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Geoelectrical Exploration for Ground Water in Northwest Las Vegas and Vicinity, Nevada.

By

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Introduction

In March and April 1988 and in February 1989 the U.S. Geological Survey, in cooperation with the Las Vegas Valley Water District, made a direct-current resistivity survey to investigate the ground-water potential in northwest Las Vegas and vicinity, Nevada. The survey covered an area of about 70 square kilometers extending approximately from Tule Springs in the north to Charleston Boulevard in the south and from Buffalo Drive in the east to about 7 km west of Buffalo Drive. The survey consisted of 79 Schlumberger soundings (Kunetz, 1966; Zohdy and others, 1974) and was completed in a period of four weeks (including a week in February 1989). Figure 1 shows the location of all the sounding stations and the direction of current-electrode expansions, which were generally parallel to the available roads. The soundings were expanded to maximum current-electrode spacings (AB/2) that ranged from 914 m (3000 ft) to 7,315 m (24,000 ft). The majority of the soundings were expanded to 2,438 m (8000 ft).

The main purpose of this report is to release the field data of the 79 Schlumberger soundings. In addition, we present: a) an interpretation of all the sounding data, b) nine cross sections of interpreted resistivity, and c) eight maps of interpreted resistivity at different depths ranging from 10 m to 750 m.

Field Conditions and Measurement Procedures

At the time of the survey, the field conditions in the study area were generally very favorable for making direct current resistivity soundings with practically no cultural structures present except along Buffalo Drive where a new gas line and a power line with grounded poles were present. These two features made it unwise to make deep soundings that are expanded parallel to Buffalo Drive. Therefore, most soundings nearest Buffalo Drive were made with their centers displaced by about 300 m to the west and were expanded perpendicular to Buffalo Drive (soundings 22, 58, 51, 1, and 28). These

soundings were practically unaffected by the buried pipe line or the grounded poles of the power line. Sounding 47 was made along Buffalo Drive and, as expected, it was affected by the gas line and the grounded power-line poles at current-electrode spacings of 609 and 914 m (2000 and 3000 ft, respectively). The measurements at these two electrode spacings had to be discarded during interpretation (see appendix).

Along Charleston Boulevard, in the southern part of the survey area, the presence of a power line with grounded poles on the opposite side of the road, and possibly other man-made structures, affected the measurements of some of the soundings at large current-electrode spacings. Of these soundings, sounding 43 was partially redone and sounding 44 was completely redone during the second field trip in February 1989. Sounding 43 was redone starting at current-electrode spacings greater than 1 km and was expanded to 4877 m (16,000 ft)). The last two readings (see appendix) are still clearly affected by the grounded power-line poles. The center of sounding 44 was relocated about 100 m west of its original position and then the sounding was completely remeasured. The remeasured curve of sounding 44 (see appendix) does not show distortions attributable to man-made inhomogeneities. In general, sounding data obtained on Charleston Boulevard at current-electrode spacings greater than about 1500 m (or about 5000 ft) are not very reliable. The sounding data at shorter current-electrode spacings, however, are still very usable.

Electrode-Spacing Measurements:

All current- and potential-electrode spacings were measured in feet and later converted to meters during interpretation. In this section, we will refer to the electrode-spacing distances in feet. Current-electrode spacings ranging from 10 to 100 ft were measured using a cloth tape. The current-electrode spacings at 140 ft and 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.

In this survey, most of the field sounding curves were composed of only three segments (sounding 64 was composed of four segments as it was expanded to a maximum current-electrode spacing, AB/2, of 24,000 ft). The first segment on a sounding curve was obtained by expanding the current-electrode spacing (AB/2) from 10 to 100 ft with the potential-electrode spacing (MN/2) held fixed at 2 ft. At AB/2 = 100 ft, the potential-electrode spacing (MN/2) was expanded from 2 to 20 ft and the second segment on the sounding curve was obtained by expanding the current-electrode spacing from 100

to 1000 ft. Similarly, at AB/2 = 1000 ft, the potential-electrode spacing (MN/2) was expanded from 20 to 200 ft and the third segment of the sounding curve was obtained by expanding the current-electrode spacing from 1000 ft to the maximum required or logistically possible spacing which was anywhere from 3000 to 24,000 ft.

A few soundings were expanded to current-electrode spacings that were longer than the available straight-line distance by following the turn in the road. Such soundings were corrected for non-linear geometry of the electrode array (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 differences.

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 cables, etc), by current leakage, 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.

Schlumberger Sounding Data

The field sounding curves and their interpretations are given in the appendix. The soundings are numbered consecutively from Lone Mountain 1 to Lone Mountain 79. All the soundings were given the name Lone Mountain (see Figure 1 for location of Lone Mountain) even though not all the soundings were made in its immediate vicinity.

Almost all the sounding curves were processed and interpreted using pre-publication versions of the automatic interpretation computer program which were slightly different from the published - 1.82 - version (Zohdy and Bisdorf, 1989a). Therefore, if any of the sounding data is

reinterpreted using the published version of the program, then the resulting geoelectric layering may or may not be identical to the one shown in the appendix. The resulting model, however, will be geoelectrically equivalent (Zohdy and others, 1974; Zohdy, 1989) to the one shown in the appendix; that is, although some of the details in the layering may be different, these differences do not cause significant differences in a calculated sounding curve and therefore the models are electrically equivalent.

Automatic-Data Processing:

The automatic data processing of the sounding curves consists of:

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

b) Shifting the observed-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.

Distorted Sounding Curves:

Distorted sounding curves often are defined as curves which do not resemble those measured over horizontally stratified media. The term "distorted" applies especially to those curves that are affected by man-made structures. As mentioned earlier, a few sounding curves were distorted by buried metallic-pipe lines and by power lines or telephone lines with grounded poles. Most of the distortions occurred at current-electrode spacings greater than one or two kilometers. Examples include soundings 30, 31, 32, 36, 43, 47, 51, 52, 75, 78 and 79. The magnitude of the measured distortions on these soundings generally was not very large.

Effects of Geologic-Lateral Inhomogeneities:

On some sounding curves we measured distortions caused by near-surface geologic inhomogeneities located near the potential electrodes or near the current electrodes. The size of an inhomogeneity with respect to the size of the electrode array determines the magnitude of the distortion on the sounding curve. On the other hand, the location of an inhomogeneity with respect to the position of the potential or current electrodes produces completely different-looking distortions on a sounding curve. For example, a resistive inhomogeneity near the potential electrodes can cause a large discontinuity between one segment on the sounding curve and the next, whereas the same inhomogeneity located near one of the current electrodes can cause the formation of a small cusp. Thus on some soundings, the presence of large buried boulders and buried stream channels caused the first or second segment on the sounding curve to be vertically displaced by a significant amount. The displaced curve segments were generally parallel or nearly parallel to the preceeding segments which is in good agreement with theoretically predicted behavior for such lateral inhomogeneities (based on unpublished model studies of vertical boundaries made by the first author). Examples include soundings 21, 26, 27, 30, 47, 48, 56, 64, 66, 69, 70, 72, and 79 (see appendix). In the processing of such sounding curves, the segment obtained with the largest potential-electrode spacing was held fixed and the other segments were shifted upward or downward to form a continuous curve.

Cusps caused by large resistive geologic inhomogeneities were observed on some sounding curves, especially those that were expanded perpendicular to and in the vicinity of Lone Mountain which is composed of Paleozoic limestone (Longwell and others, 1965; Axen, 1985). Observe, for example, the systematic formation of cusps on curves of the soundings made on Alexander Road, with a cusp on sounding 52 at the spacing of 2438 m (8000 ft), sounding 54 at the spacing of 1219 m (4000 ft), and sounding 55 at the spacings of 426 m (1400 ft) and 609 m (2000 ft), respectively. Indeed, the electrode-spacing distances at which these cusps are formed correspond to the distances from the centers of these soundings to the edge of Lone Mountain. Furthermore, the lack of a detectable cusp on sounding 56 (which is located to the west of Lone Mountain) at a spacing of about 300 m (about 1000 ft) indicates that the resistive formations of Lone Mountain dip to the east (which we already know from geology) and possibly that the alluvial material on the west side of Lone Mountain is much thicker than expected. Finally, the somewhat-sharp rise of the last point on sounding 57 at a spacing of 904 m (3000 ft) is primarily caused by the simultaneous detection of resistive materials both at depth and laterally at the west

end of the sounding line.

A very strong cusp is observed on the curve of sounding 16 (located on Smoke Ranch Road) at the current-electrode spacing of 183 m (600 ft). This cusp is caused by a shallow buried resistive body about 200 m to the west of sounding 16. Very subtle effects that are caused by the same buried resistive body are seen on other soundings on Smoke Ranch Road. The subtlety of these effects indicates that the body is relatively small. We interpret it as a buried block of limestone. This buried block partially aligns with two small outcrops of limestone that lie to the northeast and almost line up with another much larger exposed mass of limestone, namely Lone Mountain. By examining the topographic map at a scale of 1 to 24000, there is some evidence that a fault may trend northeast from about the location of sounding 16 to the location of Lone Mountain. It is not possible to map this inferred and rather-speculative fault adequately from the available sounding data.

Rock-Formation Resistivities

The resistivities encountered in this survey were generally high (mostly in the range of 200 to 1000 ohm-m and occasionally higher for dry near-surface formations). In the north-eastern part of the survey area, near Tule Springs and to the south of Tule Springs, some low to medium resistivities in the range of 20 to 100 ohm-m were measured.

The reason for the predominance of formations with high resistivities is that most of the soundings were made on alluvial fans which are primarily composed of coarse sand and gravel mainly derived from limestones of Paleozoic age and from sandstones of Jurassic (?) age (Longwell and others, 1965; Axen, 1985). We believe that these alluvial deposits contain very little clay (which is a conductive material and would have reduced the measured resistivities).

Aquifer Resistivities:

Several interpreted-resistivity ranges can be identified from the sounding-data analysis. The following list describes those ranges (from low to high) and what we infer as to their possible hydrogeologic significance.

a) Layers with interpreted resistivities in the range of 20 to 45 ohm-m probably represent sand mixed with finer materials (silt and clay) that are partially water saturated. Such layers are mostly found in the north-eastern quadrant of the survey area and may represent the Tule Springs mudstone

and siltstone described by Quade (1985).

b) Layers with interpreted resistivities in the range of 70 to 200 ohm-m probably represent sand and gravel layers saturated with fresh water.

c) Layers with interpreted resistivities in the range of 200 to 450 ohm-m may represent fractured limestone saturated with fresh ground water, or partly-cemented sand and gravel.

d) Layers with interpreted resistivities approaching or exceeding 1000 ohm-m probably represent dry-limestone or cemented-gravel deposits mostly lying above the water table and therefore should not be considered as potential ground-water aquifers. The interpreted-high resistivity materials observed near Lone Mountain and near the western part of Smoke Ranch Road probably represent dry limestone, whereas those observed near the eastern part of Smoke Ranch Road and on Cheyenne Road probably represent cemented-gravel deposits.

It is interesting to note that low resistivities of less than 10 ohm-m were not encountered anywhere in this survey. Such low resistivities would have been indicative of clay deposits, shales, or any porous-sedimentary rock saturated with salt water. In fact, even at depths of few thousand meters the interpreted resistivities indicate an abundance of what might be interpreted as fresh-water-saturated sediments with resistivities in the 100 to 150 ohm-m range. It is very unlikely that this interpreted-resistivity range (100 to 150 ohm-m) would represent impermeable crystalline rocks or impermeable Paleozoic rocks.

Geoelectric-Basement Resistivity:

A geoelectric basement is generally defined as a layer of very large thickness and very high resistivity in comparison to all the overlying layers. In resistivity exploration, the detection of such a layer on a Schlumberger sounding curve is manifested by the increase of apparent resistivity along a straight line inclined to the abscissa at an angle of 45 degrees which is known as the S-line (Zohdy and others, 1974). The measurement of an S-line signals the satisfactory completion of a resistivity sounding in the field. In the present survey, however, a geoelectric basement was barely detected on only very few soundings (soundings 63, 64, 65, and 75) and on some of these soundings the measurements made at the largest current-electrode spacings are suspected to have been influenced by grounded power-line posts. Note that the location of sounding 63 is not near soundings 64 and 65 (see Figure 1).

The interpretation of soundings 63, 64, and 65 shows high-resistivity (greater than 250 ohm-m) rocks at a depth of about 1200 m beneath sounding 63, about 1400 m beneath sounding 64, and about 2400 m beneath sounding 65. Sounding 75 is located about 1.2 km southeast of sounding 64. The last branch on the curve of sounding 75 was smoothed and interpreted to indicate the detection of a high-resistivity layer (750 ohm-m); the resulting depth to the assumed high-resistivity basement is about 2700 m. The high-resistivity basement detected with some degree of certainty on soundings 63 and 64 and to a lesser degree on soundings 65 and 75 may represent high resistivity Paleozoic limestones. What is needed here are bipole-dipole equatorial soundings (Zohdy, 1969) or magnetotelluric soundings, to study the geoelectric layering at depths of few thousand meters. But then the exploration of the subsurface at these great depths is generally considered beyond the scope of ground-water exploration.

On the majority of soundings, even those that were expanded to current-electrode spacings (AB/2) that reached 4877 m (16,000 ft; see for example sounding 39 in appendix) the resistivity of the last, very thick, layer was in the range of 100 to 150 ohm-m. This range of resistivity is normally indicative of sandstones or possibly highly-fractured limestones saturated with fresh water. This bottom layer is of great thickness (a few thousand meters) and seems to underlie almost all the surveyed area. Sounding 21 (south of Smoke Ranch Road) and soundings 22, 23, 24, and 25 (on Lone Mountain Road) are good examples of the consistency of the resistivity of this ubiquitous layer. The apparent resistivity on these sounding curves asymptotically approaches a value in the range between 100 and 150 ohm-m regardless of whether the resistivity at shallower depths is greater or lesser than the range of 100 to 150 ohm-m. Geologically, this layer probably represents the Aztec Sandstone of Jurassic (?) age and possibly the underlying-silty Chinle and Moenkopi formations of Triassic age (Longwell and others, 1965; Axen, 1985), all saturated with water.

Aztec Sandstone Resistivity:

Sounding 20 was made at a distance of less than 10 meters from an outcrop of Aztec Sandstone formation (Jurassic?). A remarkably uniform resistivity that ranged from 600 to 640 ohm-m was measured starting at current-electrode spacings of about 10 m and continuing to current-electrode spacings of about 500 m. At the current-electrode spacing of 980 m (3000 ft) a cusp is formed because the current electrode on the southeast side crossed a resistive-limestone ridge. It should be noted here that although this cusp occurs at an electrode

spacing which may represent a reasonable depth to the Kaibab limestone (of Permian age) which probably underlies the Aztec Sandstone, this observation is fortuitous; cusps are caused by lateral inhomogeneities not by layers at depth.

The apparent resistivities at large electrode spacings on sounding 20 did not decrease and therefore did not show the detection of a water table at depth.

A second sounding 20-A was made on top of the Aztec Sandstone outcrop close to sounding 20. The current-electrode spacings were expanded from about 3 m (10 ft) to about 30 m (100 ft). The apparent resistivity started at 600 ohm-m and ended at 785 ohm-m. This short sounding curve also shows a cusp (at the electrode spacing of 12 m (40 ft)), which is caused by a small lateral inhomogeneity off the edge of the sandstone outcrop. We conclude from these two soundings that the dry Aztec Sandstone has a rather uniform resistivity in the range between 600 to 800 ohm-m and that it mostly averages about 650 ohm-m.

Sounding 18 was made at a distance of 1 kilometer to the southeast of sounding 20. Its interpretation (see appendix) shows a thin layer of high resistivity (about 2300 ohm-m) extending from the earth's surface down to a depth of about 2.5 m followed by a second layer of moderate resistivity (ranging from about 200 to 300 ohm-m) to a depth of about 120 m which is followed by a third layer of higher resistivities in the range of about 600 to about 900 ohm-m. The resistivities of this third layer clearly identify it with the Aztec Sandstone resistivities measured at soundings 20 and 20-A. At a depth of about 550 m beneath sounding 18, the interpreted resistivity drops to about 300 ohm-m and at a depth of about 800 m the interpreted resistivity drops to a value of about 110 ohm-m (which is typical for the resistivity of the deepest-detected layer on most soundings). Thus the Aztec Sandstone formation is reasonably well defined beneath sounding 18 and is estimated to have a thickness of about 500 m (about 1500 ft). If the Aztec Sandstone is much thicker, then the 110 ohm-m layer at a depth of 800 m could represent water-saturated Aztec Sandstone, and then this could also imply that the water table is at a depth of about 500 m (thus reducing the Aztec Sandstone resistivity from about 700 ohm-m to 300 ohm-m) and that at a depth of 800 m the water in the Aztec Sandstone becomes somewhat brackish (thus reducing the resistivity from about 300 ohm-m to about 110 ohm-m). This is only one plausible hypothesis. Another hypothesis is that the lower resistivity material below the Aztec Sandstone represents the silty Chinle and/or Moenkopi formations.

Sounding 19 was made at a distance of 488 m to the northwest of sounding 20. Its interpretation (see appendix) shows a resistive near-surface material of about 1500 to 2000 ohm-m down to a depth of about 30 m where it is followed by a second layer of moderate resistivity of about 200 ohm-m to a depth of about 80 m. This second layer is similar to the second layer beneath sounding 18 (which is conspicuously absent beneath sounding 20). This 200 ohm-m layer is followed at a depth of about 80 m by a third layer with a resistivity in the range between 600 and 800 ohm-m which correlates it with the dry Aztec Sandstone formation. Here, beneath sounding 19, the 600 to 800 ohm-m layer (dry Aztec Sandstone?) is estimated to be only about 300 m (about 1000 ft) thick and it is underlain by some 300 ohm-m material (water-saturated Aztec Sandstone?). Sounding 19 could not be sufficiently expanded to resolve the resistivity of underlying materials with greater certainty, nor was it sufficiently expanded to detect the 110 ohm-m layer which seems to underlie most of the survey area.

Resistivity Cross Sections

Nine cross sections of interpreted resistivity were prepared. Two of these cross sections are based on soundings made in the Tule Springs area, whereas the other seven are based on soundings made along Ann Road, Lone Mountain Road, Craig Road, Alexander Road, Gowen Road, Cheyenne Road, and Smoke Ranch Road, respectively. We will describe these cross sections in their order of location (Figure 1) from north to south.

Tule Springs Cross Sections:

Figure 2 shows a location map and two cross sections of interpreted resistivity in the Tule Springs area. The cross sections are labeled AA′ and BB′. Both cross sections are vertically exaggerated by a factor of two. Cross-section AA′ runs northwest-southeast whereas cross-section BB′ runs northeast-southwest. Both cross sections show a shallow layer of low to medium resistivity (less than 45 ohm-m) in the general vicinity of Tule Springs. This layer extends from near Tule Springs to beneath sounding 74 in the southwest and to beneath sounding 66 in the northwest . It may also exist beneath sounding 68 to the northwest. The low to medium resistivity of this layer suggests that it is composed of fine sand and some silty clay, or according to geologic information it may be predominantly composed of mudstone and clay with admixtures of siltstone and sandstone (Haynes, 1967; Quade, 1985). This layer has a thickness of about 50 to 70 m. It is abruptly terminated to the northwest and to the southwest by a

near-surface layer of much higher resistivity (300 to 1000 ohm-m). This high-resistivity layer probably represents partially-cemented sand and gravel deposits.

On cross-section AA′, between soundings 69 and 72, a resistive layer (200 to 300 ohm-m) that has a thickness of about 300 m (about 1000 ft) exists at depths ranging from about 150 to 250 m. This resistivity range may represent a highly-fractured limestone layer or a very-coarse sand and gravel layer saturated with fresh water. If this layer is composed of sand and gravel then it may be partially cemented and therefore may not be as permeable as desired. This conjecture is based on its moderately high resistivity of 200 to 300 ohm-m. The amount of total dissolved solids in the water saturating the material plays an important role in making this deduction, because if the water quality is exceptionally good (less than 100 mg/l) then the permeability of this layer may still be high. On the other hand, if this layer represents limestone then it is probably a well fractured limestone with good permeability. Limestone aquifers with similar interpreted resistivities were mapped near the town of Jean, Nevada (Zohdy, 1988; and Zohdy and Bisdorf, 1989b). On cross-section BB′, the same layer (200 to 300 ohm-m) is shown at a depth of about 350 m beneath sounding 70 and at a depth of about 550 m beneath sounding 75. The layer dips to the southwest.

Ann Road and Lone Mountain Road Cross Sections:

Figure 3 shows two east-west cross sections of interpreted resistivity along Ann Road and Lone Mountain Road, respectively (see Figure 1 for location). The cross sections are not vertically exaggerated. A wedge of low- to medium-resistivity (less than 45 ohm-m) material is shown on the east side of both cross sections. It is probably the same low- to medium-resistivity material mapped in the Tule Springs area. On the east side of Ann Road, the wedge is thickest (approximately 300 m or about 1000 ft) beneath sounding 39 on Highway 95, and it thins to a feathers edge west of sounding 35. On the east side of Lone Mountain Road, beneath sounding 22 near Buffalo Drive, it is thinner (approximately 170 m or about 500 ft) and it vanishes west of sounding 24. Note that this layer (less than 45 ohm-m) is thicker beneath sounding 39 than beneath sounding 22 because sounding 39 is located farther to the east, toward the lowest part of the basin.

A high-resistivity layer of about 1000 ohm-m, which extends from near the surface to a depth of about 150 to 200 m (about 500 to 600 ft), dominates the western half of the Ann Road cross section (from sounding 38 to sounding 35). The same layer also exists at the western edge of the Lone

Mountain Road cross section beneath sounding 25. This high-resistivity layer probably represents dry sand and gravel and carbonate-cemented alluvium. This interpretation is supported by information from a person whose well is located approximately 1 km northeast of sounding 38 where the water table is reportedly at a depth of 171 m (560 ft). At the western end of Ann Road (beneath sounding 38), at a depth of about 150 to 200 m, the resistivity decreases from 1000 to 700 ohm-m. Laterally, this resistivity further decreases to a value of about 200 ohm-m as we move eastward (about two kilometers) to beneath sounding 36. The material corresponding to this medium- to high-resistivity range (200 to 700 ohm-m) is most likely a fractured-limestone layer in which the amount of fracturing increases from west to east provided the water quality remains the same. It is also possible to interpret this material as a thick layer of a buried alluvial fan with a high percentage of carbonates in it. The reason for this second interpretation is the way this unit is shown to drape over lower resistivity materials in the cross section and the way the resistivity decreases to the east. The same layer seems to exist beneath sounding 25 at the west end of Lone Mountain Road and extends from a depth of about 350 m to about 800 m. Here it is separated from the near-surface high-resistivity layer by a moderately resistive layer of 100 to 200 ohm-m.

The 70 to 200 ohm-m layer shown covering a significant portion of both cross sections at depth, probably represents basin fill material primarily composed of sand and gravel saturated with fresh water. Note that a layer with a resistivity greater than 200 ohm-m is detected beneath sounding 23 on Lone Mountain Road. This layer represents the northern edge of a significant layer, of large areal extent, which is more distinctly detected on soundings made to the south of Lone Mountain Road (as discussed in the next section).

Craig Road and Alexander Road Cross Sections:

Figure 4 shows two east-west cross sections of interpreted resistivity along Craig Road and Alexander Road. The figure also shows the cross-sectional outline of Lone Mountain itself as it appears on the western edge of Craig Road. Lone Mountain is composed of Paleozoic limestone (Longwell and others, 1965, Axen, 1985). It is mostly comprised of Monte Christo Limestone (Mississippian) and partly comprised of Sultan Limestone (Devonian). The rock formations dip to the east, mostly at an angle of about 45 degrees.

The Craig Road cross section shows the same low- to medium-resistivity (less than 45 ohm-m) layer, that was mapped on the previously discussed cross sections, beneath soundings 60, 59, and 58. To the west of sounding 60 it is replaced by a much more resistive layer with resistivities ranging from 200 to 300 ohm-m (coarse sand and gravel?). The low- to medium-resistivity layer (of less than 45 ohm-m) is underlain by a more resistive layer (70 to 200 ohm-m) which probably represents a good aquifer of coarse alluvium with lesser amounts of clay. This (70 to 200 ohm-m) layer extends from sounding 58 in the east to sounding 61 in the west at an average depth of about 170 m. At a depth of about 200 m, beneath soundings 59, 60 and 61, the interpreted resistivity increases to greater than 200 ohm-m. Most likely, this resistive material is composed of either very coarse sand and gravel layers or fractured limestone, saturated with fresh water.

Beneath sounding 62, which was made near the foot of Lone Mountain on Craig Road and expanded north-south rather than east-west, there is a resistive layer of greater than 1000 ohm-m that thins to the east of sounding 62. The interpreted shape and location of this layer in relation to the location of Lone Mountain strongly suggests that it is composed of the same limestone as Lone Mountain. Furthermore, the bottom of the high-resistivity (1000 ohm-m) layer, at a depth of about 200 m, represents the minimum interpreted depth to the water table at that location. The 200 ohm-m contour, beneath soundings 61, 60, 59, and 58, may represent the top of limestone rocks saturated with fresh water.

The cross section along Alexander Road is generally similar to the cross section along Craig Road except that here, the low- to medium-resistivity layer (less than 45 ohm-m) representing silty and clayey sand and gravel, and the underlying coarser sand and gravel layer (70 to 200 ohm-m) are confined to a much smaller region in the east beneath soundings 51 and 53. These two layers do not extend westward as much as they do on the Craig Road cross section. The layer with a resistivity of greater than 200 ohm-m is much more prominent on this section. The question always exists as to whether this layer represents limestone or very coarse sand and gravel or both. In the western part of Alexander Road, beneath soundings 56 and 57, high resistivities in the range of 700 to 1000 ohm-m (or greater) are shown near the south edge of Lone Mountain. These high resistivities most likely represent dry Paleozoic limestone. Here again, the bottom of the high-resistivity material beneath sounding 56, at a depth of about 200 m, probably represents the minimum depth to the water table.

A thick, medium- to high-resistivity layer (100 to 150 ohm-m), is clearly detected on soundings 52, 53, 54, 55, and 56 on Alexander Road. This significant layer most likely represents the Aztec Sandstone saturated with water and possibly the silty Chinle and Moenkopi Formations beneath it. It is interesting to note that this medium- to high-resistivity layer exists beneath the south edge of Lone Mountain and that its general configuration provides an insight into the possible geologic structures in the area; a subject well beyond the scope of this report.

Gowen Road and Cheyenne Road Cross Sections:

Figure 5 shows two east-west cross sections of interpreted resistivity along Gowen Road and Cheyenne Road. The low- to medium-resistivity layer (less than 45 ohm-m) and the medium-resistivity layer (70 to 200 ohm-m) seen on all cross sections north of Gowen Road are absent except for a thin zone beneath sounding 1 on Gowen Road. The near-surface materials (down to a depth of about 150 m) have high resistivities (greater than 700 ohm-m and in some places greater than 1000 ohm-m). These materials are probably dry-coarse gravel which in places are highly cemented with calcium carbonate (calcrete). On both cross sections, these high-resistivity materials are underlain by moderately-high-resistivity materials (200 to 450 ohm-m) which probably represent either a fractured-limestone layer saturated with fresh water or very coarse sand and gravel layers also saturated with fresh water. Both sections clearly show the presence of the medium- to high-resistivity layer of 100 to 150 ohm-m resistivity at an average depth of about 800 m (about 2600 ft).

Smoke Ranch Road Cross Section:

Figure 6 shows an east-west cross section of interpreted resistivity along Smoke Ranch Road. The cross section is approximately 12 km long. It extends from sounding 47 on Buffalo Drive in the east to sounding 19 which is located on Aztec Sandstone (Axen, 1985) in the west. The cross section is dominated by high-resistivity materials (mostly of more than 200 ohm-m and in places reaching greater than 1500 ohm-m).

In the eastern part of the section, a broad lens with resistivities exceeding 1500 ohm-m and reaching a maximum thickness of about 250 m beneath sounding 48 is interpreted as a very-coarse highly-cemented gravel layer (calcrete). The lens thins considerably beneath soundings 47 and 11 to the east and west of sounding 48, respectively. Soundings 42 and

50, south of sounding 48 and not on Smoke Ranch Road, also show the detection of this very-high resistivity material (see appendix).

In the western part of Smoke Ranch Road, a different high resistivity (greater than 1000 ohm-m) structure is shown beneath soundings 15, 16, and 17. This structure probably represents buried limestone blocks.

The 100 to 200 ohm-m material appearing in most of the cross section at a depth of about 1000 m in the western part and at a depth of about 500 m in the eastern part may represent Aztec Sandstone and possibly underlying formations which are probably saturated with fresh water.

Interpreted Resistivity Maps

Eight maps of interpreted resistivity at different depths were prepared. Figure 7 shows the interpreted resistivity maps at depths of 10, 20, 45, and 100 meters and Figure 8 shows the interpreted resistivity maps at depths of 200, 300, 450, and 700 m. These maps provide additional insight into the variation of resistivity with depth in the studied area. Inasmuch as not all soundings were expanded to sufficient electrode spacings to explore to depths of 450 and 700 m, a few sounding stations were eliminated from these two maps.

On Figure 7, the 10 m depth map shows mostly high-resistivity materials representing dry sand, gravel, and calcrete deposits at shallow depth. In the southern part of the map, near the intersection of Smoke Ranch Road and Buffalo Drive, the interpreted resistivity is greater than 1500 ohm-m which is indicative of very coarse and probably well-cemented gravel. Low- to medium-resistivity materials (less than 70 ohm-m) are seen in the Tule Springs area and in the Lone Mountain Road area.

In general, the maps on Figure 7 show that the areal extent of the low- to medium-resistivity material tends to increase as the depth increases from 10 to 20 to 45 meters, but then it begins to shrink on the 100 m depth map. The maps also show that the low- to medium-resistivity material does not extend appreciably to the south of Alexander Road. On the other hand, the maps show that high- resistivity materials (greater than 200 ohm-m) are prevalent in the south and south-eastern parts of the survey area. The 20 m and 45 m depth maps, in particular, show the widest distribution of very high resistivities (greater than 1500 ohm-m) in the area along Charleston Boulevard and in the eastern part of Smoke Ranch Road.

On Figure 8, the 200 and 300 m depth maps show the reduced area of the low- to medium-resistivity material (less than 70 ohm-m) and its confinement to a small area beneath sounding 39 near the intersection of Ann Road and Highway 95. This low- to medium-resistivity material probably exists at shallow depths east of Buffalo Drive, but we do not have sounding data to substantiate this assumption.

In general, the 200 and 300 m depth maps on Figure 8 show that, at these depths, the north-eastern quadrant of the map is characterized by medium-high resistivities (70 to 200 ohm-m) whereas the remaining areas on the two maps are characterized by more resistive materials (200 to 1000 ohm-m). In other words, we interpret the maps to show the predominance of fine materials in the north and coarser and cemented materials in the south.

The 450 and 700 m depth maps in Figure 8 show the gradual transition from high-resistivity material (limestone? or coarse sand and gravel deposits?) in the west to medium-high resistivity materials (Aztec Sandstone? or fine alluvial deposits?) in the east and southwest.

Drill-Hole Information

Subsequent to the resistivity survey, several wells were drilled in the survey area by the Las Vegas Valley Water District. Information from five deep-drill holes became available subsequent to the resistivity interpretation given in this report. The depth of each of these five drill holes exceeds 365 m (1200 ft). The information from the drill holes is in the form of driller's logs, dual induction and normal resistivity logs, self potential (SP) logs, and 4-arm caliper logs.

The drill holes are numbered 69, 70, 72, 74 and 75, respectively, and their locations are shown in Figure 1. No attempt was made to modify the interpretation of the sounding data to make it agree with the resistivity information from the drill holes. Interestingly, no significant modification is necessary because the resistivities obtained from the drill holes is in fairly good agreement with the resistivities obtained from the sounding interpretation. Furthermore, no attempt was made to incorporate the drill-hole data in the cross sections and maps of interpreted resistivity discussed above. In the following paragraphs we compare, in a generalized way, the dual-induction- and normal-log apparent resistivities with the interpreted resistivities of the nearest soundings. We will consider the drill holes in the order of their location from north to south.

Drill-holes 74 and 75:

Drill-holes 74 and 75 are located about one kilometer north of sounding 33 on Ann Road, and approximately one third of the way between soundings 34 and 39 (see Figure 1). Drill-hole 74 was drilled to a depth of 379 m (1244 ft) and drill-hole 75 was drilled to a depth of 367 m (1205 ft). These two holes were drilled in the northern part of the map where the one expects to find low- to medium-resistivity materials. Indeed, the interpretation of soundings 33, 34, and 39 (see appendix) shows that the interpreted resistivity in the depth range from 45 m to 380 m (150 ft to about 1250 ft) are in the ranges of 50 and 100 ohm-m for sounding 34; 23 to 90 ohm-m for sounding 33; and 35 to 42 ohm-m for sounding 39. The deep-induction logs and normal logs of drill-holes 74 and 75 show resistivities in the range between 15 and 100 ohm-m. Thus, on average, the interpreted resistivities from the sounding data are in good agreement with the apparent resistivities from the drill holes. The driller's logs describe sand and gravel layers and clay layers. The gravel is predominantly composed of limestone with traces of red sandstone and quartz. The sand and gravel layers alternate with the clay layers. This description is in good agreement with our earlier deductions regarding the general composition of the sediments in that area.

Drill-holes 69 and 72:

Drill-holes 69 and 72 are located west of Buffalo Drive and north of the intersection of Cheyenne Road and Buffalo Drive (see Figure 1). Drill-hole 69 was drilled to a depth of 401 m (1315 ft) and drill-hole 72 was drilled to a depth of 495 m (1625 ft). The electric log information is available from a depth of 45 m (150 ft) to the bottom of the holes. The nearest soundings to these two drill holes are soundings 1 and 28. The interpretation of both soundings 1 and 28 (see appendix) in the depth range of the holes, show relatively high interpreted resistivities of 80 ohm-m to 380 ohm-m for sounding 1 and 200 ohm-m to 900 ohm-m for sounding 28. The resistivity logs also show relatively high resistivities (on average) in the range from 150 ohm-m to 400 ohm-m for drill-hole 69, and from 150 ohm-m to 250 ohm-m for drill-hole 72. The electric logs are not identical in spite of the relative proximity of the two drill holes. The driller's logs for both drill holes mostly describe sand and gravel layers throughout the section. Some clay intercalations occur in only few thin zones. Again this is in good agreement with the lithology inferred from the sounding interpretations.

Drill-hole 70:

Drill-hole 70 is located in the southern part of the map near Charleston Boulevard at a distance of about 2.5 km east of sounding 78 (see Figure 1). The total depth of the drill hole is 366 m (1200 ft). The interpretation of sounding 78 (see appendix) shows resistivities of about 2000 ohm-m near the top of the section and resistivities of about 500 ohm-m at a depth of 375 m. Beneath that depth, the interpreted resistivity decreases to values ranging from 80 to 150 ohm-m. The resistivity logs of drill-hole 70 show a range from about 100 ohm-m to about 250 ohm-m (on average). Thus although the sounding data indicates much higher resistivities at shallow depths, the predominance of relatively high resistivities in both data sets is satisfactory, especially when we consider the large distance (about 2.5 km) between the sounding station and the drill-hole location.

Whenever there is a discrepancy between the resistivity values obtained from the interpretation of sounding data and those obtained from electrical logging data, the discrepancy is almost always in the following way: the interpreted resistivities of the sounding data are higher for resistive formations (and lower for conductive formations) than the apparent resistivities obtained from the electrical logs. There are several reasons for this observation, the main reason being that the sounding interpretation yields an interpreted "true" resistivity whereas the drill-hole logs are read as apparent resistivities without proper corrections being made.

Occasionally, the apparent resistivity on an electric log measured opposite a thick conductive formation may be lower than the interpreted "true" resistivity obtained from the sounding curve. This type of discrepancy is caused either by the electrical anisotropy of the conductive formation or by the role of the principle of equivalence governing the interpretation of sounding data (Zohdy and others, 1974), whereby a lower resistivity could have been used in the sounding interpretation. In general, the interpreted thickness of the conductive layer, obtained from the sounding interpretation, should be greater than its actual thickness as measured on the electric log and therefore should be corrected with an appropriate coefficient of anisotropy or in accordance with the principle of equivalence.

Summary and Conclusions

The seventy-nine Schlumberger soundings made in the Lone Mountain area, northwest of Las Vegas, Nevada, have shown that the subsurface materials are generally characterized by medium to high resistivities (100 to a few thousand ohm-m). Interpreted resistivities of 1000 ohm-m and greater probably represent dry rocks that should not be considered for potential sources of ground water. Interpreted resistivities in the range between 200 and 700 ohm-m probably represent either fractured limestone or very coarse sand and gravel layers. Either type of rock, is interpreted to be probably saturated with fresh water. The higher the resistivity (closer to 700 ohm-m) the lesser the fracturing in the limestone and the greater the cementation in the sand and gravel and therefore the lower the permeability. Similarly, the lower the resistivity within this range (200 to 700 ohm-m) the better the prospects for a higher permeability. In this resistivity range there is a good chance for a ground-water supply of good water quality.

Measurements on outcrops of Aztec Sandstone show that it has a reasonably uniform resistivity in the range between 600 and 800 ohm-m. These measurements probably represent the Aztec Sandstone resistivity above the water table. Below the water table the Aztec Sandstone may have a resistivity in the range of 100 to 150 ohm-m. This is the resistivity of the ubiquitous layer that seems to underlie most of the survey area at depths ranging from about 500 m to as much as 1000 m. Without drill hole information we can only guess the probable lithology of all these geoelectric layers based on "typical" resistivities.

In the north-eastern quadrant of the survey area, layers with medium resistivity (in the range of 70 to 200 ohm-m) probably represent alluvial aquifers saturated with fresh water and primarily composed of sand and gravel with little or no clay. In the same area, layers with resistivities of less than 45 ohm-m most likely indicate a relative increase in clay and silt content, but still may be saturated with fresh water. The lower the resistivity (less than 45 ohm-m) the greater the clay content and the greater the possibility for brackish water.

Information from five drill holes, which became available at the time of writing this report, was found to be in fairly good agreement with the interpretation of the sounding data.

Acknowledgements

We wish to thank our colleague Dwight L. Schmidt for many helpful discussions regarding the geology of the studied area.

Computers and Peripherals

The sounding interpretations were originally made on an IBM PC/XT computer and later on a 386 IBM-compatible computer. The resistivity maps and cross sections were generated on an Amiga 3000 computer. The commercial program Deluxe Paint III (Silva, 1989) was used exclusively on the Amiga for generating the color cross sections and in finalizing the resistivity maps which were calculated and generated in color using a program written by the first author and compiled in HiSoftBASIC Professional Amiga-version 1.05. The maps and cross sections were printed on a Xerox 4020 ink-jet color printer.

The tabulations and log-log plots of the sounding curves shown in the appendix were made as follows. The data files from the automatic interpretation program were used to generate graphics and text files compatible with WordPerfect 5.1, 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

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

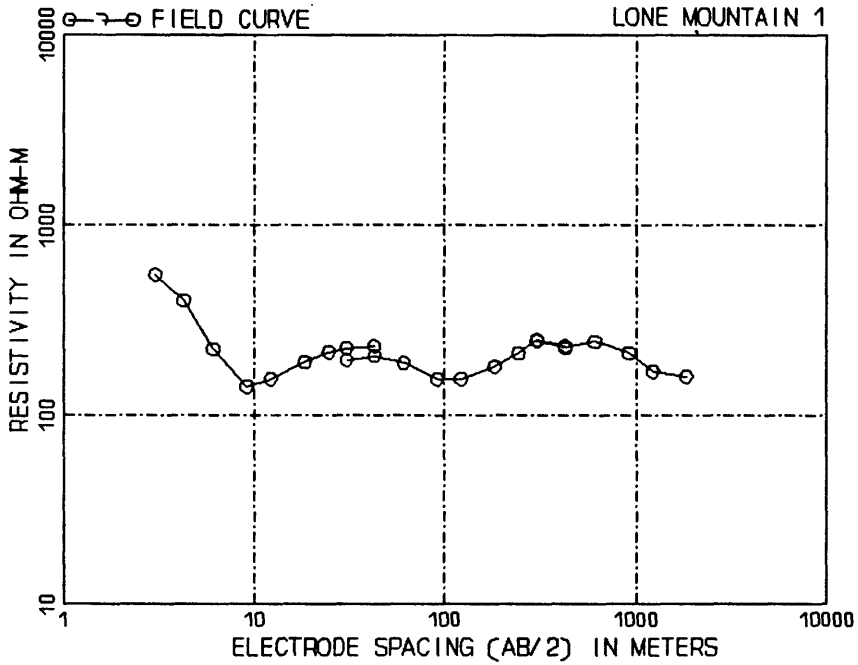
1) A sounding title which is designated by the name of the survey area followed by the sounding number. The suffix S indicates that the sounding curve was smoothed prior to interpretation.

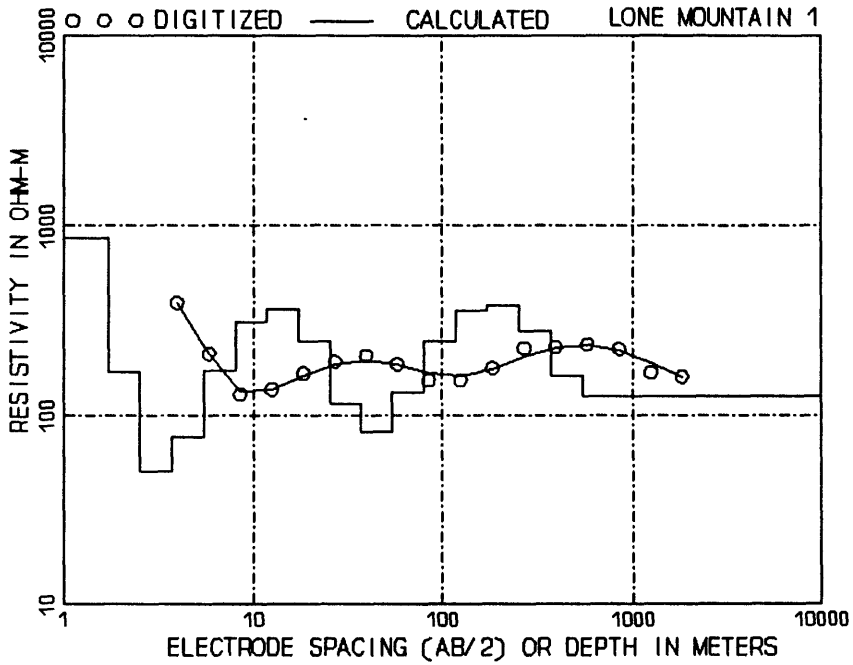
2) A tabulation of the current-electrode spacings (AB/2) in meters (and in feet) and corresponding apparent resistivities in ohm-meters.

3) A log-log plot of the field-sounding data. Data points obtained at a fixed potential-electrode spacing (MN/2) are connected with a solid line to form a segment on the field-sounding curve. Successive curve segments were measured with the potential-electrode spacings fixed at 2, 20, 200, and 600 ft, respectively.

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. The circles represent the shifted-digitized sounding curve, the continuous curve represents the calculated sounding, and 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.





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3.05	(10.00)	550.00	91.44	(300.00)	155.00
4.27	(14.00)	400.00	121.92	(400.00)	155.00
6.10	(20.00)	222.00	182.88	(600.00)	180.00
9.14	(30.00)	141.00	243.84	(800.00)	212.00
12.19	(40.00)	155.00	304.80	(1000.00)	250.00
18.29	(60.00)	190.00	426.72	(1400.00)	230.00
24.38	(80.00)	215.00	304.80	(1000.00)	246.00
30.48	(100.00)	225.00	426.72	(1400.00)	226.00
42.67	(140.00)	231.00	609.60	(2000.00)	244.00
30.48	(100.00)	195.00	914.40	(3000.00)	212.00
42.67	(140.00)	205.00	1219.20	(4000.00)	170.00
60.96	(200.00)	188.00	1828.80	(6000.00)	160.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.72	(5.65)	857.94	37.13	(121.81)	114.28
2.53	(8.30)	168.69	54.50	(178.80)	81.70
3.71	(12.18)	50.29	79.99	(262.44)	132.80
5.45	(17.88)	76.99	117.41	(385.21)	247.30
8.00	(26.24)	172.69	172.34	(565.41)	356.67
11.74	(38.52)	307.83	252.96	(829.91)	379.85
17.23	(56.54)	363.58	371.29	(1218.14)	278.39
25.30	(82.99)	245.92	544.98	(1787.98)	162.28
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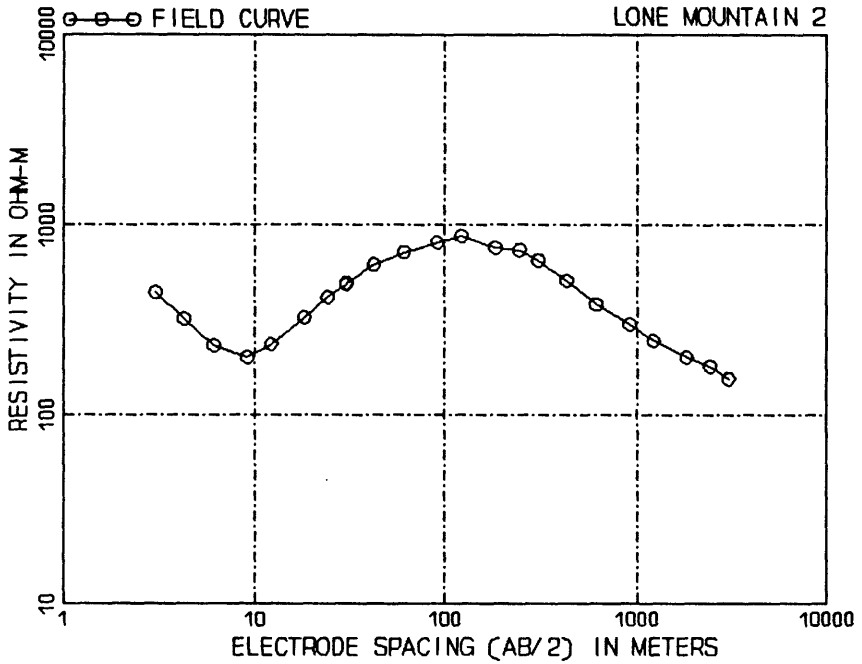

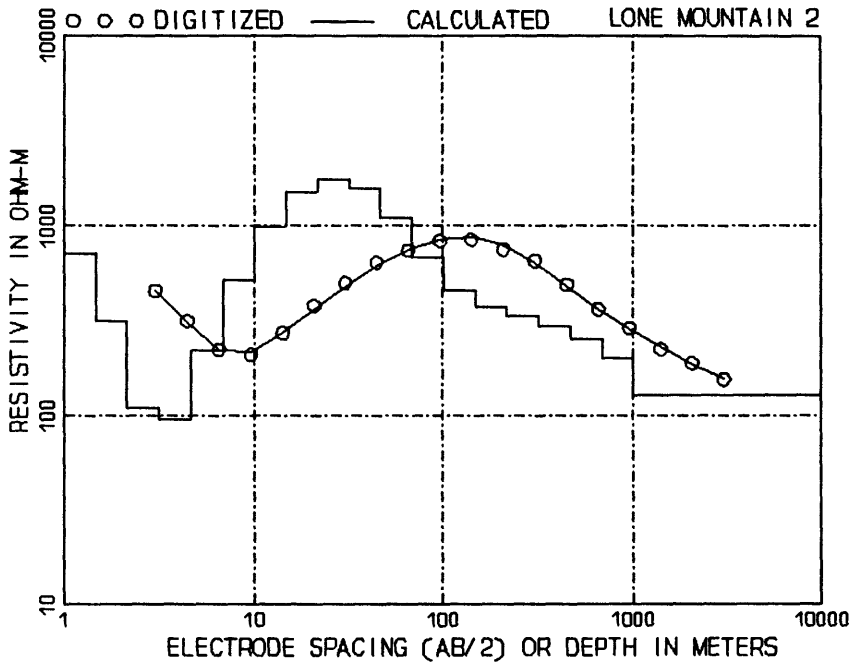

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6.10	(20.00)	230.00	243.84	(800.00)	740.00
9.14	(30.00)	200.00	304.80	(1000.00)	650.00
12.19	(40.00)	235.00	304.80	(1000.00)	655.00
18.29	(60.00)	325.00	426.72	(1400.00)	510.00
24.38	(80.00)	415.00	609.60	(2000.00)	382.00
30.48	(100.00)	485.00	914.40	(3000.00)	300.00
30.48	(100.00)	495.00	1219.20	(4000.00)	245.00
42.67	(140.00)	620.00	1828.80	(6000.00)	200.00
60.96	(200.00)	720.00	2438.40	(8000.00)	180.00
91.44	(300.00)	810.00	3048.00	(10000.00)	155.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	712.34	46.84	(153.69)	1581.62
2.17	(7.13)	314.66	68.76	(225.58)	1109.87
3.19	(10.47)	109.27	100.92	(331.11)	683.41
4.68	(15.37)	95.31	148.13	(486.00)	456.08
6.88	(22.56)	218.95	217.43	(713.35)	371.44
10.09	(33.11)	517.92	319.14	(1047.06)	335.12
14.81	(48.60)	990.71	468.44	(1536.87)	295.57
21.74	(71.34)	1498.17	687.57	(2255.81)	253.59
31.91	(104.71)	1758.89	1009.22	(3311.08)	199.81
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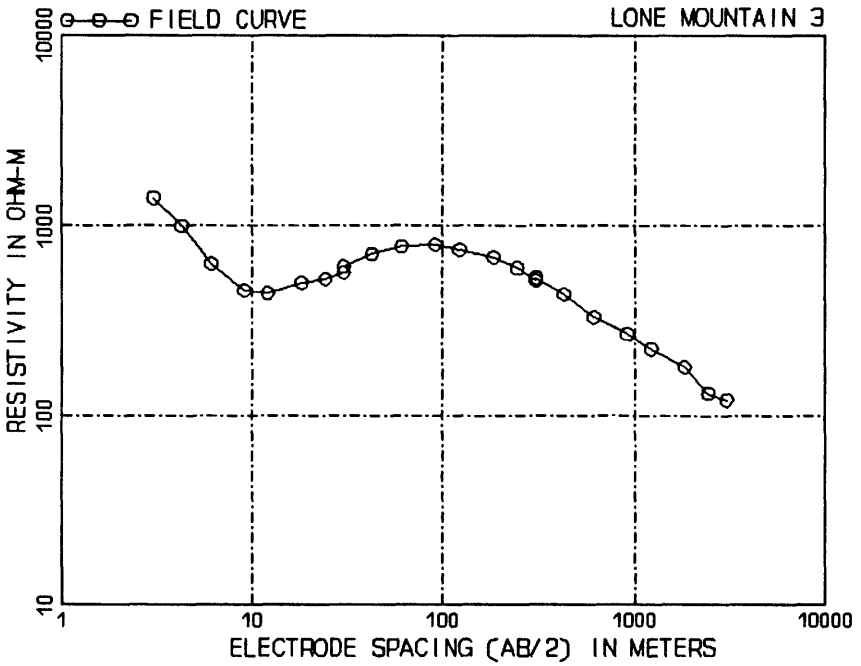

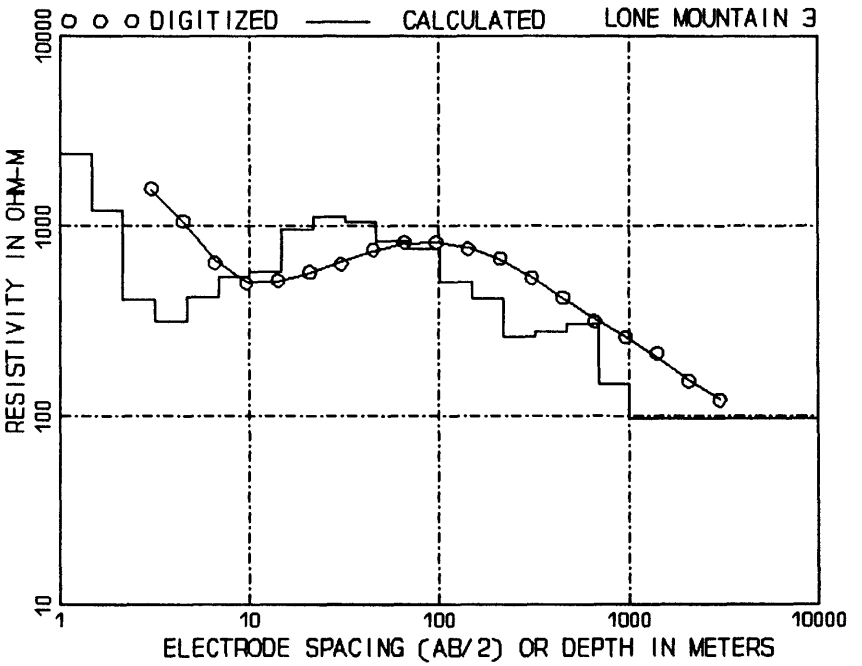

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6.10	(20.00)	630.00	243.84	(800.00)	600.00
9.14	(30.00)	455.00	304.80	(1000.00)	515.00
12.19	(40.00)	440.00	304.80	(1000.00)	535.00
18.29	(60.00)	500.00	426.72	(1400.00)	436.00
24.38	(80.00)	525.00	609.60	(2000.00)	330.00
30.48	(100.00)	565.00	914.40	(3000.00)	268.00
30.48	(100.00)	610.00	1219.20	(4000.00)	225.00
42.67	(140.00)	710.00	1828.80	(6000.00)	180.00
60.96	(200.00)	780.00	2438.40	(8000.00)	131.00
91.44	(300.00)	800.00	3048.00	(10000.00)	121.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	2400.36	46.84	(153.69)	1046.36
2.17	(7.13)	1215.92	68.76	(225.58)	832.12
3.19	(10.47)	410.82	100.92	(331.11)	764.67
4.68	(15.37)	315.15	148.13	(486.00)	509.28
6.88	(22.56)	421.31	217.43	(713.35)	414.29
10.09	(33.11)	536.83	319.14	(1047.06)	260.58
14.81	(48.60)	574.28	468.44	(1536.87)	276.60
21.74	(71.34)	961.94	687.57	(2255.81)	305.60
31.91	(104.71)	1124.93	1009.22	(3311.08)	146.53
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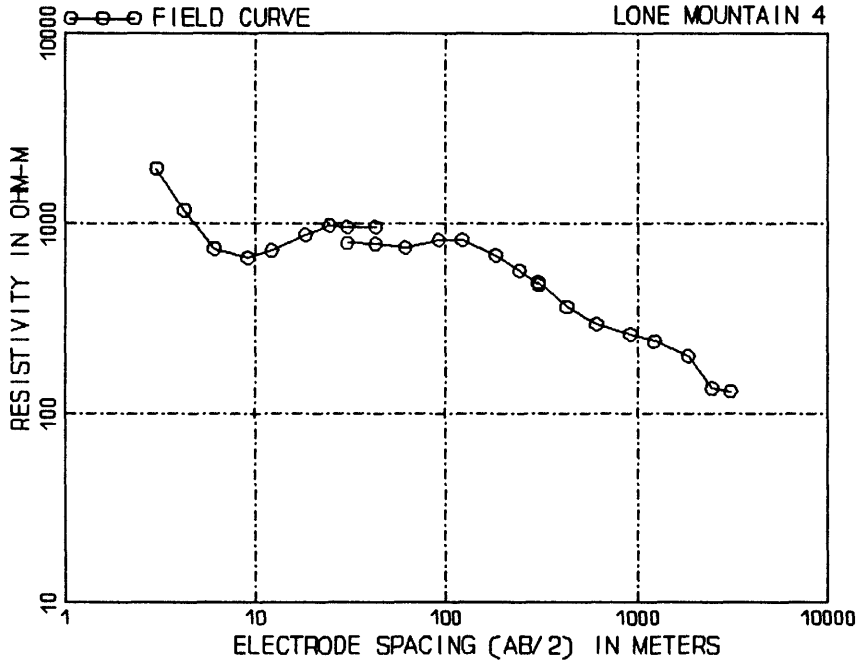

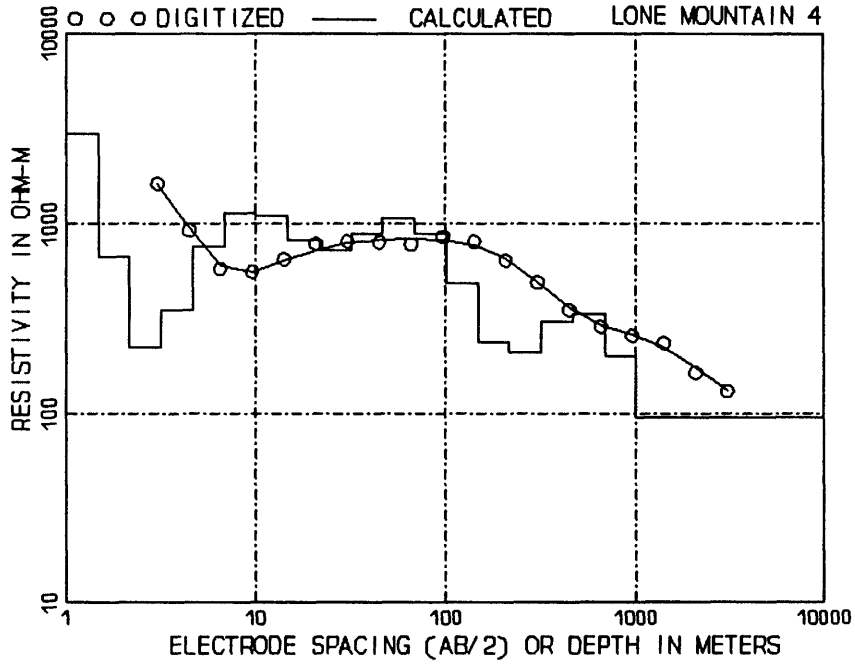

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9.14	(30.00)	660.00	243.84	(800.00)	565.00
12.19	(40.00)	722.00	304.80	(1000.00)	475.00
18.29	(60.00)	875.00	304.80	(1000.00)	490.00
24.38	(80.00)	980.00	426.72	(1400.00)	365.00
30.48	(100.00)	960.00	609.60	(2000.00)	295.00
42.67	(140.00)	960.00	914.40	(3000.00)	262.00
30.48	(100.00)	790.00	1219.20	(4000.00)	240.00
42.67	(140.00)	782.00	1828.80	(6000.00)	200.00
60.96	(200.00)	750.00	2438.40	(8000.00)	135.50
			3048.00	(10000.00)	131.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	2985.57	46.84	(153.69)	881.24
2.17	(7.13)	667.79	68.76	(225.58)	1068.37
3.19	(10.47)	225.15	100.92	(331.11)	887.14
4.68	(15.37)	347.44	148.13	(486.00)	482.59
6.88	(22.56)	754.75	217.43	(713.35)	239.37
10.09	(33.11)	1129.48	319.14	(1047.06)	210.44
14.81	(48.60)	1099.06	468.44	(1536.87)	307.04
21.74	(71.34)	828.49	687.57	(2255.81)	336.37
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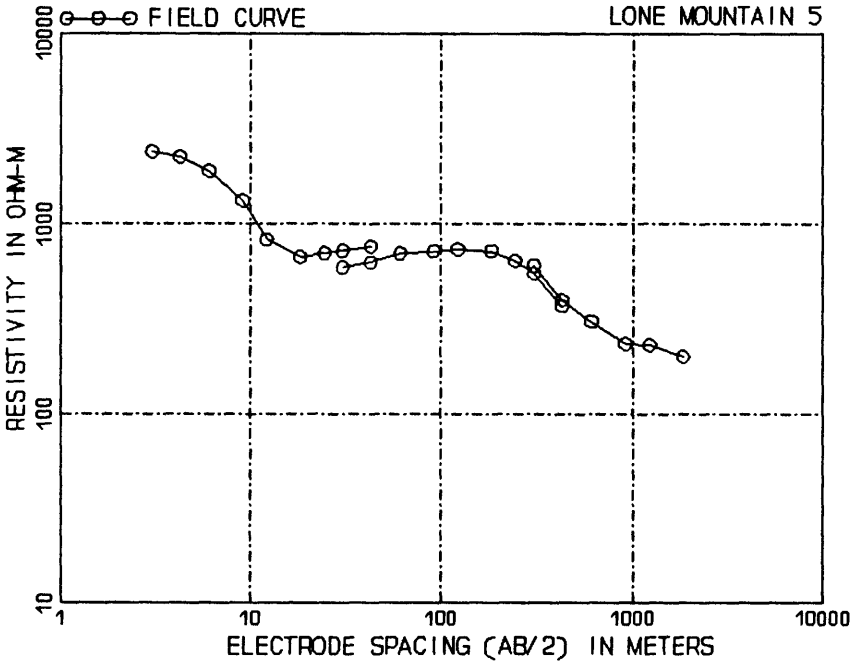

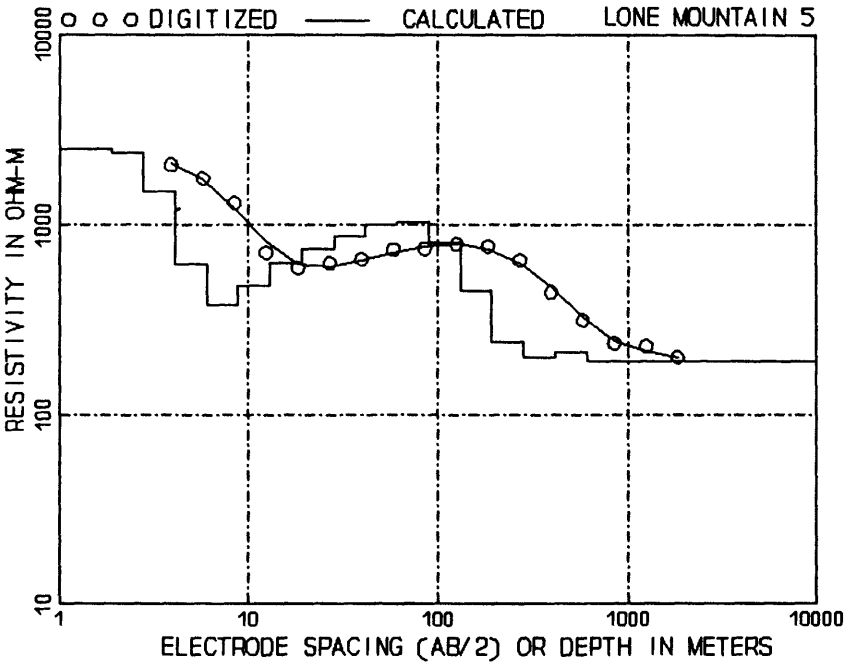

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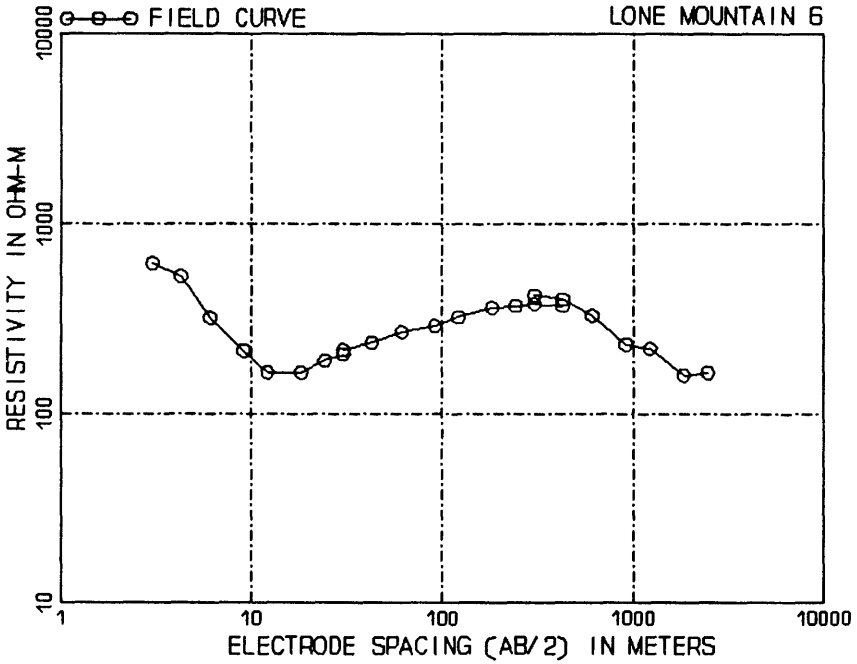
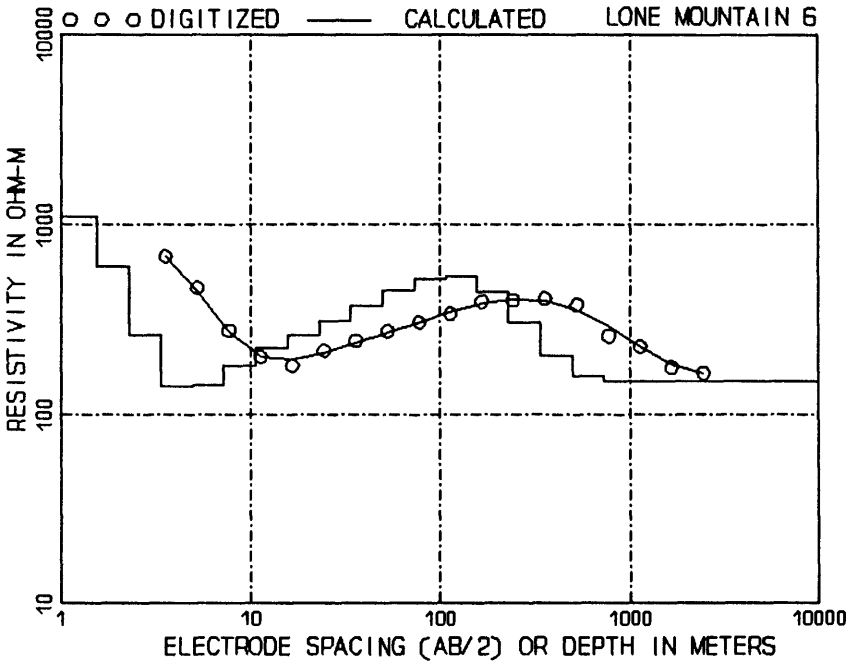
6.10	(20.00)	1900.00	182.88	(600.00)	720.00
9.14	(30.00)	1330.00	243.84	(800.00)	640.00
12.19	(40.00)	830.00	304.80	(1000.00)	550.00
18.29	(60.00)	670.00	426.72	(1400.00)	370.00
24.38	(80.00)	700.00	304.80	(1000.00)	605.00
30.48	(100.00)	722.00	426.72	(1400.00)	398.00
42.67	(140.00)	760.00	609.60	(2000.00)	307.00
30.48	(100.00)	590.00	914.40	(3000.00)	235.00
42.67	(140.00)	628.00	1219.20	(4000.00)	230.00
60.96	(200.00)	700.00	1828.80	(6000.00)	200.00

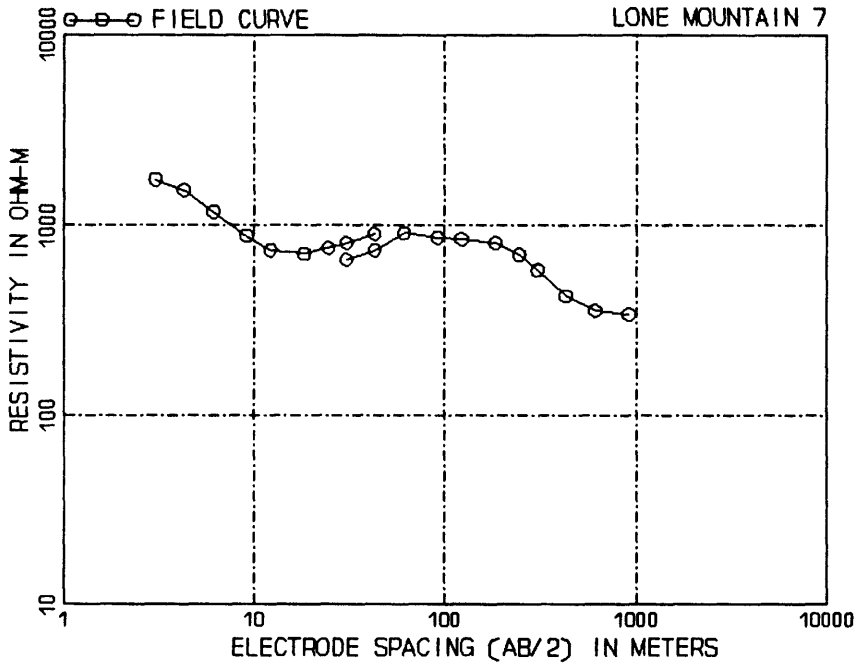
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	2495.08	41.25	(135.35)	872.92
2.81	(9.22)	2387.57	60.55	(198.66)	1005.95
4.13	(13.53)	1506.16	88.88	(291.60)	1037.72
6.06	(19.87)	621.33	130.46	(428.01)	809.41
8.89	(29.16)	380.68	191.49	(628.23)	451.56
13.05	(42.80)	474.78	281.06	(922.12)	240.71
19.15	(62.82)	629.45	412.54	(1353.49)	199.99
28.11	(92.21)	753.25	605.53	(1986.65)	212.32
			99999.00	(99999.00)	190.26

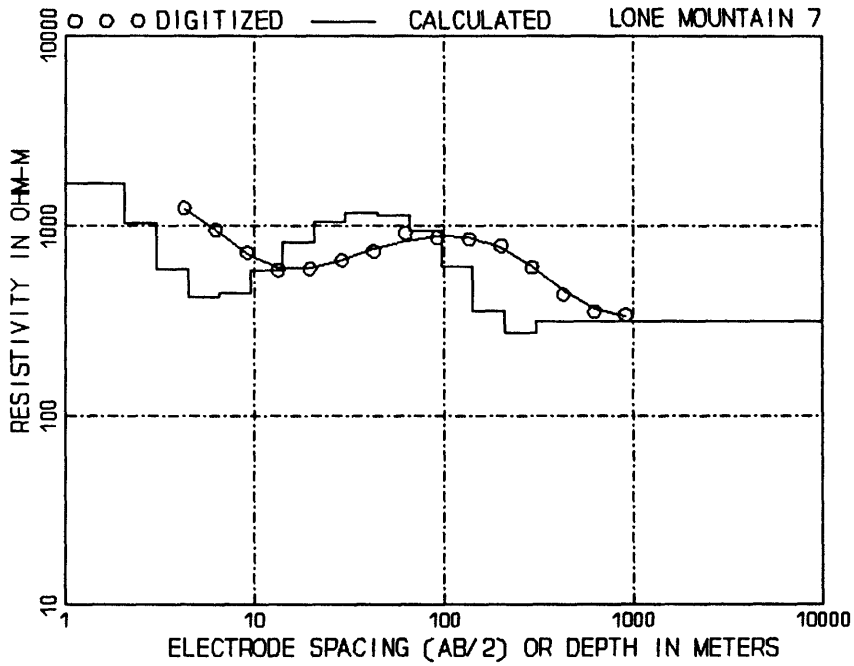




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	620.00	121.92	(400.00)	322.00
4.27	(14.00)	530.00	182.88	(600.00)	361.00
6.10	(20.00)	319.00	243.84	(800.00)	370.00
9.14	(30.00)	215.00	304.80	(1000.00)	380.00
12.19	(40.00)	165.00	426.72	(1400.00)	370.00
18.29	(60.00)	165.00	304.80	(1000.00)	420.00
24.38	(80.00)	190.00	426.72	(1400.00)	400.00
30.48	(100.00)	205.00	609.60	(2000.00)	330.00
30.48	(100.00)	216.00	914.40	(3000.00)	232.00
42.67	(140.00)	236.00	1219.20	(4000.00)	220.00
60.96	(200.00)	270.00	1828.80	(6000.00)	160.00
91.44	(300.00)	290.00	2438.40	(8000.00)	165.00

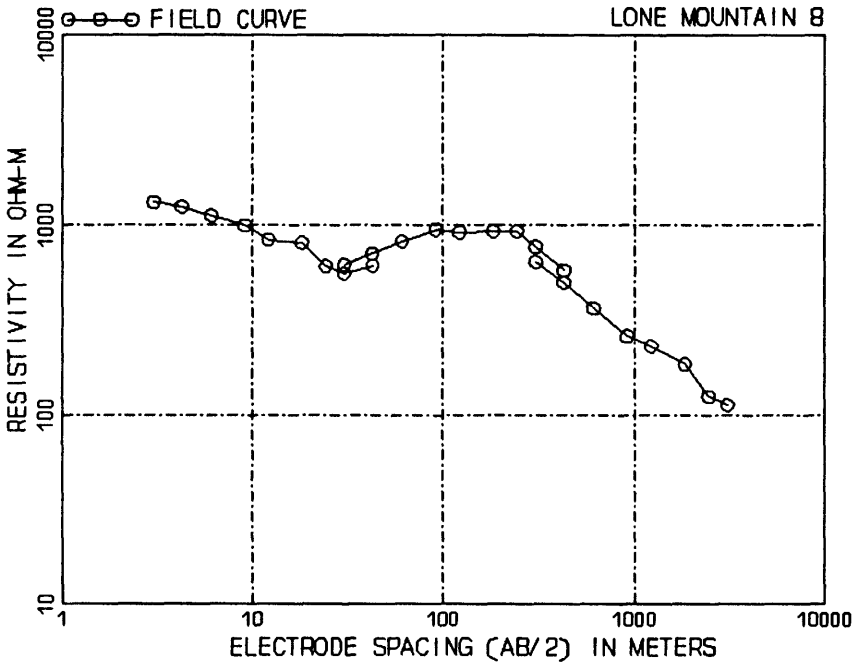
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.57	(5.14)	1107.39	49.51	(162.42)	374.43
2.30	(7.54)	607.00	72.66	(238.40)	450.94
3.37	(11.07)	259.68	106.66	(349.92)	518.32
4.95	(16.24)	140.05	156.55	(513.61)	528.58
7.27	(23.84)	141.54	229.78	(753.88)	441.39
10.67	(34.99)	180.68	337.27	(1106.54)	306.05
15.65	(51.36)	222.16	495.05	(1624.19)	205.31
22.98	(75.39)	262.19	726.64	(2383.98)	159.75
33.73	(110.65)	310.15	99999.00	(99999.00)	148.84

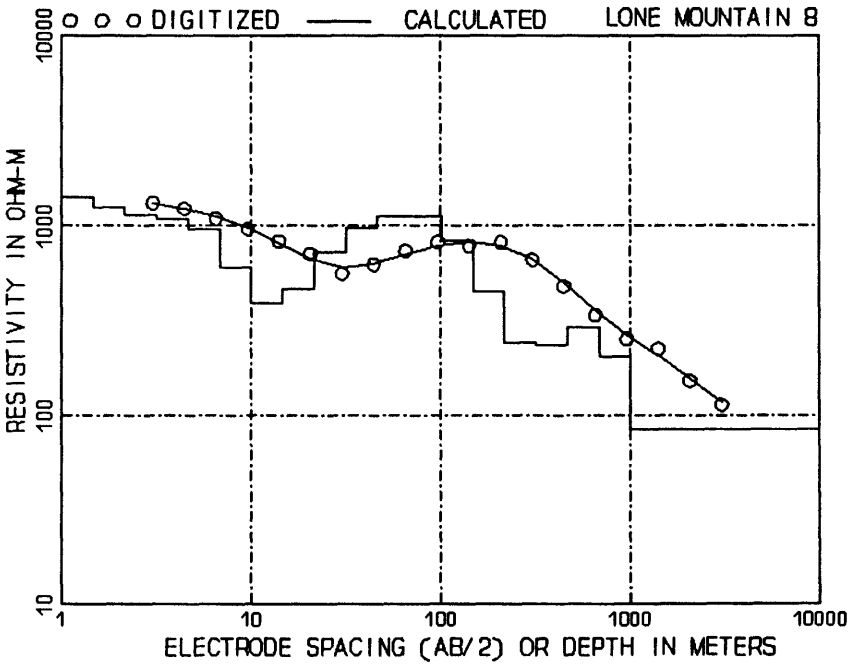




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1740.00	42.67	(140.00)	740.00
4.27	(14.00)	1530.00	60.96	(200.00)	910.00
6.10	(20.00)	1180.00	91.44	(300.00)	865.00
9.14	(30.00)	880.00	121.92	(400.00)	850.00
12.19	(40.00)	740.00	182.88	(600.00)	810.00
18.29	(60.00)	710.00	243.84	(800.00)	700.00
24.38	(80.00)	760.00	304.80	(1000.00)	580.00
30.48	(100.00)	810.00	304.80	(1000.00)	583.00
42.67	(140.00)	900.00	426.72	(1400.00)	425.00
30.48	(100.00)	660.00	609.60	(2000.00)	355.00
			914.40	(3000.00)	340.00

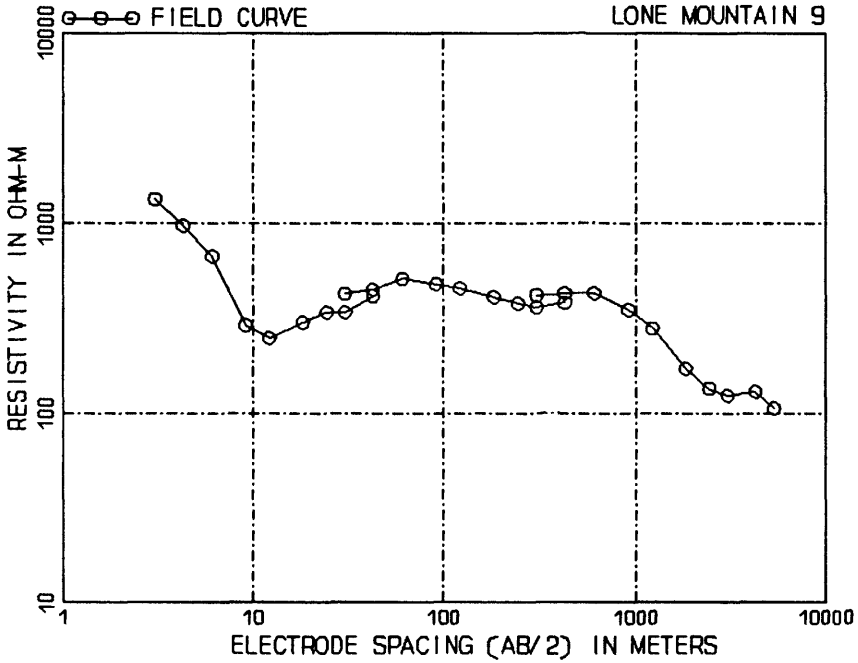
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.06	(6.77)	1665.48	30.28	(99.33)	1060.33
3.03	(9.93)	1033.99	44.44	(145.80)	1173.97
4.44	(14.58)	591.13	65.23	(214.01)	1140.21
6.52	(21.40)	419.13	95.74	(314.12)	942.49
9.57	(31.41)	440.32	140.53	(461.06)	616.13
14.05	(46.11)	585.81	206.27	(676.74)	354.85
20.63	(67.67)	824.88	302.77	(993.32)	273.18
			99999.00	(99999.00)	315.21

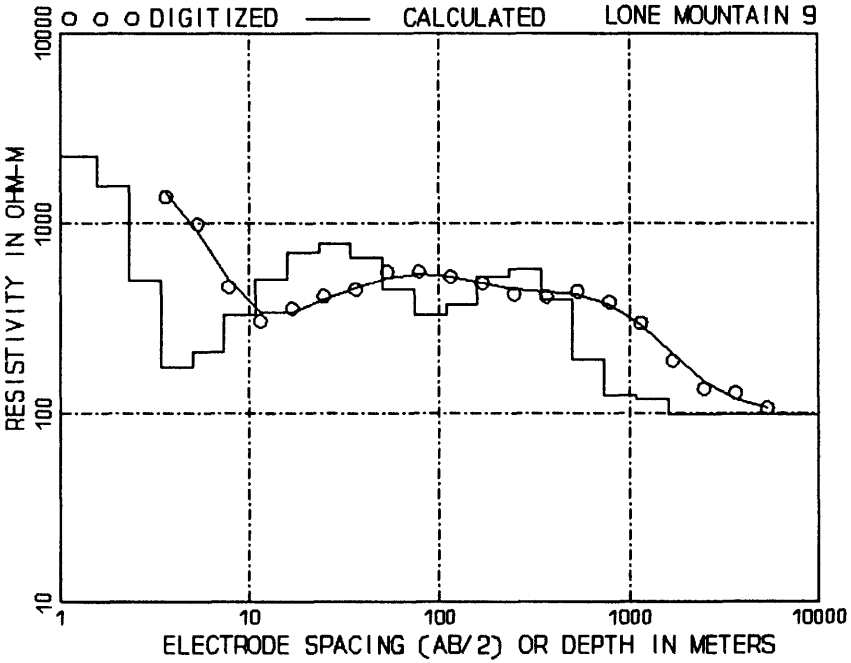




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1320.00	121.92	(400.00)	920.00
4.27	(14.00)	1250.00	182.88	(600.00)	930.00
6.10	(20.00)	1120.00	243.84	(800.00)	930.00
9.14	(30.00)	1000.00	304.80	(1000.00)	770.00
12.19	(40.00)	840.00	426.72	(1400.00)	580.00
18.29	(60.00)	810.00	304.80	(1000.00)	642.00
24.38	(80.00)	610.00	426.72	(1400.00)	500.00
30.48	(100.00)	560.00	609.60	(2000.00)	365.00
42.67	(140.00)	615.00	914.40	(3000.00)	260.00
30.48	(100.00)	618.00	1219.20	(4000.00)	230.00
42.67	(140.00)	710.00	1828.80	(6000.00)	185.00
60.96	(200.00)	824.00	2438.40	(8000.00)	125.00
91.44	(300.00)	950.00	3048.00	(10000.00)	113.00

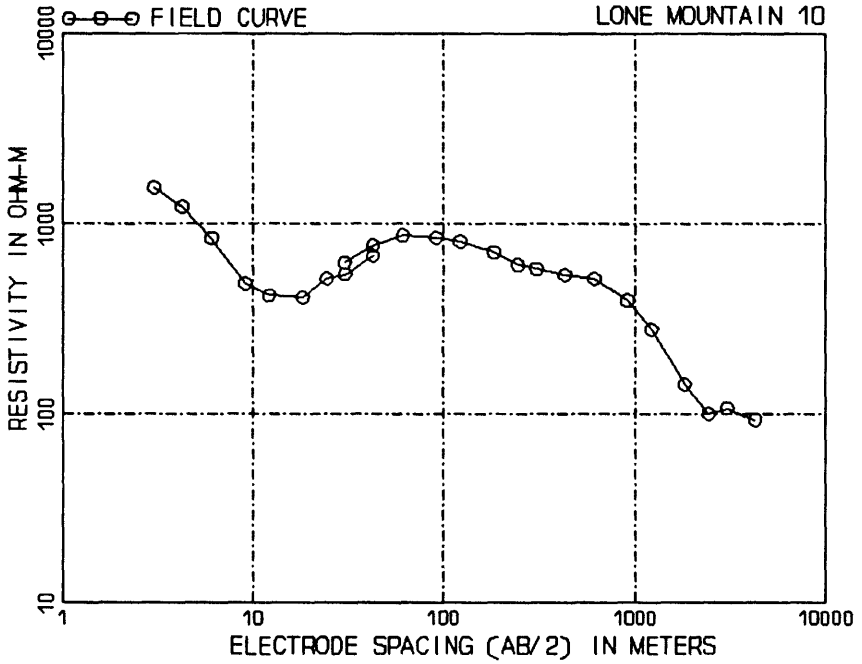
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	1409.20	46.84	(153.69)	968.30
2.17	(7.13)	1257.46	68.76	(225.58)	1115.62
3.19	(10.47)	1132.06	100.92	(331.11)	1112.06
4.68	(15.37)	1087.32	148.13	(486.00)	838.58
6.88	(22.56)	959.79	217.43	(713.35)	449.64
10.09	(33.11)	605.89	319.14	(1047.06)	241.26
14.81	(48.60)	388.16	468.44	(1536.87)	235.34
21.74	(71.34)	465.80	687.57	(2255.81)	291.45
31.91	(104.71)	725.51	1009.22	(3311.08)	204.24
			99999.00	(99999.00)	84.52

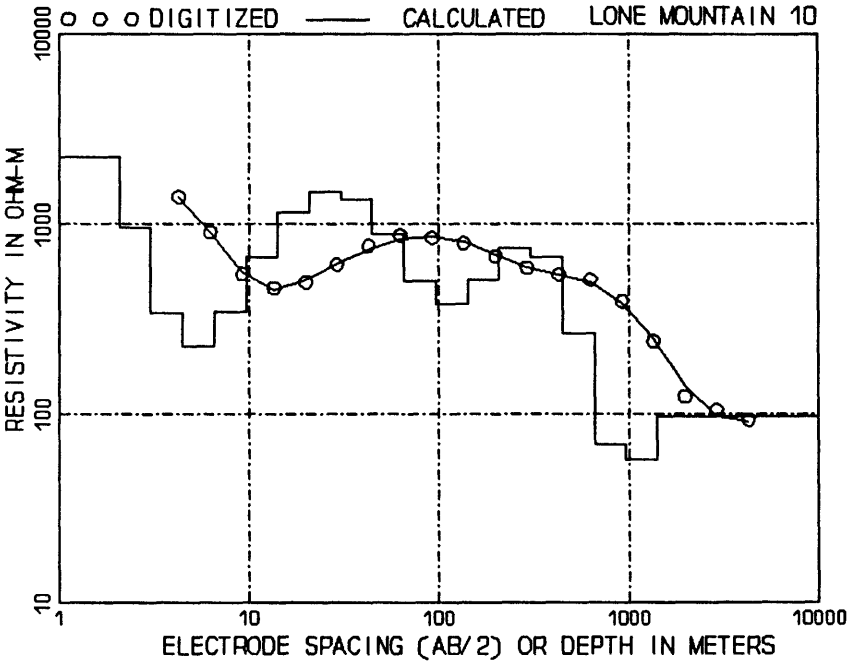




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1340.00	182.88	(600.00)	410.00
4.27	(14.00)	975.00	243.84	(800.00)	380.00
6.10	(20.00)	670.00	304.80	(1000.00)	363.00
9.14	(30.00)	290.00	426.72	(1400.00)	382.00
12.19	(40.00)	250.00	304.80	(1000.00)	418.00
18.29	(60.00)	300.00	426.72	(1400.00)	428.00
24.38	(80.00)	340.00	609.60	(2000.00)	430.00
30.48	(100.00)	340.00	914.40	(3000.00)	350.00
42.67	(140.00)	414.00	1219.20	(4000.00)	280.00
30.48	(100.00)	425.00	1828.80	(6000.00)	172.00
42.67	(140.00)	450.00	2438.40	(8000.00)	135.00
60.96	(200.00)	513.00	3048.00	(10000.00)	124.00
91.44	(300.00)	480.00	4267.20	(14000.00)	130.00
121.92	(400.00)	455.00	5334.00	(17500.00)	106.00

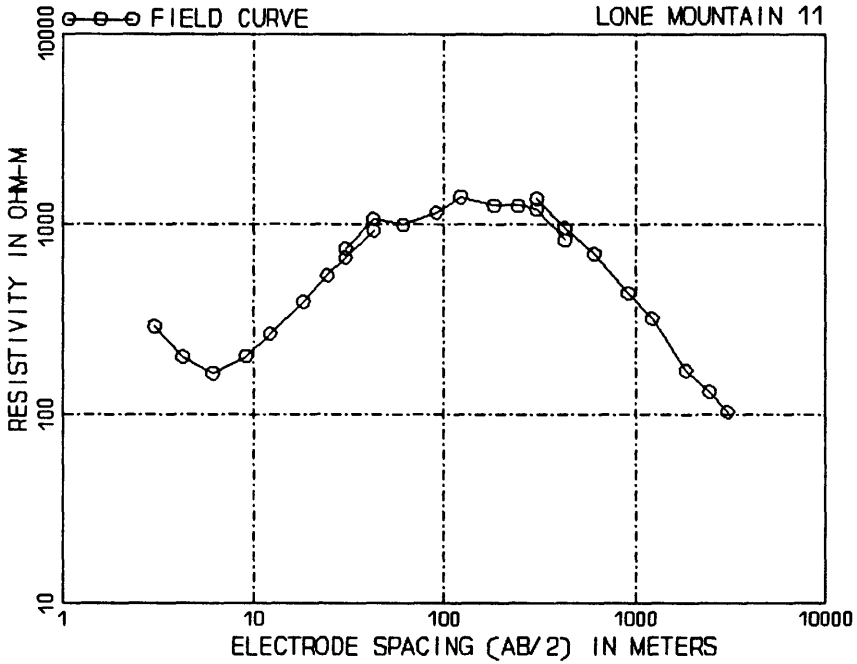
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.59	(5.21)	2242.78	73.78	(242.06)	446.91
2.33	(7.65)	1582.57	108.29	(355.29)	330.92
3.42	(11.24)	500.29	158.95	(521.50)	372.47
5.03	(16.49)	175.33	233.31	(765.45)	520.31
7.38	(24.21)	208.66	342.45	(1123.53)	578.13
10.83	(35.53)	331.60	502.65	(1649.11)	397.56
15.90	(52.15)	509.92	737.79	(2420.57)	191.68
23.33	(76.54)	703.99	1082.93	(3552.90)	123.80
34.25	(112.35)	781.51	1589.52	(5214.95)	118.70
50.26	(164.91)	659.42	99999.00	(99999.00)	98.04

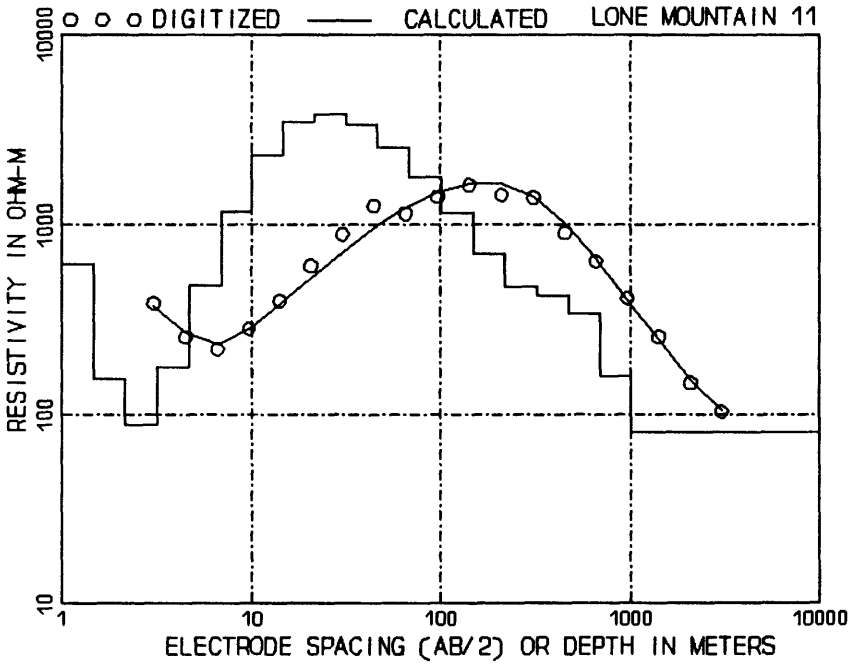




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1550.00	121.92	(400.00)	810.00
4.27	(14.00)	1230.00	182.88	(600.00)	710.00
6.10	(20.00)	840.00	243.84	(800.00)	610.00
9.14	(30.00)	485.00	304.80	(1000.00)	580.00
12.19	(40.00)	420.00	304.80	(1000.00)	580.00
18.29	(60.00)	410.00	426.72	(1400.00)	540.00
24.38	(80.00)	515.00	609.60	(2000.00)	515.00
30.48	(100.00)	545.00	914.40	(3000.00)	395.00
42.67	(140.00)	680.00	1219.20	(4000.00)	278.00
30.48	(100.00)	628.00	1828.80	(6000.00)	143.00
42.67	(140.00)	770.00	2438.40	(8000.00)	100.00
60.96	(200.00)	870.00	3048.00	(10000.00)	107.00
91.44	(300.00)	850.00	4267.20	(14000.00)	93.00

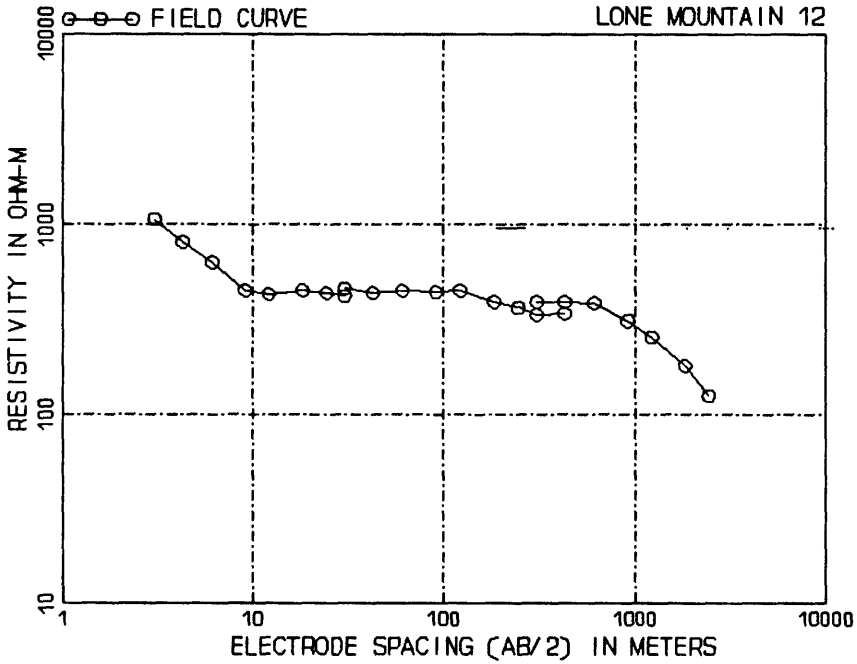
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.07	(6.80)	2247.67	65.58	(215.16)	881.95
3.04	(9.99)	956.68	96.26	(315.81)	499.55
4.47	(14.66)	340.32	141.29	(463.55)	378.73
6.56	(21.52)	228.12	207.39	(680.40)	504.21
9.63	(31.58)	345.74	304.40	(998.69)	750.83
14.13	(46.36)	675.85	446.80	(1465.88)	674.49
20.74	(68.04)	1161.16	655.81	(2151.61)	265.37
30.44	(99.87)	1484.91	962.60	(3158.14)	68.87
44.68	(146.59)	1345.21	1412.90	(4635.51)	56.96
			99999.00	(99999.00)	96.72

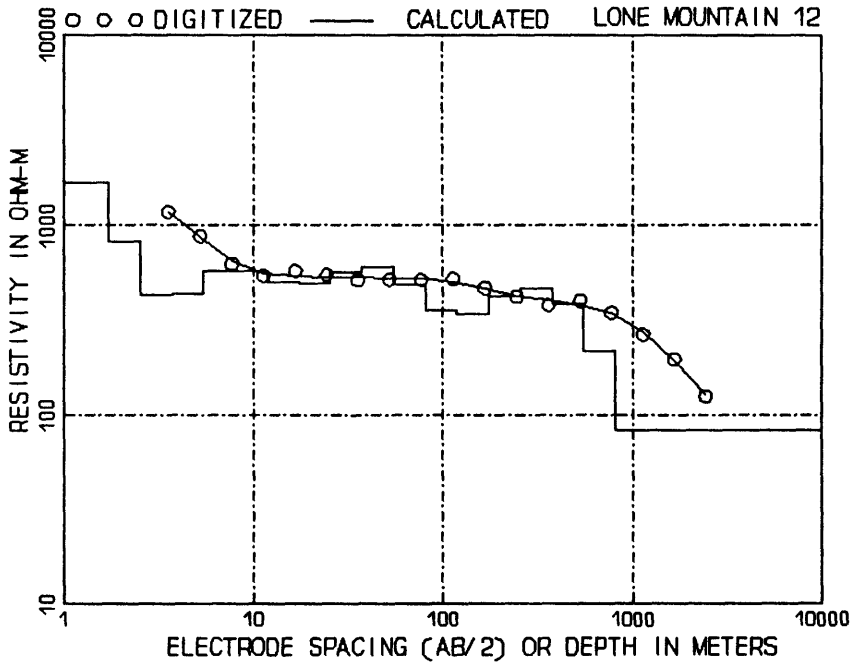




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	290.00	121.92	(400.00)	1400.00
4.27	(14.00)	200.00	182.88	(600.00)	1260.00
6.10	(20.00)	165.00	243.84	(800.00)	1260.00
9.14	(30.00)	202.00	304.80	(1000.00)	1200.00
12.19	(40.00)	265.00	426.72	(1400.00)	830.00
18.29	(60.00)	390.00	304.80	(1000.00)	1370.00
24.38	(80.00)	540.00	426.72	(1400.00)	960.00
30.48	(100.00)	670.00	609.60	(2000.00)	700.00
42.67	(140.00)	930.00	914.40	(3000.00)	435.00
30.48	(100.00)	750.00	1219.20	(4000.00)	320.00
42.67	(140.00)	1070.00	1828.80	(6000.00)	170.00
60.96	(200.00)	1000.00	2438.40	(8000.00)	132.00
91.44	(300.00)	1160.00	3048.00	(10000.00)	103.00

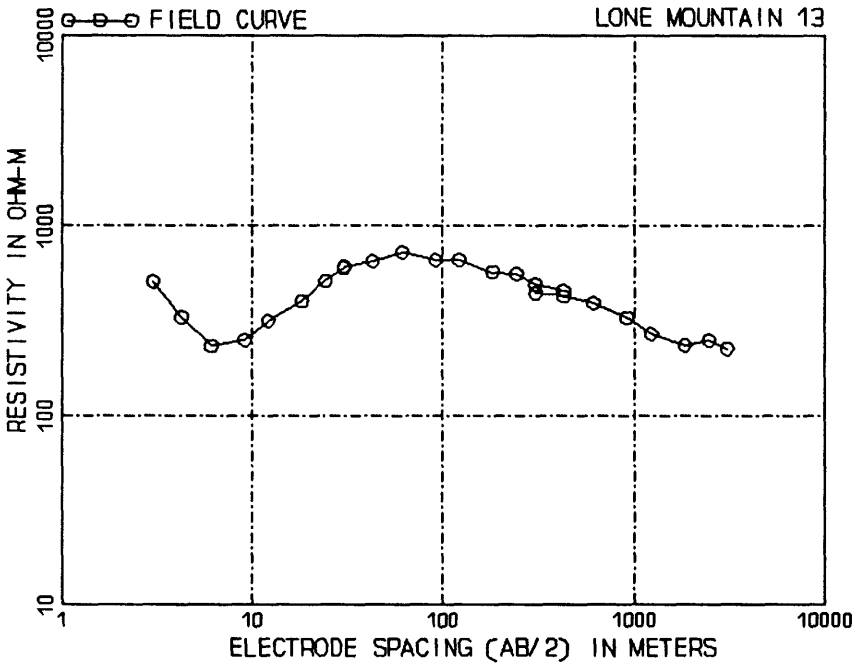
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	623.98	46.84	(153.69)	3357.51
2.17	(7.13)	155.05	68.76	(225.58)	2548.19
3.19	(10.47)	88.05	100.92	(331.11)	1774.87
4.68	(15.37)	176.60	148.13	(486.00)	1151.60
6.88	(22.56)	479.88	217.43	(713.35)	701.01
10.09	(33.11)	1178.69	319.14	(1047.06)	469.14
14.81	(48.60)	2325.43	468.44	(1536.87)	422.53
21.74	(71.34)	3442.91	687.57	(2255.81)	339.63
31.91	(104.71)	3815.76	1009.22	(3311.08)	157.77
			99999.00	(99999.00)	80.14

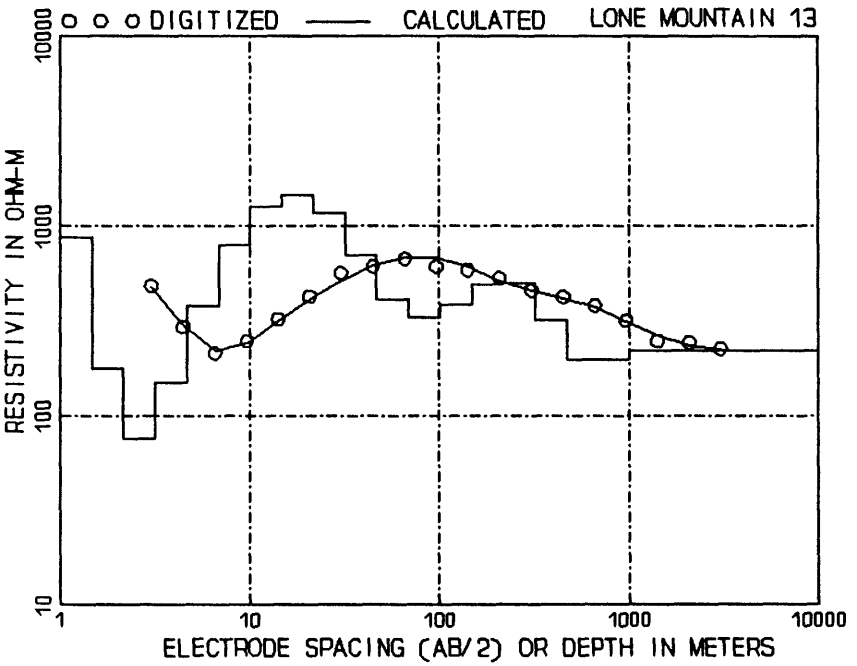




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1060.00	121.92	(400.00)	450.00
4.27	(14.00)	810.00	182.88	(600.00)	390.00
6.10	(20.00)	630.00	243.84	(800.00)	365.00
9.14	(30.00)	450.00	304.80	(1000.00)	335.00
12.19	(40.00)	430.00	426.72	(1400.00)	340.00
18.29	(60.00)	450.00	304.80	(1000.00)	390.00
24.38	(80.00)	435.00	426.72	(1400.00)	390.00
30.48	(100.00)	420.00	609.60	(2000.00)	385.00
30.48	(100.00)	460.00	914.40	(3000.00)	311.00
42.67	(140.00)	435.00	1219.20	(4000.00)	255.00
60.96	(200.00)	450.00	1828.80	(6000.00)	180.00
91.44	(300.00)	440.00	2438.40	(8000.00)	125.00

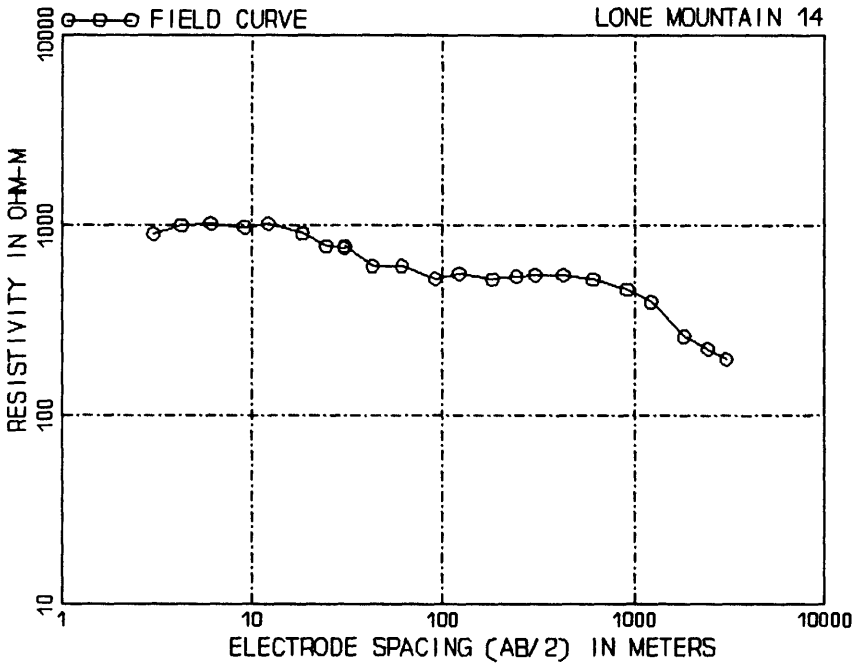
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	1686.39	55.01	(180.46)	598.86
2.55	(8.38)	828.33	80.74	(264.89)	484.90
3.75	(12.29)	431.38	118.51	(388.80)	354.40
5.50	(18.05)	433.06	173.94	(570.68)	340.50
8.07	(26.49)	574.79	255.31	(837.64)	421.02
11.85	(38.88)	577.50	374.75	(1229.49)	462.74
17.39	(57.07)	497.62	550.06	(1804.65)	382.24
25.53	(83.76)	491.52	807.37	(2648.86)	217.72
37.47	(122.95)	567.61	99999.00	(99999.00)	82.52

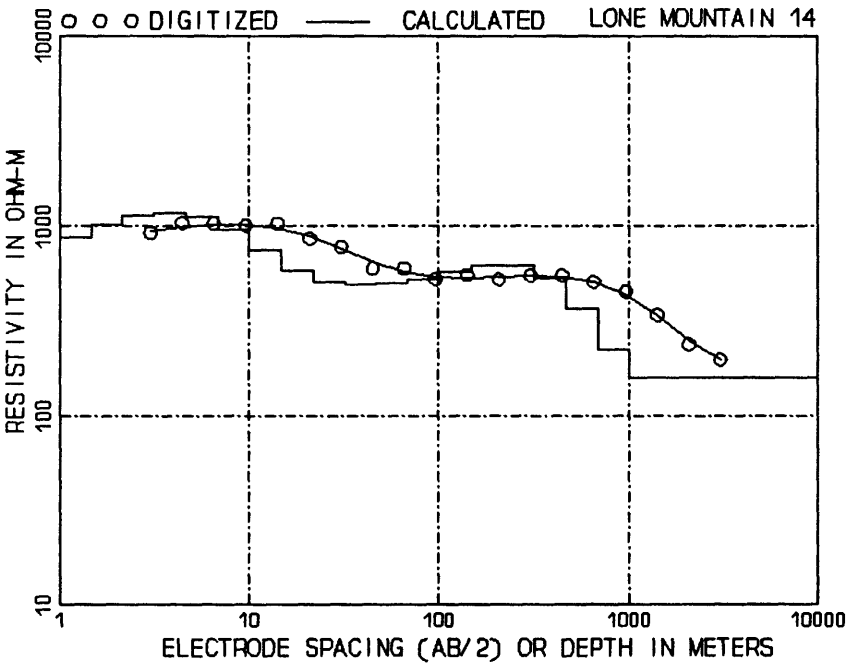




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	510.00	121.92	(400.00)	660.00
4.27	(14.00)	328.00	182.88	(600.00)	570.00
6.10	(20.00)	233.00	243.84	(800.00)	560.00
9.14	(30.00)	250.00	304.80	(1000.00)	490.00
12.19	(40.00)	315.00	426.72	(1400.00)	456.00
18.29	(60.00)	400.00	304.80	(1000.00)	440.00
24.38	(80.00)	512.00	426.72	(1400.00)	425.00
30.48	(100.00)	600.00	609.60	(2000.00)	390.00
30.48	(100.00)	610.00	914.40	(3000.00)	327.00
42.67	(140.00)	650.00	1219.20	(4000.00)	270.00
60.96	(200.00)	725.00	1828.80	(6000.00)	235.00
91.44	(300.00)	660.00	2438.40	(8000.00)	250.00
			3048.00	(10000.00)	225.00

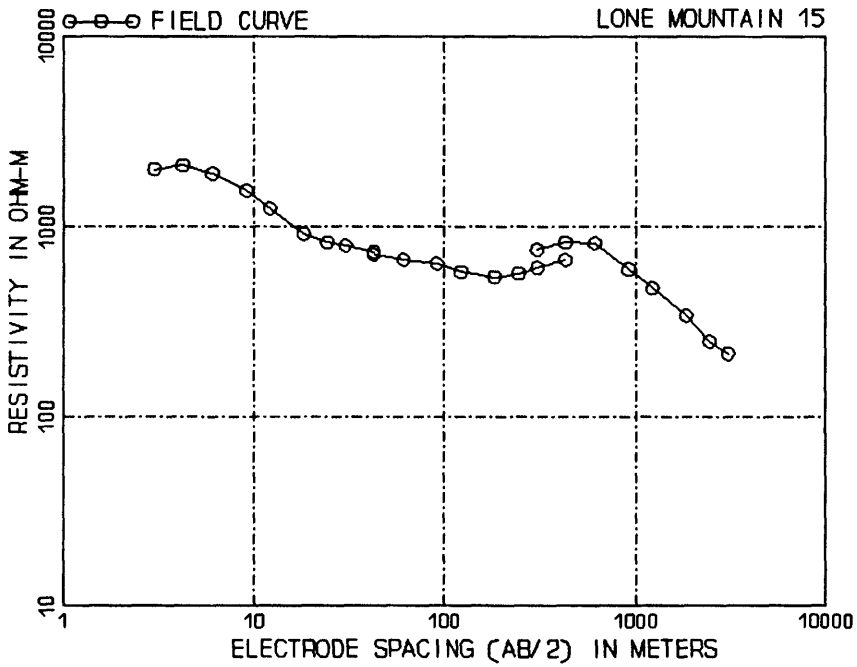
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	874.44	46.84	(153.69)	703.27
2.17	(7.13)	176.93	68.76	(225.58)	411.29
3.19	(10.47)	75.12	100.92	(331.11)	331.73
4.68	(15.37)	149.29	148.13	(486.00)	385.67
6.88	(22.56)	380.05	217.43	(713.35)	494.59
10.09	(33.11)	796.37	319.14	(1047.06)	497.36
14.81	(48.60)	1276.35	468.44	(1536.87)	318.84
21.74	(71.34)	1466.69	687.57	(2255.81)	197.89
31.91	(104.71)	1174.33	1009.22	(3311.08)	197.63
			99999.00	(99999.00)	221.30

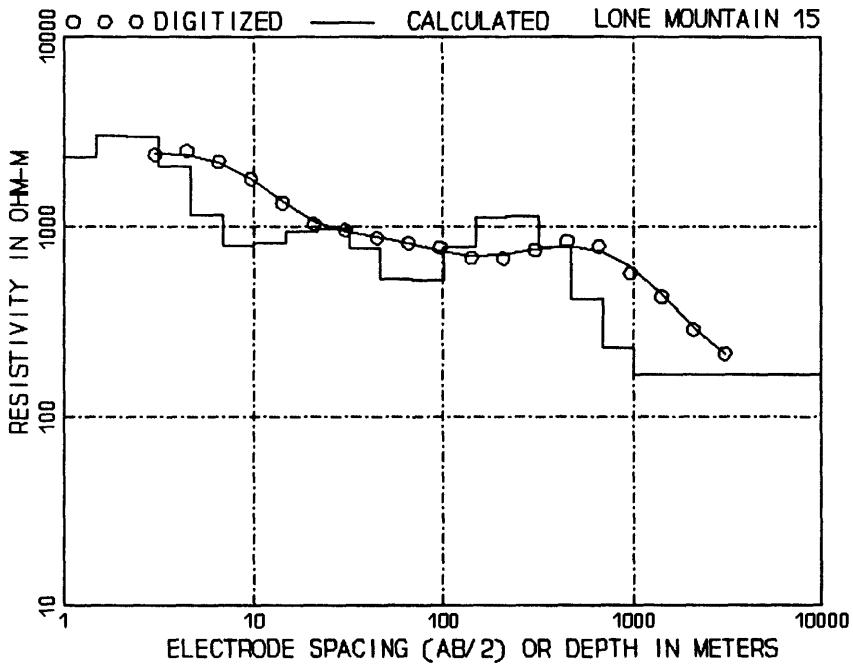




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	900.00	121.92	(400.00)	560.00
4.27	(14.00)	1000.00	182.88	(600.00)	520.00
6.10	(20.00)	1020.00	243.84	(800.00)	540.00
9.14	(30.00)	980.00	304.80	(1000.00)	550.00
12.19	(40.00)	1020.00	304.80	(1000.00)	550.00
18.29	(60.00)	910.00	426.72	(1400.00)	550.00
24.38	(80.00)	780.00	609.60	(2000.00)	520.00
30.48	(100.00)	760.00	914.40	(3000.00)	460.00
30.48	(100.00)	780.00	1219.20	(4000.00)	395.00
42.67	(140.00)	610.00	1828.80	(6000.00)	260.00
60.96	(200.00)	610.00	2438.40	(8000.00)	224.00
91.44	(300.00)	525.00	3048.00	(10000.00)	197.00

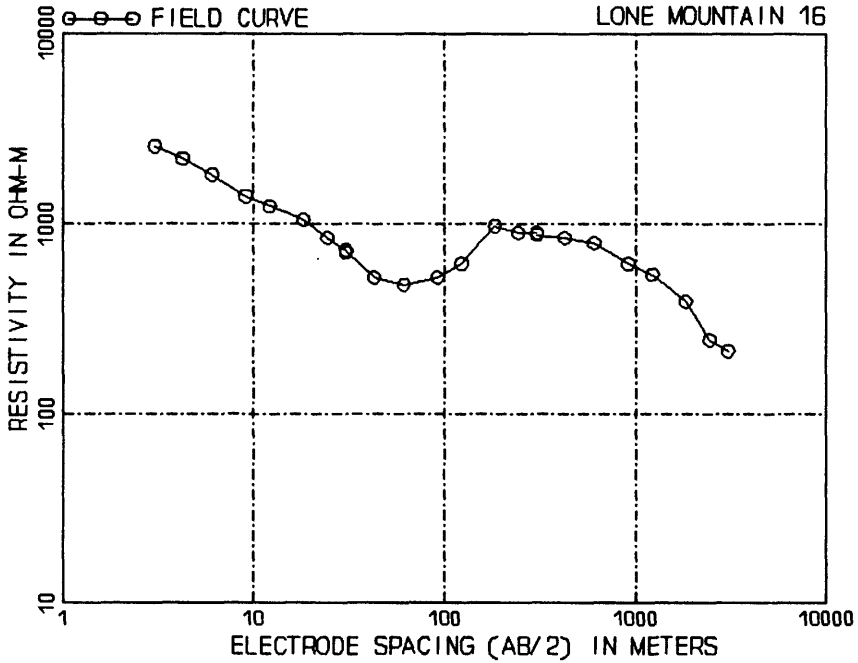
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	877.28	46.84	(153.69)	492.42
2.17	(7.13)	1022.09	68.76	(225.58)	499.64
3.19	(10.47)	1129.92	100.92	(331.11)	525.77
4.68	(15.37)	1176.71	148.13	(486.00)	572.20
6.88	(22.56)	1128.43	217.43	(713.35)	617.14
10.09	(33.11)	963.42	319.14	(1047.06)	617.93
14.81	(48.60)	744.92	468.44	(1536.87)	529.24
21.74	(71.34)	580.44	687.57	(2255.81)	365.68
31.91	(104.71)	508.59	1009.22	(3311.08)	224.21
			99999.00	(99999.00)	157.93

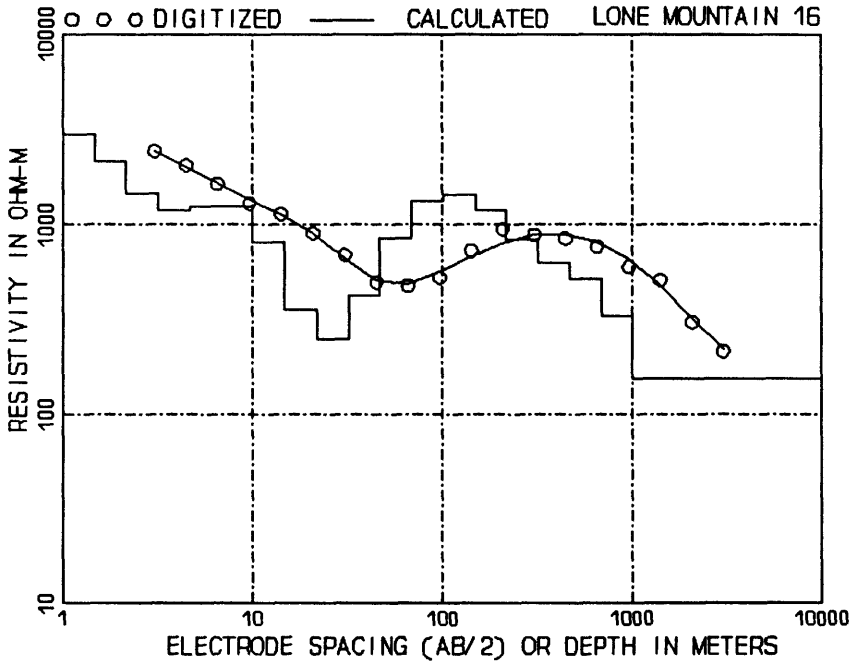




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	2000.00	121.92	(400.00)	580.00
4.27	(14.00)	2100.00	182.88	(600.00)	545.00
6.10	(20.00)	1900.00	243.84	(800.00)	570.00
9.14	(30.00)	1550.00	304.80	(1000.00)	610.00
12.19	(40.00)	1250.00	426.72	(1400.00)	670.00
18.29	(60.00)	920.00	304.80	(1000.00)	760.00
24.38	(80.00)	830.00	426.72	(1400.00)	830.00
30.48	(100.00)	800.00	609.60	(2000.00)	820.00
42.67	(140.00)	740.00	914.40	(3000.00)	600.00
42.67	(140.00)	717.00	1219.20	(4000.00)	475.00
60.96	(200.00)	670.00	1828.80	(6000.00)	340.00
91.44	(300.00)	640.00	2438.40	(8000.00)	250.00
			3048.00	(10000.00)	215.00

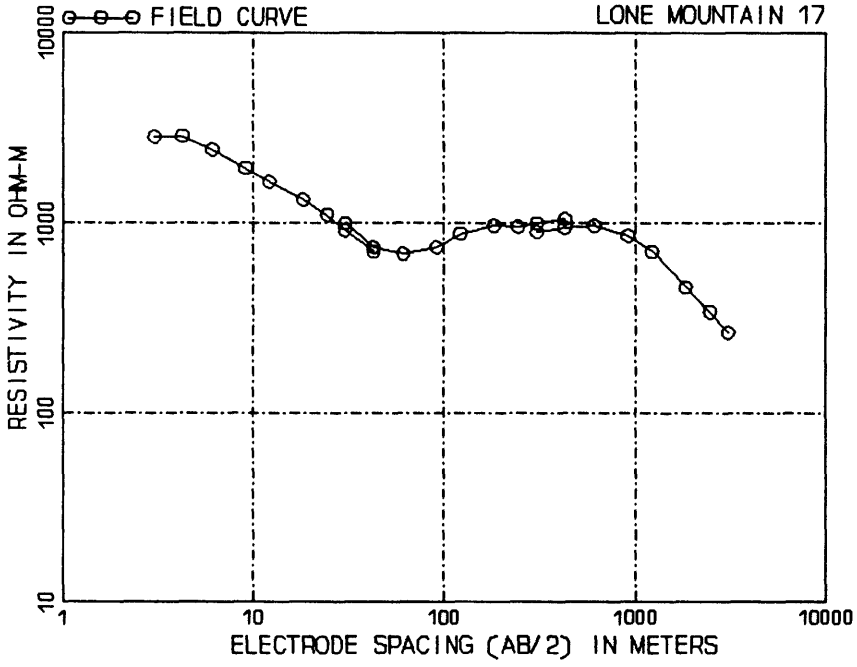
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	2331.16	46.84	(153.69)	771.28
2.17	(7.13)	3027.87	68.76	(225.58)	534.96
3.19	(10.47)	2976.79	100.92	(331.11)	525.50
4.68	(15.37)	2071.05	148.13	(486.00)	779.87
6.88	(22.56)	1157.98	217.43	(713.35)	1121.45
10.09	(33.11)	793.37	319.14	(1047.06)	1140.48
14.81	(48.60)	820.70	468.44	(1536.87)	781.05
21.74	(71.34)	949.97	687.57	(2255.81)	414.50
31.91	(104.71)	976.27	1009.22	(3311.08)	228.73
			99999.00	(99999.00)	167.80

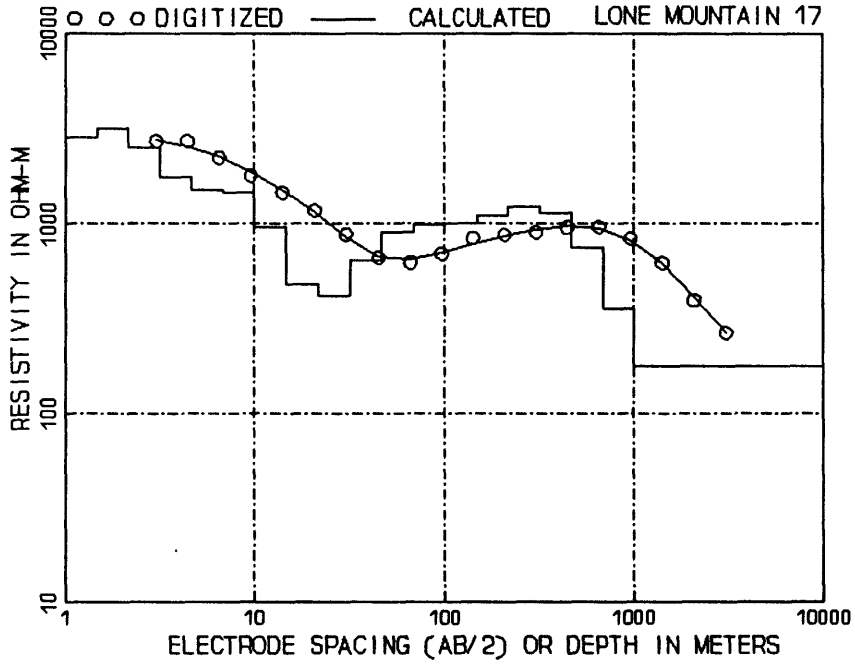




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	2560.00	121.92	(400.00)	620.00
4.27	(14.00)	2200.00	182.88	(600.00)	980.00
6.10	(20.00)	1820.00	243.84	(800.00)	900.00
9.14	(30.00)	1400.00	304.80	(1000.00)	900.00
12.19	(40.00)	1240.00	304.80	(1000.00)	880.00
18.29	(60.00)	1050.00	426.72	(1400.00)	850.00
24.38	(80.00)	850.00	609.60	(2000.00)	800.00
30.48	(100.00)	730.00	914.40	(3000.00)	620.00
30.48	(100.00)	710.00	1219.20	(4000.00)	545.00
42.67	(140.00)	525.00	1828.80	(6000.00)	390.00
60.96	(200.00)	480.00	2438.40	(8000.00)	245.00
91.44	(300.00)	525.00	3048.00	(10000.00)	215.00

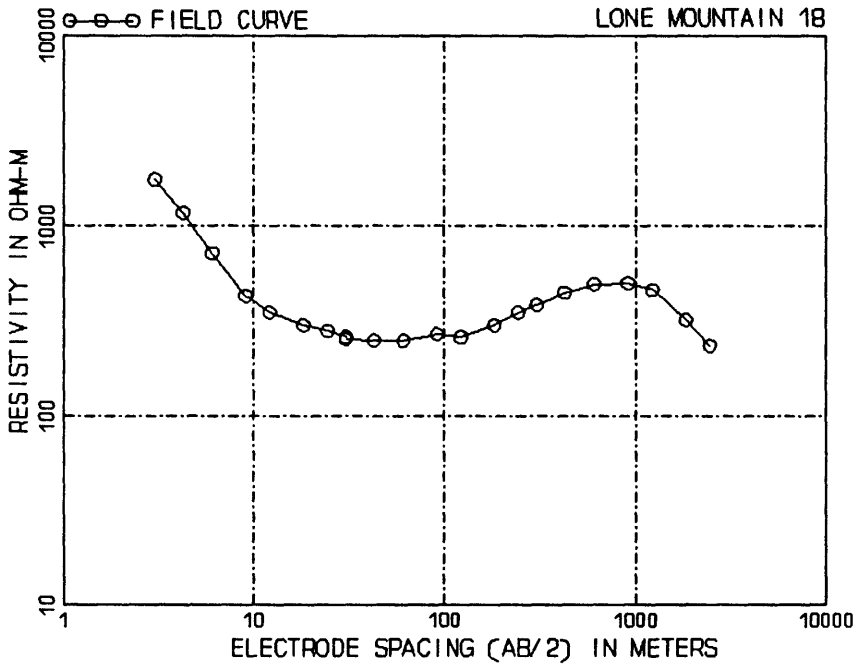
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	2985.65	46.84	(153.69)	420.69
2.17	(7.13)	2157.76	68.76	(225.58)	854.22
3.19	(10.47)	1452.07	100.92	(331.11)	1321.63
4.68	(15.37)	1182.41	148.13	(486.00)	1443.99
6.88	(22.56)	1256.29	217.43	(713.35)	1182.07
10.09	(33.11)	1252.35	319.14	(1047.06)	837.07
14.81	(48.60)	810.05	468.44	(1536.87)	629.59
21.74	(71.34)	355.21	687.57	(2255.81)	515.29
31.91	(104.71)	250.73	1009.22	(3311.08)	331.76
			99999.00	(99999.00)	154.69

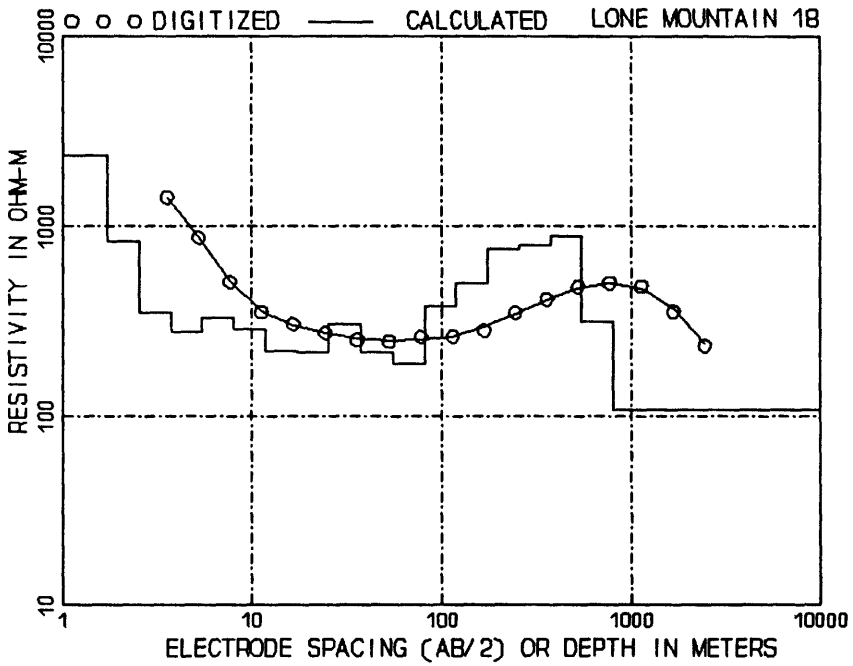




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	2840.00	121.92	(400.00)	880.00
4.27	(14.00)	2860.00	182.88	(600.00)	970.00
6.10	(20.00)	2440.00	243.84	(800.00)	960.00
9.14	(30.00)	1940.00	304.80	(1000.00)	1000.00
12.19	(40.00)	1650.00	426.72	(1400.00)	1050.00
18.29	(60.00)	1330.00	304.80	(1000.00)	900.00
24.38	(80.00)	1110.00	426.72	(1400.00)	950.00
30.48	(100.00)	920.00	609.60	(2000.00)	970.00
42.67	(140.00)	710.00	914.40	(3000.00)	860.00
30.48	(100.00)	1000.00	1219.20	(4000.00)	710.00
42.67	(140.00)	750.00	1828.80	(6000.00)	460.00
60.96	(200.00)	690.00	2438.40	(8000.00)	342.00
91.44	(300.00)	750.00	3048.00	(10000.00)	265.00

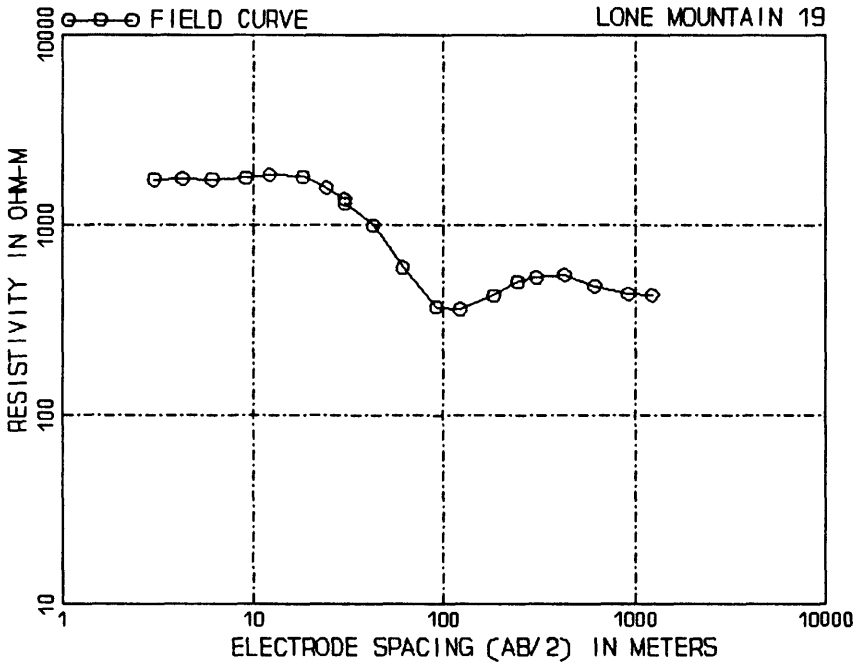
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	2856.46	46.84	(153.69)	636.81
2.17	(7.13)	3170.87	68.76	(225.58)	901.40
3.19	(10.47)	2509.16	100.92	(331.11)	992.39
4.68	(15.37)	1741.96	148.13	(486.00)	1007.73
6.88	(22.56)	1505.73	217.43	(713.35)	1102.03
10.09	(33.11)	1455.68	319.14	(1047.06)	1226.32
14.81	(48.60)	964.67	468.44	(1536.87)	1137.61
21.74	(71.34)	475.38	687.57	(2255.81)	746.84
31.91	(104.71)	413.27	1009.22	(3311.08)	353.86
			99999.00	(99999.00)	177.61

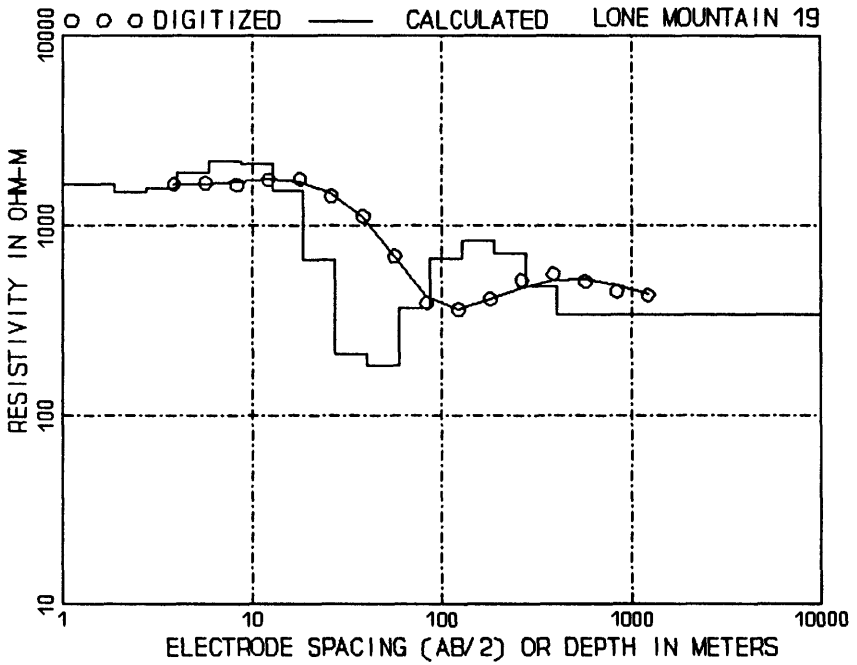




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1750.00	91.44	(300.00)	270.00
4.27	(14.00)	1175.00	121.92	(400.00)	260.00
6.10	(20.00)	720.00	182.88	(600.00)	300.00
9.14	(30.00)	430.00	243.84	(800.00)	350.00
12.19	(40.00)	350.00	304.80	(1000.00)	385.00
18.29	(60.00)	300.00	304.80	(1000.00)	385.00
24.38	(80.00)	280.00	426.72	(1400.00)	445.00
30.48	(100.00)	260.00	609.60	(2000.00)	495.00
30.48	(100.00)	254.00	914.40	(3000.00)	500.00
42.67	(140.00)	250.00	1219.20	(4000.00)	460.00
60.96	(200.00)	248.00	1828.80	(6000.00)	320.00
			2438.40	(8000.00)	235.00

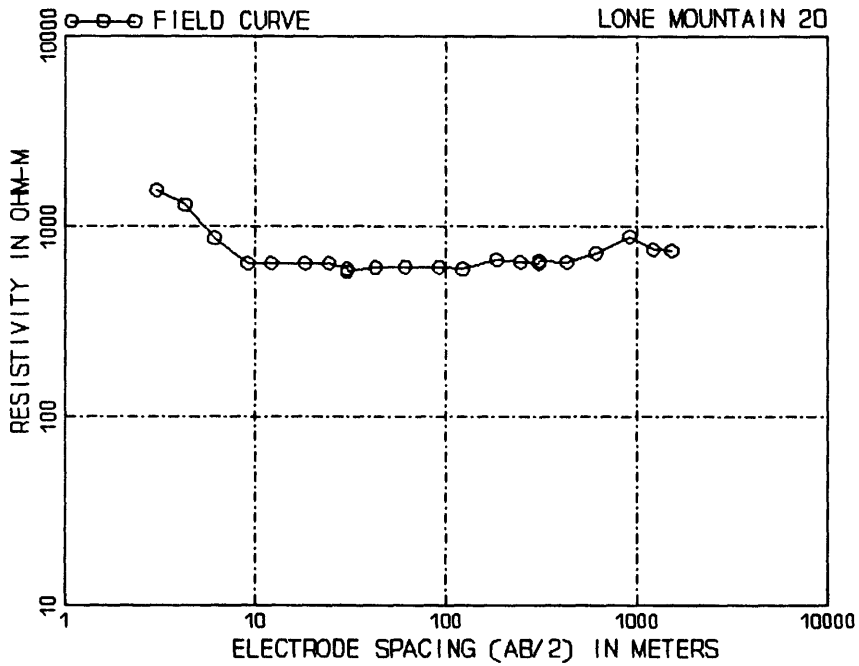
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	2359.20	55.01	(180.46)	215.39
2.55	(8.38)	834.96	80.74	(264.89)	188.15
3.75	(12.29)	350.48	118.51	(388.80)	376.74
5.50	(18.05)	276.71	173.94	(570.68)	498.70
8.07	(26.49)	329.42	255.31	(837.64)	759.04
11.85	(38.88)	285.93	374.75	(1229.49)	795.17
17.39	(57.07)	220.95	550.06	(1804.65)	894.14
25.53	(83.76)	217.09	807.37	(2648.86)	316.45
37.47	(122.95)	304.14	99999.00	(99999.00)	108.12

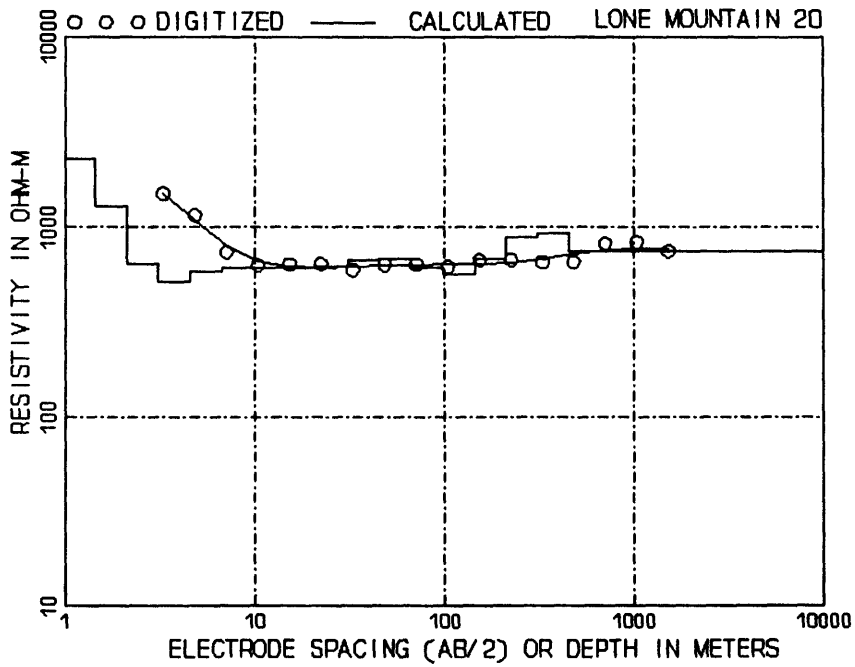




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1740.00	60.96	(200.00)	600.00
4.27	(14.00)	1760.00	91.44	(300.00)	370.00
6.10	(20.00)	1740.00	121.92	(400.00)	360.00
9.14	(30.00)	1770.00	182.88	(600.00)	425.00
12.19	(40.00)	1840.00	243.84	(800.00)	505.00
18.29	(60.00)	1800.00	304.80	(1000.00)	530.00
24.38	(80.00)	1570.00	304.80	(1000.00)	530.00
30.48	(100.00)	1370.00	426.72	(1400.00)	550.00
30.48	(100.00)	1300.00	609.60	(2000.00)	480.00
42.67	(140.00)	1000.00	914.40	(3000.00)	435.00
			1219.20	(4000.00)	430.00

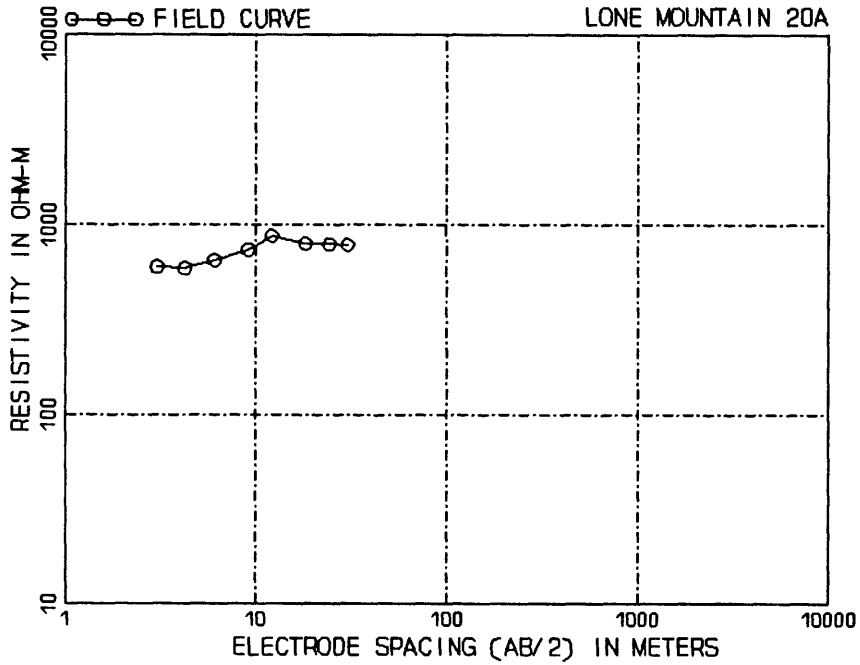
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	1661.31	40.37	(132.44)	211.53
2.75	(9.02)	1507.80	59.25	(194.40)	182.44
4.04	(13.24)	1571.54	86.97	(285.34)	369.85
5.93	(19.44)	1903.74	127.66	(418.82)	670.05
8.70	(28.53)	2195.02	187.37	(614.75)	838.68
12.77	(41.88)	2106.98	275.03	(902.33)	713.02
18.74	(61.47)	1525.59	403.69	(1324.43)	475.82
27.50	(90.23)	663.96	99999.00	(99999.00)	337.43

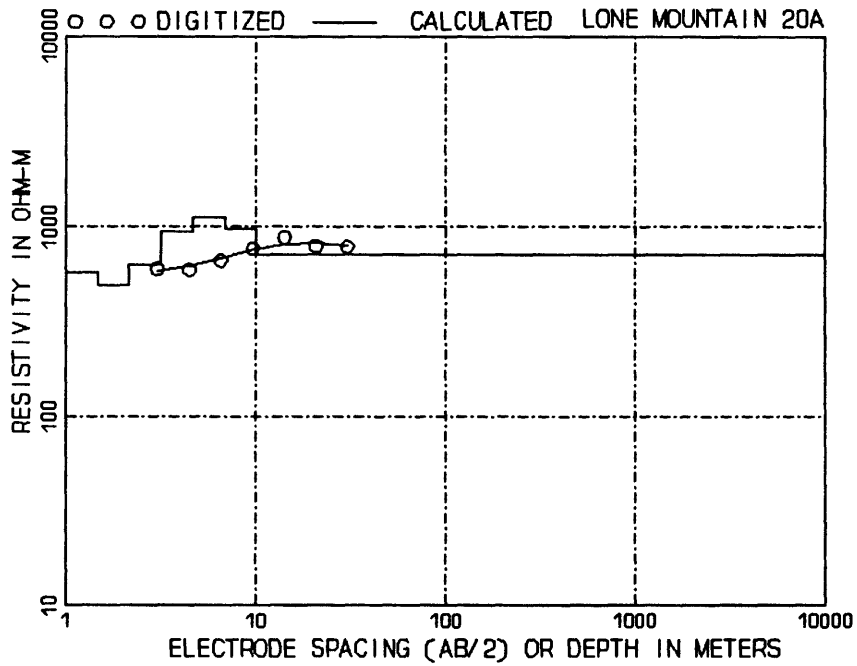




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1550.00	91.44	(300.00)	615.00
4.27	(14.00)	1300.00	121.92	(400.00)	600.00
6.10	(20.00)	870.00	182.88	(600.00)	670.00
9.14	(30.00)	640.00	243.84	(800.00)	650.00
12.19	(40.00)	640.00	304.80	(1000.00)	640.00
18.29	(60.00)	640.00	304.80	(1000.00)	660.00
24.38	(80.00)	640.00	426.72	(1400.00)	650.00
30.48	(100.00)	600.00	609.60	(2000.00)	730.00
30.48	(100.00)	580.00	914.40	(3000.00)	890.00
42.67	(140.00)	610.00	1219.20	(4000.00)	760.00
60.96	(200.00)	615.00	1524.00	(5000.00)	750.00

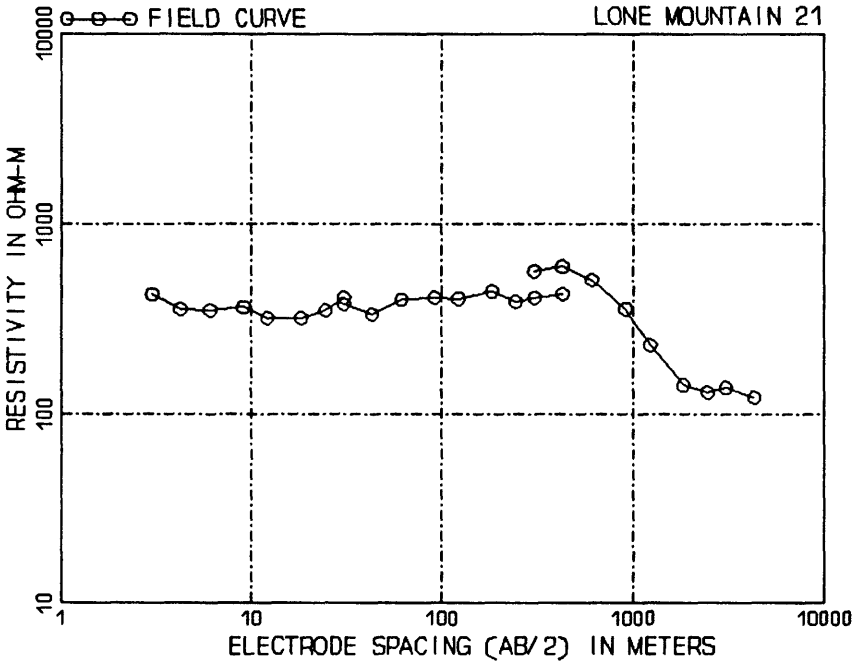
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.44	(4.71)	2271.94	30.94	(101.51)	625.53
2.11	(6.92)	1288.82	45.41	(149.00)	667.40
3.09	(10.15)	644.95	66.66	(218.70)	680.35
4.54	(14.90)	516.17	97.84	(321.01)	608.74
6.67	(21.87)	584.53	143.61	(471.17)	568.56
9.78	(32.10)	614.52	210.80	(691.59)	684.32
14.36	(47.12)	611.56	309.41	(1015.12)	890.99
21.08	(69.16)	612.42	454.15	(1489.99)	933.24
			99999.00	(99999.00)	746.75

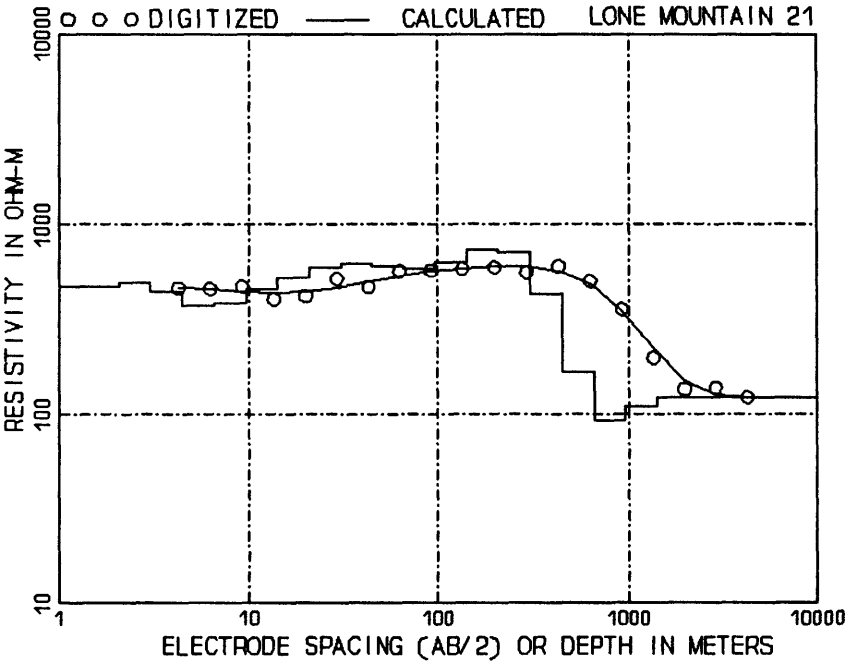




AB/2, m (ft)	App. Res.	AB/2, m (ft)	App. Res.
3.05 (10.00)	600.00	12.19 (40.00)	875.00
4.27 (14.00)	590.00	18.29 (60.00)	800.00
6.10 (20.00)	650.00	24.38 (80.00)	790.00
9.14 (30.00)	740.00	30.48 (100.00)	785.00

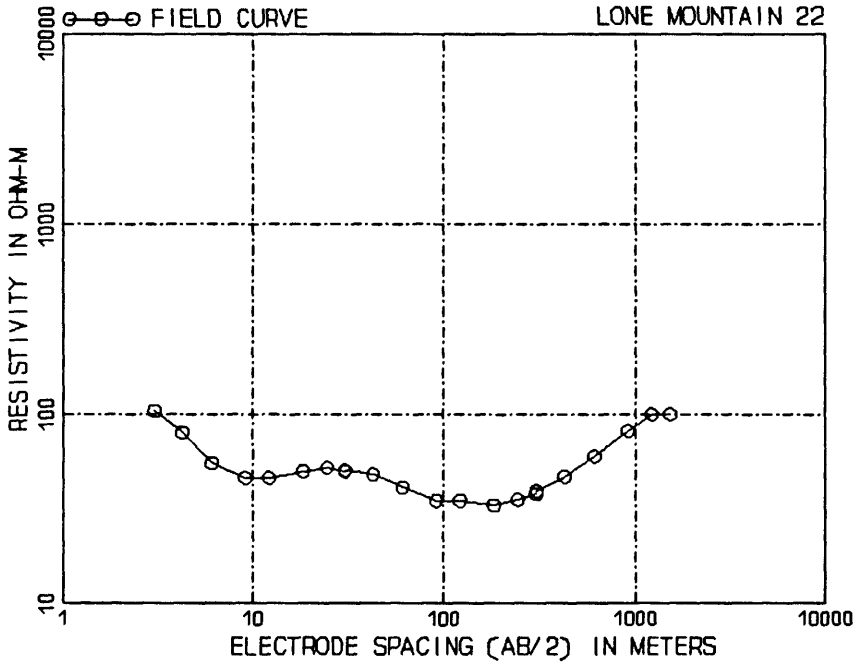
DEPTH, m (ft)	RESIS.	DEPTH, m (ft)	RESIS.
1.48 (4.86)	573.73	4.68 (15.37)	937.20
2.17 (7.13)	494.58	6.88 (22.56)	1123.89
3.19 (10.47)	632.27	10.09 (33.11)	980.94
		99999.00 (99999.00)	710.16

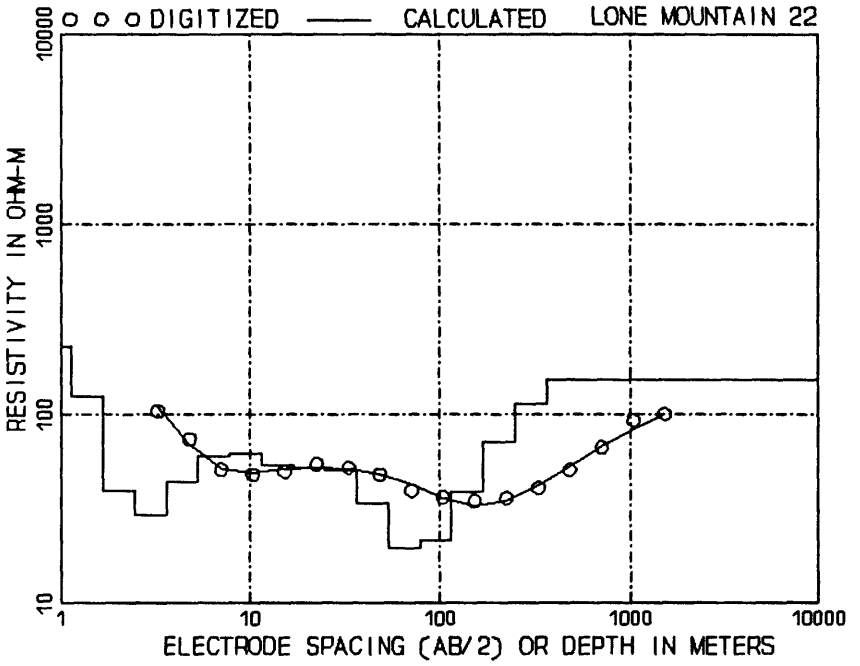




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	425.00	182.88	(600.00)	440.00
4.27	(14.00)	355.00	243.84	(800.00)	390.00
6.10	(20.00)	350.00	304.80	(1000.00)	410.00
9.14	(30.00)	365.00	426.72	(1400.00)	430.00
12.19	(40.00)	320.00	304.80	(1000.00)	565.00
18.29	(60.00)	320.00	426.72	(1400.00)	600.00
24.38	(80.00)	350.00	609.60	(2000.00)	510.00
30.48	(100.00)	410.00	914.40	(3000.00)	358.00
30.48	(100.00)	380.00	1219.20	(4000.00)	230.00
42.67	(140.00)	335.00	1828.80	(6000.00)	142.00
60.96	(200.00)	400.00	2438.40	(8000.00)	130.00
91.44	(300.00)	410.00	3048.00	(10000.00)	137.60
121.92	(400.00)	405.00	4267.20	(14000.00)	122.00

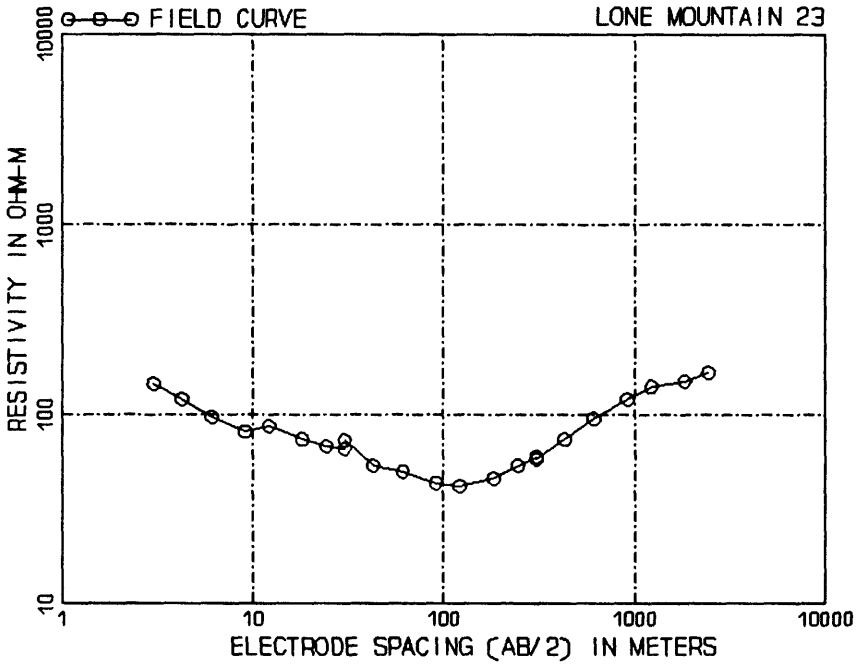
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.07	(6.80)	468.87	65.58	(215.16)	602.45
3.04	(9.99)	495.71	96.26	(315.81)	580.57
4.47	(14.66)	442.22	141.29	(463.55)	631.95
6.56	(21.52)	370.90	207.39	(680.40)	739.94
9.63	(31.58)	382.16	304.40	(998.69)	711.83
14.13	(46.36)	453.40	446.80	(1465.88)	428.90
20.74	(68.04)	524.62	655.81	(2151.61)	166.01
30.44	(99.87)	591.05	962.60	(3158.14)	92.24
44.68	(146.59)	623.57	1412.90	(4635.51)	109.67
			99999.00	(99999.00)	122.43

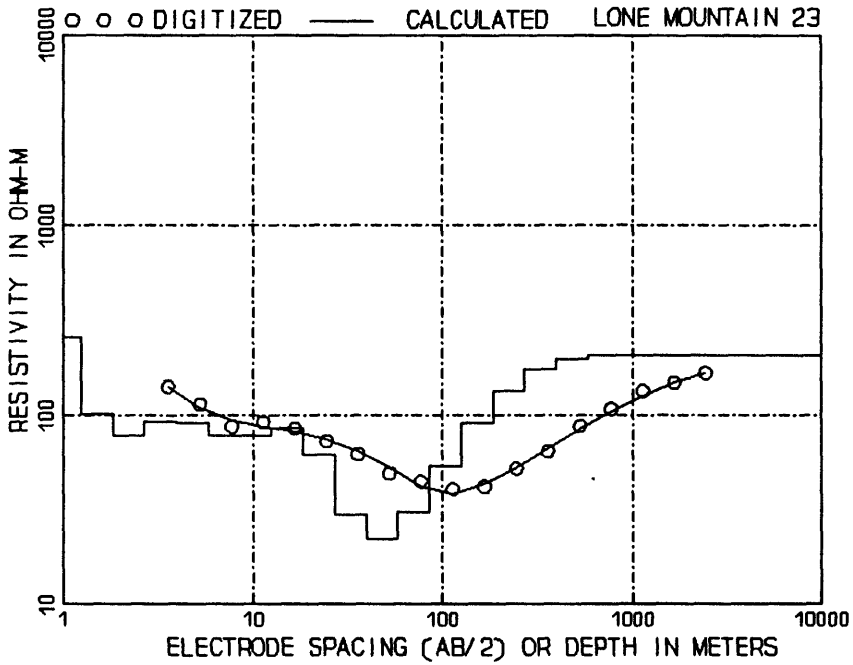




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	104.00	91.44	(300.00)	35.00
4.27	(14.00)	80.00	121.92	(400.00)	35.00
6.10	(20.00)	55.00	182.88	(600.00)	33.00
9.14	(30.00)	46.00	243.84	(800.00)	35.50
12.19	(40.00)	46.00	304.80	(1000.00)	38.00
18.29	(60.00)	50.00	304.80	(1000.00)	39.50
24.38	(80.00)	52.00	426.72	(1400.00)	47.00
30.48	(100.00)	50.00	609.60	(2000.00)	60.00
30.48	(100.00)	50.50	914.40	(3000.00)	82.00
42.67	(140.00)	48.00	1219.20	(4000.00)	100.00
60.96	(200.00)	41.00	1524.00	(5000.00)	100.00

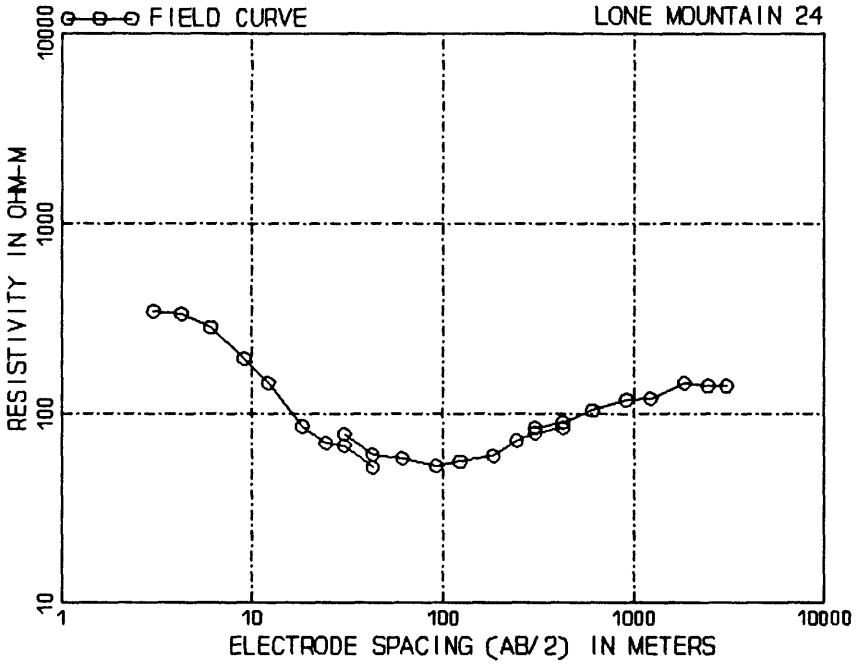
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.15	(3.77)	225.89	24.76	(81.23)	51.92
1.69	(5.53)	124.89	36.34	(119.23)	50.72
2.48	(8.12)	39.48	53.34	(175.00)	33.53
3.63	(11.92)	29.46	78.29	(256.86)	19.70
5.33	(17.50)	44.11	114.92	(377.03)	21.42
7.83	(25.69)	60.36	168.68	(553.40)	38.67
11.49	(37.70)	61.62	247.58	(812.28)	71.57
16.87	(55.34)	53.76	363.40	(1192.26)	112.61
			99999.00	(99999.00)	152.34

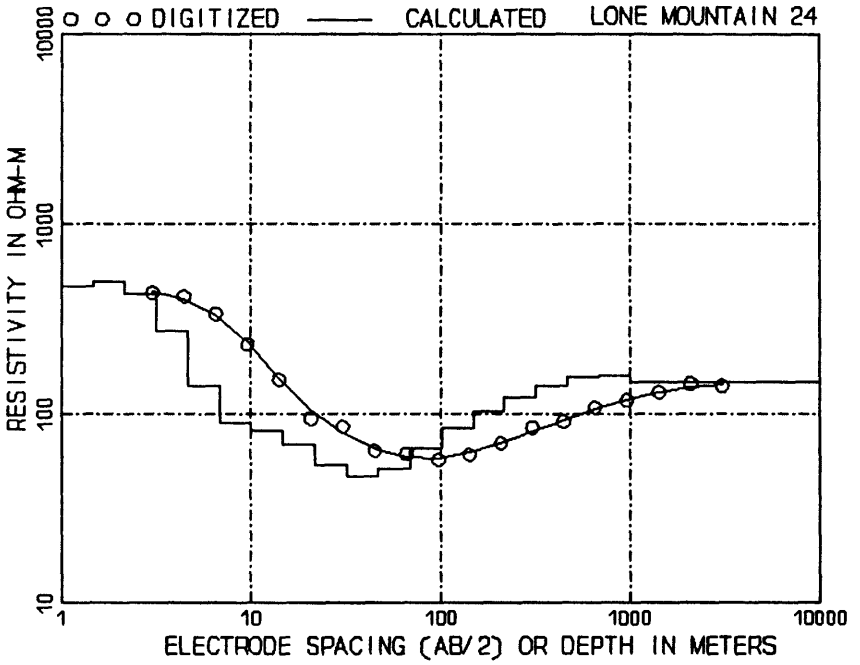




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	145.00	91.44	(300.00)	43.50
4.27	(14.00)	120.00	121.92	(400.00)	42.00
6.10	(20.00)	97.00	182.88	(600.00)	46.00
9.14	(30.00)	81.00	243.84	(800.00)	54.00
12.19	(40.00)	87.00	304.80	(1000.00)	60.00
18.29	(60.00)	74.00	304.80	(1000.00)	58.00
24.38	(80.00)	68.00	426.72	(1400.00)	74.00
30.48	(100.00)	66.00	609.60	(2000.00)	95.00
30.48	(100.00)	73.00	914.40	(3000.00)	120.00
42.67	(140.00)	54.00	1219.20	(4000.00)	140.00
60.96	(200.00)	50.00	1828.80	(6000.00)	150.00
			2438.40	(8000.00)	166.00

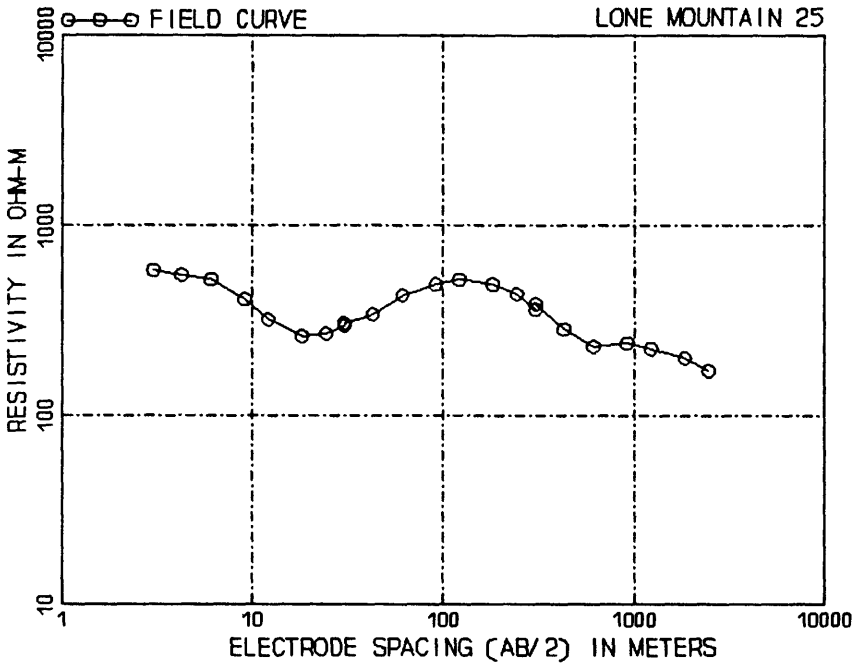
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.25	(4.11)	256.40	39.61	(129.96)	29.71
1.84	(6.03)	101.24	58.14	(190.76)	22.29
2.70	(8.85)	77.64	85.34	(280.00)	30.71
3.96	(13.00)	92.29	125.27	(410.98)	53.31
5.81	(19.08)	90.35	183.87	(603.24)	90.36
8.53	(28.00)	77.50	269.88	(885.44)	135.05
12.53	(41.10)	77.56	396.13	(1299.65)	173.64
18.39	(60.32)	85.81	581.44	(1907.62)	197.51
26.99	(88.54)	61.76	99999.00	(99999.00)	207.62

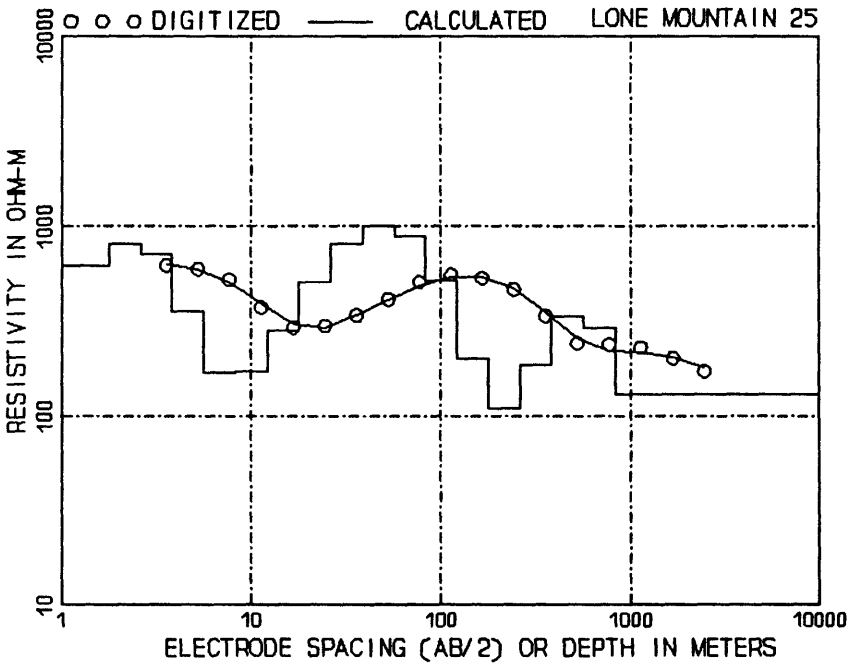




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	345.00	121.92	(400.00)	56.00
4.27	(14.00)	335.00	182.88	(600.00)	60.00
6.10	(20.00)	285.00	243.84	(800.00)	72.00
9.14	(30.00)	195.00	304.80	(1000.00)	79.00
12.19	(40.00)	145.00	426.72	(1400.00)	84.00
18.29	(60.00)	86.00	304.80	(1000.00)	84.00
24.38	(80.00)	70.00	426.72	(1400.00)	90.00
30.48	(100.00)	68.00	609.60	(2000.00)	104.00
42.67	(140.00)	52.00	914.40	(3000.00)	118.00
30.48	(100.00)	78.00	1219.20	(4000.00)	120.00
42.67	(140.00)	61.00	1828.80	(6000.00)	145.00
60.96	(200.00)	58.00	2438.40	(8000.00)	140.00
91.44	(300.00)	53.00	3048.00	(10000.00)	140.00

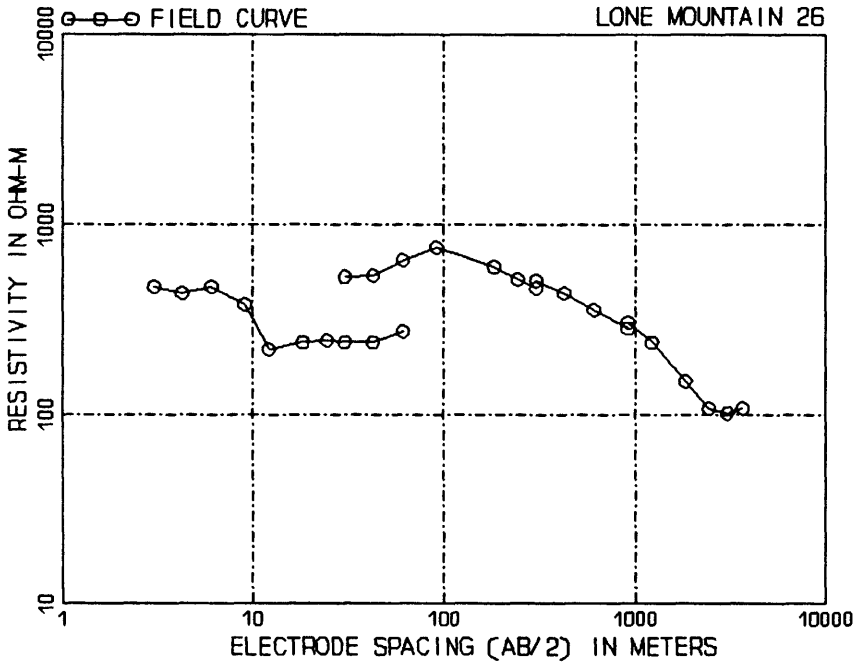
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	467.19	46.84	(153.69)	46.65
2.17	(7.13)	501.16	68.76	(225.58)	51.26
3.19	(10.47)	429.96	100.92	(331.11)	65.61
4.68	(15.37)	271.49	148.13	(486.00)	84.05
6.88	(22.56)	140.07	217.43	(713.35)	102.82
10.09	(33.11)	90.27	319.14	(1047.06)	121.60
14.81	(48.60)	81.27	468.44	(1536.87)	140.22
21.74	(71.34)	68.50	687.57	(2255.81)	155.91
31.91	(104.71)	53.56	1009.22	(3311.08)	159.72
			99999.00	(99999.00)	146.65

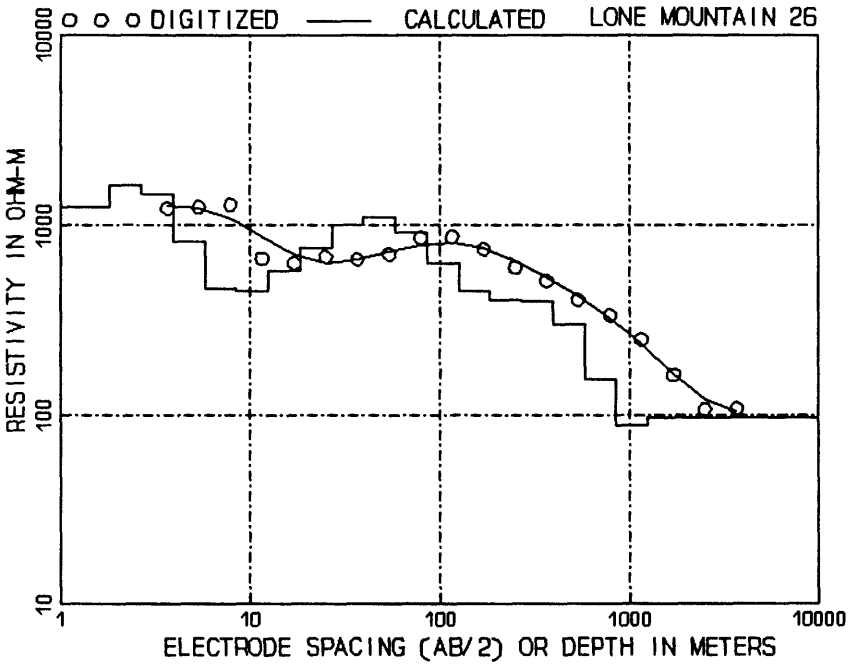




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	580.00	91.44	(300.00)	490.00
4.27	(14.00)	550.00	121.92	(400.00)	520.00
6.10	(20.00)	520.00	182.88	(600.00)	490.00
9.14	(30.00)	408.00	243.84	(800.00)	435.00
12.19	(40.00)	320.00	304.80	(1000.00)	360.00
18.29	(60.00)	262.00	304.80	(1000.00)	385.00
24.38	(80.00)	270.00	426.72	(1400.00)	285.00
30.48	(100.00)	295.00	609.60	(2000.00)	230.00
30.48	(100.00)	305.00	914.40	(3000.00)	240.00
42.67	(140.00)	340.00	1219.20	(4000.00)	225.00
60.96	(200.00)	430.00	1828.80	(6000.00)	200.00
			2438.40	(8000.00)	172.00

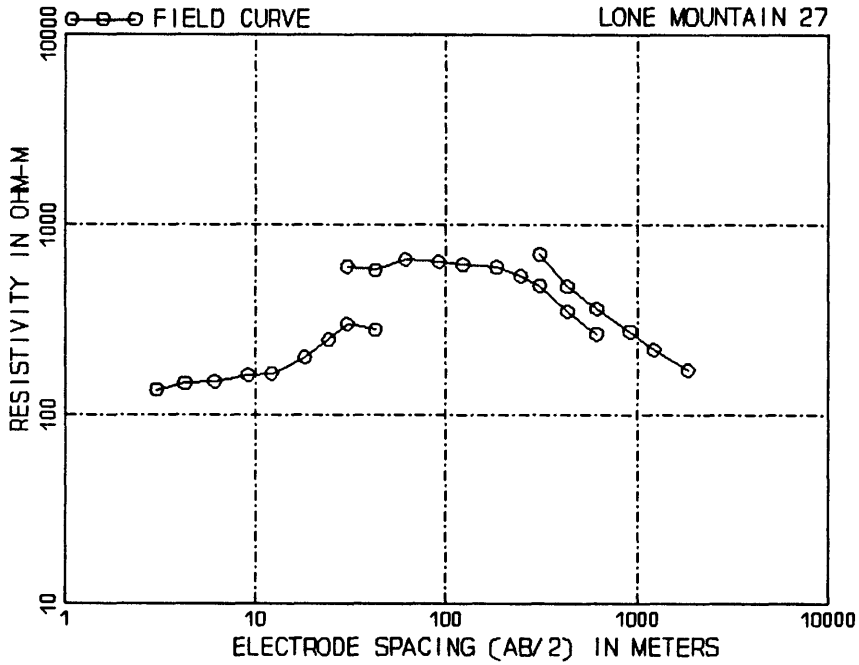
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.79	(5.87)	625.31	56.59	(185.66)	1006.14
2.63	(8.62)	809.27	83.06	(272.52)	893.25
3.86	(12.65)	710.26	121.92	(400.00)	514.43
5.66	(18.57)	354.93	178.95	(587.12)	200.73
8.31	(27.25)	169.33	262.67	(861.77)	109.72
12.19	(40.00)	170.70	385.55	(1264.91)	184.25
17.90	(58.71)	282.29	565.90	(1856.64)	336.57
26.27	(86.18)	504.92	830.63	(2725.17)	291.45
38.55	(126.49)	807.87	99999.00	(99999.00)	130.47

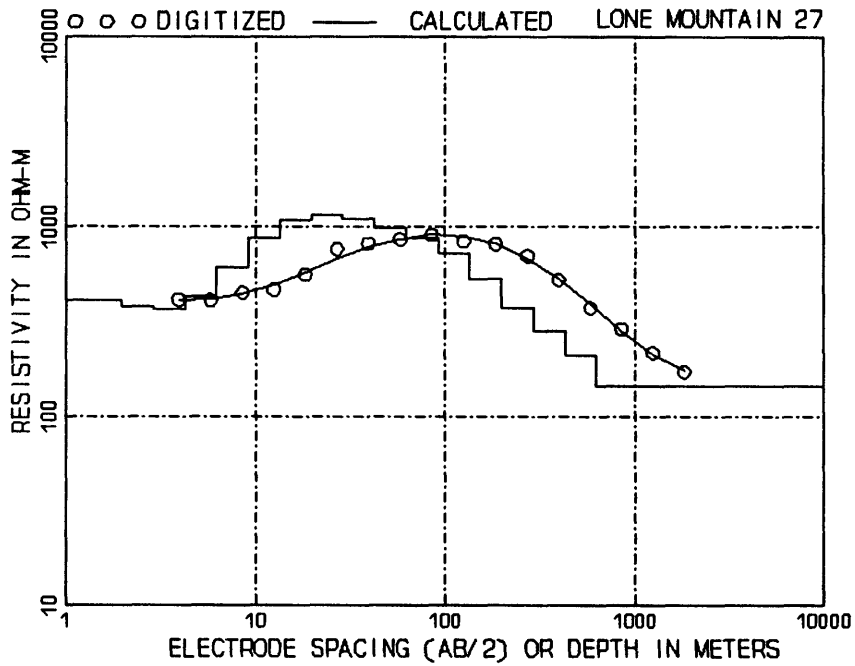




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	470.00	91.44	(300.00)	760.00
4.27	(14.00)	435.00	182.88	(600.00)	600.00
6.10	(20.00)	470.00	243.84	(800.00)	515.00
9.14	(30.00)	380.00	304.80	(1000.00)	465.00
12.19	(40.00)	220.00	304.80	(1000.00)	510.00
18.29	(60.00)	240.00	426.72	(1400.00)	435.00
24.38	(80.00)	245.00	609.60	(2000.00)	355.00
30.48	(100.00)	240.00	914.40	(3000.00)	285.00
42.67	(140.00)	240.00	914.40	(3000.00)	305.00
60.96	(200.00)	273.00	1219.20	(4000.00)	240.00
30.48	(100.00)	530.00	1828.80	(6000.00)	150.00
42.67	(140.00)	540.00	2438.40	(8000.00)	108.00
60.96	(200.00)	650.00	3048.00	(10000.00)	102.00
			3657.60	(12000.00)	108.00

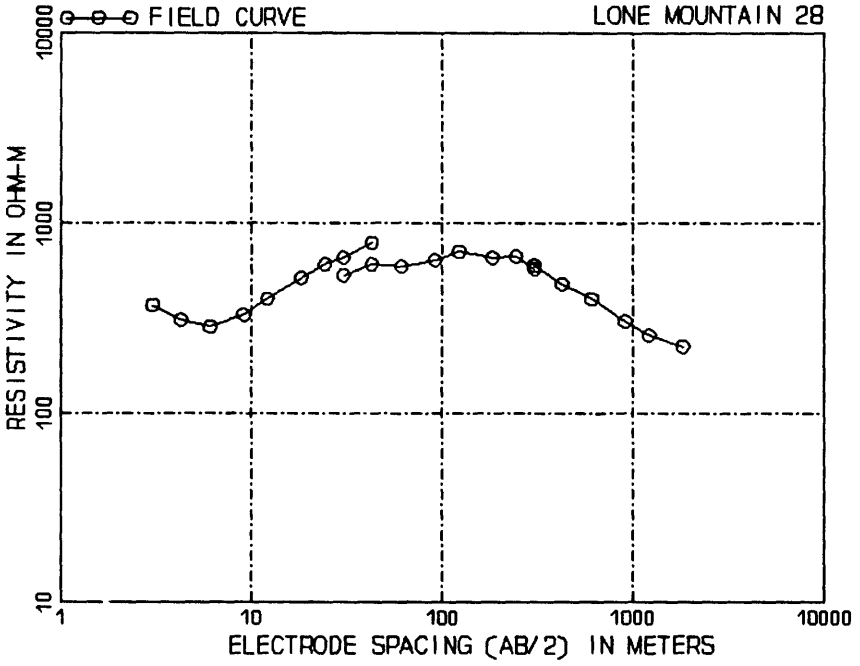
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.83	(6.00)	1250.34	57.83	(189.74)	1102.13
2.68	(8.81)	1619.80	84.89	(278.50)	916.30
3.94	(12.93)	1462.24	124.59	(408.78)	629.83
5.78	(18.97)	816.88	182.88	(600.00)	449.83
8.49	(27.85)	461.60	268.43	(880.68)	399.86
12.46	(40.88)	451.55	394.00	(1292.66)	394.01
18.29	(60.00)	572.56	578.32	(1897.37)	302.45
26.84	(88.07)	763.26	848.85	(2784.95)	153.75
39.40	(129.27)	1006.58	1245.95	(4087.75)	88.58
			99999.00	(99999.00)	96.62

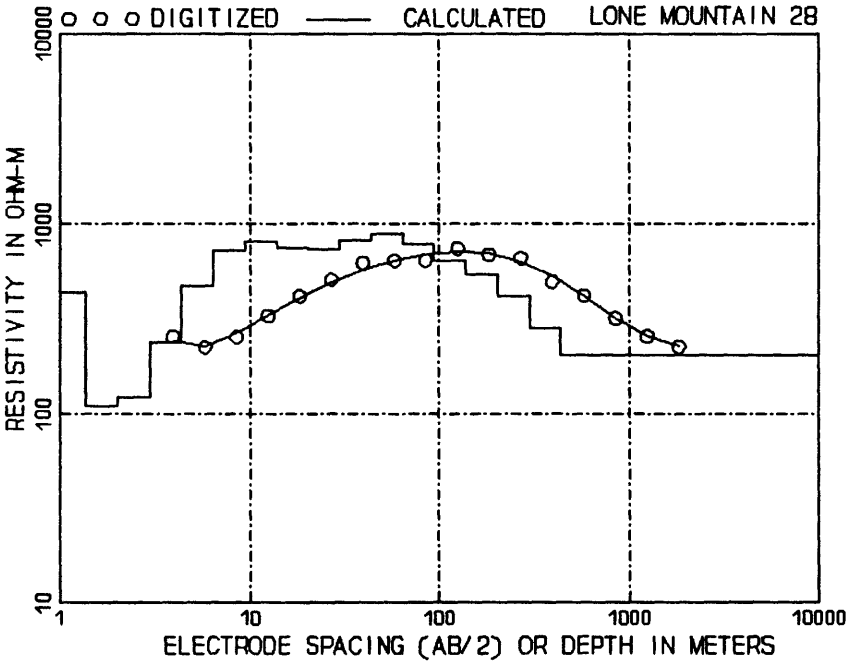




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	135.00	91.44	(300.00)	640.00
4.27	(14.00)	146.00	121.92	(400.00)	620.00
6.10	(20.00)	150.00	182.88	(600.00)	600.00
9.14	(30.00)	162.00	243.84	(800.00)	540.00
12.19	(40.00)	165.00	304.80	(1000.00)	480.00
18.29	(60.00)	200.00	426.72	(1400.00)	350.00
24.38	(80.00)	248.00	609.60	(2000.00)	267.00
30.48	(100.00)	300.00	304.80	(1000.00)	700.00
42.67	(140.00)	280.00	426.72	(1400.00)	475.00
30.48	(100.00)	605.00	609.60	(2000.00)	362.00
42.67	(140.00)	580.00	914.40	(3000.00)	275.00
60.96	(200.00)	660.00	1219.20	(4000.00)	220.00
			1828.80	(6000.00)	172.00

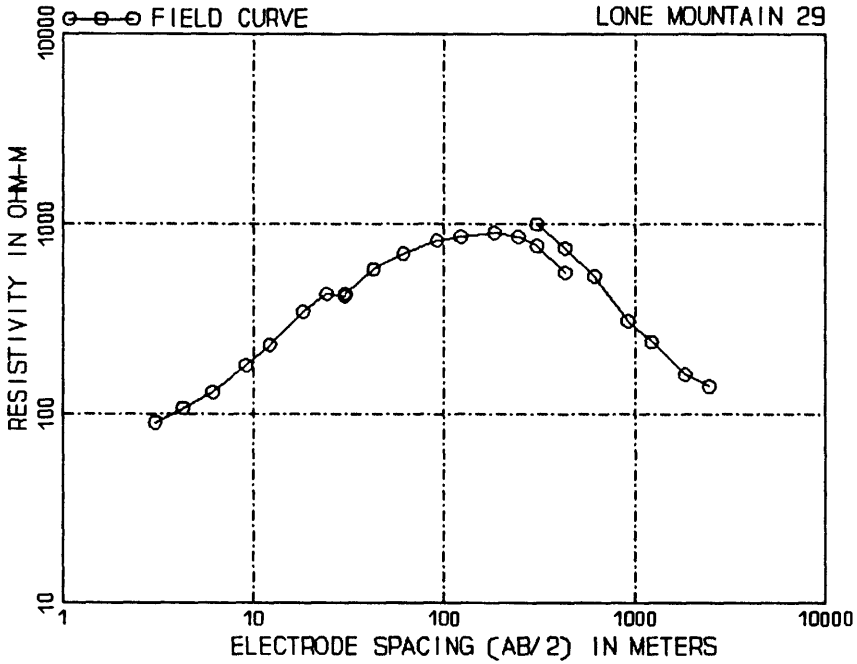
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.97	(6.46)	410.86	42.44	(139.25)	1102.81
2.89	(9.49)	375.91	62.30	(204.39)	988.78
4.24	(13.92)	368.23	91.44	(300.00)	874.02
6.23	(20.44)	430.22	134.22	(440.34)	726.34
9.14	(30.00)	607.91	197.00	(646.33)	530.41
13.42	(44.03)	869.78	289.16	(948.68)	371.13
19.70	(64.63)	1085.87	424.43	(1392.48)	281.69
28.92	(94.87)	1160.88	622.97	(2043.88)	208.83
			99999.00	(99999.00)	145.83

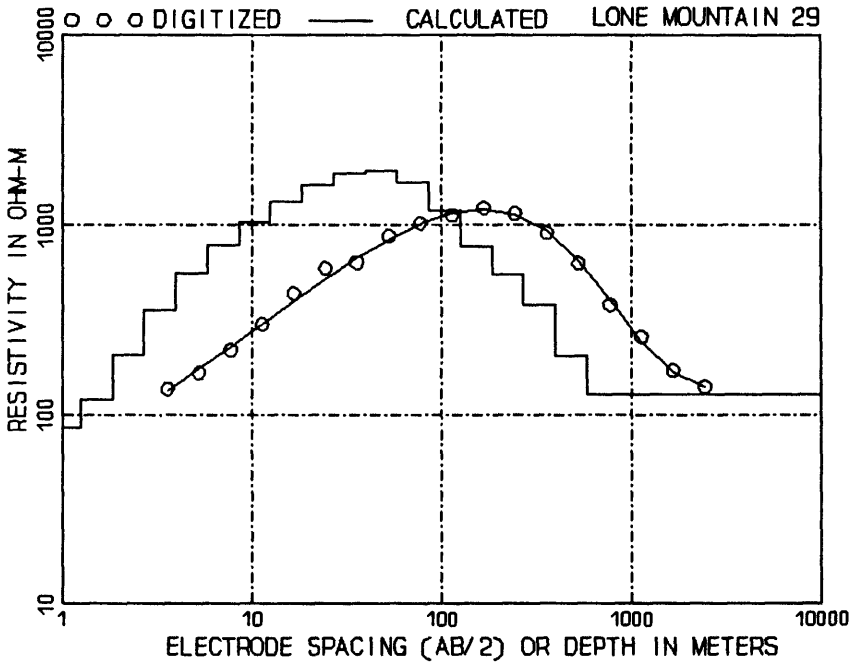




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	370.00	60.96	(200.00)	595.00
4.27	(14.00)	310.00	91.44	(300.00)	640.00
6.10	(20.00)	285.00	121.92	(400.00)	710.00
9.14	(30.00)	330.00	182.88	(600.00)	660.00
12.19	(40.00)	400.00	243.84	(800.00)	670.00
18.29	(60.00)	515.00	304.80	(1000.00)	575.00
24.38	(80.00)	610.00	304.80	(1000.00)	600.00
30.48	(100.00)	660.00	426.72	(1400.00)	480.00
42.67	(140.00)	790.00	609.60	(2000.00)	400.00
30.48	(100.00)	535.00	914.40	(3000.00)	305.00
42.67	(140.00)	610.00	1219.20	(4000.00)	258.00
			1828.80	(6000.00)	225.00

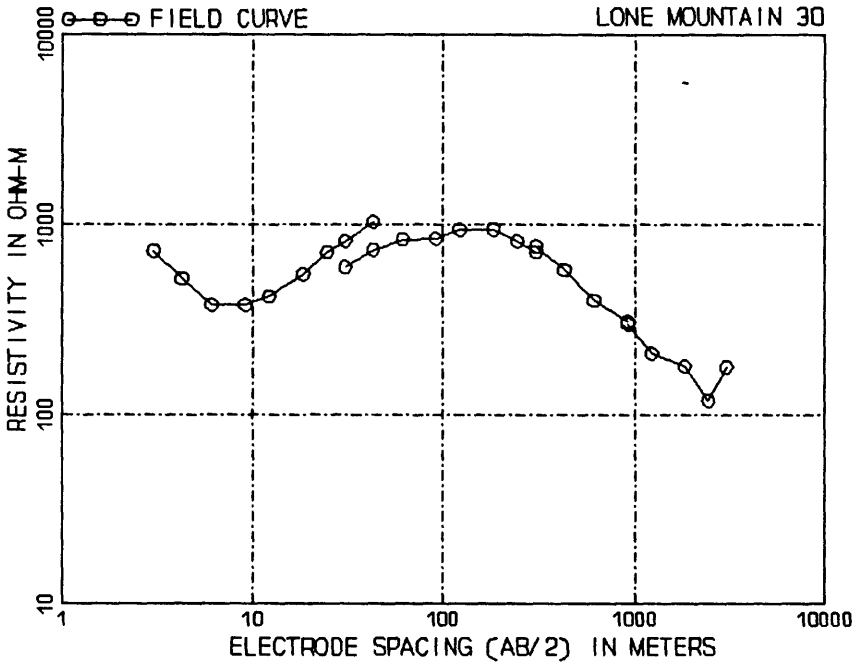
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.38	(4.52)	434.49	29.71	(97.47)	731.60
2.02	(6.64)	109.94	43.61	(143.07)	823.36
2.97	(9.75)	121.18	64.01	(210.00)	887.85
4.36	(14.31)	239.41	93.95	(308.24)	787.33
6.40	(21.00)	469.04	137.90	(452.43)	642.56
9.40	(30.82)	724.04	202.41	(664.08)	540.71
13.79	(45.24)	809.05	297.10	(974.73)	413.90
20.24	(66.41)	746.83	436.08	(1430.71)	279.84
			99999.00	(99999.00)	204.77

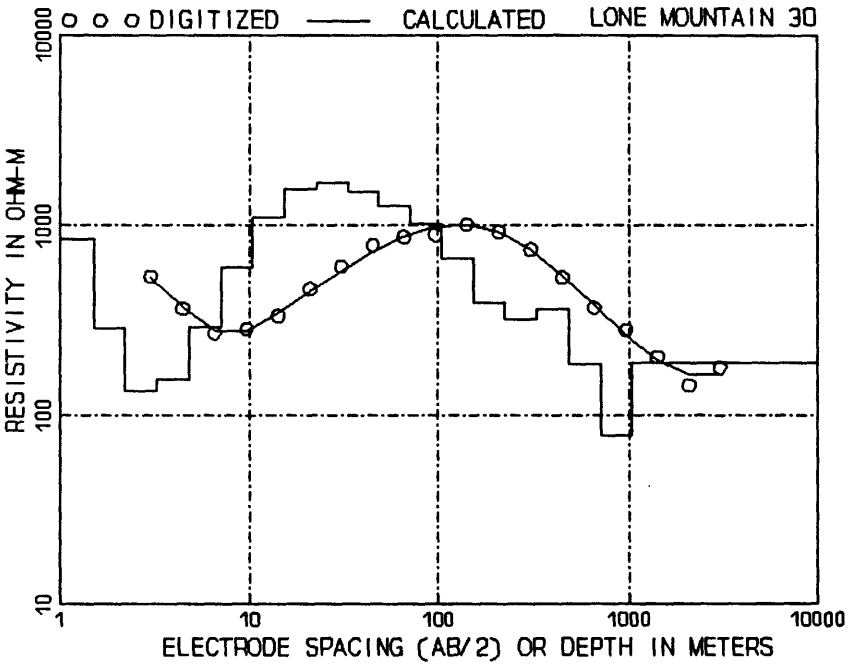




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	90.00	121.92	(400.00)	860.00
4.27	(14.00)	107.00	182.88	(600.00)	900.00
6.10	(20.00)	130.00	243.84	(800.00)	860.00
9.14	(30.00)	180.00	304.80	(1000.00)	770.00
12.19	(40.00)	230.00	426.72	(1400.00)	560.00
18.29	(60.00)	345.00	304.80	(1000.00)	1000.00
24.38	(80.00)	428.00	426.72	(1400.00)	750.00
30.48	(100.00)	415.00	609.60	(2000.00)	535.00
30.48	(100.00)	428.00	914.40	(3000.00)	310.00
42.67	(140.00)	580.00	1219.20	(4000.00)	240.00
60.96	(200.00)	700.00	1828.80	(6000.00)	162.00
91.44	(300.00)	820.00	2438.40	(8000.00)	140.00

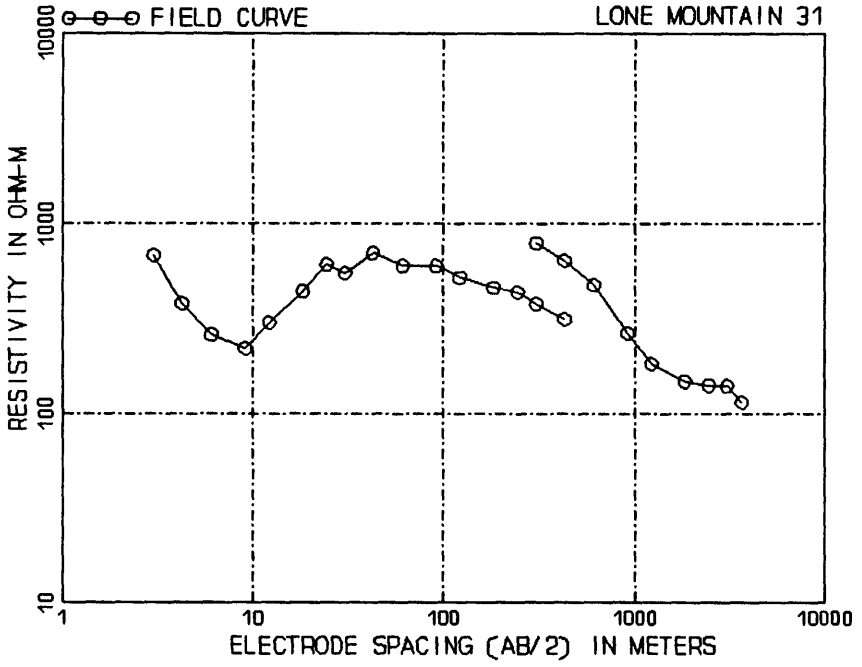
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.25	(4.11)	86.03	39.61	(129.96)	1866.04
1.84	(6.03)	120.90	58.14	(190.76)	1932.19
2.70	(8.85)	206.68	85.34	(280.00)	1680.84
3.96	(13.00)	357.43	125.27	(410.98)	1195.64
5.81	(19.08)	558.69	183.87	(603.24)	772.30
8.53	(28.00)	787.42	269.88	(885.44)	548.99
12.53	(41.10)	1043.20	396.13	(1299.65)	380.43
18.39	(60.32)	1327.41	581.44	(1907.62)	204.30
26.99	(88.54)	1620.39	99999.00	(99999.00)	127.29

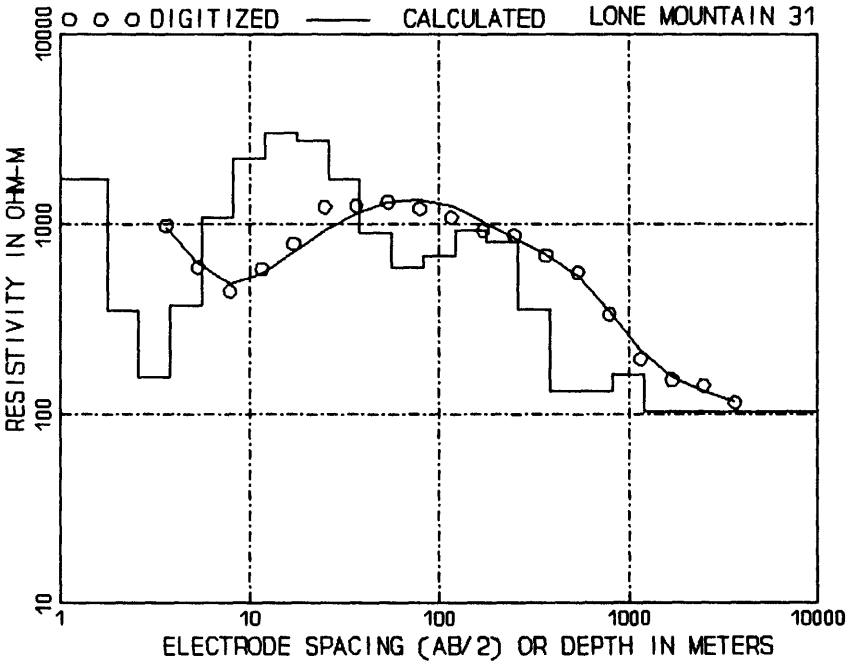




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	730.00	121.92	(400.00)	945.00
4.27	(14.00)	520.00	182.88	(600.00)	950.00
6.10	(20.00)	380.00	243.84	(800.00)	820.00
9.14	(30.00)	380.00	304.80	(1000.00)	720.00
12.19	(40.00)	420.00	304.80	(1000.00)	770.00
18.29	(60.00)	550.00	426.72	(1400.00)	580.00
24.38	(80.00)	720.00	609.60	(2000.00)	400.00
30.48	(100.00)	825.00	914.40	(3000.00)	310.00
42.67	(140.00)	1040.00	914.40	(3000.00)	300.00
30.48	(100.00)	600.00	1219.20	(4000.00)	210.00
42.67	(140.00)	740.00	1828.80	(6000.00)	180.00
60.96	(200.00)	840.00	2438.40	(8000.00)	119.00
91.44	(300.00)	850.00	3048.00	(10000.00)	178.00

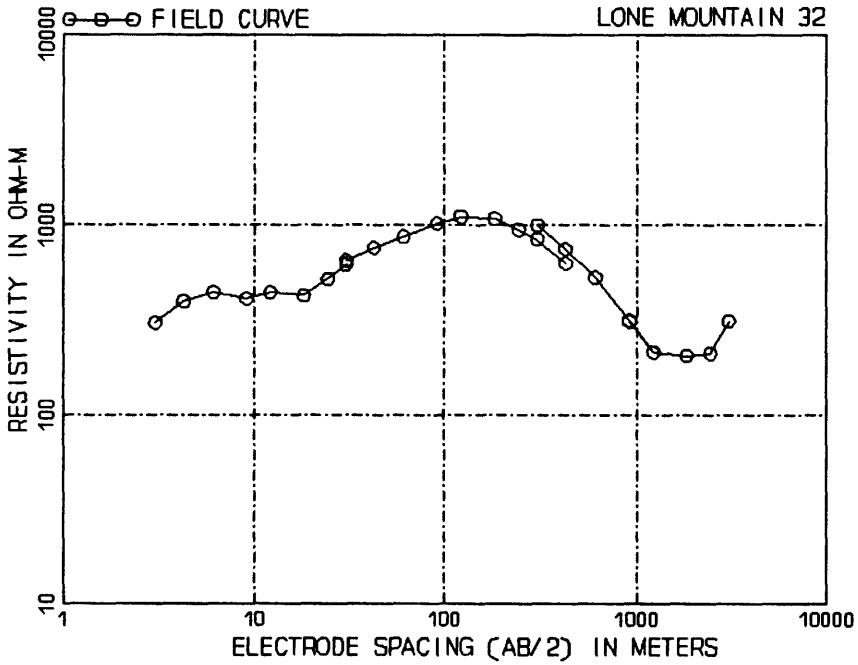
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.52	(5.00)	842.21	48.19	(158.11)	1497.13
2.24	(7.34)	284.74	70.74	(232.08)	1273.81
3.28	(10.77)	133.79	103.83	(340.65)	1013.94
4.82	(15.81)	154.99	152.40	(500.00)	668.40
7.07	(23.21)	289.36	223.69	(733.90)	387.66
10.38	(34.06)	599.68	328.34	(1077.22)	318.93
15.24	(50.00)	1096.80	481.93	(1581.14)	363.62
22.37	(73.39)	1549.74	707.38	(2320.79)	184.24
32.83	(107.72)	1663.37	1038.29	(3406.46)	77.41
			99999.00	(99999.00)	186.94

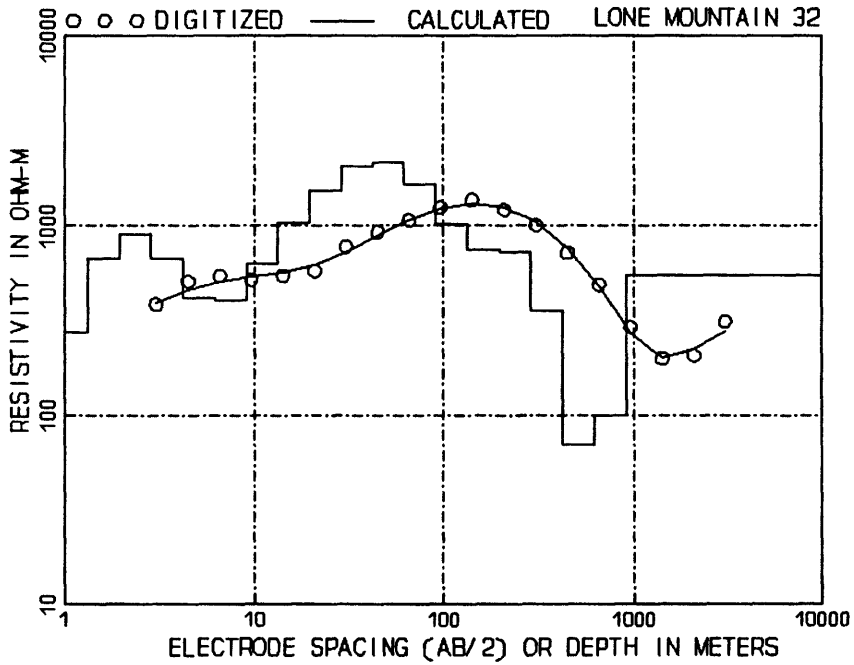




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	680.00	182.88	(600.00)	460.00
4.27	(14.00)	380.00	243.84	(800.00)	436.00
6.10	(20.00)	260.00	304.80	(1000.00)	377.00
9.14	(30.00)	220.00	426.72	(1400.00)	315.00
12.19	(40.00)	300.00	304.80	(1000.00)	790.00
18.29	(60.00)	440.00	426.72	(1400.00)	640.00
24.38	(80.00)	610.00	609.60	(2000.00)	475.00
30.48	(100.00)	550.00	914.40	(3000.00)	265.00
30.48	(100.00)	550.00	1219.20	(4000.00)	183.00
42.67	(140.00)	700.00	1828.80	(6000.00)	148.00
60.96	(200.00)	600.00	2438.40	(8000.00)	141.00
91.44	(300.00)	600.00	3048.00	(10000.00)	140.00
121.92	(400.00)	520.00	3657.60	(12000.00)	115.00

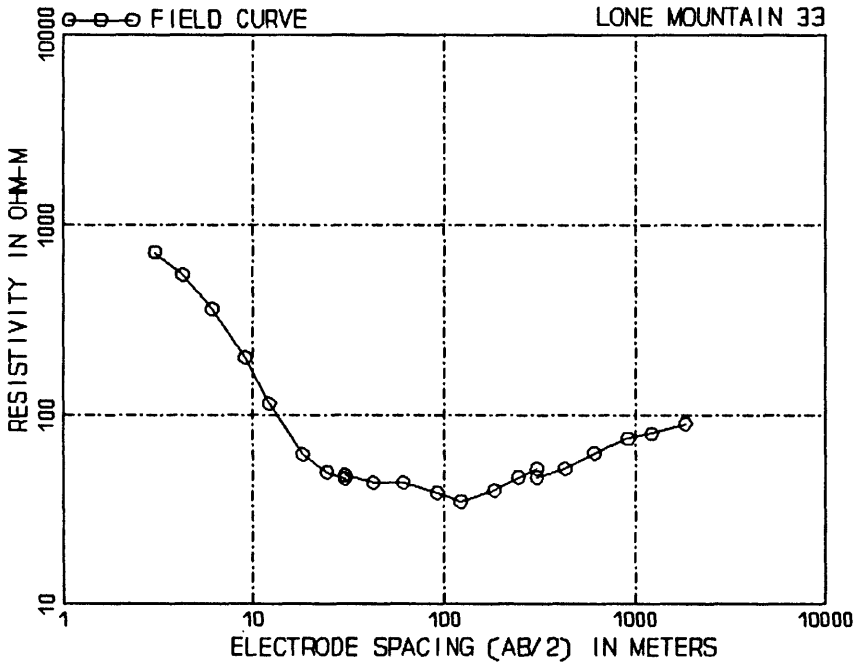
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.78	(5.83)	1722.85	56.21	(184.42)	895.13
2.61	(8.56)	350.87	82.51	(270.70)	592.69
3.83	(12.56)	157.20	121.11	(397.33)	686.92
5.62	(18.44)	371.28	177.76	(583.20)	932.57
8.25	(27.07)	1092.19	260.92	(856.02)	810.32
12.11	(39.73)	2229.44	382.97	(1256.47)	353.91
17.78	(58.32)	3036.73	562.12	(1844.24)	132.17
26.09	(85.60)	2757.70	825.09	(2706.98)	131.76
38.30	(125.65)	1725.40	1211.06	(3973.30)	162.40
			99999.00	(99999.00)	102.14

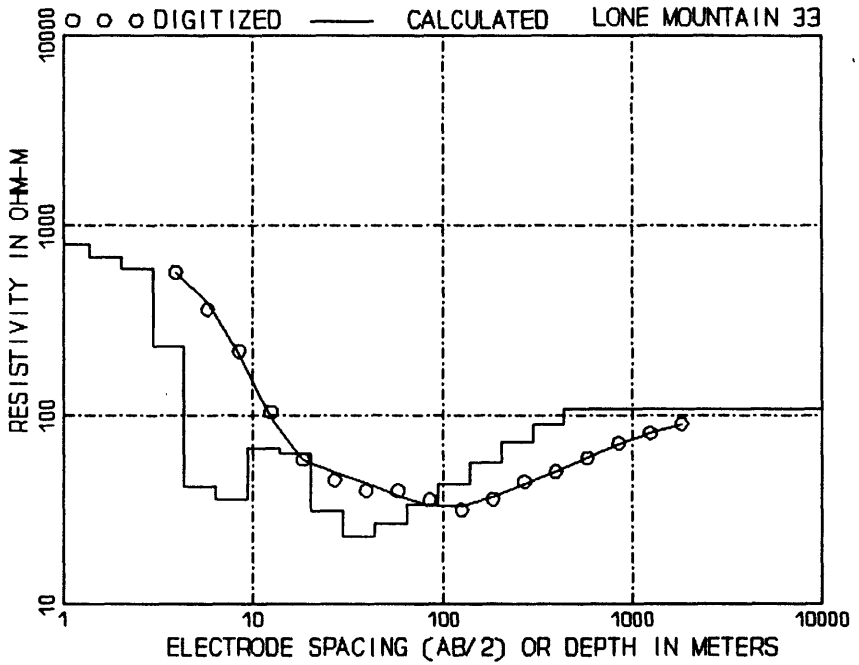




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	305.00	182.88	(600.00)	1080.00
4.27	(14.00)	395.00	243.84	(800.00)	950.00
6.10	(20.00)	440.00	304.80	(1000.00)	840.00
9.14	(30.00)	410.00	426.72	(1400.00)	630.00
12.19	(40.00)	440.00	304.80	(1000.00)	1000.00
18.29	(60.00)	425.00	426.72	(1400.00)	750.00
24.38	(80.00)	520.00	609.60	(2000.00)	530.00
30.48	(100.00)	620.00	914.40	(3000.00)	315.00
30.48	(100.00)	650.00	1219.20	(4000.00)	214.00
42.67	(140.00)	760.00	914.40	(3000.00)	310.00
60.96	(200.00)	870.00	1219.20	(4000.00)	215.00
91.44	(300.00)	1020.00	1828.80	(6000.00)	205.00
121.92	(400.00)	1110.00	2438.40	(8000.00)	211.00
			3048.00	(10000.00)	312.00

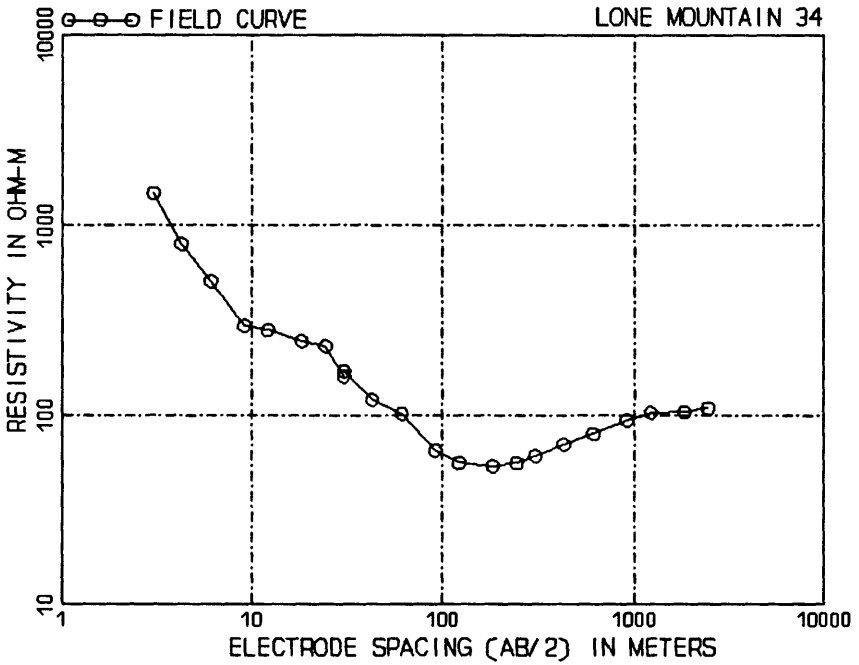
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.33	(4.37)	274.54	42.16	(138.32)	2041.25
1.96	(6.42)	676.35	61.88	(203.02)	2149.16
2.87	(9.42)	898.27	90.83	(298.00)	1643.97
4.22	(13.83)	675.72	133.32	(437.40)	1028.74
6.19	(20.30)	418.39	195.69	(642.02)	750.78
9.08	(29.80)	399.66	287.23	(942.35)	723.77
13.33	(43.74)	630.78	421.59	(1383.18)	352.91
19.57	(64.20)	1038.24	618.81	(2030.23)	69.49
28.72	(94.23)	1538.84	908.30	(2979.97)	100.22
			99999.00	(99999.00)	545.51

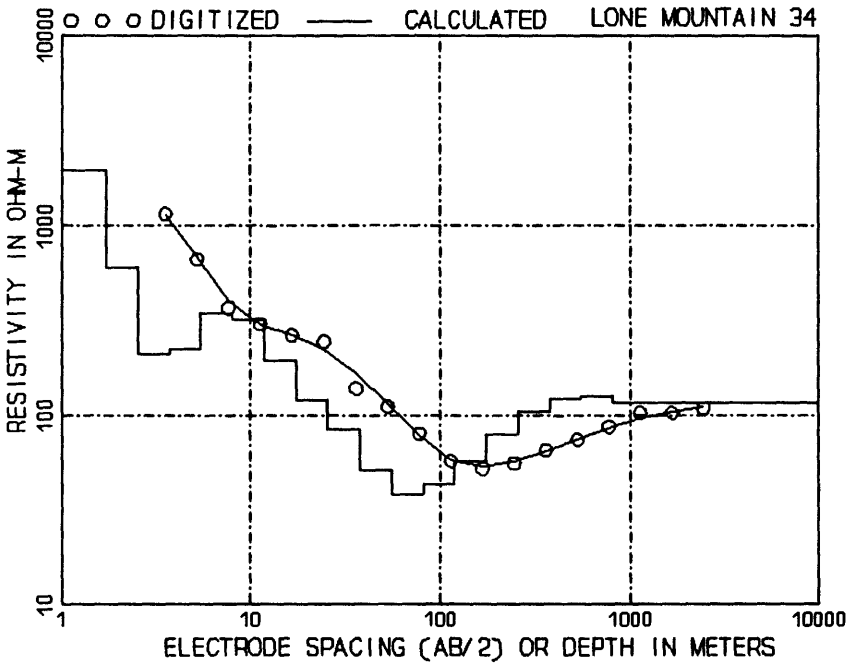




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	720.00	91.44	(300.00)	39.00
4.27	(14.00)	550.00	121.92	(400.00)	35.00
6.10	(20.00)	360.00	182.88	(600.00)	40.00
9.14	(30.00)	200.00	243.84	(800.00)	47.00
12.19	(40.00)	115.00	304.80	(1000.00)	52.00
18.29	(60.00)	62.00	304.80	(1000.00)	47.00
24.38	(80.00)	50.00	426.72	(1400.00)	52.00
30.48	(100.00)	46.00	609.60	(2000.00)	63.00
30.48	(100.00)	48.00	914.40	(3000.00)	75.00
42.67	(140.00)	44.00	1219.20	(4000.00)	80.00
60.96	(200.00)	44.00	1828.80	(6000.00)	90.00

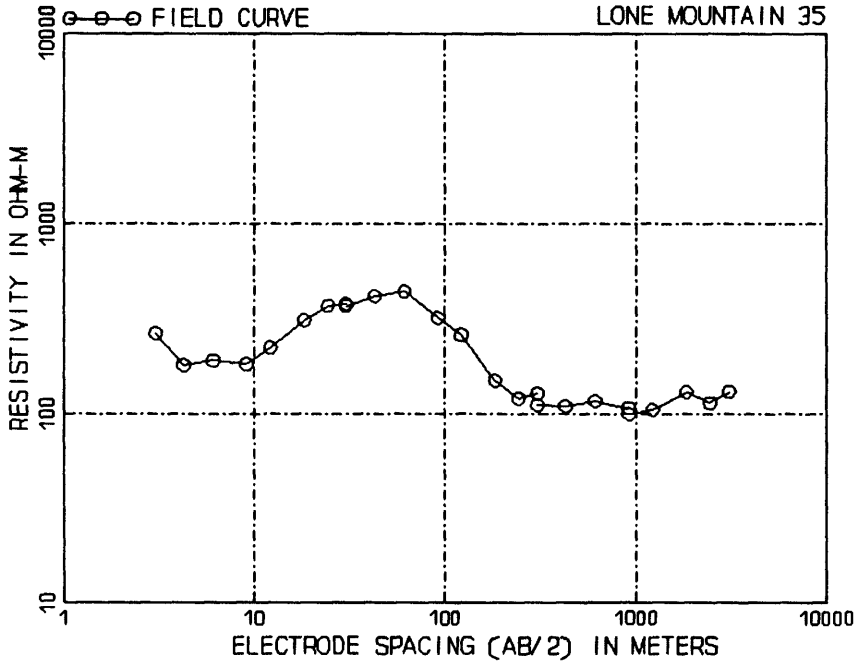
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.38	(4.52)	795.43	29.71	(97.47)	31.38
2.02	(6.64)	678.15	43.61	(143.07)	22.79
2.97	(9.75)	594.46	64.01	(210.00)	26.77
4.36	(14.31)	228.72	93.95	(308.24)	33.69
6.40	(21.00)	42.07	137.90	(452.43)	42.98
9.40	(30.82)	35.63	202.41	(664.08)	55.93
13.79	(45.24)	66.22	297.10	(974.73)	71.92
20.24	(66.41)	62.38	436.08	(1430.71)	89.99
			99999.00	(99999.00)	108.73

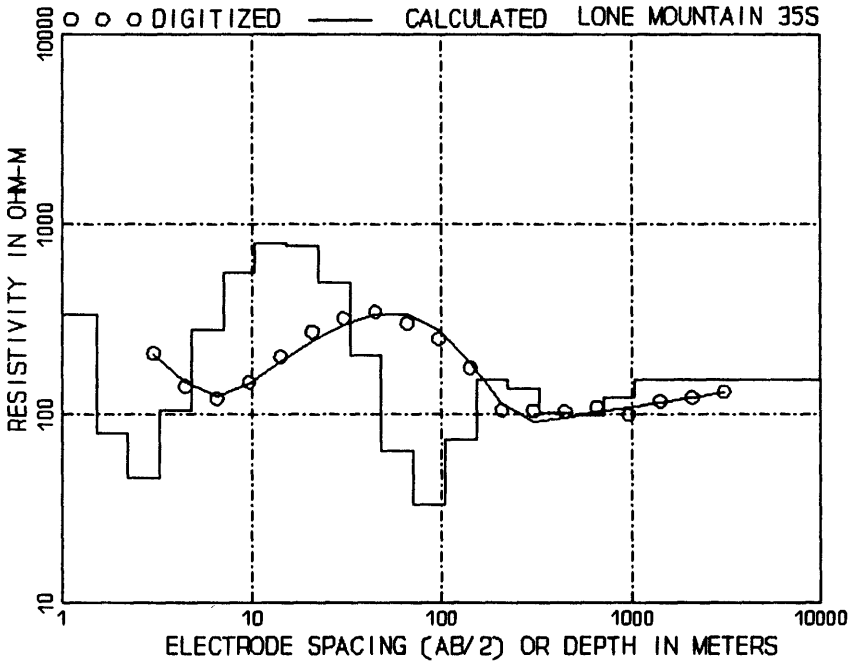




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1470.00	91.44	(300.00)	65.00
4.27	(14.00)	800.00	121.92	(400.00)	56.00
6.10	(20.00)	510.00	182.88	(600.00)	54.00
9.14	(30.00)	295.00	243.84	(800.00)	56.00
12.19	(40.00)	280.00	304.80	(1000.00)	61.00
18.29	(60.00)	245.00	304.80	(1000.00)	61.00
24.38	(80.00)	230.00	426.72	(1400.00)	70.00
30.48	(100.00)	160.00	609.60	(2000.00)	80.00
30.48	(100.00)	170.00	914.40	(3000.00)	94.00
42.67	(140.00)	120.00	1219.20	(4000.00)	103.00
60.96	(200.00)	102.00	1828.80	(6000.00)	104.00
			2438.40	(8000.00)	109.00

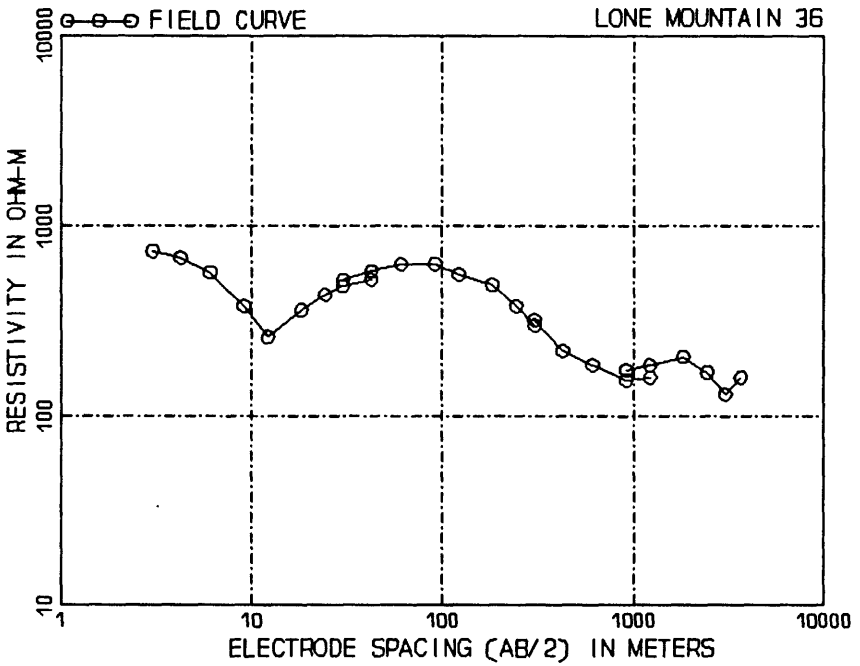
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	1963.72	55.01	(180.46)	51.04
2.55	(8.38)	604.87	80.74	(264.89)	38.11
3.75	(12.29)	211.73	118.51	(388.80)	43.22
5.50	(18.05)	224.30	173.94	(570.68)	57.41
8.07	(26.49)	342.51	255.31	(837.64)	78.58
11.85	(38.88)	321.38	374.75	(1229.49)	104.33
17.39	(57.07)	194.20	550.06	(1804.65)	122.99
25.53	(83.76)	119.78	807.37	(2648.86)	125.24
37.47	(122.95)	84.00	99999.00	(99999.00)	116.86

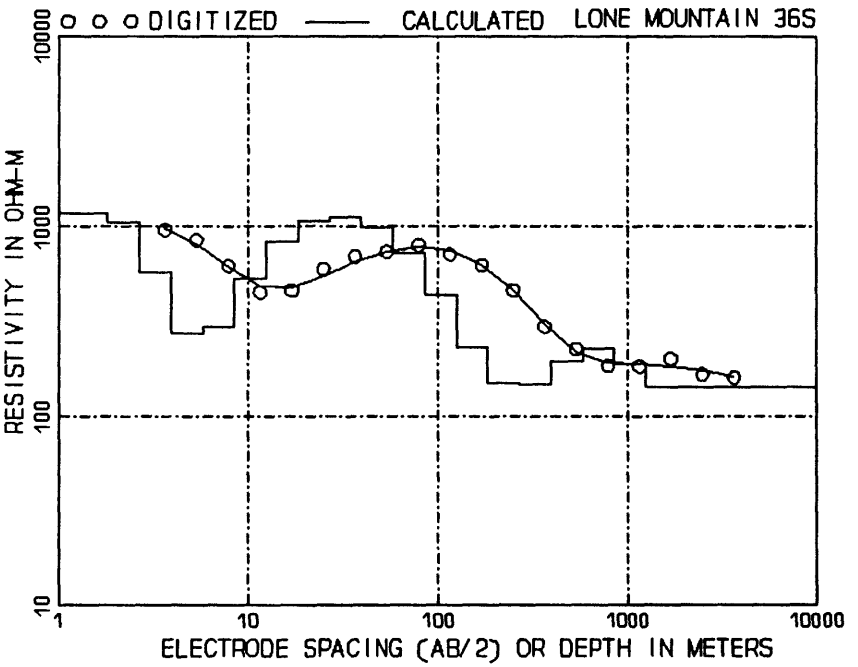




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	265.00	121.92	(400.00)	260.00
4.27	(14.00)	180.00	182.88	(600.00)	150.00
6.10	(20.00)	190.00	243.84	(800.00)	120.00
9.14	(30.00)	182.00	304.80	(1000.00)	128.00
12.19	(40.00)	223.00	304.80	(1000.00)	111.00
18.29	(60.00)	310.00	426.72	(1400.00)	110.00
24.38	(80.00)	370.00	609.60	(2000.00)	117.00
30.48	(100.00)	380.00	914.40	(3000.00)	107.00
30.48	(100.00)	370.00	914.40	(3000.00)	100.00
42.67	(140.00)	415.00	1219.20	(4000.00)	105.00
60.96	(200.00)	440.00	1828.80	(6000.00)	130.00
91.44	(300.00)	320.00	2438.40	(8000.00)	114.00
			3048.00	(10000.00)	131.00

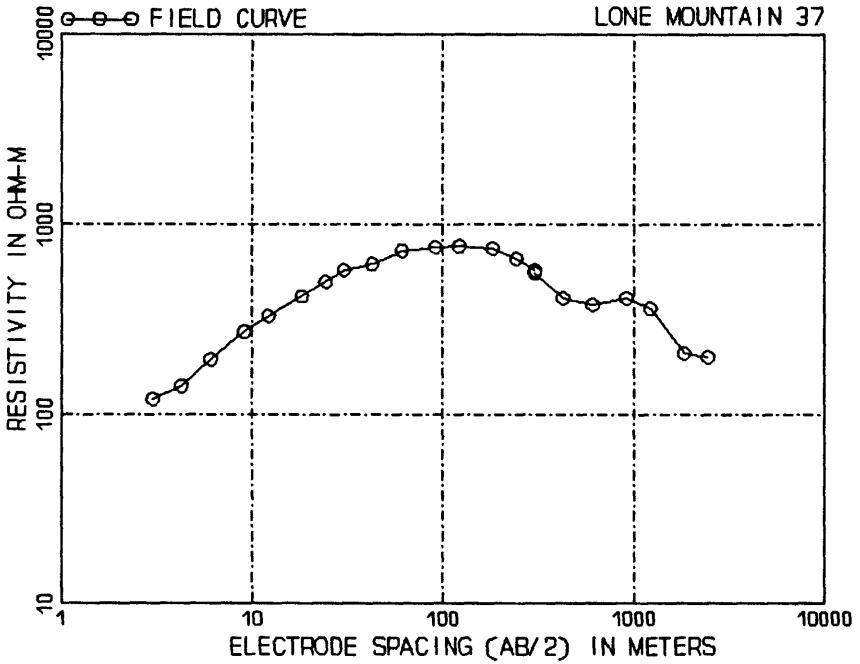
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.52	(5.00)	336.79	48.19	(158.11)	203.29
2.24	(7.34)	78.85	70.74	(232.08)	63.52
3.28	(10.77)	46.23	103.83	(340.65)	33.26
4.82	(15.81)	105.49	152.40	(500.00)	73.59
7.07	(23.21)	279.50	223.69	(733.90)	150.67
10.38	(34.06)	556.17	328.34	(1077.22)	136.54
15.24	(50.00)	793.07	481.93	(1581.14)	100.59
22.37	(73.39)	771.59	707.38	(2320.80)	98.44
32.83	(107.72)	490.73	1038.29	(3406.46)	122.71
			99999.00	(99999.00)	151.62

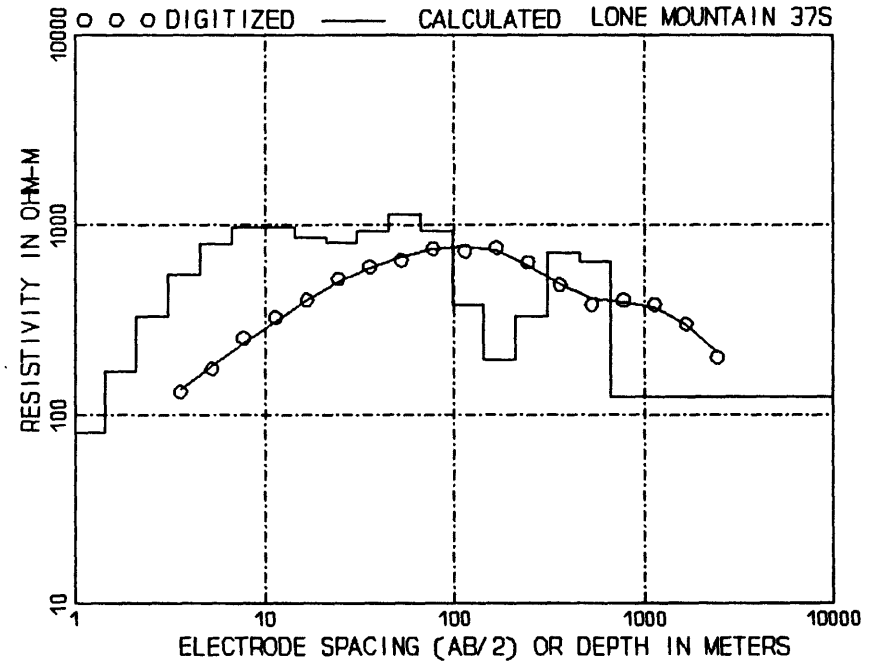




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	740.00	182.88	(600.00)	490.00
4.27	(14.00)	680.00	243.84	(800.00)	380.00
6.10	(20.00)	570.00	304.80	(1000.00)	300.00
9.14	(30.00)	380.00	304.80	(1000.00)	320.00
12.19	(40.00)	260.00	426.72	(1400.00)	220.00
18.29	(60.00)	360.00	609.60	(2000.00)	186.00
24.38	(80.00)	435.00	914.40	(3000.00)	155.00
30.48	(100.00)	482.00	1219.20	(4000.00)	160.00
42.67	(140.00)	525.00	914.40	(3000.00)	175.00
30.48	(100.00)	520.00	1219.20	(4000.00)	185.00
42.67	(140.00)	580.00	1828.80	(6000.00)	205.00
60.96	(200.00)	630.00	2438.40	(8000.00)	170.00
91.44	(300.00)	635.00	3048.00	(10000.00)	130.00
121.92	(400.00)	560.00	3657.60	(12000.00)	160.00

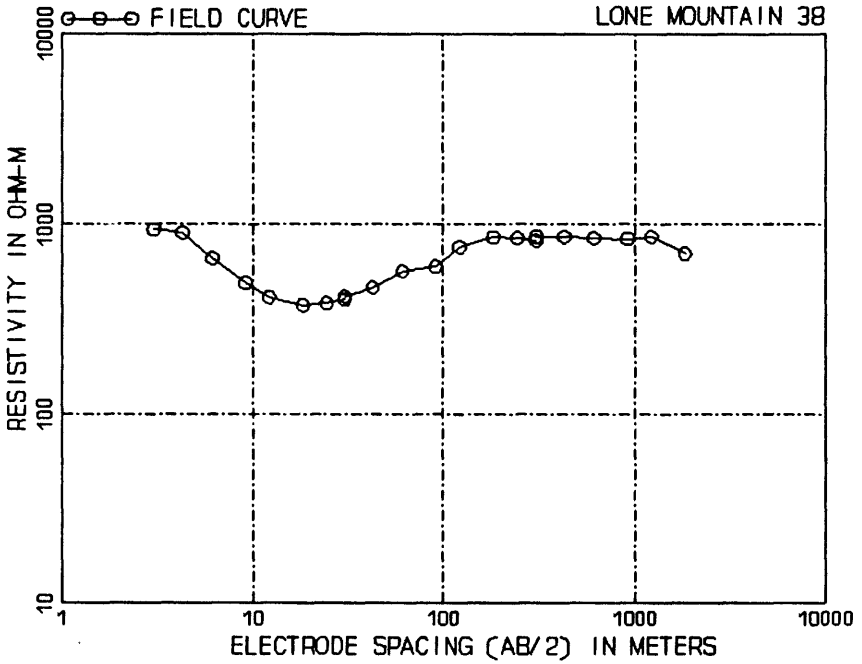
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.83	(6.00)	1173.00	57.83	(189.74)	991.86
2.68	(8.81)	1052.22	84.89	(278.50)	724.46
3.94	(12.93)	575.88	124.59	(408.78)	432.85
5.78	(18.97)	273.03	182.88	(600.00)	232.05
8.49	(27.85)	293.00	268.43	(880.68)	150.01
12.46	(40.88)	532.29	394.00	(1292.66)	147.75
18.29	(60.00)	840.48	578.32	(1897.37)	195.90
26.84	(88.07)	1068.49	848.85	(2784.95)	225.27
39.40	(129.27)	1127.20	1245.95	(4087.75)	189.16
			99999.00	(99999.00)	142.19

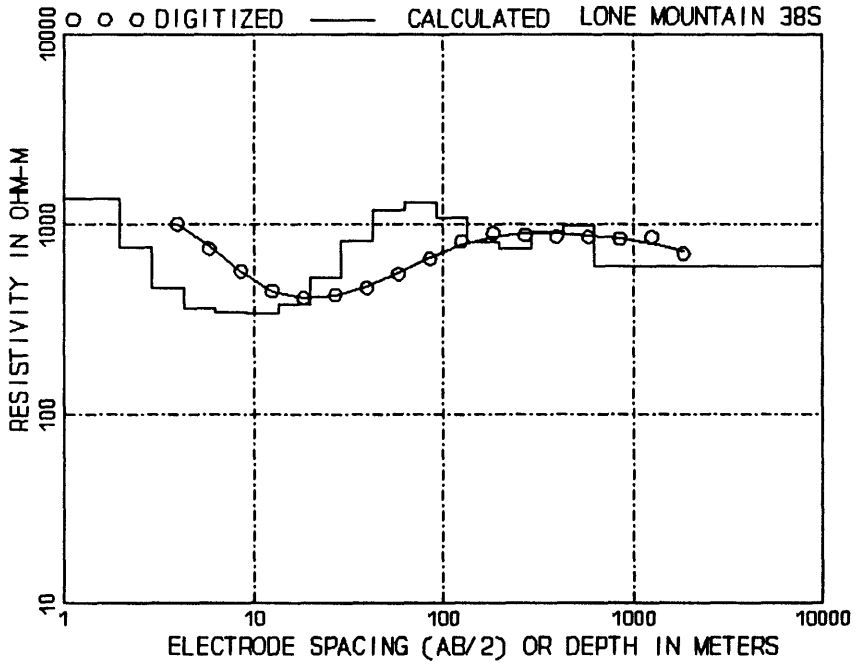




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	120.00	91.44	(300.00)	760.00
4.27	(14.00)	141.00	121.92	(400.00)	770.00
6.10	(20.00)	195.00	182.88	(600.00)	750.00
9.14	(30.00)	272.00	243.84	(800.00)	660.00
12.19	(40.00)	330.00	304.80	(1000.00)	575.00
18.29	(60.00)	420.00	304.80	(1000.00)	555.00
24.38	(80.00)	500.00	426.72	(1400.00)	410.00
30.48	(100.00)	575.00	609.60	(2000.00)	380.00
30.48	(100.00)	575.00	914.40	(3000.00)	410.00
42.67	(140.00)	620.00	1219.20	(4000.00)	360.00
60.96	(200.00)	730.00	1828.80	(6000.00)	210.00
			2438.40	(8000.00)	200.00

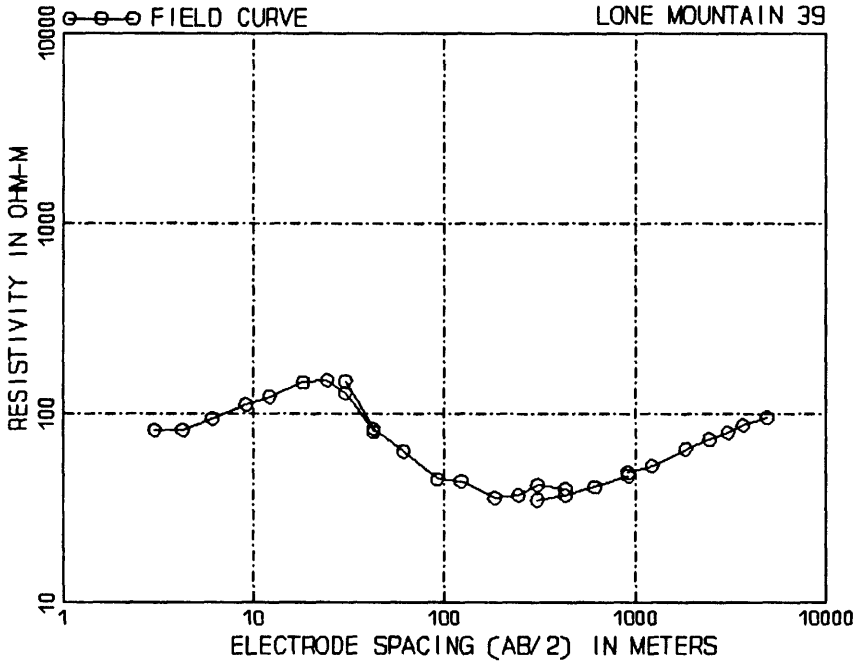
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.43	(4.70)	80.77	45.27	(148.53)	932.58
2.10	(6.89)	169.90	66.45	(218.01)	1143.59
3.08	(10.12)	327.18	97.54	(320.00)	929.93
4.53	(14.85)	546.37	143.16	(469.70)	378.77
6.65	(21.80)	796.33	210.13	(689.42)	193.09
9.75	(32.00)	968.10	308.44	(1011.93)	329.25
14.32	(46.97)	966.28	452.72	(1485.31)	713.82
21.01	(68.94)	861.29	664.51	(2180.14)	643.27
30.84	(101.19)	811.55	99999.00	(99999.00)	124.28

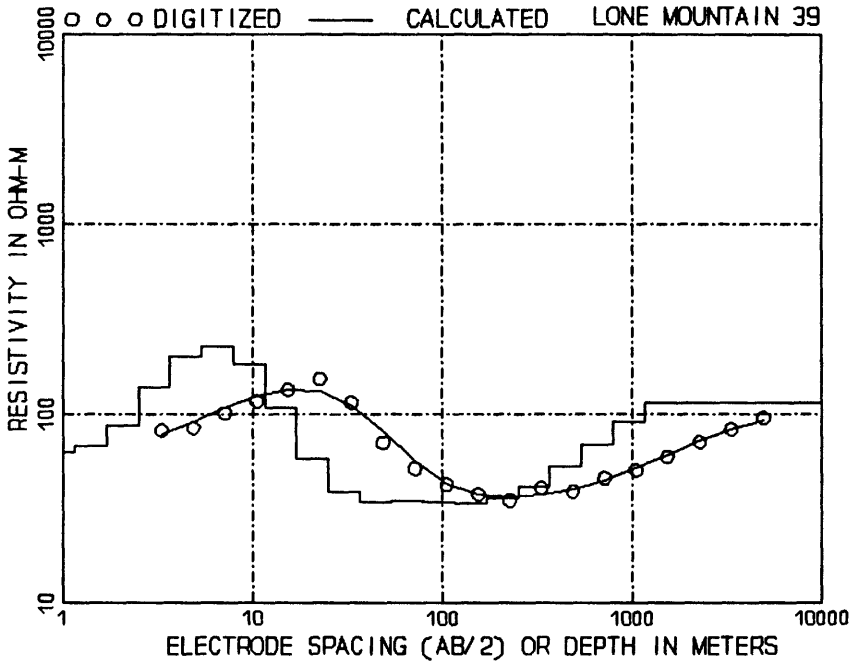




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	940.00	91.44	(300.00)	600.00
4.27	(14.00)	900.00	121.92	(400.00)	760.00
6.10	(20.00)	660.00	182.88	(600.00)	855.00
9.14	(30.00)	490.00	243.84	(800.00)	850.00
12.19	(40.00)	411.00	304.80	(1000.00)	820.00
18.29	(60.00)	375.00	304.80	(1000.00)	865.00
24.38	(80.00)	383.00	426.72	(1400.00)	860.00
30.48	(100.00)	400.00	609.60	(2000.00)	845.00
30.48	(100.00)	415.00	914.40	(3000.00)	840.00
42.67	(140.00)	465.00	1219.20	(4000.00)	860.00
60.96	(200.00)	565.00	1828.80	(6000.00)	700.00

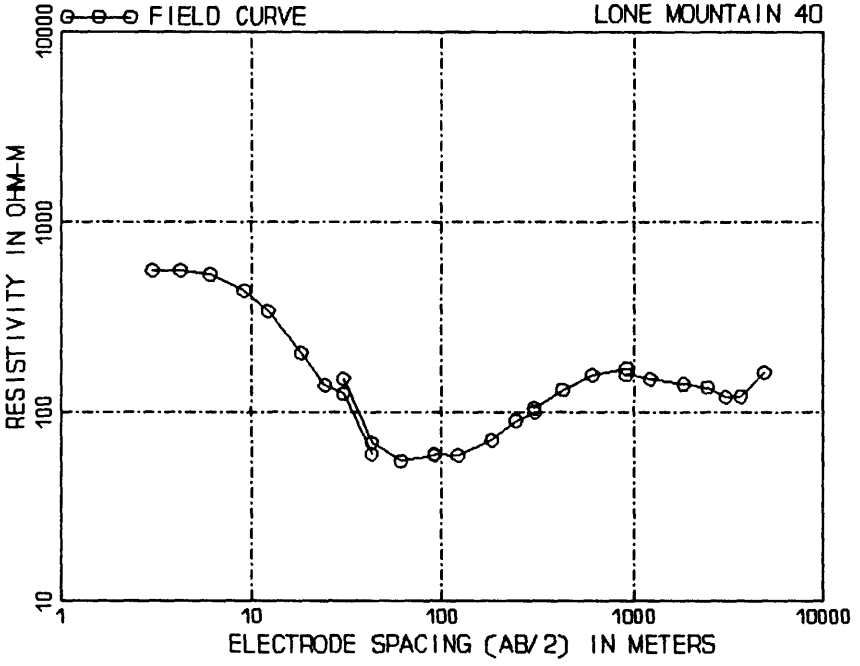
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.97	(6.46)	1360.86	42.44	(139.25)	827.35
2.89	(9.49)	757.82	62.30	(204.39)	1190.43
4.24	(13.92)	462.63	91.44	(300.00)	1311.21
6.23	(20.44)	364.20	134.22	(440.34)	1085.20
9.14	(30.00)	343.99	197.00	(646.33)	812.25
13.42	(44.03)	340.06	289.16	(948.68)	749.82
19.70	(64.63)	378.19	424.43	(1392.48)	917.96
28.92	(94.87)	524.83	622.97	(2043.88)	988.19
			99999.00	(99999.00)	603.18

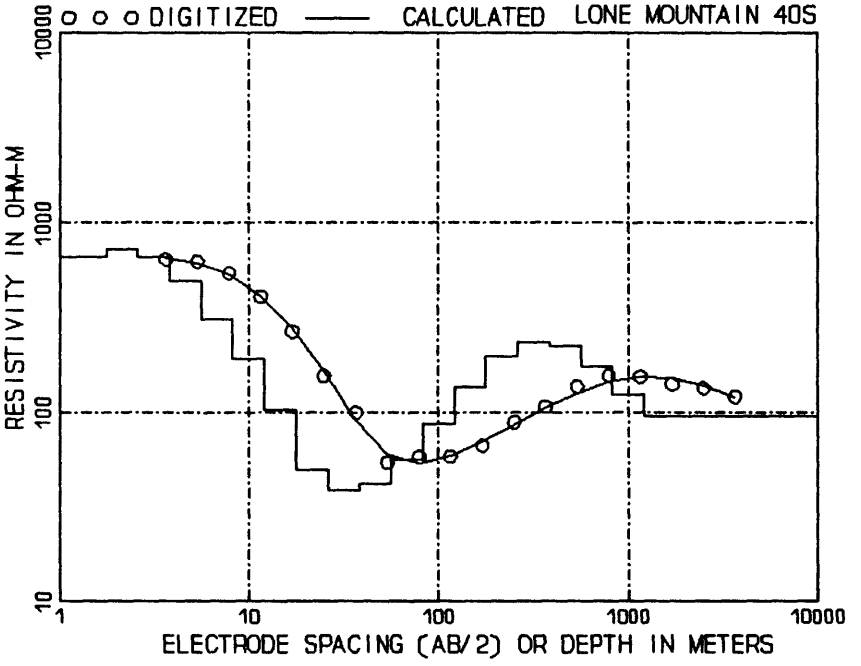




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	82.00	182.88	(600.00)	36.00
4.27	(14.00)	82.00	243.84	(800.00)	37.00
6.10	(20.00)	94.00	304.80	(1000.00)	42.00
9.14	(30.00)	111.00	426.72	(1400.00)	40.00
12.19	(40.00)	123.00	304.80	(1000.00)	35.00
18.29	(60.00)	146.00	426.72	(1400.00)	37.00
24.38	(80.00)	150.00	609.60	(2000.00)	41.00
30.48	(100.00)	128.00	914.40	(3000.00)	47.00
42.67	(140.00)	80.00	914.40	(3000.00)	49.00
30.48	(100.00)	148.00	1219.20	(4000.00)	53.00
42.67	(140.00)	83.00	1828.80	(6000.00)	65.00
60.96	(200.00)	63.00	2438.40	(8000.00)	73.00
91.44	(300.00)	45.00	3048.00	(10000.00)	79.00
121.92	(400.00)	44.00	3657.60	(12000.00)	87.00
			4876.80	(16000.00)	95.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.16	(3.82)	62.97	53.98	(177.09)	34.37
1.71	(5.60)	68.19	79.23	(259.93)	34.64
2.51	(8.22)	86.72	116.29	(381.52)	34.07
3.68	(12.06)	137.61	170.69	(560.00)	33.77
5.40	(17.71)	199.85	250.54	(821.97)	35.71
7.92	(25.99)	228.08	367.74	(1206.48)	41.55
11.63	(38.15)	183.53	539.76	(1770.88)	52.52
17.07	(56.00)	107.49	792.26	(2599.29)	69.08
25.05	(82.20)	57.83	1162.88	(3815.24)	90.59
36.77	(120.65)	38.66	99999.00	(99999.00)	114.94



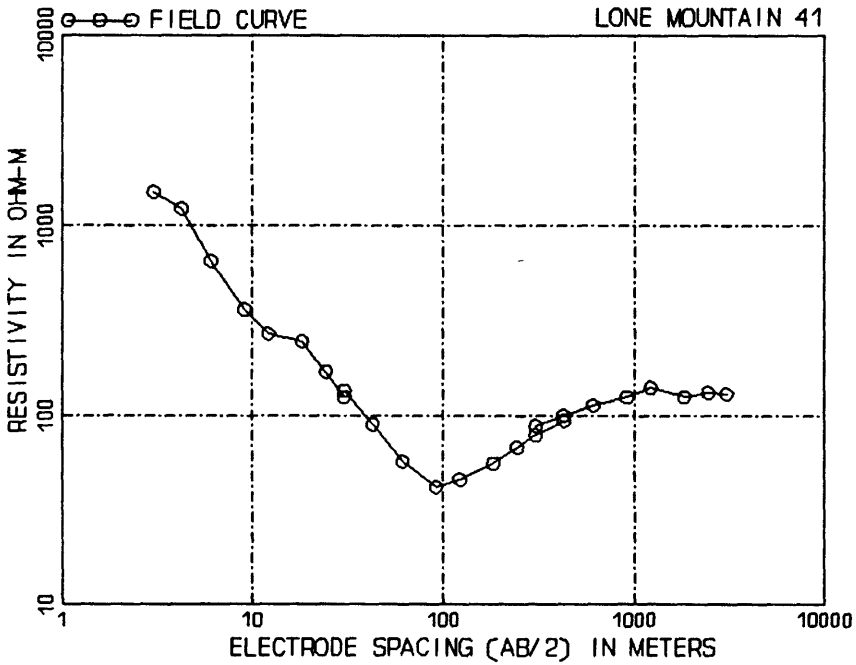


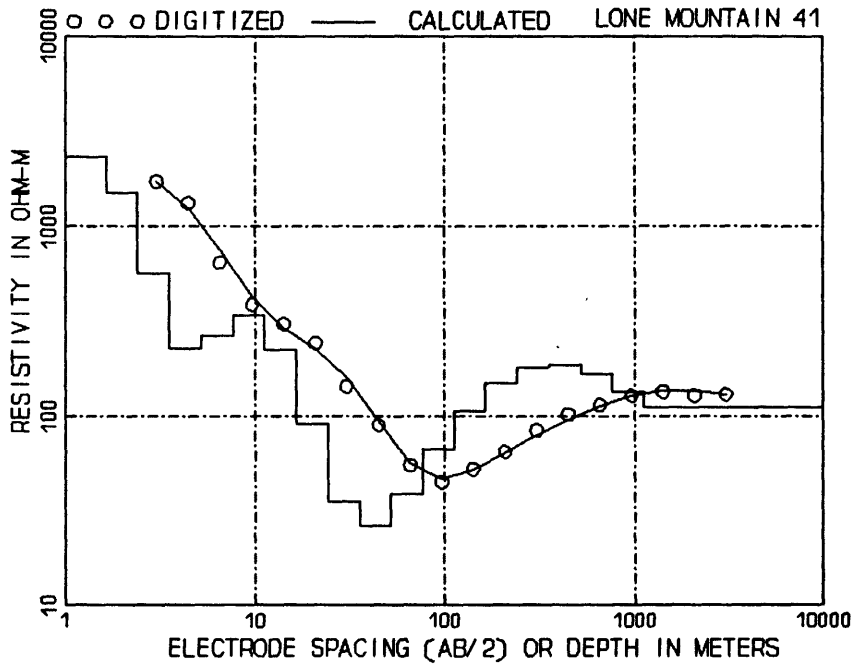
AB/2, m	(ft)	App. Res.
3.05	(10.00)	560.00
4.27	(14.00)	560.00
6.10	(20.00)	530.00
9.14	(30.00)	435.00
12.19	(40.00)	340.00
18.29	(60.00)	204.00
24.38	(80.00)	138.00
30.48	(100.00)	125.00
42.67	(140.00)	60.00
30.48	(100.00)	150.00
42.67	(140.00)	69.00
60.96	(200.00)	55.00
91.44	(300.00)	59.00
91.44	(300.00)	60.00

AB/2, m	(ft)	App. Res.
121.92	(400.00)	59.00
182.88	(600.00)	71.00
243.84	(800.00)	90.00
304.80	(1000.00)	100.00
304.80	(1000.00)	105.00
426.72	(1400.00)	131.00
609.60	(2000.00)	157.00
914.40	(3000.00)	170.00
914.40	(3000.00)	158.00
1219.20	(4000.00)	150.00
1828.80	(6000.00)	140.00
2438.40	(8000.00)	135.00
3048.00	(10000.00)	120.00
3657.60	(12000.00)	121.00
4876.80	(16000.00)	162.00

DEPTH, m	(ft)	RESIS.
1.78	(5.83)	664.35
2.61	(8.56)	720.90
3.83	(12.56)	664.89
5.62	(18.44)	492.05
8.25	(27.07)	311.27
12.11	(39.73)	192.09
17.78	(58.32)	103.01
26.09	(85.60)	49.53
38.30	(125.65)	38.69

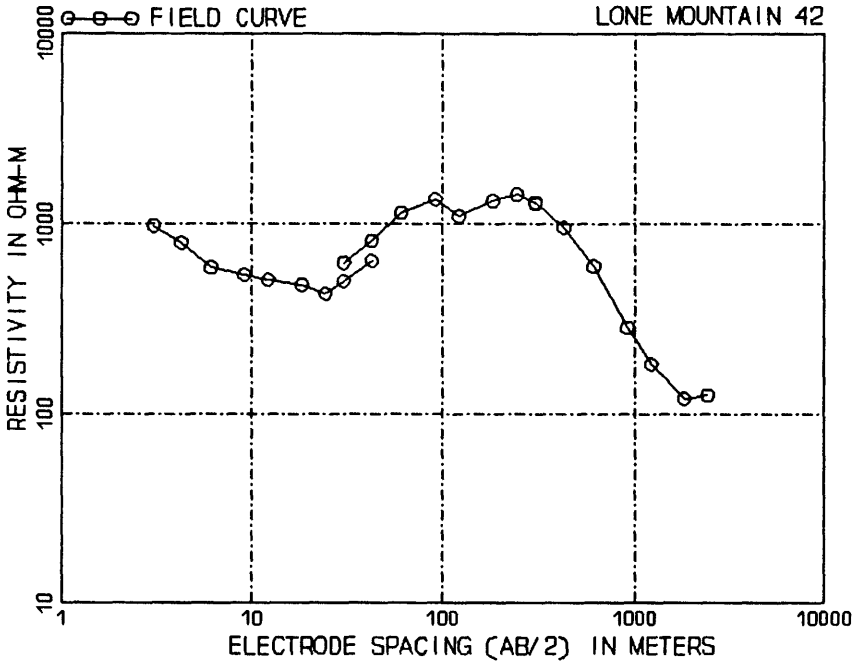
DEPTH, m	(ft)	RESIS.
56.21	(184.42)	41.89
82.51	(270.70)	56.22
121.11	(397.33)	87.15
177.76	(583.20)	136.84
260.92	(856.02)	196.13
382.97	(1256.47)	234.55
562.12	(1844.24)	222.95
825.09	(2706.98)	173.34
1211.06	(3973.30)	124.07
99999.00	(99999.00)	95.26

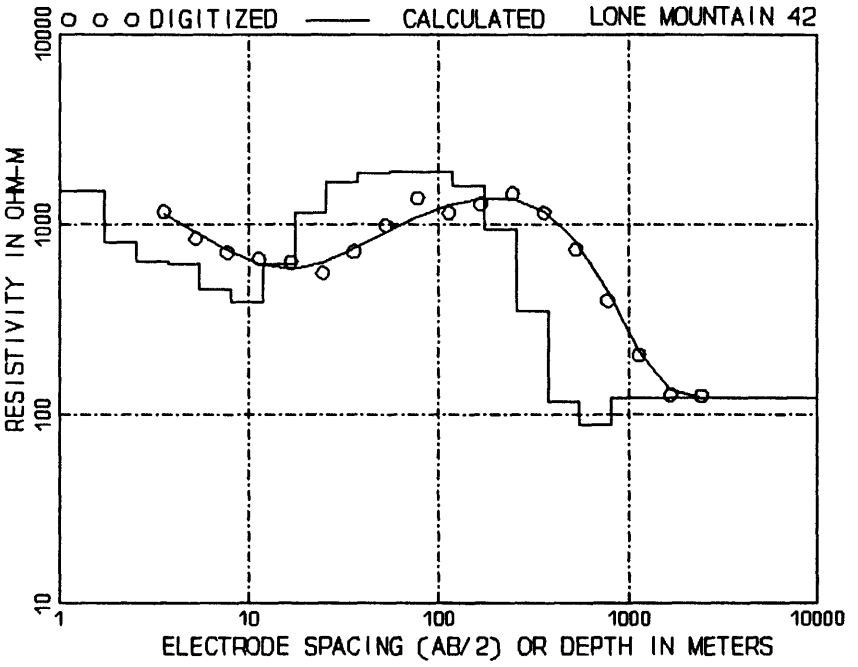




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1500.00	121.92	(400.00)	46.00
4.27	(14.00)	1230.00	182.88	(600.00)	56.00
6.10	(20.00)	650.00	243.84	(800.00)	68.00
9.14	(30.00)	360.00	304.80	(1000.00)	78.80
12.19	(40.00)	270.00	426.72	(1400.00)	94.00
18.29	(60.00)	245.00	304.80	(1000.00)	88.00
24.38	(80.00)	170.00	426.72	(1400.00)	100.00
30.48	(100.00)	125.00	609.60	(2000.00)	113.00
30.48	(100.00)	135.00	914.40	(3000.00)	125.00
42.67	(140.00)	90.00	1219.20	(4000.00)	140.00
60.96	(200.00)	57.00	1828.80	(6000.00)	125.00
91.44	(300.00)	42.00	2438.40	(8000.00)	132.00
			3048.00	(10000.00)	130.00

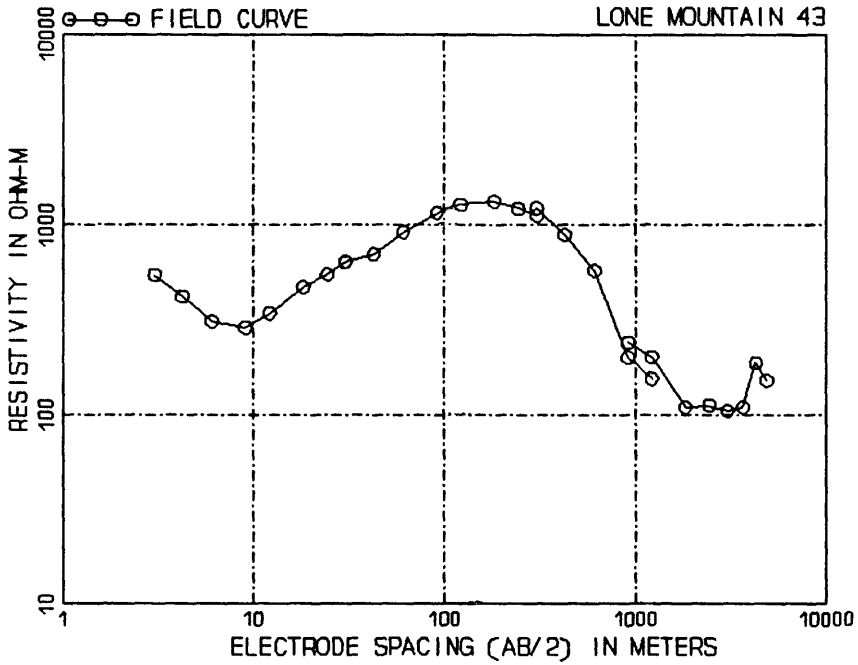
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.65	(5.40)	2338.76	52.05	(170.76)	26.38
2.42	(7.93)	1499.10	76.40	(250.65)	38.83
3.55	(11.63)	567.16	112.14	(367.90)	66.57
5.20	(17.08)	226.75	164.59	(540.00)	106.66
7.64	(25.06)	263.66	241.59	(792.61)	149.42
11.21	(36.79)	339.44	354.60	(1163.40)	180.14
16.46	(54.00)	224.30	520.49	(1707.63)	186.50
24.16	(79.26)	91.34	763.97	(2506.46)	165.96
35.46	(116.34)	35.42	1121.35	(3678.98)	133.97
			99999.00	(99999.00)	111.60

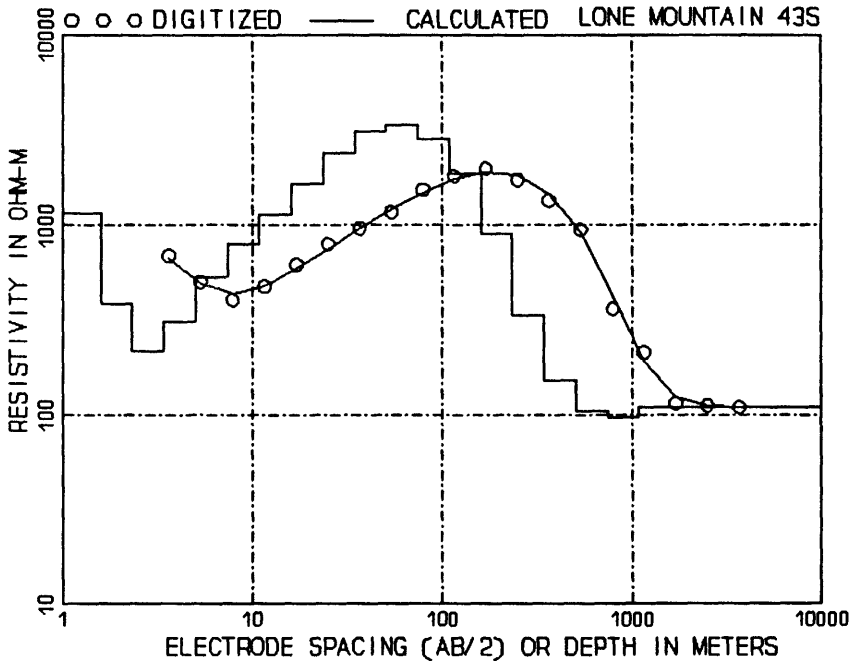




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	980.00	91.44	(300.00)	1350.00
4.27	(14.00)	800.00	121.92	(400.00)	1100.00
6.10	(20.00)	590.00	182.88	(600.00)	1325.00
9.14	(30.00)	540.00	243.84	(800.00)	1430.00
12.19	(40.00)	510.00	304.80	(1000.00)	1280.00
18.29	(60.00)	480.00	304.80	(1000.00)	1300.00
24.38	(80.00)	430.00	426.72	(1400.00)	960.00
30.48	(100.00)	500.00	609.60	(2000.00)	600.00
42.67	(140.00)	640.00	914.40	(3000.00)	285.00
30.48	(100.00)	625.00	1219.20	(4000.00)	183.00
42.67	(140.00)	815.00	1828.80	(6000.00)	120.00
60.96	(200.00)	1150.00	2438.40	(8000.00)	125.00

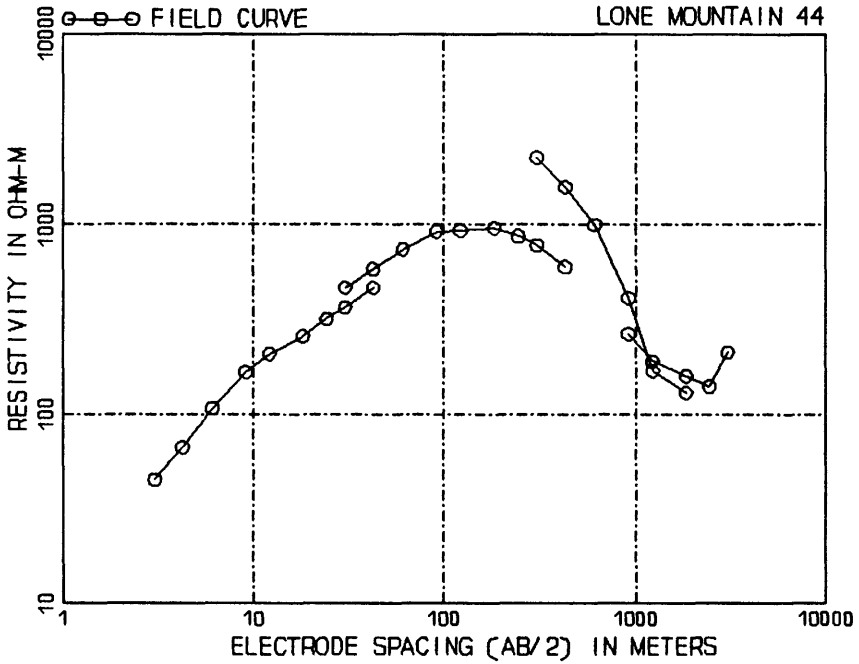
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	1511.92	55.01	(180.46)	1866.54
2.55	(8.38)	811.42	80.74	(264.89)	1903.40
3.75	(12.29)	642.04	118.51	(388.80)	1895.80
5.50	(18.05)	625.37	173.94	(570.68)	1607.26
8.07	(26.49)	456.34	255.31	(837.64)	937.28
11.85	(38.88)	392.52	374.75	(1229.49)	348.72
17.39	(57.07)	623.61	550.06	(1804.65)	117.17
25.53	(83.76)	1152.42	807.37	(2648.86)	87.65
37.47	(122.95)	1663.44	99999.00	(99999.00)	122.24

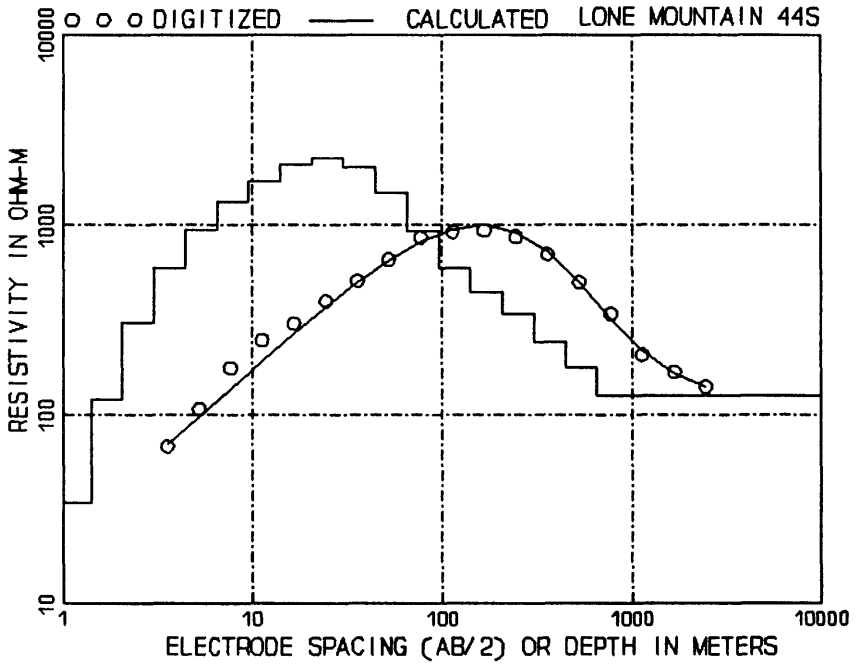




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	545.00	243.84	(800.00)	1220.00
4.27	(14.00)	420.00	304.80	(1000.00)	1120.00
6.10	(20.00)	310.00	304.80	(1000.00)	1230.00
9.14	(30.00)	288.00	426.72	(1400.00)	890.00
12.19	(40.00)	342.00	609.60	(2000.00)	575.00
18.29	(60.00)	470.00	914.40	(3000.00)	200.00
24.38	(80.00)	550.00	1219.20	(4000.00)	155.00
30.48	(100.00)	638.00	914.40	(3000.00)	240.00
30.48	(100.00)	640.00	1219.20	(4000.00)	202.00
42.67	(140.00)	700.00	1828.80	(6000.00)	110.00
60.96	(200.00)	920.00	2438.40	(8000.00)	112.00
91.44	(300.00)	1160.00	3048.00	(10000.00)	105.00
121.92	(400.00)	1280.00	3657.60	(12000.00)	110.00
182.88	(600.00)	1330.00	4267.20	(14000.00)	187.00
			4876.80	(16000.00)	152.00

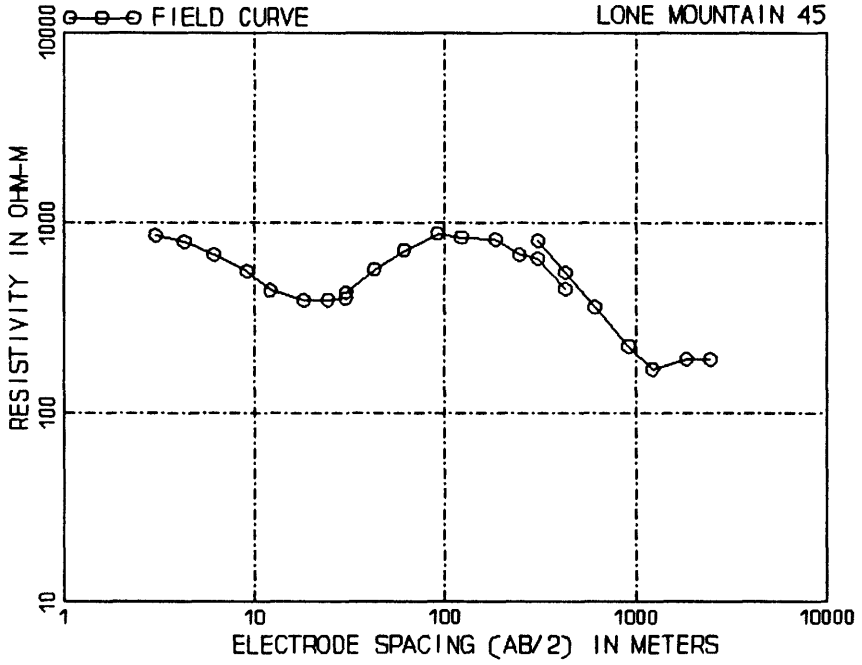
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.60	(5.25)	1157.29	50.59	(165.98)	3130.68
2.35	(7.70)	382.89	74.26	(243.63)	3358.66
3.45	(11.31)	215.48	109.00	(357.60)	2840.46
5.06	(16.60)	311.11	159.98	(524.88)	1862.78
7.43	(24.36)	533.02	234.82	(770.42)	901.99
10.90	(35.76)	798.77	344.67	(1130.82)	335.67
16.00	(52.49)	1134.12	505.91	(1659.82)	152.01
23.48	(77.04)	1652.46	742.58	(2436.28)	104.52
34.47	(113.08)	2397.67	1089.95	(3575.97)	96.87
			99999.00	(99999.00)	109.07

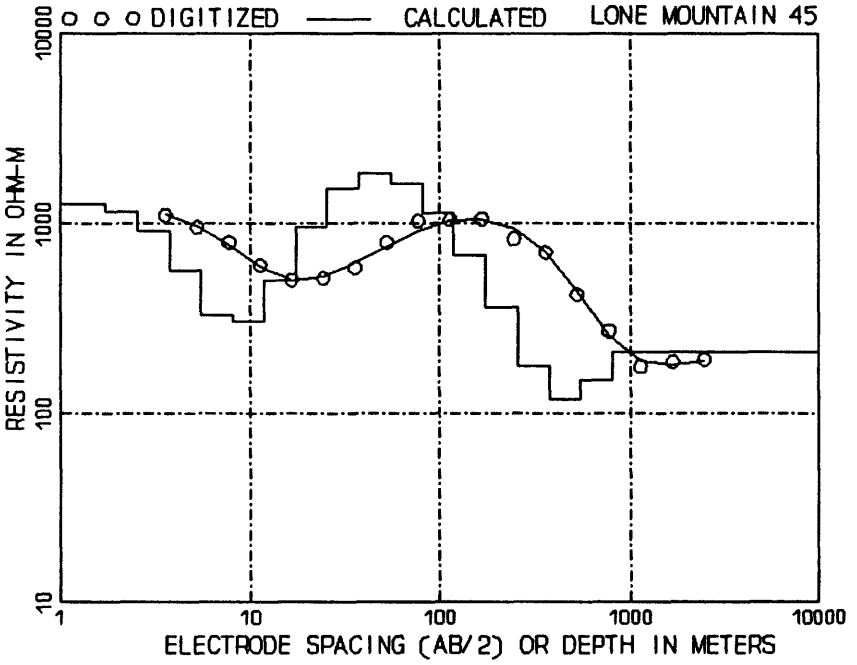




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	45.00	182.88	(600.00)	960.00
4.27	(14.00)	67.00	243.84	(800.00)	870.00
6.10	(20.00)	107.00	304.80	(1000.00)	780.00
9.14	(30.00)	167.00	426.72	(1400.00)	600.00
12.19	(40.00)	208.00	304.80	(1000.00)	2250.00
18.29	(60.00)	258.00	426.72	(1400.00)	1570.00
24.38	(80.00)	317.00	609.60	(2000.00)	1000.00
30.48	(100.00)	365.00	914.40	(3000.00)	410.00
42.67	(140.00)	464.00	1219.20	(4000.00)	170.00
30.48	(100.00)	465.00	1828.80	(6000.00)	130.00
42.67	(140.00)	581.00	914.40	(3000.00)	265.00
60.96	(200.00)	740.00	1219.20	(4000.00)	190.00
91.44	(300.00)	920.00	1828.80	(6000.00)	160.00
121.92	(400.00)	930.00	2438.40	(8000.00)	140.00
			3048.00	(10000.00)	212.00

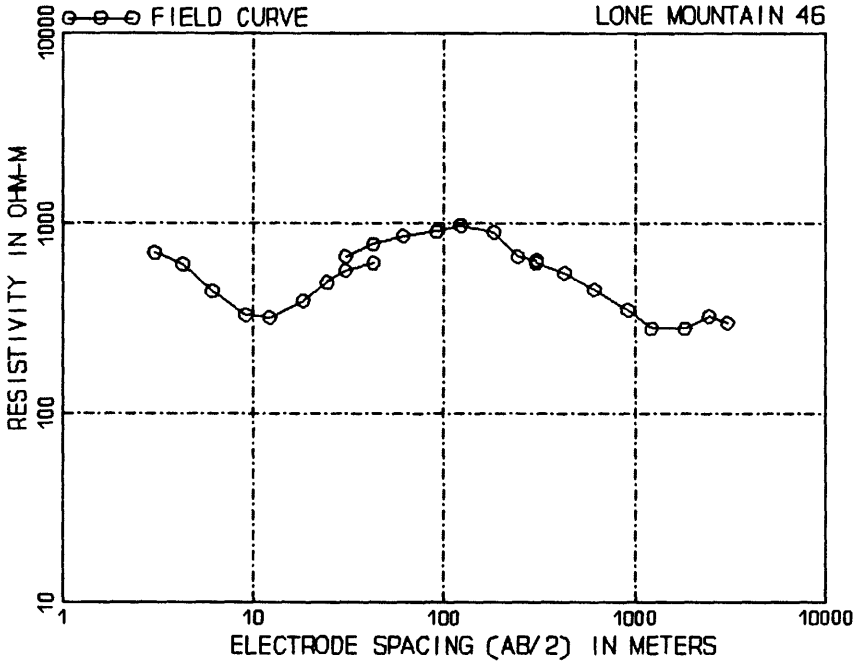
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.41	(4.62)	34.19	44.55	(146.18)	2018.41
2.07	(6.78)	119.68	65.40	(214.56)	1470.70
3.04	(9.96)	303.92	95.99	(314.93)	930.28
4.46	(14.62)	592.19	140.89	(462.25)	595.48
6.54	(21.46)	944.49	206.80	(678.49)	444.48
9.60	(31.49)	1319.09	303.55	(995.89)	341.78
14.09	(46.23)	1713.03	445.55	(1461.77)	241.76
20.68	(67.85)	2089.18	653.97	(2145.58)	177.09
30.35	(99.59)	2257.61	99999.00	(99999.00)	125.84

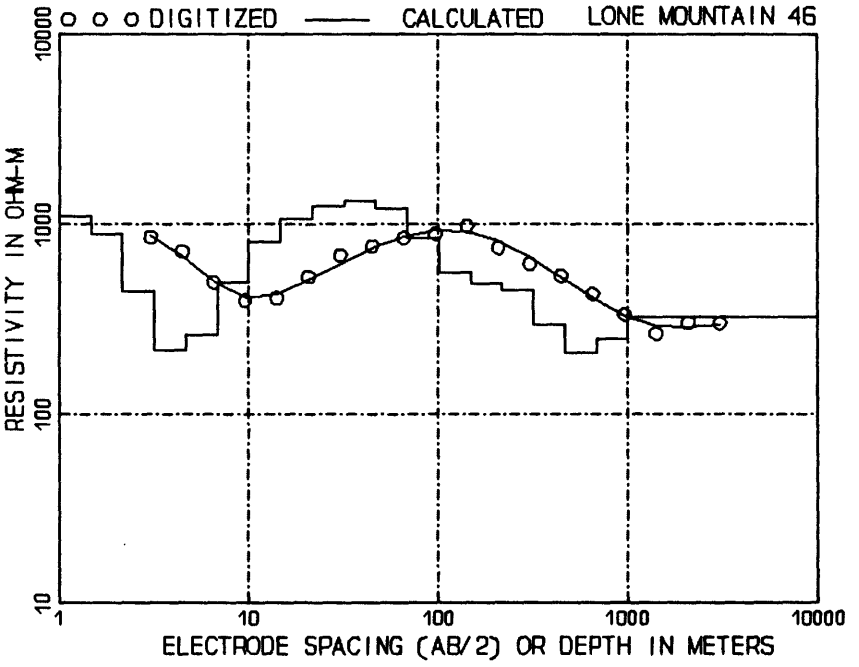




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	860.00	121.92	(400.00)	840.00
4.27	(14.00)	800.00	182.88	(600.00)	820.00
6.10	(20.00)	680.00	243.84	(800.00)	680.00
9.14	(30.00)	560.00	304.80	(1000.00)	650.00
12.19	(40.00)	440.00	426.72	(1400.00)	450.00
18.29	(60.00)	392.00	304.80	(1000.00)	810.00
24.38	(80.00)	393.00	426.72	(1400.00)	550.00
30.48	(100.00)	400.00	609.60	(2000.00)	360.00
30.48	(100.00)	428.00	914.40	(3000.00)	225.00
42.67	(140.00)	570.00	1219.20	(4000.00)	170.00
60.96	(200.00)	720.00	1828.80	(6000.00)	192.00
91.44	(300.00)	880.00	2438.40	(8000.00)	191.00

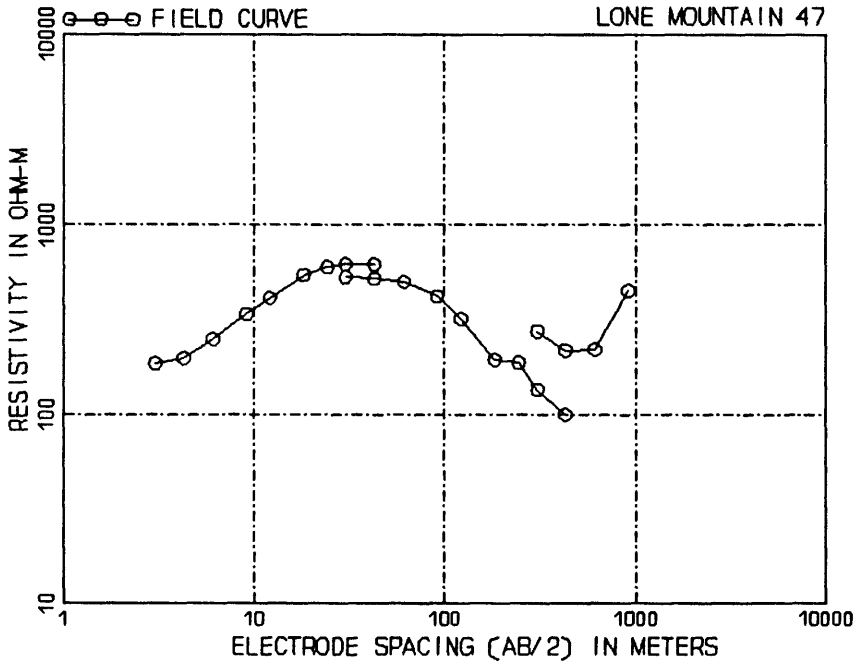
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	1259.09	55.01	(180.46)	1823.70
2.55	(8.38)	1148.89	80.74	(264.89)	1628.10
3.75	(12.29)	915.48	118.51	(388.80)	1135.70
5.50	(18.05)	566.59	173.94	(570.68)	677.88
8.07	(26.49)	329.08	255.31	(837.64)	362.78
11.85	(38.88)	304.78	374.75	(1229.49)	177.85
17.39	(57.07)	503.06	550.06	(1804.65)	118.48
25.53	(83.76)	961.05	807.37	(2648.86)	150.03
37.47	(122.95)	1524.38	99999.00	(99999.00)	210.13

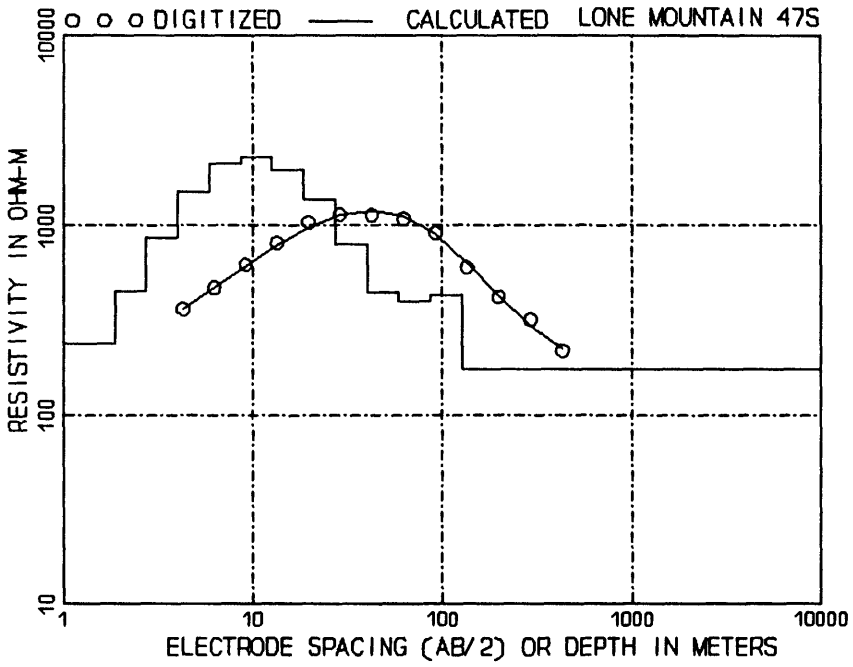




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	700.00	91.44	(300.00)	910.00
4.27	(14.00)	610.00	121.92	(400.00)	980.00
6.10	(20.00)	440.00	182.88	(600.00)	900.00
9.14	(30.00)	330.00	243.84	(800.00)	670.00
12.19	(40.00)	320.00	304.80	(1000.00)	640.00
18.29	(60.00)	391.00	304.80	(1000.00)	620.00
24.38	(80.00)	490.00	426.72	(1400.00)	550.00
30.48	(100.00)	565.00	609.60	(2000.00)	450.00
42.67	(140.00)	620.00	914.40	(3000.00)	350.00
30.48	(100.00)	670.00	1219.20	(4000.00)	280.00
42.67	(140.00)	780.00	1828.80	(6000.00)	280.00
60.96	(200.00)	860.00	2438.40	(8000.00)	325.00
			3048.00	(10000.00)	300.00

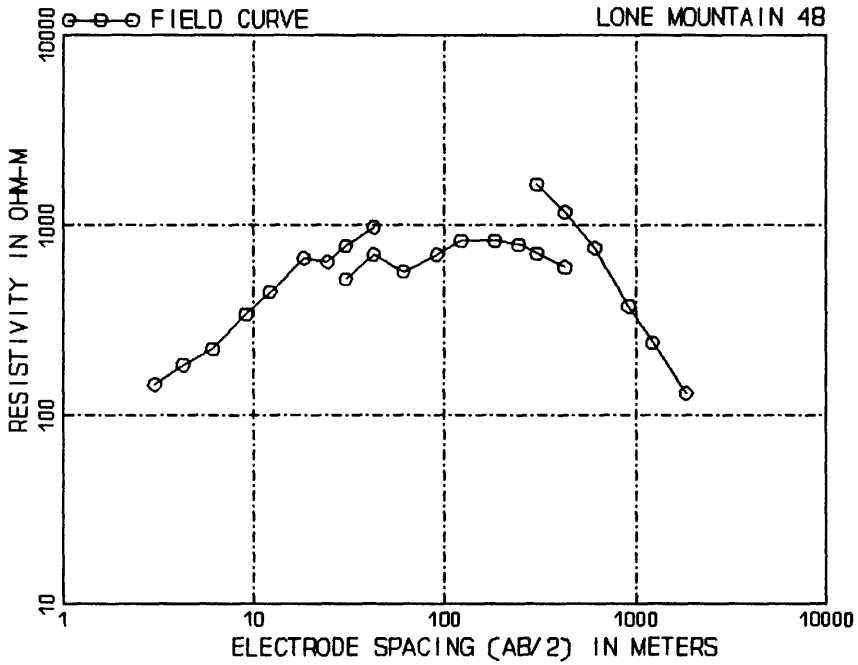
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	1106.07	46.84	(153.69)	1334.37
2.17	(7.13)	889.26	68.76	(225.58)	1208.55
3.19	(10.47)	439.75	100.92	(331.11)	846.88
4.68	(15.37)	218.34	148.13	(486.00)	557.78
6.88	(22.56)	261.79	217.43	(713.35)	482.49
10.09	(33.11)	496.36	319.14	(1047.06)	450.11
14.81	(48.60)	810.28	468.44	(1536.87)	293.08
21.74	(71.34)	1066.93	687.57	(2255.81)	209.45
31.91	(104.71)	1241.97	1009.22	(3311.08)	250.22
			99999.00	(99999.00)	322.98

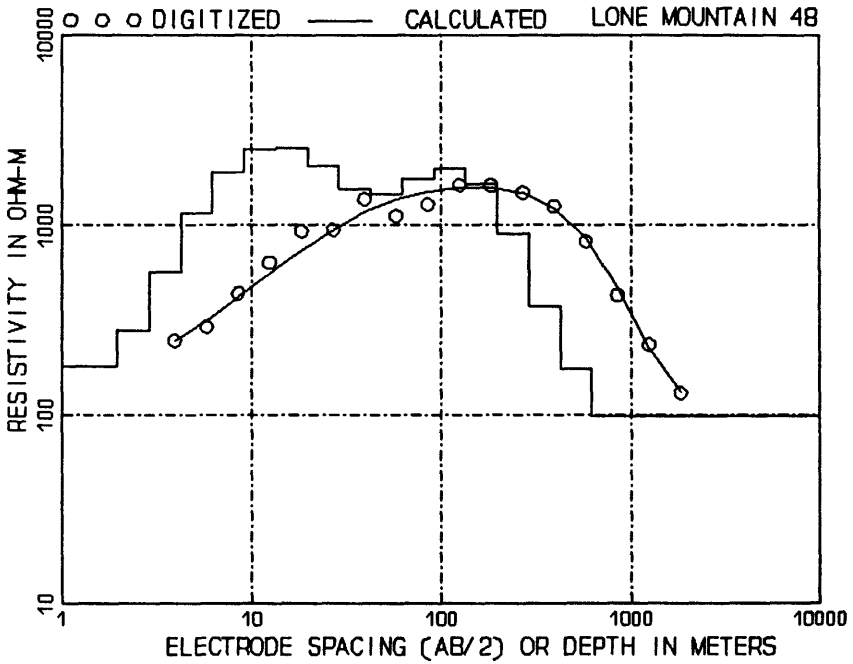




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	185.00	60.96	(200.00)	500.00
4.27	(14.00)	198.00	91.44	(300.00)	420.00
6.10	(20.00)	250.00	121.92	(400.00)	320.00
9.14	(30.00)	338.00	182.88	(600.00)	195.00
12.19	(40.00)	410.00	243.84	(800.00)	188.00
18.29	(60.00)	545.00	304.80	(1000.00)	135.00
24.38	(80.00)	600.00	426.72	(1400.00)	100.00
30.48	(100.00)	620.00	304.80	(1000.00)	275.00
42.67	(140.00)	620.00	426.72	(1400.00)	218.00
30.48	(100.00)	530.00	609.60	(2000.00)	220.00
42.67	(140.00)	520.00	914.40	(3000.00)	450.00

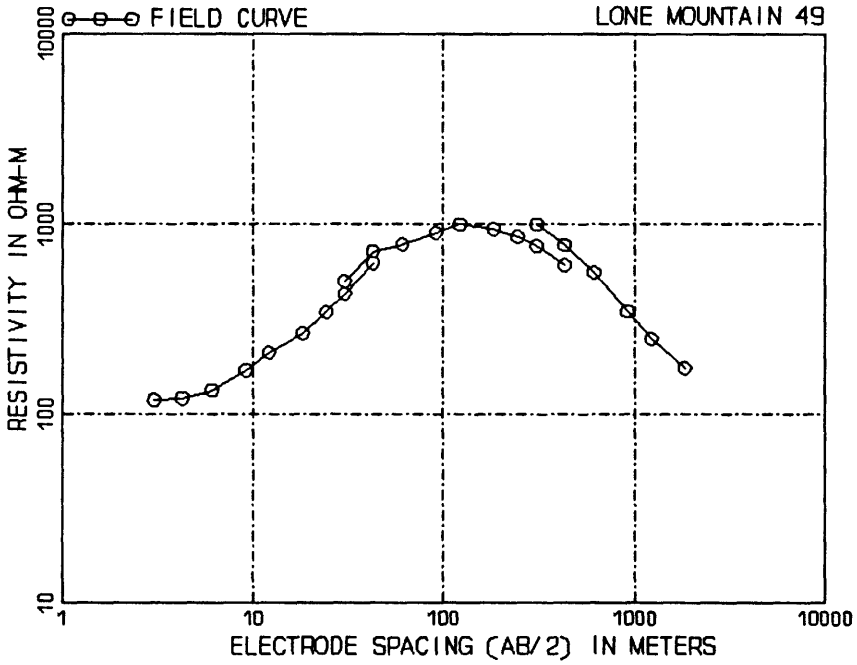
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.12)	237.08	18.66	(61.24)	1963.07
2.74	(8.99)	448.10	27.40	(89.88)	1378.39
4.02	(13.19)	864.39	40.21	(131.93)	792.93
5.90	(19.36)	1501.66	59.02	(193.65)	443.64
8.66	(28.42)	2106.89	86.63	(284.23)	399.51
12.72	(41.72)	2285.50	127.16	(417.20)	425.65
			99999.00	(99999.00)	173.16

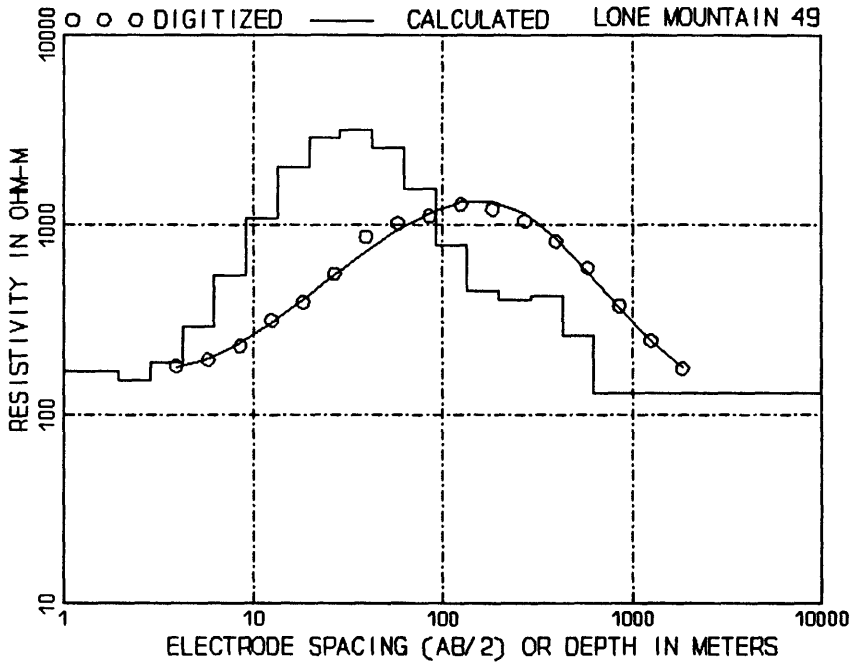




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	145.00	91.44	(300.00)	700.00
4.27	(14.00)	184.00	121.92	(400.00)	830.00
6.10	(20.00)	222.00	182.88	(600.00)	830.00
9.14	(30.00)	337.00	243.84	(800.00)	790.00
12.19	(40.00)	445.00	304.80	(1000.00)	710.00
18.29	(60.00)	670.00	426.72	(1400.00)	600.00
24.38	(80.00)	640.00	304.80	(1000.00)	1640.00
30.48	(100.00)	780.00	426.72	(1400.00)	1170.00
42.67	(140.00)	980.00	609.60	(2000.00)	760.00
30.48	(100.00)	520.00	914.40	(3000.00)	375.00
42.67	(140.00)	700.00	1219.20	(4000.00)	240.00
60.96	(200.00)	570.00	1828.80	(6000.00)	130.00

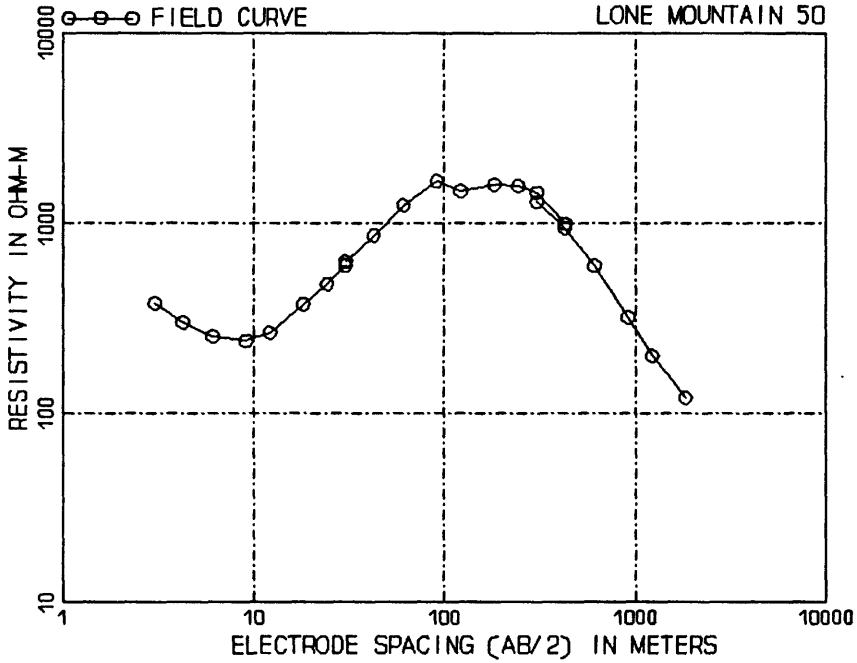
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.97	(6.46)	179.26	42.44	(139.25)	1552.48
2.89	(9.49)	276.83	62.30	(204.39)	1467.54
4.24	(13.92)	569.66	91.44	(300.00)	1764.64
6.23	(20.44)	1146.77	134.22	(440.34)	2001.07
9.14	(30.00)	1908.40	197.00	(646.33)	1650.31
13.42	(44.03)	2517.11	289.16	(948.68)	905.59
19.70	(64.63)	2562.33	424.43	(1392.48)	374.61
28.92	(94.87)	2049.65	622.97	(2043.88)	175.72
			99999.00	(99999.00)	98.38

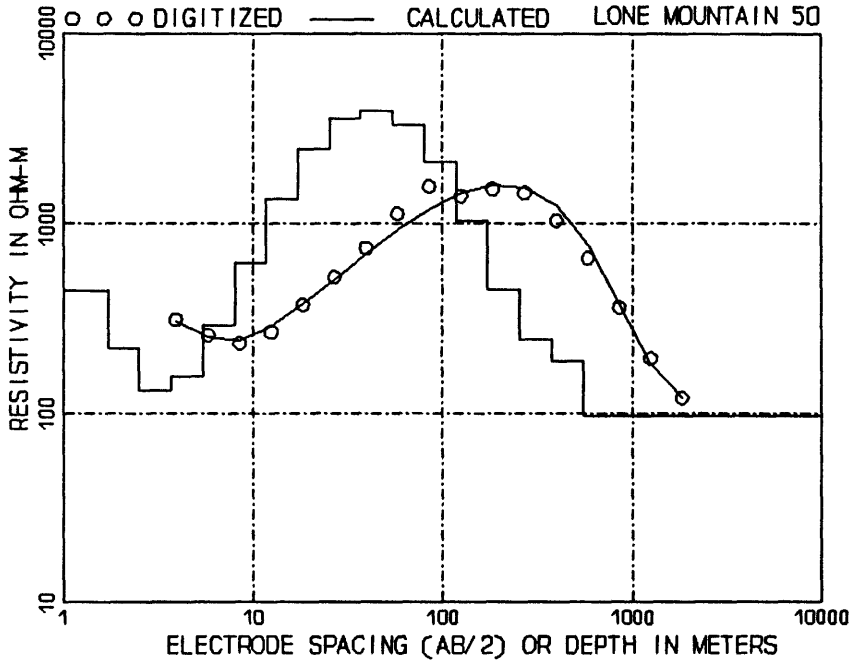




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	118.00	91.44	(300.00)	900.00
4.27	(14.00)	121.00	121.92	(400.00)	1000.00
6.10	(20.00)	133.00	182.88	(600.00)	948.00
9.14	(30.00)	170.00	243.84	(800.00)	860.00
12.19	(40.00)	210.00	304.80	(1000.00)	770.00
18.29	(60.00)	266.00	426.72	(1400.00)	610.00
24.38	(80.00)	345.00	304.80	(1000.00)	1000.00
30.48	(100.00)	430.00	426.72	(1400.00)	780.00
42.67	(140.00)	625.00	609.60	(2000.00)	560.00
30.48	(100.00)	500.00	914.40	(3000.00)	348.00
42.67	(140.00)	720.00	1219.20	(4000.00)	250.00
60.96	(200.00)	785.00	1828.80	(6000.00)	175.00

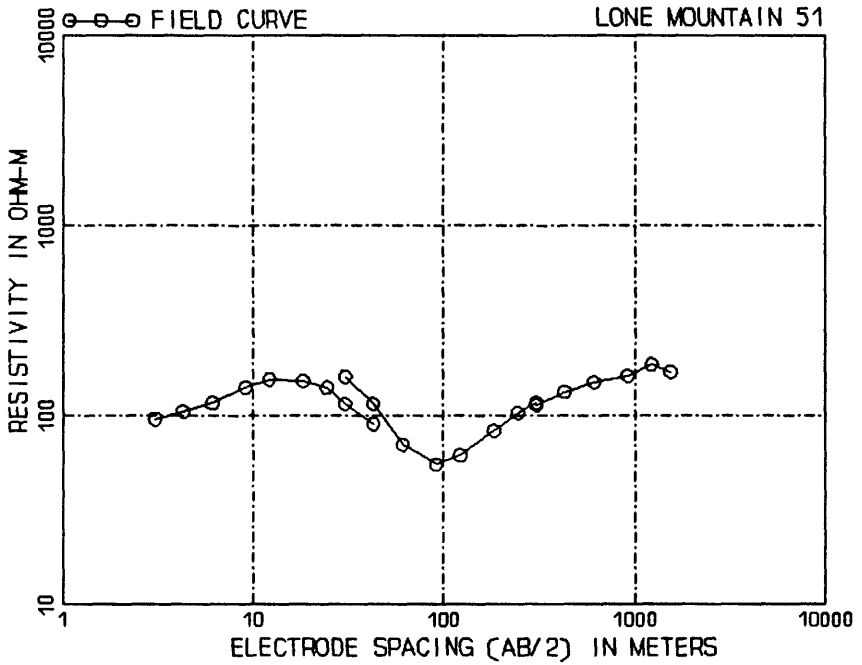
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.97	(6.46)	168.08	42.44	(139.25)	3153.05
2.89	(9.49)	151.59	62.30	(204.39)	2546.70
4.24	(13.92)	187.60	91.44	(300.00)	1544.52
6.23	(20.44)	292.42	134.22	(440.34)	783.17
9.14	(30.00)	536.25	197.00	(646.33)	449.95
13.42	(44.03)	1087.96	289.16	(948.68)	405.54
19.70	(64.63)	2008.51	424.43	(1392.48)	421.15
28.92	(94.87)	2903.57	622.97	(2043.88)	262.07
			99999.00	(99999.00)	130.05

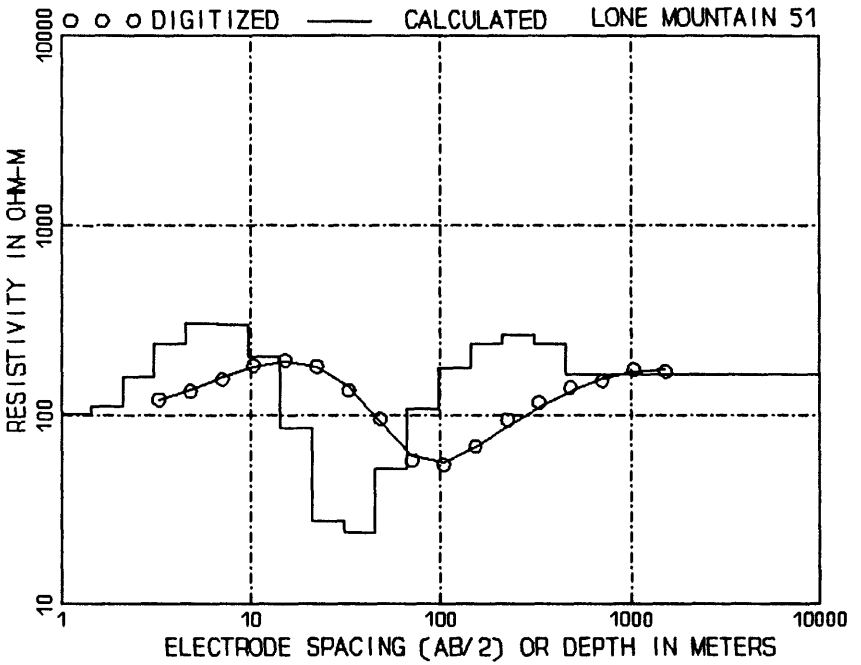




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	380.00	91.44	(300.00)	1670.00
4.27	(14.00)	300.00	121.92	(400.00)	1480.00
6.10	(20.00)	254.00	182.88	(600.00)	1600.00
9.14	(30.00)	240.00	243.84	(800.00)	1570.00
12.19	(40.00)	265.00	304.80	(1000.00)	1450.00
18.29	(60.00)	375.00	426.72	(1400.00)	1000.00
24.38	(80.00)	480.00	304.80	(1000.00)	1300.00
30.48	(100.00)	600.00	426.72	(1400.00)	950.00
30.48	(100.00)	630.00	609.60	(2000.00)	600.00
42.67	(140.00)	865.00	914.40	(3000.00)	320.00
60.96	(200.00)	1250.00	1219.20	(4000.00)	200.00
			1828.80	(6000.00)	120.00

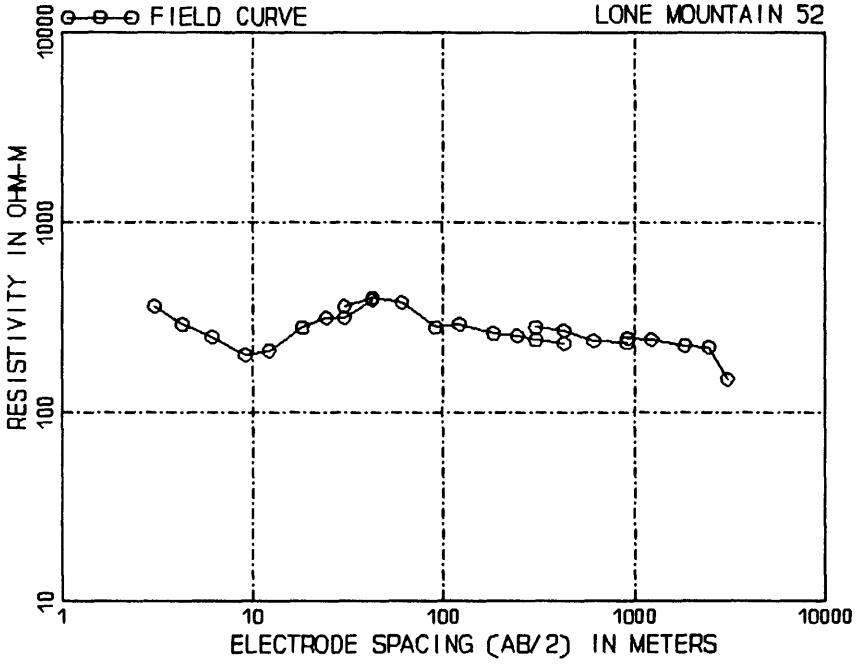
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.72	(5.65)	438.41	37.13	(121.81)	3560.67
2.53	(8.30)	220.37	54.50	(178.80)	3910.15
3.71	(12.18)	131.60	79.99	(262.44)	3290.91
5.45	(17.88)	155.49	117.41	(385.21)	2111.28
8.00	(26.24)	289.56	172.34	(565.41)	1040.72
11.74	(38.52)	624.86	252.96	(829.91)	449.80
17.23	(56.54)	1341.34	371.29	(1218.14)	245.84
25.30	(82.99)	2473.70	544.98	(1787.98)	188.90
			99999.00	(99999.00)	97.39

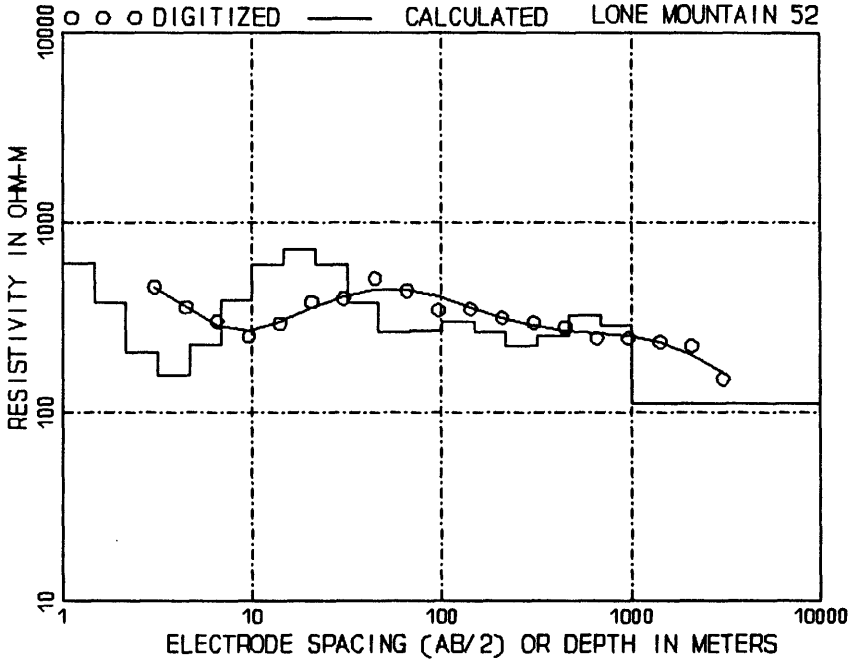




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	96.00	60.96	(200.00)	70.00
4.27	(14.00)	105.00	91.44	(300.00)	55.00
6.10	(20.00)	116.00	121.92	(400.00)	61.50
9.14	(30.00)	140.00	182.88	(600.00)	83.00
12.19	(40.00)	155.00	243.84	(800.00)	103.00
18.29	(60.00)	152.00	304.80	(1000.00)	117.00
24.38	(80.00)	140.00	304.80	(1000.00)	113.00
30.48	(100.00)	115.00	426.72	(1400.00)	133.00
42.67	(140.00)	90.00	609.60	(2000.00)	150.00
30.48	(100.00)	160.00	914.40	(3000.00)	162.00
42.67	(140.00)	115.00	1219.20	(4000.00)	185.00
			1524.00	(5000.00)	170.00

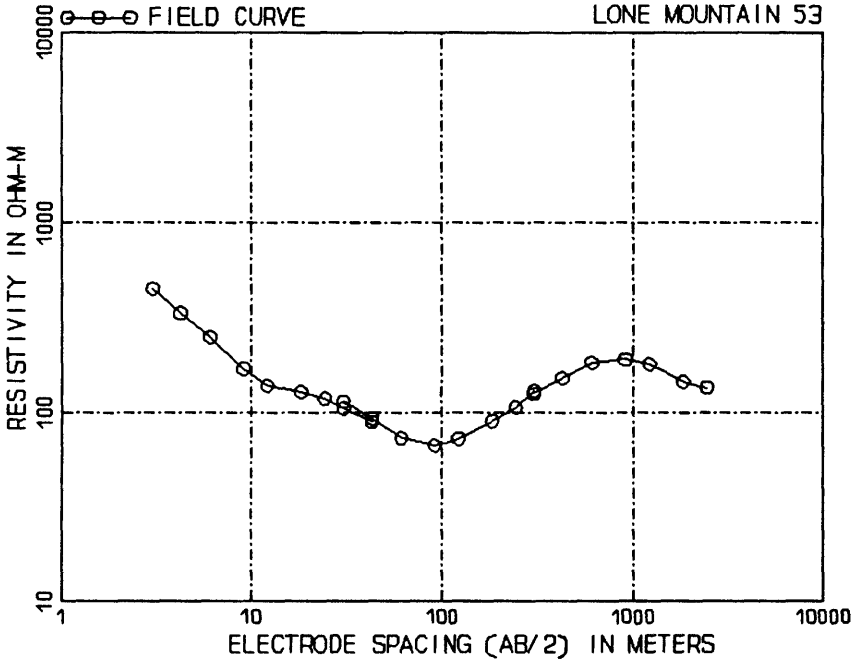
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.44	(4.71)	101.31	30.94	(101.51)	27.40
2.11	(6.92)	111.30	45.41	(149.00)	24.11
3.09	(10.15)	159.28	66.66	(218.70)	52.28
4.54	(14.90)	239.49	97.84	(321.01)	107.76
6.67	(21.87)	306.10	143.61	(471.17)	177.58
9.78	(32.10)	298.83	210.80	(691.59)	239.34
14.36	(47.12)	204.89	309.41	(1015.12)	266.72
21.08	(69.16)	85.51	454.15	(1489.99)	237.34
			99999.00	(99999.00)	164.19

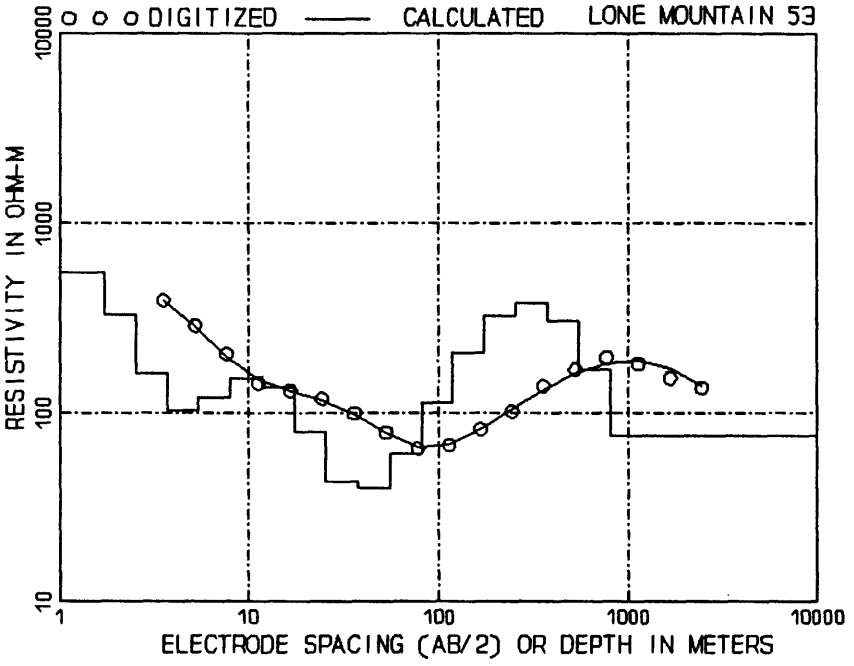




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	362.00	121.92	(400.00)	292.00
4.27	(14.00)	290.00	182.88	(600.00)	260.00
6.10	(20.00)	250.00	243.84	(800.00)	253.00
9.14	(30.00)	200.00	304.80	(1000.00)	240.00
12.19	(40.00)	211.00	426.72	(1400.00)	230.00
18.29	(60.00)	280.00	304.80	(1000.00)	280.00
24.38	(80.00)	315.00	426.72	(1400.00)	270.00
30.48	(100.00)	315.00	609.60	(2000.00)	238.00
42.67	(140.00)	390.00	914.40	(3000.00)	233.00
30.48	(100.00)	360.00	914.40	(3000.00)	245.00
42.67	(140.00)	400.00	1219.20	(4000.00)	242.00
60.96	(200.00)	380.00	1828.80	(6000.00)	225.00
91.44	(300.00)	280.00	2438.40	(8000.00)	220.00
			3048.00	(10000.00)	150.00

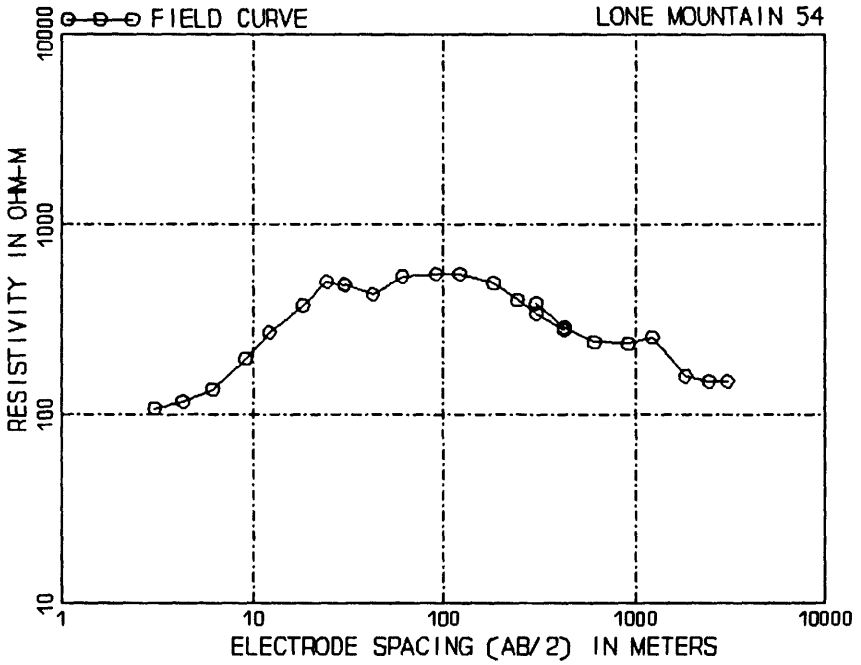
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.48	(4.86)	610.59	46.84	(153.69)	376.30
2.17	(7.13)	380.33	68.76	(225.58)	265.24
3.19	(10.47)	206.79	100.92	(331.11)	271.15
4.68	(15.37)	157.06	148.13	(486.00)	299.41
6.88	(22.56)	226.21	217.43	(713.35)	265.14
10.09	(33.11)	389.81	319.14	(1047.06)	225.14
14.81	(48.60)	604.51	468.44	(1536.87)	251.30
21.74	(71.34)	730.27	687.57	(2255.81)	324.42
31.91	(104.71)	601.90	1009.22	(3311.08)	284.76
			99999.00	(99999.00)	111.30

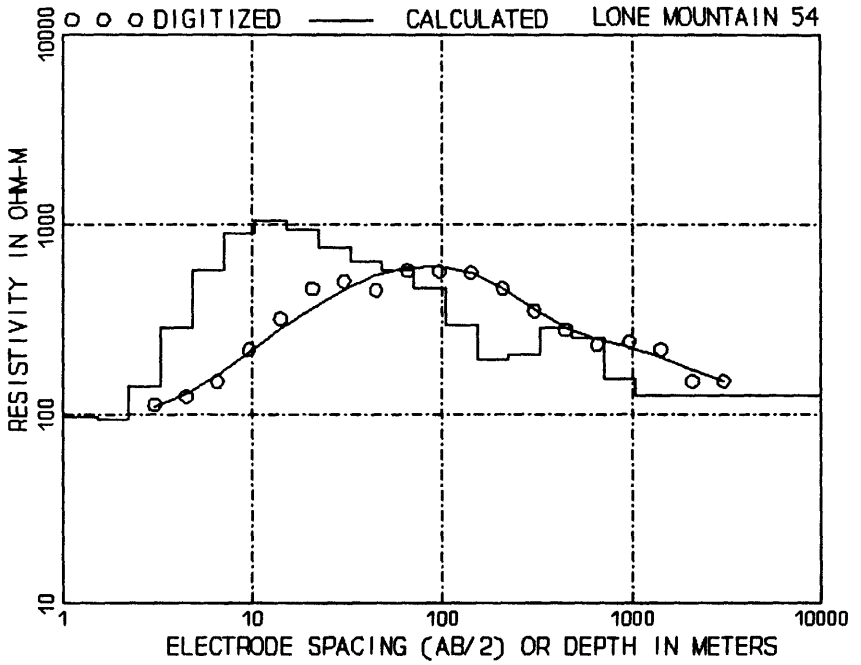




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	450.00	91.44	(300.00)	67.00
4.27	(14.00)	333.00	121.92	(400.00)	72.50
6.10	(20.00)	250.00	182.88	(600.00)	90.00
9.14	(30.00)	170.00	243.84	(800.00)	106.00
12.19	(40.00)	138.00	304.80	(1000.00)	130.00
18.29	(60.00)	128.00	304.80	(1000.00)	125.00
24.38	(80.00)	118.00	426.72	(1400.00)	152.00
30.48	(100.00)	105.00	609.60	(2000.00)	183.00
42.67	(140.00)	89.00	914.40	(3000.00)	190.00
30.48	(100.00)	114.00	1219.20	(4000.00)	180.00
42.67	(140.00)	93.00	1828.80	(6000.00)	145.00
60.96	(200.00)	73.00	2438.40	(8000.00)	135.00

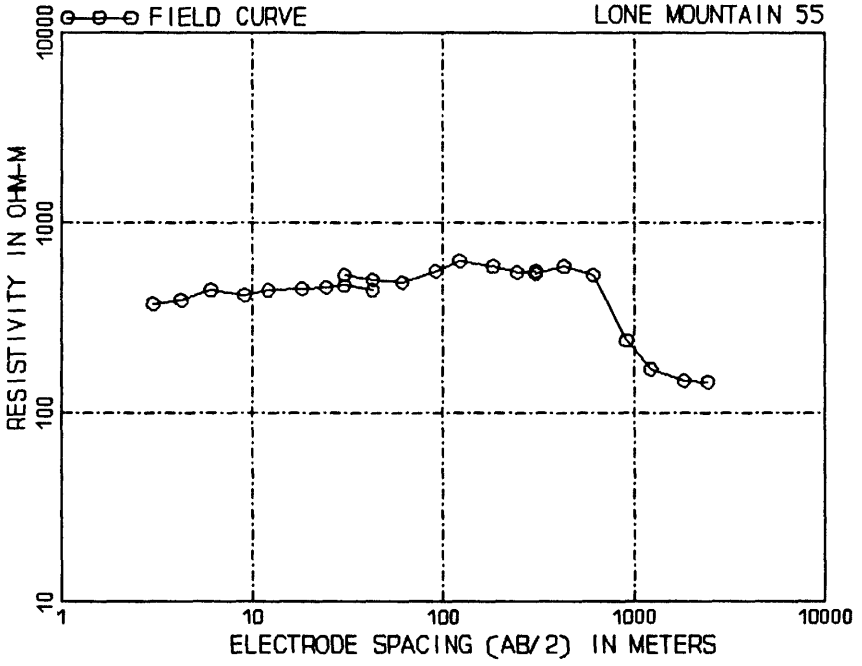
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	547.30	55.01	(180.46)	40.10
2.55	(8.38)	327.82	80.74	(264.89)	60.77
3.75	(12.29)	162.63	118.51	(388.80)	112.43
5.50	(18.05)	103.63	173.94	(570.68)	206.20
8.07	(26.49)	120.86	255.31	(837.64)	322.05
11.85	(38.88)	152.48	374.75	(1229.49)	379.45
17.39	(57.07)	135.40	550.06	(1804.65)	306.68
25.53	(83.76)	79.18	807.37	(2648.86)	167.90
37.47	(122.95)	43.51	99999.00	(99999.00)	75.35

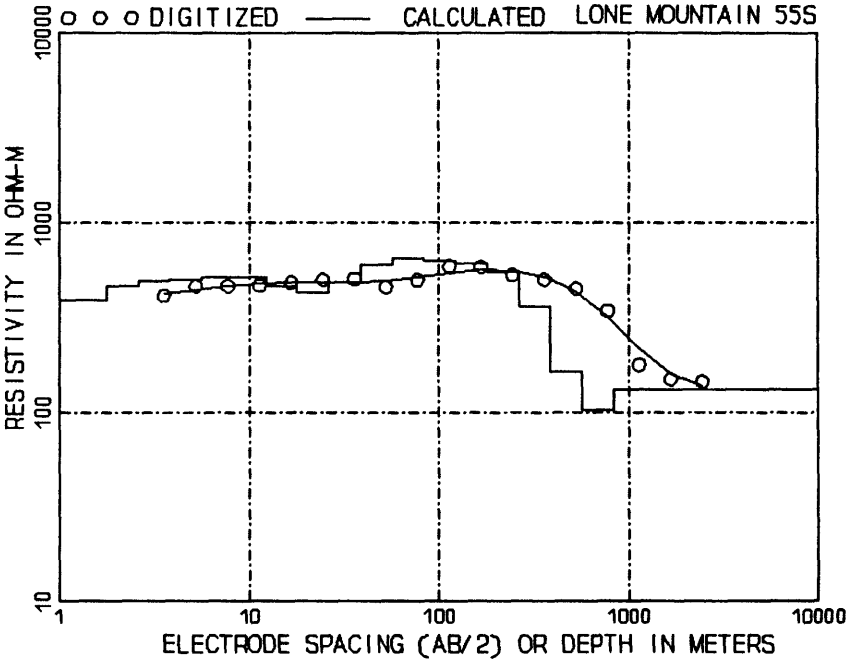




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	107.00	121.92	(400.00)	550.00
4.27	(14.00)	117.00	182.88	(600.00)	490.00
6.10	(20.00)	135.00	243.84	(800.00)	400.00
9.14	(30.00)	196.00	304.80	(1000.00)	340.00
12.19	(40.00)	270.00	426.72	(1400.00)	278.00
18.29	(60.00)	375.00	304.80	(1000.00)	385.00
24.38	(80.00)	500.00	426.72	(1400.00)	288.00
30.48	(100.00)	480.00	609.60	(2000.00)	240.00
30.48	(100.00)	485.00	914.40	(3000.00)	236.00
42.67	(140.00)	430.00	1219.20	(4000.00)	255.00
60.96	(200.00)	535.00	1828.80	(6000.00)	160.00
91.44	(300.00)	550.00	2438.40	(8000.00)	150.00
			3048.00	(10000.00)	150.00

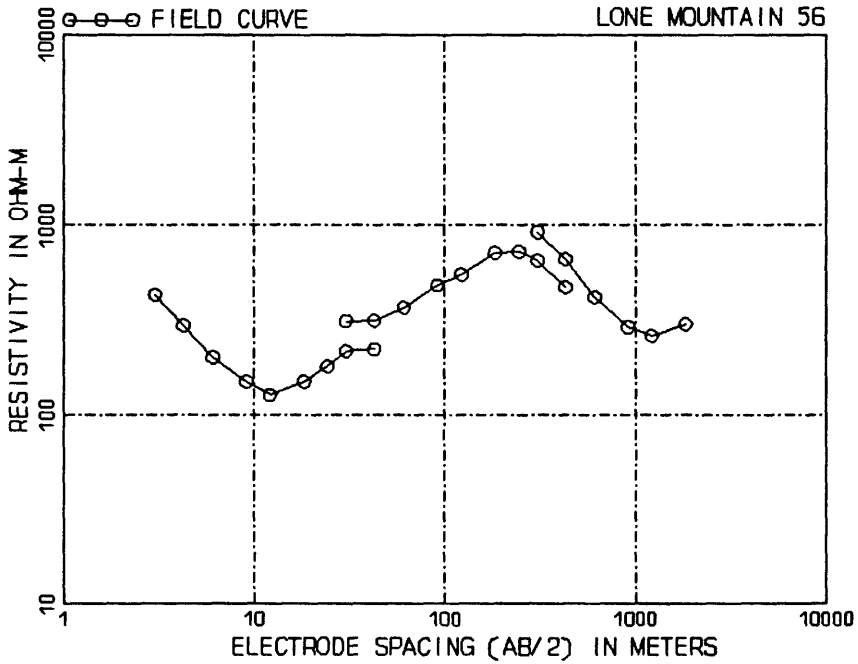
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.52	(5.00)	96.30	48.19	(158.11)	643.60
2.24	(7.34)	93.19	70.74	(232.08)	573.19
3.28	(10.77)	139.84	103.83	(340.65)	461.97
4.82	(15.81)	286.07	152.40	(500.00)	297.96
7.07	(23.21)	573.78	223.69	(733.90)	193.66
10.38	(34.06)	908.30	328.34	(1077.22)	206.39
15.24	(50.00)	1056.49	481.93	(1581.14)	285.02
22.37	(73.39)	949.52	707.38	(2320.79)	253.54
32.83	(107.72)	764.83	1038.29	(3406.46)	153.08
			99999.00	(99999.00)	125.22

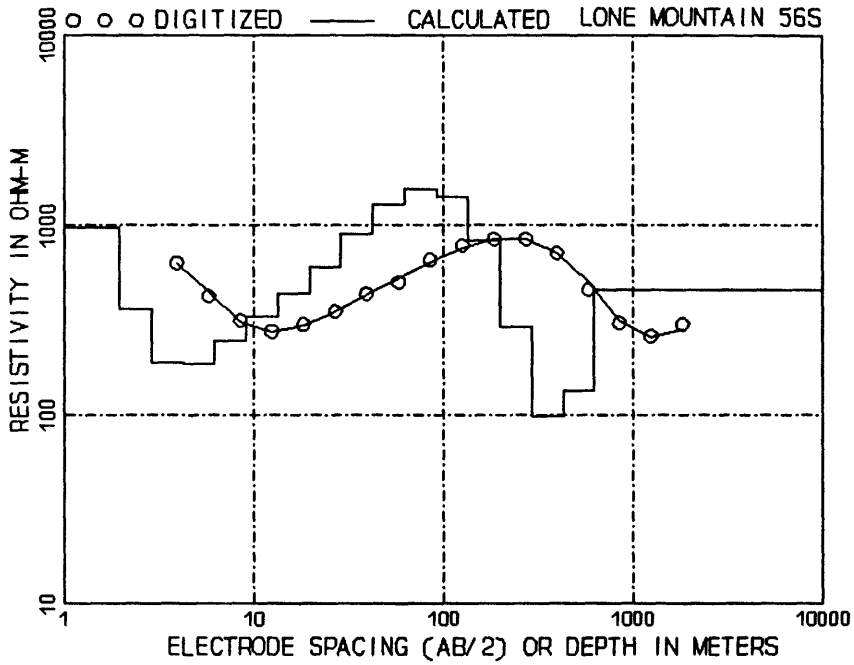




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	372.00	91.44	(300.00)	560.00
4.27	(14.00)	392.00	121.92	(400.00)	630.00
6.10	(20.00)	440.00	182.88	(600.00)	590.00
9.14	(30.00)	417.00	243.84	(800.00)	550.00
12.19	(40.00)	440.00	304.80	(1000.00)	560.00
18.29	(60.00)	450.00	304.80	(1000.00)	540.00
24.38	(80.00)	457.00	426.72	(1400.00)	590.00
30.48	(100.00)	467.00	609.60	(2000.00)	530.00
42.67	(140.00)	440.00	914.40	(3000.00)	240.00
30.48	(100.00)	530.00	1219.20	(4000.00)	170.00
42.67	(140.00)	500.00	1828.80	(6000.00)	147.00
60.96	(200.00)	485.00	2438.40	(8000.00)	145.00

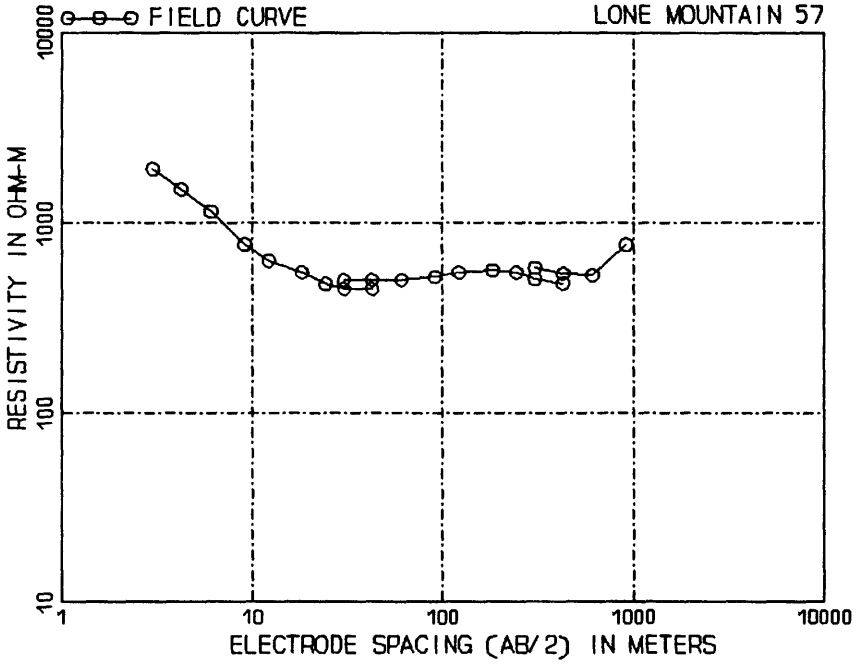
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.79	(5.87)	390.43	56.59	(185.66)	603.64
2.63	(8.62)	461.15	83.06	(272.52)	655.43
3.86	(12.65)	492.51	121.92	(400.00)	632.14
5.66	(18.57)	501.70	178.95	(587.12)	608.25
8.31	(27.25)	516.91	262.67	(861.77)	552.87
12.19	(40.00)	513.91	385.55	(1264.91)	363.75
17.90	(58.71)	463.94	565.90	(1856.64)	164.41
26.27	(86.18)	430.20	830.63	(2725.17)	103.05
38.55	(126.49)	488.61	99999.00	(99999.00)	132.66

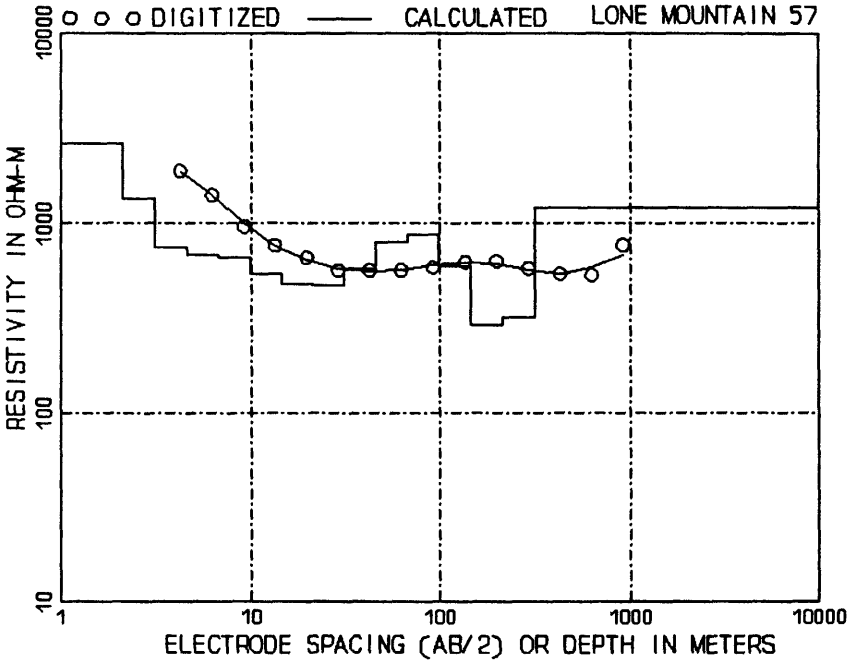




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	430.00	91.44	(300.00)	482.00
4.27	(14.00)	295.00	121.92	(400.00)	550.00
6.10	(20.00)	200.00	182.88	(600.00)	715.00
9.14	(30.00)	150.00	243.84	(800.00)	725.00
12.19	(40.00)	127.00	304.80	(1000.00)	650.00
18.29	(60.00)	150.00	426.72	(1400.00)	470.00
24.38	(80.00)	180.00	304.80	(1000.00)	920.00
30.48	(100.00)	217.00	426.72	(1400.00)	660.00
42.67	(140.00)	222.00	609.60	(2000.00)	415.00
30.48	(100.00)	312.00	914.40	(3000.00)	290.00
42.67	(140.00)	315.00	1219.20	(4000.00)	261.00
60.96	(200.00)	368.00	1828.80	(6000.00)	300.00

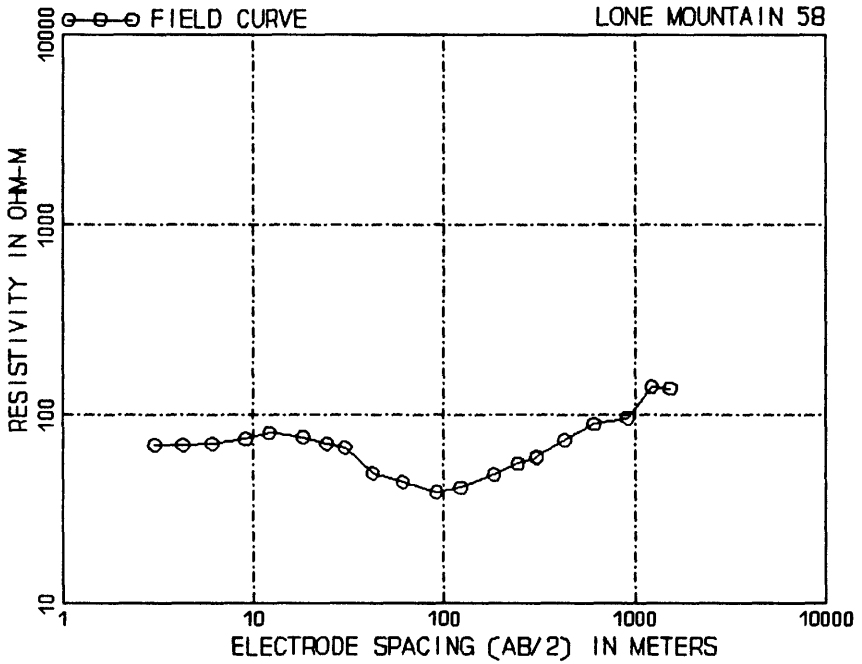
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.97	(6.46)	969.06	42.44	(139.25)	907.78
2.89	(9.49)	361.98	62.30	(204.39)	1287.60
4.24	(13.92)	187.31	91.44	(300.00)	1542.81
6.23	(20.44)	186.19	134.22	(440.34)	1410.93
9.14	(30.00)	246.70	197.00	(646.33)	838.09
13.42	(44.03)	331.03	289.16	(948.68)	290.43
19.70	(64.63)	432.04	424.43	(1392.48)	98.92
28.92	(94.87)	603.72	622.97	(2043.88)	133.46
			99999.00	(99999.00)	455.07

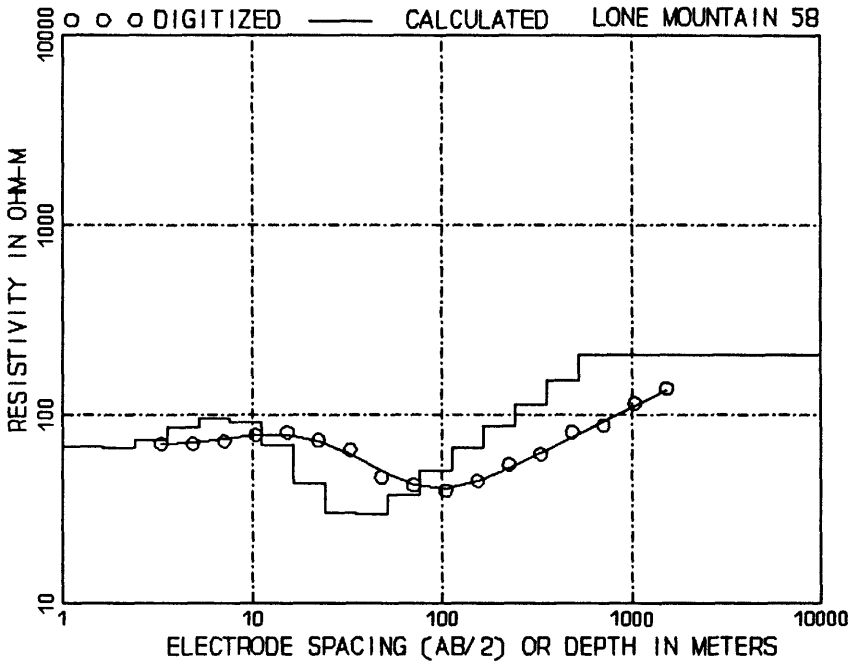




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1920.00	60.96	(200.00)	501.00
4.27	(14.00)	1500.00	91.44	(300.00)	520.00
6.10	(20.00)	1150.00	121.92	(400.00)	550.00
9.14	(30.00)	770.00	182.88	(600.00)	563.00
12.19	(40.00)	635.00	243.84	(800.00)	550.00
18.29	(60.00)	548.00	304.80	(1000.00)	505.00
24.38	(80.00)	475.00	426.72	(1400.00)	480.00
30.48	(100.00)	450.00	304.80	(1000.00)	580.00
42.67	(140.00)	449.00	426.72	(1400.00)	540.00
30.48	(100.00)	498.00	609.60	(2000.00)	530.00
42.67	(140.00)	500.00	914.40	(3000.00)	770.00

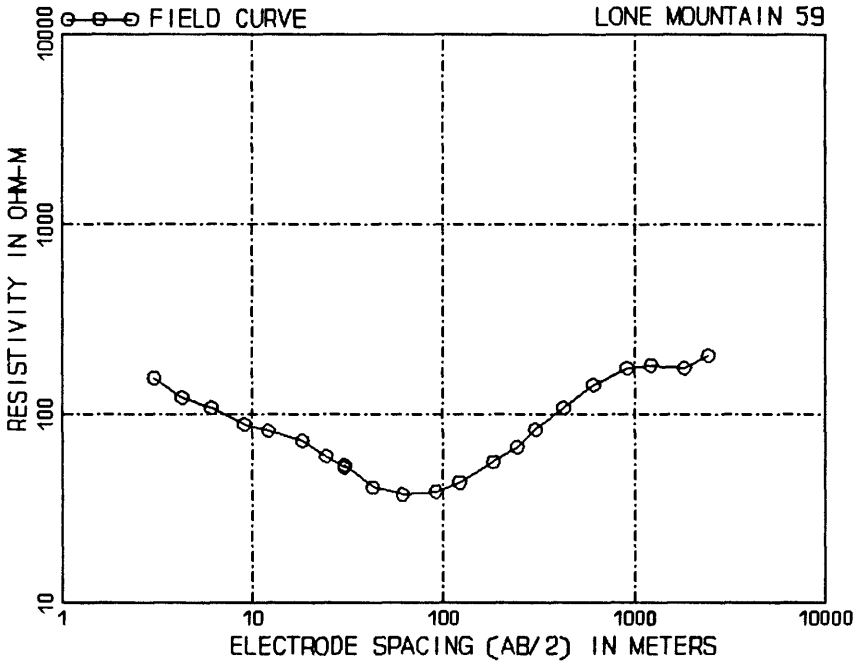
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.12	(6.96)	2637.45	31.15	(102.19)	472.18
3.11	(10.22)	1353.22	45.72	(150.00)	575.85
4.57	(15.00)	749.84	67.11	(220.17)	790.77
6.71	(22.02)	682.47	98.50	(323.17)	880.97
9.85	(32.32)	665.05	144.58	(474.34)	591.81
14.46	(47.43)	541.16	212.21	(696.24)	292.53
21.22	(69.62)	474.29	311.49	(1021.94)	318.83
			99999.00	(99999.00)	1213.99

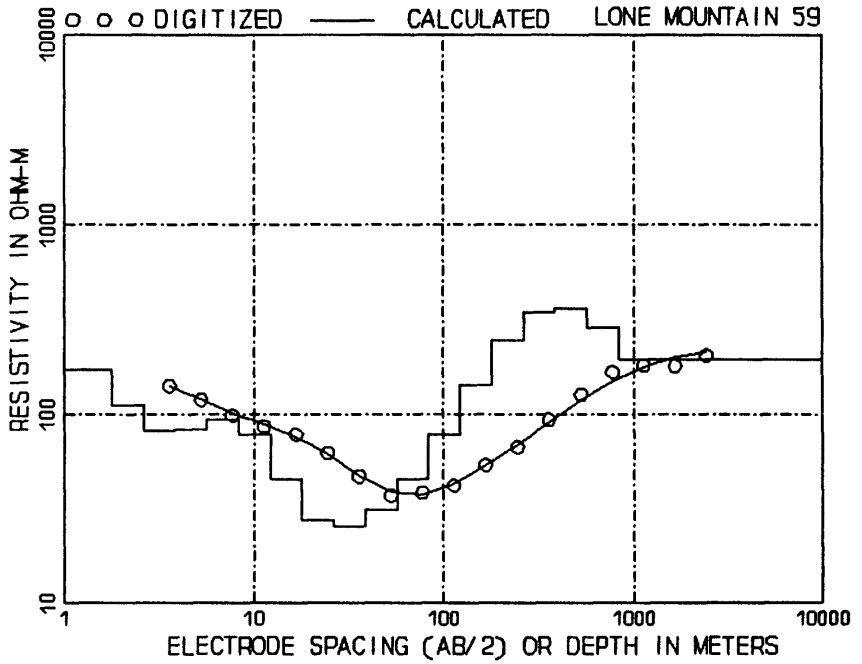




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	69.00	91.44	(300.00)	39.00
4.27	(14.00)	69.00	121.92	(400.00)	41.00
6.10	(20.00)	70.00	182.88	(600.00)	48.00
9.14	(30.00)	74.00	243.84	(800.00)	55.00
12.19	(40.00)	80.00	304.80	(1000.00)	59.00
18.29	(60.00)	76.00	304.80	(1000.00)	60.00
24.38	(80.00)	70.00	426.72	(1400.00)	73.00
30.48	(100.00)	67.00	609.60	(2000.00)	89.00
30.48	(100.00)	67.00	914.40	(3000.00)	96.00
42.67	(140.00)	49.00	1219.20	(4000.00)	140.00
60.96	(200.00)	44.00	1524.00	(5000.00)	137.00

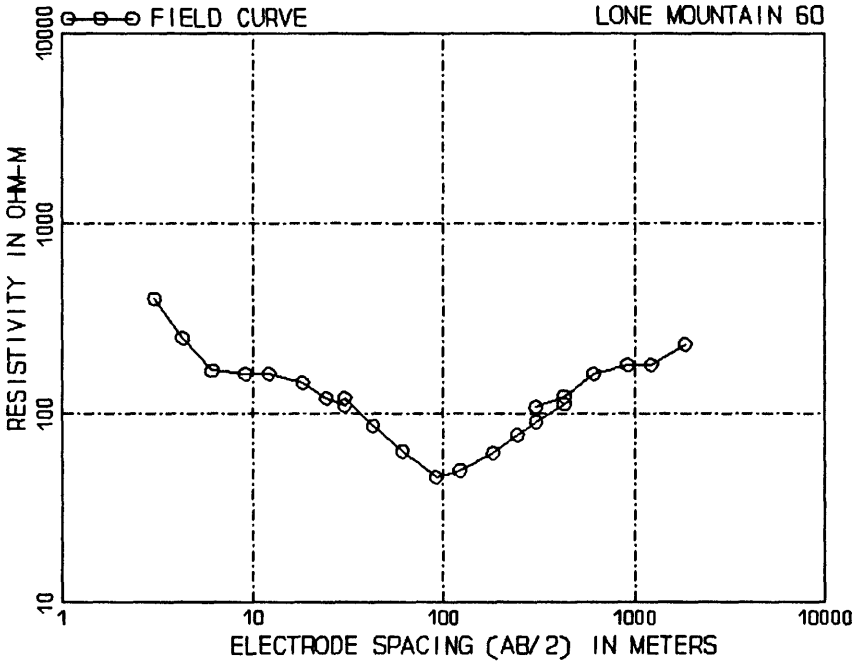
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.64	(5.39)	67.72	35.37	(116.04)	30.33
2.41	(7.91)	66.98	51.91	(170.32)	29.90
3.54	(11.60)	73.36	76.20	(250.00)	37.83
5.19	(17.03)	85.80	111.85	(366.95)	50.80
7.62	(25.00)	95.48	164.17	(538.61)	67.15
11.18	(36.69)	90.73	240.97	(790.57)	86.99
16.42	(53.86)	68.52	353.69	(1160.40)	113.45
24.10	(79.06)	43.33	519.14	(1703.23)	152.69
			99999.00	(99999.00)	207.72

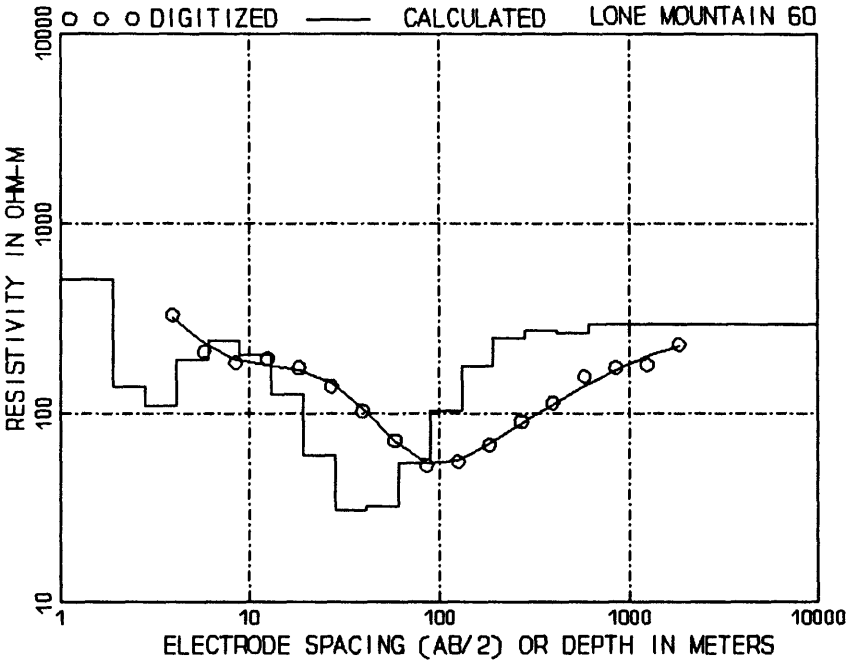




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	155.00	91.44	(300.00)	39.00
4.27	(14.00)	122.00	121.92	(400.00)	43.50
6.10	(20.00)	108.00	182.88	(600.00)	56.00
9.14	(30.00)	88.00	243.84	(800.00)	67.00
12.19	(40.00)	82.00	304.80	(1000.00)	83.00
18.29	(60.00)	72.00	304.80	(1000.00)	83.00
24.38	(80.00)	60.00	426.72	(1400.00)	108.00
30.48	(100.00)	52.00	609.60	(2000.00)	143.00
30.48	(100.00)	54.00	914.40	(3000.00)	175.00
42.67	(140.00)	41.00	1219.20	(4000.00)	181.00
60.96	(200.00)	37.50	1828.80	(6000.00)	175.00
			2438.40	(8000.00)	204.00

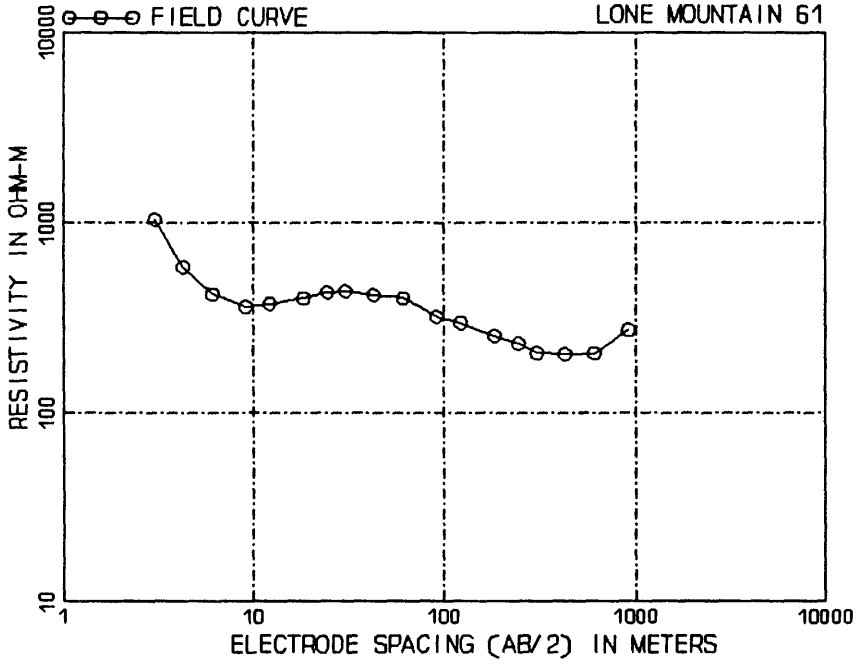
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.79	(5.87)	172.25	56.59	(185.66)	31.30
2.63	(8.62)	112.03	83.06	(272.52)	45.49
3.86	(12.65)	81.56	121.92	(400.00)	77.69
5.66	(18.57)	82.98	178.95	(587.12)	143.56
8.31	(27.25)	93.76	262.67	(861.77)	246.56
12.19	(40.00)	78.22	385.55	(1264.91)	343.84
17.90	(58.71)	45.31	565.90	(1856.64)	361.08
26.27	(86.18)	27.74	830.63	(2725.17)	287.98
38.55	(126.49)	25.69	99999.00	(99999.00)	195.47

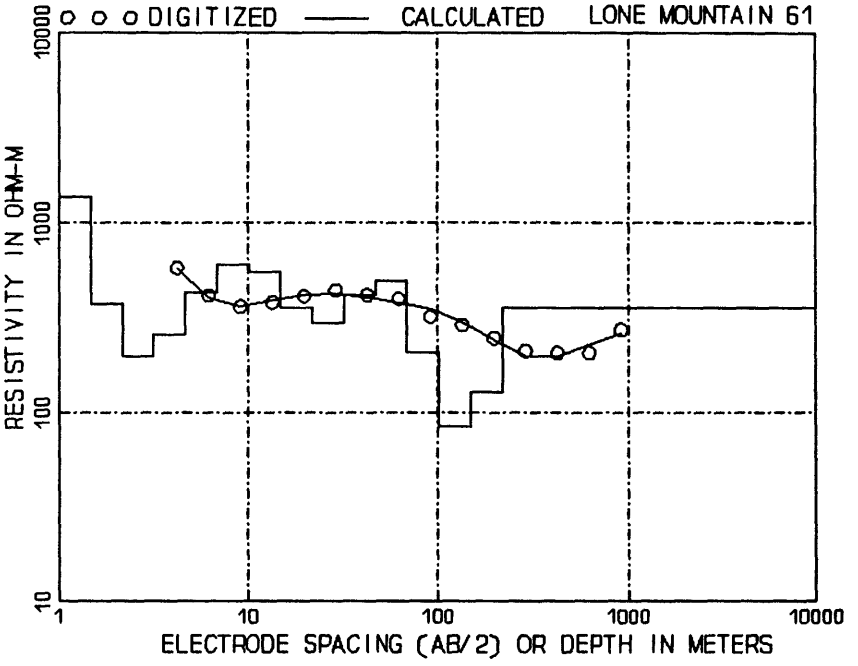




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	400.00	91.44	(300.00)	46.00
4.27	(14.00)	250.00	121.92	(400.00)	50.00
6.10	(20.00)	168.00	182.88	(600.00)	62.00
9.14	(30.00)	162.00	243.84	(800.00)	77.00
12.19	(40.00)	162.00	304.80	(1000.00)	90.00
18.29	(60.00)	145.00	426.72	(1400.00)	112.00
24.38	(80.00)	120.00	304.80	(1000.00)	108.00
30.48	(100.00)	110.00	426.72	(1400.00)	123.00
30.48	(100.00)	120.00	609.60	(2000.00)	162.00
42.67	(140.00)	86.00	914.40	(3000.00)	180.00
60.96	(200.00)	63.00	1219.20	(4000.00)	180.00
			1828.80	(6000.00)	230.00

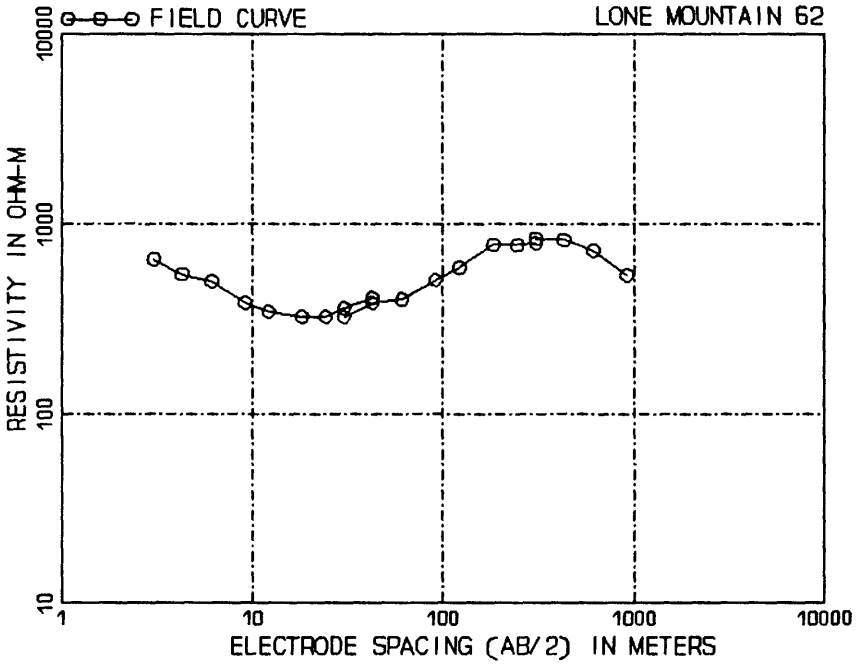
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	508.83	41.25	(135.35)	30.89
2.81	(9.22)	137.45	60.55	(198.66)	32.16
4.13	(13.53)	109.44	88.88	(291.60)	54.92
6.06	(19.87)	191.39	130.46	(428.01)	102.76
8.89	(29.16)	243.17	191.49	(628.23)	178.32
13.05	(42.80)	203.65	281.06	(922.12)	249.90
19.15	(62.82)	126.86	412.54	(1353.49)	271.32
28.11	(92.21)	60.32	605.53	(1986.65)	265.00
			99999.00	(99999.00)	293.71

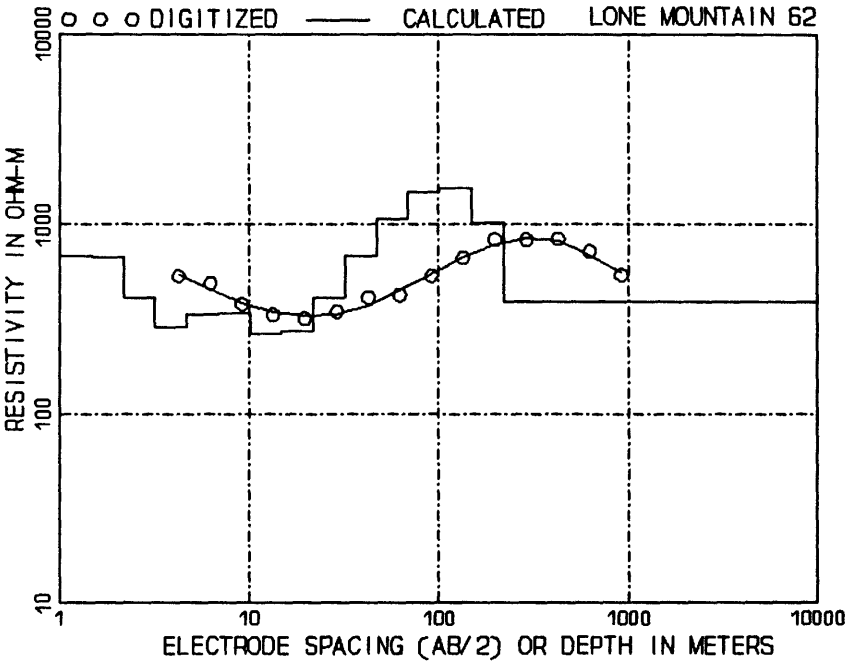




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1035.00	60.96	(200.00)	400.00
4.27	(14.00)	585.00	91.44	(300.00)	320.00
6.10	(20.00)	420.00	121.92	(400.00)	297.00
9.14	(30.00)	360.00	182.88	(600.00)	254.00
12.19	(40.00)	375.00	243.84	(800.00)	230.00
18.29	(60.00)	400.00	304.80	(1000.00)	206.00
24.38	(80.00)	430.00	304.80	(1000.00)	206.00
30.48	(100.00)	435.00	426.72	(1400.00)	203.00
30.48	(100.00)	435.00	609.60	(2000.00)	205.00
42.67	(140.00)	415.00	914.40	(3000.00)	272.00

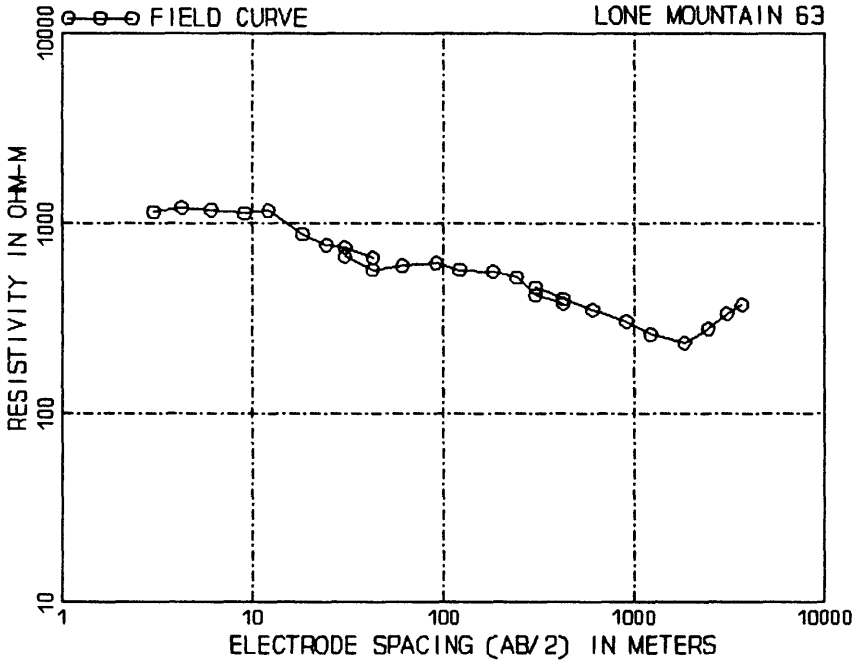
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.49	(4.87)	1369.13	21.80	(71.54)	354.78
2.18	(7.15)	373.74	32.00	(105.00)	294.32
3.20	(10.50)	198.24	46.98	(154.12)	413.07
4.70	(15.41)	256.24	68.95	(226.22)	490.76
6.90	(22.62)	429.48	101.21	(332.04)	206.94
10.12	(33.20)	607.07	148.55	(487.37)	83.92
14.85	(48.74)	552.92	218.04	(715.36)	128.29
			99999.00	(99999.00)	354.20

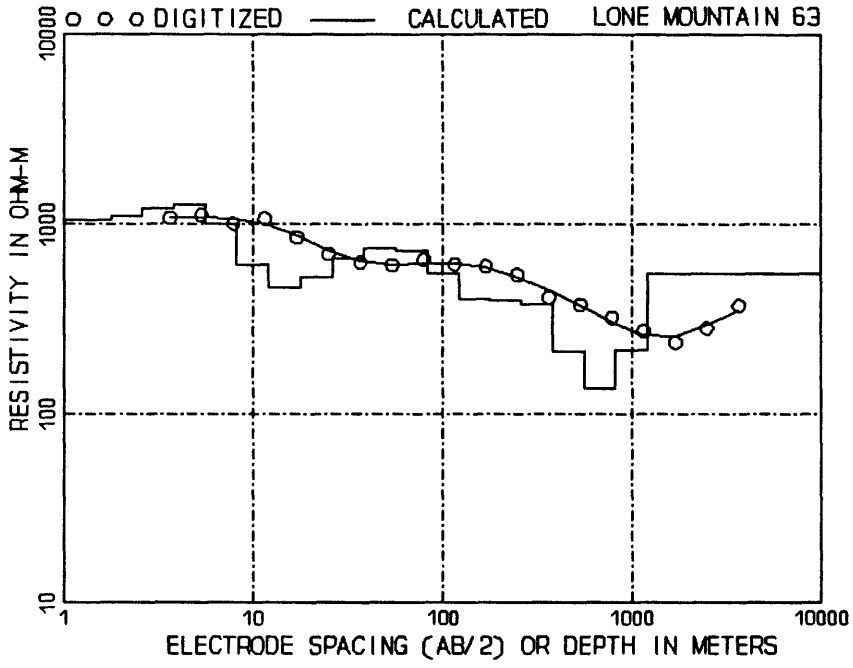




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	655.00	42.67	(140.00)	385.00
4.27	(14.00)	545.00	60.96	(200.00)	401.00
6.10	(20.00)	500.00	91.44	(300.00)	510.00
9.14	(30.00)	385.00	121.92	(400.00)	590.00
12.19	(40.00)	345.00	182.88	(600.00)	780.00
18.29	(60.00)	325.00	243.84	(800.00)	780.00
24.38	(80.00)	325.00	304.80	(1000.00)	800.00
30.48	(100.00)	360.00	304.80	(1000.00)	840.00
42.67	(140.00)	410.00	426.72	(1400.00)	830.00
30.48	(100.00)	325.00	609.60	(2000.00)	730.00
			914.40	(3000.00)	540.00

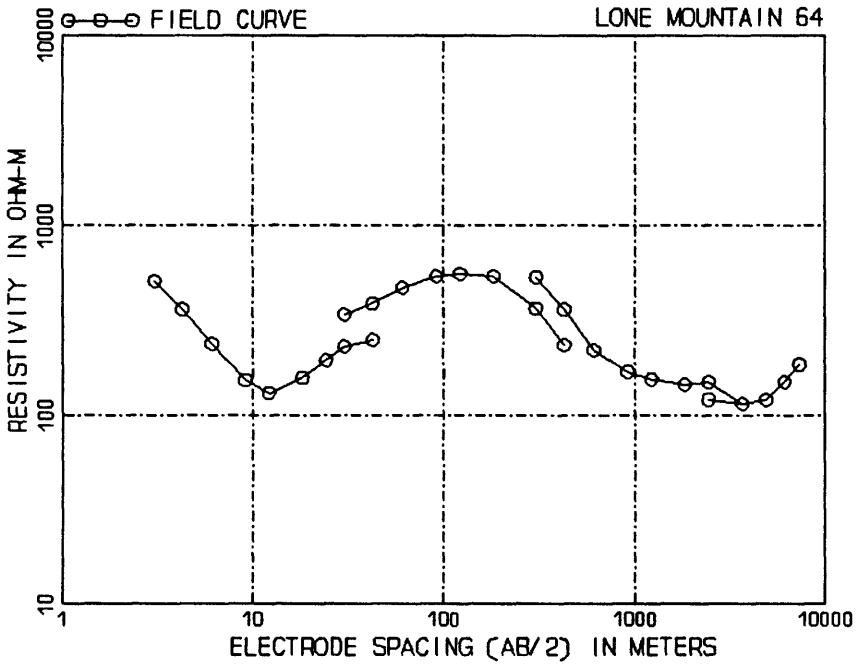
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.49	(4.87)	678.57	21.80	(71.54)	271.74
2.18	(7.15)	676.90	32.00	(105.00)	412.04
3.20	(10.50)	410.99	46.98	(154.12)	685.04
4.70	(15.41)	287.40	68.95	(226.22)	1067.33
6.90	(22.62)	332.22	101.21	(332.04)	1470.37
10.12	(33.20)	338.40	148.55	(487.37)	1553.74
14.85	(48.74)	263.21	218.04	(715.36)	1015.98
			99999.00	(99999.00)	390.90

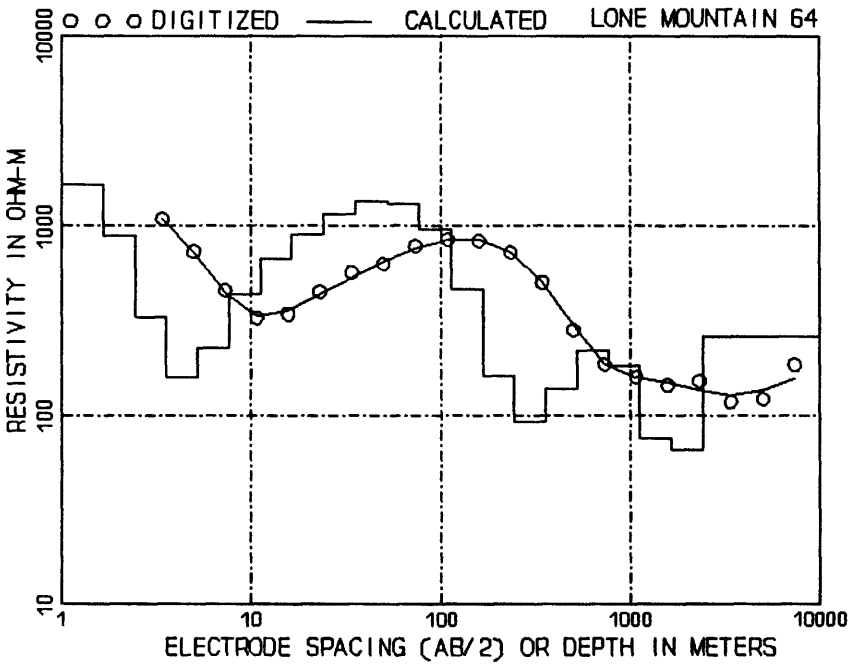




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1150.00	121.92	(400.00)	570.00
4.27	(14.00)	1210.00	182.88	(600.00)	560.00
6.10	(20.00)	1180.00	243.84	(800.00)	520.00
9.14	(30.00)	1130.00	304.80	(1000.00)	420.00
12.19	(40.00)	1170.00	426.72	(1400.00)	380.00
18.29	(60.00)	880.00	304.80	(1000.00)	460.00
24.38	(80.00)	770.00	426.72	(1400.00)	400.00
30.48	(100.00)	750.00	609.60	(2000.00)	350.00
42.67	(140.00)	660.00	914.40	(3000.00)	305.00
30.48	(100.00)	670.00	1219.20	(4000.00)	260.00
42.67	(140.00)	570.00	1828.80	(6000.00)	235.00
60.96	(200.00)	600.00	2438.40	(8000.00)	279.00
91.44	(300.00)	620.00	3048.00	(10000.00)	335.00
			3657.60	(12000.00)	372.00

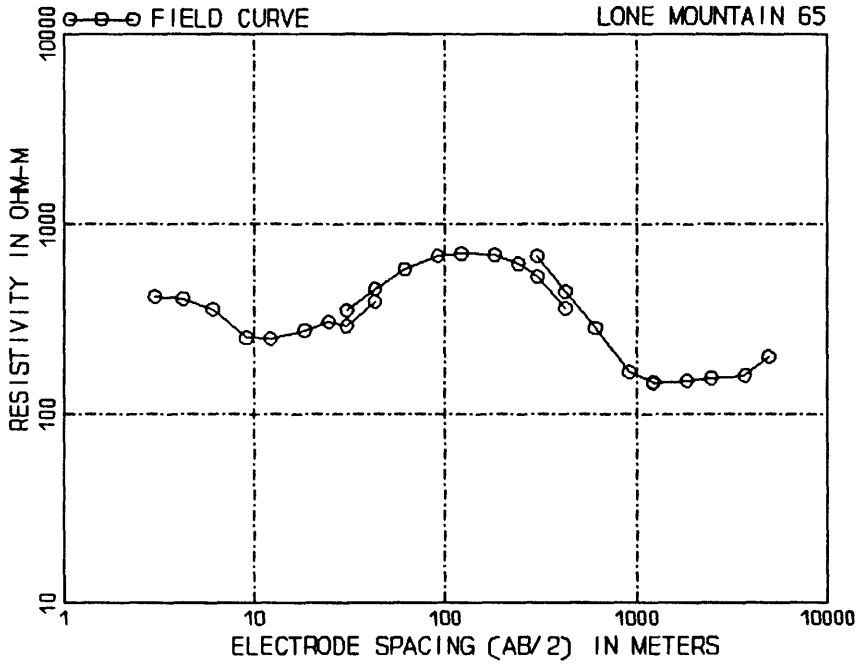
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.78	(5.83)	1053.04	56.21	(184.42)	750.78
2.61	(8.56)	1098.41	82.51	(270.70)	724.69
3.83	(12.56)	1203.12	121.11	(397.33)	548.83
5.62	(18.44)	1274.12	177.76	(583.20)	401.64
8.25	(27.07)	998.86	260.92	(856.02)	394.83
12.11	(39.73)	611.11	382.97	(1256.47)	377.74
17.78	(58.32)	461.08	562.12	(1844.24)	214.49
26.09	(85.60)	524.06	825.09	(2706.98)	135.62
38.30	(125.65)	659.47	1211.06	(3973.30)	215.78
			99999.00	(99999.00)	548.62

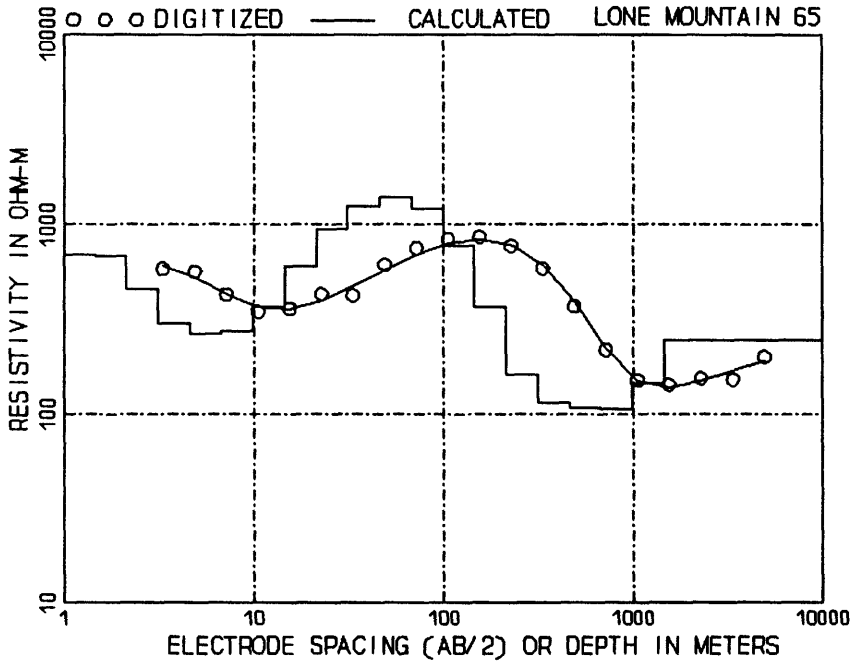




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	510.00	304.80	(1000.00)	365.00
4.27	(14.00)	360.00	426.72	(1400.00)	235.00
6.10	(20.00)	238.00	304.80	(1000.00)	535.00
9.14	(30.00)	153.00	426.72	(1400.00)	360.00
12.19	(40.00)	131.00	609.60	(2000.00)	220.00
18.29	(60.00)	158.00	914.40	(3000.00)	170.00
24.38	(80.00)	195.00	1219.20	(4000.00)	155.00
30.48	(100.00)	230.00	1828.80	(6000.00)	145.00
42.67	(140.00)	250.00	2438.40	(8000.00)	150.00
30.48	(100.00)	340.00	3657.60	(12000.00)	115.00
42.67	(140.00)	388.00	2438.40	(8000.00)	121.00
60.96	(200.00)	470.00	3657.60	(12000.00)	115.00
91.44	(300.00)	540.00	4876.80	(16000.00)	120.00
121.92	(400.00)	560.00	6096.00	(20000.00)	150.00
182.88	(600.00)	540.00	7315.20	(24000.00)	185.00

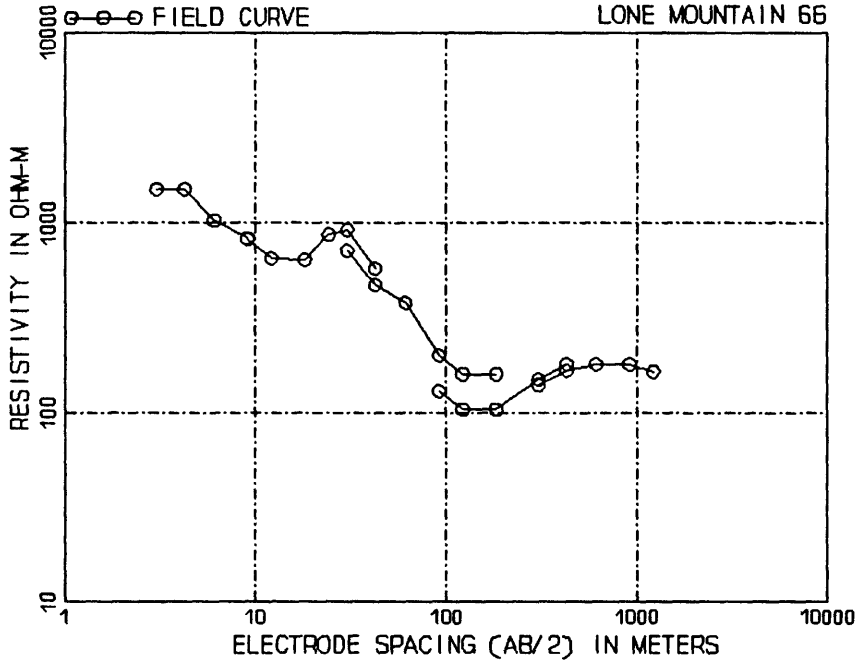
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.65	(5.41)	1655.23	76.59	(251.29)	1314.20
2.42	(7.95)	888.10	112.42	(368.85)	962.66
3.56	(11.66)	330.08	165.02	(541.39)	462.78
5.22	(17.12)	158.96	242.21	(794.66)	160.38
7.66	(25.13)	227.78	355.52	(1166.40)	91.89
11.24	(36.88)	435.08	521.83	(1712.04)	138.74
16.50	(54.14)	670.04	765.94	(2512.93)	221.35
24.22	(79.47)	907.82	1124.25	(3688.48)	182.02
35.55	(116.64)	1162.95	1650.17	(5413.95)	75.51
52.18	(171.20)	1349.57	2422.12	(7946.59)	65.28
			99999.00	(99999.00)	259.92

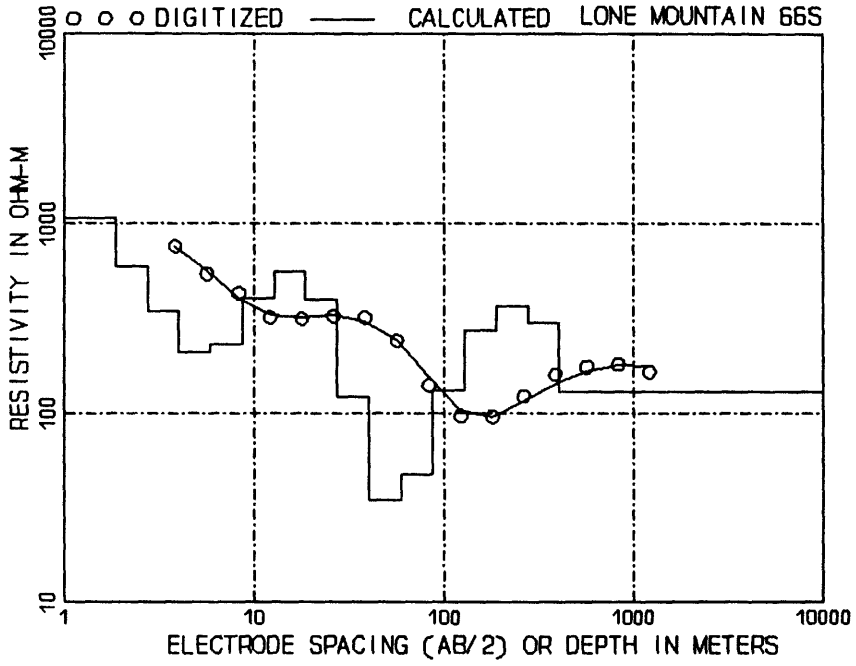




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	415.00	182.88	(600.00)	690.00
4.27	(14.00)	405.00	243.84	(800.00)	620.00
6.10	(20.00)	355.00	304.80	(1000.00)	530.00
9.14	(30.00)	252.00	426.72	(1400.00)	360.00
12.19	(40.00)	250.00	304.80	(1000.00)	680.00
18.29	(60.00)	275.00	426.72	(1400.00)	440.00
24.38	(80.00)	305.00	609.60	(2000.00)	285.00
30.48	(100.00)	290.00	914.40	(3000.00)	166.00
42.67	(140.00)	390.00	1219.20	(4000.00)	147.00
30.48	(100.00)	350.00	1219.20	(4000.00)	145.00
42.67	(140.00)	455.00	1828.80	(6000.00)	150.00
60.96	(200.00)	580.00	2438.40	(8000.00)	155.00
91.44	(300.00)	680.00	3657.60	(12000.00)	160.00
121.92	(400.00)	700.00	4876.80	(16000.00)	200.00

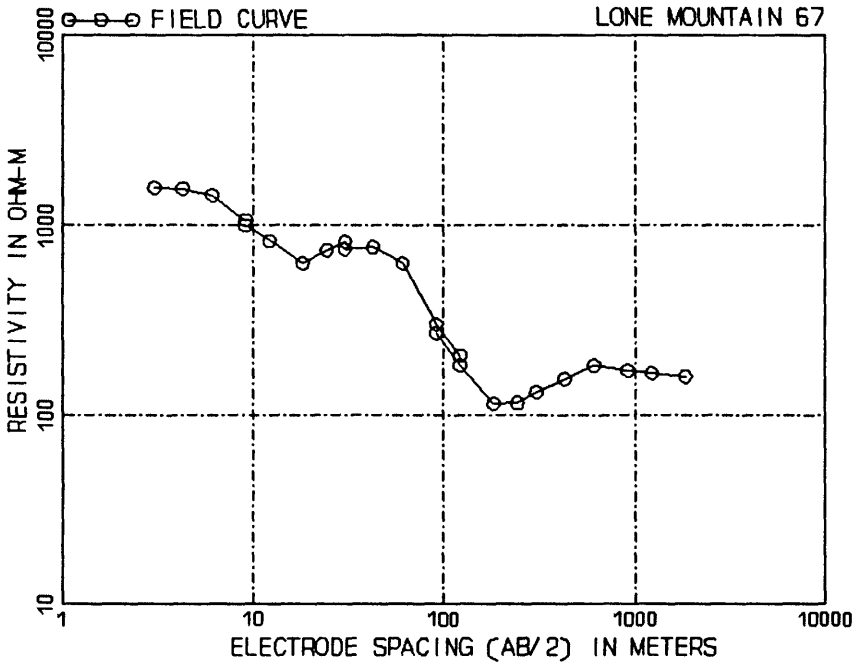
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.45	(4.77)	690.95	67.45	(221.31)	1386.06
2.13	(7.00)	685.61	99.01	(324.84)	1202.92
3.13	(10.27)	458.44	145.33	(476.80)	775.35
4.60	(15.08)	299.93	213.31	(699.84)	366.41
6.75	(22.13)	264.67	313.10	(1027.22)	162.71
9.90	(32.48)	275.31	459.57	(1507.76)	115.50
14.53	(47.68)	366.54	674.55	(2213.09)	108.34
21.33	(69.98)	598.21	990.10	(3248.37)	106.62
31.31	(102.72)	937.50	1453.27	(4767.95)	144.25
45.96	(150.78)	1256.73	99999.00	(99999.00)	245.62

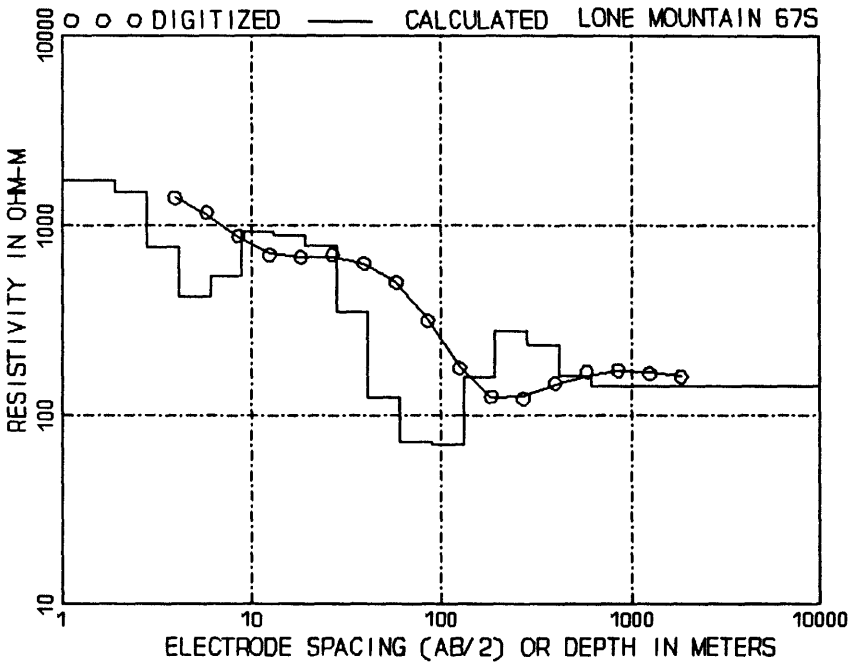




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1500.00	91.44	(300.00)	200.00
4.27	(14.00)	1500.00	121.92	(400.00)	160.00
6.10	(20.00)	1030.00	182.88	(600.00)	160.00
9.14	(30.00)	830.00	91.44	(300.00)	130.00
9.14	(30.00)	825.00	121.92	(400.00)	104.00
12.19	(40.00)	650.00	182.88	(600.00)	104.00
18.29	(60.00)	640.00	304.80	(1000.00)	150.00
24.38	(80.00)	870.00	426.72	(1400.00)	180.00
30.48	(100.00)	920.00	304.80	(1000.00)	140.00
42.67	(140.00)	575.00	426.72	(1400.00)	167.00
30.48	(100.00)	715.00	609.60	(2000.00)	180.00
42.67	(140.00)	470.00	914.40	(3000.00)	180.00
60.96	(200.00)	380.00	1219.20	(4000.00)	165.00

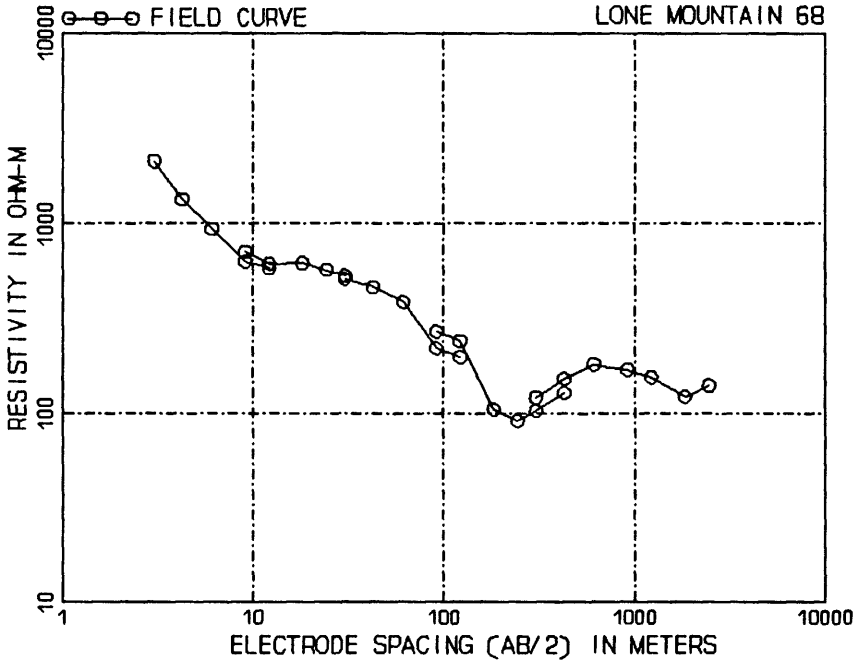
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.87	(6.15)	1063.20	40.37	(132.44)	122.21
2.75	(9.02)	597.25	59.25	(194.40)	34.90
4.04	(13.24)	346.78	86.97	(285.34)	47.47
5.93	(19.44)	208.76	127.66	(418.82)	131.52
8.70	(28.53)	229.69	187.37	(614.75)	271.94
12.77	(41.88)	401.94	275.03	(902.33)	368.89
18.74	(61.47)	557.04	403.69	(1324.43)	298.75
27.50	(90.23)	396.36	99999.00	(99999.00)	130.91

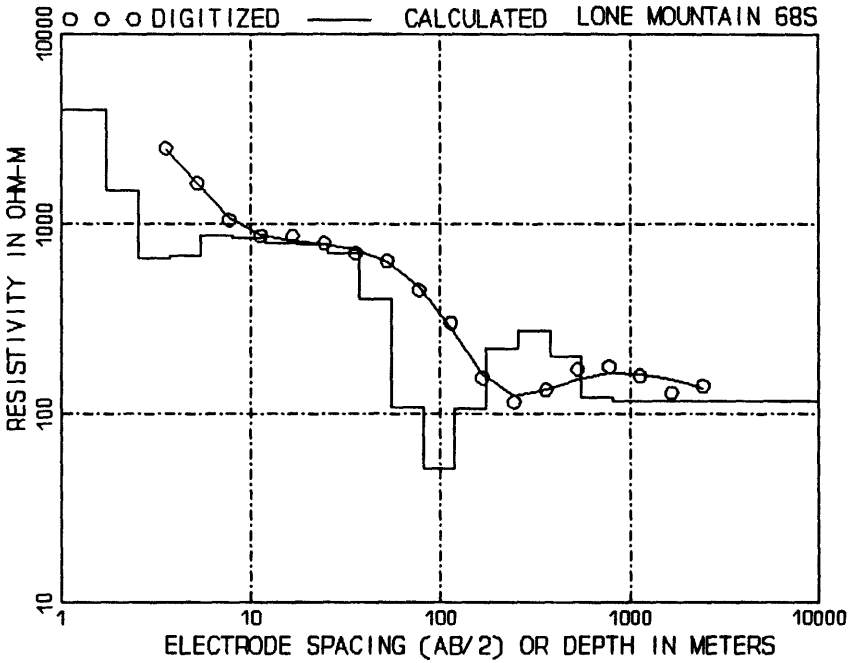




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1570.00	91.44	(300.00)	300.00
4.27	(14.00)	1560.00	121.92	(400.00)	205.00
6.10	(20.00)	1440.00	91.44	(300.00)	270.00
9.14	(30.00)	1060.00	121.92	(400.00)	183.00
9.14	(30.00)	1000.00	182.88	(600.00)	115.00
12.19	(40.00)	830.00	243.84	(800.00)	116.00
18.29	(60.00)	630.00	304.80	(1000.00)	132.00
24.38	(80.00)	740.00	304.80	(1000.00)	132.00
30.48	(100.00)	820.00	426.72	(1400.00)	155.00
30.48	(100.00)	750.00	609.60	(2000.00)	182.00
42.67	(140.00)	770.00	914.40	(3000.00)	172.00
60.96	(200.00)	630.00	1219.20	(4000.00)	166.00
			1828.80	(6000.00)	160.00

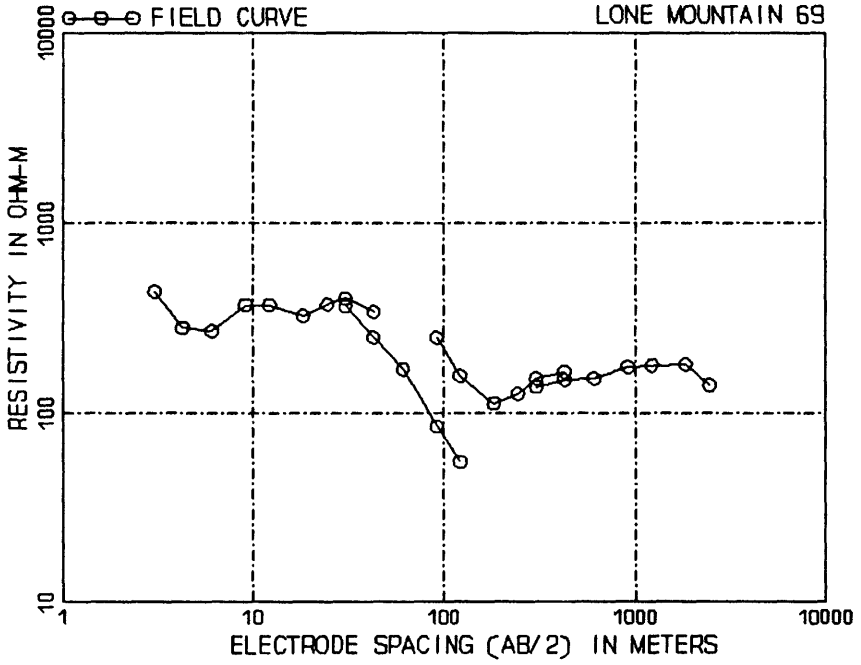
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	1725.38	41.25	(135.35)	352.48
2.81	(9.22)	1501.25	60.55	(198.66)	123.20
4.13	(13.53)	771.92	88.88	(291.60)	72.64
6.06	(19.87)	418.85	130.46	(428.01)	69.36
8.89	(29.16)	543.58	191.49	(628.23)	157.75
13.05	(42.80)	930.03	281.06	(922.12)	279.18
19.15	(62.82)	883.14	412.54	(1353.49)	234.44
28.11	(92.21)	787.53	605.53	(1986.65)	162.56
			99999.00	(99999.00)	142.97

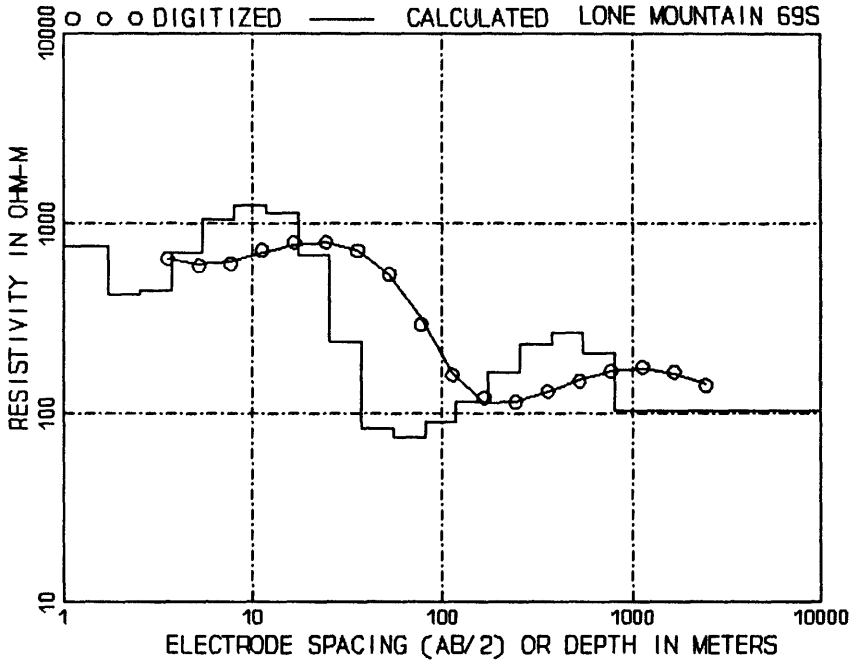




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	2125.83	121.92	(400.00)	197.00
4.27	(14.00)	1340.00	91.44	(300.00)	270.00
6.10	(20.00)	940.00	121.92	(400.00)	240.00
9.14	(30.00)	630.00	182.88	(600.00)	105.00
12.19	(40.00)	580.00	243.84	(800.00)	91.00
9.14	(30.00)	710.00	304.80	(1000.00)	103.00
12.19	(40.00)	615.00	426.72	(1400.00)	128.00
18.29	(60.00)	620.00	304.80	(1000.00)	121.00
24.38	(80.00)	570.00	426.72	(1400.00)	152.00
30.48	(100.00)	530.00	609.60	(2000.00)	181.00
30.48	(100.00)	510.00	914.40	(3000.00)	170.00
42.67	(140.00)	460.00	1219.20	(4000.00)	155.00
60.96	(200.00)	385.00	1828.80	(6000.00)	122.00
91.44	(300.00)	220.00	2438.40	(8000.00)	140.00

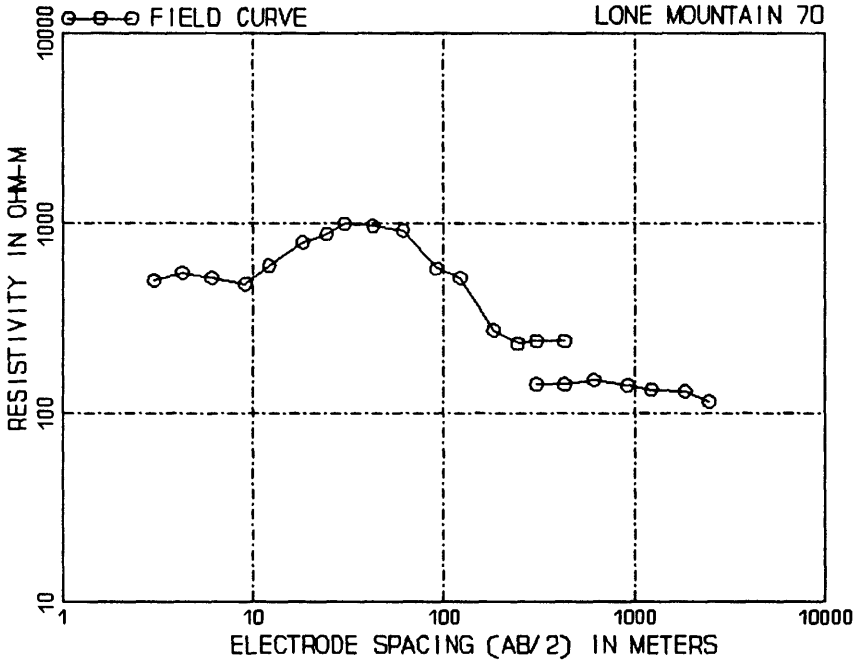
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	3979.76	55.01	(180.46)	400.62
2.55	(8.38)	1507.07	80.74	(264.89)	107.59
3.75	(12.29)	661.71	118.51	(388.80)	51.20
5.50	(18.05)	679.81	173.94	(570.68)	106.00
8.07	(26.49)	868.25	255.31	(837.64)	221.42
11.85	(38.88)	844.03	374.75	(1229.49)	274.58
17.39	(57.07)	795.37	550.06	(1804.65)	201.02
25.53	(83.76)	789.64	807.37	(2648.86)	122.02
37.47	(122.95)	703.04	99999.00	(99999.00)	117.40

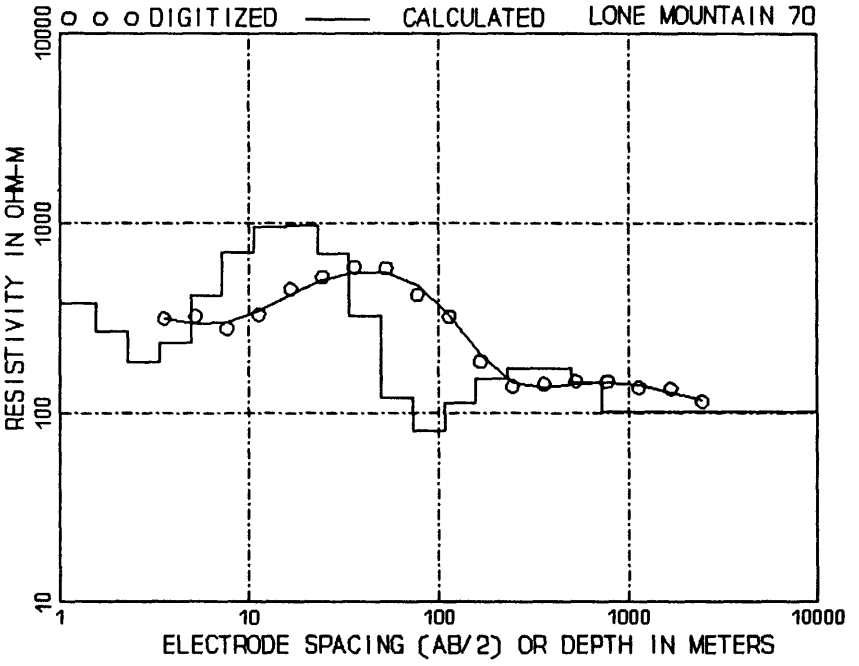




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	435.00	121.92	(400.00)	55.00
4.27	(14.00)	280.00	91.44	(300.00)	250.00
6.10	(20.00)	270.00	121.92	(400.00)	157.00
9.14	(30.00)	370.00	182.88	(600.00)	112.00
12.19	(40.00)	370.00	243.84	(800.00)	126.00
18.29	(60.00)	325.00	304.80	(1000.00)	152.00
24.38	(80.00)	372.00	426.72	(1400.00)	165.00
30.48	(100.00)	400.00	304.80	(1000.00)	137.00
42.67	(140.00)	340.00	426.72	(1400.00)	150.00
30.48	(100.00)	365.00	609.60	(2000.00)	152.00
42.67	(140.00)	250.00	914.40	(3000.00)	175.00
60.96	(200.00)	170.00	1219.20	(4000.00)	178.00
91.44	(300.00)	85.00	1828.80	(6000.00)	180.00
			2438.40	(8000.00)	140.00

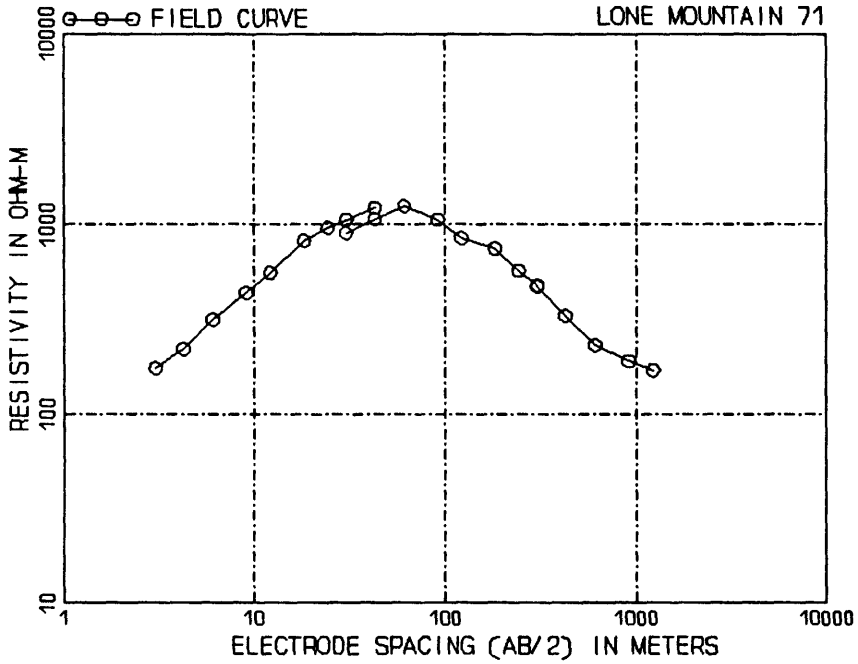
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	760.57	55.01	(180.46)	82.76
2.55	(8.38)	424.18	80.74	(264.89)	73.92
3.75	(12.29)	438.73	118.51	(388.80)	89.58
5.50	(18.05)	702.21	173.94	(570.68)	114.76
8.07	(26.49)	1048.51	255.31	(837.64)	164.13
11.85	(38.88)	1254.09	374.75	(1229.49)	230.59
17.39	(57.07)	1141.02	550.06	(1804.65)	264.67
25.53	(83.76)	677.53	807.37	(2648.86)	206.49
37.47	(122.95)	236.90	99999.00	(99999.00)	102.69

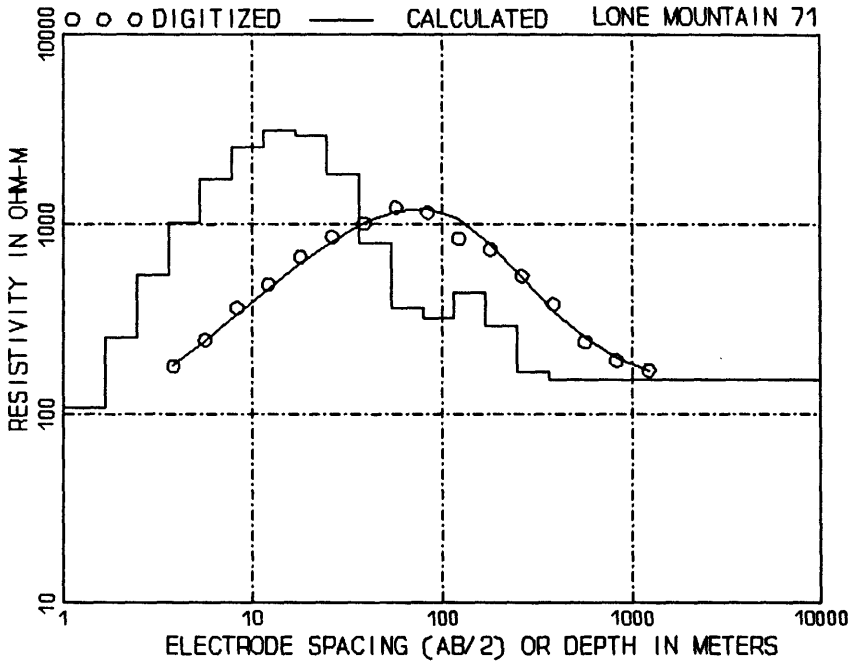




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	500.00	121.92	(400.00)	515.00
4.27	(14.00)	550.00	182.88	(600.00)	273.00
6.10	(20.00)	515.00	243.84	(800.00)	233.00
9.14	(30.00)	480.00	304.80	(1000.00)	240.00
12.19	(40.00)	600.00	426.72	(1400.00)	240.00
18.29	(60.00)	800.00	304.80	(1000.00)	142.00
24.38	(80.00)	880.00	426.72	(1400.00)	142.00
30.48	(100.00)	1000.00	609.60	(2000.00)	150.00
30.48	(100.00)	1000.00	914.40	(3000.00)	140.00
42.67	(140.00)	970.00	1219.20	(4000.00)	133.00
60.96	(200.00)	920.00	1828.80	(6000.00)	130.00
91.44	(300.00)	580.00	2438.40	(8000.00)	115.00

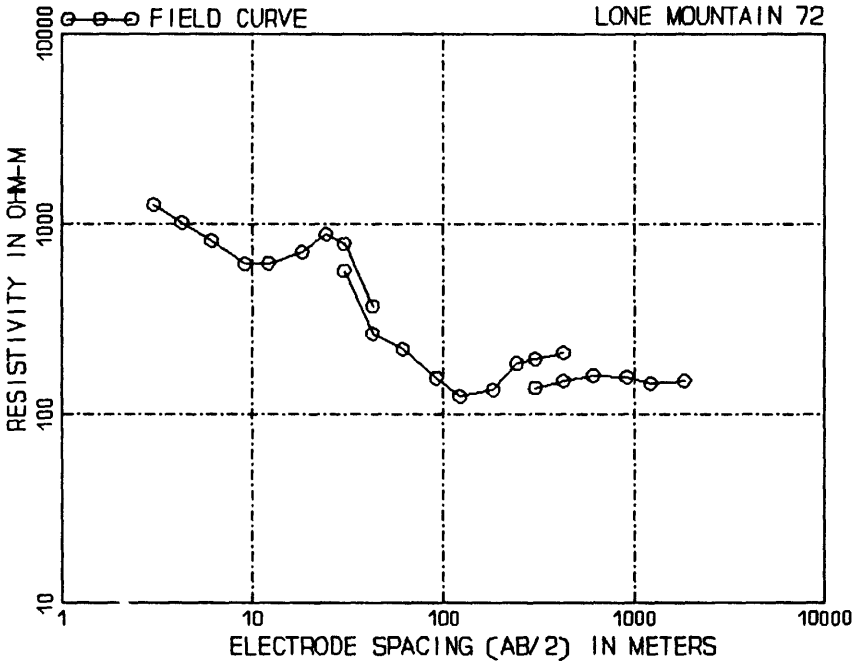
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.57	(5.14)	380.90	49.51	(162.42)	326.37
2.30	(7.54)	267.18	72.66	(238.40)	120.97
3.37	(11.07)	185.03	106.66	(349.92)	79.86
4.95	(16.24)	232.49	156.55	(513.61)	113.07
7.27	(23.84)	417.89	229.78	(753.88)	152.78
10.67	(34.99)	705.86	337.27	(1106.54)	171.21
15.65	(51.36)	962.17	495.05	(1624.19)	171.43
22.98	(75.39)	974.63	726.64	(2383.98)	144.71
33.73	(110.65)	690.57	99999.00	(99999.00)	100.83

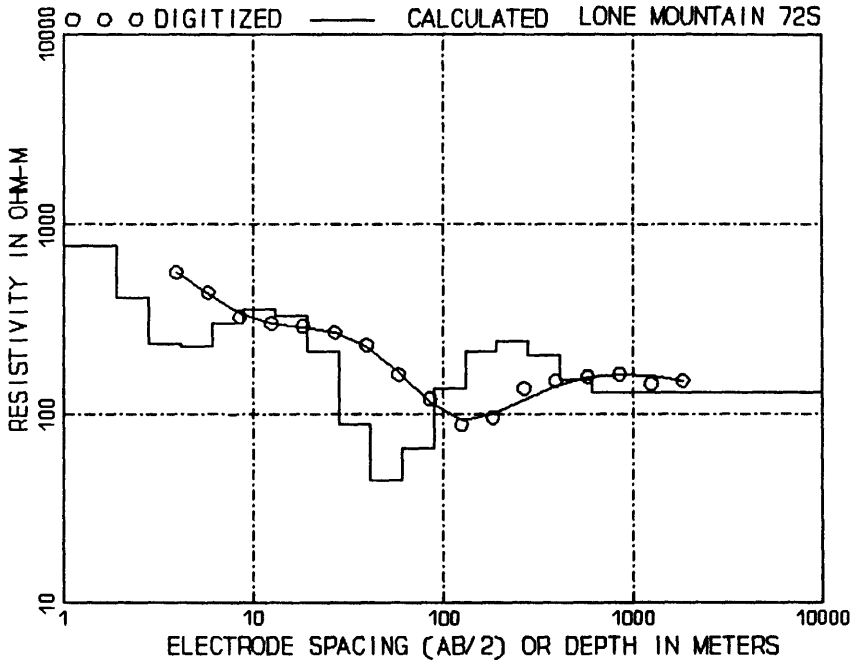




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	175.00	60.96	(200.00)	1250.00
4.27	(14.00)	220.00	91.44	(300.00)	1060.00
6.10	(20.00)	315.00	121.92	(400.00)	850.00
9.14	(30.00)	435.00	182.88	(600.00)	745.00
12.19	(40.00)	555.00	243.84	(800.00)	570.00
18.29	(60.00)	820.00	304.80	(1000.00)	477.00
24.38	(80.00)	960.00	304.80	(1000.00)	472.00
30.48	(100.00)	1060.00	426.72	(1400.00)	330.00
42.67	(140.00)	1220.00	609.60	(2000.00)	230.00
30.48	(100.00)	900.00	914.40	(3000.00)	190.00
42.67	(140.00)	1070.00	1219.20	(4000.00)	170.00

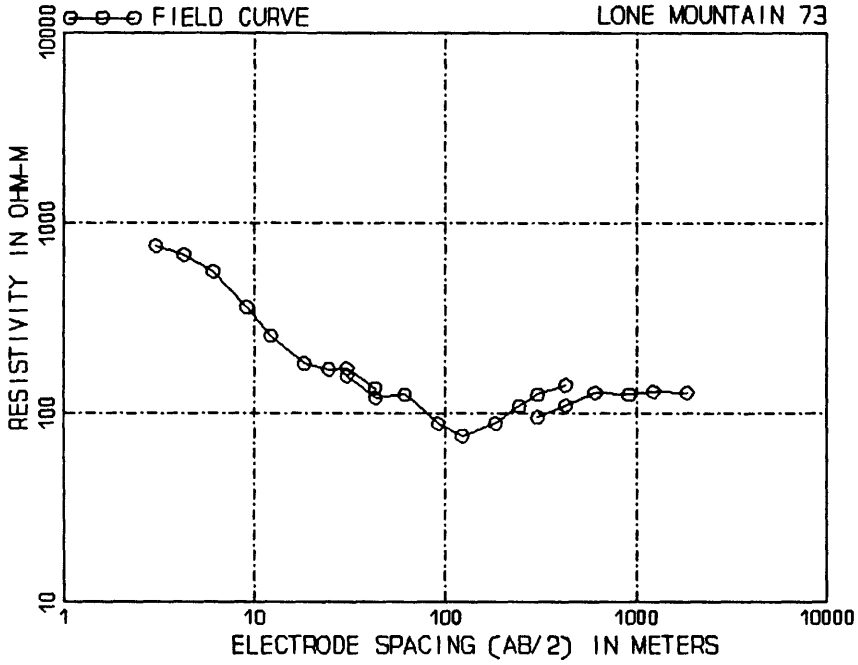
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.69	(5.53)	108.22	36.33	(119.20)	1833.90
2.48	(8.12)	252.20	53.33	(174.96)	800.46
3.63	(11.92)	539.43	78.27	(256.81)	359.27
5.33	(17.50)	1026.17	114.89	(376.94)	320.93
7.83	(25.68)	1727.13	168.64	(553.27)	433.91
11.49	(37.69)	2539.74	247.53	(812.09)	289.92
16.86	(55.33)	3133.77	363.32	(1191.99)	166.24
24.75	(81.21)	2922.36	99999.00	(99999.00)	152.32

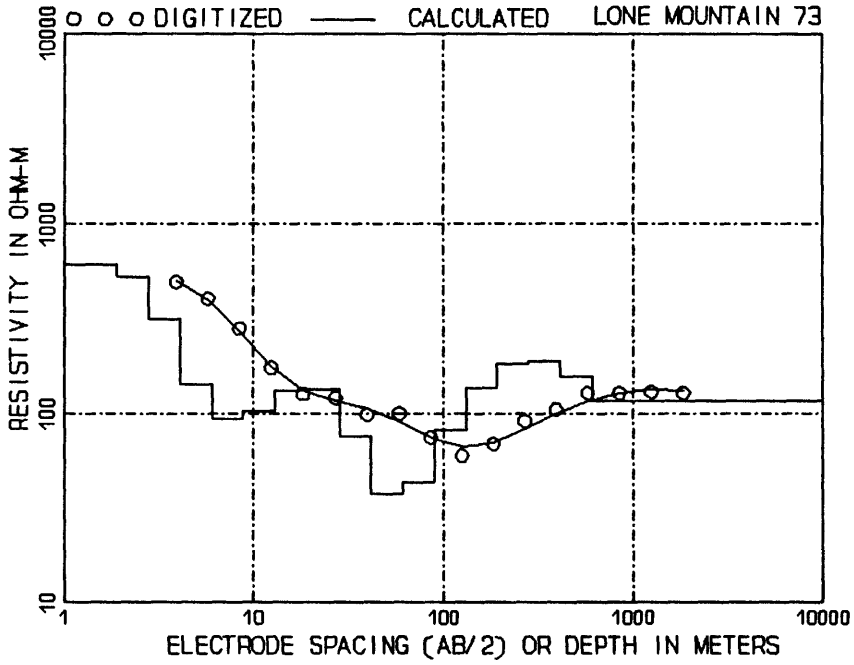




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1270.00	91.44	(300.00)	155.00
4.27	(14.00)	1020.00	121.92	(400.00)	124.00
6.10	(20.00)	820.00	182.88	(600.00)	134.00
9.14	(30.00)	620.00	243.84	(800.00)	185.00
12.19	(40.00)	625.00	304.80	(1000.00)	195.00
18.29	(60.00)	715.00	426.72	(1400.00)	210.00
24.38	(80.00)	890.00	304.80	(1000.00)	137.00
30.48	(100.00)	790.00	426.72	(1400.00)	150.00
42.67	(140.00)	370.00	609.60	(2000.00)	160.00
30.48	(100.00)	570.00	914.40	(3000.00)	157.00
42.67	(140.00)	265.00	1219.20	(4000.00)	145.00
60.96	(200.00)	220.00	1828.80	(6000.00)	150.00

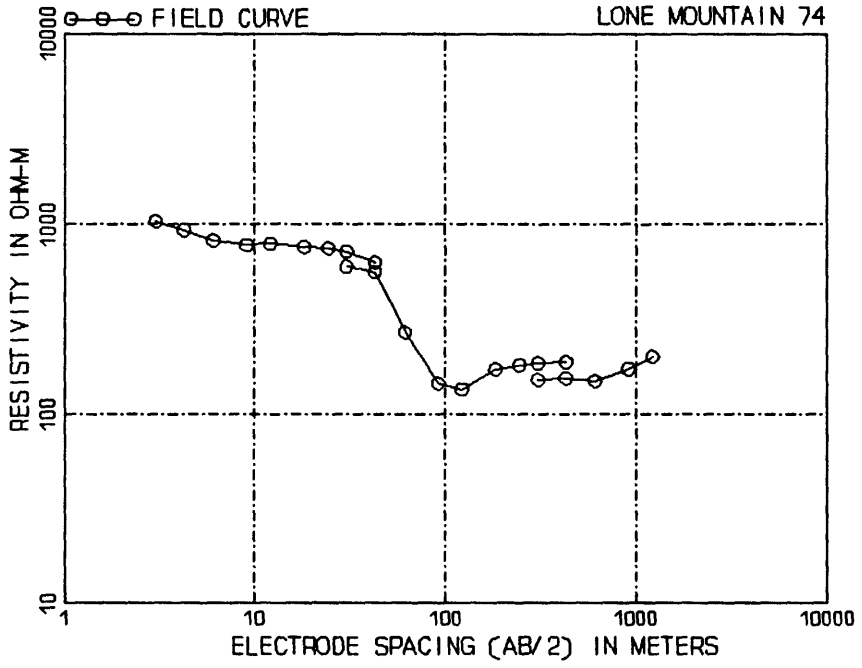
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	770.38	41.25	(135.35)	88.83
2.81	(9.22)	409.26	60.55	(198.66)	44.29
4.13	(13.53)	234.62	88.88	(291.60)	65.77
6.06	(19.87)	228.05	130.46	(428.01)	136.26
8.89	(29.16)	298.82	191.49	(628.23)	213.60
13.05	(42.80)	355.43	281.06	(922.12)	241.87
19.15	(62.82)	328.28	412.54	(1353.49)	204.70
28.11	(92.21)	212.38	605.53	(1986.65)	151.31
			99999.00	(99999.00)	129.67

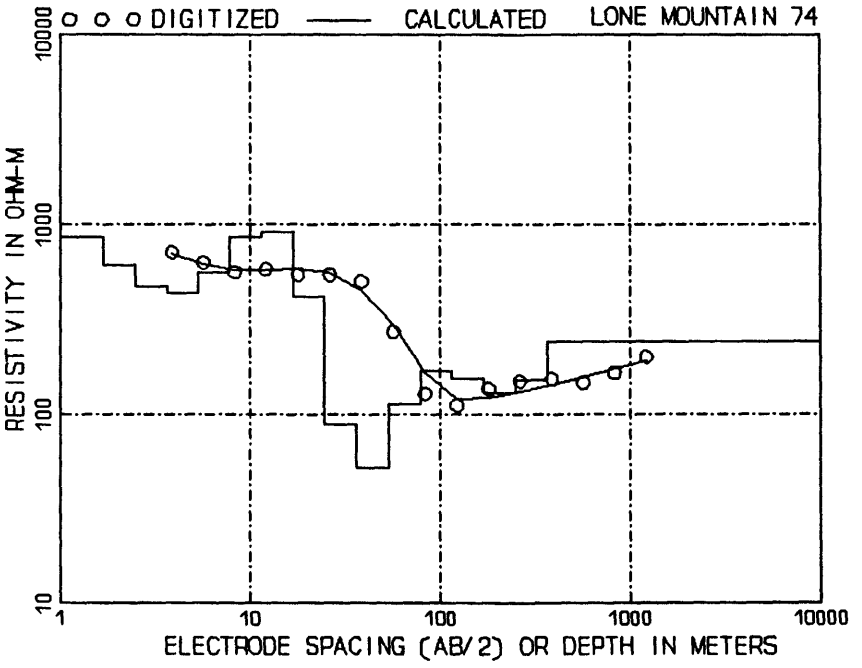




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	760.00	91.44	(300.00)	88.00
4.27	(14.00)	685.00	121.92	(400.00)	76.00
6.10	(20.00)	560.00	182.88	(600.00)	88.00
9.14	(30.00)	360.00	243.84	(800.00)	109.00
12.19	(40.00)	255.00	304.80	(1000.00)	125.00
18.29	(60.00)	182.00	426.72	(1400.00)	140.00
24.38	(80.00)	170.00	304.80	(1000.00)	95.00
30.48	(100.00)	172.00	426.72	(1400.00)	110.00
42.67	(140.00)	135.00	609.60	(2000.00)	128.00
30.48	(100.00)	157.00	914.40	(3000.00)	125.00
42.67	(140.00)	120.00	1219.20	(4000.00)	130.00
60.96	(200.00)	125.00	1828.80	(6000.00)	128.00

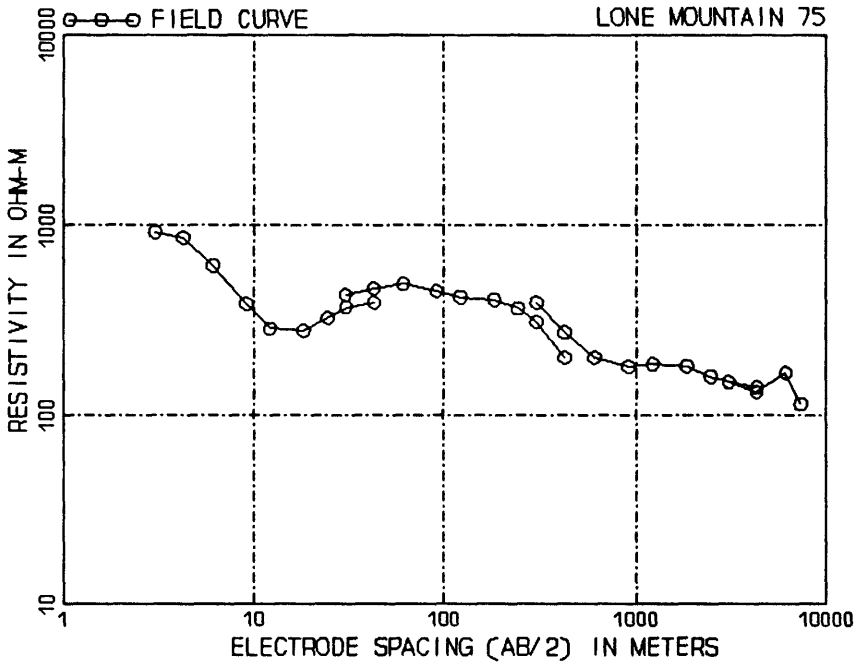
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	616.45	41.25	(135.35)	75.01
2.81	(9.22)	524.61	60.55	(198.66)	37.34
4.13	(13.53)	313.56	88.88	(291.60)	43.22
6.06	(19.87)	143.58	130.46	(428.01)	81.10
8.89	(29.16)	94.39	191.49	(628.23)	136.83
13.05	(42.80)	103.56	281.06	(922.12)	182.24
19.15	(62.82)	131.45	412.54	(1353.49)	188.12
28.11	(92.21)	134.32	605.53	(1986.65)	156.68
			99999.00	(99999.00)	116.12

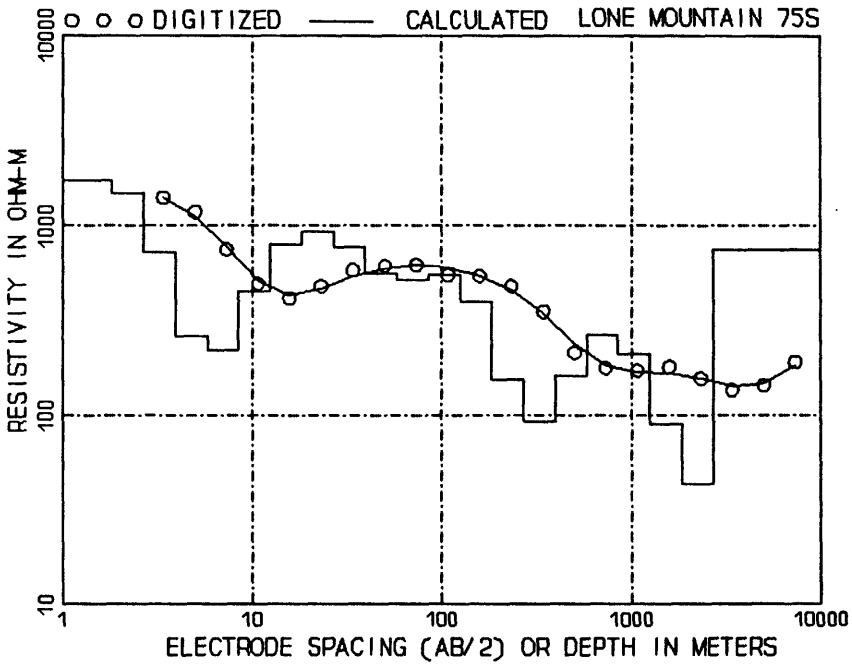




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1035.00	60.96	(200.00)	270.00
4.27	(14.00)	935.00	91.44	(300.00)	145.00
6.10	(20.00)	820.00	121.92	(400.00)	135.00
9.14	(30.00)	780.00	182.88	(600.00)	172.00
12.19	(40.00)	790.00	243.84	(800.00)	181.00
18.29	(60.00)	760.00	304.80	(1000.00)	185.00
24.38	(80.00)	750.00	426.72	(1400.00)	188.00
30.48	(100.00)	720.00	304.80	(1000.00)	152.00
42.67	(140.00)	630.00	426.72	(1400.00)	155.00
30.48	(100.00)	600.00	609.60	(2000.00)	150.00
42.67	(140.00)	562.00	914.40	(3000.00)	173.00
			1219.20	(4000.00)	200.00

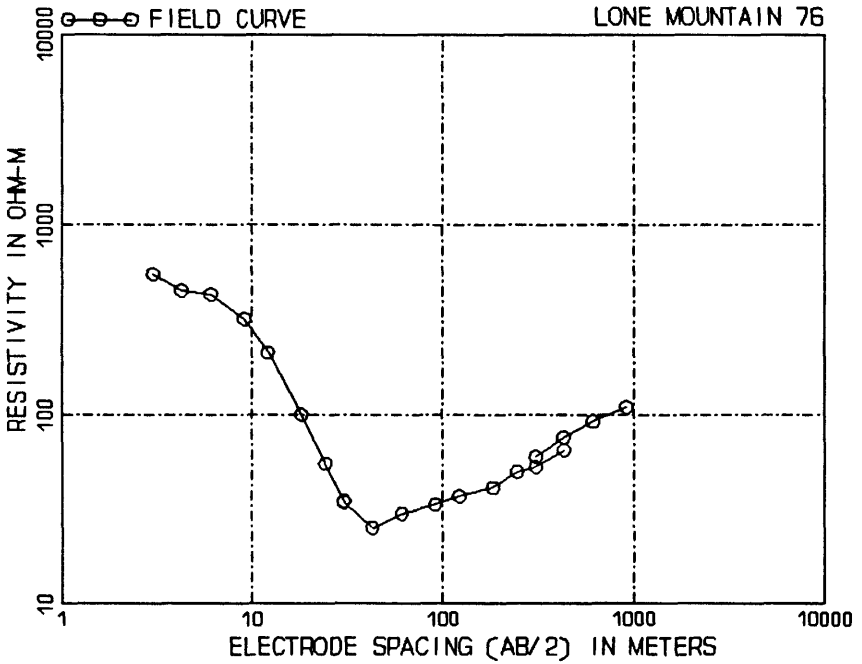
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.69	(5.53)	855.37	36.33	(119.20)	88.82
2.48	(8.12)	614.74	53.33	(174.96)	52.40
3.63	(11.92)	471.47	78.27	(256.81)	113.01
5.33	(17.50)	435.95	114.89	(376.94)	170.41
7.83	(25.68)	561.24	168.64	(553.27)	153.77
11.49	(37.69)	854.65	247.53	(812.09)	128.96
16.86	(55.33)	911.74	363.32	(1191.99)	151.84
24.75	(81.21)	418.31	99999.00	(99999.00)	241.41

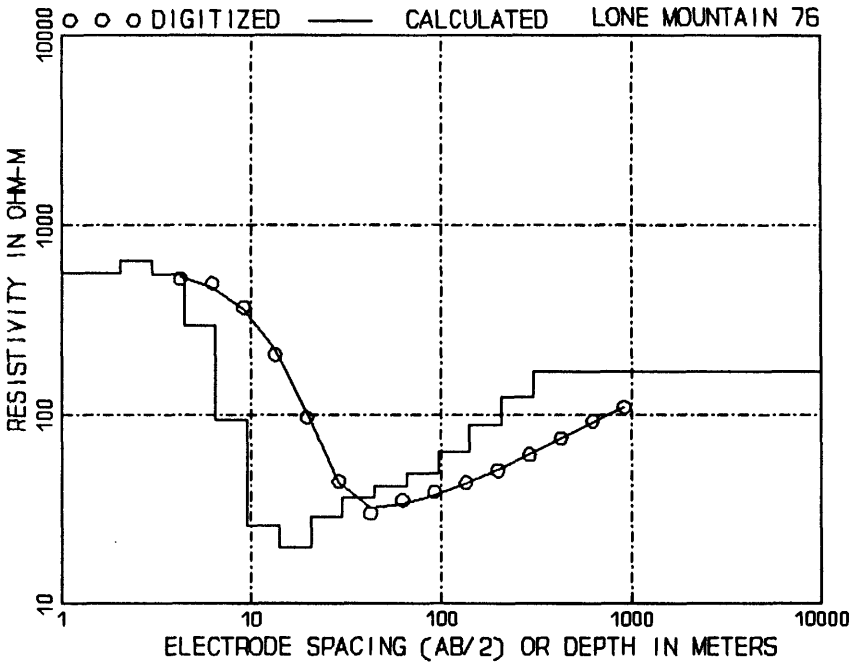




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	920.00	243.84	(800.00)	365.00
4.27	(14.00)	860.00	304.80	(1000.00)	310.00
6.10	(20.00)	615.00	426.72	(1400.00)	200.00
9.14	(30.00)	385.00	304.80	(1000.00)	390.00
12.19	(40.00)	285.00	426.72	(1400.00)	272.00
18.29	(60.00)	278.00	609.60	(2000.00)	200.00
24.38	(80.00)	325.00	914.40	(3000.00)	180.00
30.48	(100.00)	370.00	1219.20	(4000.00)	185.00
42.67	(140.00)	390.00	1828.80	(6000.00)	181.00
30.48	(100.00)	430.00	2438.40	(8000.00)	160.00
42.67	(140.00)	465.00	3048.00	(10000.00)	149.00
60.96	(200.00)	490.00	4267.20	(14000.00)	140.00
91.44	(300.00)	448.00	3048.00	(10000.00)	150.00
121.92	(400.00)	418.00	4267.20	(14000.00)	132.00
182.88	(600.00)	405.00	6096.00	(20000.00)	166.00
			7315.20	(24000.00)	114.00

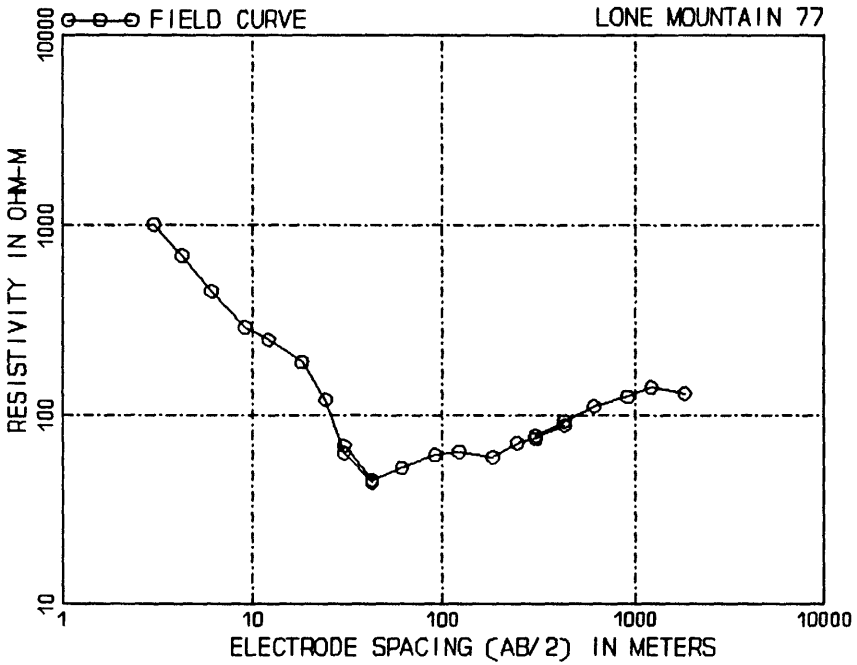
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.83	(6.02)	1716.21	85.10	(279.21)	513.59
2.69	(8.83)	1480.94	124.92	(409.83)	553.20
3.95	(12.96)	730.38	183.35	(601.55)	398.07
5.80	(19.02)	259.66	269.12	(882.95)	154.56
8.51	(27.92)	219.66	395.02	(1296.00)	92.79
12.49	(40.98)	449.41	579.81	(1902.27)	162.36
18.34	(60.15)	796.34	851.05	(2792.15)	263.23
26.91	(88.30)	935.69	1249.17	(4098.31)	210.98
39.50	(129.60)	769.51	1833.52	(6015.50)	89.49
57.98	(190.23)	562.23	2691.25	(8829.55)	43.08
			99999.00	(99999.00)	750.00

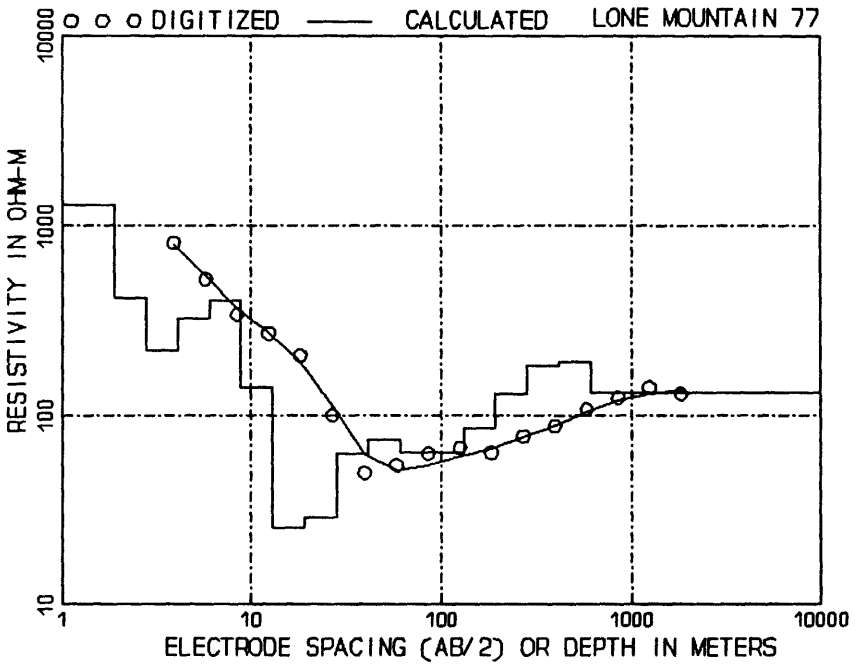




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	550.00	60.96	(200.00)	30.00
4.27	(14.00)	450.00	91.44	(300.00)	33.50
6.10	(20.00)	430.00	121.92	(400.00)	37.00
9.14	(30.00)	320.00	182.88	(600.00)	41.00
12.19	(40.00)	212.00	243.84	(800.00)	50.00
18.29	(60.00)	100.00	304.80	(1000.00)	53.00
24.38	(80.00)	55.00	426.72	(1400.00)	65.00
30.48	(100.00)	35.00	304.80	(1000.00)	60.00
30.48	(100.00)	34.50	426.72	(1400.00)	76.00
42.67	(140.00)	25.30	609.60	(2000.00)	92.00
			914.40	(3000.00)	110.00

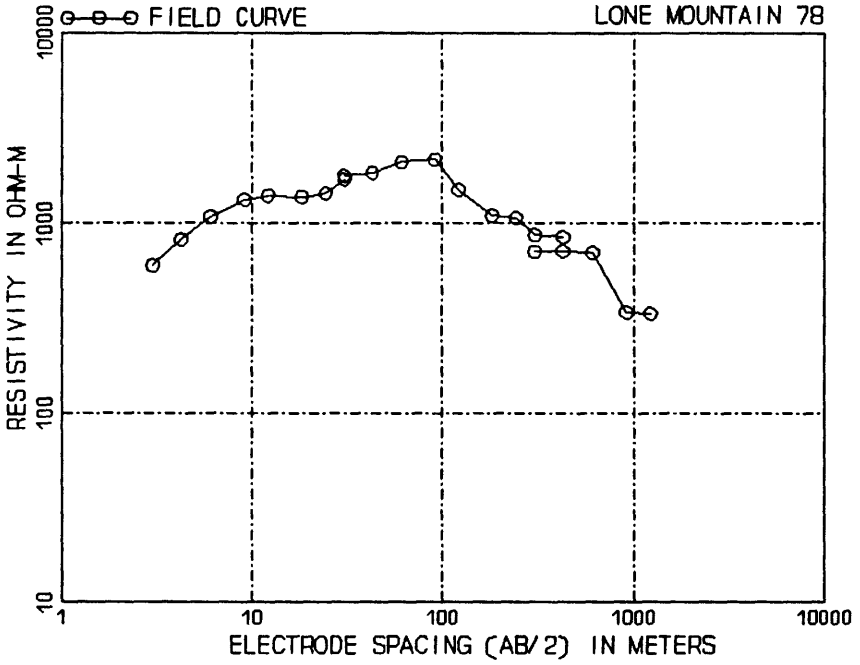
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
2.06	(6.77)	556.67	30.28	(99.33)	28.95
3.03	(9.93)	647.11	44.44	(145.80)	36.39
4.44	(14.58)	548.32	65.23	(214.01)	41.61
6.52	(21.40)	293.59	95.74	(314.12)	49.35
9.57	(31.41)	94.43	140.53	(461.06)	63.91
14.05	(46.11)	25.89	206.27	(676.74)	88.30
20.63	(67.67)	19.91	302.77	(993.32)	123.60
			99999.00	(99999.00)	168.44

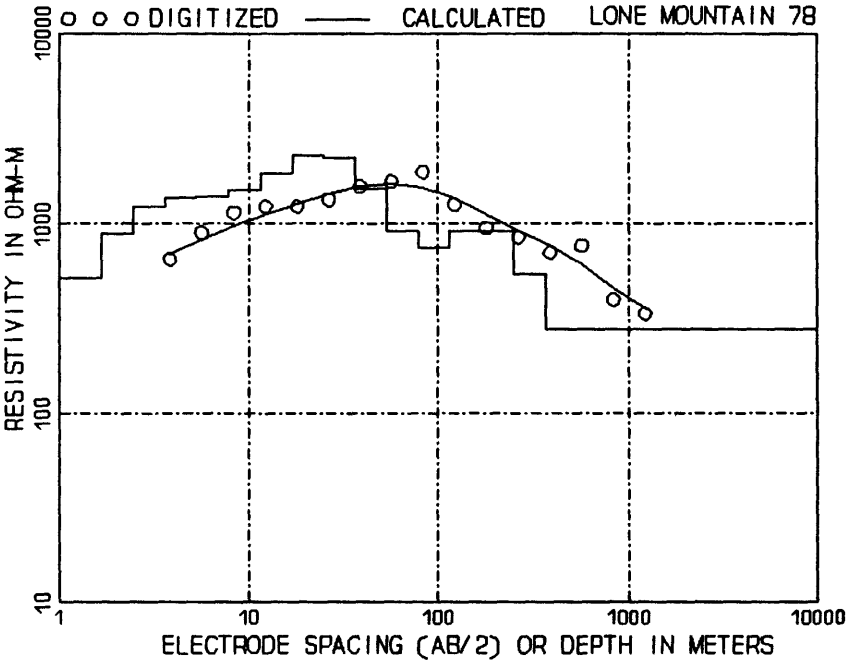




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	1010.00	91.44	(300.00)	61.50
4.27	(14.00)	690.00	121.92	(400.00)	64.00
6.10	(20.00)	450.00	182.88	(600.00)	60.00
9.14	(30.00)	290.00	243.84	(800.00)	71.00
12.19	(40.00)	250.00	304.80	(1000.00)	75.00
18.29	(60.00)	190.00	426.72	(1400.00)	88.00
24.38	(80.00)	120.00	304.80	(1000.00)	78.00
30.48	(100.00)	63.00	426.72	(1400.00)	93.00
42.67	(140.00)	44.00	609.60	(2000.00)	111.00
30.48	(100.00)	69.00	914.40	(3000.00)	125.00
42.67	(140.00)	45.50	1219.20	(4000.00)	140.00
60.96	(200.00)	52.50	1828.80	(6000.00)	130.00

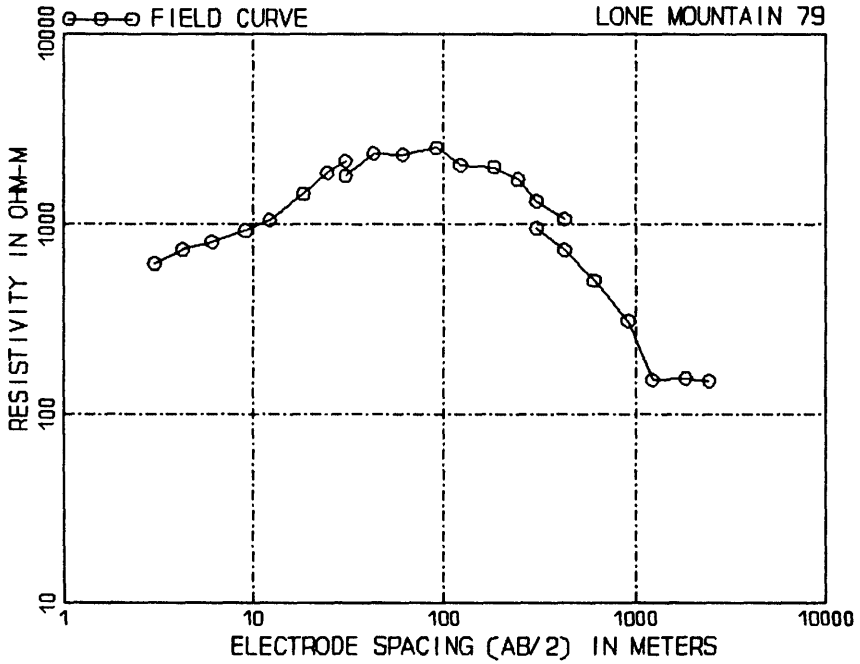
DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.91	(6.28)	1292.52	41.25	(135.35)	63.08
2.81	(9.22)	418.19	60.55	(198.66)	73.92
4.13	(13.53)	218.88	88.88	(291.60)	63.94
6.06	(19.87)	324.90	130.46	(428.01)	64.02
8.89	(29.16)	405.18	191.49	(628.23)	85.15
13.05	(42.80)	141.31	281.06	(922.12)	130.59
19.15	(62.82)	25.47	412.54	(1353.49)	184.03
28.11	(92.21)	28.75	605.53	(1986.65)	191.12
			99999.00	(99999.00)	131.14

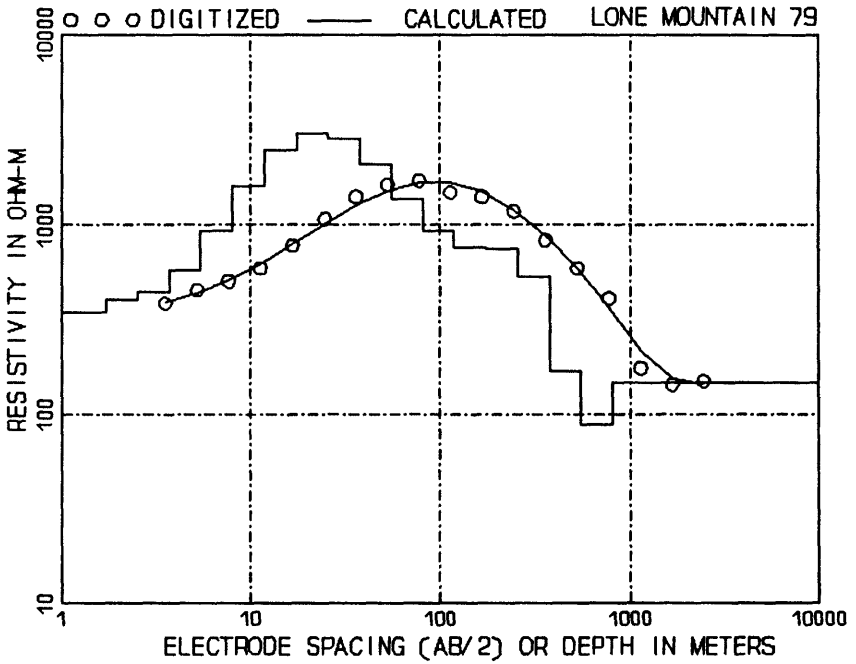




AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	600.00	91.44	(300.00)	2170.00
4.27	(14.00)	820.00	121.92	(400.00)	1500.00
6.10	(20.00)	1085.00	182.88	(600.00)	1100.00
9.14	(30.00)	1330.00	243.84	(800.00)	1070.00
12.19	(40.00)	1400.00	304.80	(1000.00)	870.00
18.29	(60.00)	1380.00	426.72	(1400.00)	850.00
24.38	(80.00)	1440.00	304.80	(1000.00)	710.00
30.48	(100.00)	1700.00	426.72	(1400.00)	715.00
30.48	(100.00)	1780.00	609.60	(2000.00)	700.00
42.67	(140.00)	1850.00	914.40	(3000.00)	340.00
60.96	(200.00)	2100.00	1219.20	(4000.00)	335.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.69	(5.53)	518.02	36.33	(119.20)	2224.89
2.48	(8.12)	890.85	53.33	(174.96)	1532.56
3.63	(11.92)	1236.77	78.27	(256.81)	910.10
5.33	(17.50)	1373.70	114.89	(376.94)	746.91
7.83	(25.68)	1381.89	168.64	(553.27)	908.85
11.49	(37.69)	1493.28	247.53	(812.09)	911.89
16.86	(55.33)	1842.45	363.32	(1191.99)	539.70
24.75	(81.21)	2274.02	99999.00	(99999.00)	276.94





AB/2, m	(ft)	App. Res.	AB/2, m	(ft)	App. Res.
3.05	(10.00)	620.00	121.92	(400.00)	2050.00
4.27	(14.00)	735.00	182.88	(600.00)	2000.00
6.10	(20.00)	810.00	243.84	(800.00)	1720.00
9.14	(30.00)	925.00	304.80	(1000.00)	1330.00
12.19	(40.00)	1050.00	426.72	(1400.00)	1070.00
18.29	(60.00)	1450.00	304.80	(1000.00)	955.00
24.38	(80.00)	1870.00	426.72	(1400.00)	735.00
30.48	(100.00)	2150.00	609.60	(2000.00)	505.00
30.48	(100.00)	1800.00	914.40	(3000.00)	310.00
42.67	(140.00)	2350.00	1219.20	(4000.00)	152.00
60.96	(200.00)	2320.00	1828.80	(6000.00)	155.00
91.44	(300.00)	2530.00	2438.40	(8000.00)	150.00

DEPTH, m	(ft)	RESIS.	DEPTH, m	(ft)	RESIS.
1.74	(5.71)	344.90	55.01	(180.46)	2078.60
2.55	(8.38)	401.41	80.74	(264.89)	1362.18
3.75	(12.29)	444.49	118.51	(388.80)	935.17
5.50	(18.05)	573.58	173.94	(570.68)	763.43
8.07	(26.49)	924.72	255.31	(837.64)	744.21
11.85	(38.88)	1595.13	374.75	(1229.49)	530.20
17.39	(57.07)	2456.48	550.06	(1804.65)	169.13
25.53	(83.76)	3023.86	807.37	(2648.86)	88.54
37.47	(122.95)	2830.03	99999.00	(99999.00)	147.38

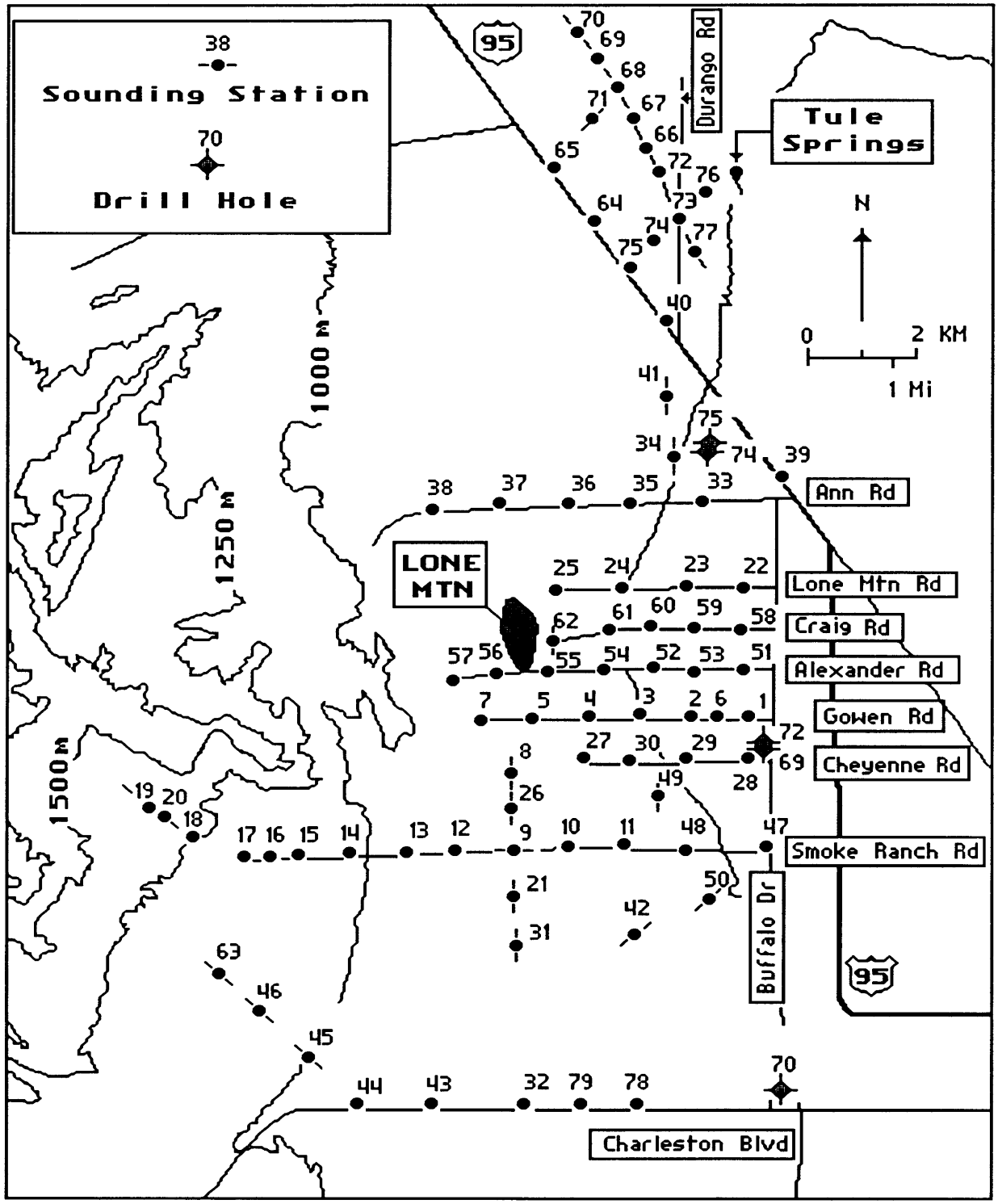


Figure 1. Map showing Schlumberger sounding station locations in the Lone Mountain area, northwest of Las Vegas, Nevada.

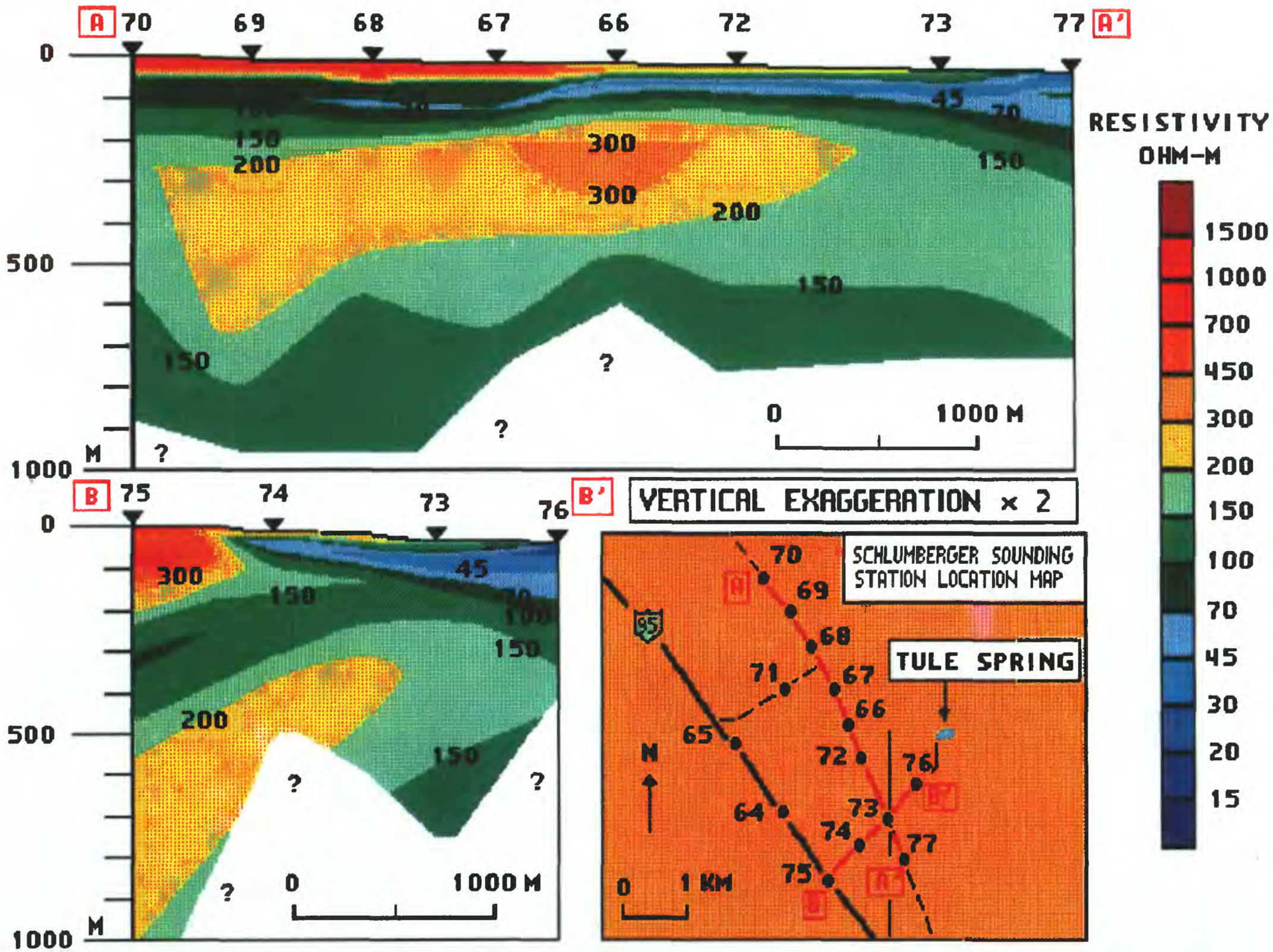


Figure 2. Interpreted resistivity sections in Tule Spring area. Vertical exaggeration x 2. Resistivities in ohm-m.

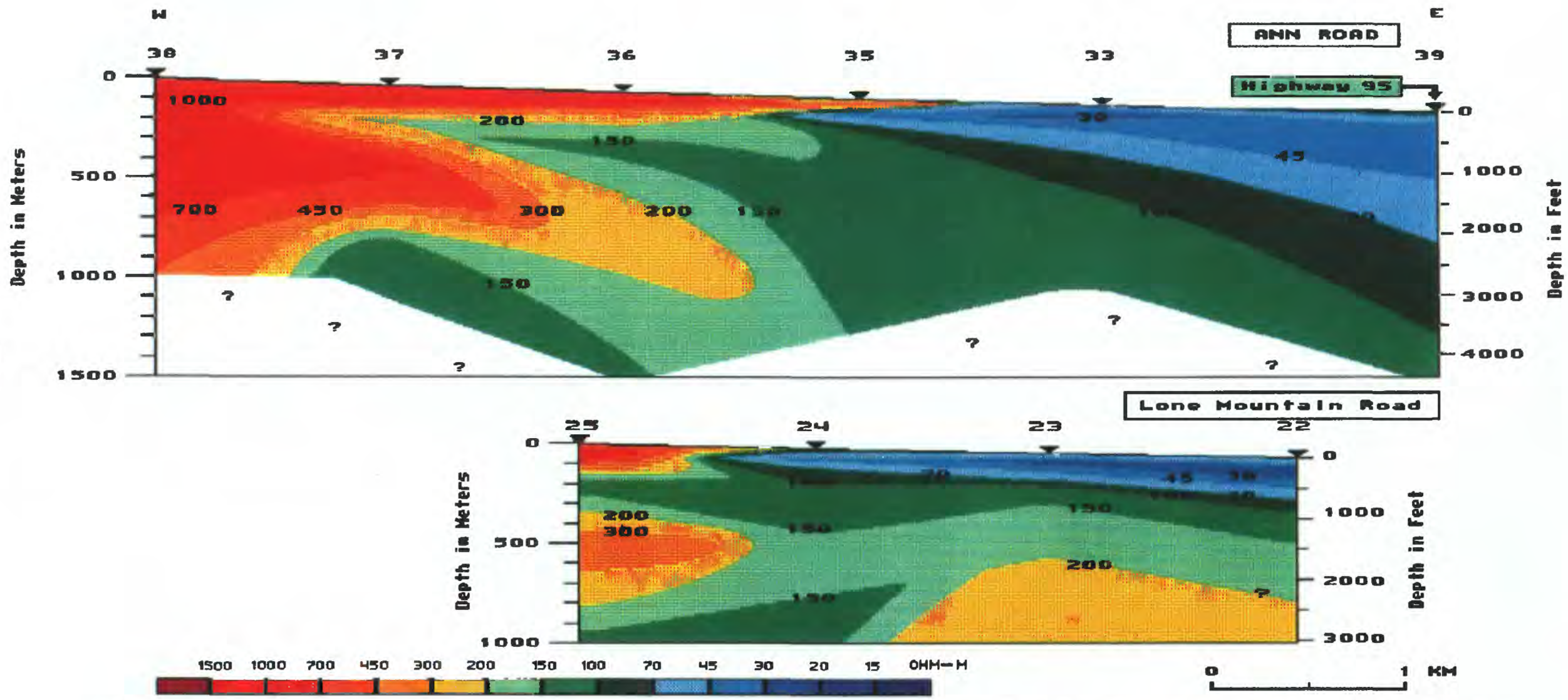


Figure 3. Interpreted resistivity cross sections along Ann Road and Lone Mountain Road.

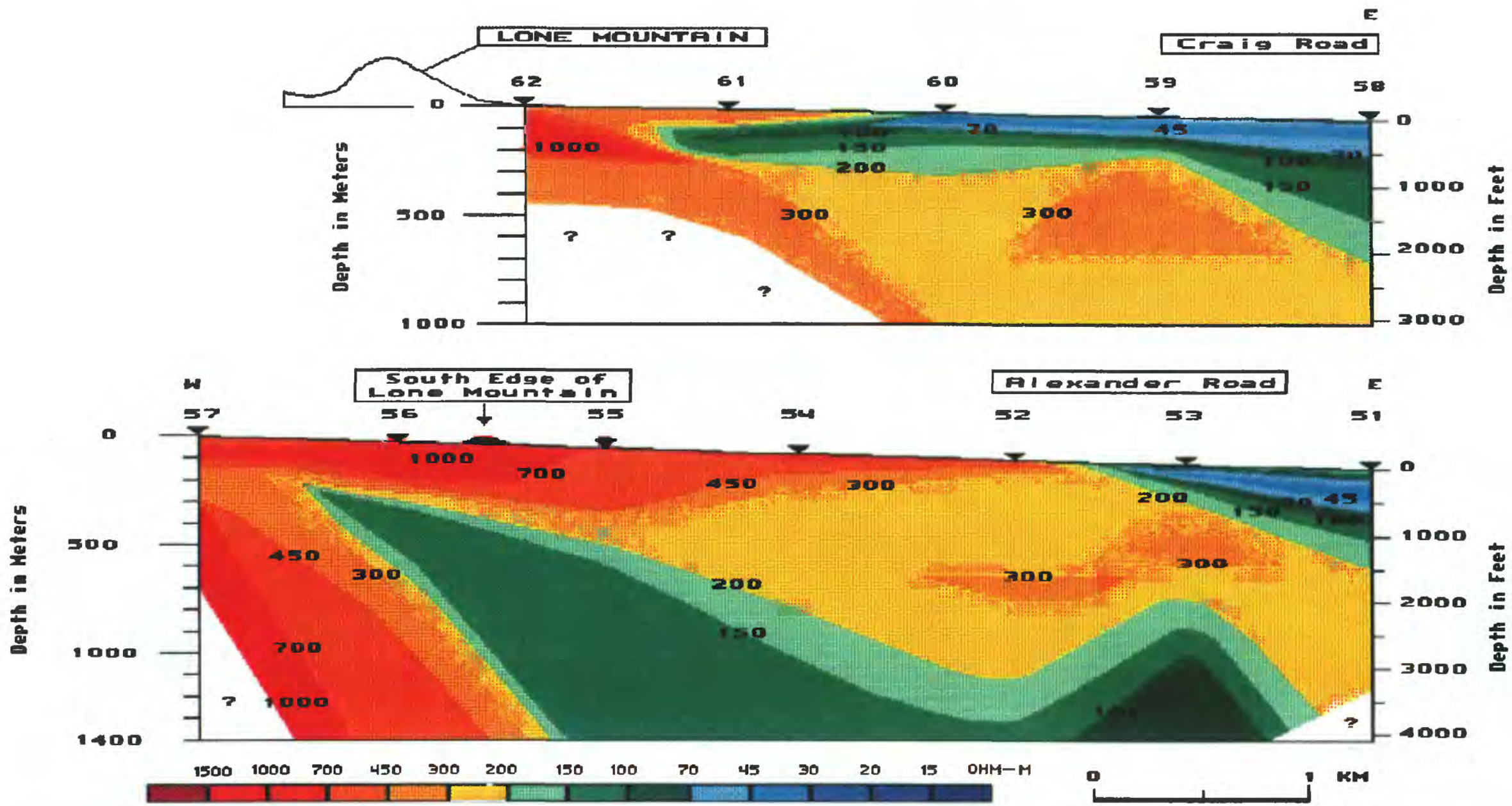


Figure 4. Interpreted resistivity Sections along Craig Road and Alexander Road.

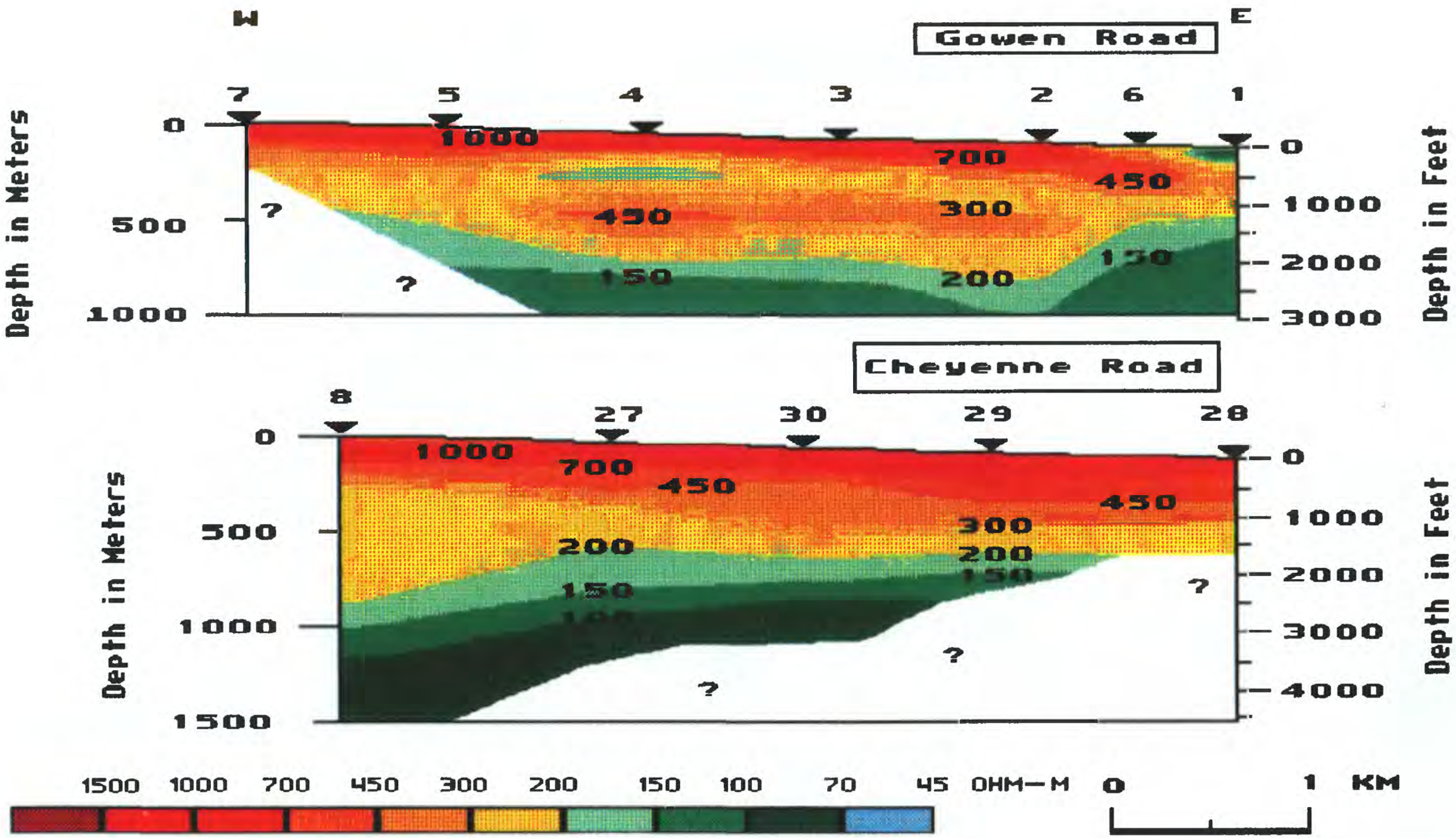


Figure 5. Interpreted resistivity sections along Gowen Road and Cheyenne Road.

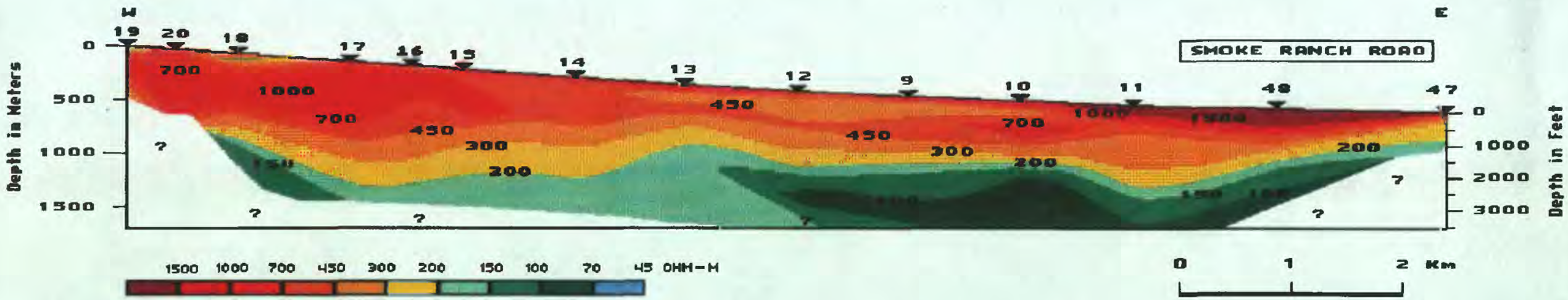


Figure 6. Interpreted resistivity section along Smoke Ranch Road.

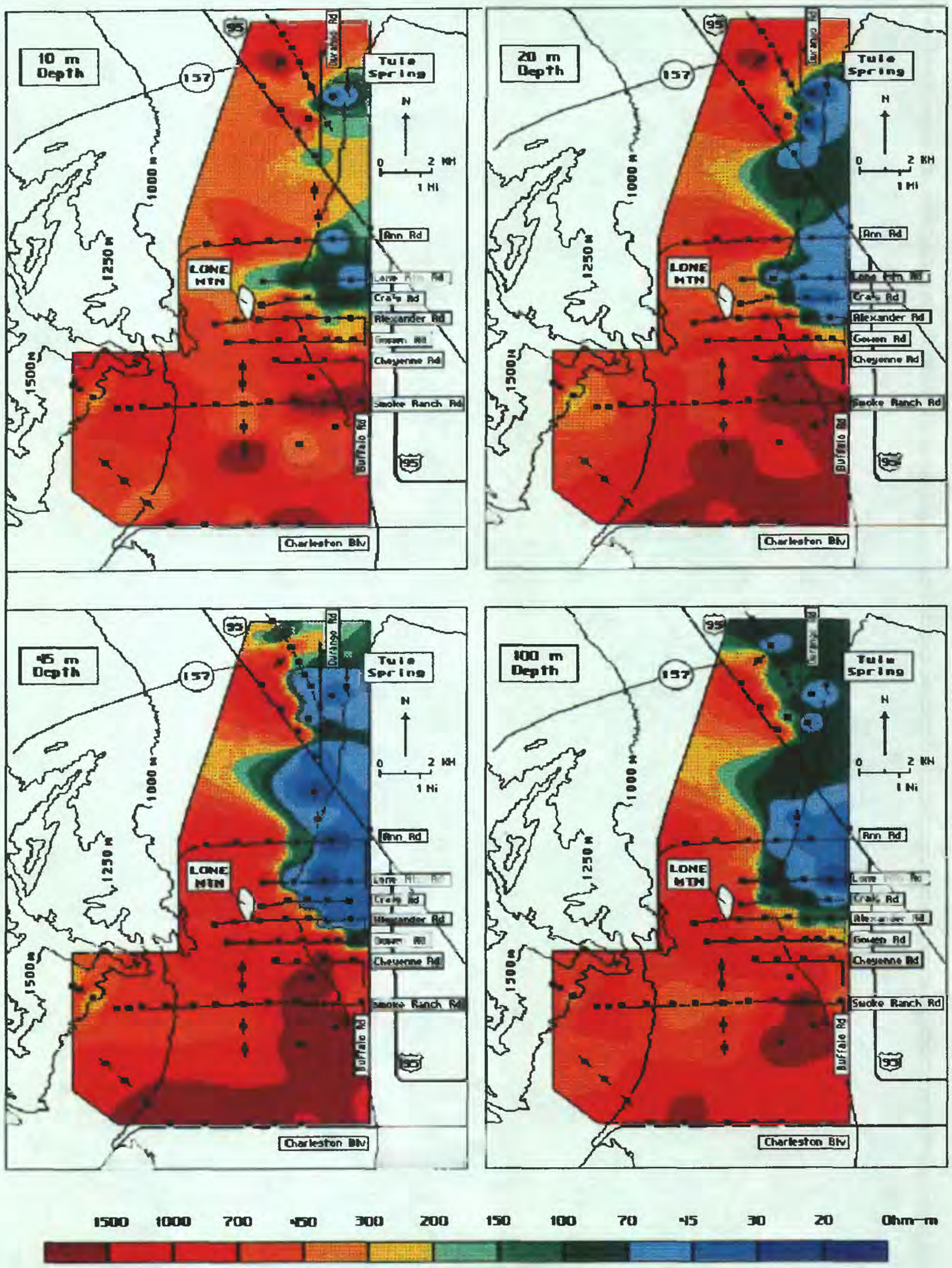


Figure 7. Interpreted resistivity at 10, 20, 45, and 100 m depths.

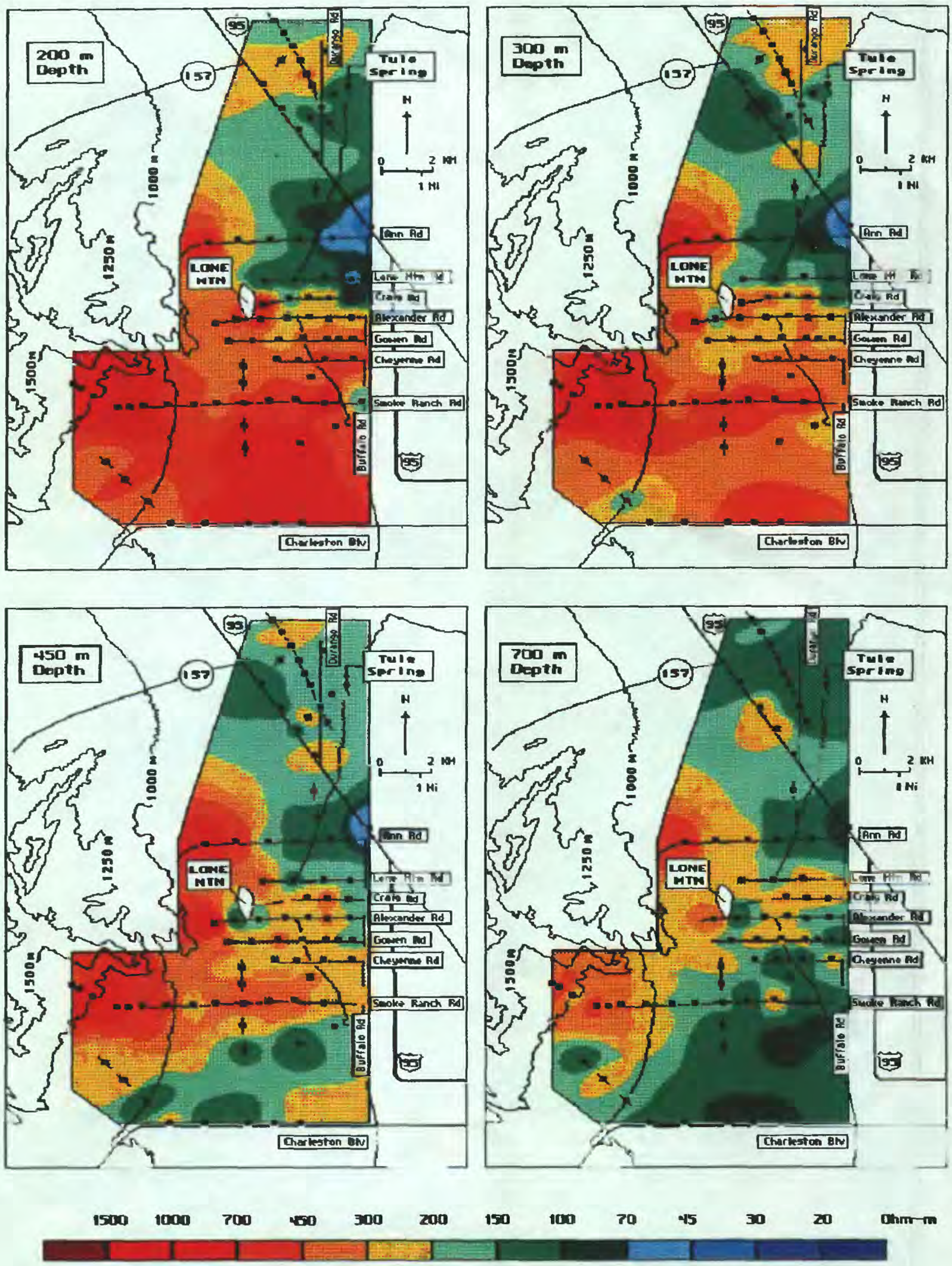


Figure 8. Interpreted resistivity maps at 200, 300, 450, and 700 m depths.