	(4000.00)	49.00
60.96	(200.00)	70.00	1524.00	(5000.00)	69.00

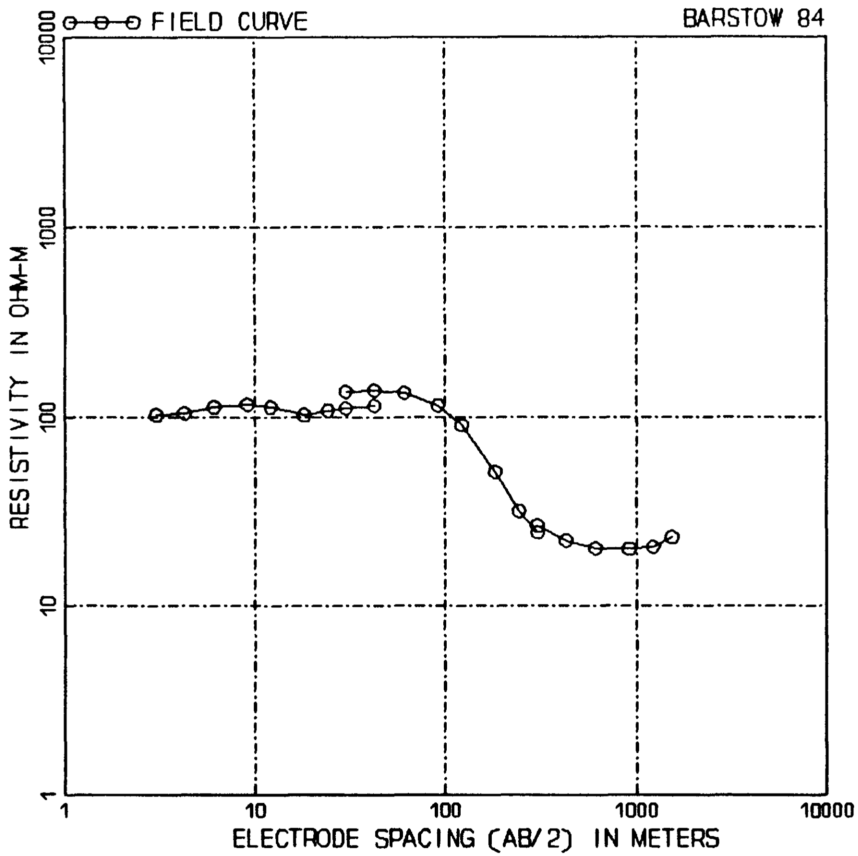
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.60	(5.24)	118.34	34.38	(112.79)	81.91
2.34	(7.68)	96.66	50.46	(165.55)	55.01
3.44	(11.28)	94.46	74.07	(243.00)	41.03
5.05	(16.56)	81.34	108.71	(356.68)	40.62
7.41	(24.30)	61.35	159.57	(523.53)	33.41
10.87	(35.67)	60.97	234.22	(768.43)	19.28
15.96	(52.35)	79.24	343.79	(1127.91)	17.67
23.42	(76.84)	93.94	504.61	(1655.54)	41.89
			99999.00	(99999.00)	166.20

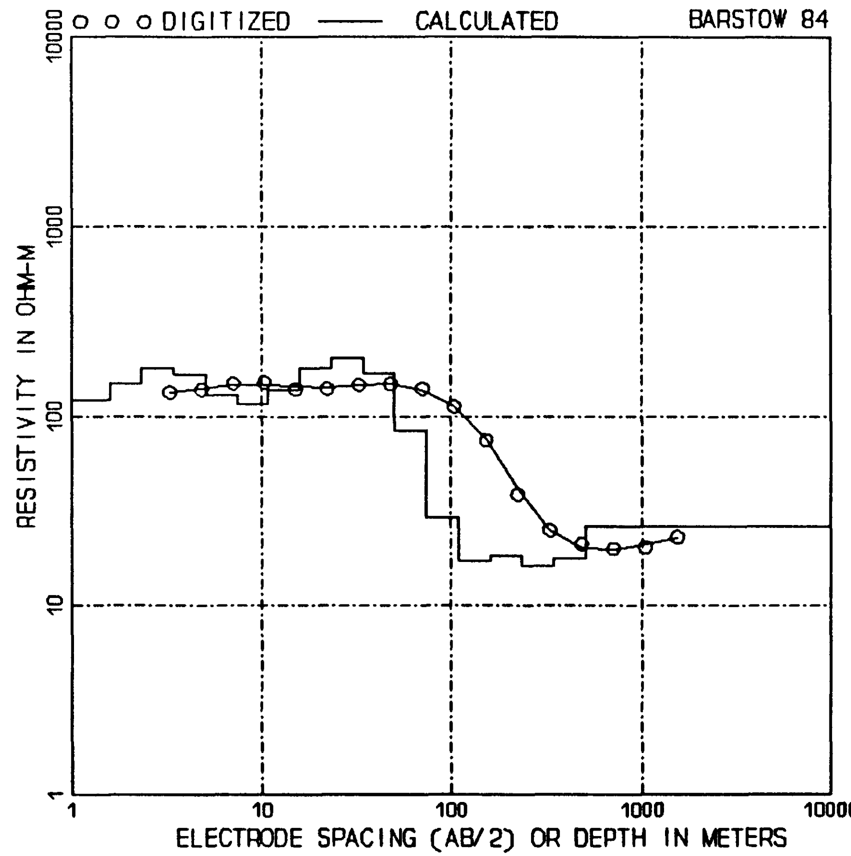


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	72.50	60.96	(200.00)	38.00
4.27	(14.00)	54.00	91.44	(300.00)	41.00
6.10	(20.00)	46.00	121.92	(400.00)	46.00
9.14	(30.00)	33.00	182.88	(600.00)	54.00
12.19	(40.00)	26.00	243.84	(800.00)	53.00
18.29	(60.00)	22.00	304.80	(1000.00)	48.00
24.38	(80.00)	24.00	304.80	(1000.00)	50.00
30.48	(100.00)	25.50	426.72	(1400.00)	42.50
42.67	(140.00)	28.00	609.60	(2000.00)	32.00
60.96	(200.00)	30.20	914.40	(3000.00)	33.20
30.48	(100.00)	32.50	1219.20	(4000.00)	38.20
42.67	(140.00)	35.00	1524.00	(5000.00)	44.00
			1828.80	(6000.00)	50.30



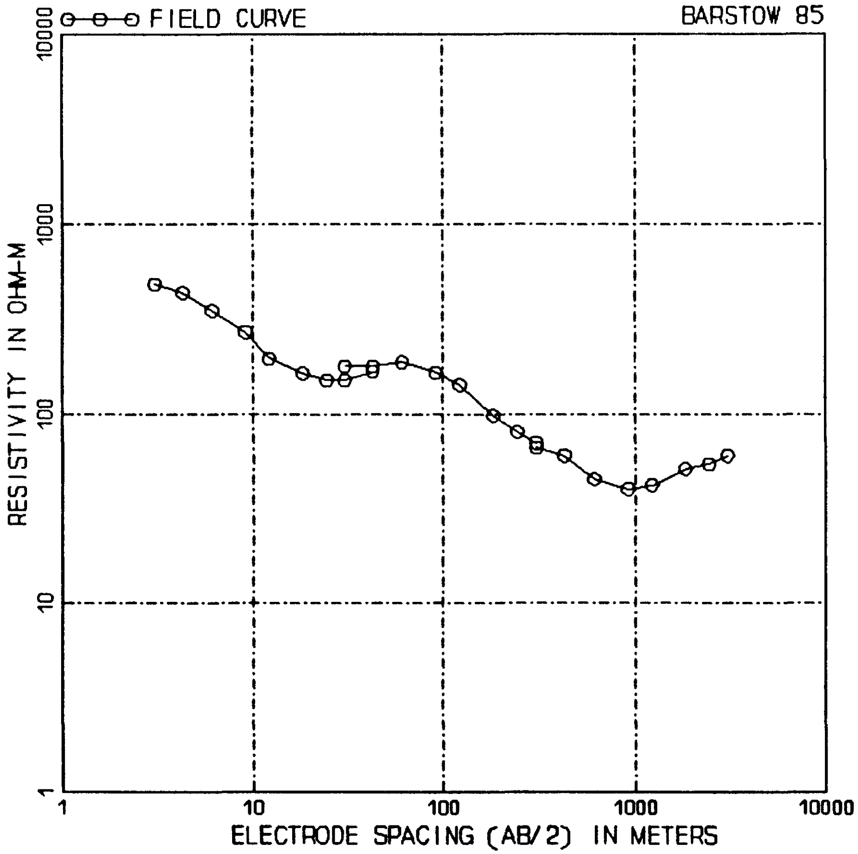
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	91.53	41.25	(135.35)	38.38
2.81	(9.22)	79.90	60.55	(198.66)	57.36
4.13	(13.53)	47.39	88.88	(291.60)	86.50
6.06	(19.87)	22.18	130.46	(428.01)	89.98
8.89	(29.16)	19.40	191.49	(628.23)	51.74
13.05	(42.80)	30.59	281.06	(922.12)	19.39
19.15	(62.82)	37.83	412.54	(1353.49)	13.30
28.11	(92.21)	35.36	605.53	(1986.65)	29.60
			99999.00	(99999.00)	96.88



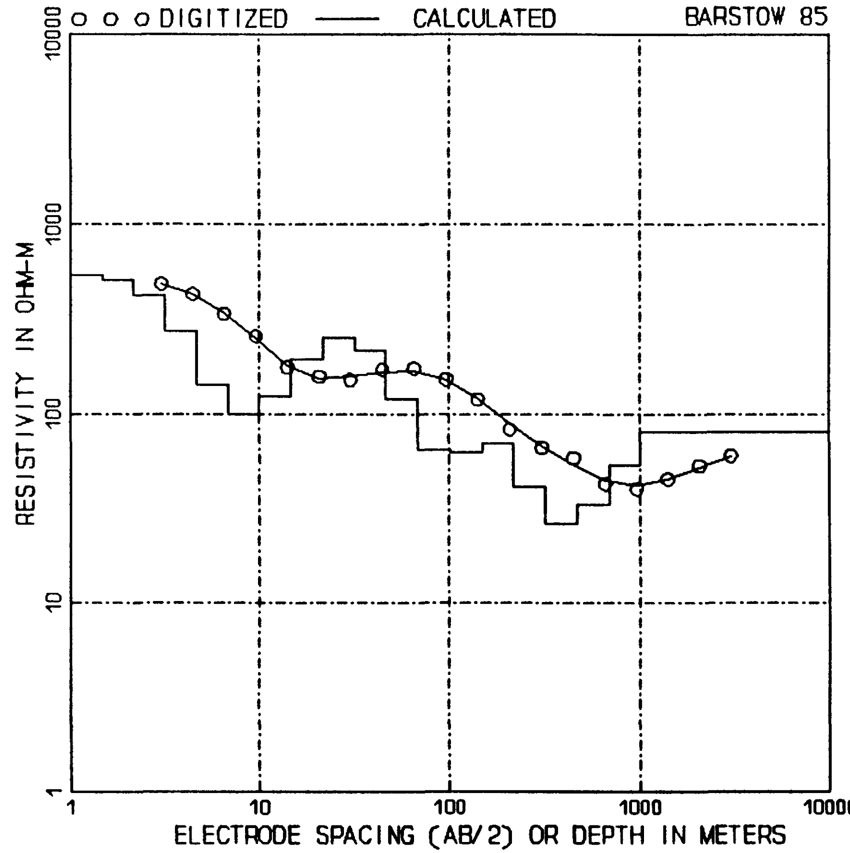


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	102.00	60.96	(200.00)	134.00
4.27	(14.00)	104.00	91.44	(300.00)	115.00
6.10	(20.00)	112.00	121.92	(400.00)	90.00
9.14	(30.00)	116.00	182.88	(600.00)	51.00
12.19	(40.00)	112.00	243.84	(800.00)	31.70
18.29	(60.00)	102.00	304.80	(1000.00)	24.50
24.38	(80.00)	108.00	304.80	(1000.00)	26.50
30.48	(100.00)	111.00	426.72	(1400.00)	22.20
42.67	(140.00)	114.00	609.60	(2000.00)	20.20
30.48	(100.00)	136.00	914.40	(3000.00)	20.00
42.67	(140.00)	138.00	1219.20	(4000.00)	20.50
			1524.00	(5000.00)	23.00

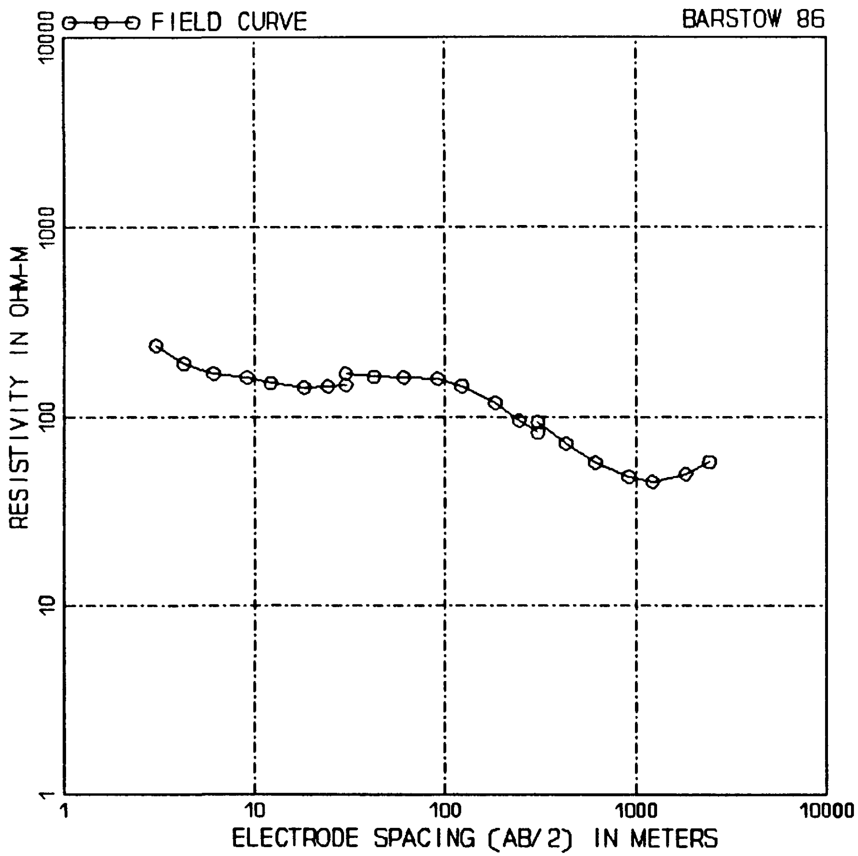
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.60	(5.24)	121.52	34.38	(112.79)	202.14
2.34	(7.68)	149.65	50.46	(165.55)	167.34
3.44	(11.28)	178.49	74.07	(243.00)	84.02
5.05	(16.56)	166.92	108.71	(356.68)	29.08
7.41	(24.30)	130.11	159.57	(523.53)	17.36
10.87	(35.67)	116.69	234.22	(768.43)	18.26
15.96	(52.35)	137.78	343.79	(1127.91)	16.13
23.42	(76.84)	177.90	504.61	(1655.54)	17.83
			99999.00	(99999.00)	26.32



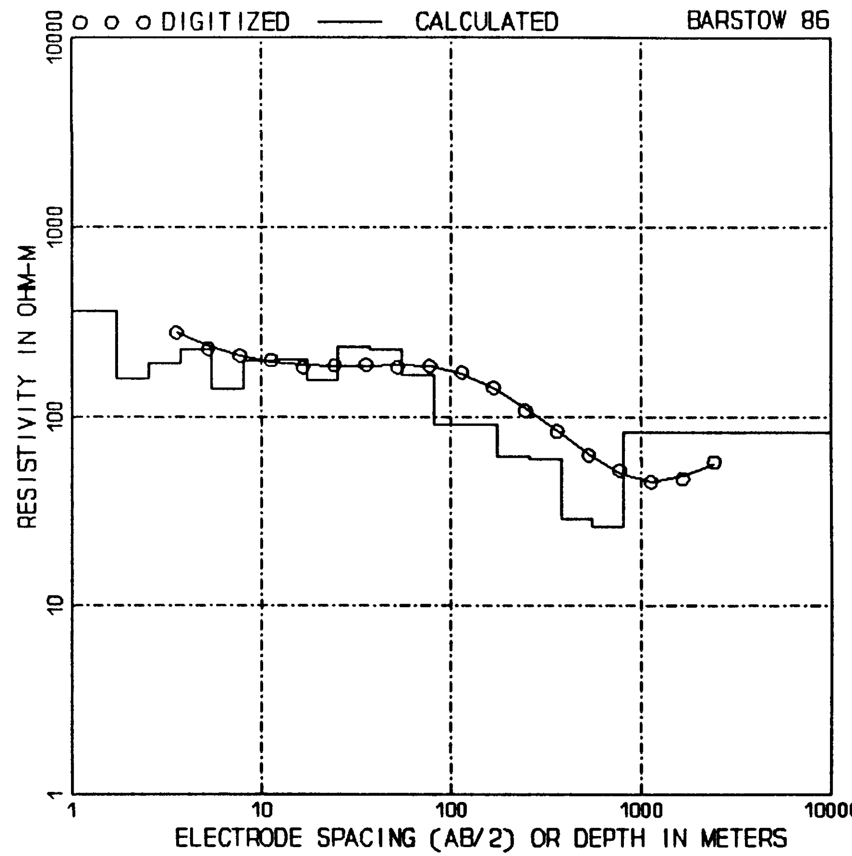
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	480.00	91.44	(300.00)	165.00
4.27	(14.00)	435.00	121.92	(400.00)	142.00
6.10	(20.00)	350.00	182.88	(600.00)	98.00
9.14	(30.00)	270.00	243.84	(800.00)	80.00
12.19	(40.00)	195.00	304.80	(1000.00)	70.00
18.29	(60.00)	163.00	304.80	(1000.00)	66.00
24.38	(80.00)	150.00	426.72	(1400.00)	60.00
30.48	(100.00)	150.00	609.60	(2000.00)	45.00
42.67	(140.00)	167.00	914.40	(3000.00)	40.00
30.48	(100.00)	178.00	1219.20	(4000.00)	42.00
42.67	(140.00)	178.00	1828.80	(6000.00)	51.00
60.96	(200.00)	187.00	2438.40	(8000.00)	54.00
			3048.00	(10000.00)	60.00



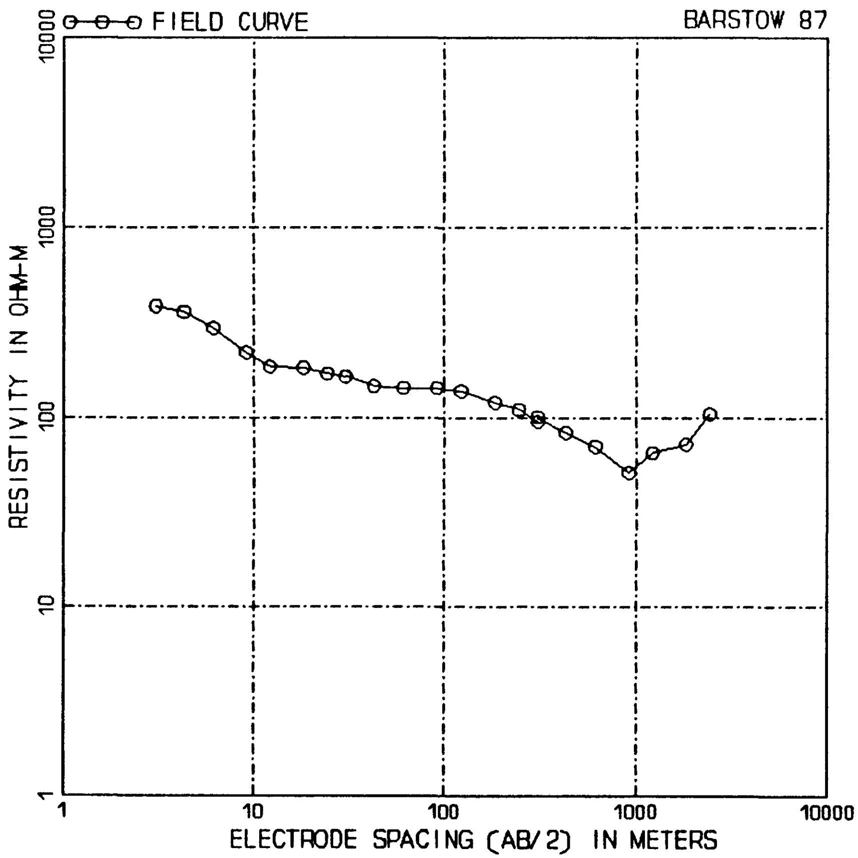
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	537.40	46.84	(153.69)	217.28
2.17	(7.13)	507.60	68.76	(225.58)	120.66
3.19	(10.47)	420.46	100.92	(331.11)	64.01
4.68	(15.37)	271.36	148.13	(486.00)	62.55
6.88	(22.56)	142.64	217.43	(713.35)	69.54
10.09	(33.11)	98.85	319.14	(1047.06)	40.99
14.81	(48.60)	122.86	468.44	(1536.87)	26.03
21.74	(71.34)	194.50	687.57	(2255.81)	33.10
31.91	(104.71)	252.23	1009.22	(3311.08)	53.18
			99999.00	(99999.00)	79.80



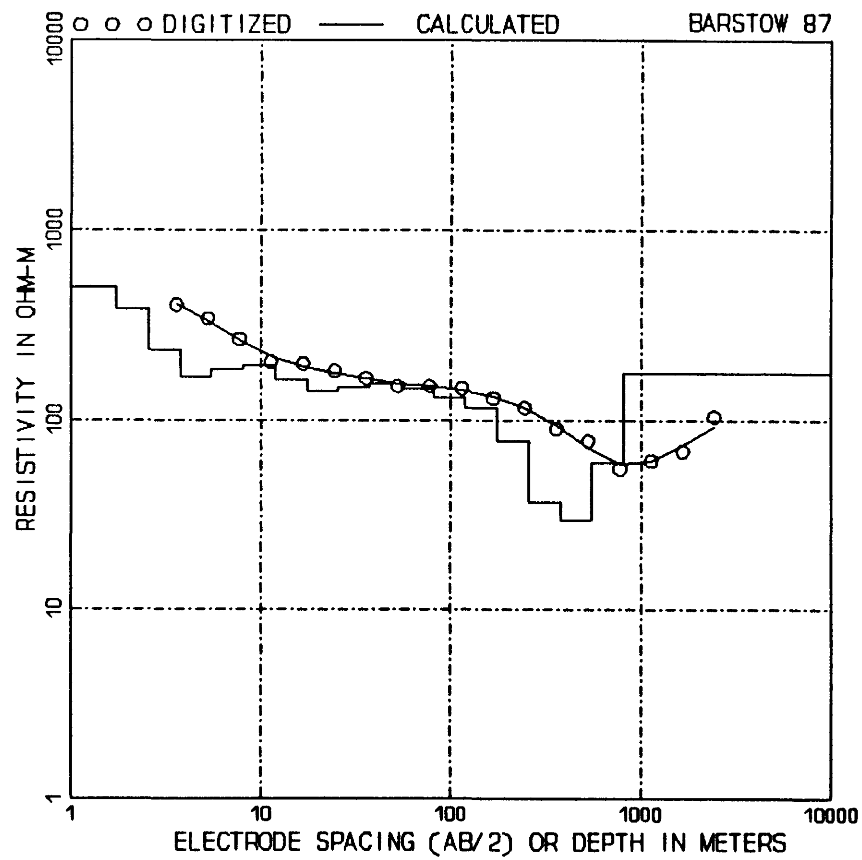
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	237.00	91.44	(300.00)	158.00
4.27	(14.00)	190.00	121.92	(400.00)	145.00
6.10	(20.00)	168.00	182.88	(600.00)	118.00
9.14	(30.00)	161.00	243.84	(800.00)	95.00
12.19	(40.00)	150.00	304.80	(1000.00)	82.00
18.29	(60.00)	142.00	304.80	(1000.00)	93.00
24.38	(80.00)	144.00	426.72	(1400.00)	72.00
30.48	(100.00)	147.00	609.60	(2000.00)	57.00
30.48	(100.00)	168.00	914.40	(3000.00)	48.10
42.67	(140.00)	162.00	1219.20	(4000.00)	45.10
60.96	(200.00)	161.00	1828.80	(6000.00)	49.70
			2438.40	(8000.00)	57.40



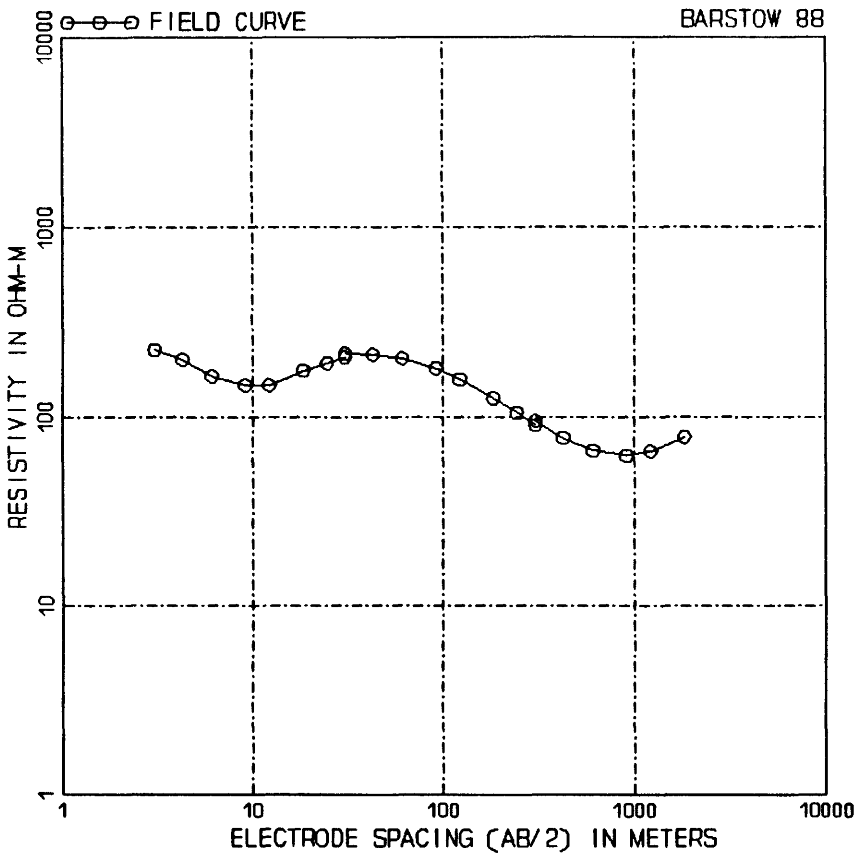
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	360.77	55.01	(180.46)	225.22
2.55	(8.38)	157.37	80.74	(264.89)	165.99
3.75	(12.29)	189.30	118.51	(388.80)	90.52
5.50	(18.05)	224.75	173.94	(570.68)	89.95
8.07	(26.49)	139.74	255.31	(837.64)	61.17
11.85	(38.88)	195.99	374.75	(1229.49)	59.37
17.39	(57.07)	199.06	550.06	(1804.65)	28.55
25.53	(83.76)	155.20	807.37	(2648.86)	26.18
37.47	(122.95)	231.62	99999.00	(99999.00)	82.78



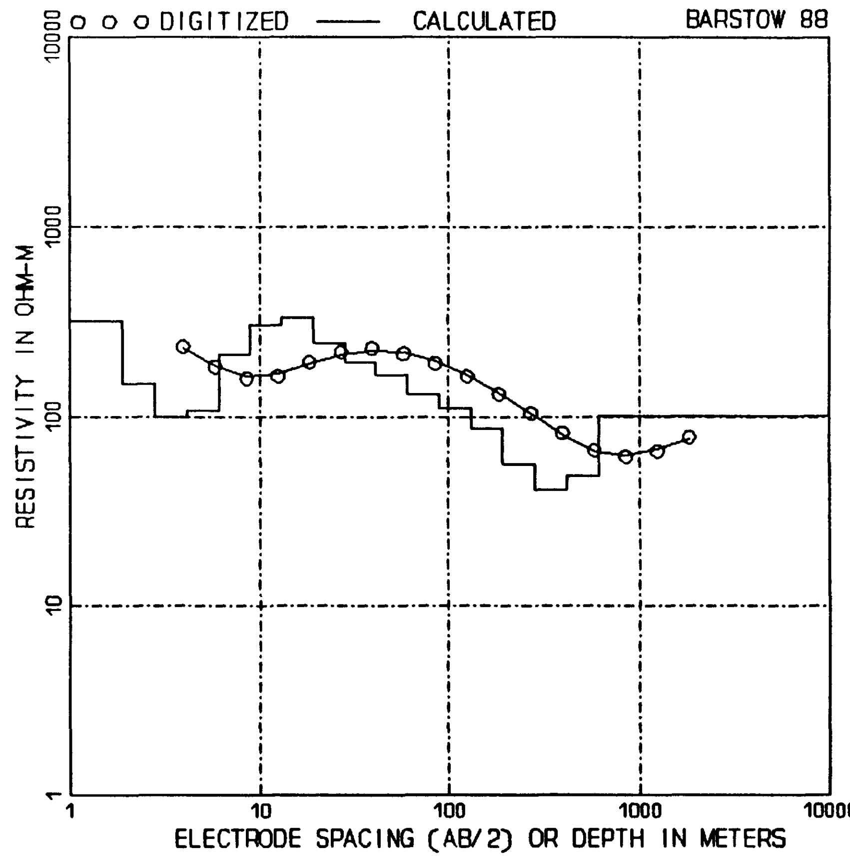
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	385.00	91.44	(300.00)	143.00
4.27	(14.00)	358.00	121.92	(400.00)	138.00
6.10	(20.00)	295.00	182.88	(600.00)	120.00
9.14	(30.00)	220.00	243.84	(800.00)	110.00
12.19	(40.00)	185.00	304.80	(1000.00)	95.00
18.29	(60.00)	183.00	304.80	(1000.00)	100.00
24.38	(80.00)	170.00	426.72	(1400.00)	83.00
30.48	(100.00)	163.00	609.60	(2000.00)	70.00
30.48	(100.00)	165.00	914.40	(3000.00)	51.00
42.67	(140.00)	146.00	1219.20	(4000.00)	65.00
60.96	(200.00)	143.00	1828.80	(6000.00)	72.00
			2438.40	(8000.00)	104.00



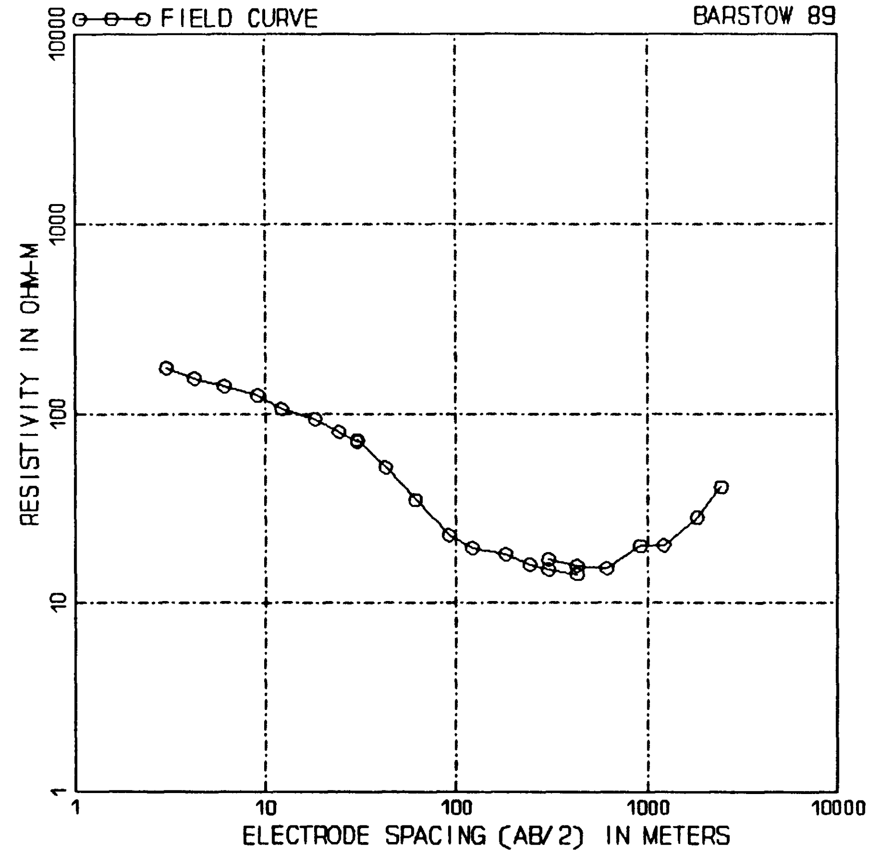
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	500.76	55.01	(180.46)	155.94
2.55	(8.38)	382.39	80.74	(264.89)	146.70
3.75	(12.29)	233.41	118.51	(388.80)	132.21
5.50	(18.05)	168.68	173.94	(570.68)	116.42
8.07	(26.49)	184.17	255.31	(837.64)	77.99
11.85	(38.88)	192.90	374.75	(1229.49)	37.09
17.39	(57.07)	162.02	550.06	(1804.65)	29.63
25.53	(83.76)	142.52	807.37	(2648.86)	59.22
37.47	(122.95)	149.18	99999.00	(99999.00)	177.65



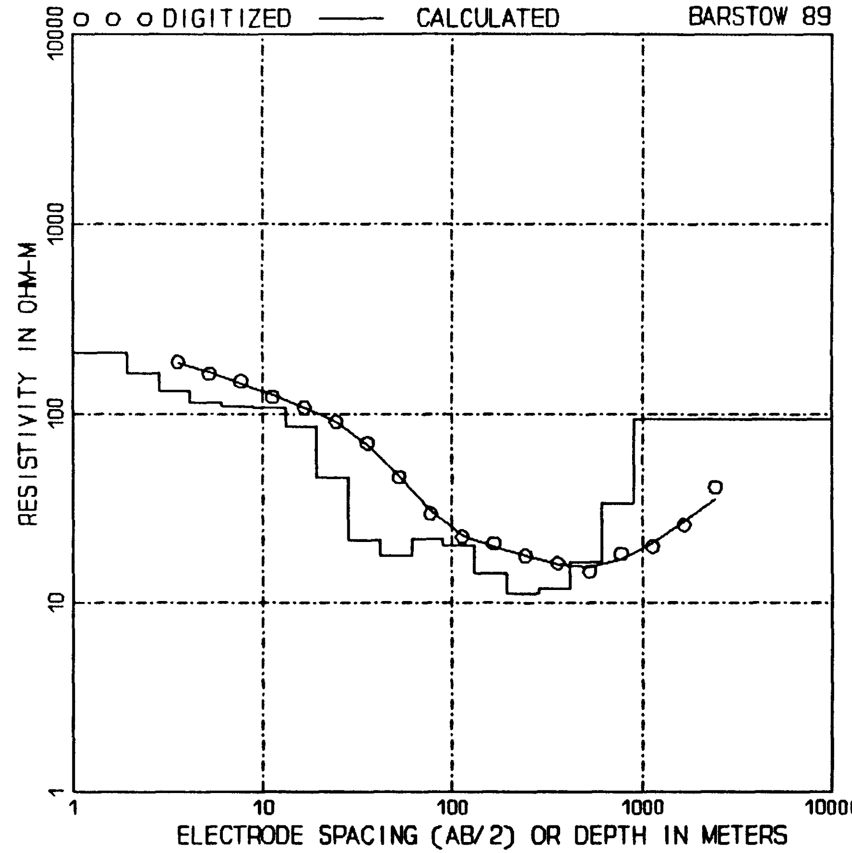
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	225.00	91.44 (	300.00)	180.00
4.27 (	14.00)	200.00	121.92 (	400.00)	157.00
6.10 (	20.00)	164.00	182.88 (	600.00)	125.00
9.14 (	30.00)	147.00	243.84 (	800.00)	105.00
12.19 (	40.00)	147.00	304.80 (	1000.00)	90.00
18.29 (	60.00)	175.00	304.80 (	1000.00)	95.00
24.38 (	80.00)	192.00	426.72 (	1400.00)	77.00
30.48 (	100.00)	205.00	609.60 (	2000.00)	66.00
30.48 (	100.00)	215.00	914.40 (	3000.00)	62.00
42.67 (	140.00)	213.00	1219.20 (	4000.00)	65.40
60.96 (	200.00)	203.00	1828.80 (	6000.00)	78.00



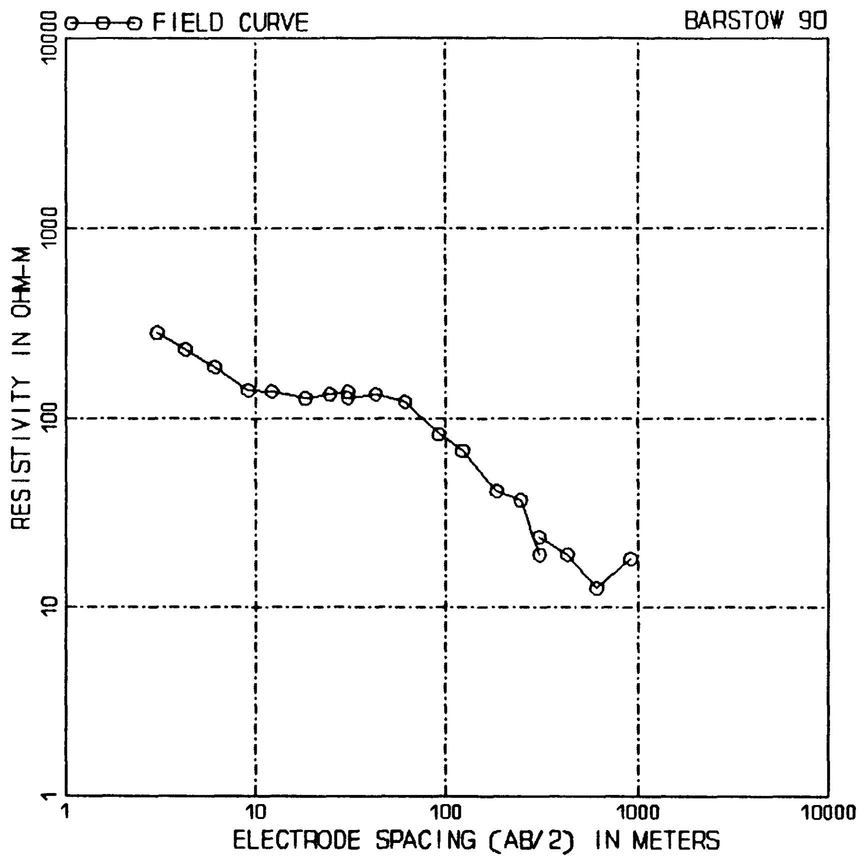
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.91 (	6.28)	320.36	41.25 (	135.35)	192.29
2.81 (	9.22)	148.03	60.55 (	198.66)	165.01
4.13 (	13.53)	100.10	88.88 (	291.60)	130.70
6.06 (	19.87)	107.91	130.46 (	428.01)	110.57
8.89 (	29.16)	212.11	191.49 (	628.23)	86.14
13.05 (	42.80)	305.00	281.06 (	922.12)	55.71
19.15 (	62.82)	330.60	412.54 (	1353.49)	41.12
28.11 (	92.21)	244.49	605.53 (	1986.65)	49.05
			99999.00 (	99999.00)	101.29



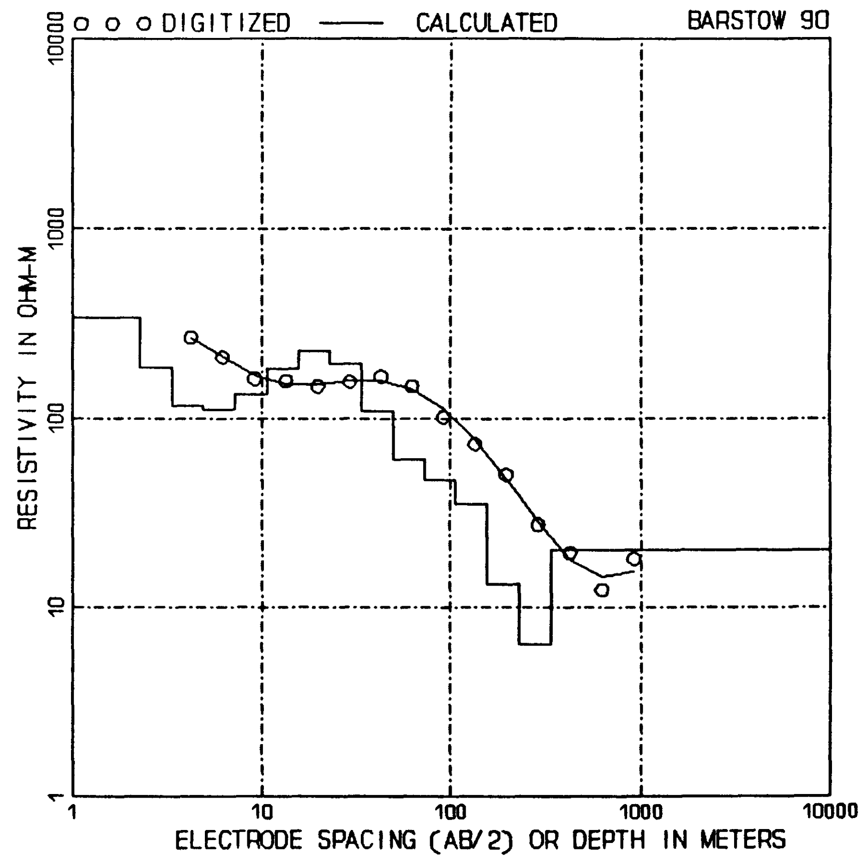
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	174.00	121.92 (	400.00)	19.50
4.27 (	14.00)	154.00	182.88 (	600.00)	18.00
6.10 (	20.00)	140.00	243.84 (	800.00)	16.00
9.14 (	30.00)	125.00	304.80 (	1000.00)	15.00
12.19 (	40.00)	106.00	426.72 (	1400.00)	14.20
18.29 (	60.00)	94.00	304.80 (	1000.00)	17.00
24.38 (	80.00)	80.00	426.72 (	1400.00)	15.70
30.48 (	100.00)	71.00	609.60 (	2000.00)	15.20
30.48 (	100.00)	72.50	914.40 (	3000.00)	20.00
42.67 (	140.00)	52.00	1219.20 (	4000.00)	20.20
60.96 (	200.00)	35.00	1828.80 (	6000.00)	28.20
91.44 (	300.00)	22.80	2438.40 (	8000.00)	40.80



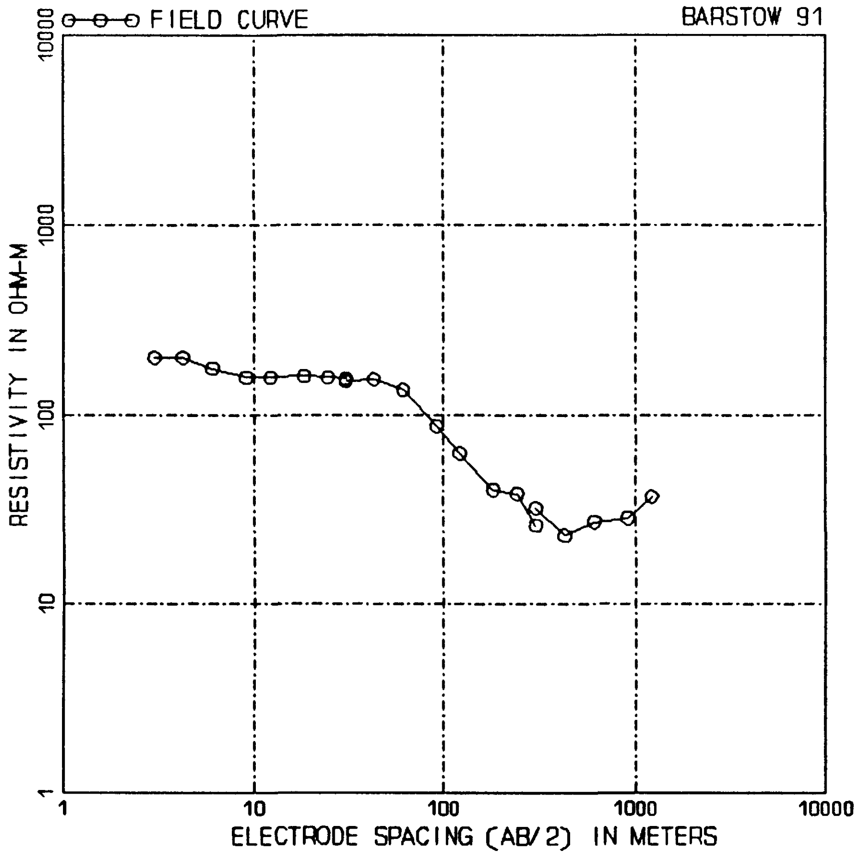
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	210.54	61.12 (	200.52)	17.81
2.84 (	9.31)	162.37	89.71 (	294.32)	21.67
4.16 (	13.66)	131.36	131.67 (	432.00)	20.12
6.11 (	20.05)	113.62	193.27 (	634.09)	14.26
8.97 (	29.43)	108.70	283.68 (	930.72)	11.24
13.17 (	43.20)	106.82	416.39 (	1366.10)	11.91
19.33 (	63.41)	85.15	611.17 (	2005.17)	16.39
28.37 (	93.07)	45.80	897.08 (	2943.18)	33.36
41.64 (	136.61)	21.50	99999.00 (	99999.00)	94.01



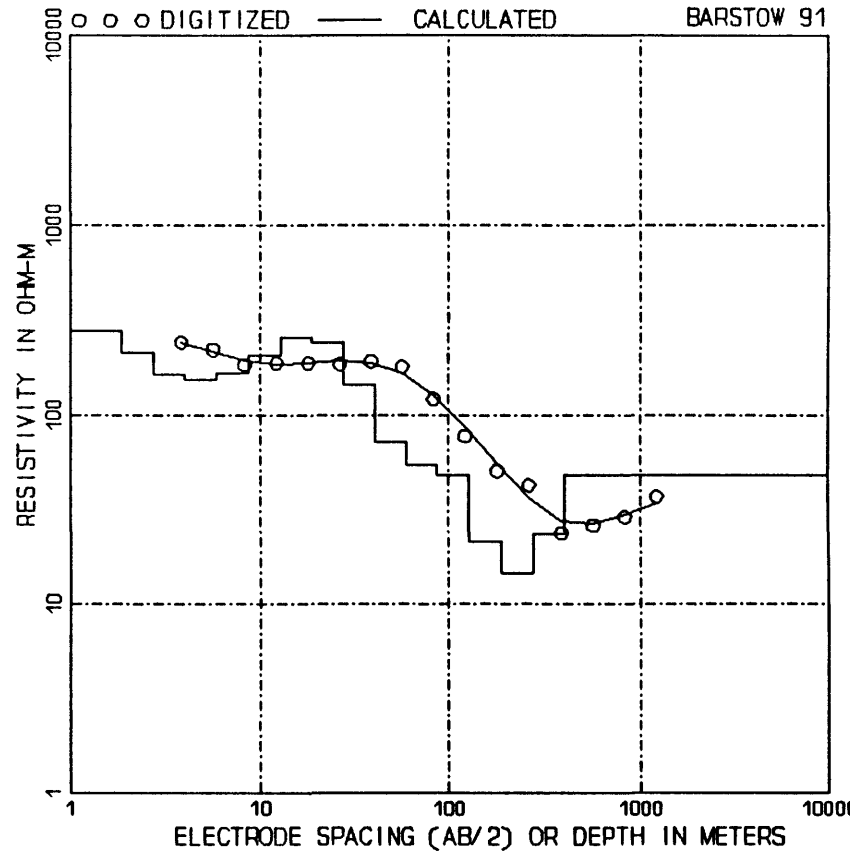
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	280.00	60.96	(200.00)	122.00
4.27	(14.00)	230.00	91.44	(300.00)	82.00
6.10	(20.00)	185.00	121.92	(400.00)	67.00
9.14	(30.00)	140.00	182.88	(600.00)	41.00
12.19	(40.00)	138.00	243.84	(800.00)	36.70
18.29	(60.00)	127.00	304.80	(1000.00)	19.00
24.38	(80.00)	133.00	304.80	(1000.00)	23.50
30.48	(100.00)	137.00	426.72	(1400.00)	19.00
30.48	(100.00)	128.00	609.60	(2000.00)	12.60
42.67	(140.00)	134.00	914.40	(3000.00)	18.00



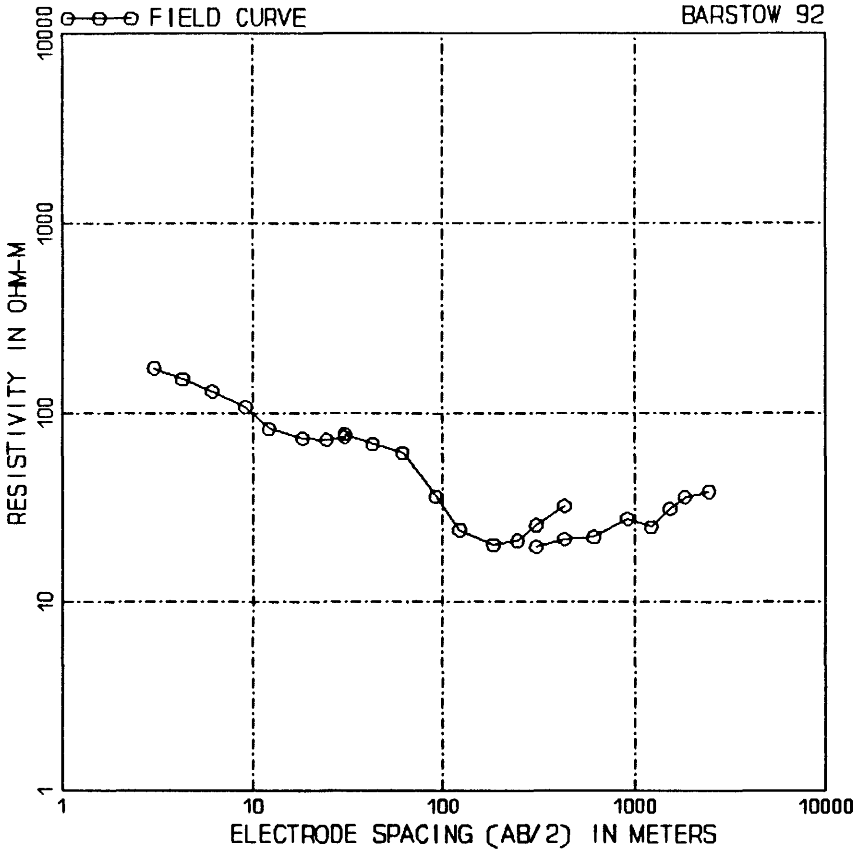
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.29	(7.52)	338.35	33.64	(110.37)	192.77
3.36	(11.04)	185.30	49.38	(162.00)	109.28
4.94	(16.20)	116.70	72.48	(237.78)	60.46
7.25	(23.78)	111.43	106.38	(349.02)	46.88
10.64	(34.90)	133.92	156.15	(512.29)	35.31
15.61	(51.23)	181.32	229.19	(751.94)	13.30
22.92	(75.19)	226.50	336.41	(1103.69)	6.36
			99999.00	(99999.00)	20.13

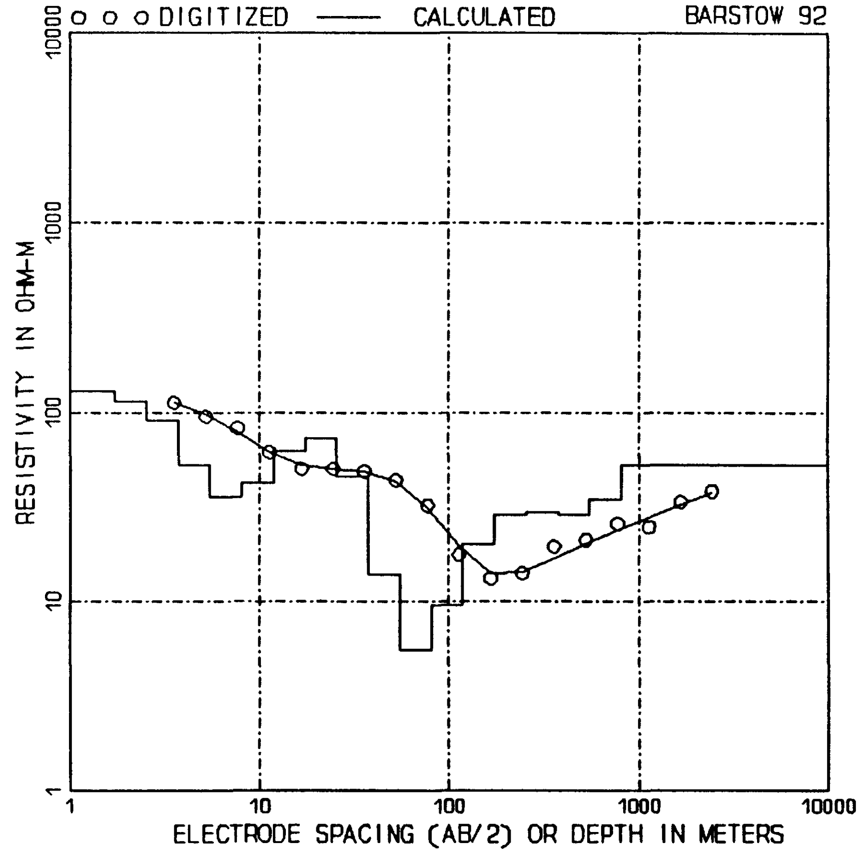


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	200.00	60.96 (	200.00)	135.00
4.27 (	14.00)	200.00	91.44 (	300.00)	87.00
6.10 (	20.00)	175.00	121.92 (	400.00)	62.50
9.14 (	30.00)	157.00	182.88 (	600.00)	40.00
12.19 (	40.00)	157.00	243.84 (	800.00)	38.20
18.29 (	60.00)	160.00	304.80 (	1000.00)	26.00
24.38 (	80.00)	157.00	304.80 (	1000.00)	32.00
30.48 (	100.00)	155.00	426.72 (	1400.00)	23.00
30.48 (	100.00)	150.00	609.60 (	2000.00)	27.20
42.67 (	140.00)	154.00	914.40 (	3000.00)	28.50
			1219.20 (	4000.00)	37.00



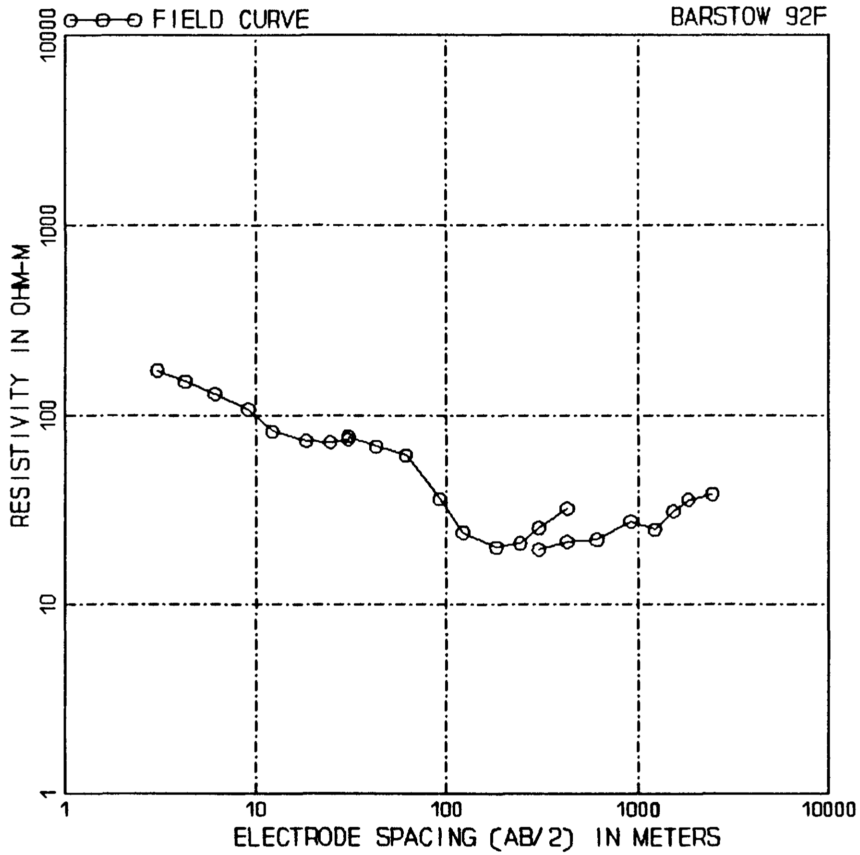
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.87 (	6.15)	278.35	40.37 (	132.44)	145.05
2.75 (	9.02)	212.28	59.25 (	194.40)	71.36
4.04 (	13.24)	163.69	86.97 (	285.34)	54.68
5.93 (	19.44)	152.24	127.66 (	418.82)	48.03
8.70 (	28.53)	166.47	187.37 (	614.75)	21.40
12.77 (	41.88)	205.77	275.03 (	902.33)	14.51
18.74 (	61.47)	255.54	403.69 (	1324.43)	23.48
27.50 (	90.23)	241.20	99999.00 (	99999.00)	47.74



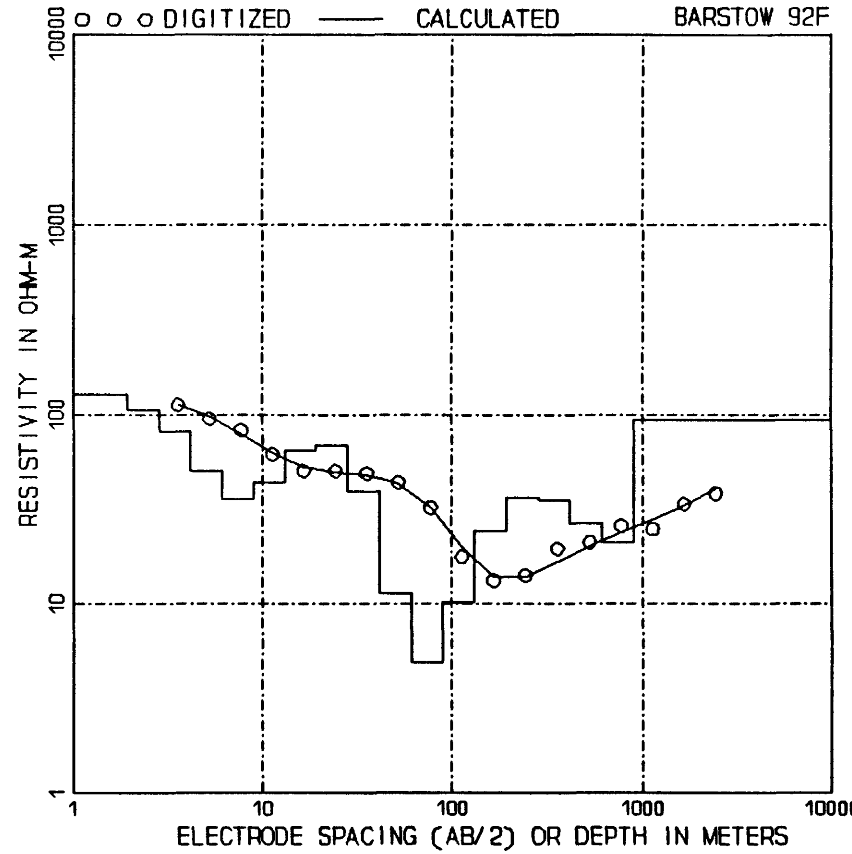


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	172.00	121.92 (	400.00)	24.00
4.27 (	14.00)	150.00	182.88 (	600.00)	20.00
6.10 (	20.00)	130.00	243.84 (	800.00)	21.00
9.14 (	30.00)	107.00	304.80 (	1000.00)	25.30
12.19 (	40.00)	82.00	426.72 (	1400.00)	32.00
18.29 (	60.00)	73.00	304.80 (	1000.00)	19.50
24.38 (	80.00)	72.00	426.72 (	1400.00)	21.50
30.48 (	100.00)	74.00	609.60 (	2000.00)	22.00
30.48 (	100.00)	77.00	914.40 (	3000.00)	27.50
42.67 (	140.00)	68.00	1219.20 (	4000.00)	24.80
60.96 (	200.00)	61.00	1524.00 (	5000.00)	31.00
91.44 (	300.00)	36.00	1828.80 (	6000.00)	35.70
			2438.40 (	8000.00)	38.20

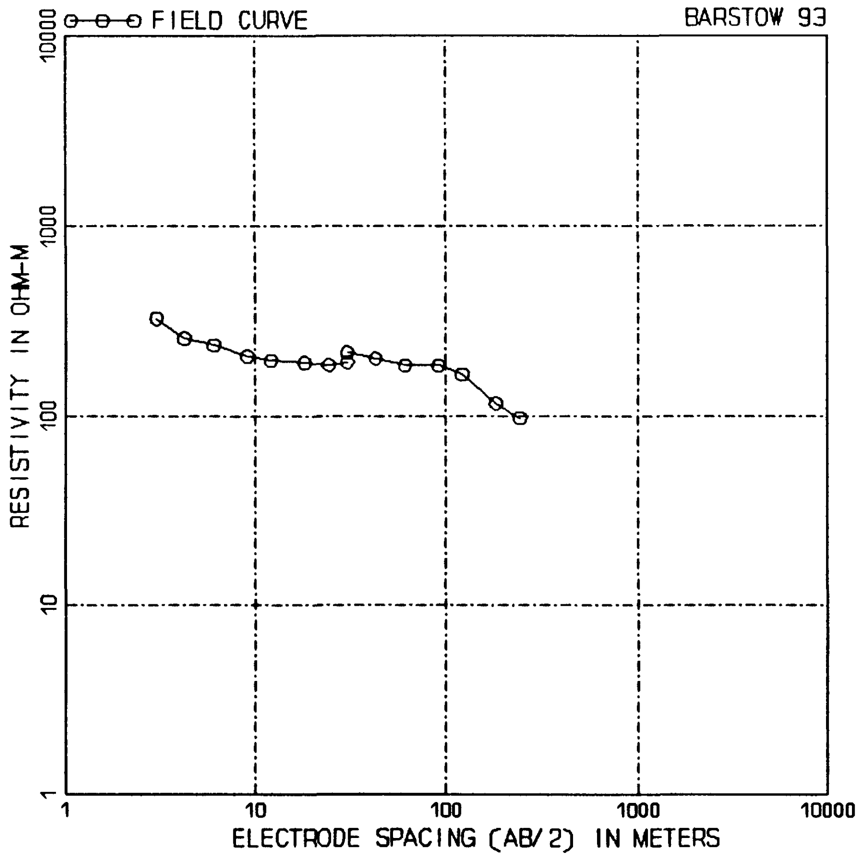
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.74 (	5.71)	128.41	55.01 (	180.46)	13.79
2.55 (	8.38)	115.00	80.74 (	264.89)	5.56
3.75 (	12.29)	90.28	118.51 (	388.80)	9.48
5.50 (	18.05)	52.96	173.94 (	570.68)	20.14
8.07 (	26.49)	35.63	255.31 (	837.64)	28.70
11.85 (	38.88)	42.45	374.75 (	1229.49)	29.53
17.39 (	57.07)	62.66	550.06 (	1804.65)	28.54
25.53 (	83.76)	72.79	807.37 (	2648.86)	34.60
37.47 (	122.95)	46.13	99999.00	(99999.00)	52.64



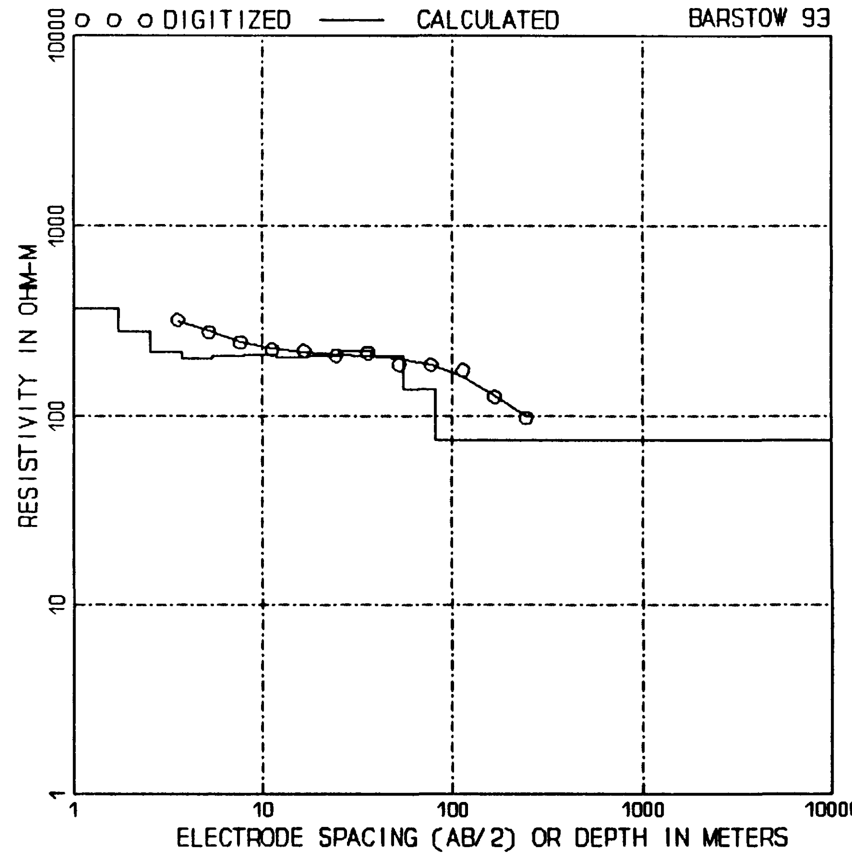
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	172.00	121.92 (	400.00)	24.00
4.27 (	14.00)	150.00	182.88 (	600.00)	20.00
6.10 (	20.00)	130.00	243.84 (	800.00)	21.00
9.14 (	30.00)	107.00	304.80 (	1000.00)	25.30
12.19 (	40.00)	82.00	426.72 (	1400.00)	32.00
18.29 (	60.00)	73.00	304.80 (	1000.00)	19.50
24.38 (	80.00)	72.00	426.72 (	1400.00)	21.50
30.48 (	100.00)	74.00	609.60 (	2000.00)	22.00
30.48 (	100.00)	77.00	914.40 (	3000.00)	27.50
42.67 (	140.00)	68.00	1219.20 (	4000.00)	24.80
60.96 (	200.00)	61.00	1524.00 (	5000.00)	31.00
91.44 (	300.00)	36.00	1828.80 (	6000.00)	35.70
			2438.40 (	8000.00)	38.20



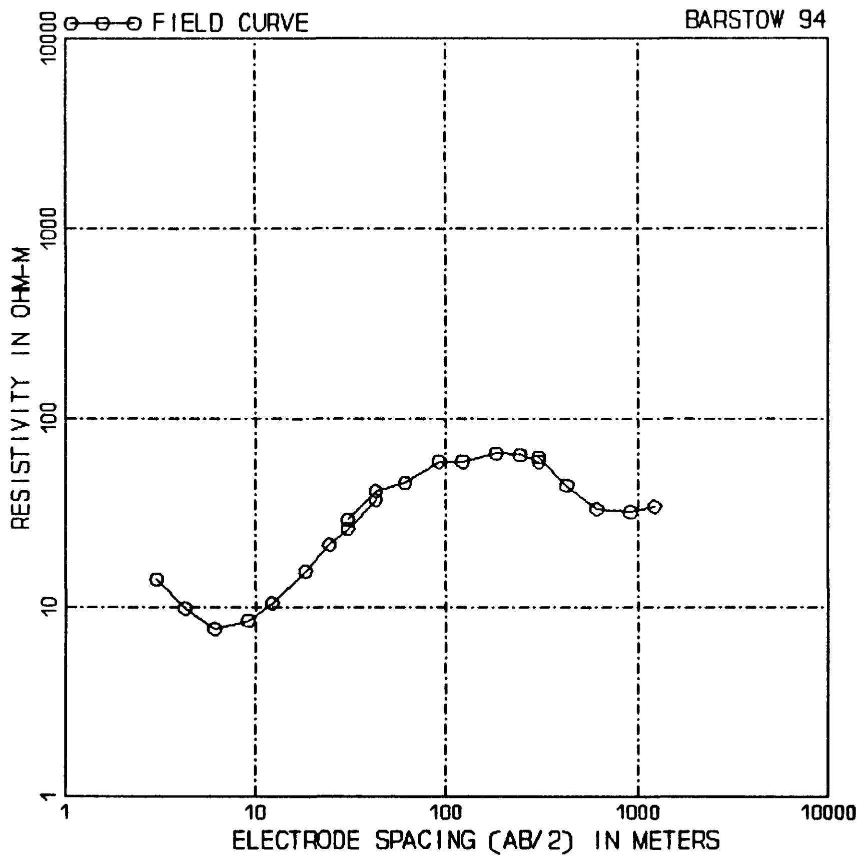
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.93 (	6.34)	127.83	61.12 (	200.52)	11.31
2.84 (	9.31)	105.12	89.71 (	294.32)	4.94
4.16 (	13.66)	80.68	131.67 (	432.00)	10.13
6.11 (	20.05)	50.01	193.27 (	634.09)	24.31
8.97 (	29.43)	35.46	283.68 (	930.72)	36.29
13.17 (	43.20)	43.93	416.39 (	1366.10)	35.41
19.33 (	63.41)	63.98	611.17 (	2005.17)	26.43
28.37 (	93.07)	68.55	897.08 (	2943.18)	21.21
41.64 (	136.61)	39.45	99999.00 (	99999.00)	94.00



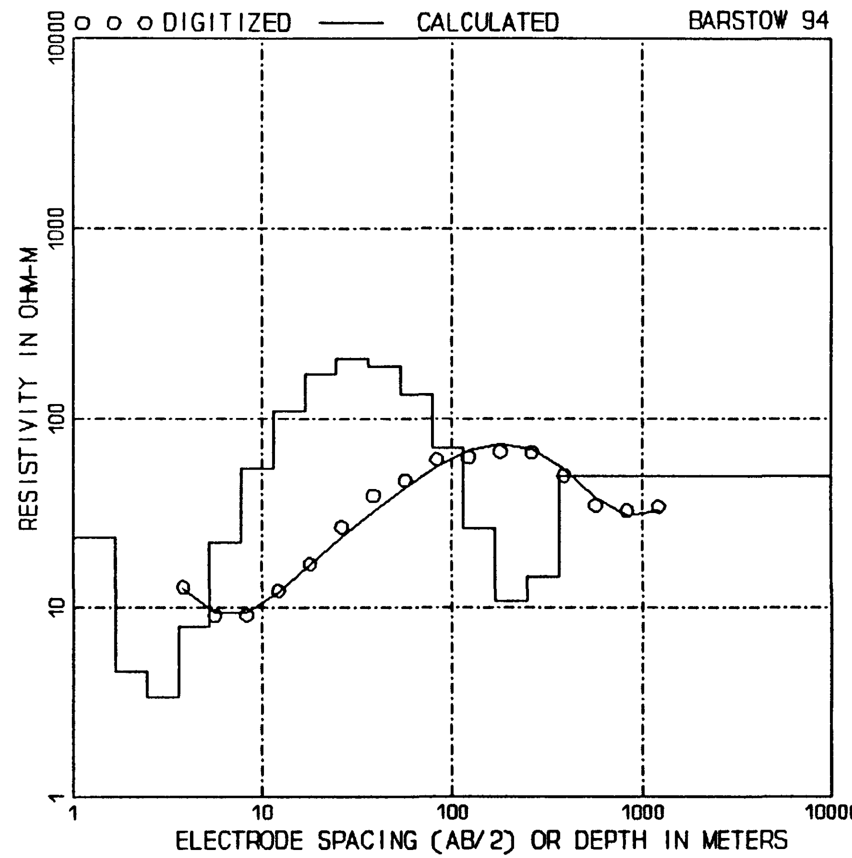
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	325.00	30.48 (	100.00)	192.00
4.27 (	14.00)	255.00	30.48 (	100.00)	215.00
6.10 (	20.00)	235.00	42.67 (	140.00)	200.00
9.14 (	30.00)	205.00	60.96 (	200.00)	184.00
12.19 (	40.00)	195.00	91.44 (	300.00)	184.00
18.29 (	60.00)	190.00	121.92 (	400.00)	165.00
24.38 (	80.00)	185.00	182.88 (	600.00)	116.00
			243.84 (	800.00)	97.00



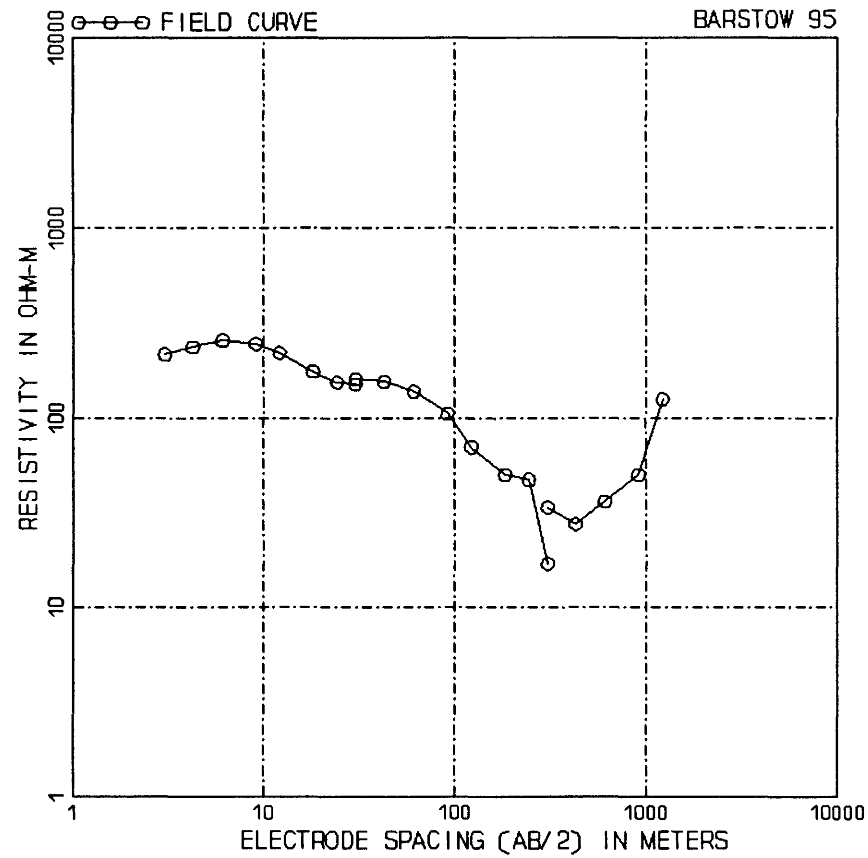
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.74 (	5.71)	368.68	17.39 (	57.07)	204.06
2.55 (	8.38)	274.96	25.53 (	83.76)	205.44
3.75 (	12.29)	217.28	37.47 (	122.95)	220.43
5.50 (	18.05)	200.63	55.01 (	180.47)	206.49
8.07 (	26.49)	205.42	80.74 (	264.89)	138.80
11.85 (	38.88)	209.34	99999.00 (	99999.00)	73.84



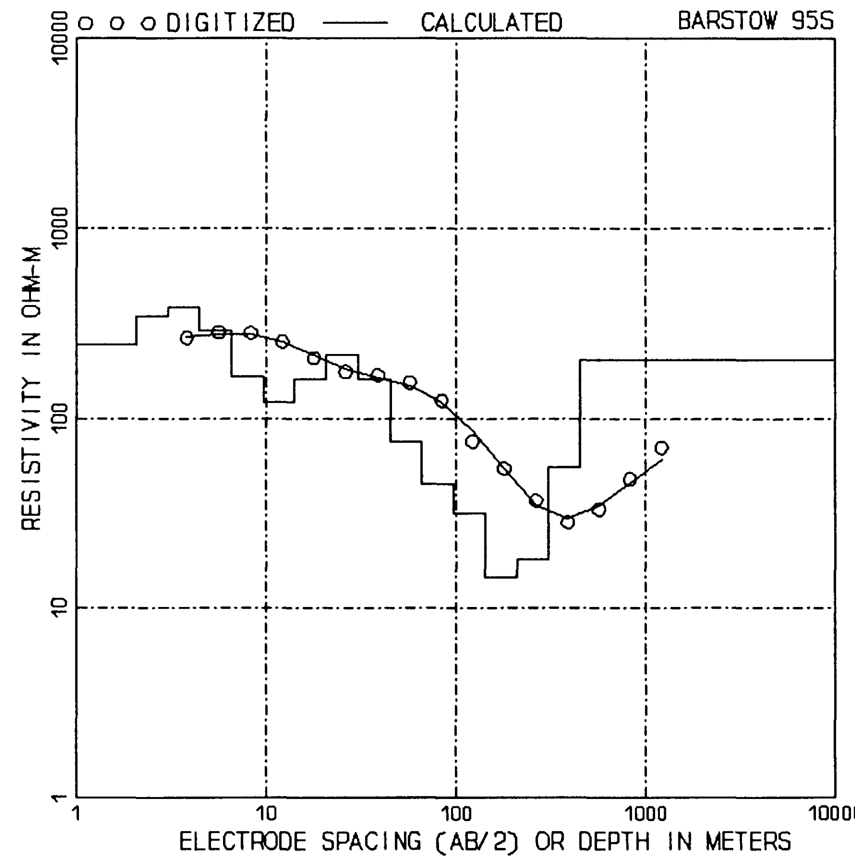
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	14.00	60.96	(200.00)	45.50
4.27	(14.00)	9.90	91.44	(300.00)	59.00
6.10	(20.00)	7.70	121.92	(400.00)	59.00
9.14	(30.00)	8.50	182.88	(600.00)	65.00
12.19	(40.00)	10.50	243.84	(800.00)	64.00
18.29	(60.00)	15.50	304.80	(1000.00)	59.00
24.38	(80.00)	21.50	304.80	(1000.00)	62.00
30.48	(100.00)	26.00	426.72	(1400.00)	44.00
42.67	(140.00)	37.00	609.60	(2000.00)	33.00
30.48	(100.00)	29.00	914.40	(3000.00)	31.90
42.67	(140.00)	41.00	1219.20	(4000.00)	34.20



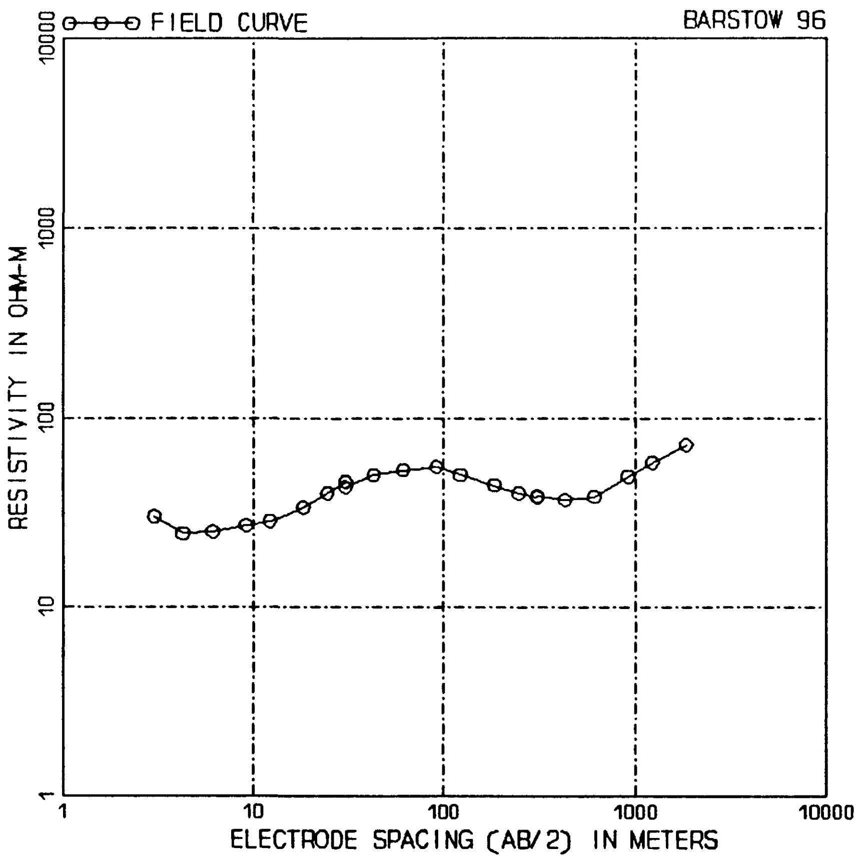
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.69	(5.53)	23.47	36.33	(119.20)	204.98
2.48	(8.12)	4.64	53.33	(174.96)	189.03
3.63	(11.92)	3.38	78.27	(256.81)	133.28
5.33	(17.50)	7.87	114.89	(376.94)	69.29
7.83	(25.68)	22.20	168.64	(553.27)	26.01
11.49	(37.69)	54.68	247.53	(812.09)	10.75
16.86	(55.33)	108.50	363.32	(1191.99)	14.56
24.75	(81.21)	169.83	99999.00	(99999.00)	49.09



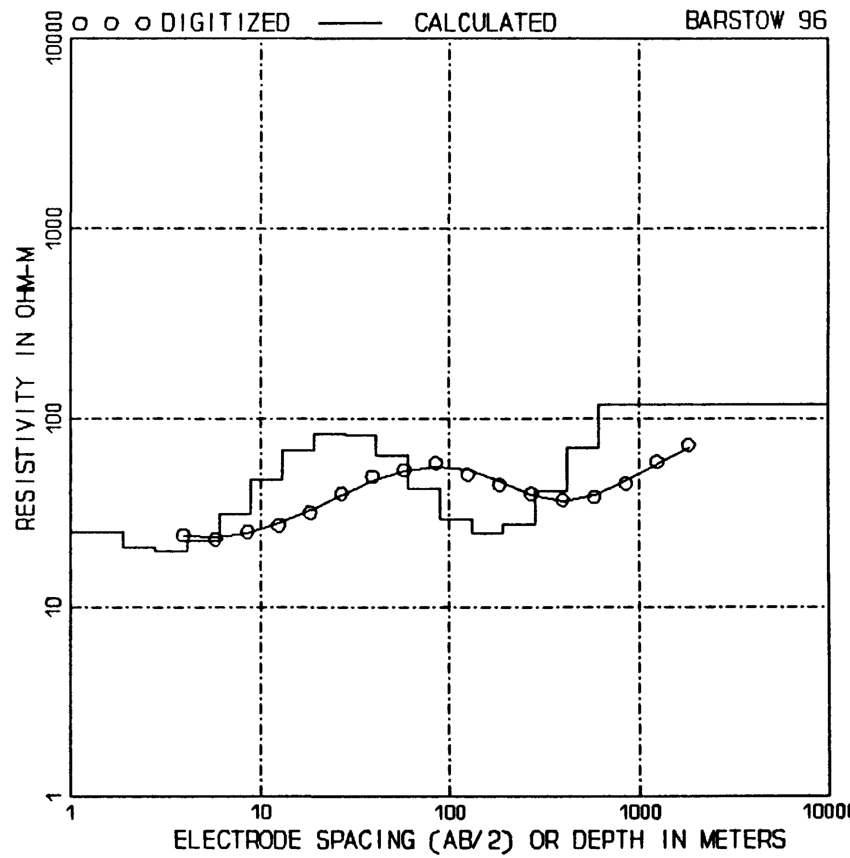
AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	215.00	60.96 (	200.00)	137.00
4.27 (	14.00)	235.00	91.44 (	300.00)	105.00
6.10 (	20.00)	255.00	121.92 (	400.00)	70.00
9.14 (	30.00)	245.00	182.88 (	600.00)	50.00
12.19 (	40.00)	220.00	243.84 (	800.00)	47.00
18.29 (	60.00)	175.00	304.80 (	1000.00)	17.00
24.38 (	80.00)	154.00	304.80 (	1000.00)	33.50
30.48 (	100.00)	150.00	426.72 (	1400.00)	27.50
30.48 (	100.00)	160.00	609.60 (	2000.00)	36.00
42.67 (	140.00)	155.00	914.40 (	3000.00)	50.00
			1219.20 (	4000.00)	125.00



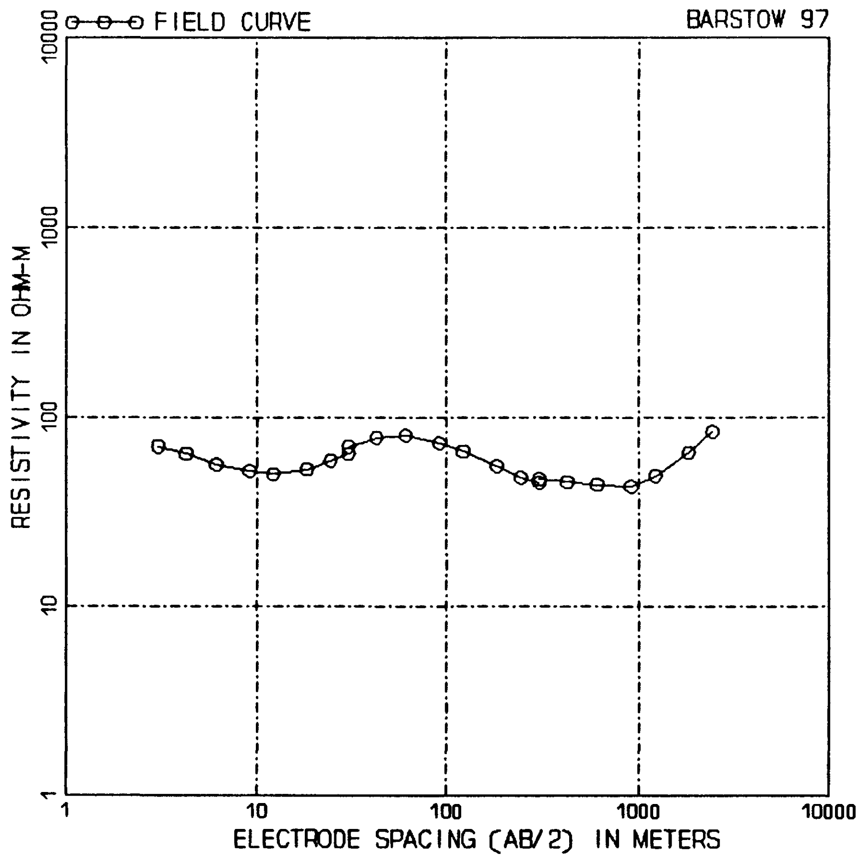
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
2.08 (	6.83)	244.59	44.85 (	147.16)	159.87
3.06 (	10.03)	343.35	65.84 (	216.00)	75.40
4.49 (	14.72)	382.28	96.64 (	317.04)	45.17
6.58 (	21.60)	288.78	141.84 (	465.36)	31.77
9.66 (	31.70)	164.88	208.19 (	683.05)	14.63
14.18 (	46.54)	121.10	305.59 (	1002.58)	18.05
20.82 (	68.31)	160.76	448.54 (	1471.59)	55.15
30.56 (	100.26)	214.80	99999.00 (	99999.00)	201.99



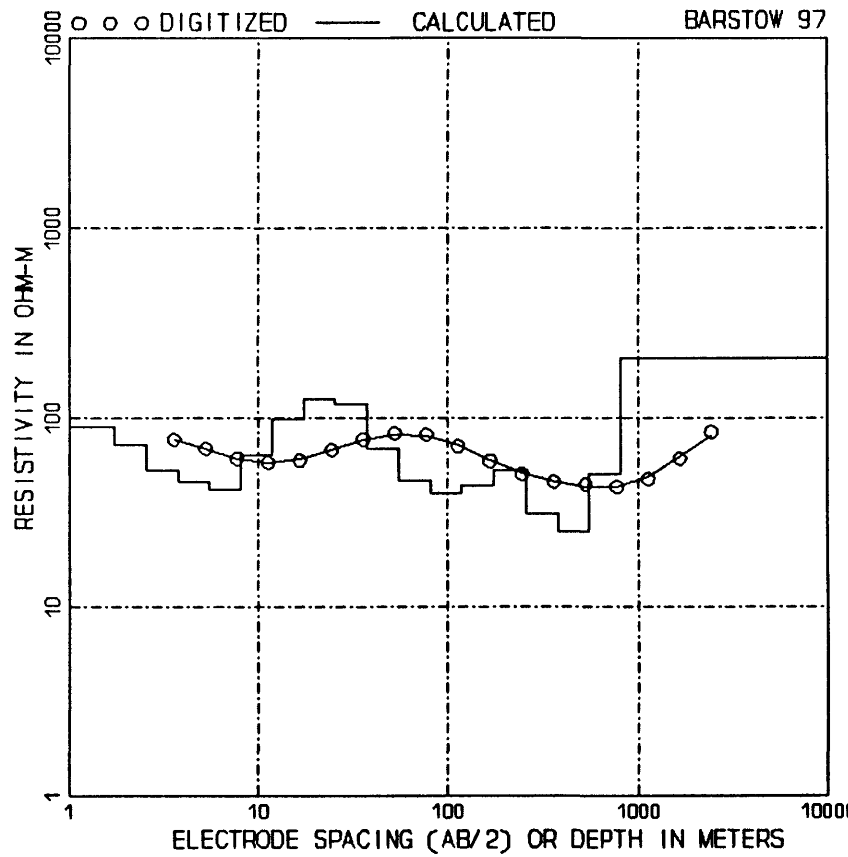
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	30.00	91.44	(300.00)	55.00
4.27	(14.00)	24.50	121.92	(400.00)	50.00
6.10	(20.00)	25.00	182.88	(600.00)	44.00
9.14	(30.00)	27.00	243.84	(800.00)	40.00
12.19	(40.00)	28.50	304.80	(1000.00)	38.00
18.29	(60.00)	33.50	304.80	(1000.00)	38.50
24.38	(80.00)	40.00	426.72	(1400.00)	37.00
30.48	(100.00)	46.00	609.60	(2000.00)	38.30
30.48	(100.00)	43.00	914.40	(3000.00)	49.00
42.67	(140.00)	50.00	1219.20	(4000.00)	58.00
60.96	(200.00)	53.00	1828.80	(6000.00)	72.00



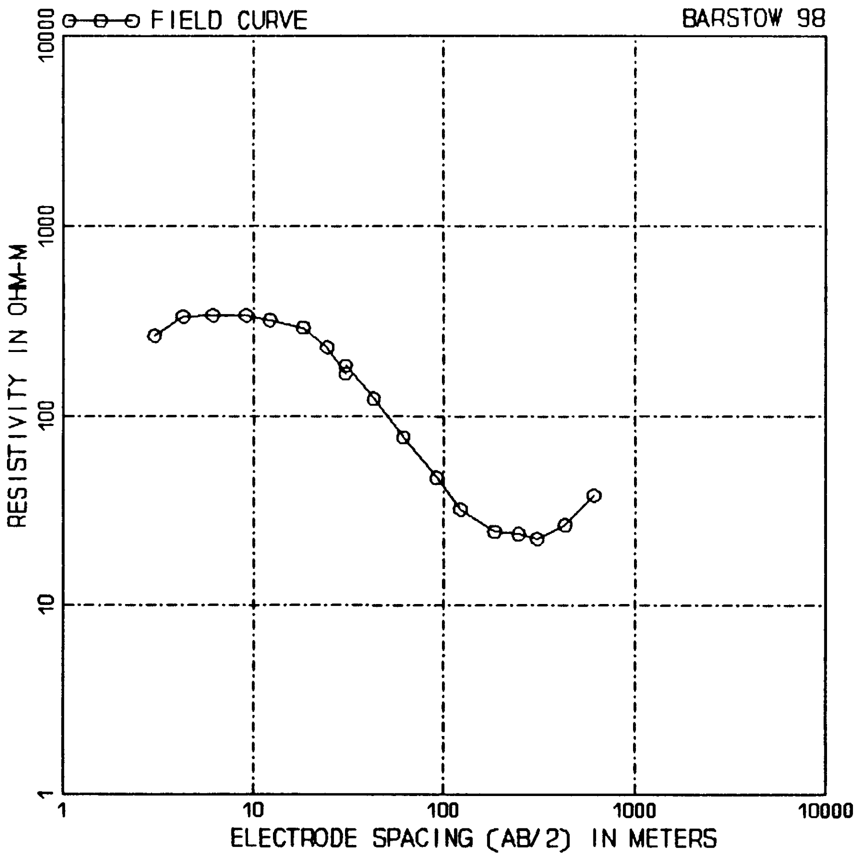
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	25.08	41.25	(135.35)	81.67
2.81	(9.22)	20.77	60.55	(198.66)	63.24
4.13	(13.53)	19.79	88.88	(291.60)	42.02
6.06	(19.87)	22.57	130.46	(428.01)	29.05
8.89	(29.16)	31.22	191.49	(628.23)	24.49
13.05	(42.80)	47.27	281.06	(922.12)	27.48
19.15	(62.82)	67.47	412.54	(1353.49)	41.08
28.11	(92.21)	82.75	605.53	(1986.65)	69.70
			99999.00	(99999.00)	117.39

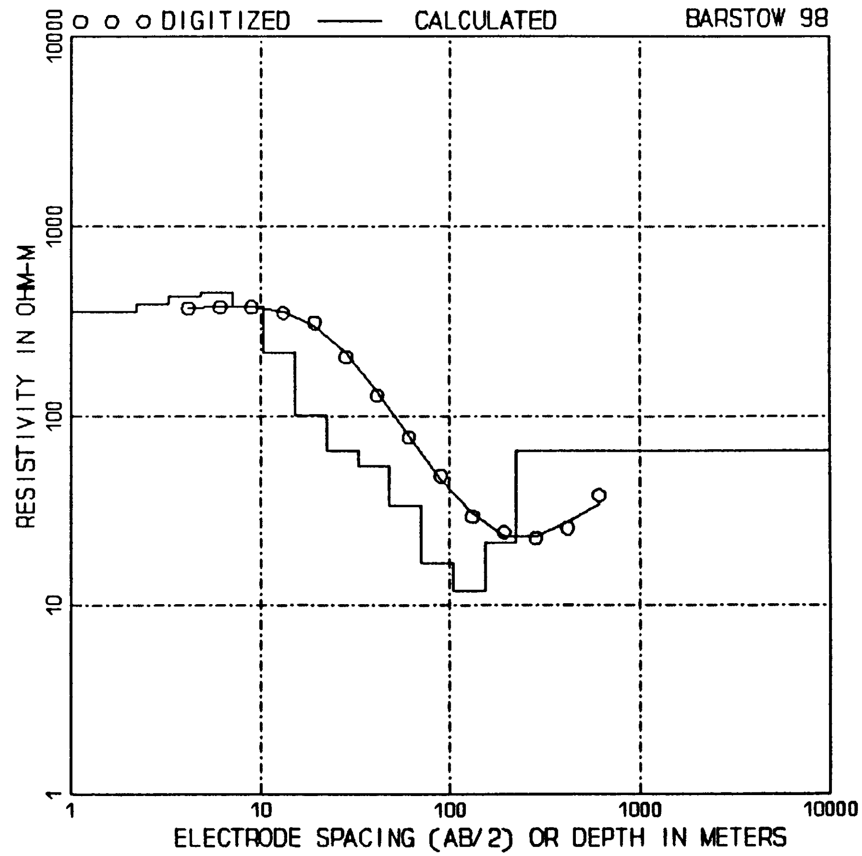


AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	70.00	91.44	(300.00)	73.00
4.27	(14.00)	64.00	121.92	(400.00)	66.00
6.10	(20.00)	56.00	182.88	(600.00)	55.00
9.14	(30.00)	52.00	243.84	(800.00)	48.00
12.19	(40.00)	50.00	304.80	(1000.00)	45.00
18.29	(60.00)	53.00	304.80	(1000.00)	47.00
24.38	(80.00)	59.00	426.72	(1400.00)	45.50
30.48	(100.00)	64.00	609.60	(2000.00)	44.00
30.48	(100.00)	70.00	914.40	(3000.00)	43.00
42.67	(140.00)	78.00	1219.20	(4000.00)	49.00
60.96	(200.00)	80.00	1828.80	(6000.00)	65.00
			2438.40	(8000.00)	84.00



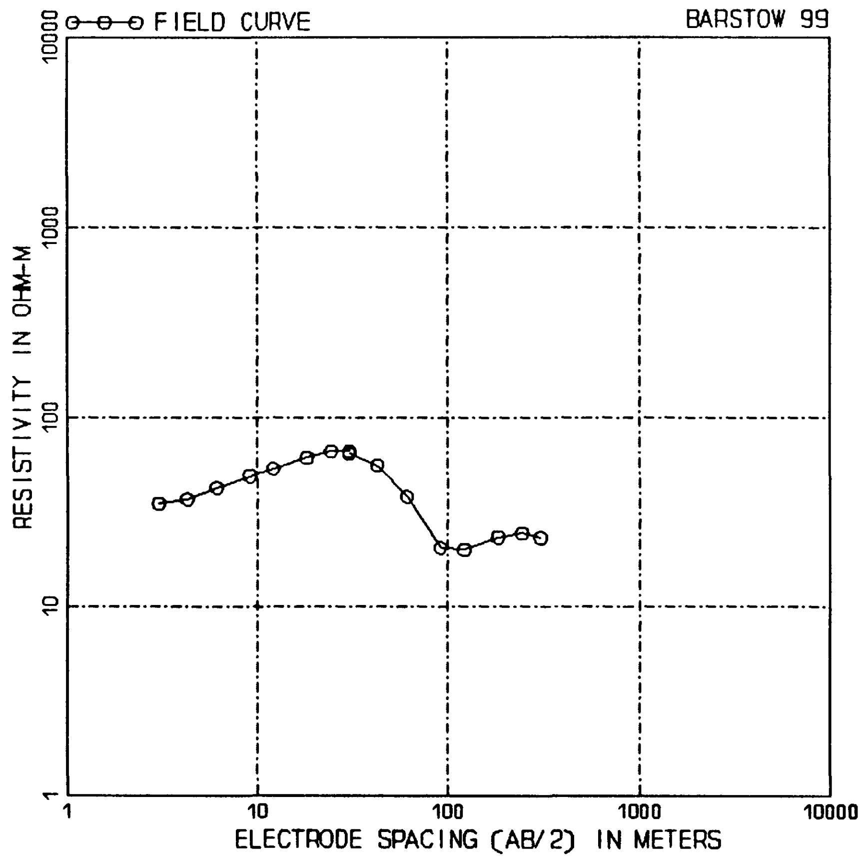
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	88.52	55.01	(180.46)	68.32
2.55	(8.38)	72.27	80.74	(264.89)	46.52
3.75	(12.29)	53.05	118.51	(388.80)	39.56
5.50	(18.05)	45.71	173.94	(570.68)	43.83
8.07	(26.49)	41.96	255.31	(837.64)	52.93
11.85	(38.88)	63.37	374.75	(1229.49)	31.05
17.39	(57.07)	98.43	550.06	(1804.65)	24.84
25.53	(83.76)	125.26	807.37	(2648.86)	50.49
37.47	(122.95)	118.59	99999.00	(99999.00)	206.78

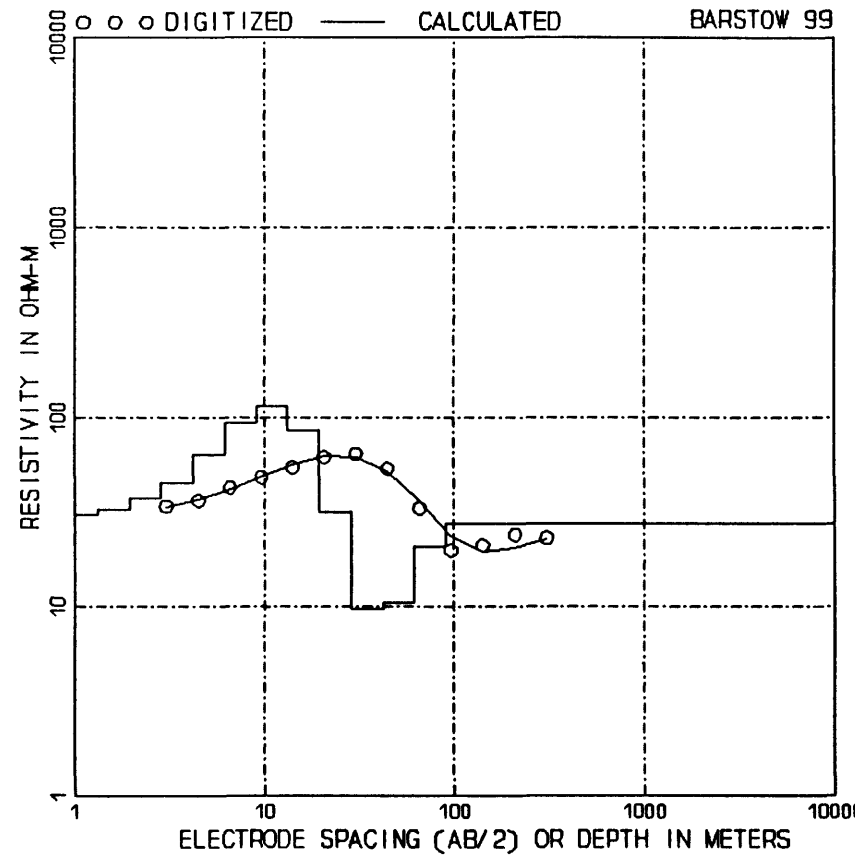




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	265.00	42.67	(140.00)	123.00
4.27	(14.00)	333.00	60.96	(200.00)	77.00
6.10	(20.00)	340.00	91.44	(300.00)	47.00
9.14	(30.00)	340.00	121.92	(400.00)	32.00
12.19	(40.00)	320.00	182.88	(600.00)	24.50
18.29	(60.00)	292.00	243.84	(800.00)	23.80
24.38	(80.00)	230.00	304.80	(1000.00)	22.50
30.48	(100.00)	167.00	304.80	(1000.00)	22.50
30.48	(100.00)	184.00	426.72	(1400.00)	26.50
			609.60	(2000.00)	38.00

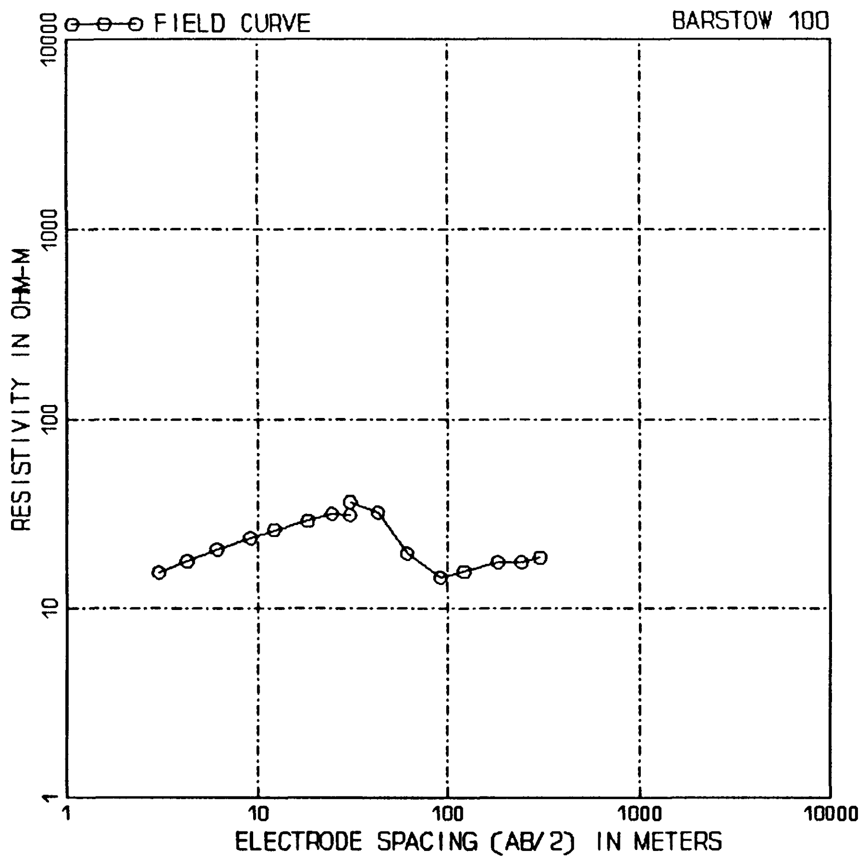
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.24	(7.36)	356.95	32.92	(108.00)	65.41
3.29	(10.80)	386.69	48.32	(158.52)	54.69
4.83	(15.85)	426.85	70.92	(232.68)	33.39
7.09	(23.27)	448.00	104.10	(341.53)	16.76
10.41	(34.15)	376.64	152.79	(501.29)	11.97
15.28	(50.13)	216.25	224.27	(735.80)	21.32
22.43	(73.58)	101.51	99999.00	(99999.00)	65.09



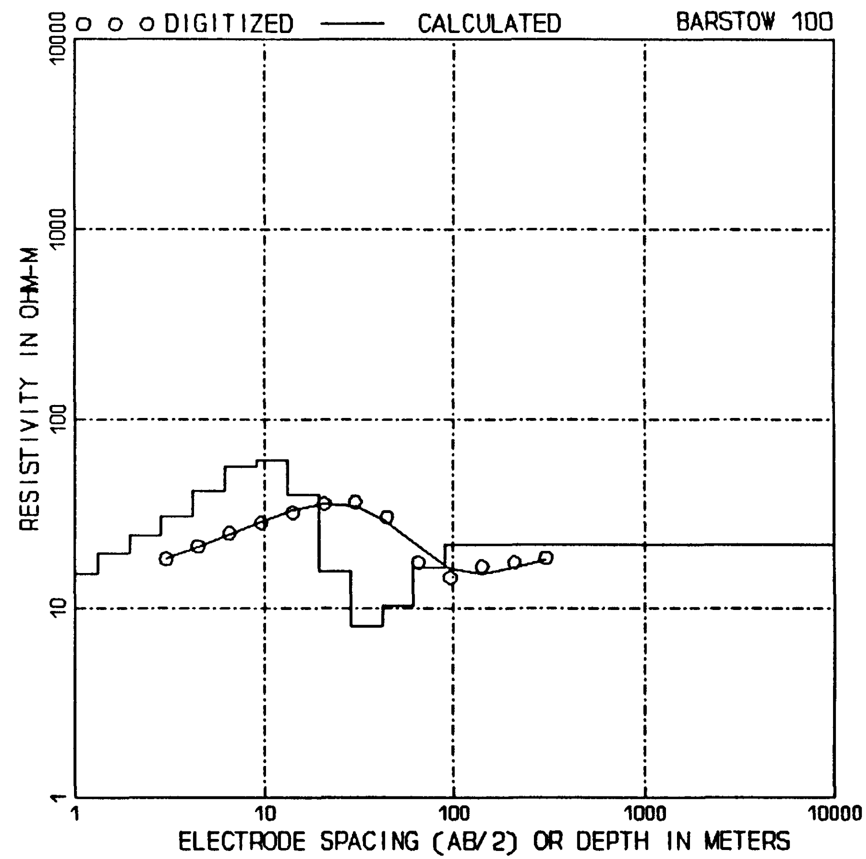


AB/2, m (	ft)	App. Res.	AB/2, m (	ft)	App. Res.
3.05 (	10.00)	35.00	30.48 (	100.00)	64.00
4.27 (	14.00)	37.00	42.67 (	140.00)	55.50
6.10 (	20.00)	42.50	60.96 (	200.00)	38.00
9.14 (	30.00)	49.00	91.44 (	300.00)	20.50
12.19 (	40.00)	53.50	121.92 (	400.00)	20.00
18.29 (	60.00)	61.00	182.88 (	600.00)	23.30
24.38 (	80.00)	66.00	243.84 (	800.00)	24.50
30.48 (	100.00)	66.00	304.80 (	1000.00)	23.00

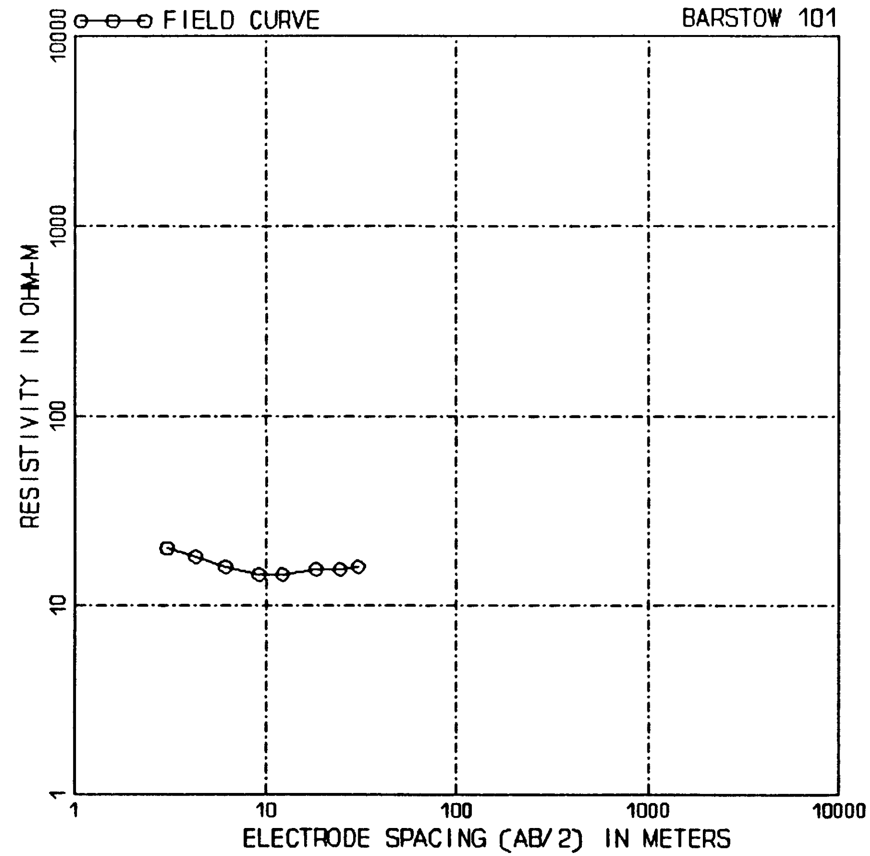
DEPTH, m (	ft)	RESIS.	DEPTH, m (	ft)	RESIS.
1.33 (	4.37)	30.57	13.33 (	43.74)	114.62
1.96 (	6.42)	32.79	19.57 (	64.20)	85.71
2.87 (	9.42)	37.27	28.72 (	94.23)	31.64
4.22 (	13.83)	45.43	42.16 (	138.32)	9.69
6.19 (	20.30)	63.37	61.88 (	203.02)	10.49
9.08 (	29.80)	93.62	90.83 (	298.00)	20.92
			99999.00 (	99999.00)	27.64



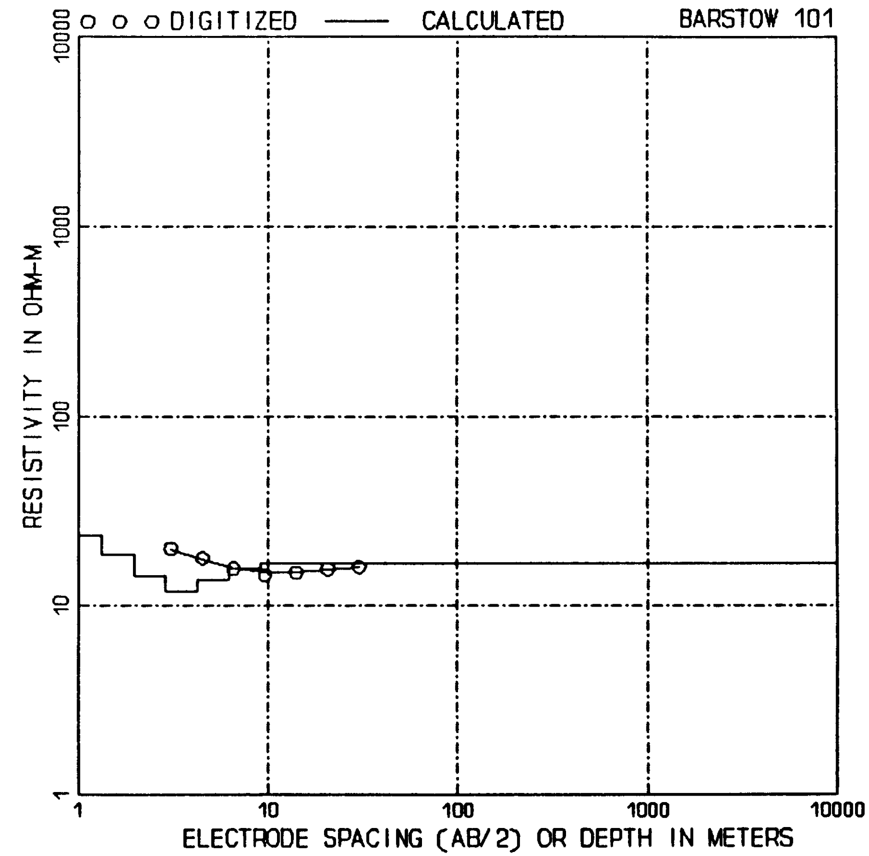
AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	15.50	30.48	(100.00)	36.50
4.27	(14.00)	17.70	42.67	(140.00)	32.00
6.10	(20.00)	20.50	60.96	(200.00)	19.50
9.14	(30.00)	23.60	91.44	(300.00)	14.50
12.19	(40.00)	26.00	121.92	(400.00)	15.60
18.29	(60.00)	29.00	182.88	(600.00)	17.50
24.38	(80.00)	31.50	243.84	(800.00)	17.50
30.48	(100.00)	31.00	304.80	(1000.00)	18.50



DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.33	(4.37)	15.16	13.33	(43.74)	60.03
1.96	(6.42)	19.44	19.57	(64.20)	39.64
2.87	(9.42)	24.16	28.72	(94.23)	15.78
4.22	(13.83)	30.62	42.16	(138.32)	7.99
6.19	(20.30)	41.57	61.88	(203.02)	10.35
9.08	(29.80)	55.96	90.83	(298.00)	16.48
			99999.00	(99999.00)	21.76



AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	20.00	12.19	(40.00)	14.50
4.27	(14.00)	18.00	18.29	(60.00)	15.50
6.10	(20.00)	16.00	24.38	(80.00)	15.50
9.14	(30.00)	14.50	30.48	(100.00)	16.00



DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.33	(4.37)	23.41	4.22	(13.83)	11.89
1.96	(6.42)	18.74	6.19	(20.30)	13.72
2.87	(9.42)	14.33	9.08	(29.80)	15.63
			99999.00	(99999.00)	16.65

APPENDIX 3

Universal Transverse Mercator coordinates (zone 11) of the sounding stations, in kilometers.

Sounding Number	x	y	Sounding Number	x	y
1	3.464066	541.4173	52	-6.749558	543.2011
2	2.559008	541.5312	53	-5.753544	543.2876
3	1.677663	541.7928	54	-6.103008	543.2748
4	0.8837234	542.2618	55	-5.738645	543.1643
5	8.318998	538.3999	56	10.98915	541.207
6	9.088156	537.165	57	12.25083	541.5085
7	8.488477	536.080	58	12.99537	541.9945
8	4.395335	541.3594	59	14.55150	543.0469
9	5.259311	541.1187	60	14.04893	542.7794
10	6.026067	540.7143	61	15.12642	543.3193
11	6.860334	540.2734	62	14.42241	543.3857
12	7.68093	539.8543	63	13.36794	543.298
13	8.61369	539.7363	64	10.74410	541.5318
14	9.527617	539.7438	65	11.26072	541.672
15	9.393639	537.683	66	10.70467	541.0842
16	8.193129	535.3243	67	11.27863	541.3192
17	7.987837	534.3856	68	10.94977	542.8215
18	7.861136	533.5394	69	11.93341	542.7298
19	7.648254	532.623	70	12.38137	542.8195
20	7.517319	532.3003	71	10.45521	541.9915
21	8.742673	536.7173	72	11.37744	544.1804
22	8.383466	538.9105	73	10.75846	544.1792
23	8.516763	539.2432	74	12.32093	544.1453
24	7.525275	539.3549	75	13.25065	544.142
25	6.517507	539.5676	76	10.41923	545.0927
26	5.562635	543.2157	77	10.42943	545.9948
27	4.805075	543.183	78	11.36389	545.0419
28	5.707815	542.5679	79	12.29464	545.1334
29	7.377306	538.5923	80	9.80258	544.1411
30	6.177172	538.7921	81	9.806697	544.9564
31	5.245594	538.914	82	9.821958	545.8513
32	7.894337	538.5106	83	12.04917	545.8176
33	8.977128	538.348	84	13.79600	545.7974
34	9.586664	538.2006	85	16.74892	542.6276
35	10.32401	537.6886	86	15.88950	542.3041
36	11.20817	537.6933	87	15.02255	541.9715
37	9.390736	539.2958	88	14.18173	541.6546
38	5.926636	540.0307	89	13.01943	538.2424
39	5.904708	541.121	90	14.14779	537.7664
40	5.649562	539.8787	91	15.34200	537.559
41	7.262032	539.0884	92	11.78754	538.7249
42	3.917218	541.3821	93	11.87317	540.097
43	4.827267	541.3347	94	13.51740	545.1951
44	10.77590	539.967	95	11.93975	546.4769
45	0.6589998	542.9293	96	8.132398	546.0329
46	0.4480581	543.1716	97	9.048499	545.7282
47	0.2658323	543.419	98	10.11962	540.6945
48	0.6614816	543.1296	99	9.942348	540.6957
49	0.7538812	542.6223	100	9.773783	540.7236
50	9.350752	536.8763	101	9.592766	540.7213
51	10.11334	537.3396			

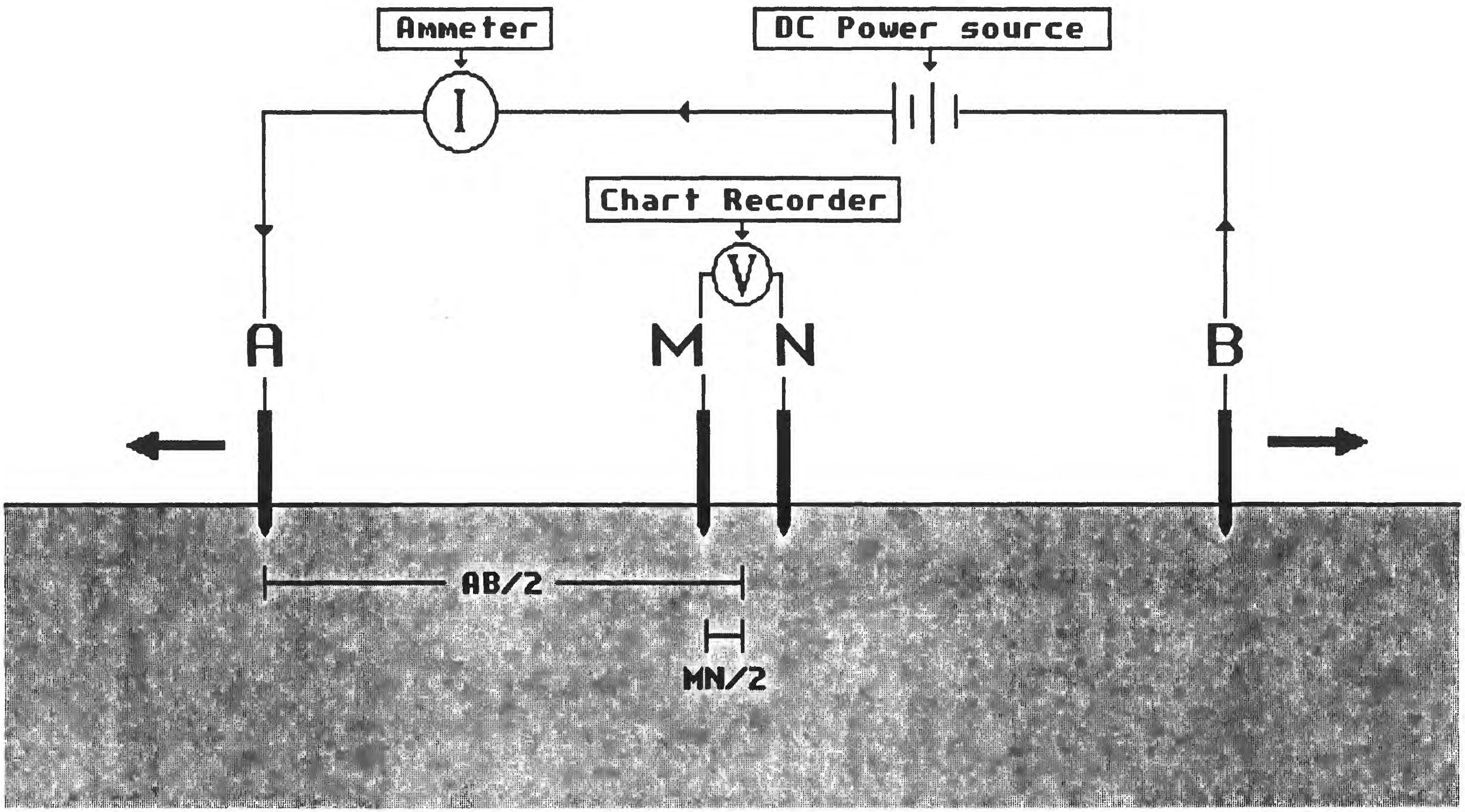


Figure 1. Schlumberger electrode array. A and B, current electrodes; M and N, potential electrodes. Arrows show direction of expansion.

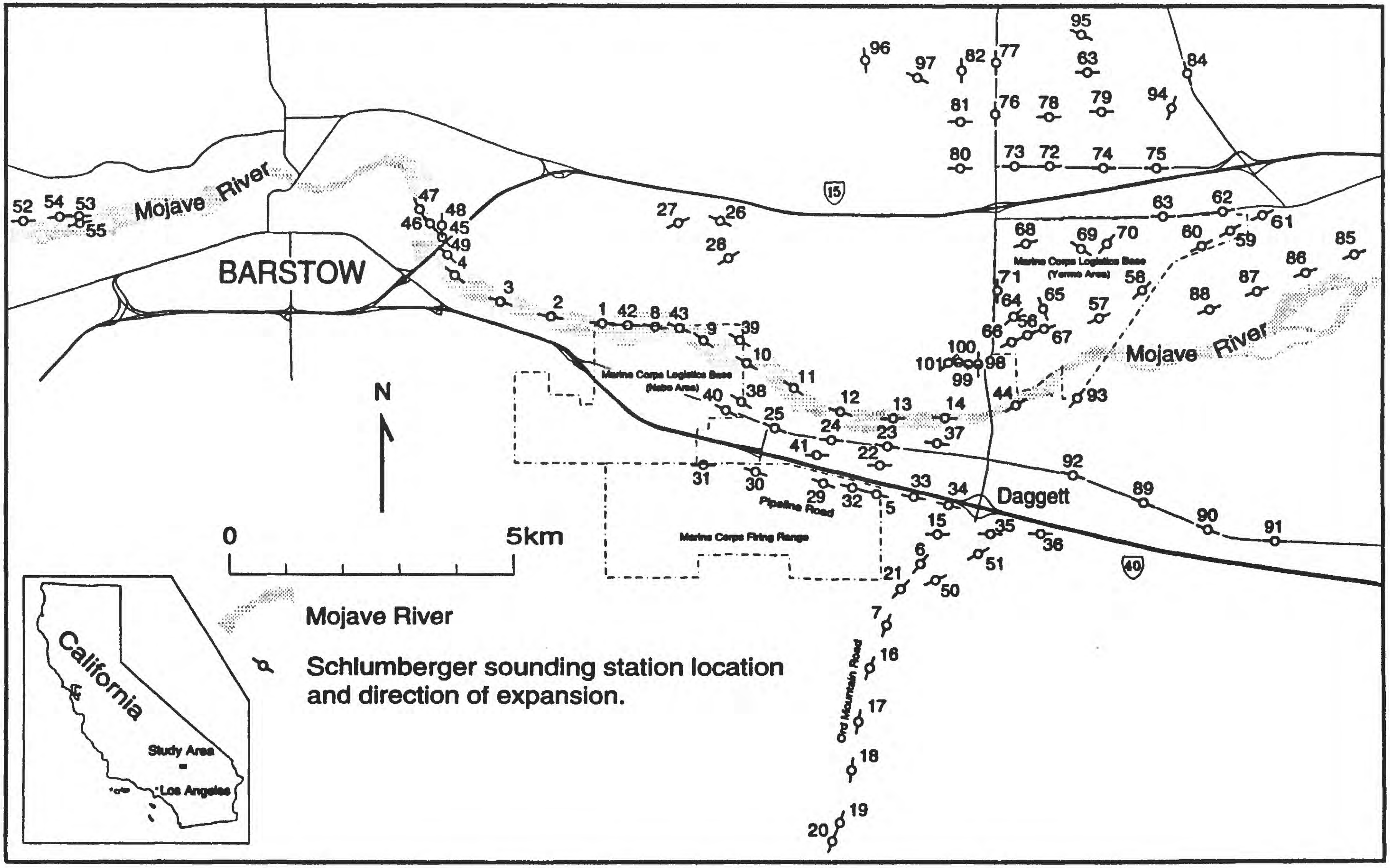


Figure 2. Map showing the location of Schlumberger sounding stations.

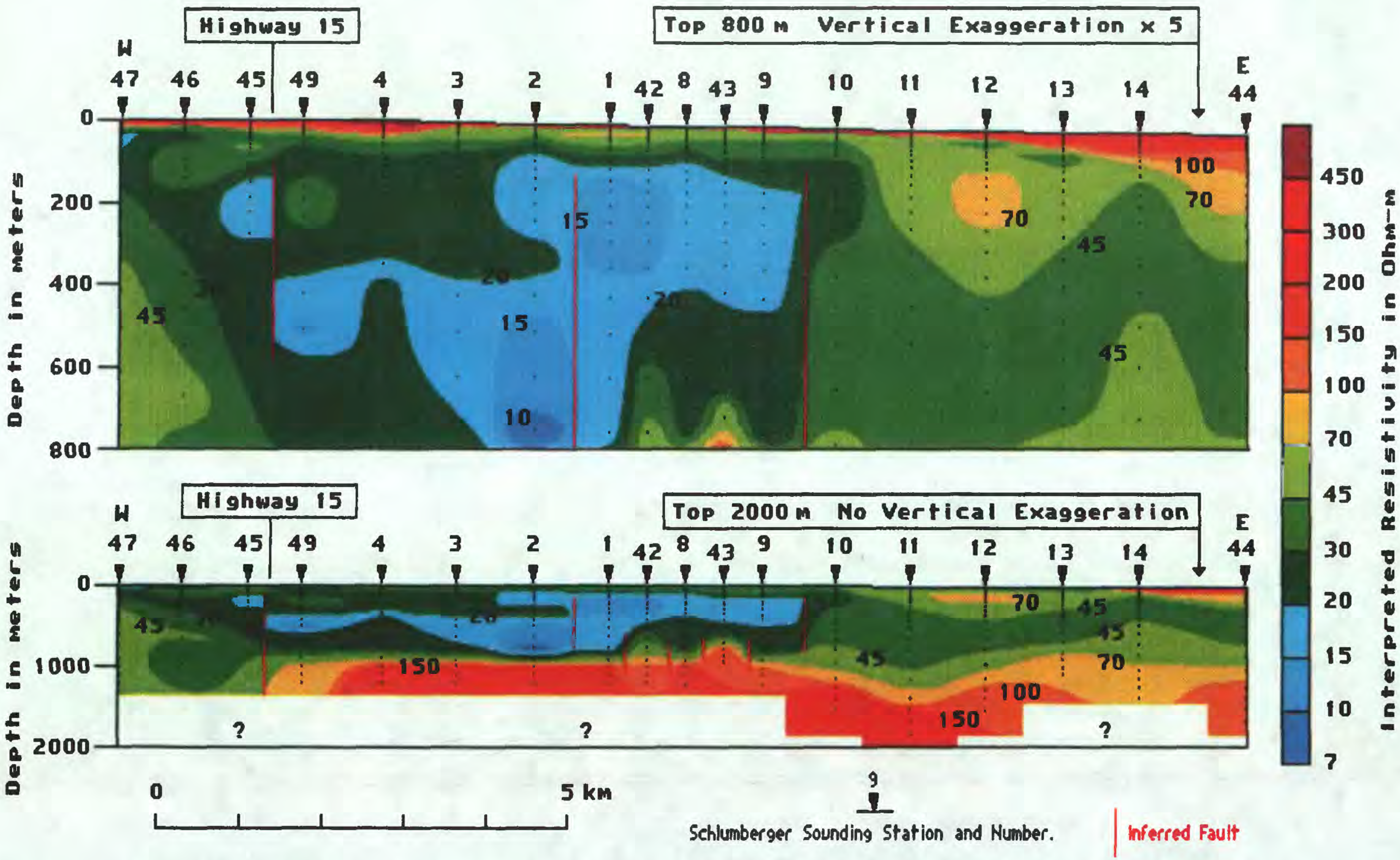


Figure 3. East-west interpreted-resistivity cross section along the Mojave River.

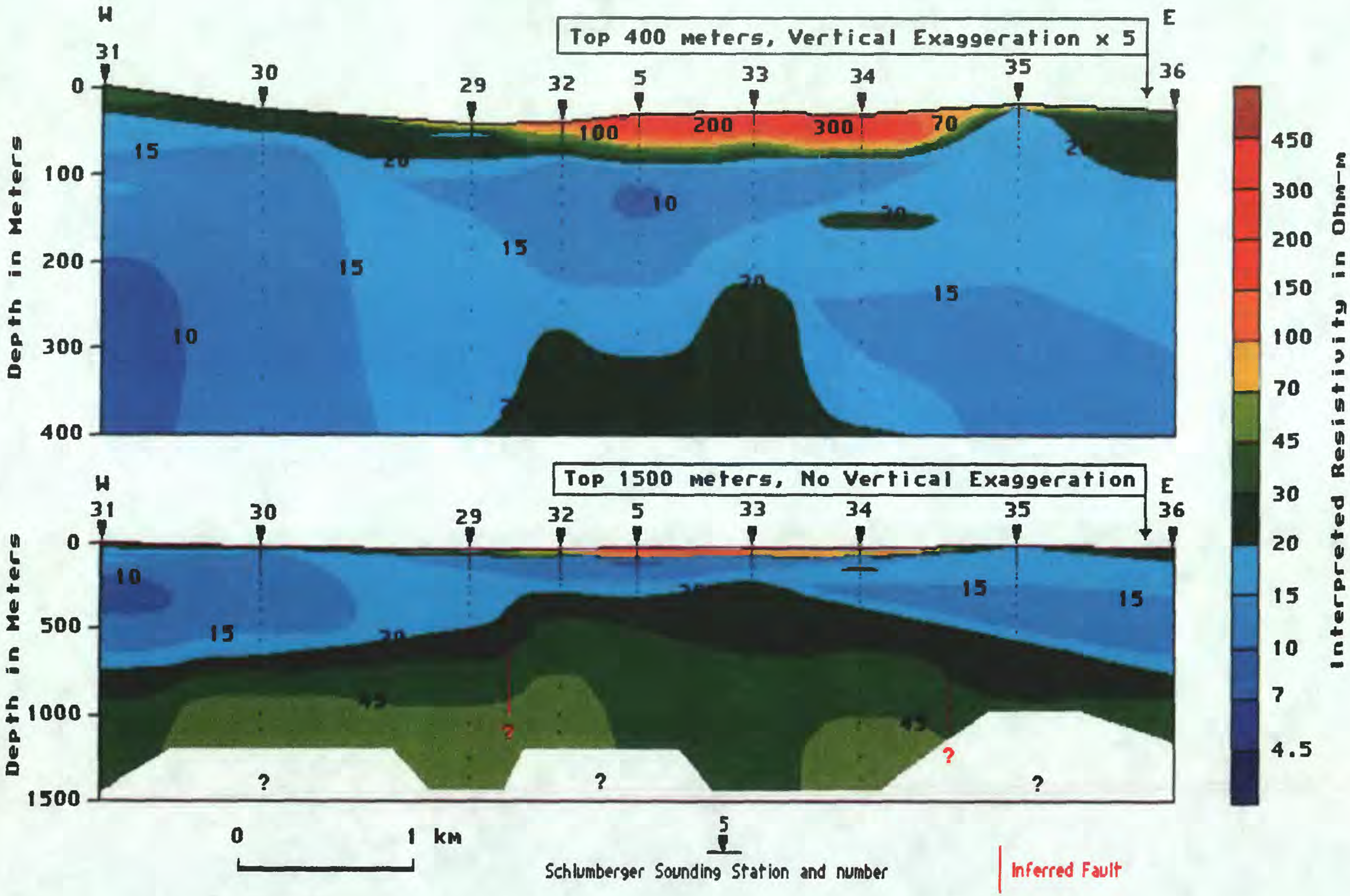


Figure 4. East-west interpreted-resistivity cross section, along pipeline road.

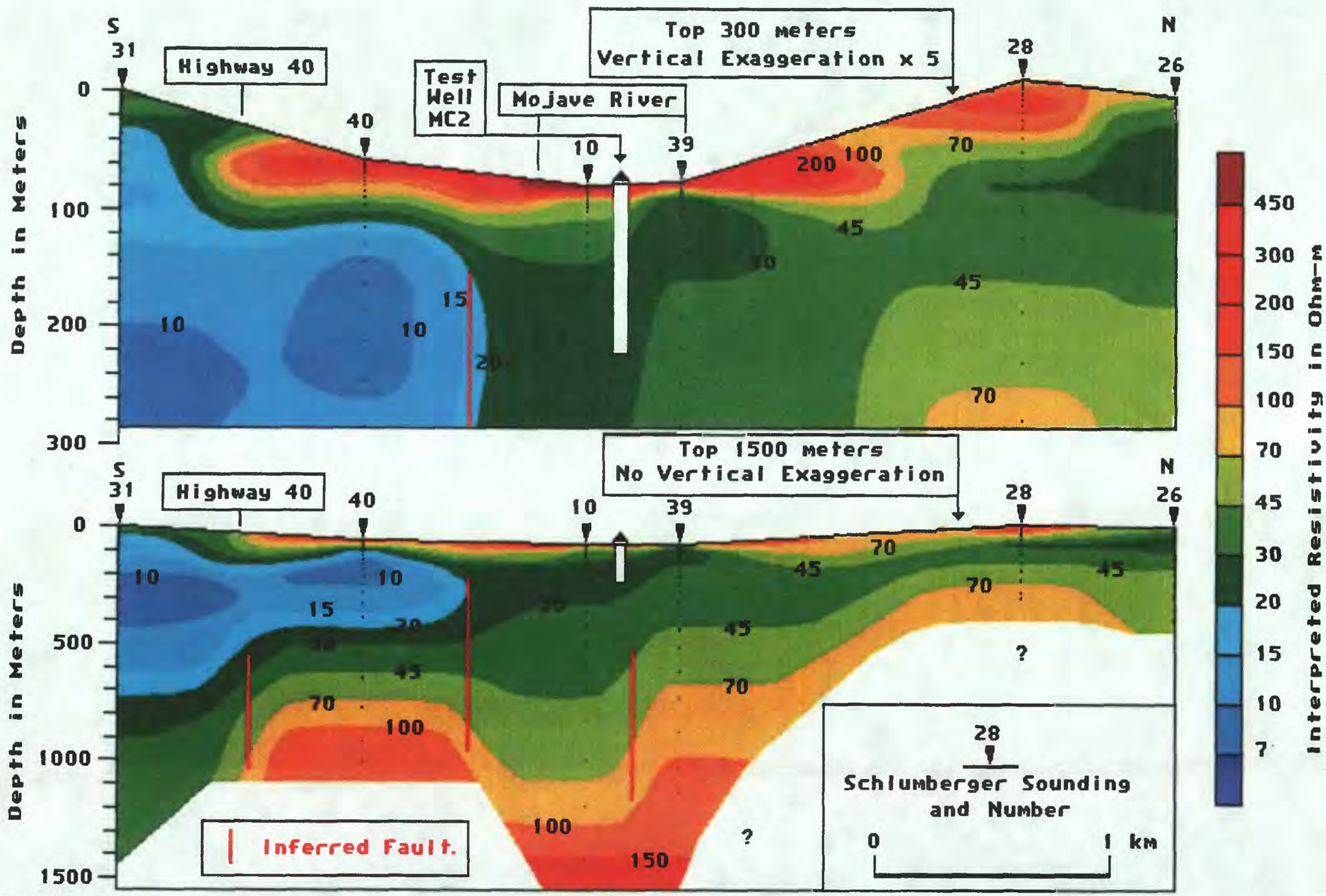


Figure 5. North-south interpreted-resistivity cross section 31-26.

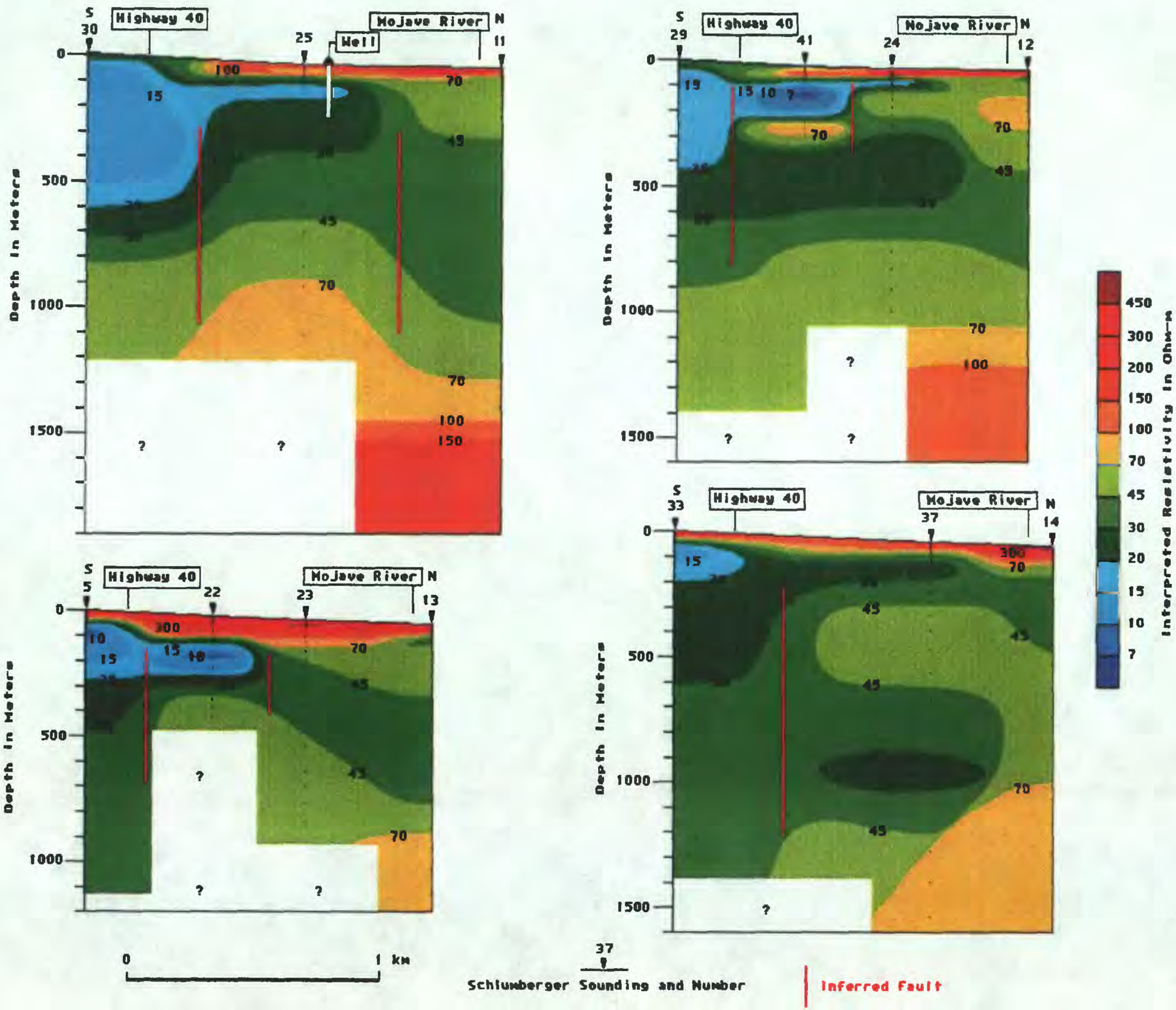


Figure 6 . Four north-south interpreted-resistivity cross sections: 30-11, 29-12, 5-13, and 33-14 (Nebo area).

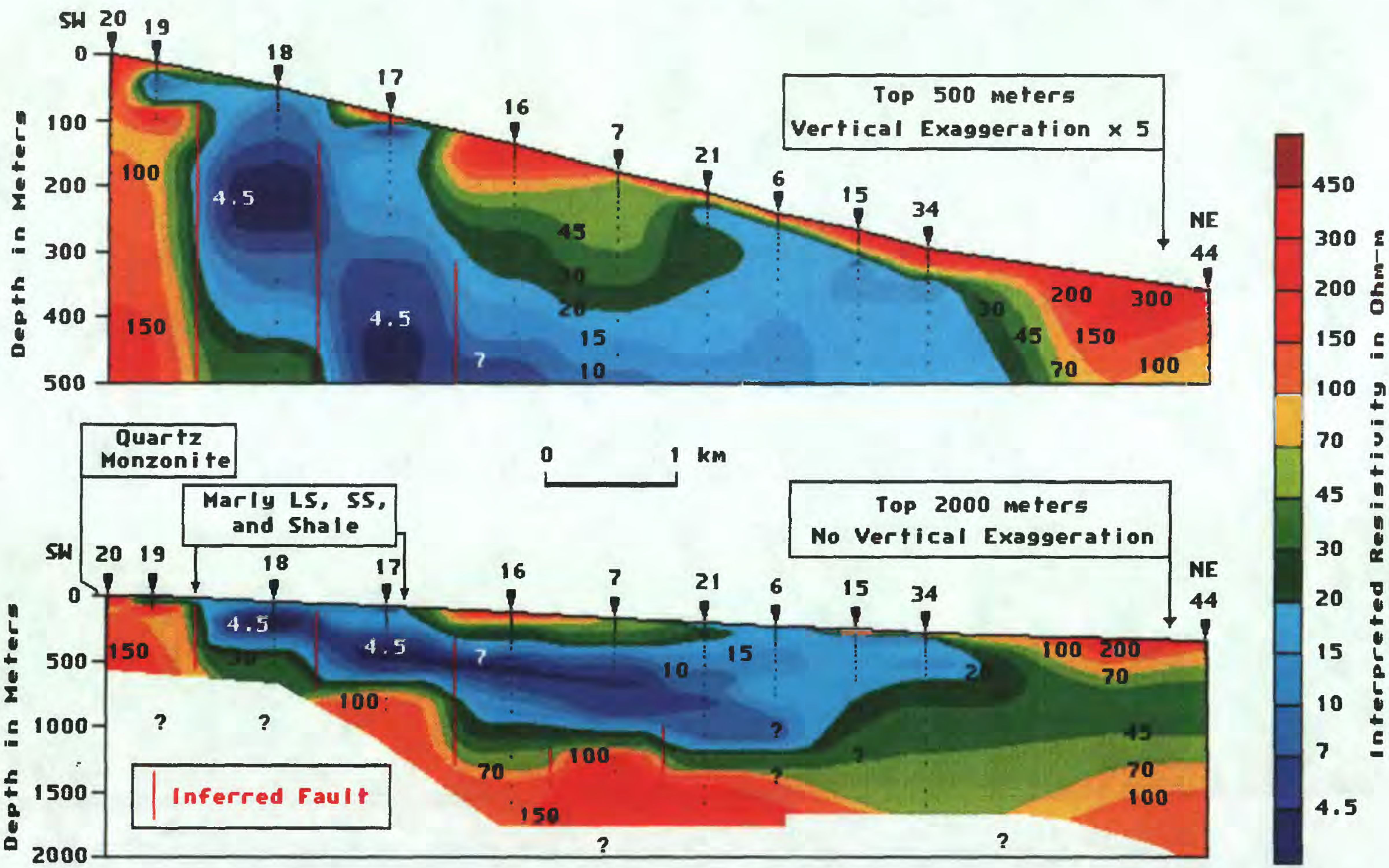


Figure 7. Northeast-southwest interpreted-resistivity cross section along Ord Mountain Road.

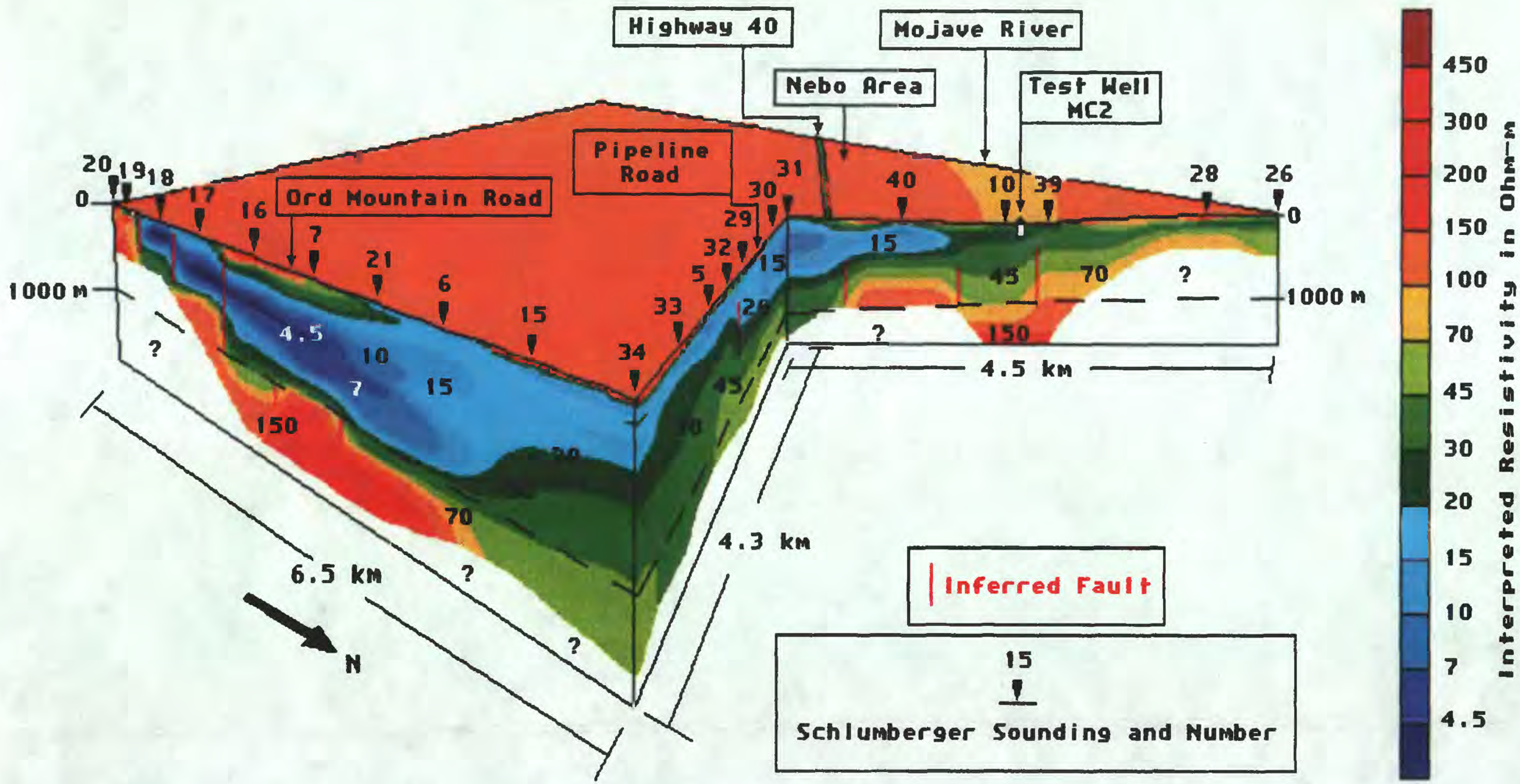


Figure 8. Block diagram showing interpreted-resistivity distribution with depth, Nebo area.

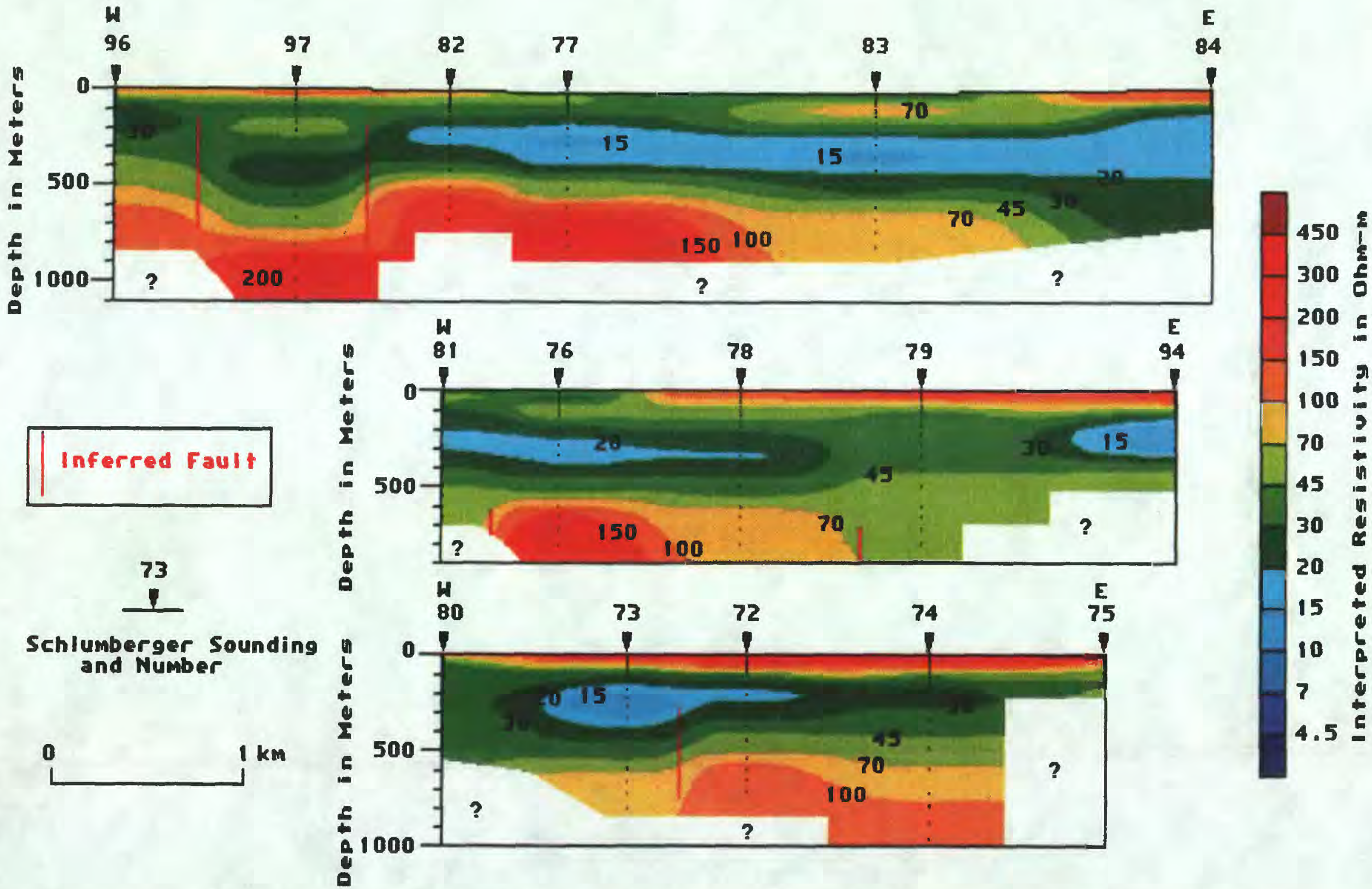


Figure 9 . Three east-west interpreted-resistivity cross sections, north of Highway 15, Yermo area.

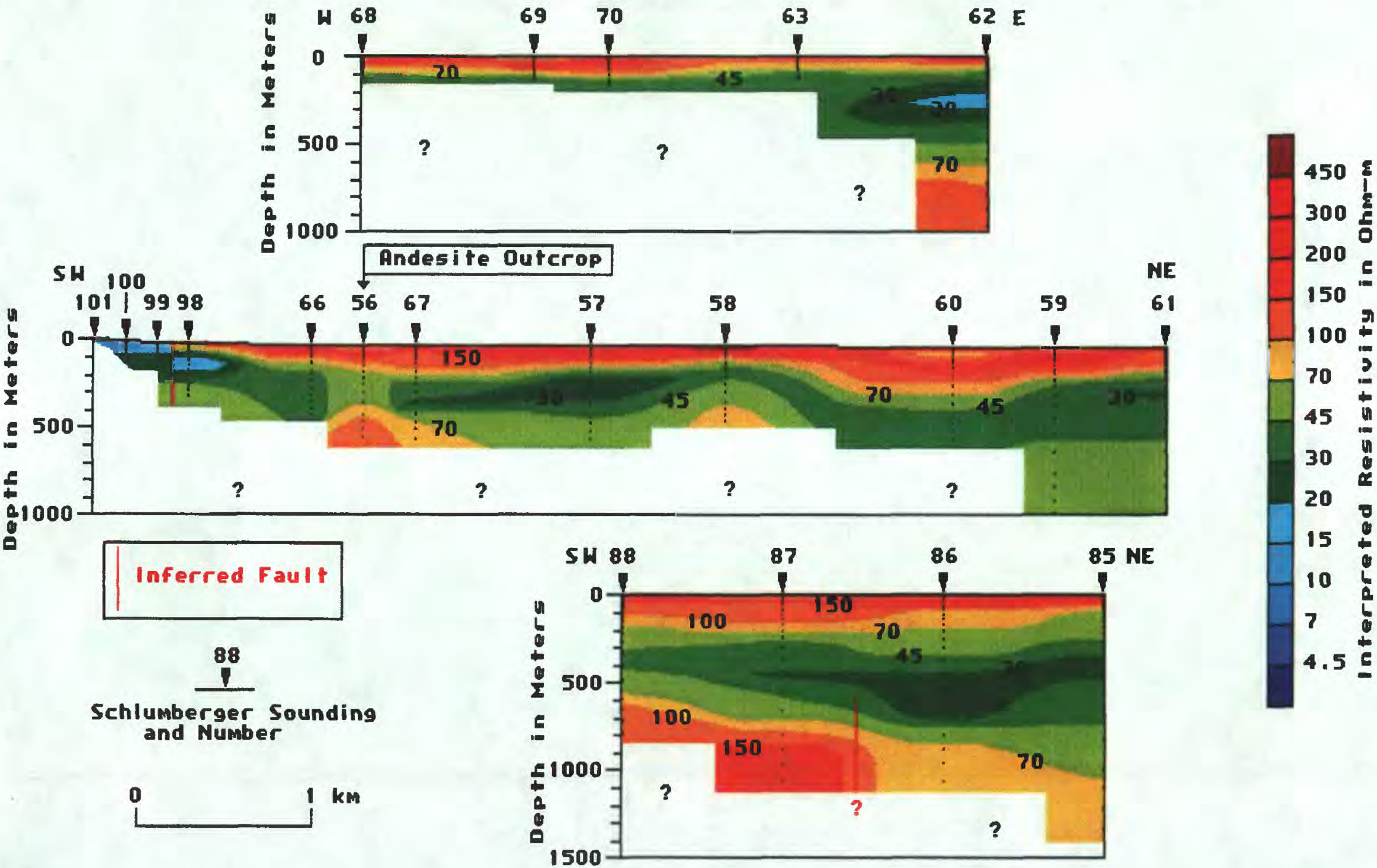


Figure 10. East-west and northeast-southwest interpreted-resistivity cross sections south of Highway 15, Yermo area.

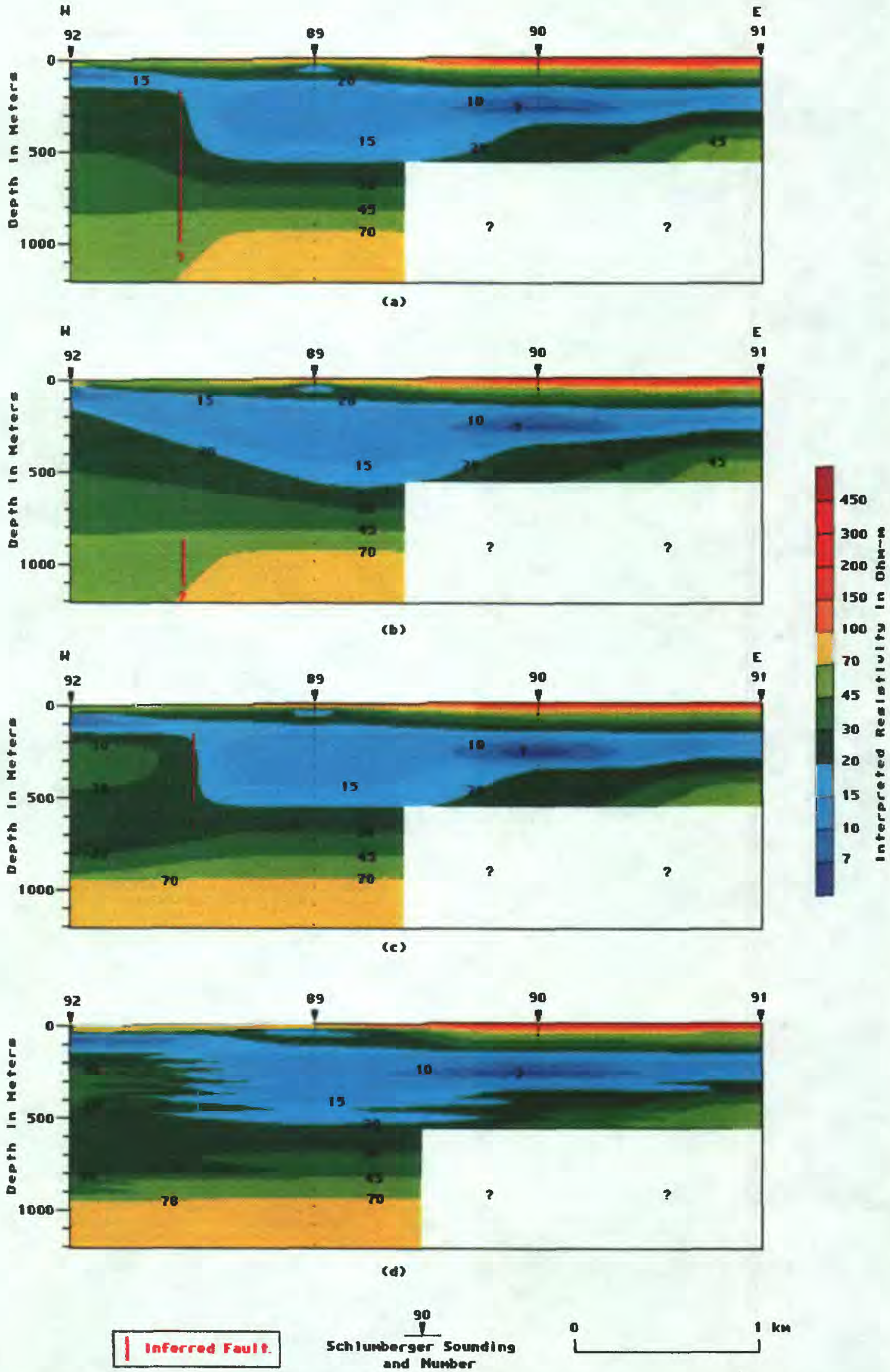


Figure 11. Four equivalent interpreted-resistivity representations of cross-section 92-91, north of Interstate Highway 40, Yermo area. (a) Unconstrained cross section, minor editing, (b) major editing between soundings 92 and 89, (c) forcing a >70 ohm-m layer beneath sounding 92, (d) recontouring cross section shown in c using a variable X-stretch factor in contouring program (Zohdy, 1993).

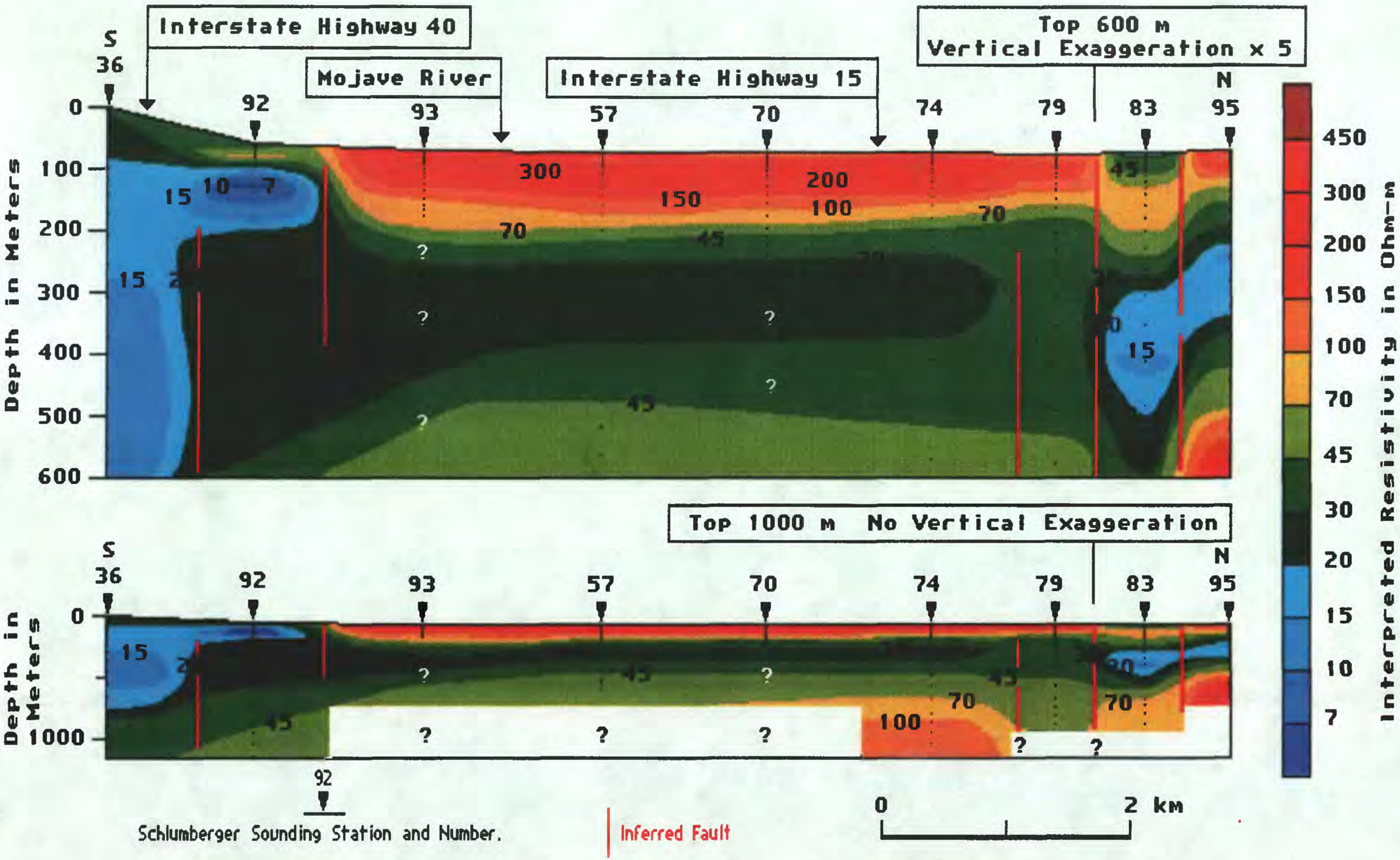


Figure 12. North-south interpreted-resistivity cross section across the Yermo area.

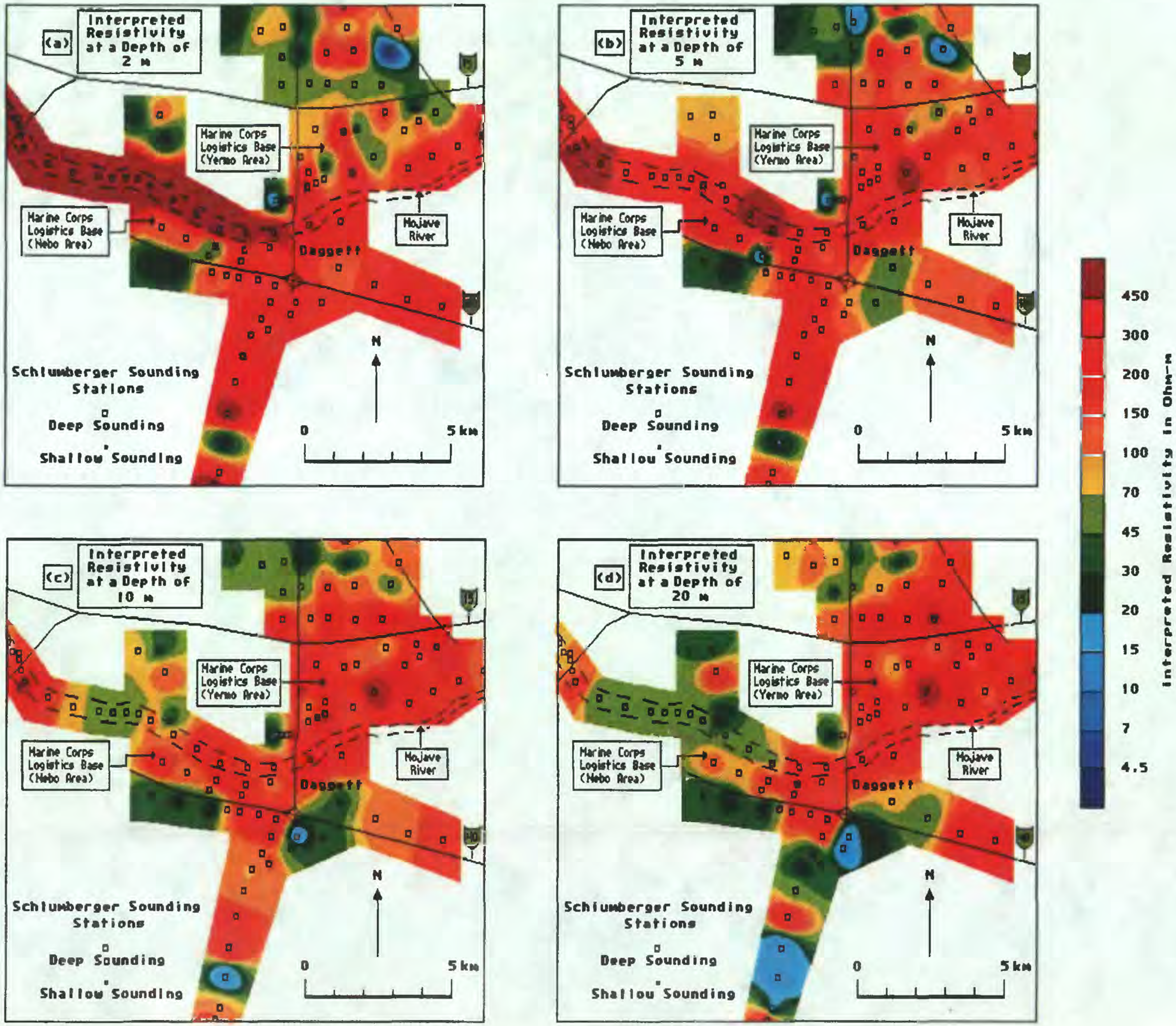


Figure 13. Interpreted-resistivity maps at depths of 2, 5, 10, and 20 m.

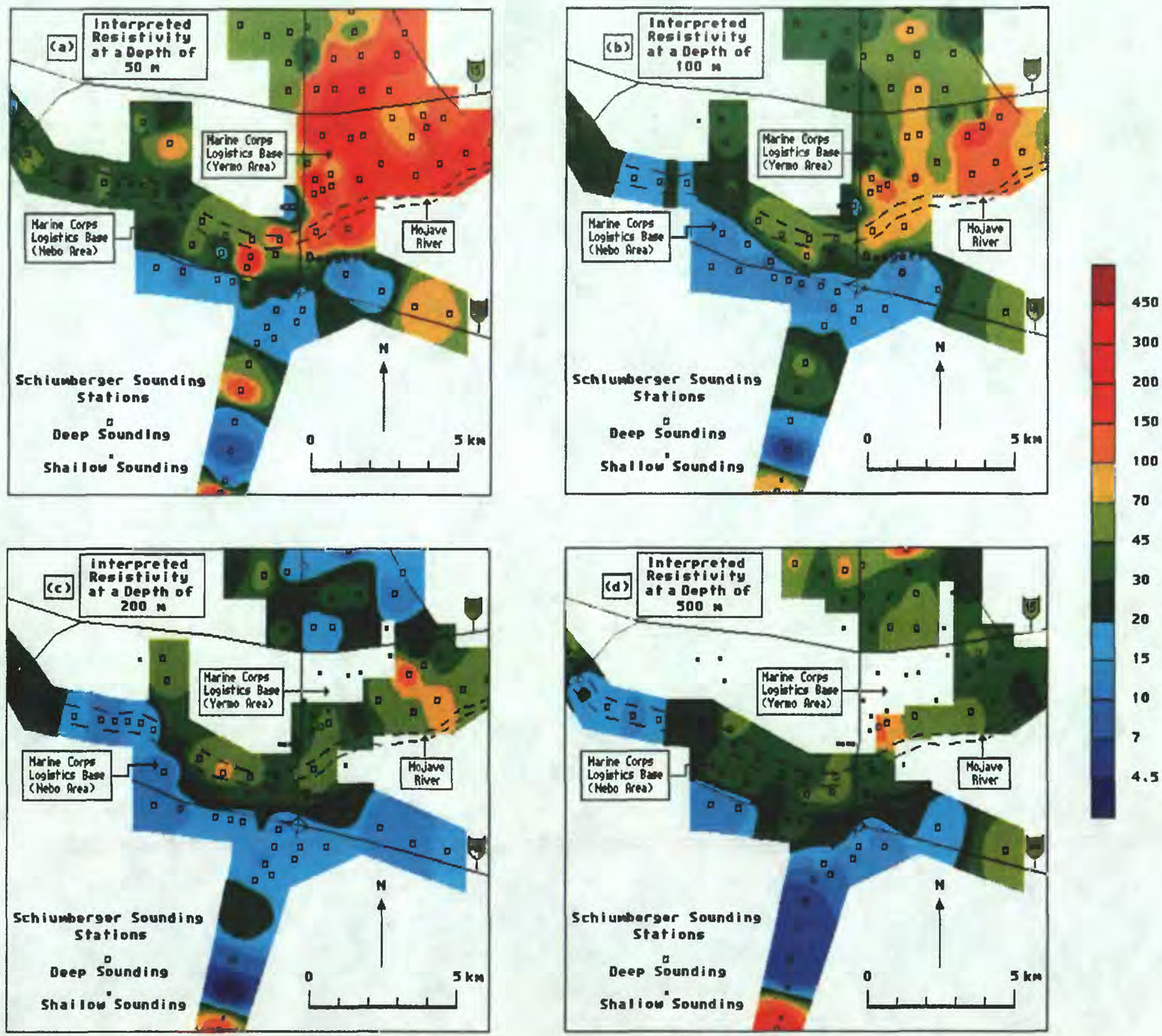


Figure 14. Interpreted-resistivity maps at depths of 50, 100, 200, and 500 m.

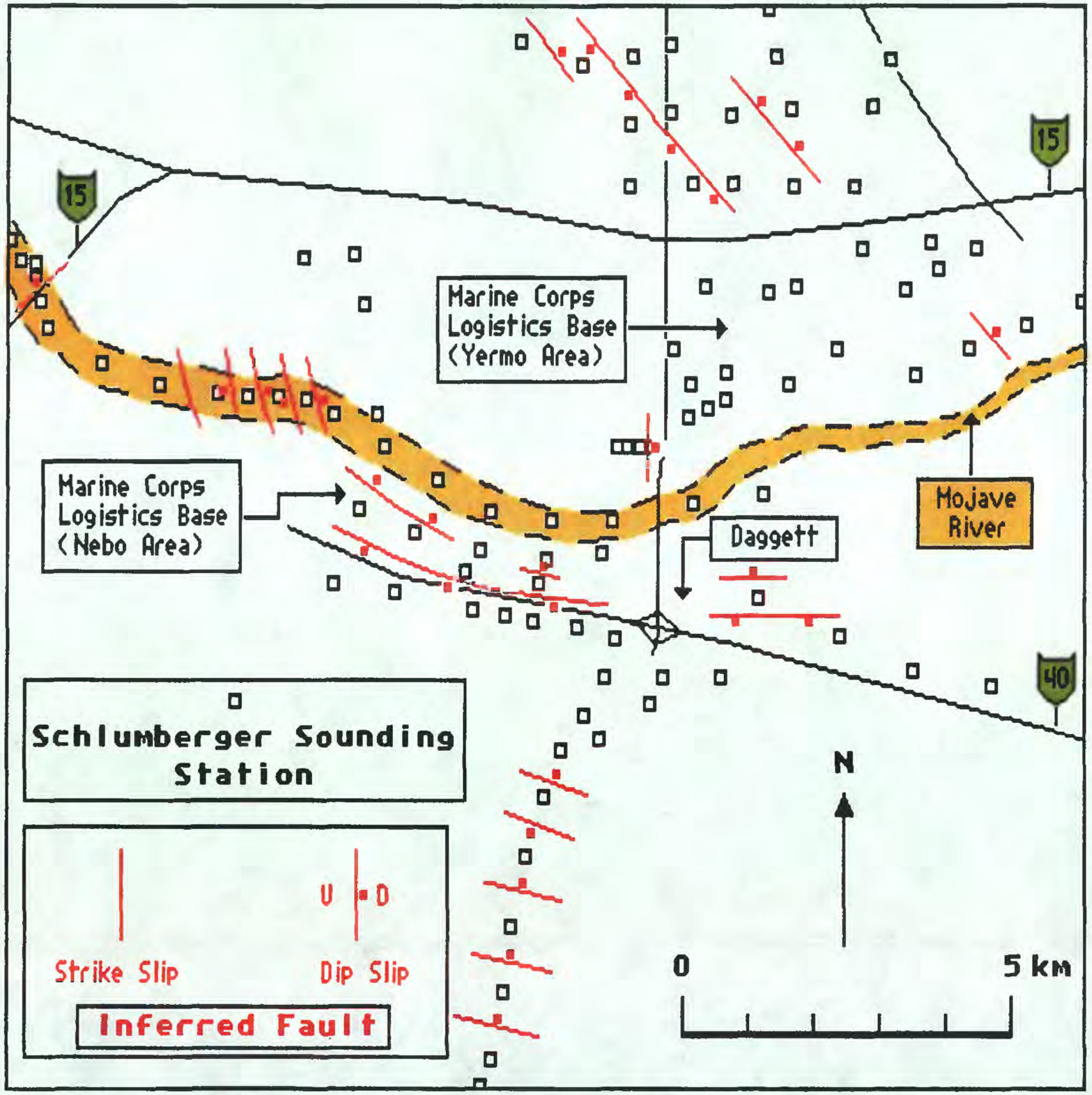


Figure 15. Map showing location of selected inferred faults, Nebo and Yermo areas.