

**GROUND-WATER BASIC DATA**  
**for**  
**GRIGGS and STEELE COUNTIES,**  
**NORTH DAKOTA**

by  
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COUNTY GROUND-WATER STUDIES 21 — PART II  
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INTRODUCTION

The objectives of the hydrologic investigation in Griggs and Steele Counties, N. Dak. (fig. 1) were to: (1) determine the location, extent, and nature of the major aquifers; (2) evaluate the occurrence and movement of ground water, including recharge and discharge; (3) estimate the quantities of water stored in the aquifers; (4) estimate the potential yields of wells tapping the major aquifers; and (5) determine the chemical quality of the ground water.

The investigation was made cooperatively by the U.S. Geological Survey, North Dakota State Water Commission, North Dakota Geological Survey, and Griggs and Steele Counties Water Management Districts. The results of the investigation will be published in three separate parts. Part 1 is an interpretive report describing the geology of the study area; part 2 is a compilation of the ground-water basic data; and part 3 is an interpretive report describing the ground-water resources. Part 2 makes available geologic and hydrologic data collected during the county investigations and functions as a reference for the other reports.

The information in this report was collected chiefly between 1969 and 1972, and consists of the following: (1) Geologic and hydrologic data for 1,190 wells and test holes; (2) water-level measurements in 155 observation wells; (3) lithologic and geophysical logs of 414 test holes and wells; and (4) chemical analyses of 297 water samples.

The data in this report are useful for estimating geologic and ground-water conditions in Griggs and Steele Counties. For example, a person considering the construction of a new well can locate the proposed site on plate 1 (in pocket). Characteristics of nearby wells may be determined from table 1 and the water-level fluctuations in the area may be determined from table 2. The type of material encountered in nearby wells may be

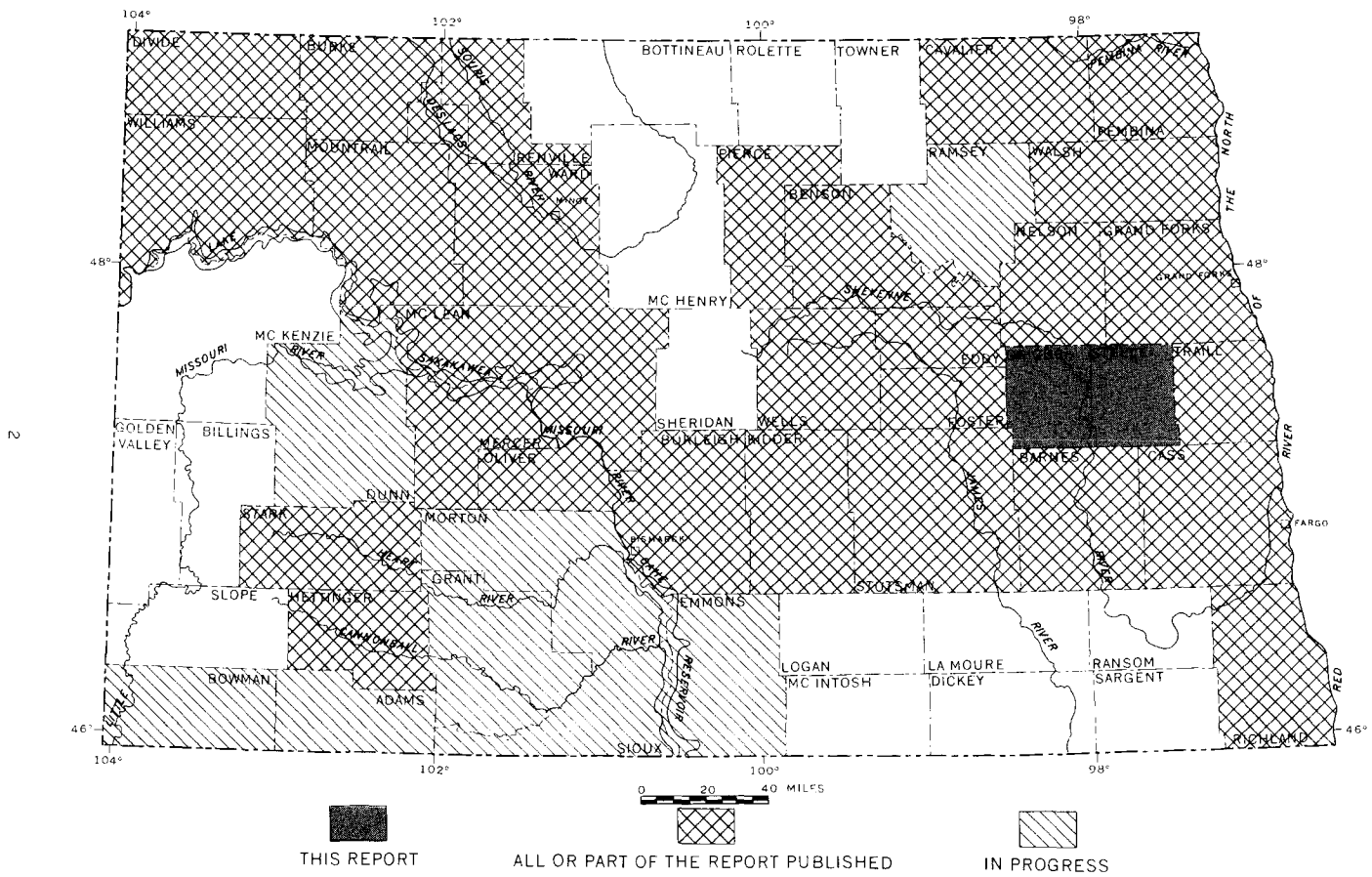


FIGURE 1.—County ground-water studies in North Dakota



determined from table 3. The chemical quality of the water in adjacent wells may be determined from table 4. In general, use of the information as a guide to conditions at different sites should be done with caution because of the irregular distribution of many of the water-yielding rocks.

#### Well-Numbering System

The wells and test holes in the tables are numbered according to a system of land survey in use by the U.S. Bureau of Land Management. The system is illustrated in figure 2. The first numeral denotes the township north of a base line, the second numeral denotes the range west of the fifth principal meridian, and the third numeral denotes the section in which the well is located. The letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quarter section, quarter-quarter section, and quarter-quarter-quarter section (10-acre tract). For example, well 148-57-15ADD is in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 15, T. 148 N., R. 57 W. Consecutive terminal numerals are added if more than one well or test hole is recorded within a 10-acre tract. The location of each well and test hole listed in the tables is shown on plate 1.

#### Acknowledgments

The authors are indebted to the residents and officials of Griggs and Steele Counties who furnished essential information on wells and permitted measurements to be made and samples to be taken. Particular recognition and thanks are due to the following North Dakota State Water Commission personnel: L. L. Froelich and C. E. Naplin for logging of test holes, R. W. Schmid for performing and analyzing aquifer tests, G. O. Muri for chemical analyses of water samples, and M. O. Lindvig for the planning of project activities.

The U.S. Air Force, U.S. Bureau of Reclamation, U.S. Soil Conservation Service, North Dakota Geological Survey, city of Luverne, Burlington Northern Railway Company, Empire Drilling Company, Frederickson's, Inc., Lako Drilling Company, Lehigh Portland Cement Company, Northern Resources, Inc., and Russell Drilling Company furnished well and test-hole logs, which are gratefully acknowledged.

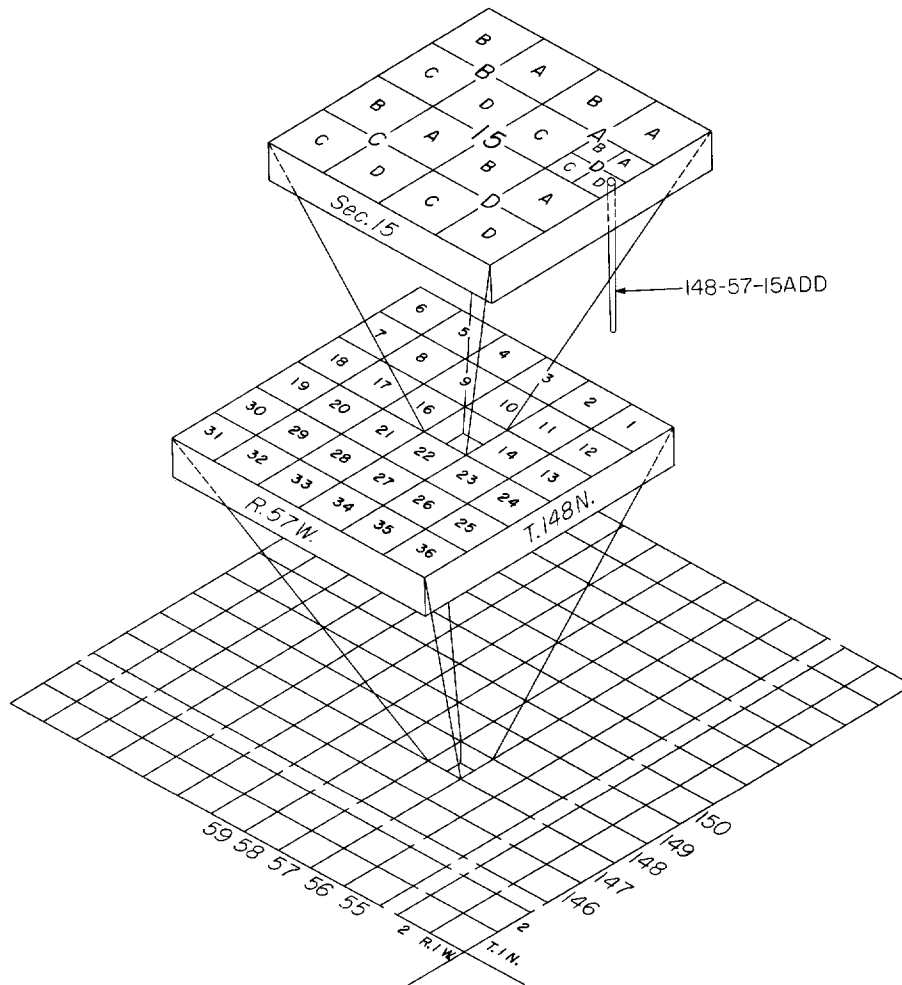


FIGURE 2.—System of numbering wells and test holes

## METHODS OF STUDY

Selected test holes were converted to observation wells for water-level measurements (table 2) and water-quality sampling (table 4). The wells are usually constructed of 1½-inch plastic casing with well screens. Most of the observation wells were pumped a minimum of 6 hours before water samples were collected for chemical analyses. Water-level measurements were made periodically beginning in the fall of 1969 and extending through December 1972. Two wells were equipped with continuous water-level recorders. Measurements will continue to be made in many of these wells as part of the statewide observation-well network. The locations of the observation wells are shown on plate 1.

Two types of logs are included in table 3--logs of test holes drilled as part of this project and logs collected from other sources. Logs from test holes drilled as part of this project are identified by the letters NDSWC. Most of these logs have a graphic log in addition to a description of the materials penetrated. As available, electric logs are also shown. Logs from other sources, such as well drillers, other government agencies, and previously published logs are also shown. Minor changes in word order have been made on most of these logs. Many well-drillers' logs tend to show sand sizes as being coarser than they would be classified under the modified Wentworth (1922) size scale.

The stratigraphic nomenclature used in this report is that of the North Dakota Geological Survey and does not necessarily follow the usage of the U.S. Geological Survey.

## WATER-QUALITY DATA

The mineral constituents and physical properties of water reported in the table of analyses (table 4) include the concentrations of silica, iron, manganese, calcium, magnesium, sodium, potassium, bicarbonate, carbonate, sulfate, chloride, fluoride, nitrate, boron, and dissolved solids. Values for hardness, noncarbonate hardness, sodium-adsorption ratio, percent sodium, specific conductance, pH, and water temperature are also given.

The water samples obtained for analyses during this study were collected in polyethylene bottles. For those metals considered unstable, a separate sample was filtered and acidified for transport to the laboratory.

The water analyses on samples were made by the North Dakota State Water Commission, Bismarck, N. Dak., using methods described by Brown and others, 1970. Often a period of several weeks elapsed between collection and the date of analysis. This time lapse influenced the value of the concentrations shown in table 4 for pH, iron, bicarbonate, manganese, silica, carbonate, calcium, and magnesium.

In addition to project collected samples, analyses from other available sources are tabulated in table 4 to give additional coverage. These analyses are identifiable by their dates. Analyses prior to 1969 were not collected during the course of this project. The exact manner of collection and analysis for each of these additional analyses is not known so care should be exercised in comparing data.

The dissolved mineral constituents in water are usually reported in milligrams per liter (mg/l), micrograms per liter ( $\mu\text{g/l}$ ), parts per million (ppm), or grains per U.S. gallon (gr/gal). A milligram per liter is one thousandth (0.001) of a gram of dissolved material per liter of solution. A microgram per liter is one-millionth (0.000001) of a gram of dissolved material per liter of solution. A part per million is a unit weight of dissolved material in a million unit weights of solution. A grain per U.S. gallon is 1 grain (unit of weight) of dissolved material per U.S. gallon of solution.

Milligrams per liter is practically equivalent to parts per million for water containing less than 7,000 mg/l dissolved solids. Milligrams per liter can be converted to grains per gallon by dividing milligrams per liter by 17.12. One milligram per liter is equivalent to 8.33 pounds of material per million gallons of water.

Micrograms per liter may be converted to milligrams per liter by dividing micrograms per liter by 1,000.

#### Mineral Constituents in Solution

##### Silica ( $\text{SiO}_2$ )

Silica is dissolved from practically all rocks in Griggs and Steele Counties. Silica affects the usefulness of water because it contributes to the formation of scale in pipes, water heaters, and boilers.

#### Iron (Fe)

Iron compounds are common in rocks in Griggs and Steele Counties and are easily leached by ground water. On exposure to air, water that contains more than 100 µg/l of iron soon becomes turbid with the reddish-brown ferric hydroxide produced by oxidation. Ground water in the area usually contained less than 3,000 µg/l dissolved iron and had a median value of about 200 µg/l. The U.S. Public Health Service (1962) recommended an upper limit of 300 µg/l of iron in drinking water because in greater concentrations it imparts a metallic taste. It also causes reddish-brown stains on porcelain or enamelware and fixtures and on fabrics washed in the water.

#### Manganese (Mn)

Manganese resembles iron in its chemical behavior and in its occurrence in natural water, but is generally less abundant than iron. Manganese is especially objectionable in water used for laundry. Concentrations as low as 200 µg/l may cause a dark-brown or black stain on fabrics and porcelain fixtures. The U.S. Public Health Service (1962) recommended upper limit for manganese in drinking water is 50 µg/l.

#### Calcium (Ca)

Calcium is a major cause of hardness and forms scale on utensils and on boilers and pipes. The calcium content of ground water may be as high as several hundred milligrams per liter.

#### Magnesium (Mg)

Magnesium can be dissolved from many sources, particularly from dolomitic rocks. The effect of magnesium in water is similar to that of calcium. The magnesium content in soft water may amount to only 1 or 2 mg/l, but very hard water may contain more than 900 mg/l of magnesium.

#### Sodium and Potassium (Na and K)

Sodium is the predominant cation in some of the more highly mineralized water found in Griggs and Steele Counties, and may exceed 16,000 mg/l in brines. The potassium concentration in water rarely exceeds 100 mg/l because potassium compounds in rocks are less soluble than sodium compounds and because base exchange, adsorption by clays, and formation of new minerals tend to remove potassium from ground water. Moderate quantities of

sodium and potassium generally have little effect on the usefulness of water, but water that carries more than about 50 mg/l of the two may require careful operation of steam boilers to prevent foaming. Water that contains a large proportion of sodium salts may be unsatisfactory for irrigation. The presence of several hundred milligrams per liter of sodium in water makes it unsuitable for use in sodium-restricted diets (North Dakota State Department of Health, 1962).

#### Bicarbonate and Carbonate ( $\text{HCO}_3$ and $\text{CO}_3$ )

Bicarbonate and carbonate ions are the major cause of alkalinity in most water. Although alkalinity is primarily due to the presence of bicarbonate and carbonate, other ions (such as silicates, phosphates, borates, possibly fluoride, and certain organic anions that occur in colored water) also contribute to alkalinity. The significance of alkalinity to the domestic, agricultural, and industrial user is usually dependent upon the nature of the cations (Ca, Mg, Na, and K) associated with it. However, moderate amounts of alkalinity do not adversely affect most uses.

Alkalinity can be calculated from the analyses by using the formula:

$$\text{Alkalinity (as CaCO}_3\text{)} = 0.82 (\text{HCO}_3) + 1.34 (\text{CO}_3)$$

#### Sulfate ( $\text{SO}_4$ )

Sulfate, an oxidation product of sulfur, is not a major constituent of the earth's crust; however, it is widely distributed in various forms in both sedimentary and igneous rocks. Upon weathering, metallic sulfide deposits yield sulfate to ground water. Large quantities of sulfate may also be dissolved from beds of gypsum, sodium-sulfate deposits, and some types of shale.

The sulfate content of water generally is not critical in many industrial processes, but in association with calcium and magnesium, sulfate may form hard scale in steam boilers.

The U.S. Public Health Service recommends 250 mg/l as the upper limit for sulfate in drinking water.

#### Chloride (Cl)

Large quantities of chloride may affect the industrial use of water by increasing the corrosiveness of water that contains large quantities of

calcium and magnesium. The U.S. Public Health Service recommends an upper limit of 250 mg/l of chloride for drinking water.

#### Fluoride (F)

Fluoride concentrations between 0.6 and 1.7 mg/l reportedly have a beneficial effect on the structure and resistance to decay of children's teeth. The U.S. Public Health Service (1962, p. 8) states, "When fluoride is naturally present in drinking water, the concentration should not average more than the appropriate upper limit..." "Presence of fluoride in average concentrations greater than two times the optimum values...shall constitute grounds for rejection of the supply." According to the U.S. Public Health Service, the recommended optimum fluoride concentration in drinking water depends on the annual average of the maximum daily air temperature. For climates having an average daily maximum air temperature below 12°C (53.7°F), such as in Griggs and Steele Counties, the optimum fluoride concentration is 1.2 mg/l and the recommended upper limit is 1.7 mg/l. Concentrations higher than the stated upper limit may cause mottled enamel in teeth, endemic cumulative fluorosis, and skeletal defects.

#### Nitrate (NO<sub>3</sub>)

High nitrate content is of concern in drinking waters when such water is used in the preparation of infant formula. When nitrate is ingested, converted to nitrite, and picked up by the blood stream of infants, it destroys the oxygen-carrying capacity of the blood, a condition known as "methemoglobinemia" (Comly, 1945). This results in a cyanotic condition and the infant appears blue. Investigations conducted so far indicate that waters containing over 45 mg/l nitrate (as NO<sub>3</sub>) can cause this condition in infants but will have no adverse effect upon adults. High nitrate values may also be indicative of fecal contamination as nitrate is present in most human and animal wastes. Barnyards, feedlots, manure piles, septic-tank fields, silage juices, and decomposing plant and animal tissue are all common sources of nitrate in rural areas.

#### Boron (B)

Boron in small quantities is essential for plant growth, but irrigation water containing more than 1,000 µg/l boron is detrimental to boron-sensitive crops.

#### Dissolved solids

The reported quantity of dissolved solids, the residue on evaporation at 180°C, consists mainly of the dissolved mineral constituents in the water. It may also include some organic matter and water of crystallization. Water with less than 500 mg/l of dissolved solids usually is satisfactory for domestic and some industrial uses. Water containing several thousand milligrams per liter dissolved solids is sometimes successfully used for irrigation where practices permit the removal of soluble salts through the application of large volumes of water on well-drained lands, but generally water containing more than about 2,000 mg/l is considered to be unsuitable for long-term irrigation under average conditions.

#### Properties and Characteristics of Water

##### Hardness

Hardness is the characteristic of water that receives the most attention in industrial and domestic use. As hardness increases, so does the quantity of soap required to produce lather. Hard water is also objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with a resultant decrease in rate of heat transfer and possibility of water-heater or boiler failure.

Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents--such as iron, manganese, aluminum, barium, strontium, and free acid--also cause hardness, although they usually are not present in quantities large enough to have any appreciable effect.

Generally bicarbonate and carbonate ions determine the proportions of "carbonate" hardness of water. Carbonate hardness is the amount of hardness chemically equivalent to the amount of bicarbonate and carbonate in solution. Carbonate hardness is approximately equal to the amount of hardness that is removed from water by boiling and is termed temporary hardness.

Noncarbonate hardness is the difference between the hardness calculated from the total amount of calcium and magnesium in solution and the carbonate hardness. If the carbonate hardness (expressed as calcium carbonate) equals the amount of calcium and magnesium hardness (also expressed as calcium carbonate) there is no noncarbonate hardness. Noncarbonate



hardness is about equal to the amount of hardness remaining after water is boiled. The scale formed at high temperatures by the evaporation of water containing noncarbonate hardness commonly is tough, heat resistant, and difficult to remove.

Although many people talk about soft water and hard water, there has been no firm line of demarcation. Water that seems hard to some people may seem soft to others. As a general reference, the U.S. Geological Survey uses the following classification of water hardness.

<u>Calcium and magnesium hardness, as CaCO<sub>3</sub> (milligrams per liter)</u>	<u>Hardness description</u>
0-60	Soft
61-120	Moderately hard
121-180	Hard
More than 180	Very hard

Water ranging in hardness from 0 to 60 mg/l generally is suitable for public or domestic use without softening. Water with hardness greater than 60 mg/l is improved by softening to reduce soap consumption and accumulation of scum on water fixtures.

#### Sodium-adsorption ratio (SAR)

The term sodium-adsorption ratio (SAR) was introduced by the U.S. Salinity Laboratory Staff (1954). It is the ratio expressing the relative activity of sodium ions in exchange reaction with soil and is an index of the sodium or alkali hazard to the soil. Sodium-adsorption ratio is expressed by the equation:

$$SAR = \frac{Na^+}{\sqrt{\frac{Ca^{++} + Mg^{++}}{2}}}$$

where the concentrations of the ions are expressed in milliequivalents per liter or equivalents per million.

Water is divided into sixteen classes (U.S. Salinity Laboratory Staff, 1954, p. 80) depending upon the SAR and specific conductance. Water varies in respect to sodium hazard and specific conductance from that which can be used for irrigation on almost all soils to that which is generally unsatisfactory for irrigation.

Specific conductance (micromhos per centimeter at 25°C)

Specific conductance is used to estimate the amount of dissolved solids in water. Commonly in Griggs and Steele Counties the amount of dissolved solids (in milligrams per liter) is about 70 percent of the specific conductance (in micromhos per centimeter at 25°C).

Hydrogen-ion concentration (pH)

Hydrogen-ion concentration is expressed in terms of pH units. The values of pH often are used as a measure of the solvent power of water or as an indicator of the chemical behavior certain solutions may have toward rock minerals.

The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, affects the corrosive properties of water, and partly determines the proper treatment that may be necessary at water-treatment plants. A pH of 7.0 indicates that the water is neither acid nor alkaline. Readings progressively lower than 7.0 denote increasing acidity and those progressively higher than 7.0 denote increasing alkalinity.

Temperature

Temperature is an important factor in properly evaluating the usefulness of water. This is evident for such a direct use as an industrial coolant. Temperature is also important, but perhaps not so evident, for its indirect influence upon concentrations of dissolved gases and mineral matter in ground water. Temperature in this report (tables 1 and 4) are expressed in degrees Celsius (Centigrade). Degrees Celsius and the equivalent temperature in degrees Fahrenheit are given in the following table.

<u>Degrees Celsius (°C)</u>	<u>Degrees Fahrenheit (°F)</u>
3.0	38
4.0	39
4.5	40
5.0	41
5.5	42
6.0	43
6.5	44
7.0	45
7.5	46
8.5	47
9.0	48
9.5	49
10.0	50
10.5	51
11.0	52
11.5	53
12.0	54
12.5	55
13.5	56
14.0	57
14.5	58
15.0	59
15.5	60
16.0	61

The temperature of ground water within 60 feet (18.3 meters) of the surface approximates the mean annual air temperature and probably increases about 0.56°C (1°F) for each 60 to 100 feet (18.3 to 30.5 meters) of increase in depth.

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TABLE 1.--Records of wells and test holes

EXPLANATION

<u>Owner</u>	<u>Water-bearing material</u>
NDSWC 8356, North Dakota State Water Commission, test-hole number 8356	<u>Modifiers</u>
SCS, U.S. Soil Conservation Service	1, very fine grained
USAF, U.S. Air Force	2, fine grained
USBR, U.S. Bureau of Reclamation	3, medium grained
USGS, U.S. Geological Survey	6, clayey
	7, silty
	8, sandy
	9, gravelly
	J, jointed or fractured
<u>Water level (feet)</u>	<u>Major lithology</u>
Water level, in feet below (+ above) land surface	F, shale
<u>Use of water</u>	G, gravel
C, commercial	P, clay
H, domestic	Q, silt
I, irrigation	R, sand and gravel
K, domestic and stock	S, sand
P, public supply	T, till
S, stock	X, silty sand
T, institutional	Y, clayey gravel
U, unused	
Z, other	<u>Specific conductance (in micromhos per centi- meter at 25°C)</u>
<u>Major aquifer</u>	0, 0-50
D, Dakota Group	1, 51-150
N, Niobrara Formation	2, 151-300
P, Pierre Formation	3, 301-500
1G, surface sand and gravel deposit	4, 501-1,000
01, lake deposit	5, 1,001-2,000
31, outwash deposit	6, 2,001-5,000
41, glacial till	7, 5,001-10,000
51, buried-glaciofluvial deposit	
52, buried-channel deposit	

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
144-054-01AAB	M. HOLMAN		32	--	42	--	7	10-69	S	--	--	--	--	1120
144-054-01ABB	NDSWC 8356	300	128	122	1	1972	8	10-72	U	51	3S	5	7.0	1120
144-054-02AAD	W. HENDERSON		180	--	2	1937	20	--	K	--	--	5	7.0	1125
144-054-040DD	M. GISVOLD		55	51	2	1957	5	--	H	--	--	4	--	1140
144-054-05AAA	NDSWC 8357	300	--	--	--	1972	--	--	U	--	--	--	--	1145
144-054-06CCD	J. MOTTER		28	--	24	--	13	10-69	H	--	--	--	--	1140
144-054-12ABA	R. SATROM		40	--	36	--	14	10-69	H	--	--	5	--	1125
144-054-13DCB1	O. GROVEN		50	--	2	1961	40	--	K	--	--	4	--	1150
144-054-13DCB2	O. GROVEN		34	--	24	1946	30	--	S	51	8G	--	--	1155
144-054-14AAD	M. WORKIN		33	--	30	1949	18	7-70	K	51	7S	5	--	1135
144-054-17BAB	JONDAHL BROS.		90	--	30	1949	30	--	U	--	--	--	--	1170
144-054-17BBC	JONDAHL BROS.		120	--	4	1968	35	--	S	51	7S	3	--	1170
144-054-17BBD	JONDAHL BROS.		110	--	3	1960	40	--	H	51	7S	4	--	1175
144-054-18AAA	NDSWC 3987	300	76	70	1	1970	20	6-70	U	51	7S	4	--	1165
144-054-22DCD1	NDSWC 8064	220	103	100	1	1971	19	8-71	U	51	7S	5	7.5	1151
144-054-22DCD2	NDSWC 8064A	140	113	107	1	1971	20	10-71	U	51	7S	5	7.5	1155
144-054-22DCD3	NDSWC 8064B	140	83	77	1	1971	22	10-71	U	51	7S	--	--	1156
144-054-22DCD4	NDSWC PROD WELL		93	63	8	1971	21	9-71	U	51	7S	5	--	1153
144-054-22DCD5	NDSWC AQ TEST		82	79	1	1971	24	9-71	U	51	7S	--	--	1153
144-054-24BAB	A. OLSTAD		30	--	30	1954	15	--	K	--	--	3	--	1135
144-054-24BAC	A. OLSTAD		22	--	42	--	10	10-69	S	--	--	--	--	1130
144-054-24DDD	NDSWC 8355	340	123	117	1	1972	48	10-72	U	51	3S	5	7.5	1180
144-054-25CCC1	NDSWC 4299	410	331	328	1	1970	56	12-70	U	51	7S	--	--	1190
144-054-25CCC2	NDSWC 4299A	140	126	123	1	1970	50	12-70	U	51	7S	--	--	1190
144-054-26BBB	NDSWC 3986	360	106	100	1	1970	20	1-71	U	51	7S	--	--	1185
144-054-27ABA	NDSWC 8064F	320	--	--	--	1971	--	--	U	51	7S	--	--	1160
144-054-27ABB	NDSWC 8064C	140	83	77	1	1971	17	10-71	U	51	7S	--	--	1150
144-054-27ABD	NDSWC 8064D	140	83	77	4	1971	29	9-71	U	51	7S	5	7.0	1162
144-054-28CCD	NDSWC 3985	340	104	99	1	1970	20	6-70	U	51	3S	4	7.5	1155
144-054-28DDD1	R. KNIGHT		80	--	2	--	20	--	S	--	--	5	--	1150
144-054-28DDD2	R. KNIGHT		80	74	2	1950	23	--	H	51	7S	5	--	1150
144-054-29DDD	W. STEINKE		20	--	8	--	15	--	S	51	7S	5	9.0	1160
144-054-31CCC	NDSWC 8353	340	103	97	1	1972	37	10-72	U	51	3S	5	--	1180
144-054-32B9A1	H. SATROM		80	--	2	1967	50	--	H	--	--	5	--	1180
144-054-32B8A2	H. SATROM		80	--	2	1964	20	--	S	51	7S	--	--	1175
144-054-340DD	NDSWC 8354	400	--	--	--	1972	--	--	U	--	--	--	--	1200
144-055-02CCC	V. VISBY		32	--	30	--	12	10-69	U	--	--	--	--	1130
144-055-02DDD1	V. WENNERSTROM		32	--	30	--	26	--	H	--	--	4	--	1150
144-055-02DDD2	V. WENNERSTROM		32	--	24	--	27	10-69	S	--	--	--	--	1150
144-055-02DDD3	V. WENNERSTROM		26	--	--	--	21	--	H	--	--	--	--	1145

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
144-055-03CDC	L. BAYMAN		40	--	24	--	15	--	H	--	--	4	--	1145
144-055-03DDD	V. VISBY		45	--	3	--	25	--	K	--	--	4	--	1140
144-055-04BAB1	E. SELANDER		26	--	36	--	20	--	H	--	--	--	--	1150
144-055-04BAB2	E. SELANDER		17	--	30	--	15	--	U	--	--	--	--	1150
144-055-05ABA	H. LARSON		28	--	24	--	10	--	K	--	--	6	4.4	1165
144-055-05ABB	H. LARSON		32	--	36	--	16	10-69	K	--	--	--	--	1170
144-055-05ABC	H. LARSON		30	--	30	--	12	--	K	--	--	6	--	1165
144-055-06BCB1	O. GERMUNDSON		23	--	24	1944	11	9-44	K	--	--	--	--	1201
144-055-06BCB2	NDSWC 3981	200	138	118	1	1970	6	6-70	U	--	9P	6	4.6	1205
144-055-06CBB	L. BRAISTED		20	--	24	--	10	--	H	--	--	5	--	1215
144-055-06CCC1	NDSWC 5617	150	--	--	--	1969	--	--	U	51	9S	--	--	1210
144-055-06CCC2	NDSWC 5617A		18	15	1	1969	4	1-70	U	51	S	5	--	1210
144-055-078AA	USGS 21	218	--	--	--	--	--	--	U	51	6G	--	--	1205
144-055-078CA	F. OXTON		24	--	--	1935	16	--	H	--	--	--	--	1210
144-055-088BC	E. STEINKE		22	--	36	1951	10	--	H	--	--	6	--	1190
144-055-09ABB	NDSWC 3982	300	39	19	1	1970	6	6-70	U	51	9S	5	--	1140
144-055-10ABB1	NDSWC 5618	260	--	--	--	1969	--	--	U	51	9S	--	--	1135
144-055-10ABB2	NDSWC 5618A		23	20	1	1969	3	1-70	U	--	9S	5	--	1135
144-055-10BBA	V. VISBY		40	--	4	1966	15	--	H	--	--	5	--	1140
144-055-10DDC	C. MCCULLOUGH		30	--	2	--	8	--	K	--	--	5	--	1145
144-055-14CCC	D. FISHER		30	--	36	1933	15	--	H	--	--	4	--	1150
144-055-14CCD	D. FISHER		42	35	2	--	22	--	S	--	--	4	--	1155
144-055-168BB	C. HAHN		20	--	--	--	8	10-69	U	--	--	--	--	1145
144-055-18DBB1	R. INGINSON		18	--	24	--	13	10-69	H	--	--	5	--	1195
144-055-18CBB2	R. INGINSON		16	--	42	--	10	--	S	--	--	5	--	1190
144-055-19CBB	G. STAHL		17	--	36	--	11	10-69	U	--	--	--	--	1200
144-055-19CCD1	USAF M-0	872	742	726	8	1963	73	6-63	H	D	7S	6	--	1180
144-055-19CCD2	USAF 5231		130	--	4	--	19	4-62	U	51	S	--	--	1190
144-055-22CDC	J. OHLIN		66	60	2	1965	40	--	K	--	--	5	--	1170
144-055-22DCD	K. ERICKSON		40	34	2	1948	30	--	K	--	--	5	--	1160
144-055-24ACC	A. LANGDAHL		35	--	24	1945	19	10-69	H	--	--	5	--	1155
144-055-25AAA	E. LANGDAHL		87	81	4	1969	--	--	H	--	--	5	--	1170
144-055-25ABA	NDSWC 8063	120	93	87	1	1971	28	9-71	U	51	9S	4	--	1165
144-055-268BB	NDSWC 3983	300	68	53	1	1970	18	6-70	U	51	9S	5	7.5	1160
144-055-26DDD	NDSWC 8062	260	73	67	1	1971	10	9-71	U	51	7R	5	--	1155
144-055-27CCC	NDSWC 3984	320	81	78	1	1970	34	6-70	U	51	3S	5	7.5	1185
144-055-28ADD	E. TATE		65	59	2	1969	50	--	H	--	S	5	--	1180
144-055-29ABA	G. FLICKINGER		30	--	30	--	15	--	H	--	--	6	--	1170
144-055-30DDC	S. JOHNSON		27	--	36	1969	18	--	K	--	--	6	--	1190
144-055-32ABB	R. HELGESSON		35	--	24	--	25	--	H	--	--	--	--	1190

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LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE- OF LSU (FT.)
144-055-33BDD	J. MEWES		60	53	2	1950	--	--	H	--	--	5	--	1180
144-055-33CAC	G. ERICKSON		60	54	2	1949	40	--	H	--	--	5	--	1175
144-055-33CAD1	J. BURCHILL		60	54	2	--	40	--	H	--	--	5	--	1180
144-055-33CAD2	NDSWC 5619	300	243	237	1	1969	26	1-70	U	51	7G	6	--	1180
144-055-33CDA	G. N. RAILROAD		70	65	6	1928	29	6-28	S	51	7G	--	--	1180
144-055-34DCC	M. WARREN		70	64	2	1948	20	--	H	51	--	4	--	1175
144-055-36BCD1	E. SATROM		57	52	2	1957	27	--	H	--	--	4	--	1170
144-055-36BCD2	C. SATROM		57	52	2	1957	27	--	H	--	--	4	--	1170
144-056-01ACB	HOPE SCHOOL		28	--	18	--	22	9-46	T	--	--	--	--	1224
144-056-01ACC	HOPE 1		39	--	17	1950	--	--	P	--	R	--	--	--
144-056-01ADA	USGS 19	50	--	--	--	1947	--	--	U	51	8G	--	--	1215
144-056-01BAD	HOPE		34	--	60	1937	28	9-46	U	--	--	--	--	1231
144-056-01BBB	W. NEWELL		45	--	36	--	42	9-46	K	--	--	--	--	1244
144-056-01BBD	POPPIE		36	--	24	--	31	8-47	U	--	--	--	--	1233
144-056-01BCA1	HOPE 7		42	--	60	1938	34	8-46	U	--	--	--	--	1238
144-056-01BCA2	J. THOMPSON		40	--	--	1945	38	9-46	H	--	--	--	--	1239
144-056-01BCB1	USGS 16	70	--	--	--	1947	--	--	U	51	8G	--	--	1240
144-056-01BCB2	J. THOMPSON		65	--	30	--	39	9-47	H	--	--	--	--	1243
144-056-01CAA	H. WEMERSTROM		37	--	--	1906	31	9-46	K	--	--	--	--	1233
144-056-01CBA	USGS 17		56	--	5	1947	--	--	U	51	7S	--	--	1240
144-056-01CAD	HOPE		39	--	--	--	--	--	P	--	--	5	--	--
144-056-01DDD	USGS 20	50	--	--	--	1947	--	--	U	51	8G	--	--	1210
144-056-02ADD	C. BRAISTED		50	--	36	--	31	9-46	H	--	--	--	--	--
144-056-03BAB1	V. HUSCHKA		32	--	32	1955	20	--	S	--	--	--	--	1295
144-056-03BAB2	V. HUSCHKA		30	--	32	1958	20	--	S	--	--	--	--	1295
144-056-04ABA1	T. MCCULLOUGH		38	--	30	1945	10	8-70	U	--	--	--	--	1305
144-056-04ABA2	T. MCCULLOUGH		60	--	30	1945	8	8-70	U	--	--	--	--	1305
144-056-05DDD	M. WHITMORE		40	--	36	--	20	--	K	--	--	--	--	1320
144-056-06BB	MATTHIESEN 1		865	50	5	1966	--	--	U	--	--	--	--	1380
144-056-06CCC	C. ANDERSON		28	--	30	1953	21	8-70	H	--	--	--	--	1370
144-056-07BAA1	J. ANDRE		40	--	36	1950	34	--	H	--	--	6	--	1370
144-056-07BAA2	J. ANDRE		37	--	36	--	8	8-70	U	--	--	--	--	1370
144-056-08DDD	E. STEWART		87	--	30	--	10	7-70	H	--	--	6	7.0	1310
144-056-10BAB	K. BRENDENMUEHL		55	--	30	--	11	8-70	U	--	--	--	--	1280
144-056-10BBC	NDSWC 84C5	170	--	--	--	1972	--	--	U	--	--	--	--	1280
144-056-12CBB	P. ZERFACE		24	--	36	1960	12	--	K	--	--	5	--	1220
144-056-13CCC	NDSWC 8411	200	--	--	--	1972	--	--	U	--	--	--	--	1220
144-056-16BAA	L. ZERFACE		--	--	--	--	10	8-70	U	--	--	--	--	1300
144-056-02ABA	USGS 18	60	--	--	--	1947	--	--	U	51	8G	--	--	1240
144-056-21AAA	NDSWC 8410	160	--	--	--	1972	--	--	U	--	--	--	--	1265

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
144-056-24CBC1	C. WASHBURN		50	--	18	1952	22	7-70	H	--	--	5	--	1230
144-056-24CBC2	C. WASHBURN		50	--	36	--	23	7-70	S	--	--	--	--	1230
144-056-24DDD	W. STEINKE		20	--	96	1964	15	--	S	--	--	--	--	1200
144-056-28CCC	NDSWC 4273	210	--	--	--	1970	--	--	U	51	8G	--	--	1305
144-056-28DCD1	A. OVERLAND		22	--	24	1955	12	--	H	--	--	6	--	1275
144-056-28DCD2	A. OVERLAND		48	--	36	1936	25	--	S	--	--	--	--	1275
144-056-29CDD	V. KIMBLE		30	--	32	--	15	--	K	--	--	--	--	1300
144-056-29DD8	USAF S225		100	--	5	--	22	4-62	U	51	7S	--	--	1308
144-056-31CDD	NDSWC 4271	200	--	--	--	1970	--	--	U	--	--	--	--	1340
144-056-34CCD	A. HETLAND		31	--	30	1955	15	8-70	H	--	--	5	9.0	1255
144-056-35CAA	NDSWC 4272	260	--	--	--	1970	--	--	U	51	7S	--	--	1200
144-057-02CCC	R. JOHNSON		61	--	36	--	30	9-69	H	51	7S	6	--	1450
144-057-03888	V. JOHNSON		65	--	24	1947	51	--	H	--	7S	6	--	1470
144-057-03CCD	E. JENSEN		30	--	26	1939	15	--	H	--	7S	6	--	1450
144-057-04C9A	L. JACOBSON		128	--	26	1935	75	--	K	--	7S	5	--	1490
144-057-05CCB	NDSWC 8419	340	190	187	1	1972	170	7-72	U	--	--	--	--	1510
144-057-06CCC	NDSWC 842C	400	253	247	1	1972	170	10-72	U	--	--	--	--	1502
144-057-10AAA	NDSWC 4013	240	--	--	--	1970	--	--	U	51	--	--	--	1450
144-057-10BB8	B. PEDERSON		35	--	28	--	21	--	H	--	7S	--	--	1450
144-057-10CCB	C. PEDERSON		54	--	30	1947	20	--	H	--	2S	--	--	1440
144-057-128AA	M. BAKKE		32	--	30	1959	25	--	H	--	7S	--	--	1390
144-057-15CCC	C. PEDERSON		42	--	26	--	21	10-69	H	--	7S	--	--	1420
144-057-17CDD	NDSWC 8423	320	183	177	1	1972	115	10-72	U	--	--	--	--	1463
144-057-18DDD	NDSWC 8421	280	133	127	1	1972	62	10-72	U	--	--	--	--	1460
144-057-19ABB	NDSWC 8422	280	--	--	--	1972	--	--	U	--	--	--	--	1475
144-057-19CCC	NDSWC 4336	240	--	--	--	1971	--	--	U	51	8G	--	--	1459
144-057-21AAA	NDSWC 4012	260	--	--	--	1970	--	--	U	--	--	--	--	1425
144-057-21ADD1	L. MCKEE		57	--	26	--	18	--	H	--	7S	--	--	1420
144-057-21ADD2	L. MCKEE		80	--	26	1908	20	--	K	--	7S	6	7.5	1420
144-057-21CCD	NDSWC 4268	260	--	--	--	1970	--	--	U	51	8G	--	--	1430
144-057-22AAB	H. JENSEN		51	--	30	--	25	--	H	51	8G	5	--	1420
144-057-22C88	L. MCKEE		66	--	24	1944	15	7-70	S	--	--	--	--	1415
144-057-22DDD	S. JOHNSON		36	--	26	--	33	--	H	--	--	--	--	1415
144-057-23DDD1	A. JACOBSON		32	--	30	--	15	7-70	K	51	7S	5	--	1385
144-057-23DDD2	A. JACOBSON		32	--	30	--	17	--	H	51	8G	--	--	1380
144-057-24BAB	A. MITZEL		29	--	36	--	--	--	H	--	P	5	--	1400
144-057-24CCC1	E. IHRY		40	--	28	1952	36	--	H	51	8G	5	--	1370
144-057-24CCC2	E. IHRY		40	--	28	1940	25	--	H	51	9S	5	--	1370
144-057-25ABA	E. IHRY		40	--	28	1943	26	--	K	--	7P	5	--	1370
144-057-27BDA	R. JACOBSON		36	--	26	--	20	--	H	--	--	5	--	1420

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LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
144-057-29BAA	W. CHRISTENSEN		128	--	--	--	98	10-69	H	--	--	--	--	1440
144-057-29DCD	NDSWC 4266	360	326	320	1	1970	92	11-70	U	52	8G	6	7.5	1440
144-057-31DAA	NDSWC 4011	240	125	119	1	1970	110	7-70	U	52	3S	--	--	1455
144-057-32ABB	NDSWC 8424	240	--	--	--	1972	--	--	U	--	--	--	--	1450
144-057-32BAC	CITY OF LUVERNE		320	295	4	1970	15	--	P	52	8G	5	7.5	1430
144-057-32BBA	WILLOW LAKE SCH.		140	--	6	--	40	--	T	--	--	5	7.5	1440
144-057-32BBB1	H. PEDERSON		49	--	24	1950	9	7-70	H	--	S	5	--	1435
144-057-32BBB2	LUVERNE CITY		260	--	--	--	--	--	U	--	--	--	--	1550
144-057-32BBD	LUVERNE CITY 3		200	--	--	--	--	--	P	--	--	--	--	1530
144-057-32BCB	NDSWC 4265	340	--	--	--	1970	--	--	U	51	8G	--	--	1420
144-057-32BDB	LUVERNE CITY		180	--	--	--	--	--	U	--	--	--	--	1510
144-057-32CCA	LEHIGH PORTLAND		1285	--	4	1969	--	--	U	--	--	--	--	1440
144-057-33DDD	NDSWC 427C	320	264	258	1	1970	F	10-70	U	52	R	5	7.0	1340
144-057-34BBB	NDSWC 4265	260	--	--	--	1970	--	--	U	51	--	--	--	1420
144-057-34CBD	M. HAUGAARD		56	--	30	1942	20	--	K	--	--	5	--	1385
144-057-34DAB	R. FUGLESTED		30	--	26	1941	--	--	K	--	P	5	--	1355
144-057-36CDC	S. JACOBSEN		45	--	30	--	31	--	K	--	G	6	--	1370
144-058-010DD	NDSWC 8413	300	123	117	1	1972	--	--	U	--	--	--	--	1482
144-058-03DCC	NDSWC 5903	200	--	--	--	1970	--	--	U	51	8G	--	--	1390
144-058-07BBB	NDSWC 5901	160	--	--	--	1970	--	--	U	--	--	--	--	1410
144-058-08ACA	S. STOKKA		15	--	40	--	7	6-71	S	--	--	6	4.0	1410
144-058-11BAB	NDSWC 8415	40	--	--	--	1972	--	--	U	--	--	--	--	1280
144-058-12BAB	NDSWC 8414	260	--	--	--	1972	--	--	U	--	--	--	--	1460
144-058-13BAA	NDSWC 4333	220	--	--	--	1971	--	--	U	51	7S	--	--	1418
144-058-18DDD	NDSWC 5902	200	135	132	1	1970	7	11-70	U	51	8G	--	--	1410
144-058-22CCD	A. SJOKVIST		1	--	18	--	0	--	H	16	7S	5	--	--
144-058-24BBB	NDSWC 4335	180	--	--	--	1971	--	--	U	51	7R	--	--	1385
144-058-25ABA	P. HAUGAARD		100	--	24	--	88	--	H	--	--	5	7.0	--
144-058-25DCC	J. PEDERSEN		106	--	30	--	88	--	K	51	8G	5	--	1460
144-058-25CDA	NDSWC 4267	220	--	--	--	1970	--	--	U	51	8G	--	--	1440
144-058-26AAA	NDSWC 4334	260	--	--	--	1971	--	--	U	--	--	--	--	1473
144-059-07BBB	NDSWC 5858	280	203	197	1	1970	19	11-70	U	52	7R	4	7.5	1435
144-059-08AAA	NDSWC 5899	200	163	157	1	1970	44	11-70	U	52	7R	5	7.0	1410
144-059-08BAD	HANNAFORD	185	176	108	--	1956	49	--	P	--	--	5	6.0	1420
144-059-09BBB	E. HANSON	175	170	152	3	1963	--	6-63	H	51	8G	--	--	1413
144-059-11BBB	NDSWC 5900	140	--	--	--	1970	--	--	U	51	8G	--	--	1425
144-059-110AD	O. STOCKLAND		40	--	36	--	12	--	H	--	--	7	3.0	1420
144-059-140DD	B. HAUGEN		104	--	4	1965	64	--	H	--	--	6	7.0	1420
144-059-190DD	R. EVERSON		31	--	36	--	7	6-71	K	--	--	6	7.5	1432
144-059-20BCC	GRIFFITH LOAN		51	45	5	1912	28	11-40	U	51	--	--	--	1430

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CAPACITY	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
144-059-20CCC	NDSWC 4377	240	161	158	1	1971	52	9-71	U	51	8G	5	--	1430
144-059-20DDD	NDSWC 8429	220	140	137	1	1972	42	10-72	U	--	--	5	--	1418
144-059-21CCC	M.LINDER	--	137	--	4	1952	40	--	S	--	--	5	--	--
144-059-22CCC	NDSWC 8428	280	140	137	1	1972	55	10-72	U	--	--	5	--	1396
144-059-23BCD	A.JOHNSON	--	125	--	6	1960	120	--	H	--	--	5	--	--
144-059-23CCC	NDSWC 4376	260	200	197	1	1971	90	9-71	U	51	--	5	--	1439
144-059-24ABB	M.HAUGEN	--	50	--	36	--	25	--	H	--	--	6	6.0	--
144-059-25AAB1	I.HAUGEN	--	40	--	36	1961	28	--	H	--	--	7	--	--
144-059-25AAB2	I.HAUGEN	--	45	--	36	--	30	--	S	--	--	7	6.0	--
144-059-26AAD	B.KALLAND	--	40	--	36	1950	20	--	H	--	--	6	--	--
144-059-28BBB	M.LINDER	--	27	--	36	--	9	6-71	H	--	--	4	--	--
144-060-01CCC	NDSWC 8430	380	--	--	--	1972	--	--	U	--	--	--	--	1445
144-060-01DCC	NDSWC 8431	400	--	--	--	1972	--	--	U	--	--	--	--	1460
144-060-07AAA	NDSWC 5897	60	--	--	--	1970	--	--	U	--	--	--	--	1460
144-060-10AAB	NDSWC 5896	260	--	--	--	1970	--	--	U	51	7S	--	--	1460
144-060-19DCC	E.MICHAELSON	--	80	--	5	1924	20	--	K	--	--	5	4.0	--
144-060-19DCD	C.MEYERDAHL	--	25	--	36	--	12	--	H	--	--	5	--	--
144-060-22DCD	MESSER BROS.	--	120	--	36	--	25	--	K	--	--	6	7.5	--
144-060-23DAD	R.WAHL	--	18	--	36	1948	14	--	H	--	--	4	--	--
144-060-24CCC	NDSWC 4331	340	--	--	--	1971	--	--	U	51	8G	--	--	1425
144-060-25AAA	NDSWC 4332	240	--	--	--	1971	--	--	U	--	--	--	--	1430
144-060-26BCB	M.MESSER	--	20	--	36	--	10	--	K	--	--	4	--	--
144-060-27BCB1	NDSWC 4330	240	204	198	1	1971	12	9-71	U	51	9S	6	--	1440
144-060-27BCB2	NDSWC 4330A	--	124	118	1	1971	12	9-71	U	51	9S	--	--	1440
144-060-30DAA	NDSWC 4329	180	60	57	1	1971	10	9-71	U	51	9S	--	--	1460
144-061-04CBC	NDSWC 5894	100	30	27	1	1970	5	11-70	U	51	8G	7	7.5	1475
144-061-05BDA1	H.JACOBSON	--	110	--	6	1967	15	6-67	H	51	7S	5	--	1480
144-061-05BDA2	H.JACOBSON	--	30	--	36	--	25	--	S	--	--	5	5.0	--
144-061-09BAR	C.SWANSON	--	209	--	5	1949	0	--	H	--	--	6	--	--
144-061-09CBC	E.MIKLETHUN	--	98	--	5	1948	20	--	H	--	--	4	--	--
144-061-10AAA	NDSWC 4321	80	--	--	--	1971	--	--	U	51	9S	--	--	1468
144-061-12BBB	NDSWC 5695	120	--	--	--	1970	--	--	U	--	--	--	--	1470
144-061-16ACC1	SAMEK BROS.	--	200	--	5	--	45	--	H	--	--	6	--	--
144-061-16ACC2	SAMEK BROS.	--	25	--	24	--	19	--	K	--	--	6	--	--
144-061-16ACC3	SAMEK BROS.	--	25	--	36	1961	19	--	H	--	--	6	--	--
144-061-16CCC	NDSWC 4323	40	--	--	--	1971	--	--	U	--	--	--	--	1486
144-061-16DDD	NDSWC 4322	40	--	--	--	1971	--	--	U	--	--	--	--	1481
144-061-18CCC	NDSWC 4325	120	--	--	--	1971	--	--	U	--	--	--	--	1495
144-061-18DDD	NDSWC 4324	260	103	97	1	1971	12	9-71	U	51	7S	5	--	1490
144-061-210C01	D.HOYT	--	115	--	36	--	18	--	H	--	--	6	--	--

LOCAL WELL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAM-ETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPE-CIFIC CON-DUCT ANCE	TEM- PER- ATURE (°C)	ALTI- TUDE- OF LSD (FT.)
144-061-21DCD2	D.HOYT		16	--	36	--	8	--	S	--	--	6	--	--
144-061-23DCD	O.MICHAEL SON		100	--	6	--	20	--	K	--	--	5	--	--
144-061-24CCC	NDSWC 4327	140	94	88	1	1971	7	9-71	U	51	7S	5	--	1464
144-061-24DDD	NDSWC 4328	160	--	--	--	1971	--	--	U	51	--	--	--	1460
144-061-26ADA	J.HANSON		80	--	5	--	18	--	K	--	--	6	5.5	--
144-061-26888	NDSWC 4326	180	--	--	--	1971	--	--	U	--	--	--	--	1470
144-061-28C88	C.TWEED		18	--	36	--	14	6-71	H	--	--	5	--	--
144-061-29DDD	E.CRESAP		14	--	36	1960	10	6-71	K	--	--	6	10.0	--
144-061-33888	N.BRUDVIG		23	--	48	--	16	--	K	--	--	6	--	--
145-054-01CCC	NDSWC 3989	280	--	--	--	1970	--	--	U	51	8G	--	--	1100
145-054-03888	M.BJERKE		36	--	36	--	27	6-70	K	--	--	5	7.0	--
145-054-03CCD	E.UST		37	--	24	1965	20	--	S	--	--	6	--	--
145-054-03DDD	NDSWC 8368	160	--	--	--	1972	--	--	U	--	--	--	--	1106
145-054-04AAA	NDSWC 8367	140	90	87	1	1972	7	10-72	U	51	2S	4	9.0	1095
145-054-04AAD	C.SIMENSON		26	--	18	--	22	--	H	--	--	4	7.0	--
145-054-04DDD	NDSWC 3990	220	--	--	--	1970	--	--	U	51	8G	--	--	1100
145-054-05ADD1	UST BROS.		21	--	30	1920	6	--	H	--	--	--	--	1105
145-054-05ADD2	UST BROS.		21	--	30	--	6	7-70	S	--	--	5	--	1105
145-054-05ADD3	UST BROS.		21	--	30	1942	6	--	S	--	--	--	--	--
145-054-06DDD	NDSWC 3994	240	--	--	--	1970	--	--	U	51	--	--	--	1115
145-054-08ADD1	D.OTTESON		23	--	24	1948	17	--	S	--	--	--	--	1095
145-054-08ADD2	D.OTTESON		24	--	24	1965	11	7-70	H	--	--	--	--	1095
145-054-08DDC	H.BJERKE		31	--	42	1905	19	7-70	K	--	--	--	--	1105
145-054-09888	NDSWC 3993	240	42	39	1	1970	3	6-70	U	31	7S	4	7.0	1105
145-054-098C8	H.BJERKE		32	--	36	1965	20	--	U	--	--	--	--	1105
145-054-09CCC	NDSWC 8365	100	50	47	1	1972	11	10-72	U	51	2S	5	7.0	1112
145-054-10AAB	G.KVILLE		21	--	36	1945	10	--	S	--	--	--	--	1105
145-054-10ABA	N.ERICKSON		25	--	36	--	12	--	U	--	--	--	--	1110
145-054-10DDA	A.KVILLE		25	--	48	1925	10	--	H	--	--	--	--	1110
145-054-10DDD	NDSWC 8364	100	20	17	1	1972	7	10-72	U	01	3S	4	7.5	1120
145-054-12ADA	NDSWC 3988	320	--	--	--	1970	--	--	U	51	7S	--	--	1107
145-054-13DDD1	NDSWC 8358A	140	68	62	1	1972	10	10-72	U	--	--	5	7.0	1115
145-054-13DDD2	NDSWC 8358	300	--	--	--	1972	--	--	U	--	--	--	--	1115
145-054-14CDC	H.WOELL		29	--	30	1930	17	7-70	H	--	--	--	--	1145
145-054-15DDC	R.WOELL		48	--	24	1954	36	--	H	--	--	--	--	1150
145-054-20CCC	NDSWC 4298	280	--	--	--	1970	--	--	U	51	7S	--	--	1115
145-054-20DDD	C.VOLTZ		31	--	30	--	8	7-70	H	--	--	--	--	1125
145-054-22AAA	NDSWC 3992	380	83	80	1	1970	22	6-70	U	51	7S	4	7.0	1150
145-054-23CCC	H.OLOFSON		28	--	30	--	17	--	K	--	--	5	--	1140
145-054-25COD	T.HOLMEN	200	--	--	--	--	--	--	H	P	--	--	--	1125

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
145-054-27CDC	NDSWC 3991	820	660	640	4	1970	79	8-70	U	D	S	7	--	1145
145-054-29DDC1	G.VADNIE		28	--	24	1952	15	--	K	--	--	--	--	1140
145-054-29DDC2	G.VADNIE		33	--	--	1960	8	7-70	U	--	--	--	--	1140
145-054-30DDA	L.DOMIER		--	--	24	--	13	7-70	U	--	--	--	--	1120
145-054-32BBB	D.BROKHAUSEN		45	--	48	--	35	--	U	--	--	--	--	1120
145-054-33AAA	J.KNODLE		21	--	30	--	6	7-70	U	--	--	--	--	1145
145-054-34BAB	ROLLER BROS.		45	36	30	1938	14	--	K	--	--	5	--	--
145-054-34CBB1	G.ANDERSON		52	--	30	1920	18	--	K	--	--	--	--	1145
145-054-34CBB2	G.ANDERSON		52	--	30	1920	18	--	S	--	--	--	--	1145
145-055-010DD	NDSWC 3995	220	42	39	1	1970	4	6-70	U	1G	7S	5	7.0	1120
145-055-03CDD	NDSWC 3997	160	--	--	--	1970	--	--	U	1G	7S	--	--	1140
145-055-048BB	NDSWC 8360	80	--	--	--	1972	--	--	U	--	--	--	--	1205
145-055-048CB	L.HASHBARGER		--	--	24	--	7	7-70	U	--	--	--	--	1200
145-055-05ADA	L.HASHBARGER		21	--	24	--	5	7-70	U	--	--	--	--	1200
145-055-05CCC	M.GUNKLE		38	--	36	1940	32	--	K	--	--	6	7.0	1225
145-055-08BBB	BOEDER NO. 1		602	50	5	1966	--	--	U	--	--	--	--	1220
145-055-07RBB	NDSWC 4001	80	52	49	1	1970	3	6-70	U	51	8G	5	6.5	1250
145-055-08AAA	NDSWC 4000	60	--	--	--	1970	--	--	U	51	9S	--	--	1190
145-055-09CCD1	K.JACOBSON		36	--	24	--	30	--	K	--	--	--	--	1195
145-055-09CCD2	K.JACOBSON		36	--	24	1957	6	--	S	--	--	--	--	1195
145-055-108CB1	H.GOTFREDSON		35	--	24	1947	9	6-70	K	--	--	6	--	1165
145-055-108CB2	NDSWC 3999	100	--	--	--	1970	--	--	U	51	S	--	--	1165
145-055-128BB	NDSWC 3996	200	42	39	1	1970	6	6-70	U	51	S	5	7.0	1125
145-055-13AAA	NDSWC 8359	240	51	48	1	1972	11	10-72	U	51	3S	4	7.5	1128
145-055-14CCA	L.RICHARDS		29	--	24	1950	15	--	U	--	--	--	--	--
145-055-15DAD	NDSWC 4296	220	--	--	--	1970	--	--	U	51	7S	--	--	1140
145-055-19DDD	USAF S224		130	--	5	1962	20	4-62	U	51	7S	--	--	1220
145-055-21CAB	D.ELSTON		30	--	24	1950	21	--	S	--	--	--	--	--
145-055-22ABB	USAF S233		130	--	4	1962	19	4-62	U	51	7S	--	--	1138
145-055-23AAD1	B.NELSON		25	--	4	1960	13	--	H	--	--	--	--	1130
145-055-23AAD2	B.NELSON		26	--	22	1920	--	--	U	--	--	--	--	--
145-055-23CCC	NDSWC 3598	160	31	28	1	1970	5	6-70	U	51	9S	4	6.5	1135
145-055-25CDA	D.HOUKOM		30	--	36	1963	11	--	H	--	--	--	--	--
145-055-25DDB	D.HOUKOM		30	--	4	--	5	--	S	--	--	--	--	--
145-055-27DDD	NDSWC 4297	240	63	57	1	1970	7	12-70	U	--	7R	5	6.5	1140
145-055-28CCC	H.SALANDER		20	--	24	1966	8	--	K	--	--	--	--	--
145-055-30CCB	D.HOUKOM		30	--	36	--	--	--	K	--	--	5	7.0	--
145-055-30DCC	H.WASHBURN		34	--	24	--	18	7-70	K	--	--	5	9.0	--
145-055-30DCD	H.WASHBURN		35	--	32	--	29	--	S	--	--	--	--	--
145-055-31CAA	W.WENNERSTROM		50	--	24	--	39	--	K	--	--	--	--	1249
145-055-31CCD	USGS 12	170	--	--	--	1947	39	9-46	U	51	6G	--	--	1240

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
145-055-31DAD	A. HOGEBACK		16	--	24	1945	12	9-46	H	--	--	--	--	1200
145-055-31DCC	B. KAINZ		35	--	24	1906	30	--	S	--	--	--	--	1232
145-055-31DDC	USGS 13	180	--	--	--	1947	--	--	U	51	8G	--	--	1223
145-055-31DDD	T. MCCULLOUGH		24	--	24	1945	16	9-46	S	--	--	--	--	1220
145-055-32CCC	USGS 14		31	--	--	1947	16	9-46	U	51	8G	--	--	1215
145-055-32DCC	USGS 15	136	--	--	--	--	--	--	U	51	6G	--	--	1210
145-055-33AAD	G. AMUNDSON		28	--	24	--	10	--	K	--	--	--	--	--
145-055-3588A1	L. WRIGHT		35	--	2	1956	--	--	K	--	--	--	--	--
145-055-3588A2	L. WRIGHT		35	--	30	--	--	--	S	--	--	--	--	--
145-055-3688B	Q. BRENDENMUHL		40	--	4	1968	10	--	S	--	--	--	--	1140
145-055-3688A	Q. BRENDENMUHL		40	--	2	1960	10	--	H	--	--	--	--	1140
145-056-02CCD	NDSWC 4002	140	--	--	--	1970	--	--	U	--	--	--	--	1320
145-056-03DCC	NDSWC 5616	60	--	--	--	1969	--	--	U	--	--	--	--	1345
145-056-04DCC	NDSWC 4003	80	--	--	--	1970	--	--	U	--	--	--	--	1390
145-056-05DCB	USAF S221		130	--	4	1962	15	4-62	U	--	--	--	--	1401
145-056-06CCC	NDSWC 4005	100	51	48	1	1970	9	6-70	U	51	9S	6	6.0	1450
145-056-06DCB	USAF S325	130	100	--	4	1962	19	5-62	U	51	9S	--	--	1415
145-056-07AAB	NDSWC 4004	60	--	--	--	1970	--	--	U	--	--	--	--	1410
145-056-09AAA	F. LYNCH		50	--	36	--	11	8-70	U	--	--	--	--	1360
145-056-16CDB1	S. SIMONSON		18	--	18	--	--	--	U	--	--	--	--	1350
145-056-16CDB2	S. SIMONSON		60	--	24	--	--	--	U	--	--	--	--	1355
145-056-16CDB3	S. SIMONSON		55	--	24	1945	20	8-70	U	--	--	--	--	1360
145-056-17CDD	A. COPENHAGEN		34	--	30	--	6	8-70	U	--	--	--	--	1405
145-056-19ABB1	F. HUSCHKA		45	--	--	--	30	8-70	H	--	--	6	--	1405
145-056-19ABB2	F. HUSCHKA		45	--	28	--	30	--	S	--	--	--	--	1400
145-056-24DDD	NDSWC 8412	45	--	--	--	1972	--	--	U	--	--	--	--	1255
145-056-28DCA	R. COCKLE		32	--	24	--	11	8-70	U	--	--	--	--	1342
145-056-29CCD	F. KUVISCHTA		40	--	--	1962	25	--	H	--	--	--	--	1380
145-056-30ADD	A. TRETTER		18	--	30	--	10	--	K	--	--	--	--	1380
145-056-31DCD1	K. IHRY		37	--	36	1930	20	8-70	H	--	--	6	--	1360
145-056-31DCD2	K. IHRY		40	--	30	1963	10	--	H	--	--	--	--	1362
145-056-31DCD3	K. IHRY		35	--	30	1960	13	--	U	--	--	--	--	1362
145-056-31DDC1	A. TRETTER		40	--	30	--	8	--	H	--	--	--	--	--
145-056-31DDC2	A. TRETTER		60	--	30	1950	10	--	S	--	--	--	--	--
145-056-32CDB	USAF S223		130	--	4	1962	9	11-62	U	51	7S	--	--	1386
145-056-35DDD	V. HUSCHKA		38	--	24	--	13	8-70	S	--	--	--	--	--
145-056-36DDD	T. THORSLAND		40	--	24	--	35	9-46	S	--	--	--	--	1245
145-057-01DDD	J. GASPER		51	--	24	1960	31	9-69	K	--	S	6	--	1510
145-057-02DDC	N. VALENTINE		84	--	28	--	45	--	U	--	P	7	--	1510
145-057-04DDD	NDSWC 4008	120	39	19	1	1970	14	6-70	U	51	8G	3	6.0	1510

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
145-057-06ABB	JOHNSON BROS.		23	--	36	--	12	9-69	K	--	G	5	--	1450
145-057-07AAA1	NDSWC 4010	40	29	19	1	1970	4	6-70	U	P	JF	5	6.5	1445
145-057-07AAA2	M. DRONEN		11	--	32	1948	6	9-69	K	--	G	4	--	1445
145-057-07BAB	G. WENDLICK		12	--	24	--	9	9-69	U	--	--	--	--	1440
145-057-08AAA	NDSWC 4009	80	--	--	--	1970	--	--	U	--	--	--	--	1475
145-057-08DCC	E. PFEIFER		20	--	36	--	17	9-69	K	--	G	--	--	1450
145-057-09CCC	W. LAW		26	--	30	--	14	9-69	K	--	G	--	--	1460
145-057-10AAA	NDSWC 4007	200	--	--	--	1970	--	--	U	--	--	--	--	1545
145-057-10BAB	W. PETERSON		72	--	4	--	51	--	K	--	--	5	--	1510
145-057-11AAA	NDSWC 4006	140	--	--	--	1970	--	--	U	--	--	--	--	1500
145-057-11DDD	E. BRAGER		100	--	24	--	20	--	K	--	R	6	--	1505
145-057-12CDD	H. VEILE		98	--	18	--	20	--	K	--	S	6	--	1510
145-057-13CAA	V. SEMRAD		35	--	30	--	17	9-69	H	--	R	5	--	1500
145-057-14CCD	A. BRAG		95	--	24	--	45	--	H	--	G	6	--	1520
145-057-170DA	USAF S171		130	--	4	1962	21	4-62	U	--	--	--	--	1490
145-057-18DCC	NDSWC 4274	80	--	--	--	1970	--	--	U	51	7S	--	--	1430
145-057-19AAD	D. STARK		25	--	36	--	15	--	H	--	G	4	--	1430
145-057-20ADD	S. ERICKSON		82	--	30	--	61	9-69	U	--	--	--	--	1490
145-057-20DCC	C. JOHNSON		50	--	30	1935	20	--	K	--	--	5	--	1460
145-057-2188B	M. STOKKA		76	--	26	--	62	--	U	--	--	--	--	1500
145-057-24ACB	C. VISBY		28	--	24	1949	18	--	H	--	R	5	--	--
145-057-24DDD	NDSWC 4275	320	--	--	--	1970	--	--	U	51	--	--	--	1420
145-057-31AAB	NDSWC 8418	180	70	67	1	1972	9	10-72	U	--	--	5	9.0	1310
145-057-33CB	USAF S170	130	--	--	--	--	--	--	U	51	7S	--	--	1514
145-057-33CC	USAF L-0	350	280	131	7	1963	109	6-63	H	51	S	5	--	1515
145-057-330CD	V. JOHNSON		60	--	24	--	40	--	H	--	--	6	--	1510
145-057-350CD	H. JOHNSON		45	--	18	1947	20	9-69	K	--	R	--	--	1465
145-057-360CD	D. JENSON		59	--	26	--	11	--	K	--	S	--	--	1455
145-058-03CCD	NDSWC 5904	160	--	--	--	1970	--	--	U	51	9S	--	--	1280
145-058-03COB	D. LUNDE		24	--	36	1950	10	6-71	H	--	--	4	10.0	--
145-058-16AAD	O. NJAA		18	--	36	1950	10	6-71	H	--	--	5	--	--
145-058-248AD	NDSWC 8416	150	--	--	--	1972	--	--	U	--	--	--	--	1280
145-058-248DD	NDSWC 8417	200	120	117	1	1972	6	10-72	U	--	--	5	--	1273
145-058-24CAB1	LOGE BROS.		15	--	36	1954	7	6-71	H	--	--	5	5.5	1275
145-058-24CAB2	LOGE BROS.		22	--	36	1952	10	6-71	S	--	--	5	5.0	--
145-058-2588B	L. VIGESAA		40	--	30	--	19	6-71	S	--	--	6	6.5	--
145-058-27AAA	A. KLUBBEN		42	--	36	1923	23	6-71	S	--	--	6	--	--
145-058-28ABB1	H. LARSON		49	--	36	1962	18	--	H	--	--	5	--	--
145-058-28ABB2	H. LARSON		18	--	40	1935	12	--	S	--	--	6	5.5	--
145-058-31CBA	B. LUNN		100	--	4	1967	40	--	K	--	--	5	4.5	--



LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED (YEAR)	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
145-059-02CCB	G.BROWN		80	--	--	--	--	--	U	51	7S	--	--	1450
145-059-03AAB	NDSWC 4340	220	--	--	--	1971	--	--	U	--	--	--	--	1435
145-059-04CDD	H.NJUST		30	--	36	1962	17	6-71	H	--	--	5	--	--
145-059-10DDD	NDSWC 4337	240	181	178	1	1971	64	10-71	U	51	9S	5	--	1450
145-059-13ADD	A.MARSON		29	--	36	--	14	6-71	K	--	--	6	7.0	--
145-059-15DDD	NDSWC 8513	200	163	157	1	1972	47	10-72	U	--	--	4	--	1428
145-059-17AAA1	NDSWC 4338	240	204	198	1	1971	10	11-71	U	51	7S	4	7.5	1443
145-059-17AAA2	NDSWC 4338A		60	51	48	1	1971	11	11-71	U	51	8G	4	7.0
145-059-19888	NDSWC 8515	240	--	--	--	1972	--	--	U	--	--	--	--	1427
145-059-20C88	NDSWC 8514	240	183	177	1	1972	41	10-72	U	--	--	6	--	1429
145-059-24ACB	L.HARVEY		80	--	36	1967	75	--	H	--	--	7	6.0	--
145-059-25DAA	B.PELLA		29	--	--	--	9	6-71	S	--	--	6	4.0	--
145-059-26DDA	F.ROMNINGEN		29	--	36	--	10	6-71	S	--	--	6	6.0	--
145-059-27BAB	C.RETZLAFF		42	--	36	1961	31	6-71	S	--	--	4	6.5	--
145-059-27BCD	C.RETZLAFF		235	210	3	1964	48	5-64	U	51	9S	--	--	1440
145-059-28BAC	NDSWC 8298	200	123	117	1	1972	--	--	U	51	--	4	6.0	1420
145-059-34888	NDSWC 8297	220	124	118	1	1972	40	6-72	U	51	7G	4	6.0	1430
145-060-11CDA	R.RETZLAFF		43	--	36	1965	7	6-71	K	--	--	6	6.5	--
145-060-11DDD	NDSWC 4341	240	--	--	--	1971	--	--	U	51	7S	--	--	1424
145-060-12888	L.HEGVIK		10	--	36	1951	7	--	K	--	--	4	--	--
145-060-14CCC	F.PFEIFER		16	--	36	--	8	6-71	S	--	--	5	4.0	--
145-060-15888	NDSWC 4342	200	171	168	1	1971	3	9-71	U	51	8G	--	--	1435
145-060-17888	NDSWC 4343	180	--	--	--	1971	--	--	U	51	7S	--	--	1450
145-060-19DDD	S.ROMSAAS		11	--	36	1940	8	--	H	--	--	5	9.0	--
145-060-21C8C	L.SKJELSET		14	--	36	1957	7	--	H	--	--	5	--	--
145-060-22CDD	J.FRANCIS		54	--	36	1920	42	--	K	--	--	6	6.0	--
145-060-22DDA	C.BROWN		18	18	60	--	15	--	H	--	--	5	--	--
145-060-25CCB	C.HETLAND		200	197	4	1967	11	6-67	K	51	8G	--	--	1435
145-060-26C8B	A.RAMSEY		32	--	30	1952	20	--	H	--	--	5	7.5	--
145-060-34DDD	L.CAMPBELL		49	--	36	1930	42	6-71	H	--	--	4	--	--
145-061-048AA	R.WEBER		60	--	36	--	8	5-71	H	--	--	5	7.5	--
145-061-04DAA	NDSWC 589C	220	163	157	1	1970	2	11-70	U	52	9S	5	7.5	1470
145-061-04DAD1	NDSWC 5906	160	107	102	6	1970	2	12-70	U	52	9S	5	7.5	1470
145-061-04DAD2	NDSWC 5906A	120	113	107	1	1970	3	11-71	U	52	9S	--	--	1470
145-061-04DDD1	G.N.RAILROAD		90	85	6	1929	12	7-29	U	51	6S	--	--	1471
145-061-04DDD2	G.N.RAILROAD		153	140	4	1949	6	9-49	C	51	S	--	--	1471
145-061-04DDD3	FARMERS UNION		90	86	4	1972	8	--	C	--	--	--	--	1470
145-061-07AAA	NDSWC 4314	380	194	188	1	1971	18	10-71	U	51	9S	5	7.0	1485
145-061-08CCC	NDSWC 4315	220	161	158	1	1971	8	10-71	U	51	9S	5	7.0	1475
145-061-08CDA1	E.CHRISTIANSON		60	--	6	--	20	--	H	--	--	5	5.0	--

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145-061-08DA2	E. CHRISTIANSON		72	--	6	1959	20	--	H	--	--	5	--	--
145-061-10CCC	NDSWC 5891	220	163	157	1	1970	4	11-70	U	52	R	5	6.5	1470
145-061-110DD	NDSWC 4344	200	163	157	1	1971	5	9-71	U	51	9S	--	--	1463
145-061-160AD	C. GRONNEBERG		50	--	36	1955	45	--	H	--	--	5	--	--
145-061-160DD	NDSWC 4317	200	141	138	1	1971	7	9-71	U	51	9S	--	--	1470
145-061-208BB	NDSWC 4316	200	161	158	1	1971	18	9-71	U	51	9S	--	--	1484
145-061-20CCC	NDSWC 4318	220	61	58	1	1971	10	9-71	U	51	9S	5	7.0	1490
145-061-21CCC	M. ANDERSON		110	--	4	1967	21	--	H	--	--	5	--	--
145-061-248BB	R. PAINTNER		100	--	36	--	14	--	K	--	--	6	6.0	--
145-061-268BB	A. ERLANDSON		118	--	6	1950	30	--	K	--	--	7	7.5	--
145-061-28AAA	NDSWC 5892	120	85	82	1	1970	3	11-70	U	51	7S	5	6.5	1470
145-061-28DCD	T. CHRISTIANSON		55	--	36	1940	40	--	H	--	--	4	--	--
145-061-328BB	NDSWC 4319	160	71	68	1	1971	10	10-71	U	51	8Q	6	6.5	1485
145-061-34CBB	NDSWC 5893	80	50	47	1	1970	9	11-70	U	51	7R	4	6.5	1480
145-061-340DD	L. NELSON		120	116	4	1972	--	--	H	--	--	--	--	1465
146-054-01C8B	H. HOLKESVIG		19	--	48	--	6	7-70	U	--	--	--	--	--
146-054-01CDB	KNUTSON BROS.		--	--	30	--	12	--	K	--	--	--	--	1025
146-054-01DCC	USGS 37	22	--	--	--	1948	--	--	U	--	--	--	--	1062
146-054-010DD	USGS 36	27	--	--	--	1948	--	--	U	--	--	--	--	1068
146-054-02CAC	C. VIKEN		14	--	1	1965	8	--	H	--	S	4	--	--
146-054-02CAD	C. VIKEN		23	--	24	--	6	7-70	U	--	S	--	--	--
146-054-02DAA	H. HOLKESVIG		20	--	18	--	3	7-70	U	--	--	--	--	--
146-054-05AAA	NDSWC 8369	100	--	--	--	1972	--	--	U	--	--	--	--	1088
146-054-05ABC	C. LUNDE		60	--	36	1955	20	--	U	--	--	--	--	--
146-054-05BCC	NDSWC 837C	100	35	32	1	1972	15	10-72	U	--	--	5	7.5	1097
146-054-06AAA	C. RUD		18	--	30	1949	10	7-70	H	--	--	6	--	--
146-054-06ABD	C. RUD		24	--	30	1946	18	--	H	--	--	--	--	--
146-054-068BB	NDSWC 8371	100	--	--	--	1972	--	--	U	--	--	--	--	1100
146-054-06CAB	N. RUD		32	--	24	1966	15	--	H	--	--	--	--	--
146-054-06CAD	N. RUD		32	--	24	1966	15	--	S	--	--	--	--	--
146-054-070DD	E. LELAND		30	--	32	1958	8	7-70	K	--	--	--	--	--
146-054-08BAB	V. DAVIDSON		36	--	36	1967	26	--	H	--	--	--	--	--
146-054-09AAD	E. SPARROW		22	--	30	--	19	--	U	--	--	5	--	1050
146-054-09ADB1	E. SPARROW		22	--	24	1950	19	--	K	--	--	--	--	1050
146-054-09ACB2	E. SPARROW		20	--	84	1920	19	--	U	--	--	--	--	1050
146-054-10BAB	A. RUD		50	--	32	1920	25	--	H	--	--	--	--	1085
146-054-12BAC	B. GULLICKSON		21	--	30	--	16	--	K	--	--	--	--	--
146-054-128BB	USGS 38	62	--	--	--	1948	--	--	U	--	--	--	--	1080
146-054-13ABB	NDSWC 8408	120	--	--	--	1972	--	--	U	--	--	--	--	1072

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146-054-13DCD	NDSWC 8407	120	--	--	--	1972	--	--	U	--	--	--	--	1075
146-054-14CCD1	A.BREND		15	--	36	1970	7	--	H	--	--	--	--	--
146-054-14CCD2	A.BREND		21	--	--	1961	10	--	H	--	--	--	--	--
146-054-14DCC	J.BREND		38	--	36	1912	5	5-70	K	--	--	3	5.5	--
146-054-14DCD	J.BREND		38	--	36	1912	5	--	K	--	--	--	--	--
146-054-14DDD	NDSWC 8406	160	--	--	--	1972	--	--	U	--	--	--	--	1080
146-054-15AAA	NDSWC 4015	220	--	--	--	1970	--	--	U	51	8G	--	--	1095
146-054-19DDD	NDSWC 4293	180	--	--	--	1970	--	--	U	51	7S	--	--	1105
146-054-22CDB	G.HANSON		--	--	--	--	--	--	H	--	--	--	--	--
146-054-22CAA	A.BRENT		575	--	3	--	60	--	S	D	S	6	--	--
146-054-24BAC	A.KNUTSON		100	--	3	1957	0	--	K	--	--	--	--	1035
146-054-25AAD	NDSWC 8405	100	--	--	--	1972	--	--	U	--	--	--	--	1082
146-054-25CCD1	C.JORGENSEN		60	--	36	--	30	--	S	--	--	5	--	1065
146-054-25CCD2	C.JORGENSEN		60	--	36	1966	30	--	H	--	--	5	--	1065
146-054-26AAC	A.STAVEDAHL		125	--	36	1910	40	--	S	--	--	--	--	1070
146-054-26BAA	E.PLADSON		141	--	3	1957	15	--	H	--	--	6	10.0	--
146-054-26DDD	O.EIDE		92	--	30	1937	12	--	S	--	--	4	6.5	--
146-054-27DDD	NDSWC 8362	220	--	--	--	1972	--	--	U	--	--	--	--	1095
146-054-28CDC	D.SPARRON		60	60	30	1960	--	--	K	--	--	--	--	1095
146-054-30ABC	N.OTTESON		26	--	36	1967	7	--	K	--	--	4	7.5	--
146-054-30BAB	H.JOHNSON		35	--	30	1935	23	--	H	--	--	--	--	--
146-054-30DCB	C.KENSRUD		21	--	48	--	10	--	K	--	--	--	--	--
146-054-31ABA1	F.THYKESON		18	--	42	1957	7	8-70	H	--	--	4	--	1120
146-054-31ABA2	F.THYKESON		18	--	48	1920	8	8-70	U	--	--	--	--	1120
146-054-31ABA3	F.THYKESON		60	--	36	1957	10	8-70	S	--	--	--	--	1120
146-054-32DDD	NDSWC 8366	100	--	--	--	1972	--	--	U	--	--	--	--	1103
146-054-34DDD	NDSWC 8363	160	70	67	1	1972	3	10-72	U	51	2S	5	7.5	1095
146-054-35AAA	NDSWC 4300	260	--	--	--	1970	--	--	U	51	7S	--	--	1080
146-054-35CBB1	N.ERICKSON		58	--	30	1955	6	--	H	--	--	--	--	1100
146-054-35CBB2	N.ERICKSON		58	--	30	1920	6	--	U	--	--	--	--	1100
146-054-35DAA1	A.ERICKSON		18	--	42	1955	10	7-70	H	--	--	--	--	1092
146-054-35DAA2	A.ERICKSON		17	--	36	--	10	--	U	--	--	--	--	1092
146-054-36AAB	M.EASTVOLD		24	--	36	--	16	--	S	--	--	--	--	1087
146-055-04CCC	NDSWC 4288	100	--	--	--	1970	--	--	U	--	--	--	--	1210
146-055-05CCC	J.JACOBSON		45	--	--	--	25	--	S	--	--	--	--	--
146-055-06DDC	A.BERG		35	--	--	--	20	--	H	--	--	--	--	--
146-055-07AAA	W.PAULSEN		23	--	30	1950	11	--	H	--	--	--	--	--
146-055-07CBB	L.HUSO		--	--	24	--	11	7-70	U	--	--	--	--	--
146-055-08BCC	L.HUSO		22	--	36	1885	13	--	H	--	--	--	--	--
146-055-08BCD	L.HUSO		22	--	36	--	6	--	S	--	--	--	--	--

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
146-055-108AA	D.COOPER		23	--	36	--	17	7-70	U	--	--	--	--	1150
146-055-10C0C	J.SUNOQUIST		34	--	32	1945	21	--	K	--	--	--	--	--
146-055-11AAD	USAF		--	--	--	1965	--	--	U	--	--	5	--	1120
146-055-14AA	BERG 1	553	--	--	--	1966	--	--	U	51	7S	--	--	1125
146-055-18CBB	E.OLSON		--	--	24	--	9	7-70	U	--	--	--	--	--
146-055-20C0C	NDSWC 4291		80	--	--	1970	--	--	U	--	--	--	--	1225
146-055-21C0C	E.BALDWIN		50	--	30	1930	15	--	K	--	--	--	--	--
146-055-23BBA	NDSWC 4292	100	25	22	1	1970	13	12-70	U	51	7S	--	--	1140
146-055-24BAC1	T.THYKESON		34	--	24	--	25	7-70	H	--	--	--	--	--
146-055-24BAC2	T.THYKESON		35	--	24	--	26	--	S	--	--	--	--	--
146-055-27AAA	NDSWC 4014		80	--	--	1970	--	--	U	51	7S	--	--	1140
146-055-28BAB	E.BALDWIN		30	--	--	1958	15	--	H	--	--	--	--	--
146-055-31AAA	NDSWC 8361	180	30	27	1	1972	--	--	U	16	3S	--	--	1240
146-055-31BCD	B.JULIUSON		60	--	36	1920	40	--	K	--	--	5	--	--
146-055-31CCB1	I.RICTER		40	--	36	--	20	--	H	--	--	--	--	--
146-055-31CCB2	I.RICTER		45	--	24	1945	25	--	K	--	--	6	--	--
146-055-34AAA	NDSWC 4294	100	--	--	--	1970	--	--	U	51	7S	--	--	1145
146-055-34DDD	NDSWC 4295	120	51	48	1	1970	23	5-71	U	51	--	5	7.0	1150
146-056-020DD	NDSWC 4287	100	--	--	--	1970	--	--	U	--	--	--	--	1300
146-056-08CBB	E.WENDLICK		46	--	30	1956	28	6-71	K	--	--	6	7.0	--
146-056-10CAA	M.GROTTE		147	--	--	--	--	--	U	--	--	--	--	1335
146-056-12ADD	T.MORGAN		50	--	30	--	18	7-70	K	--	--	5	9.0	--
146-056-13DDD	H.VINGE		31	--	36	--	19	--	K	--	--	5	6.5	--
146-056-14BCC	B.LAUGHLIN		42	--	30	--	23	6-71	H	--	--	4	7.0	--
146-056-22BBC	GILBERTSON BROS.		41	--	24	1918	23	--	S	--	--	6	6.5	--
146-056-23DDD	NDSWC 4289	80	--	--	--	1970	--	--	U	--	--	--	--	1290
146-056-240CD	NDSWC 4290	40	--	--	--	1970	--	--	U	--	--	--	--	1240
146-056-26CDD	E.GROTTE		45	--	24	1952	20	--	H	--	--	6	6.0	--
146-056-28BAB	NDSWC 5615	80	26	23	1	1969	8	12-69	U	51	7S	5	6.0	1390
146-056-29CCD	F.KUVISCHTA		50	--	18	--	25	--	S	--	--	--	--	1380
146-056-30BBB	NDSWC 4276	100	--	--	--	1970	--	--	U	--	--	--	--	1470
146-056-32ADA	N.PETERSEN		23	--	36	1960	14	6-71	H	--	--	6	--	--
146-056-32DDD	C.ENG		--	--	36	--	13	8-70	U	--	--	--	--	1380
146-057-01AAA	D.GOOD		40	--	20	--	32	--	K	--	--	5	--	1480
146-057-02DDD	E.WASSNESS		88	--	30	--	40	--	H	--	--	G	--	1530
146-057-04AAA	C.ANDERSON		32	--	--	1947	12	--	K	--	--	S	--	1470
146-057-04CCB	B.HENDRICKSON		16	--	36	--	8	--	H	--	--	5	--	1480
146-057-06BBB	A.ARNESEN		32	--	36	--	16	--	H	--	--	F	--	1350
146-057-08BCC	D.FALTINGSON		90	--	30	--	25	--	U	--	--	--	--	1455
146-057-09EAA	OVERBY NO.1		80	0	7	1968	--	--	U	--	--	--	--	1475

30

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
146-057-09BAD	S. HARVEY		38	--	36	--	--	--	S	--	--	--	--	1470
146-057-10CDD	G. CARLSON		100	--	6	--	65	--	K	--	S	--	--	1530
146-057-10CCB	D. CARLSON		90	--	24	--	50	--	K	--	X	--	--	1520
146-057-11AAC	OLSON NO. 1		112	0	7	1968	--	--	U	--	--	--	--	1540
146-057-11AAD	E. OLSON		88	--	30	--	60	--	U	--	--	--	--	1540
146-057-12ADA	J. LAUGLIN		32	--	36	--	10	--	U	--	G	--	--	1480
146-057-13AAA	W. ASK		42	--	24	--	18	--	K	--	P	--	--	1580
146-057-13CCC	L. NORGARD		72	--	24	--	25	--	K	--	R	--	--	1520
146-057-14ADC	L. WEDLICK		147	--	4	--	90	--	H	--	--	--	--	1530
146-057-14CCD	V. ARCHER		148	--	6	--	100	--	H	--	F	5	--	1560
146-057-17CDD	L. KOPPANG		16	--	36	--	8	--	K	--	--	--	--	1470
146-057-20ADD	USBR 14		18	0	12	1960	--	--	U	--	--	--	--	1477
146-057-20CDD	A. NELSON		15	--	4	--	10	--	H	--	--	5	--	1470
146-057-2188D	K. HIVESON		28	--	24	--	15	--	H	--	1S	4	--	1480
146-057-22CCC	NOSWC 4277	100	--	--	--	1970	--	--	U	51	7R	--	--	1515
146-057-22CAA	E. NYGRINE		80	--	24	--	65	--	U	--	P	--	--	1560
146-057-24DDD	R. OLSON		62	--	24	--	45	--	K	--	P	5	--	1470
146-057-2688C	E. JULIUSON		60	--	24	--	50	--	K	--	S	--	--	1550
146-057-26DDD	J. EDGVESON		85	--	36	--	60	--	H	--	G	6	--	1520
146-057-278CC	I. GROTH		70	--	18	--	35	--	U	--	R	--	--	1510
146-057-288CB	A. ANDERSON		30	--	36	1942	20	--	K	--	G	--	--	1505
146-057-288CB	A. JOHNSON		55	--	24	--	25	--	K	--	P	--	--	1510
146-057-30AAD	A. NELSON		12	--	36	--	6	9-69	U	--	Y	--	--	1455
146-057-338DD	L. LAW		84	--	30	--	48	--	U	--	S	--	--	1530
146-057-34AAD	B. LUNDSTROM	122	117	--	4	1962	70	--	K	--	--	6	--	1550
146-057-34CCA	D. WENDLICK		116	--	5	--	--	--	U	--	--	--	--	1540
146-057-368CC	W. ARCHER		72	--	24	--	56	--	K	--	S	--	--	1520
146-058-01ABA	NOSWC 8054	150	123	117	1	1971	6	10-71	U	51	S	5	7.0	1300
146-058-14DDD	K. MONSON		27	--	32	1948	12	6-71	H	--	--	5	10.0	--
146-058-19CCD	NOSWC 5905	60	--	--	--	1970	--	--	U	51	8G	--	--	1420
146-058-21CCB	L. JOHNSON		32	--	36	--	18	--	Z	--	--	6	5.5	--
146-058-22ACD	A. CARLSON		8	--	36	1960	4	--	K	--	--	4	5.5	--
146-058-2588B1	COOPERSTOWN 2		38	--	--	1954	20	--	P	1G	7S	--	--	1300
146-058-2588B2	COOPERSTOWN 3		47	--	12	1954	20	--	P	1G	7S	--	--	1300
146-058-2588B3	COOPERSTOWN 4		139	119	18	1960	15	--	P	1G	7S	5	7.0	1300
146-058-26CAB	A. UELAND		30	--	36	1940	24	--	H	--	--	6	5.5	--
146-058-26C8C	NOSWC 8057	160	143	138	4	1971	8	9-71	U	51	9S	5	7.0	1290
146-058-27ADD	NOSWC 8056		100	0	4	1971	--	--	U	51	9S	--	--	1300
146-058-2788B1	NOSWC 8058		200	197	1	1971	18	10-71	U	N	F	5	--	1430
146-058-2788B2	NOSWC 8058A		150	147	1	1971	18	10-71	U	N	F	5	--	1430

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CAPACITY	TEMPERATURE (°C)	ALTITUDE OF (LSD) (FT.)
146-058-278883	NDSWC 80588		100	97	1	1971	10	9-71	U	P	6F	6	--	1430
146-058-278884	NDSWC 8058C		50	47	1	1971	7	9-71	U	P	6F	6	--	1430
146-058-278885	NDSWC 8058D		20	17	1	1971	8	9-71	U	P	6F	3	--	1430
146-058-33C88	D.ERICKSON		63	--	18	1965	23	4-71	S	51	6S	7	5.5	--
146-059-018AC1	USAF 0-0		1230	1208	7	1963	309	7-63	H	D	--	7	--	1430
146-059-018AC2	USAF 2321 LCF		100	--	3	1963	15	3-63	U	P	JF	--	--	1430
146-059-04DCC	H.URNES		40	--	36	1948	25	--	K	--	--	5	6.0	--
146-059-13AAA	M.SKAUFEL		24	--	36	--	1	5-71	H	--	--	5	--	--
146-059-17888	NDSWC 5888	60	--	--	--	1970	--	--	U	1G	6S	--	--	1460
146-059-19CDD	C.WAGLE		13	--	30	1946	7	6-71	H	--	--	4	--	--
146-059-228CC	A.PFEIFER		28	--	--	--	15	--	H	--	--	6	6.0	--
146-059-30C8A	A.LILJENQUIST		21	--	36	1959	15	6-71	H	--	--	4	--	--
146-059-33CCC	NDSWC 4339	260	191	188	1	1971	7	9-71	U	51	8G	--	--	1440
146-060-018CC	R.TROSTAD		27	--	36	1960	16	6-71	H	--	--	5	6.0	--
146-060-088881	NDSWC 8302	330	282	276	1	1972	23	6-72	U	51	7G	5	7.0	1465
146-060-088882	NDSWC 8302A		182	176	1	1972	--	--	U	51	8G	5	6.0	1465
146-060-08CCD	NDSWC 5885	300	203	197	1	1970	18	11-70	U	52	8G	5	7.0	1460
146-060-09CCC	NDSWC 8301	280	228	222	1	1972	19	10-72	U	51	7G	6	7.0	1455
146-060-10DDD	NDSWC 8512	140	103	97	1	1972	12	10-72	U	--	--	4	--	1460
146-060-13AAA	NDSWC 4375	260	--	--	--	1971	--	--	U	--	--	--	--	1450
146-060-14AAA	NDSWC 5887	260	130	127	1	1970	11	11-70	U	52	9S	6	7.0	1450
146-060-16AAA	NDSWC 5886	240	180	177	1	1970	13	11-70	U	52	8G	5	7.0	1455
146-060-17ABB	NDSWC 8304	310	183	177	1	1972	16	6-72	U	51	7G	5	6.0	1460
146-060-17ABC1	NDSWC 8304B	320	203	197	1	1972	15	6-72	U	51	7G	5	7.0	1455
146-060-17ABC2	NDSWC 8304C	320	202	196	1	1972	13	6-72	U	51	--	5	7.0	1455
146-060-17ABC3	NDSWC 8304D	320	283	277	1	1972	--	--	U	51	7S	6	7.0	1455
146-060-17ABC4	NDSWC 8304E	240	203	197	1	1972	--	--	U	51	R	5	7.0	1455
146-060-17ABC5	NDSWC PRDD. WELL	245	244	198	12	1972	15	--	U	51	S	5	7.0	1455
146-060-18AAA	H.DRAMSTAD		180	165	4	1964	23	5-64	S	--	--	--	--	1456
146-060-1888A	NDSWC 8511	260	--	--	--	1972	--	--	U	--	--	--	--	1460
146-060-1888B	NDSWC 8510	60	--	--	--	1972	--	--	U	--	--	--	--	1460
146-060-18CCA	H.DRAMSTAD	217	217	--	--	--	--	--	U	--	--	--	--	1465
146-060-18CDB	H.DRAMSTAD	220	210	200	3	1963	40	11-63	U	51	R	--	--	1455
146-060-20DBD	J.ROTHERT		15	--	36	1935	9	--	S	--	--	3	5.0	--
146-060-22DDD	I.WIDLUND		15	--	30	1945	11	--	H	--	--	4	5.0	--
146-060-23DDA	C.DAHL		17	--	36	1955	11	--	K	--	--	4	9.0	--
146-060-26ACA	N.STEFFEN		18	--	36	1962	15	--	H	--	--	4	--	--
146-060-27CDC	R.RETZLAFF		200	180	5	1964	3	3-64	U	--	--	--	--	1442
146-060-29DDB	M.RETZLAFF		200	185	5	1964	22	3-64	K	--	--	--	--	1450
146-060-29DDD	M.RETZLAFF		218	185	5	--	--	--	H	--	--	--	--	1446

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
146-060-30AAD1	O.KJORMOE		30	--	30	--	25	--	H	--	--	5	9.5	--
146-060-30AAD2	O.KJORMOE		197	--	--	1964	--	--	U	--	--	--	--	1465
146-060-30ADC	O.KJORMOE		270	--	--	1964	--	--	U	--	--	--	--	1450
146-060-30CCA	B.DRAMSTAD		195	--	--	1963	--	--	U	--	--	--	--	1443
146-060-33CCC	NDSWC 4345	220	181	178	1	1971	11	10-71	U	51	8G	5	--	1442
146-060-34BBB	NDSWC 8300	260	194	188	1	1972	1	10-72	U	51	7G	5	6.5	1440
146-060-35CAA	J.PAINTNER		14	--	--	1950	8	--	H	--	--	4	--	--
146-060-36CCC	NDSWC 8299	260	183	177	1	1972	4	10-72	U	51	--	5	6.0	1445
146-061-02DCC	NDSWC 5881	220	193	187	1	1970	18	11-70	U	52	7S	4	7.5	1460
146-061-04BBB	NDSWC 4351	260	--	--	--	1971	--	--	U	51	6G	--	--	1455
146-061-06CCB	R.DYBWAD		200	--	5	1964	75	--	H	--	--	6	--	--
146-061-07CCC	NDSWC 4348	120	--	--	--	1971	--	--	U	--	--	--	--	1479
146-061-07DDD	NDSWC 5884	120	--	--	--	1970	--	--	U	--	--	--	--	1460
146-061-08ACA	E.LARSON		335	--	6	1956	20	--	H	--	--	5	3.0	--
146-061-08BBB	NDSWC 4350	140	--	--	--	1971	--	--	U	51	7S	--	--	1475
146-061-08DDD	NDSWC 4347	200	131	128	1	1971	13	9-71	U	51	8G	6	6.0	1454
146-061-11CDD	NDSWC 8296C	260	204	198	1	1972	21	11-72	U	51	7S	4	7.0	1455
146-061-12CCC1	NDSWC 4346	430	141	138	1	1971	13	12-71	U	51	8G	4	7.0	1465
146-061-12CCC2	NDSWC 4378		550	541	1	1971	12	9-71	U	51	8G	5	7.0	1465
146-061-14ADC	A.GOPLEN	120	99	92	3	1963	12	9-63	U	--	--	--	--	1463
146-061-14BAB1	NDSWC 8296	300	178	172	1	1972	22	6-72	U	51	7G	5	7.0	1457
146-061-14BAB2	NDSWC 8296B	240	214	208	1	1972	22	5-72	U	51	--	5	7.0	1453
146-061-15BBB	NDSWC 5882	200	140	137	1	1970	21	11-70	U	51	8G	4	7.0	1455
146-061-17DAA	H.IVERSON		24	--	6	1956	9	--	H	--	--	6	--	--
146-061-19CCC	NDSWC 2264	252	220	180	3	1964	13	7-64	U	51	--	--	--	1474
146-061-20CDD	A.HOVERSON		50	--	5	1956	10	--	K	--	--	5	7.5	--
146-061-22BCC	NDSWC 5883	200	150	147	1	1970	21	11-70	U	51	--	5	7.0	1455
146-061-25BAC	M.DRAMSTAD		175	--	--	--	--	--	U	--	--	--	--	1430
146-061-25BAD	M.DRAMSTAD	60	58	53	4	1964	13	6-64	H	--	--	--	--	1440
146-061-25BBB	M.DRAMSTAD		175	137	3	1963	18	9-63	U	--	--	--	--	1430
146-061-25DAB	B.DRAMSTAD		173	115	5	1964	25	2-64	K	--	--	--	--	1440
146-061-29AAB	A.HOVERSON		50	--	5	1950	10	--	H	--	--	4	--	--
146-061-29CDD	O.VEITCH		80	--	5	1961	10	--	H	--	--	5	--	--
146-061-34BBB	NDSWC 5889	200	163	157	1	1970	31	11-70	U	52	--	5	7.0	1465
147-054-01AAD	A.NELSON		500	--	--	--	--	--	S	0	--	6	7.5	--
147-054-02CCD	R.LEE		595	--	3	1943	60	--	S	D	S	7	--	1070
147-054-03CCD1	A.BOE		15	--	36	--	5	--	S	--	--	--	--	1060
147-054-03CCD2	A.BOE		20	--	36	1949	10	--	S	--	--	--	--	1065
147-054-04BAA	A.BOE		50	--	24	--	30	--	K	--	--	--	--	--
147-054-04BBB	A.HOE		50	--	36	--	25	--	S	--	--	--	--	--

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
147-054-05DAC	O.GOODWIN		675	--	--	1930	40	--	S	--	--	7	--	--
147-054-07DDD	R.SCHOLTEN		35	--	30	1910	8	7-70	S	--	--	--	--	1095
147-054-09BAA	H.ENER		60	--	14	1920	4	--	H	--	--	--	--	1080
147-054-09CCC	NDSWC 4031	180	38	28	1	1970	5	8-70	U	51	G	--	--	1084
147-054-09DAA	P.BOE		47	--	36	1931	6	--	U	--	--	--	--	--
147-054-10ABD	F.ENER JR.		25	--	42	--	5	--	H	--	--	--	--	--
147-054-10ACA	F.ENER JR.		30	--	42	--	25	--	S	--	--	7	--	--
147-054-11DDD	NDSWC 4033	180	--	--	--	1970	--	--	U	51	7S	--	--	1065
147-054-12BAD	E.NYHUS		488	--	4	1930	--	--	S	--	--	7	7.5	--
147-054-15ABB	NDSWC 4032		80	70	1	1970	8	3-71	U	51	8G	--	--	1075
147-054-16BBD	E.THCMPSON		50	--	30	--	14	--	K	--	--	--	--	1085
147-054-16CCC	A.VIGEN		35	--	30	1961	12	--	K	--	--	6	10.0	1080
147-054-18AAA	NDSWC 4030	60	59	39	1	1970	12	1-71	U	51	8T	--	--	1092
147-054-18BBB	SCS 8		10	--	2	1970	5	9-70	U	41	8T	--	--	1100
147-054-18CDD	J.BRAATEN		560	--	3	1924	18	--	S	D	S	--	--	1095
147-054-19AAA	T.BRAATEN		40	--	30	1939	12	--	S	--	--	--	--	1095
147-054-21AAA	A.VIGEN		48	--	30	--	12	--	S	--	--	--	--	--
147-054-21DDD	C.BJERKE		90	--	18	--	15	7-70	U	--	--	--	--	1075
147-054-22CAB	A.HESLIEN		21	--	36	1956	2	--	S	--	--	--	--	1045
147-054-24BAA	I.AMB		500	--	3	--	60	--	S	--	--	--	--	--
147-054-24CAD	A.KVILLE		90	--	32	1940	8	--	S	--	--	8	--	--
147-054-24DAB	B.GRANDALEN JR.		36	--	24	1944	4	7-70	U	--	--	--	--	1105
147-054-26BCA	H.BRAINARD		24	--	24	1950	13	7-70	H	--	--	5	7.0	1010
147-054-27ADA	NDSWC 4016	160	--	--	--	1970	--	--	U	51	7S	--	--	1010
147-054-29AAA1	R.FUGLEBERG		38	--	30	--	20	--	K	--	--	6	7.0	1075
147-054-29AAA2	R.FUGLEBERG		30	--	24	--	13	--	H	--	--	--	--	1075
147-054-29BCC	NDSWC 8374	100	65	62	1	1972	1	10-72	U	51	R	4	7.5	1092
147-054-29CCC	NDSWC 4301	160	43	40	1	1970	1	12-70	U	51	--	4	6.5	1095
147-054-29CDD	NDSWC 8375	100	--	--	--	1972	--	--	U	--	--	--	--	1088
147-054-30CCC	NDSWC 8372	100	--	--	--	1972	--	--	U	--	--	--	--	1107
147-054-31AAB	NDSWC 8373	100	75	72	1	1972	1	10-72	U	51	R	--	--	1098
147-054-31DAA	NDSWC 8376	100	30	27	1	1972	6	10-72	U	51	S	6	7.5	1100
147-054-32BCD	M.RYGG		24	--	36	1900	10	7-70	S	--	--	--	--	1095
147-054-33CDD	O.KLATH		45	--	32	1910	12	--	K	--	--	5	7.5	1090
147-055-018BB	SCS 6		10	--	2	1970	4	9-70	U	41	8T	--	--	1120
147-055-01CBB1	NDSWC 4026	120	--	--	--	1970	--	--	U	--	--	--	--	1110
147-055-01CBB2	NDSWC 4026A		39	19	1	1970	5	8-70	U	51	8T	--	--	1111
147-055-04AAA	NDSWC 4306	100	--	--	--	1970	--	--	U	--	--	--	--	1155
147-055-04DDA	G.FESKIN		--	--	24	--	17	8-70	U	--	--	--	--	1170
147-055-07CAD	I.ANDERSON		24	--	42	--	4	--	U	--	--	--	--	1250



LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
147-055-07CDA	I. ANDERSON		18	--	8	1948	14	--	H	--	--	--	--	1260
147-055-08AAD	USBR 17		18	0	12	1960	--	--	U	--	--	--	--	1214
147-055-08DDD	A. BRAGER		90	--	30	1947	60	--	K	--	--	6	7.0	--
147-055-10BAA1	E. FLESCHE		23	--	12	1928	10	--	U	--	--	--	--	1150
147-055-10BAA2	E. FLESCHE		18	--	24	1965	8	--	--	--	--	--	--	1150
147-055-10BAA3	E. FLESCHE		25	--	36	1931	10	--	K	--	--	--	--	--
147-055-10CCB	O. ERICKSON		--	--	24	--	17	8-70	U	--	--	--	--	1150
147-055-11AAA	SCS 2		9	--	2	1970	5	9-70	U	41	8T	--	--	1120
147-055-11ABA1	NDSWC 4C27		40	20	1	1970	5	8-70	U	51	1	--	--	1117
147-055-11ABA2	SCS		--	--	--	1970	6	9-70	U	--	--	--	--	1117
147-055-11ABB	NDSWC 4021	120	38	35	1	1970	10	7-70	U	01	G	6	9.0	1136
147-055-11ABC	SCS		10	--	4	1970	6	9-70	U	--	--	--	--	1136
147-055-11BAA	E. SALANDER		19	--	36	1961	7	7-70	H	--	--	--	--	1130
147-055-11CCC	NDSWC 4023	120	42	39	1	1970	5	7-70	U	51	S	4	--	1142
147-055-12BBB1	NDSWC 4025	40	39	19	1	1970	5	8-70	U	--	--	--	--	1108
147-055-12BBB2	SCS		39	--	--	--	6	9-70	U	--	--	--	--	1108
147-055-12DDD	NDSWC 4029	60	47	27	1	1970	7	7-70	U	51	9S	--	--	1103
147-055-13BAA	NDSWC 4028	40	39	19	1	1970	5	7-70	U	51	8G	--	--	1105
147-055-13BBB	NDSWC 4024	40	39	19	1	1970	2	7-70	U	51	8T	--	--	1108
147-055-14ABB	NDSWC 4022	120	--	--	--	1970	--	--	U	--	--	--	--	1133
147-055-14COC	NDSWC 4304	120	41	38	1	1970	11	12-70	U	51	S	5	6.0	1140
147-055-17BBB	NDSWC 4305	100	--	--	--	1970	--	--	U	--	--	--	--	1245
147-055-21BBC	N. PETERSON		35	--	32	1960	20	--	H	--	--	5	7.5	1190
147-055-21DDD	C. MOE		30	--	24	--	15	7-70	H	--	--	--	--	1165
147-055-22AAC	JACOBSON NO. 1		562	40	5	1966	--	--	U	--	--	--	--	1155
147-055-23ABA	R. ANDERSON		16	--	36	1970	8	7-70	H	--	--	--	--	1130
147-055-25COC1	B. LEE		27	--	36	1948	8	--	H	--	--	--	--	1115
147-055-25COC2	B. LEE		30	--	36	--	8	--	S	--	--	--	--	1115
147-055-26BBB	NDSWC 4303	120	--	--	--	1970	--	--	U	--	--	--	--	1150
147-055-28CCD	C. & A. HOGFOSS		--	--	24	--	9	7-70	U	--	--	--	--	1205
147-055-29CCB	NDSWC 4302	80	--	--	--	1970	--	--	U	--	--	--	--	1240
147-055-32BBB	R. HAUGTVEDT		60	--	24	--	50	--	H	--	--	--	--	1240
147-055-33BCD	G. TAPLIN		21	--	32	--	8	7-70	H	--	--	--	--	1200
147-055-34COD1	F. ENGEN		40	--	36	1958	20	--	H	--	--	--	--	1150
147-055-34COD2	F. ENGEN		40	--	36	1916	20	--	S	--	--	--	--	1150
147-055-35AAB1	A. THYKESON		29	--	32	1948	8	7-70	H	--	--	--	--	1120
147-055-35AAB2	A. THYKESON		35	--	30	1942	10	--	S	--	--	--	--	--
147-055-35COC	NDSWC 4017	100	42	39	1	1970	6	7-70	U	51	2S	--	--	1135
147-055-36CCC	O. THYKESON		26	--	30	1964	6	--	K	--	--	--	--	1120
147-056-01CDD	A. PETTERSON		24	--	48	--	7	--	H	--	S	6	--	1270

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LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPE-CIFIC CON-DUCT ANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
147-056-02CAA	A. GILBERTSON		26	--	30	--	4	--	H	--	S	6	--	1320
147-056-03000	J. LESLIE		57	--	36	--	23	--	H	--	2S	5	--	1355
147-056-04ABC	C. NYGAARD		24	--	26	--	18	--	K	--	2S	6	--	1380
147-056-05CBB	A. NYGAARD		36	--	24	--	20	--	S	--	S	6	6.5	1430
147-056-06BCB1	M. OLSON		24	--	6	1954	11	--	H	--	G	5	--	1430
147-056-06BCB2	USGS AUGER 5	6	--	--	--	1947	--	--	U	51	6G	--	--	1440
147-056-06BCC	USGS AUGER 6	9	--	--	--	--	--	--	U	--	--	--	--	1420
147-056-06DDD	H. HEFTA		32	--	36	--	22	--	S	--	R	--	--	1430
147-056-08CDB	D. NYGORD		40	--	30	--	34	--	H	--	P	5	--	1410
147-056-1CDAB	R. LESLIE		40	--	36	--	17	--	K	--	2S	5	--	1350
147-056-11RCB	J. NYGORD		35	--	24	--	30	--	U	--	--	--	--	1340
147-056-11CDA	J. MELDAHL		45	--	36	--	29	--	K	--	G	5	--	1315
147-056-15CCB	M. BUGBEE		23	--	24	--	15	--	S	--	--	6	--	1365
147-056-15DDD	NDSWC 4284	80	--	--	--	1970	--	--	U	51	6S	--	--	1340
147-056-17ABC1	H. VOSSETEIG		60	--	36	--	10	--	U	--	36	5	--	1390
147-056-17ABC2	L. VOSSETEIG		42	--	32	--	16	--	U	--	G	--	--	1390
147-056-19ADB	O. OLSON		35	--	48	--	21	11-69	H	--	G	6	--	1450
147-056-19CDB	E. ANDERSON		40	--	4	--	31	--	H	--	G	6	--	1430
147-056-20AAD	A. RONHOLM		24	--	24	--	20	--	U	--	R	--	--	1375
147-056-23BCC	H. MIDSTOKKE		30	--	--	--	--	--	H	--	S	5	--	1340
147-056-24BDB	R. SAMPSON		32	--	24	--	10	--	U	--	R	--	--	1300
147-056-25AAB	T. JACOBSON		21	--	24	--	10	--	K	--	2S	5	--	1265
147-056-25BAC	G. RONHOLM		25	--	24	--	5	--	K	--	G	6	--	1280
147-056-26ABB	H. NORDBO		43	--	24	1959	15	--	K	--	P	--	--	1320
147-056-26BDD	NDSWC 4285	80	38	18	1	1970	3	11-70	U	51	8G	6	6.5	1295
147-056-27ADA	P. MIDSTOKKE		28	--	24	--	24	--	K	--	--	6	--	1340
147-056-27DAA	USBR 16		18	0	12	1960	--	--	U	--	--	--	--	1349
147-056-28BBA	O. MICHELSON		28	--	48	--	4	--	S	--	--	--	--	1380
147-056-28CCC	NDSWC 5620	60	--	--	--	1969	--	--	U	--	--	--	--	1385
147-056-28COC1	FINLEY		20	--	--	--	--	--	P	31	G	--	--	--
147-056-28COC2	FINLEY		28	20	12	1952	8	--	P	--	--	--	--	1360
147-056-28COC3	FINLEY		32	24	16	1964	8	--	P	--	R	5	--	1360
147-056-299CC	M. STENBERG		49	--	24	--	33	--	H	--	R	--	--	1435
147-056-30BCD	LEHIGH PORTLAND		391	--	--	1960	--	--	U	--	--	--	--	1460
147-056-33CCD	NDSWC 4286	60	--	--	--	1970	--	--	U	--	--	--	--	1365
147-056-33COC	J. JACOBSON		26	--	24	--	12	--	K	--	R	6	--	1380
147-056-35ADA	E. PAULSON		35	--	24	--	--	--	K	--	S	6	--	1295
147-056-35BCD	H. PAULSON		43	--	24	1934	7	11-69	K	--	P	6	--	1340
147-056-36BCC	M. SHOGREN		45	--	36	--	20	--	H	--	--	5	--	1296
147-057-01RDB	C. GULLICKS		4	--	98	--	F	--	K	--	--	4	--	1450

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	GATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
147-057-010DD	USBR 15		18	0	12	1960	--	--	U	--	--	--	--	1466
147-057-02ADD	USGS 7	66	--	--	5	1947	--	--	U	--	--	--	--	1480
147-057-028881	USGS 10	85	--	--	5	1947	37	4-47	U	51	7G	--	--	1520
147-057-028882	SHARON	82	68	53	10	1963	37	7-63	P	--	--	5	7.5	1525
147-057-028883	NDSWC 4280	90	55	52	1	1970	25	11-70	U	51	8G	4	6.0	1520
147-057-02CCC	NDSWC 4279	80	61	58	1	1970	16	11-70	U	51	7S	5	6.5	1535
147-057-02DAA	USGS 4	70	--	--	5	1947	--	--	U	--	--	--	--	1485
147-057-03ADD	USGS 11	100	--	--	5	1947	--	--	U	51	6G	--	--	1505
147-057-04B8C	A.DRONEN		82	--	32	--	62	--	K	--	--	--	--	1530
147-057-04DAD	S.RUE		80	--	26	--	53	--	H	--	--	--	--	1540
147-057-06DBD	A.CURRY		45	--	18	--	30	--	K	--	--	6	--	1500
147-057-07AAD	H.FOSSE		70	--	32	--	50	--	K	--	--	6	--	1520
147-057-08AAB	A.GYLTEN		50	--	36	--	32	7-70	K	--	--	6	--	1510
147-057-08CCD	M.DRONEN		80	--	36	--	30	--	H	--	R	6	7.0	1520
147-057-10CAD	E.MIDDSTAD		43	--	30	--	25	--	H	--	G	6	--	1520
147-057-12ADA	M.GULLICKS		70	--	36	--	45	--	H	--	--	6	--	1465
147-057-12BBB	USGS 5	57	--	--	5	1947	--	--	U	51	6G	--	--	1490
147-057-12BBC1	USGS 6	70	--	--	5	1947	--	--	U	--	--	--	--	1490
147-057-12BBC2	A.KLABO		--	--	36	--	--	--	H	--	R	5	--	1500
147-057-13BBB	H.LUND		--	--	36	--	--	--	K	--	--	5	--	1510
147-057-14ABD	K.FROJEN		70	--	24	--	50	--	H	--	S	5	--	1550
147-057-15LDA	S.DRONEN		64	--	18	1962	31	9-69	K	--	--	5	--	1520
147-057-16888	S.DRONEN		56	--	28	--	13	9-69	K	--	--	--	--	1520
147-057-16CCB	G.GROSETH		100	--	32	--	53	--	H	--	--	--	--	1525
147-057-20CBA	D.GOOD		65	--	36	--	40	--	K	--	S	6	--	1520
147-057-21DAD	A.DRONEN		--	--	36	--	--	--	H	--	--	--	--	1515
147-057-22ADD	R.GULLICKS		65	--	24	--	60	--	H	--	--	--	--	1530
147-057-22888	NDSWC 4278	120	--	--	--	1970	--	--	U	--	--	--	--	1535
147-057-24BAA	O.STENSON		36	--	48	--	17	--	K	--	S	5	--	1500
147-057-25DDD	R.GULLICKS		120	--	18	--	90	9-69	H	--	--	5	--	1530
147-057-27CBD	A.ANDERSON		83	--	30	--	51	9-69	U	--	--	--	--	1480
147-057-27LDD1	F.JERSTAD		62	--	36	--	48	--	H	--	G	4	--	1520
147-057-27DDD2	F.JERSTAD		102	--	--	--	--	--	U	--	--	--	--	1515
147-057-28CCB	C.BJUGSTAD		--	--	18	--	--	--	H	--	--	5	--	1465
147-057-30ADD	F.JERSTAD		72	--	--	--	--	--	U	--	--	--	--	1470
147-057-30CDC	A.JERSTAD		18	--	42	1953	14	7-70	H	P	F	5	6.5	1420
147-057-36ABA	W.KROEPLIN		--	--	18	--	--	--	H	--	--	5	--	1540
147-058-02CBB	H.UOGAARD		33	--	24	--	3	6-71	H	--	--	6	6.0	--
147-058-03AAC	JOHNSON NO. 1		1280	90	--	1968	--	--	U	--	--	--	--	1456
147-058-07ABA	NDSWC 8049	240	--	--	4	1971	--	--	U	51	7S	--	--	1350

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147-058-08CCA	CUSSONS NO.1		1160	233	--	1968	--	--	U	--	--	--	--	1320
147-058-14CCD	NESHEIM NO.1		1080	64	--	1968	--	--	U	--	--	--	--	1337
147-058-16ACA	O. IDSVOOG		18	--	24	1945	15	--	H	--	--	4	--	--
147-058-17DCC	S. DAHL		13	--	72	--	9	5-71	H	--	--	3	--	--
147-058-18BCC	R. HEDSTROM		180	--	6	1957	90	--	K	--	--	6	--	--
147-058-23CBB1	G. OLSON		24	--	24	--	12	5-71	H	--	--	5	5.0	--
147-058-23CBB2	G. OLSON		24	--	--	--	8	5-71	S	--	--	6	5.0	--
147-058-23CBB3	NDSWC 8050		100	97	4	1971	--	--	U	1G	8G	--	--	1320
147-058-24ADC	C. CHRISTOPHERSON		25	--	24	--	6	5-71	H	--	--	5	5.0	--
147-058-27AAB	NDSWC 5911	120	--	--	--	1970	--	--	U	51	2S	--	--	1325
147-058-27BBB	NDSWC 5912	120	68	62	1	1970	25	12-70	U	51	8G	--	--	1325
147-058-28ABB	NDSWC 8053		200	0	4	1971	--	--	U	51	6G	--	--	1325
147-058-28BAA	H. HOUSTON		87	--	5	--	--	--	U	--	--	--	--	1325
147-058-28CBA	H. HOLSTON		64	56	4	1961	28	9-61	K	--	--	--	--	1370
147-058-32BBC	NDSWC 8052	100	--	--	--	1971	--	--	U	--	--	--	--	1505
147-058-33BBB	NDSWC 8051	40	--	--	--	1971	--	--	U	--	--	--	--	1460
147-058-36DAD	R. QAULEY		36	--	30	1947	20	6-71	H	--	--	5	--	--
147-058-36DCC	NDSWC 8055	200	--	--	--	1971	--	--	U	51	8G	--	--	1307
147-059-02AAA	NDSWC 8047	40	--	--	--	1971	--	--	U	--	--	--	--	1450
147-059-03BCB	NDSWC 8045	40	--	--	--	1971	--	--	U	--	--	--	--	1400
147-059-03DDD	NDSWC 8044	20	--	--	--	1971	--	--	U	--	--	--	--	1440
147-059-07ABC	F. WURST		13	--	36	1946	6	--	K	--	--	4	3.0	--
147-059-07CBC	F. WURST		54	--	36	1964	40	--	S	--	--	6	6.5	--
147-059-09AAA	NDSWC 8043	100	--	--	--	1971	--	--	U	--	--	--	--	1445
147-059-12DBC	G. PETERSON		55	--	48	--	15	--	K	--	--	4	--	--
147-059-13DDC1	T. STOKKELAND		27	--	36	1952	11	5-71	H	--	--	5	--	--
147-059-13DDC2	T. STOKKELAND		36	--	48	--	16	5-71	I	--	--	6	--	--
147-059-16ADC	W. PFEIFER		17	--	36	--	10	5-71	H	--	--	5	--	--
147-059-17DCC	A. SAXBERG		38	--	30	--	34	5-71	K	--	--	4	--	--
147-059-19ABB	R. HEINZE		35	--	18	--	25	--	H	--	--	6	--	--
147-059-19BBA	JESSIE CATH. CH.		60	--	--	1965	25	1-65	H	--	--	--	--	1475
147-059-19BBB	R. RICKFORD		30	--	36	1959	21	--	K	--	--	5	6.0	--
147-059-23ABB	A. ERICKSON		19	--	36	1965	6	5-71	H	--	--	5	--	--
147-059-24CCB	J. COMBS		18	--	48	--	13	--	H	--	--	4	--	--
147-059-25CCC	J. COWDREY		51	--	36	--	18	5-71	K	--	--	6	--	--
147-059-26BAA	L. FRITZ		25	--	36	1955	15	--	H	--	--	6	--	--
147-059-31BBB	NDSWC 4373	160	--	--	--	1971	--	--	U	51	7S	--	--	1470
147-059-35ADD	A. SAVRE		36	--	36	--	19	5-71	H	--	--	4	--	--
147-060-01CCC	NDSWC 4374	100	--	--	--	1971	--	--	U	51	7S	--	--	1448
147-060-01CAD1	C. ZIMPRICH		22	--	36	1947	7	6-71	H	--	--	6	3.0	--

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147-060-01CAD2	C.ZIMPRICK		16	--	36	--	7	6-71	S	--	--	5	4.0	--
147-060-02EBA	K.OLSON		35	--	36	1948	22	--	K	--	--	5	--	--
147-060-07AAA	NDSWC 4357	160	--	--	--	1971	--	--	U	51	75	--	--	1540
147-060-07CCC	NDSWC 4355	260	--	--	--	1971	--	--	U	51	95	--	--	1505
147-060-07COA1	T.HELLAND		60	--	5	1964	--	--	U	--	--	--	--	1520
147-060-07COA2	T.HELLAND		120	--	5	1964	--	--	U	--	--	--	--	1520
147-060-07DDD	NDSWC 5880	120	55	52	1	1970	15	11-70	U	51	95	3	7.0	1515
147-060-08AA	J.GOPLIN		275	265	6	1964	132	--	H	--	--	--	--	1550
147-060-08AAC	L.EDLUND		60	--	36	--	54	--	H	--	--	4	--	--
147-060-08BCD	E.MILLER		39	--	36	--	17	--	H	--	--	4	--	--
147-060-08BDB	M.GOPLIN		140	--	--	--	--	--	U	--	--	--	--	1550
147-060-08CAC	FARMERS UNION		32	--	22	1955	24	--	C	--	--	4	--	--
147-060-08CDA	BINFORD		33	--	--	--	18	4-71	P	--	--	4	--	--
147-060-09CCC	NDSWC 4356	200	160	157	1	1971	20	11-71	U	51	8G	4	7.0	1520
147-060-10ADC	A.RICKFORD		30	--	36	--	27	--	K	--	--	5	5.0	--
147-060-11CCD	O.TWEED		60	--	--	--	35	5-71	H	--	--	5	--	--
147-060-13DCC1	E.SKAUFEL		42	--	36	1970	35	--	K	--	--	5	5.0	--
147-060-13DCC2	E.SKAUFEL		110	--	4	1969	100	--	S	--	--	6	6.0	--
147-060-15AAA	NDSWC 5907	60	--	--	--	1970	--	--	U	--	--	--	--	1480
147-060-16BBC	V.OLSGARD		28	--	28	--	25	--	S	--	--	4	5.0	--
147-060-25CCD	NDSWC 4372	100	--	--	--	1971	--	--	U	51	8G	--	--	1450
147-060-26AAD	C.BECHERL		47	--	48	1934	12	--	H	--	--	6	6.0	--
147-060-26ADD	H.MYER		20	--	36	--	5	--	K	--	--	6	6.0	--
147-060-27DDD	NDSWC 4371	100	--	--	--	1971	--	--	U	51	8G	--	--	1435
147-060-31A88	NDSWC 8303	280	222	216	1	1972	30	6-72	U	51	6S	5	7.0	1480
147-060-07DDB	T.HELLAND	100	85	80	4	1964	26	5-64	K	--	--	--	--	1515
147-061-018CA	B.OVERBY		5	--	24	--	5	5-71	U	--	--	3	--	--
147-061-01CCC	NDSWC 4358	340	240	237	1	1971	28	9-71	U	51	7R	5	7.5	1525
147-061-04AAA	H.OVERBY		90	--	4	--	18	--	K	--	--	4	6.0	1545
147-061-048BC	L.LEIR		37	--	24	--	7	5-71	U	--	--	--	--	1570
147-061-048CC	J.MAISEL		31	--	30	--	17	5-71	U	--	--	--	--	1565
147-061-058AD	V.BARCLAY		110	--	6	--	--	--	K	51	R	4	--	--
147-061-058BB	NDSWC 5879	240	203	197	1	1970	5	11-70	U	51	--	5	7.5	1510
147-061-068BB1	L.LARSON		22	--	36	--	18	--	S	--	--	3	--	--
147-061-068BB2	L.LARSON		20	--	4	--	20	--	U	--	--	3	--	--
147-061-08CDA	A.ANSON		103	--	4	1961	33	--	K	--	--	4	6.0	--
147-061-09DDD	NDSWC 4368		360	0	4	1971	--	--	U	51	8G	--	--	1548
147-061-11DAA	B.OVERBY		42	--	24	--	26	--	H	--	--	4	5.0	--
147-061-11DDC1	H.LARSON		17	--	36	--	10	5-71	K	--	--	4	--	--
147-061-11DDC2	H.LARSON		21	--	36	--	13	5-71	K	--	--	4	--	--

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE (FT.)
147-061-13ABB	S.KADRY		10	--	24	--	9	--	H	--	--	4	--	--
147-061-17DCC	I.KIRKEBY		90	--	6	--	55	--	K	--	--	4	6.0	--
147-061-19AAA	NDSWC 4369	140	--	--	--	1971	--	--	U	--	--	--	--	1486
147-061-21ACC	E.IVERSON		68	--	36	--	41	5-71	K	--	--	4	6.0	--
147-061-22CBB	B.PATTERSON		36	--	36	--	18	--	H	--	--	6	5.0	--
147-061-22DDD	NDSWC 4353	360	303	297	1	1971	46	9-71	U	51	8G	5	6.0	1505
147-061-24BBB	NDSWC 4354	300	220	217	1	1971	31	9-71	U	51	8G	5	7.0	1475
147-061-24DCC	NDSWC 4359	380	321	318	1	1971	--	--	U	51	9S	--	--	1480
147-061-27CCC	NDSWC 4352	240	193	187	1	1971	47	9-71	U	51	9S	4	6.5	1495
147-061-28CBB	L.IVERSON		33	--	30	1951	28	6-71	H	--	--	5	--	--
147-061-30BBB	NDSWC 437C	180	--	--	--	1971	--	--	U	51	7S	--	--	1500
147-061-30DAB1	C.LYNNE		26	--	11	1969	21	5-71	H	--	--	5	--	1490
147-061-30DAB2	C.LYNNE		80	--	5	--	20	--	S	--	--	5	5.0	--
147-061-32AAA1	N.IVERSON		45	--	18	--	25	--	S	--	--	5	5.0	--
147-061-32AAA2	N.IVERSON		125	--	4	1957	10	--	H	--	--	5	--	--
147-061-34DDD1	A.BERGE		32	--	36	--	20	--	K	--	--	4	6.0	--
147-061-34DDD2	A.BERGE		32	--	36	--	20	--	H	--	--	4	--	--
147-061-35CCC	A.BERGE		32	--	36	1940	25	--	S	--	--	4	5.0	--
148-054-01AAB	NDSWC 762-10	242	--	--	--	1965	--	--	U	51	9G	--	--	1090
148-054-01BCA	D.GULSON		28	--	48	1940	18	--	H	--	--	4	--	--
148-054-01BCB	D.GULSON		27	--	30	1962	15	--	S	--	--	7	--	--
148-054-02CCD	A.BYE		19	--	72	--	9	--	K	--	--	5	5.0	1100
148-054-04CCD	USBR 19		18	0	12	1960	16	3-60	U	51	7S	--	--	1096
148-054-05CAC	R.SONDREAAAL		--	--	32	--	11	7-70	U	--	--	--	--	1085
148-054-06CBD	G.BURG		29	--	18	1950	7	7-70	H	--	--	--	--	1110
148-054-08AAD	R.BRUNSVOLD		40	--	--	1966	34	7-70	H	--	--	--	--	1105
148-054-08CCC	NDSWC 1180		180	--	--	1957	--	--	U	--	--	--	--	1100
148-054-08DDC	E.STEVENS		67	--	--	--	52	--	H	--	--	--	--	1095
148-054-09AAB	L.GROTH		28	--	48	1908	2	--	H	--	--	--	--	1100
148-054-09CDD	NDSWC 1159	200	--	--	--	1956	8	9-56	U	51	7S	--	--	1065
148-054-09DCC1	T.THOMPSON		25	--	36	1950	20	--	H	--	--	--	--	1100
148-054-09DCC2	T.THOMPSON		595	--	5	1962	90	--	S	D	--	7	8.5	1100
148-054-10CCC	NDSWC 1165	165	--	--	--	1956	--	--	U	--	--	--	--	1100
148-054-10DAA1	A.OSTLIE		18	--	42	1962	5	7-70	U	--	--	--	--	1100
148-054-10DAA2	A.OSTLIE		14	--	18	--	3	--	U	--	--	--	--	1100
148-054-11BAB1	O.PLADSON		12	--	36	--	8	--	H	--	--	5	--	1100
148-054-11BAB2	O.PLADSON		13	--	36	--	7	7-70	U	--	--	--	--	1100
148-054-11CCC	NDSWC 1158	230	--	--	--	1956	--	--	U	51	7S	--	--	1100
148-054-11DAA	P.SKJOTTEN		21	15	36	1952	5	7-70	S	--	--	--	--	1090
148-054-13DDD	NDSWC 1188	189	--	--	--	1957	--	--	U	--	--	--	--	1080

LOCAL NUMRFR	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAM- ETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPE- CIFIC CON- DUCT ANCE	TEM- PER- ATURE (°C)	ALTI- TUDE- OF LSD (FT.)
148-054-14AAA	NDSWC 1157	310	--	--	--	1956	--	--	U	51	8G	--	--	1090
148-054-14CCA	W.OSTLIE		30	--	60	1948	--	--	H	--	--	5	7.5	1095
148-054-14DCA	O.PLADSON		--	--	64	--	7	7-70	U	--	--	--	--	--
148-054-15ABB	NDSWC 1183	200	--	--	--	1957	--	--	U	--	--	--	--	1100
148-054-16BDB	D.Enger		--	--	24	--	12	7-70	K	--	--	--	--	1060
148-054-17CAO	NDSWC 1184	157	--	--	--	1957	--	--	U	51	7S	--	--	1085
148-054-18AAD	G.GROTH		33	--	60	1942	8	--	H	--	--	--	--	1100
148-054-19ABD	C.BYE		52	--	18	--	9	7-70	S	--	--	--	--	1110
148-054-19CCC	P.BJERKE		52	--	18	--	32	--	I	--	--	--	--	1110
148-054-20DAD	NDSWC 1185	30	--	--	--	1957	--	--	U	--	--	--	--	1075
148-054-22CCD	W.NELSON		--	--	--	--	4	7-70	K	--	--	--	--	1080
148-054-22DDD	I.STENSIAND		70	--	36	1930	3	--	U	--	--	--	--	1090
148-054-24CDC1	B.PLADSON		25	--	24	--	6	--	U	--	--	--	--	1080
148-054-24CDC2	B.PLADSON		20	--	24	--	6	--	U	--	--	--	--	1080
148-054-25CDD	G.ARNESON		200	--	--	--	--	--	U	--	--	--	--	--
148-054-28AAA	NDSWC 1186	115	--	--	--	1957	--	--	U	--	--	--	--	1070
148-054-30BCB	W.RAMSTAD		30	--	--	--	10	7-70	U	--	--	--	--	1105
148-054-33ABC	G.BERG		30	--	36	--	20	--	S	--	--	--	--	1090
148-054-34BBB	A.BERG		590	--	3	--	--	--	S	D	S	7	7.5	1075
148-054-35BBB	NDSWC 1187	136	--	--	--	1957	--	--	U	51	8G	--	--	1050
148-055-01ACD	BERGE BROS.		60	--	5	1940	18	--	S	--	--	--	--	--
148-055-04DAD1	H.RASMUSSEN		30	--	48	--	27	--	H	--	--	--	--	--
148-055-04DAD2	H.RASMUSSEN		35	--	36	1920	6	--	S	--	--	--	--	--
148-055-07ABB	J.GRONHOVD		84	--	24	1945	72	--	K	--	--	--	--	1250
148-055-07BDA1	O.NESS		56	--	24	--	6	--	H	--	--	--	--	1250
148-055-07BDA2	O.NESS		23	--	36	1969	12	--	S	--	--	--	--	1250
148-055-08ADC	A.JACOBSON		20	--	24	1950	12	7-70	S	--	--	--	--	1190
148-055-09DDD	T.WALSVIK		29	--	36	1930	9	7-70	K	--	--	--	--	1160
148-055-10ADD	W.HANNESTAD		35	--	36	--	9	--	S	--	--	--	--	--
148-055-12DDD	NDSWC 1181	130	--	--	--	1957	--	--	U	--	--	--	--	1110
148-055-13CDB	J.NESS		15	--	42	--	10	7-70	K	--	--	--	--	1120
148-055-14BBB	P.THOMPSON		26	--	24	1950	10	--	H	--	--	--	--	1140
148-055-14BBB	E.STAVES		22	--	4	--	--	--	H	--	4	7.0	--	
148-055-14CDA	M.KLAVEN		28	--	36	1939	10	7-70	K	--	--	--	--	1140
148-055-15CCD	E.JACOBSON		30	--	24	--	11	7-70	S	--	--	--	--	1160
148-055-16AAB	T.WALSVIK		38	--	30	--	8	7-70	U	--	--	--	--	1170
148-055-17DAB	G.WALSWICK		29	--	24	1963	29	7-70	K	--	5	7.0	--	1195
148-055-18DAA1	O.HOLMEN		27	--	48	1920	8	8-70	H	--	7	--	--	1240
148-055-18DAA2	O.HOLMEN		42	--	36	1960	20	--	S	--	--	--	--	1240
148-055-190CD	C.LYSTE		38	--	48	1931	31	--	S	--	7	--	--	--

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
148-055-20CCA	USAF		100	--	--	1967	25	--	U	51	7S	--	--	1240
148-055-20CCB1	USAF K-D	980	730	711	7	1963	136	6-63	H	D	7S	7	--	1240
148-055-20CCB2	USAF	100	40	38	1	1967	16	9-67	U	51	7S	4	--	1240
148-055-20CCB3	USAF		105	--	--	1967	--	--	U	51	7S	--	--	1240
148-055-20CCC	KLOSTER 1		601	50	5	1966	--	--	U	--	--	--	--	1245
148-055-21DAD	J.BJERKE		24	--	36	--	10	--	K	--	--	--	--	--
148-055-238AA	NDSWC 4020	120	--	--	--	1970	--	--	U	--	--	--	--	1125
148-055-238BA	E.STAVENS		20	--	36	--	6	--	K	--	--	--	--	1230
148-055-24CDC	M.BRUNSDALE		--	--	32	--	16	8-70	U	--	--	--	--	1100
148-055-25ABB	USBR 18		18	0	12	1960	--	--	U	--	--	--	--	1103
148-055-28BCC1	E.BJERKE		50	--	24	1960	--	--	H	--	--	--	--	--
148-055-28BCC2	E.BJERKE		45	--	24	--	35	--	S	--	--	--	--	--
148-055-28BCC3	E.BJERKE		50	--	--	1950	43	--	H	--	--	5	--	--
148-055-29BBC	USAF		78	--	--	1967	--	--	U	51	7S	--	--	1240
148-055-29CCC	B.BJERKE		30	--	36	--	--	--	U	--	--	4	--	--
148-055-29DDD	F.LYSTE		90	--	36	--	--	--	H	--	--	5	--	--
148-055-30AAA	NDSWC 4019	80	56	53	1	1970	5	6-70	U	51	8G	5	7.0	1244
148-055-30BAB	MELDAHL 1		1117	102	7	1966	--	--	U	--	--	--	--	1250
148-055-30CDD1	C.MELDAHL		200	--	--	--	--	--	U	--	--	--	--	1250
148-055-30CDD2	NDSWC 4018	120	--	--	--	1970	--	--	U	--	--	--	--	1245
148-055-31BAB	C.MELDAHL	760	690	660	--	--	112	--	U	D	--	--	--	1223
148-055-31CBA	R.ANDERSON		14	--	42	1965	0	--	S	--	--	--	--	--
148-055-31CCA	R.ANDERSON		16	--	48	1930	8	--	S	--	--	--	--	1225
148-055-31CDD	R.ANDERSON		14	--	42	1963	0	--	S	--	--	--	--	1220
148-055-32CBD1	D.WINDLOSS		78	--	24	1961	58	--	S	--	S	--	--	1230
148-055-32CBD2	D.WINDLOSS		58	--	24	1963	50	--	U	--	R	--	--	--
148-055-35CCD	G.BAHE		--	--	36	--	5	7-70	U	--	--	--	--	1110
148-055-36BBB	NDSWC 4307	120	--	--	--	1970	--	--	U	--	--	--	--	1110
148-056-01AAB	T.ULBERG		26	--	24	1901	5	7-70	H	--	--	6	7.0	1265
148-056-01DA	O.NESS		36	--	24	--	29	--	U	--	--	--	--	1270
148-056-02ADB	O.STROMME		60	--	24	--	40	--	H	--	P	5	--	1315
148-056-03ADB	OLIMB SISTERS		30	--	24	--	20	--	H	--	S	6	--	1355
148-056-03CCD	C.BAKKEN		30	--	24	--	23	--	U	--	--	--	--	1390
148-056-04CCC	E.PALMER		45	--	24	--	25	--	U	--	--	--	--	1410
148-056-05CCD	E.PALMER		45	--	36	1952	16	7-70	K	--	--	6	--	--
148-056-05CDD	D.PALMER		55	--	26	--	15	--	H	--	G	6	--	1415
148-056-06CDC	G.AMUNDSON		50	--	30	--	20	--	K	--	G	5	--	1445
148-056-06DDC	E.GYL TEN		58	--	36	--	49	10-69	U	--	--	--	--	1440
148-056-08ABA	W.BAKKEN		35	--	24	--	17	--	H	--	P	6	--	1420
148-056-08CCA	C.THOMPSON		50	--	36	1930	20	--	H	--	P	5	--	1450

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LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE- CF LSD (FT.)
148-056-098AA1	A.FROHRIEP		40	--	24	--	21	10-69	H	--	G	5	--	1405
148-056-098AA2	A.FROHRIEP		40	--	24	--	21	--	H	--	G	--	--	1405
148-056-09CBA	A.ANTONSON		32	--	24	--	24	--	U	--	S	--	--	1410
148-056-09000	NDSWC 4283	80	--	--	--	1970	--	--	U	51	7S	--	--	1385
148-056-12C88	D.EVENSTAD		30	--	30	1929	15	--	K	--	P	5	--	1300
148-056-13BAB	G.RYAN		33	--	24	--	25	--	H	--	S	5	--	1280
148-056-14CBC	H.NYGAARD		23	--	24	--	13	--	H	--	S	6	--	1350
148-056-14CDA	H.HANSON		24	--	--	1925	20	--	K	--	--	--	--	1320
148-056-15CCD	O.RAMSTAD		61	--	24	--	38	10-69	S	--	P	--	--	1390
148-056-16CCD	T.OSTENSON		53	--	24	1943	34	--	H	--	P	5	--	1410
148-056-18CCC	NDSWC 4282	80	58	38	1	1970	9	11-70	U	51	9S	7	--	1470
148-056-18DDA	R.HAUGEN		65	--	24	--	30	--	K	--	S	--	--	1430
148-056-19CCD	N.NERDAHL		56	--	24	--	20	10-69	H	--	--	6	--	1460
148-056-20ACA	N.SODERBLOM		30	--	24	--	24	--	U	--	--	--	--	1430
148-056-20CCC1	I.JOHNSON		42	--	36	1914	22	--	K	--	2S	6	--	1430
148-056-20CCC2	M.JOHNSON		20	--	24	--	18	--	H	--	S	--	--	1420
148-056-20CCC3	M.JOHNSON		40	--	24	1966	--	--	H	--	P	5	--	1420
148-056-22AAD	H.JOHNSON		30	--	--	--	16	10-69	H	--	S	6	--	1360
148-056-22CDA	A.NETLAND		34	34	21	--	18	--	H	--	S	--	--	1350
148-056-22DDD	NETLAND NO. 1		1060	60	7	1968	--	--	U	--	--	--	--	1349
148-056-24CCA	L.GRADY		26	--	36	--	13	10-69	U	--	--	--	--	1310
148-056-28CDD	A.JOHNSON		26	--	24	--	20	--	H	--	G	5	--	--
148-056-28DCC	H.RAMSTAD		52	--	18	--	30	--	H	--	S	5	--	1390
148-056-3188A	USGS 4	11	--	--	--	--	--	--	U	--	--	--	--	1452
148-056-3188B	USGS 3	9	--	--	--	--	--	--	U	--	--	--	--	1457
148-056-32CBD	O.HEFTA		72	--	24	--	45	--	H	--	S	--	--	--
148-056-348DB	A.JOHNSON		50	--	24	--	33	--	H	--	G	5	--	1355
148-056-34CBC	E.LESLIE		45	--	36	--	40	--	H	--	G	5	7.0	1390
148-056-358BD	H.REYERSON		60	--	24	--	35	--	K	--	G	5	--	--
148-056-36RDD	O.BERG		38	--	48	--	33	--	U	--	--	--	--	1280
148-056-36CDD	USGS 9	14	--	--	--	--	--	--	U	--	--	--	--	1288
148-057-01ACD	A.RUE		61	--	--	--	26	9-69	H	--	--	6	--	1480
148-057-010CC	R.THOMPSON		57	--	18	--	20	--	H	--	--	6	--	1495
148-057-02CCA	M.KLOSTER		32	--	24	--	9	9-69	U	--	--	--	--	1470
148-057-03CDC	H.LYON		50	--	30	--	10	9-69	U	--	--	--	--	1500
148-057-03DDD	M.KLOSTER		33	--	18	--	7	--	H	--	--	7	7.0	1480
148-057-040CD	F.KLOSTER		44	--	30	--	6	9-69	U	--	--	--	--	1520
148-057-05CDA	T.BRAKKE		45	--	18	1932	15	9-69	H	--	--	6	--	1520
148-057-06CBD1	USAF S133		130	0	4	1962	20	4-62	U	51	9S	--	--	1512
148-057-06CBD2	USAF S323		130	--	4	1962	19	5-62	U	P	--	--	--	1517

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF L.S.D. (FT.)
148-057-06DDD	A. SMITH		40	--	30	--	20	--	H	--	--	5	--	1510
148-057-C7AAA	J. SMITH		30	--	--	--	--	--	H	--	--	7	--	1510
148-057-08DDD	NDSWC 4281	160	61	58	1	1970	13	11-70	U	51	8G	5	6.5	1515
148-057-10ADD	M. KLOSTER		60	--	36	--	25	--	K	--	--	--	--	1485
148-057-12ABB	R. THOMPSON		70	--	28	1959	26	--	S	--	--	5	--	1490
148-057-13CCD	M. KLOSTER		34	--	36	--	4	9-69	U	--	--	--	--	1470
148-057-13CDA	O. KLARO		13	--	42	--	11	9-69	U	--	--	--	--	1480
148-057-15ADD	L. VIG		28	--	24	--	5	9-69	H	--	--	--	--	1480
148-057-17CAA	M. LUND		80	--	4	--	35	--	H	--	G	5	--	1525
148-057-20EAA	A. DRONEN		70	--	24	--	58	--	H	--	--	--	--	1530
148-057-20CDC	A. NELSON		50	--	5	1949	20	--	H	--	--	5	--	1510
148-057-21BAA1	A. VIG		64	--	18	1896	17	--	H	--	--	6	7.0	1535
148-057-21BAA2	A. VIG		62	--	--	--	17	9-69	U	--	--	--	--	1535
148-057-24CCC	L. NERDAHL		50	--	36	1938	40	--	H	--	--	5	--	1470
148-057-26AAA	S. BUGBEE		34	--	30	1957	18	--	K	--	--	5	--	1470
148-057-26AAB	S. BUGBEE		34	--	30	1958	26	9-69	K	--	G	6	10.0	1460
148-057-27CCC	USGS 3	89	--	--	--	1947	--	--	U	51	8G	--	--	1530
148-057-27CDD1	USGS 2	99	--	--	--	1947	--	--	U	51	7G	--	--	1530
148-057-27CDD2	CITY OF SHARON		92	--	--	--	--	--	U	--	--	--	--	1530
148-057-27CBB1	F. KLOSTER		86	--	6	--	--	--	K	--	--	--	--	1540
148-057-27CBB2	F. KLOSTER		120	--	6	--	--	--	H	--	--	6	7.0	1540
148-057-28AAA	A. OSTENSON		43	--	32	--	27	9-69	H	--	--	6	--	1530
148-057-29AAA	R. MIKKELSON		71	--	24	1945	40	--	K	--	--	5	--	1520
148-057-29DAD	R. CURRY		60	--	24	--	30	--	K	--	--	--	--	1520
148-057-30ACB	H. FOSSE		40	--	24	--	30	--	H	--	--	5	--	1490
148-057-31CDC	G. MIKKELSON		32	--	36	1959	20	--	K	--	--	5	--	1475
148-057-32ADD	V. FOSSE		54	--	36	--	24	--	K	--	--	5	--	1515
148-057-32CBD	F. KLOSTER		72	--	24	1900	40	--	K	--	--	--	--	1530
148-057-338BD1	P. OSTMO		67	--	16	--	46	9-69	K	--	R	5	--	1530
148-057-338BD2	P. OSTMO		90	84	6	1969	45	--	K	--	--	5	--	1530
148-057-34ADD	USGS 8	79	--	--	--	1947	--	--	U	--	--	--	--	1505
148-057-34AD1	USGS 9	67	--	--	--	1947	--	--	U	51	8G	--	--	1500
148-057-34AD2	CITY OF SHARON		50	--	--	--	--	--	U	--	--	--	--	1505
148-057-34CDA	CITY OF SHARON		63	--	--	--	--	--	U	--	--	--	--	1505
148-057-34DDD	CITY OF SHARON		77	--	--	--	--	--	U	--	--	--	--	1520
148-057-358BD	SHARON HOSPITAL		73	--	20	1930	--	--	T	--	--	--	--	1520
148-057-358CA1	SHARON		71	--	30	--	35	5-46	U	--	--	--	--	1515
148-057-358CA2	SHARON SCHOOL		112	--	4	1913	--	--	T	--	--	--	--	1515
148-057-36AAA	USGS		16	--	--	1947	--	--	U	--	--	--	--	1455
148-057-36AAB	USGS		13	--	--	--	--	--	U	--	--	--	--	1460

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LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF L.S.D. (FT.)
148-057-36888	USGS 1		28	--	5	1947	--	--	U	51	6G	--	--	1455
148-058-03DDD	G.WESTMAN		38	--	18	1912	20	--	H	--	--	6	7.5	--
148-058-13CDD	NDSWC 8061	100	45	42	1	1971	23	10-71	U	51	7S	5	6.0	1500
148-058-14AAA	NDSWC 8059	40	--	--	--	1971	--	--	U	51	8G	--	--	1490
148-058-14BAA	NDSWC 8060	60	--	--	--	1971	--	--	U	--	--	--	--	1510
148-058-18CBC	M.HEGNA		24	--	18	--	19	5-71	S	--	--	5	--	--
148-058-26BAB	O.HAUGO		9	--	36	1946	7	--	H	--	S	4	--	--
148-058-26DDD	O.HAUGO		3	--	--	--	--	--	H	--	--	4	6.0	--
148-058-28CBA	RUSTEN 1		1280	39	--	--	--	--	U	--	--	--	--	1467
148-058-33CDD	O.SLETTEN		32	--	36	1967	19	6-71	H	--	--	7	10.0	--
148-059-02CAB	A.LEE		15	--	36	1959	12	--	H	--	--	3	--	--
148-059-05ABA1	C.LARSON		90	--	5	1947	70	--	S	--	--	6	6.0	--
148-059-05ABA2	C.LARSON		74	--	5	1959	60	--	H	--	--	6	--	--
148-059-06BAA1	L.CLAUSON		20	--	36	--	14	--	S	--	--	4	3.0	--
148-059-06BAA2	L.CLAUSON		20	--	36	1916	14	--	H	--	--	5	--	--
148-059-12BAD	M.TANDE		14	--	18	--	4	5-71	H	--	--	3	--	--
148-059-13AAA	NDSWC 5908	80	--	--	--	1970	--	--	U	P	6F	--	--	1320
148-059-13BAB	NDSWC 591C	220	163	157	1	1970	15	12-70	U	52	8G	4	7.5	1340
148-059-13DDD	NDSWC 5909	20	--	--	--	1970	--	--	U	P	6F	--	--	1335
148-059-18888	NDSWC 8509	40	--	--	--	1972	--	--	U	--	--	--	--	1460
148-059-20AAB	O.BOYER		26	--	36	1963	18	--	H	--	--	6	--	--
148-059-22BAA	T.TORSTAD		34	--	30	--	27	5-71	H	--	--	4	--	--
148-059-24BAD	A.HEGNA		60	--	24	--	48	5-71	H	--	--	5	--	--
148-059-25CCB	NDSWC 8041	40	--	--	--	1971	--	--	U	--	--	--	--	1342
148-059-26BBC	NDSWC 8042	20	--	--	--	1971	--	--	U	--	--	--	--	1385
148-059-26BDB	NDSWC 8040	200	163	157	1	1971	9	4-72	U	51	8G	4	6.0	1330
148-059-30AAD1	H.MICHAELIS		35	--	36	1966	30	--	H	--	--	6	--	--
148-059-30AAD2	H.MICHAELIS		35	--	36	1947	29	--	S	--	--	6	5.0	--
148-059-33ADC	NDSWC 804E	40	--	--	--	1971	--	--	U	--	--	--	--	1435
148-059-33DDC	F.ZIMPRICH		30	--	30	--	20	--	K	--	--	5	--	--
148-059-36AAB	NDSWC 8048	180	143	137	1	1971	9	10-71	U	51	8G	4	6.0	1320
148-059-36CDA1	H.WISEMAN		58	--	24	1955	35	5-71	H	--	--	5	--	--
148-059-36CDA2	H.WISEMAN		41	--	24	1966	29	--	S	--	--	6	6.0	--
148-060-03CDD	J.HEGVICK		39	--	36	--	17	5-71	S	P	JF	6	5.0	1475
148-060-03DDC	J.HEGVICK		67	--	6	--	5	5-71	U	P	JF	--	--	1460
148-060-04BCC	J.HEGVICK		215	--	6	--	195	--	K	P	JF	7	--	--
148-060-04CBC	J.HEGVICK		28	--	36	--	14	--	U	P	JF	6	5.0	--
148-060-05AAB1	O.GRAVING		95	--	6	1948	87	--	K	--	--	5	--	--
148-060-05AAB2	O.GRAVING		48	--	30	--	25	5-71	U	--	--	--	--	1490
148-060-07BAA1	O.STOKKE		92	--	5	--	12	5-71	U	--	--	--	--	1455

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE- OF LSD (FT.)
148-060-07BAA2	O. STOKKE		46	--	30	--	12	5-71	U	--	--	5	5.0	1460
148-060-07BAA3	O. STOKKE		18	--	30	--	12	--	K	--	--	5	5.0	--
148-060-07DDD	NDSWC 4360	220	--	--	--	1971	--	--	U	51	9S	--	--	1498
148-060-13CAA	G. MILLER		25	--	36	--	20	5-71	H	--	--	6	--	1455
148-060-15AAA	R. MILLER		100	--	30	1966	30	--	K	--	--	5	--	--
148-060-16AAA	NDSWC 8507	40	--	--	--	1972	--	--	U	--	--	--	--	1470
148-060-16BCC	J. STAHL		57	--	36	--	45	--	K	--	--	6	--	--
148-060-18BBA	NDSWC 4361	160	91	88	1	1971	27	9-71	U	51	9S	4	7.0	1495
148-060-18BCC	W. HAINES		23	--	24	--	16	5-71	K	31	--	4	--	1490
148-060-23BAB	F. RAYMAN		33	--	36	--	24	5-71	U	--	--	4	5.0	1485
148-060-23CCC	NDSWC 8508	40	--	--	--	1972	--	--	U	--	--	--	--	1465
148-060-24CCB1	E. RONNINGEN		108	--	6	1965	70	--	H	--	--	5	--	--
148-060-24CCB2	E. RONNINGEN		38	--	36	--	22	--	K	--	--	5	--	--
148-060-26DAA	G. OSUMUNDSON		46	--	36	--	28	5-71	K	--	--	6	--	1465
148-060-27CDB	R. MILLER		24	--	24	1960	16	5-71	H	--	--	6	--	1460
148-060-29CDB	G. GILBERTSON		33	--	24	--	29	5-71	H	--	--	4	--	1520
148-060-33CCD1	A. SMOGARD		80	--	6	1965	30	--	S	--	--	4	5.0	--
148-060-33CCD2	A. SMOGARD		44	--	36	--	37	5-71	S	--	--	4	5.0	--
148-060-33CCD3	A. SMOGARD		35	--	36	--	28	--	H	--	--	4	--	--
148-060-34CCD1	S. RORVIG		24	--	36	--	21	--	S	--	--	5	--	--
148-060-34CCD2	S. RORVIG		26	--	36	1951	23	--	H	--	--	4	--	--
148-060-36CBB	O. FORS		35	--	36	--	30	--	K	--	--	4	--	--
148-061-01ABA	T. VIGESAA		30	--	24	1955	20	--	K	--	--	4	--	1455
148-061-04CCC	NDSWC 5877	280	--	--	--	1970	--	--	U	51	--	--	--	1575
148-061-05ABA	C. QUAM		78	--	4	1966	14	5-71	K	51	--	4	6.0	1535
148-061-07BAB	NDSWC 5876	260	243	237	1	1970	+2	11-70	U	51	--	5	7.5	1525
148-061-09CCB	K. TWEED		--	--	4	1960	--	--	K	--	--	4	--	--
148-061-10AAA	NDSWC 4362	380	301	298	1	1971	--	--	U	51	9S	--	--	1600
148-061-10CCC1	N. DAHL		163	--	4	1957	60	--	K	--	S	2	--	1635
148-061-10CCC2	NDSWC 4365	470	407	398	1	1971	218	9-71	U	51	9S	--	--	1615
148-061-10CBA	N. DAHL		299	--	4	1959	150	--	S	--	--	4	--	--
148-061-11AAA1	NDSWC 5878	200	--	--	--	1970	--	--	U	--	--	--	--	1530
148-061-11AAA2	NDSWC 5878A	100	78	72	1	1970	26	11-70	U	51	7S	4	7.0	1530
148-061-11ABA	E. SNORTLAND		41	--	30	--	39	5-71	U	--	--	--	--	1550
148-061-13ADA	W. HAINES		29	--	24	--	21	5-71	S	31	S	4	--	--
148-061-15BBB	N. DAHL		197	--	4	1958	100	--	S	--	--	3	6.5	--
148-061-18ABC	N. FRENCH EST.		15	--	36	--	11	5-71	U	--	--	--	--	1550
148-061-18BCD	M. KJELGAARD		30	--	30	1961	21	5-71	U	--	--	4	--	1560
148-061-20AAA	NDSWC 4366	380	220	217	1	1971	86	9-71	U	51	9S	4	6.0	1608
148-061-20BAA	R. HALVORSON		90	--	4	--	40	--	K	--	--	4	6.0	1595

LOCAL NUMBER	OWNER	DRILLED DEPTH (FT.)	WELL DEPTH (FT.)	CASING DEPTH (FT.)	CASING DIAMETER (IN.)	DATE DRILLED	WATER LEVEL (FT.)	DATE WATER LEVEL MEAS.	USE OF WATER	MAJOR AQUIFER	WATER BEARING MATERIAL	SPECIFIC CONDUCTANCE	TEMPERATURE (°C)	ALTITUDE OF LSD (FT.)
148-061-20BCA	D.FALLA		48	--	36	--	35	--	K	--	--	6	5.0	1580
148-061-20BCC	J.STORKSON		42	--	30	--	30	5-71	U	--	--	--	--	1570
148-061-20DDD	J.OLESON		18	--	8	--	6	5-71	U	--	--	4	5.0	1565
148-061-21DCD	E.ADRIAN		45	--	36	--	18	--	H	--	--	5	5.0	1580
148-061-21DDC	C.BJORNSON		37	--	36	--	23	5-71	K	--	--	3	5.0	1565
148-061-22CCD1	E.ADRIAN		70	--	24	1933	53	5-71	H	--	--	4	--	1620
148-061-22CCD2	E.ADRIAN		64	--	36	1940	54	5-71	S	--	--	4	5.0	1650
148-061-22CCD3	E.ADRIAN		170	--	6	1960	50	--	S	--	--	4	5.0	--
148-061-22DDA	D.ASMUS		52	--	42	--	43	5-71	K	--	--	4	5.0	1600
148-061-22DDD	NDSWC 4364	400	--	--	--	1971	--	--	U	51	7S	--	--	1585
148-061-23AAA	NDSWC 4363	300	261	258	1	1971	132	9-71	U	51	9S	4	--	1530
148-061-24CCA	D.OIEN		45	--	30	1950	39	--	K	--	--	4	--	--
148-061-25CCD	C.OMDAL		115	--	4	1966	100	--	K	--	--	4	--	--
148-061-26AAC1	M.GILBERTSON		32	--	36	1964	20	--	K	--	--	4	--	--
148-061-26AAC2	M.GILBERTSON		22	--	36	1967	12	--	S	--	--	--	--	--
148-061-26BAB1	E.FLAMME		52	--	24	--	46	--	H	--	--	5	5.0	--
148-061-26BAB2	E.FLAMME		56	--	24	--	30	--	S	--	--	4	5.0	--
148-061-28BAB	F.HOYT		26	--	24	--	18	5-71	K	--	--	4	4.5	1565
148-061-318BB	NDSWC 4367	280	--	--	--	1971	--	--	U	--	--	--	--	1525
148-061-31CCG1	E.MILLER		13	--	30	--	10	--	S	--	--	4	--	--
148-061-31CCG2	E.MILLER		12	--	4	1963	--	--	K	--	--	3	--	--
148-061-32AAA	D.BRISS		100	--	6	--	40	--	K	--	--	4	6.0	--
148-061-33BDD	A.OIEN		52	--	4	--	16	5-71	H	--	--	--	--	1535
148-061-34AAA1	M.ADRIAN		70	--	24	--	54	5-71	H	--	--	4	--	1605
148-061-34AAA2	M.ADRIAN		66	--	36	1948	53	5-71	S	--	--	4	5.0	--
148-061-34BDB1	P.ADRIAN		45	--	36	--	37	--	S	--	--	5	5.5	1595
148-061-34BDB2	P.ADRIAN		153	--	4	1952	105	--	S	--	--	4	5.0	1600
148-061-34CDC	P.ADRIAN		24	--	36	--	14	5-71	U	--	--	--	--	1560
148-061-34DCC	M.ADRIAN		40	--	36	--	33	5-71	U	--	--	4	--	1575
148-061-36BCC	J.GOPLIN		275	--	--	--	132	--	U	51	9S	--	--	1525

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TABLE 2.--Water levels in selected wells

EXPLANATION

Lsd, land surface datum      Msl, mean sea level

Water level, in feet below or (+) above land surface

144-54-01ABB NDSWC 8356 Screened from 122 to 128 feet. Lsd 1120 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Oct. 26, 1972	7.75	Nov. 30.....	7.02		
144-54-18AAA NDSWC 3987 Screened from 70 to 76 feet. Lsd 1165 feet above msl.					
June 27, 1970..	19.70	Feb. 17.....	20.36	Oct. 5.....	20.57
July 9.....	19.53	Mar. 20.....	20.33	Oct. 29.....	20.75
Aug. 5.....	19.64	Apr. 14.....	19.73	Dec. 3.....	20.57
Sept. 3.....	19.67	May 5.....	19.75	Mar. 8, 1972..	20.90
Oct. 1.....	19.78	June 16.....	19.95	Apr. 20.....	20.07
Nov. 4.....	20.02	July 22.....	20.21	June 8.....	20.07
Dec. 3.....	20.01	Sept. 18.....	19.94	Oct. 20.....	20.38
Jan. 20, 1971..	20.14	Oct. 4.....	20.53	Nov. 29.....	20.58
144-54-22DCD2 NDSWC 8064A Screened from 107 to 113 feet. Lsd 1155 feet above msl.					
Oct. 29, 1971..	19.88	Dec. 31.....	18.22	Oct. 20.....	22.40
Dec. 10.....	18.14	Apr. 20, 1972..	21.65	Nov. 30.....	22.34
144-54-22DCD 3 NDSWC 8064B Screened from 77 to 83 feet. Lsd 1156 feet above msl.					
Oct. 29, 1971..	22.41	June 8.....	16.42	Nov. 30.....	18.08
Apr. 20, 1972..	17.40	Oct. 20.....	18.10		
144-54-24DDD NDSWC 8355 Screened from 117 to 123 feet. Lsd 1180 feet above msl.					
Oct. 20, 1972..	48.37	Nov. 30.....	48.35		
144-54-25CCC1 NDSWC 4299 Screened from 328 to 331 feet. Lsd 1190 feet above msl.					
Dec. 3, 1970..	55.78	June 15.....	52.52	Apr. 20, 1972..	51.43
Feb. 17, 1971..	54.03	July 23.....	52.12	June 8.....	51.12
Mar. 20.....	53.25	Sept. 18.....	51.71	Oct. 20.....	50.89
Apr. 14.....	53.18	Oct. 4.....	51.53	Nov. 30.....	50.91
May 5.....	52.91	Oct. 5.....	51.46		

Water level, in feet below or (+) above land surface

144-54-25CCC2 NDSWC 4299A Screened from 123 to 126 feet. Lsd 1190 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Dec. 3, 1970..	50.25	July 22.....	50.51	June 8.....	49.75
Feb. 17, 1971..	50.51	Sept. 18.....	51.05	Oct. 20.....	50.20
Apr. 14.....	51.23	Oct. 4.....	50.62	Nov. 30.....	50.26
May 5.....	50.04	Oct. 29.....	49.90		
June 15.....	50.05	Apr. 20, 1972..	49.84		

144-54-27ABB NDSWC 8064C Screened from 77 to 83 feet. Lsd 1150 feet above msl.

Oct. 29, 1971..	16.61	Oct. 20, 1972..	16.49	Nov. 30.....	16.43
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144-54-31CCC NDSWC 8353 Screened from 97 to 103 feet. Lsd 1180 feet above msl.

Oct. 20, 1972..	36.75	Nov. 29.....	36.73
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144-55-06BCB2 NDSWC 3981 Slotted from 118 to 138 feet. Lsd 1205 feet above msl.

June 27, 1970..	6.38	Feb. 17.....	6.41	Dec. 10.....	6.59
July 9.....	6.29	Mar. 31.....	6.34	Dec. 31.....	6.47
Aug. 5.....	6.32	Apr. 14.....	6.65	Mar. 8, 1972..	6.52
Sept. 3.....	6.43	May 5.....	6.64	Apr. 20.....	6.42
Oct. 1.....	6.47	June 16.....	6.40	June 8.....	6.17
Nov. 4.....	6.49	July 22.....	6.35	Oct. 20.....	6.25
Dec. 3.....	6.40	Oct. 6.....	6.62	Nov. 29.....	6.26
Jan. 20, 1971..	6.41	Nov. 4.....	6.30		

144-55-06CCC2 NDSWC 5617A Screened from 15 to 18 feet. Lsd 1210 feet above msl.

Jan. 6, 1970..	4.22	Sept. 3.....	4.14	Oct. 6.....	4.15
Feb. 3.....	5.13	Oct. 1.....	4.31	Dec. 10.....	4.75
Mar. 4.....	5.92	Nov. 4.....	4.61	Dec. 31.....	3.87
Mar. 31.....	6.11	Dec. 3.....	4.67	Mar. 8, 1972..	7.13
May 6.....	1.09	Mar. 31, 1971..	4.47	Apr. 20.....	3.30
June 6.....	.47	Apr. 14.....	4.33	June 8.....	9.28
June 27.....	.49	May 5.....	4.55	Oct. 20.....	2.63
July 9.....	1.87	June 16.....	2.85	Nov. 29.....	2.99
Aug. 5.....	2.92	July 22.....	3.08		

144-55-09ABB NDSWC 3982 Slotted from 19 to 39 feet. Lsd 1140 feet above msl.

June 27, 1970..	5.83	Dec. 3.....	9.56	June 16.....	7.70
July 9.....	6.67	Jan. 20, 1971..	10.84	July 22.....	8.03
Aug. 5.....	8.05	Feb. 17.....	11.49	Oct. 6.....	8.20
Sept. 3.....	9.42	Mar. 31.....	9.72	Apr. 20, 1972..	7.91
Oct. 1.....	9.56	Apr. 14.....	9.01	Oct. 20.....	7.42
Nov. 4.....	9.29	May 5.....	8.56	Nov. 29.....	7.83

Water level, in feet below or (+) above land surface

144-55-10ABB2 NDSWC 5618A Screened from 20 to 23 feet. Lsd 1135 feet above msl.

Date	Water Level	Date	Water Level	Date	Water Level
Jan. 6, 1970..	2.99	Aug. 5.....	3.02	Apr. 14.....	2.75
Feb. 3.....	3.77	Sept. 3.....	4.41	May 5.....	2.14
Mar. 4.....	4.14	Oct. 1.....	4.17	June 16.....	2.00
Mar. 31.....	3.97	Nov. 4.....	3.52	Sept. 18.....	2.32
May 6.....	1.25	Dec. 3.....	3.51	Apr. 20, 1972..	1.25
June 6.....	.79	Jan. 20, 1971..	4.68	Oct. 20.....	2.62
June 27.....	.75	Feb. 17.....	5.02	Nov. 29.....	2.74
July 9.....	1.70	Mar. 31.....	3.49		

144-55-25ABA NDSWC 8063 Screened from 87 to 93 feet. Lsd 1165 feet above msl.

Sept. 18, 1971..	27.76	Oct. 20, 1972..	25.79	Nov. 29.....	26.68
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144-55-26BBB NDSWC 3983 Slotted from 53 to 68 feet. Lsd 1160 feet above msl.

June 9, 1970..	17.81	Feb. 17.....	19.93	Oct. 29.....	19.36
June 27.....	17.43	Mar. 20.....	19.63	Dec. 10.....	18.66
July 9.....	17.68	Apr. 14.....	19.24	Dec. 31.....	18.72
Aug. 5.....	18.40	May 5.....	19.13	Mar. 8, 1972..	19.94
Sept. 3.....	18.81	June 15.....	18.98	Apr. 20.....	19.13
Oct. 1.....	19.03	July 23.....	18.90	June 8.....	18.49
Nov. 4.....	19.33	Sept. 18.....	19.70	Oct. 20.....	19.14
Dec. 3.....	19.33	Oct. 4.....	19.58	Nov. 29.....	19.25
Jan. 20, 1971..	19.50	Oct. 5.....	19.61		

144-55-26DDD NDSWC 8062 Screened from 67 to 73 feet. Lsd 1155 feet above msl.

Sept. 18, 1971..	9.85	Oct. 29.....	9.57	Oct. 20.....	9.33
Oct. 4.....	9.43	Apr. 20, 1972..	9.16	Nov. 29.....	9.39
Oct. 5.....	9.56	June 8.....	9.29		

144-55-27CCC NDSWC 3984 Screened from 78 to 81 feet. Lsd 1185 feet above msl.

June 8, 1970..	33.77	Oct. 1.....	34.34	Mar. 20.....	34.23
June 27.....	33.93	Nov. 4.....	34.37	May 5.....	34.32
July 9.....	34.18	Dec. 3.....	34.26	Nov. 4.....	32.80
Aug. 5.....	34.39	Jan. 20, 1971..	34.16		
Sept. 3.....	34.37	Feb. 17.....	34.23		

144-55-33CAD2 NDSWC 5619 Screened from 237 to 243 feet. Lsd 1180 feet above msl.

Jan. 6, 1970..	26.16	Sept. 3.....	27.26	June 15.....	25.30
Feb. 3.....	25.57	Oct. 1.....	26.90	July 23.....	25.13
Mar. 4.....	25.24	Nov. 4.....	26.66	Sept. 18.....	25.29
Mar. 31.....	24.91	Dec. 3.....	26.27	Nov. 4.....	24.80
May 6.....	24.58	Jan. 20, 1971..	25.90	Apr. 19, 1972..	24.53
June 6.....	23.82	Feb. 17.....	25.76	June 8.....	24.40
June 27.....	29.17	Mar. 20.....	25.59	Oct. 20.....	24.36
July 9.....	28.50	Apr. 14.....	25.65	Nov. 29.....	24.36
Aug. 5.....	27.74	May 5.....	25.43		



Water level, in feet below or (+) above land surface

144-57-05CCB NDSWC 8419 Screened from 187 to 190 feet. Lsd 1510 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
July 24, 1972..	170.13	Oct. 26.....	174.69	Nov. 30.....	173.57
144-57-06DCC NDSWC 8420 Screened from 247 to 253 feet. Lsd 1502 feet above msl.					
Oct. 26, 1972..	170.17	Nov. 30.....	170.54		
144-57-17CDD NDSWC 8423 Screened from 177 to 183 feet. Lsd 1463 feet above msl.					
Oct. 26, 1972..	115.16	Nov. 30.....	115.11		
144-57-18DDD NDSWC 8421 Screened from 127 to 133 feet. Lsd 1460 feet above msl.					
Oct. 26, 1972..	62.10	Nov. 30.....	70.50		
144-57-29DCD NDSWC 4266 Screened from 320 to 326 feet. Lsd 1440 feet above msl.					
Nov. 4, 1970..	92.38	May 5.....	92.45	Dec. 31.....	92.02
Dec. 3.....	92.15	June 15.....	92.40	Mar. 8, 1972..	92.74
Jan. 20, 1971..	92.41	July 22.....	92.70	Apr. 19.....	92.47
Feb. 17.....	92.30	Sept. 18.....	92.59	June 8.....	92.45
Mar. 20.....	92.45	Nov. 4.....	92.00	Oct. 27.....	91.63
Apr. 14.....	92.52	Dec. 10.....	92.34	Nov. 30.....	91.68
144-57-31DAA NDSWC 4011 Screened from 119 to 125 feet. Lsd 1455 feet above msl.					
July 7, 1970..	109.52	Nov. 4.....	109.92	June 23.....	109.19
Aug. 5.....	109.83	Dec. 2.....	109.23	June 8, 1972..	108.85
Sept. 4.....	109.17	Apr. 14, 1971..	109.37	Oct. 26.....	108.20
Oct. 6.....	109.19	May 5.....	109.10	Nov. 30.....	108.57
144-58-18DDD NDSWC 5902 Screened from 132 to 135 feet. Lsd 1410 feet above msl.					
Nov. 4, 1970..	7.03	Apr. 22.....	2.96	Apr. 28, 1972..	1.94
Dec. 3.....	3.38	May 6.....	2.85	June 7.....	1.60
Jan. 21, 1971..	3.20	June 7.....	2.30	Oct. 19.....	3.08
Feb. 17.....	3.39	July 23.....	1.89	Nov. 28.....	3.39
Mar. 22.....	3.22	Oct. 1.....	2.17		
144-59-07BBB NDSWC 5898 Screened from 197 to 203 feet. Lsd 1435 feet above msl.					
Nov. 4, 1970..	18.72	Apr. 16.....	20.72	Apr. 28, 1972..	21.02
Dec. 3.....	19.05	May 6.....	20.50	June 7.....	20.09
Jan. 21, 1971..	19.95	June 7.....	19.76	Oct. 19.....	22.73
Feb. 17.....	20.87	July 23.....	17.27	Nov. 28.....	23.10
Mar. 31.....	20.98	Oct. 29.....	19.24		

Water level, in feet below or (+) above land surface

144-59-08AAA NDSWC 5899 Screened from 157 to 163 feet. Lsd 1410 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Nov. 4, 1970..	43.78	Apr. 22.....	43.62	Mar. 7, 1972..	44.21
Dec. 2.....	43.64	May 6.....	43.66	Apr. 28.....	44.04
Jan. 21, 1971..	43.51	June 7.....	43.60	June 7.....	44.34
Feb. 17.....	73.73	July 23.....	43.76	Oct. 19.....	44.38
Mar. 31.....	43.35	Oct. 29.....	43.79	Nov. 28.....	44.56

144-59-20BCC Griffith Loan Co. Lsd 1430 feet above msl.

Nov. 29, 1940..	27.72	Oct. 30.....	18.08	Dec. 2.....	19.34
Apr. 6, 1941..	27.95	Apr. 30, 1954..	18.59	May 1, 1964..	20.36
Oct. 14.....	26.23	Sept. 17.....	18.09	Oct. 13.....	17.89
May 28, 1942..	25.50	Apr. 19, 1955..	19.91	Nov. 24.....	17.60
Aug. 30.....	25.54	Oct. 22.....	19.12	Apr. 27, 1965..	18.85
May 14, 1943..	21.89	May 8, 1956..	20.04	Nov. 15, 1965..	15.44
Oct. 16.....	19.78	Sept. 16.....	17.99	Apr. 15, 1966..	17.02
Nov. 6, 1944..	23.49	May 3, 1957..	18.84	Oct. 24.....	16.28
May 3, 1945..	20.40	Nov. 21.....	14.65	July 10, 1967..	15.50
Apr. 11, 1946..	20.66	Apr. 10, 1958..	16.26	Aug. 6, 1968..	15.49
Oct. 1.....	19.94	Sept. 5.....	16.34	July 8, 1969..	14.98
Sept. 5, 1947..	18.78	May 8, 1959..	19.42	Dec. 30.....	16.00
June 19, 1948..	18.17	Sept. 9.....	18.77	Oct. 1, 1970..	14.88
Sept. 16.....	18.73	May 11, 1960..	19.52	Nov. 4.....	14.88
Sept. 7, 1949..	19.34	Sept. 22.....	18.39	Dec. 3.....	14.85
May 27, 1950..	18.39	May 2, 1961..	19.45	Feb. 17, 1971..	16.09
June 29, 1951..	17.11	Nov. 7.....	19.50	Mar. 31.....	16.99
Oct. 20.....	15.68	May 22, 1962..	19.82	Apr. 22.....	17.00
Apr. 11, 1952..	19.24	Nov. 28.....	17.17	May 6.....	16.97
Sept. 26.....	17.95	Mar. 27, 1963..	18.58	June 7.....	16.07
Apr. 24, 1953..	19.91	Apr. 22.....	18.86		

144-59-20CCC NDSWC 4377 Screened from 158 to 161 feet. Lsd 1430 feet above msl.

Sept. 20, 1971..	52.10	Dec. 3.....	51.72	Oct. 19.....	52.12
Oct. 2.....	51.40	Mar. 7, 1972..	51.85	Nov. 28.....	52.12
Oct. 29.....	51.43	June 7.....	51.58		

144-59-20DDD NDSWC 8429 Screened from 137 to 140 feet. Lsd 1418 feet above msl.

Oct. 19, 1972..	42.32	Nov. 28.....	42.30
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144-59-22CCC NDSWC 8428 Screened from 137 to 140 feet. Lsd 1396 feet above msl.

Oct. 19, 1972..	55.36	Nov. 28.....	55.29
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144-59-23CCC NDSWC 4376 Screened from 197 to 200 feet. Lsd 1439 feet above msl.

Sept. 22, 1971..	89.30	Apr. 28, 1972..	86.78	Nov. 28.....	88.51
Oct. 2.....	88.30	Oct. 19.....	88.55		

Water level, in feet below or (+) above land surface

144-60-27BCB1 NDSWC 4330 Screened from 198 to 204 feet. Lsd 1440 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Sept. 22, 1971..	11.81	Apr. 28, 1972..	11.86	Nov. 28.....	12.63
Oct. 2.....	11.84	June 7.....	11.65		
Oct. 29.....	11.75	Oct. 19.....	12.73		
144-60-27BCB2 NDSWC 4330A Screened from 118 to 124 feet. Lsd 1440 feet above msl.					
Sept. 22, 1971..	12.10	Apr. 28, 1972..	11.80	Nov. 28.....	12.72
Oct. 2.....	11.75	June 7.....	11.57		
Oct. 29.....	11.77	Oct. 19.....	12.76		
144-60-30DAA NDSWC 4329 Screened from 57 to 60 feet. Lsd 1460 feet above msl.					
Sept. 22, 1971..	10.00	June 7, 1972..	10.10	Nov. 28.....	11.34
Oct. 2.....	9.85	Oct. 19.....	11.10		
144-61-04CBC NDSWC 5894 Screened from 27 to 30 feet. Lsd 1475 feet above msl.					
Nov. 5, 1970..	4.60	May 5.....	6.61	Apr. 28.....	6.05
Dec. 2.....	5.27	June 3.....	5.37	June 7.....	2.88
Jan. 21, 1971..	6.47	July 23.....	4.98	Oct. 19.....	7.30
Feb. 16.....	7.61	Oct. 2.....	6.80	Nov. 28.....	7.90
Mar. 30.....	6.62	Oct. 29.....	5.35		
Apr. 16.....	6.59	Mar. 7, 1972..	8.10		
144-61-18DDD NDSWC 4324 Screened from 97 to 103 feet. Lsd 1490 feet above msl.					
Sept. 20, 1971..	12.10	Apr. 28, 1972..	11.56	Oct. 19.....	11.98
Oct. 2.....	12.16	June 6.....	11.74	Nov. 28.....	12.06
144-61-24CCC NDSWC 4327 Screened from 88 to 94 feet. Lsd 1464 feet above msl.					
Sept. 22, 1971..	6.70	Mar. 7, 1972..	7.87	Oct. 19.....	7.58
Oct. 2.....	6.50	Apr. 28.....	7.67	Nov. 28.....	7.90
Oct. 29.....	5.81	June 7.....	6.20		
145-54-04AAA NDSWC 8367 Screened from 87 to 90 feet. Lsd 1095 feet above msl.					
Oct. 26, 1972..	7.38	Dec. 1.....	7.43		
145-54-09BBB NDSWC 3993 Screened from 39 to 42 feet. Lsd 1105 feet above msl.					
June 27, 1970..	2.89	Dec. 3.....	8.66	July 22.....	8.13
July 10.....	4.30	Feb. 17, 1971..	9.24	Oct. 6.....	10.55
Aug. 5.....	6.61	Mar. 31.....	9.74	Apr. 20, 1972..	10.16
Sept. 3.....	8.32	Apr. 14.....	9.37	June 9.....	8.27
Oct. 1.....	8.96	May 5.....	8.74	Oct. 26.....	10.02
Nov. 4.....	9.23	June 4.....	7.14	Dec. 1.....	10.17

Water level, in feet below or (+) above land surface

145-54-09CCC NDSWC 8365 Screened from 47 to 50 feet. Lsd 1112 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Oct. 26, 1972..	11.40	Dec. 1.....	11.47		

145-54-10DDD NDSWC 8364 Screened from 17 to 20 feet. Lsd 1120 feet above msl.

Oct. 26, 1972..	6.75	Nov. 30.....	6.91		
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145-54-13DDD1 NDSWC 8358A Screened from 62 to 68 feet. Lsd 1115 feet above msl.

Oct. 26, 1972..	10.14	Nov. 30.....	10.36		
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145-54-22AAA NDSWC 3992 Screened from 80 to 83 feet. Lsd 1150 feet above msl.

June 26, 1970..	22.10	Jan. 20, 1971..	21.60	Oct. 6.....	21.84
July 9.....	21.66	Feb. 17.....	21.94	Apr. 20, 1972..	23.94
Aug. 5.....	21.45	Mar. 31.....	21.80	June 9.....	23.20
Sept. 3.....	21.30	Apr. 14.....	21.86	Oct. 26.....	21.89
Oct. 1.....	21.30	May 5.....	21.82	Nov. 30.....	22.12
Nov. 4.....	21.54	June 4.....	21.78		
Dec. 3.....	21.34	July 22.....	21.57		

145-54-27CDC NDSWC 3991 Screened from 640 to 660 feet. Lsd 1145 feet above msl.

Aug. 5, 1970..	79.02	Aug. 10.....	78.93	Oct. 30.....	78.67
Sept. 3.....	78.93	Aug. 15.....	79.00	Nov. 5.....	78.38
Oct. 1.....	78.92	Aug. 20.....	78.89	Nov. 10.....	78.60
Nov. 4.....	79.08	Aug. 25.....	78.71	Nov. 15.....	78.51
Dec. 3.....	78.82	Aug. 30.....	78.68	Nov. 20.....	78.27
Apr. 22, 1971..	78.80	Sept. 1.....	78.50	Nov. 22.....	78.70
May 5.....	78.72	Sept. 5.....	78.45	Dec. 1.....	78.85
June 4.....	78.81	Oct. 6.....	78.65	Mar. 8, 1972..	78.45
July 22.....	78.89	Oct. 10.....	78.66	Apr. 20.....	78.23
July 25.....	78.90	Oct. 15.....	78.80	June 9.....	78.27
July 30.....	78.91	Oct. 20.....	78.74	Oct. 27.....	76.96
Aug. 5.....	79.00	Oct. 25.....	78.56	Nov. 30.....	77.96

145-55-01DDD NDSWC 3995 Screened from 39 to 42 feet. Lsd 1120 feet above msl.

June 26, 1970..	4.13	Dec. 3.....	6.41	July 22.....	6.04
July 10.....	5.16	Feb. 17, 1971..	6.94	Oct. 4.....	6.80
Aug. 5.....	6.13	Mar. 31.....	5.07	Apr. 20, 1972..	6.79
Sept. 3.....	6.81	Apr. 14.....	5.24	June 9.....	6.89
Oct. 1.....	6.66	May 5.....	5.44	Oct. 26.....	6.58
Nov. 4.....	6.42	June 4.....	5.23	Dec. 1.....	6.77

Water level, in feet below or (+) above land surface

145-55-07BBB NDSWC 4001 Screened from 49 to 52 feet. Lsd 1250 feet above msl.

Date	Water level	Date	Water level	Date	Water level
June 27, 1970..	3.49	Feb. 17, 1971..	8.87	Dec. 1.....	5.48
July 10.....	4.57	Mar. 31.....	7.40	Dec. 31.....	6.12
Aug. 5.....	5.95	Apr. 14.....	7.25	Mar. 8, 1972..	8.34
Sept. 3.....	6.73	May 5.....	7.38	Apr. 20.....	7.53
Oct. 1.....	6.90	June 4.....	6.76	June 8.....	4.27
Nov. 4.....	7.22	July 22.....	5.45	Oct. 26.....	5.99
Dec. 3.....	7.36	Nov. 4.....	5.35	Nov. 29.....	6.42

145-55-12BBB NDSWC 3996 Screened from 39 to 42 feet. Lsd 1125 feet above msl.

June 26, 1970..	6.07	Dec. 3.....	11.17	July 22.....	9.34
July 10.....	7.75	Feb. 17, 1971..	12.68	Oct. 6.....	12.48
Aug. 5.....	9.60	Mar. 31.....	10.71	Apr. 20, 1972..	10.21
Sept. 3.....	11.32	Apr. 14.....	9.58	June 9.....	8.88
Oct. 1.....	11.56	May 5.....	9.36	Oct. 26.....	11.77
Nov. 4.....	11.20	June 4.....	8.79	Dec. 1.....	11.81

145-55-13AAA NDSWC 8359 Screened from 48 to 51 feet. Lsd 1128 feet above msl.

Oct. 26, 1972..	11.39	Dec. 1.....	11.47
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145-55-23CCC NDSWC 3998 Screened from 28 to 31 feet. Lsd 1135 feet above msl.

June 27, 1970..	4.53	Dec. 3.....	9.39	July 22.....	7.52
July 10.....	5.84	Feb. 17, 1971..	11.08	Apr. 20, 1972..	8.51
Aug. 5.....	7.28	Mar. 31.....	9.38	June 9.....	5.00
Sept. 3.....	8.62	Apr. 14.....	8.79	Oct. 26.....	7.60
Oct. 1.....	8.97	May 5.....	8.74	Dec. 1.....	8.08
Nov. 4.....	9.27	June 16.....	6.60		

145-55-27DDD NDSWC 4297 Screened from 57 to 63 feet. Lsd 1140 feet above msl.

Dec. 3, 1970..	7.14	June 4.....	6.75	June 9.....	6.63
Jan. 20, 1971..	7.56	June 16.....	5.37	Oct. 26.....	6.62
Mar. 31.....	7.48	July 17.....	7.85	Dec. 1.....	6.77
Apr. 14.....	7.50	Oct. 6.....	5.37		
May 5.....	7.32	Apr. 20, 1972..	6.63		

145-56-06CCC NDSWC 4005 Screened from 48 to 51 feet. Lsd 1450 feet above msl.

June 27, 1970..	8.51	Jan. 20, 1971..	12.21	Sept. 18.....	10.83
July 9.....	8.31	Feb. 17.....	13.15	Nov. 4.....	9.90
Aug. 5.....	9.32	Mar. 20.....	13.87	Apr. 19, 1972..	13.49
Sept. 4.....	10.47	Apr. 14.....	14.02	June 8.....	11.33
Oct. 1.....	10.53	May 5.....	13.34	Oct. 20.....	11.91
Nov. 4.....	11.31	June 4.....	12.65	Nov. 30.....	12.39
Dec. 2.....	11.14	July 23.....	9.52		

Water level, in feet below or (+) above land surface

145-57-04DDD NDSWC 4008 Perforated from 19 to 39 feet. Lsd 1510 feet above msl.

Date	Water level	Date	Water level	Date	Water level
June 27, 1970..	13.68	Dec. 2.....	21.86	Sept. 18.....	20.61
July 9.....	14.58	Mar. 31, 1971..	24.17	Nov. 4.....	18.30
Aug. 5.....	16.56	Apr. 14.....	24.06	Apr. 19, 1972..	20.79
Sept. 4.....	18.99	May 5.....	23.44	June 8.....	14.65
Oct. 1.....	20.19	June 4.....	22.51	Oct. 20.....	19.10
Nov. 4.....	22.06	July 23.....	19.87	Nov. 30.....	20.20

145-57-07AAA1 NDSWC 4010 Perforated from 19 to 29 feet. Lsd 1445 feet above msl.

June 27, 1970..	4.18	Dec. 2.....	6.11	Apr. 19, 1972..	5.71
July 9.....	4.86	Apr. 14, 1971..	5.67	June 8.....	5.30
Aug. 5.....	5.67	May 5.....	5.41	Oct. 20.....	6.24
Sept. 4.....	6.30	June 4.....	5.45	Nov. 30.....	6.32
Oct. 1.....	6.30	July 23.....	5.15		
Nov. 4.....	6.08	Nov. 4.....	5.35		

145-57-31AAB NDSWC 8418 Screened from 67 to 70 feet. Lsd 1310 feet above msl.

Oct. 26, 1972..	9.39	Nov. 30.....	9.41
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145-58-24BDD NDSWC 8417 Screened from 117 to 120 feet. Lsd 1273 feet above msl.

Oct. 19, 1972..	6.19	Nov. 30.....	6.29
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145-59-10DDD NDSWC 4337 Screened from 178 to 181 feet. Lsd 1450 feet above msl.

Oct. 29, 1971..	63.81	Apr. 28.....	63.88	Nov. 28.....	64.90
Dec. 20.....	63.67	June 7.....	64.40		
Mar. 7, 1972..	63.85	Oct. 19.....	64.90		

145-59-15DDD NDSWC 8513 Screened from 157 to 163 feet. Lsd 1428 feet above msl.

Oct. 19, 1972..	46.72	Nov. 28.....	46.60
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145-59-17AAA1 NDSWC 4338 Screened from 198 to 204 feet. Lsd 1443 feet above msl.

Nov. 24, 1971..	9.80	June 7.....	9.76	Nov. 28.....	11.06
Apr. 28, 1972..	10.55	Oct. 19.....	10.89		

145-59-17AAA2 NDSWC 4338A Screened from 48 to 51 feet. Lsd 1443 feet above msl.

Nov. 24, 1971..	11.20	Apr. 28.....	11.02	Oct. 19.....	11.77
Mar. 7, 1972..	11.85	June 7.....	11.52	Nov. 28.....	11.92

Water level, in feet below or (+) above land surface

145-59-20CBB NDSWC 8514 Screened from 177 to 183 feet. Lsd 1429 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1972..	41.44	Nov. 28.....	41.29		
145-59-34BBB NDSWC 8297 Screened from 118 to 124 feet. Lsd 1430 feet above msl.					
June 7, 1972..	40.22	Oct. 19.....	40.79	Nov. 28.....	41.07
145-60-15BBB NDSWC 4342 Screened from 168 to 171 feet. Lsd 1435 feet above msl.					
Sept. 22, 1971..	2.95	Oct. 19, 1972..	2.99	Nov. 28.....	3.17
145-61-04DAD1 NDSWC 5906 Screened from 102 to 107 feet. Lsd 1470 feet above msl.					
Dec. 2, 1970..	1.95	Sept. 20.....	5.70	Apr. 28.....	4.89
Mar. 3, 1971..	2.77	Oct. 2.....	5.61	June 7.....	5.32
Apr. 22.....	2.79	Oct. 29.....	5.61	Oct. 19.....	6.52
May 5.....	2.74	Nov. 24.....	5.74	Nov. 27.....	6.49
June 3.....	3.85	Mar. 7, 1972..	6.06		
July 23.....	3.74	Apr. 12.....	4.76		
145-61-07AAA NDSWC 4314 Screened from 188 to 194 feet. Lsd 1485 feet above msl.					
Oct. 2, 1971..	17.69	June 6.....	14.31	Nov. 28.....	18.52
Apr. 28, 1972..	18.34	Oct. 19.....	18.39		
145-61-08CCC NDSWC 4315 Screened from 158 to 161 feet. Lsd 1475 feet above msl.					
Oct. 2, 1971..	7.87	June 6.....	8.28	Nov. 28.....	8.51
Apr. 28, 1972..	8.58	Oct. 19.....	8.44		
145-61-10CCC NDSWC 5891 Screened from 157 to 163 feet. Lsd 1470 feet above msl.					
Nov. 5, 1970..	4.13	Apr. 16.....	5.65	Oct. 2.....	5.50
Dec. 2.....	4.29	May 5.....	5.68	Apr. 28, 1972..	6.39
Jan. 21, 1971..	4.58	June 3.....	5.72	June 7.....	6.15
Feb. 16.....	4.82	July 23.....	5.42	Oct. 18.....	6.11
Mar. 30.....	5.39	Sept. 20.....	5.65	Nov. 28.....	6.26
145-61-11DDD NDSWC 4344 Screened from 157 to 163 feet. Lsd 1463 feet above msl.					
Sept. 22, 1971..	5.20	June 7, 1972..	4.77	Nov. 28.....	4.55
Oct. 2.....	5.00	Oct. 18.....	4.55		
145-61-16DDD NDSWC 4317 Screened from 138 to 141 feet. Lsd 1470 feet above msl.					
Sept. 20, 1971..	6.70	Apr. 28, 1972..	6.54	Oct. 18.....	6.36
Oct. 2.....	6.60	June 7.....	6.60	Nov. 28.....	6.37

Water level, in feet below or (+) above land surface

145-61-20BBB NDSWC 4316 Screened from 158 to 161 feet. Lsd 1484 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Sept. 20, 1971..	17.90	Apr. 28, 1972..	17.75	Oct. 19.....	18.10
Oct. 2.....	17.77	June 6.....	18.18	Nov. 28.....	18.21
145-61-20CCC NDSWC 4318 Screened from 58 to 61 feet. Lsd 1490 feet above msl.					
Sept. 20, 1971..	9.60	Apr. 28, 1972..	9.75	Nov. 28.....	10.28
Oct. 2.....	9.16	June 6.....	9.89		
Oct. 29.....	9.34	Oct. 19.....	10.18		
145-61-28AAA NDSWC 5892 Screened from 82 to 85 feet. Lsd 1470 feet above msl.					
Nov. 5, 1970..	3.13	Apr. 16.....	4.81	Apr. 28, 1972..	5.28
Nov. 5.....	3.20	May 5.....	4.68	June 7.....	7.35
Jan. 21, 1971..	3.73	June 3.....	4.42	Oct. 18.....	4.13
Feb. 16.....	4.09	July 2.....	3.92	Nov. 28.....	4.31
Mar. 30.....	4.70	Oct. 29.....	4.51		
145-61-32BBB NDSWC 4319 Screened from 68 to 71 feet. Lsd 1485 feet above msl.					
Oct. 2, 1971..	9.80	Apr. 28, 1972..	10.26	Oct. 19.....	10.17
Oct. 29.....	9.49	June 6.....	10.27	Nov. 28.....	10.35
145-61-34CBB NDSWC 5893 Screened from 47 to 50 feet. Lsd 1480 feet above msl.					
Nov. 5, 1970..	8.60	Apr. 16.....	8.33	Apr. 28, 1972..	7.84
Dec. 2.....	8.74	May 5.....	8.22	June 7.....	5.85
Jan. 21, 1971..	9.00	June 3.....	8.20	Oct. 19.....	8.20
Feb. 16.....	9.26	July 23.....	7.61	Nov. 28.....	8.46
Mar. 30.....	8.49	Oct. 2.....	7.96		
146-54-05BCC NDSWC 8370 Screened from 32 to 35 feet. Lsd 1097 feet above msl.					
Oct. 27, 1972..	15.00	Nov. 29.....	14.93		
146-54-34DDD NDSWC 8363 Screened from 67 to 70 feet. Lsd 1095 feet above msl.					
Oct. 26, 1972..	3.02	Nov. 30.....	3.56		
146-55-23BBA NDSWC 4292 Screened from 22 to 25 feet. Lsd 1140 feet above msl.					
Dec. 3, 1970..	12.71	June 3.....	13.50	Apr. 20, 1972..	13.75
Apr. 15, 1971..	13.09	July 22.....	13.00	June 9.....	13.31
May 6.....	13.69	Dec. 31.....	13.19		



Water level, in feet below or (+) above land surface

146-55-34DDD NDSWC 4295 Screened from 48 to 51 feet. Lsd 1150 feet above msl.

Date	Water level	Date	Water level	Date	Water level
May 5, 1971..	22.82	Oct. 6.....	21.48	Oct. 27.....	22.29
June 4.....	21.13	June 9, 1972..	22.28	Dec. 1.....	22.56

146-56-28BAB NDSWC 5615 Screened from 23 to 26 feet. Lsd 1390 feet above msl.

Dec. 10, 1969..	8.45	Sept. 4.....	8.57	Dec. 10.....	8.07
Jan. 6, 1970..	8.65	Oct. 1.....	8.67	Dec. 31.....	8.30
Feb. 3.....	8.93	Nov. 5.....	8.93	Mar. 8, 1972..	9.81
Mar. 4.....	9.45	Dec. 2.....	9.14	Apr. 19.....	8.39
Mar. 31.....	9.64	Apr. 22, 1971..	7.33	June 8.....	5.12
May 6.....	7.01	May 6.....	7.44	Oct. 20.....	9.34
June 6.....	4.44	June 3.....	6.92	Nov. 29.....	9.50
July 10.....	6.12	Sept. 18.....	8.43		
Aug. 5.....	7.39	Nov. 4.....	8.25		

146-58-01ABA NDSWC 8054 Screened from 117 to 123 feet. Lsd 1300 feet above msl.

Oct. 29, 1971..	5.90	Apr. 28.....	4.23	Nov. 28.....	6.70
Dec. 20.....	6.22	June 8.....	4.10		
Mar. 7, 1972..	6.65	Oct. 19.....	6.60		

146-58-26CBC NDSWC 8057 Screened from 138 to 143 feet. Lsd 1290 feet above msl.

Sept. 22, 1971..	8.50	Mar. 5.....	9.15	July 30.....	9.15
Oct. 15.....	8.52	Mar. 8.....	9.19	Aug. 5.....	9.07
Oct. 20.....	8.41	Mar. 10.....	9.22	Aug. 10.....	8.75
Oct. 25.....	8.26	Mar. 15.....	8.58	Aug. 15.....	8.85
Oct. 29.....	8.14	Mar. 20.....	8.65	Aug. 20.....	9.09
Oct. 31.....	8.21	Mar. 25.....	7.05	Aug. 25.....	9.07
Nov. 5.....	8.27	Mar. 31.....	6.56	Aug. 30.....	9.28
Nov. 10.....	8.34	Apr. 5.....	6.68	Sept. 5.....	9.26
Nov. 15.....	8.25	Apr. 10.....	6.77	Sept. 10.....	9.20
Nov. 20.....	8.19	Apr. 15.....	6.16	Sept. 15.....	9.18
Nov. 25.....	8.32	Apr. 20.....	5.86	Sept. 20.....	9.21
Nov. 30.....	8.19	Apr. 25.....	6.09	Sept. 25.....	9.16
Dec. 5.....	8.25	Apr. 30.....	6.20	Sept. 30.....	9.17
Dec. 10.....	8.30	May 5.....	5.41	Oct. 5.....	9.27
Dec. 15.....	8.38	May 10.....	6.56	Oct. 10.....	9.27
Dec. 20.....	8.43	May 15.....	6.66	Oct. 15.....	9.24
Dec. 25.....	8.68	May 20.....	7.02	Oct. 20.....	9.22
Dec. 31.....	8.61	May 25.....	6.26	Oct. 25.....	9.23
Jan. 5, 1972..	8.67	May 31.....	6.13	Oct. 26.....	9.15
Jan. 10.....	8.67	June 5.....	6.91	Oct. 30.....	9.19
Jan. 15.....	8.77	June 10.....	7.32	Nov. 5.....	9.19
Jan. 20.....	8.88	June 15.....	7.53	Nov. 10.....	9.19
Jan. 25.....	8.83	June 20.....	7.46	Nov. 15.....	9.18
Jan. 30.....	8.79	June 25.....	7.94	Nov. 20.....	9.26
Feb. 5.....	8.99	June 30.....	8.67	Nov. 25.....	9.29
Feb. 10.....	8.97	July 5.....	8.56	Nov. 30.....	9.40
Feb. 15.....	9.13	July 10.....	8.76	Dec. 5.....	9.40
Feb. 20.....	9.25	July 15.....	8.94	Dec. 10.....	9.50
Feb. 25.....	9.14	July 20.....	8.90	Dec. 15.....	9.53
Feb. 29.....	9.09	July 25.....	9.26	Dec. 20.....	9.57

Water level, in feet below or (+) above land surface

146-58-27BBB1 NDSWC 8058 Screened from 197 to 200 feet. Lsd 1430 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Oct. 29, 1971..	18.49	Apr. 28.....	15.56	Nov. 28.....	16.05
Dec. 20.....	16.61	June 8.....	14.54		
Mar. 7, 1972..	16.03	Oct. 19.....	16.12		
146-58-27BBB2 NDSWC 8058A Screened from 147 to 150 feet. Lsd 1430 feet above msl.					
Oct. 24, 1971..	17.81	Apr. 28.....	15.45	Nov. 28.....	15.11
Dec. 20.....	16.66	June 8.....	14.62		
Mar. 7, 1972..	15.91	Oct. 19.....	15.19		
146-58-27BBB3 NDSWC 8058B Screened from 97 to 100 feet. Lsd 1430 feet above msl.					
Sept. 30, 1971..	9.65	Mar. 7, 1972..	8.21	Oct. 19.....	8.19
Oct. 29.....	8.14	Apr. 28.....	7.93	Nov. 28.....	8.20
Dec. 20.....	8.20	June 8.....	7.88		
146-58-27BBB4 NDSWC 8058C Screened from 47 to 50 feet. Lsd 1430 feet above msl.					
Sept. 30, 1971..	6.97	Mar. 7, 1972..	7.17	Oct. 19.....	8.02
Oct. 29.....	5.93	Apr. 28.....	2.08	Nov. 28.....	8.14
Dec. 20.....	4.82	June 8.....	2.96		
146-58-27BBB5 NDSWC 8058D Screened from 17 to 20 feet. Lsd 1430 feet above msl.					
Sept. 30, 1971..	7.86	Apr. 28, 1972..	1.58	Nov. 28.....	8.08
Oct. 29.....	4.97	June 8.....	2.28		
Dec. 20.....	4.15	Oct. 19.....	7.77		
146-59-33CCC NDSWC 4339 Screened from 188 to 191 feet. Lsd 1440 feet above msl.					
Sept. 20, 1971..	6.80	June 7.....	6.00	Nov. 28.....	7.46
Apr. 28, 1972..	6.79	Oct. 19.....	7.32		
146-60-08BBB1 NDSWC 8302 Screened from 276 to 282 feet. Lsd 1465 feet above msl.					
June 7, 1972..	23.25	Oct. 18.....	25.26	Nov. 27.....	24.95
146-60-08CCD NDSWC 5885 Screened from 197 to 203 feet. Lsd 1460 feet above msl.					
Nov. 5, 1970..	18.21	May 5.....	18.44	Apr. 12.....	18.58
Dec. 2.....	18.19	June 3.....	18.48	Apr. 28.....	18.65
Jan. 21, 1971..	18.15	July 23.....	18.50	June 6.....	18.12
Feb. 16.....	18.24	Sept. 14.....	18.90	Oct. 18.....	20.57
Mar. 30.....	18.33	Dec. 20.....	18.16	Nov. 27.....	20.23
Apr. 22.....	18.45	Mar. 7, 1972..	18.63		

Water level, in feet below or (+) above land surface

146-60-09CCC NDSWC 8301 Screened from 222 to 228 feet. Lsd 1455 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1972..	18.72	Nov. 27.....	18.26		
146-60-10DDD NDSWC 8512 Screened from 97 to 103 feet. Lsd 1460 feet above msl.					
Oct. 17, 1972..	11.79	Nov. 27.....	11.84		
146-60-14AAA NDSWC 5887 Screened from 127 to 130 feet. Lsd 1450 feet above msl.					
Nov. 5, 1970..	10.66	Apr. 22.....	10.86	Apr. 28, 1972..	11.05
Dec. 2.....	10.69	May 5.....	10.52	June 6.....	9.84
Jan. 21, 1971..	11.05	June 3.....	10.10	Oct. 18.....	11.15
Mar. 30.....	11.44	July 23.....	9.87	Nov. 27.....	10.30
146-60-16AAA NDSWC 5886 Screened from 177 to 180 feet. Lsd 1455 feet above msl.					
Nov. 5, 1970..	13.02	June 3.....	13.23	Apr. 27.....	13.48
Dec. 2.....	12.96	July 23.....	13.28	June 6.....	13.12
Feb. 16, 1971..	12.89	Sept. 14.....	13.60	Oct. 18.....	15.32
Mar. 30.....	13.01	Dec. 20.....	13.36	Nov. 27.....	15.14
Apr. 22.....	13.22	Mar. 7, 1972..	13.45		
May 5.....	13.17	Apr. 12.....	13.49		
146-60-17ABB NDSWC 8304 Screened from 177 to 183 feet. Lsd 1460 feet above msl.					
June 7, 1972..	15.85	Oct. 18.....	18.61	Nov. 27.....	18.18
146-60-17ABC1 NDSWC 8304B Screened from 197 to 203 feet. Lsd 1455 feet above msl.					
June 7, 1972..	14.75	Oct. 18.....	14.87	Nov. 27.....	14.43
146-60-33CCC NDSWC 4345 Screened from 178 to 181 feet. Lsd 1442 feet above msl.					
Oct. 2, 1971..	11.33	June 7.....	11.18	Nov. 27.....	10.87
Apr. 28, 1972..	11.06	Oct. 18.....	10.81		
146-60-34BBB NDSWC 8300 Screened from 188 to 194 feet. Lsd 1442 feet above msl.					
Oct. 19, 1972..	1.25	Nov. 27.....	1.99		
146-60-36CCC NDSWC 8299 Screened from 177 to 183 feet. Lsd 1445 feet above msl.					
Oct. 19, 1972..	3.70	Nov. 28.....	3.49		

Water level, in feet below or (+) above land surface

146-61-02DCC NDSWC 5881 Screened from 187 to 193 feet. Lsd 1460 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Nov. 5, 1970..	18.19	May 5.....	18.28	Mar. 7, 1972..	18.93
Dec. 2.....	18.19	June 3.....	18.28	Apr. 12.....	18.75
Jan. 21, 1971..	18.28	July 23.....	18.35	Apr. 28.....	17.99
Feb. 16.....	18.40	Sept. 14.....	18.90	June 6.....	18.55
Apr. 16.....	18.34	Dec. 20.....	18.57		

146-61-08DDD NDSWC 4347 Screened from 128 to 131 feet. Lsd 1454 feet above msl.

Sept. 14, 1971..	13.10	Apr. 28.....	13.99	Oct. 18.....	13.62
Apr. 12, 1972..	13.83	June 6.....	12.87	Nov. 27.....	13.75

146-61-12CCC1 NDSWC 4346 Screened from 138 to 141 feet. Lsd 1465 feet above msl.

Dec. 20, 1971..	12.71	Apr. 27.....	12.10	Oct. 18.....	12.41
Apr. 12, 1972..	12.25	June 6.....	12.07	Nov. 27.....	11.17

146-61-12CCC2 NDSWC 4378 Screened from 541 to 550 feet. Lsd 1465 feet above msl.

Sept. 14, 1971..	12.10	Apr. 12.....	11.83	Oct. 18.....	12.07
Dec. 20.....	11.84	Apr. 27.....	12.23	Nov. 27.....	12.32
Mar. 7, 1972..	11.79	June 6.....	12.04		

146-61-14BAB1 NDSWC 8296 Screened from 172 to 178 feet. Lsd 1457 feet above msl.

June 7, 1972.	22.29	Oct. 18.....	23.32	Nov. 27.....	23.30
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146-61-15BBB NDSWC 5882 Screened from 137 to 140 feet. Lsd 1455 feet above msl.

Nov. 5, 1970..	21.06	May 5.....	20.96	Apr. 28.....	21.62
Dec. 2.....	21.05	June 3.....	21.07	June 6.....	21.52
Jan. 21, 1971..	21.14	July 23.....	21.23	Oct. 18.....	21.75
Mar. 30.....	21.10	Sept. 14.....	22.20	Nov. 27.....	21.71
Apr. 16.....	20.96	Apr. 12, 1972..	21.60		

146-61-19CCC NDSWC 2264 Slotted from 180 to 220 feet. Lsd 1474 feet above msl.

July 27, 1964..	13.38	Apr. 22.....	12.53	Apr. 10.....	11.04
Aug. 12.....	13.43	Apr. 30.....	12.60	Apr. 15.....	11.06
Aug. 18.....	13.40	May 18.....	12.57	Apr. 20.....	11.03
Sept. 22.....	13.06	June 17.....	12.52	Apr. 25.....	11.06
Sept. 24.....	13.05	July 13.....	12.20	Apr. 30.....	10.99
Oct. 14.....	12.75	Aug. 12.....	11.76	May 5.....	10.96
Nov. 19.....	12.61	Sept. 20.....	11.45	May 15.....	10.75
Nov. 24.....	12.57	Oct. 20.....	11.19	July 15.....	10.17
Nov. 25.....	12.55	Nov. 23.....	10.70	Aug. 5.....	10.12
Dec. 21.....	12.49	Jan. 11, 1966..	10.60	Aug. 10.....	10.11
Jan. 21, 1965..	12.53	Feb. 8.....	10.54	Aug. 15.....	10.08
Feb. 11.....	12.43	Mar. 25.....	10.97	Aug. 20.....	10.06
Mar. 30.....	12.63	Apr. 5.....	11.01	Aug. 25.....	10.10

Water level, in feet below or (+) above land surface

146-61-19CCC--Continued

Date	Water level	Date	Water level	Date	Water level
Aug. 31, 1966..	10.08	Oct. 20.....	10.25	Aug. 25.....	10.38
Sept. 5.....	10.10	Oct. 25.....	10.25	Aug. 30.....	10.35
Sept. 10.....	10.12	Oct. 30.....	10.26	Sept. 5.....	10.27
Sept. 15.....	10.13	Nov. 5.....	10.30	Sept. 10.....	10.30
Sept. 20.....	10.12	Nov. 10.....	10.29	Sept. 30.....	10.17
Sept. 25.....	10.13	Nov. 15.....	10.35	Oct. 5.....	10.18
Sept. 30.....	9.90	Nov. 20.....	10.35	Oct. 10.....	10.19
Oct. 5.....	9.97	Nov. 25.....	10.31	Oct. 15.....	10.17
Oct. 10.....	9.96	Nov. 30.....	10.40	Oct. 20.....	10.20
Oct. 15.....	9.95	Dec. 5.....	10.42	Oct. 25.....	10.23
Oct. 20.....	9.94	Dec. 10.....	10.41	Oct. 30.....	10.16
Oct. 25.....	9.93	Dec. 15.....	10.41	Nov. 5.....	10.22
Oct. 30.....	9.96	Dec. 20.....	10.45	Nov. 10.....	10.21
Nov. 5.....	9.95	Dec. 25.....	10.43	Nov. 15.....	10.16
Nov. 10.....	9.90	Dec. 30.....	10.53	Nov. 20.....	10.11
Nov. 15.....	9.96	Jan. 16, 1968..	10.52	Nov. 25.....	10.12
Nov. 20.....	10.00	Feb. 13.....	10.68	Nov. 30.....	10.10
Nov. 25.....	9.95	Mar. 5.....	10.91	Dec. 5.....	10.04
Nov. 30.....	10.03	Mar. 10.....	10.96	Dec. 20.....	10.06
Dec. 5.....	9.87	Mar. 15.....	11.00	Jan. 22, 1969..	10.02
Dec. 10.....	10.05	Mar. 20.....	11.08	Feb. 18.....	10.20
Dec. 15.....	9.96	Mar. 25.....	11.07	Mar. 20.....	10.31
Dec. 20.....	9.92	Mar. 30.....	11.18	Apr. 20.....	10.35
Dec. 25.....	10.04	Apr. 5.....	11.21	Apr. 30.....	10.38
Dec. 30.....	10.02	Apr. 10.....	11.22	May 5.....	10.30
Jan. 5, 1967..	9.98	Apr. 15.....	11.25	May 10.....	10.32
Jan. 10.....	9.95	Apr. 20.....	11.24	May 15.....	10.30
Jan. 15.....	10.04	Apr. 25.....	11.10	May 20.....	10.30
Jan. 20.....	9.97	Apr. 30.....	11.05	May 25.....	10.22
Jan. 25.....	10.07	May 5.....	11.10	May 30.....	10.06
Jan. 30.....	10.11	May 10.....	11.05	June 5.....	10.02
Feb. 13.....	10.06	May 15.....	11.00	June 10.....	10.01
Apr. 25.....	10.40	May 20.....	11.04	June 15.....	9.96
May 24.....	10.06	May 25.....	11.05	June 20.....	9.94
July 17.....	9.68	May 30.....	10.99	June 25.....	9.85
July 27.....	9.81	June 5.....	10.98	June 30.....	9.60
Aug. 5.....	9.87	June 10.....	10.75	July 5.....	9.60
Aug. 10.....	9.93	June 15.....	10.73	July 10.....	9.60
Aug. 15.....	9.92	June 20.....	10.66	July 15.....	9.60
Aug. 20.....	9.92	June 25.....	10.65	July 20.....	9.60
Aug. 25.....	10.02	June 30.....	10.55	July 25.....	9.55
Aug. 30.....	10.10	July 5.....	10.58	July 30.....	9.53
Sept. 5.....	10.10	July 10.....	10.58	Aug. 5.....	9.55
Sept. 10.....	10.13	July 15.....	10.56	Aug. 10.....	9.55
Sept. 15.....	10.07	July 20.....	10.55	Aug. 15.....	9.53
Sept. 20.....	10.11	July 25.....	10.49	Aug. 20.....	9.63
Sept. 26.....	10.18	July 30.....	10.55	Sept. 17.....	9.66
Sept. 30.....	10.17	Aug. 5.....	10.47	Nov. 18.....	9.76
Oct. 5.....	10.25	Aug. 10.....	10.53	Dec. 16.....	9.76
Oct. 10.....	10.20	Aug. 15.....	10.43		
Oct. 15.....	10.23	Aug. 20.....	10.47		

146-61-22BCC NDSWC 5883 Screened from 147 to 150 feet. Lsd 1455 feet above ms1.

Nov. 5, 1970..	20.94	Apr. 16.....	21.13	Apr. 28, 1972..	21.56
Dec. 2.....	20.95	May 5.....	21.09	June 6.....	21.39
Jan. 27, 1971..	21.70	June 3.....	21.16	Oct. 18.....	21.59
Feb. 16.....	21.19	July 23.....	21.25	Nov. 27.....	21.58
Mar. 30.....	21.15	Sept. 20.....	21.70		

Water level, in feet below or (+) above land surface

146-61-34BBB NDSWC 5889 Screened from 157 to 163 feet. Lsd 1465 feet above msl.					
Date	Water Level	Date	Water Level	Date	Water Level
Nov. 5, 1970..	31.30	May 5.....	31.68	Apr. 12, 1972..	32.26
Dec. 2.....	31.31	June 3.....	31.71	Apr. 28.....	32.24
Jan. 21, 1971..	31.50	July 2.....	31.73	June 7.....	31.83
Feb. 16.....	31.66	Sept. 20.....	32.20	Oct. 18.....	32.04
Mar. 30.....	31.68	Oct. 2.....	31.89	Nov. 27.....	32.01
Apr. 16.....	31.70	Oct. 29.....	31.93		
147-54-09CCC NDSWC 4031 Perforated from 28 to 38 feet. Lsd 1084 feet above msl.					
Aug. 5, 1970..	4.85	Mar. 6.....	10.07	Dec. 1.....	6.80
Sept. 4.....	6.36	Apr. 22.....	5.72	Dec. 31.....	8.40
Oct. 1.....	6.98	May 6.....	5.49	Apr. 19, 1972..	9.38
Nov. 5.....	6.98	June 3.....	4.78	June 5.....	8.75
Dec. 2.....	7.07	July 22.....	4.70	Oct. 27.....	11.18
Jan. 20, 1971..	8.70	Sept. 18.....	6.64		
Feb. 16.....	8.67	Nov. 4.....	6.42		
147-54-15ABB NDSWC 4032 Perforated from 70 to 80 feet. Lsd 1075 feet above msl.					
Mar. 6, 1971..	8.40	July 7.....	9.03	Apr. 19, 1972..	8.76
Apr. 22.....	8.92	July 22.....	9.07	June 5.....	9.03
May 6.....	9.02	Sept. 18.....	9.16	Oct. 27.....	9.57
June 3.....	9.09	Nov. 4.....	8.75	Nov. 29.....	9.69
147-54-18AAA NDSWC 4030 Perforated from 39 to 59 feet. Lsd 1092 feet above msl.					
Jan. 20, 1971..	12.35	May 6.....	12.50	Apr. 19, 1972..	11.81
Feb. 16.....	12.76	June 3.....	12.42	June 5.....	11.35
Mar. 6.....	13.17	July 22.....	11.79	Oct. 27.....	13.10
Apr. 22.....	12.51	Sept. 18.....	13.09	Nov. 29.....	13.51
147-54-18BBB SCS 8. Lsd 1100 feet above msl.					
Sept. 4, 1970..	4.97	Nov. 5.....	3.83	Sept. 18.....	3.40
Oct. 1.....	4.20	July 22, 1971..	1.85		
147-54-29BCC NDSWC 8374 Screened from 62 to 65 feet. Lsd 1092 feet above msl.					
Oct. 27, 1972..	1.09	Nov. 29.....	1.19		
147-54-29CCC NDSWC 4301 Screened from 40 to 43 feet. Lsd 1095 feet above msl.					
Dec. 2, 1970..	1.19	Oct. 27, 1972..	1.52	Nov. 29.....	1.63
May 6, 1971..	1.31				
147-54-31AAB NDSWC 8373 Screened from 72 to 75 feet. Lsd 1098 feet above msl.					
Oct. 27, 1972..	0.68	Nov. 29.....	0.79		

Water level, in feet below or (+) above land surface

147-54-31DAA NDSWC 8376 Screened from 27 to 30 feet. Lsd 1100 feet above ms1.

Date	Water level	Date	Water level	Date	Water level
Oct. 27, 1972..	6.20	Nov. 29.....	6.69		

147-55-01BBB SCS 6. Lsd 1120 feet above ms1.

Sept. 4, 1970..	4.32	Mar. 6, 1971..	4.36	July 22.....	2.24
Oct. 1.....	3.20	Apr. 22.....	2.67	Sept. 18.....	3.94
Nov. 5.....	2.94	May 6.....	3.53	Apr. 19, 1972..	3.64
Dec. 2.....	3.37	June 3.....	2.39	June 5.....	3.26

147-55-01CBB2 NDSWC 4026A Perforated from 19 to 39 feet. Lsd 1111 feet above ms1.

Aug. 5, 1970..	4.81	Feb. 16.....	8.55	Sept. 18.....	5.31
Sept. 4.....	6.26	Mar. 6.....	8.16	Apr. 19, 1972..	5.55
Oct. 1.....	3.55	Apr. 22.....	5.01	June 5.....	3.58
Nov. 5.....	3.38	May 6.....	5.40	Oct. 27.....	6.79
Dec. 2.....	4.29	June 3.....	3.63	Nov. 29.....	7.12
Jan. 20, 1971..	7.21	July 22.....	4.15		

147-55-11AAA SCS 2. Lsd 1120 feet above ms1.

Sept. 4, 1970..	4.69	Mar. 6.....	7.39	Apr. 19, 1972..	7.13
Oct. 1.....	3.15	Apr. 22.....	5.51	June 5.....	3.90
Nov. 5.....	2.59	May 6.....	5.64	Oct. 27.....	6.05
Dec. 2.....	3.96	June 3.....	3.04	Nov. 29.....	6.33
Jan. 20, 1971..	7.20	July 22.....	3.16		
Feb. 16.....	7.30	Sept. 18.....	5.54		

147-55-11ABA1 NDSWC 4027 Perforated from 20 to 40 feet. Lsd 1117 feet above ms1.

Aug. 5, 1970..	4.75	Feb. 16.....	7.57	July 22.....	4.70
Sept. 4.....	5.80	Mar. 6.....	7.61	Sept. 18.....	4.85
Oct. 1.....	4.60	Apr. 22.....	5.62	Apr. 19, 1972..	5.54
Nov. 5.....	4.35	May 6.....	5.80	June 5.....	3.06
Dec. 2.....	4.69	June 3.....	3.58		
Jan. 20, 1971..	6.54	June 28.....	3.84		

147-55-11ABA2 SCS. Lsd 1117 feet above ms1.

Sept. 4, 1970..	5.87	Jan. 20, 1971..	7.27	June 3.....	2.34
Oct. 1.....	3.56	Feb. 16.....	7.87	July 22.....	3.67
Nov. 5.....	3.42	Apr. 22.....	1.56		
Dec. 2.....	4.53	May 6.....	3.08		

147-55-11ABB NDSWC 4021 Screened from 35 to 38 feet. Lsd 1136 feet above ms1.

July 10, 1970..	9.67	Feb. 16.....	12.11	Dec. 1.....	9.67
Aug. 5.....	10.55	Mar. 6.....	12.43	Apr. 19, 1972..	9.69
Sept. 4.....	11.28	Apr. 22.....	10.88	June 5.....	9.17
Oct. 1.....	10.94	May 6.....	10.76	Oct. 27.....	10.70
Nov. 5.....	11.12	June 3.....	9.55	Nov. 29.....	10.94
Dec. 2.....	11.46	July 22.....	9.83		
Jan. 20, 1971..	11.65	Sept. 18.....	10.64		

Water level, in feet below or (+) above land surface

147-55-11ABC SCS. Lsd 1136 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Sept. 4, 1970..	6.47	May 6, 1971..	4.88	Oct. 27, 1972..	5.95
Oct. 1.....	5.01	June 3.....	4.20	Nov. 29.....	6.35
Nov. 5.....	5.27	July 22.....	5.16		
Dec. 2.....	5.53	Sept. 18.....	5.30		

147-55-11CCC NDSWC 4023 Screened from 39 to 42 feet. Lsd 1142 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
July 10, 1970..	5.18	Mar. 6.....	8.09	Dec. 31.....	6.56
Aug. 5.....	5.10	Apr. 22.....	6.31	Mar. 8, 1972..	8.57
Sept. 4.....	7.17	May 6.....	6.14	Apr. 19.....	6.45
Oct. 1.....	5.90	June 3.....	5.13	June 5.....	4.58
Nov. 5.....	5.89	June 28.....	5.14	Oct. 27.....	6.79
Dec. 2.....	6.32	July 22.....	5.75	Nov. 29.....	7.10
Jan. 20, 1971..	7.88	Sept. 18.....	6.45		
Feb. 16.....	8.43	Dec. 1.....	5.30		

147-55-12BBB1 NDSWC 4025 Perforated from 19 to 39 feet. Lsd 1108 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Aug. 5, 1970..	5.30	Mar. 6.....	7.22	Dec. 1.....	4.40
Sept. 4.....	7.04	Apr. 22.....	3.57	Dec. 31.....	6.20
Oct. 1.....	4.09	May 6.....	3.73	Mar. 8, 1972..	8.80
Nov. 5.....	4.24	June 3.....	3.60	Apr. 19.....	4.90
Dec. 2.....	4.83	June 28.....	3.12	June 5.....	3.91
Jan. 20, 1971..	6.46	July 22.....	3.55	Oct. 27.....	6.93
Feb. 16.....	7.95	Sept. 18.....	5.06	Nov. 29.....	7.31

147-55-12BBB2 SCS. Lsd 1108 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
Sept. 3, 1970..	6.32	Feb. 16.....	6.12	Sept. 18.....	3.90
Oct. 1.....	2.81	Mar. 6.....	4.64	Apr. 19, 1972..	1.77
Nov. 5.....	2.50	May 6.....	1.50	June 5.....	1.25
Dec. 2.....	3.28	June 3.....	1.89	Oct. 27.....	5.25
Jan. 20, 1971..	5.49	July 22.....	1.92	Nov. 29.....	5.48

147-55-12DDD NDSWC 4029 Perforated from 27 to 47 feet. Lsd 1103 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
July 10, 1970..	7.16	Dec. 2.....	8.90	June 3.....	5.84
Aug. 5.....	8.44	Jan. 20, 1971..	10.51	July 22.....	5.64
Sept. 4.....	9.87	Feb. 16.....	6.12	Sept. 18.....	8.18
Oct. 1.....	9.08	Mar. 6.....	11.58	Nov. 4.....	7.00
Nov. 5.....	9.04	May 6.....	6.12		

147-55-13BAA NDSWC 4028 Perforated from 19 to 39 feet. Lsd 1105 feet above msl.					
Date	Water level	Date	Water level	Date	Water level
July 10, 1970..	4.90	Feb. 16.....	9.54	Sept. 18.....	5.96
Aug. 5.....	6.89	Mar. 6.....	9.98	Apr. 19, 1972..	8.42
Sept. 4.....	7.98	Apr. 22.....	8.69	June 5.....	5.97
Oct. 1.....	8.08	May 6.....	8.45	Oct. 27.....	6.47
Nov. 5.....	8.50	June 3.....	6.21	Nov. 29.....	6.86
Dec. 2.....	8.43	June 28.....	6.11		
Jan. 20, 1971..	8.87	July 22.....	5.87		



Water level, in feet below or (+) above land surface

147-55-13BBB NDSWC 4024 Perforated from 19 to 39 feet. Lsd 1108 feet above msl.

Date	Water level	Date	Water level	Date	Water level
July 10, 1970..	2.49	Jan. 20, 1971..	4.92	July 22.....	2.77
Aug. 5.....	3.79	Feb. 16.....	7.71	Sept. 18.....	3.30
Sept. 4.....	5.36	Mar. 6.....	7.66	Apr. 19, 1972..	6.03
Oct. 7.....	4.08	Apr. 22.....	4.68	June 5.....	2.05
Nov. 5.....	4.71	May 6.....	4.38		
Dec. 2.....	4.96	June 3.....	2.68		

147-55-14CDC NDSWC 4304 Screened from 38 to 41 feet. Lsd 1140 feet above msl.

Dec. 3, 1970..	11.10	July 22.....	11.09	Apr. 19.....	10.69
Mar. 6, 1971..	11.92	Sept. 18.....	11.85	June 5.....	10.01
Apr. 22.....	10.81	Dec. 1.....	11.20	Oct. 27.....	11.44
May 6.....	10.81	Dec. 31.....	11.52	Nov. 29.....	11.29
June 3.....	10.70	Mar. 8, 1972..	12.42		

147-55-35CDC NDSWC 4017 Screened from 39 to 42 feet. Lsd 1135 feet above msl.

July 15, 1970..	5.68	Feb. 17, 1971..	6.65	Apr. 20, 1972..	7.70
Aug. 5.....	5.80	Mar. 20.....	6.94	June 9.....	7.97
Sept. 3.....	6.14	Apr. 15.....	7.24	Oct. 27.....	8.18
Oct. 1.....	5.90	May 6.....	7.40	Nov. 29.....	8.37
Nov. 4.....	5.92	June 3.....	7.47		
Dec. 2.....	5.99	July 22.....	5.93		

147-56-26DDD NDSWC 4285 Perforated from 18 to 38 feet. Lsd 1295 feet above msl.

Nov. 5, 1970..	3.29	May 6.....	3.85	Mar. 8, 1972..	5.50
Dec. 3.....	3.54	June 3.....	2.51	Apr. 19.....	3.97
Jan. 20, 1971..	5.10	July 22.....	2.38	June 5.....	1.44
Feb. 17.....	6.00	Sept. 18.....	2.69	Oct. 27.....	2.79
Mar. 20.....	5.45	Nov. 4.....	1.95	Nov. 29.....	3.05
Apr. 22.....	4.05	Dec. 31.....	2.35		

147-57-02BBB3 NDSWC 4280 Screened from 52 to 55 feet. Lsd 1520 feet above msl.

Nov. 5, 1970..	25.26	June 3.....	27.09	Mar. 8, 1972..	28.30
Dec. 2.....	25.68	July 7.....	25.50	Apr. 19.....	27.28
Jan. 21, 1971..	26.94	July 22.....	27.21	June 5.....	24.07
Feb. 16.....	27.58	Sept. 18.....	26.83	Oct. 27.....	24.85
Mar. 20.....	27.90	Nov. 4.....	25.45	Nov. 29.....	25.32
Apr. 22.....	27.58	Dec. 10.....	25.06		
May 6.....	25.98	Dec. 31.....	27.42		

147-57-02CCC NDSWC 4279 Screened from 58 to 61 feet. Lsd 1505 feet above msl.

Nov. 5, 1970..	16.01	May 6.....	17.06	Apr. 19, 1972..	17.10
Dec. 2.....	16.14	June 3.....	16.83	June 5.....	14.30
Jan. 21, 1971..	16.83	July 7.....	15.96	Oct. 27.....	15.67
Feb. 16.....	17.31	July 22.....	15.65	Nov. 29.....	16.01
Mar. 20.....	17.68	Sept. 18.....	16.10		
Apr. 22.....	17.33	Nov. 4.....	15.55		

Water level, in feet below or (+) above land surface

147-58-27BBB NDSWC 5912 Screened from 62 to 68 feet. Lsd 1325 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Dec. 2, 1970..	24.54	Apr. 22.....	23.95	Apr. 28, 1972..	24.04
Jan. 21, 1971..	25.04	May 6.....	23.16	June 8.....	22.74
Feb. 16.....	25.34	June 3.....	23.08	Oct. 19.....	25.02
Mar. 30.....	25.21	July 23.....	22.83	Nov. 27.....	25.53

147-60-07DDD NDSWC 5880 Screened from 52 to 55 feet. Lsd 1515 feet above msl.

Nov. 5, 1970..	14.78	May 8.....	14.50	Apr. 12.....	15.23
Dec. 2.....	14.98	June 3.....	14.56	Apr. 27.....	14.85
Jan. 21, 1971..	15.19	July 23.....	14.62	June 6.....	15.40
Feb. 16.....	15.35	Sept. 14.....	15.00	Oct. 17.....	15.30
Mar. 30.....	15.50	Dec. 20.....	15.18	Nov. 27.....	15.48
Apr. 16.....	14.44	Mar. 7, 1972..	15.65		

147-60-09CCC NDSWC 4356 Screened from 157 to 160 feet. Lsd 1520 feet above msl.

Nov. 24, 1971..	20.10	Apr. 12.....	20.47	Oct. 17.....	20.39
Dec. 20.....	20.22	Apr. 27.....	20.25	Nov. 27.....	20.56
Mar. 7, 1972..	20.97	June 6.....	19.73		

147-60-31ABB NDSWC 8303 Screened from 216 to 222 feet. Lsd 1480 feet above msl.

June 6, 1972..	29.55	Oct. 18.....	41.54	Nov. 27.....	41.16
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147-61-01CCC NDSWC 4358 Screened from 237 to 240 feet. Lsd 1525 feet above msl.

Sept. 14, 1971..	28.05	Oct. 18.....	28.38	Nov. 27.....	28.26
Apr. 28, 1972..	28.25				

147-61-05BBB NDSWC 5879 Screened from 197 to 203 feet. Lsd 1510 feet above msl.

Nov. 5, 1970..	4.89	Apr. 22.....	6.03	Dec. 20.....	5.11
Dec. 2.....	5.27	May 7.....	5.03	Apr. 27, 1972..	5.69
Jan. 21, 1971..	5.35	June 3.....	5.77	June 6.....	7.00
Feb. 16.....	5.48	July 23.....	5.44	Oct. 17.....	5.54
Mar. 30.....	5.92	Sept. 14.....	5.60	Nov. 27.....	5.57

147-61-22DDD NDSWC 4353 Screened from 297 to 303 feet. Lsd 1505 feet above msl.

Sept. 14, 1971..	45.60	Oct. 18.....	45.90	Nov. 27.....	45.88
June 6, 1972..	37.34				

147-61-24BBB NDSWC 4354 Screened from 217 to 220 feet. Lsd 1475 feet above msl.

Sept. 14, 1971..	31.00	Apr. 28.....	31.36	Oct. 18.....	32.92
Apr. 12, 1972..	31.27	June 6.....	30.97	Nov. 27.....	32.41

Water level, in feet below or (+) above land surface

147-61-27CCC NDSWC 4352 Screened from 187 to 193 feet. Lsd 1495 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Sept. 14, 1971..	47.30	June 6.....	46.31	Nov. 27.....	46.61
Apr. 28, 1972..	46.61	Oct. 18.....	46.69		

148-55-30AAA NDSWC 4019 Screened from 53 to 56 feet. Lsd 1244 feet above msl.

June 27, 1970..	5.05	Dec. 2.....	7.80	July 22.....	6.67
July 10.....	5.99	Feb. 16, 1971..	10.37	Apr. 19, 1972..	9.29
Aug. 5.....	7.47	Mar. 20.....	10.29	June 5.....	6.43
Sept. 4.....	8.65	Apr. 22.....	8.79	Oct. 27.....	10.14
Oct. 1.....	7.60	May 6.....	8.55	Nov. 29.....	10.70
Nov. 5.....	7.83	June 3.....	6.86		

148-56-18CCC NDSWC 4282 Slotted from 38 to 58 feet. Lsd 1470 feet above msl.

Nov. 5, 1970..	8.52	May 6.....	12.14	June 5.....	10.15
July 2.....	9.04	June 3.....	11.34	Oct. 26.....	10.80
Jan. 21, 1971..	10.74	July 22.....	10.18	Nov. 29.....	10.90
Mar. 20.....	12.10	Sept. 18.....	10.60		
Apr. 22.....	12.19	Apr. 19, 1972..	11.74		

148-57-08DDD NDSWC 4281 Screened from 58 to 61 feet. Lsd 1515 feet above msl.

Nov. 5, 1970..	13.22	Apr. 22.....	15.15	Sept. 18.....	11.67
Dec. 2.....	13.27	May 6.....	14.98	Apr. 19, 1972..	13.83
Jan. 21, 1971..	14.24	June 3.....	14.76	June 5.....	13.90
Feb. 16.....	14.79	July 7.....	14.01	Oct. 27.....	12.70
Mar. 20.....	15.31	July 22.....	13.79	Nov. 29.....	12.72

148-58-13CDD NDSWC 8061 Screened from 42 to 45 feet. Lsd 1500 feet above msl.

Oct. 2, 1971..	22.63	June 5, 1972..	21.97	Oct. 19.....	22.09
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148-59-13BAB NDSWC 5910 Screened from 157 to 163 feet. Lsd 1340 feet above msl.

Dec. 2, 1970..	14.76	Apr. 22.....	13.24	Apr. 28, 1972..	14.77
Jan. 21, 1971..	14.97	May 6.....	13.16	June 5.....	14.89
Feb. 16.....	15.07	June 3.....	13.70	Oct. 19.....	16.72
Mar. 30.....	14.80	July 23.....	13.58	Nov. 28.....	16.18

148-59-26BDB NDSWC 8040 Screened from 157 to 163 feet. Lsd 1330 feet above msl.

Apr. 28, 1972..	9.49	Oct. 19.....	11.33	Nov. 28.....	11.53
June 5.....	9.58				

Water level, in feet below or (+) above land surface

148-59-36AAB NDSWC 8048 Screened from 137 to 143 feet. Lsd 1320 feet above msl.

Date	Water level	Date	Water level	Date	Water level
Oct. 2, 1971..	8.99	June 5.....	7.07	Nov. 28.....	9.45
Apr. 28, 1972..	7.83	Oct. 19.....	9.33		

148-60-18BBA NDSWC 4361 Screened from 88 to 91 feet. Lsd 1495 feet above msl.

Sept. 14, 1971..	26.90	Apr. 27.....	25.98	Nov. 27.....	26.86
Dec. 20.....	26.40	June 6.....	25.47		
Mar. 7, 1972..	27.05	Oct. 17.....	26.78		

148-61-07BAB NDSWC 5876 Screened from 237 to 243 feet. Lsd 1525 feet above msl.

Nov. 5, 1970..	+2.19	Apr. 22.....	+2.45	Apr. 27, 1972..	+1.90
Nov. 9.....	+2.00	May 7.....	+2.47	June 6.....	+ .36
Dec. 2.....	+2.51	June 3.....	+1.94		
Apr. 22, 1971..	+2.45	July 23.....	+ .45		

148-61-10CCC2 NDSWC 4365 Screened from 398 to 407 feet. Lsd 1615 feet above msl.

Sept. 20, 1971..	218.2	June 6.....	217.50	Nov. 27.....	216.40
Apr. 27, 1972..	217.02	Oct. 28.....	216.68		

148-61-11AAA2 NDSWC 5878A Screened from 72 to 78 feet. Lsd 1530 feet above msl.

Nov. 5, 1970..	26.15	Apr. 22.....	25.40	Apr. 27, 1972..	25.83
Dec. 2.....	26.22	May 7.....	25.43	June 6.....	25.59
Jan. 21, 1971..	26.29	June 3.....	25.49	Oct. 17.....	25.78
Feb. 16.....	26.34	July 23.....	25.74	Nov. 27.....	25.87
Mar. 30.....	26.27	Sept. 14.....	26.20		

148-61-20AAA NDSWC 4366 Screened from 217 to 220 feet. Lsd 1608 feet above msl.

Sept. 14, 1971..	85.50	Oct. 17.....	84.81	Nov. 27.....	84.68
Apr. 27, 1972..	84.45				

148-61-23AAA NDSWC 4363 Screened from 258 to 261 feet. Lsd 1530 feet above msl.

Sept. 14, 1971..	131.80	Apr. 27, 1972..	129.85	Oct. 28.....	130.09
Dec. 20.....	129.81	June 6.....	129.76	Nov. 27.....	130.18

TABLE 3.--Logs of wells and test holes

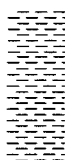
EXPLANATION



Till



Sand or sandstone



Clay



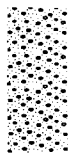
Shale



Silt or siltstone



Calcareous shale



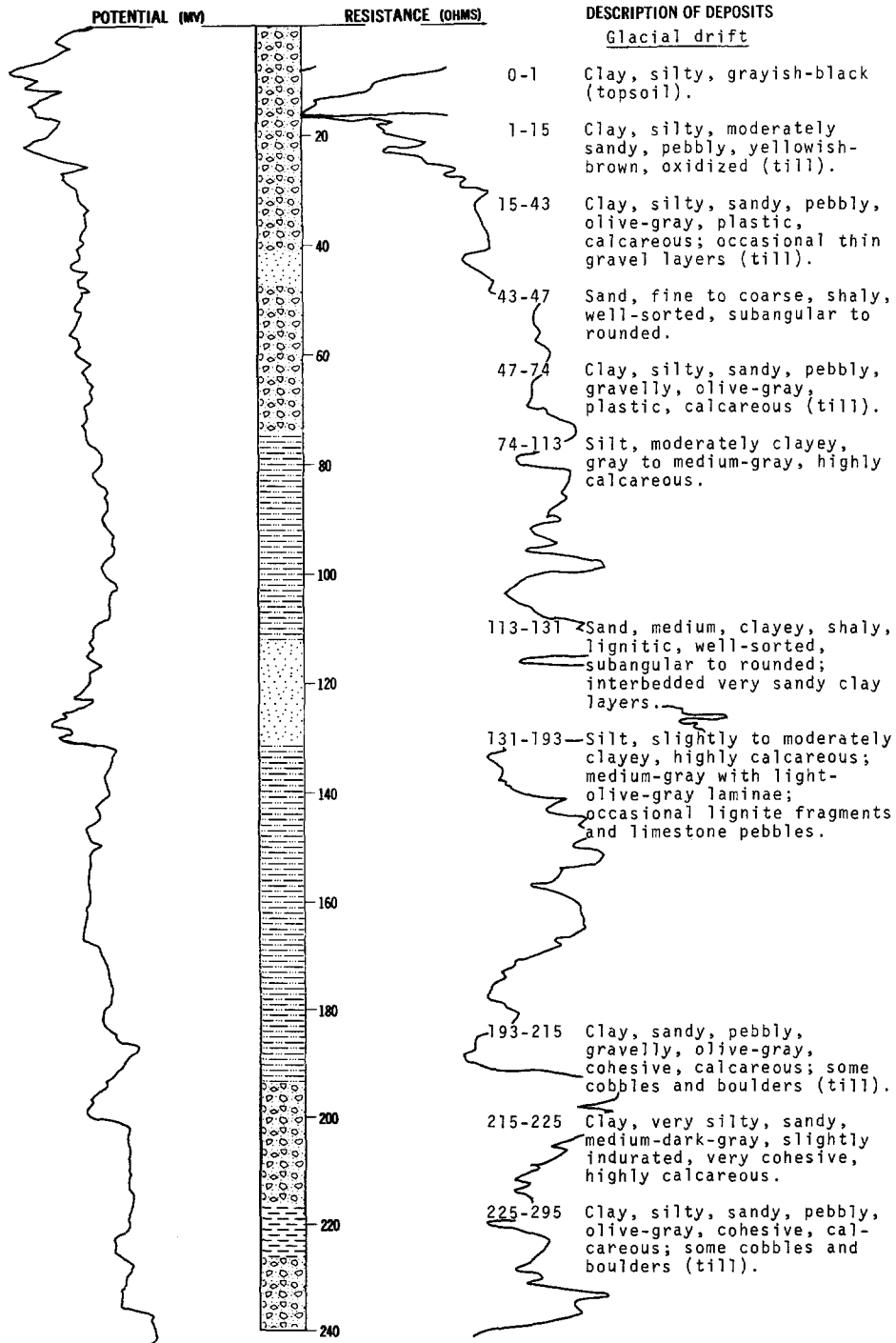
Gravel

LOCATION: 144-54-01ABB

DATE DRILLED: June 1972

ALTITUDE: 1120  
(FT, MSL)

DEPTH: 300  
(FT)



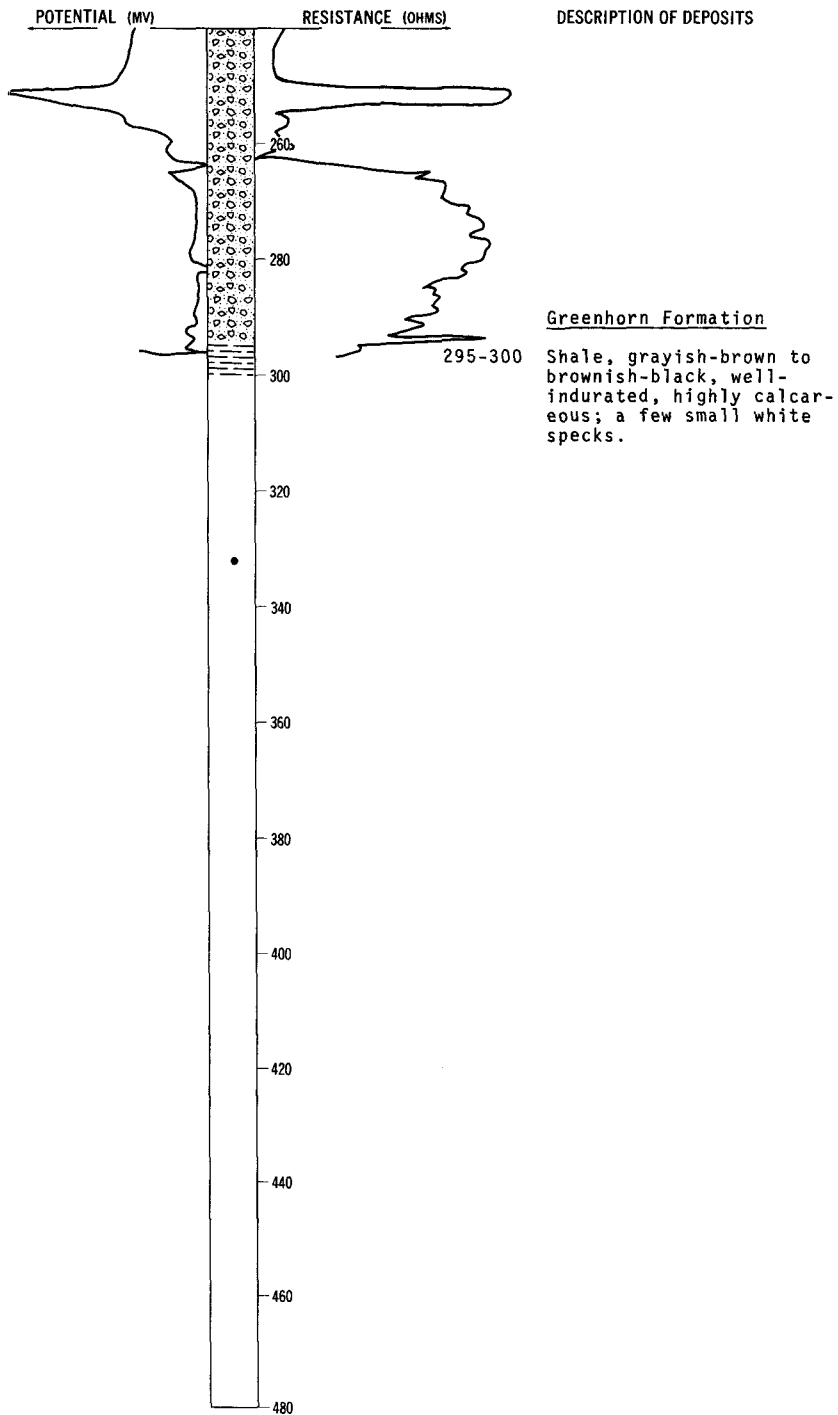
NDSWC 8356, Continued

LOCATION: 144-54-01ABB

DATE DRILLED: June 1972

ALTITUDE: 1120  
(FT, MSL)

DEPTH: 300  
(FT)

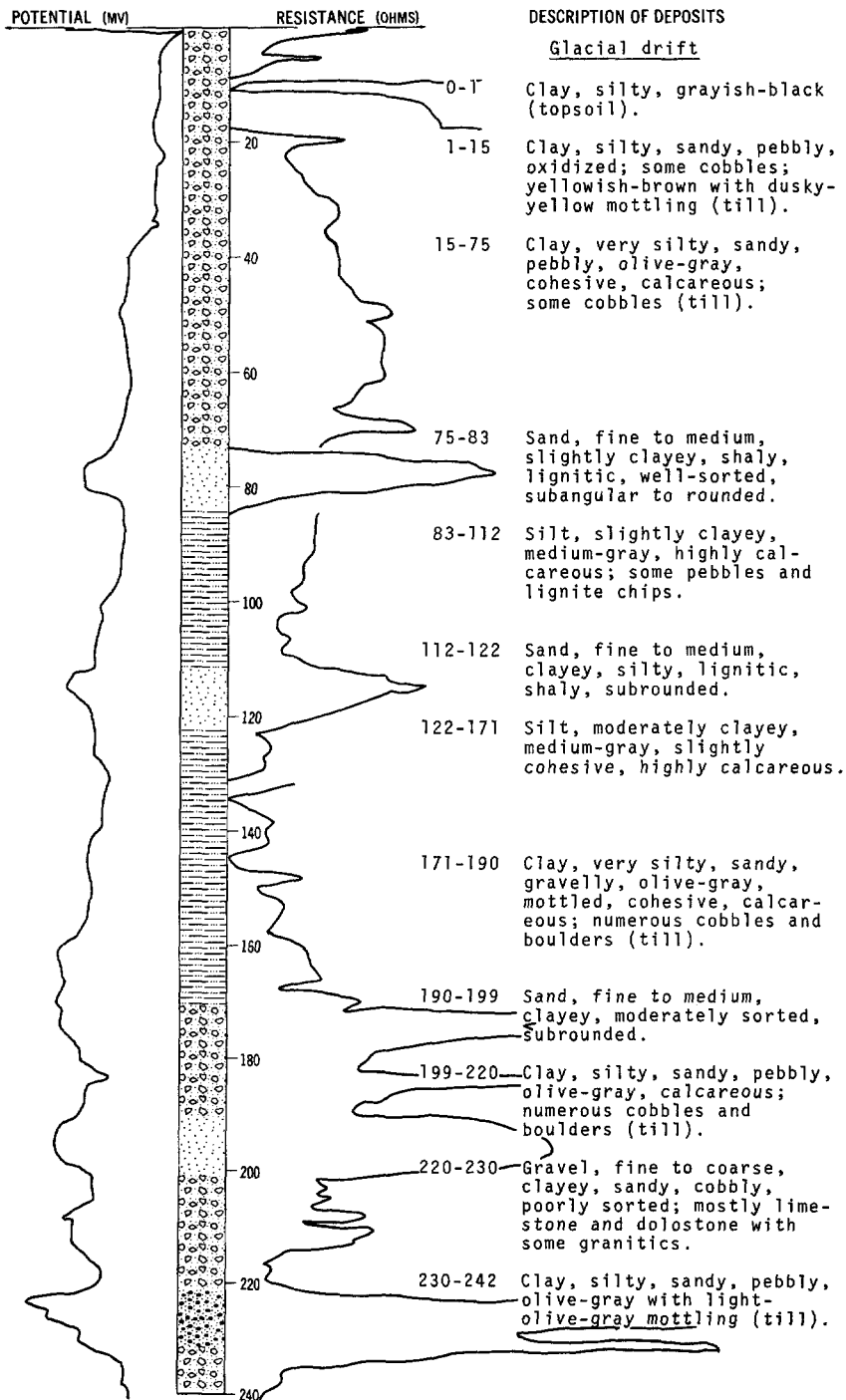


LOCATION: 144-54-05AAA

DATE DRILLED: June 1972

ALTITUDE: 1145  
(FT, MSL)

DEPTH: 300  
(FT)





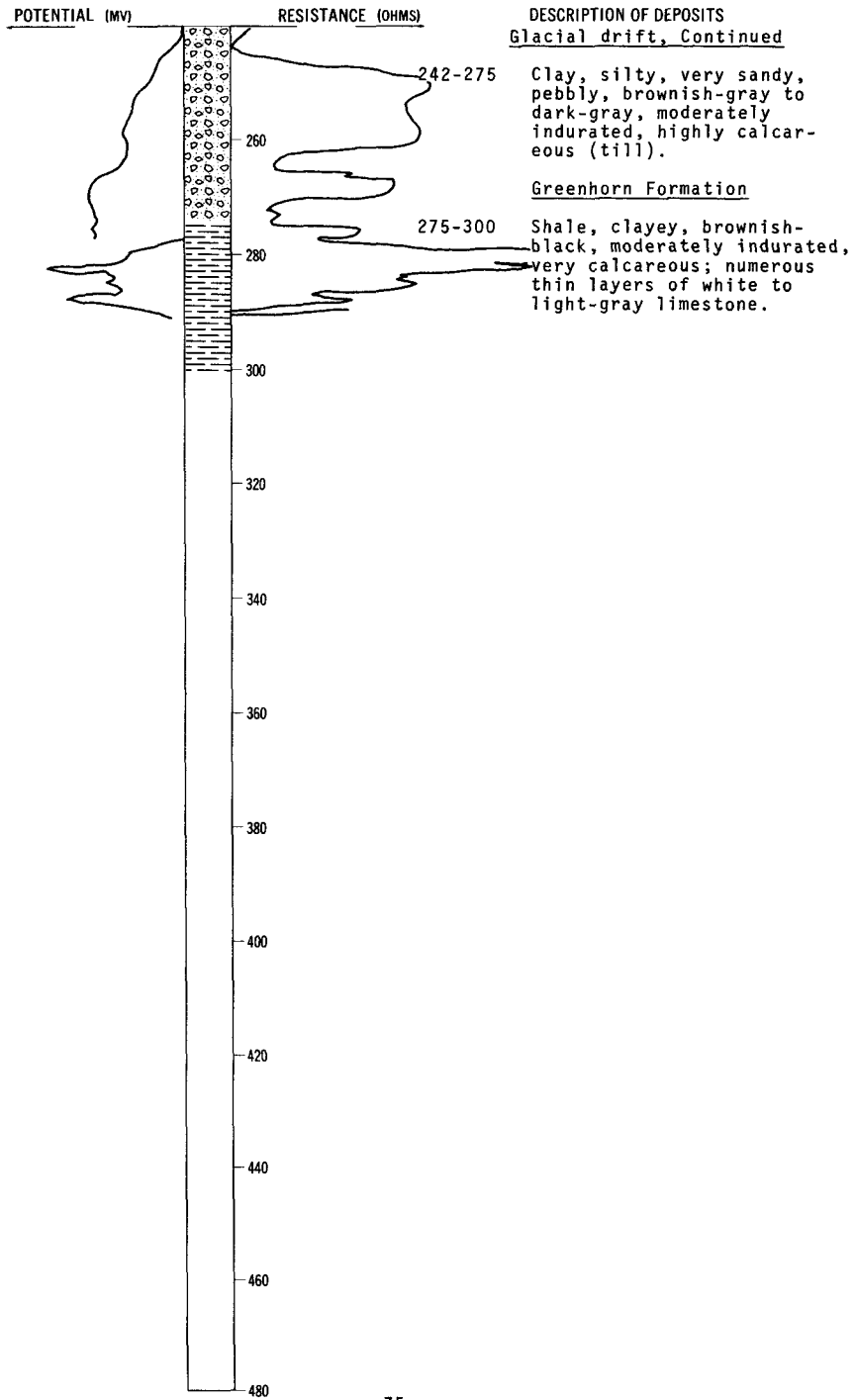
NDSWC 8357, Continued

LOCATION: 144-54-05AAA

DATE DRILLED: June 1972

ALTITUDE: 1145  
(FT, MSL)

DEPTH: 300  
(FT)

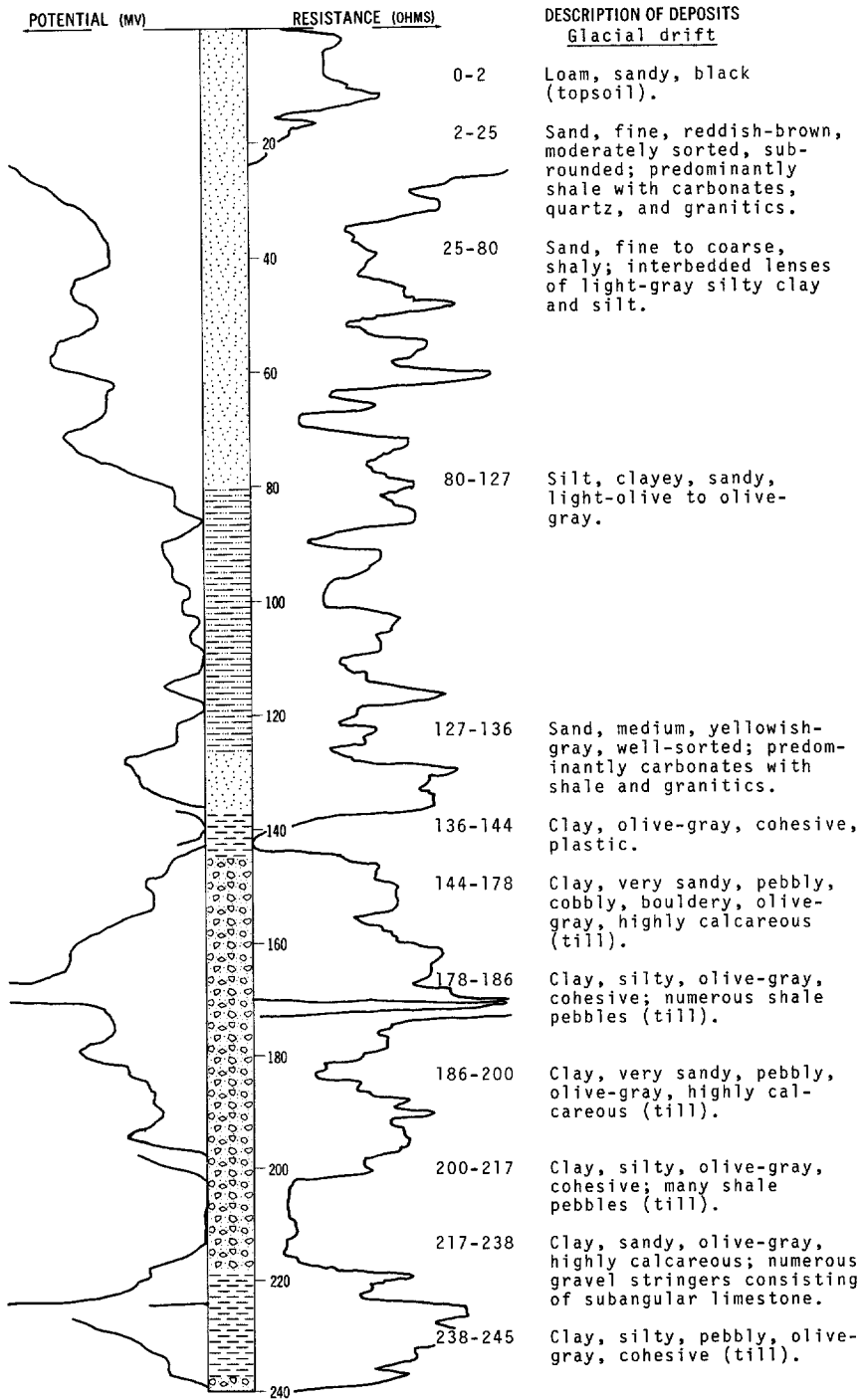


LOCATION: 144-54-18AAA

DATE DRILLED: June 1970

ALTITUDE: 1165  
(FT, MSL)

DEPTH: 300  
(FT)



NDSWC 3987, Continued

LOCATION: 144-54-18AAA

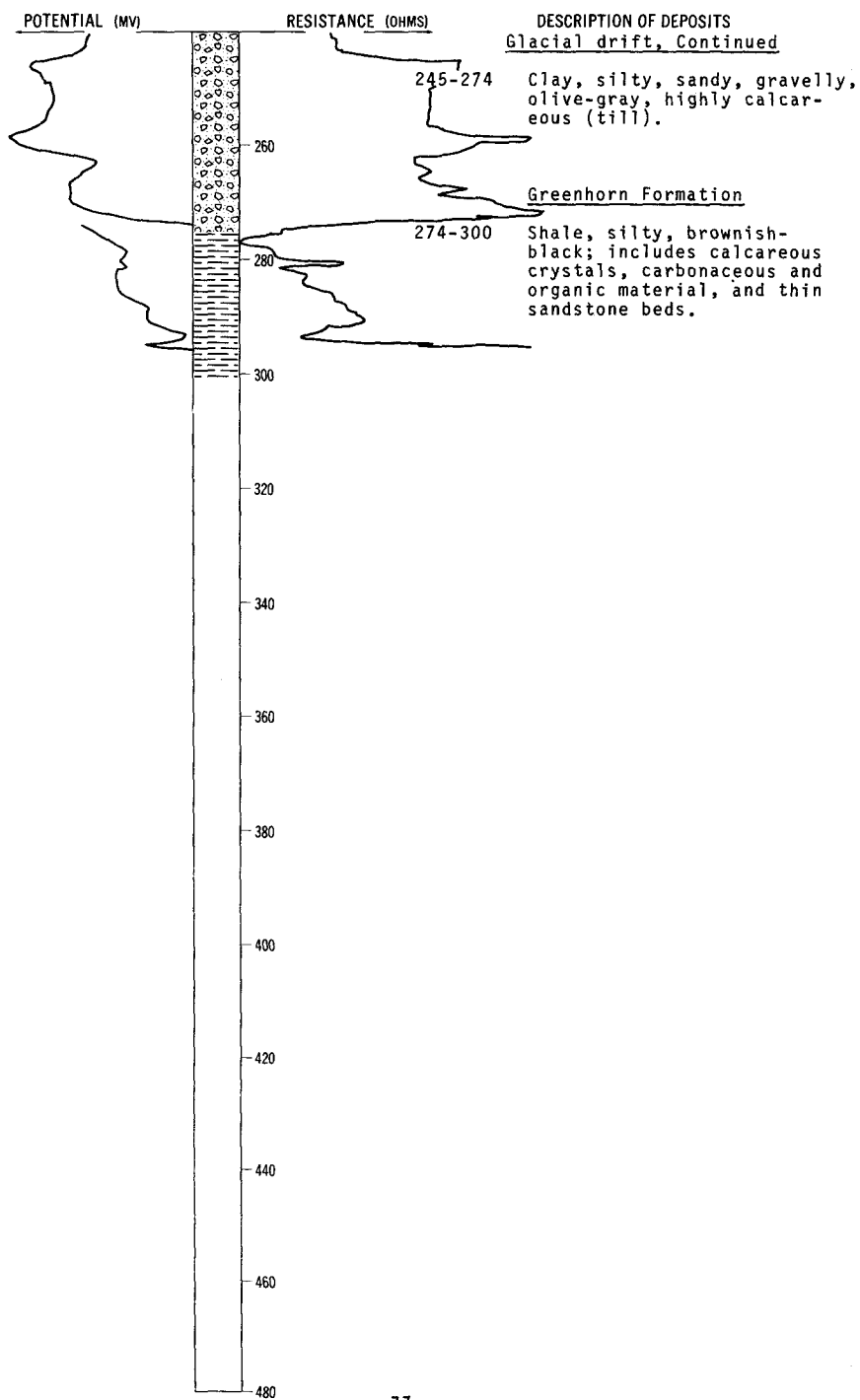
DATE DRILLED: June 1970

ALTITUDE: 1165

DEPTH: 300

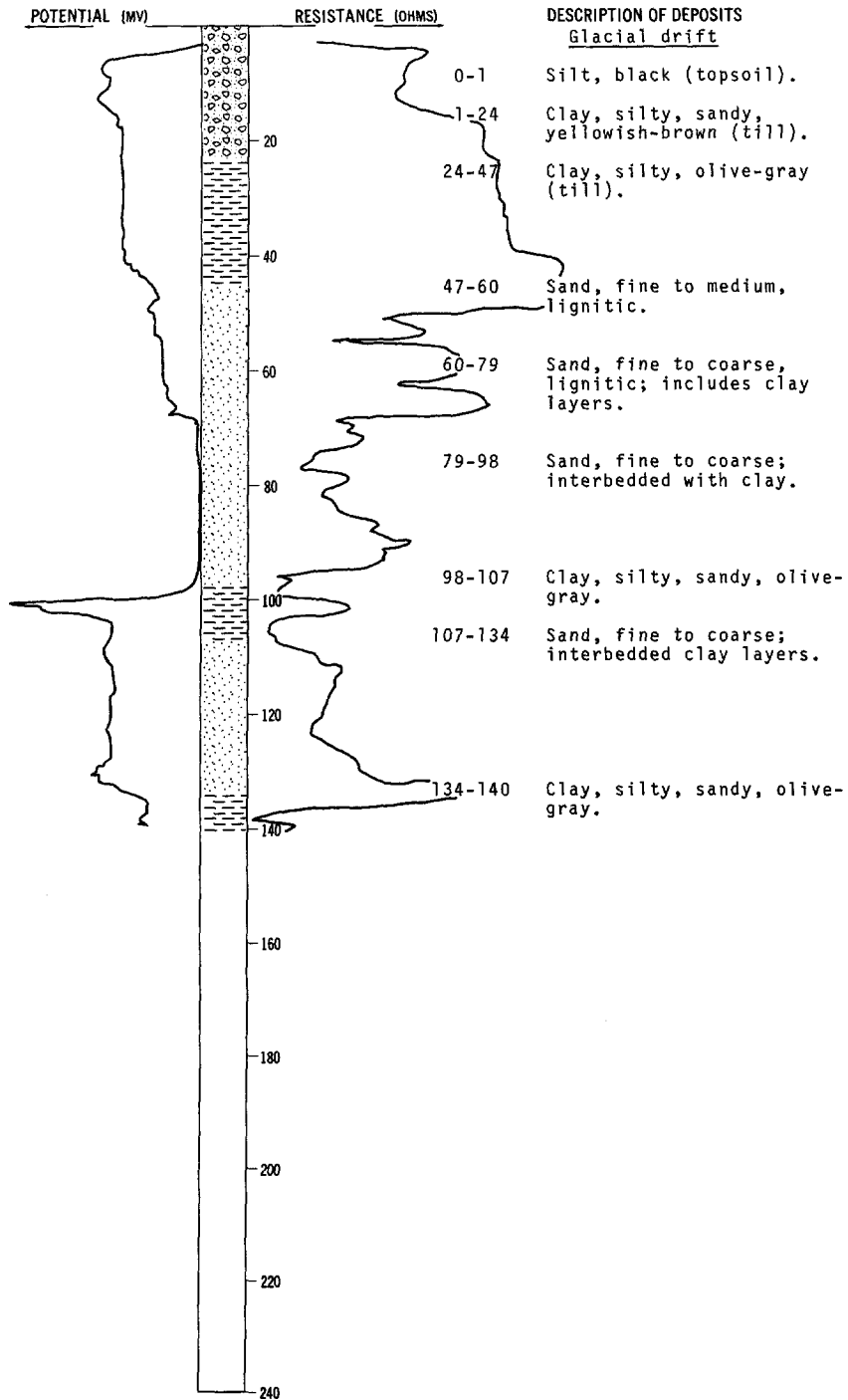
(FT, MSL)

(FT)



LOCATION: 144-54-22DCD2  
 ALTITUDE: 1155  
 (FT, MSL)

DATE DRILLED: August 1971  
 DEPTH: 140  
 (FT)

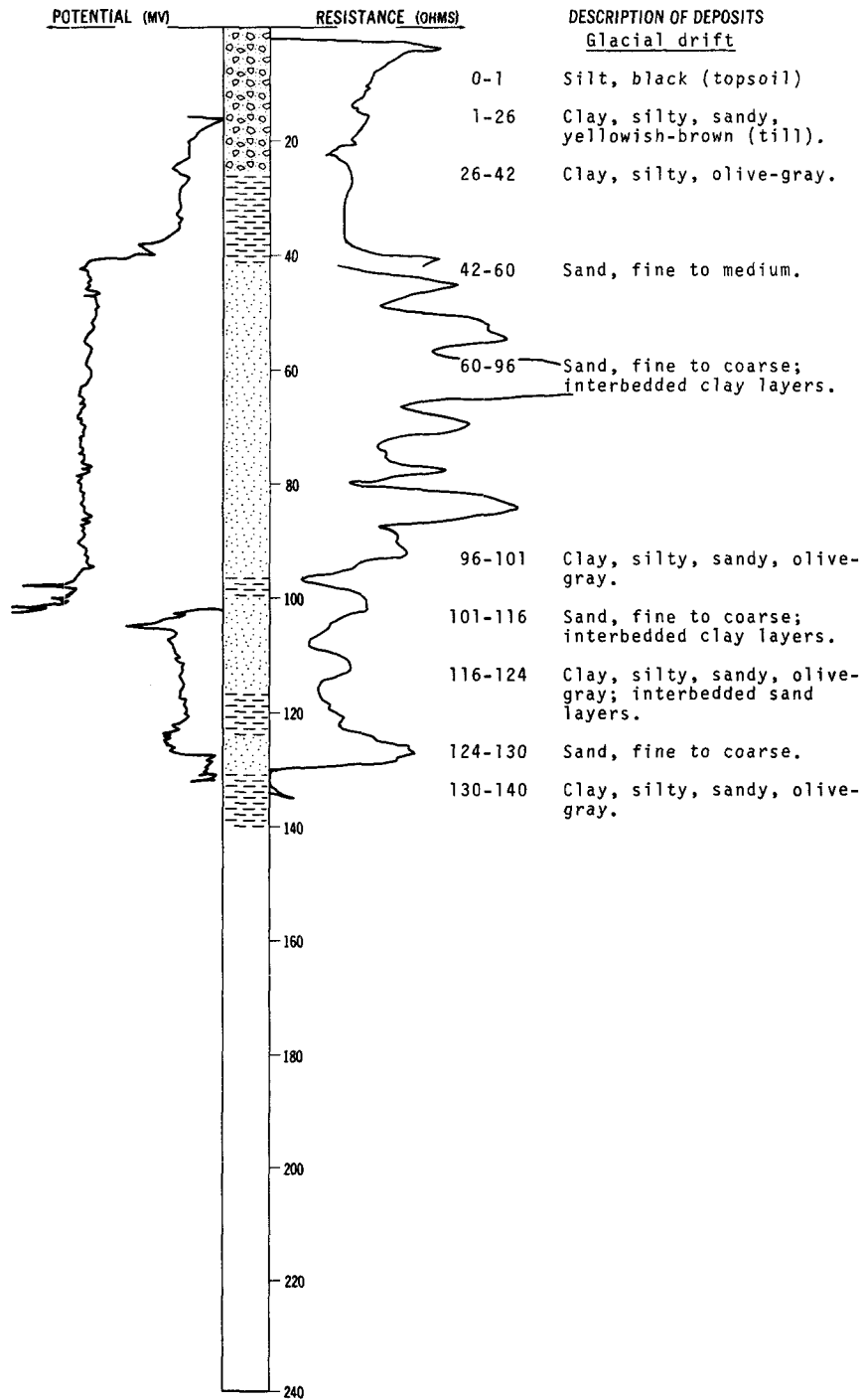


LOCATION: 144-54-22DCD3

DATE DRILLED: August 1971

ALTITUDE: 1156  
(FT, MSL)

DEPTH: 140  
(FT)

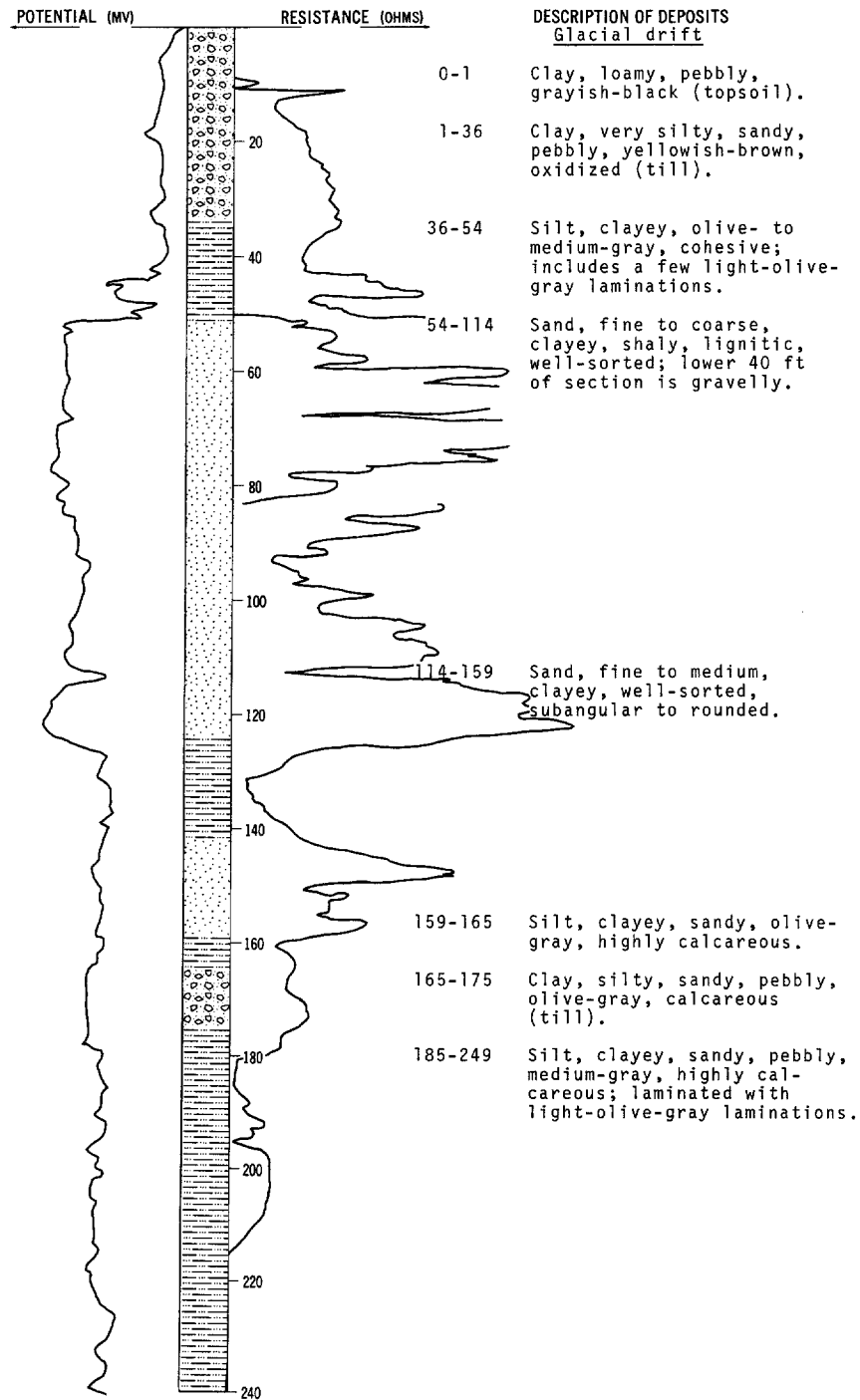


LOCATION: 144-54-24DDD

DATE DRILLED: June 1972

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 340  
(FT)



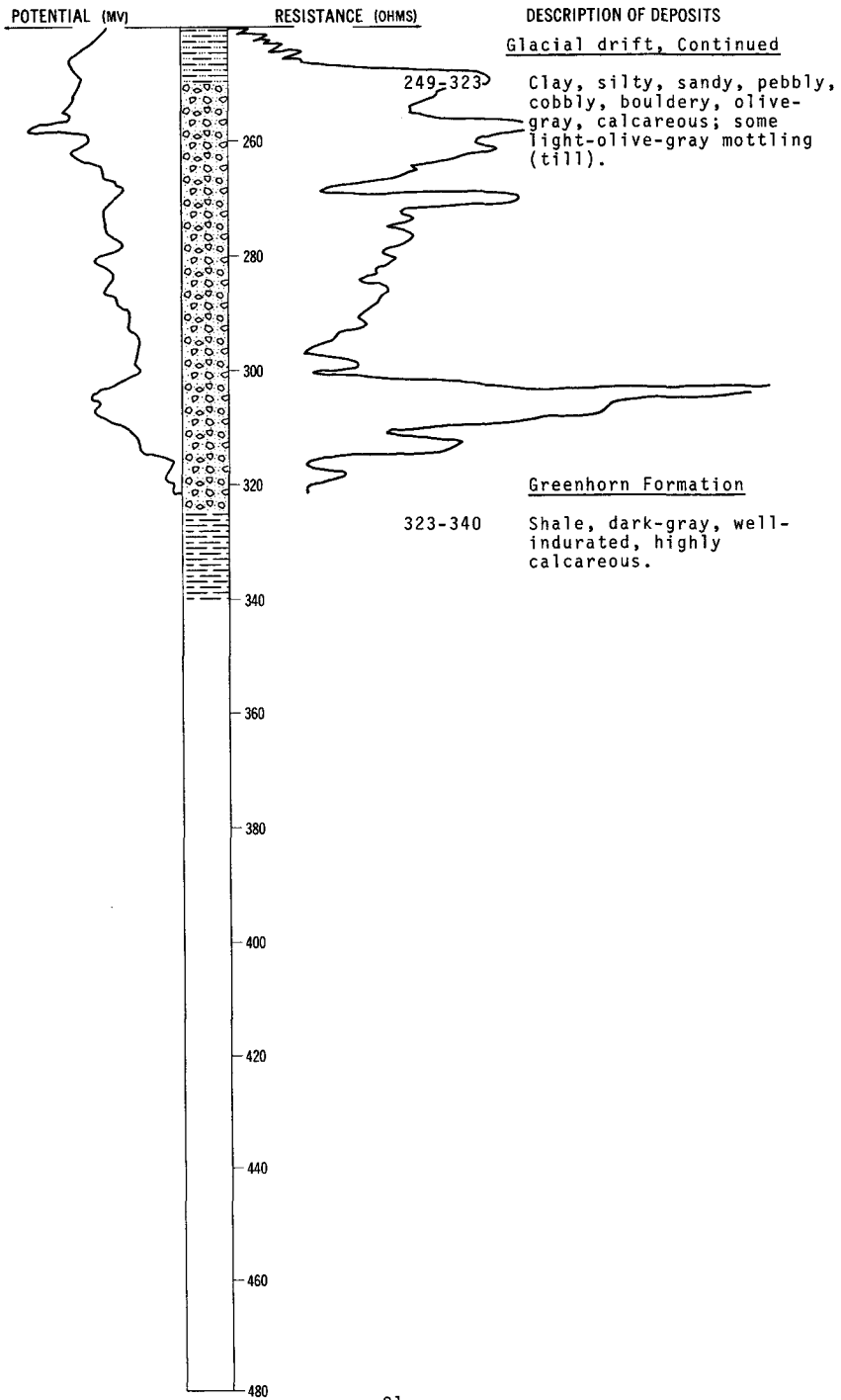
NDSWC 8355, Continued

LOCATION: 144-54-24DDD

DATE DRILLED: June 1972

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 340  
(FT)

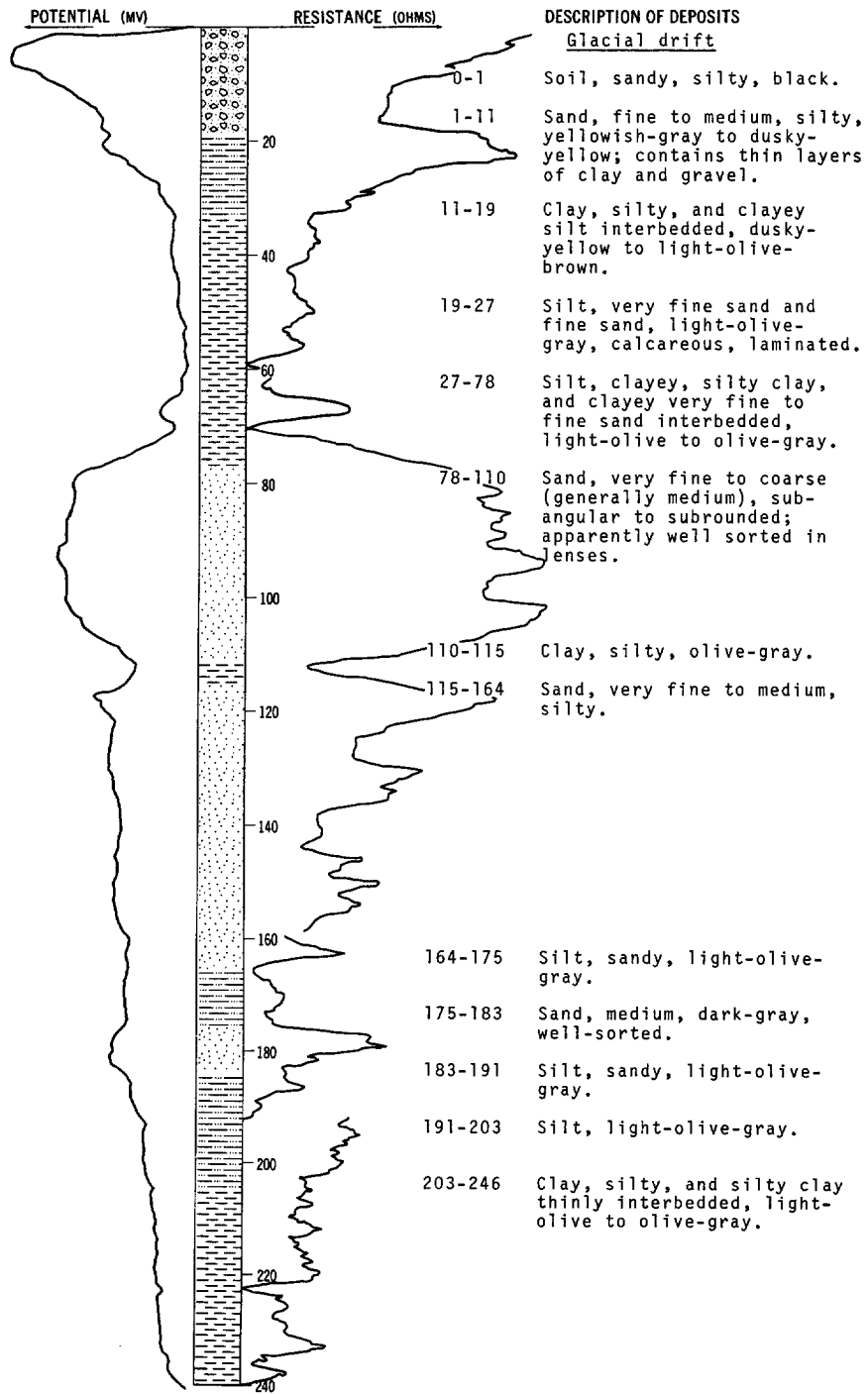


LOCATION: 144-54-25CCC1

DATE DRILLED: November 1970

ALTITUDE: 1190  
(FT, MSL)

DEPTH: 410  
(FT)



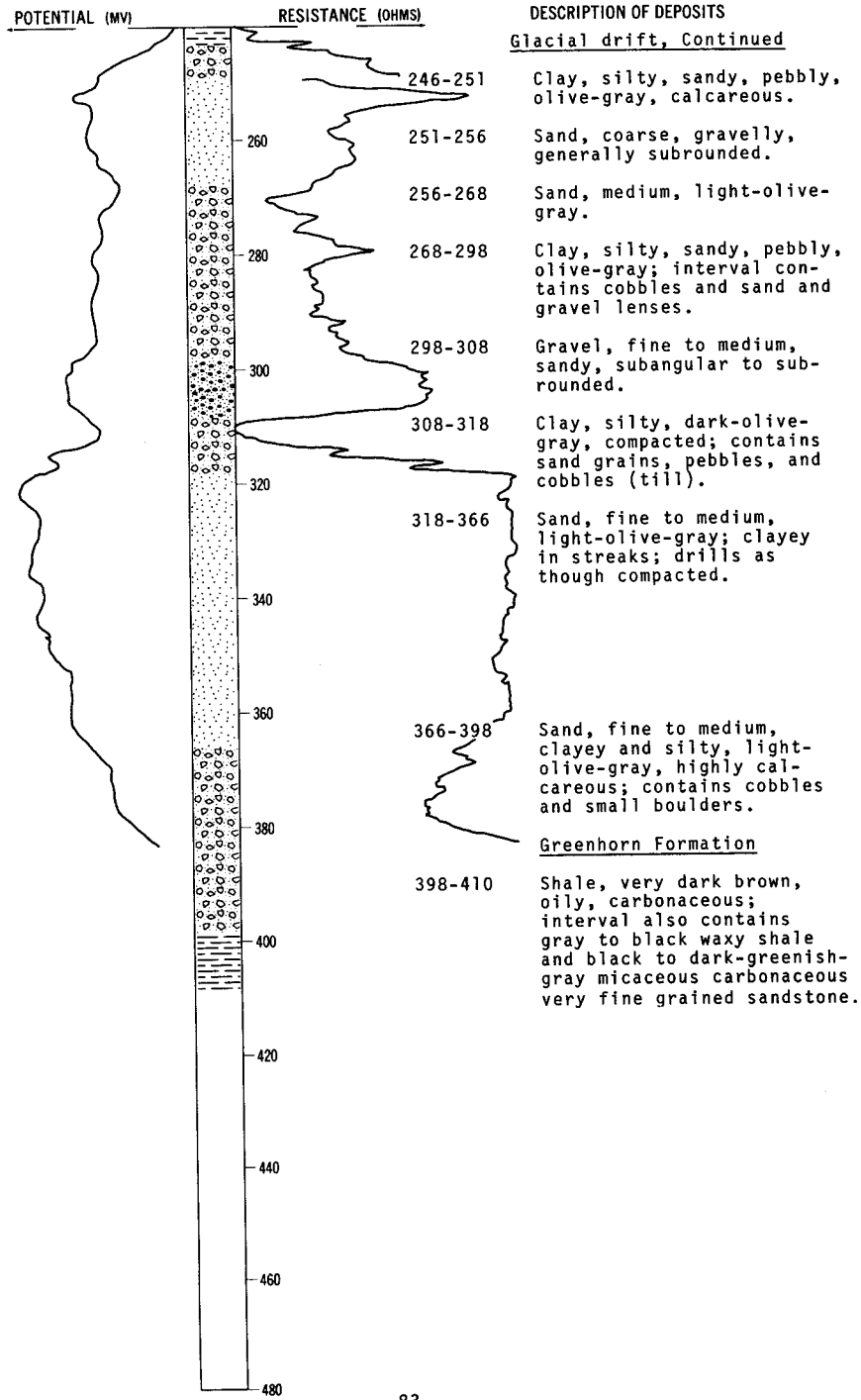


LOCATION: 144-54-25CCC1

DATE DRILLED: November 1970

ALTITUDE: 1190  
(FT, MSL)

DEPTH: 410  
(FT)

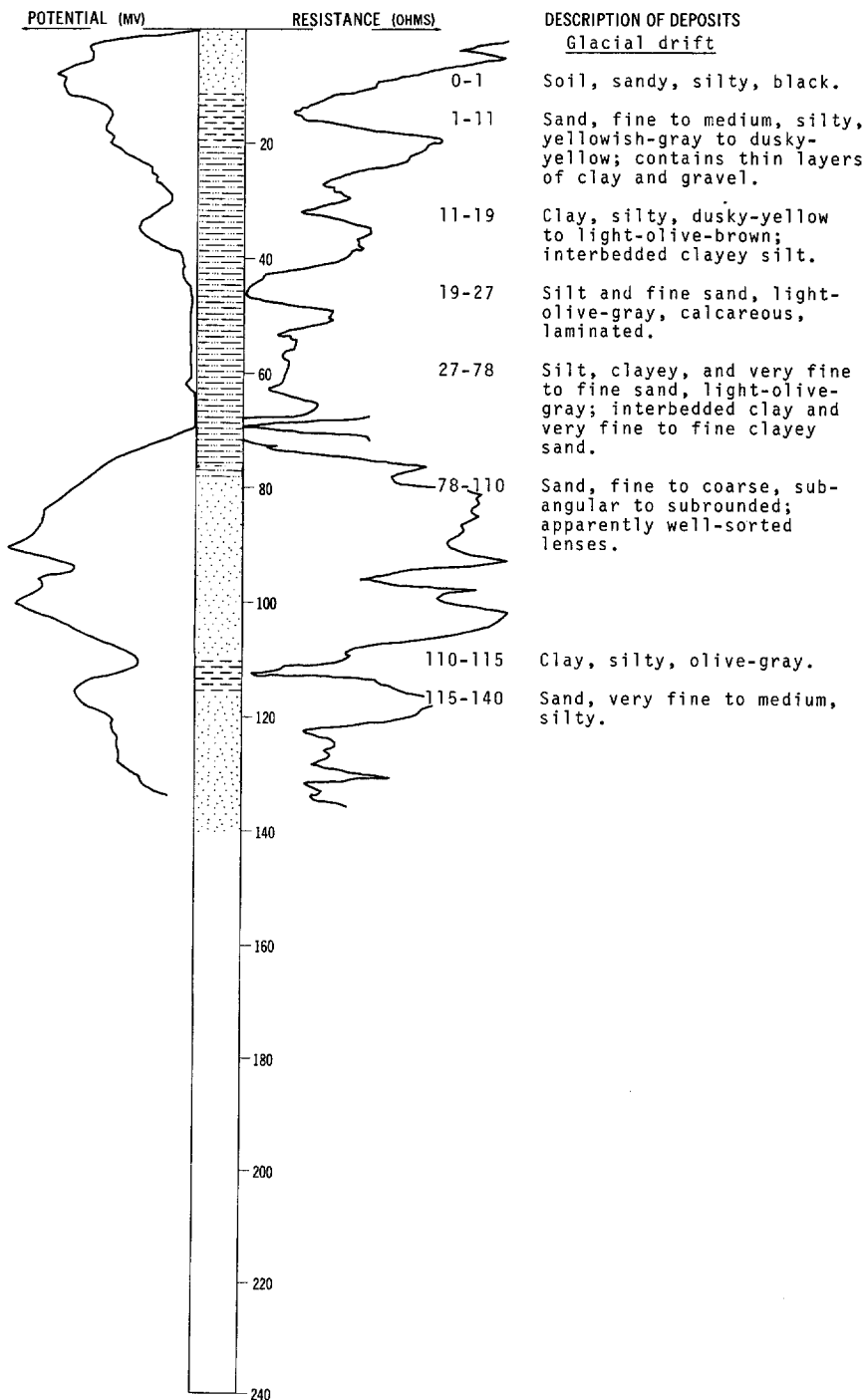


LOCATION: 144-54-25CCC2

DATE DRILLED: November 1970

ALTITUDE: 1190  
(FT, MSL)

DEPTH: 140  
(FT)

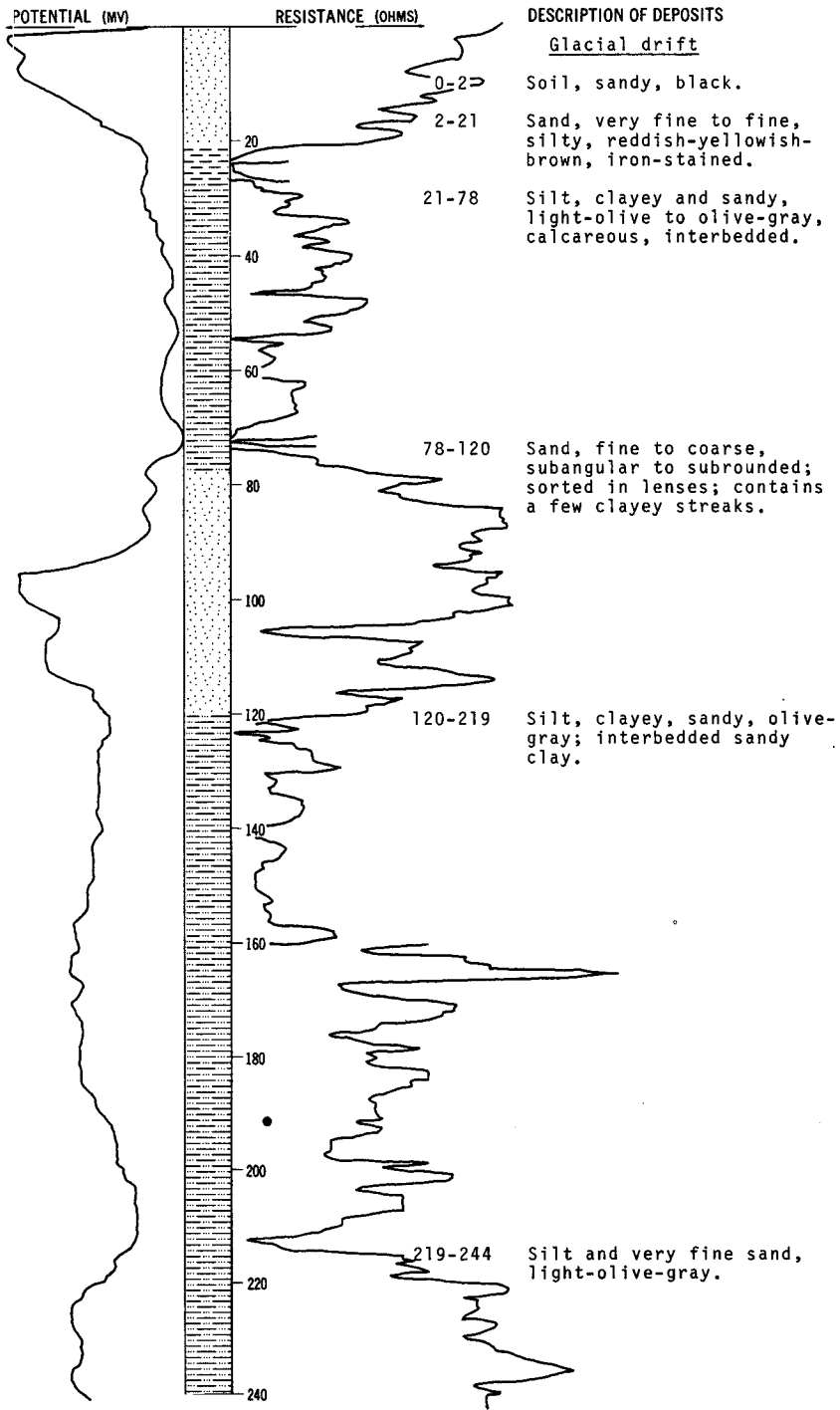


LOCATION: 144-54-26BBB

DATE DRILLED: November 1970

A. TITUDE: 1185  
(FT, MSL)

DEPTH: 360  
(FT)

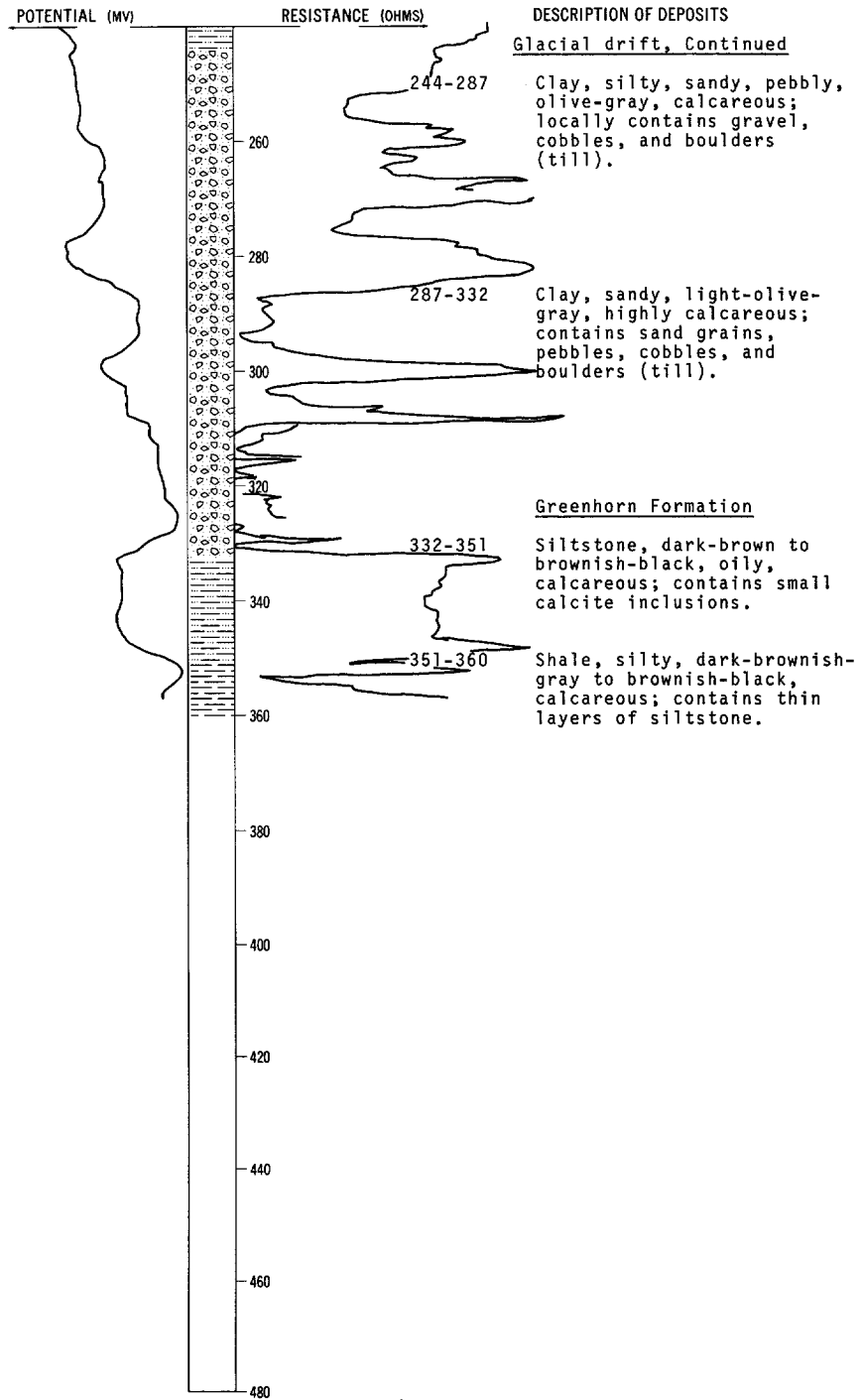


LOCATION: 144-54-26BBB

DATE DRILLED: November 1970

ALTITUDE: 1185  
(FT, MSL)

DEPTH: 360  
(FT)

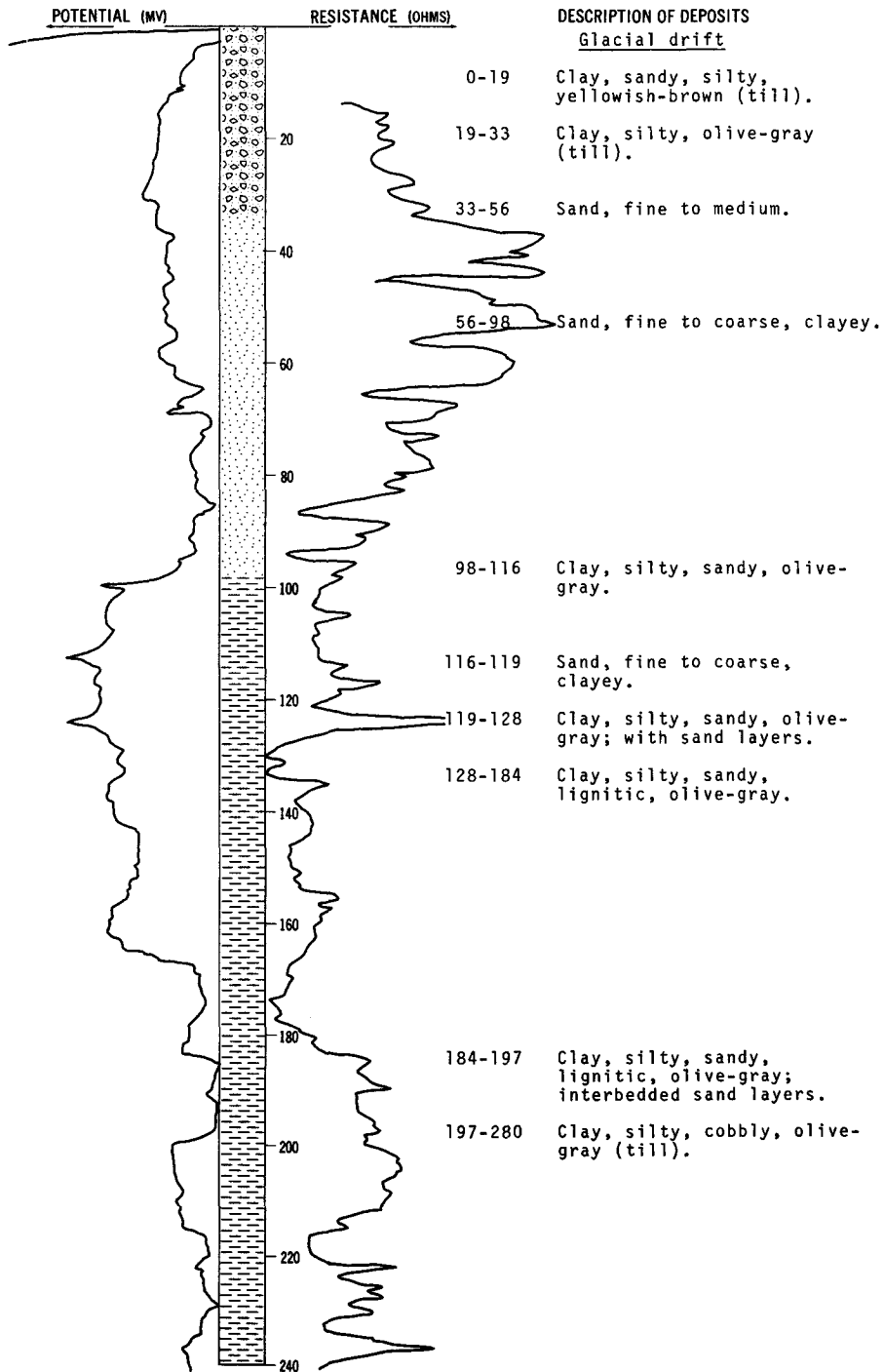


LOCATION: 144-54-27ABA

DATE DRILLED: August 1971

ALTITUDE: 1160  
(FT, MSL)

DEPTH: 320  
(FT)



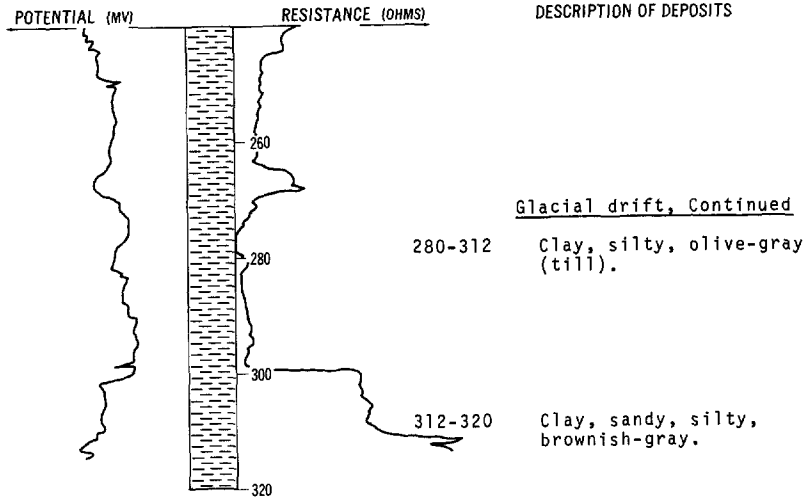
NDSWC 8064-F, Continued

LOCATION: 144-54-27ABA

DATE DRILLED: August 1971

ALTITUDE: 1160  
(FT, MSL)

DEPTH: 320  
(FT)



144-54-27ABB  
NDSWC 8064C

Altitude: 1150 feet

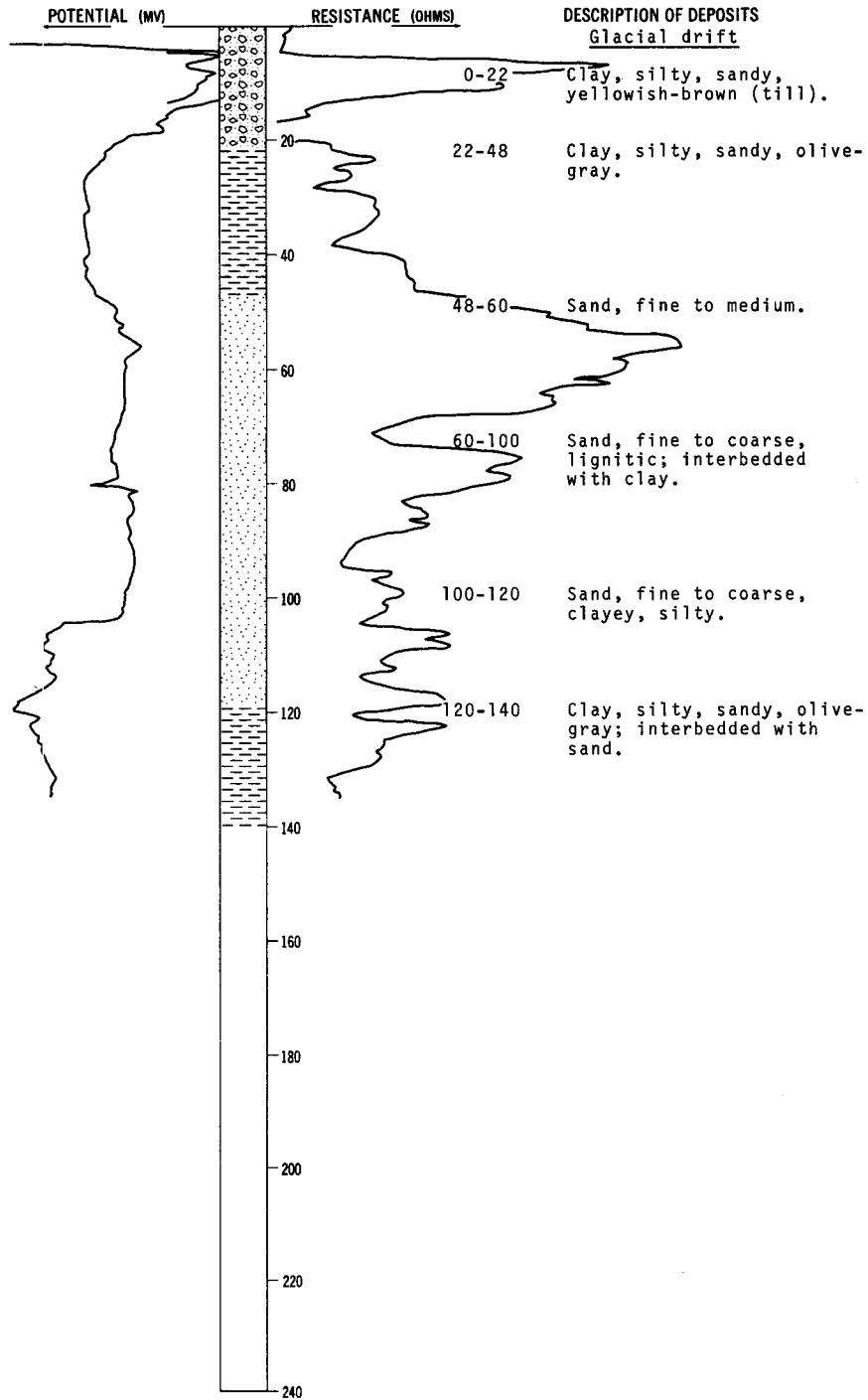
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, yellowish-brown (till)-----	21	21
	Clay, silty, olive-gray (till)-----	9	30
	Sand, fine to medium-----	30	30
	Sand, fine to coarse, lignitic; interbedded with clay layers-----	34	94
	Clay, silty, olive-gray-----	20	114
	Sand, fine to coarse; interbedded clay--	22	136
	Clay, silty, sandy, olive-gray-----	4	140

LOCATION: 144-54-27ABD

DATE DRILLED: August 1971

ALTITUDE: 1162  
(FT, MSL)

DEPTH: 140  
(FT)

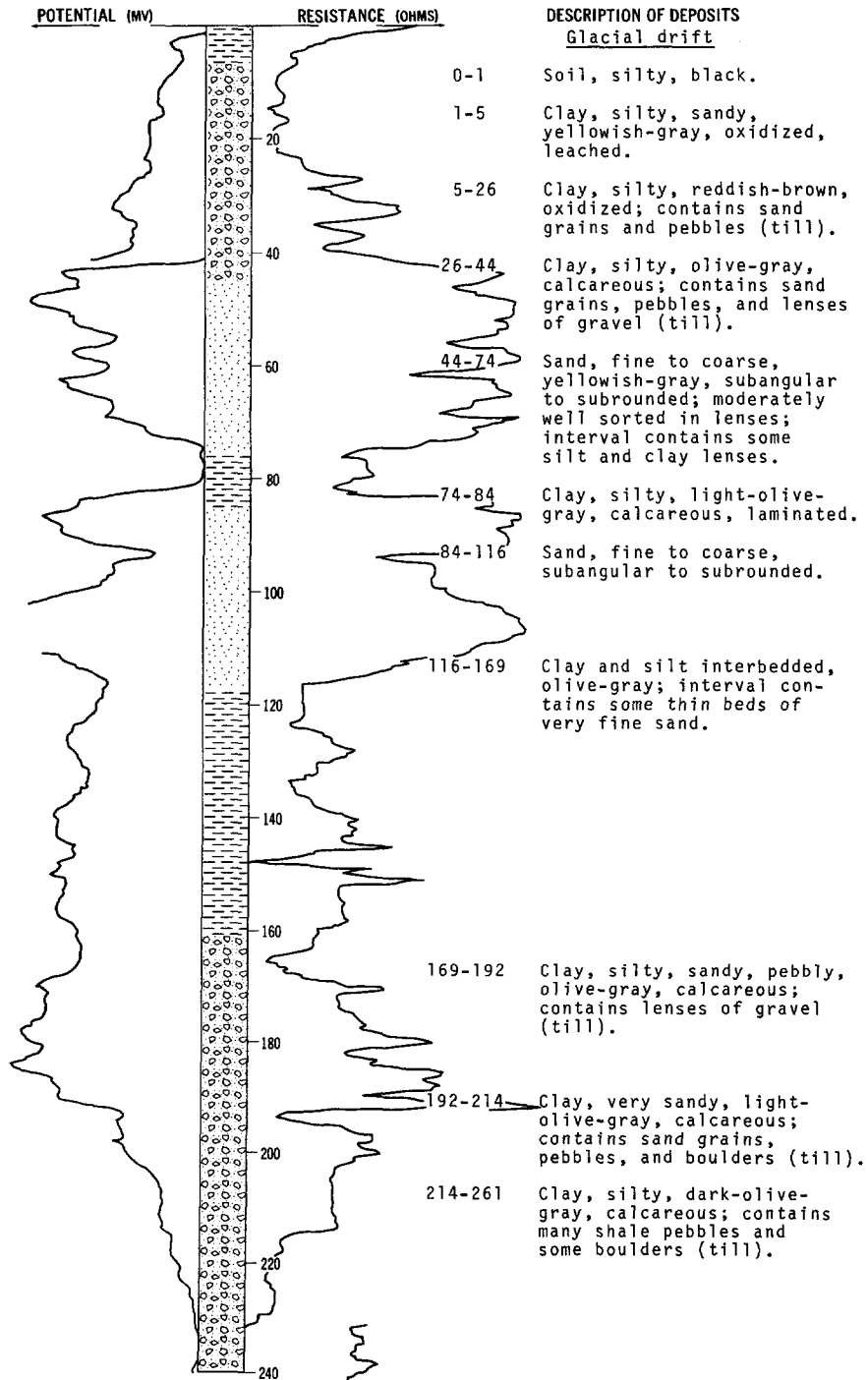


LOCATION: 144-54-28CCD

DATE DRILLED: June 1970

ALTITUDE: 1155  
(FT, MSL)

DEPTH: 340  
(FT)



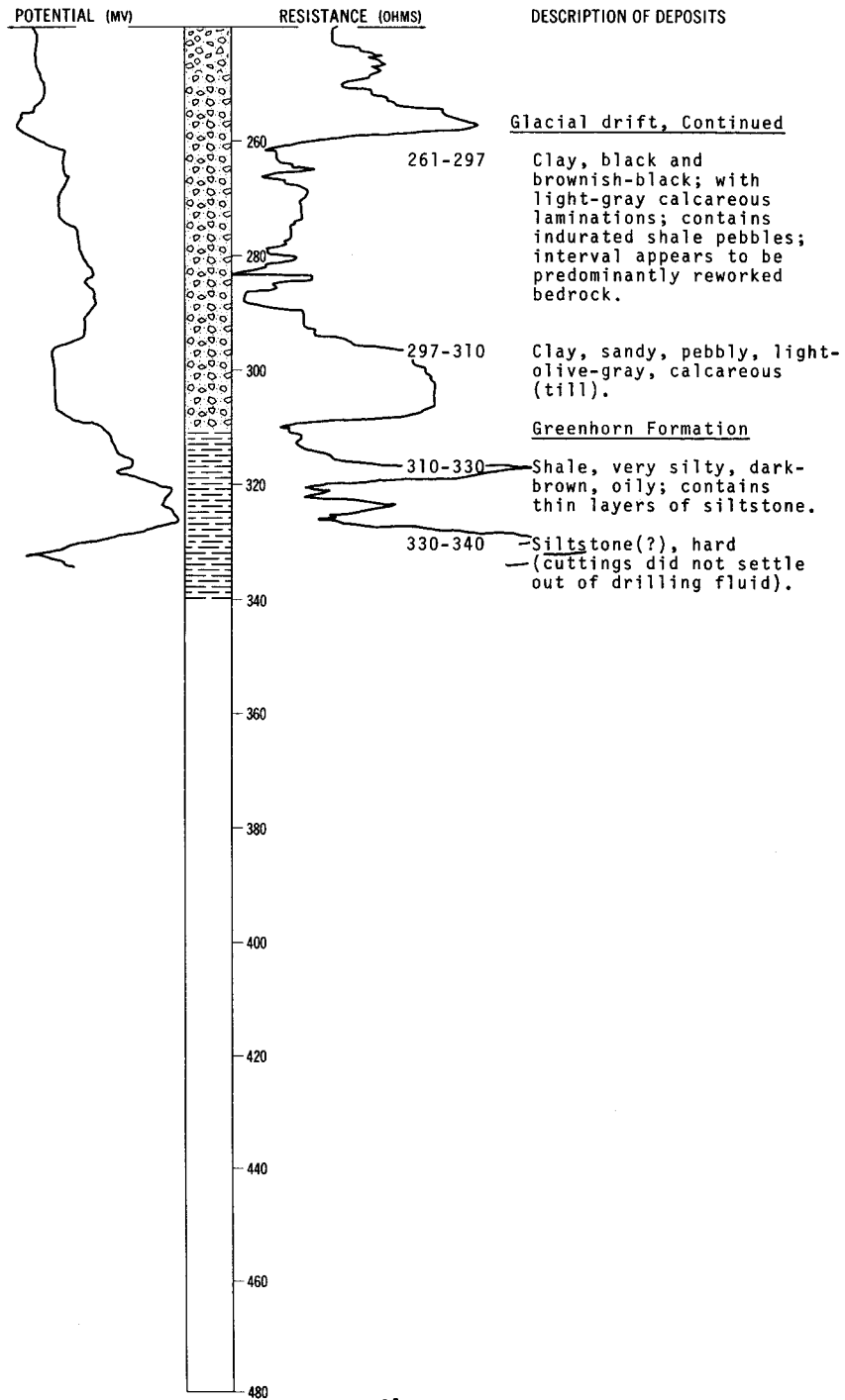


LOCATION: 144-54-28CCD

DATE DRILLED: June 1970

ALTITUDE: 1155  
(FT, MSL)

DEPTH: 340  
(FT)

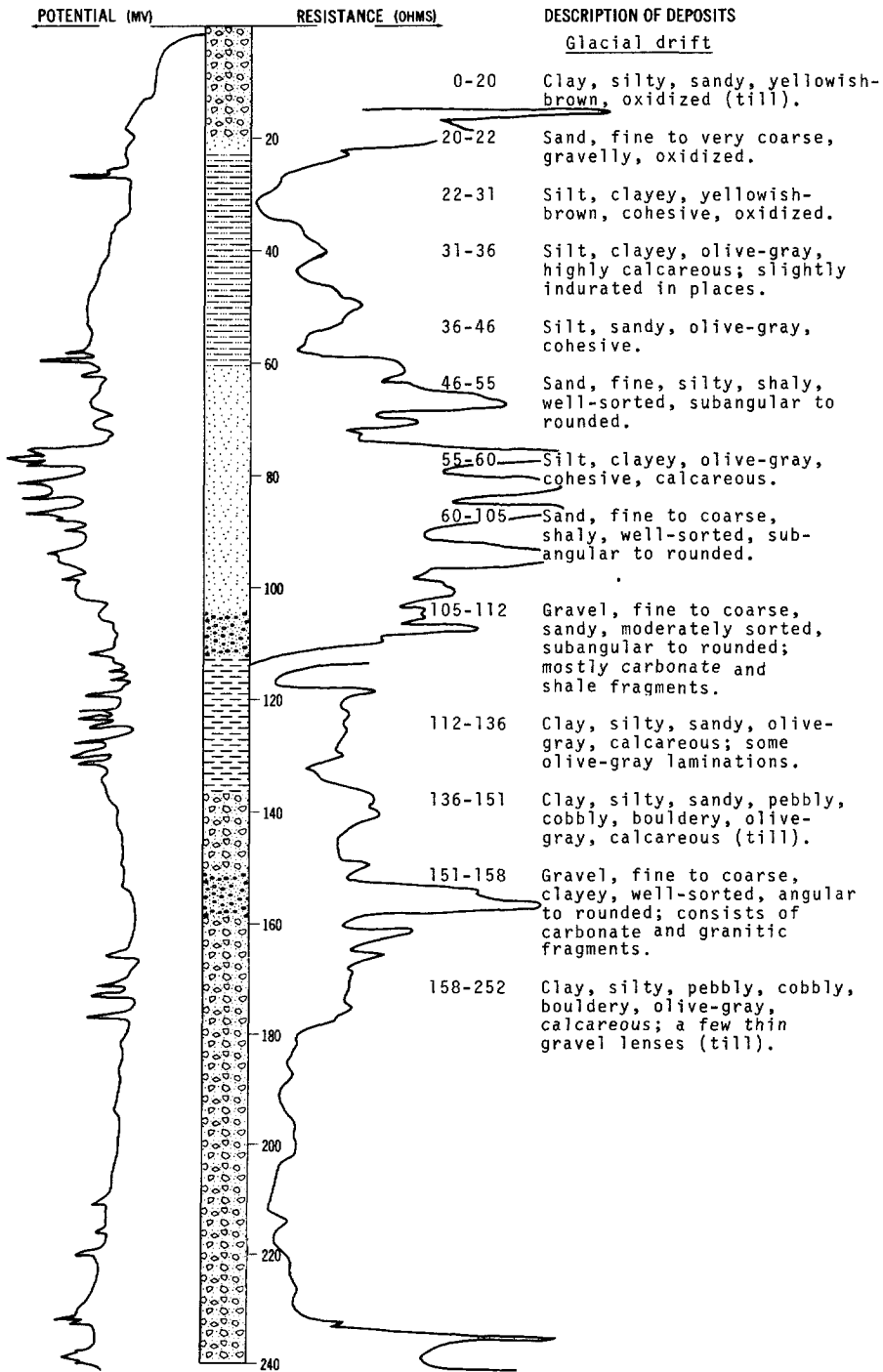


LOCATION: 144-54-31CCC

DATE DRILLED: June 1972

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 340  
(FT)



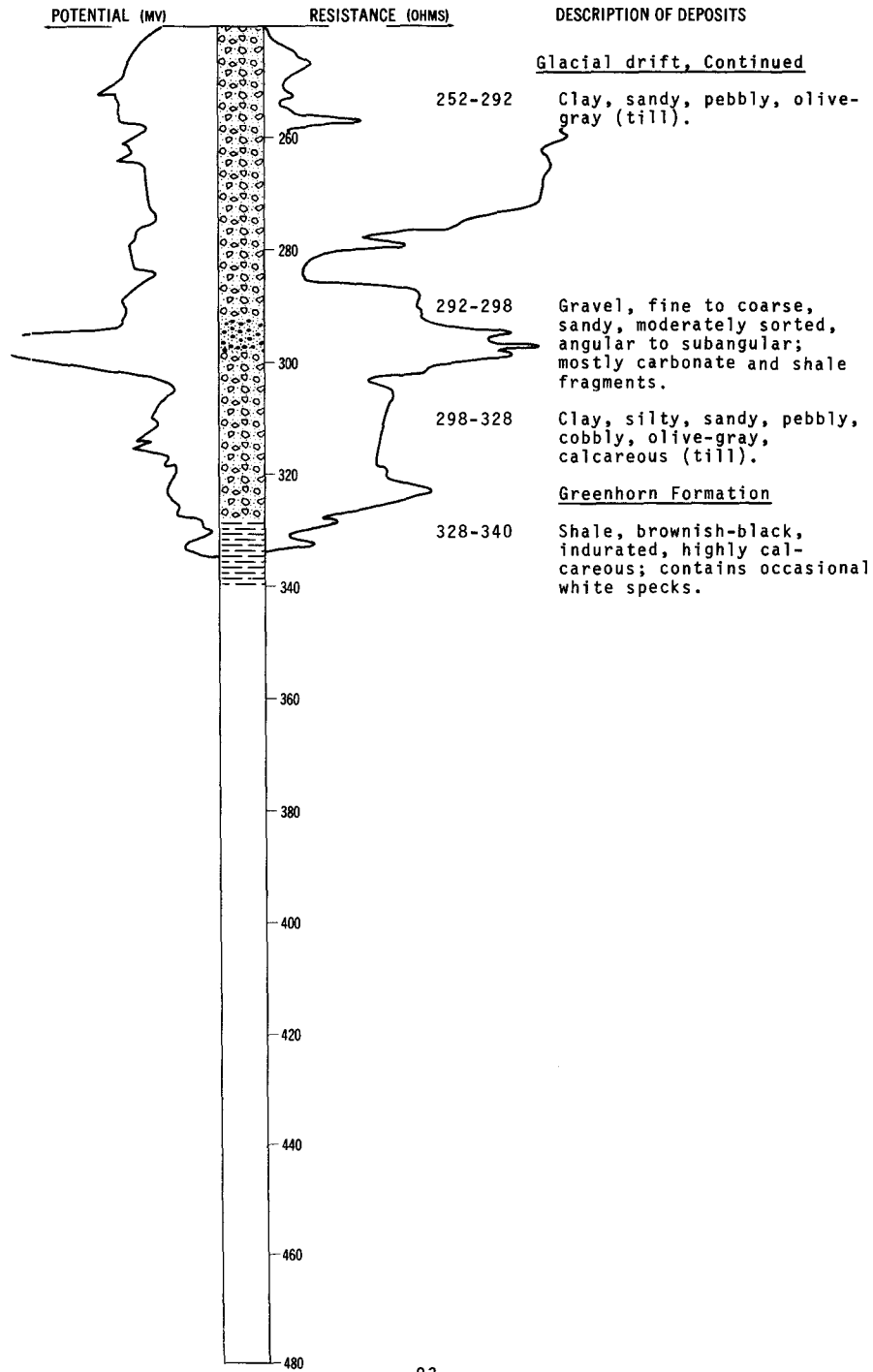
NDSWC 8353, Continued

LOCATION: 144-54-31CCC

DATE DRILLED: June 1972

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 340  
(FT)

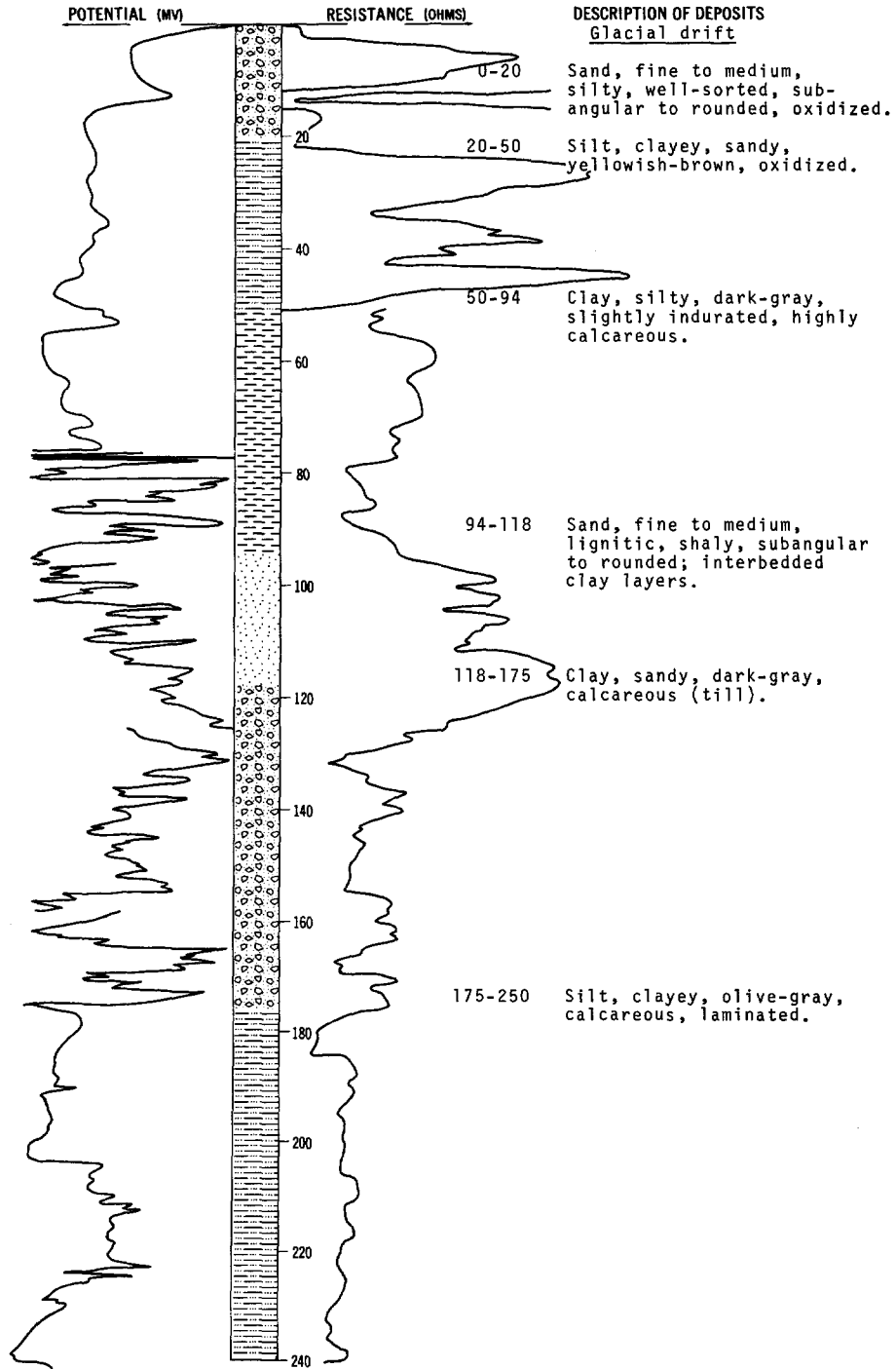


LOCATION: 144-54-34DDD

DATE DRILLED: June 1972

ALTITUDE: 1200  
(FT, MSL)

DEPTH: 400  
(FT)

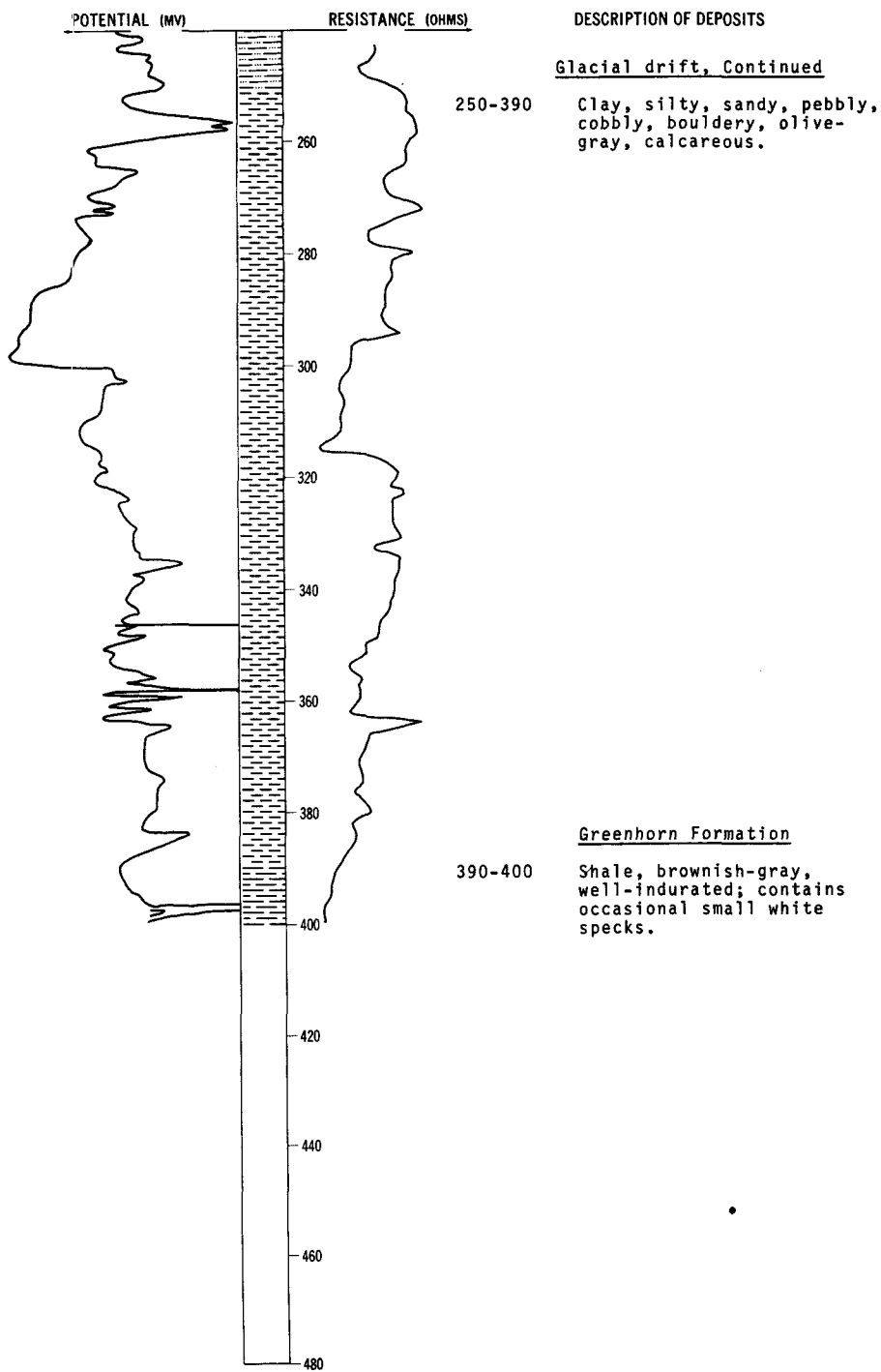


LOCATION: 144-54-34DDD

DATE DRILLED: June 1972

ALTITUDE: 1200  
(FT, MSL)

DEPTH: 400  
(FT)

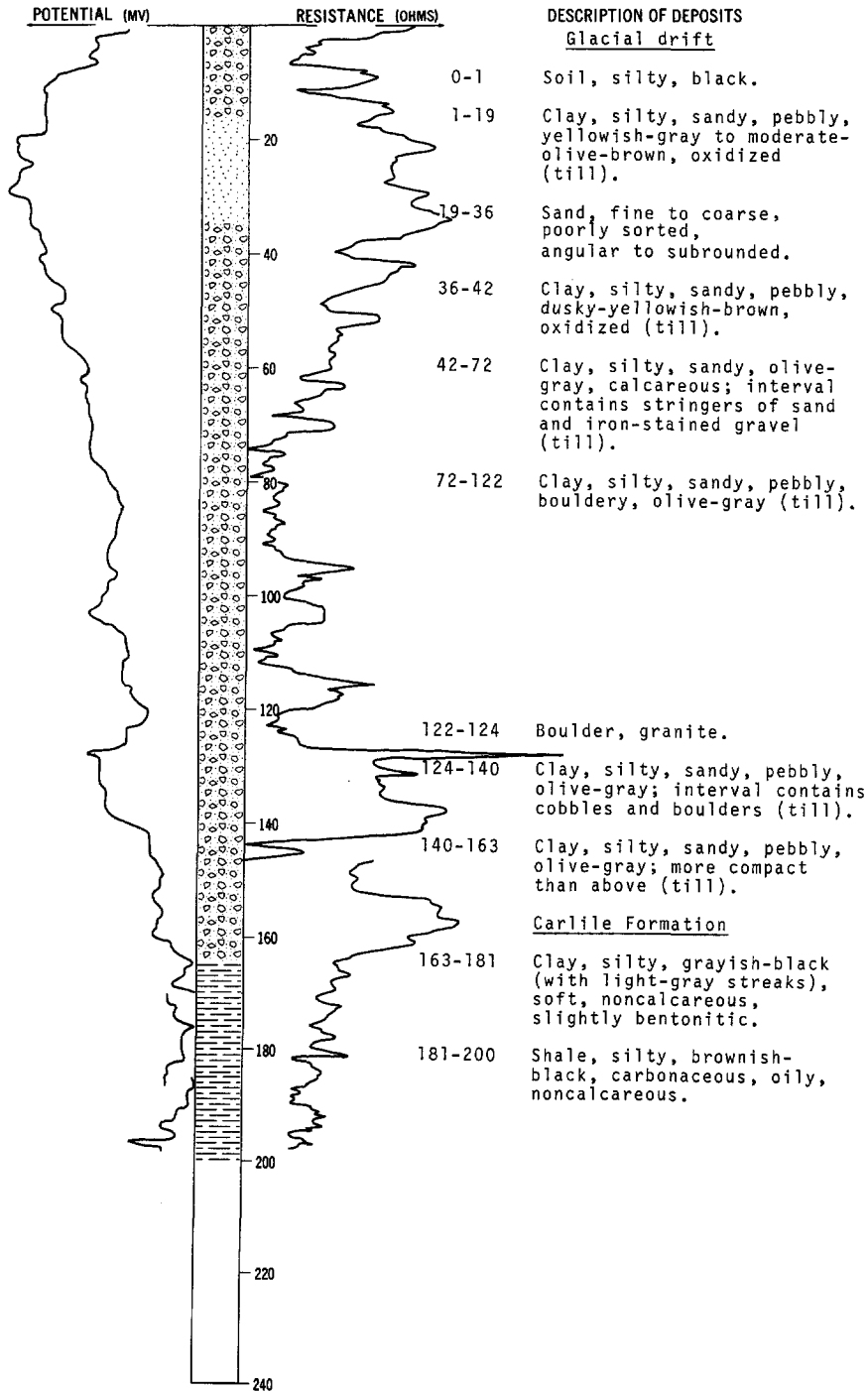


LOCATION: 144-55-06BCB2

DATE DRILLED: June 1970

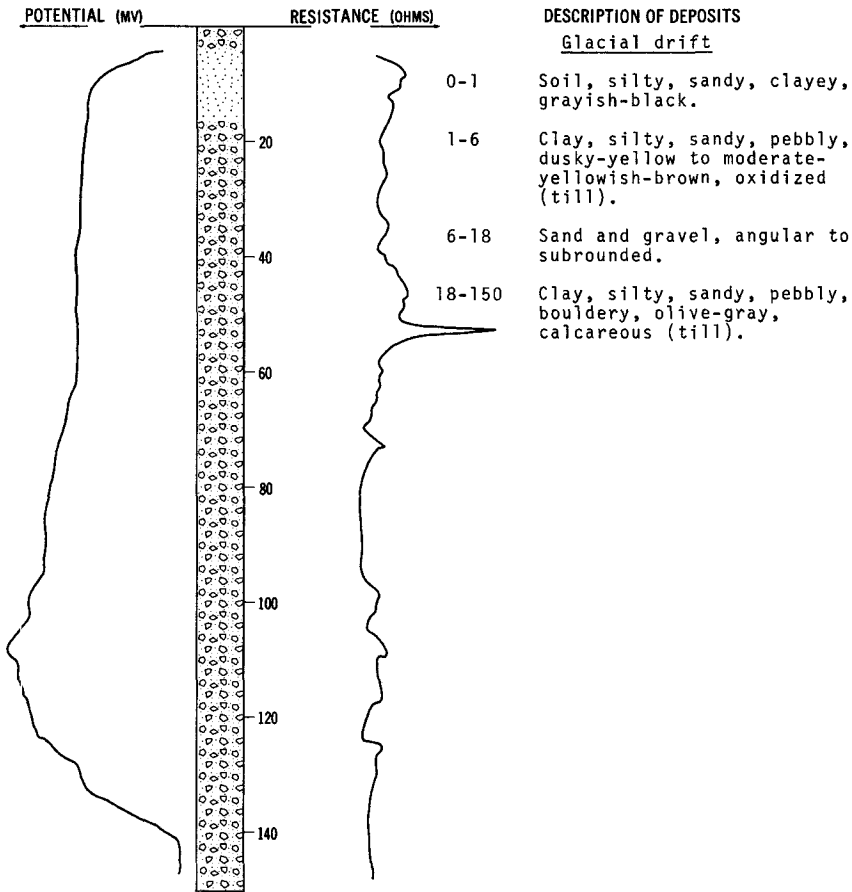
ALTITUDE: 1205  
(FT, MSL)

DEPTH: 200  
(FT)



LOCATION: 144-55-06CCC1  
 ALTITUDE: 1210  
 (FT, MSL)

DATE DRILLED: December 1969  
 DEPTH: 150  
 (FT)



144-55-  
 USGS 21  
 (Log from Dennis, 1948)

Altitude: 1205 feet

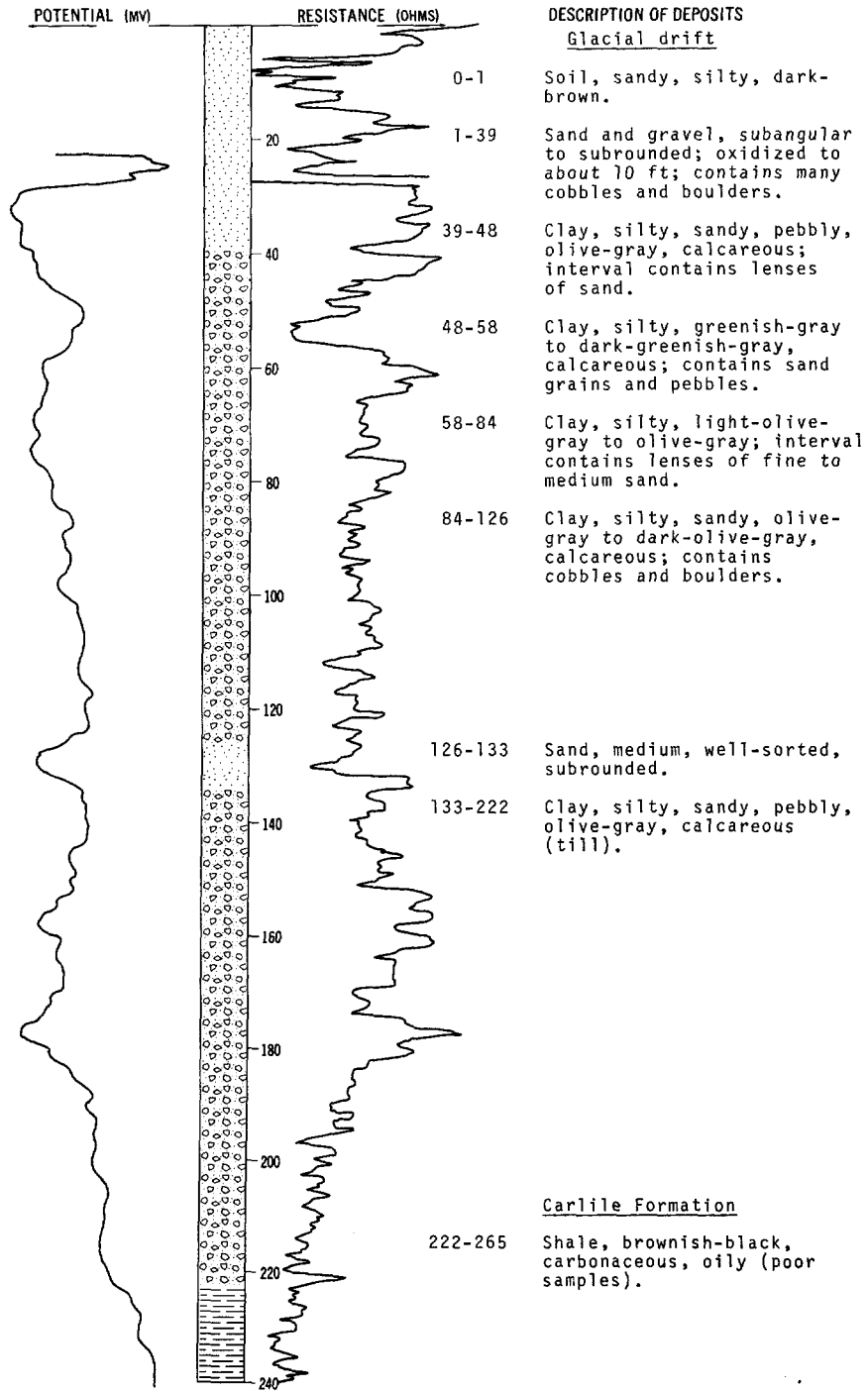
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<u>Glacial drift:</u>			
	Till, yellow, weathered-----	10	10
	Sand and gravel-----	20	30
	Till, gray, bouldery-----	12	42
	Sand, with some clay-----	8	50
	Till, gray-----	8	58
	Sand and gravel, with some clay-----	12	70
	Till, gray, bouldery-----	135	205
<u>Carlile Formation:</u>			
	Shale-----	13	218

LOCATION: 144-55-09ABB

DATE DRILLED: June 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 300  
(FT)





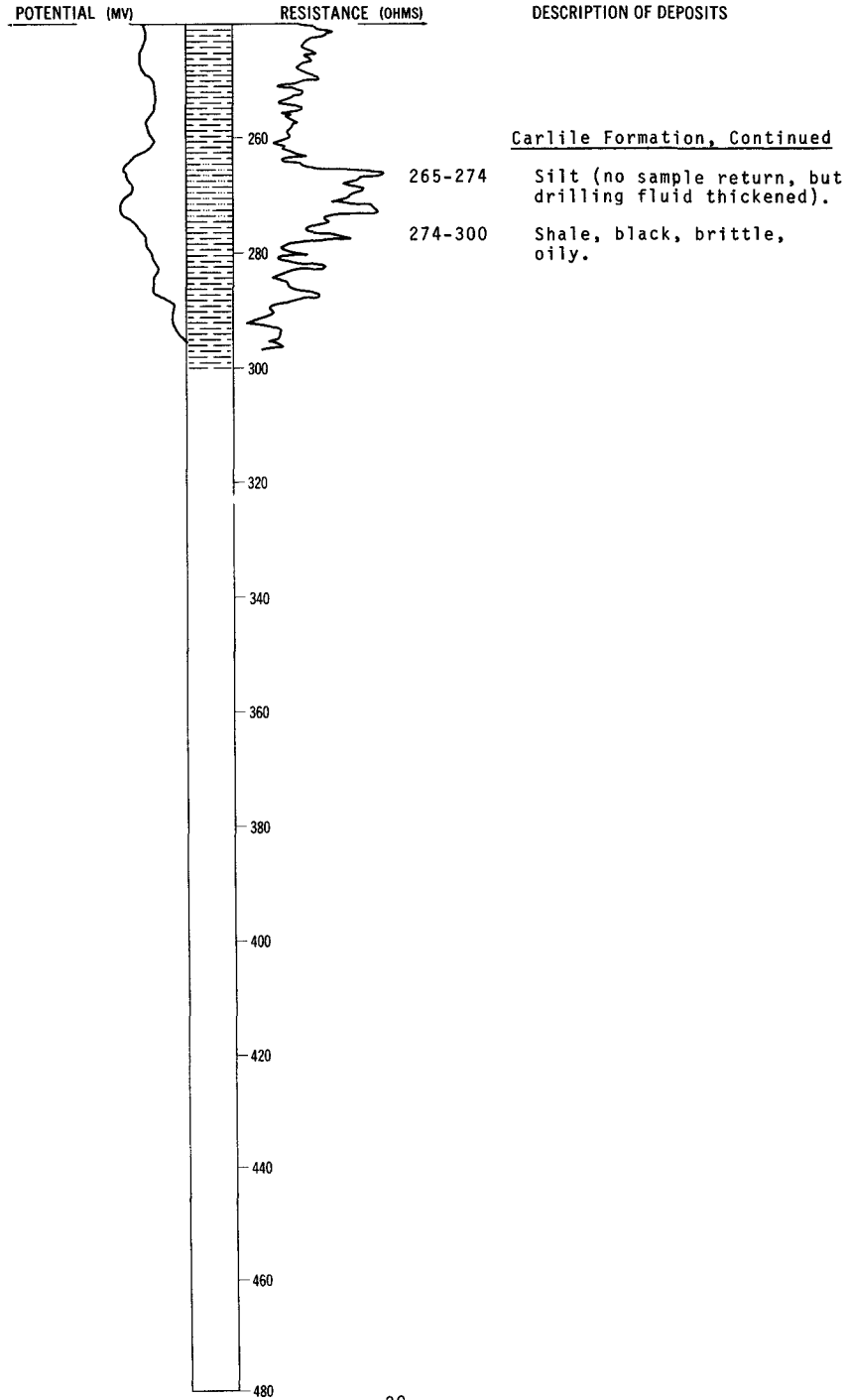
NDSWC 3982, Continued

LOCATION: 144-55-09ABB

DATE DRILLED: June 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 300  
(FT)

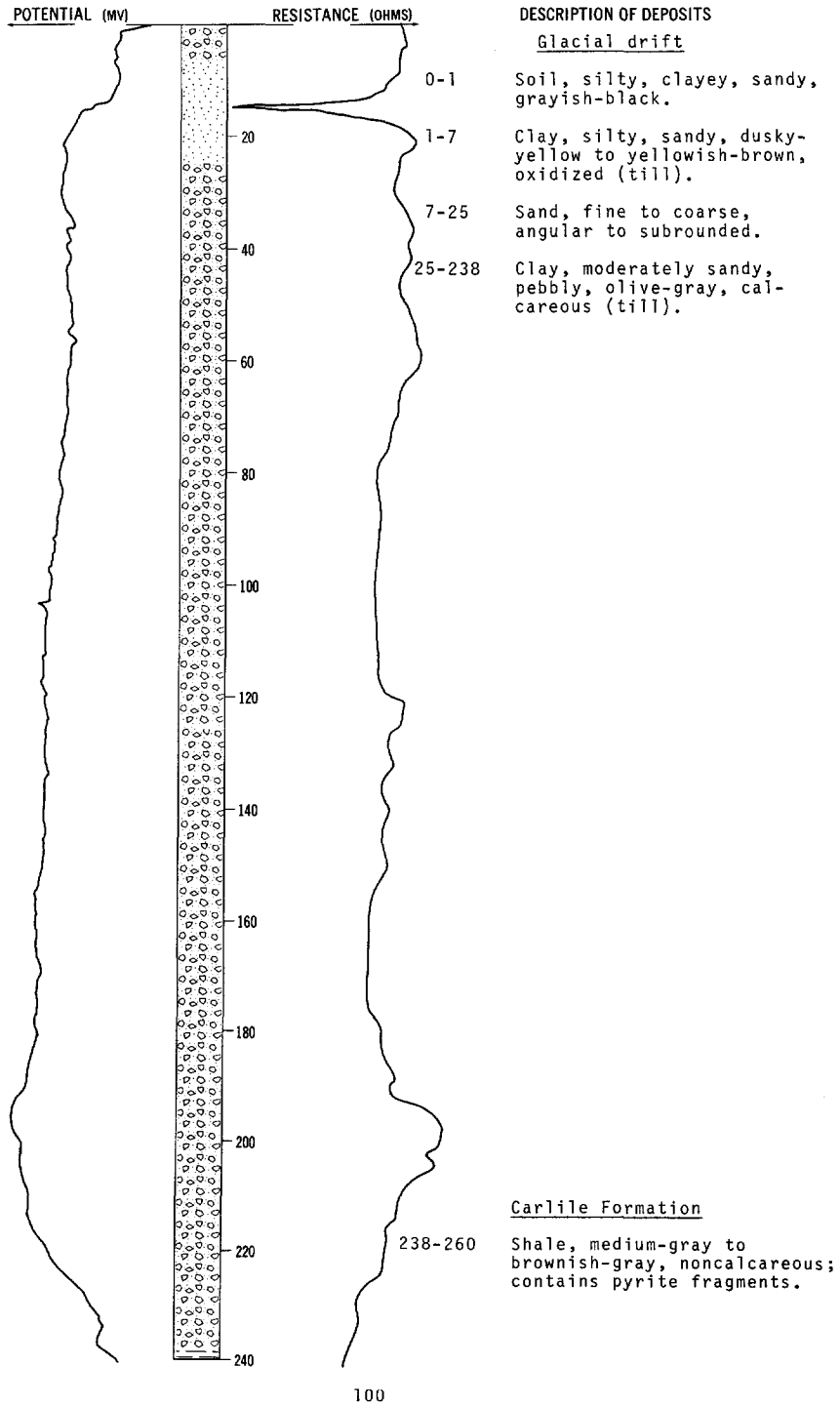


LOCATION: 144-55-10ABB1

DATE DRILLED: December 1969

ALTITUDE: 1135  
(FT, MSL)

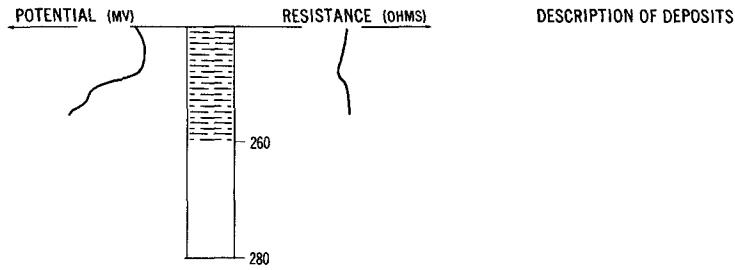
DEPTH: 260  
(FT)



NDSWC 5618, Continued

LOCATION: 144-55-10ABB1  
 ALTITUDE: 1135  
 (FT, MSL)

DATE DRILLED: December 1969  
 DEPTH: 260  
 (FT)



144-55-19CCD2  
 (Log from U.S. Air Force)

Altitude: 1190 feet

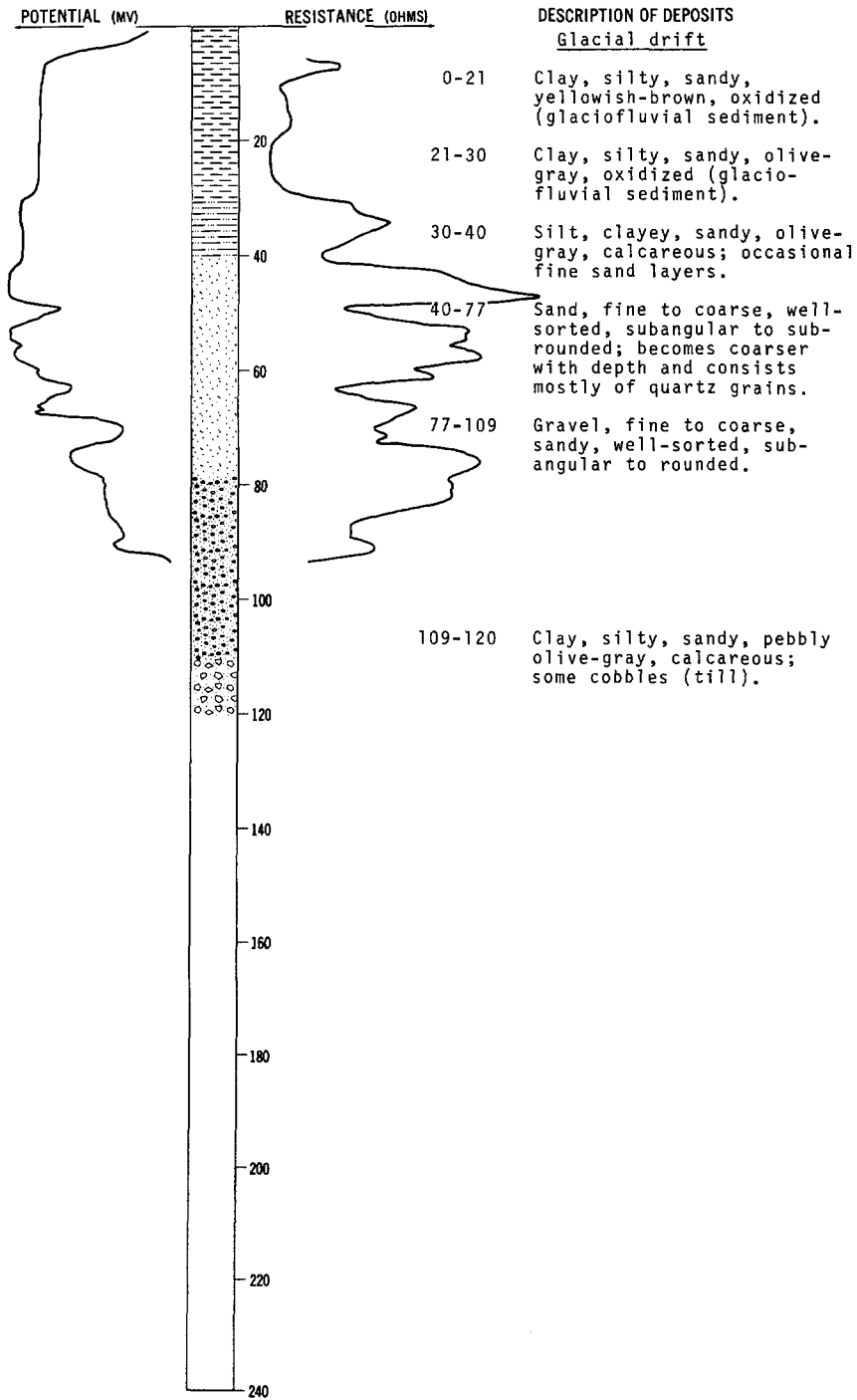
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Clay, silty, brown-----	3	3
	Silt, clayey, sandy, brown and gray----	6	9
	Sand, fine, silty, brown-----	5	14
	Sand, fine, silty, gray-----	4	18
	Silt, clayey, sandy, trace of gravel, gray-----	6	24
	Sand, fine, silty, clayey, gray-----	7	31
	Silt, clayey, sandy, trace of gravel, numerous cobbles and boulders, gray---	10	41
	Sand, fine, and clay, silty, trace of gravel, dark gray-----	7	48
	Clay, sandy, silty, trace of gravel, cobbles and boulders, gray-----	47	95
	Sand, fine, silty, gray-----	6	101
	Clay, silty, sandy, trace of gravel, numerous cobbles and boulders, dark gray-----	29	130

LOCATION: 144-55-25ABA

DATE DRILLED: August 1971

ALTITUDE: 1165  
(FT, MSL)

DEPTH: 120  
(FT)

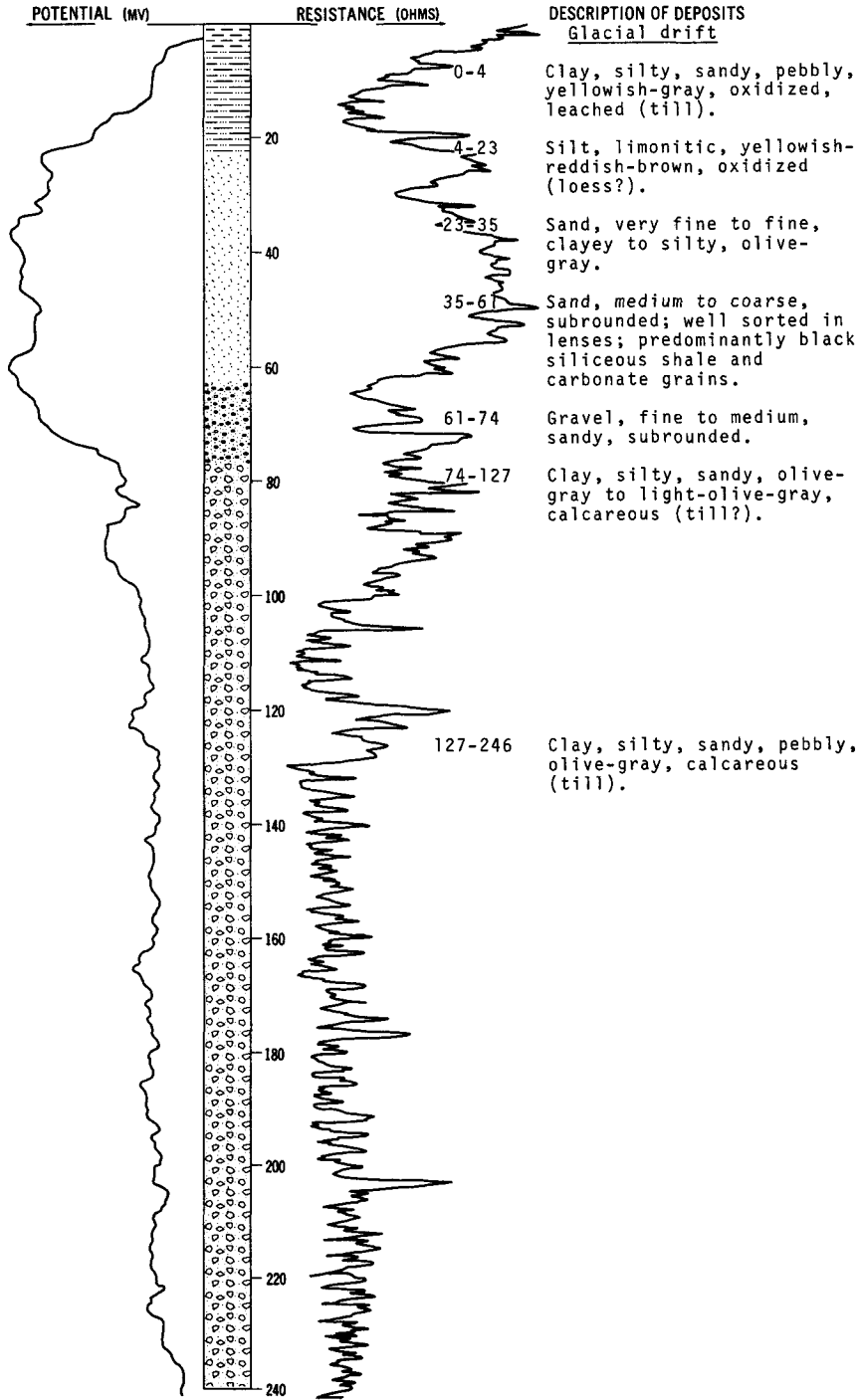


LOCATION: 144-55-26BBB

DATE DRILLED: June 1970

ALTITUDE: 1160  
(FT, MSL)

DEPTH: 300  
(FT)

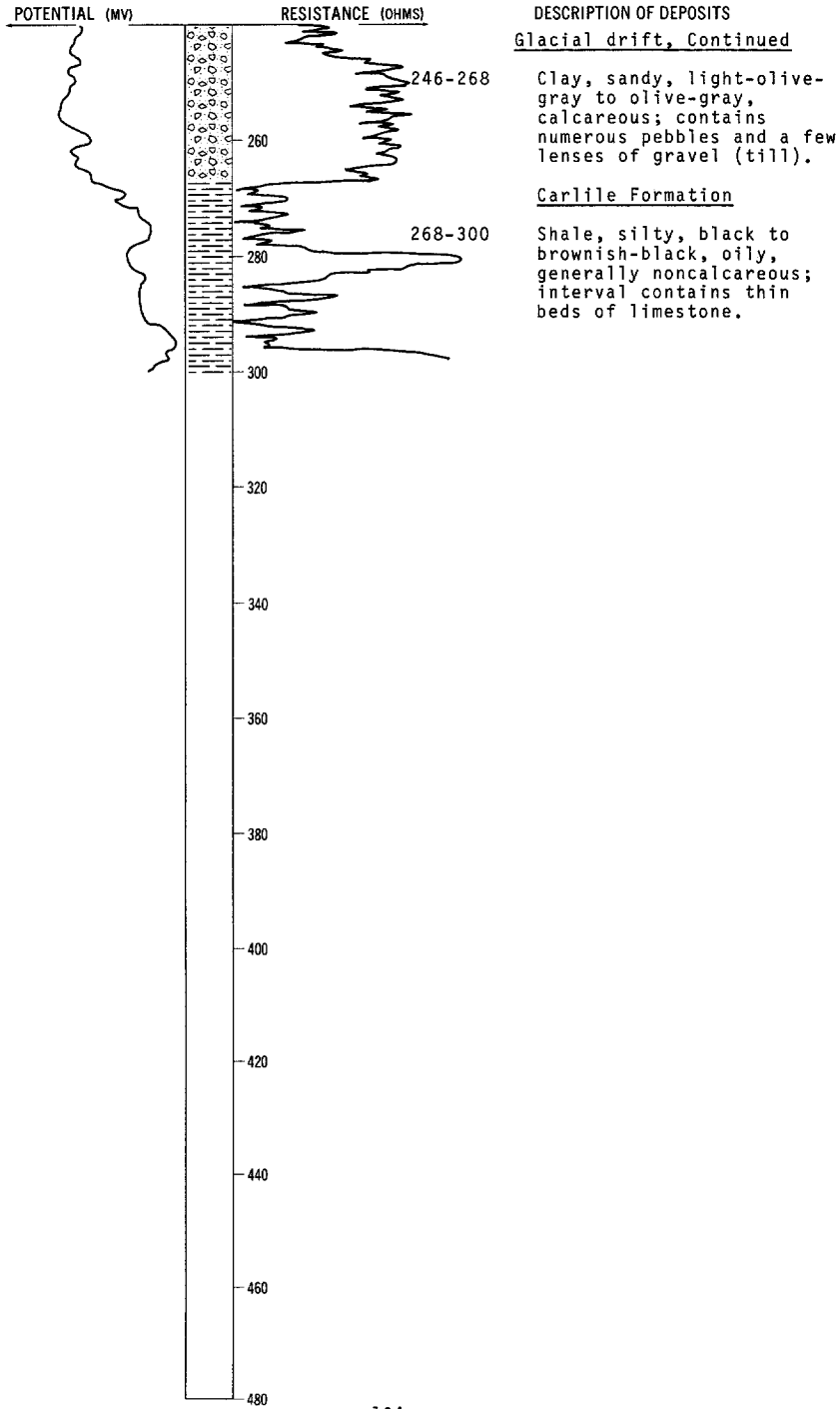


LOCATION: 144-55-26BBB

DATE DRILLED: June 1970

ALTITUDE: 1160  
(FT, MSL)

DEPTH: 300  
(FT)

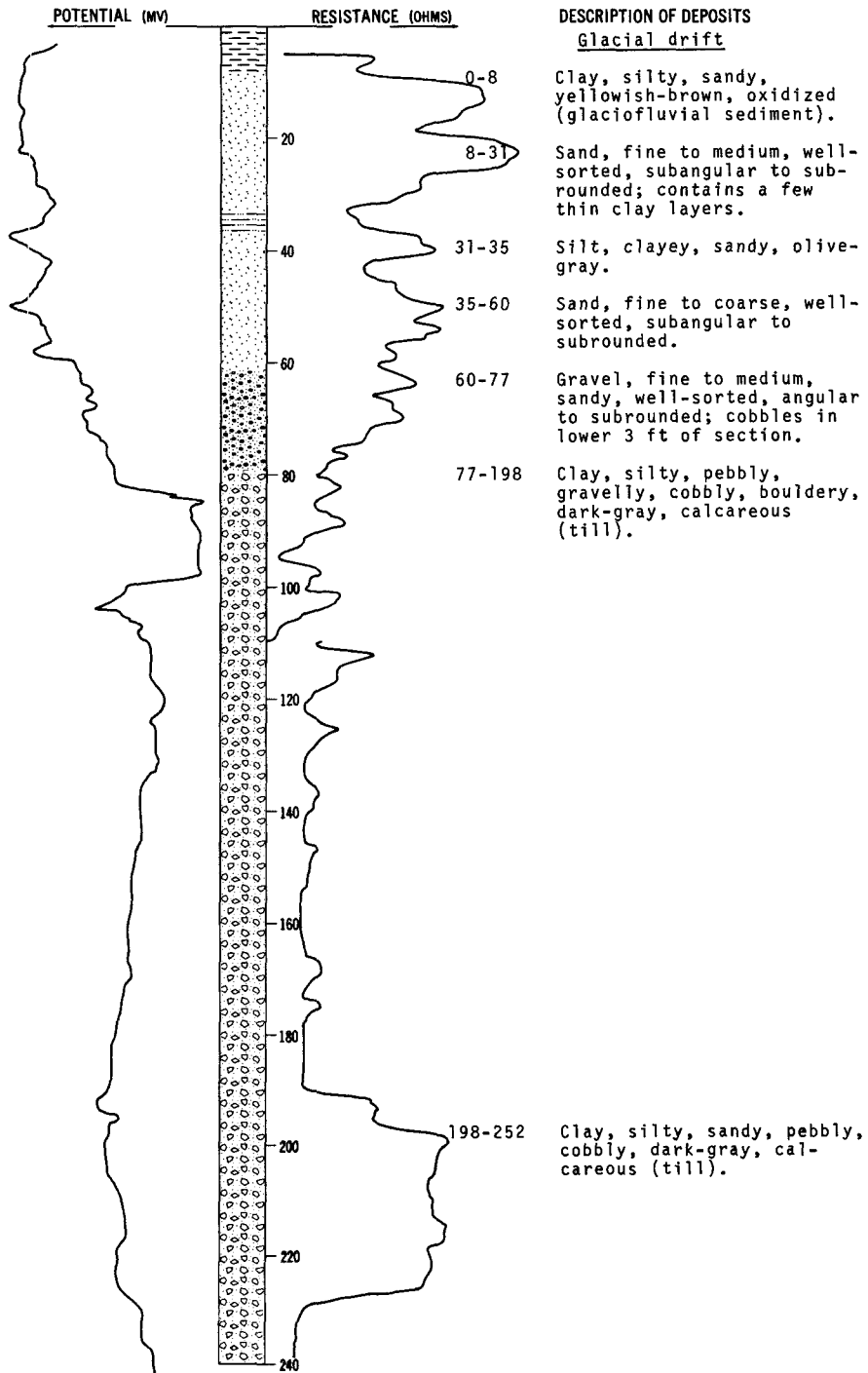


LOCATION: 144-55-26DDD

DATE DRILLED: August 1971

ALTITUDE: 1155  
(FT, MSL)

DEPTH: 260  
(FT)



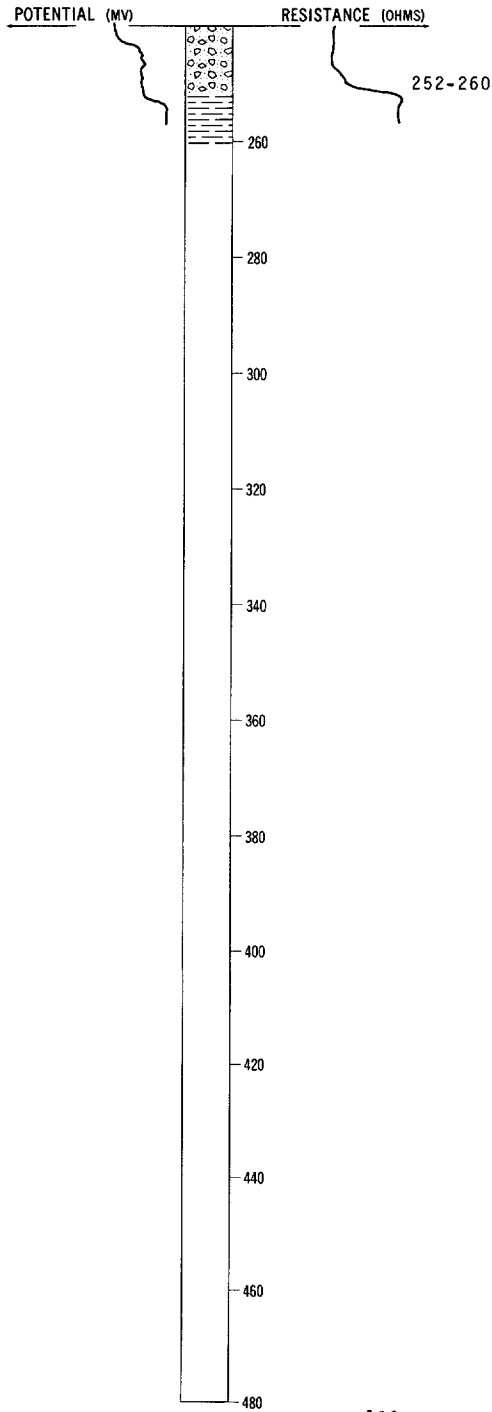
NDSWC 8062, Continued

LOCATION: 144-55-26DDD

DATE DRILLED: August 1971

ALTITUDE: 1155  
(FT, MSL)

DEPTH: 260  
(FT)



DESCRIPTION OF DEPOSITS

Greenhorn Formation

Shale, clayey, brownish-black, well-indurated, calcareous; contains a few white specks.

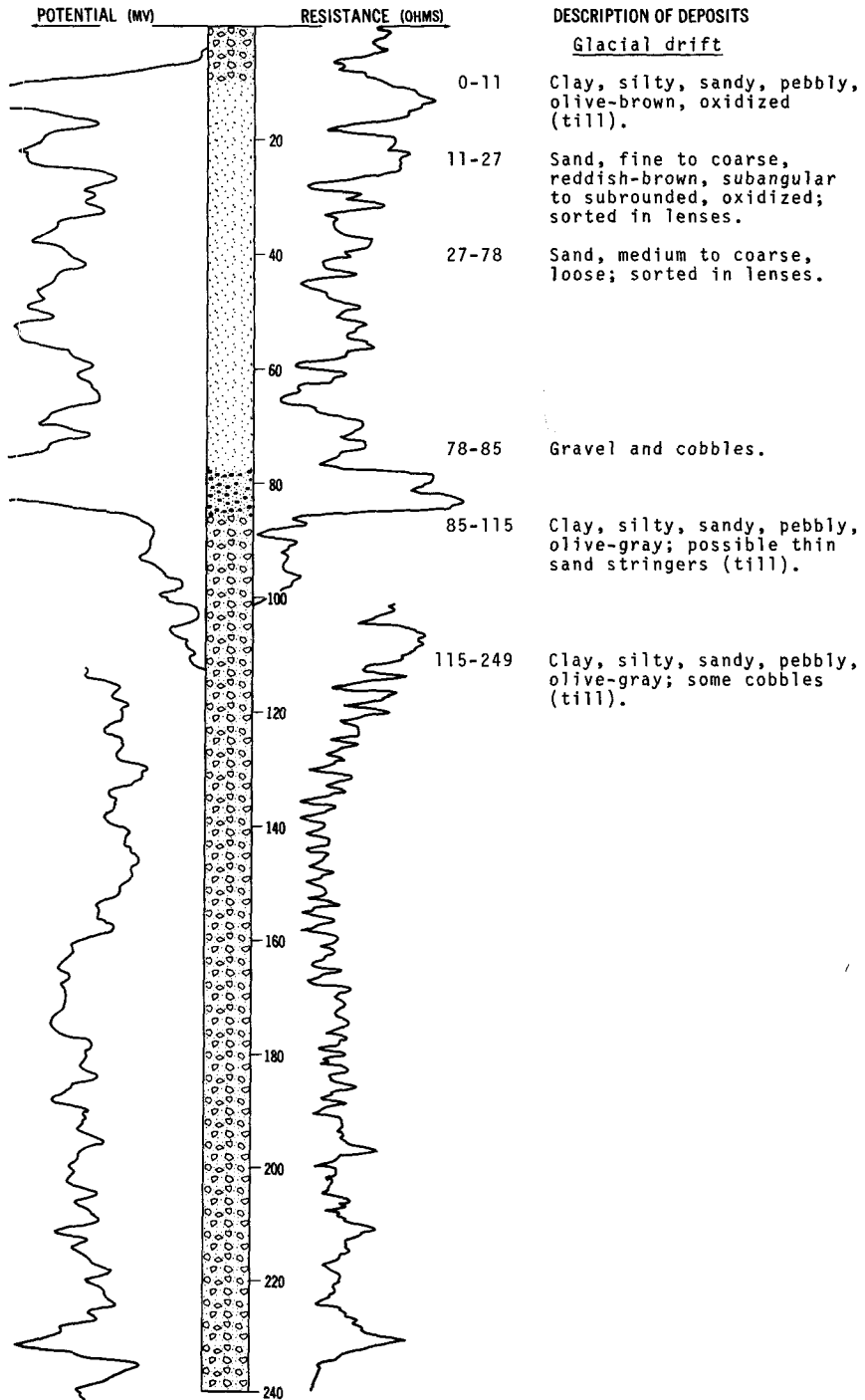


LOCATION: 144-55-27CCC

DATE DRILLED: June 1970

ALTITUDE: 1185  
(FT, MSL)

DEPTH: 320  
(FT)



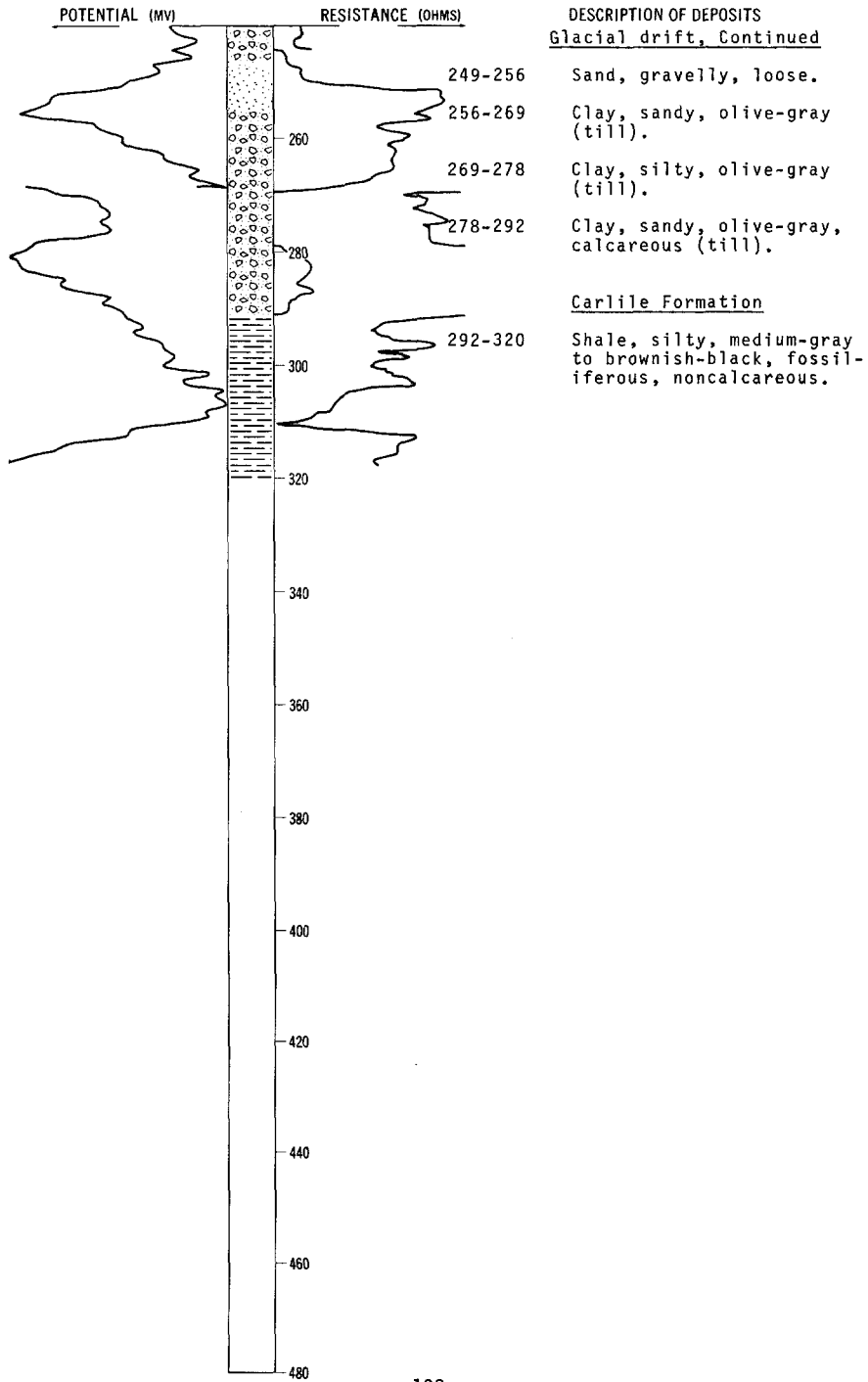
NDSWC 3984, Continued

LOCATION: 144-55-27CCC

DATE DRILLED: June 1970

ALTITUDE: 1185  
(FT, MSL)

DEPTH: 320  
(FT)

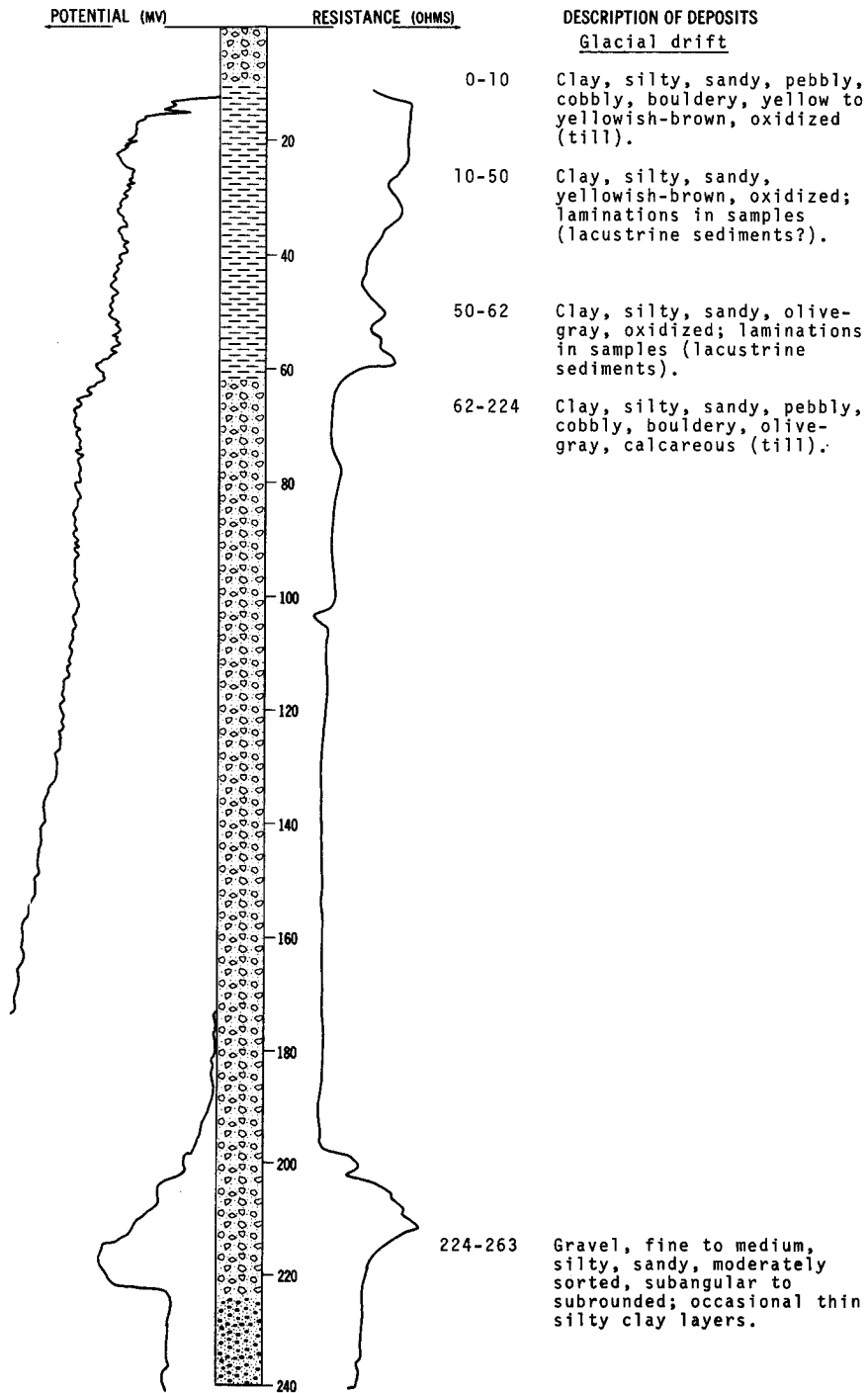


LOCATION: 144-55-33CAD2

DATE DRILLED: December 1969

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 300  
(FT)



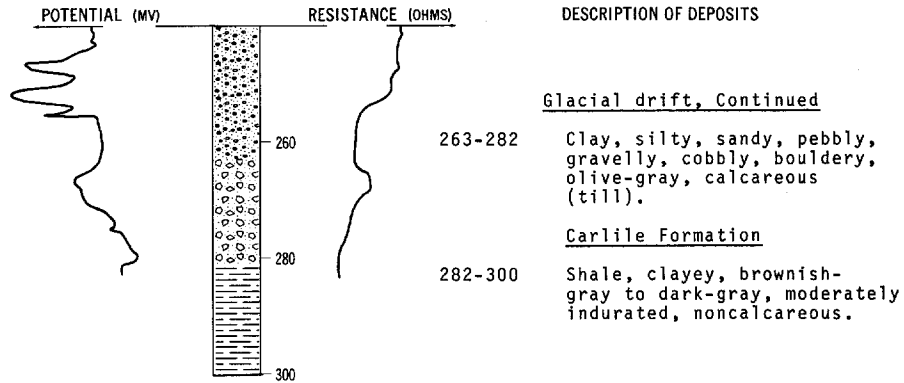
NDSWC 5619, Continued

LOCATION: 144-55-33CAD2

DATE DRILLED: December 1969

ALTITUDE: 1180  
(FT, MSL)

DEPTH: 300  
(FT)



144-55-33CDA  
(Log from Great Northern Railway Co.)

Altitude: 1180 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
	Fill-----	2	2
Glacial drift:			
	Clay, yellow, bouldery-----	47	49
	Sand, blue, water bearing-----	21	70

144-56-01ADA  
USGS 19  
(Log from Dennis, 1948)

Altitude: 1215 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Till, weathered, gray-----	5	5
	Sand, coarse, with considerable clay---	2	7
	Till, weathered, yellow-----	6	13
	Gravel, and sand, with some clay-----	5	18
	Till, unweathered, gray-----	3	21
	Gravel and sand, with some clay-----	13	34
	Till, gray-----	16	50

144-56-01BCB1  
USGS 16  
(Log from Dennis, 1948)

Altitude: 1240 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Till, weathered, yellow-----	25	25
	Till, unweathered, gray-----	11	36
	Sand and gravel-----	4	40
	Till, gray, bouldery-----	30	70

144-56-01CBA  
USGS 17  
(Log from Dennis, 1948)

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, weathered, yellow-----	4	4
	Sand, coarse-----	2	6
	Till, weathered, yellow-----	18	24
	Till, unweathered, bouldery-----	6	30
	Sand, coarse-----	4	34
	Till, gray, bouldery-----	22	56

144-56-01DDD  
USGS 20  
(Log from Dennis, 1948)

Altitude: 1210 feet

Glacial drift:			
	Till, weathered, yellow, bouldery-----	14	14
	Sand and gravel-----	26	40
	Till, unweathered, gray-----	10	50

144-56-02ABA  
USGS 18  
(Log from Dennis, 1948)

Altitude: 1240 feet

Glacial drift:			
	Till, weathered, yellow-----	8	8
	Sand and gravel, with considerable yellow clay-----	10	18
	Sand and gravel, with considerable gray clay-----	22	48
	Till, gray, bouldery-----	12	60

144-56-06BB  
(Log from I. J. Wilhite and Simcox 011)

Altitude: 1380 feet

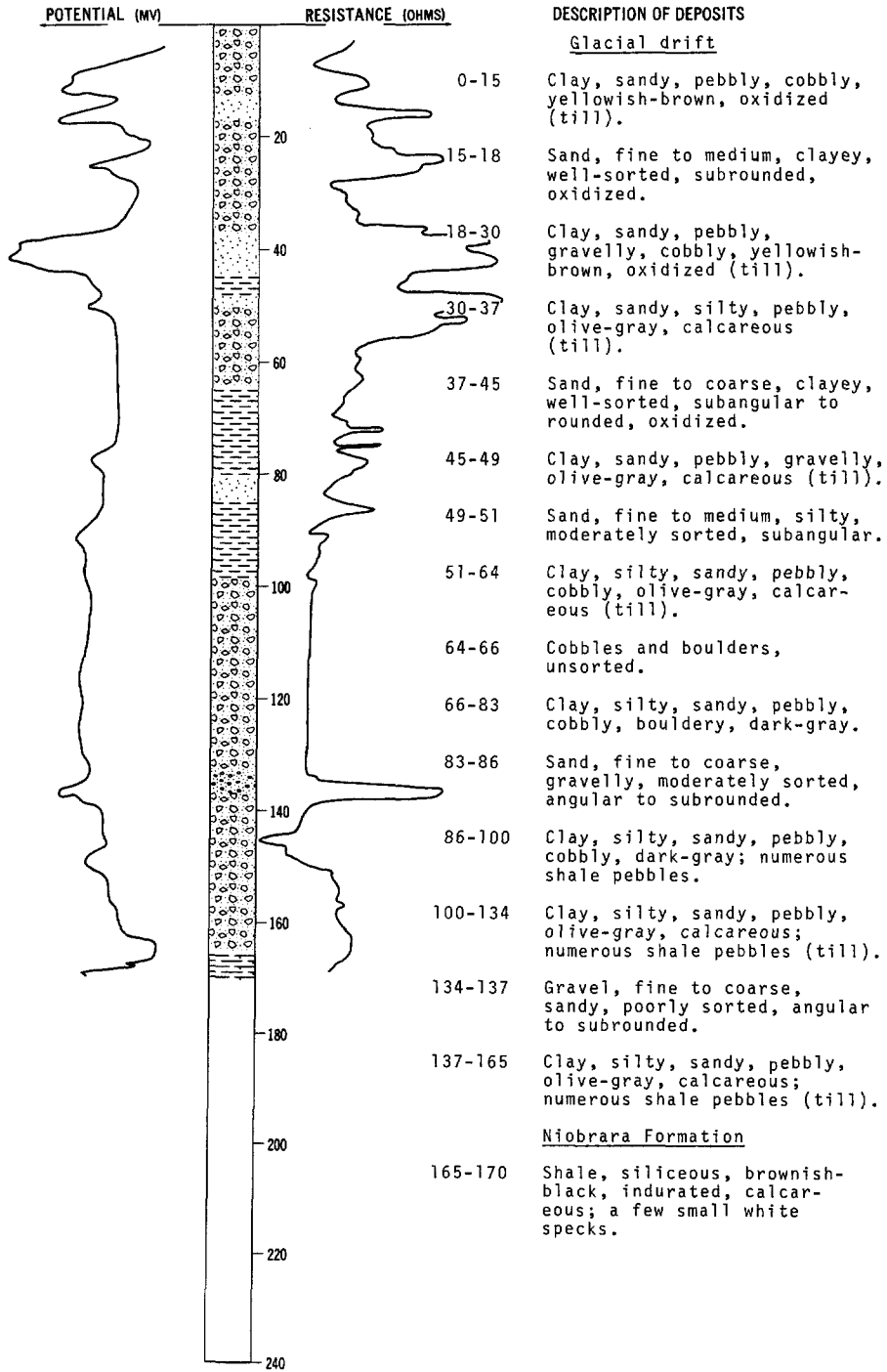
Glacial drift:			
	Clay, silty, sandy, gray; with cobbles and boulders (till)-----	198	198
Cretaceous, undifferentiated:			
	Shale, gray, calcareous; traces of calcite and pyrite-----	347	545
	Shale, dark-gray, sandy, calcareous; with interbedded limestone and tan calcareous specks-----	245	790
	Shale, medium-gray, soft, bentonitic, silty; with interbedded sandstone and siltstone-----	75	865

LOCATION: 144-56-10BBC

DATE DRILLED: July 1972

ALTITUDE: 1280  
(FT, MSL)

DEPTH: 170  
(FT)

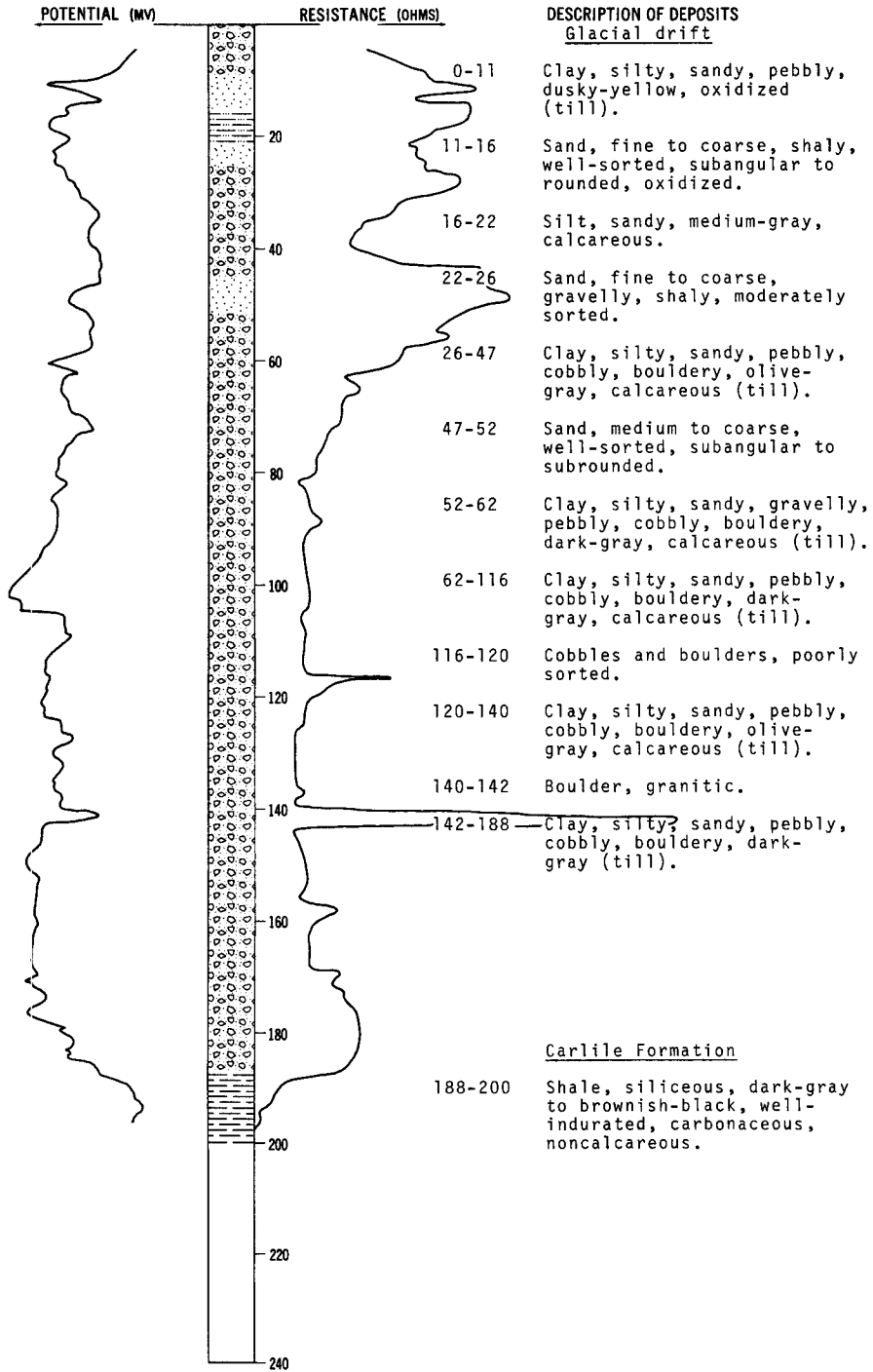


LOCATION: 144-56-13CCC

DATE DRILLED: July 1972

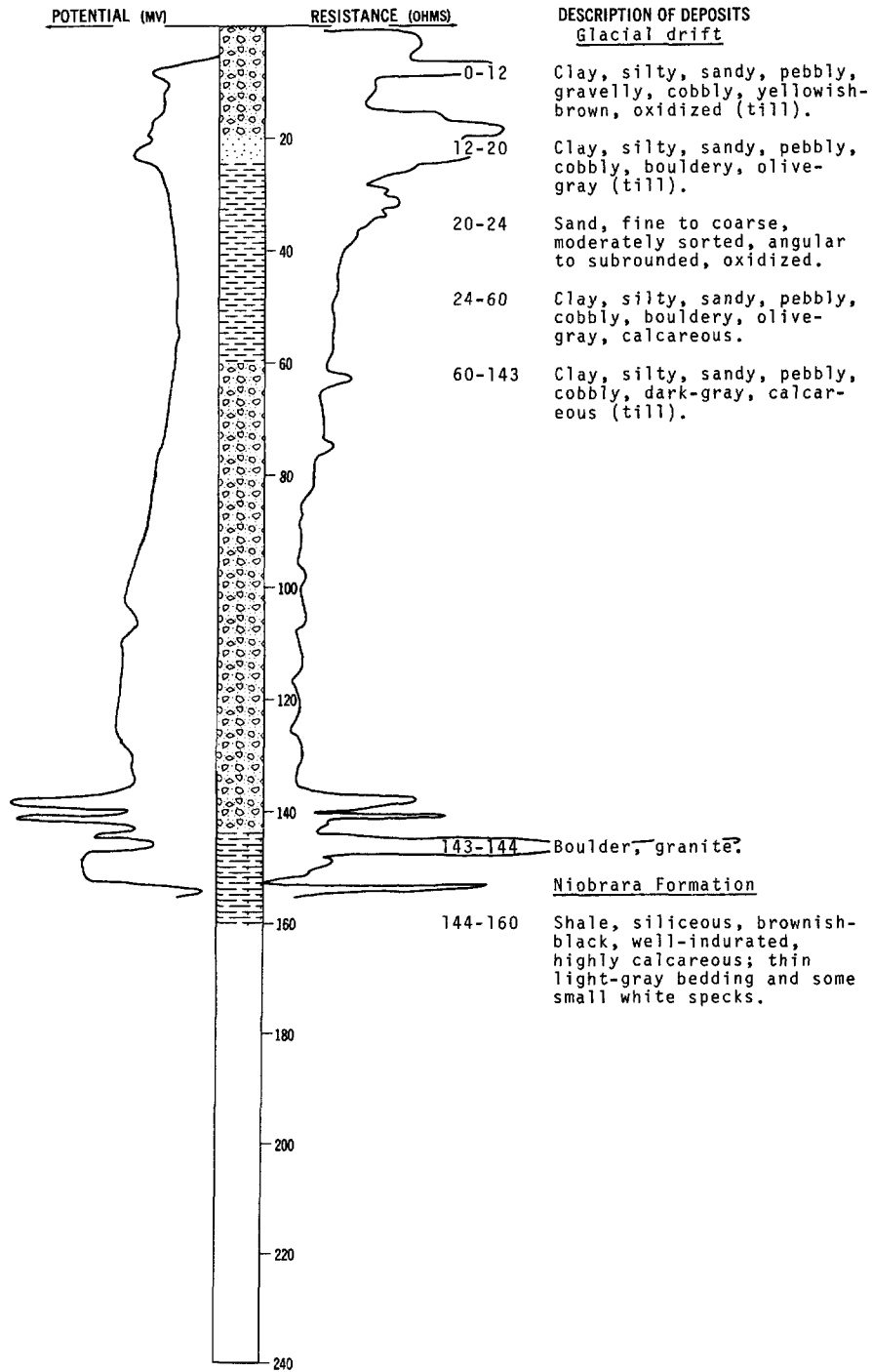
ALTITUDE: 1220  
(FT, MSL)

DEPTH: 200  
(FT)



LOCATION: 144-56-21AAA  
 ALTITUDE: 1265  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 160  
 (FT)



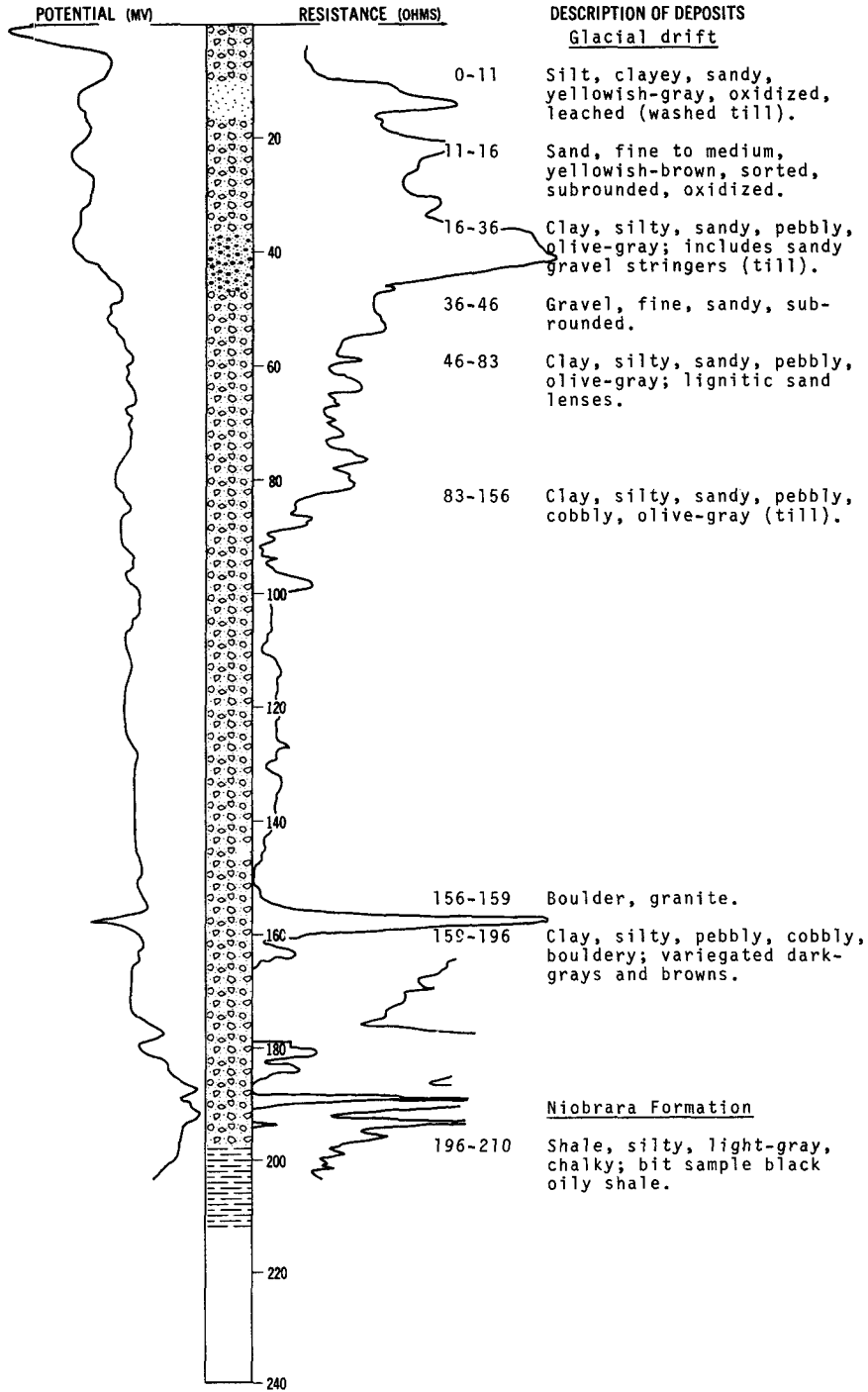


LOCATION: 144-56-28CCC

DATE DRILLED: October 1970

ALTITUDE: 1305  
(FT, MSL)

DEPTH: 210  
(FT)



144-56-290DB  
(Log from U.S. Air Force)

Altitude: 1308 feet

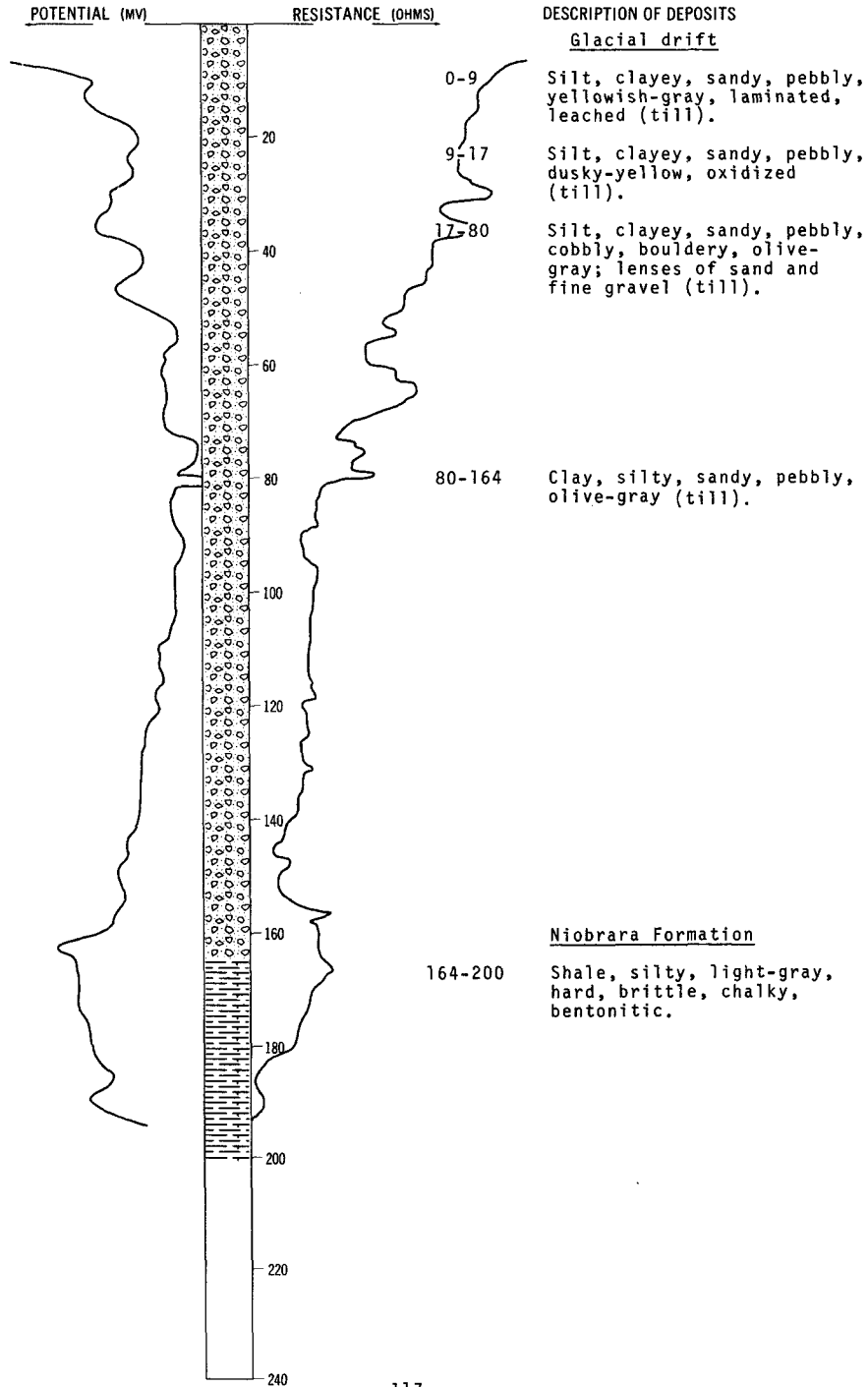
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Clay, sandy, organic, black-----	2	2
	Clay, silty, sandy, trace of gravel, brown-----	17	19
	Clay, silty, sandy, trace of gravel, gray-----	5	24
	Silt, sandy, clayey, gray-----	10	34
	Sand, fine, silty, clayey, trace of gravel, gray-----	3.5	37.5
	Clay, sandy, silty, trace of gravel, gray-----	31.5	69
	Sand, fine, silty, dark-gray-----	7.5	76.5
	Clay, sandy, silty, trace of gravel gray-----	20.5	97
	Silt, clayey, sandy, gray-----	3	100

LOCATION: 144-56-31CDC

DATE DRILLED: October 1970

ALTITUDE: 1340  
(FT, MSL)

DEPTH: 200  
(FT)

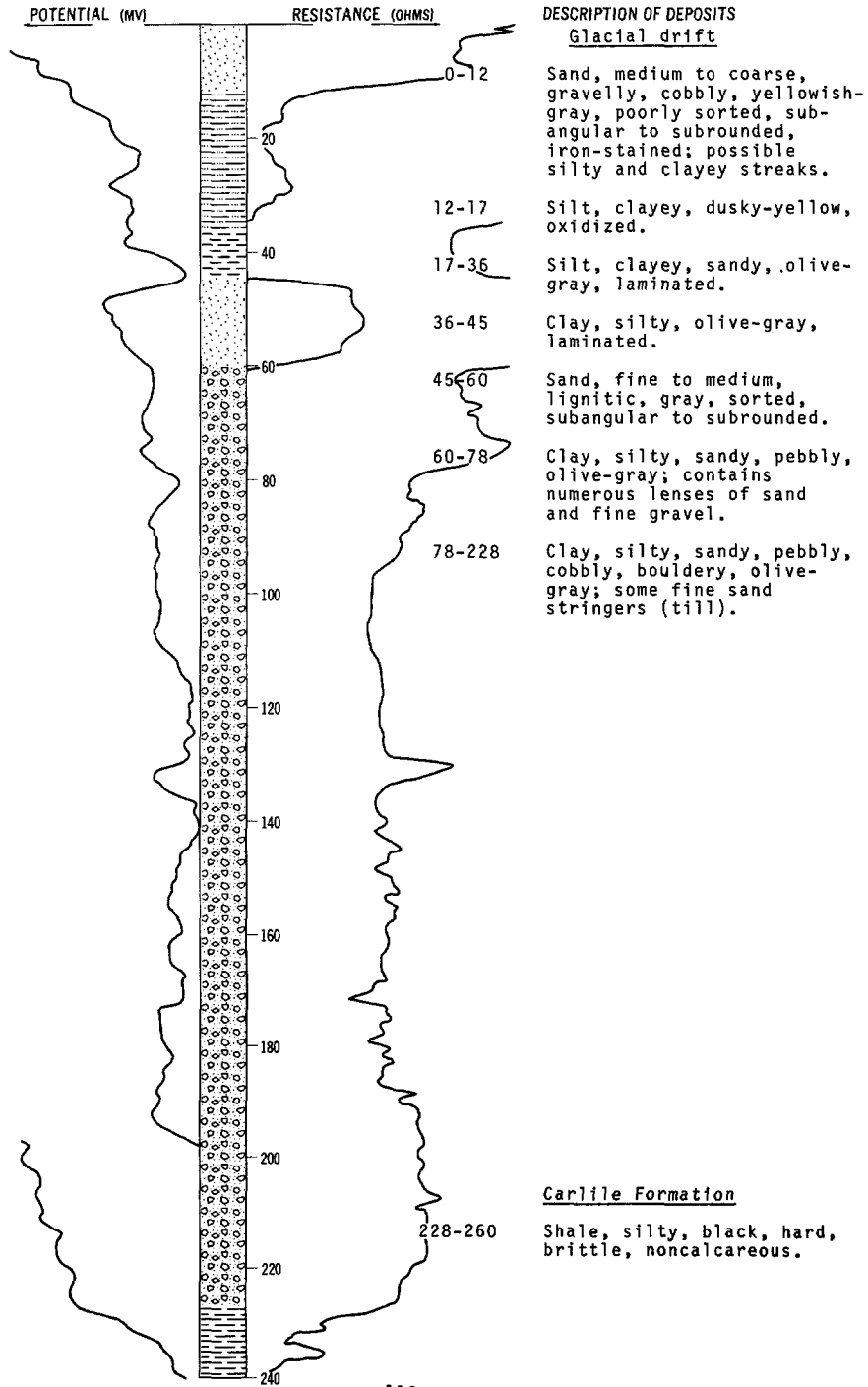


LOCATION: 144-56-35DAA

DATE DRILLED: October 1970

ALTITUDE: 1200  
(FT, MSL)

DEPTH: 260  
(FT)

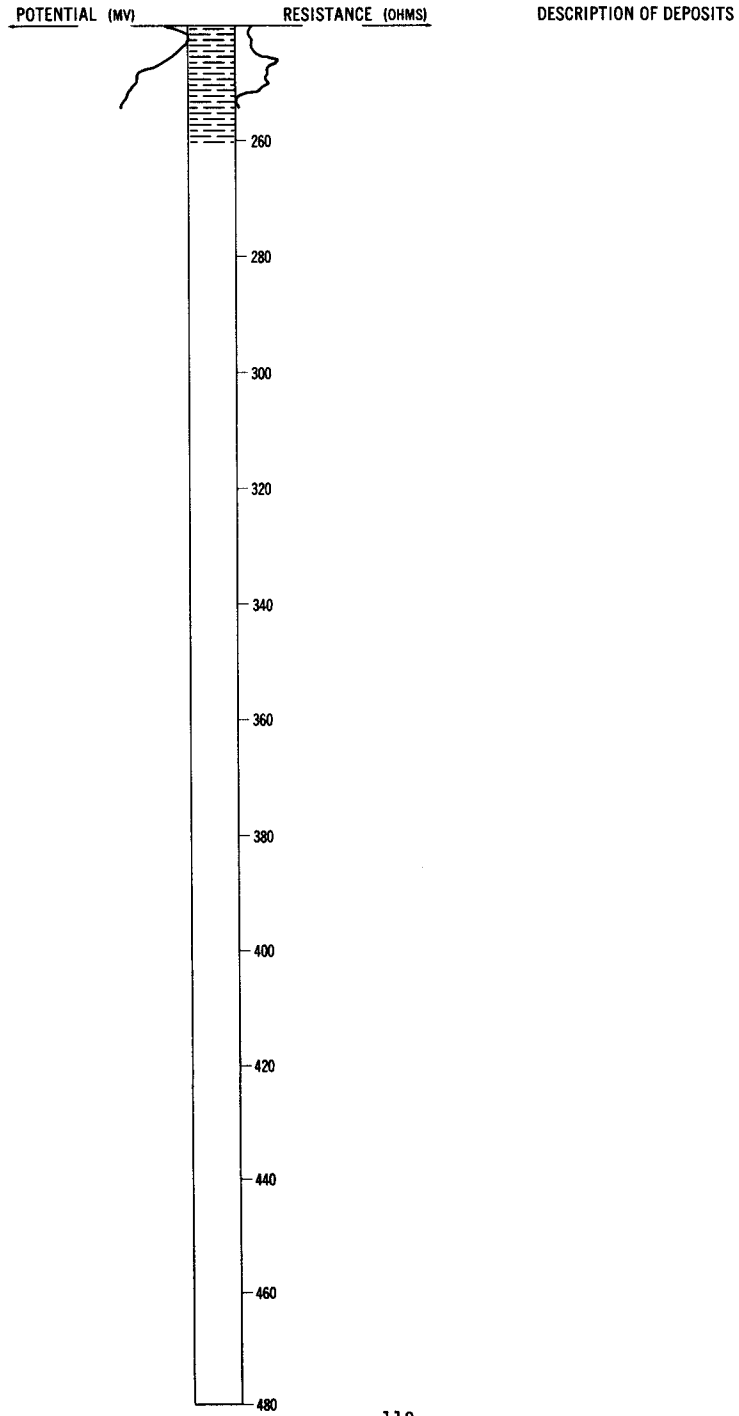


LOCATION: 144-56-35DAA

DATE DRILLED: October 1970

ALTITUDE: 1200  
(FT, MSL)

DEPTH: 260  
(FT)

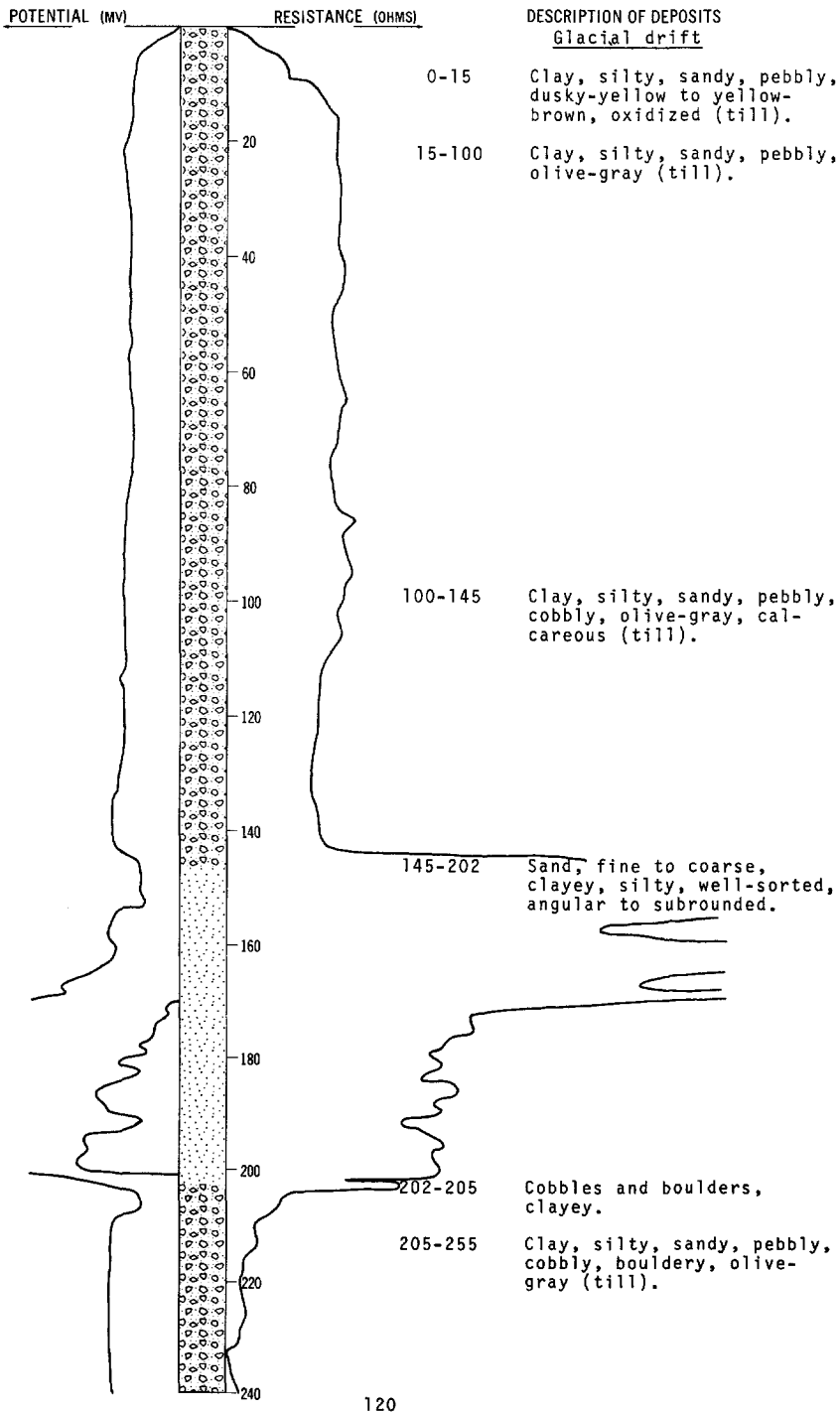


LOCATION: 144-57-05CCB

DATE DRILLED: July 1972

ALTITUDE: 1510  
(FT, MSL)

DEPTH: 340  
(FT)

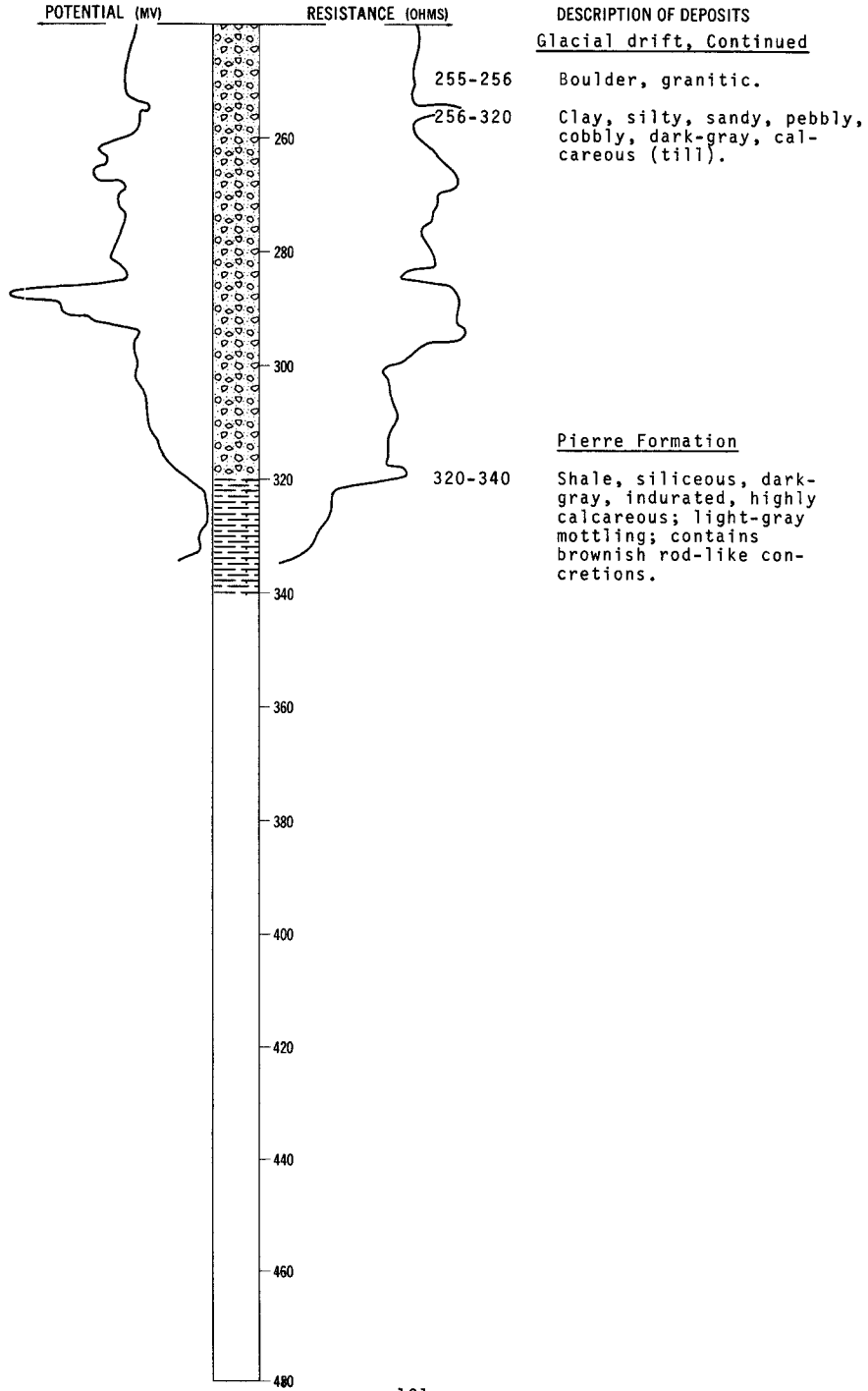


LOCATION: 144-57-05CCB

DATE DRILLED: July 1972

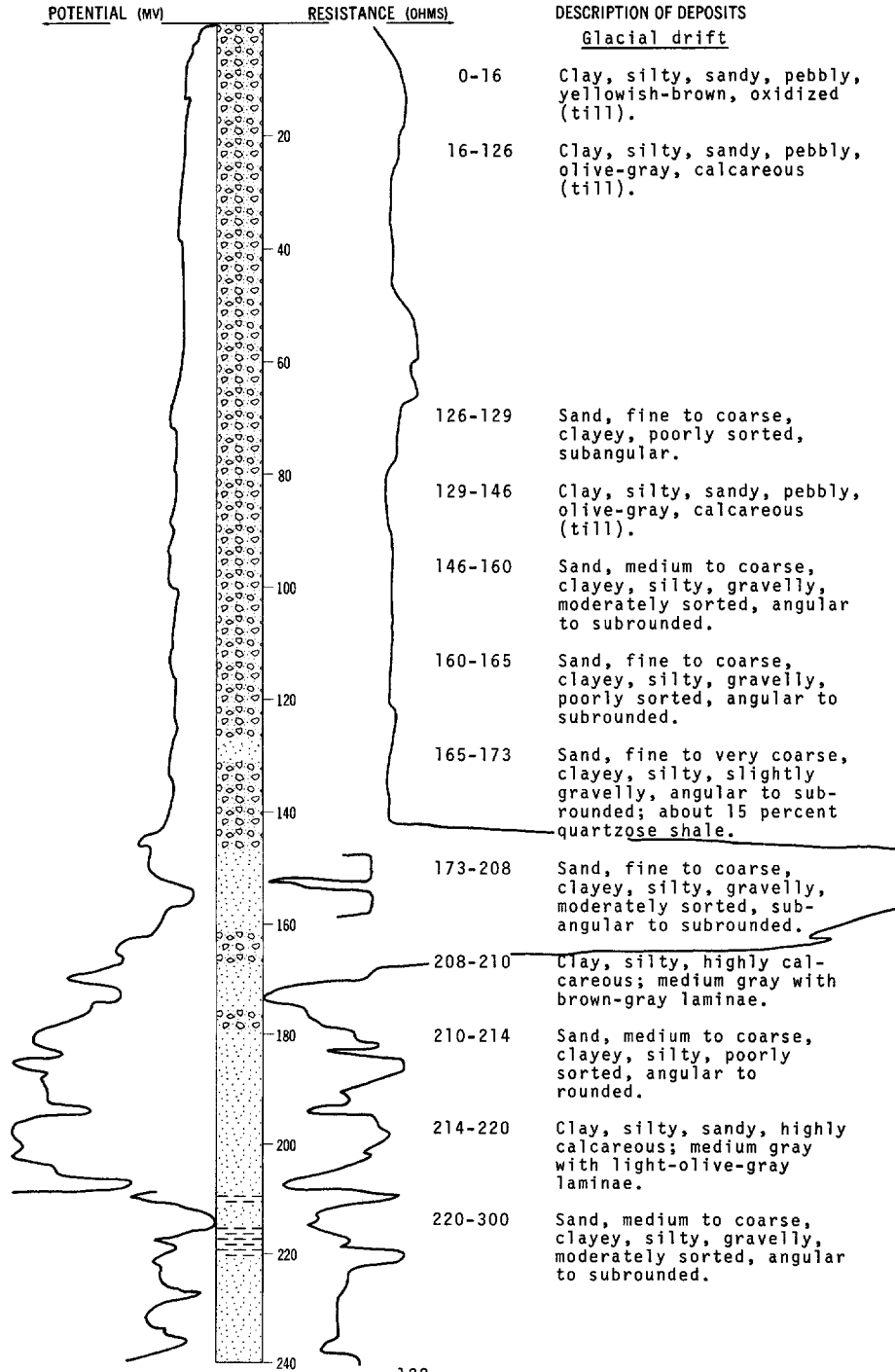
ALTITUDE: 1510  
(FT, MSL)

DEPTH: 340  
(FT)



LOCATION: 144-57-06DCC  
 ALTITUDE: 1502  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 400  
 (FT)





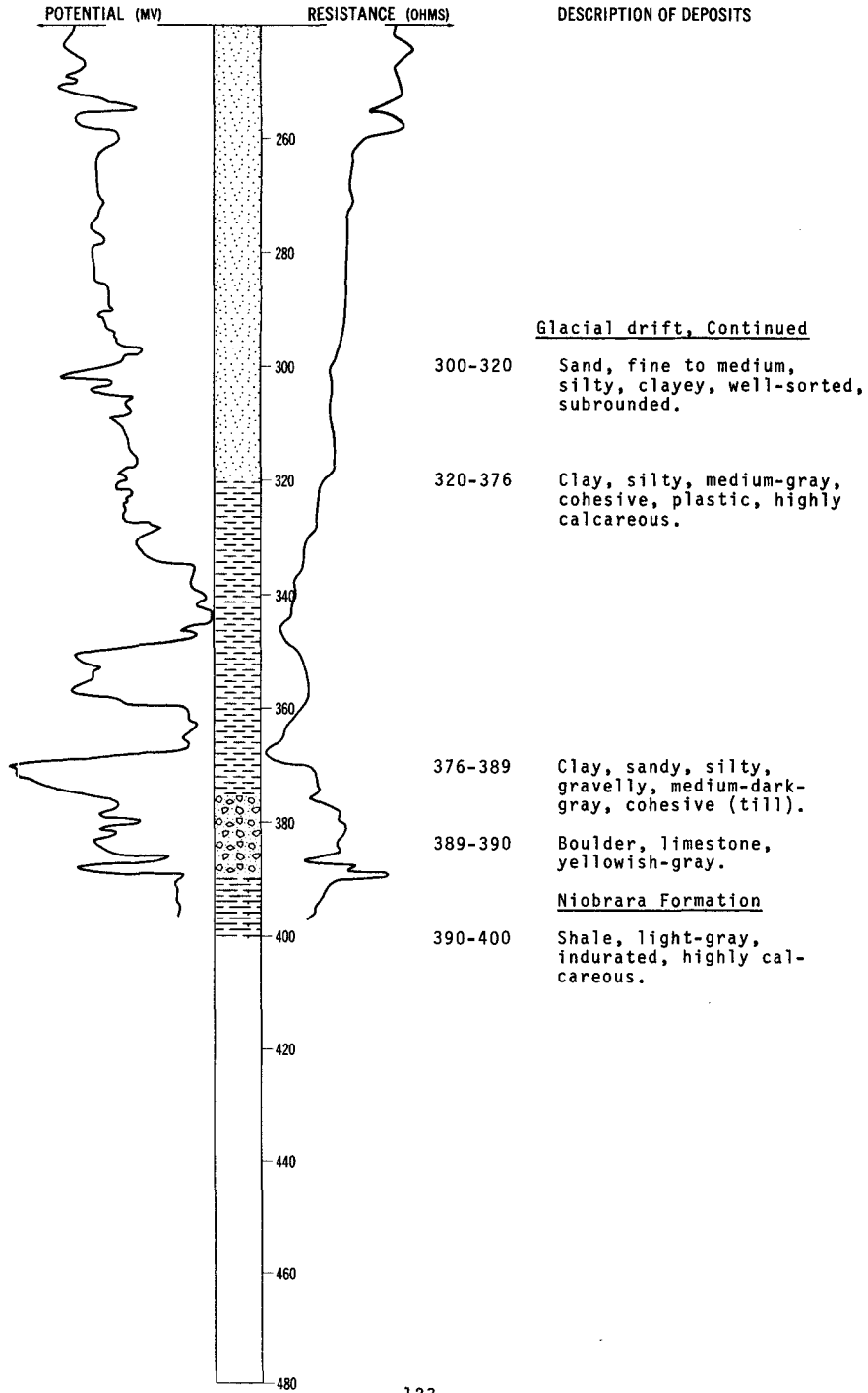
NDSWC 8420, Continued

LOCATION: 144-57-06DCC

DATE DRILLED: July 1972

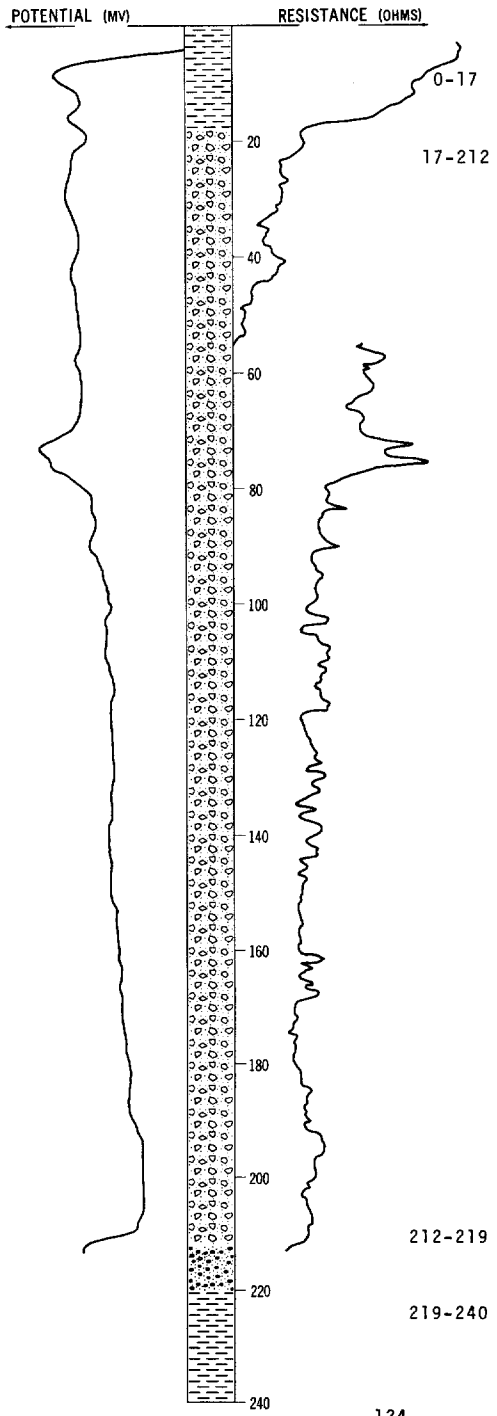
ALTITUDE: 1502  
(FT, MSL)

DEPTH: 400  
(FT)



LOCATION: 144-57-10AAA  
ALTITUDE: 1450  
(FT, MSL)

DATE DRILLED: June 1970  
DEPTH: 240  
(FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-17 Clay, silty, dusky-yellow; occasional sand grains or pebbles.

17-212 Clay, silty, sandy, pebbly, oxidized from 57 to 64 ft and silty from 72 to 77 ft.

212-219 Gravel, fine to coarse, cobbly, bouldery, white; mainly limestone fragments.

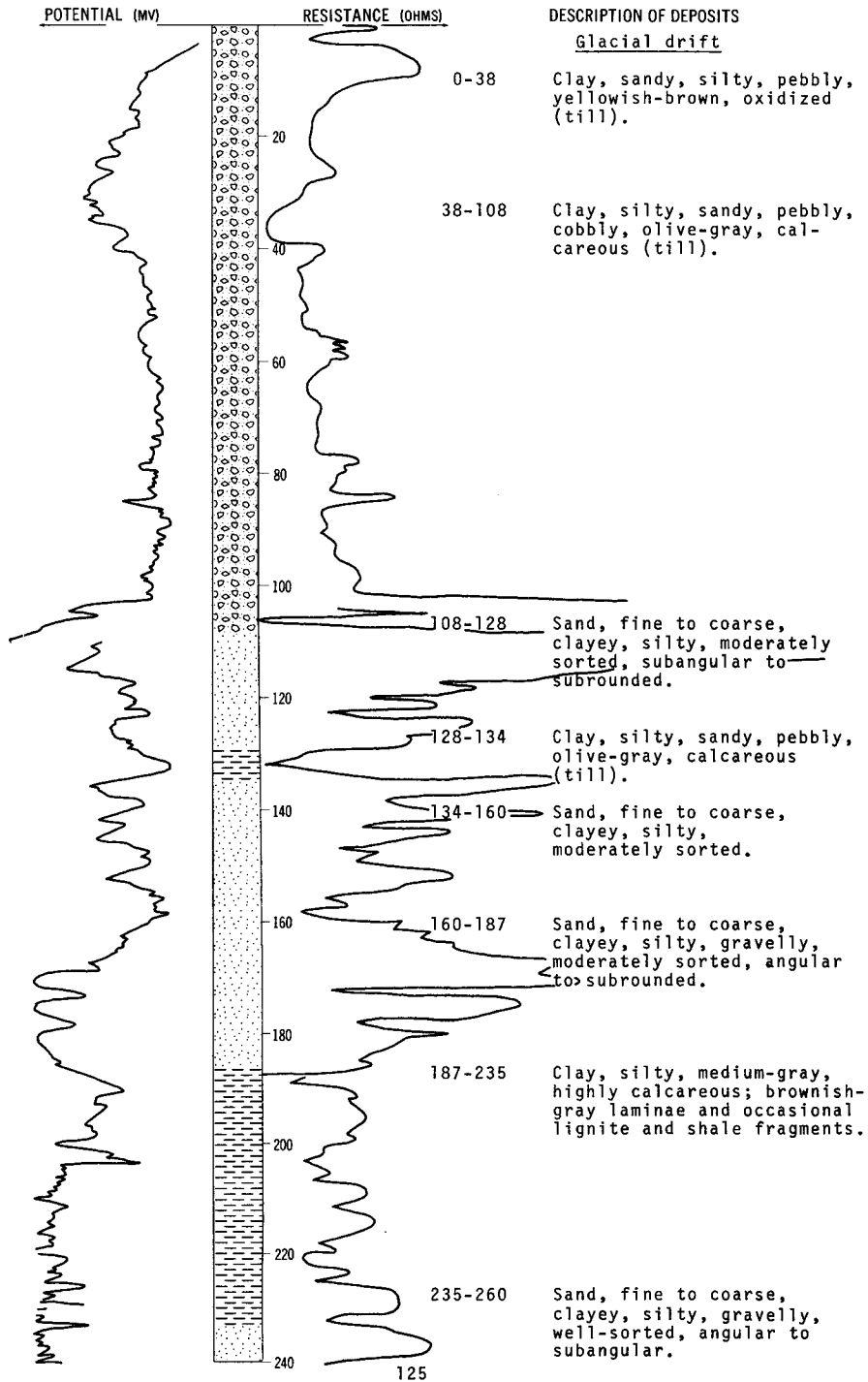
219-240 Clay?

LOCATION: 144-57-17CDD

DATE DRILLED: July 1972

ALTITUDE: 1463  
(FT, MSL)

DEPTH: 320  
(FT)



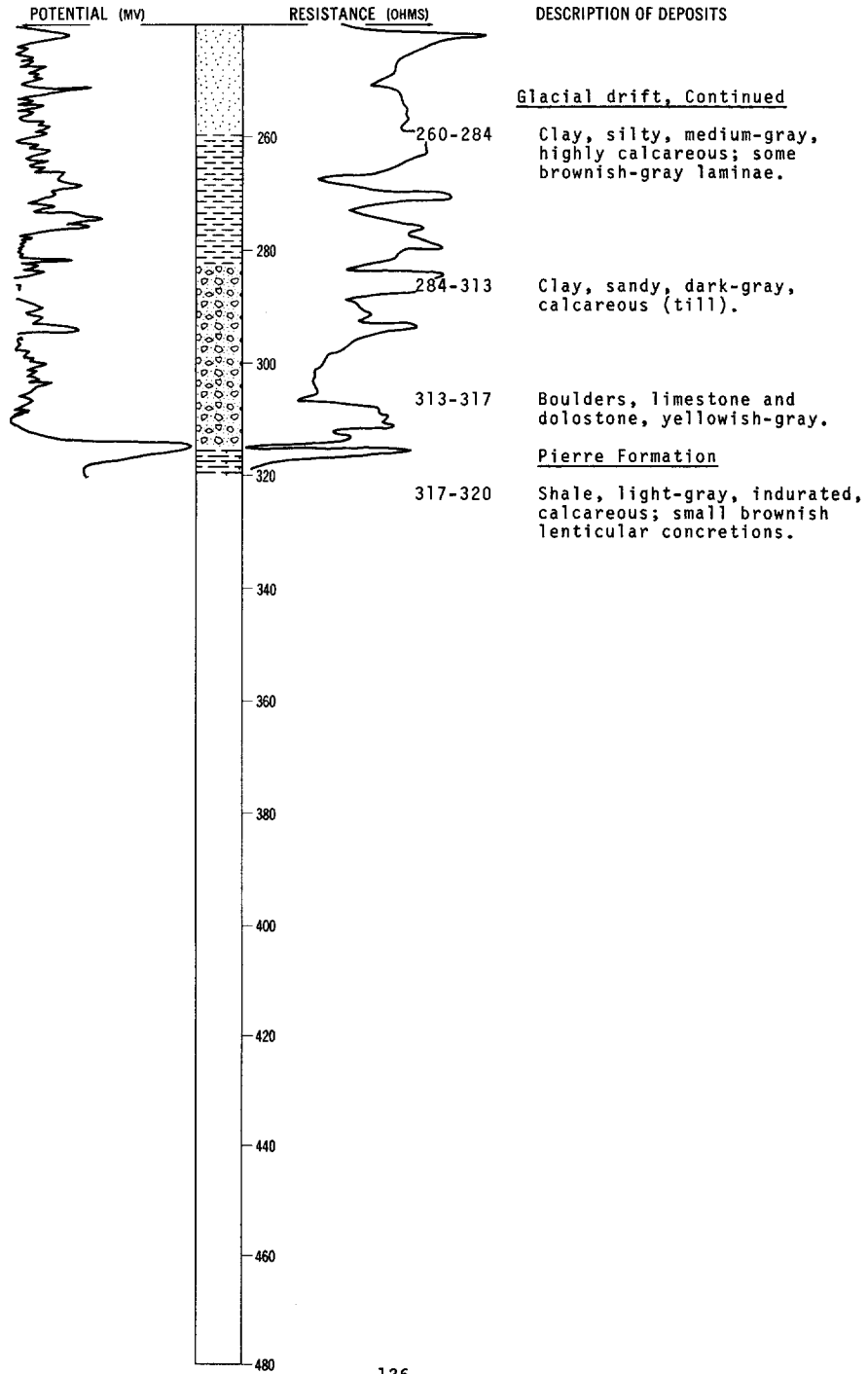
NDSWC 8423, Continued

LOCATION: 144-57-17CDD

DATE DRILLED: July 1972

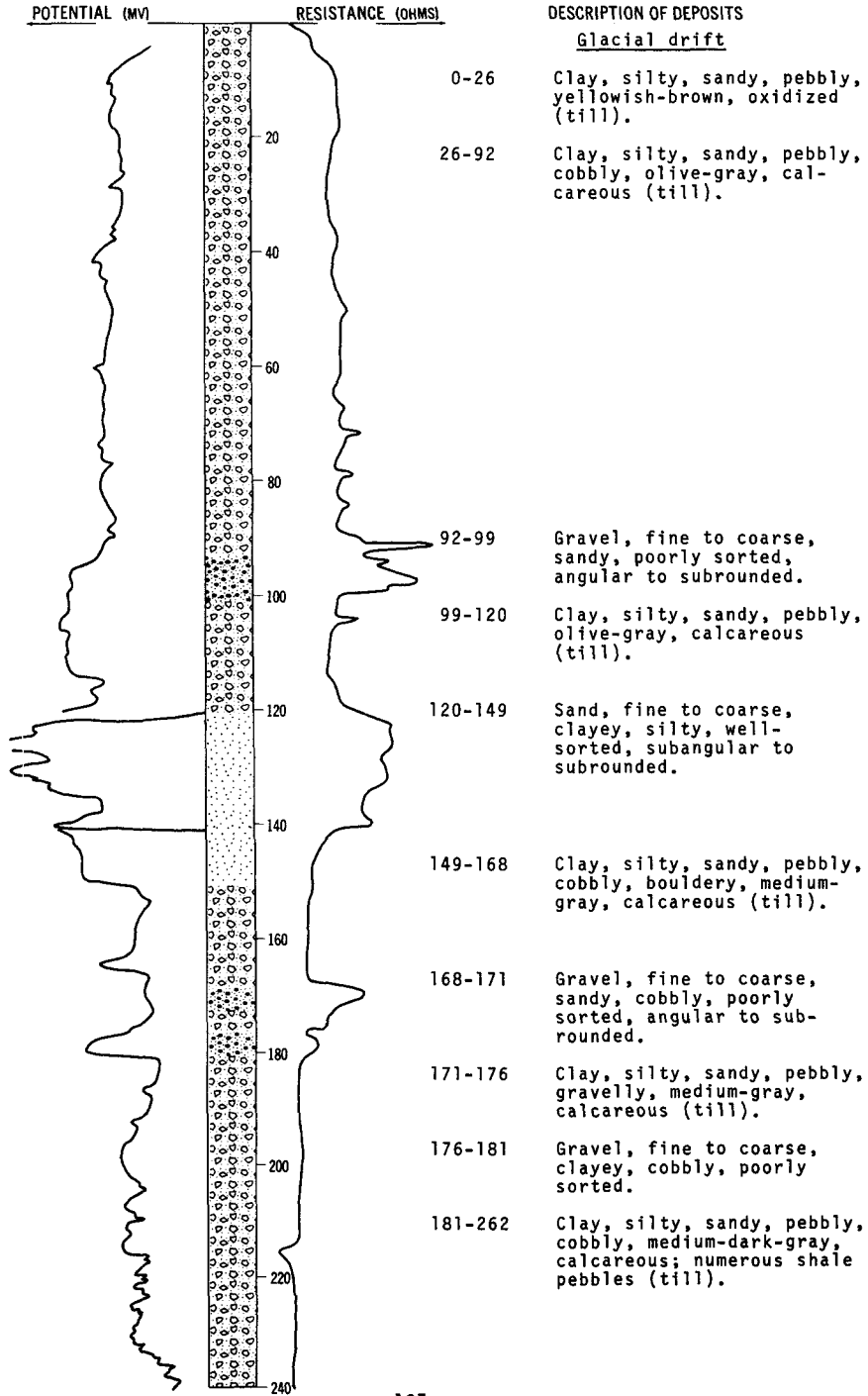
ALTITUDE: 1463  
(FT, MSL)

DEPTH: 320  
(FT)



LOCATION: 144-57-18DDD  
 ALTITUDE: 1460  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 280  
 (FT)



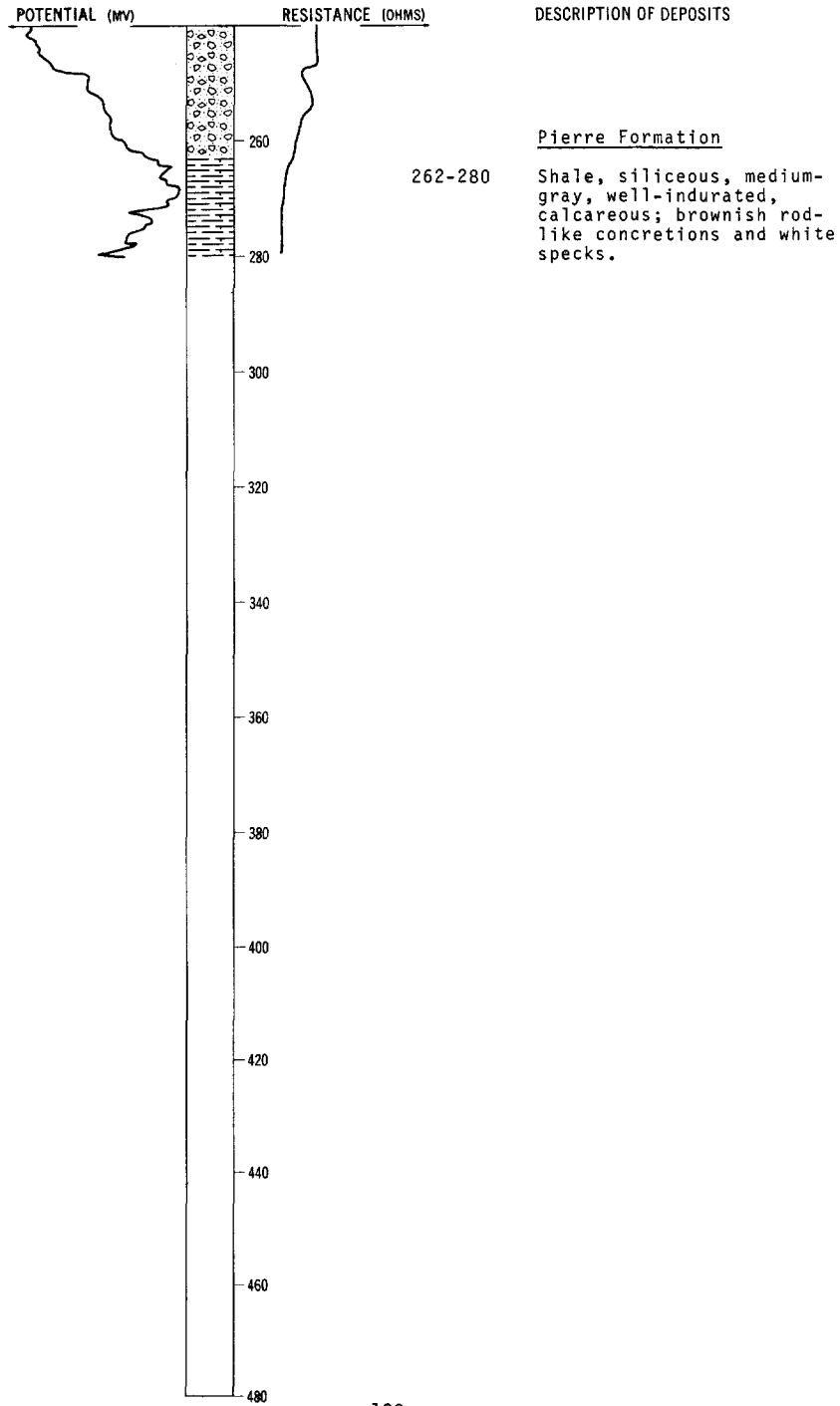
NDSWC 8421, Continued

LOCATION: 144-57-18DDD

DATE DRILLED: July 1972

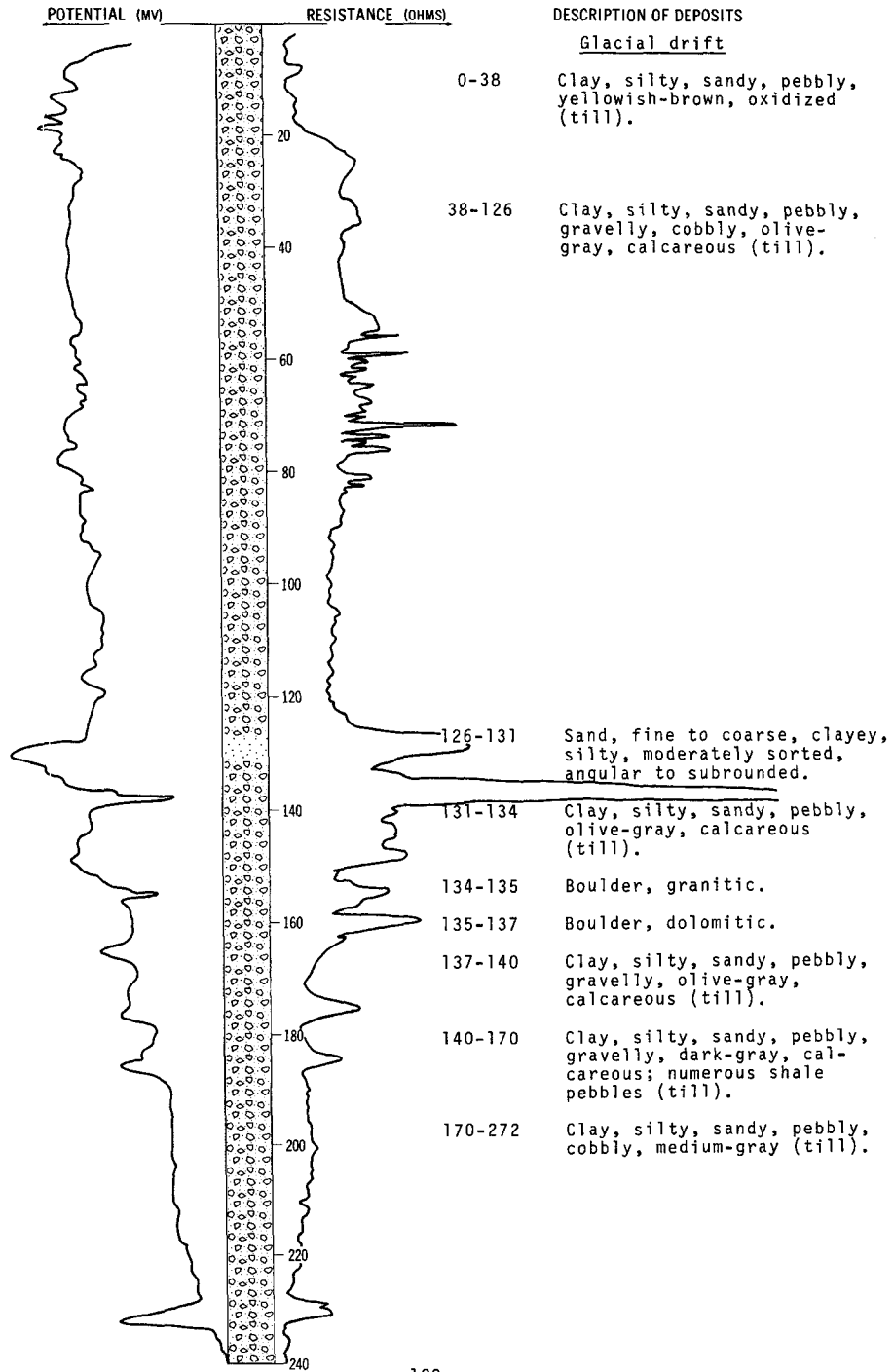
ALTITUDE: 1460  
(FT, MSL)

DEPTH: 280  
(FT)



LOCATION: 144-57-19ABB  
 ALTITUDE: 1475  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 280  
 (FT)



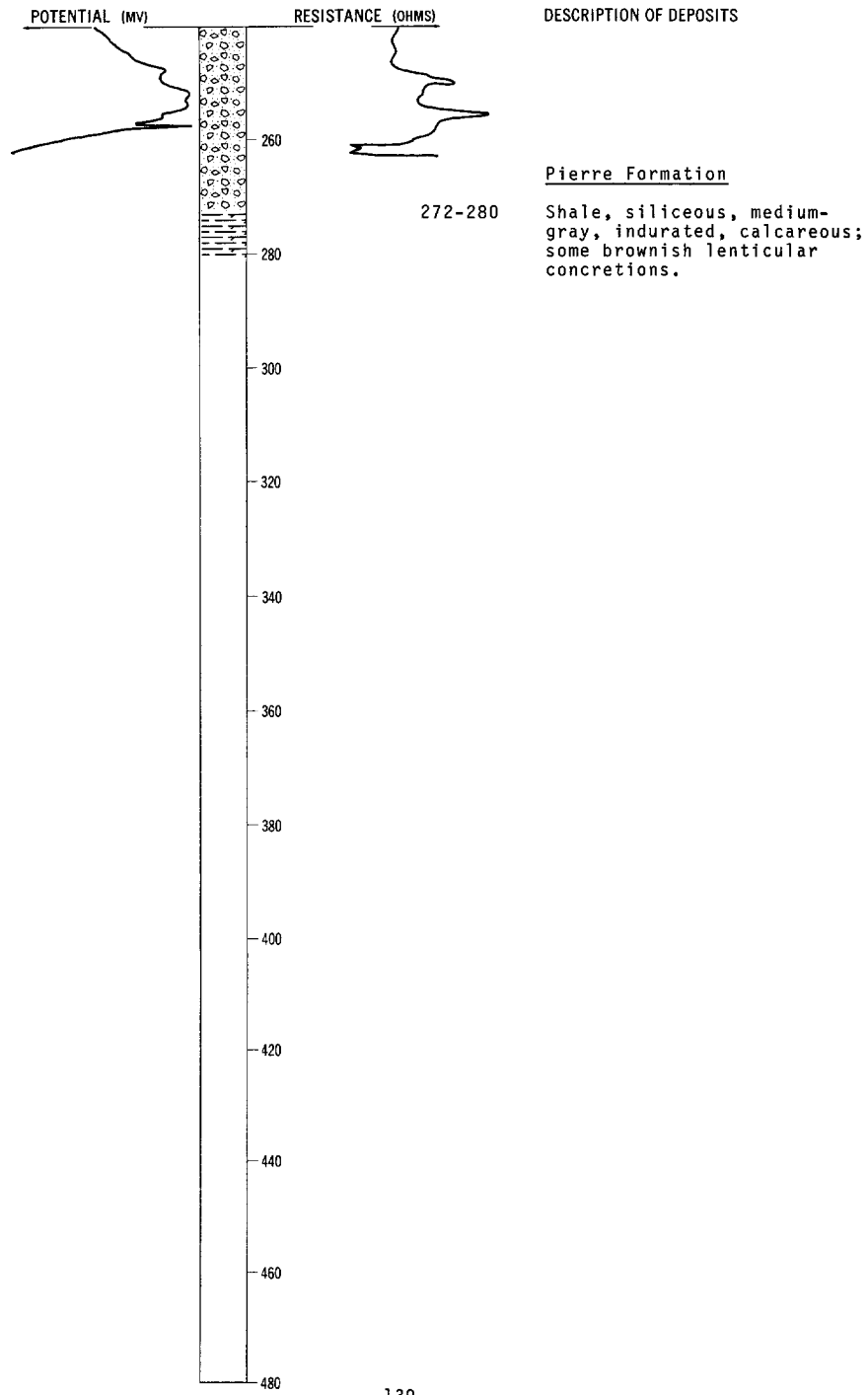
NDSWC 8422, Continued

LOCATION: 144-57-19ABB

DATE DRILLED: July 1972

ALTITUDE: 1475  
(FT, MSL)

DEPTH: 280  
(FT)



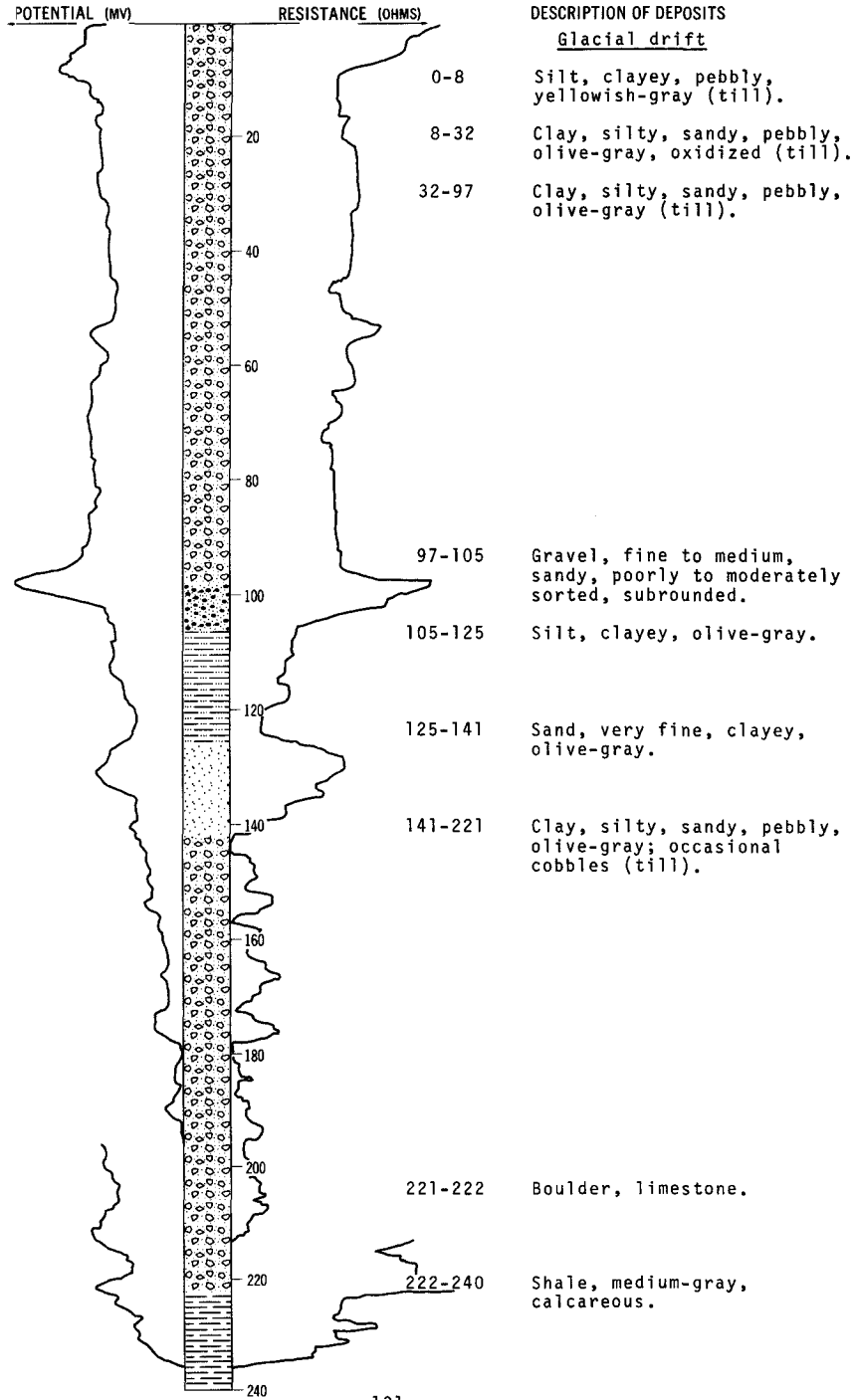


LOCATION: 144-57-19CCC

DATE DRILLED: August 1971

ELEVATION: 1459  
(FT, MSL)

DEPTH: 240  
(FT)

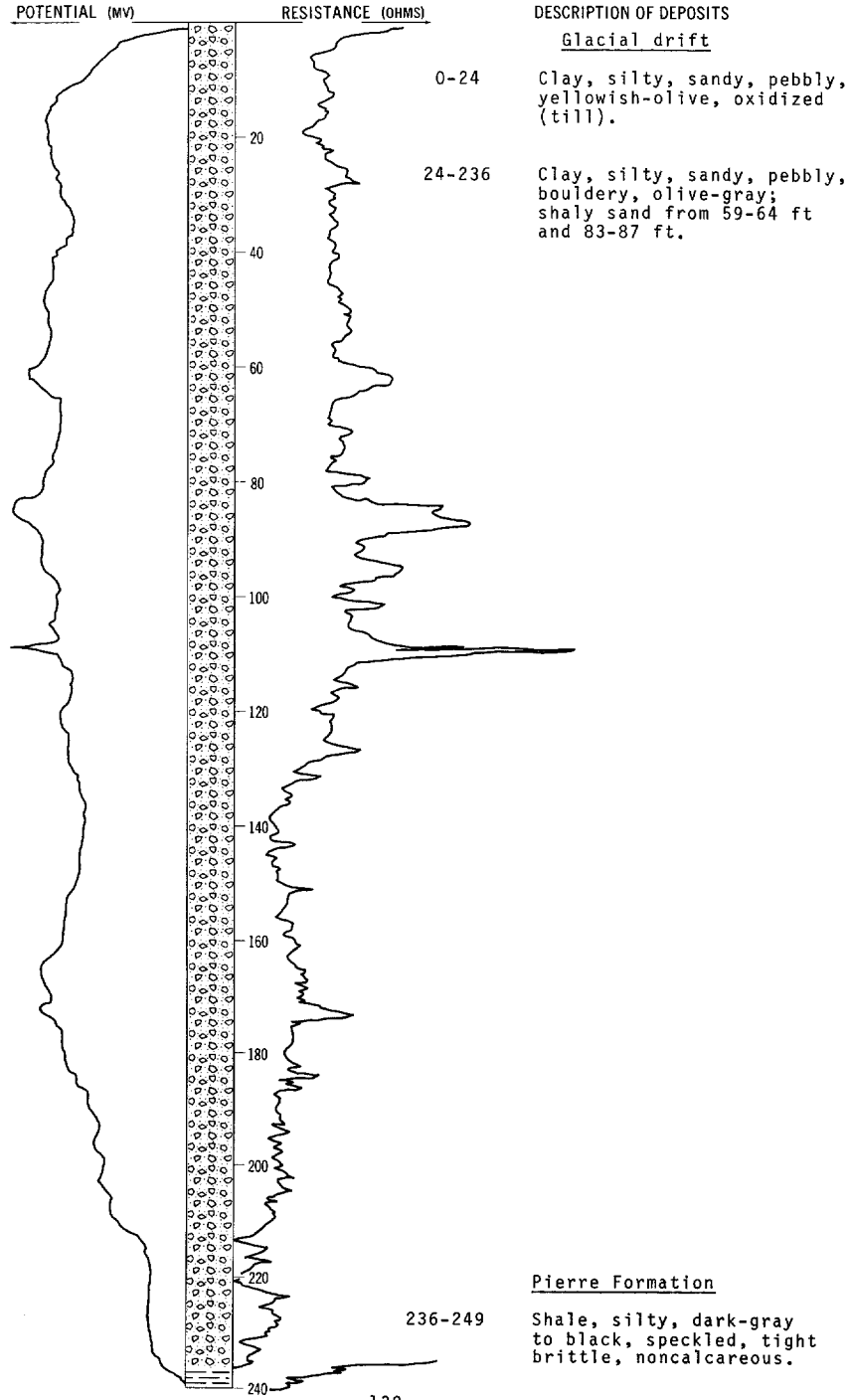


LOCATION: 144-57-21AAA

DATE DRILLED: June 1970

ALTITUDE: 1425  
(FT, MSL)

DEPTH: 260  
(FT)



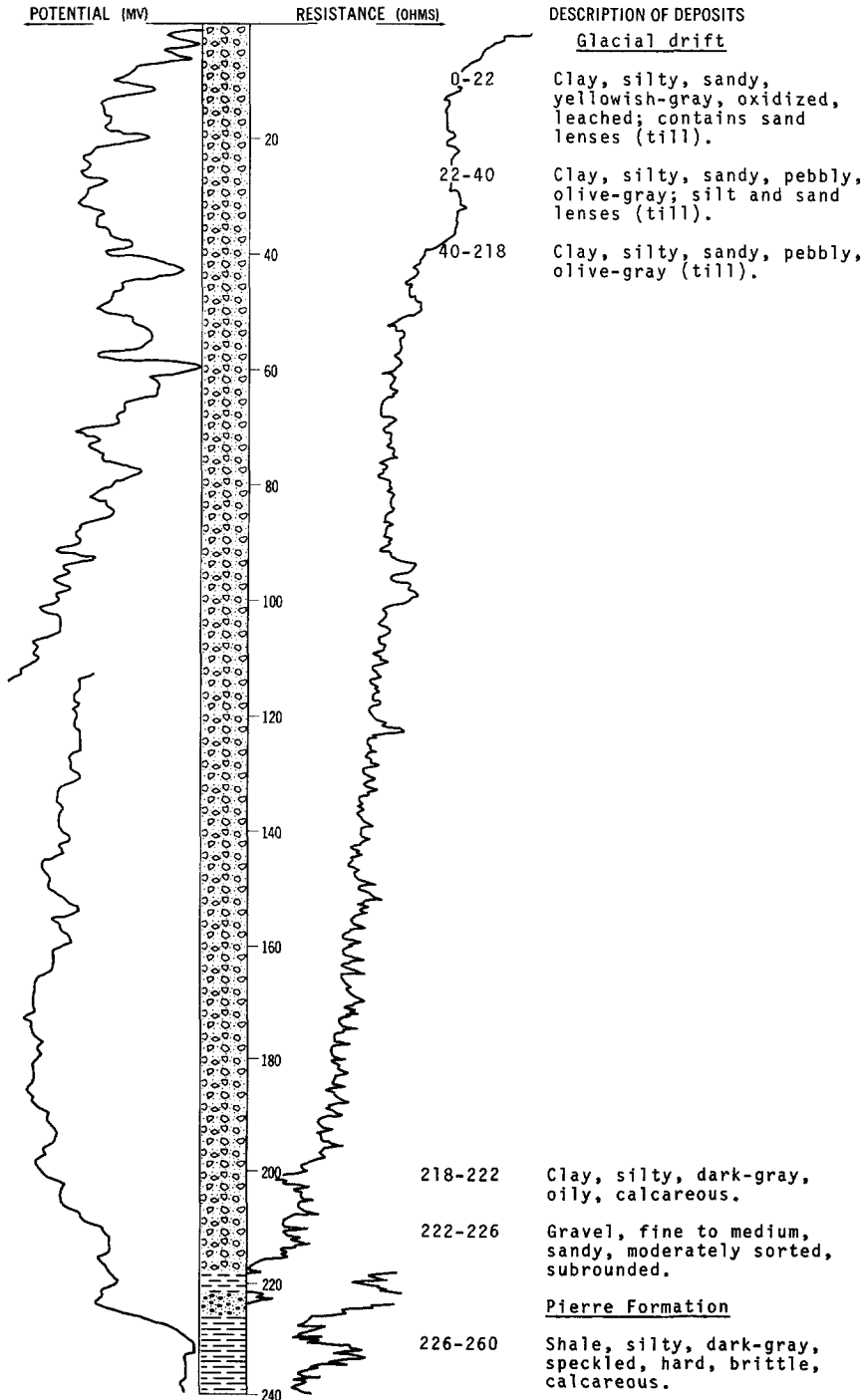


LOCATION: 144-57-21CCD

DATE DRILLED: October 1970

ALTITUDE: 1430  
(FT, MSL)

DEPTH: 260  
(FT)



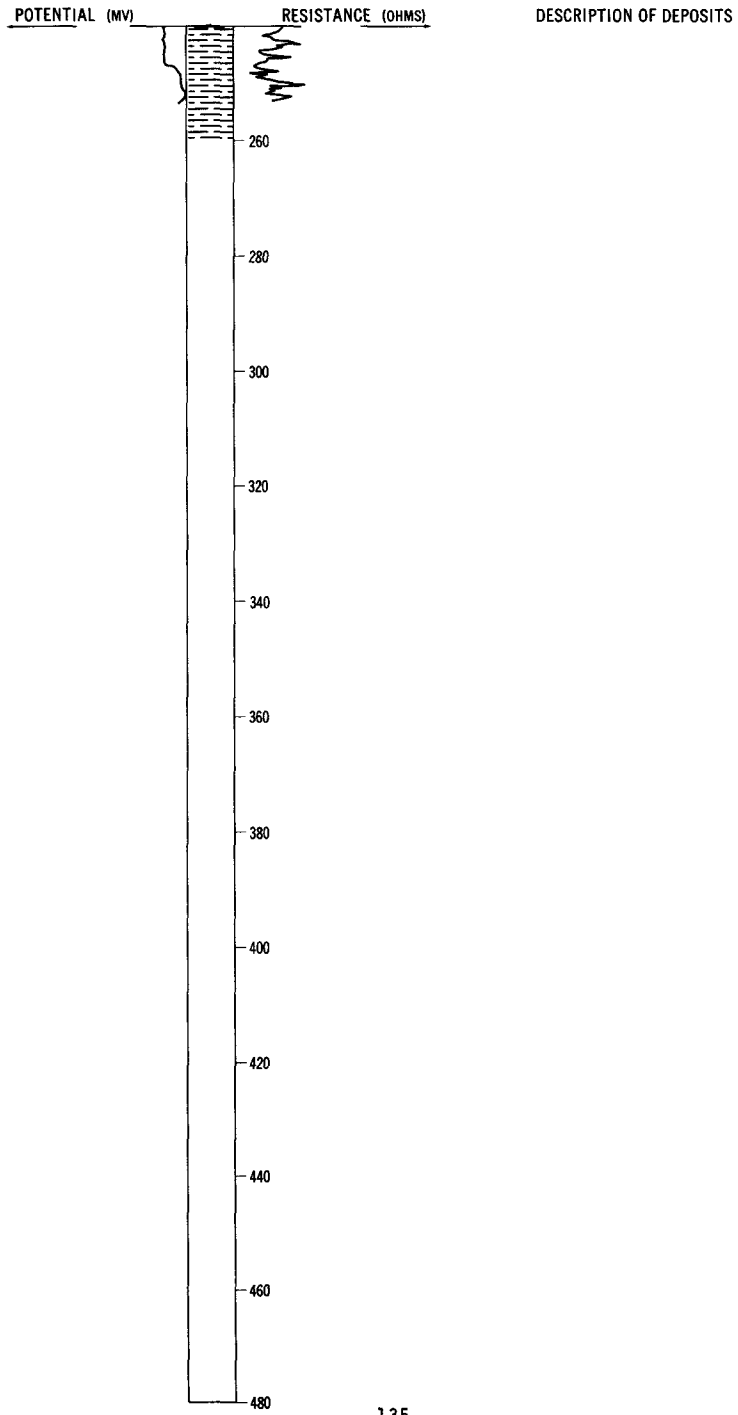
NDSWC 4268

LOCATION: 144-57-21CCD

DATE DRILLED: October 1970

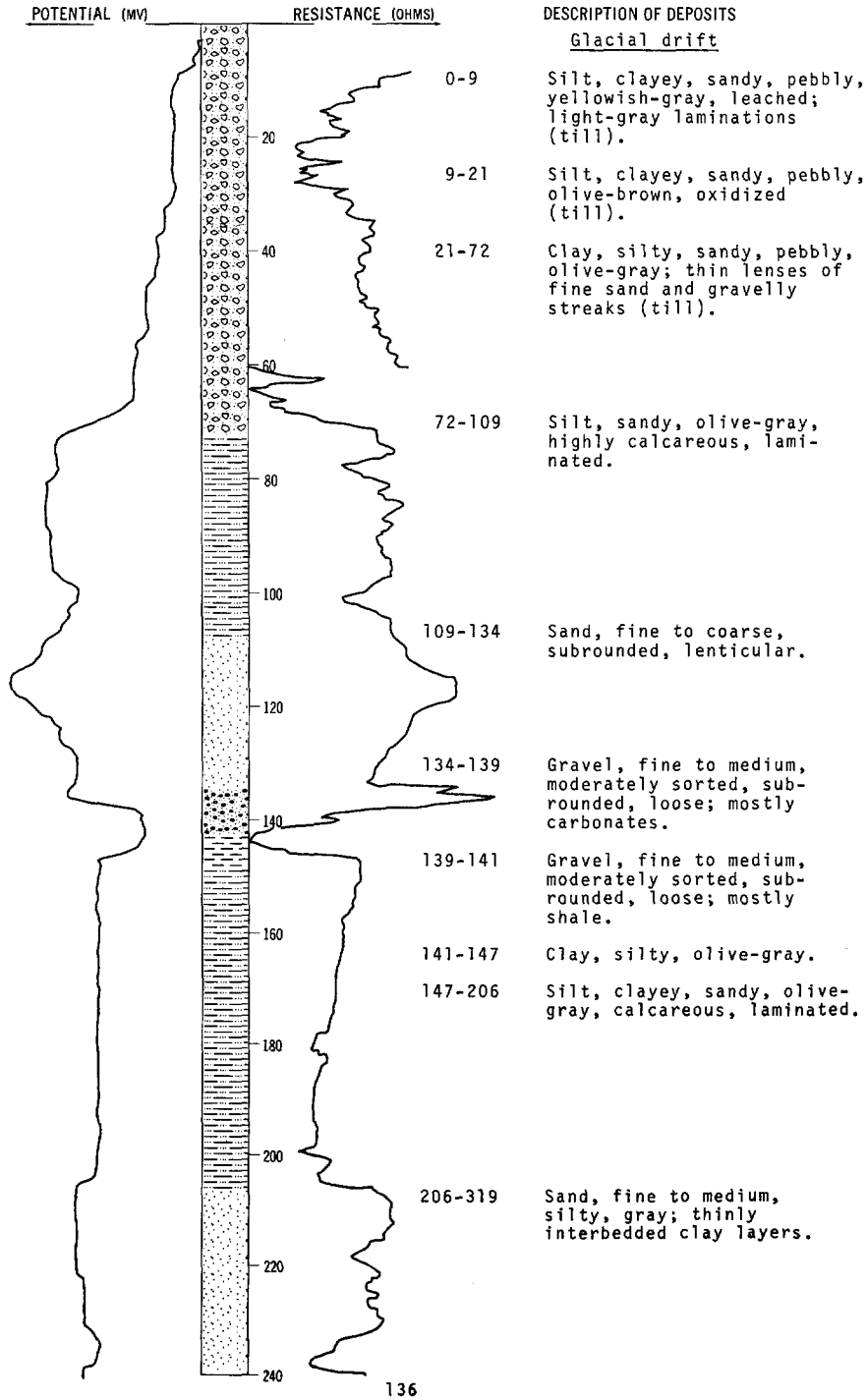
ALTITUDE: 1430  
(FT, MSL)

DEPTH: 260  
(FT)



LOCATION: 144-57-29CDC  
 ALTITUDE: 1440  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 360  
 (FT)

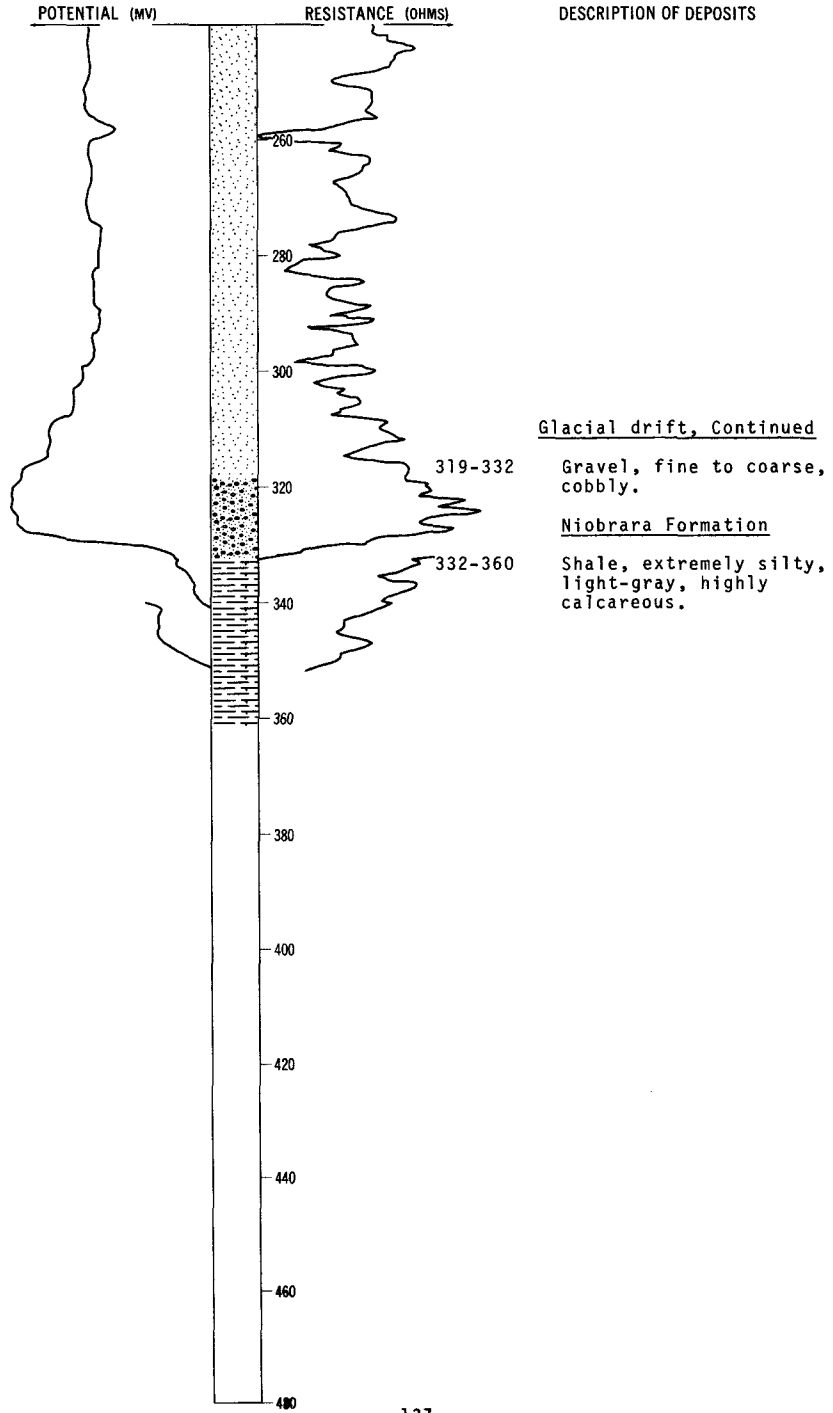


LOCATION: 144-57-29CDC

DATE DRILLED: October 1970

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 360  
(FT)

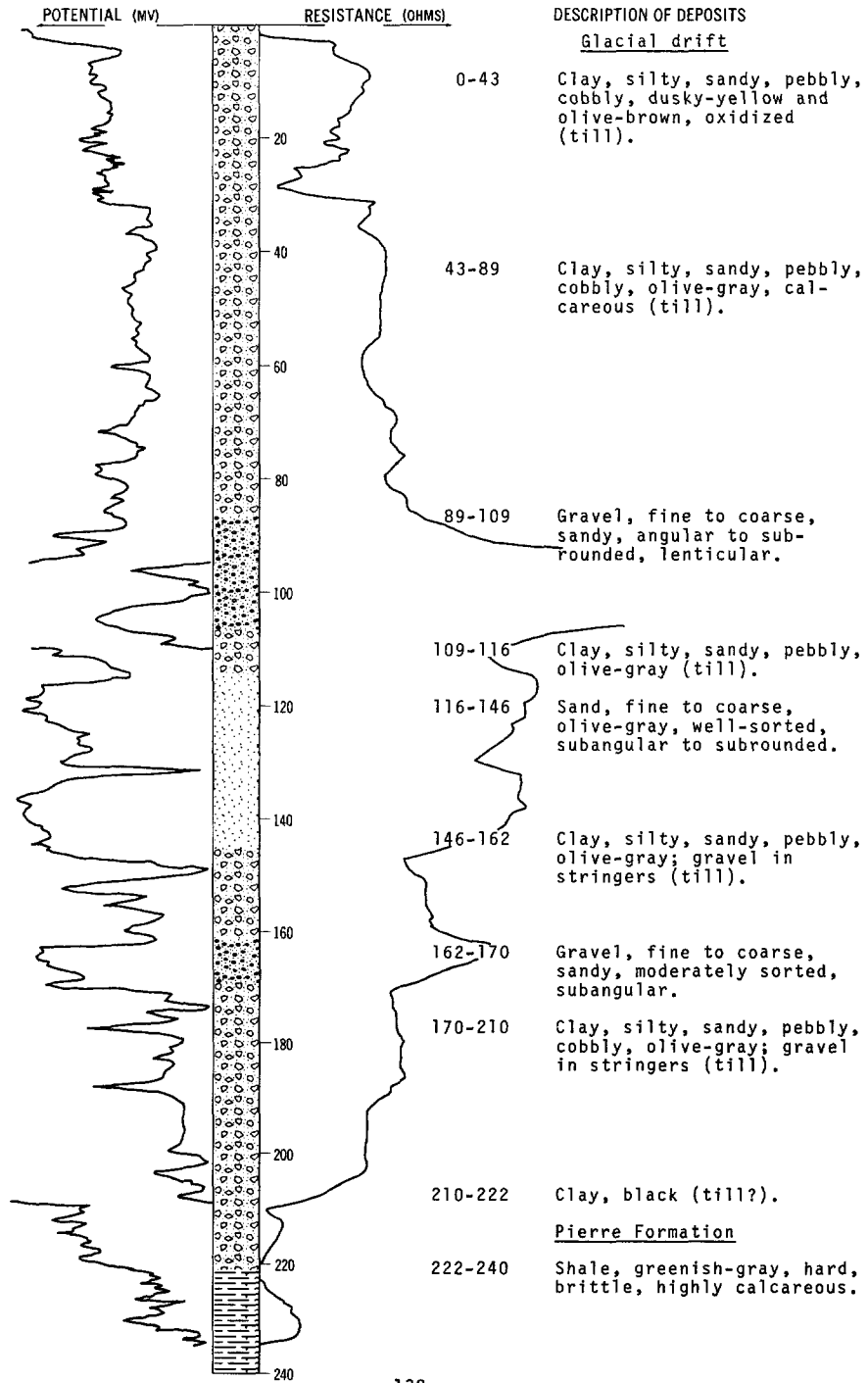


LOCATION: 144-57-31DAA

DATE DRILLED: June 1970

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 240  
(FT)



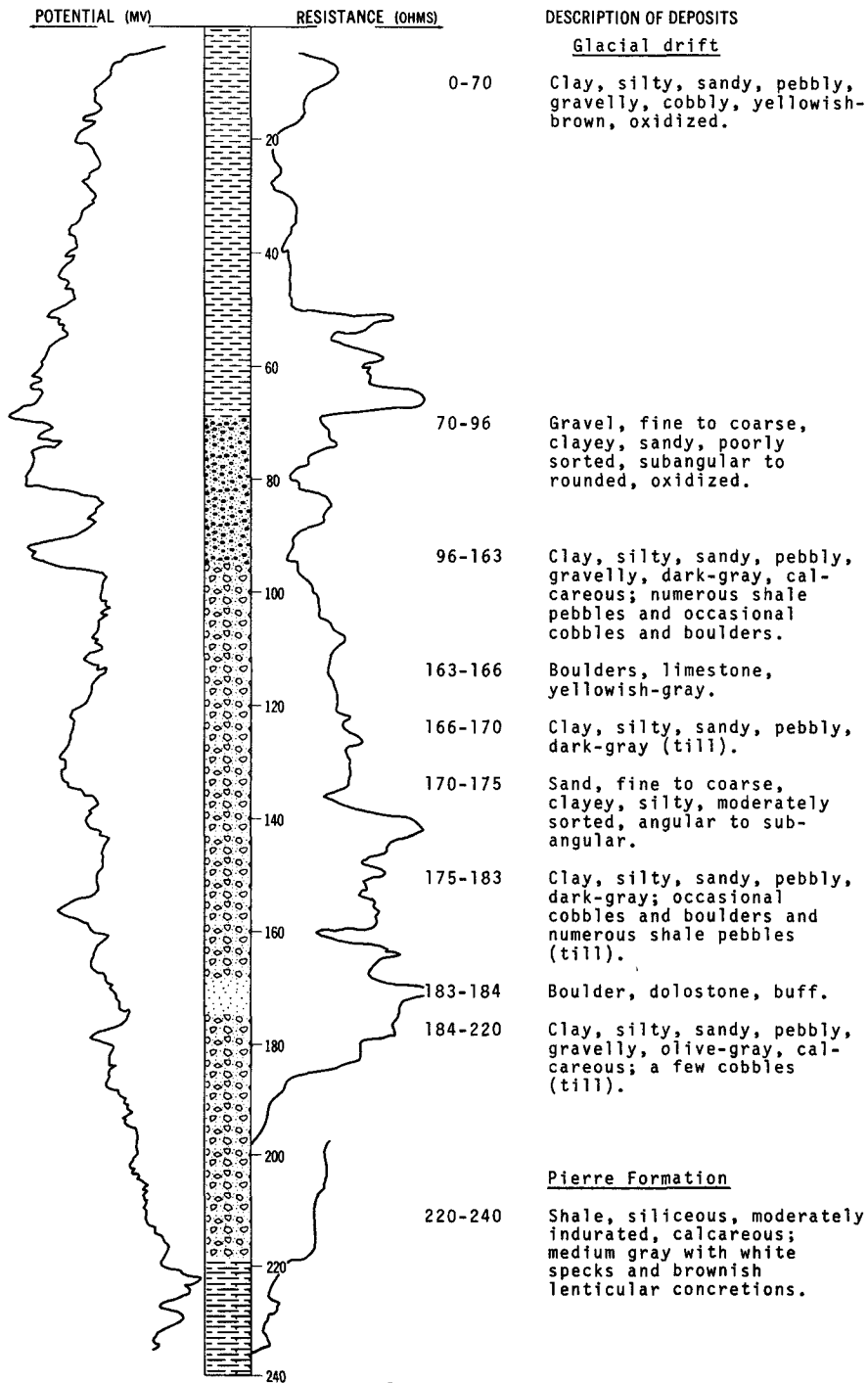


LOCATION: 144-57-32ABB

DATE DRILLED: July 1972

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 240  
(FT)



144-57-32BAC  
(Log from city of Luverne)

Altitude: 1430 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Gravel, yellow	2	4
	Clay, yellow-----	8	12
	Till, yellow-----	20	32
	Till-----	71	103
	Sand, coarse-----	5	108
	Till-----	15	123
	Clay, very silty, silt-----	15	138
	Sand, very fine-----	126	264
	Clay, gray, silty-----	16	280
	Gravel, clean-----	40	320

144-57-32BBB2  
(Log from city of Luverne)

Altitude: 1550 feet

Glacial drift:			
	Topsoil and clay, sandy, yellow-----	4	4
	Sand and gravel, poorly sorted, oxidized-----	12	16
	Clay, sandy, dusky-yellow to light-olive-brown, oxidized (till)-----	20	36
	Clay, silty, sandy, light-olive-brown to dark-yellowish-brown, oxidized (till)-	27	63
	Clay, silty, slightly pebbly, olive-gray, calcareous (till)-----	47	110
	Sand, very fine, clayey, gray-----	6	116
	Clay, silty, slightly pebbly, calcareous (till)-----	4	120
	Sand, very fine to medium, gray, poorly sorted-----	6	126
	Clay, silty (till)-----	8	134
	Sand, very fine to fine-----	2	136
	Clay, silty, sandy, light-gray-----	27	163
	Sand, very fine to fine, clayey, gray; becomes coarser with depth-----	9	172
	Gravel; about 60 to 70 percent shale particles-----	6	178
	Clay(?)-----	5	183
	Sand, fine to coarse; fewer shale particles than in gravel from 172 to 178 ft-----	26	209
	Silt, olive-gray, micaceous, noncalcareous-----	51	260

144-57-32BBD  
(Log from city of Luverne)

Altitude: 1530 feet

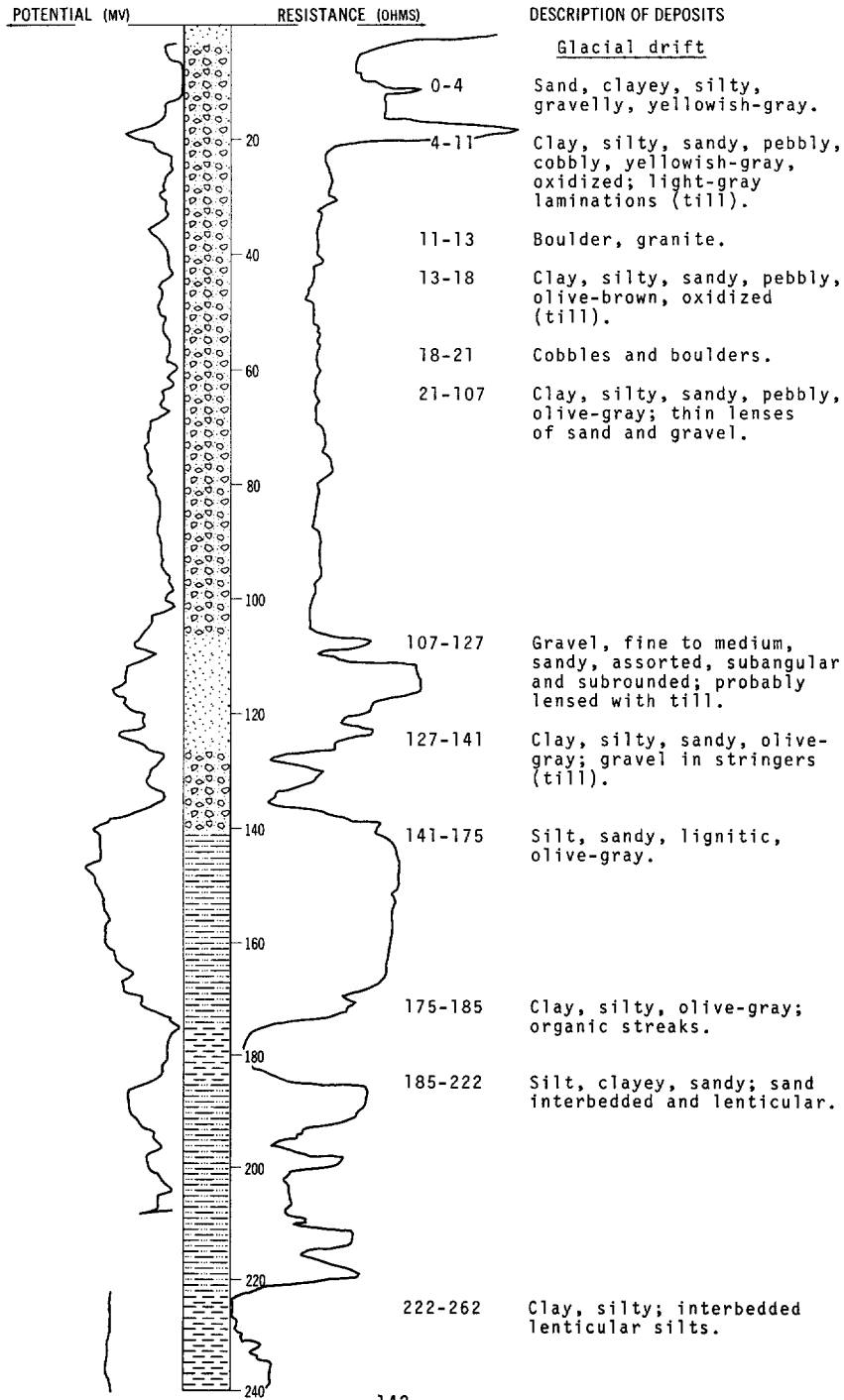
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	1	1
	Silt, clayey, pebbly, dusky-yellow to light-olive-brown, oxidized (till)----	42	43
	Silt, clayey, pebbly, olive-gray, calcareous (till)-----	30	73
	Clay or silt, sandy, gray-----	3	76
	Silt, clayey, pebbly, olive-gray, calcareous (till)-----	5	81
	Sand, very fine, gray-----	5	86
	Sand, very fine, clayey, gray-----	6	92
	Clay, silty, gravelly, light-olive-gray (till)-----	32	124
	Sand, very fine to fine, gray-----	2	126
	Silt, pebbly-----	2	128
	Sand; interbedded with lenses of silty clay-----	9	137
	Silt, sandy-----	4	141
	Sand, very fine to fine-----	5	146
	Gravel-----	5	151
	Clay, silty, gray-----	2	153
	Sand, very fine to medium-----	21	174
	Sand, very fine, clayey-----	26	200

LOCATION: 144-57-32BCB

DATE DRILLED: October 1970

ALTITUDE: 1420  
(FT, MSL)

DEPTH: 340  
(FT)



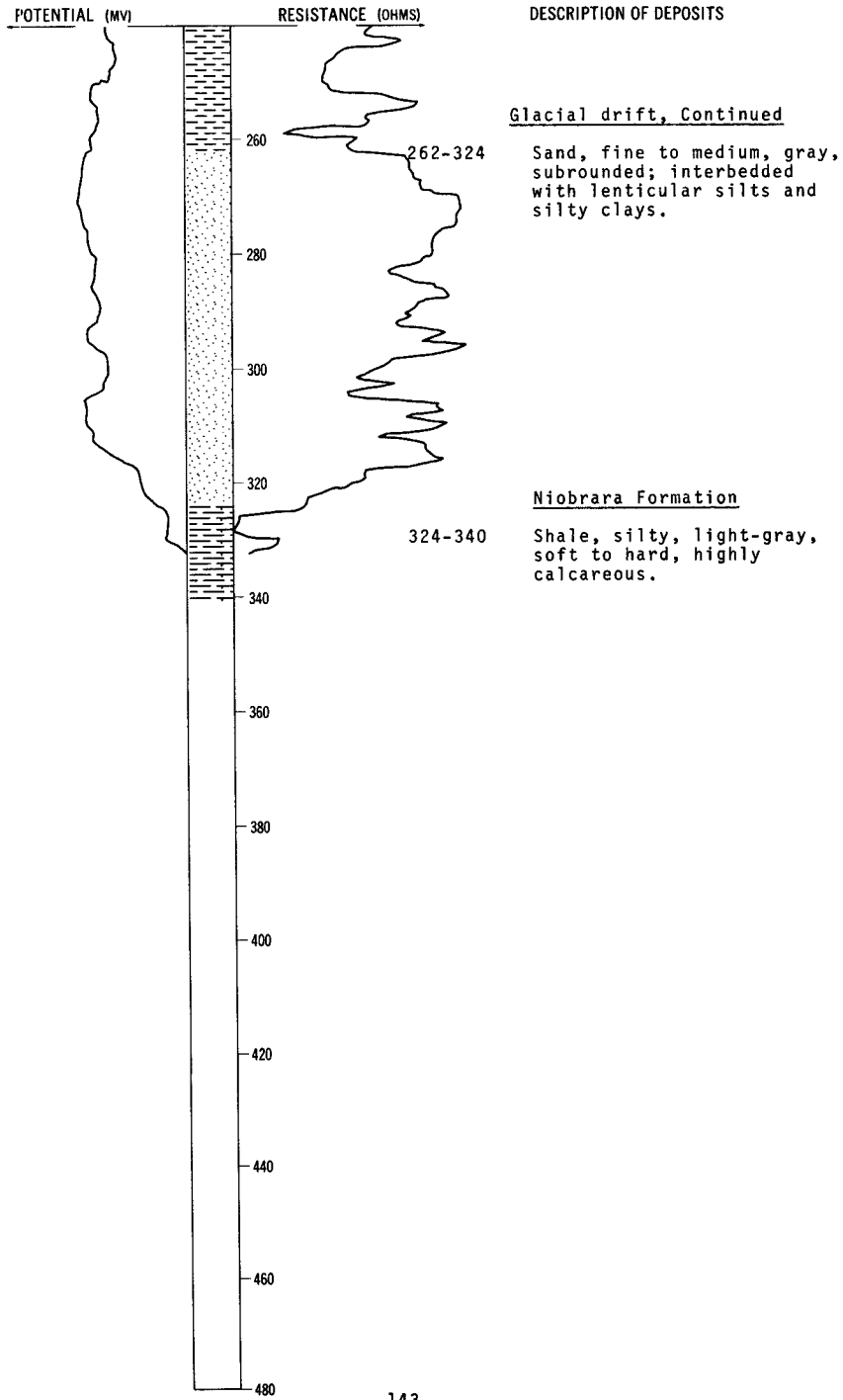
NDSWC 4265, Continued

LOCATION: 144-57-328CB

DATE DRILLED: October 1970

ALTITUDE: 1420  
(FT, MSL)

DEPTH: 340  
(FT)



144-57-32BDB  
(Log from city of Luverne)

Altitude: 1510 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	1	1
	Silt, clayey, slightly sandy, slightly pebbly, dusky-yellow to light-olive-brown, oxidized (till)-----	42	43
	Silt, clayey, pebbly, olive-gray (till)-	30	73
	Sand, fine-----	1	74
	Silt, clayey, olive-gray-----	8	82
	Sand, very fine, silty, gray-----	13	95
	Sand, fine to coarse-----	2	97
	Clay, sandy; interbedded with sand lenses-----	20	117
	Sand and gravel-----	3	120
	Silt, clayey, pebbly-----	6	126
	Gravel-----	6	132
	Sand, very fine to fine; interbedded with pebbly silt and sand lenses up to 2 ft in thickness-----	48	180

144-57-32CCA  
(Log from Lehigh Portland Cement Co.)

Altitude: 1440 feet

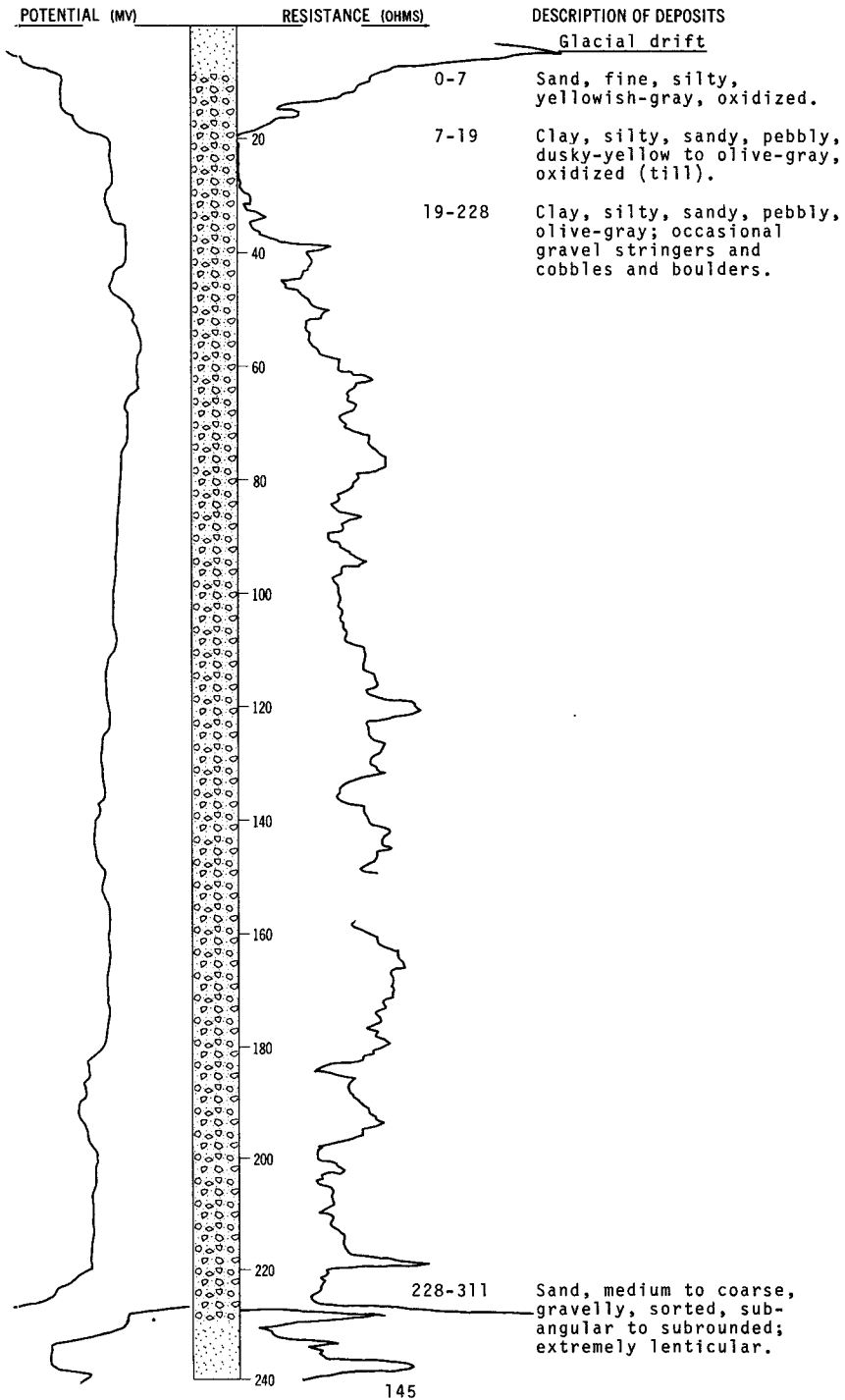
	Silt and clay-----	300	300
	Shale, clayey, calcareous-----	565	865
	Shale, calcareous, black-----	127	992
	Limestone, carbonaceous, dark-gray-----	6	998
	Limestone, sandy-----	56	1054
	Shale, green-----	46	1100
	Shale, bentonitic, calcareous-----	111	1211
	Limestone, shaly-----	25	1236
	Sand, fine-----	49	1285

LOCATION: 144-57-33DDD

DATE DRILLED: October 1970

ALTITUDE: 1340  
(FT, MSL)

DEPTH: 320  
(FT)



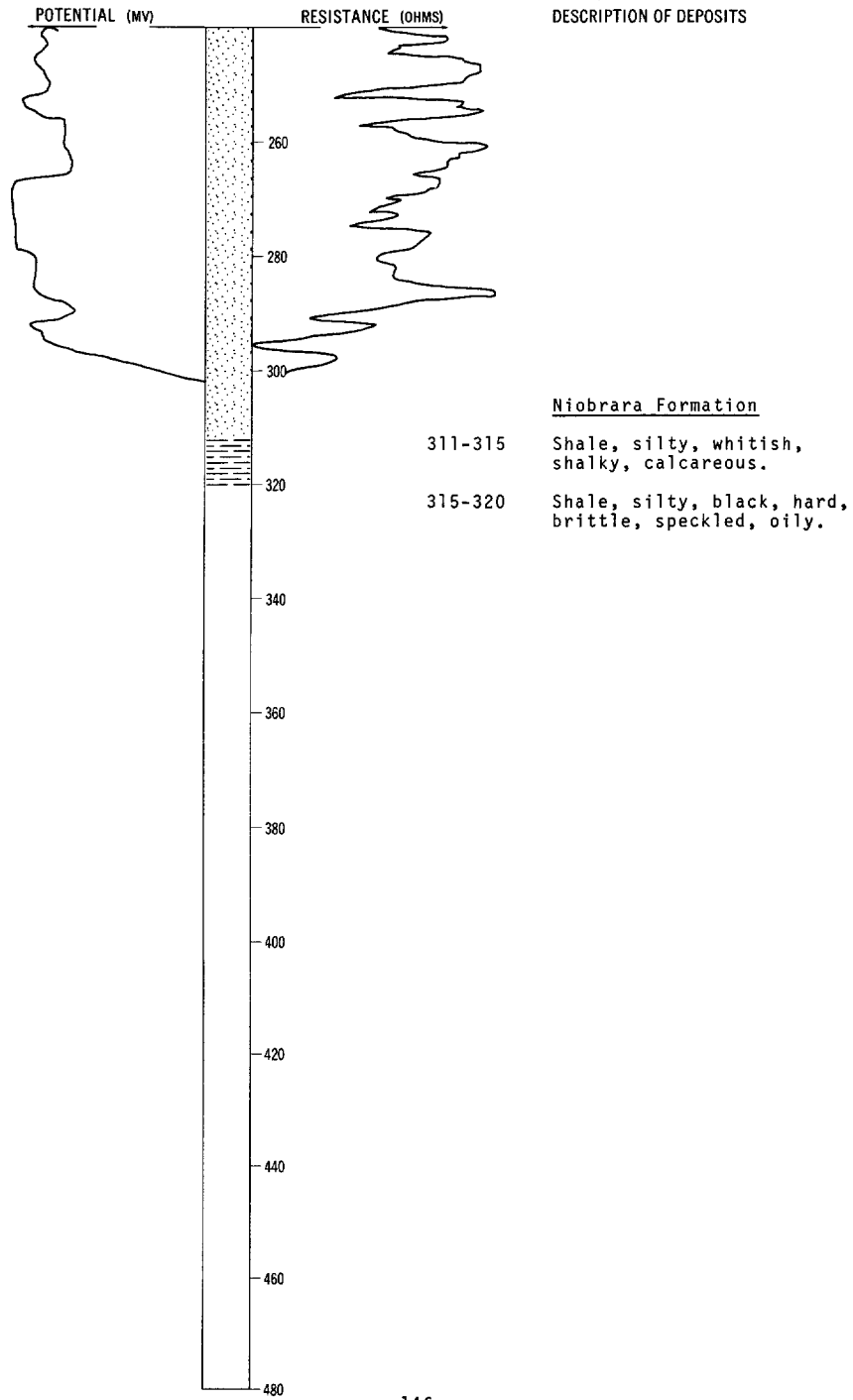
NDSWC 4270, Continued

LOCATION: 144-57-33DDD

DATE DRILLED: October 1970

ALTITUDE: 1340  
(FT. MSL)

DEPTH: 320  
(FT)



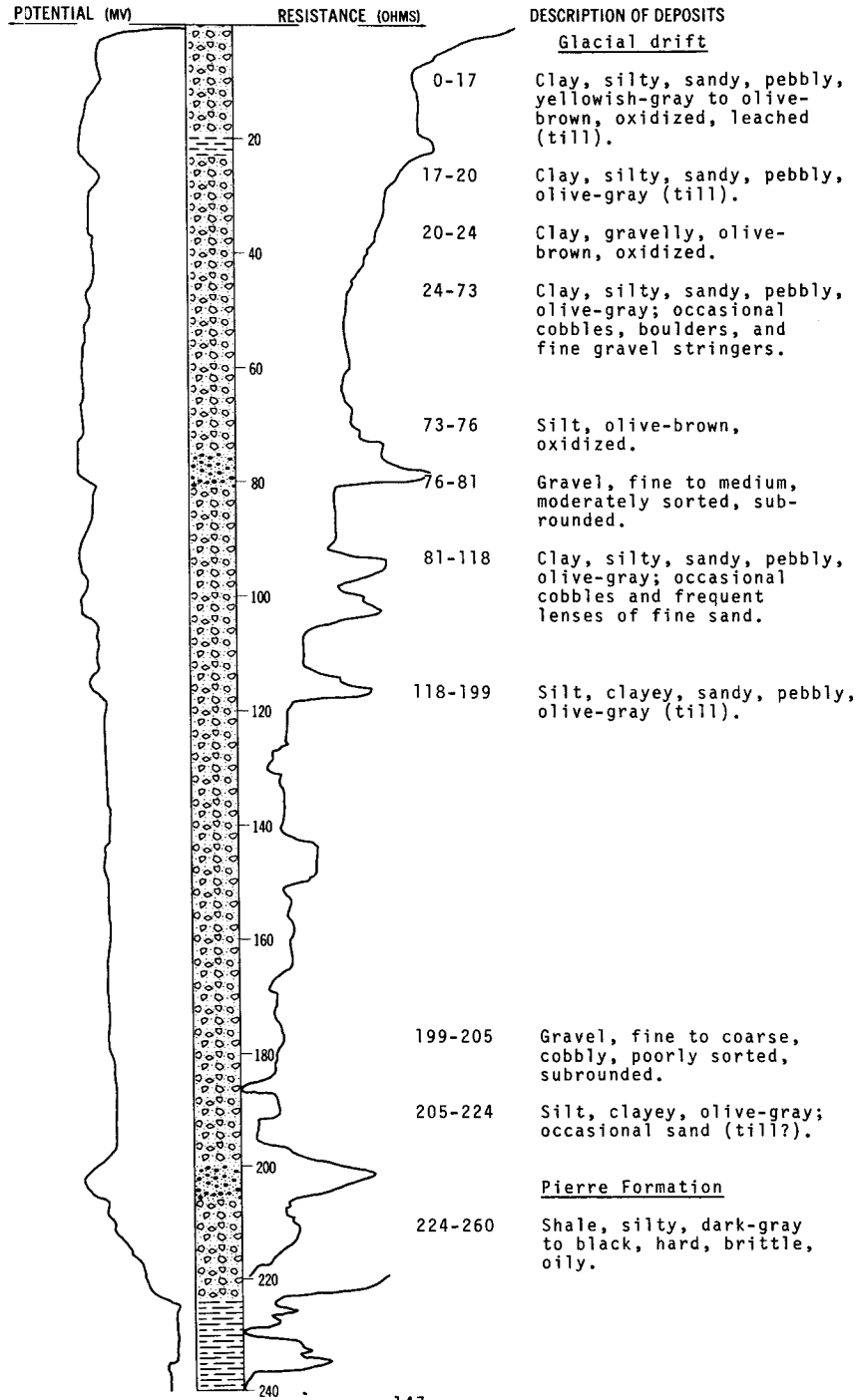


LOCATION: 144-57-34BBB

DATE DRILLED: October 1970

ALTITUDE: 1420  
(F, MSL)

DEPTH: 260  
(FT)



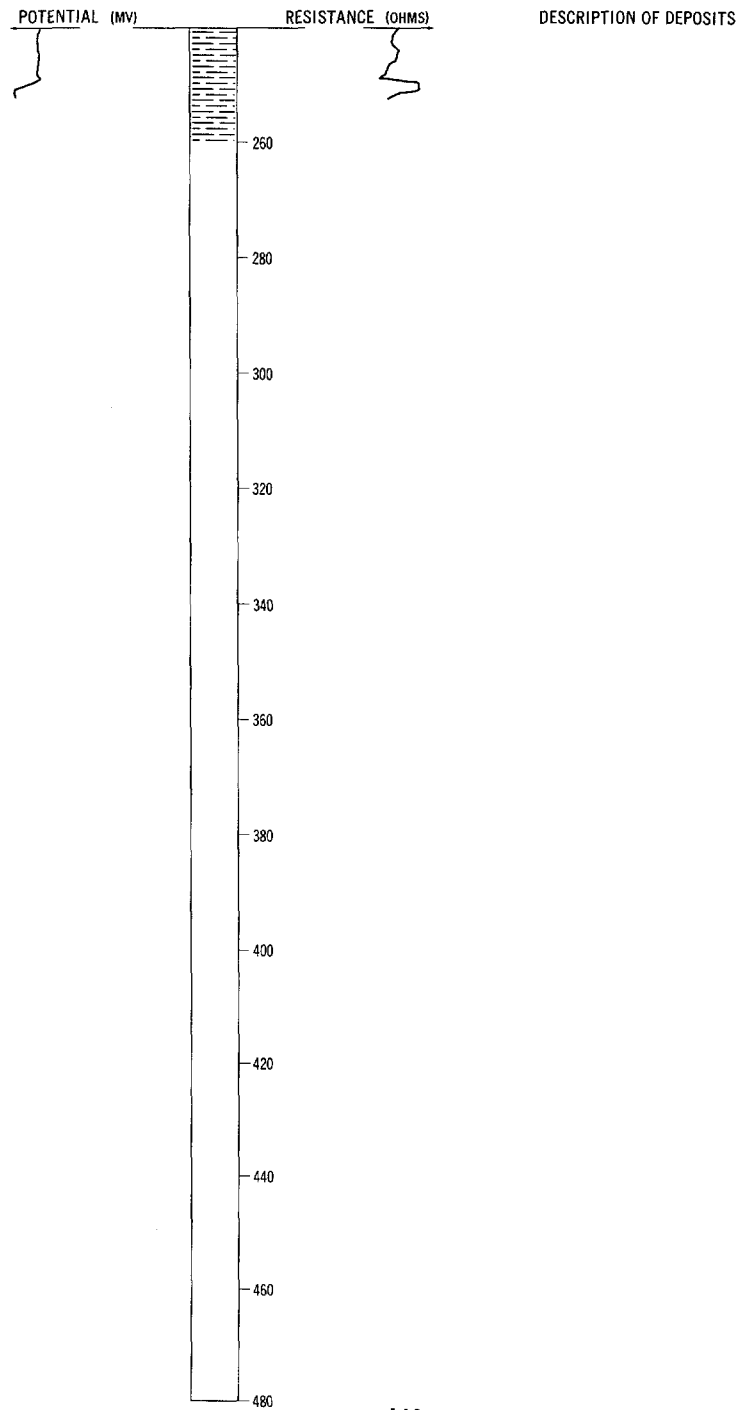
NDSWC 4269, Continued

LOCATION: 144-57-34888

DATE DRILLED: October 1970

ALTITUDE: 1420  
(FT, MSL)

DEPTH: 260  
(FT)

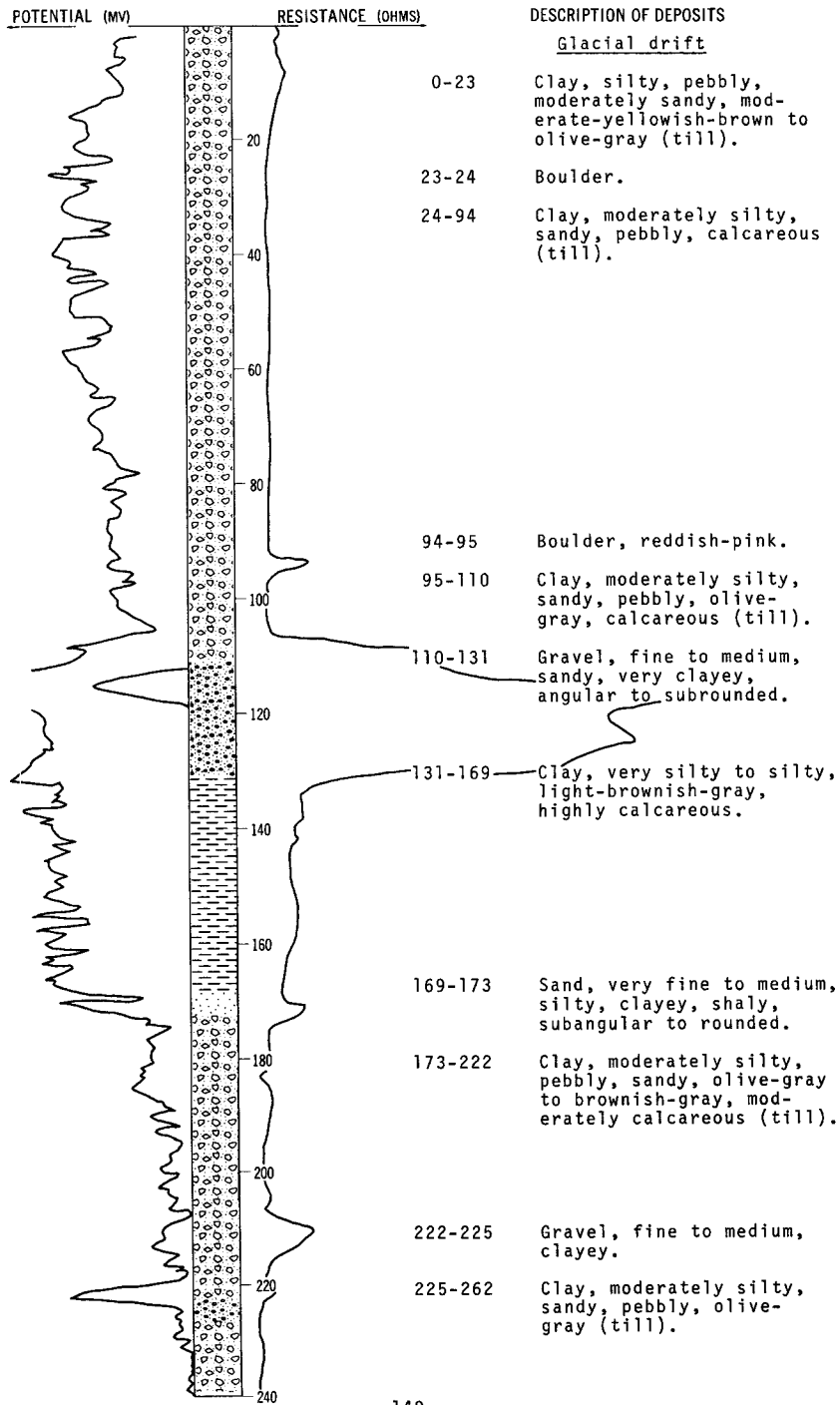


LOCATION: 144-58-01DDD

DATE DRILLED: July 1972

ALTITUDE: 1482  
(FT, MSL)

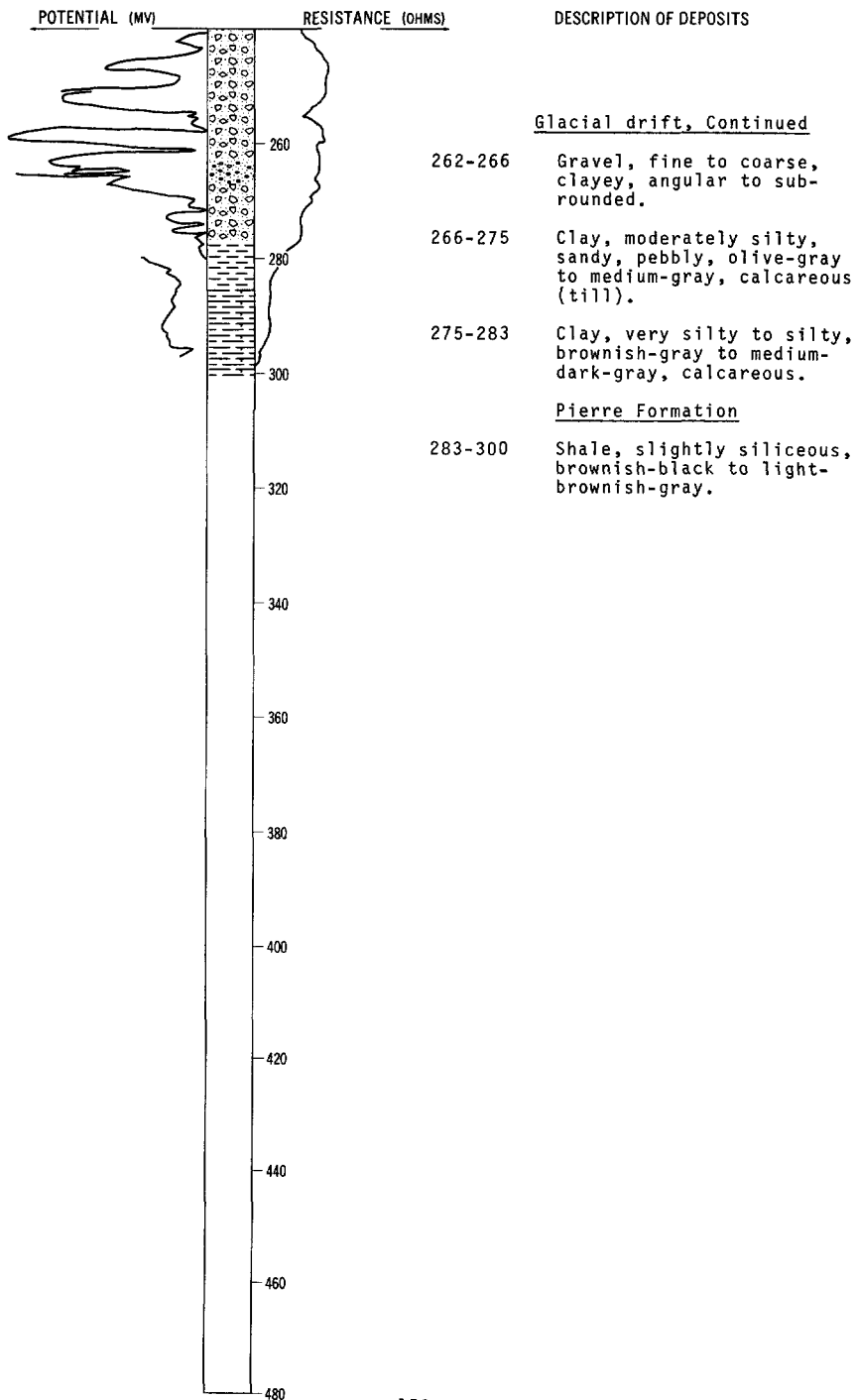
DEPTH: 300  
(FT)



NDSWC 8413, Continued

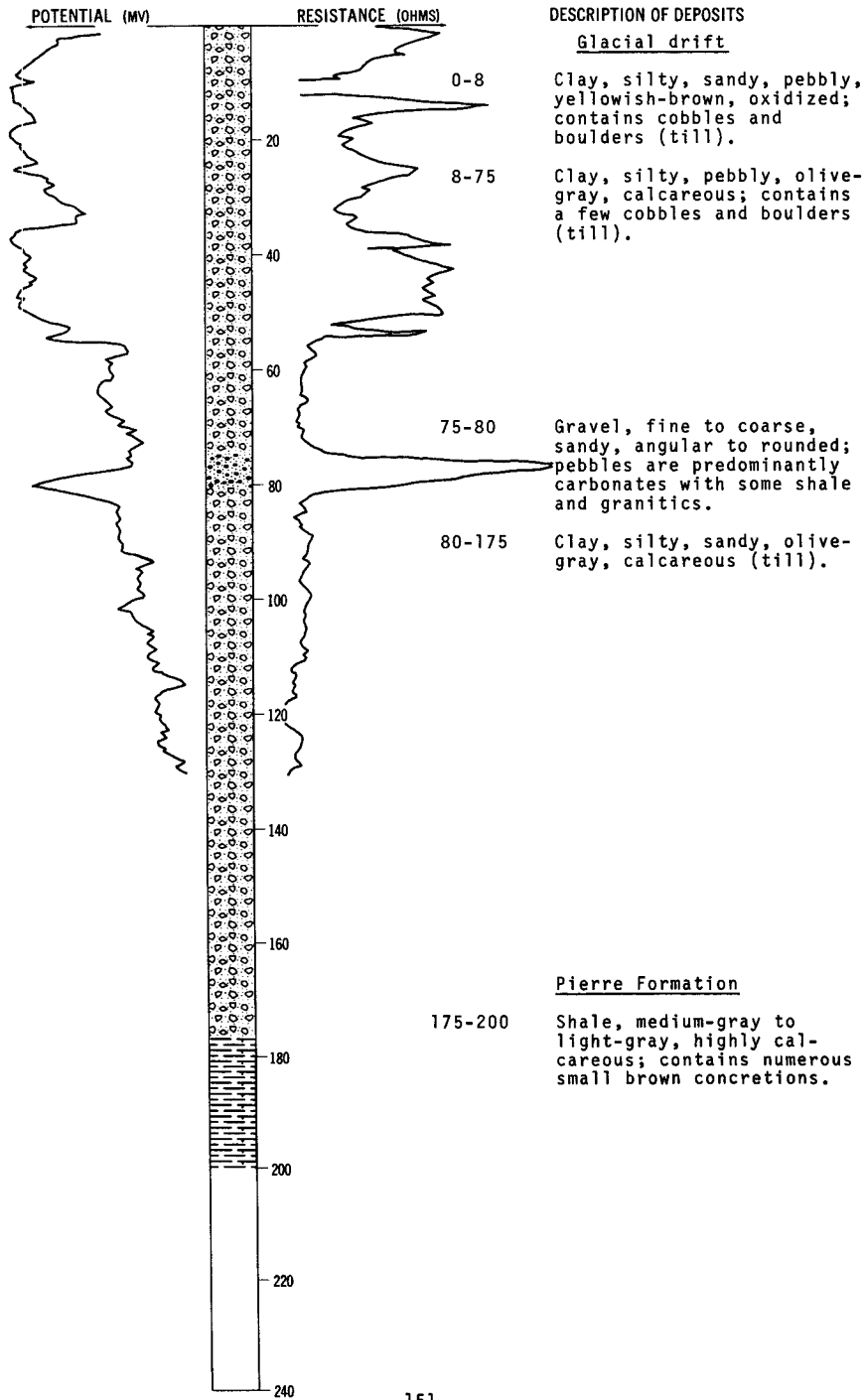
LOCATION: 144-58-01DDD  
 ALTITUDE: 1482  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 300  
 (FT)



LOCATION: 144-58-03DCC  
ALTITUDE: 1390  
(FT, MSL)

DATE DRILLED: October 1970  
DEPTH: 200  
(FT)

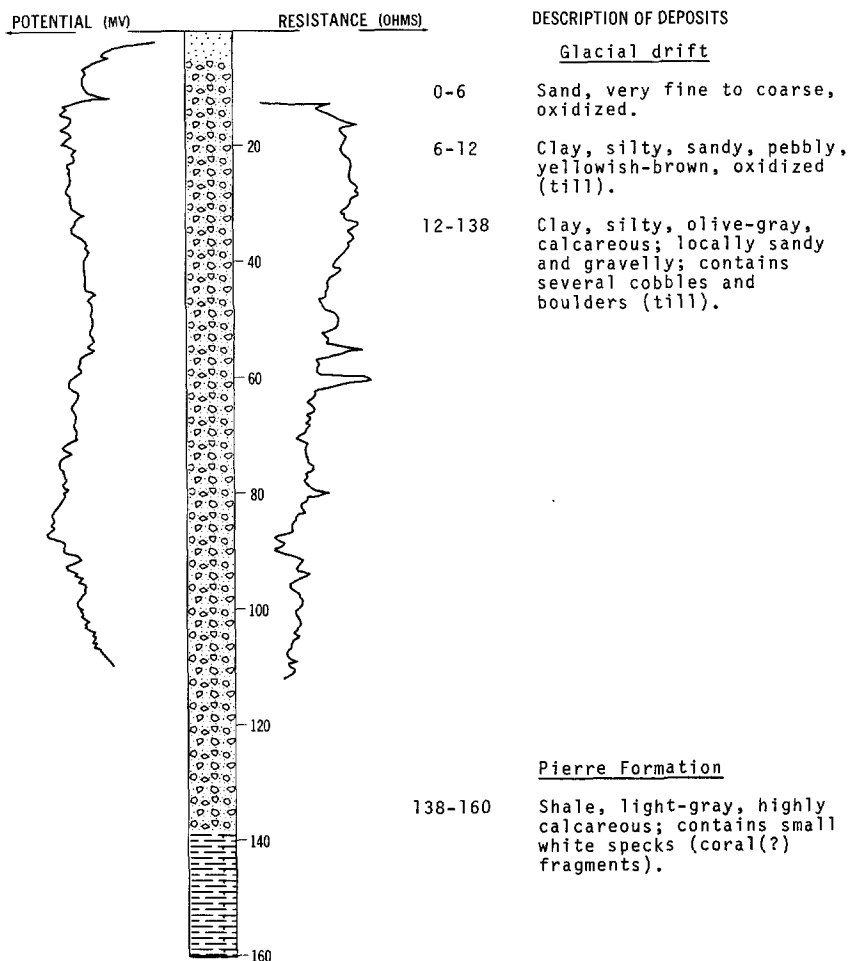


LOCATION: 144-58-07BBB

DATE DRILLED: October 1970

ALTITUDE: 1410  
(FT, MSL)

DEPTH: 160  
(FT)



144-58-11BAB  
NDSWC 8415

Altitude: 1280 feet

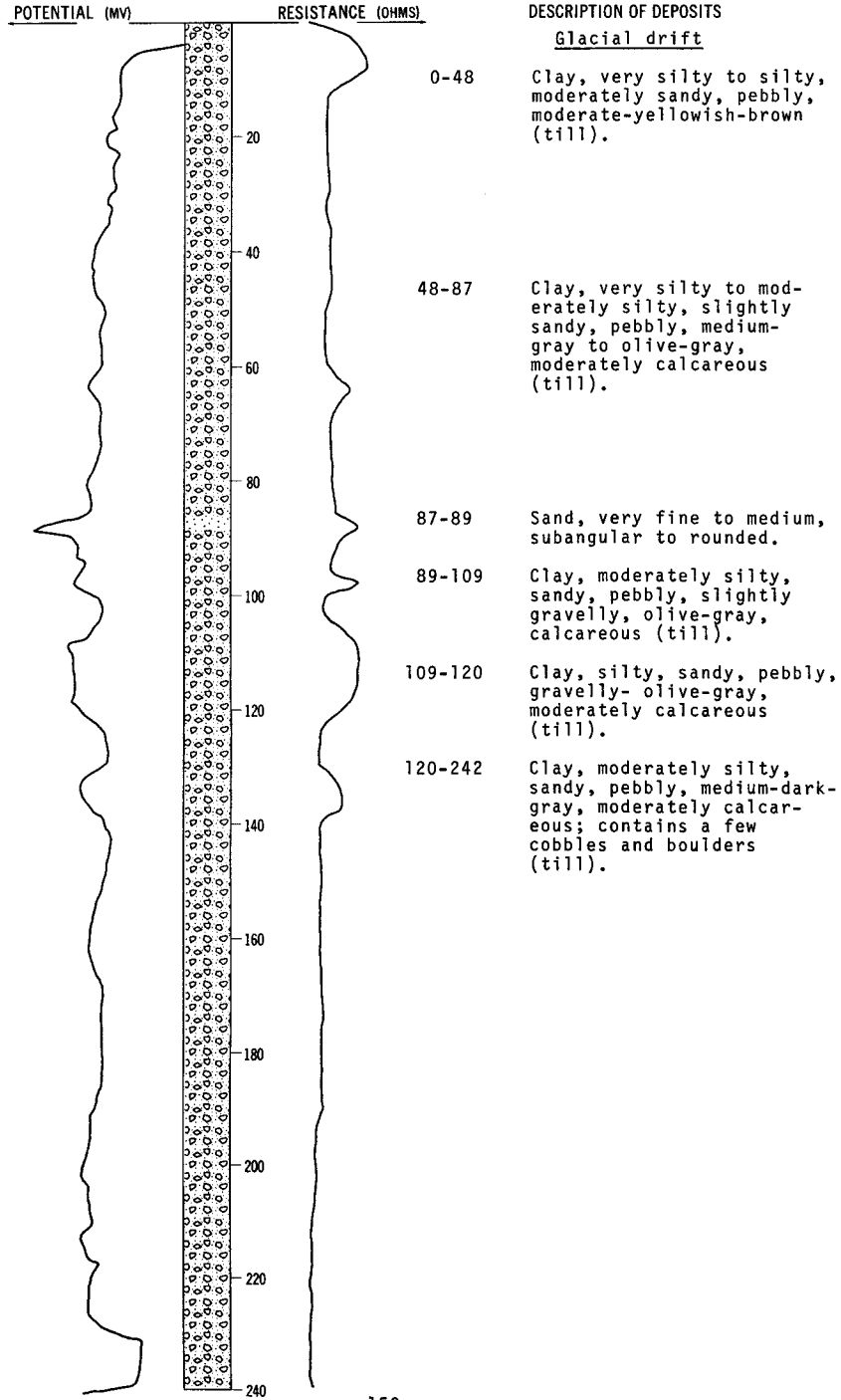
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<u>Glacial drift:</u>			
	Sand, medium to very coarse, slightly clayey-----	4	4
	Clay, moderately sandy, silty, pebbly, dark-yellowish-brown to medium-gray; contains some cobbles and boulders (till)-----	12	16
	Clay, moderately silty, sandy, pebbly, olive-gray; contains cobbles and boulders (till)-----	14	30
<u>Pierre Formation:</u>			
	Shale, slightly siliceous, dark-gray, moderately well indurated, noncalcareous-----	10	40

LOCATION: 144-58-12BAB

DATE DRILLED: July 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 260  
(FT)



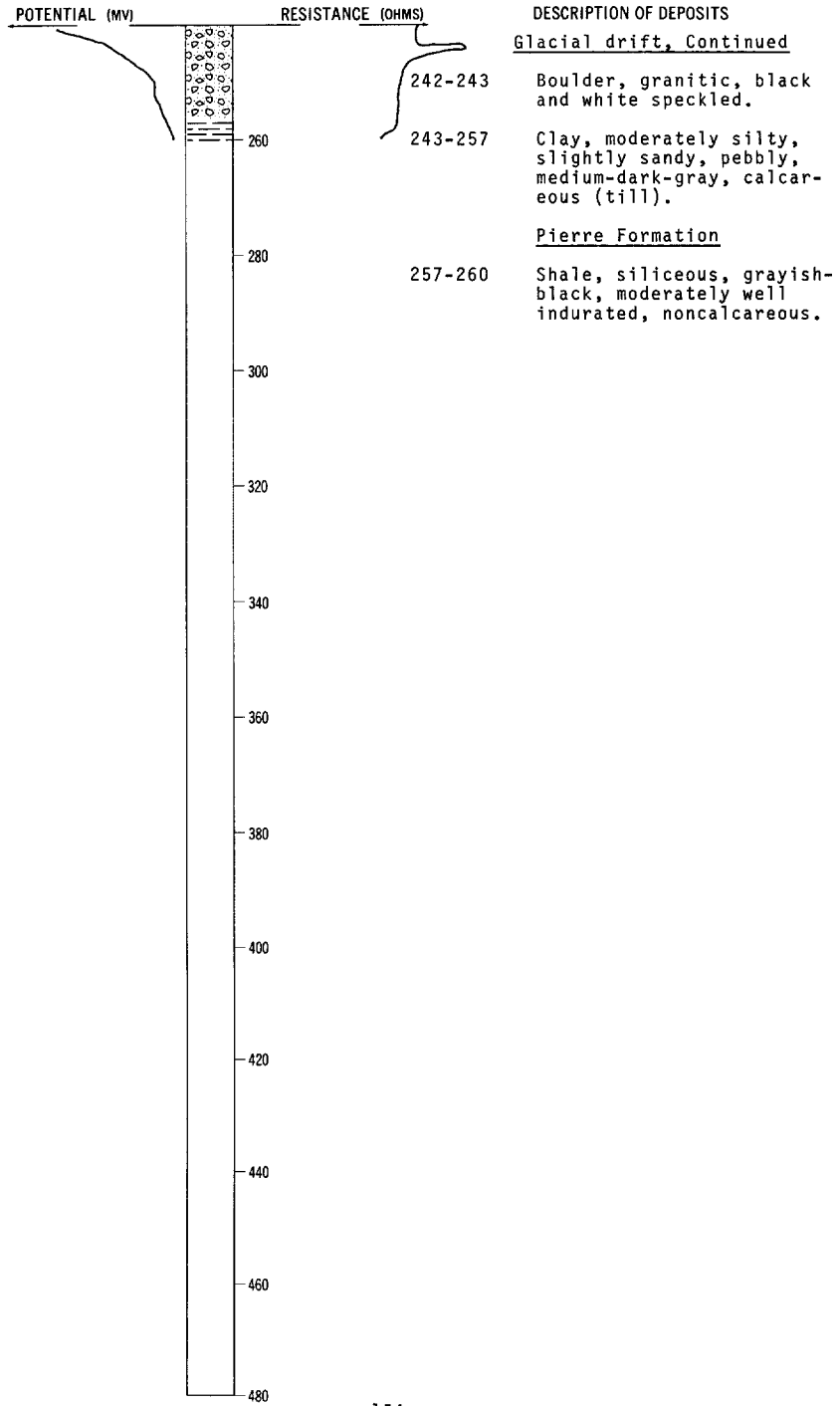
NDSWC 8414, Continued

LOCATION: 144-58-12BAB

DATE DRILLED: July 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 260  
(FT)



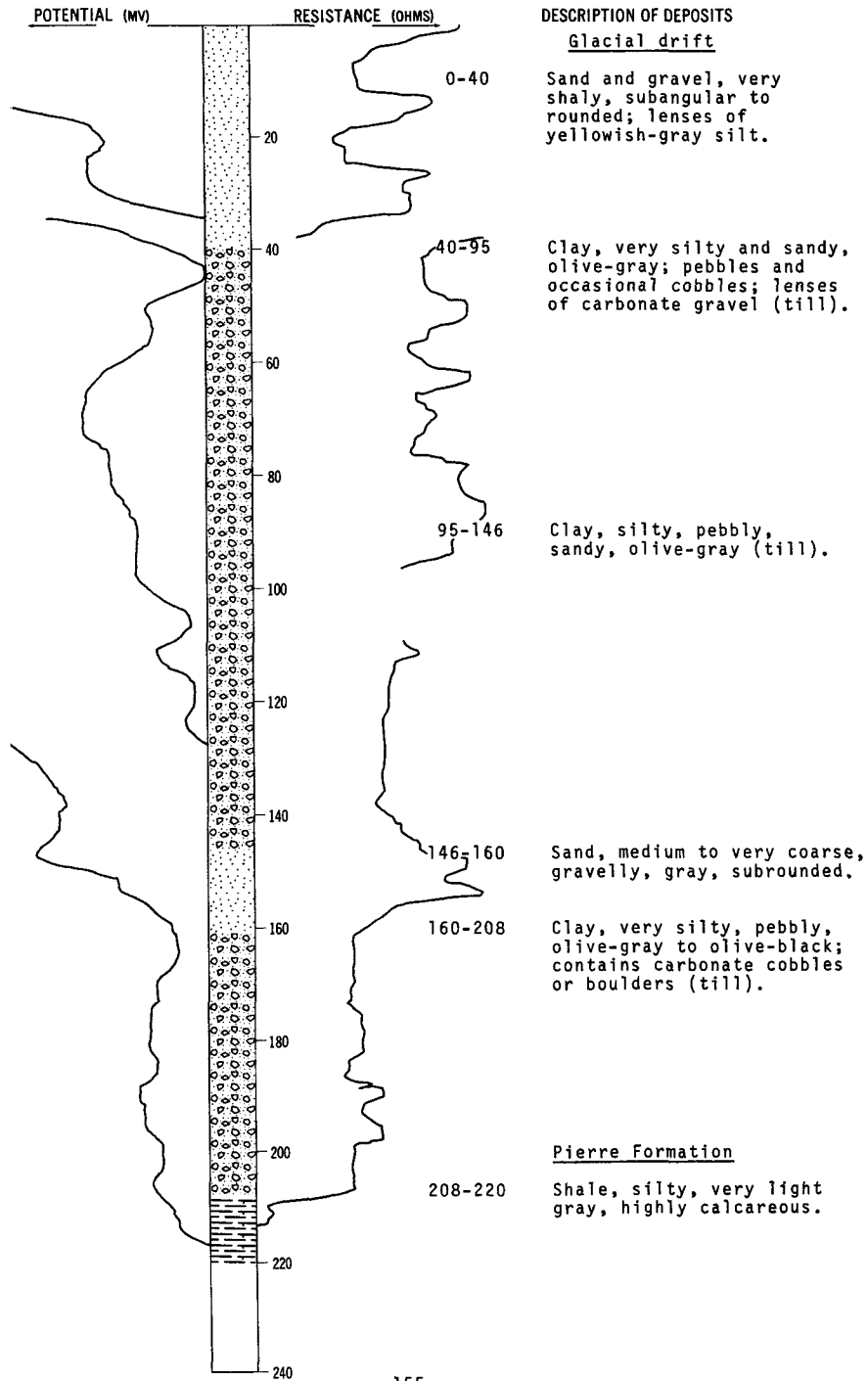


LOCATION: 144-58-13BAA

ALTITUDE: 1418  
(FT, MSL)

DATE DRILLED: August 1971

DEPTH: 220  
(FT)

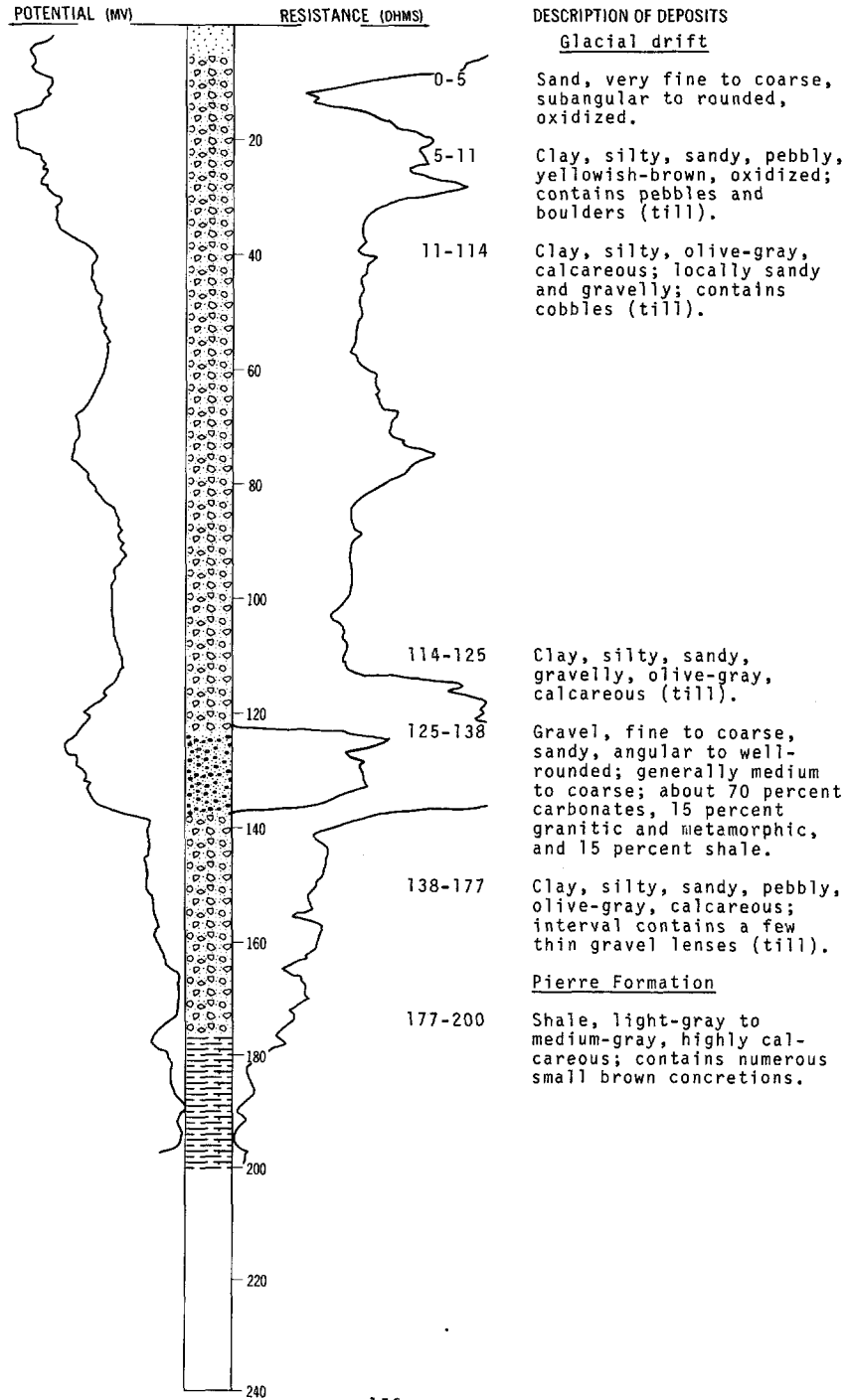


LOCATION: 144-58-18DDD

ALTITUDE: 1410  
(FT, MSL)

DATE DRILLED: October 1970

DEPTH: 200  
(FT)

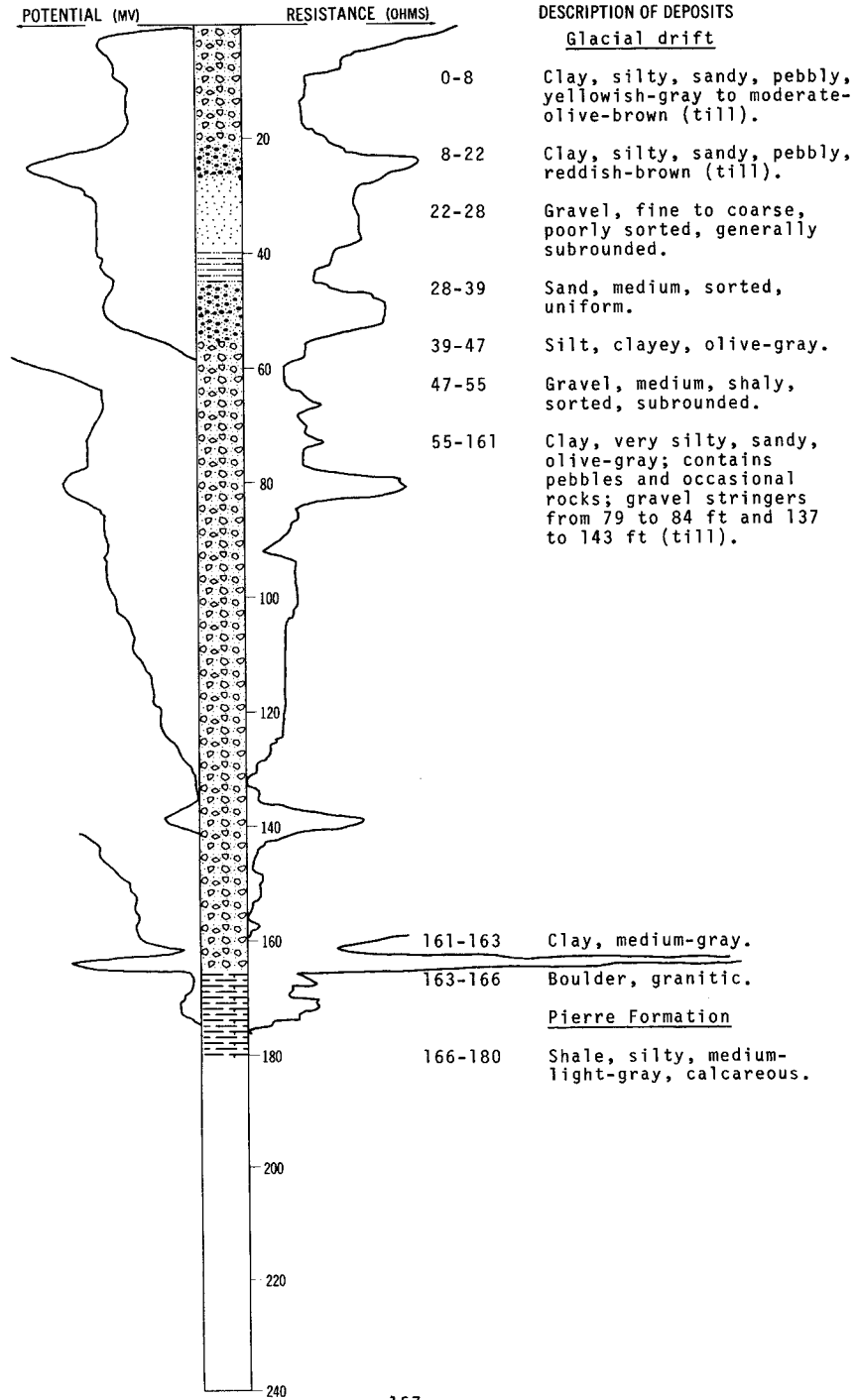


LOCATION: 144-58-24BBB

DATE DRILLED: August 1971

ALTITUDE: 1385  
(FT, MSL)

DEPTH: 180  
(FT)

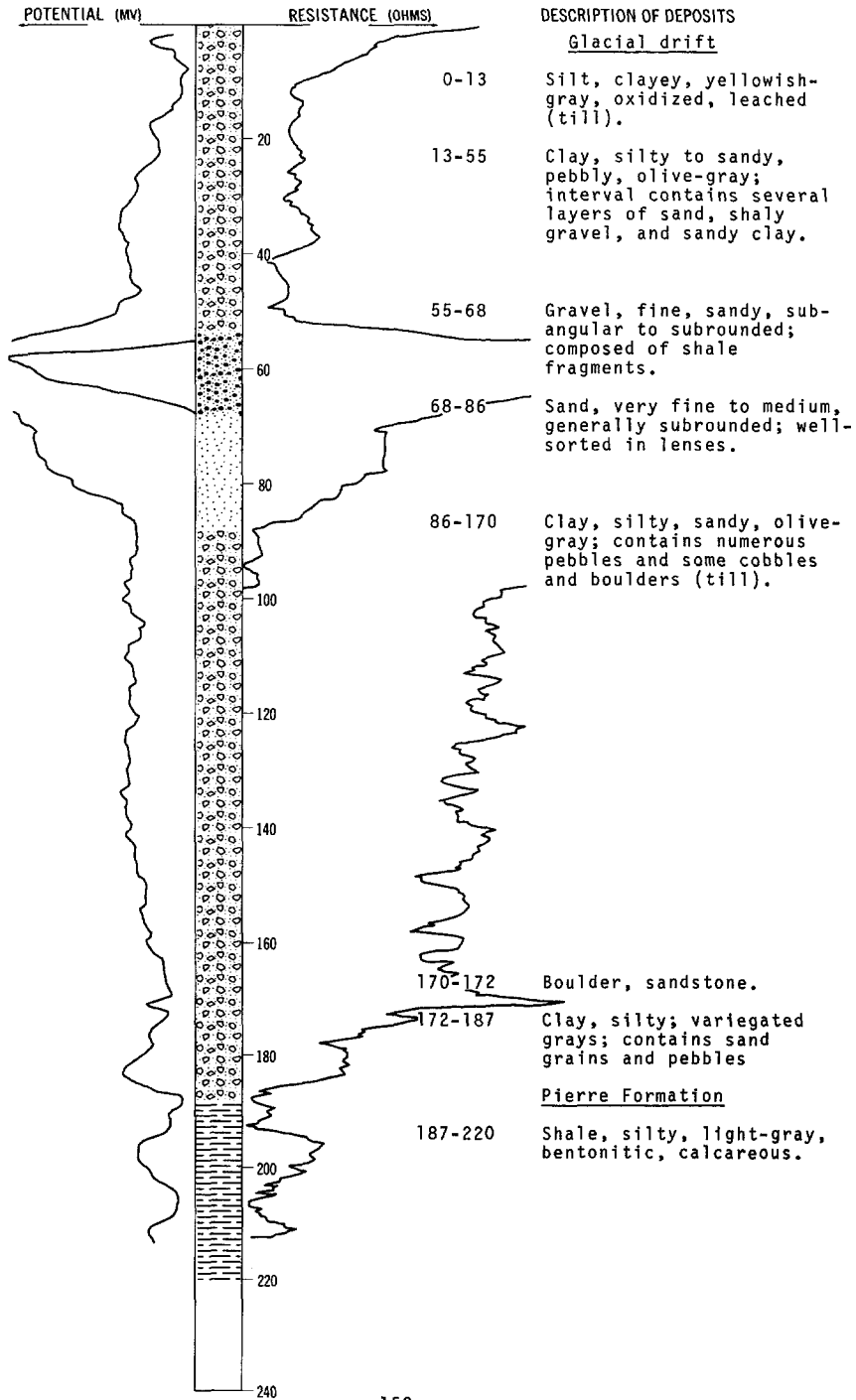


LOCATION: 144-58-25DDA

DATE DRILLED: October 1970

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 220  
(FT)

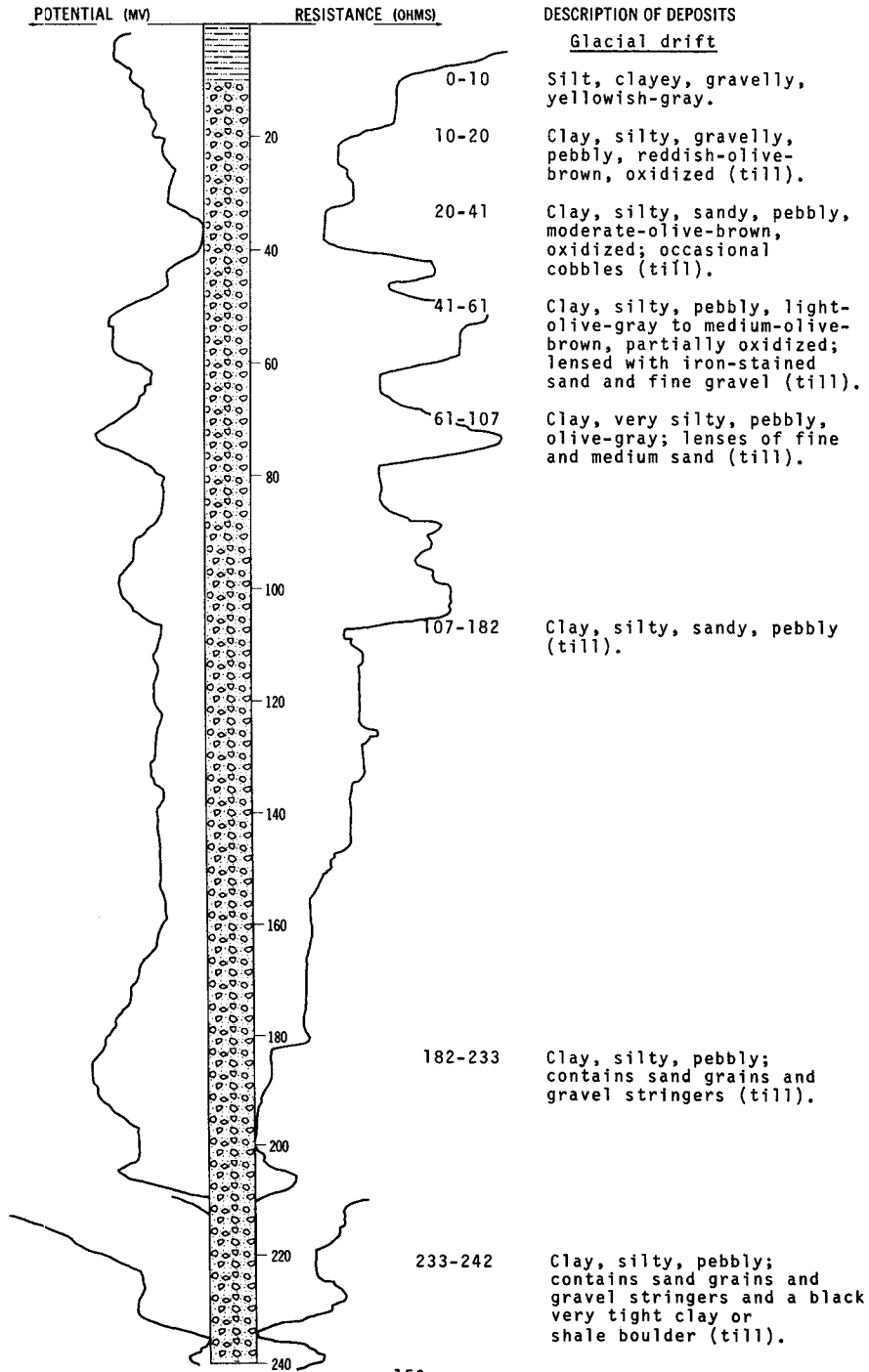


LOCATION: 144-58-26AAA

DATE DRILLED: August 1971

ALTITUDE: 1473  
(FT, MSL)

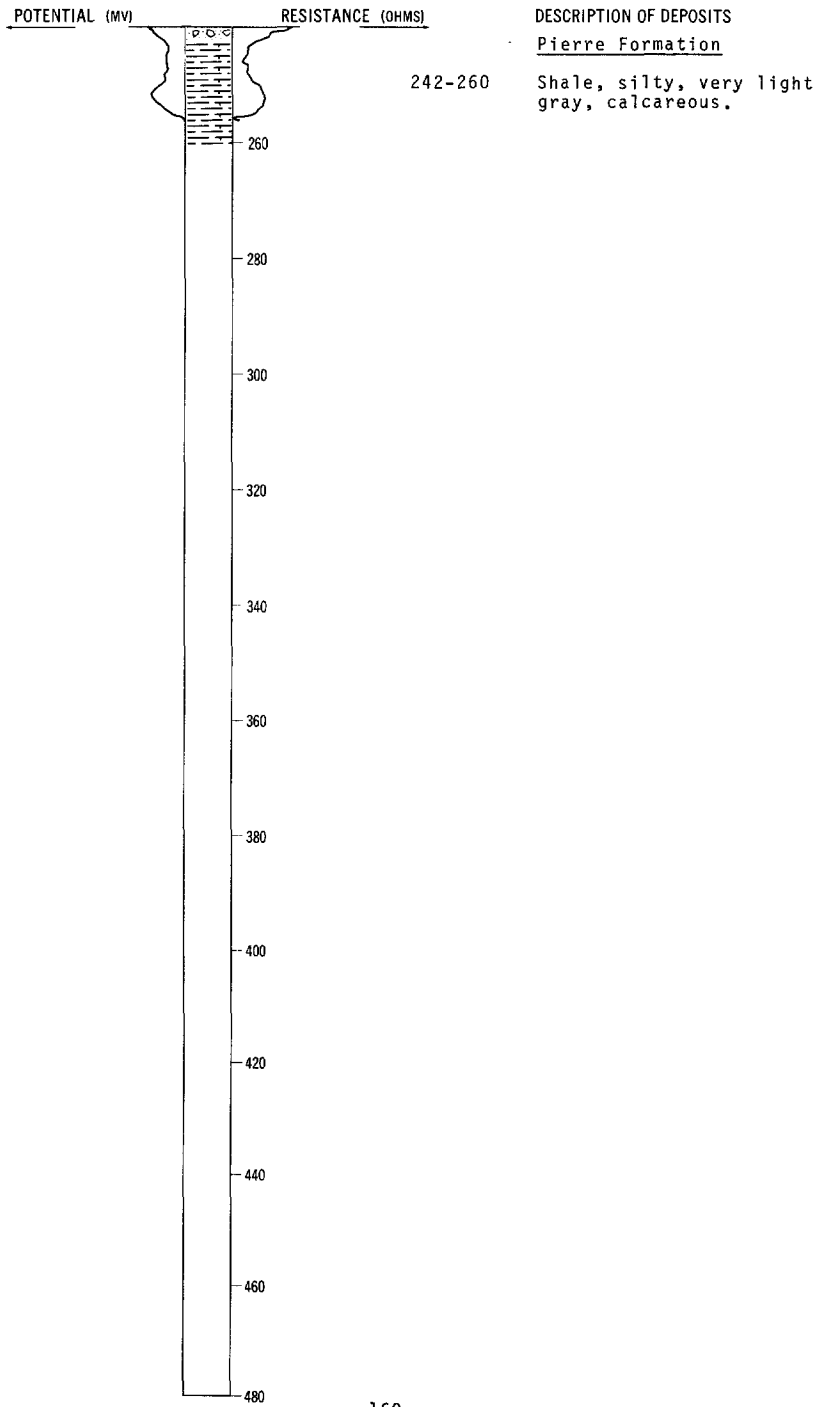
DEPTH: 260  
(FT)



NDSWC 4334, Continued

LOCATION: 144-58-26AAA  
ALTITUDE: 1473  
(FT, MSL)

DATE DRILLED: August 1971  
DEPTH: 260  
(FT)



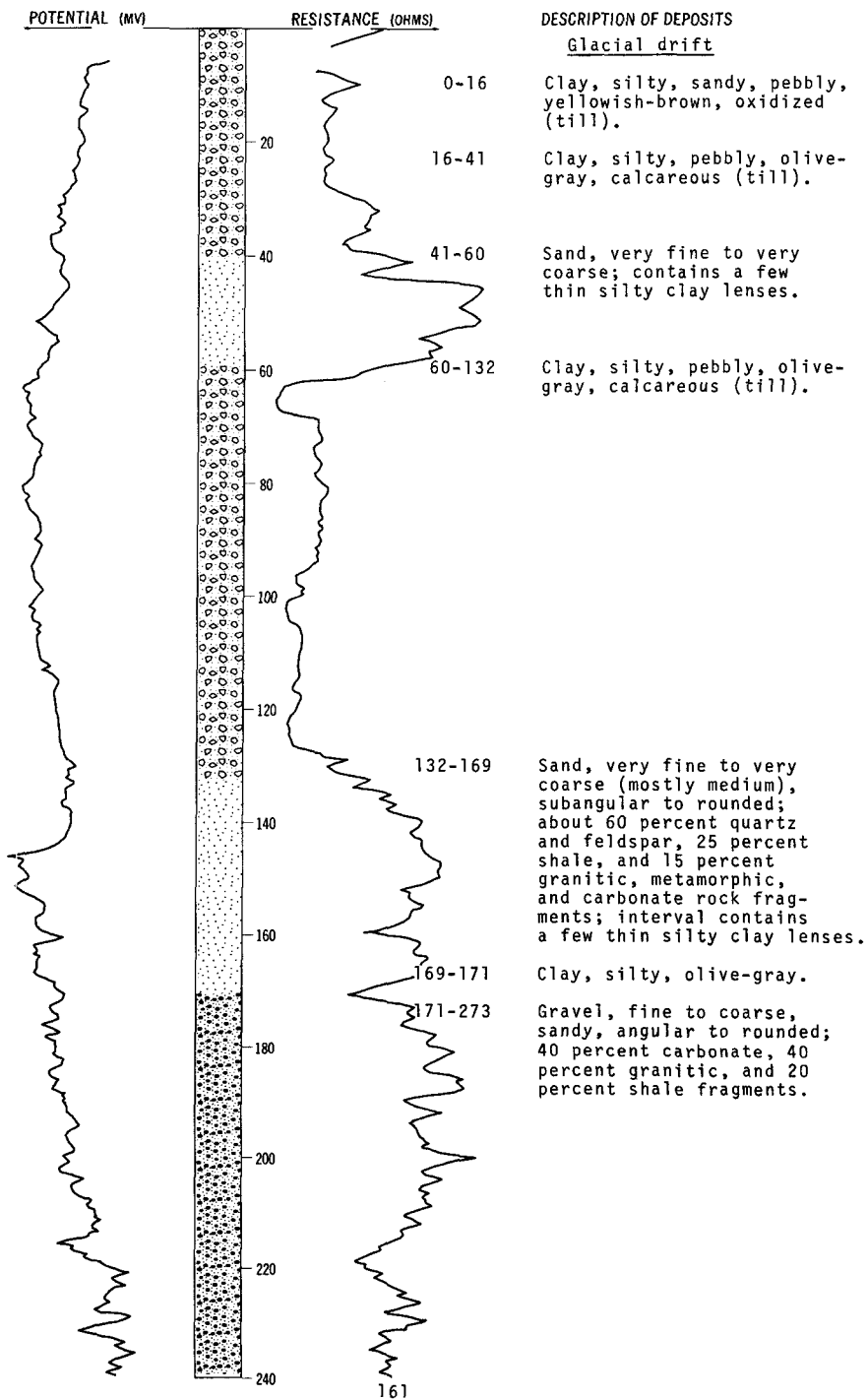
NDSWC 5898

LOCATION: 144-59-07BBB

DATE DRILLED: October 1970

ALTITUDE: 1435  
(FT, MSL)

DEPTH: 280  
(FT)



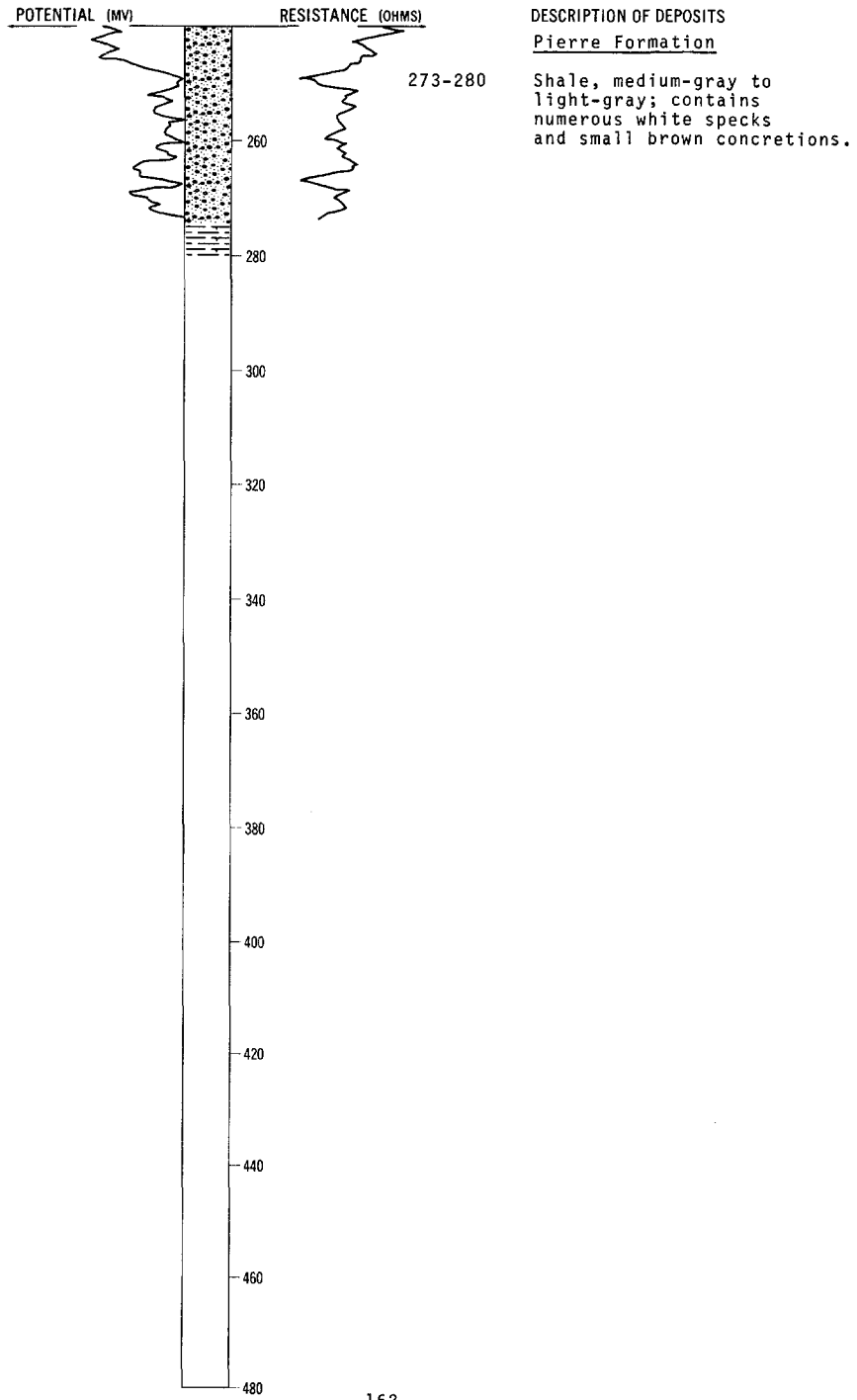
NDSWC 5898, Continued

LOCATION: 144-59-07BBB

DATE DRILLED: October 1970

ALTITUDE: 1435  
(FT, MSL)

DEPTH: 280  
(FT)



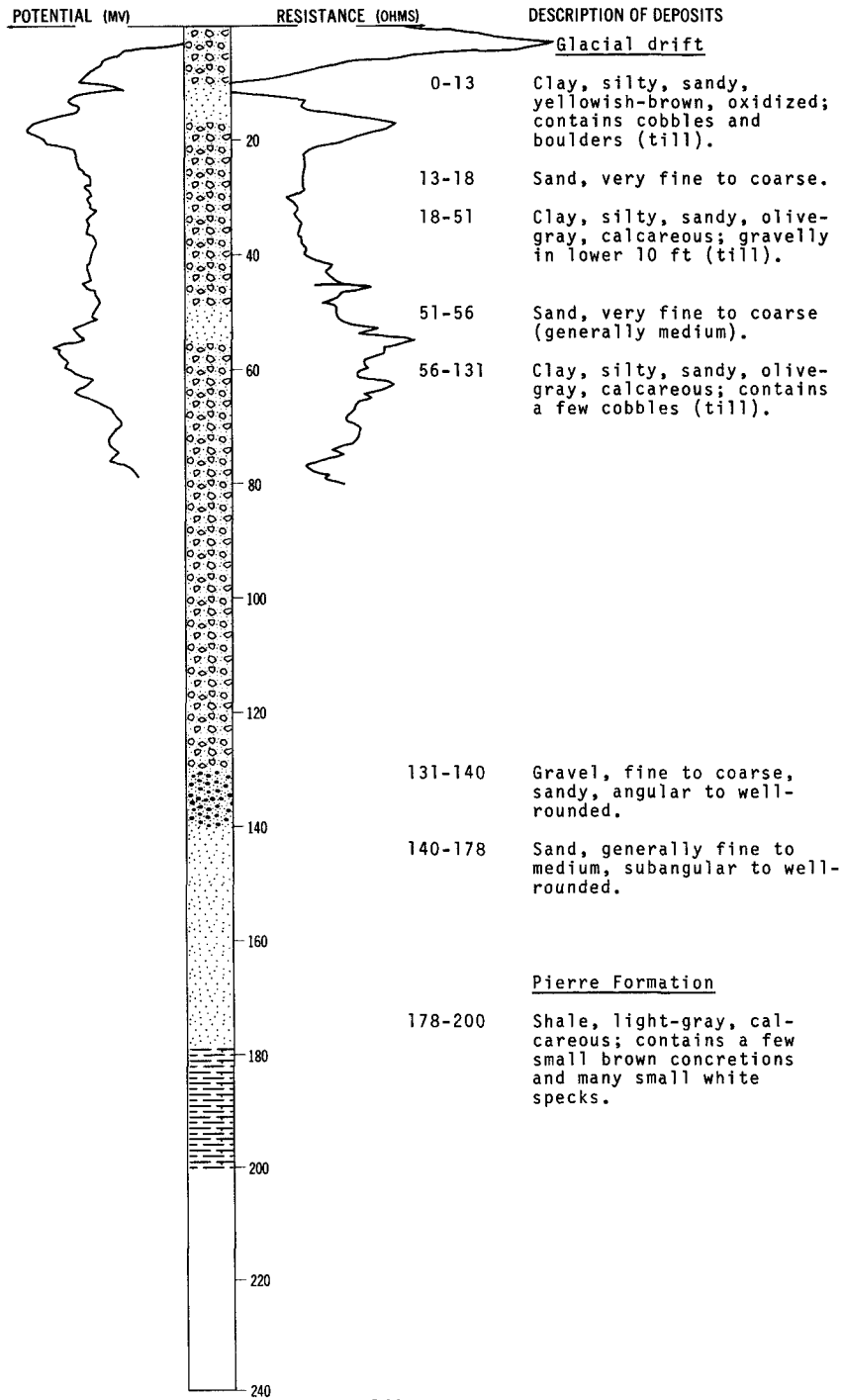


LOCATION: 144-59-08AAA

DATE DRILLED: October 1970

ALTITUDE: 1410  
(FT, MSL)

DEPTH: 200  
(FT)



144-59-09BBB  
(Log from Lako Drilling Co.)

Altitude: 1413 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Gravel	20	20
	Clay, gravelly, gray	10	30
	Sand, fine, silty	15	45
	Sand, fine	5	50
	Sand	5	55
	Sand, fine, silty	5	60
	Sand, fine, gray	10	70
	Boulder	5	75
	Clay, gravelly	10	85
	Sand, fine	5	90
	Sand, very fine	10	100
	Clay, pebbly	20	120
	Clay, sandy	20	140
	Gravel, sandy	15	155
	Gravel	15	170
	Sand, fine	5	175

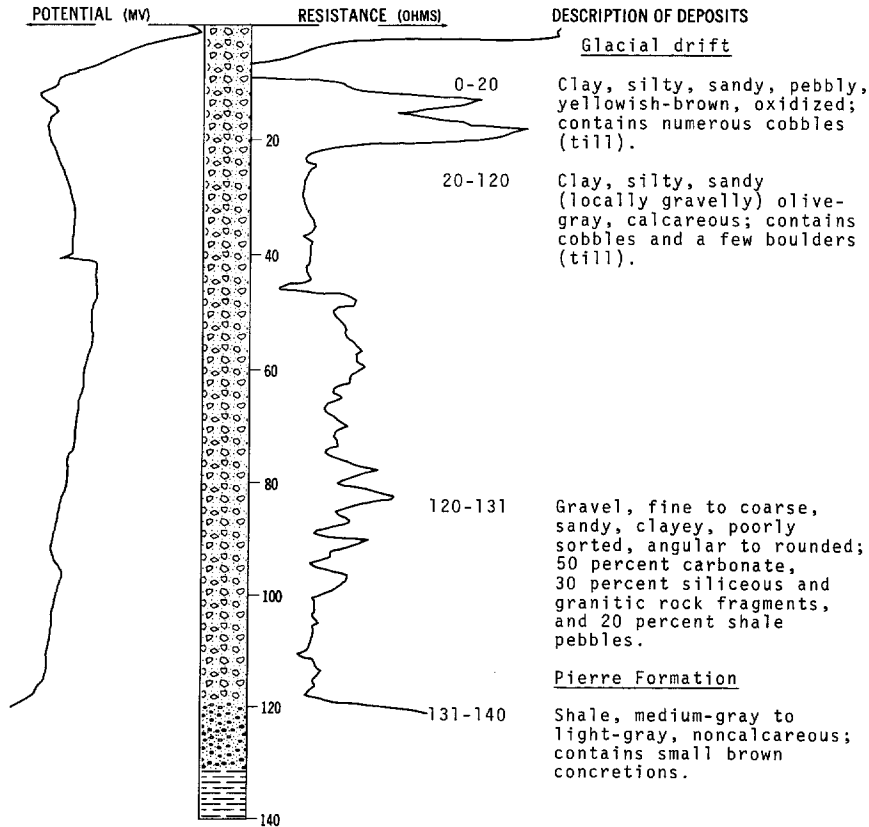
NDSWC 5900

LOCATION: 144-59-11BBB

DATE DRILLED: October 1970

ALTITUDE: 1425  
(FT, MSL)

DEPTH: 140  
(FT)

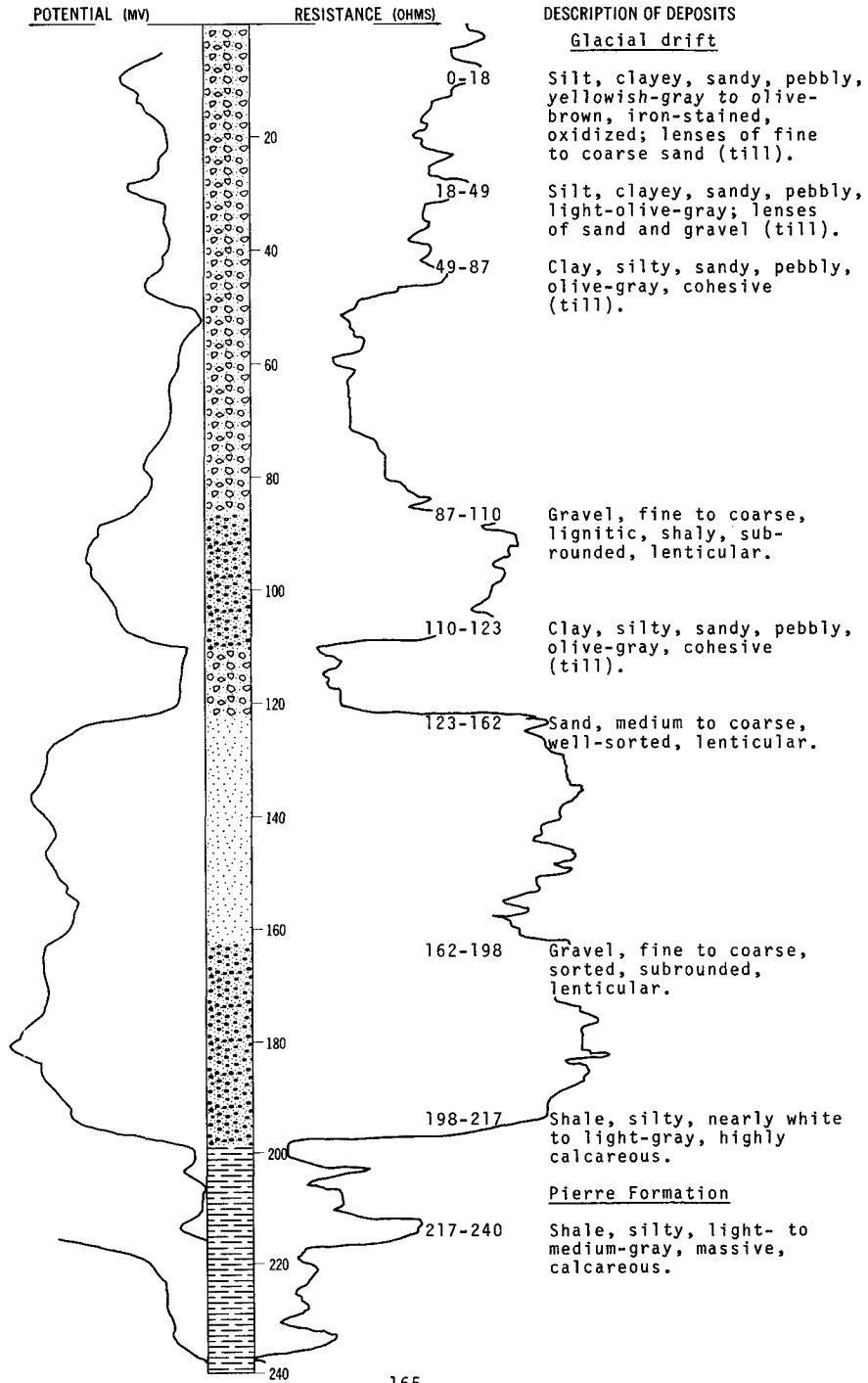


LOCATION: 144-59-20CCC

DATE DRILLED: September 1971

ALTITUDE: 1430  
(FT, MSL)

DEPTH: 240  
(FT)

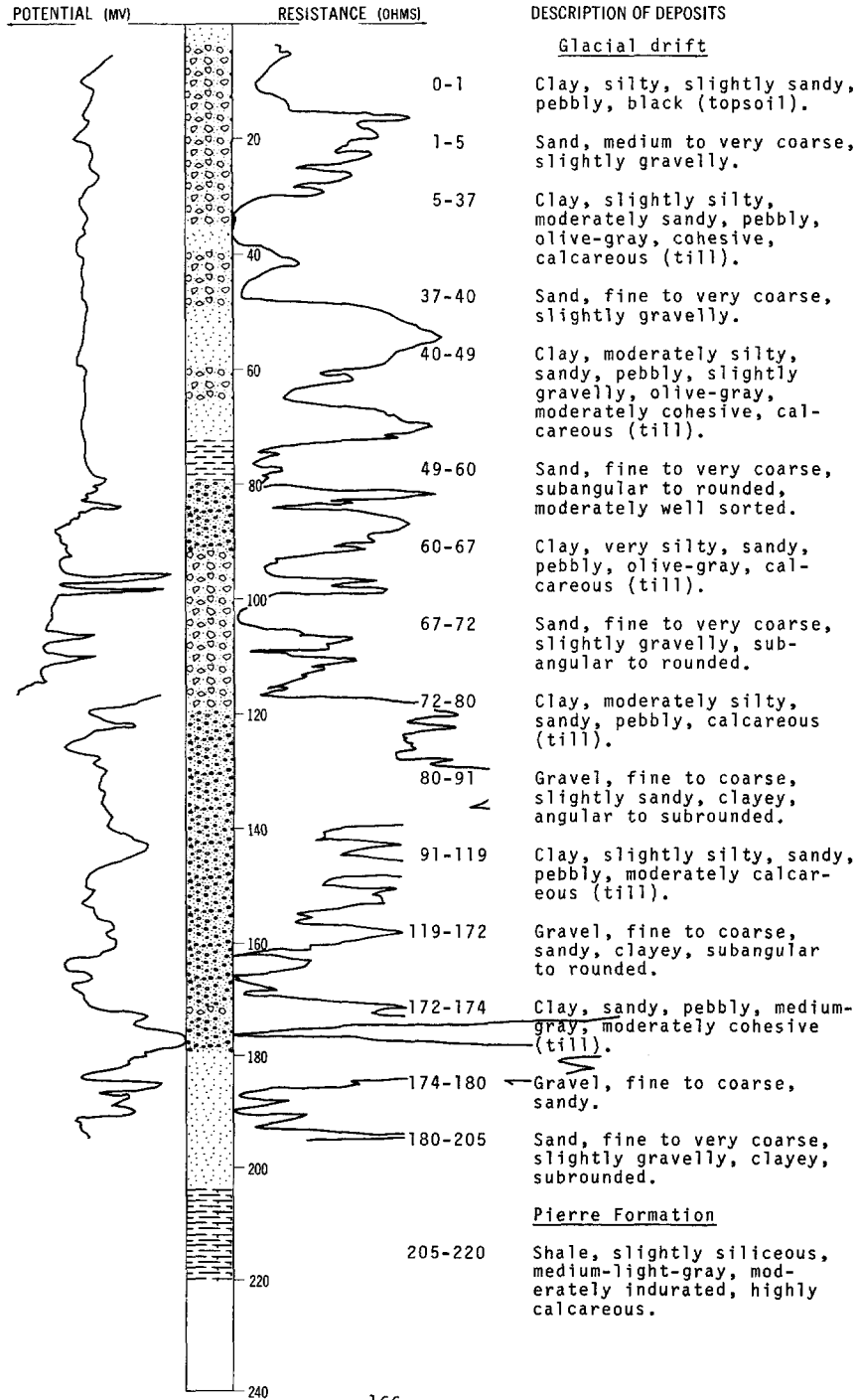


LOCATION: 144-59-20DDD

DATE DRILLED: August 1972

ALTITUDE: 1418  
(FT, MSL)

DEPTH: 220  
(FT)

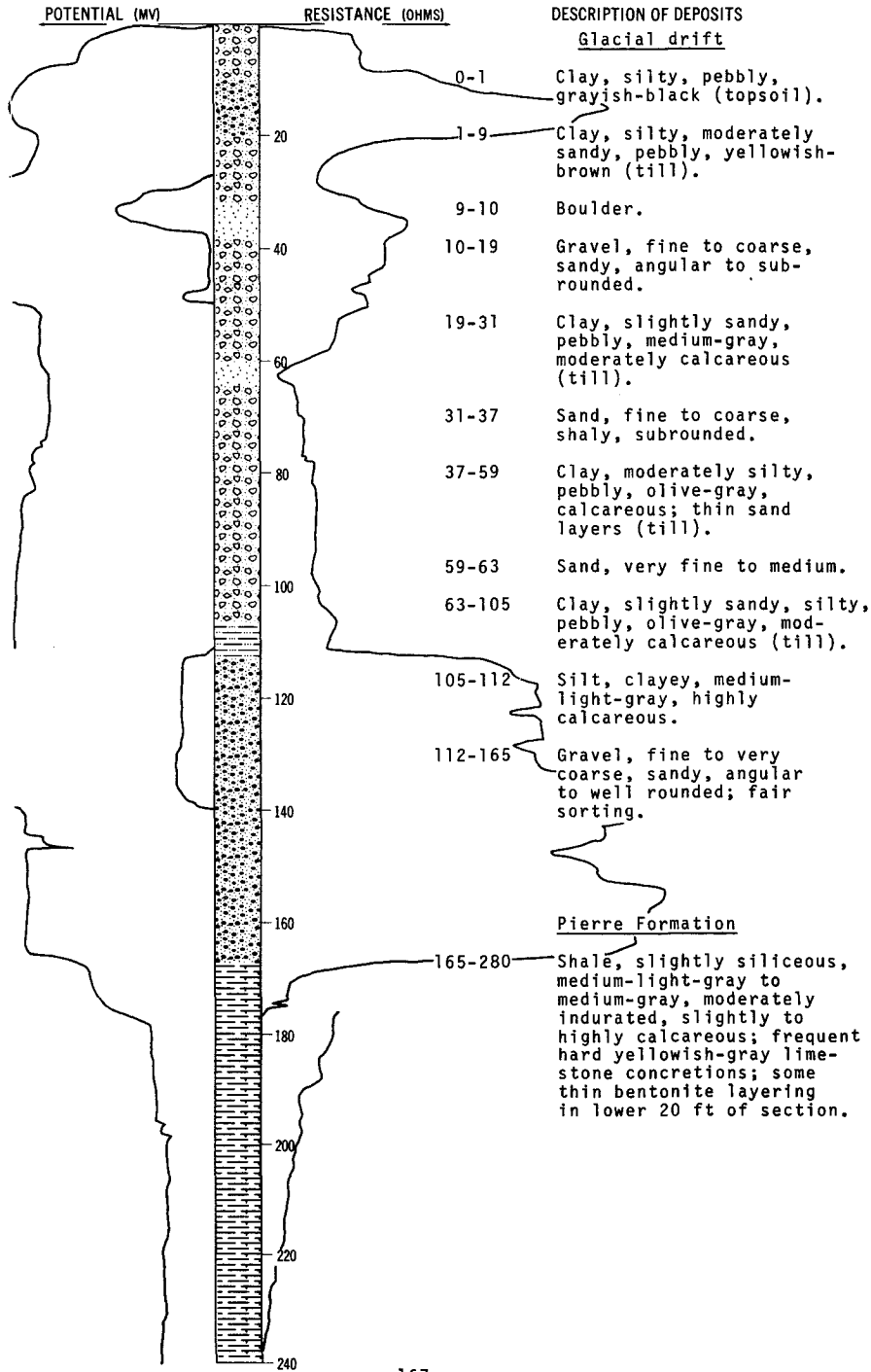


LOCATION: 144-59-22CCC

DATE DRILLED: August 1972

ALTITUDE: 1396  
(FT. MSL)

DEPTH: 280  
(FT)



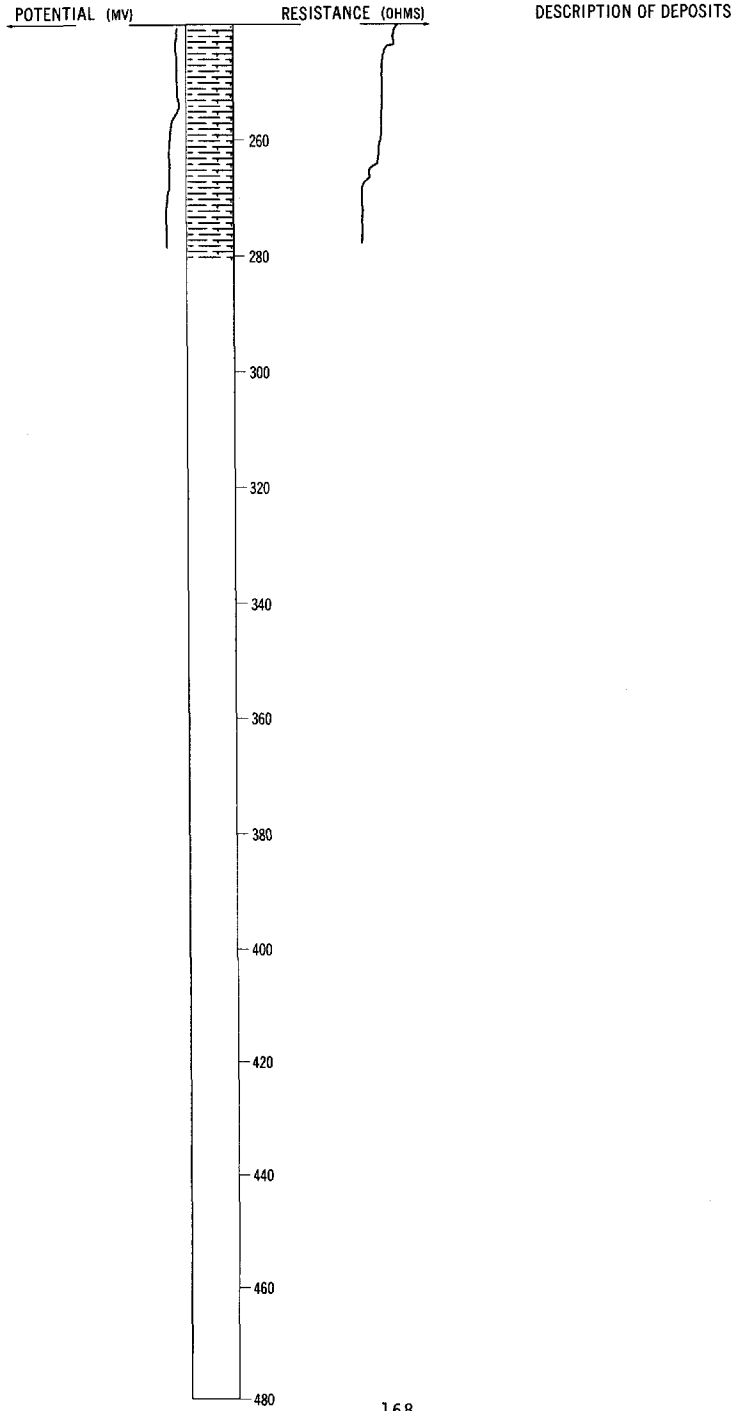
NDSWC 8428, Continued

LOCATION: 144-59-22CCC

DATE DRILLED: August 1972

ALTITUDE: 1396  
(FT, MSL)

DEPTH: 280  
(FT)

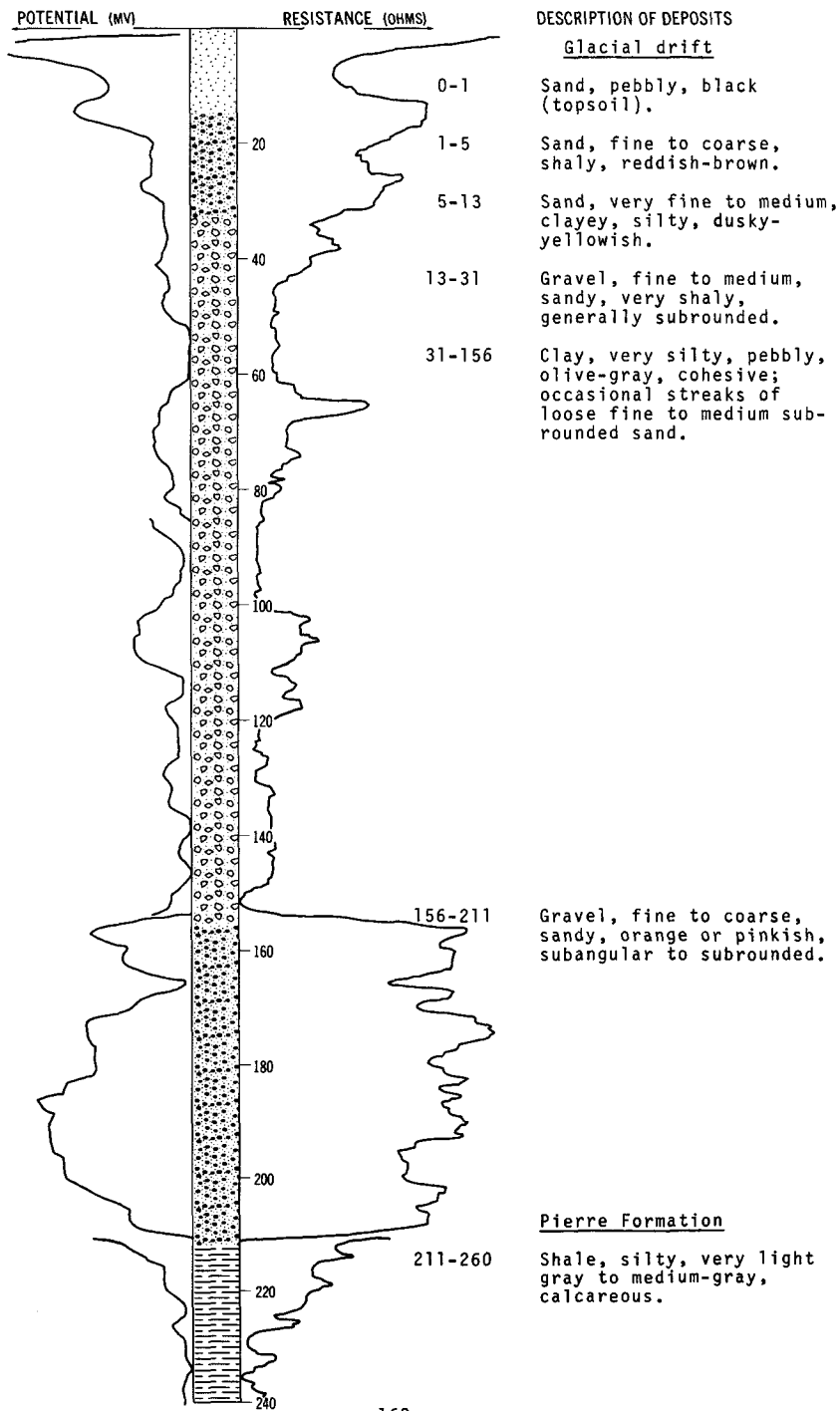


LOCATION: 144-59-23CCC

DATE DRILLED: September 1971

ALTITUDE: 1439  
(FT, MSL)

DEPTH: 260  
(FT)



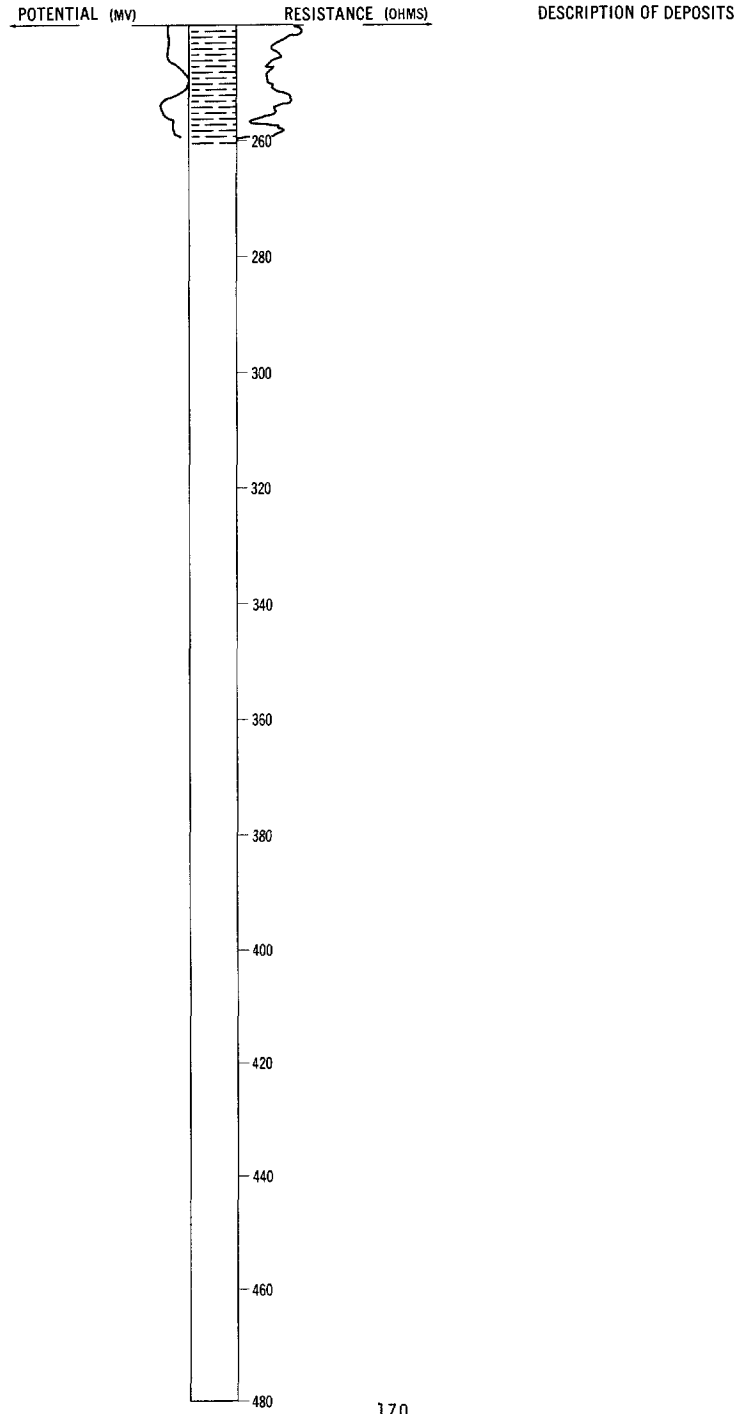
NDSWC 4376, Continued

LOCATION: 144-59-23CCC

DATE DRILLED: September 1971

ALTITUDE: 1439  
(FT, MSL)

DEPTH: 260  
(FT)



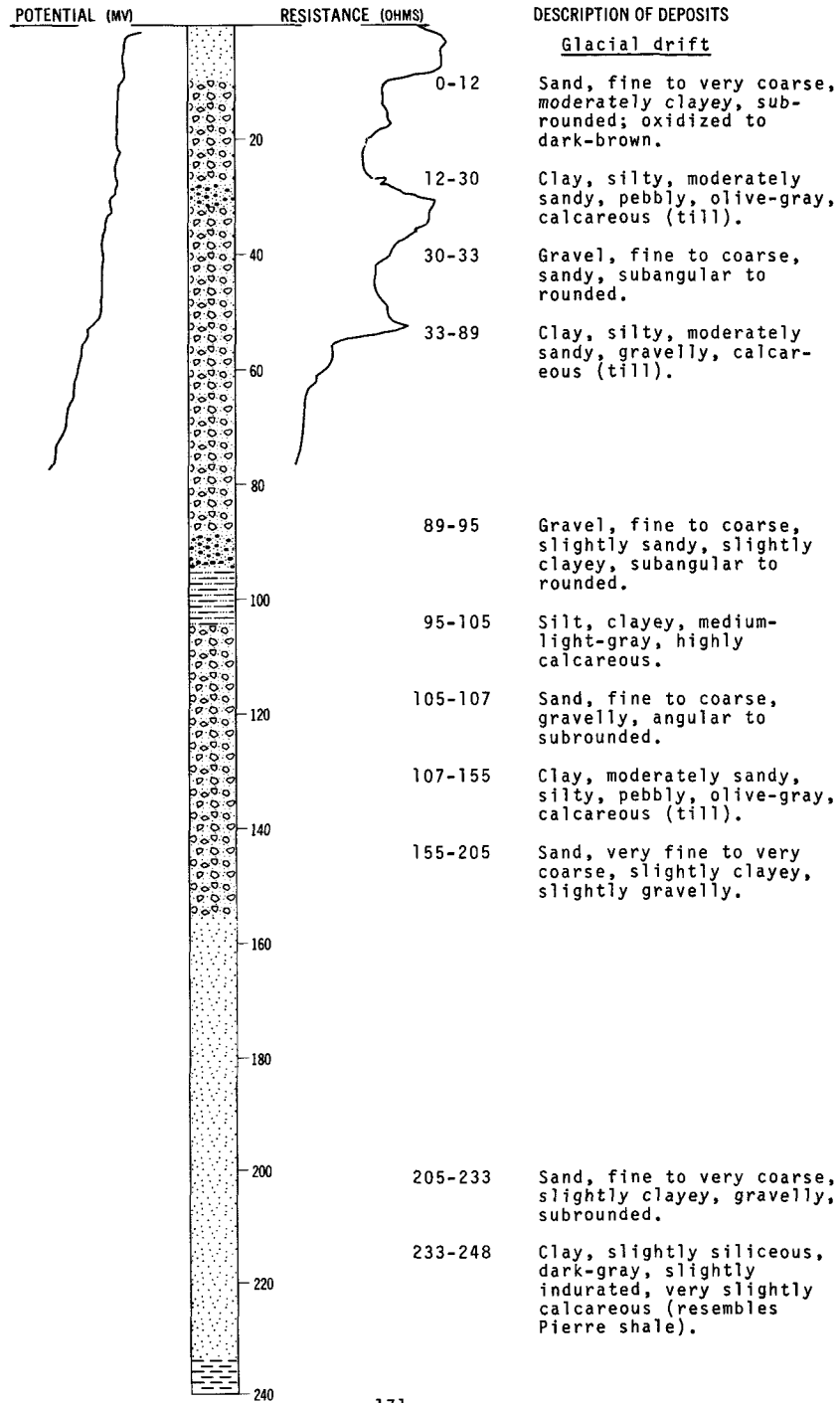


LOCATION: 144-60-01CCC

DATE DRILLED: August 1972

ALTITUDE: 1445  
(FT, MSL)

DEPTH: 380  
(FT)



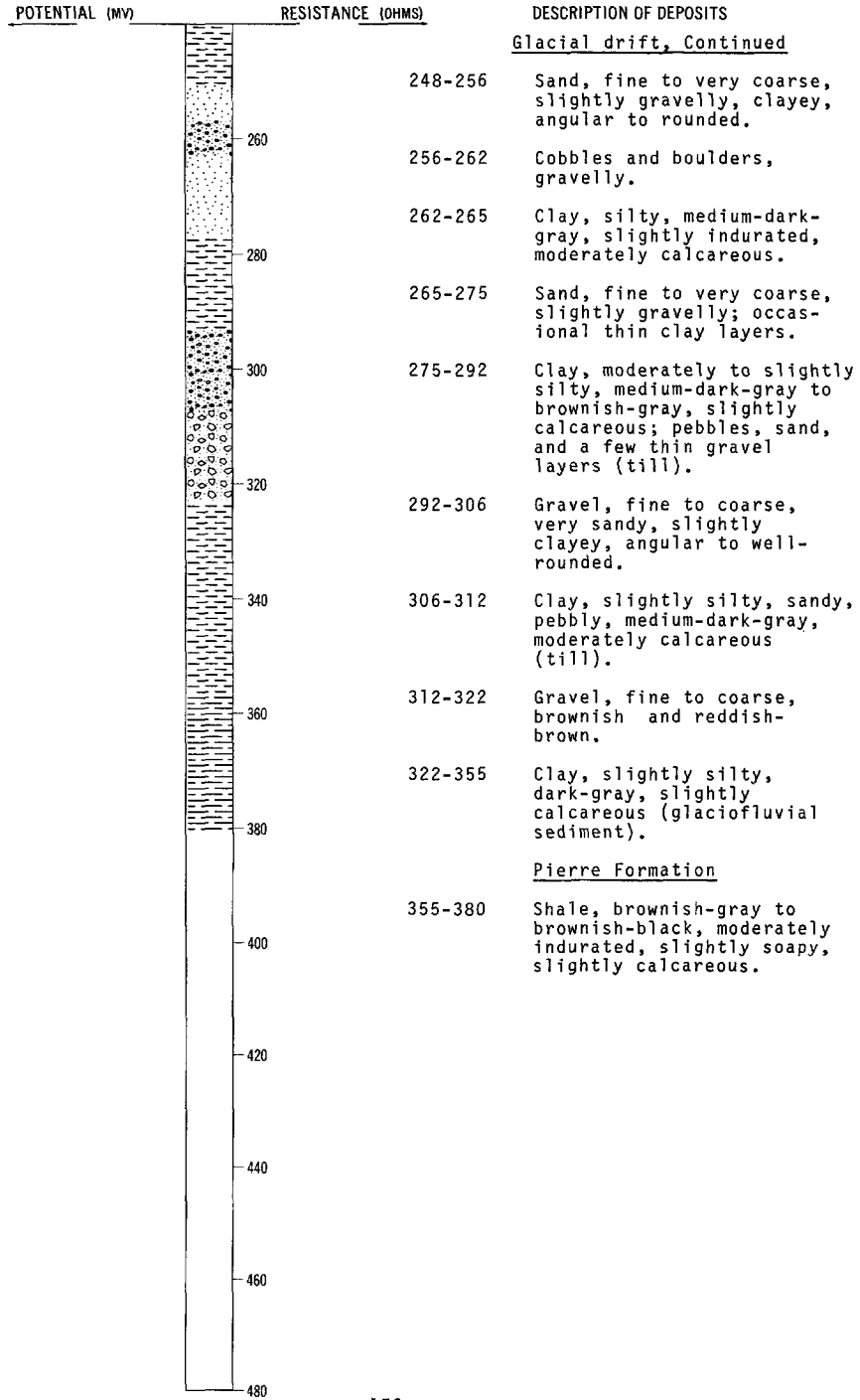
NDSWC 8430, Continued

LOCATION: 144-60-01CCC

DATE DRILLED: August 1972

ALTITUDE: 1445  
(FT, MSL)

DEPTH: 380  
(FT)

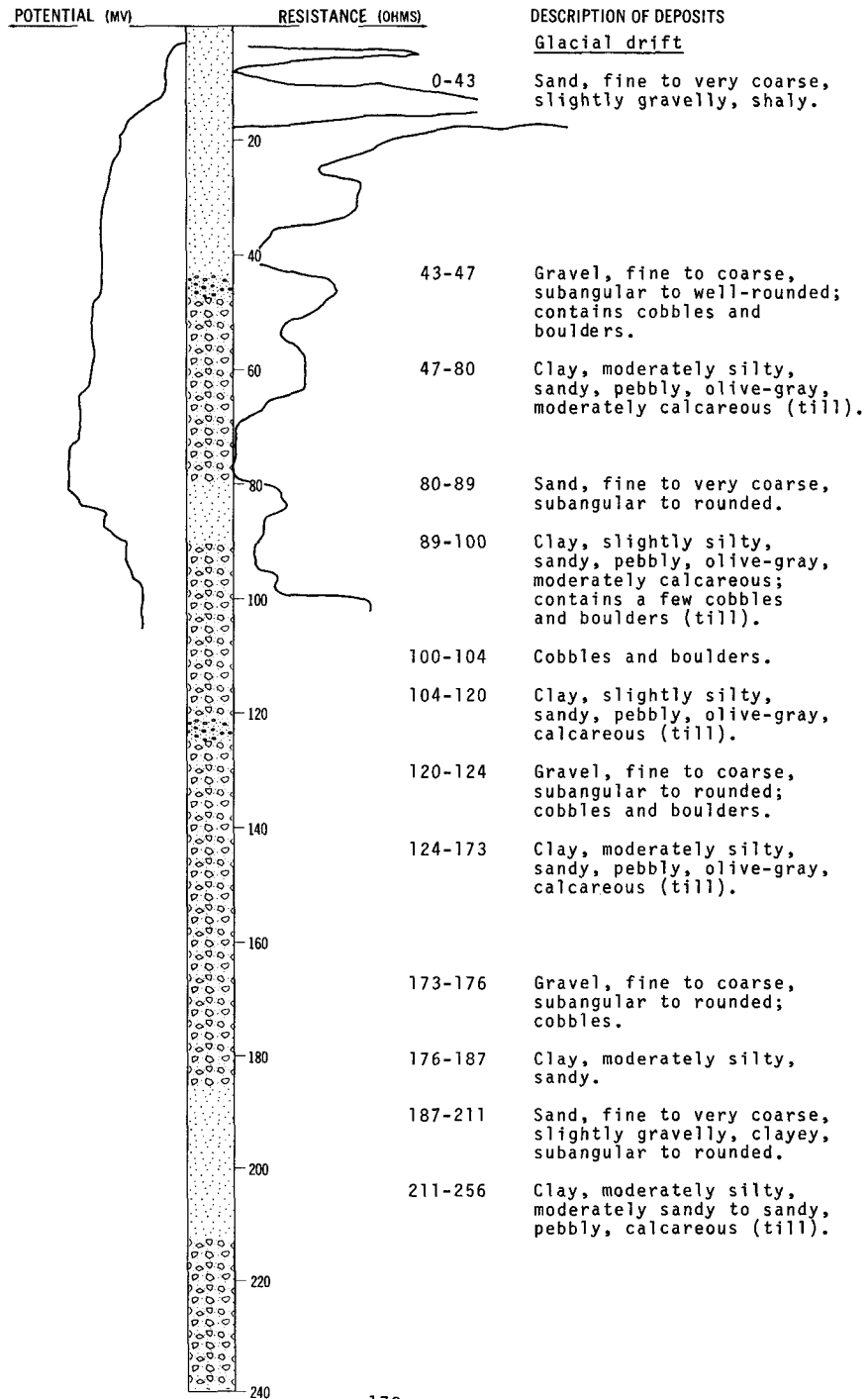


LOCATION: 144-60-01DCC

DATE DRILLED: August 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 400  
(FT)

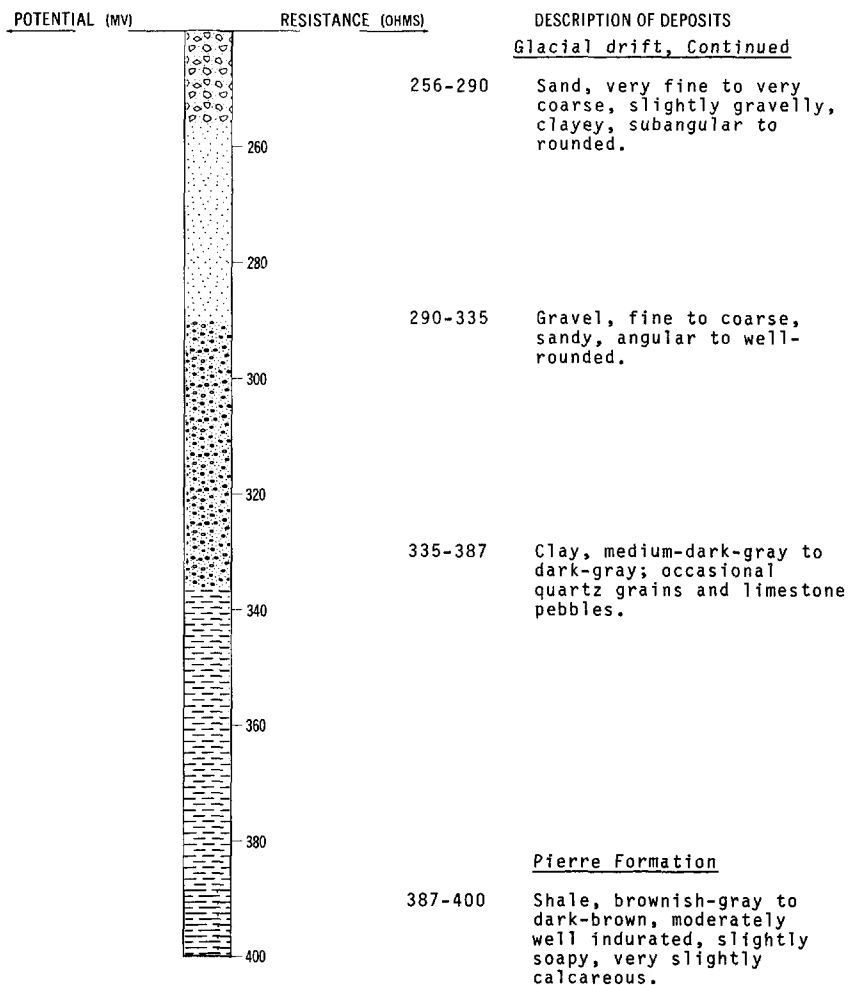


LOCATION: 144-60-01DCC

DATE DRILLED: August 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 400  
(FT)



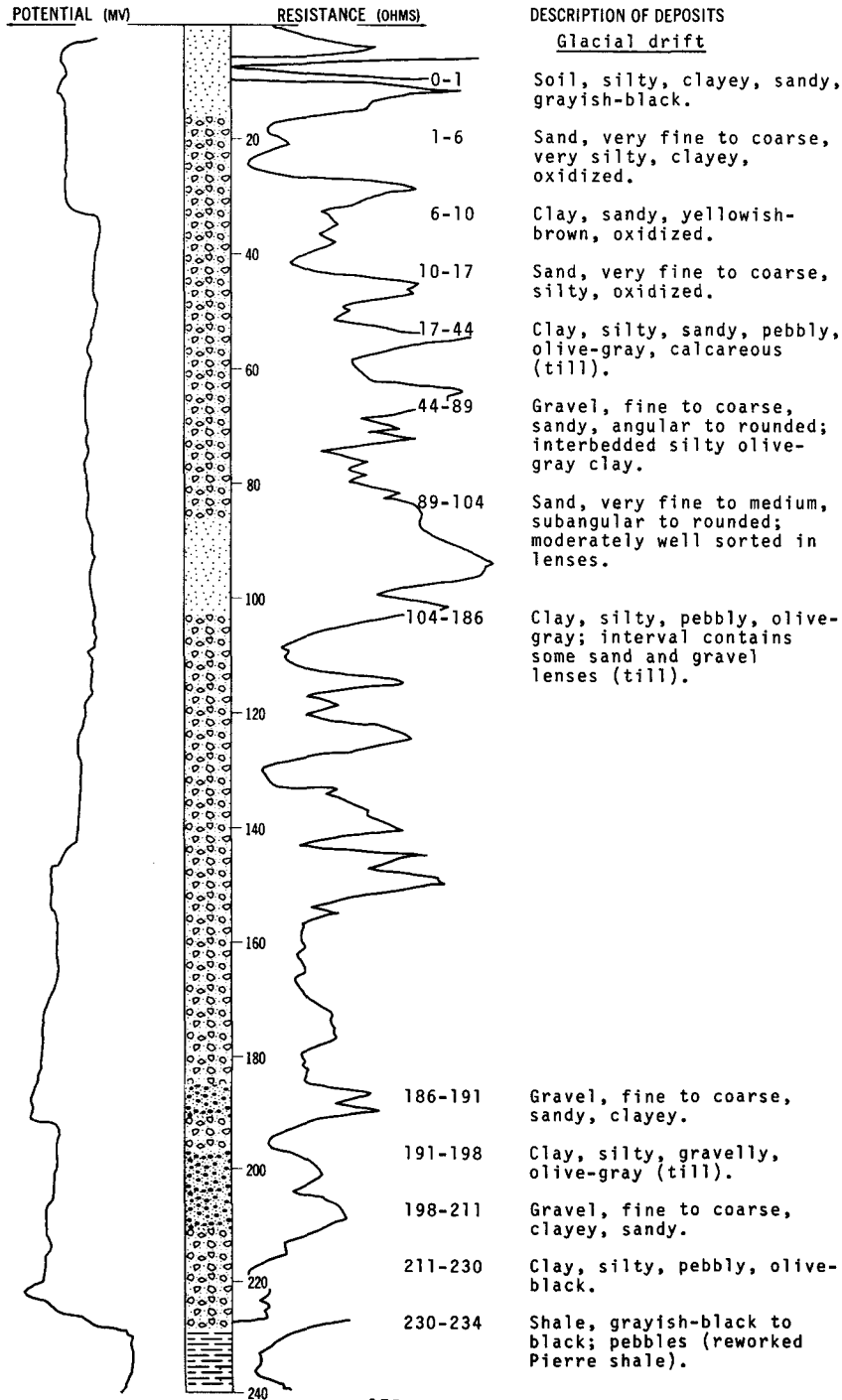
144-60-07AAA  
NDSWC 5897

Altitude: 1460 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, silty, moderately sandy, pebbly, moderate-yellowish-brown, oxidized; a few cobbles (till)-----	9	9
	Clay, silty, slightly sandy, pebbly, olive-gray, calcareous; contains a few cobbles (till)-----	16	25
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous-----	35	60

LOCATION: 144-60-10AAB  
 ALTITUDE: 1460  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 260  
 (FT)



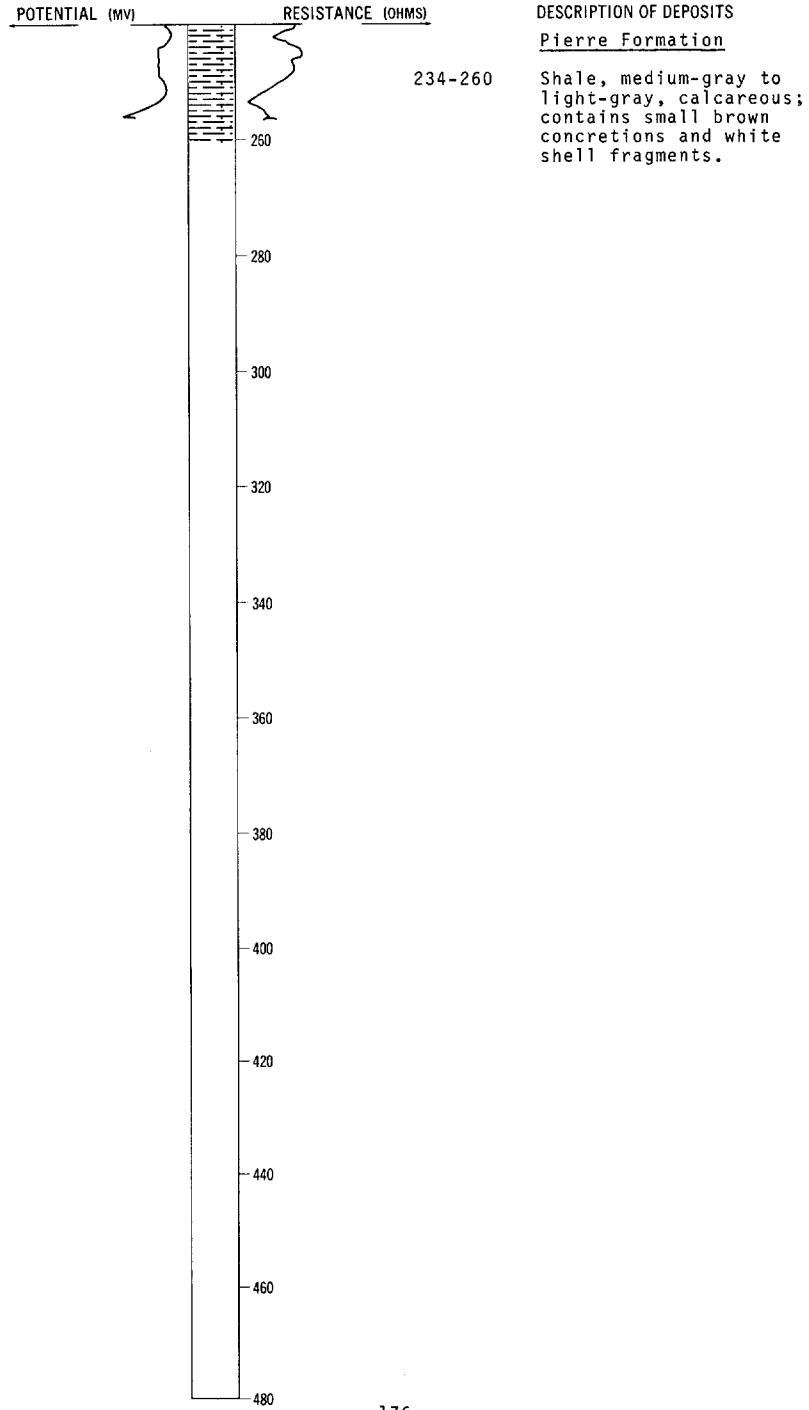
NDSWC 5896, Continued

LOCATION: 144-60-10AAB

DATE DRILLED: October 1970

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 260  
(FT)

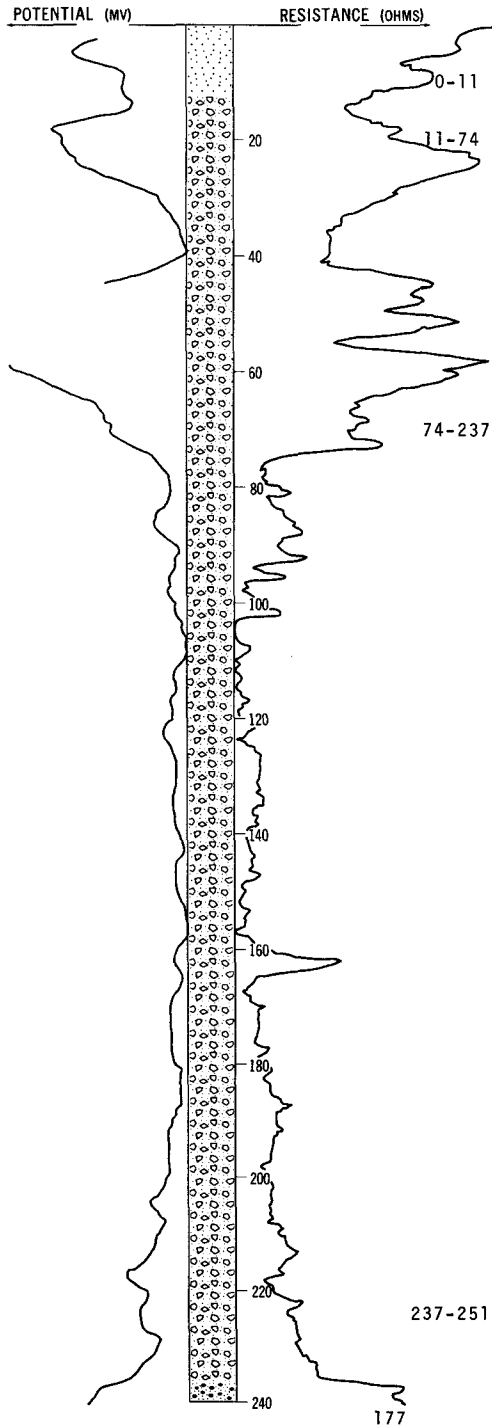


LOCATION: 144-60-24CCC

DATE DRILLED: August 1971

ALTITUDE: 1425  
(FT, MSL)

DEPTH: 340  
(FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-11  
Sand, medium to very coarse, subrounded.

11-74  
Clay, extremely silty, sandy, pebbly, olive-gray; cobbles and numerous sand and gravel lenses.

74-237  
Clay, very silty, sandy, pebbly, light-olive to olive-gray; occasional gravelly streaks and carbonate and shale pebbles (till).

237-251  
Gravel, fine to medium, sandy, shaly, subangular to subrounded.

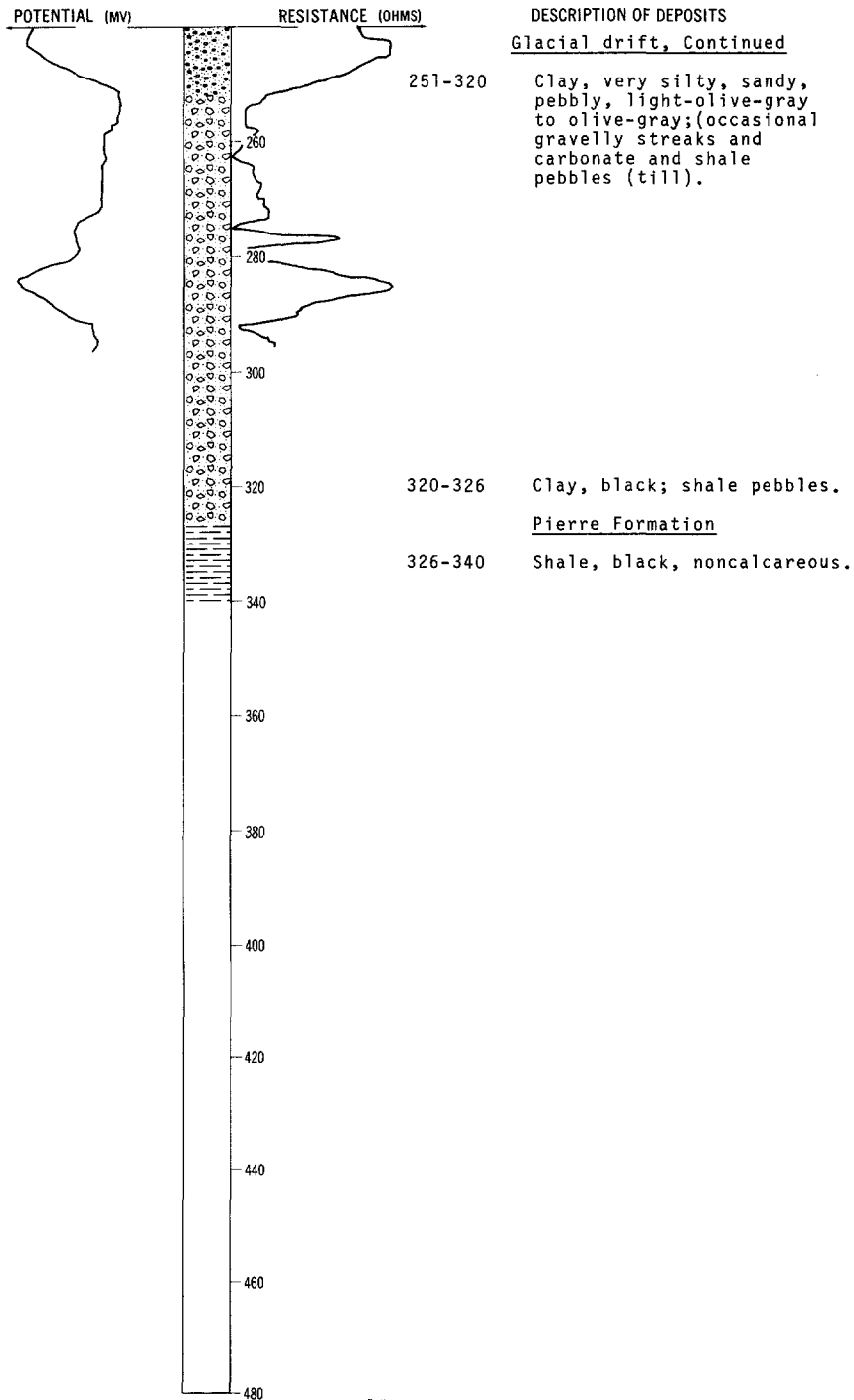
NDSWC 4331, Continued

LOCATION: 144-60-24CCC

DATE DRILLED: August 1971

ALTITUDE: 1425  
(FT, MSL)

DEPTH: 340  
(FT)



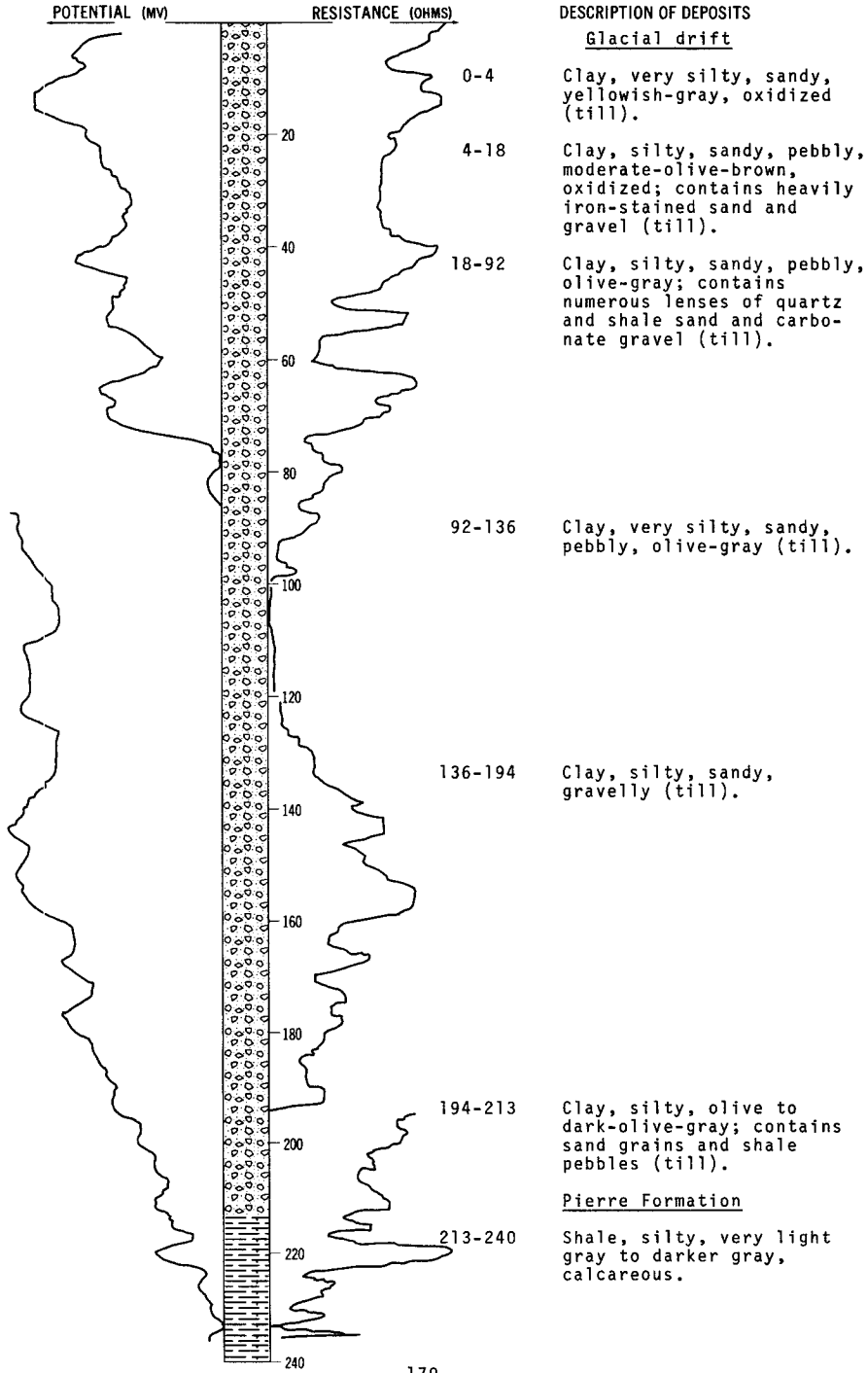


LOCATION: 144-60-25AAA

ALTITUDE: 1430  
(FT, MSL)

DATE DRILLED: August 1971

DEPTH: 240  
(FT)

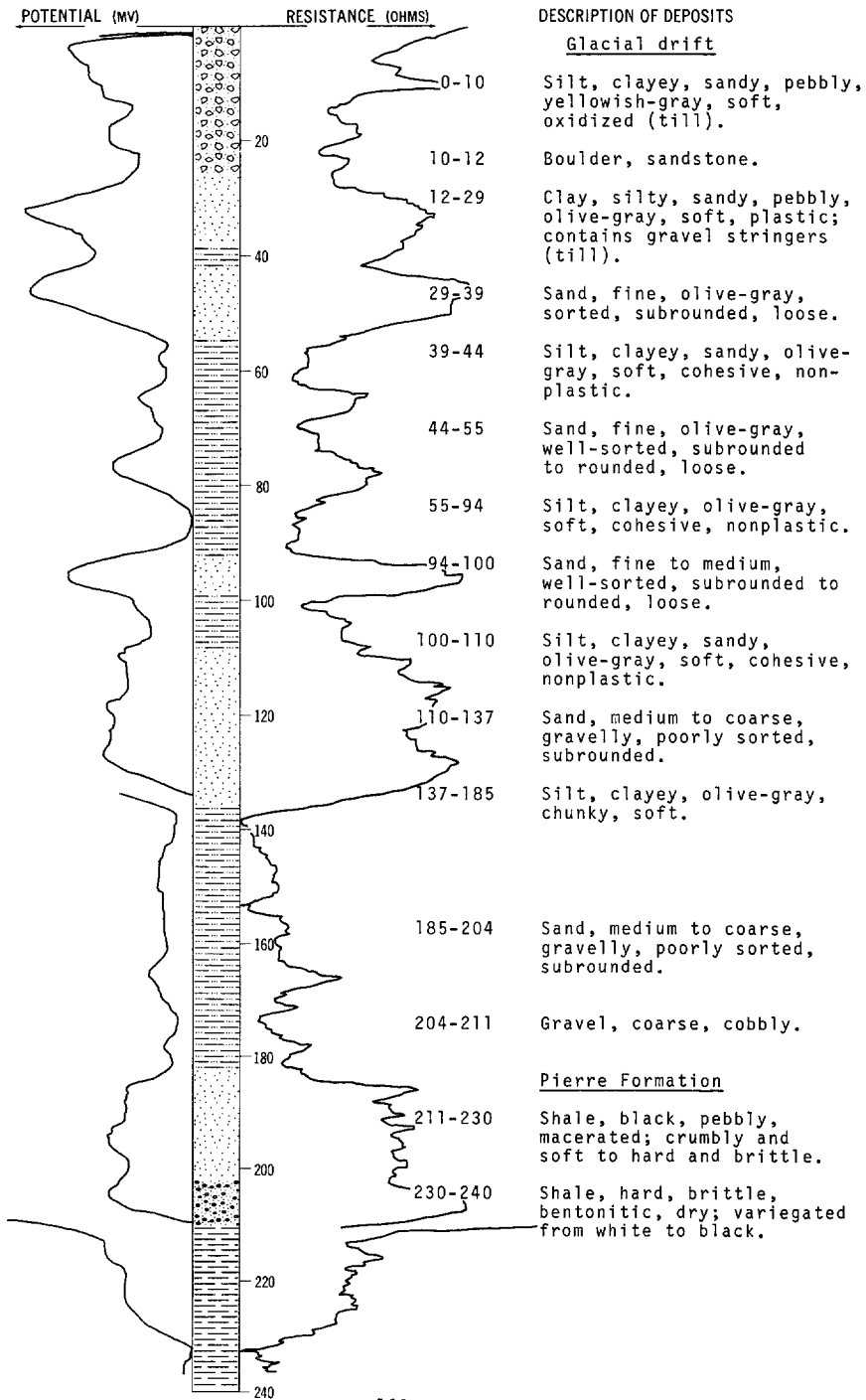


LOCATION: 144-60-27BCB1

DATE DRILLED: August 1971

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 240  
(FT)

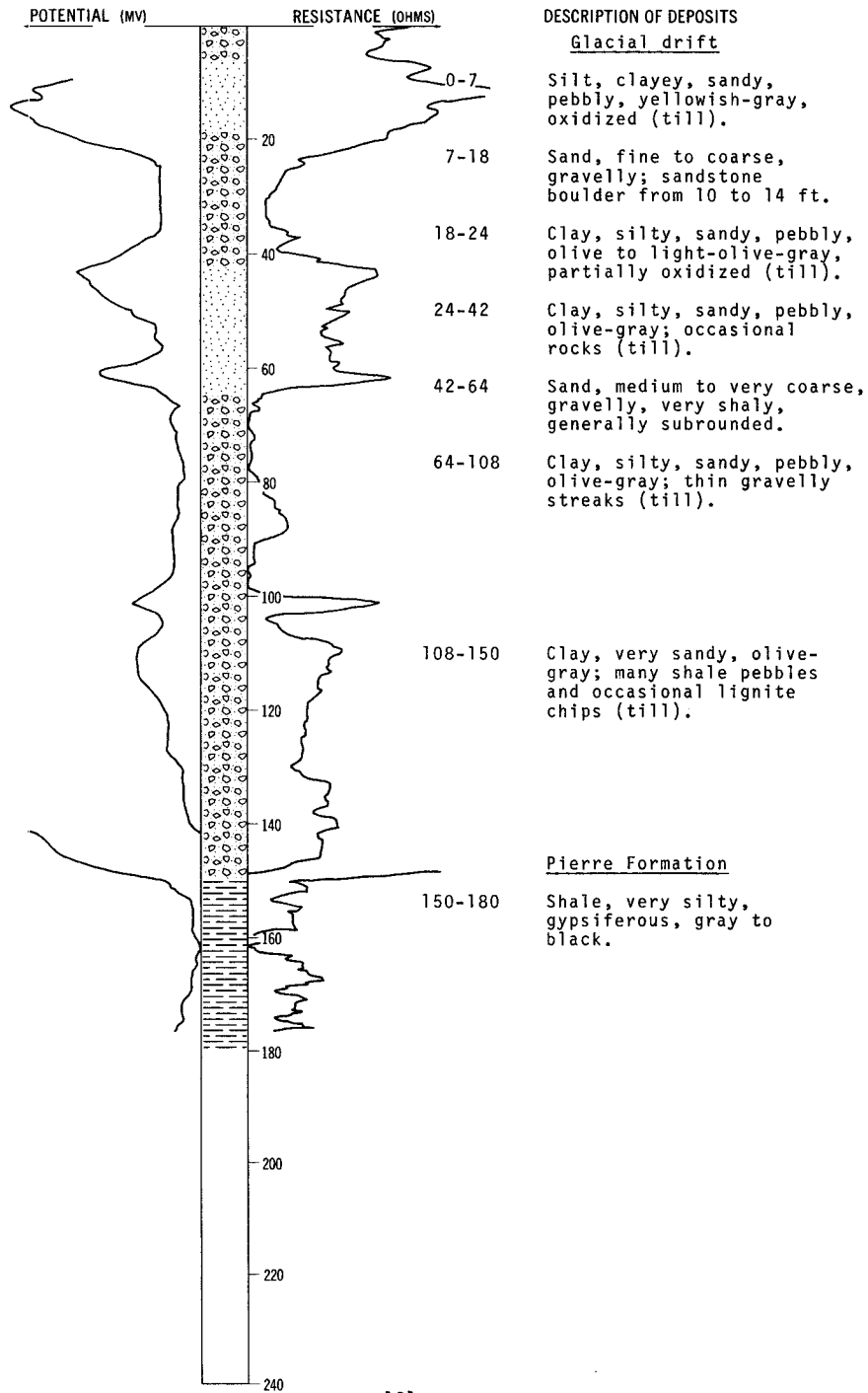


LOCATION: 144-60-30DAA

ALTITUDE: 1460  
(FT, MSL)

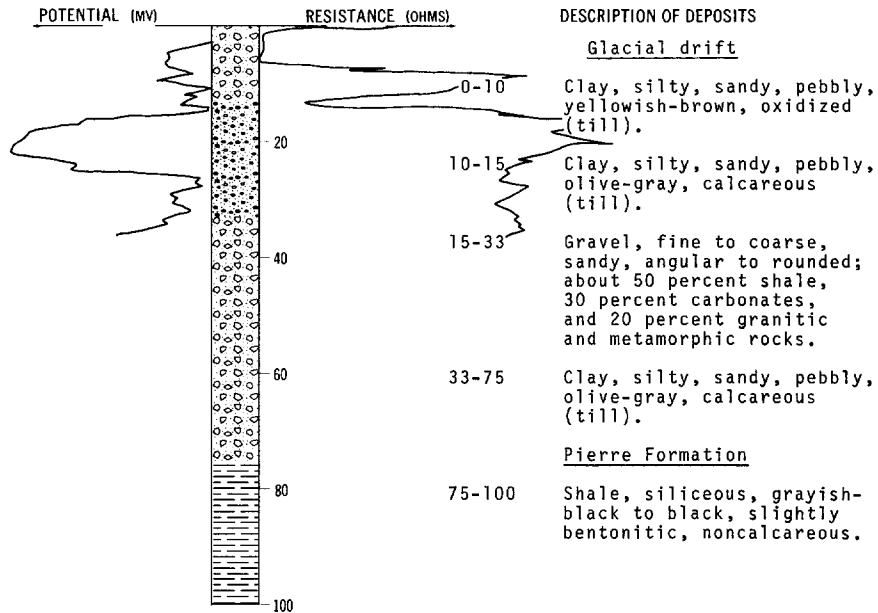
DATE DRILLED: August 1971

DEPTH: 180  
(FT)



LOCATION: 144-61-04CBC  
 ALTITUDE: 1475  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 100  
 (FT)



144-61-05BDA1  
 (Log from Empire Drilling Co.)

Altitude: 1480 feet

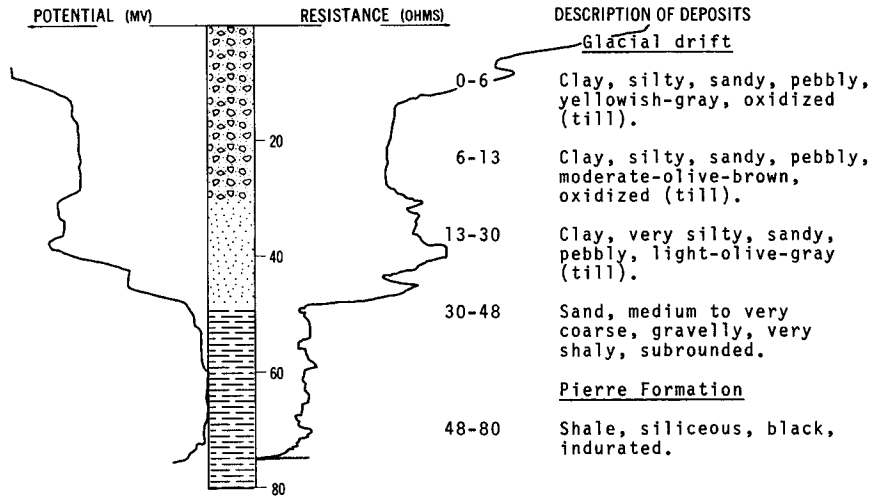
Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Till, yellow	25	25
	Till, gray	7	32
	Sand	6	38
	Till, gray	56	94
	Sand, fine	16	110

LOCATION: 144-61-10AAA

DATE DRILLED: August 1971

ALTITUDE: 1468  
(FT, MSL)

DEPTH: 80  
(FT)



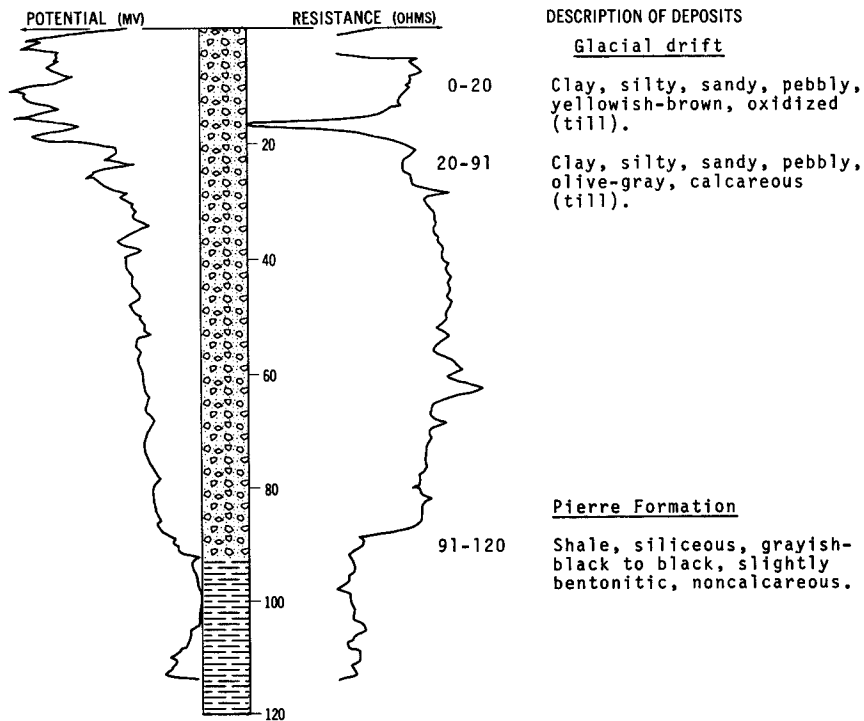
NDSWC 5895

LOCATION: 144-61-12BBB

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 120  
(FT)



144-61-16CCC  
NDSWC 4323

Altitude: 1486 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, very silty, sandy, pebbly, yellowish-reddish-brown, iron-stained, oxidized (till)-----	14	14
	Clay, very silty, sandy, pebbly, olive-gray; thin interbedded coarse sand and fine gravel stringers (till)-----	11	25
Pierre Formation:			
	Shale, siliceous, black-----	15	40

144-61-16DDD  
NDSWC 4322

Altitude: 1481 feet

Glacial drift:			
	Gravel, fine to coarse, sandy, subangular to rounded-----	14	14
	Clay, very silty, sandy, pebbly, olive-gray (till)-----	10	24
Pierre Formation:			
	Shale, siliceous, black-----	16	40

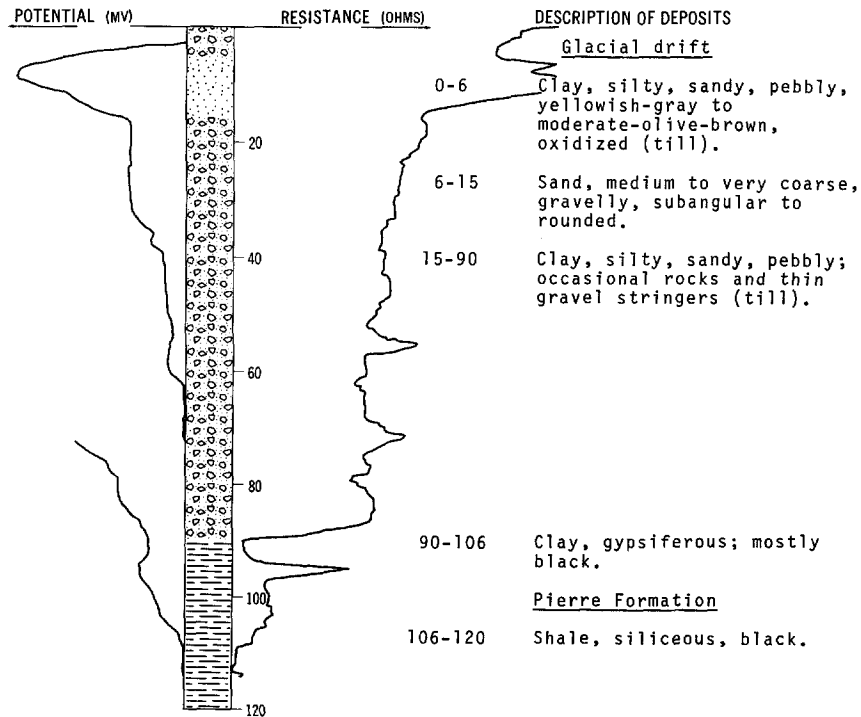
NDSWC 4325

LOCATION: 144-61-18CCC

DATE DRILLED: August 1971

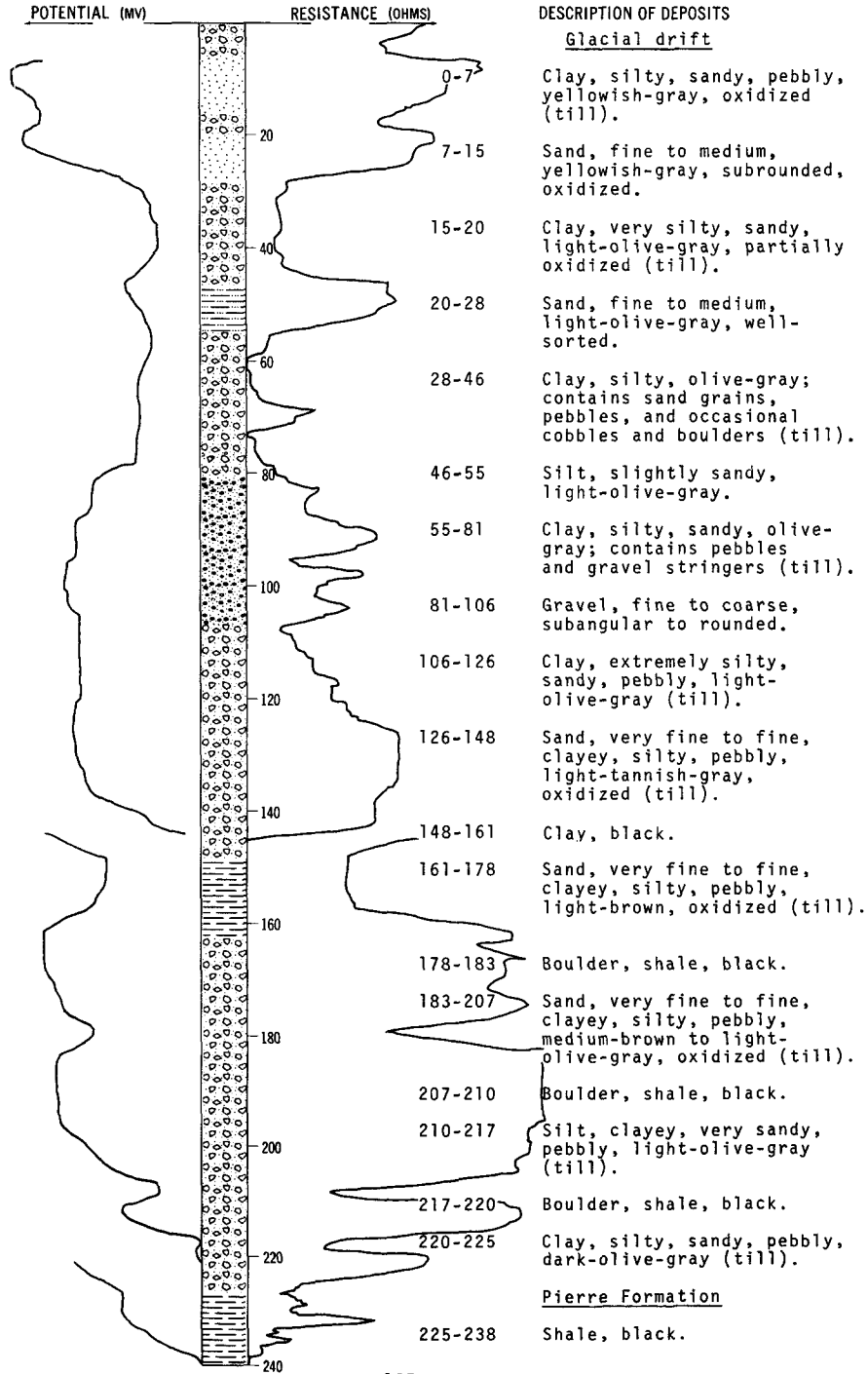
ALTITUDE: 1495  
(FT, MSL)

DEPTH: 120  
(FT)



LOCATION: 144-61-18000  
 ALTITUDE: 1490  
 (FT, MSL)

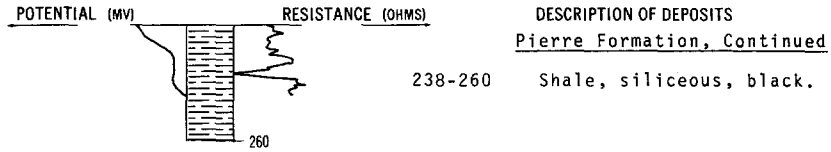
DATE DRILLED: August 1971  
 DEPTH: 260  
 (FT)



NDSWC 4324, Continued

LOCATION: 144-61-18DDD  
 ALTITUDE: 1490  
 (FT, MSL)

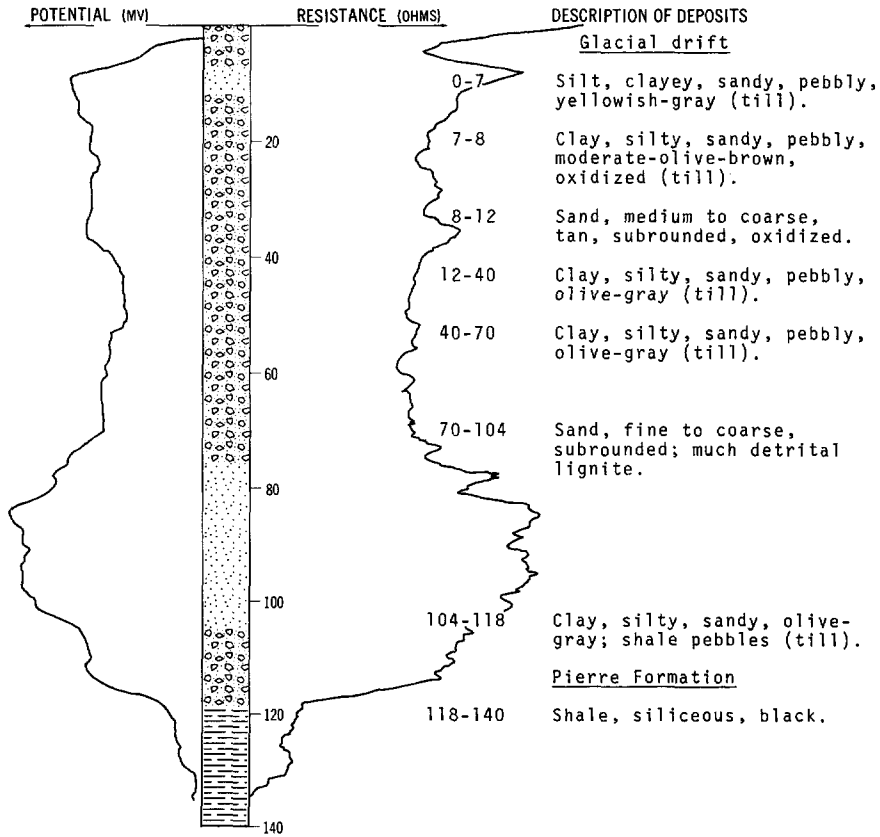
DATE DRILLED: August 1971  
 DEPTH: 260  
 (FT)



NDSWC 4327

LOCATION: 144-61-24CCC  
 ALTITUDE: 1464  
 (FT, MSL)

DATE DRILLED: August 1971  
 DEPTH: 140  
 (FT)



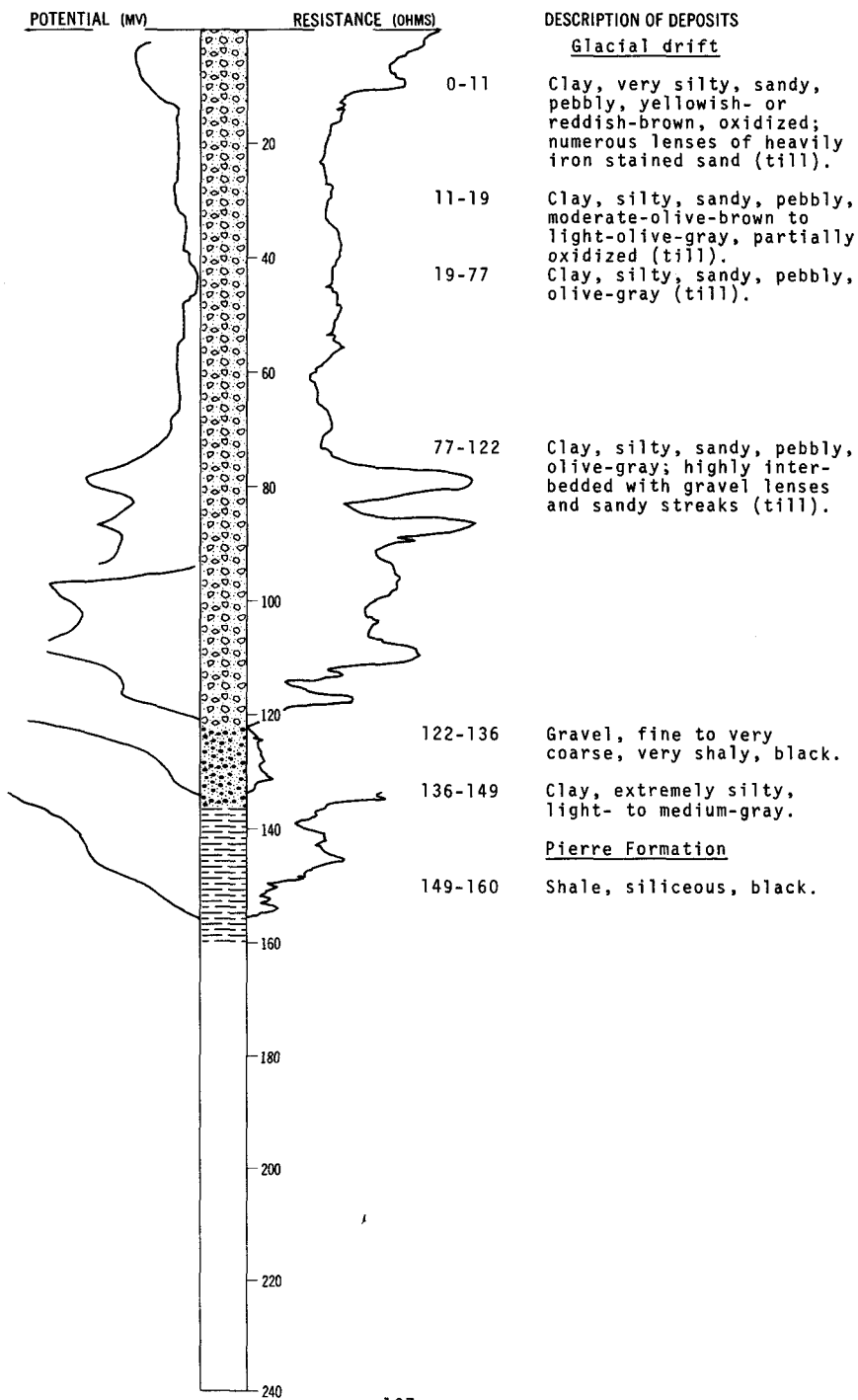


LOCATION: 144-61-24DDD

ALTITUDE: 1460  
(FT, MSL)

DATE DRILLED: August 1971

DEPTH: 160  
(FT)

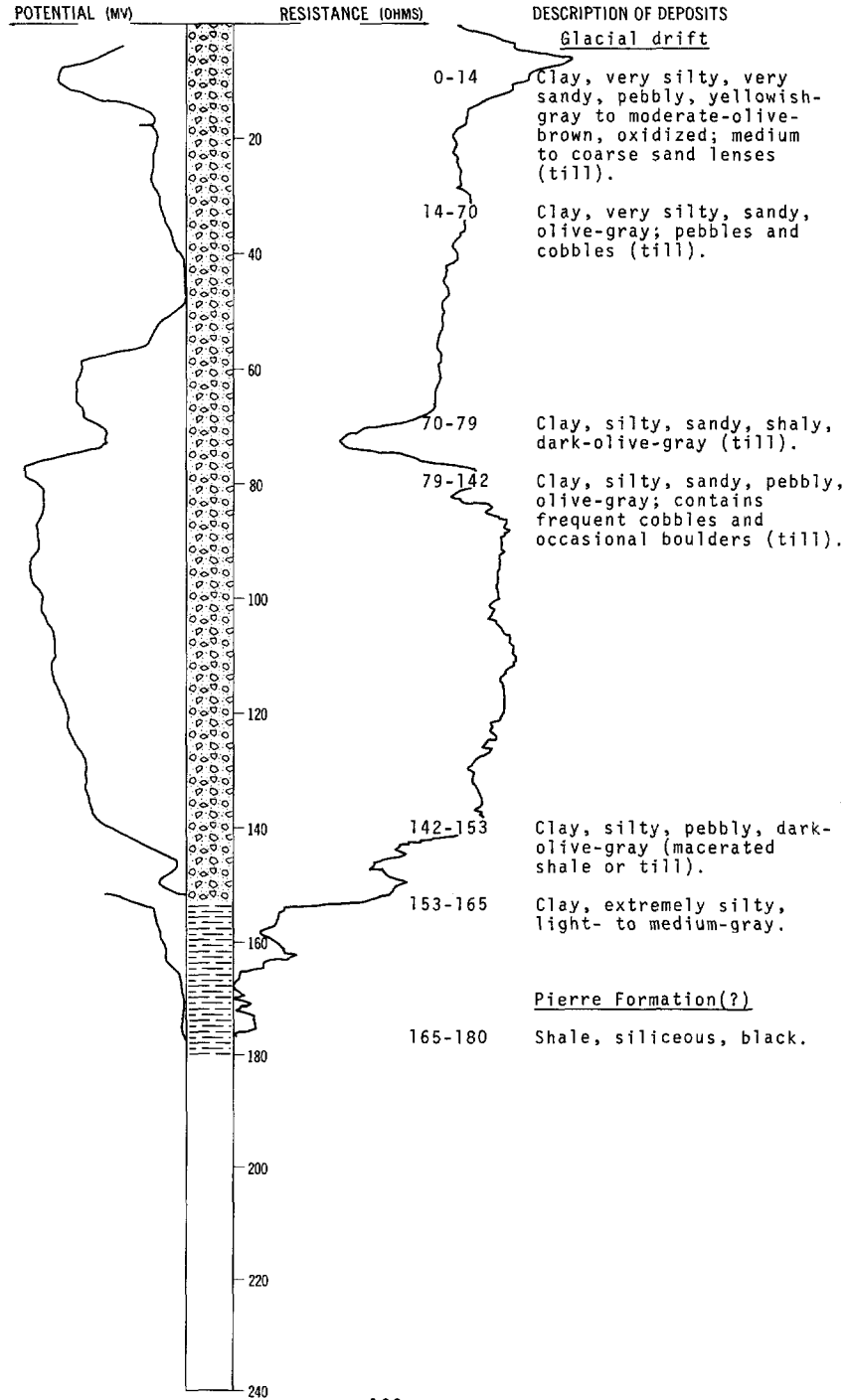


LOCATION: 144-61-26BBB

DATE DRILLED: August 1971

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 180  
(FT)

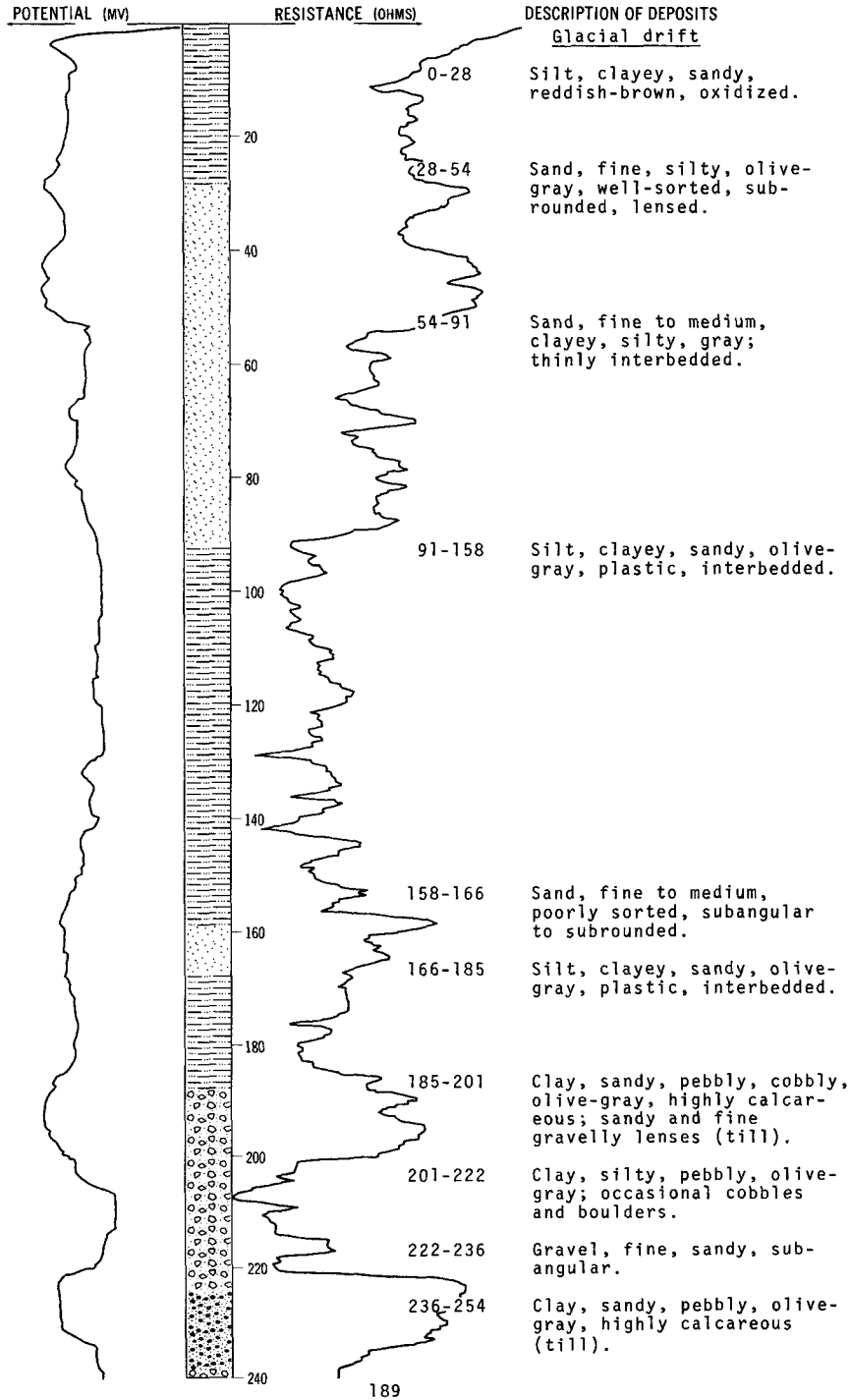


LOCATION: 145-54-01CCC

DATE DRILLED: June 1970

ALTITUDE: 1100  
(FT, MSL)

DEPTH: 280  
(FT)



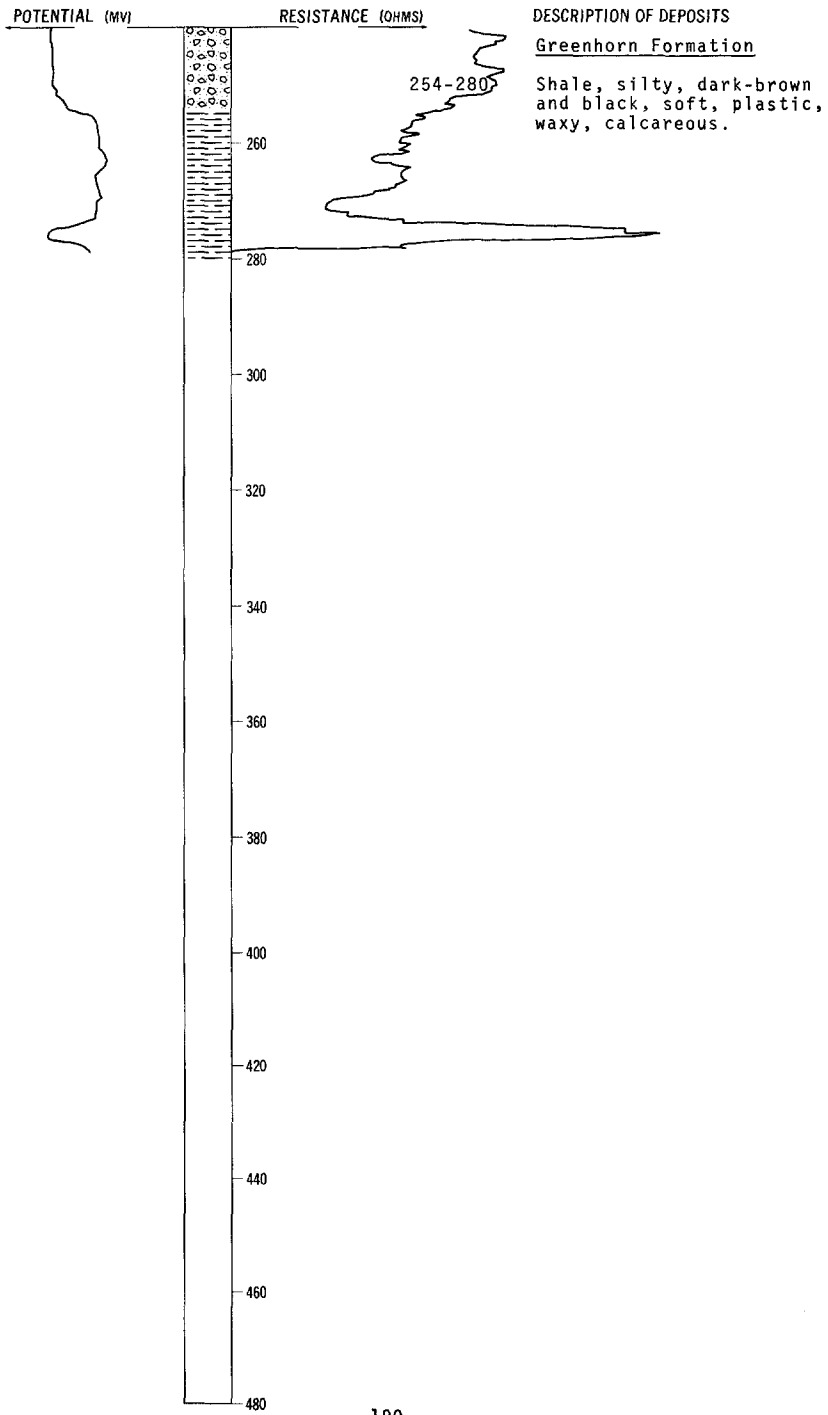
NDSWC 3989, Continued

LOCATION: 145-54-01CCC

DATE DRILLED: June 1970

ALTITUDE: 1100  
(FT, MSL)

DEPTH: 280  
(FT)

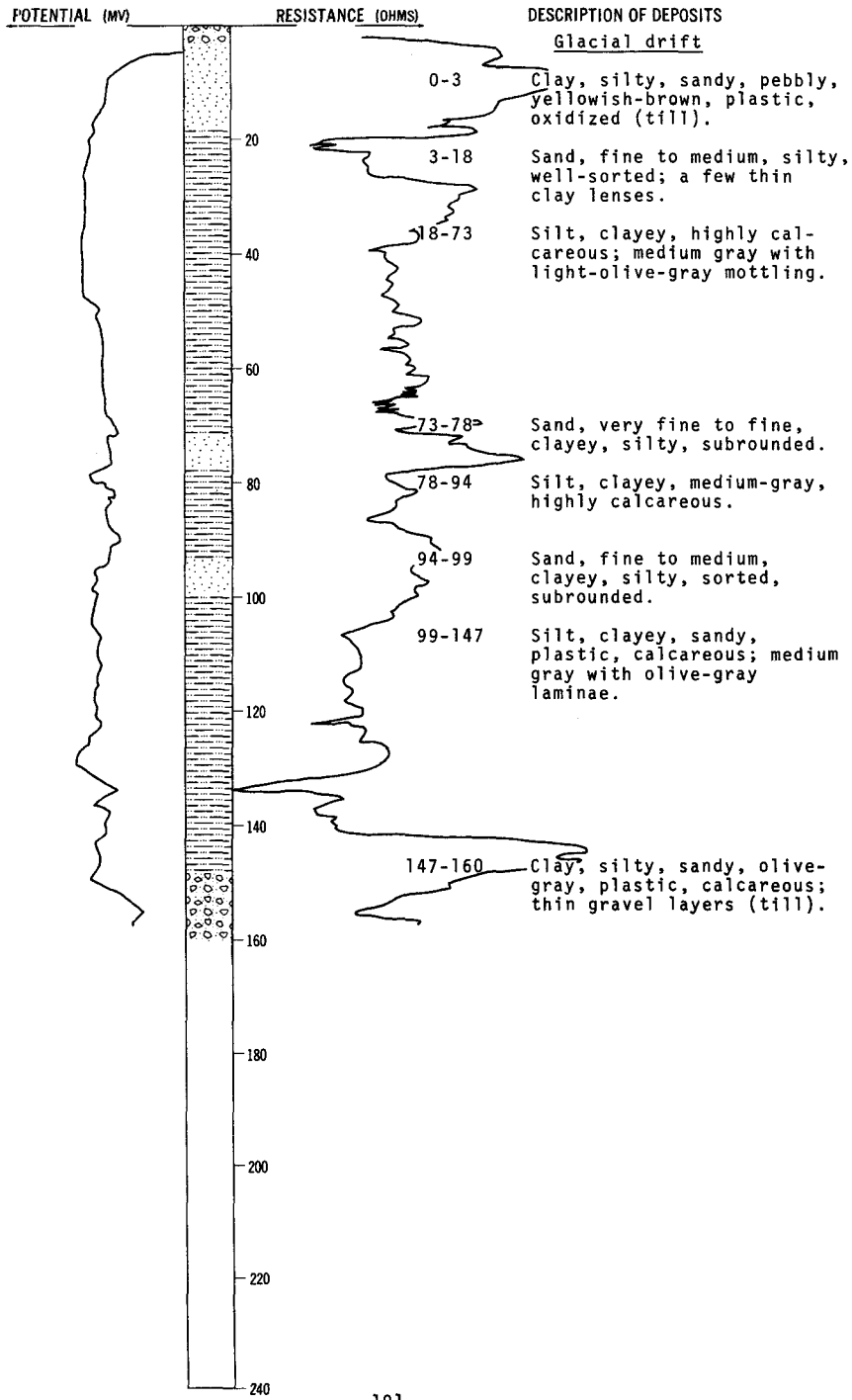


LOCATION: 145-54-03DDD

DATE DRILLED: June 1972

ALTITUDE: 1106  
(FT. MSL)

DEPTH: 160  
(FT)

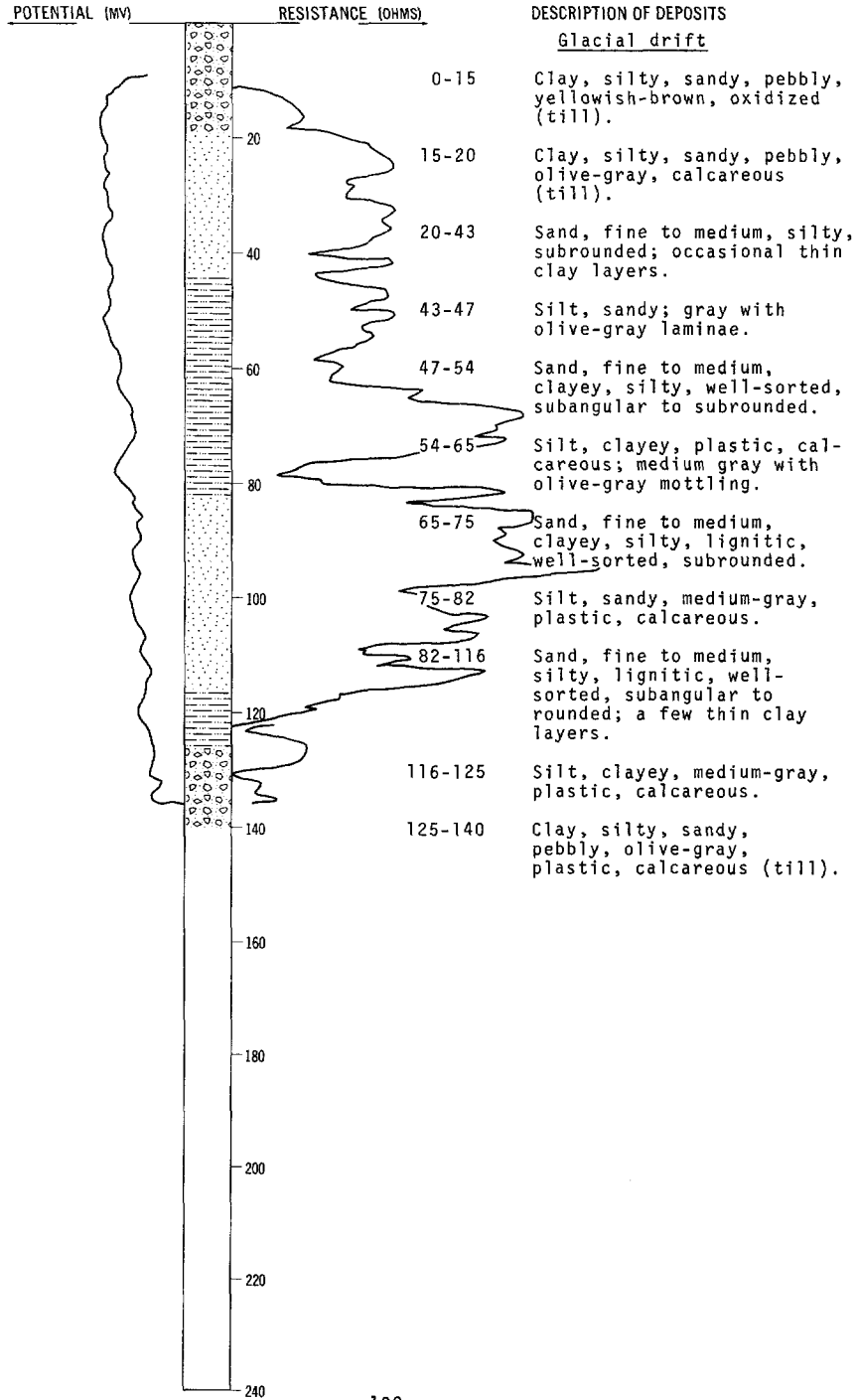


LOCATION: 145-54-04AAA

DATE DRILLED: June 1972

ALTITUDE: 1095  
(FT, MSL)

DEPTH: 140  
(FT)

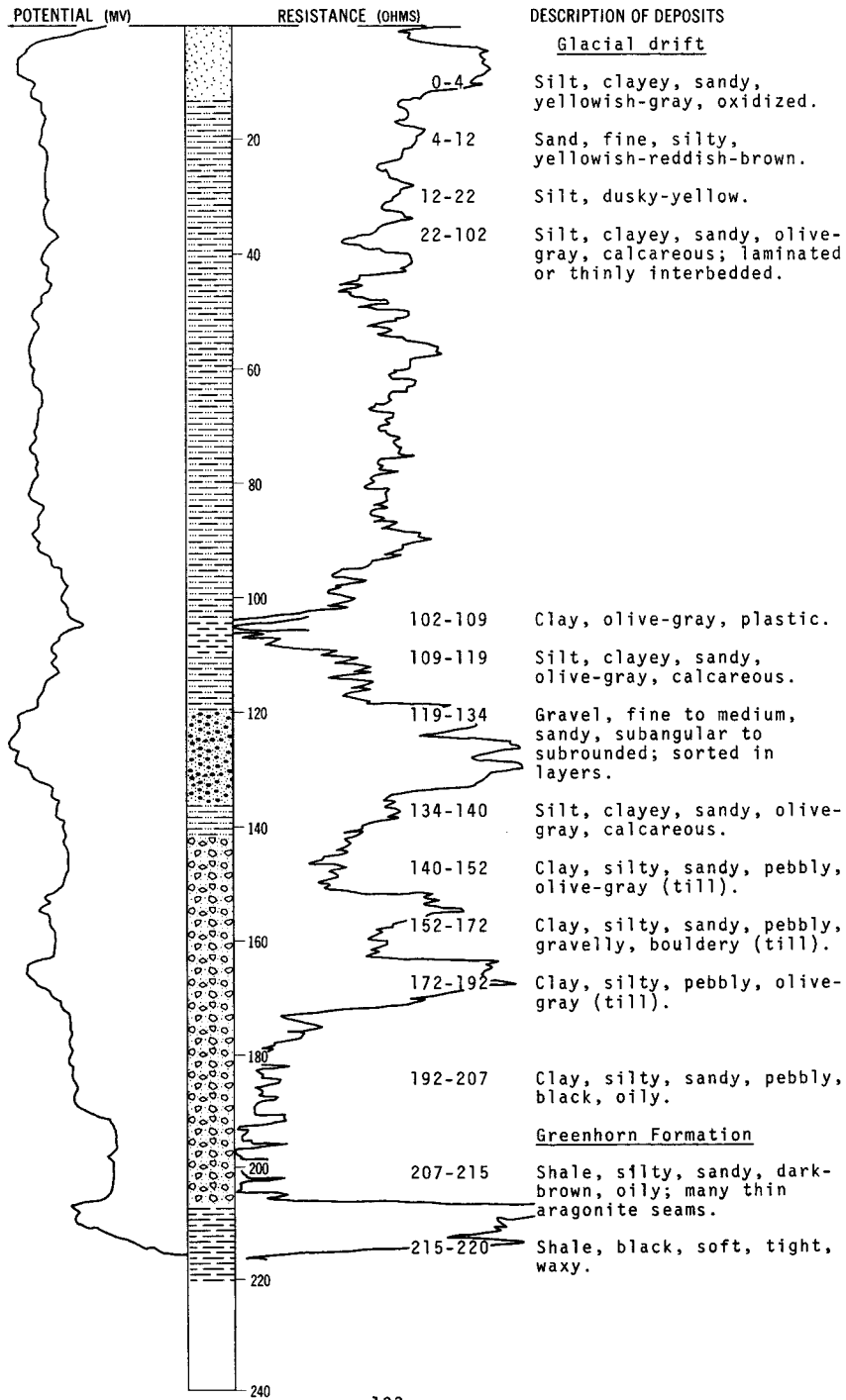


LOCATION: 145-54-04DDD

DATE DRILLED: June 1970

ALTITUDE: 1100  
(FT, MSL)

DEPTH: 220  
(FT)

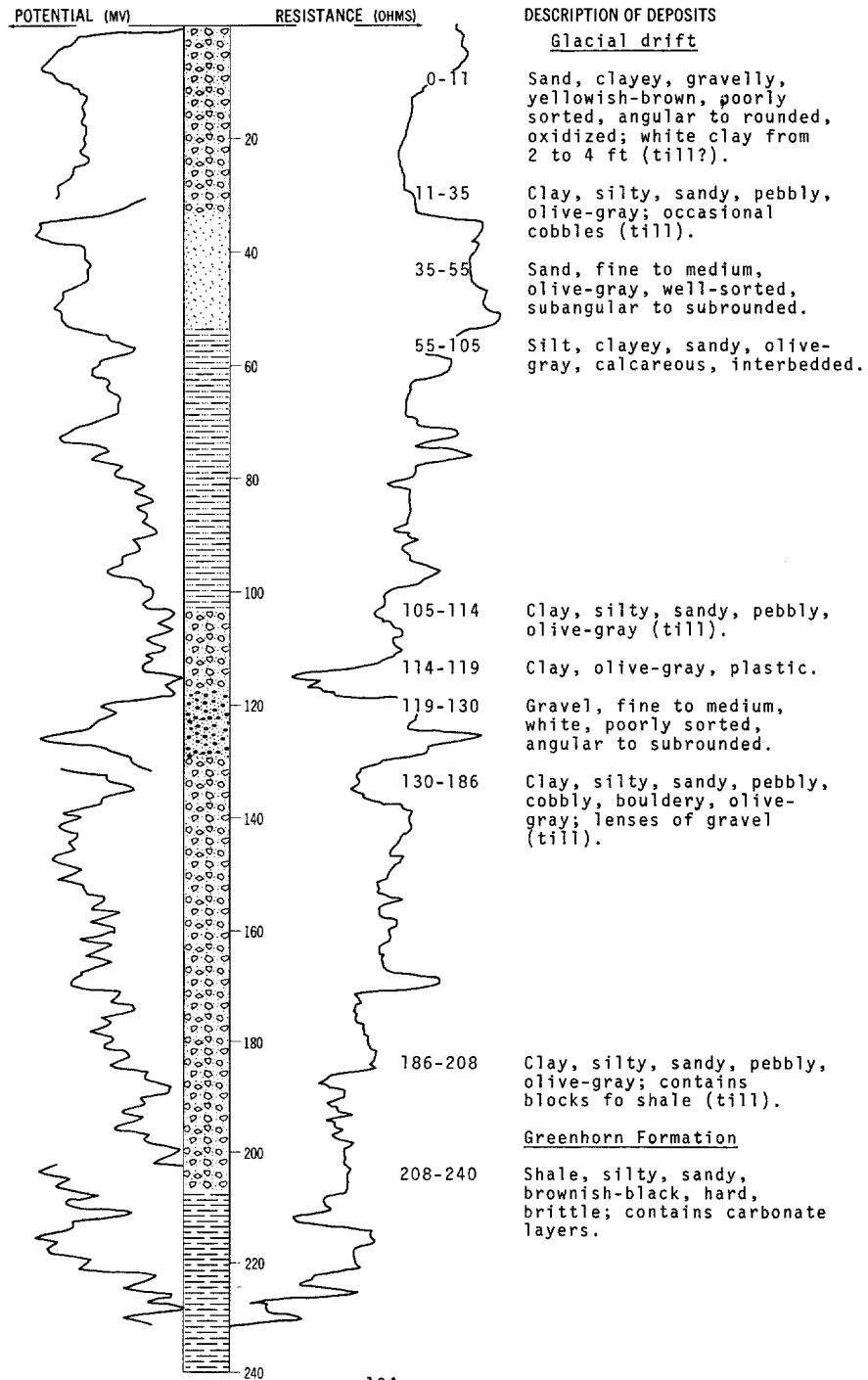


LOCATION: 145-54-06DDD

ALTITUDE: 1115  
(FT, MSL)

DATE DRILLED: June 1970

DEPTH: 240  
(FT)



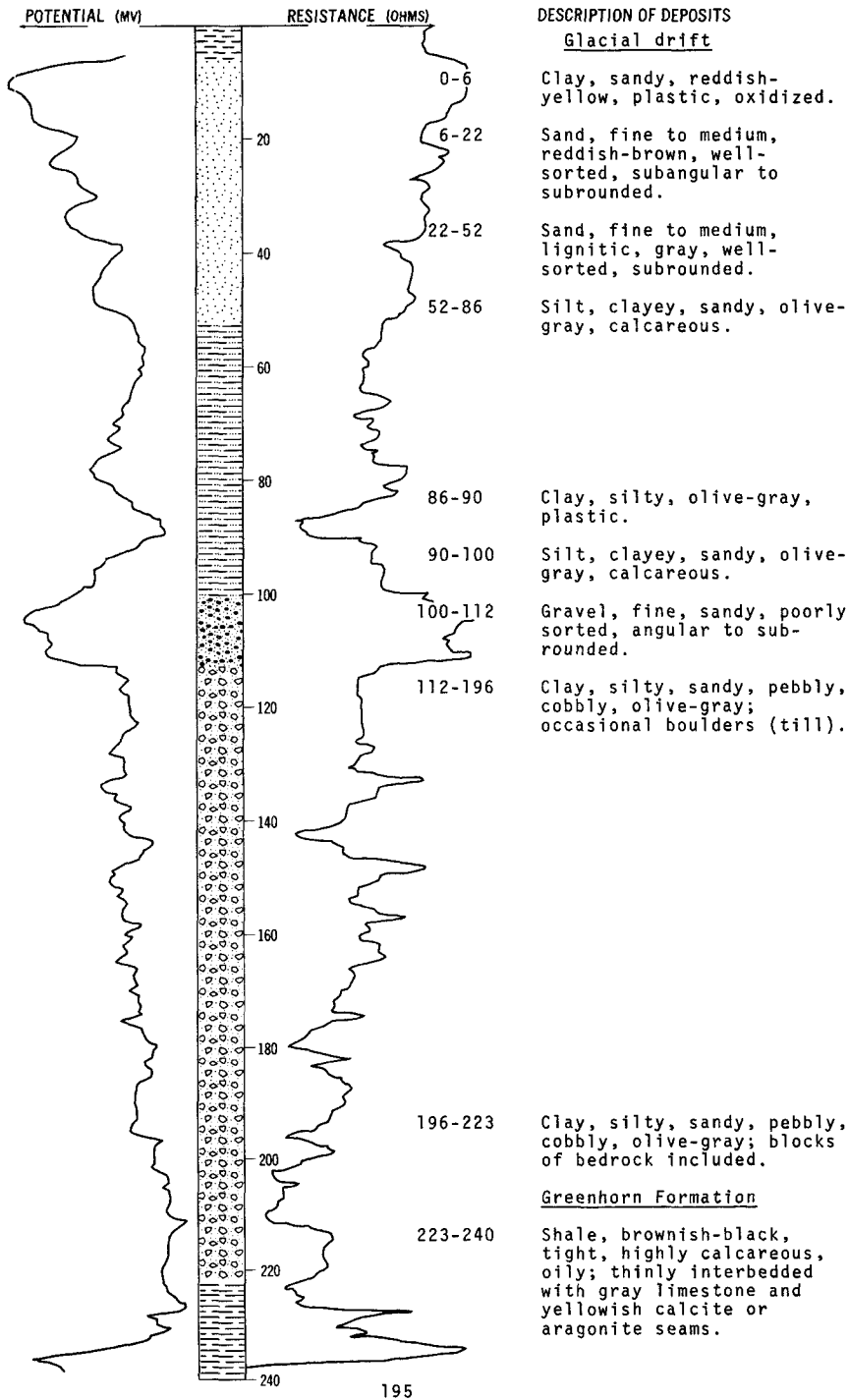


LOCATION: 145-54-09BBB

ALTITUDE: 1105  
(FT, MSL)

DATE DRILLED: June 1970

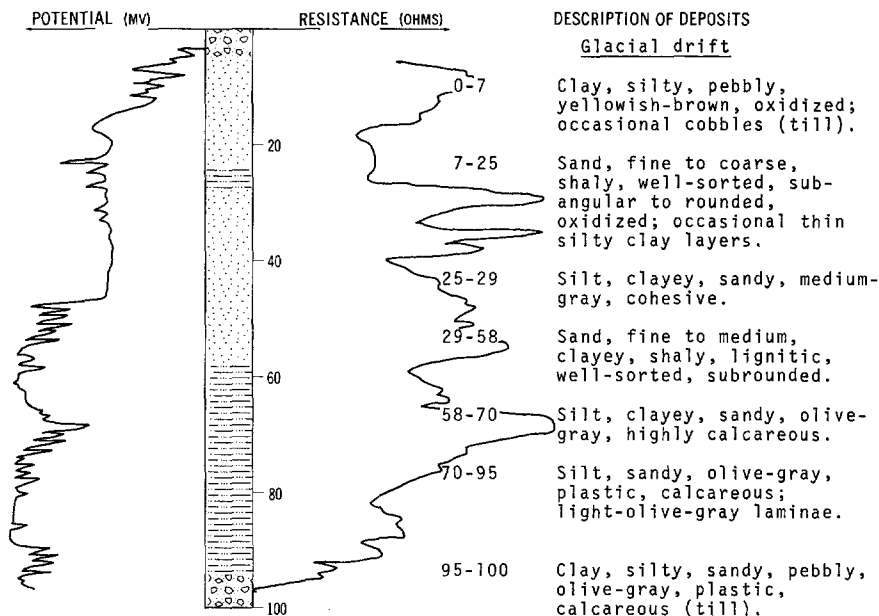
DEPTH: 240  
(FT)



NDSWC 8365

LOCATION: 145-54-09CCC  
 ALTITUDE: 1112  
 (FT, MSL)

DATE DRILLED: June 1972  
 DEPTH: 100  
 (FT)



145-54-10DDD  
 NDSWC 8364

Altitude: 1120 feet

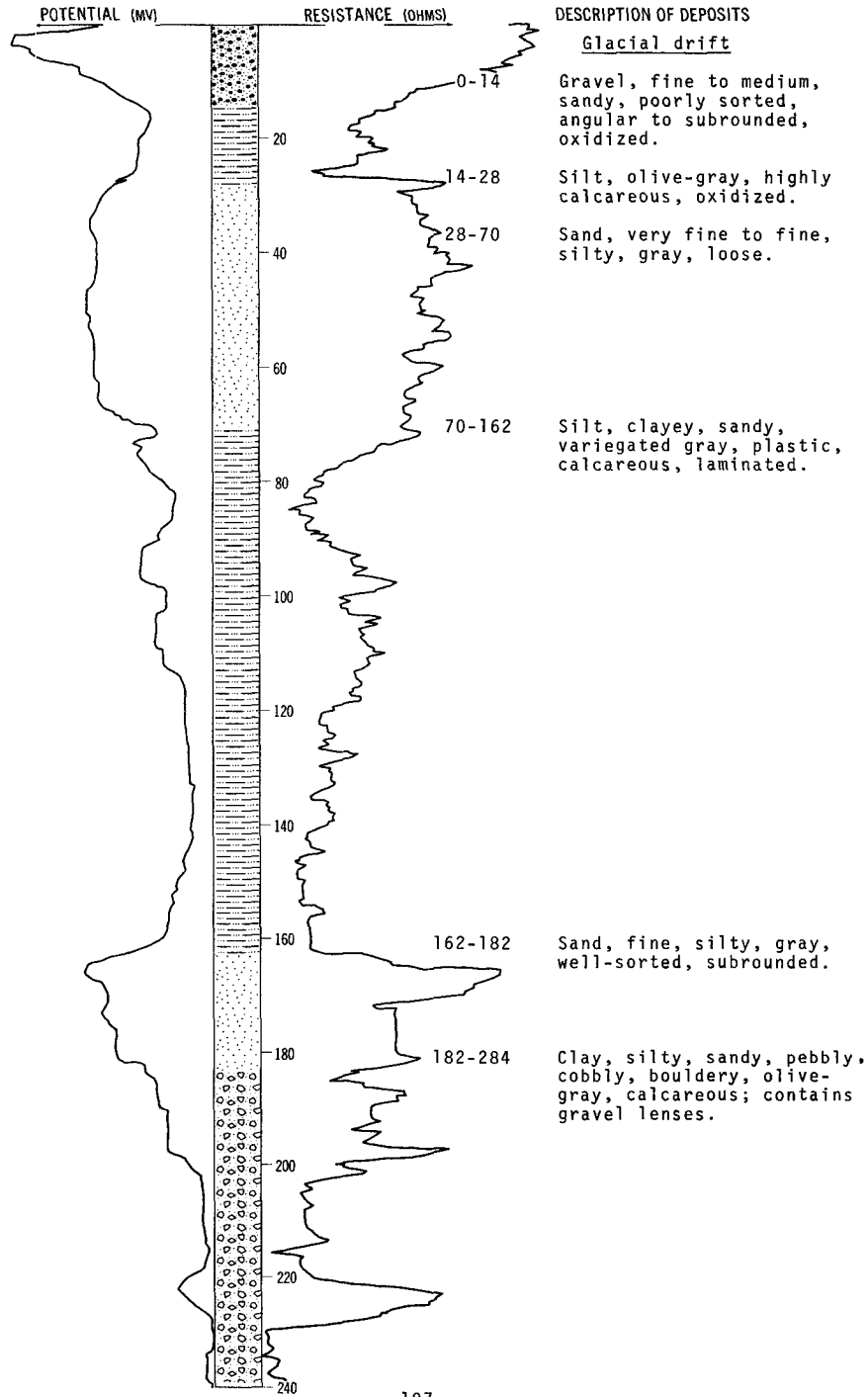
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	3	3
	Sand, fine to coarse, clayey, shaly, well-sorted, subangular to rounded---	21	24
	Silt, clayey, sandy; medium gray with light-olive-gray laminae-----	56	80
	Clay, silty, sandy, pebbly, olive-gray, plastic, calcareous (till)-----	20	100

LOCATION: 145-54-12ADA

DATE DRILLED: June 1970

ALTITUDE: 1107  
(FT, MSL)

DEPTH: 320  
(FT)



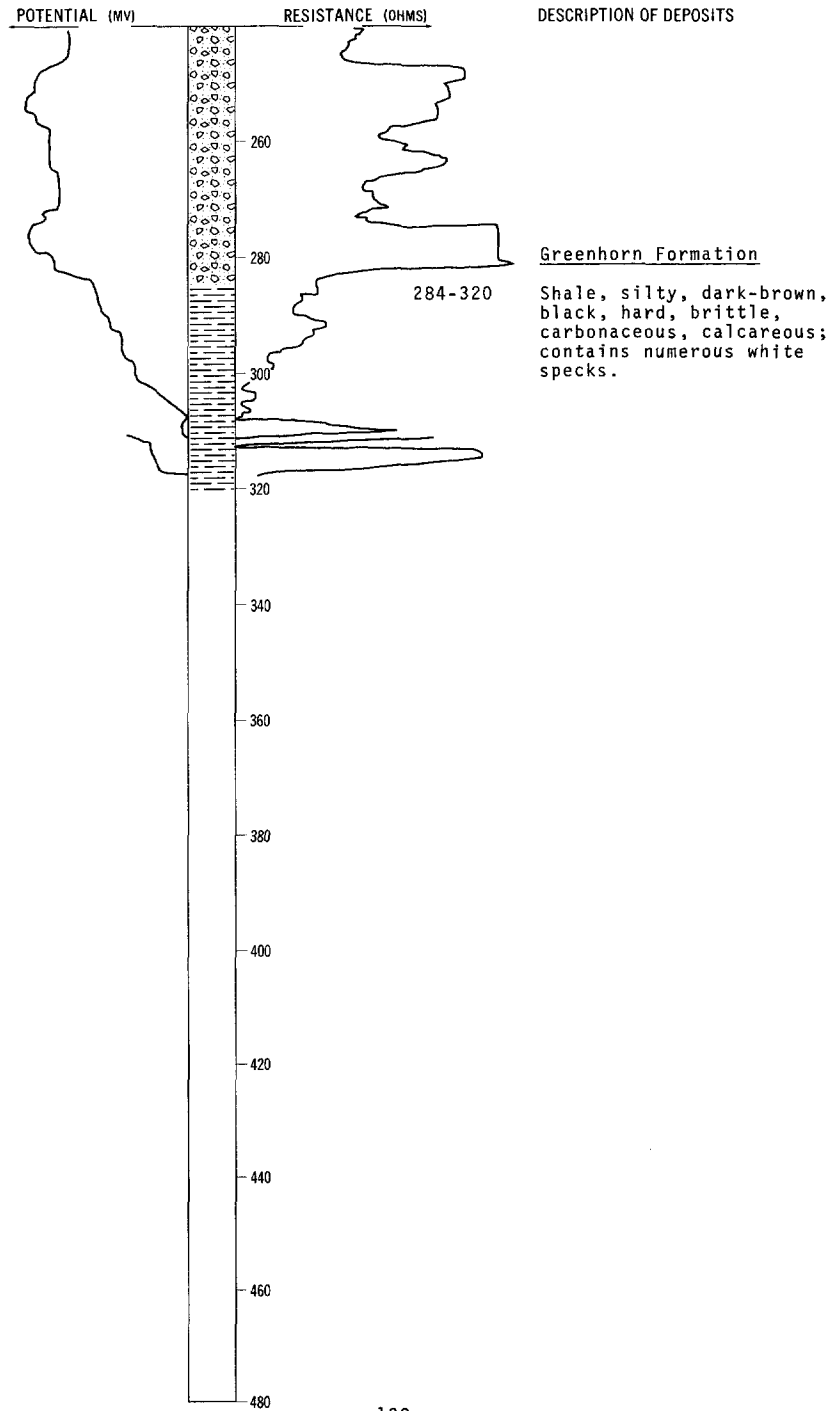
NDSWC 3988, Continued

LOCATION: 145-54-12ADA

DATE DRILLED: June 1970

ALTITUDE: 1107  
(FT, MSL)

DEPTH: 320  
(FT)

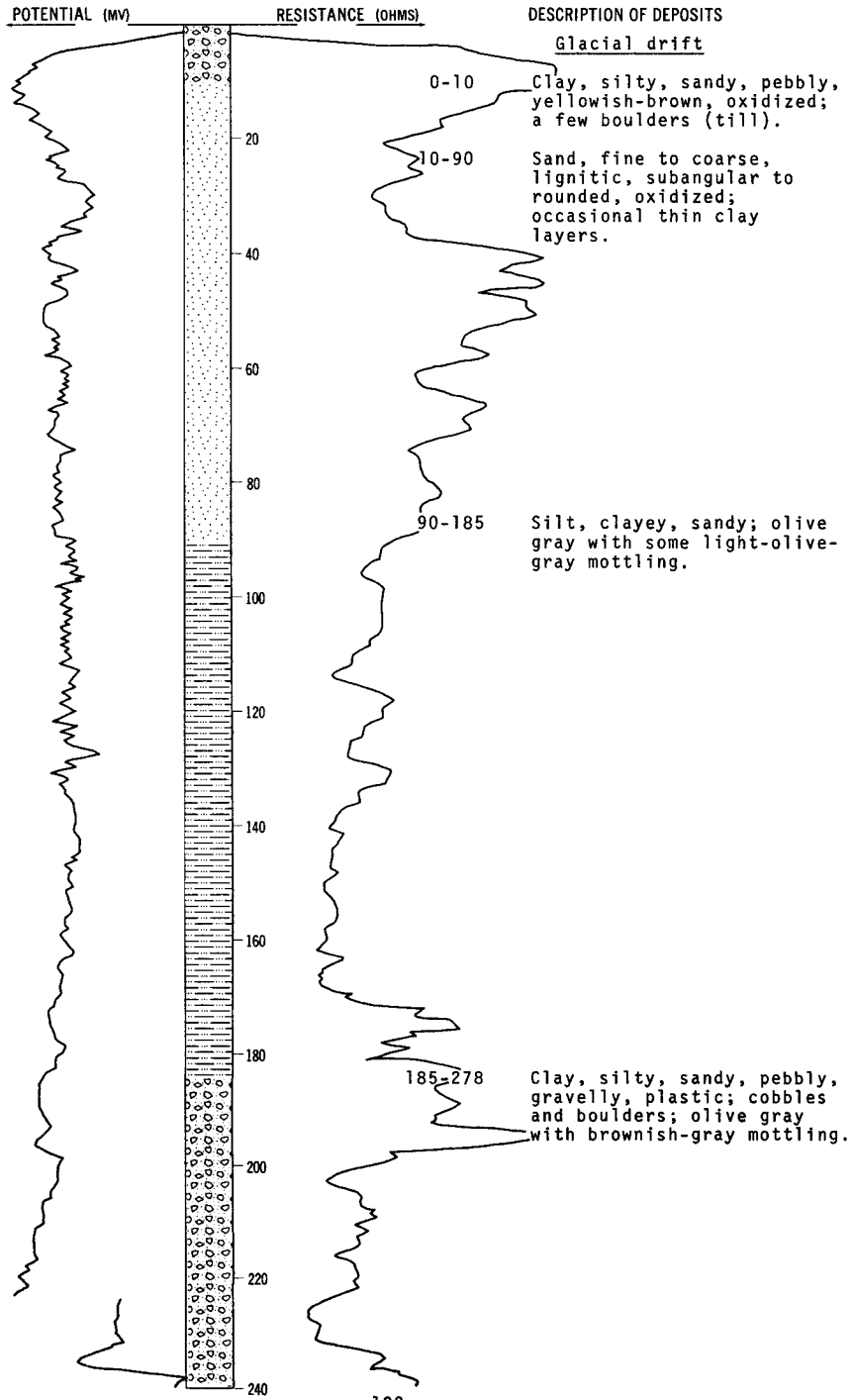


LOCATION: 145-54-13DDD2

DATE DRILLED: June 1972

ALTITUDE: 1115  
(FT, MSL)

DEPTH: 300  
(FT)



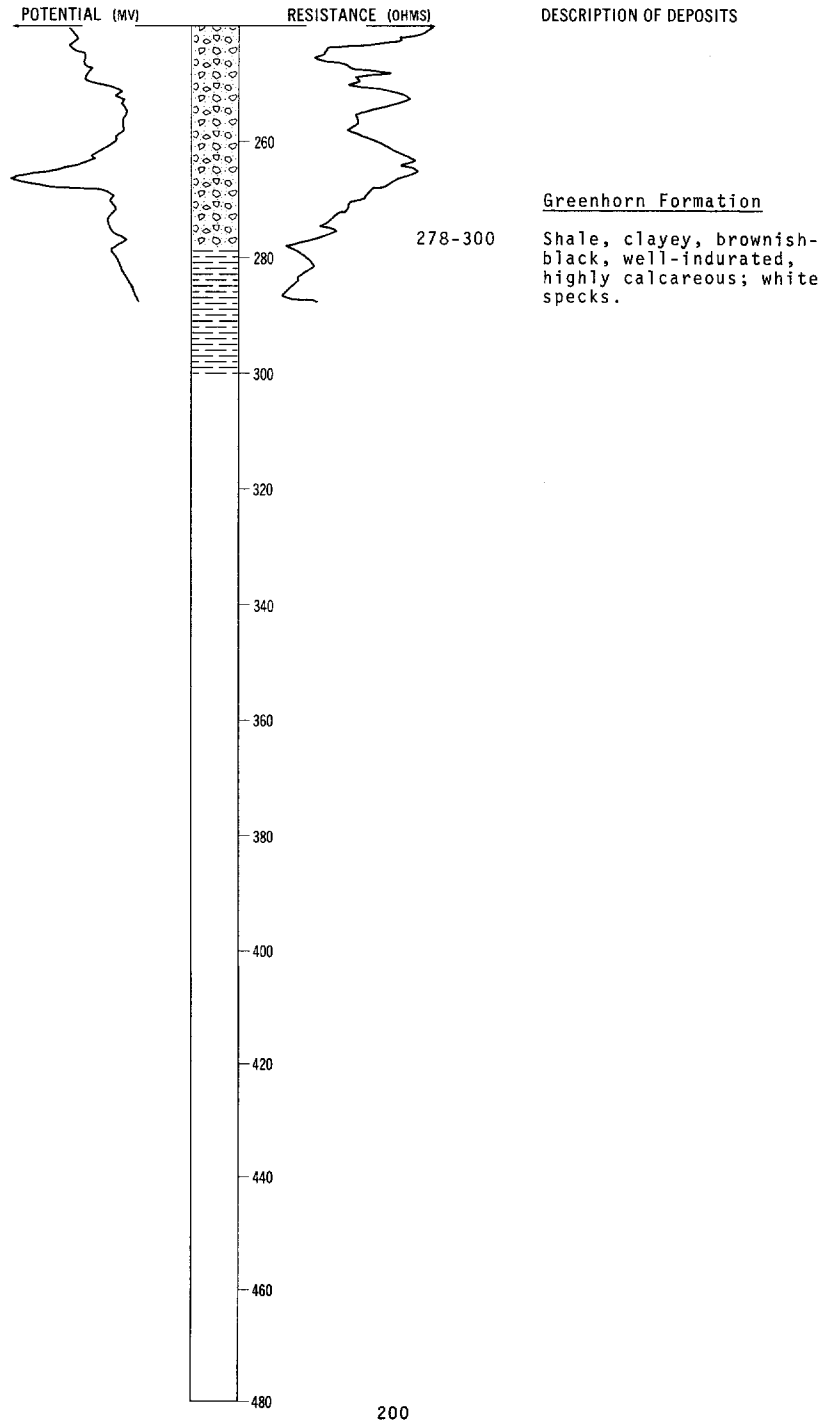
NDSWC 8358, Continued

LOCATION: 145-54-13DDD2

DATE DRILLED: June 1972

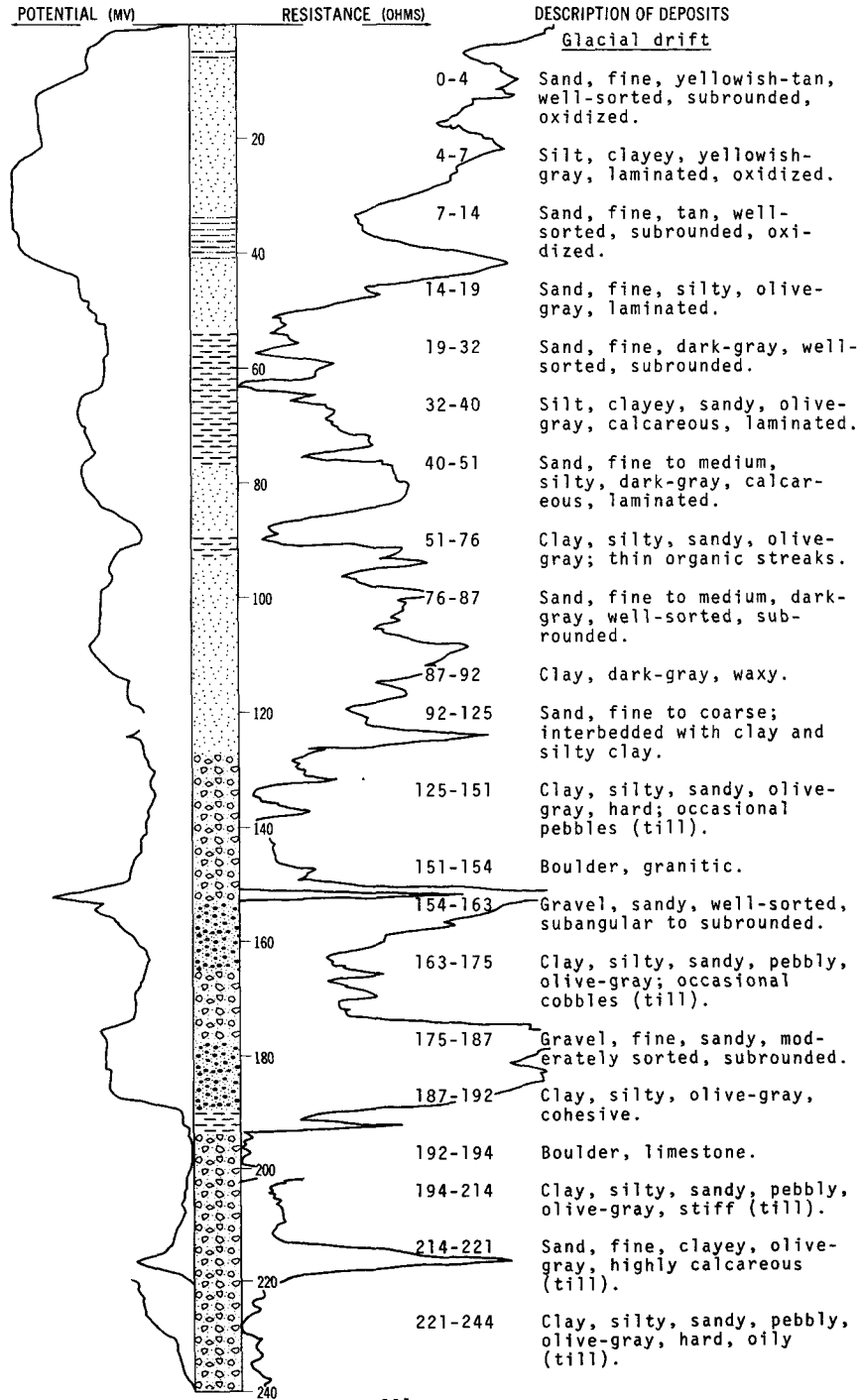
ALTITUDE: 1115  
(FT, MSL)

DEPTH: 300  
(FT)



LOCATION: 145-54-20CCC  
 ALTITUDE: 1115  
 (FT. MSL)

DATE DRILLED: November 1970  
 DEPTH: 280  
 (FT)

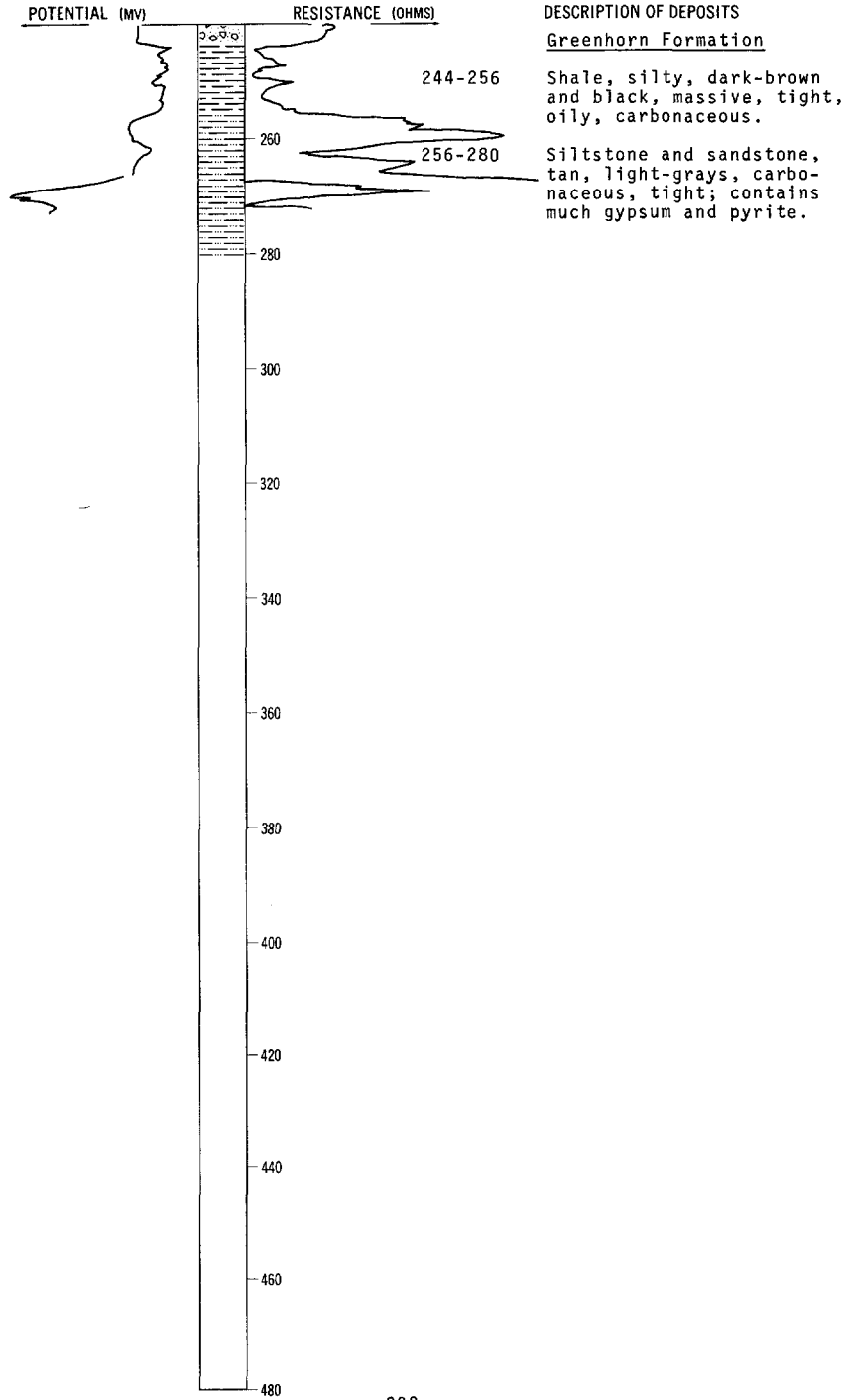


LOCATION: 145-54-20CCC

DATE DRILLED: November 1970

ALTITUDE: 1115  
(FT, MSL)

DEPTH: 280  
(FT)



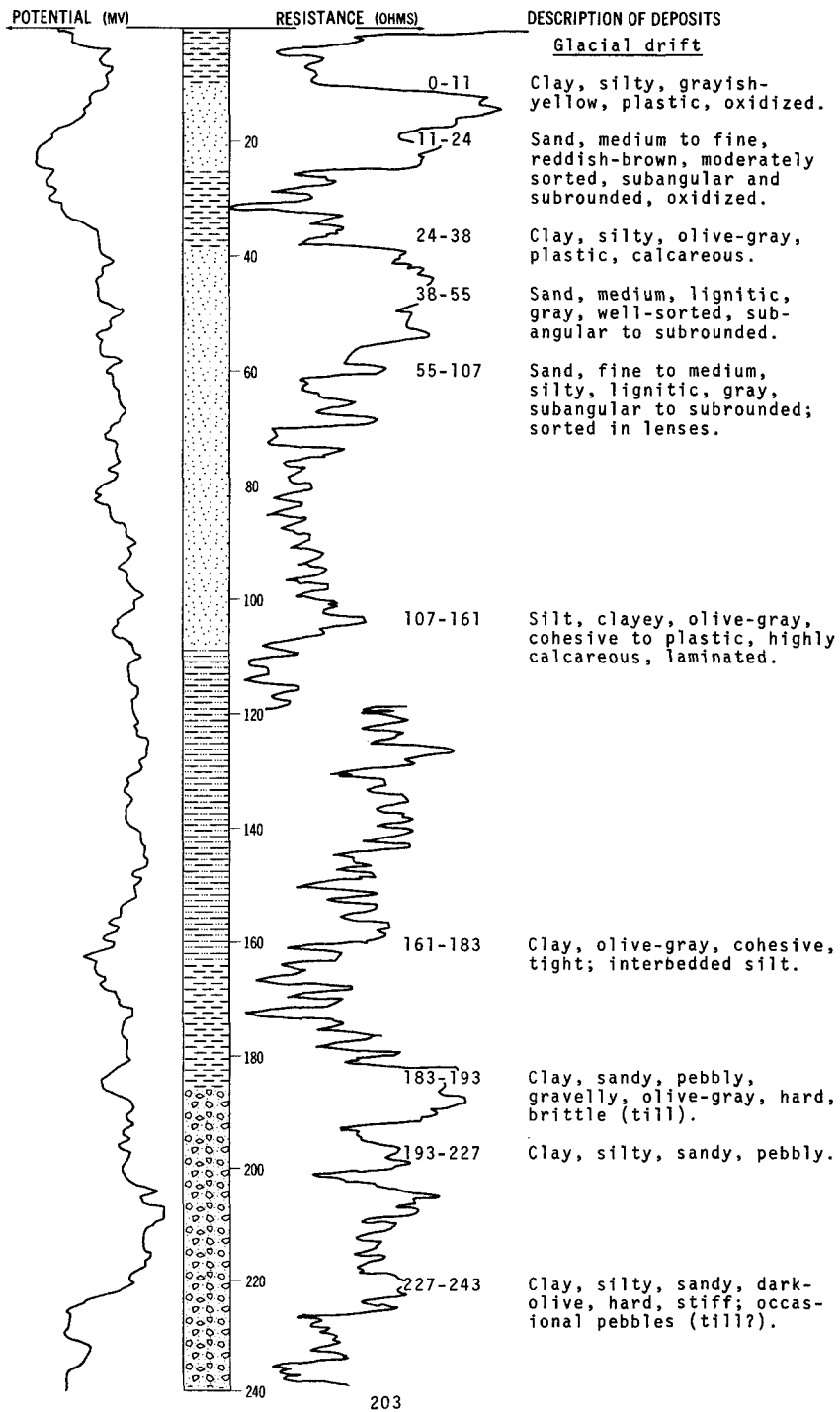


LOCATION: 145-54-22AAA

DATE DRILLED: June 1970

ALTITUDE: 1150  
(FT, MSL)

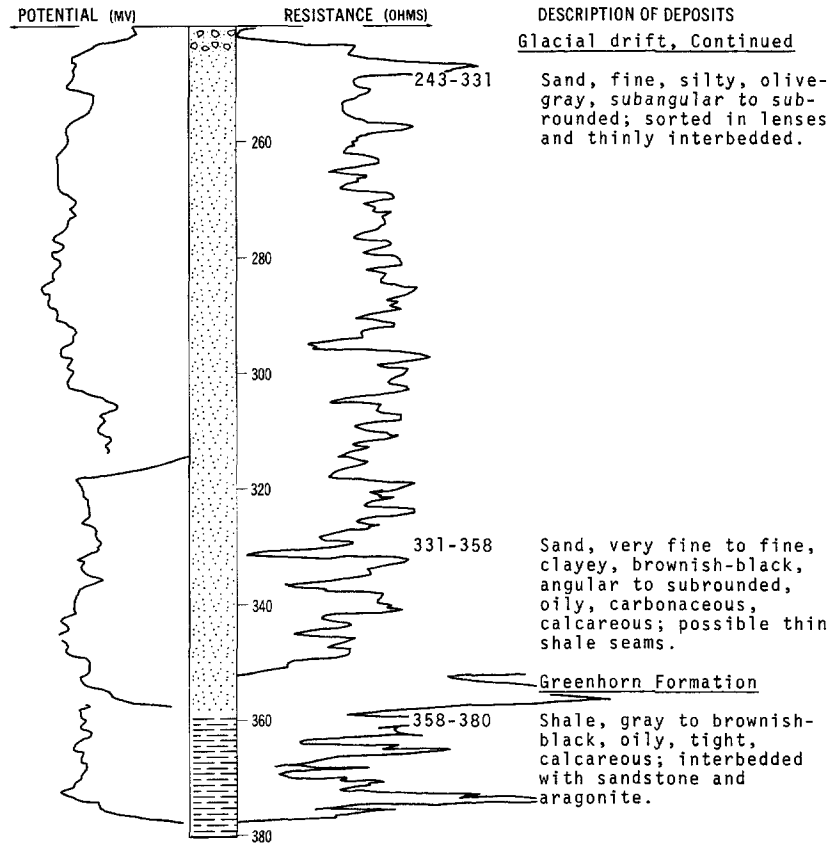
DEPTH: 380  
(FT)



NDSWC 3992, Continued

LOCATION: 145-54-22AAA  
 ALTITUDE: 1150  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 380  
 (FT)



145-54-25CDD  
 (Log from Frederickson's, Inc.)

Altitude: 1125 feet

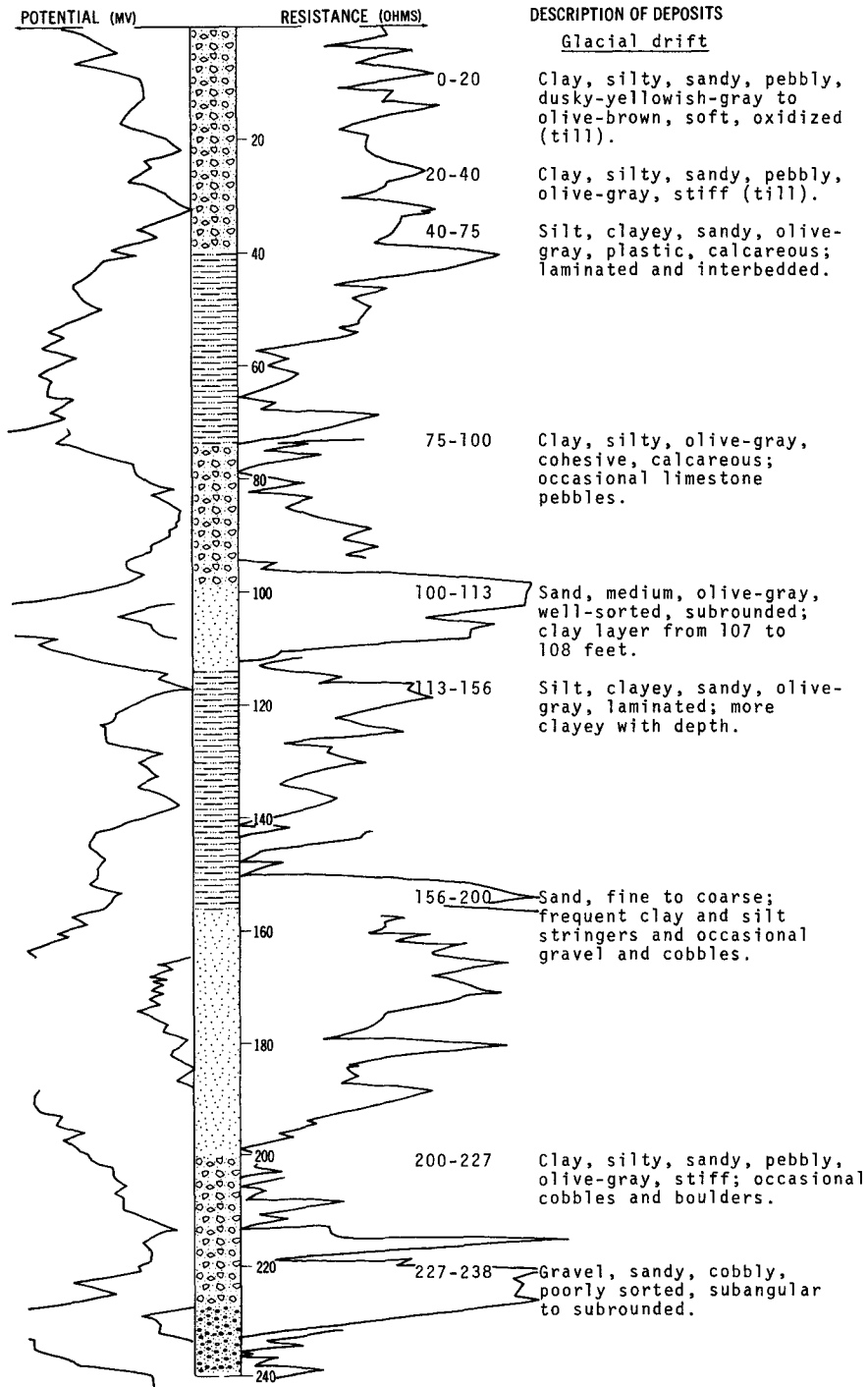
Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Topsoil, black-----	3	3
	Clay, yellow-----	15	18
	Silt, clayey, blue-----	62	80
	Clay, sandy, blue-----	23	103
	Sand, black-----	2	105
	Clay, sandy, blue-----	10	115
	Silt and clay, black-----	2	117
	Clay, sandy, blue-----	74	191
Greenhorn Formation:			
	Shale, sticky, blue-----	9	200

LOCATION: 145-54-27CDC

DATE DRILLED: June 1970

ALTITUDE: 1145  
(FT, MSL)

DEPTH: 820  
(FT)

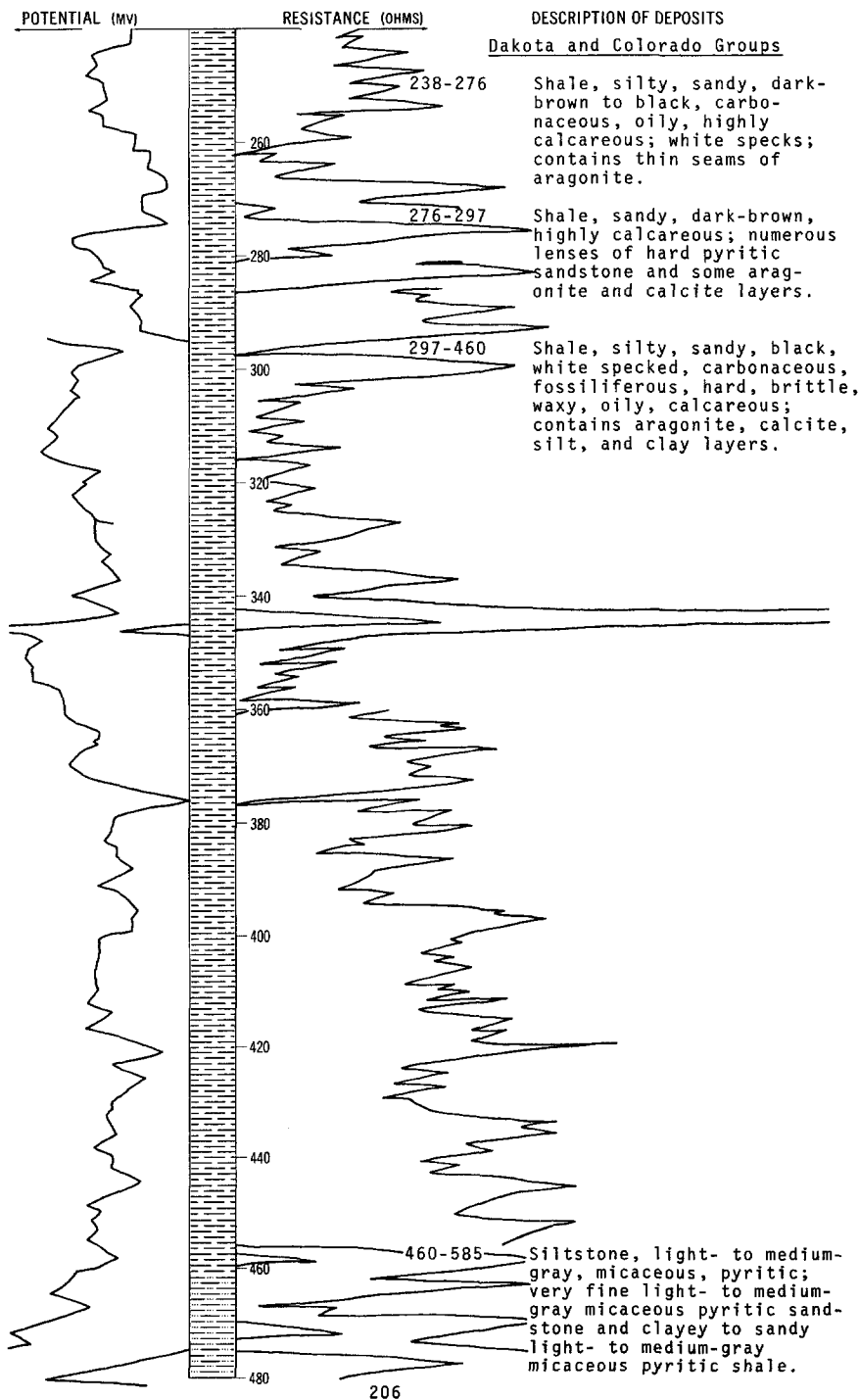


LOCATION: 145-54-27CDC

DATE DRILLED: June 1970

ALTITUDE: 1145  
(FT. MSL)

DEPTH: 820  
(FT)



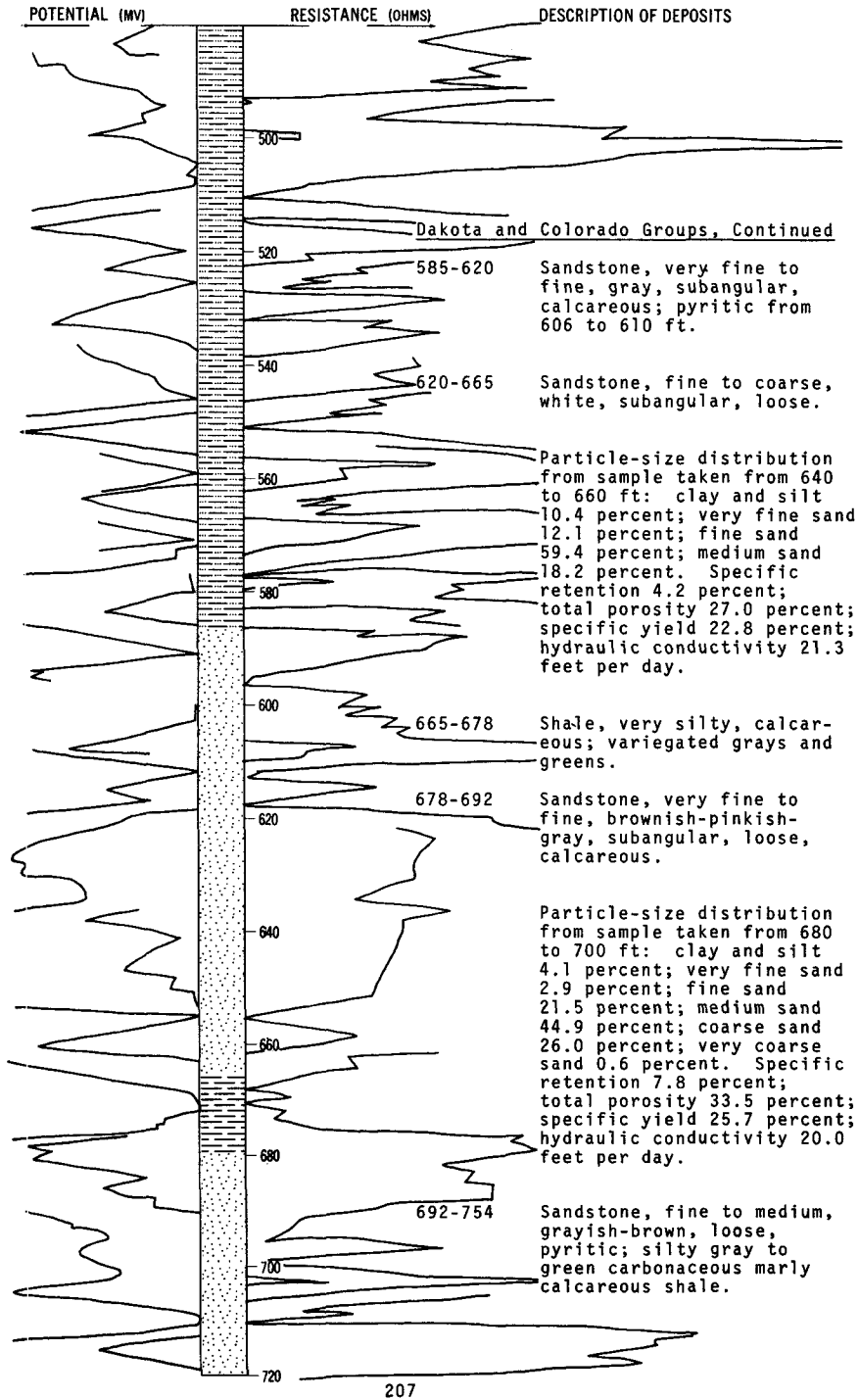
NDSWC 3991, Continued

LOCATION: 145-54-27CDC

DATE DRILLED: June 1970

ALTITUDE: 1145  
(FT, MSL)

DEPTH: 820  
(FT)



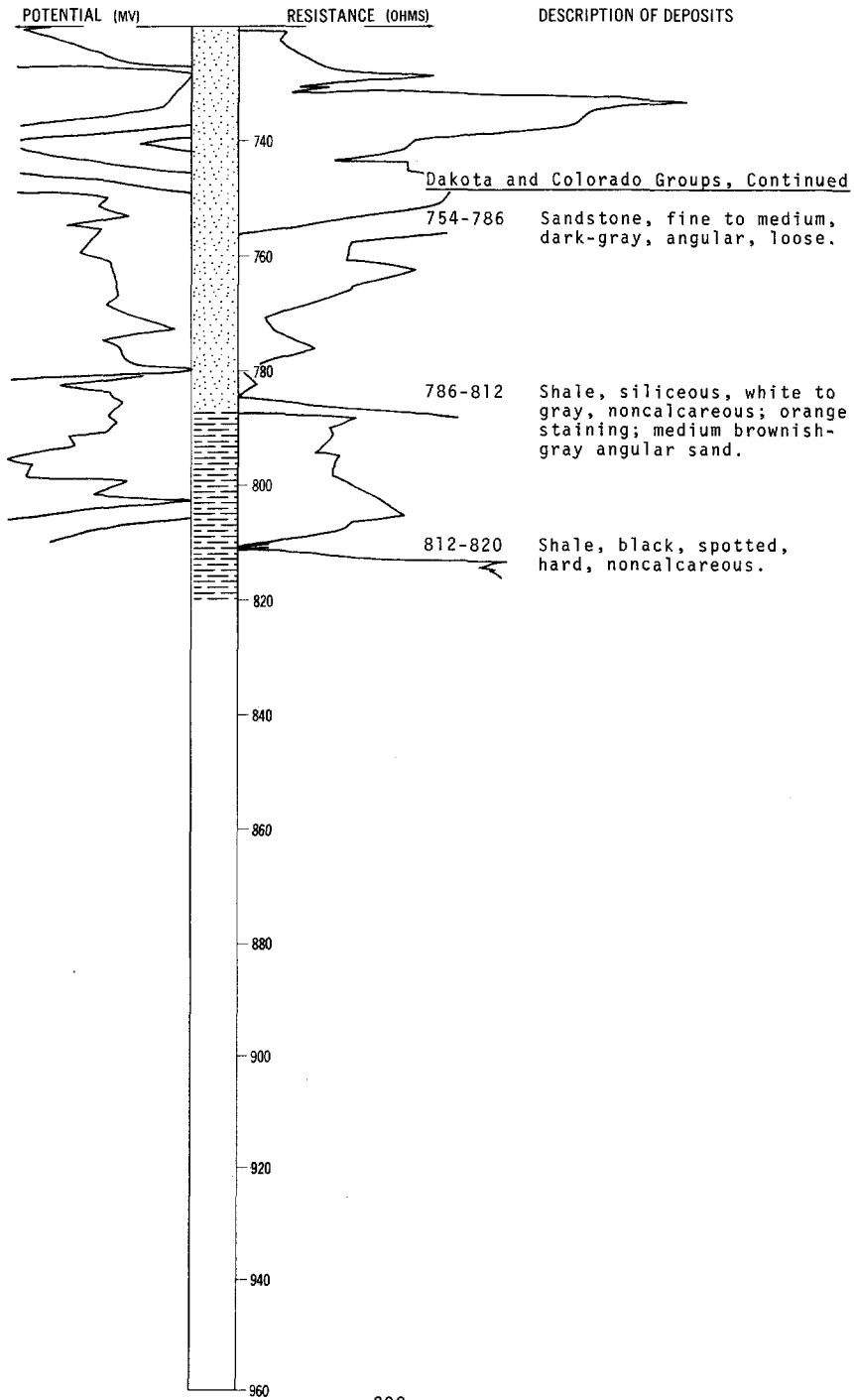
NDSWC 3991, Continued

LOCATION: 145-54-27CDC

DATE DRILLED: June 1970

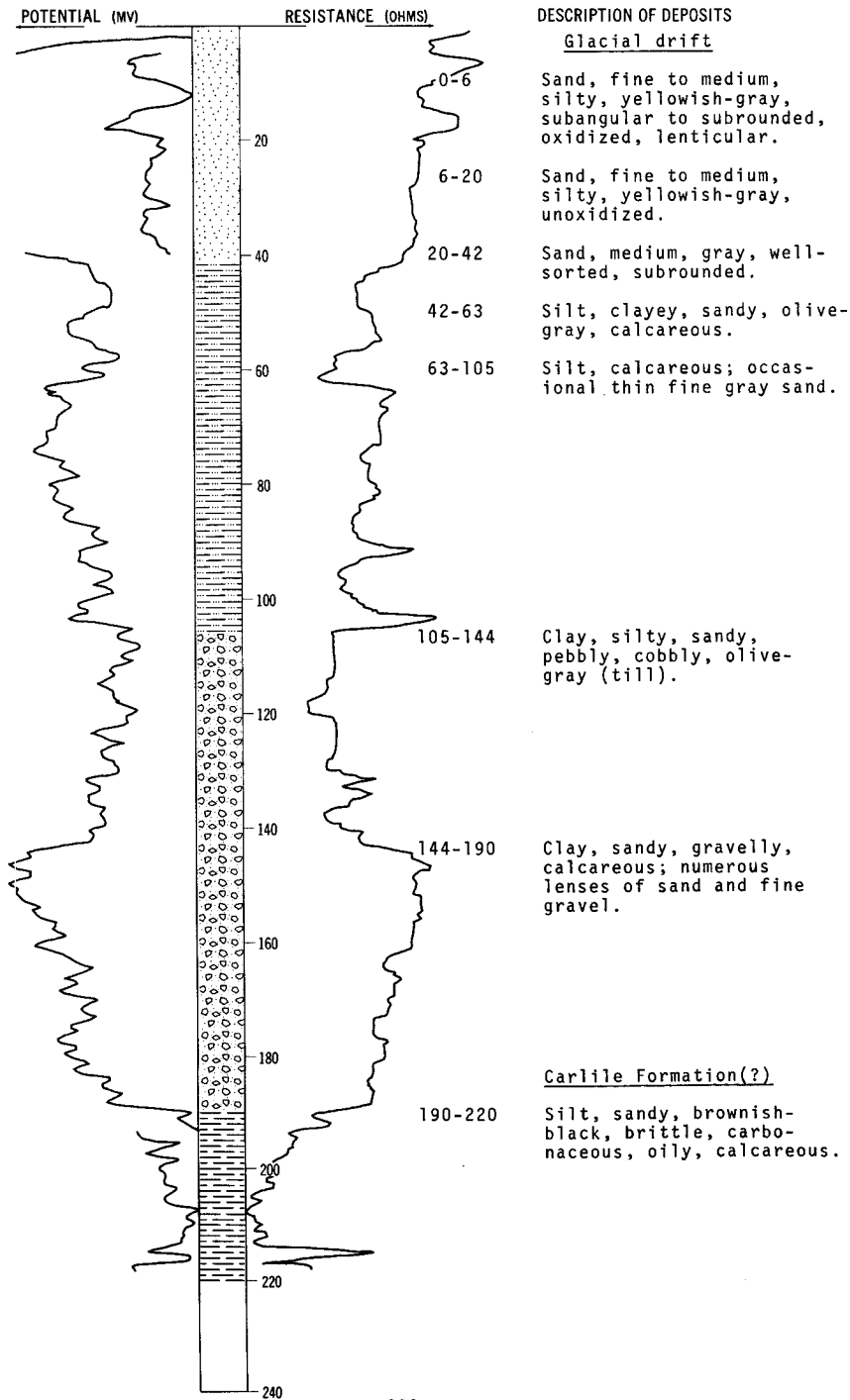
ALTITUDE: 1145  
(FT. MSL)

DEPTH: 820  
(FT)



LOCATION: 145-55-01DDD  
 ALTITUDE: 1120  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 220  
 (FT)

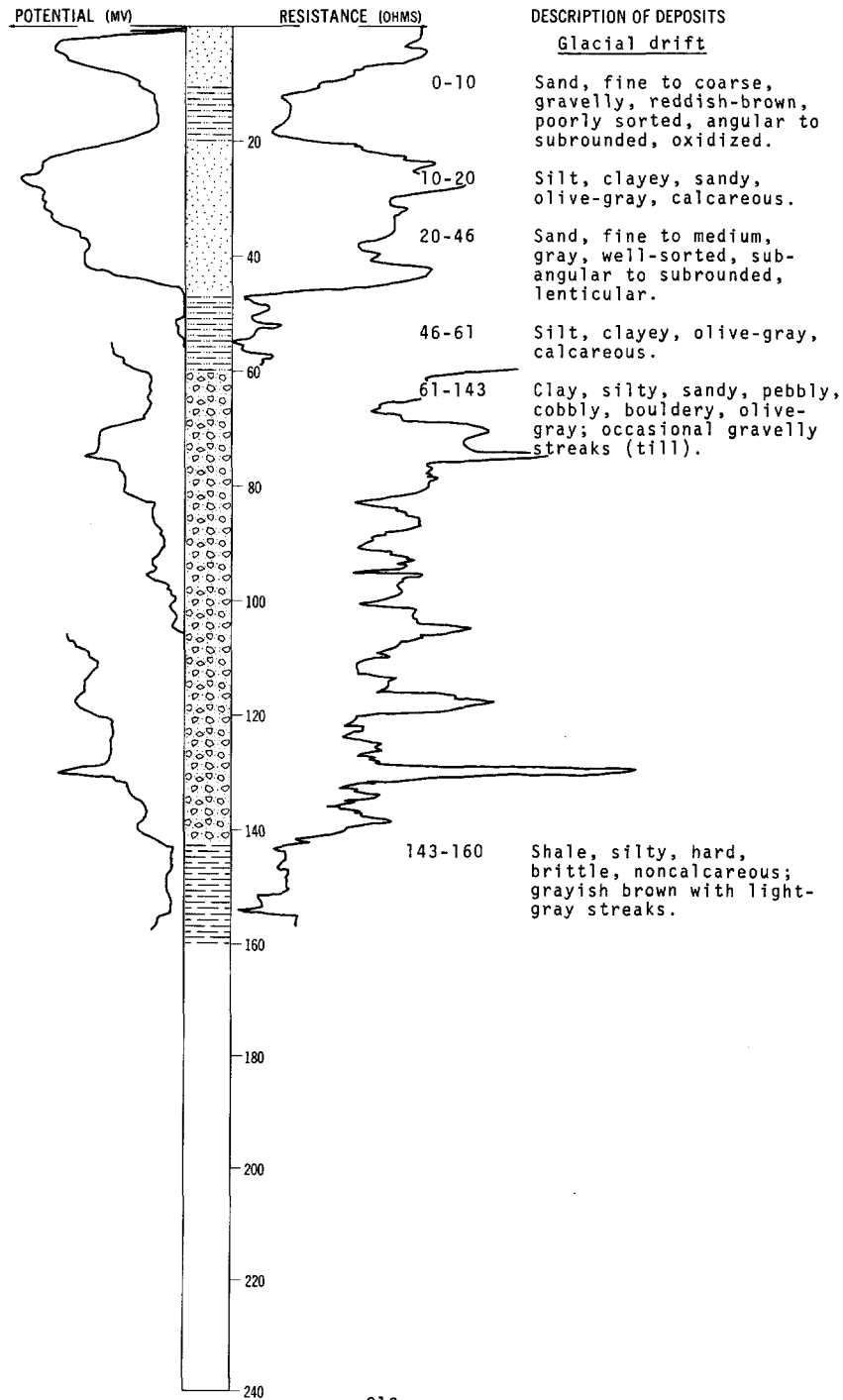


LOCATION: 145-55-03DDD

DATE DRILLED: June 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 160  
(FT)





145-55-04BBB  
NDSWC 8360

Altitude: 1205 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
<b>Glacial drift:</b>			
	Sand, medium to coarse, gravelly, well-sorted, angular to subrounded, oxidized	10	10
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	3	13
	Clay, silty, sandy, pebbly, gravelly, olive-gray, calcareous (till)-----	12	25
	Gravel, fine to coarse, sandy subangular to subrounded-----	2	27
	Clay, silty, sandy, pebbly, olive-gray (till)-----	2	29
	Gravel, fine to coarse, sandy, poorly sorted, angular to rounded-----	2	31
	Silt, clayey, calcareous; medium gray with olive-gray laminae-----	18	49
<b>Carlile Formation:</b>			
	Shale, clayey, dark-gray, slightly indurated, noncalcareous; pyrite concretions-----	31	80

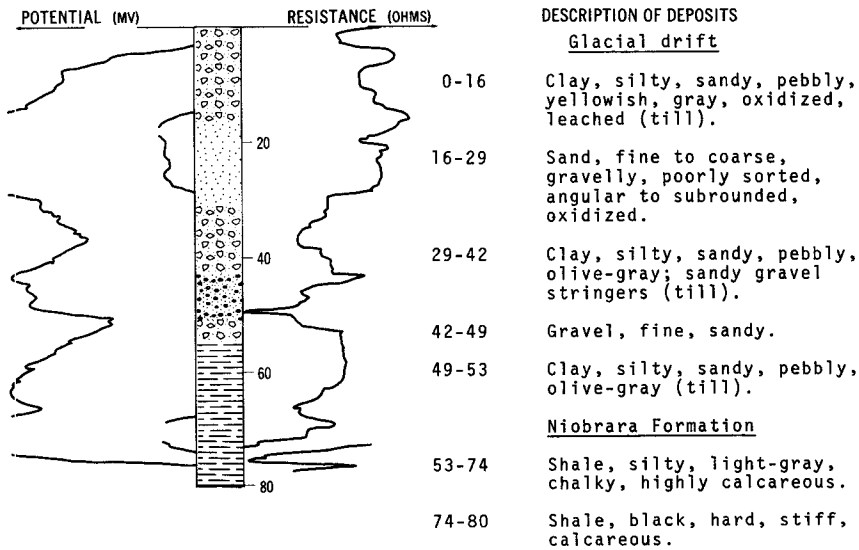
NDSWC 4001

LOCATION: 145-55-07BBB

DATE DRILLED: June 1970

ALTITUDE: 1250  
(FT, MSL)

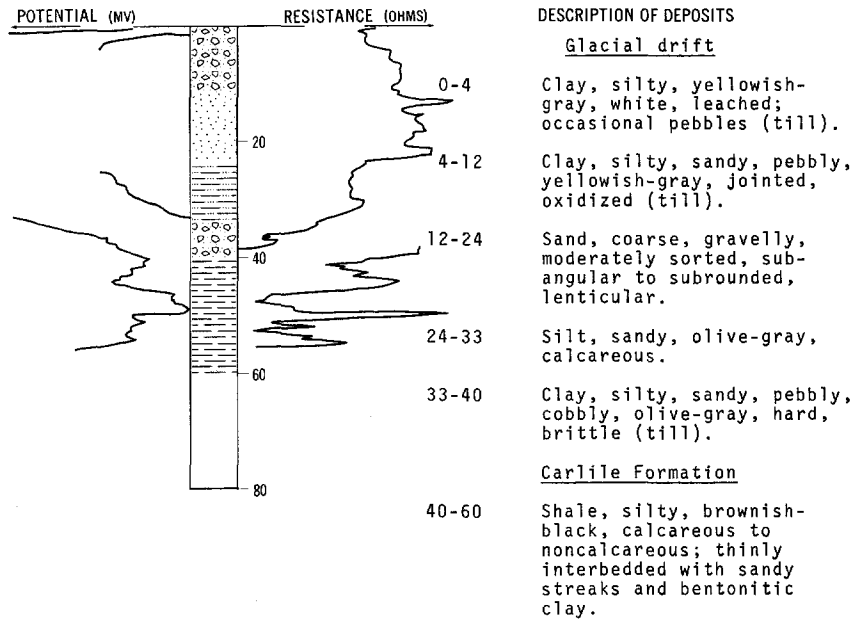
DEPTH: 80  
(FT)



NDSWC 4000

LOCATION: 145-55-08AAA  
 ALTITUDE: 1190  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 60  
 (FT)



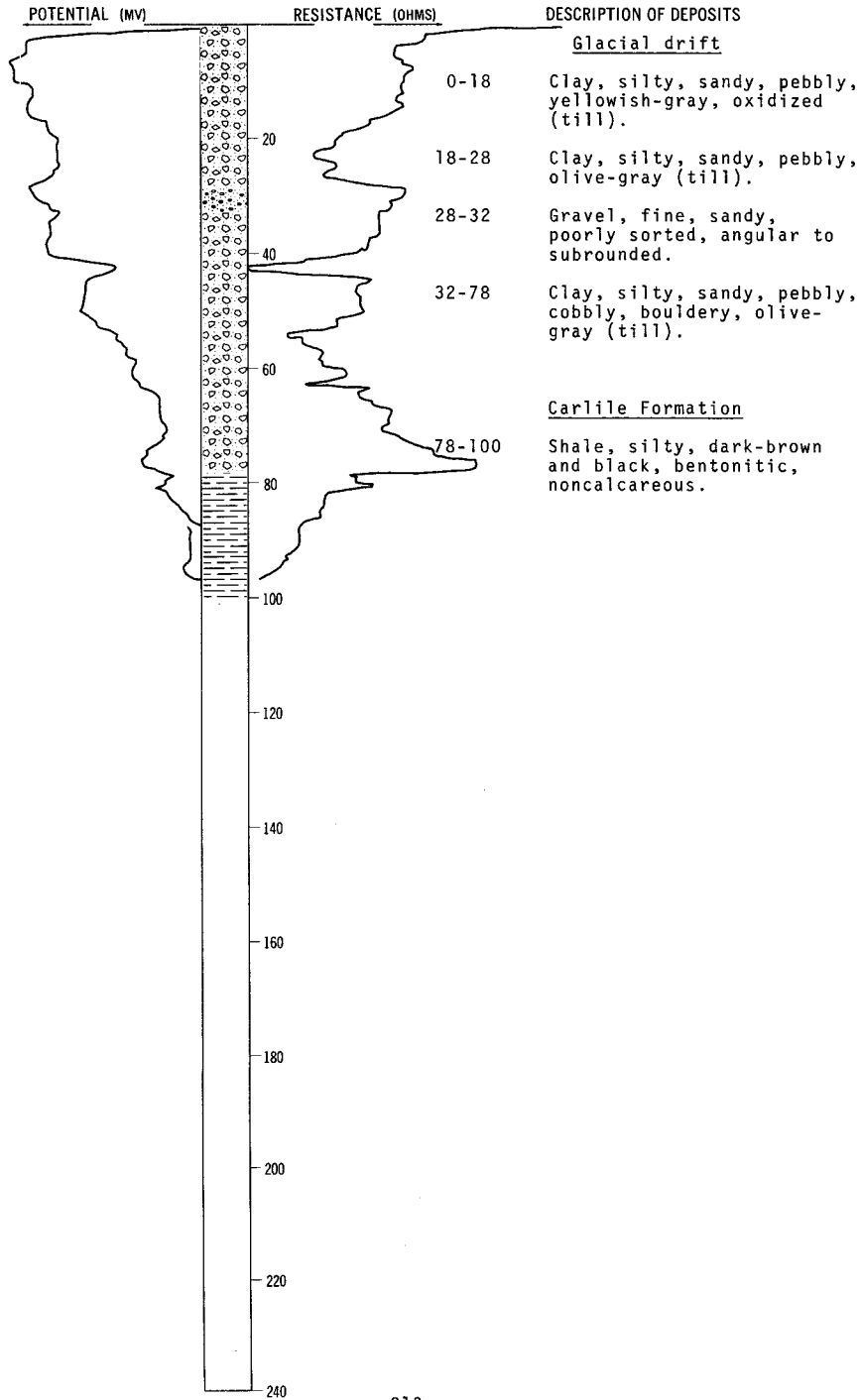
145-55-08BBC  
 (Log from I. J. Wilhite and Simcox Oil)

Altitude: 1220 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, gray; isolated cobbles (till)-----	55	55
Cretaceous, undifferentiated:			
	Shale, gray, carbonaceous, calcareous---	250	305
	Shale, gray, carbonaceous, calcareous; with tan calcareous specks, bentonite lenses, pyrite and calcite lenses-----	145	450
	Sandstone, fine-grained, gray, calcareous; with interbedded lenses of shale and siltstone-----	152	602

LOCATION: 145-55-10BCB2  
ALTITUDE: 1165  
(FT, MSL)

DATE DRILLED: June 1970  
DEPTH: 100  
(FT)

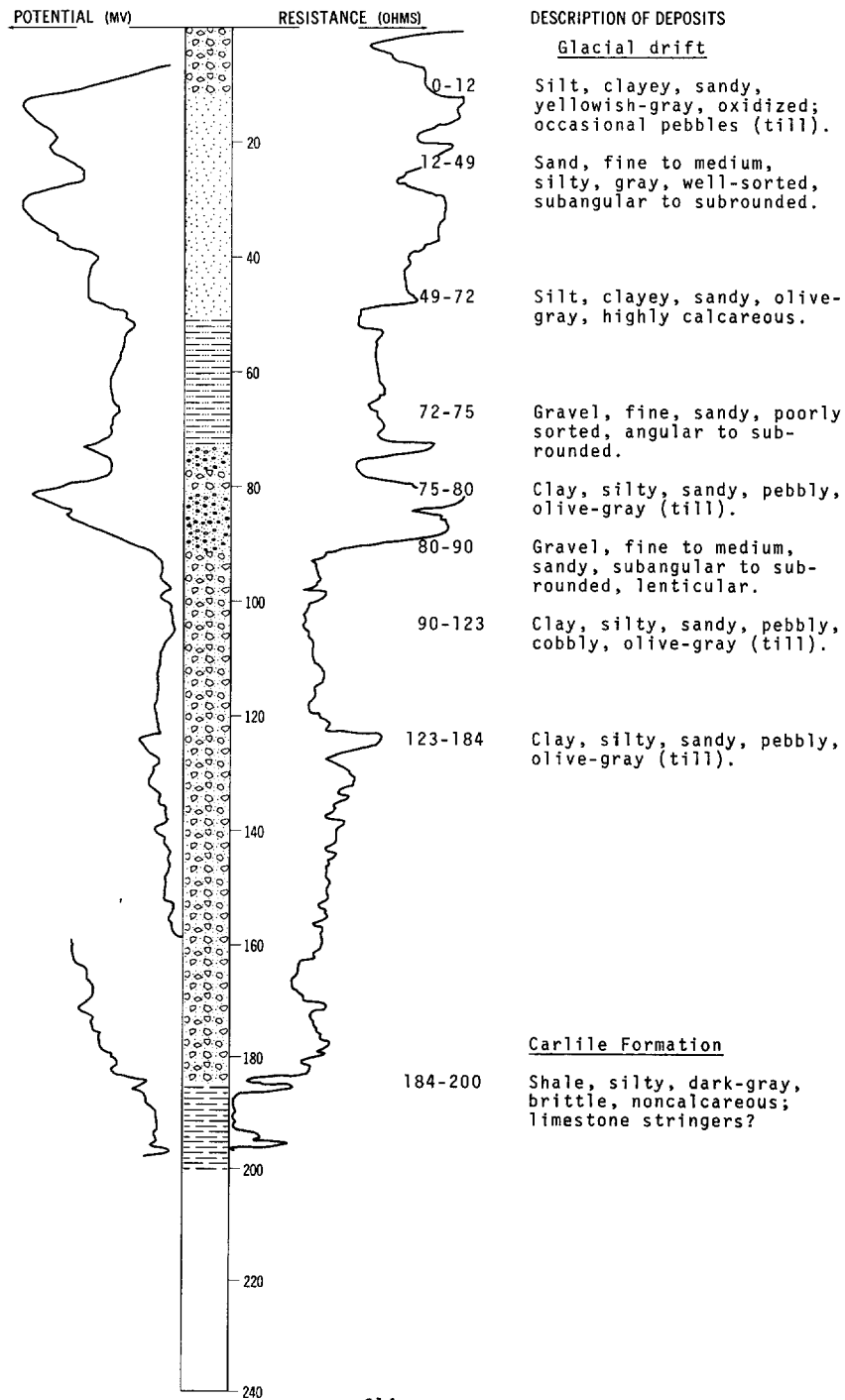


LOCATION: 145-55-12BBB

ALTITUDE: 1125  
(FT, MSL)

DATE DRILLED: June 1970

DEPTH: 200  
(FT)

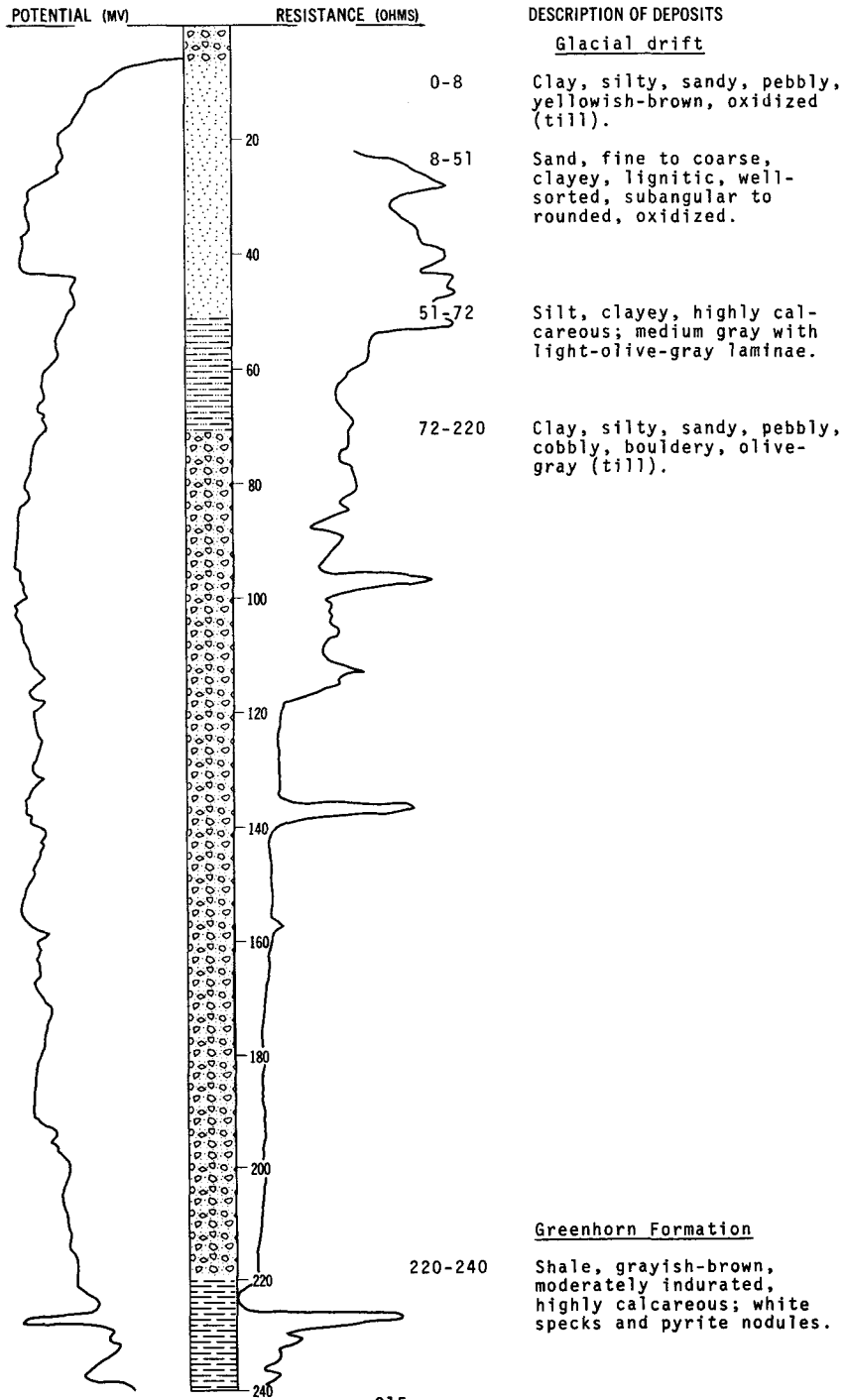


LOCATION: 145-55-13AAA

DATE DRILLED: June 1972

ALTITUDE: 1128  
(FT, MSL)

DEPTH: 240  
(FT)

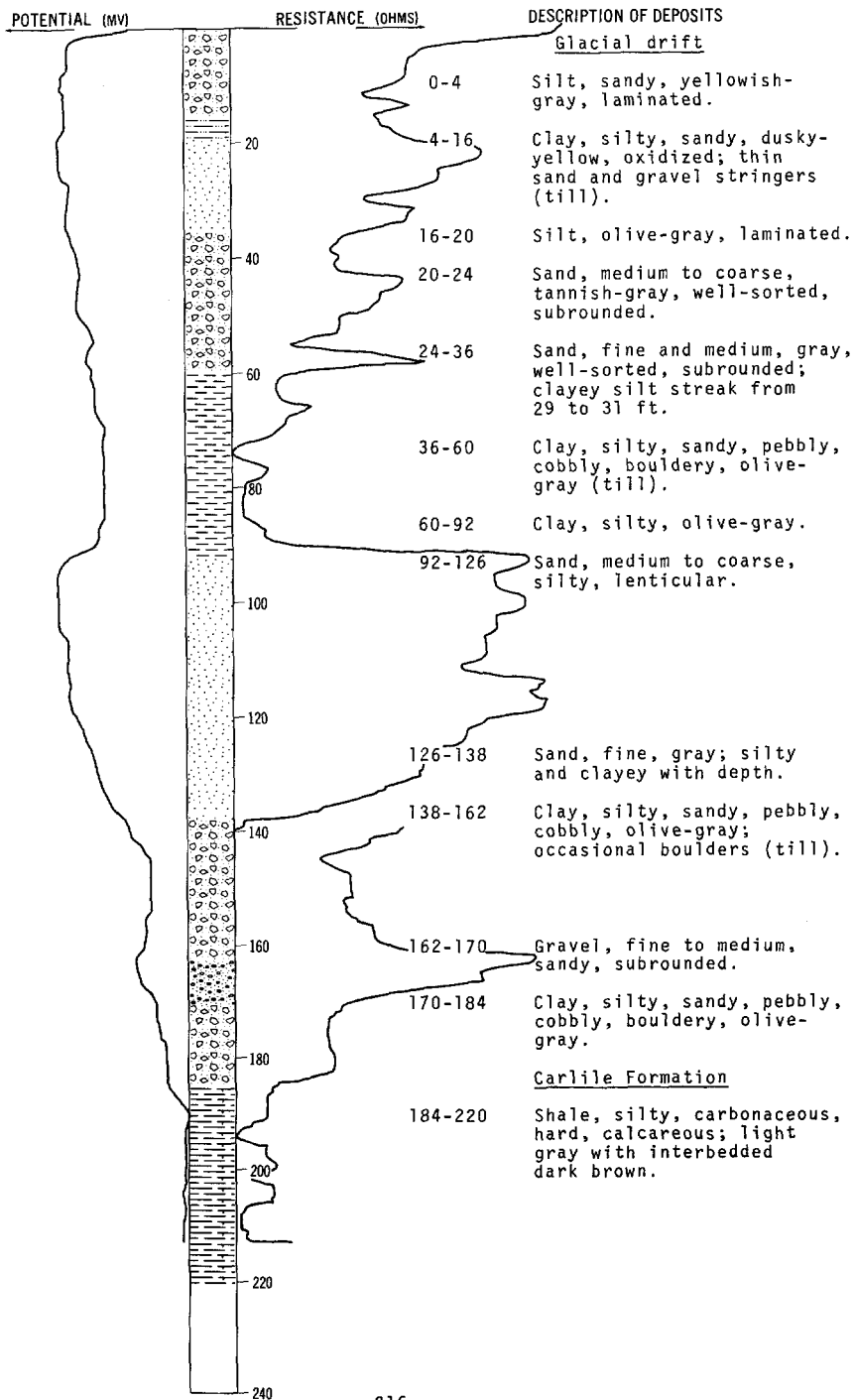


LOCATION: 145-55-15DAD

DATE DRILLED: October 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 220  
(FT)



145-55-19DDD  
(Log from U.S. Air Force)

Altitude: 1220 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, organic, black-----	1	1
	Clay, silty, sandy, brown-----	8	9
	Silt, sandy, clayey, trace of gravel, brown-----	9	18
	Sand, fine to medium, clayey, silty, trace of gravel, gray-----	23	41
	Silt, sandy, clayey, gray-----	4	45
	Clay, sandy, silty-----	47	92
Carlile Formation:			
	Shale, bentonitic, slightly calcareous, fine sand laminae, dark-gray to black-	12	104
	Shale, laminated, calcareous, micaceous in part, light to dark-gray-----	26	130

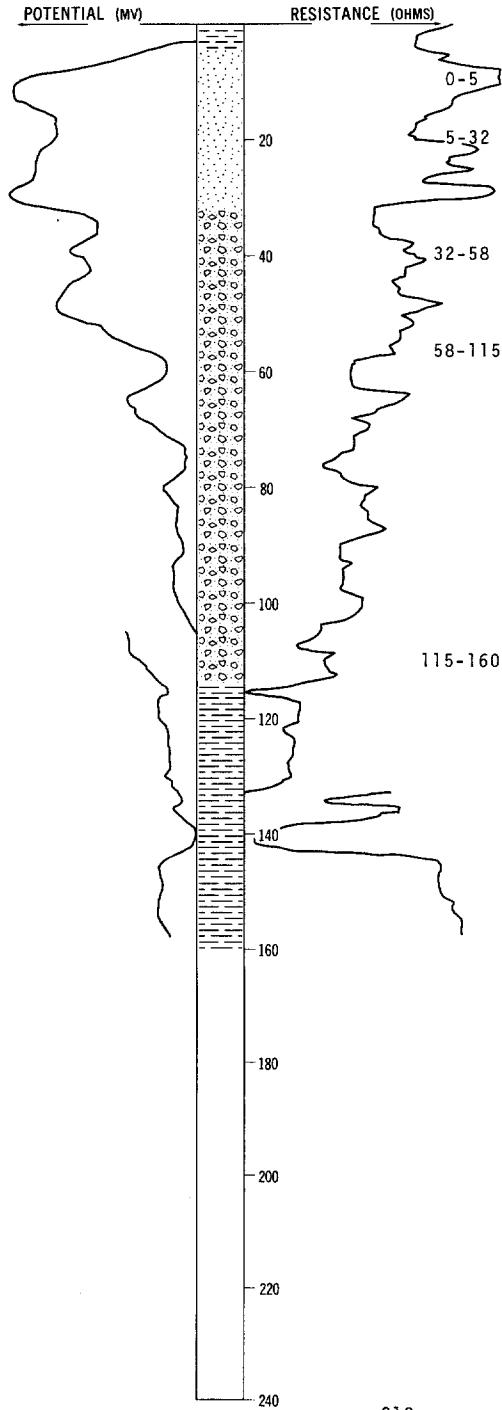
145-55-22ABB  
(Log from U.S. Air Force)

Altitude: 1138 feet

Glacial drift:			
	Clay; sand, fine to medium, black-----	2	2
	Clay, silty, sandy, brown-----	7	9
	Silt, clayey, varved, brownish-gray-----	6	15
	Silt, clayey, varved, gray-----	3	18
	Sand, fine, trace of silt, gray-----	13	31
	Sand, fine to medium, trace of silt, gray-----	14	45
	Clay, silty, sandy, trace of gravel, gray-----	3.5	48.5
	Sand, fine to medium, silty, clayey, trace of gravel, gray-----	19.5	68
	Clay, sandy, silty, trace of gravel, gray-----	45	113
	Sand, fine to coarse, clayey, silty, trace of gravel, gray-----	11	124
	Silt and fine sand, gray-----	3	127
	Clay, sandy, silty, trace of gravel, gray-----	3	130

LOCATION: 145-55-23CCC  
 ALTITUDE: 1135  
 (FT. MSL)

DATE DRILLED: June 1970  
 DEPTH: 160  
 (FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-5 Clay, silty, sandy, yellowish.

5-32 Sand, medium to coarse, gravelly, subangular to subrounded, lenticular; varicolored from white to black.

32-58 Clay, silty, sandy, pebbly, olive-gray; numerous gravel stringers and occasional cobbles (till).

58-115 Clay, silty, sandy, pebbly, olive-gray; fine gravel stringers and occasional cobbles and pebbles (till).

Carlisle Formation

115-160 Shale, silty, dark-brown, soft, noncalcareous; contains layers of light-blue noncalcareous bentonitic clay.

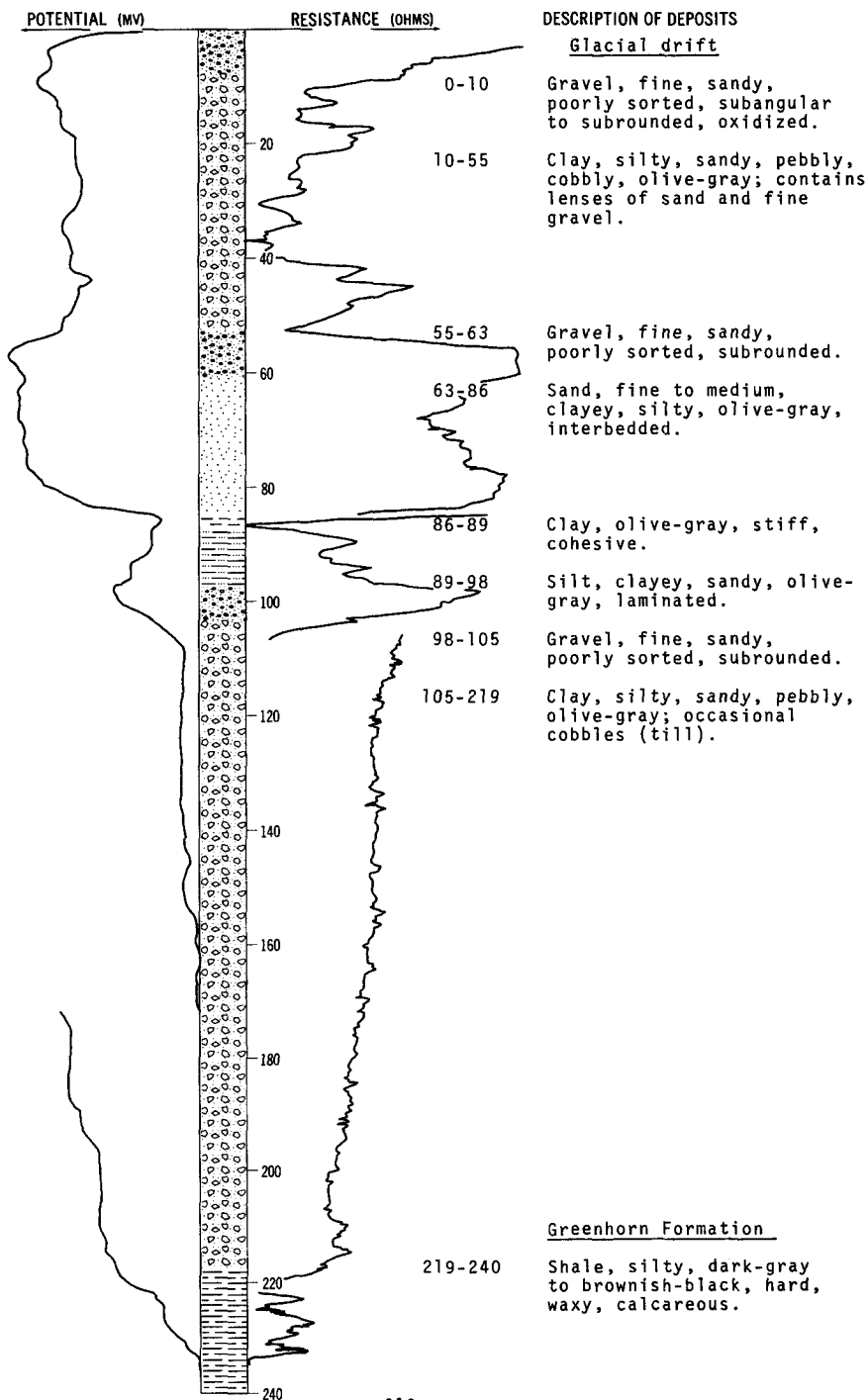


LOCATION: 145-55-27DDD

DATE DRILLED: November 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 240  
(FT)



145-55-31CCD  
 USGS 12  
 (Log from Dennis, 1948)

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, weathered, yellow-----	36	36
	Gravel with some clay-----	8	44
	Till, unweathered, gray, bouldery-----	122	166
Cretaceous, undifferentiated:			
	Shale-----	4	170

145-55-31DDC  
 USGS 13  
 (Log from Dennis, 1948)

Altitude: 1223 feet

Glacial drift:			
	Till, weathered, yellow-----	6	6
	Sand, with some clay-----	4	10
	Till, weathered, yellow-----	7	17
	Sand, coarse-----	5	22
	Gravel-----	12	34
	Till, gray, bouldery-----	131	165
Cretaceous, undifferentiated:			
	Shale-----	15	180

145-55-32CCC  
 USGS 14  
 (Log from Dennis, 1948)

Altitude: 1215 feet

Glacial drift:			
	Till, weathered, yellow-----	15	15
	Sand and gravel with some clay-----	12	27
	Till, gray, bouldery-----	4	31

145-55-32DCC  
 USGS 15  
 (Log from Dennis, 1948)

Altitude: 1210 feet

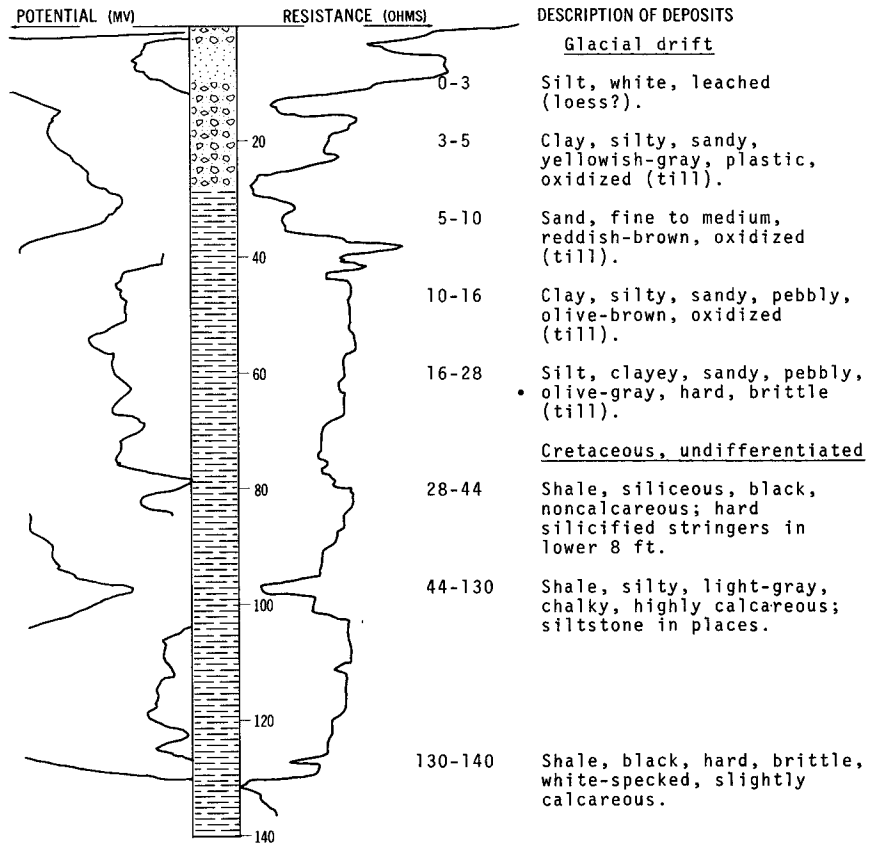
Glacial drift:			
	Till, weathered, yellow-----	12	12
	Gravel, with considerable clay-----	6	18
	Till, unweathered, gray, very bouldery--	118	136

LOCATION: 145-56-02CCD

DATE DRILLED: June 1970

ALTITUDE: 1320  
(FT, MSL)

DEPTH: 140  
(FT)



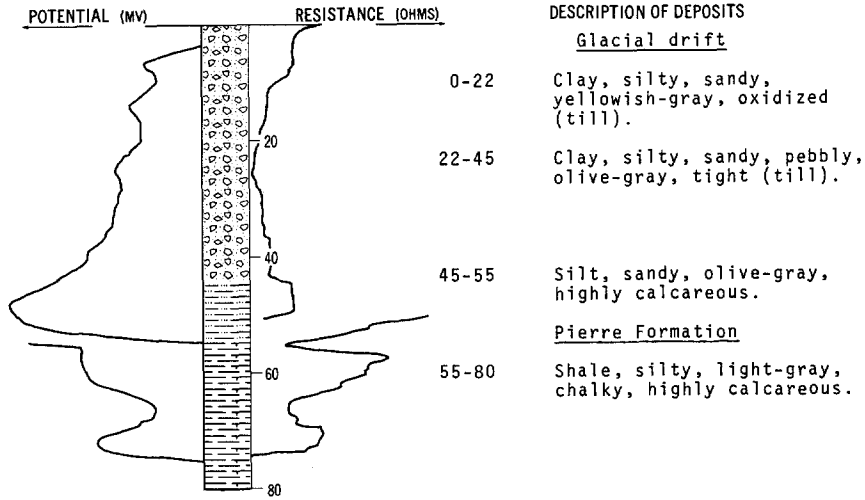
145-56-03CDC  
NDSWC 5616

Altitude: 1345 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<b>Glacial drift:</b>			
	Clay, silty, sandy, pebbly, yellowish-brown, plastic, oxidized (till)-----	12	12
	Clay, silty, sandy, pebbly, olive-gray, plastic, calcareous (till)-----	15	27
<b>Pierre Formation:</b>			
	Shale, clayey, light- to medium-gray, very calcareous; some white specks----	33	60

LOCATION: 145-56-04DCC  
 ALTITUDE: 1390  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 80  
 (FT)



145-56-05DCB  
 (Log from U.S. Air Force)

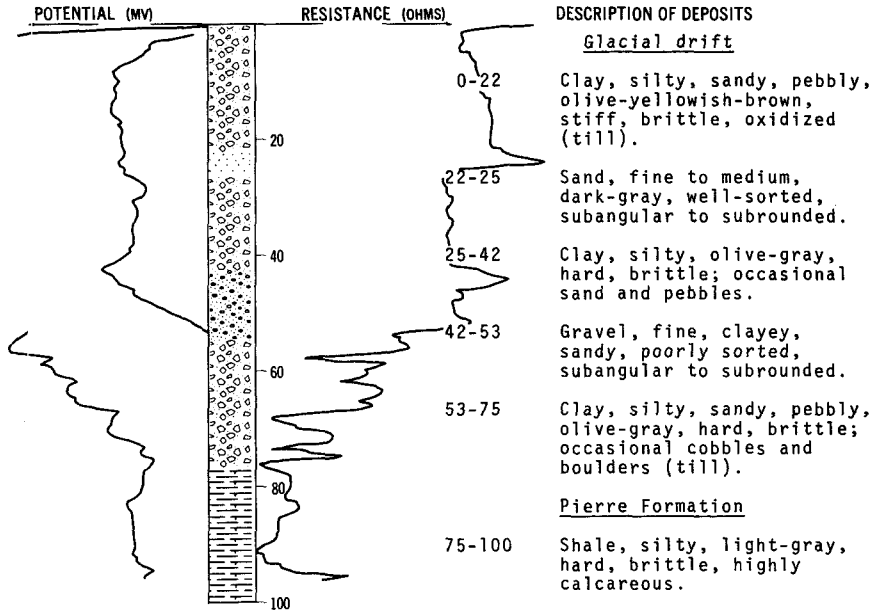
Altitude: 1401 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<b>Glacial drift:</b>			
	Sand, fine, clayey, organic, black-----	2	2
	Clay, sandy, silty, trace of gravel, brown-----	14	16
	Clay, sandy, silty, trace of gravel, gray-----	25	41
	Clay, silty, trace of sand, stiff, gray-----	3	44
<b>Pierre Formation:</b>			
	Shale, clayey, silty in part, fossiliferous, laminated-----	39	83
	Shale, bentonitic in part, calcareous, fossiliferous, dark-gray, mottled brown; contains numerous siliceous concretions-----	47	130

NDSWC 4005

LOCATION: 145-56-06CCC  
 ALTITUDE: 1450  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 100  
 (FT)



145-56-06DCB  
 (Log from U.S. Air Force)

Altitude: 1415 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
<u>Glacial drift:</u>			
	Clay, silty, organic, black-----	3	3
	Sand, medium to coarse and gravel, fine, trace of silt, brown-----	12	15
	Clay, silty, sandy, trace of gravel, gray-----	12	27
	Silt, clayey, gray-----	14	41
<u>Pierre Formation:</u>			
	Clay, calcareous, greenish-gray, thin bedded-----	24	65
	Shale, calcareous, greenish-gray, thin bedded-----	65	130

145-56-07AAB  
 NDSWC 4004

Altitude: 1410 feet

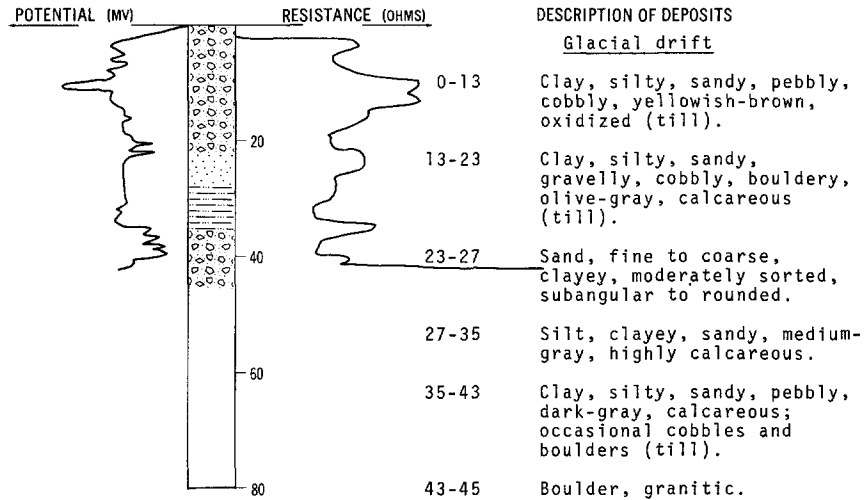
<u>Glacial drift:</u>			
	Clay, silty, sandy, pebbly, olive-brown, plastic, oxidized (till)-----	21	21
	Clay, silty, sandy, pebbly, cobbly, olive-gray, stiff (till)-----	20	41
<u>Pierre Formation:</u>			
	Shale, silty, hard, brittle, chalky, highly calcareous-----	19	60

LOCATION: 145-56-24DDD

DATE DRILLED: July 1972

ALTITUDE: 1255  
(FT, MSL)

DEPTH: 45  
(FT)



145-56-32CDB  
(Log from U.S. Air Force)

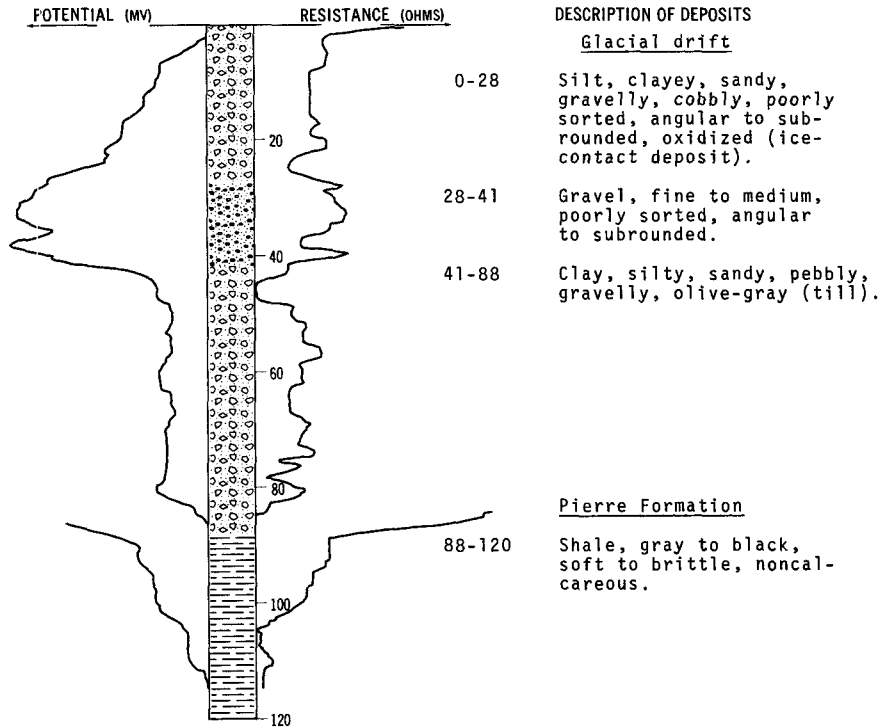
Altitude: 1386 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<u>Glacial drift:</u>			
	Silt, sandy, clayey, brown-----	3	3
	Clay, sandy, silty, trace of gravel, brown-----	15	18
	Clay, sandy, silty, trace of gravel, gray-----	15	33
	Silt, sandy, clayey, trace of gravel, gray-----	2	35
	Clay, sandy, silty, trace of gravel, gray-----	2	37
	Sand, fine, silty, clayey, trace of gravel, numerous shale fragments, dark-gray-----	10	47
	Clay, sandy, silty, trace of gravel; thin gray silt seams 54 to 57 ft-----	31	78
	Sand, fine to medium, gray-----	4	82
	Clay, silty, sandy, trace of gravel, gray-----	5	87
	Sand, fine to medium, clayey, silty, gray-----	21	108
	Clay, sandy, silty, trace of gravel, gray-----	22	130

NDSWC 4008

LOCATION: 145-57-04DDD  
 ALTITUDE: 1510  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 120  
 (FT)



145-57-07AAA1  
 NDSWC 4010

Altitude: 1445 feet

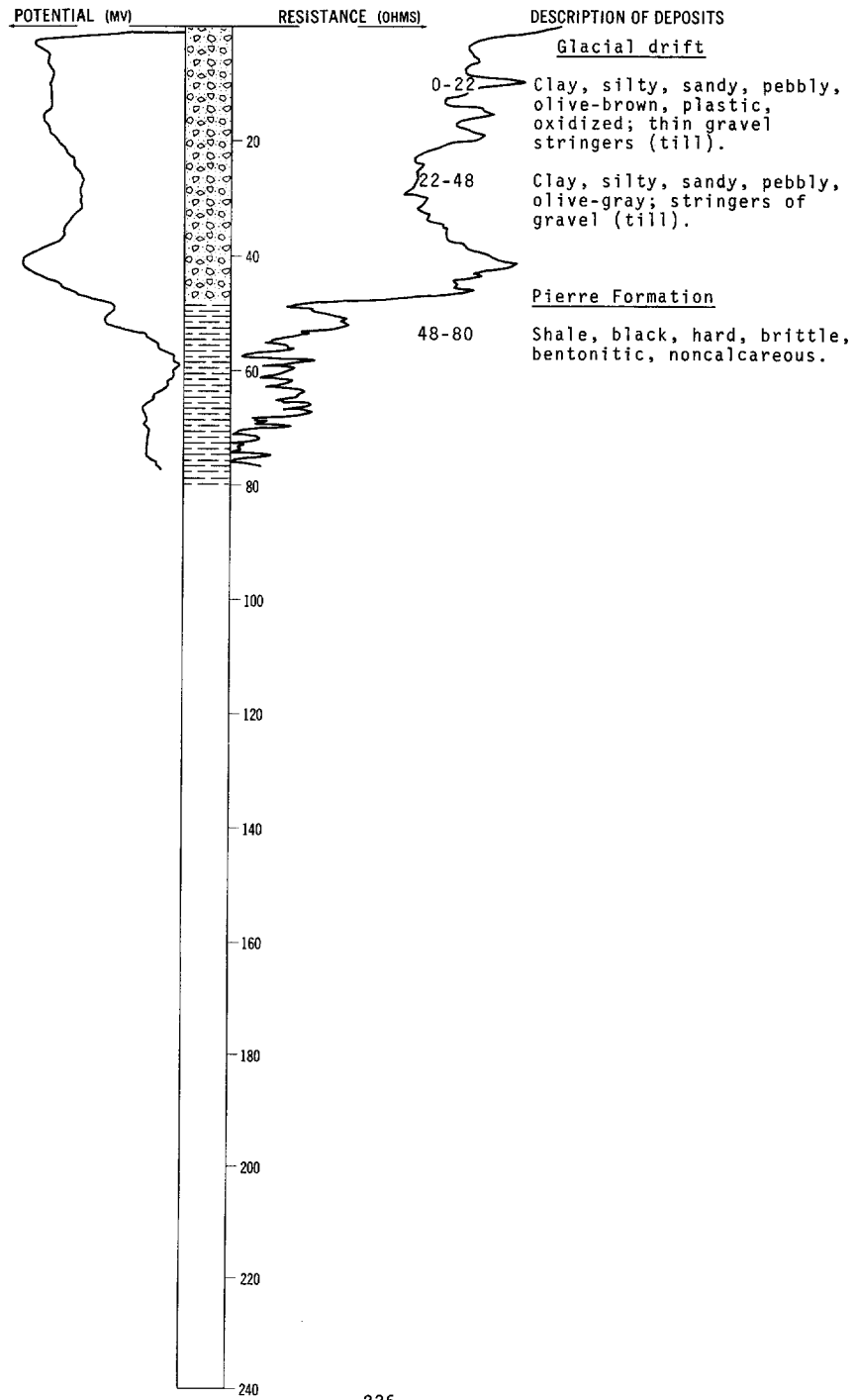
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Sand, medium to coarse, gravelly, moderately sorted, subangular to subrounded-----	16	16
Pierre Formation:	Shale, siliceous, black, hard-----	24	40

LOCATION: 145-57-08AAA

DATE DRILLED: June 1970

ALTITUDE: 1475  
(FT, MSL)

DEPTH: 80  
(FT)



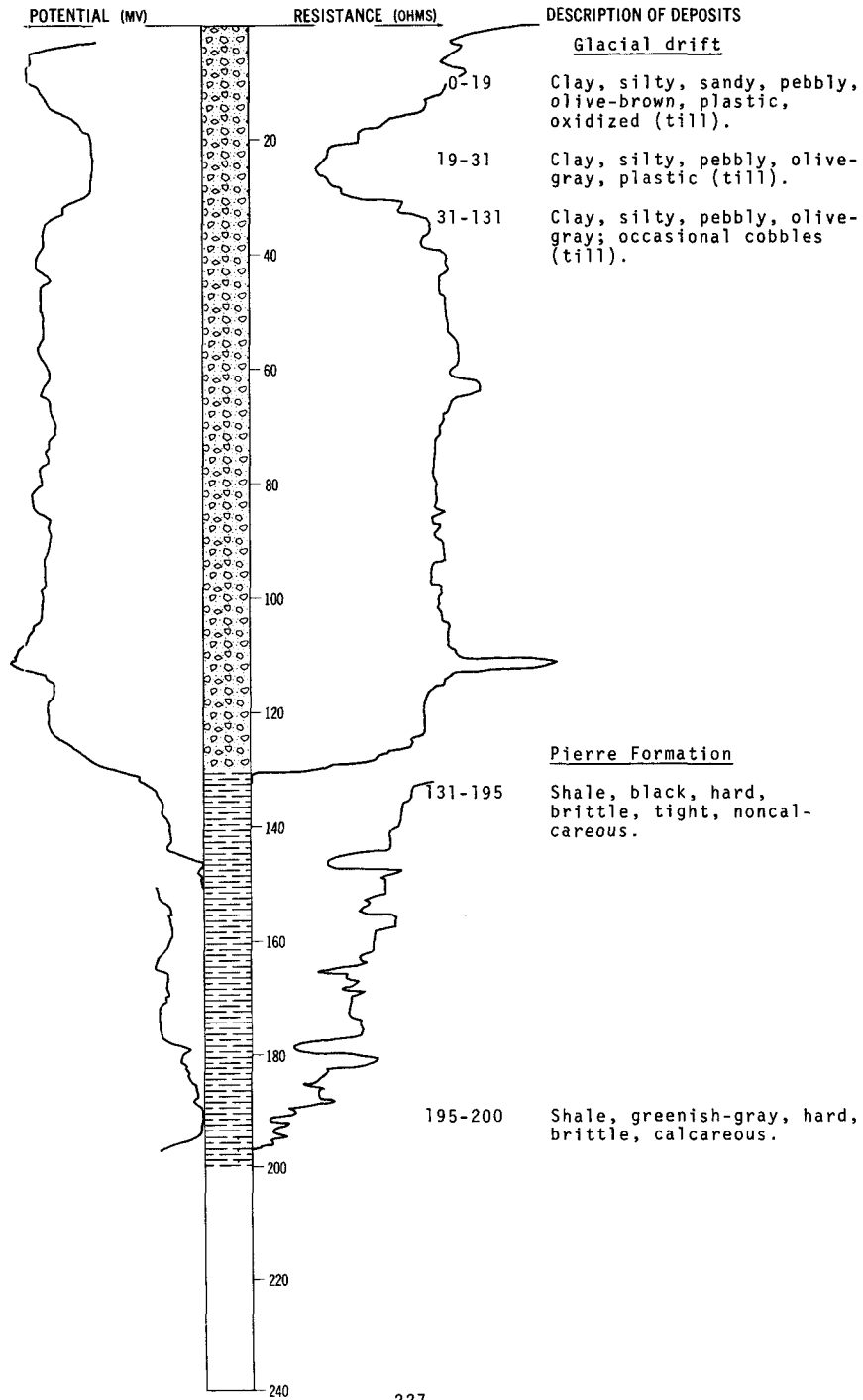


LOCATION: 145-57-10AAA

DATE DRILLED: June 1970

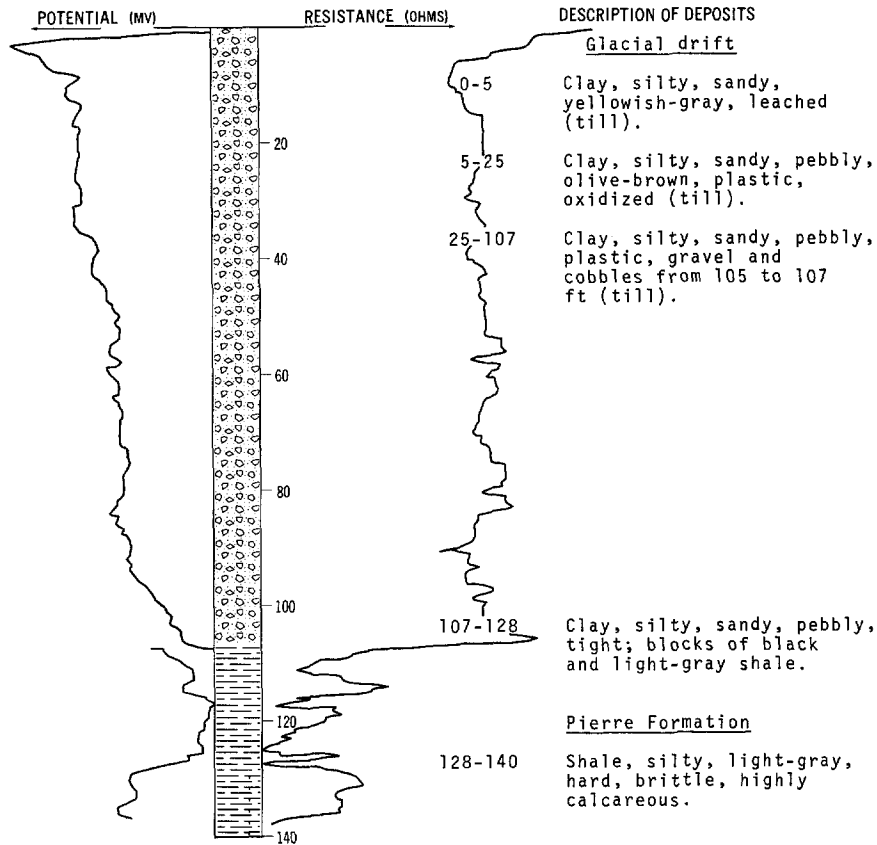
ALTITUDE: 1545  
(FT, MSL)

DEPTH: 200  
(FT)



LOCATION: 145-57-11AAA  
 ALTITUDE: 1500  
 (FT, MSL)

DATE DRILLED: June 1970  
 DEPTH: 140  
 (FT)



145-57-17DDA  
 (Log from U.S. Air Force)

Altitude: 1490 feet

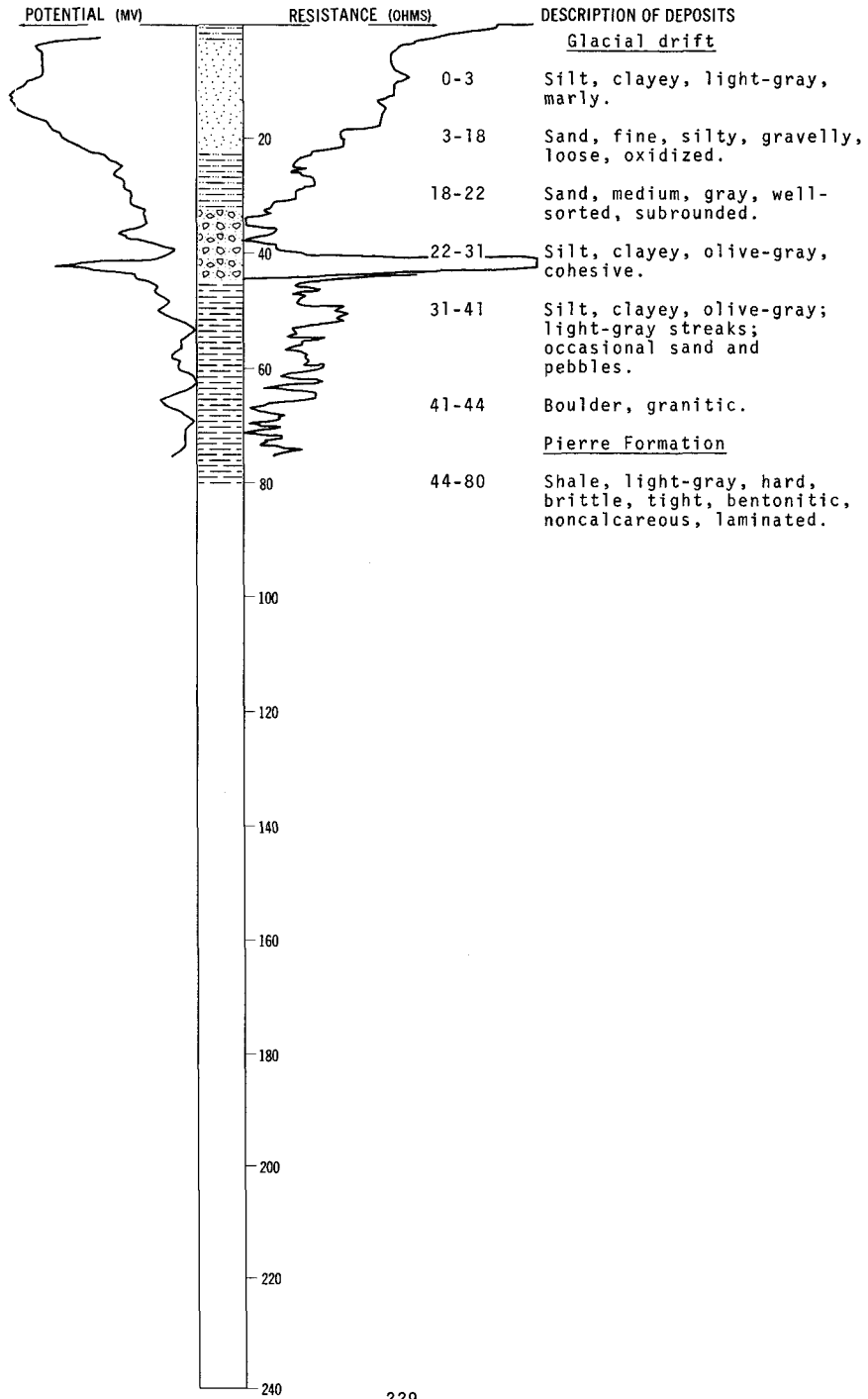
Geologic source	Material	Thickness (feet)	Depth (feet)
<b>Glacial drift:</b>			
	Sand, fine, organic-----	2	2
	Silt, clayey, trace of gravel (brown to 19 ft)-----	29	31
	Silt, sandy, gray-----	6	37
	Silt, sandy and clay, brownish-gray----	4	41
<b>Pierre Formation:</b>			
	Shale, dark-gray, fractured-----	12	53
	Shale, silty, dark-gray, massive-----	77	130

LOCATION: 145-57-18DCC

DATE DRILLED: October 1970

ALTITUDE: 1430  
(FT, MSL)

DEPTH: 80  
(FT)

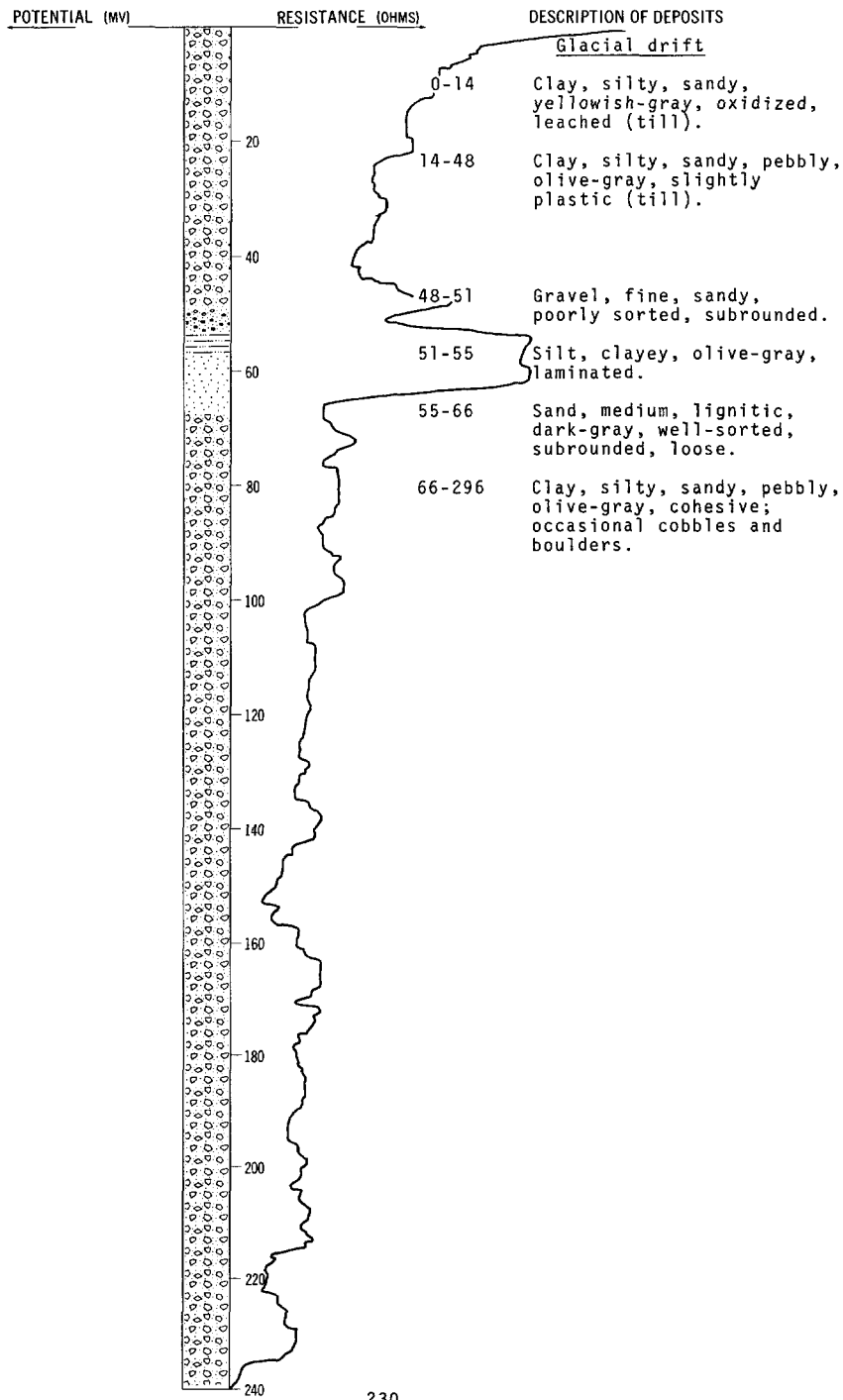


LOCATION: 145-57-24DDD

DATE DRILLED: October 1970

ALTITUDE: 1420  
(FT, MSL)

DEPTH: 320  
(FT)



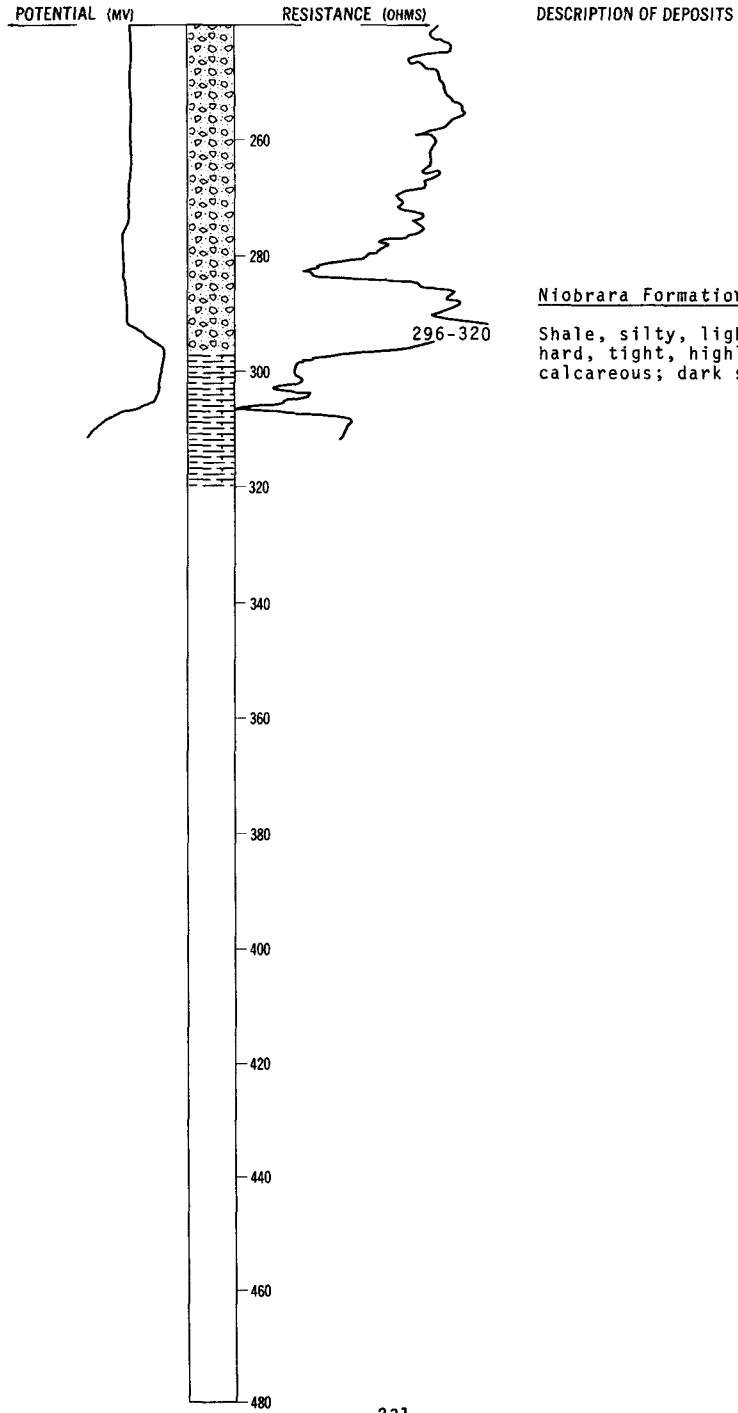
NDSWC 4275, Continued

LOCATION: 145-57-24DDD

DATE DRILLED: October 1970

ALTITUDE: 1420  
(FT, MSL)

DEPTH: 320  
(FT)

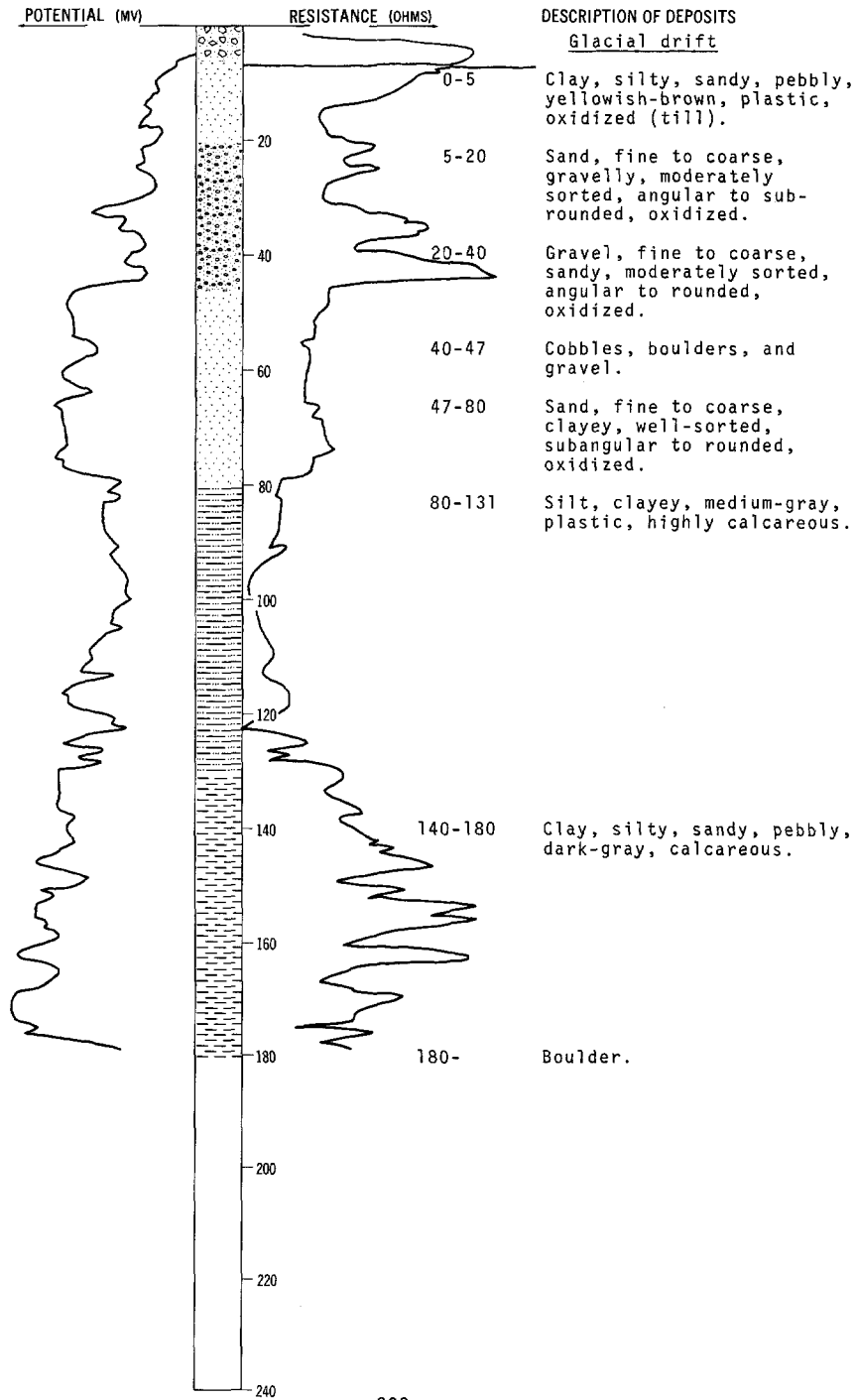


LOCATION: 145-57-31AAB

DATE DRILLED: July 1972

ALTITUDE: 1310  
(FT, MSL)

DEPTH: 180  
(FT)



145-57-33CB  
(Log from U.S. Air Force)

Altitude: 1514 feet

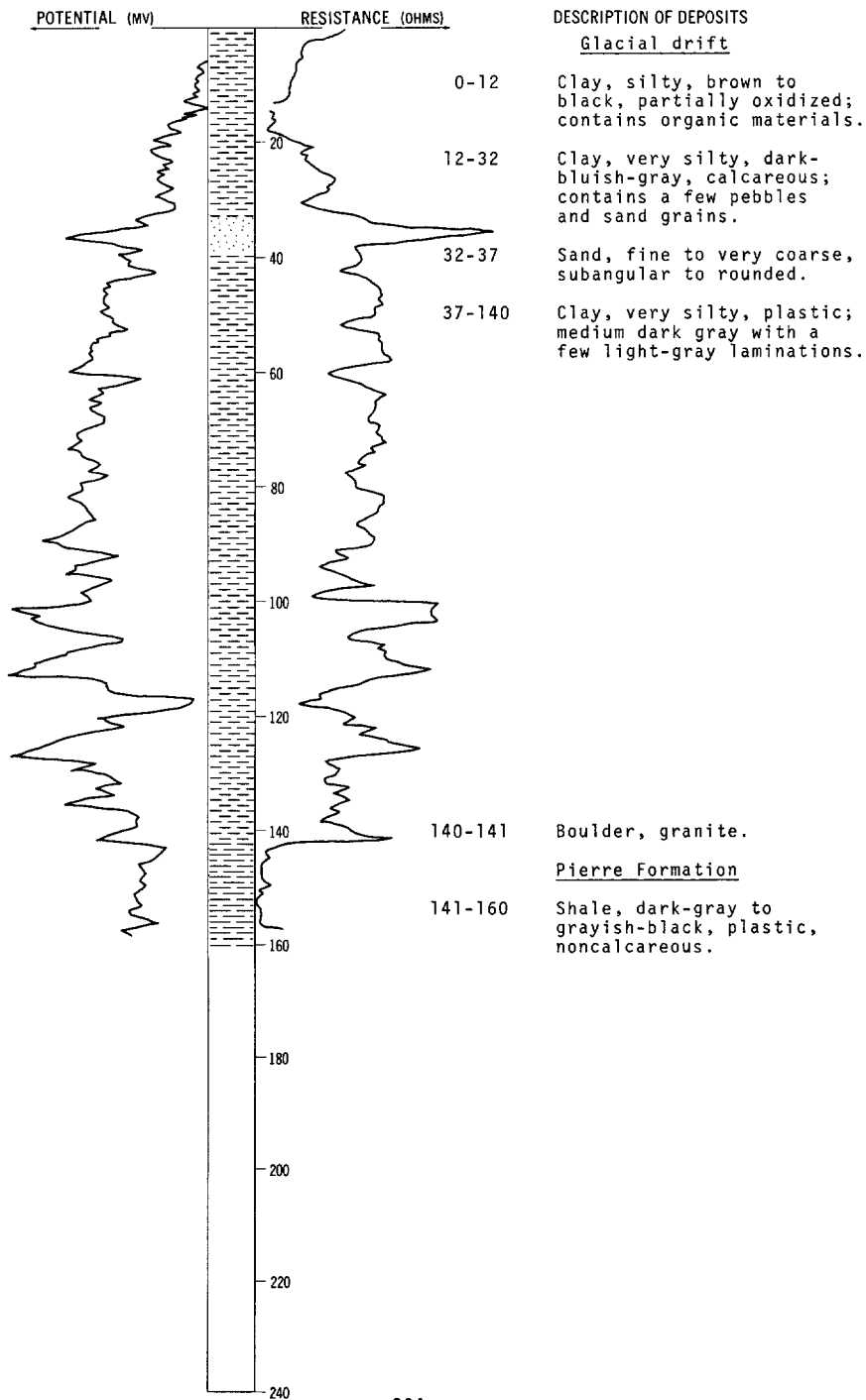
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, silty, black-----	2	2
	Clay, sandy, silty, brown-----	11	13
	Sand, fine, and clay; silty, trace of gravel, yellowish-brown and gray-----	6	19
	Clay and silt, trace of sand, brownish- gray-----	6	25
	Sand and gravel, clayey, silty, gray----	12	37
	Clay, silty, sandy, trace of gravel, dark-gray-----	12	49
	Clay and silt, trace of sand and gravel, dark-gray-----	18	67
	Clay, sandy, silty, trace of gravel, dark-gray-----	41	108
	Silt, sandy, trace of clay, gray-----	4	112
	Sand, fine, silty, clayey, gray; very dense-----	5	117
	Silt, trace of sand, dark-gray, very dense-----	13	130

LOCATION: 145-58-03CCD

ALTITUDE: 1280  
(FT, MSL)

DATE DRILLED: October 1970

DEPTH: 160  
(FT)



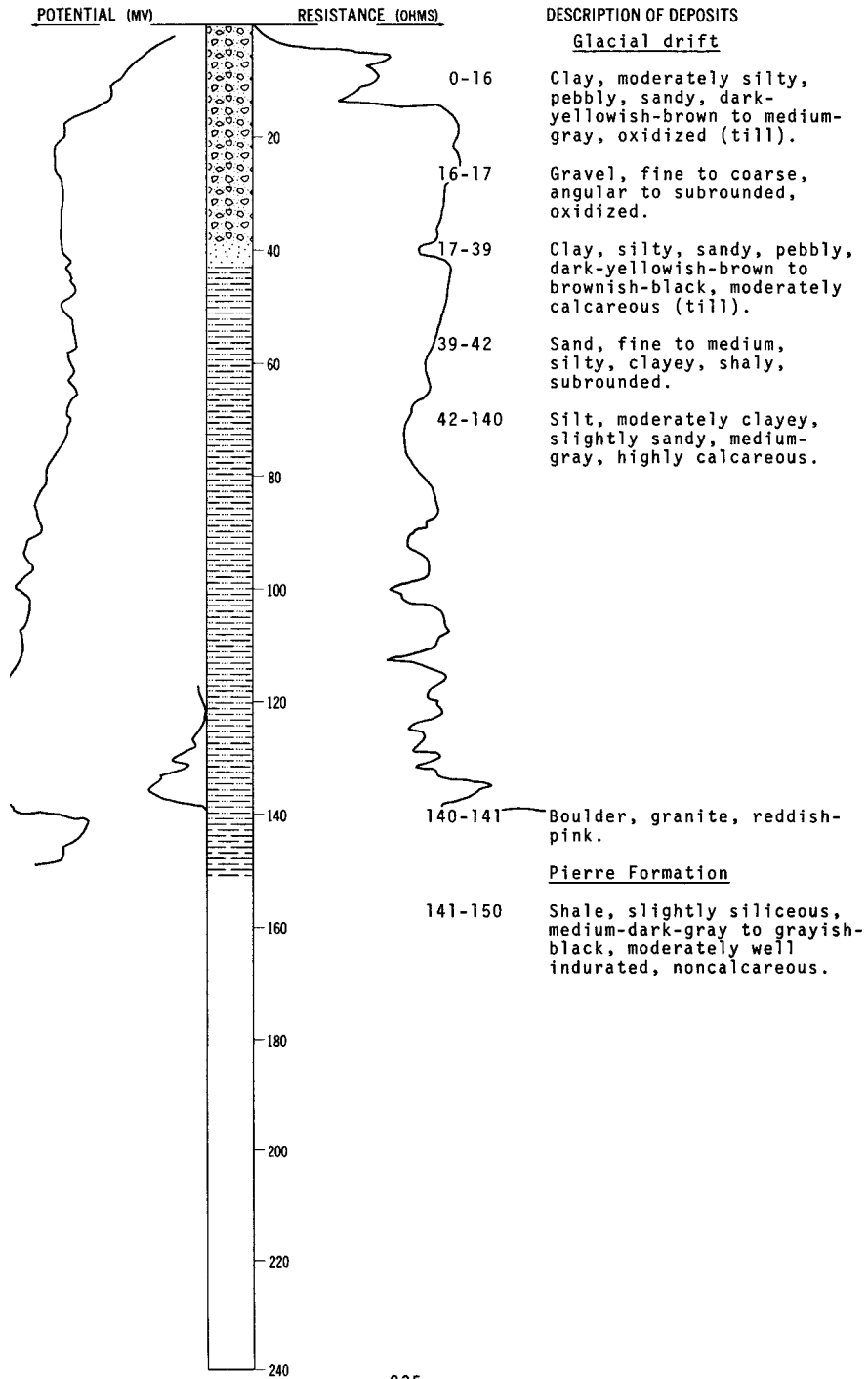


LOCATION: 145-58-24BAD

ALTITUDE: 1280  
(FT, MSL)

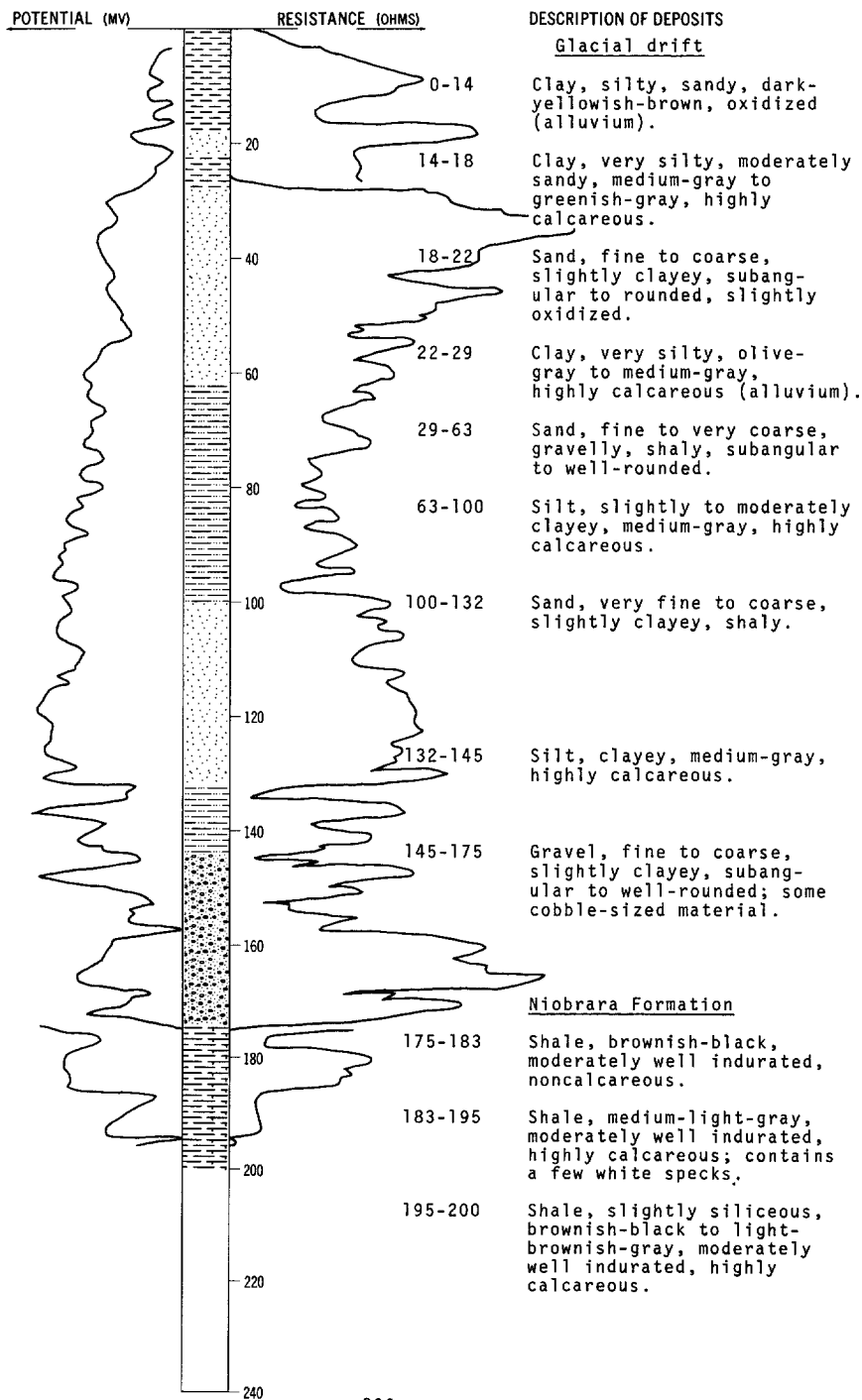
DATE DRILLED: July 1972

DEPTH: 150  
(FT)



LOCATION: 145-58-24BDD  
 ALTITUDE: 1273  
 (FT, MSL)

DATE DRILLED: July 1972  
 DEPTH: 200  
 (FT)



145-59-02CCB  
(Log from Empire Drilling Co.)

Altitude: 1450 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, oxidized-----	20	20
	Till, gray-----	4	24
	Sand-----	3	27
	Till, gray-----	33	60
Pierre Formation:			
	Shale-----	20	80

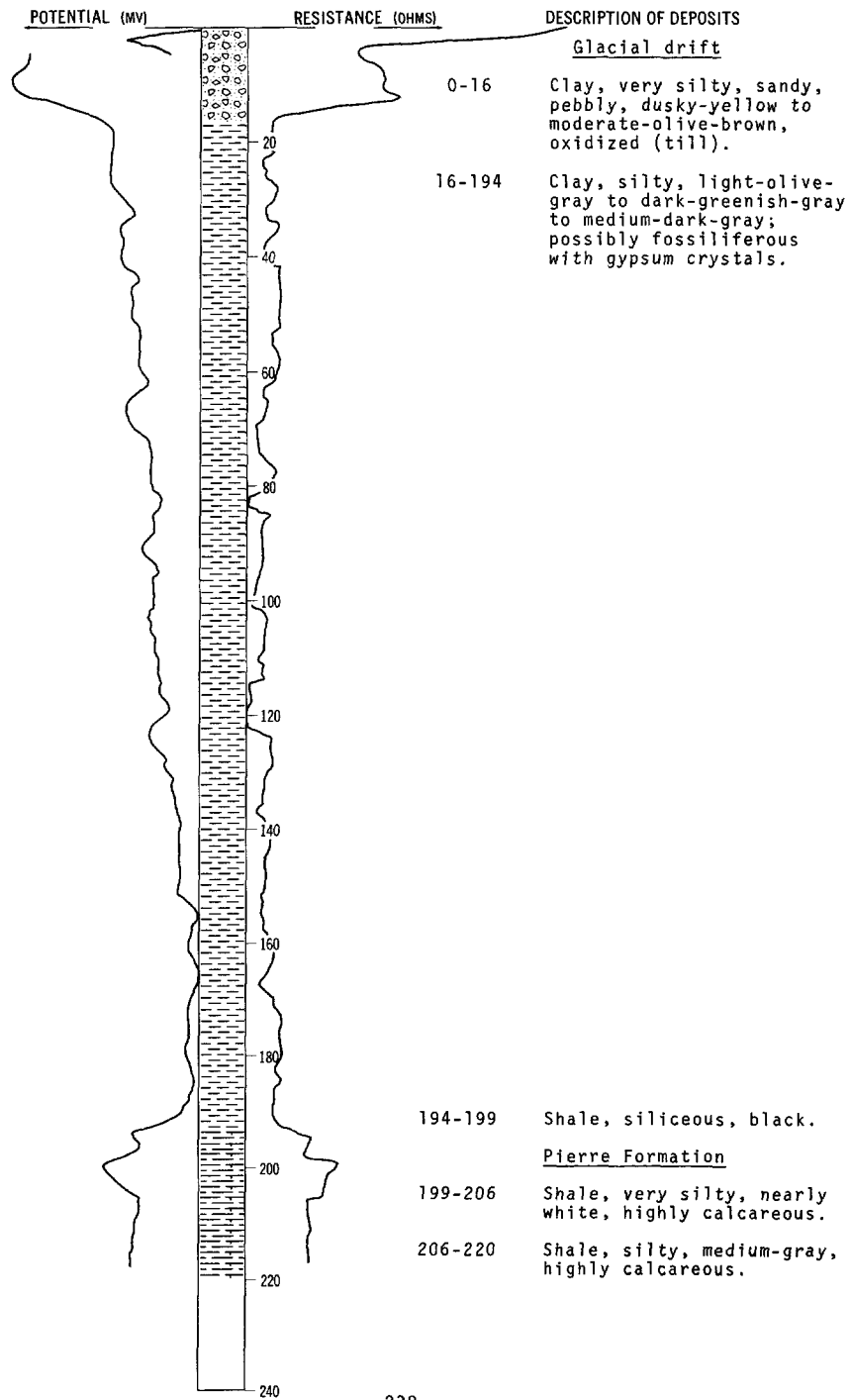
NDSWC 4340

LOCATION: 145-59-03AAA

DATE DRILLED: August 1971

ALTITUDE: 1435  
(FT, MSL)

DEPTH: 220  
(FT)

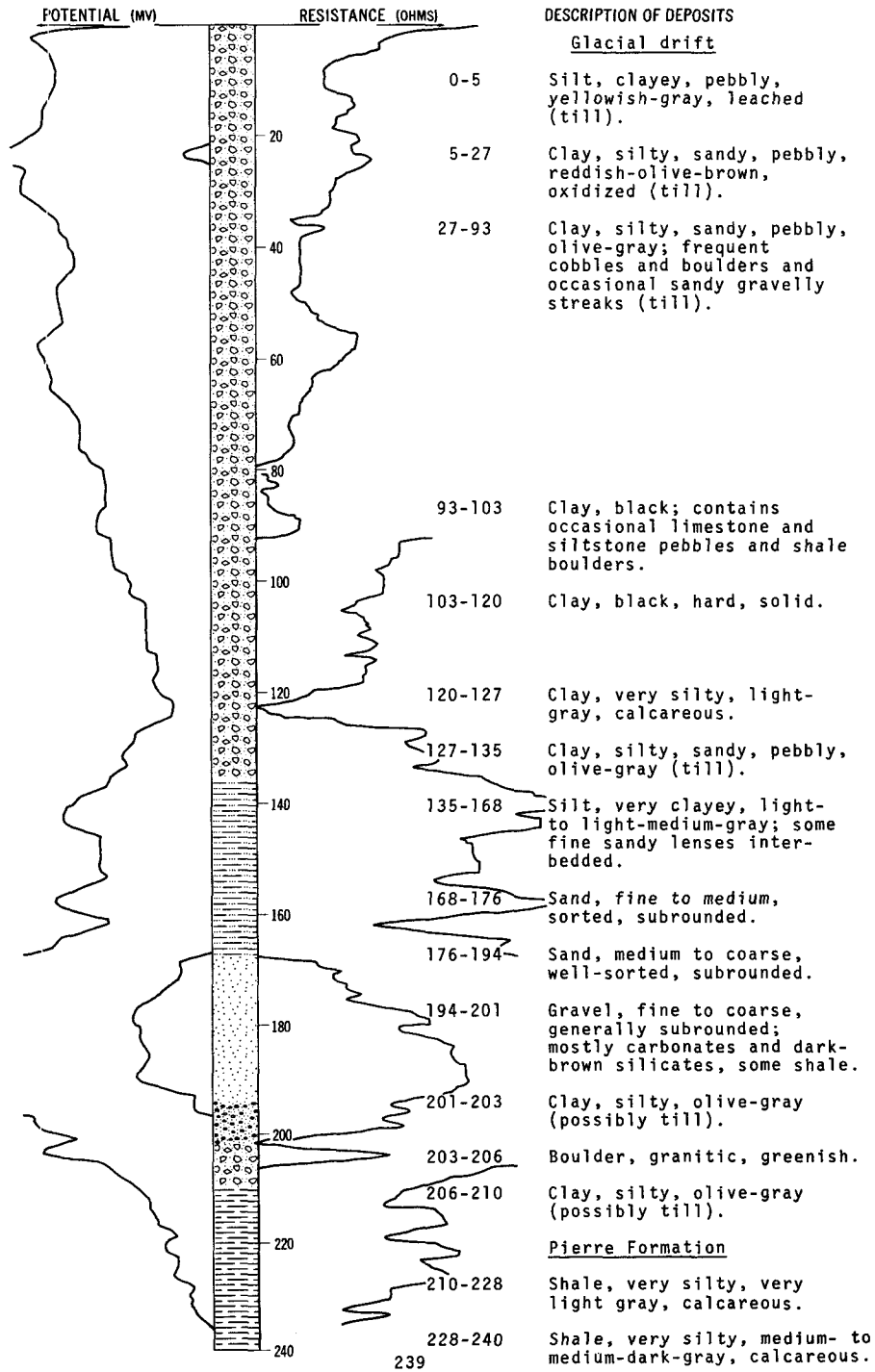


LOCATION: 145-59-10DDD

DATE DRILLED: August 1971

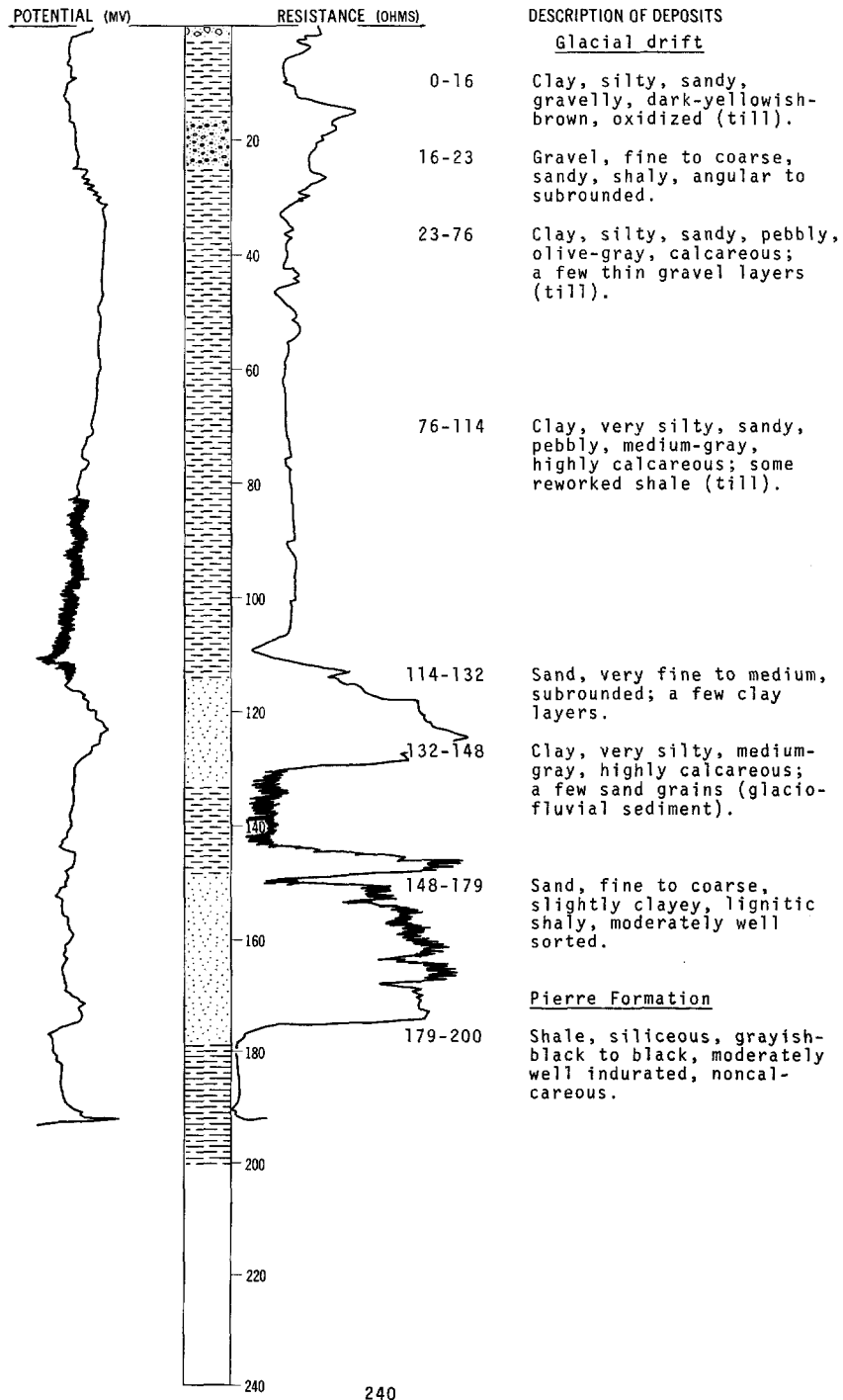
ALTITUDE: 1450  
(FT, MSL)

DEPTH: 240  
(FT)



LOCATION: 145-59-15DDD  
 ALTITUDE: 1428  
 (FT, MSL)

DATE DRILLED: September 1972  
 DEPTH: 200  
 (FT)

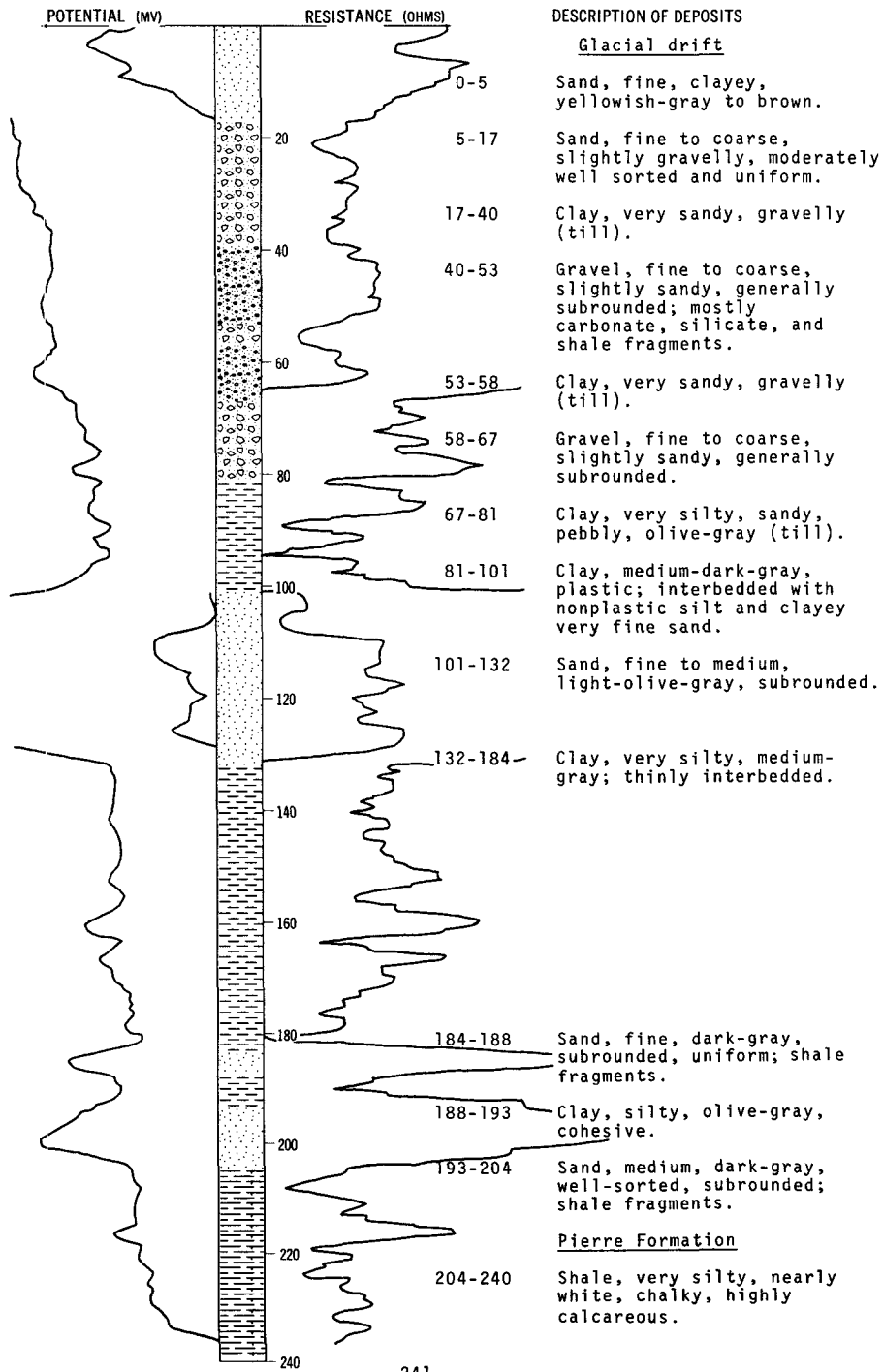


LOCATION: 145-59-17AAA1

DATE DRILLED: August 1971

ALTITUDE: 1443  
(FT, MSL)

DEPTH: 240  
(FT)

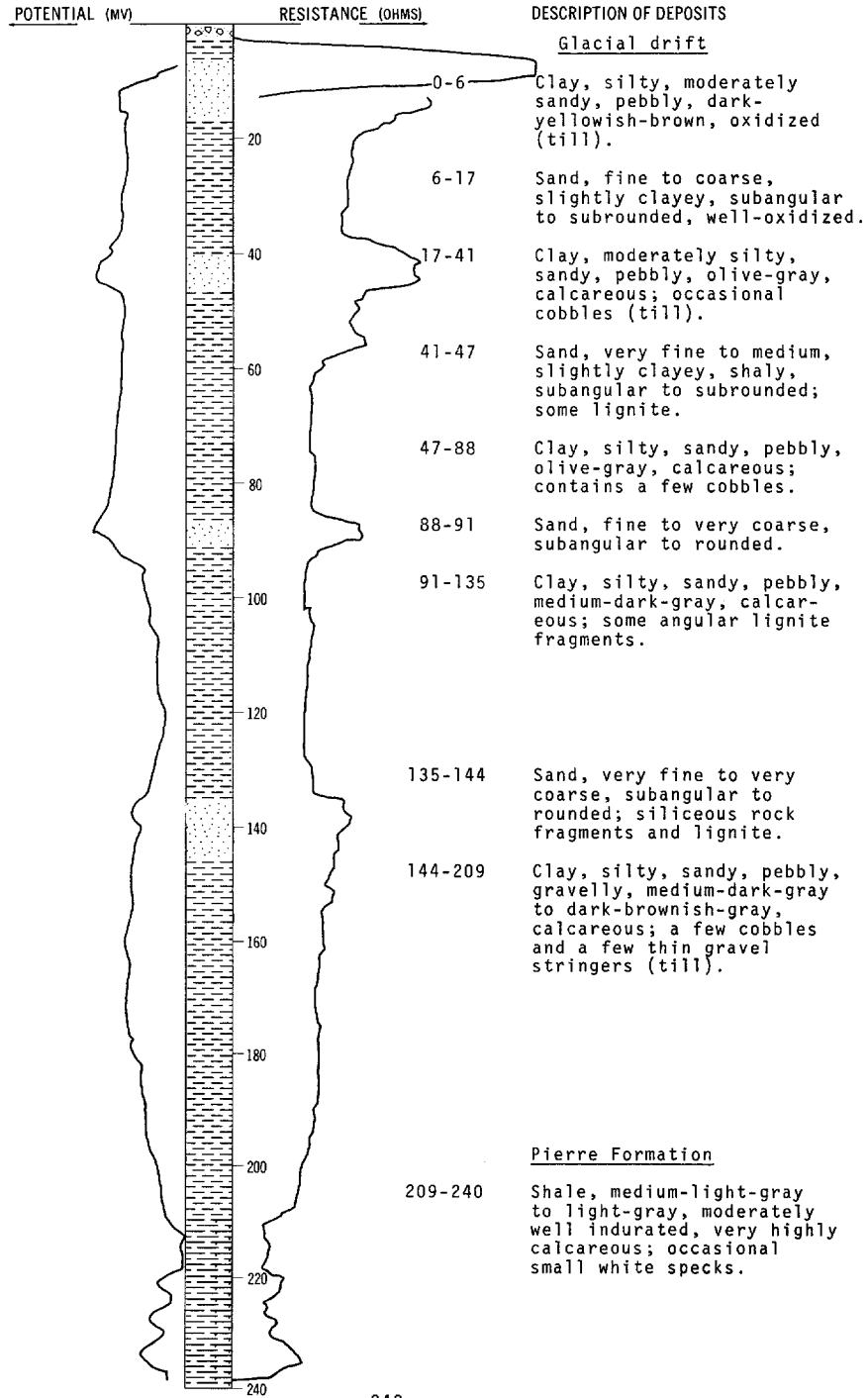


LOCATION: 145-59-19BBB

DATE DRILLED: September 1972

ALTITUDE: 1427  
(FT, MSL)

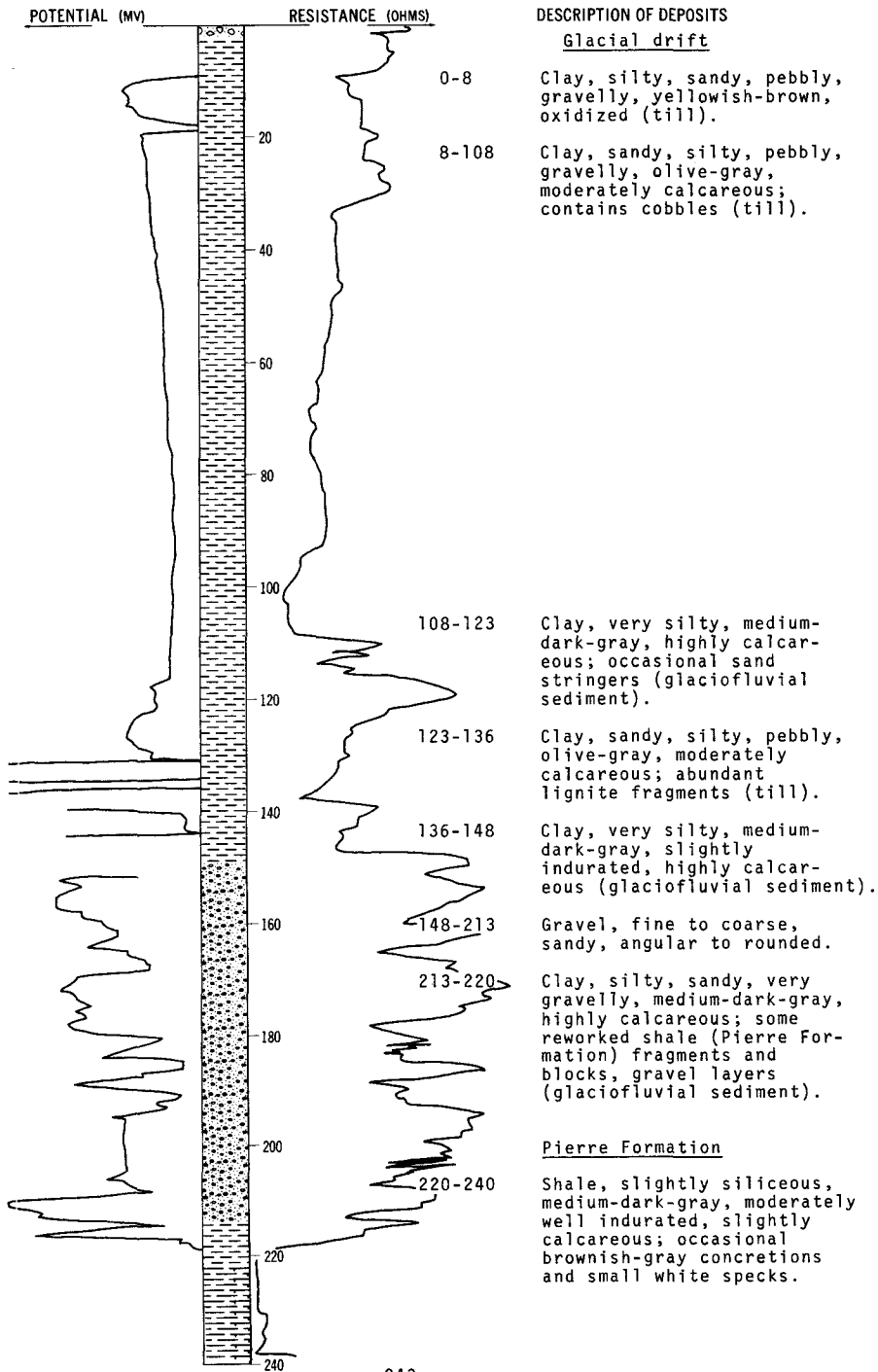
DEPTH: 240  
(FT)





LOCATION: 145-59-20CBB  
 ALTITUDE: 1429  
 (FT, MSL)

DATE DRILLED: September 1972  
 DEPTH: 240  
 (FT)



145-59-27BCD  
(Log from Empire Drilling Co.)

Altitude: 1440 feet

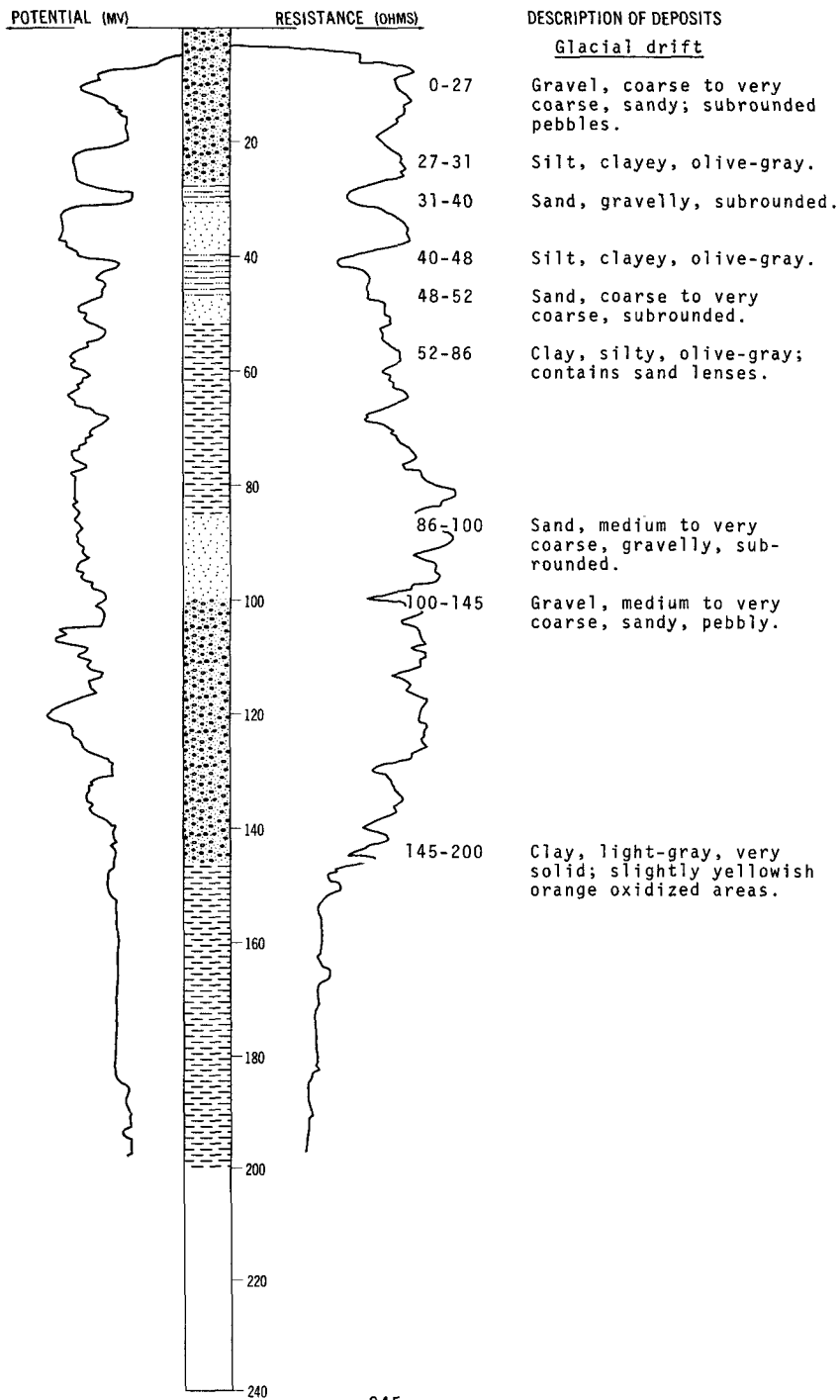
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Sand and gravel-----	19	21
	Boulders-----	2	23
	Till, gray-----	32	55
	Sand and gravel-----	2	57
	Till, gray-----	108	165
	Gravel-----	24	190
	Gravel with shale pebbles-----	39	229
Niobrara Formation:			
	Shale-----	6	235

LOCATION: 145-59-28BAC

ALTITUDE: 1420  
(FT, MSL)

DATE DRILLED: April 1972

DEPTH: 200  
(FT)

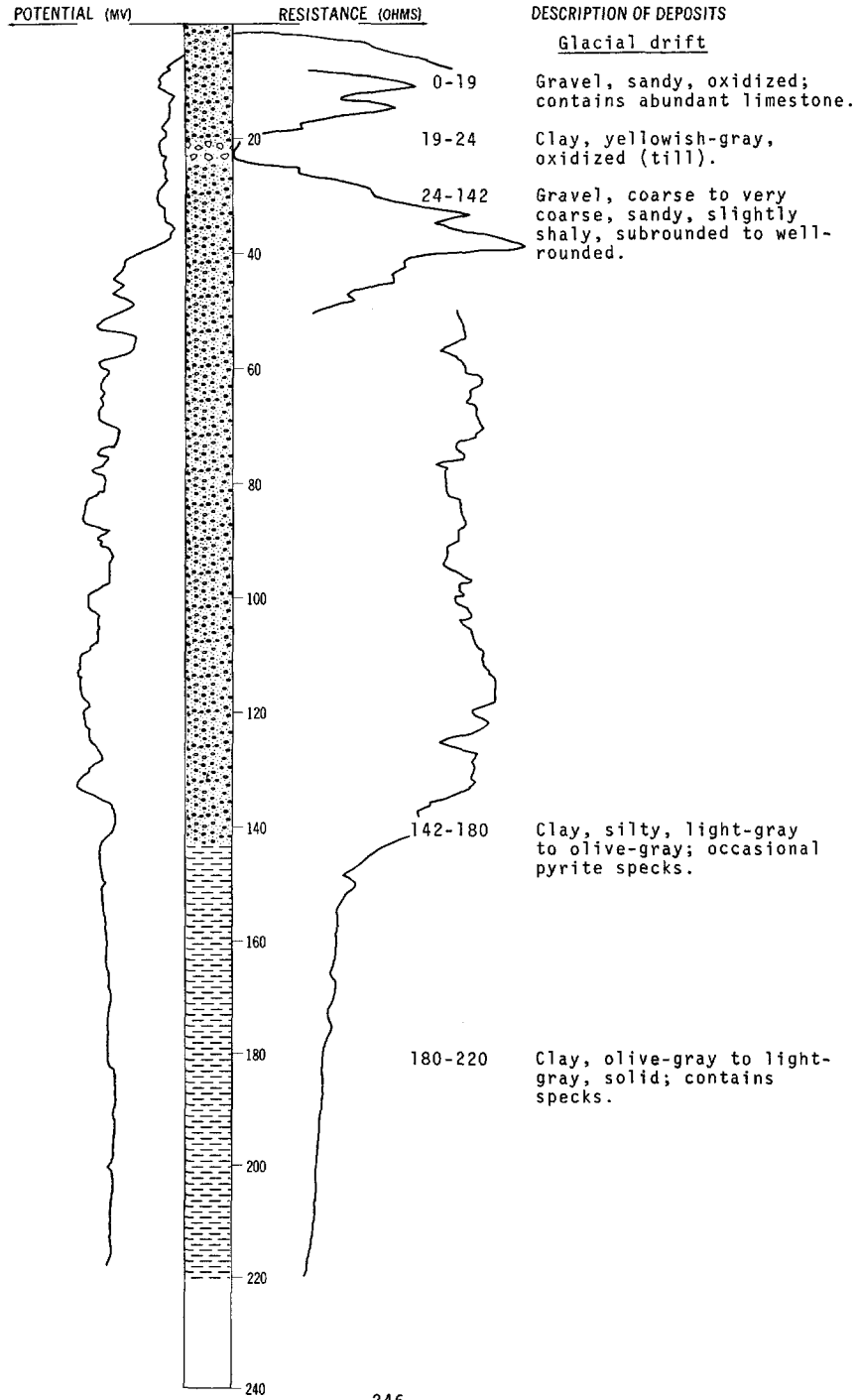


LOCATION: 145-59-34BBB

DATE DRILLED: April 1972

ALTITUDE: 1430  
(FT, MSL)

DEPTH: 220  
(FT)

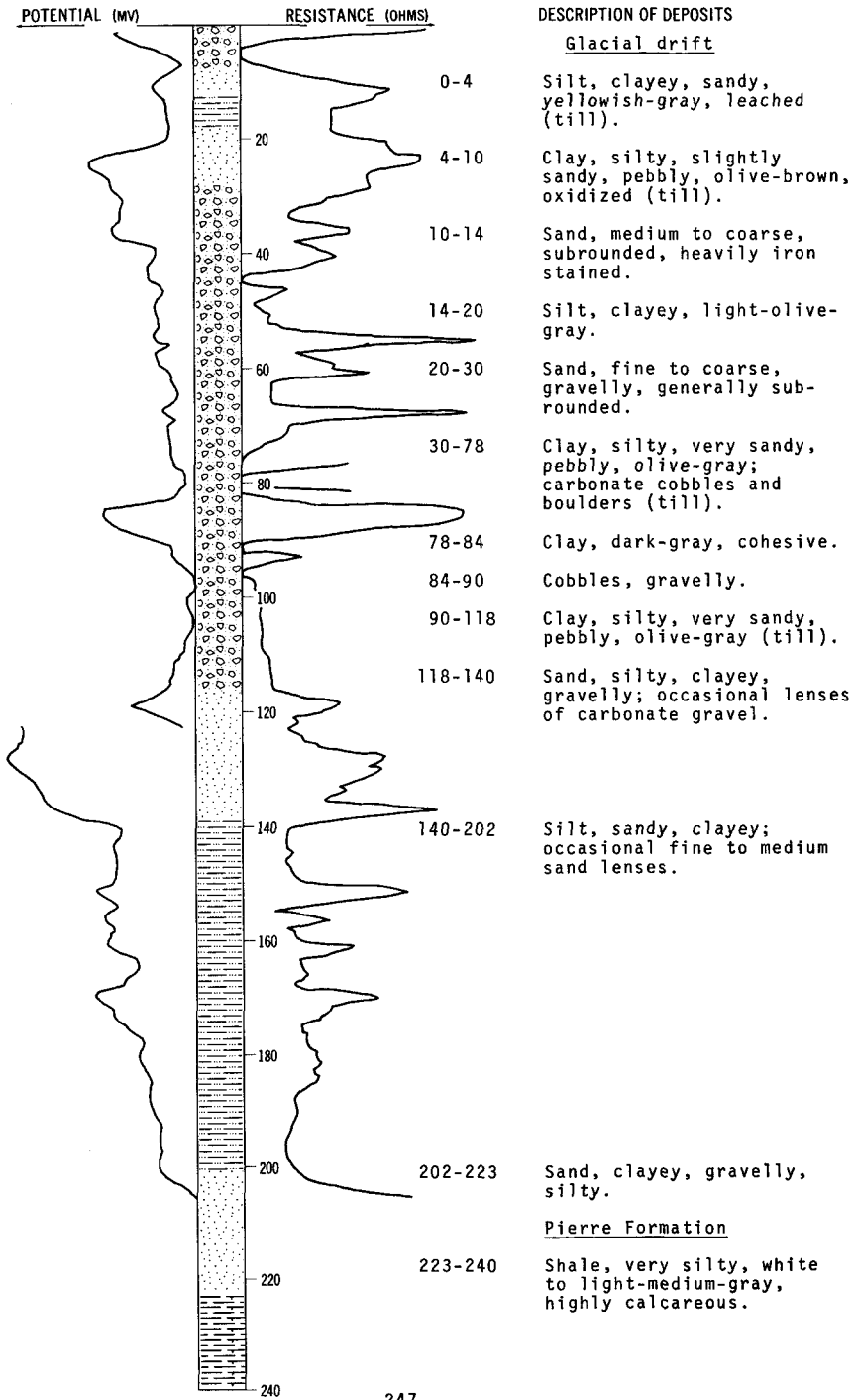


LOCATION: 145-60-11DDD

DATE DRILLED: August 1971

ALTITUDE: 1424  
(FT, MSL)

DEPTH: 240  
(FT)



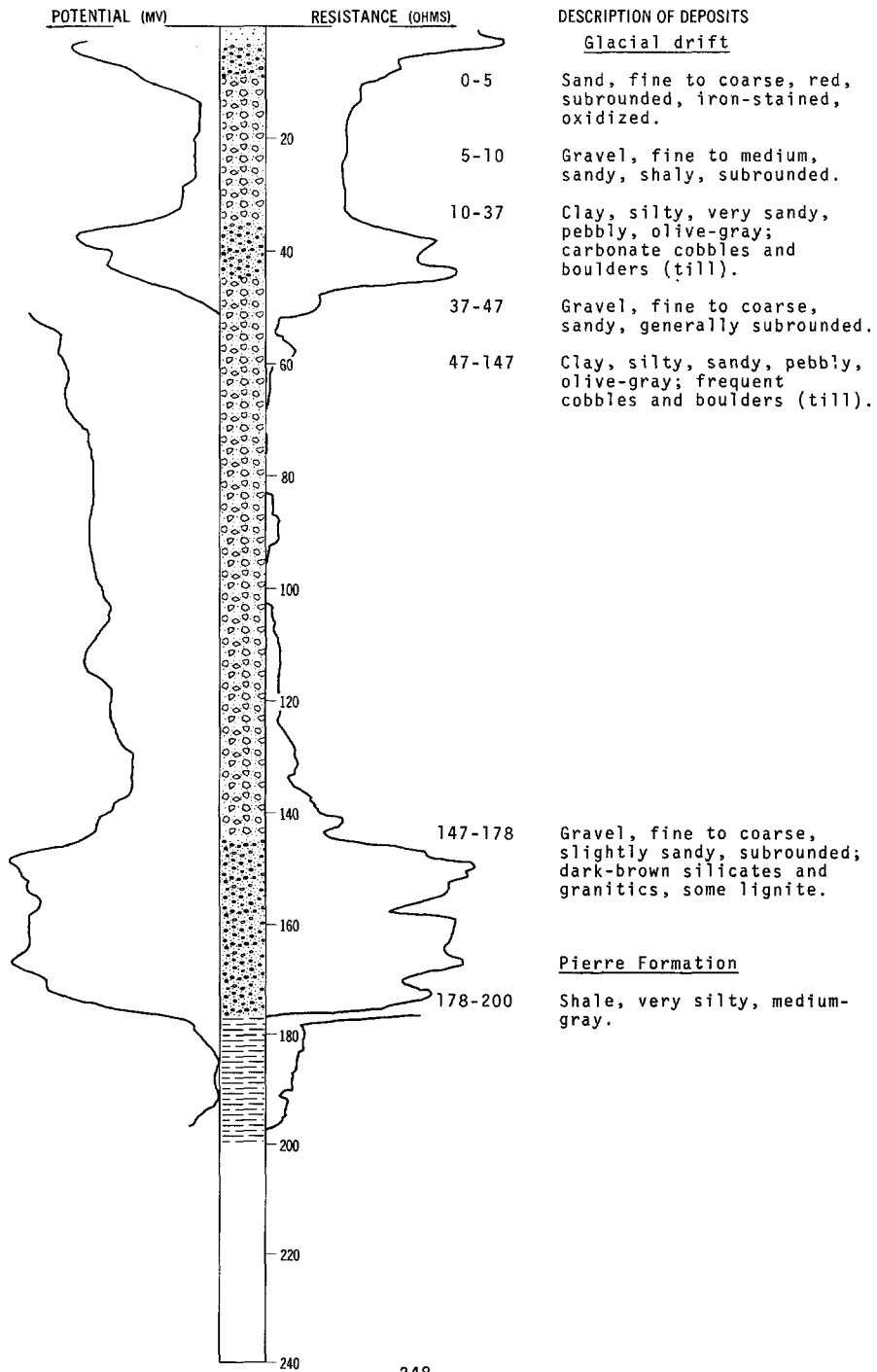
NDSWC 4342

LOCATION: 145-60-15BBB

ALTITUDE: 1435  
(FT, MSL)

DATE DRILLED: August 1971

DEPTH: 200  
(FT)

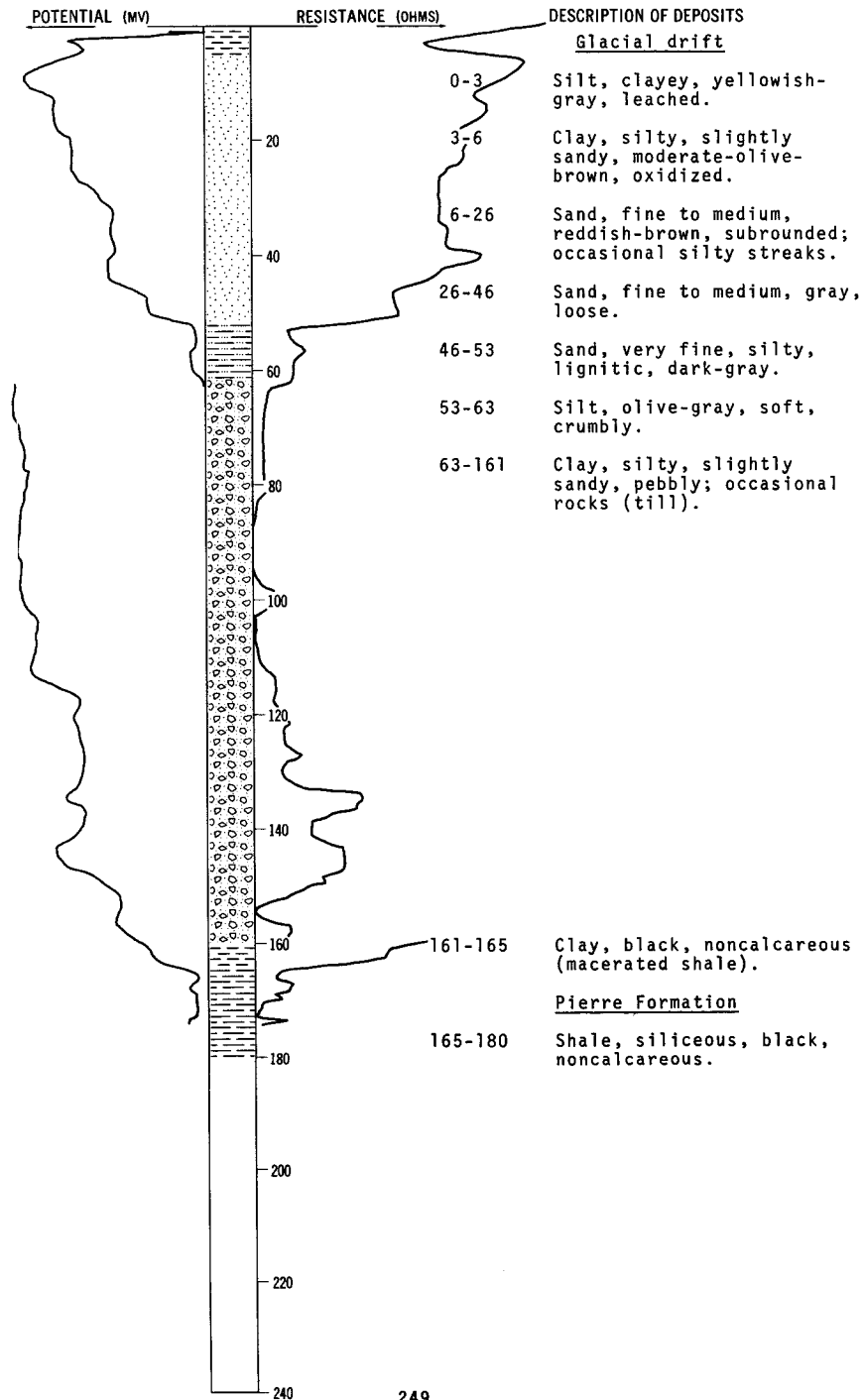


LOCATION: 145-60-17BBB

DATE DRILLED: August 1971

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 180  
(FT)



145-60-25CCB  
(Log from Empire Drilling Co.)

Altitude: 1435 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Clay, sandy-----	9	11
	Till, yellow-----	10	21
	Sand, fine-----	1	22
	Till, gray-----	38	60
	Boulders-----	2	62
	Till, gray-----	103	165
	Till, gray with boulders-----	10	175
	Clay-----	5	180
	Sand and gravel; lignite and shale pebbles-----	20	200

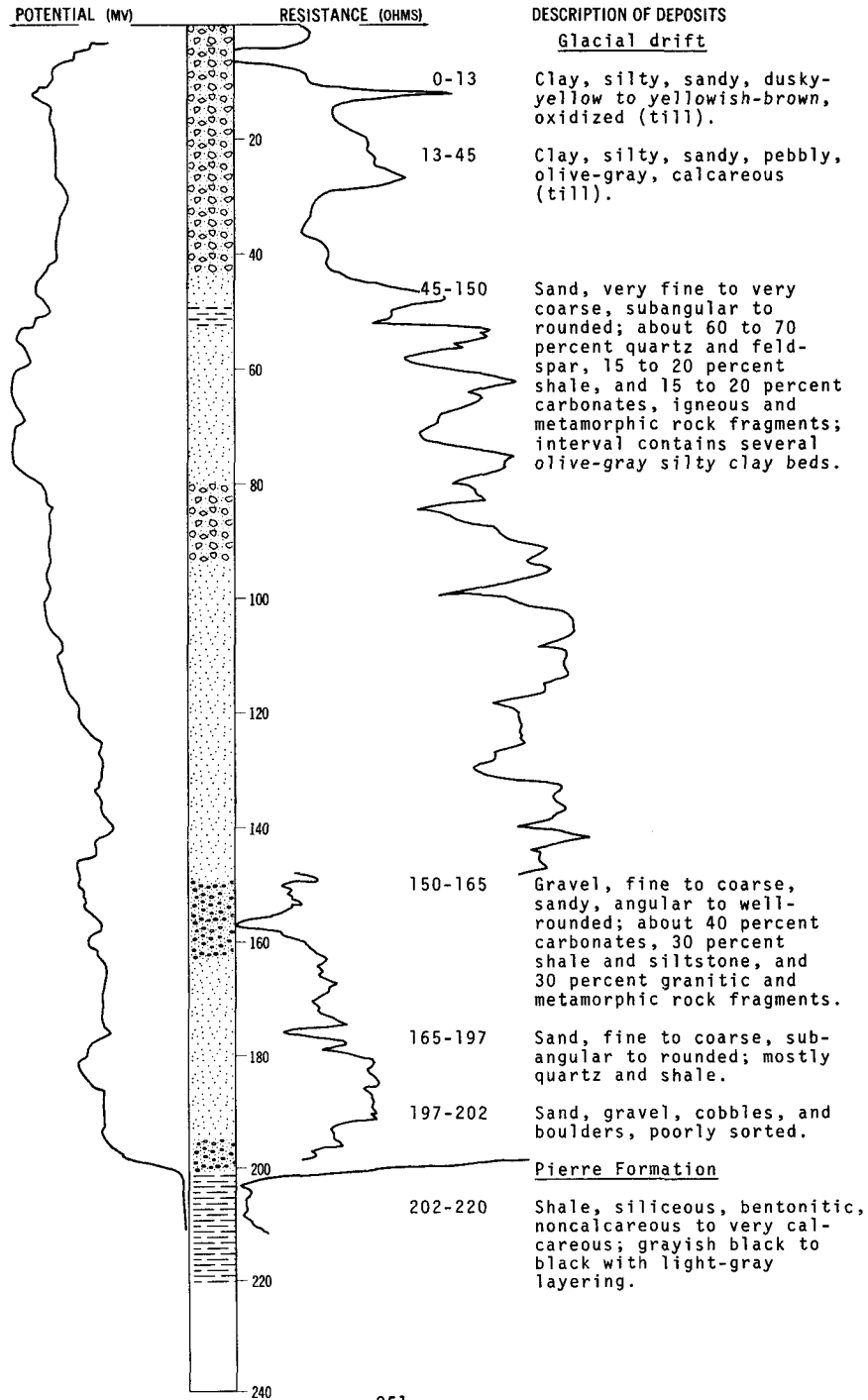


LOCATION: 145-61-04DAA

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 220  
(FT)

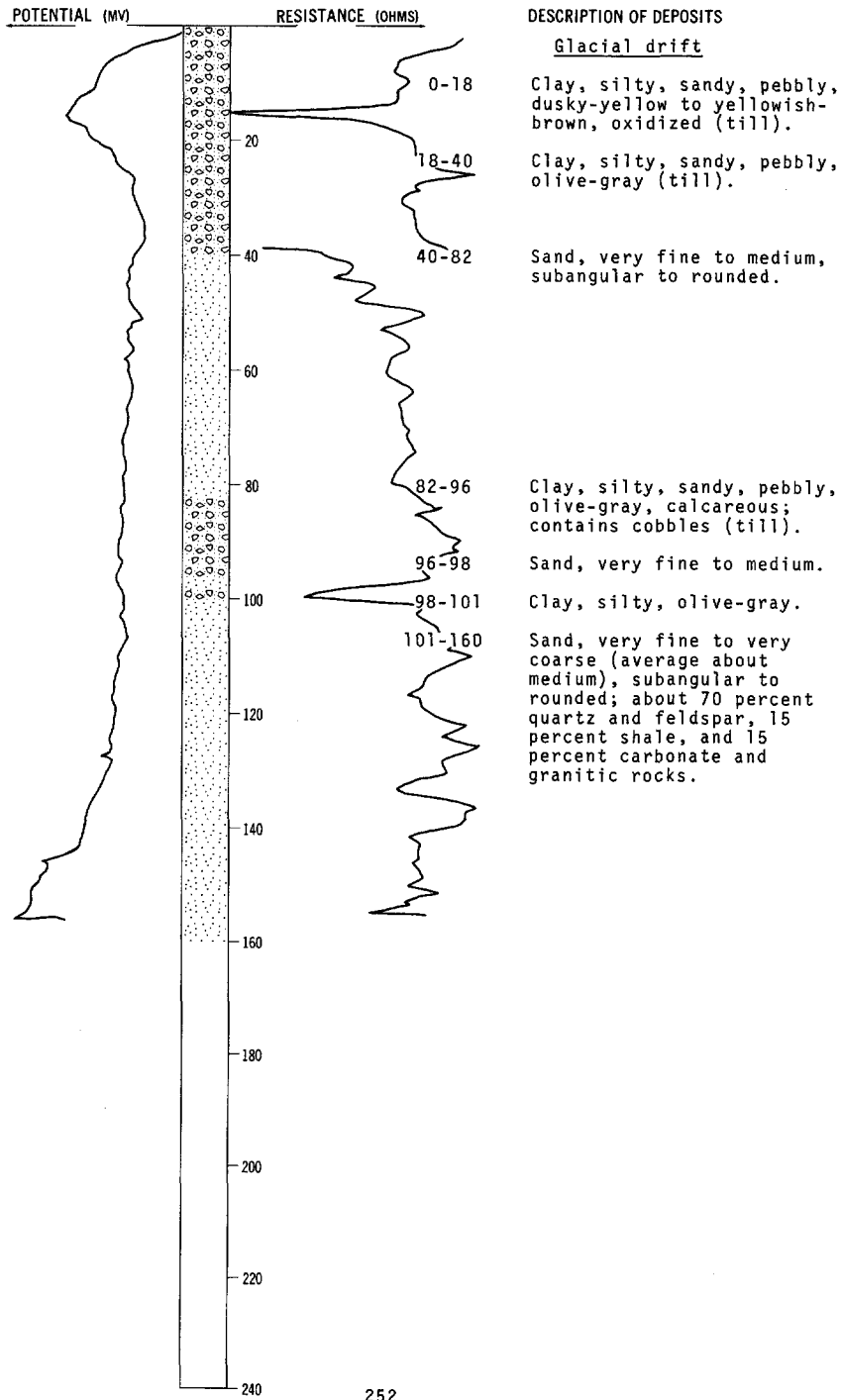


LOCATION: 145-61-04DAD

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 160  
(FT)



145-61-04DDD1  
(Log from Great Northern Railway Co.)

Altitude: 1471 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay and boulders-----	12	12
	Boulders-----	2	14
	Sand and gravel, saturated-----	3	17
	Clay and sand-----	22	39
	Clay, silty, sandy, pebbly (till)-----	40	79
	Sand-----	8	87
	Clay-----	3	90

145-61-04DDD2  
(Log from Great Northern Railway Co.)

Altitude: 1471 feet

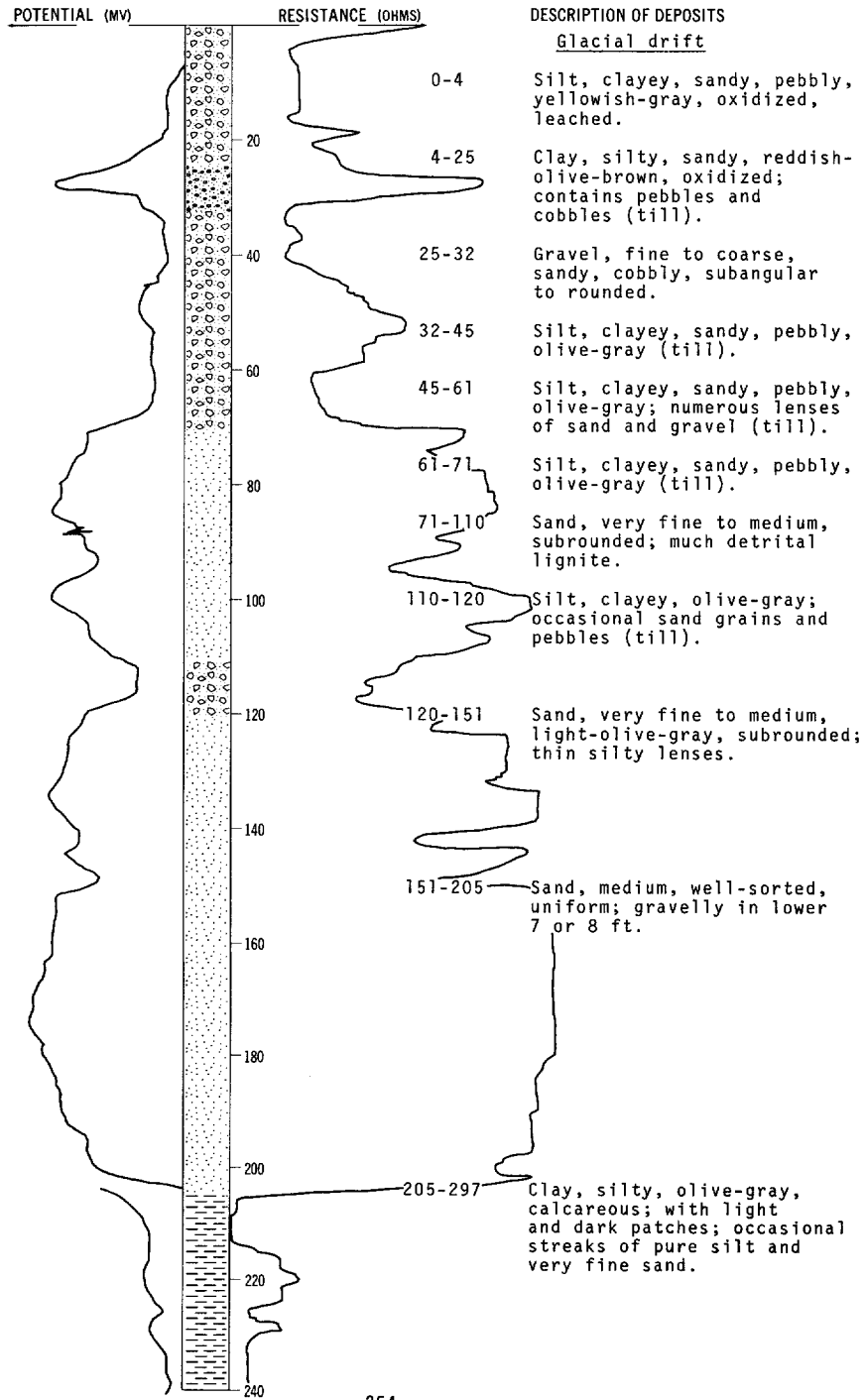
Glacial drift:			
	Clay, sandy-----	12	12
	Sand, gravelly-----	36	48
	Gravel, clayey, sandy-----	17	65
	Clay, silty-----	15	80
	Sand-----	17	97
	Clay, silty-----	23	120
	Clay-----	20	140
	Sand, gravelly-----	13	153

LOCATION: 145-61-07AAA

DATE DRILLED: August 1971

ALTITUDE: 1485  
(FT, MSL)

DEPTH: 380  
(FT)



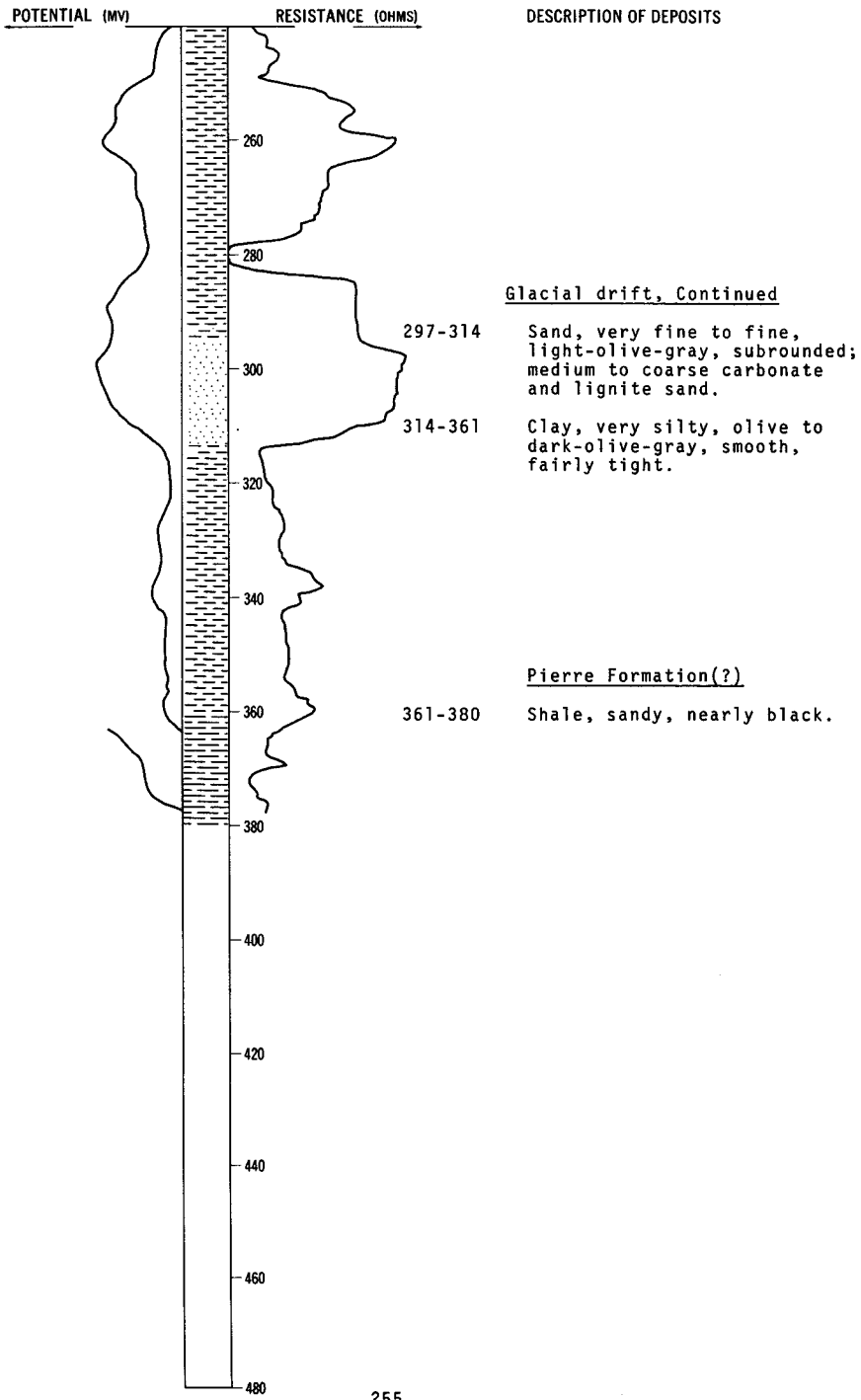
NDSWC 4314, Continued

LOCATION: 145-61-07AAA

DATE DRILLED: August 1971

ALTITUDE: 1485  
(FT, MSL)

DEPTH: 380  
(FT)

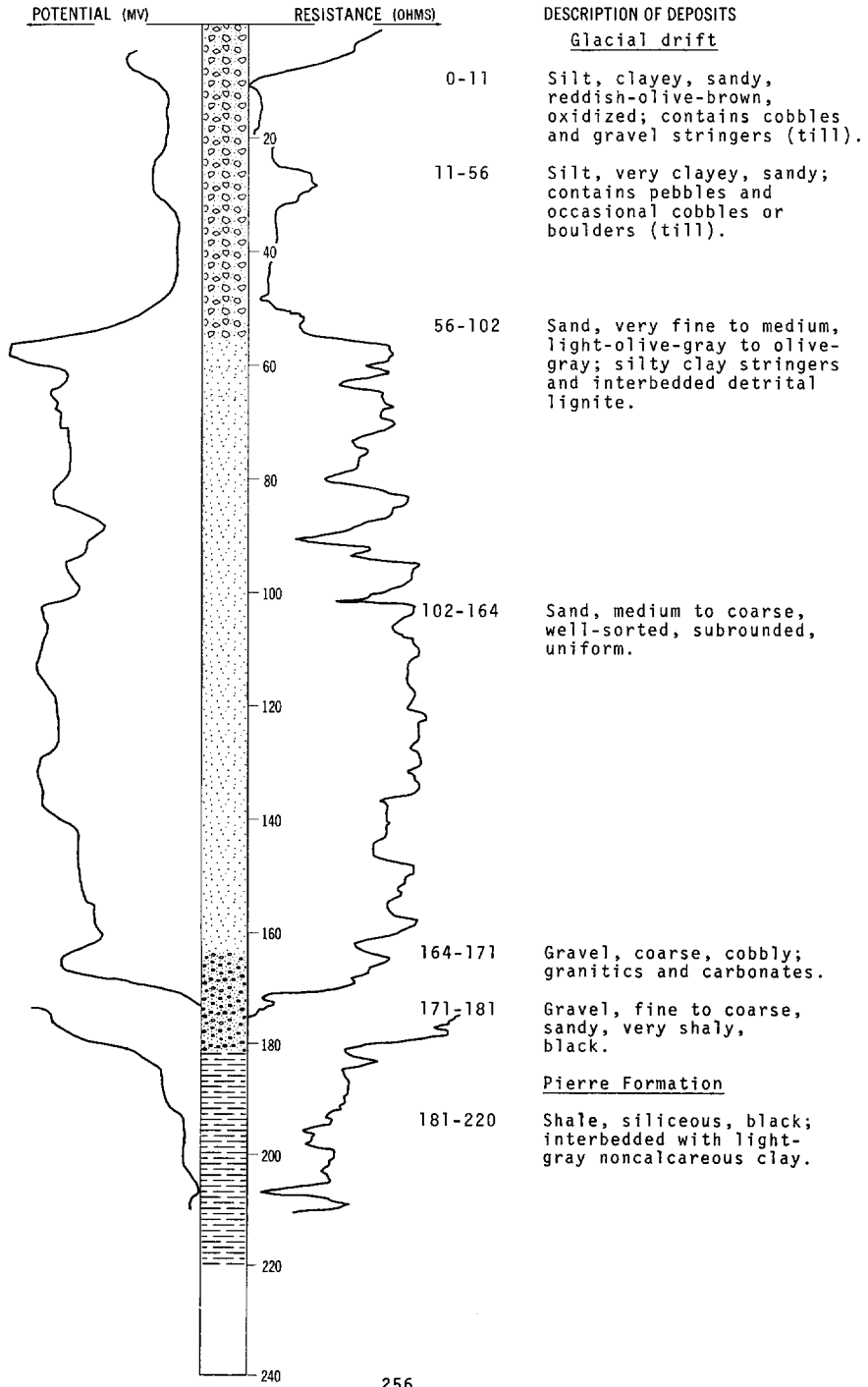


LOCATION: 145-61-08CCC

DATE DRILLED: August 1971

ALTITUDE: 1475  
(FT, MSL)

DEPTH: 220  
(FT)

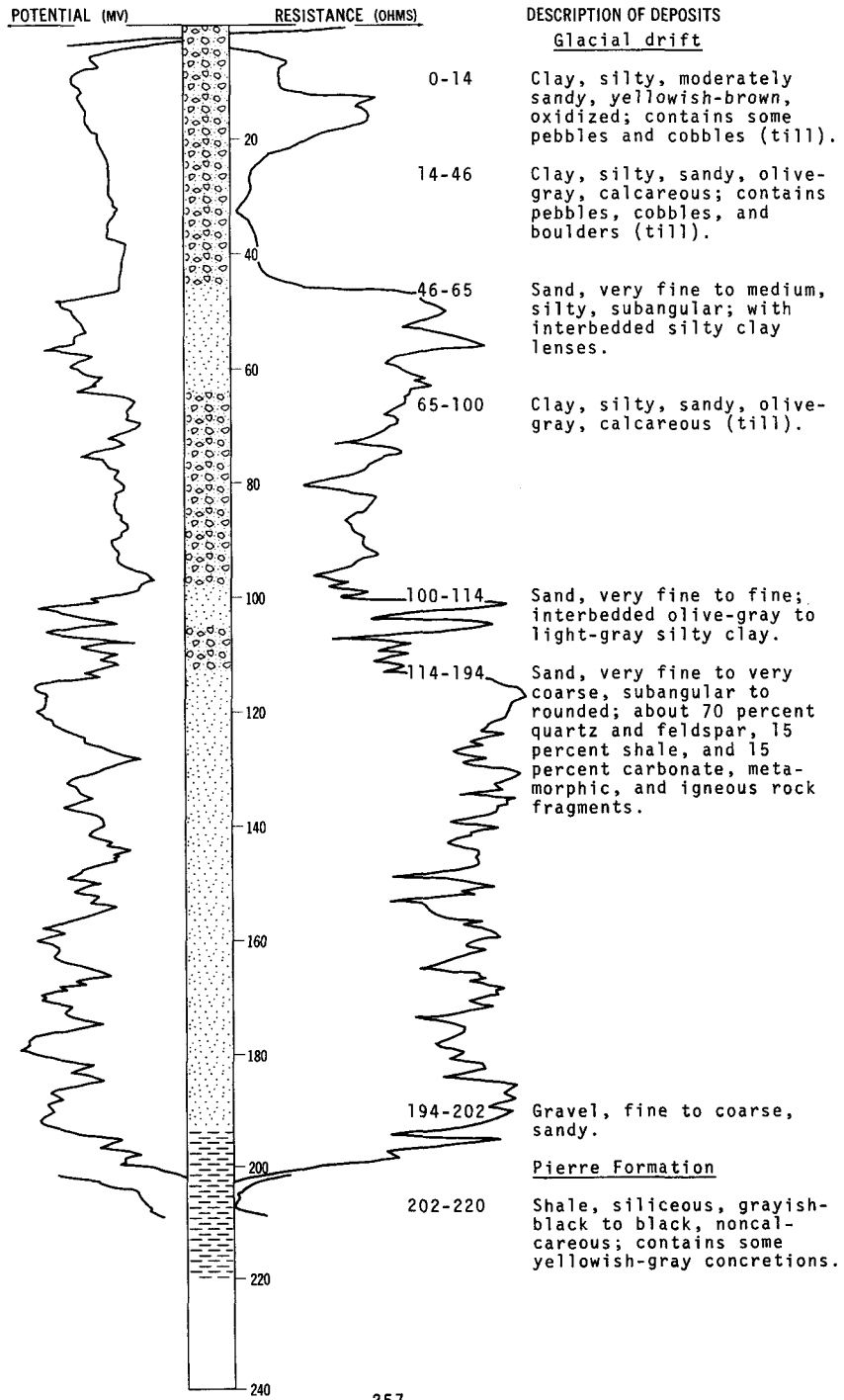


LOCATION: 145-61-10CCC

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 220  
(FT)

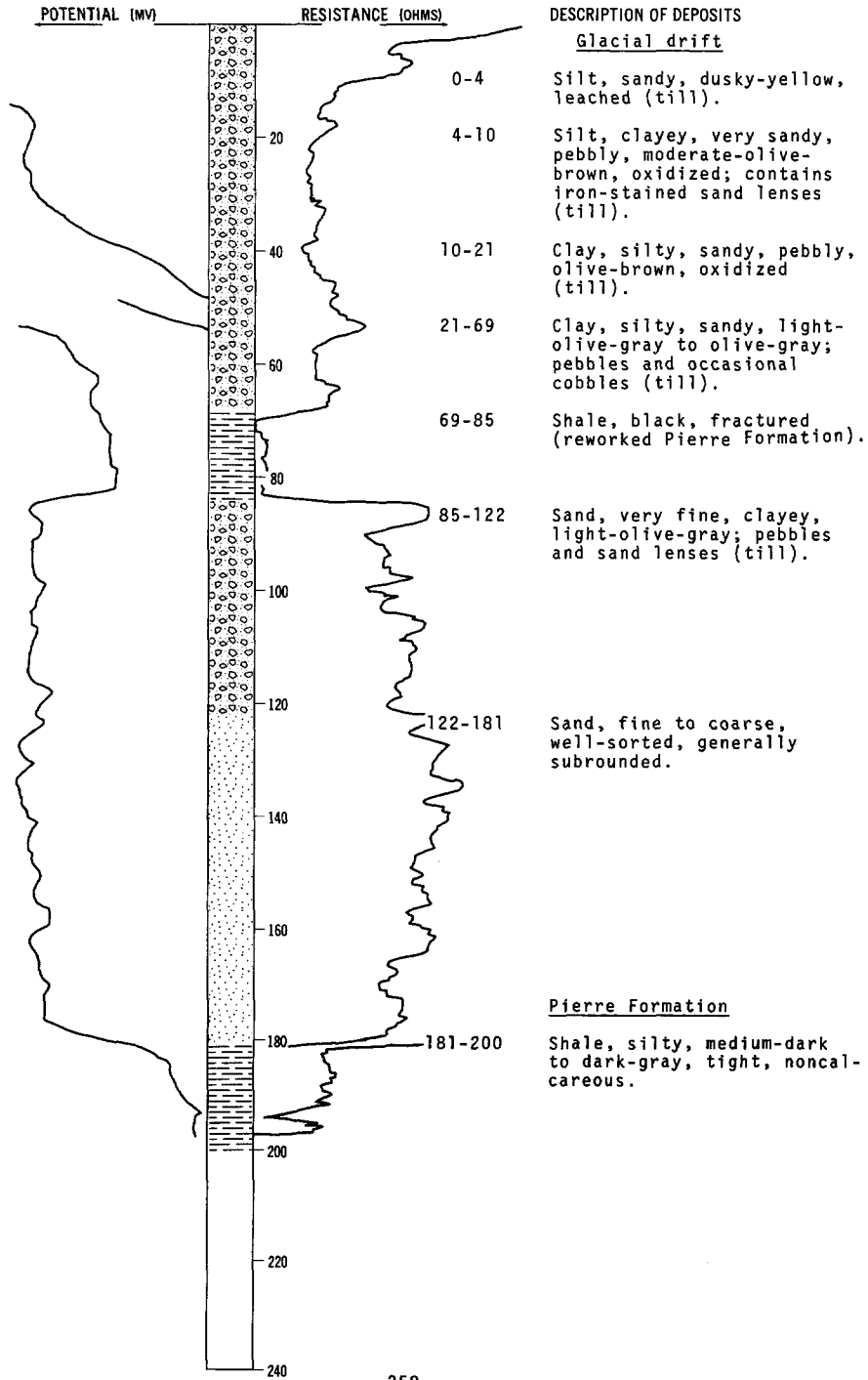


LOCATION: 145-61-11DDD

DATE DRILLED: August 1971

ALTITUDE: 1463  
(FT, MSL)

DEPTH: 200  
(FT)



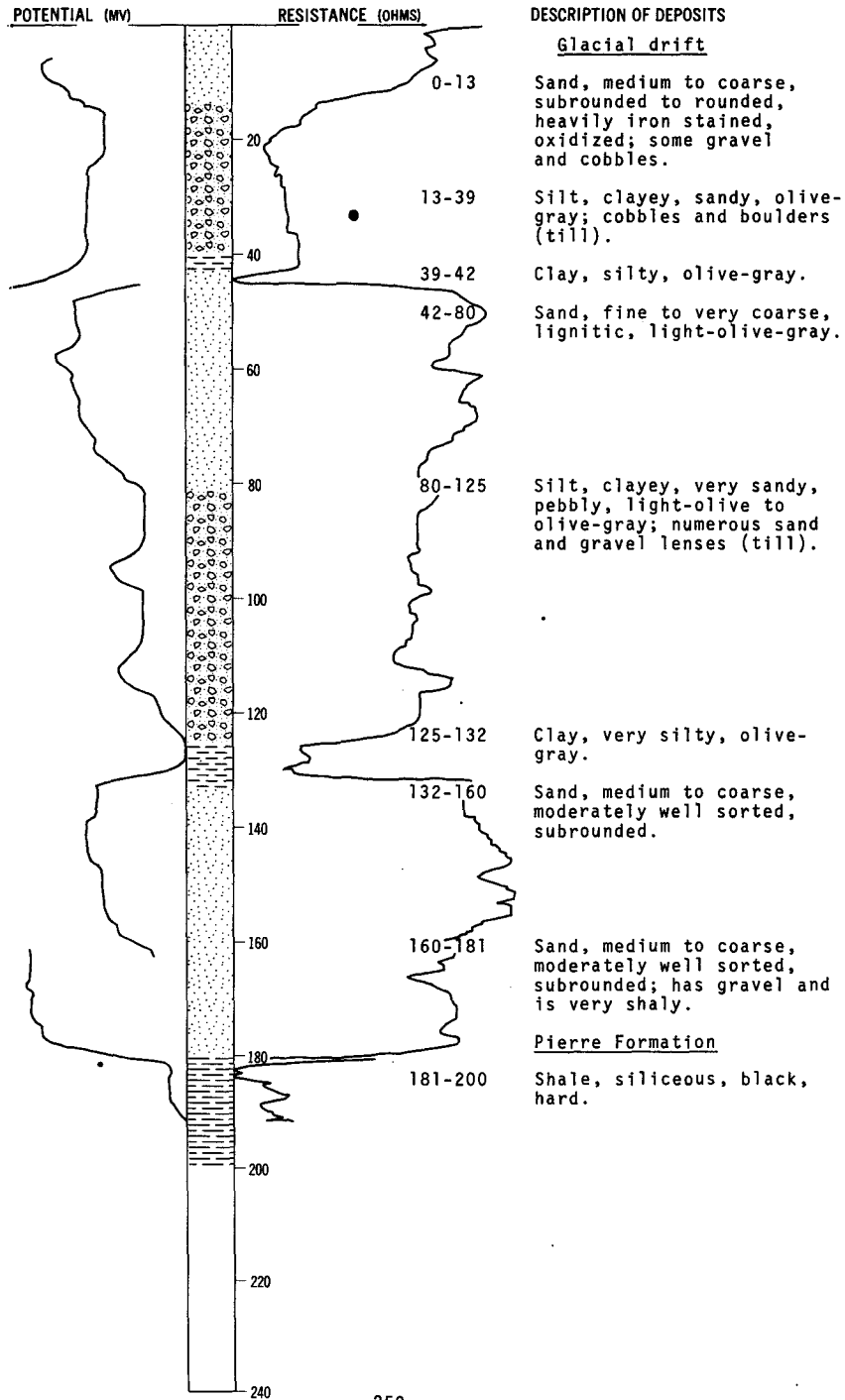


LOCATION: 145-61-16DDD

DATE DRILLED: August 1971

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 200  
(FT)

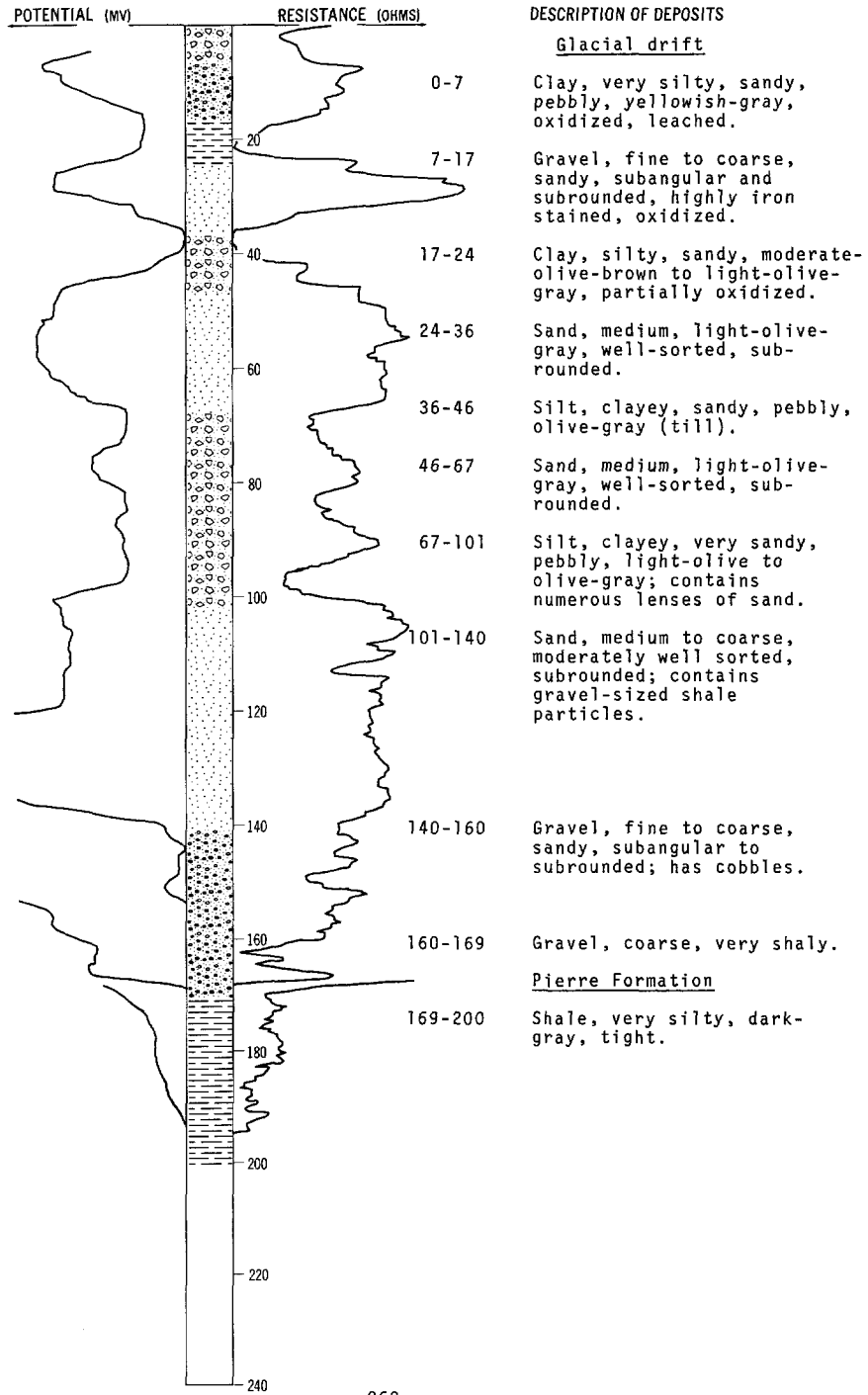


LOCATION: 145-61-20BBB

DATE DRILLED: August 1971

ALTITUDE: 1484  
(FT, MSL)

DEPTH: 200  
(FT)

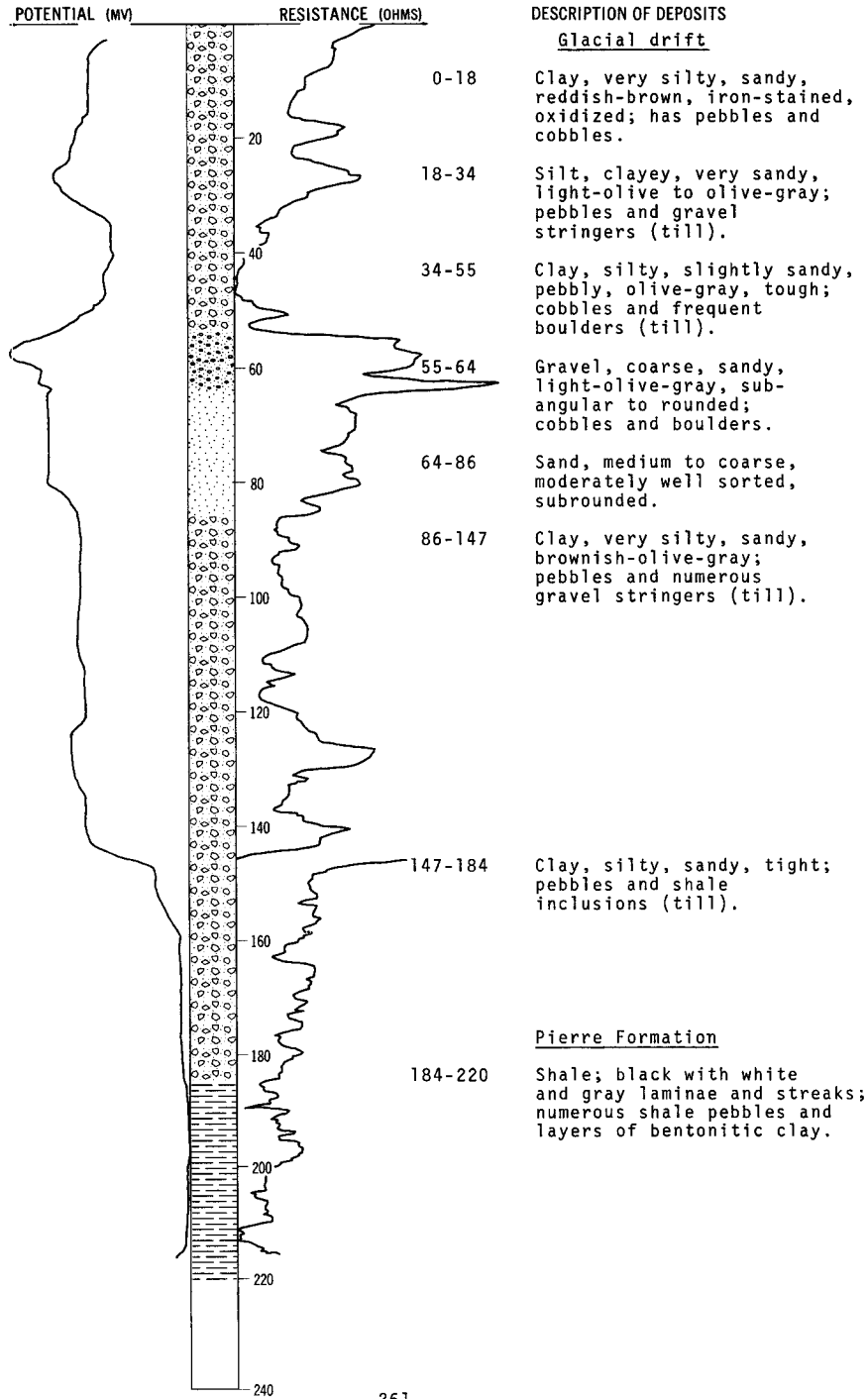


LOCATION: 145-61-20CCC

DATE DRILLED: August 1971

ALTITUDE: 1490  
(FT, MSL)

DEPTH: 220  
(FT)

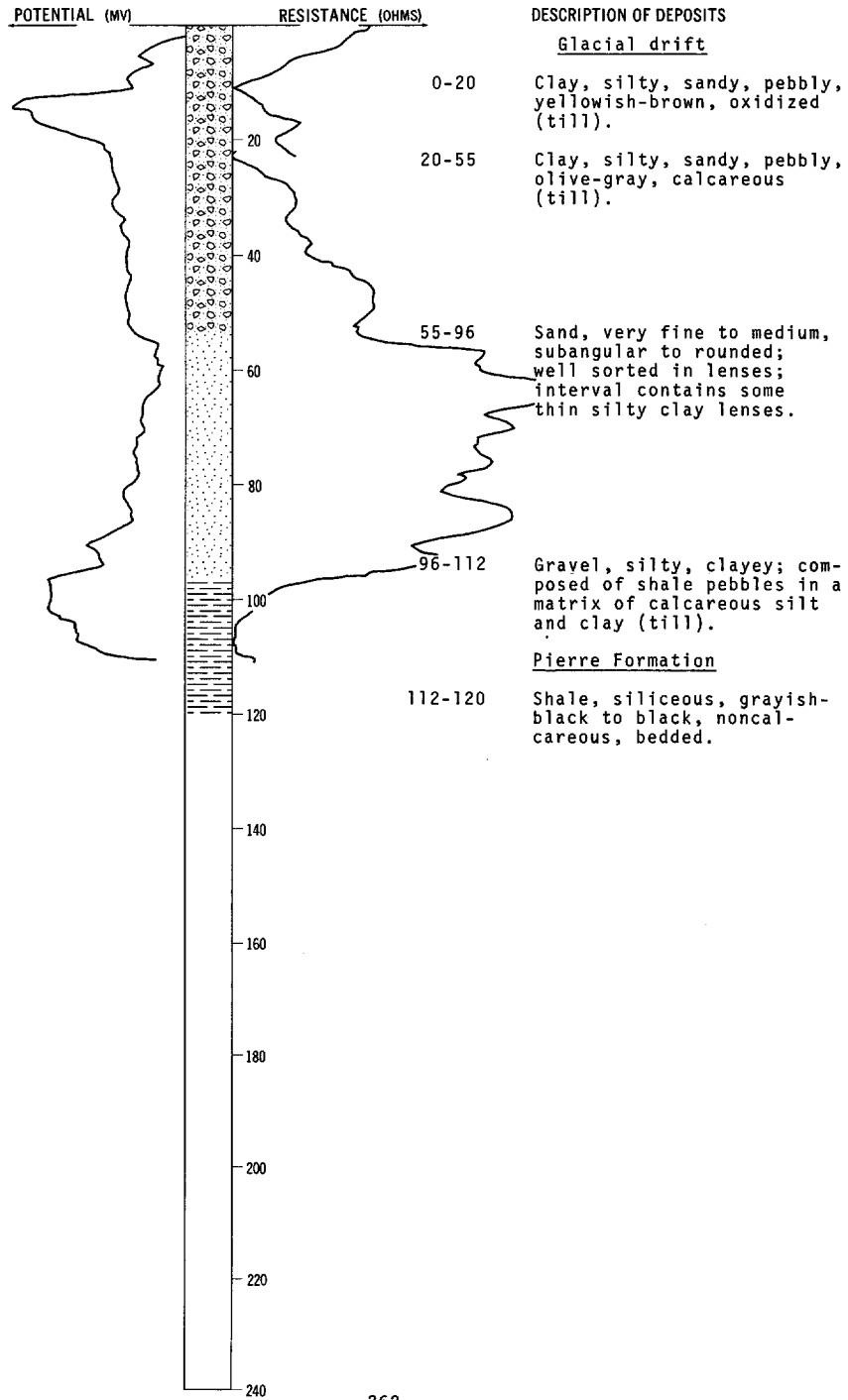


LOCATION: 145-61-28AAA

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 120  
(FT)

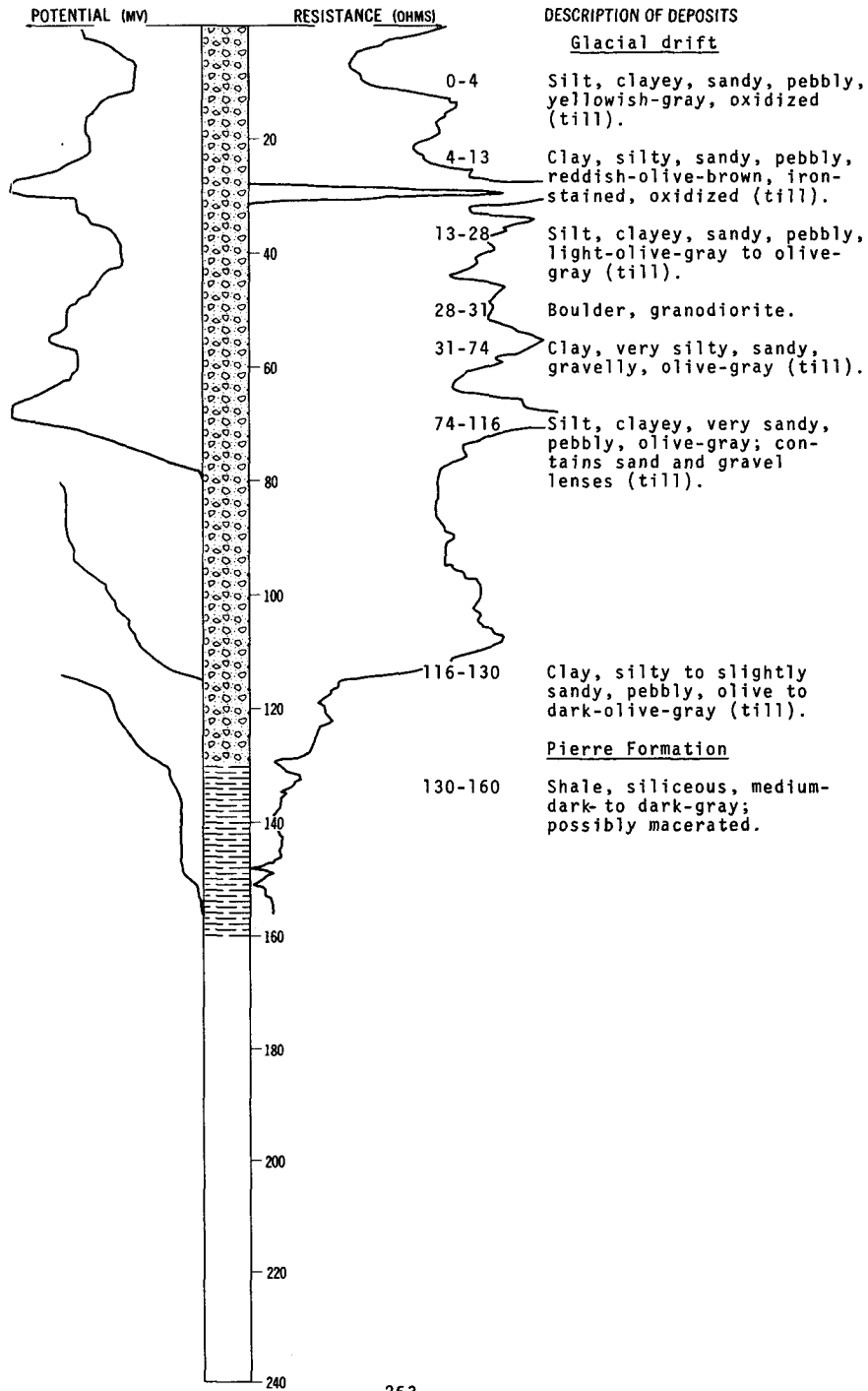


LOCATION: 145-61-32BBB

DATE DRILLED: August 1971

ALTITUDE: 1485  
(FT, MSL)

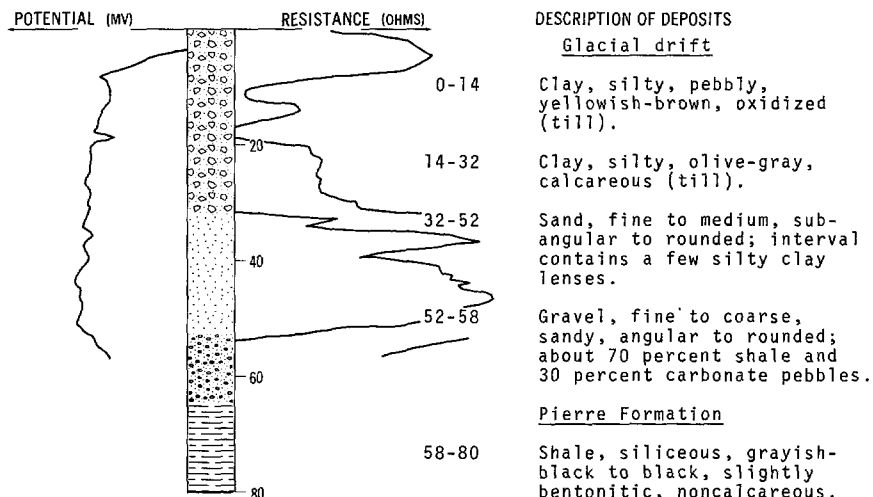
DEPTH: 160  
(FT)



NDSWC 5893

LOCATION: 145-61-34CBB  
 ALTITUDE: 1480  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 80  
 (FT)



145-61-34DDD  
 (Log from Russell Drilling Co.)

Altitude: 1465 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, yellowish-brown (till)-----	15	15
	Clay, silty, sandy, pebbly, olive-gray (till)-----	15	30
	Clay, silty, medium- to dark-gray; very rocky-----	48	78
	Gravel, medium to coarse, sandy, angular to rounded-----	42	120

146-54-01DCC  
 USGS 37

Altitude: 1062 feet

Glacial drift:			
	Loam, black; yellow clay-----	7	7
	Sand, medium; interbedded with blue clay-----	5	12
	Clay, blue; interbedded with thin layers of medium sand-----	5	17
	Clay, blue-----	5	22

146-54-01DDD  
USGS 36

Altitude: 1068 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, fine, brown-----	2	2
	Sand, fine, brown; yellow clay-----	5	7
	Clay, silty, sandy, yellow-----	5	12
	Clay, yellow and blue-----	5	17
	Clay, blue-----	10	27

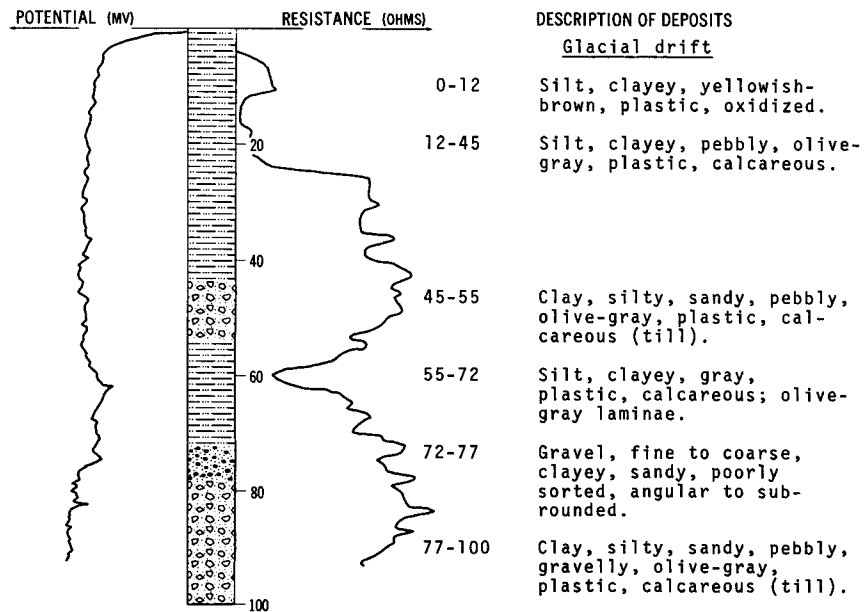
NDSWC 8369

LOCATION: 146-54-05AAA

DATE DRILLED: June 1972

ALTITUDE: 1088  
(FT, MSL)

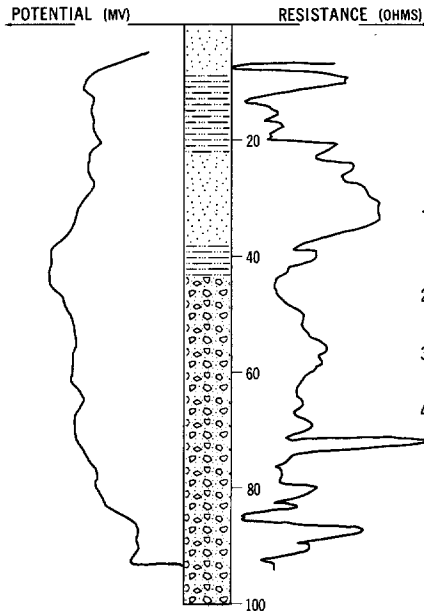
DEPTH: 100  
(FT)



NDSWC 8370

LOCATION: 146-54-05BCC  
 ALTITUDE: 1097  
 (FT, MSL)

DATE DRILLED: June 1972  
 DEPTH: 100  
 (FT)



DESCRIPTION OF DEPOSITS

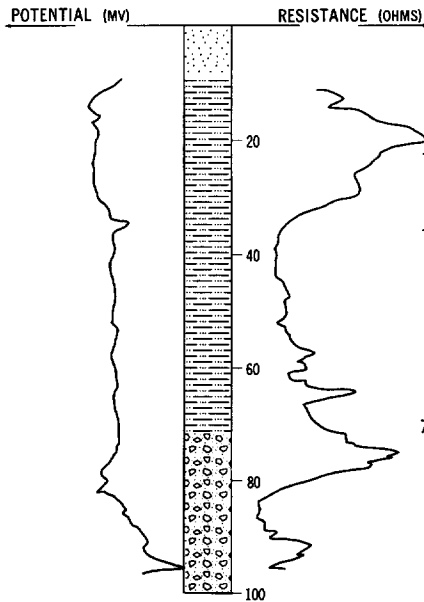
Glacial drift

- 0-8 Sand, fine to coarse, well-sorted, subangular to subrounded, oxidized.
- 8-14 Silt, clayey, yellowish-brown, plastic, oxidized.
- 14-22 Silt, clayey, pebbly, olive-gray, plastic, calcareous; gray mottling.
- 22-37 Sand, fine, shaly, lignitic, well-sorted, subrounded.
- 37-44 Silt, clayey, sandy, olive-gray, plastic.
- 44-100 Clay, silty, sandy, pebbly, gravelly, olive-gray, plastic, calcareous; some cobbles and boulders (till).

NDSWC 8371

LOCATION: 146-54-06BBB  
 ALTITUDE: 1100  
 (FT, MSL)

DATE DRILLED: June 1972  
 DEPTH: 100  
 (FT)



DESCRIPTION OF DEPOSITS

Glacial drift

- 0-10 Sand, fine to medium, clayey, subangular to rounded, oxidized.
- 10-14 Silt, clayey, sandy, yellowish-brown, cohesive, oxidized.
- 14-72 Silt, clayey, sandy, pebbly; medium-gray with light-gray mottling.
- 72-100 Clay, silty, sandy, pebbly, olive-gray, plastic, calcareous; a few cobbles.



146-54-12888  
USGS 38

Altitude: 1080 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, brown to gray; interbedded with fine sand-----	27	27
	Sand, very fine, brown-----	5	32
	Sand, very fine, lignitic-----	5	37
	Sand, very fine, gray-----	10	47
	Clay, blue-----	15	62

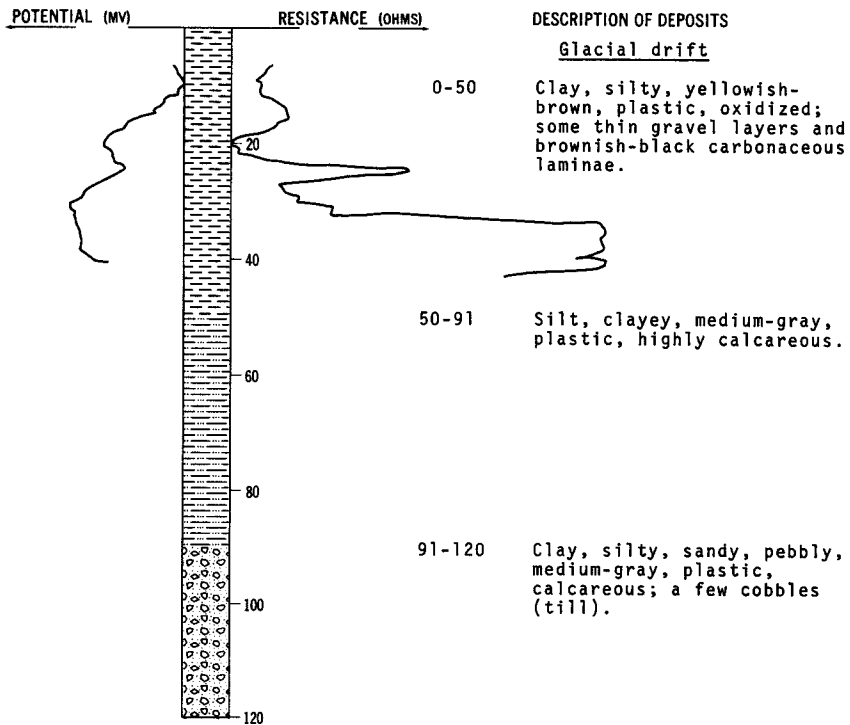
NDSWC 8408

LOCATION: 146-54-13ABB

DATE DRILLED: July 1972

ALTITUDE: 1072  
(FT, MSL)

DEPTH: 120  
(FT)

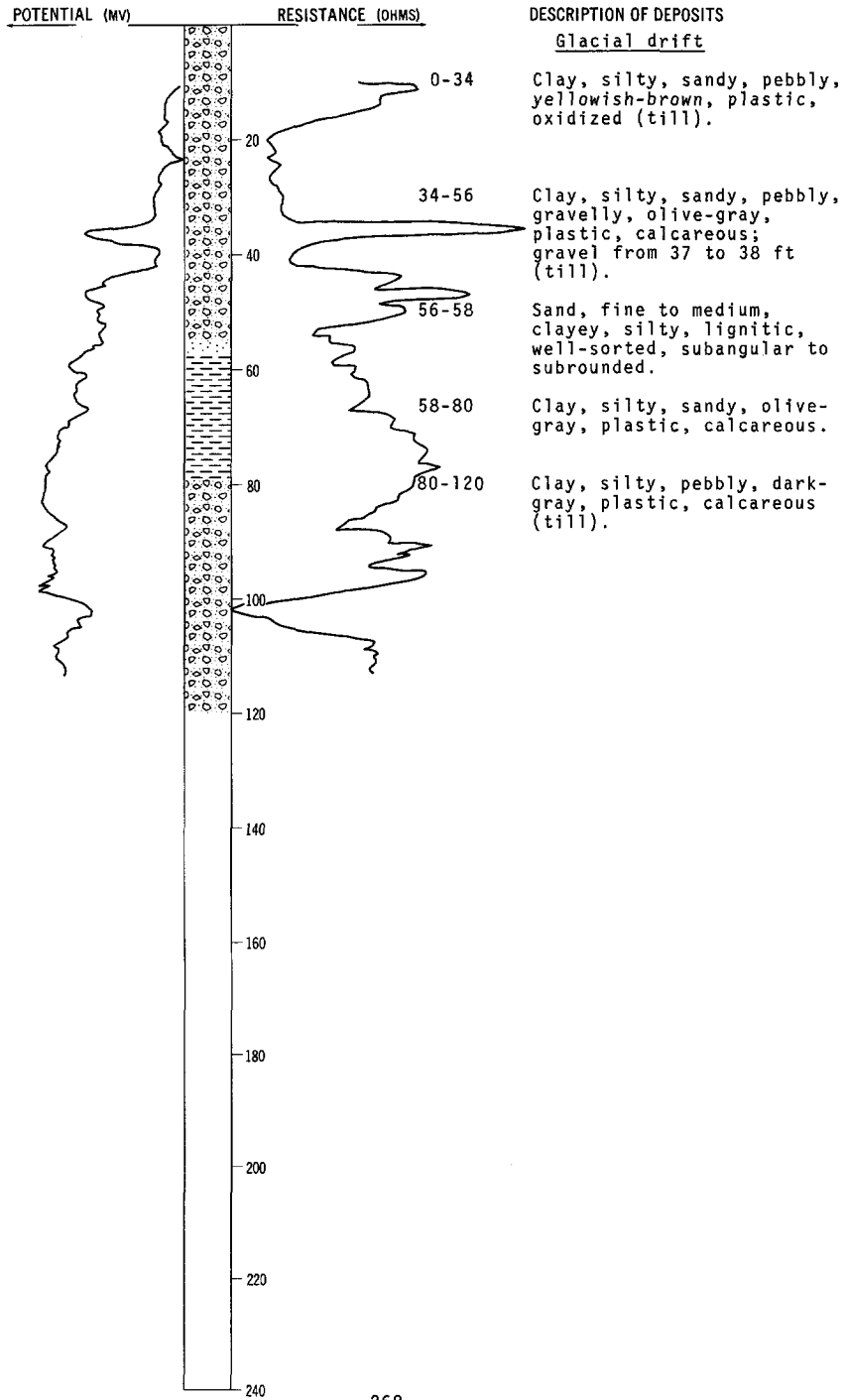


LOCATION: 146-54-13DCD

DATE DRILLED: July 1972

ALTITUDE: 1075  
(FT, MSL)

DEPTH: 120  
(FT)

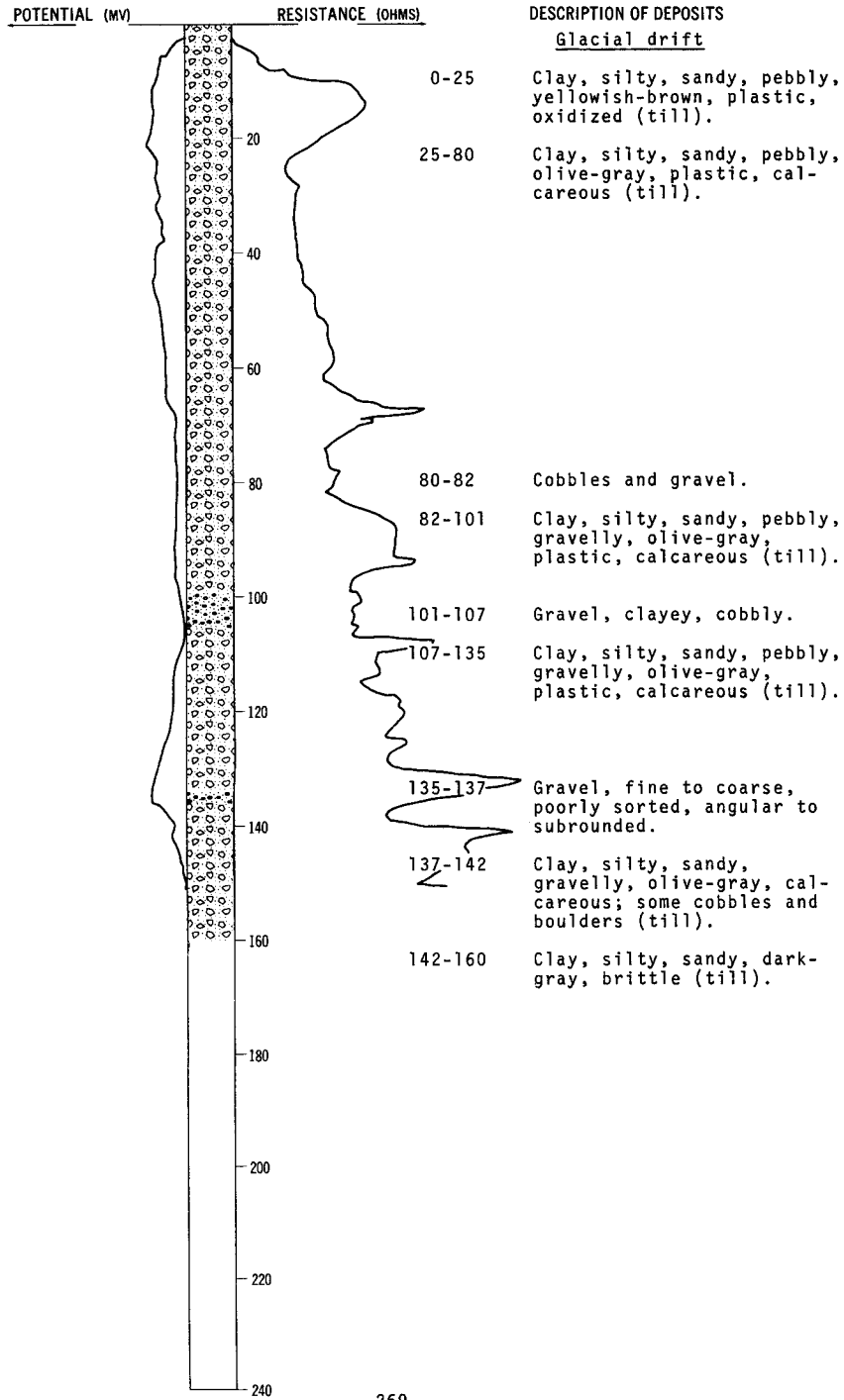


LOCATION: 146-54-14DDD

DATE DRILLED: July 1972

ALTITUDE: 1080  
(FT, MSL)

DEPTH: 160  
(FT)

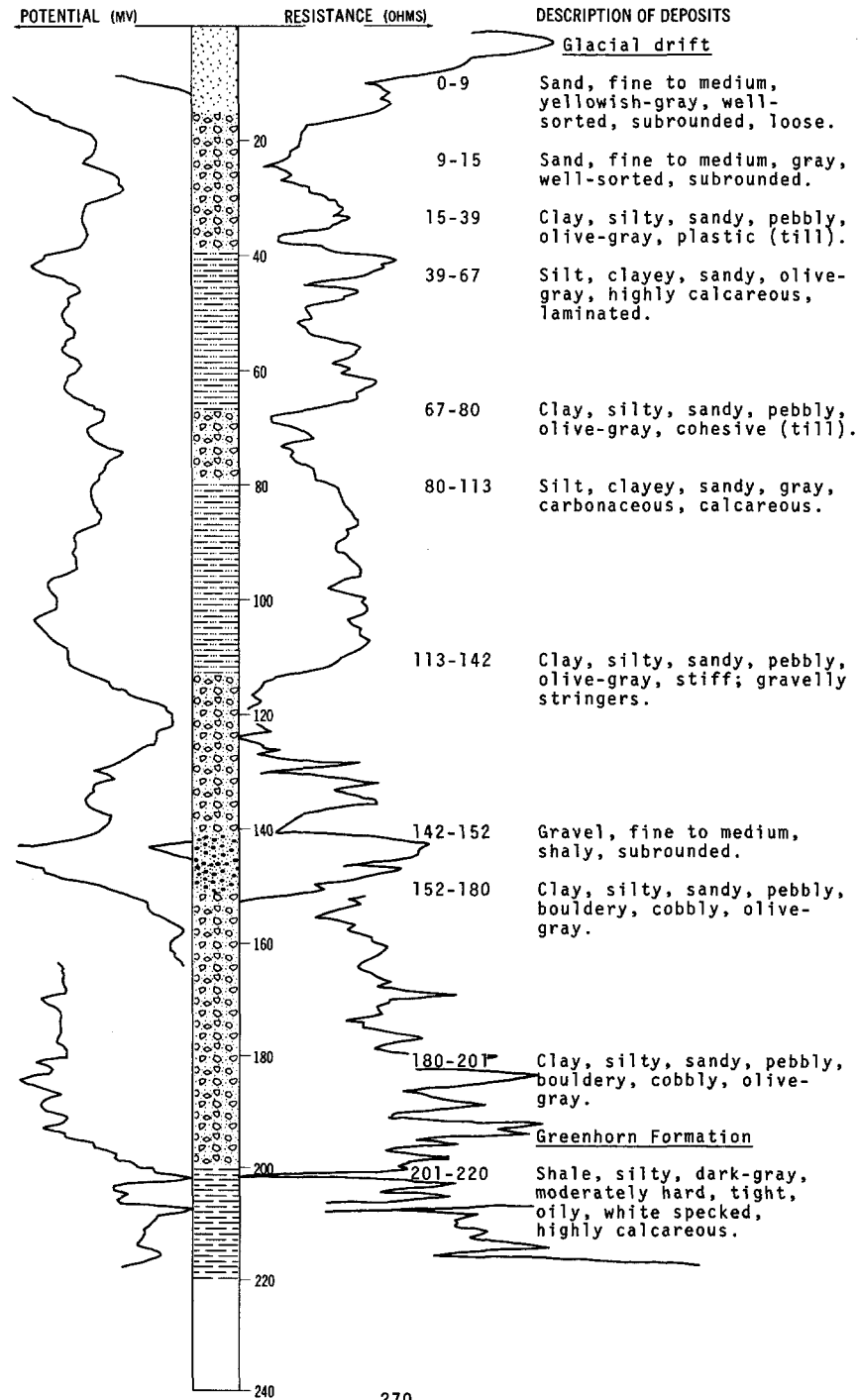


LOCATION: 146-54-15AAA

DATE DRILLED: February 1970

ALTITUDE: 1095  
(FT, MSL)

DEPTH: 220  
(FT)

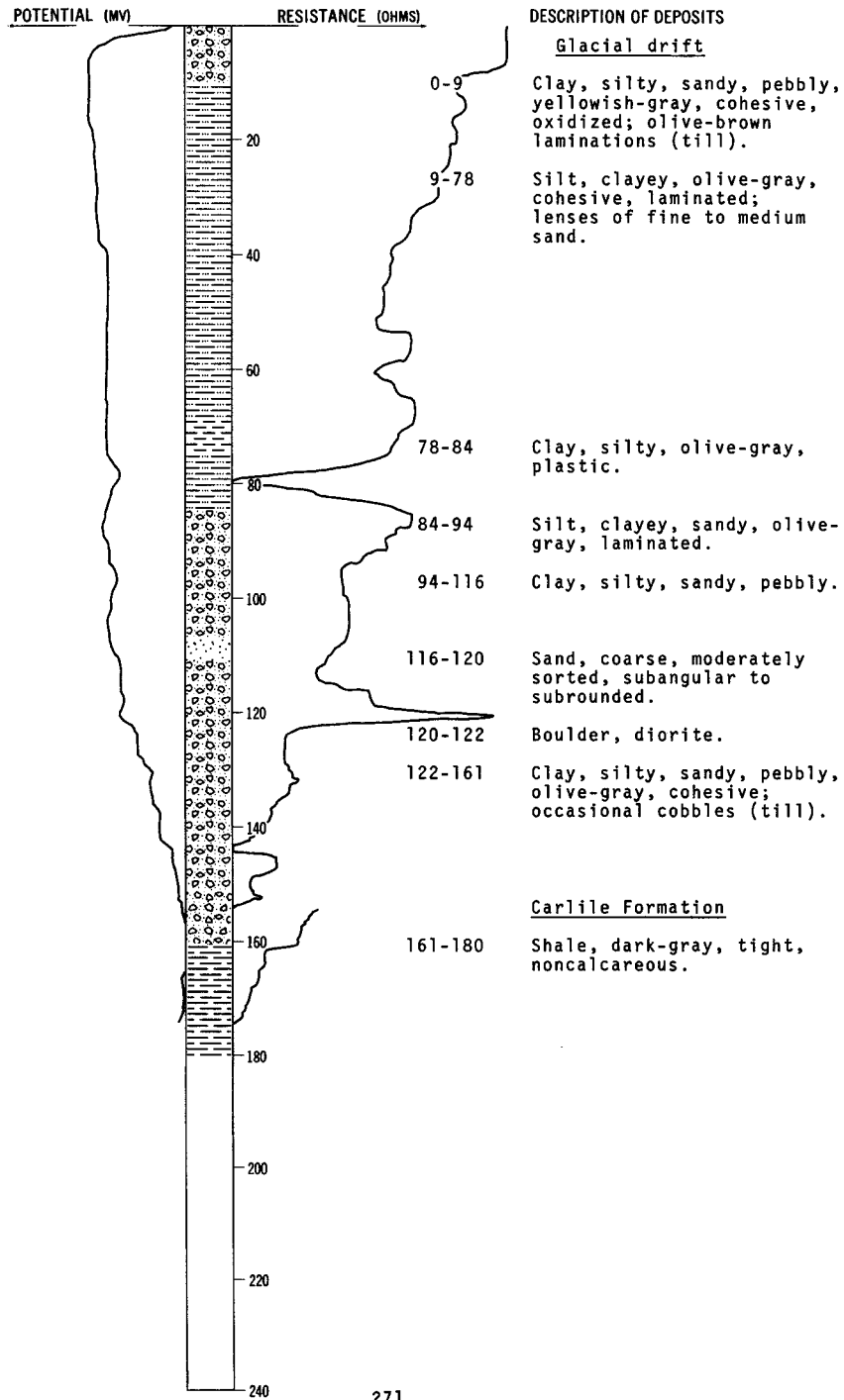


LOCATION: 146-54-19DDD

DATE DRILLED: October 1970

ALTITUDE: 1105  
(FT, MSL)

DEPTH: 180  
(FT)

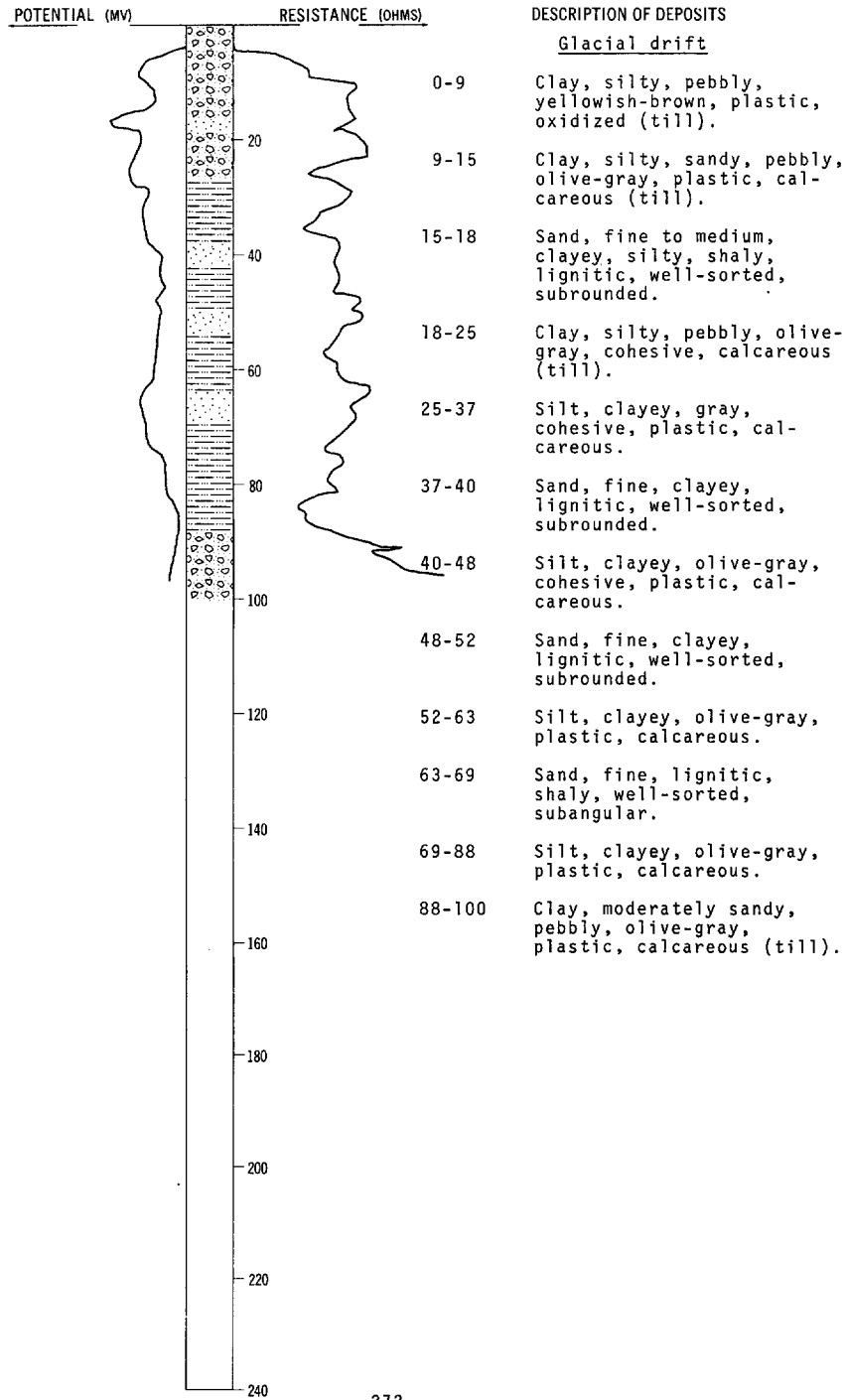


LOCATION: 146-54-25AAD

DATE DRILLED: July 1972

ALTITUDE: 1082  
(FT, MSL)

DEPTH: 100  
(FT)

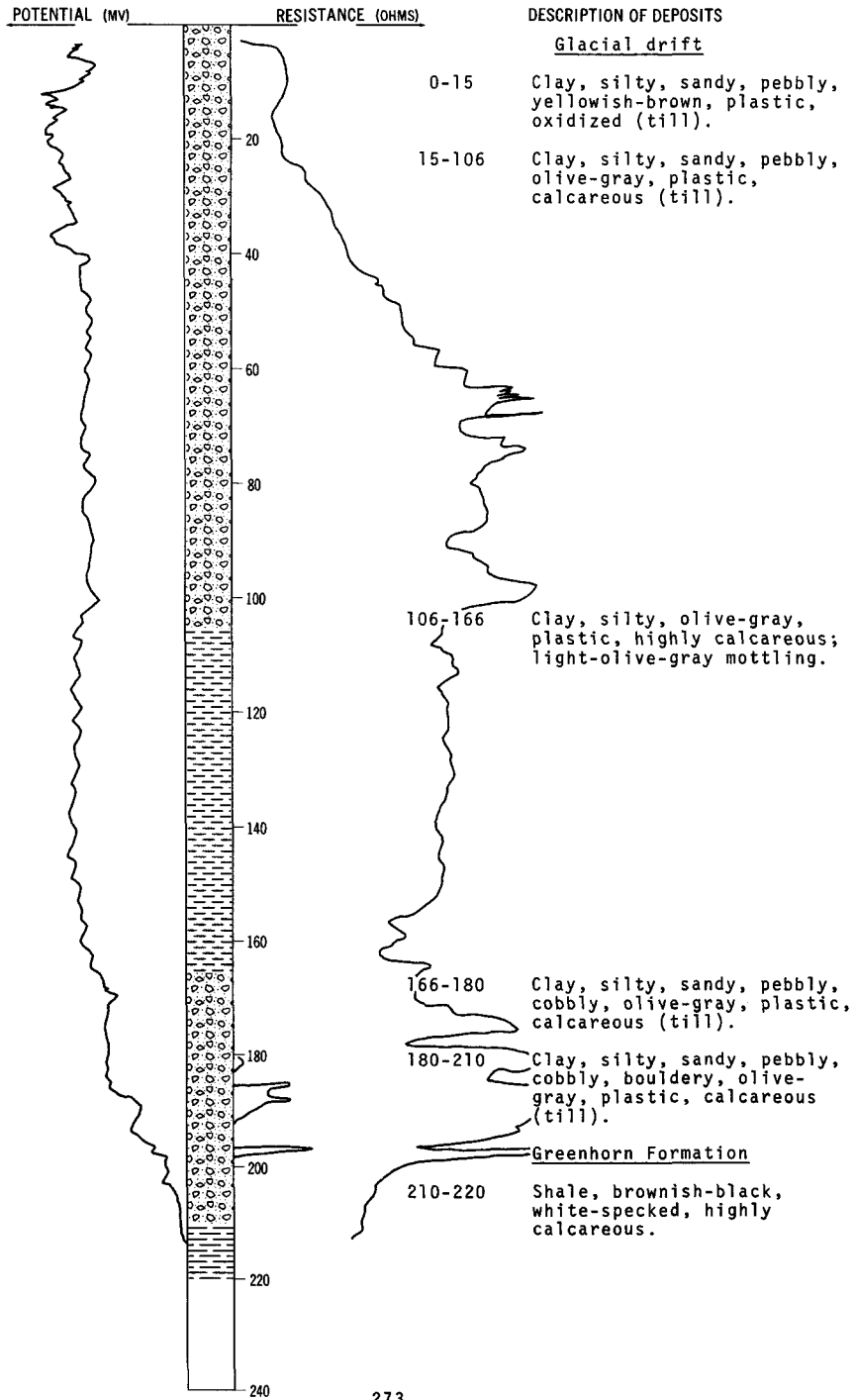


LOCATION: 146-54-27DDD

DATE DRILLED: June 1972

ALTITUDE: 1095  
(FT, MSL)

DEPTH: 220  
(FT)

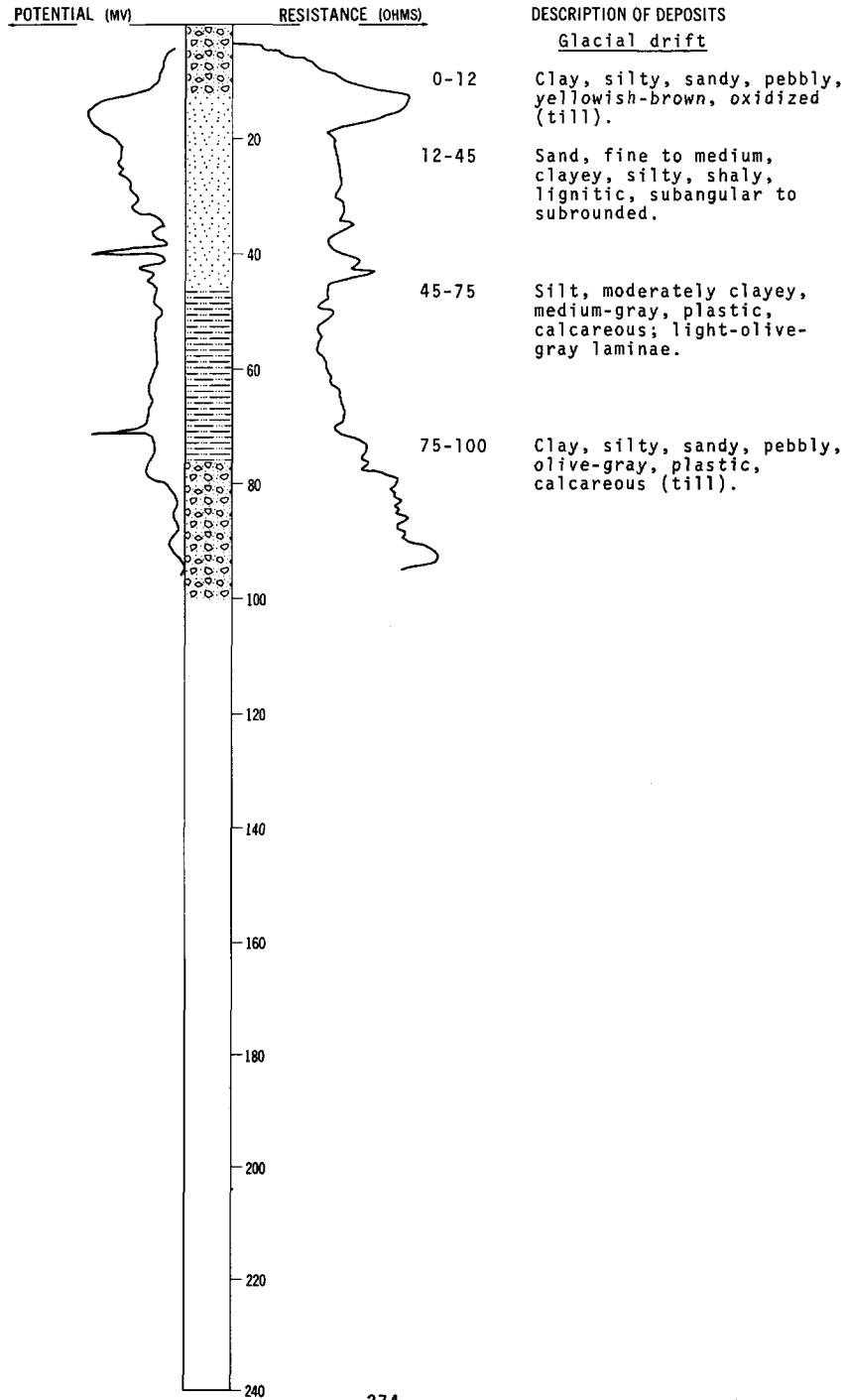


LOCATION: 146-54-32DDD

DATE DRILLED: June 1972

ALTITUDE: 1103  
(FT, MSL)

DEPTH: 100  
(FT)



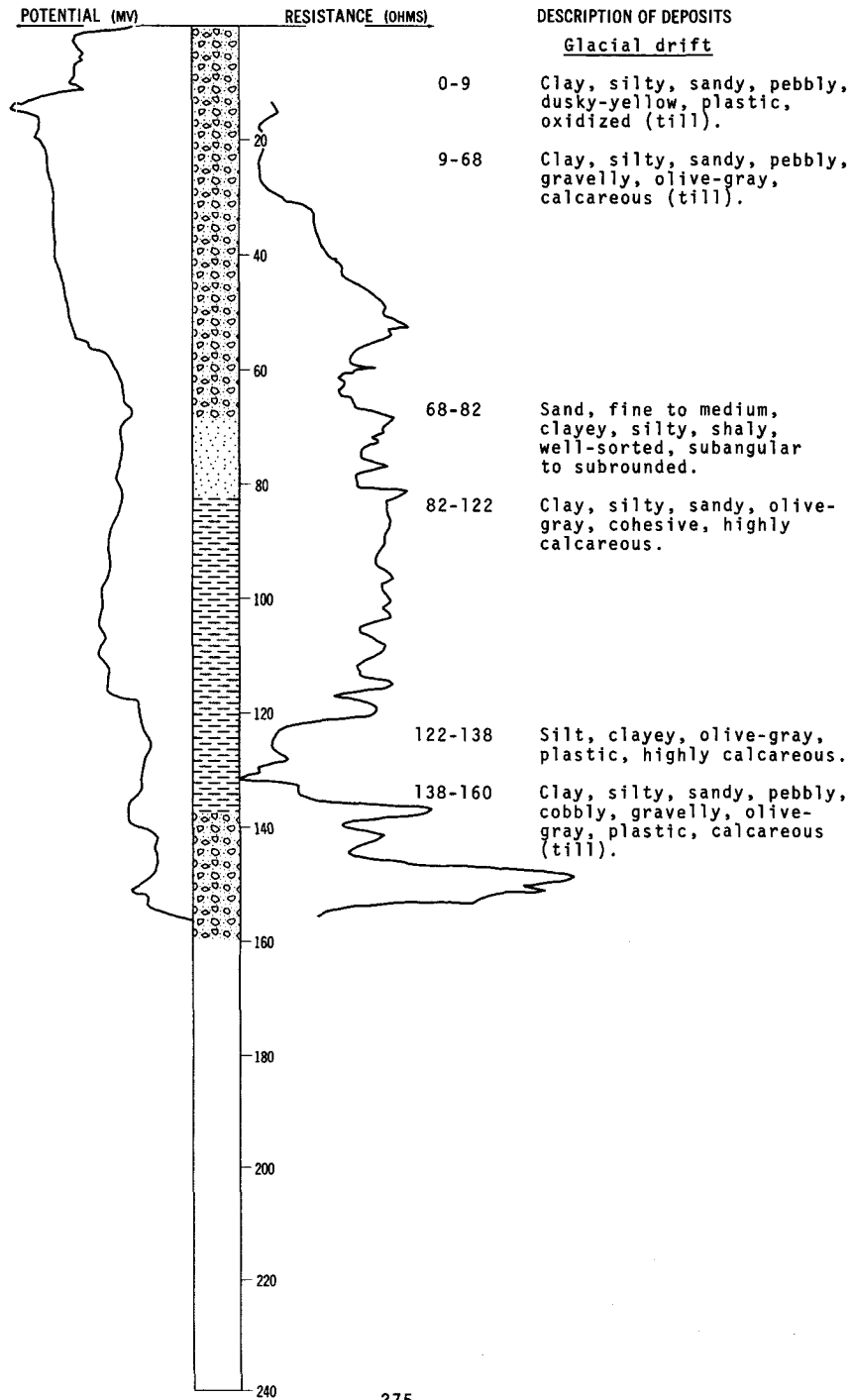


LOCATION: 146-54-34DDD

DATE DRILLED: June 1972

ALTITUDE: 1095  
(FT, MSL)

DEPTH: 160  
(FT)

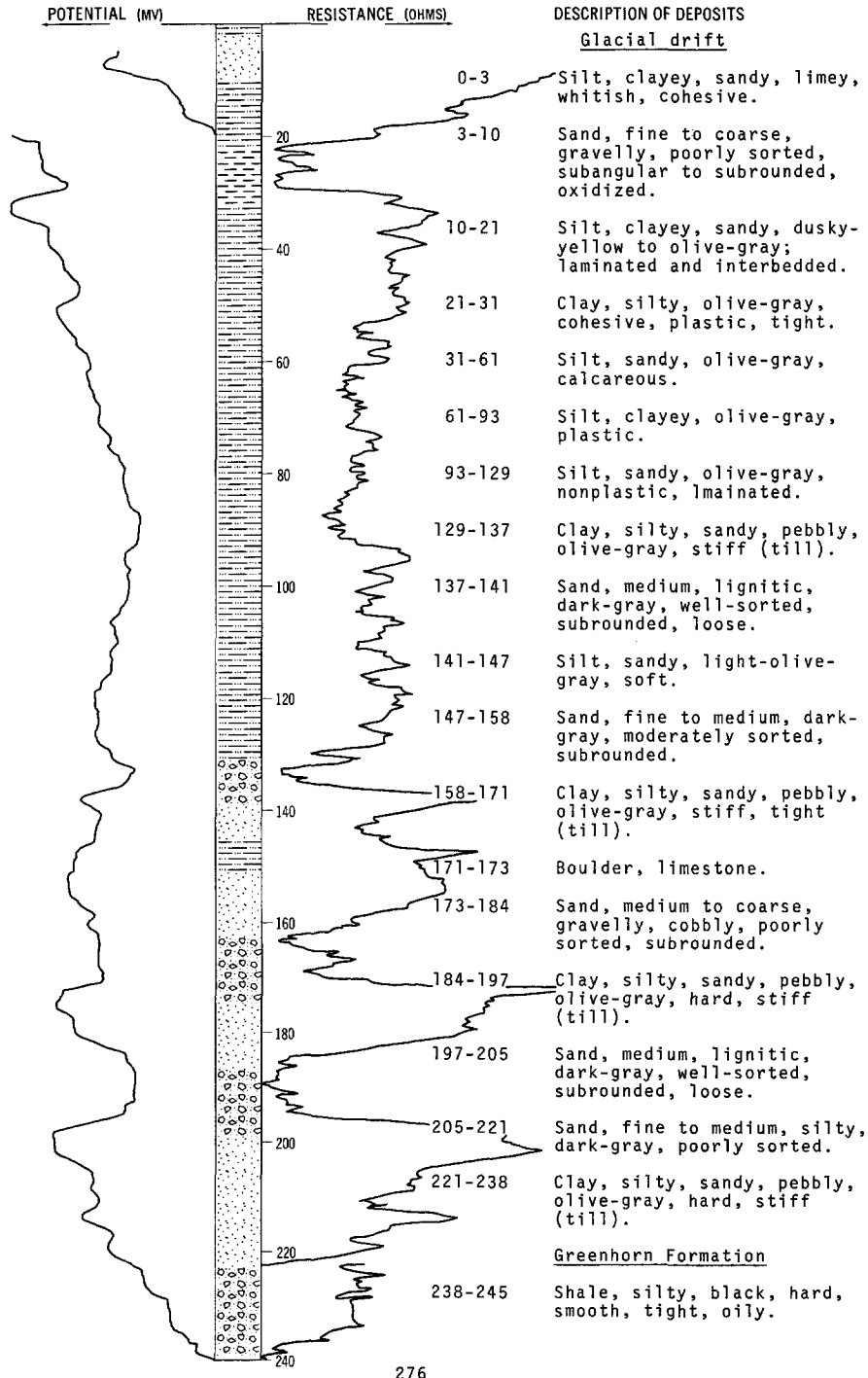


LOCATION: 146-54-35AAA

DATE DRILLED: November 1970

ALTITUDE: 1080  
(FT, MSL)

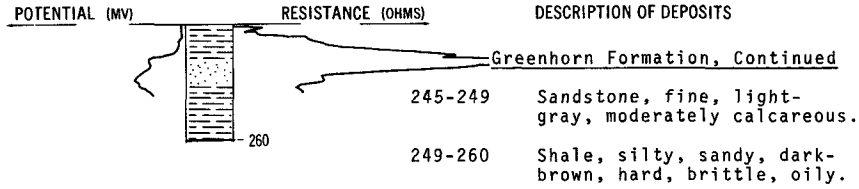
DEPTH: 260  
(FT)



NDSWC 4300, Continued

LOCATION: 146-54-35AAA  
 ALTITUDE: 1080  
 (FT, MSL)

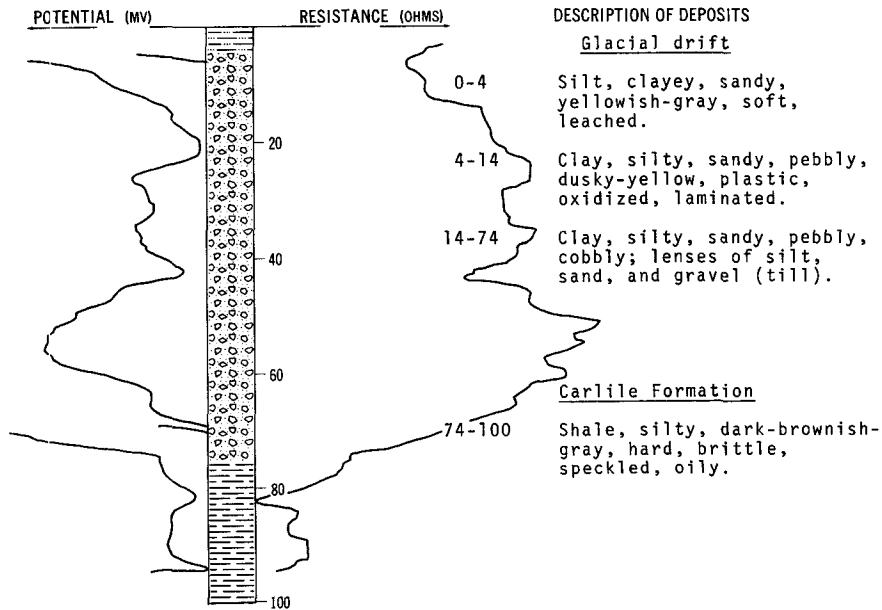
DATE DRILLED: November 1970  
 DEPTH: 260  
 (FT)



NDSWC 4288

LOCATION: 146-55-04CCC  
 ALTITUDE: 1210  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 100  
 (FT)



146-55-14AA  
(Log from I. J. Wilhite and Simcox Oil)

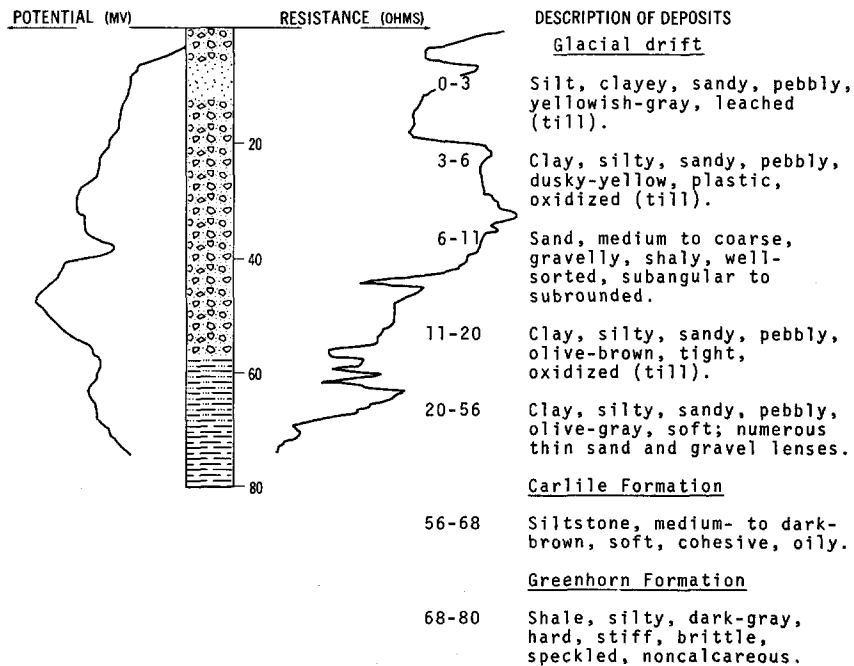
Altitude: 1125 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, silty, sandy, pebbly, brown to gray (till)-----	18	18
	Sand, fine, gray-----	18	36
	Clay, silty, sandy, pebbly, gray (till)-	62	98
Cretaceous, undifferentiated:			
	Shale, gray, silty, calcareous; with interbedded limestone from 101 to 103 ft-----	132	230
	Shale, gray, hard, sandy, carbonaceous; with tan calcareous specks and interbedded limestone-----	130	360
	Shale, gray, blacky, carbonaceous, slightly calcareous, pyritic; with interbedded sandstone from 450 to 465 ft-----	193	553

NDSWC 4291

LOCATION: 146-55-20DCC  
ALTITUDE: 1225  
(FT, MSL)

DATE DRILLED: October 1970  
DEPTH: 80  
(FT)

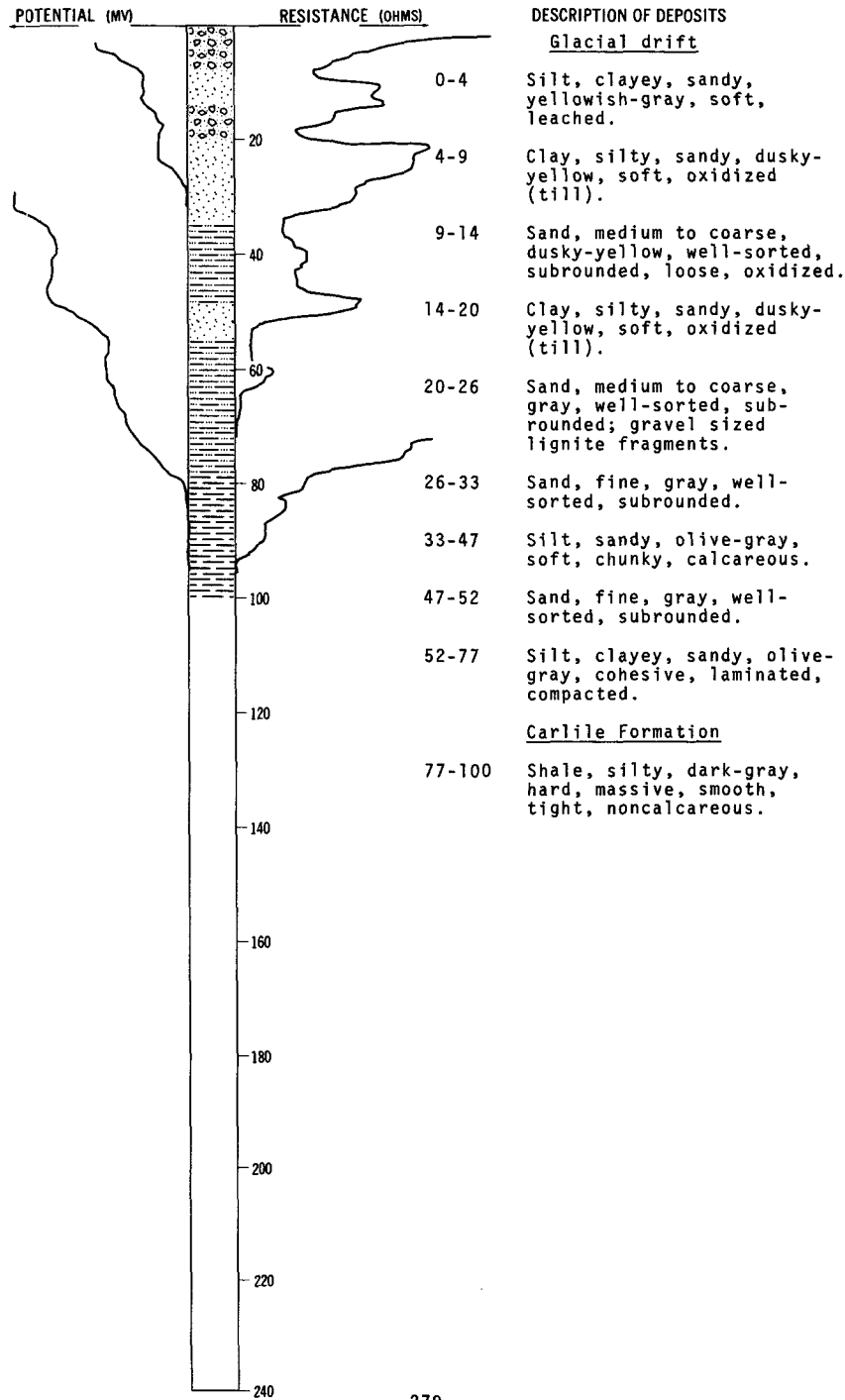


LOCATION: 146-55-23BBA

DATE DRILLED: October 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 100  
(FT)

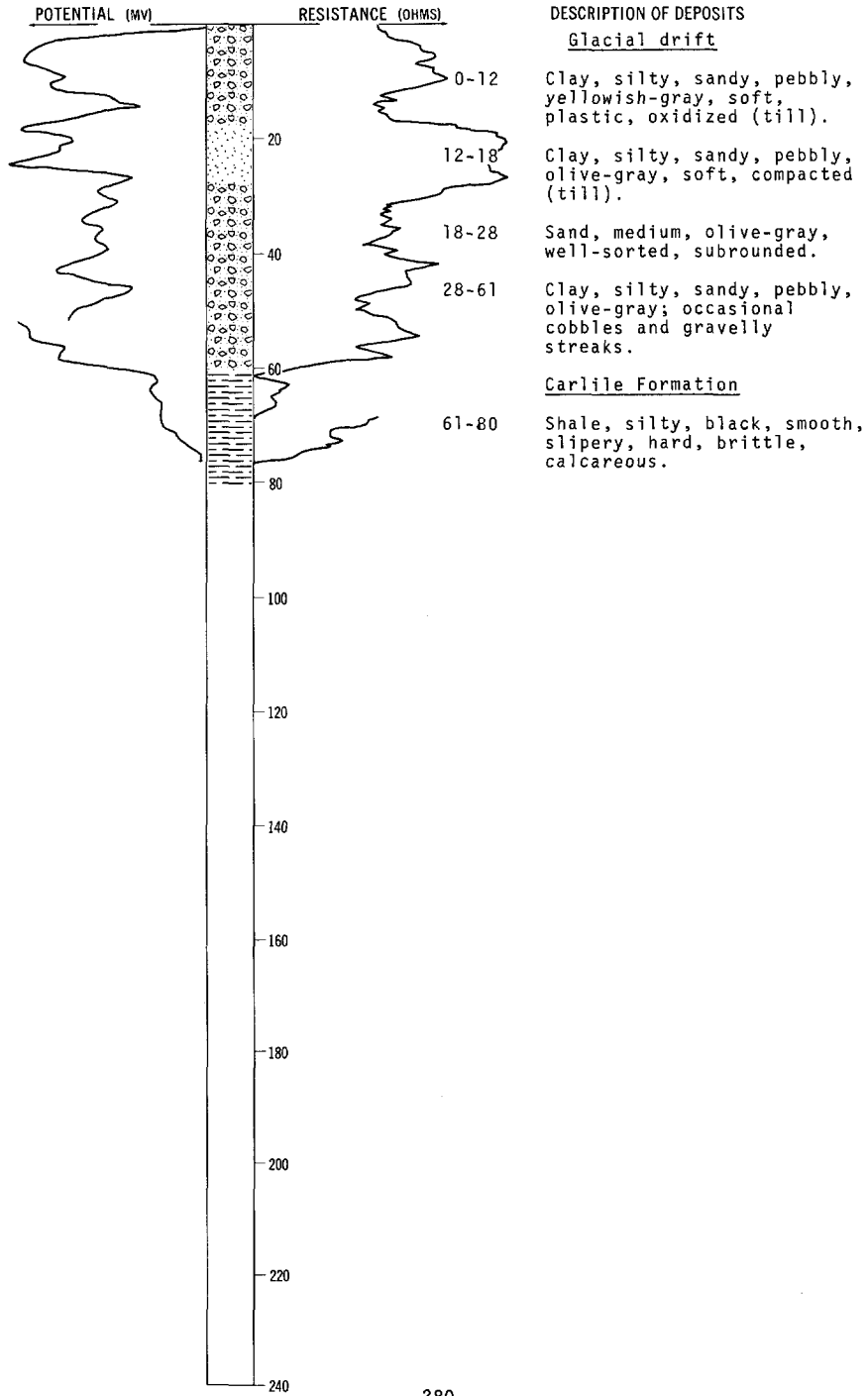


LOCATION: 146-55-27AAA

DATE DRILLED: June 1970

ALTITUDE: 1140  
(FT, MSL)

DEPTH: 80  
(FT)

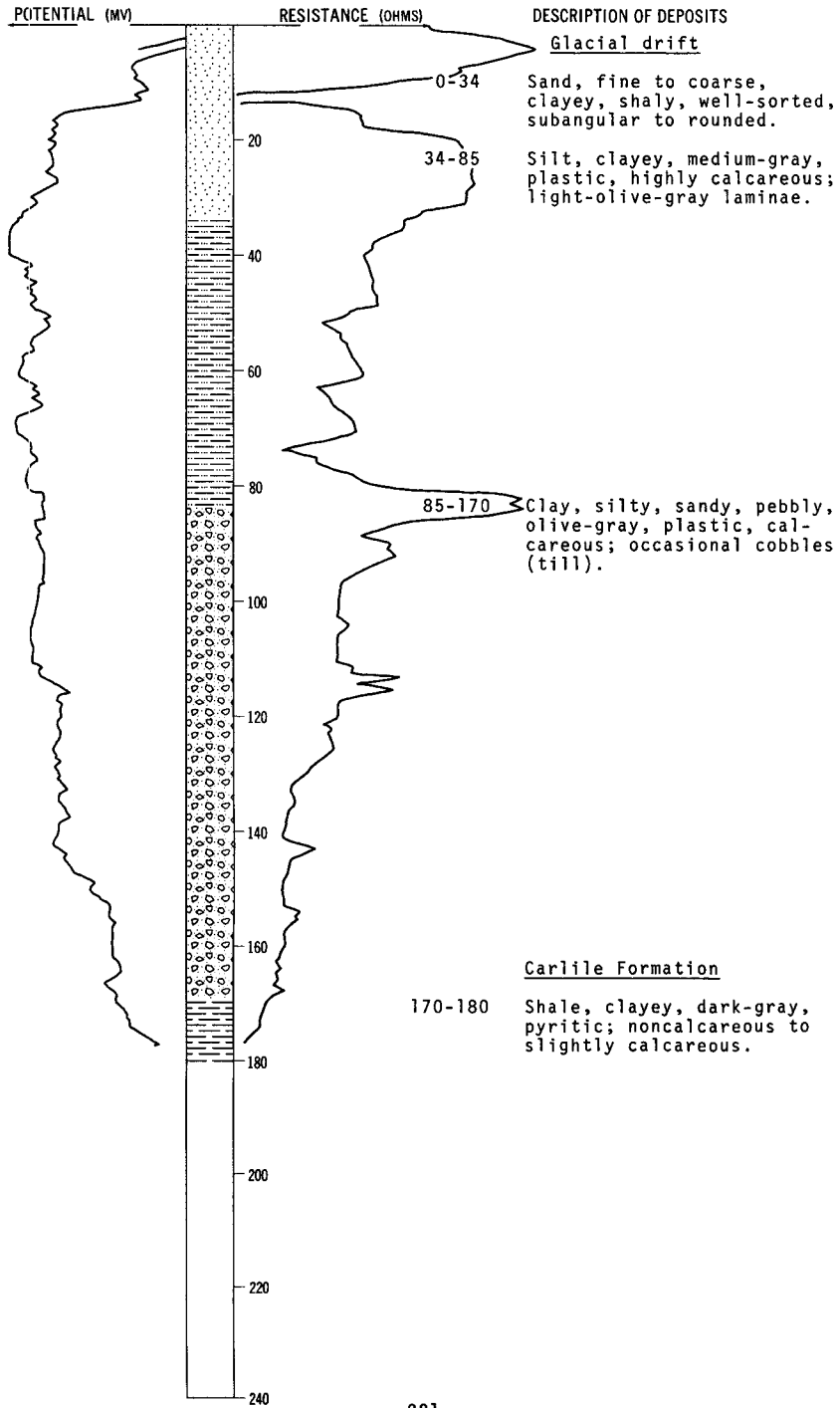


LOCATION: 146-55-31AAA

DATE DRILLED: June 1972

ALTITUDE: 1240  
(FT, MSL)

DEPTH: 180  
(FT)

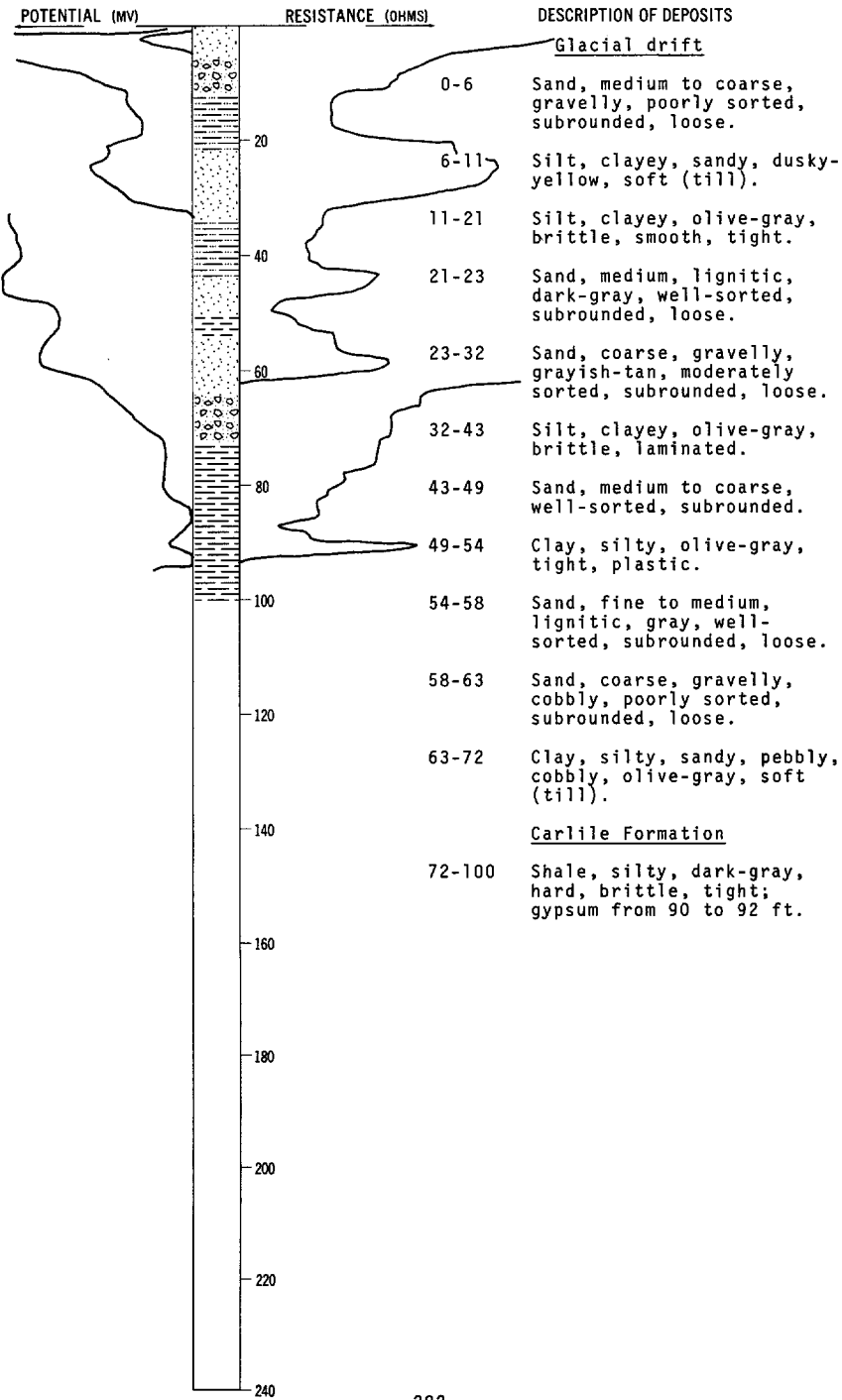


LOCATION: 146-55-34AAA

DATE DRILLED: October 1970

ALTITUDE: 1145  
(FT, MSL)

DEPTH: 100  
(FT)



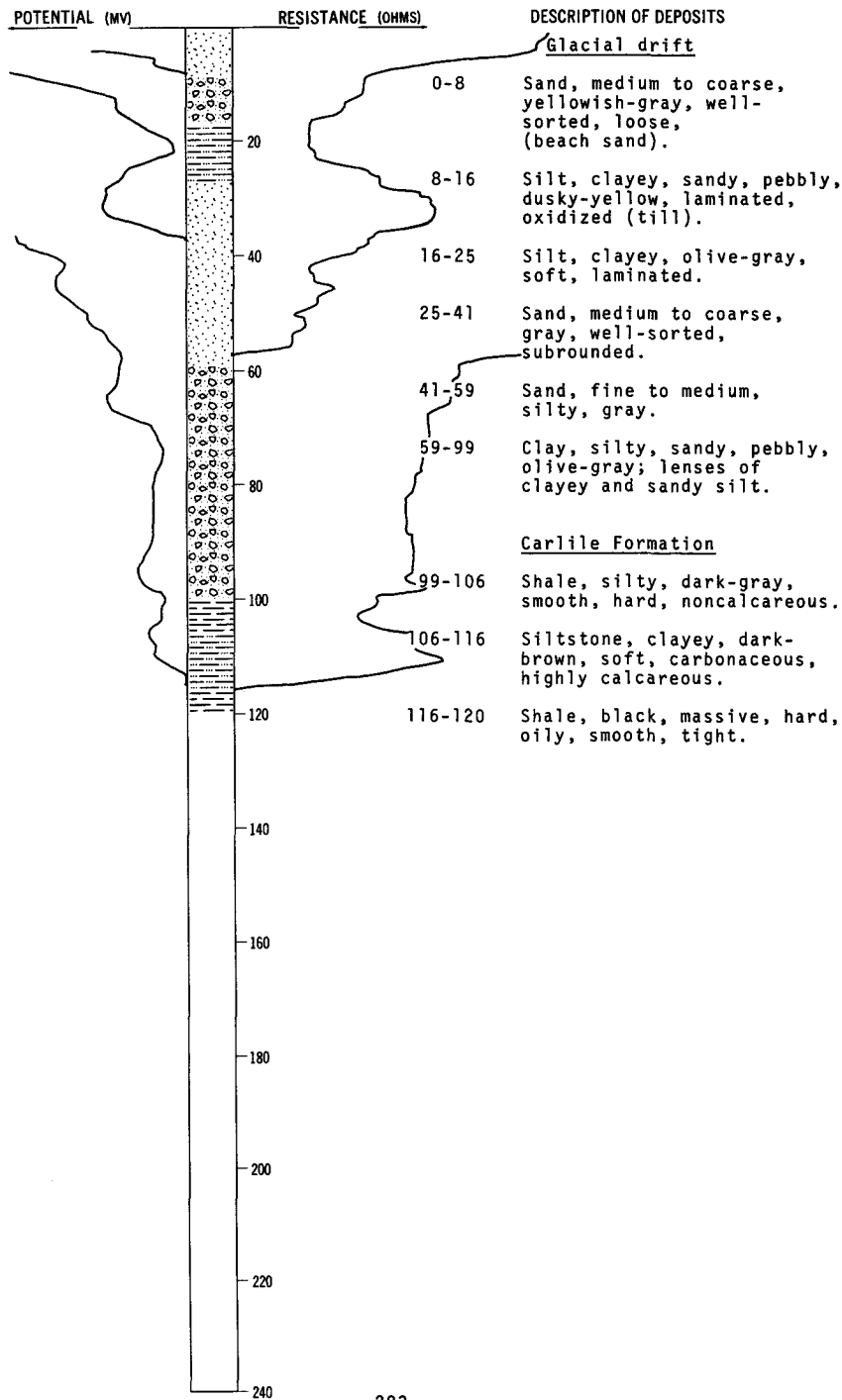


LOCATION: 146-55-34DDD

DATE DRILLED: October 1970

ALTITUDE: 1150  
(FT, MSL)

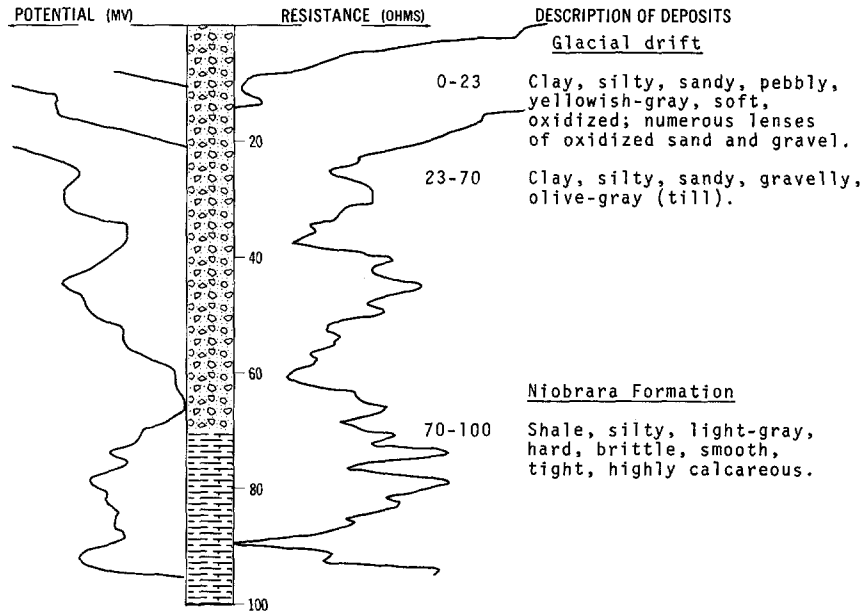
DEPTH: 120  
(FT)



NDSWC 4287

LOCATION: 146-56-02DDD  
 ALTITUDE: 1300  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 100  
 (FT)



146-56-10DAA  
 (Log from Frederickson's, Inc.)

Altitude: 1335 feet

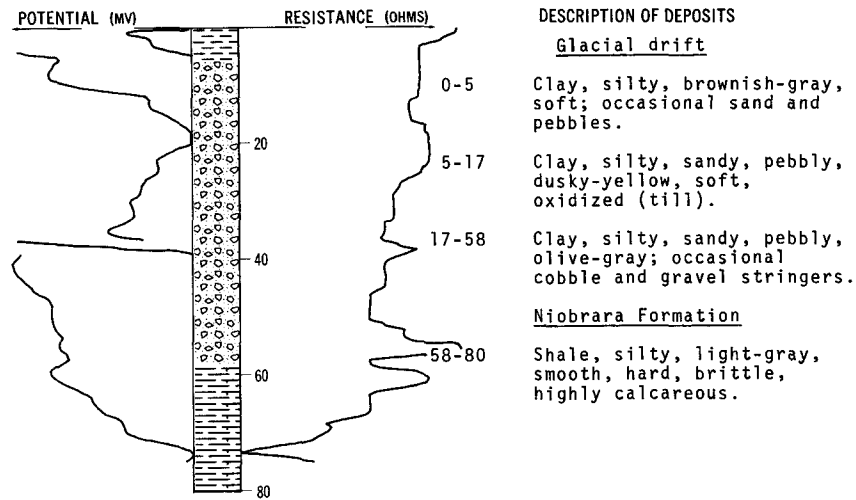
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, gray-----	2	3
	Clay, yellow-----	13	16
	Clay, sandy, blue-----	26	42
	Shale, sticky, blue-----	38	80
Niobrara Formation:			
	Shale, sticky, gray-----	30	110
	Shale, soft, limestone pebbles, gray----	37	147

LOCATION: 146-56-23DDD

DATE DRILLED: October 1970

ALTITUDE: 1290  
(FT, MSL)

DEPTH: 80  
(FT)



146-56-24DCD  
NDSWC 4290

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey, sandy, yellowish-gray, soft, loose, oxidized (slopewash)-----	7	7
	Clay, silty, sandy, gravelly, poorly sorted, lenticular (alluvium)-----	22	29
Niobrara Formation:			
	Shale, silty, light-gray, hard, brittle, smooth, highly calcareous-----	11	40

146-56-28BAB  
NDSWC 5615

Altitude: 1390 feet

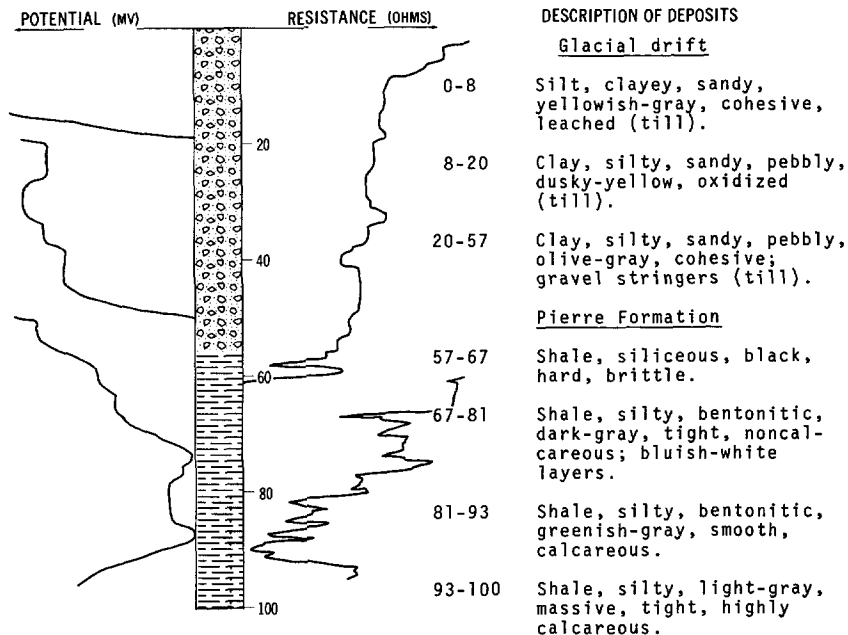
Glacial drift:			
	Clay, silty, sandy, pebbly, dusky-yellow, plastic, oxidized (till)-----	13	13
	Clay, silty, pebbly, olive-gray, plastic, calcareous; thin sand lenses (till)---	5	18
	Sand, fine to medium, well-sorted, angular to subrounded-----	10	28
	Clay, silty, sandy, pebbly, olive-gray, cohesive, plastic, calcareous; lenses of gravel-----	10	38
Pierre Formation:			
	Shale, clayey, medium-gray, very calcareous, white specked-----	42	80

LOCATION: 146-56-30BBB

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 100  
(FT)



146-57-09BAA  
(Log from Northern Resources, Inc.)

Altitude: 1475 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Sand, gravelly-----	20	20
	Clay, sandy, silty, gray (till)-----	20	40
Pierre Formation:			
	Shale, gray-----	40	80
	No log-----	1020	1100

146-57-11AAC  
(Log from Northern Resources, Inc.)

Altitude: 1540 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Sand, coarse-----	10	10
	Sand, coarse, clayey-----	30	40
	Sand, fine to medium-----	10	50
	Clay, sandy, silty, gray, calcareous (till)-----	60	110
Pierre Formation:			
	Shale, gray, hard-----	2	112
	No log-----	1138	1250

146-57-20ADD  
USB 14

Altitude: 1476.6 feet

Glacial drift:			
	Clay, silty, black, moist, medium plasticity, organic-----	4	4
	Clay, silty, sandy, brown, wet, medium plastic-----	7	11
	Clay, silty, sandy, pebbly, gray, moderately plastic (till)-----	7	18

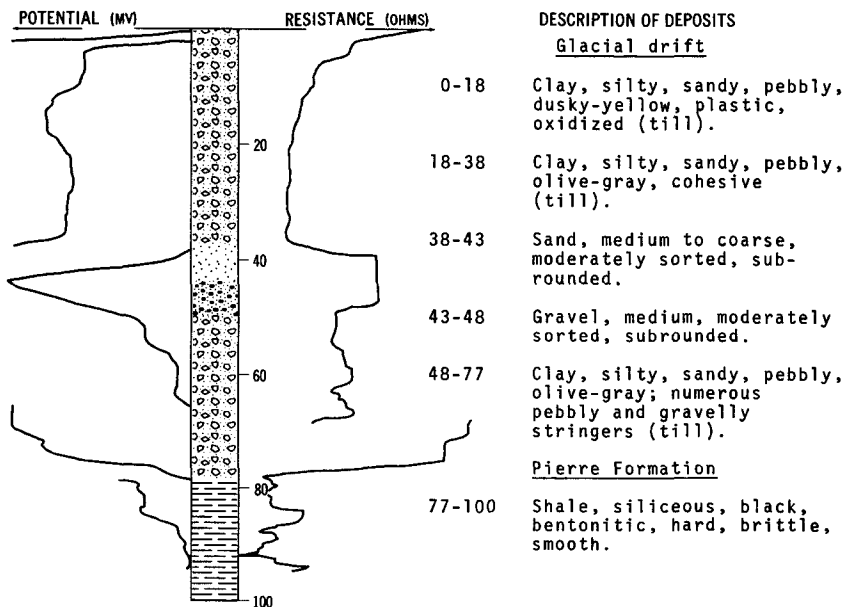
NDSWC 4277

LOCATION: 146-57-22CCC

DATE DRILLED: October 1970

ALTITUDE: 1515  
(FT, MSL)

DEPTH: 100  
(FT)



146-57-34AAD  
(Log from Frederickson's, Inc.)

Altitude: 1550 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	3	3
	Clay, yellow-----	22	25
	Clay, blue-----	15	40
	Clay, sandy, blue-----	65	105
	Clay, soft, sandy, blue-----	8	113
	Sand, silty, blue-----	4	117
	Clay, sandy, blue-----	5	122

146-57-34CCA  
(Log from Frederickson's, Inc.)

Altitude: 1540 feet

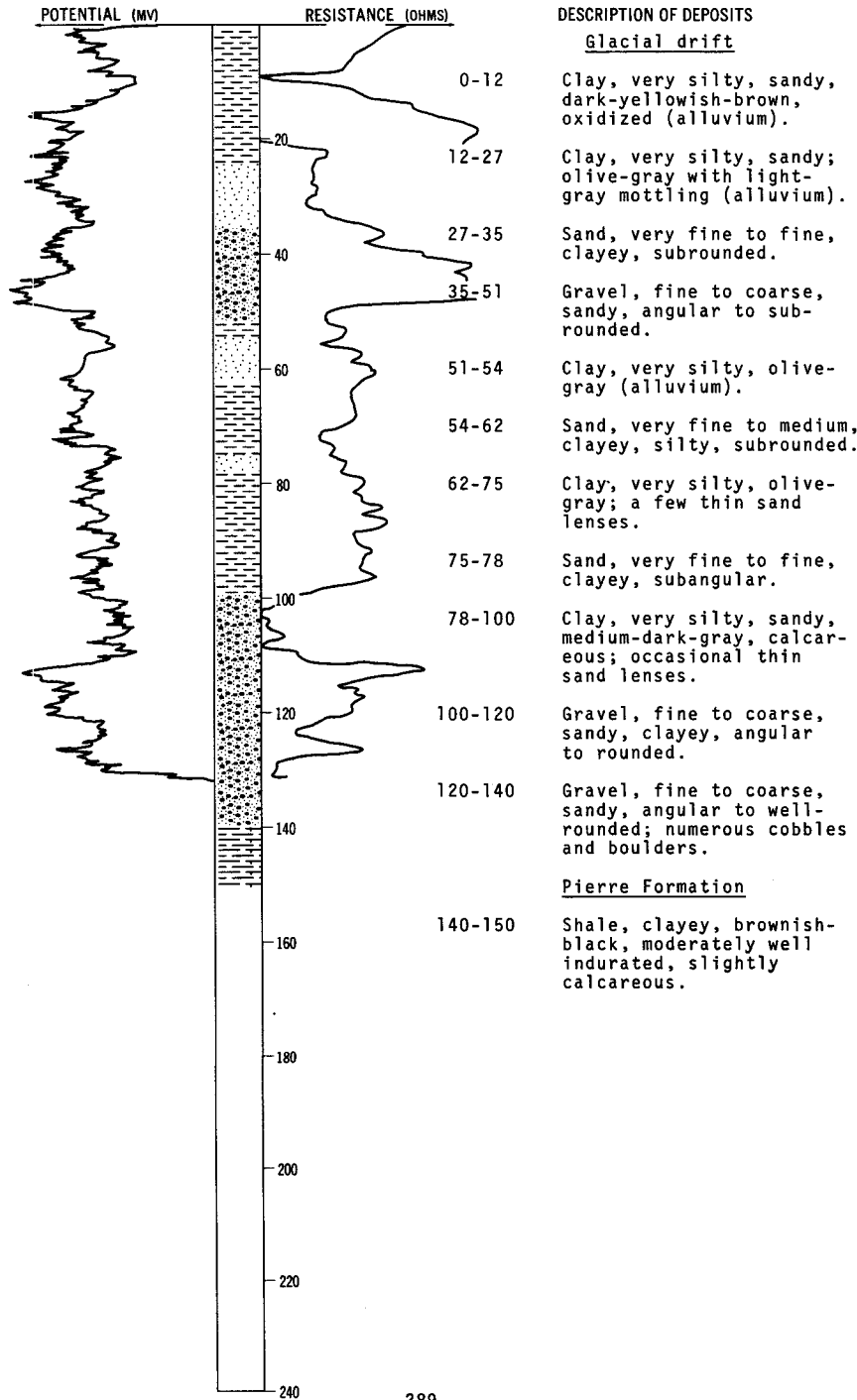
Glacial drift:			
	Topsoil, black-----	2	2
	Clay, yellow-----	33	35
	Clay, blue-----	68	103
	Sand, dirty, blue-----	5	108
Pierre Formation:			
	Shale, soft, blue-----	8	116

LOCATION: 146-58-01ABA

ALTITUDE: 1300  
(FT, MSL)

DATE DRILLED: July 1971

DEPTH: 150  
(FT)



146-58-19CCD  
 NDSWC 5905

Altitude: 1420 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, very silty, sandy, yellowish-brown to dark-yellowish-brown, oxidized (glaciofluvial sediment)-----	10	10
	Clay, silty, sandy, pebbly, olive-gray, calcareous (till)-----	5	15
	Gravel, fine to medium, sandy, angular to subrounded-----	6	21
	Clay, silty, sandy, pebbly, olive-gray, calcareous (till)-----	23	44
Pierre Formation:			
	Shale, siliceous, grayish-black to black, indurated, noncalcareous-----	16	60

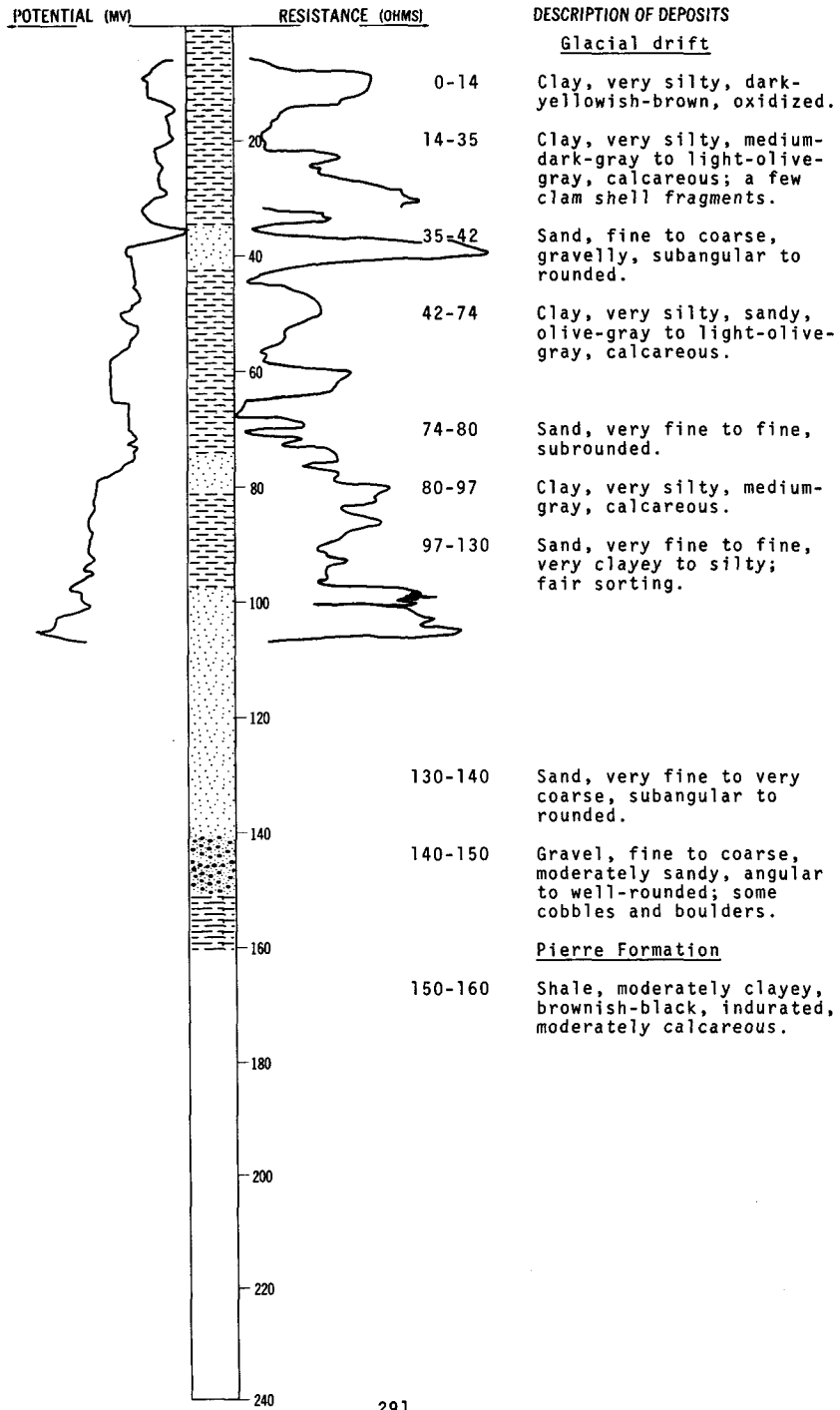


LOCATION: 146-58-26CBC

DATE DRILLED: July 1971

ALTITUDE: 1290  
(FT, MSL)

DEPTH: 160  
(FT)



146-58-27ADD  
NDSWC 8056

Altitude: 1300 feet

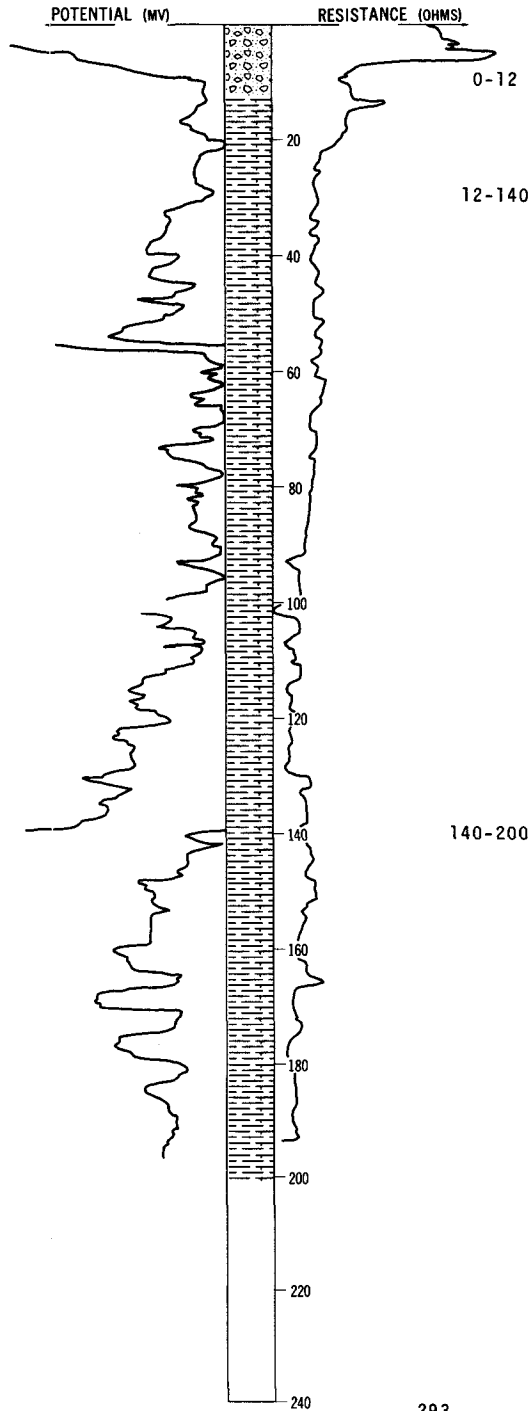
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, very silty, dark-yellowish-brown to olive-gray, oxidized-----	8	8
	Sand, very fine to fine, silty, well oxidized-----	11	19
	Clay, very silty, sandy, olive-gray, calcareous-----	15	34
	Sand, fine to coarse, subangular to subrounded-----	5	39
	Gravel, fine to coarse, sandy, clayey, angular to subrounded-----	7	46
	Clay, very silty, olive-gray, calcareous-----	29	75
Pierre Formation:			
	Shale, moderately clayey, medium-gray, moderately well indurated, moderately calcareous; occasional brownish-gray concretions-----	25	100

LOCATION: 146-58-278881

ALTITUDE: 1430  
(FT, MSL)

DATE DRILLED: July 1971

DEPTH: 200  
(FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-12 Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till).

Pierre Formation

12-140 Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional thin bentonite layering.

140-200

Shale, moderately clayey, medium-light-gray to medium-gray, moderately well indurated, highly calcareous; white specks and small brownish-gray concretions.

146-58-27BBB2  
NDSWC 8058A

Altitude: 1430 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till)-----	12	12
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional thin bentonite layering-----	128	140
	Shale, moderately clayey, medium-light-gray to medium-gray, moderately well indurated, highly calcareous; white specks and small brownish-gray concretions-----	10	150

146-58-27BBB3  
NDSWC 8058B

Altitude: 1430 feet

Glacial drift:	Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till)-----	12	12
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional thin bentonitic lenses-----	88	100

146-58-27BBB4  
NDSWC 8058C

Altitude: 1430 feet

Glacial drift:	Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till)-----	12	12
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional thin bentonitic lenses-----	38	50

146-58-27BBB5  
NDSWC 8058D

Altitude: 1430 feet

Glacial drift:	Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till)-----	12	12
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional thin bentonitic lenses-----	8	20

146-59-01BAC2  
(Log from C. C. Smith Drilling Co.)

Altitude: 1430 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, fine, silty, organic, dark-brown--	3	3
	Clay, silty, sandy, gravelly, yellow-brown, stiff-----	5	8
	Sand, fine to coarse, clayey, silty, yellow to brown-----	5	13
	Clay, silty, sandy, gray, hard, stiff; traces of gravel and shale fragments--	19	32
	Clay, dark-gray, stiff; contains hard shale fragments-----	5	37
Pierre Formation:			
	Shale, clayey, bentonitic, dark-gray, crumbly, highly fractured-----	7	44
	Shale, slightly bentonitic, dark-gray, hard, brittle in part-----	34	78
	Shale, dark-gray, brittle, thin-bedded, slightly fractured-----	22	100

146-59-17BBB  
NDSWC 5888

Altitude: 1460 feet

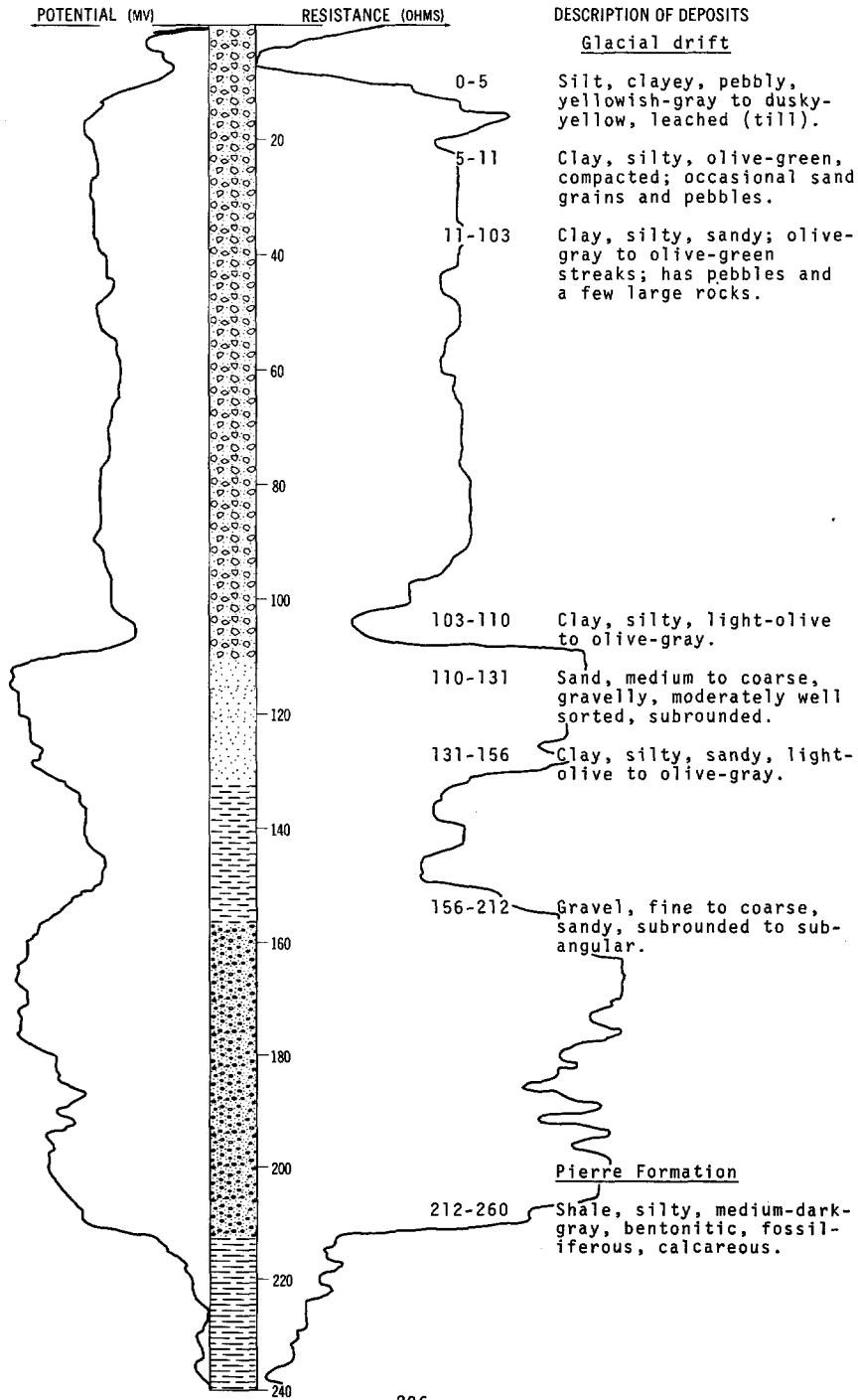
Glacial drift:			
	Sand, very fine to coarse, slightly clayey, silty, shaly, subangular to rounded, oxidized-----	13	13
	Clay, very silty, sandy, pebbly, olive-gray, calcareous (till)-----	12	25
	Clay, very silty, sandy, olive-gray to medium-dark-gray, calcareous (glaciofluvial sediment)-----	7	32
	Cobbles, granite and carbonate-----	1	33
Pierre Formation:			
	Shale, siliceous, grayish-black, indurated, noncalcareous-----	27	60

LOCATION: 146-59-33CCC

DATE DRILLED: August 1971

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 260  
(FT)



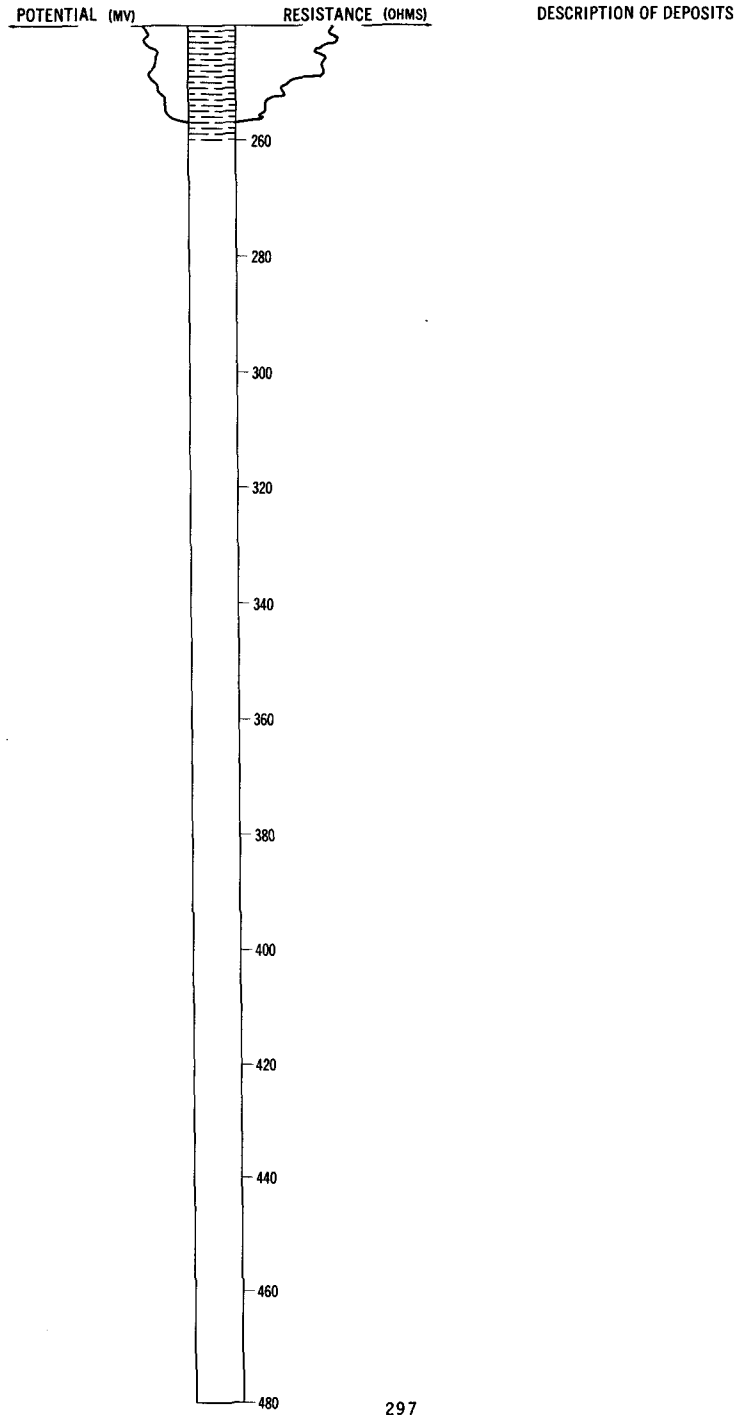
NDSWC 4339, Continued

LOCATION: 146-59-33CCC

DATE DRILLED: August 1971

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 260  
(FT)



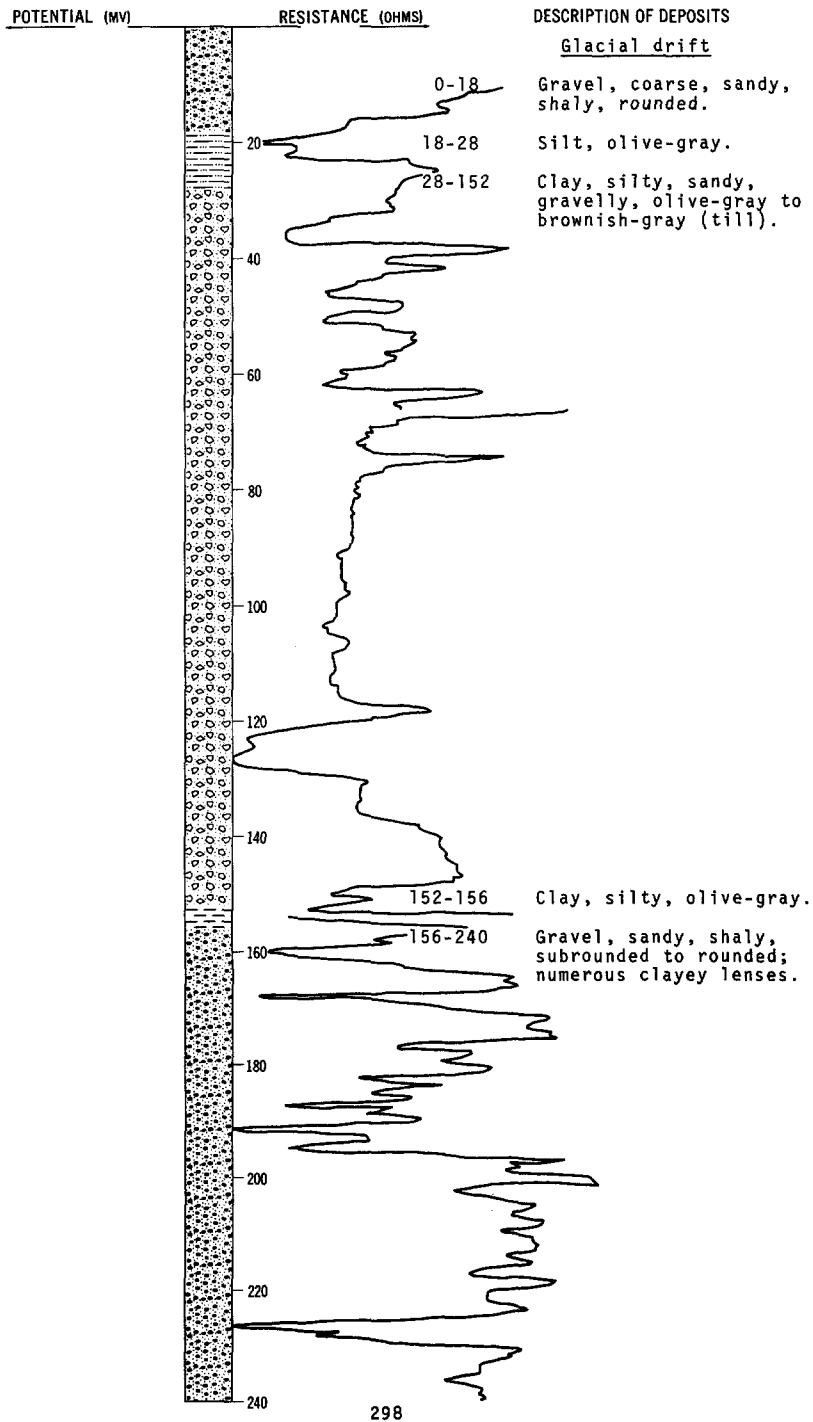
NDSWC 8302

LOCATION: 146-60-08BBB1

DATE DRILLED: May 1972

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 330  
(FT)





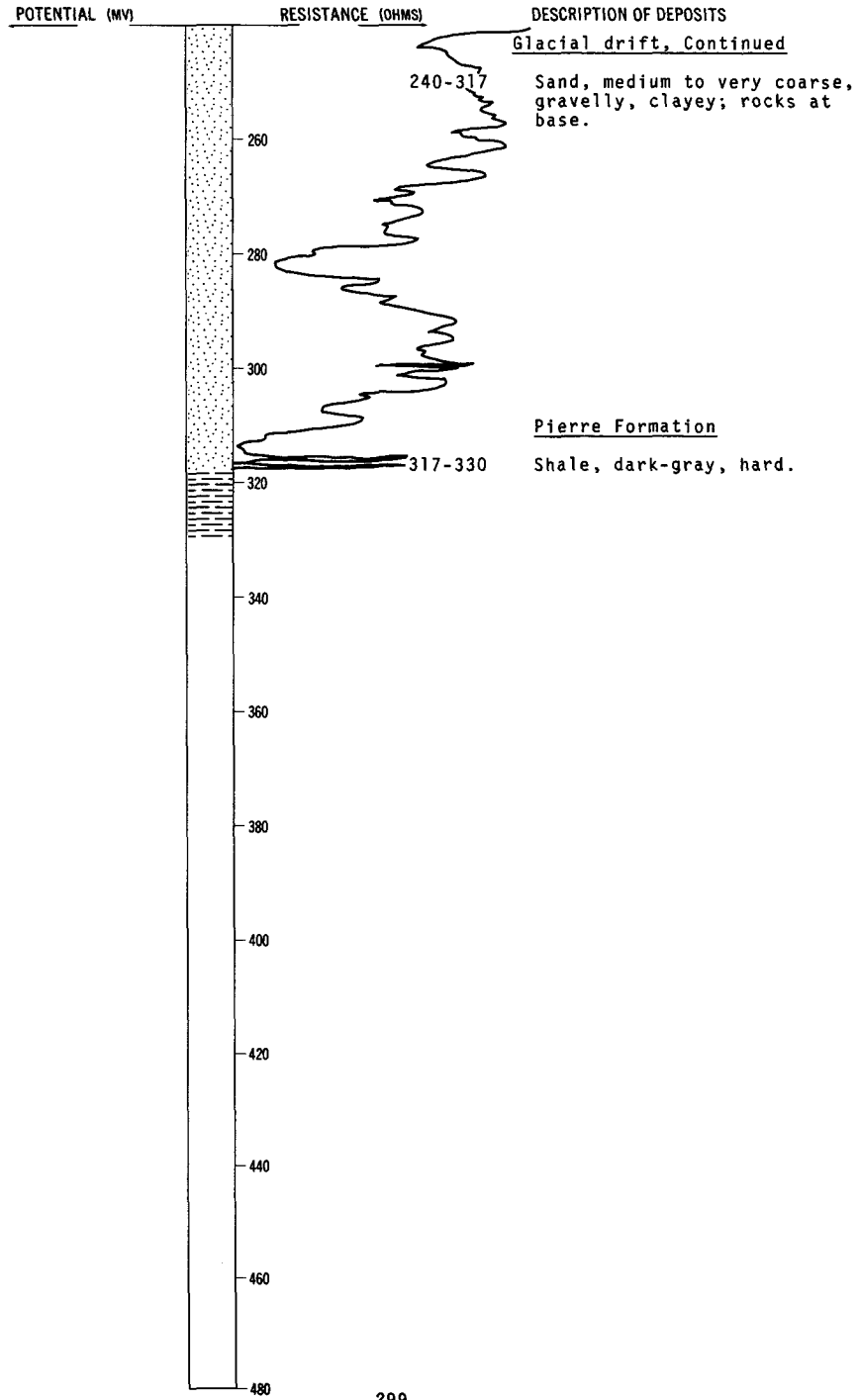
NDSWC 8302, Continued

LOCATION: 146-60-08BBB1

DATE DRILLED: May 1972

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 330  
(FT)



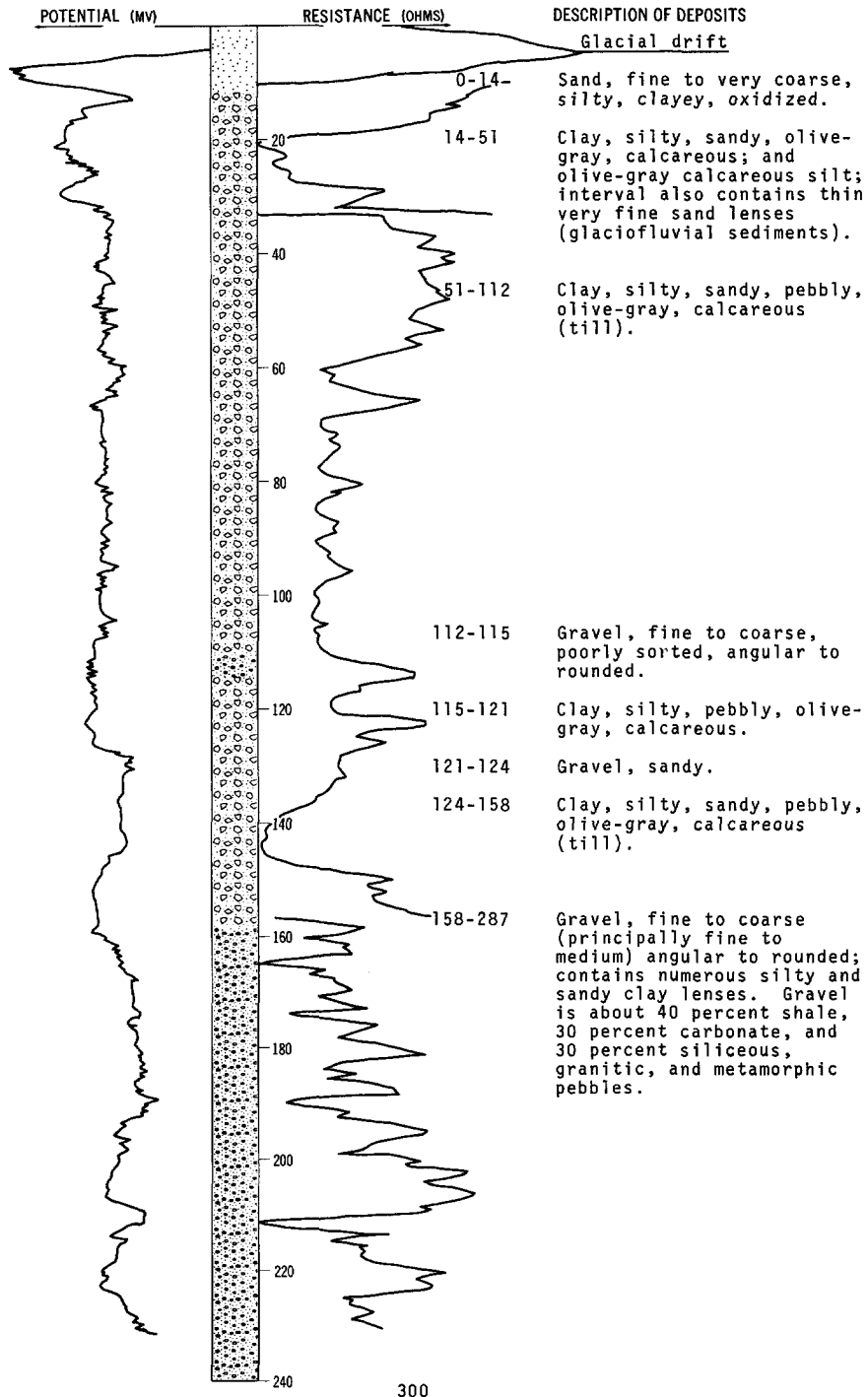
NDSWC 5885

LOCATION: 146-60-08CCD

DATE DRILLED: October 1970

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 300  
(FT)





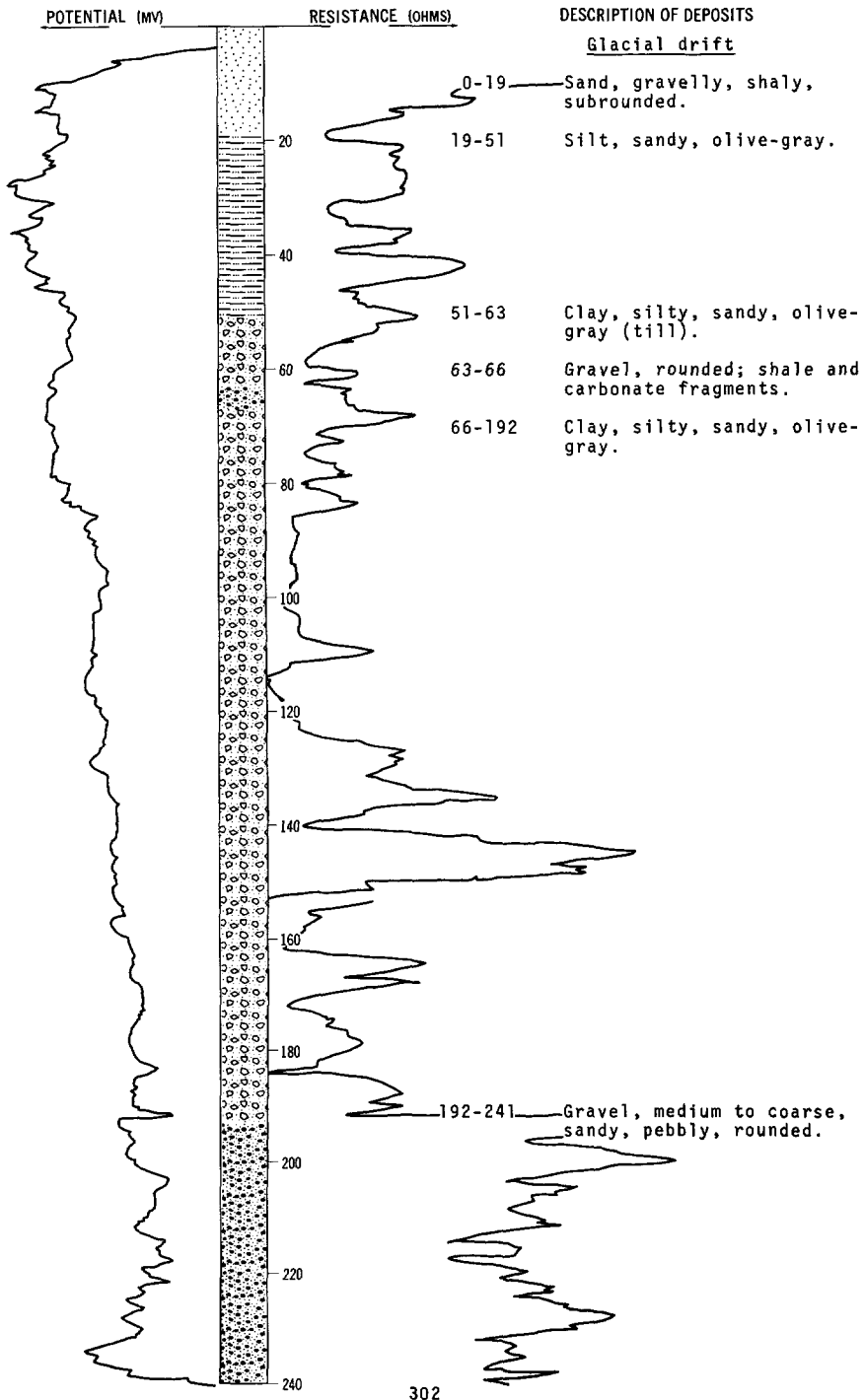
NDSWC 8301

LOCATION: 146-60-09CCC

DATE DRILLED: April 1972

ALTITUDE: 1455  
(FT, MSL)

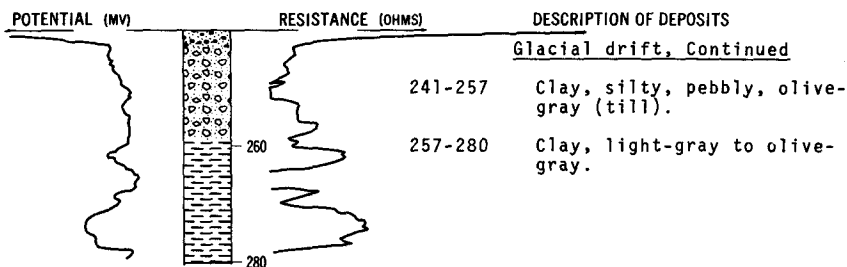
DEPTH: 280  
(FT)



NDSWC 8301, Continued

LOCATION: 146-60-09CCC  
 ALTITUDE: 1455  
 (FT, MSL)

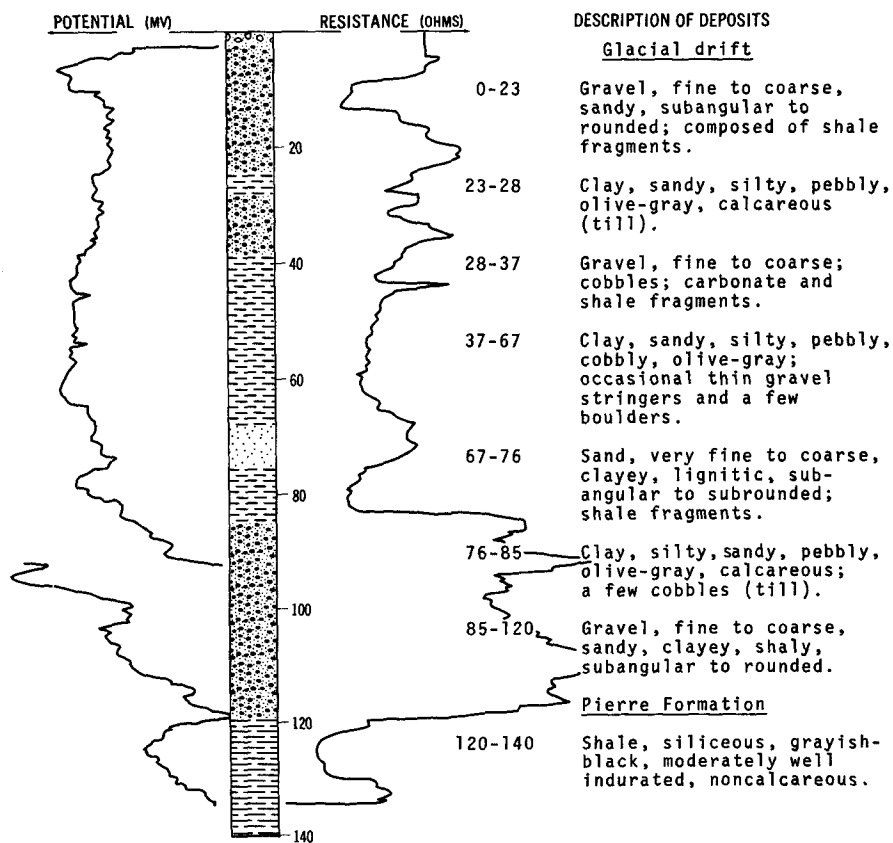
DATE DRILLED: April 1972  
 DEPTH: 280  
 (FT)



NDSWC 8512

LOCATION: 146-60-10DDD  
 ALTITUDE: 1460  
 (FT, MSL)

DATE DRILLED: September 1972  
 DEPTH: 140  
 (FT)



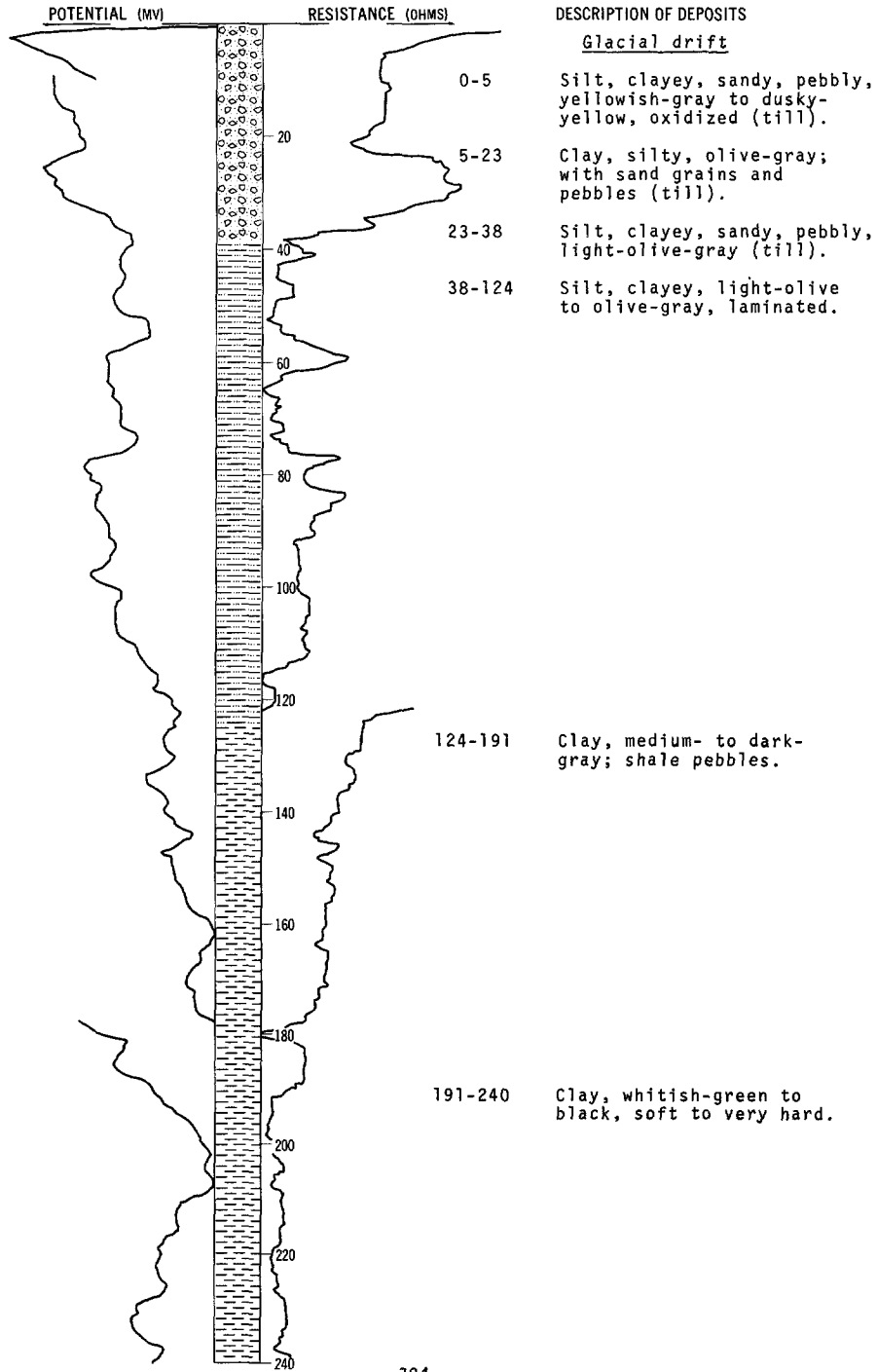
NDSWC 4375

LOCATION: 146-60-13AAA

DATE DRILLED: August 1971

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 260  
(FT)



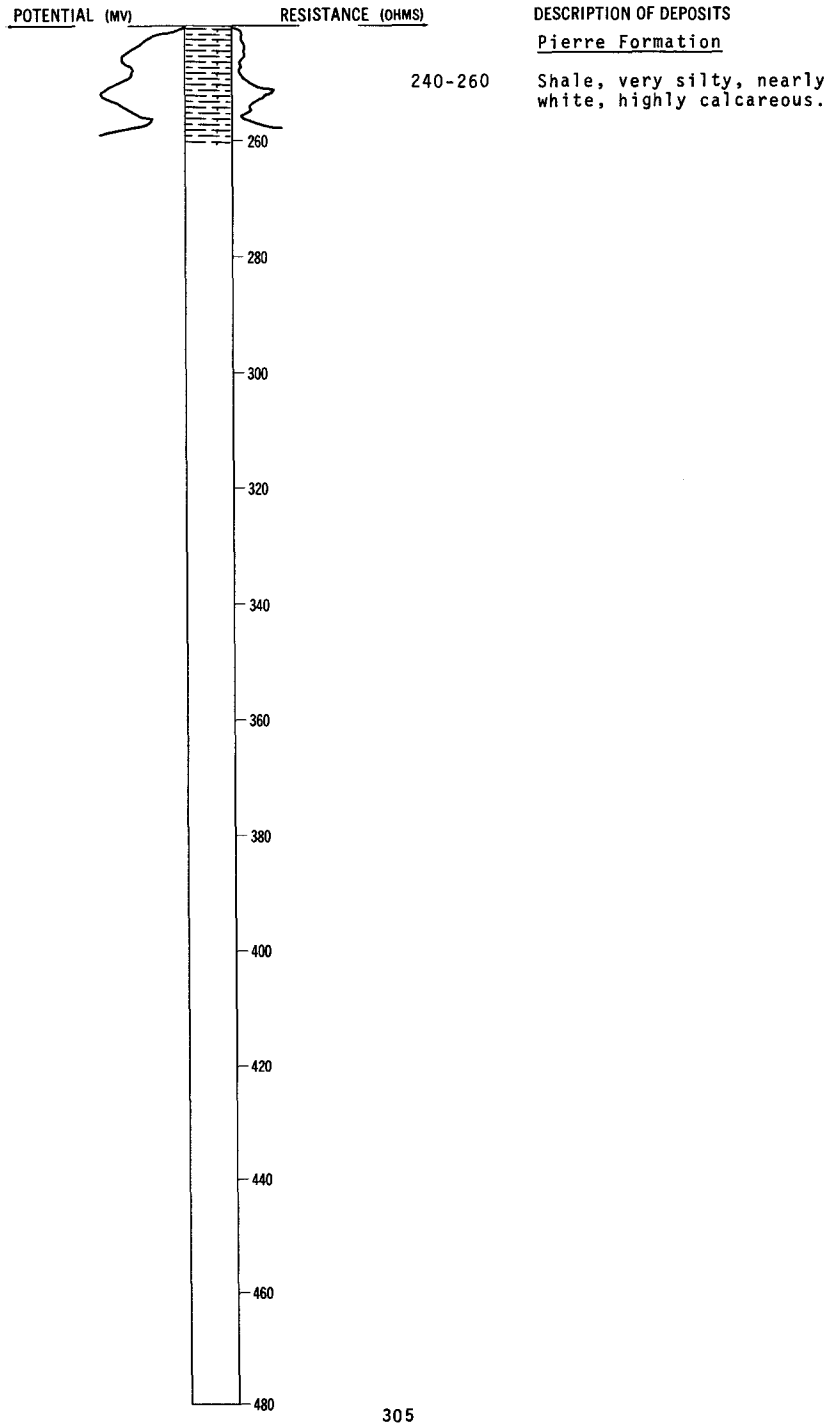
NDSWC 4375, Continued

LOCATION: 146-60-13AAA

DATE DRILLED: August 1971

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 260  
(FT)

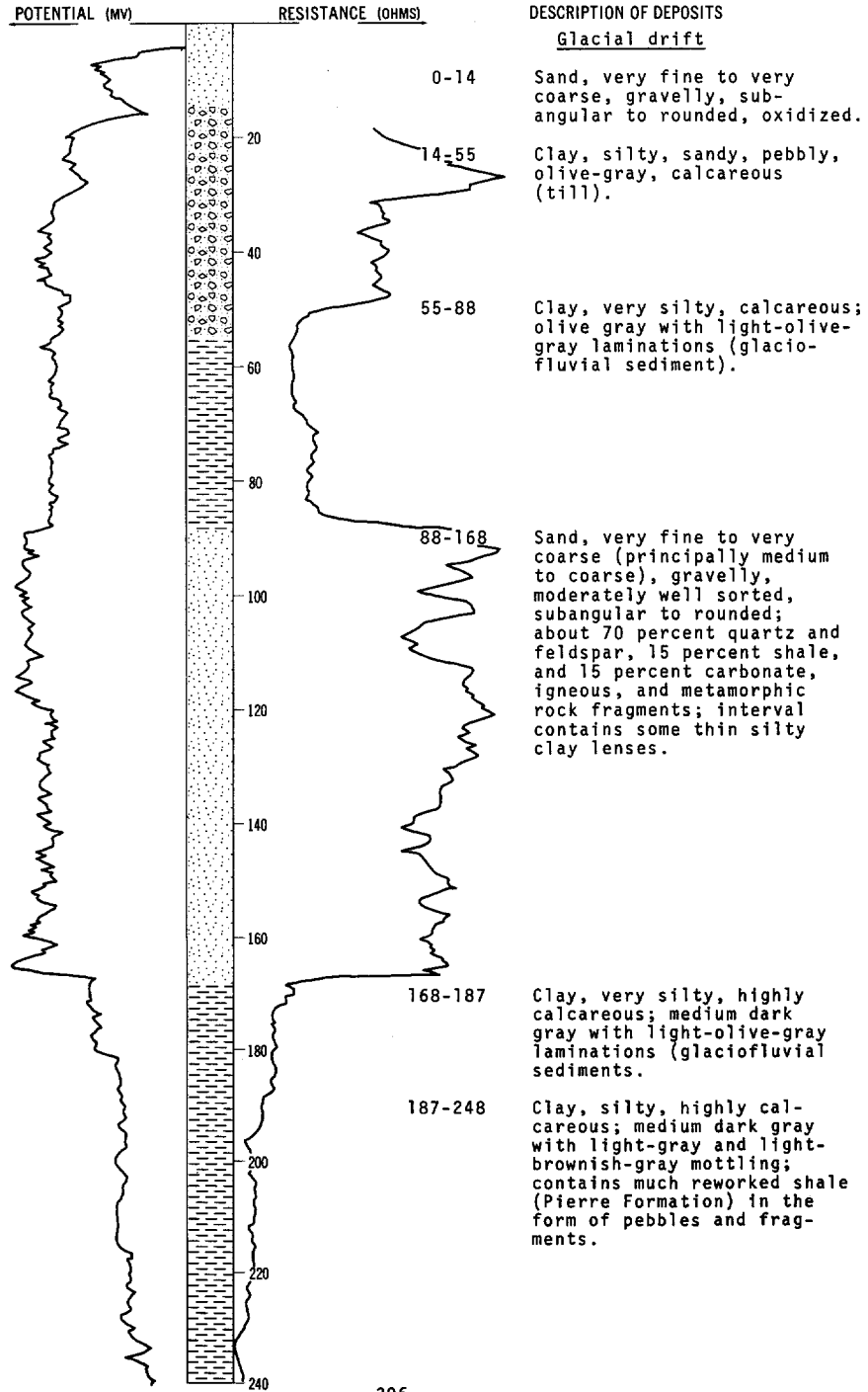


LOCATION: 146-60-14AAA

DATE DRILLED: October 1970

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 260  
(FT)





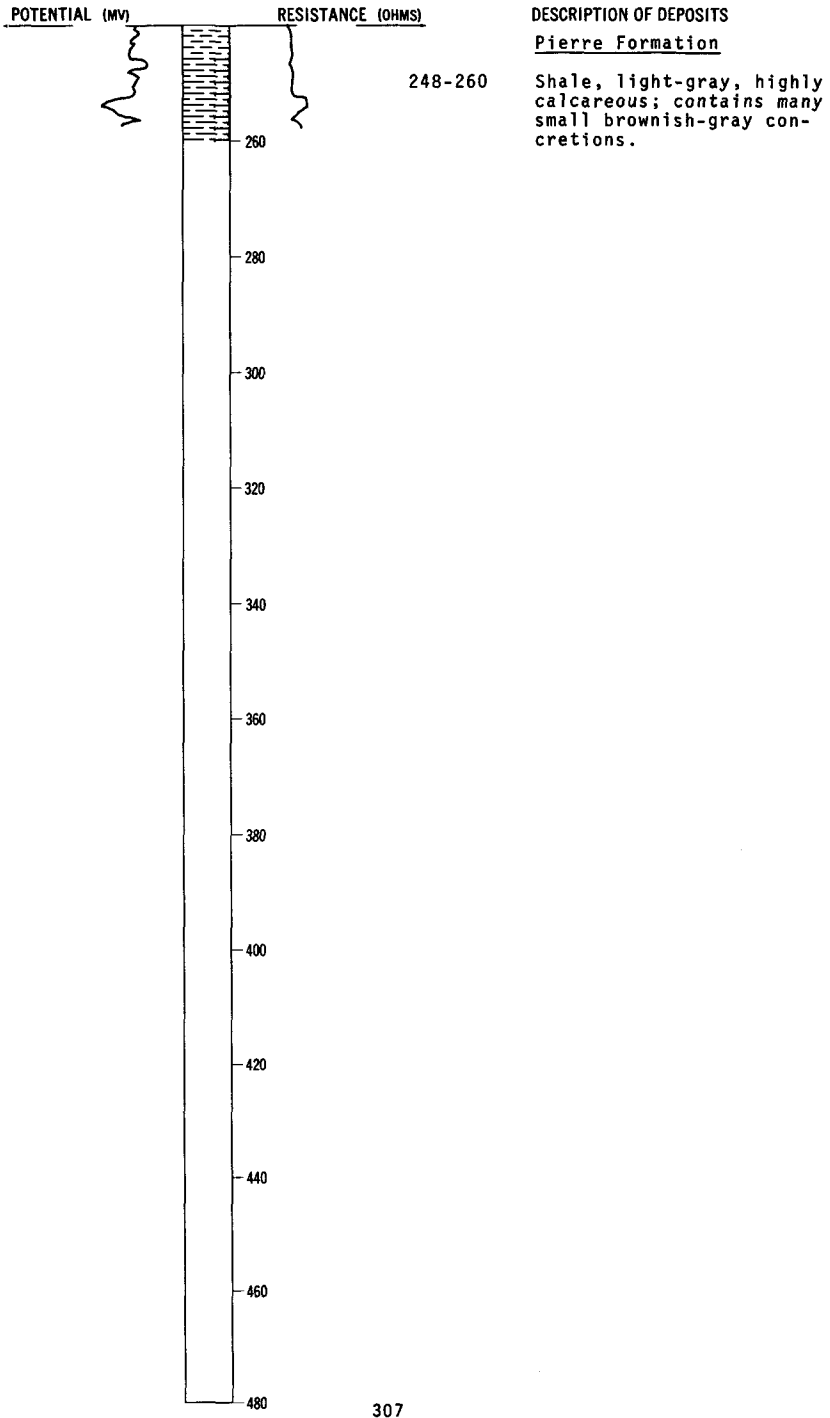
NDSWC 5887, Continued

LOCATION: 146-60-14AAA

DATE DRILLED: October 1970

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 260  
(FT)

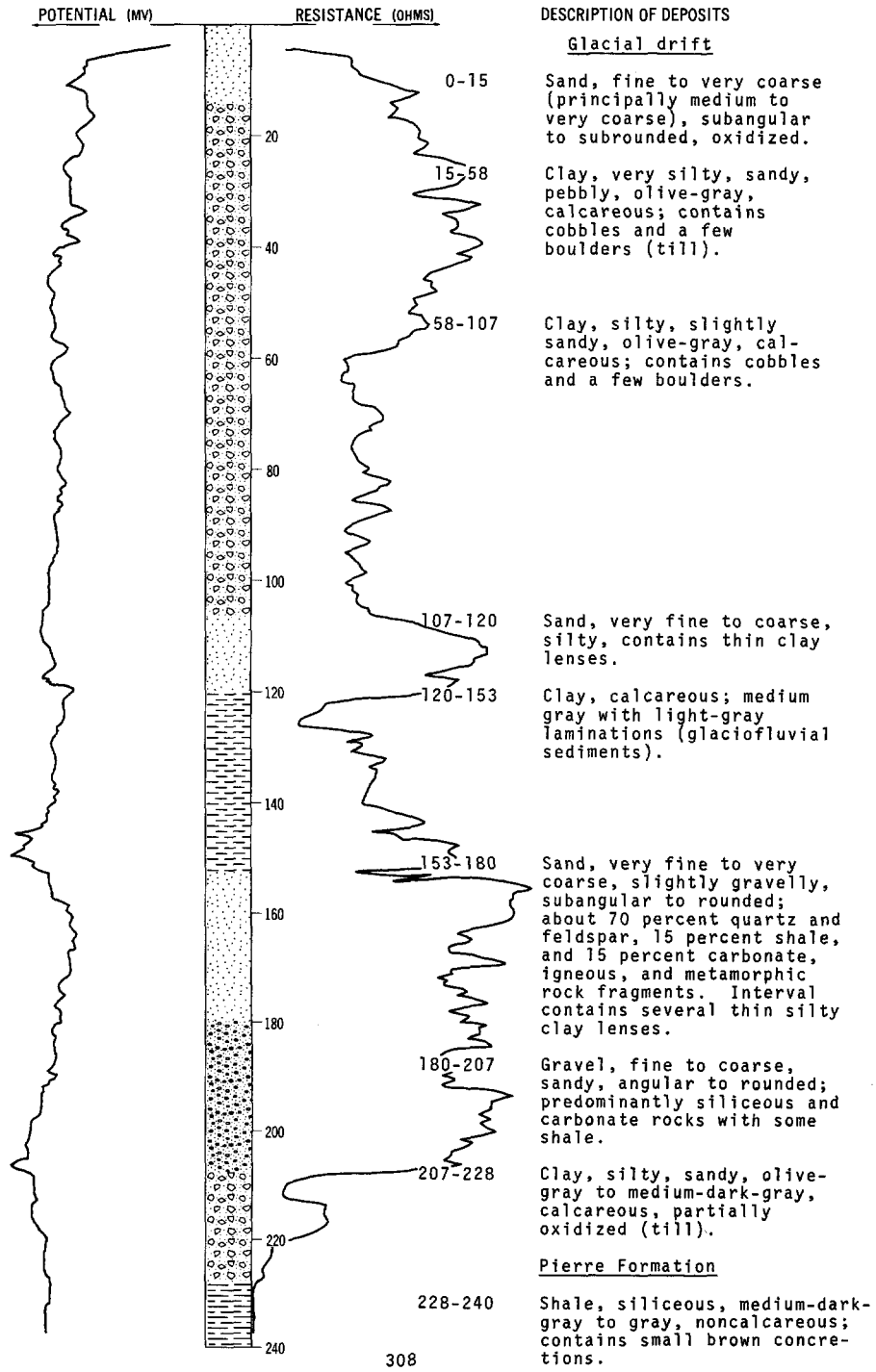


LOCATION: 146-60-16AAA

DATE DRILLED: October 1970

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 240  
(FT)

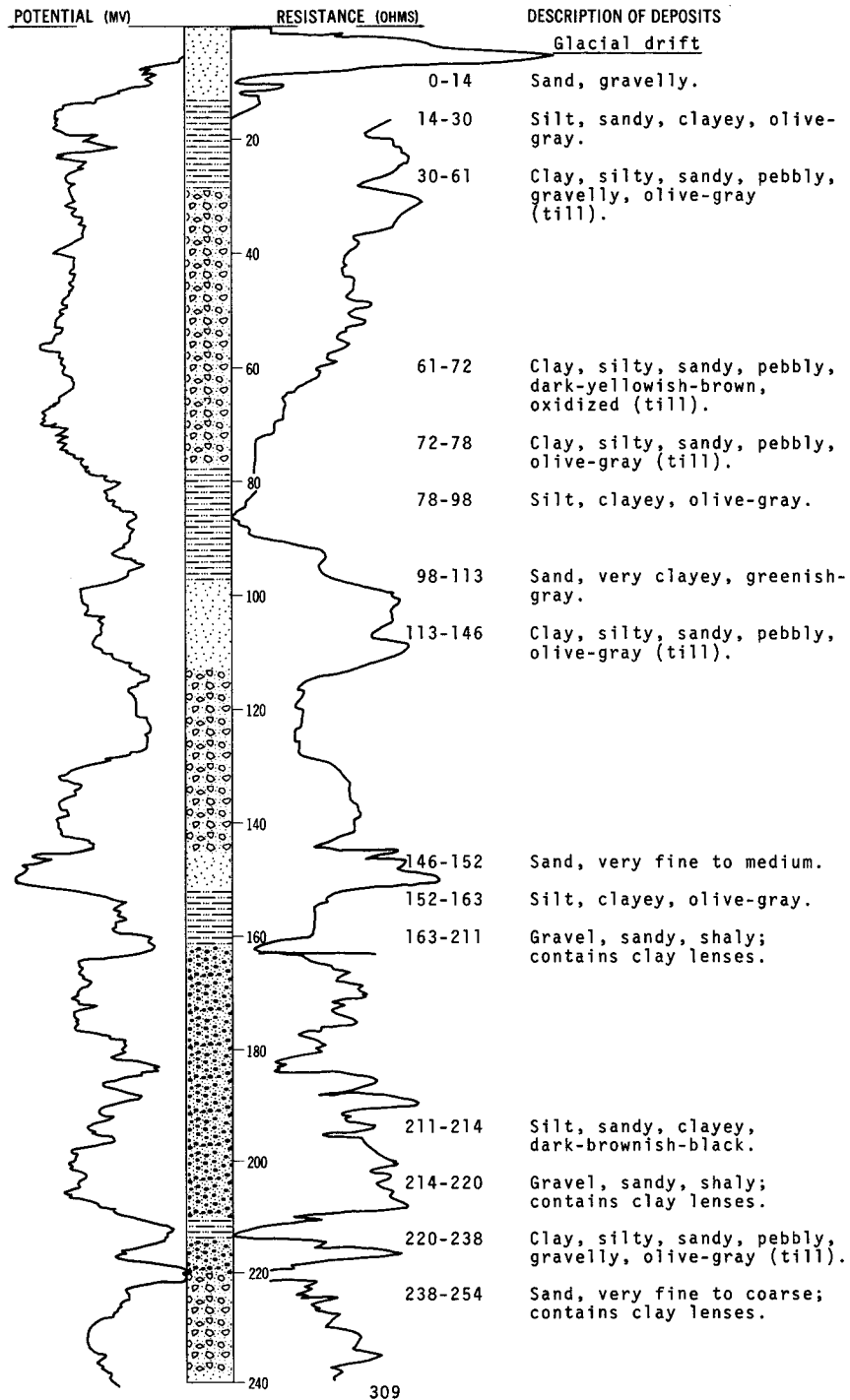


LOCATION: 146-60-17ABB

DATE DRILLED: May 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 310  
(FT)



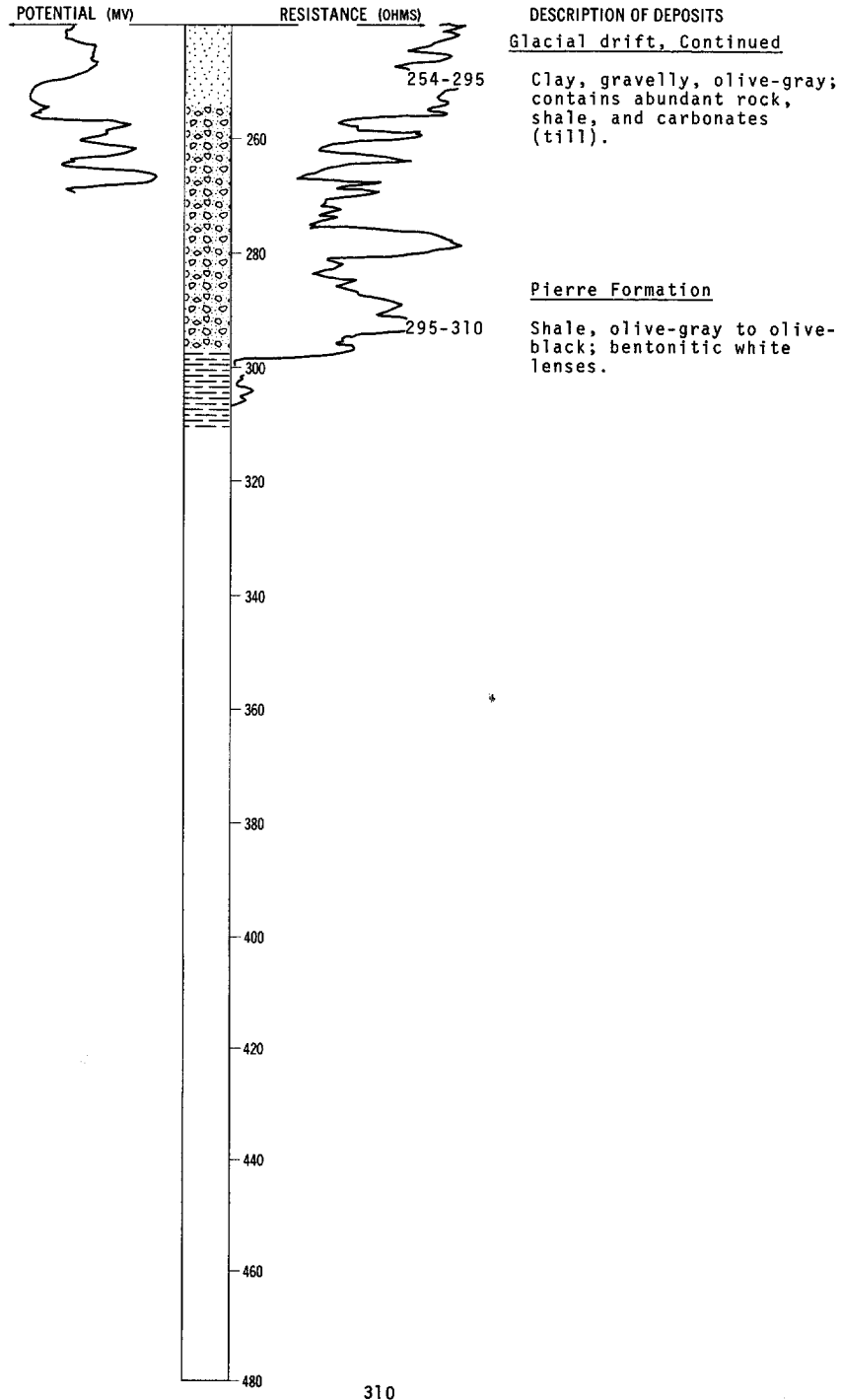
NDSWC 8304, Continued

LOCATION: 146-60-17ABB

DATE DRILLED: May 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 310  
(FT)

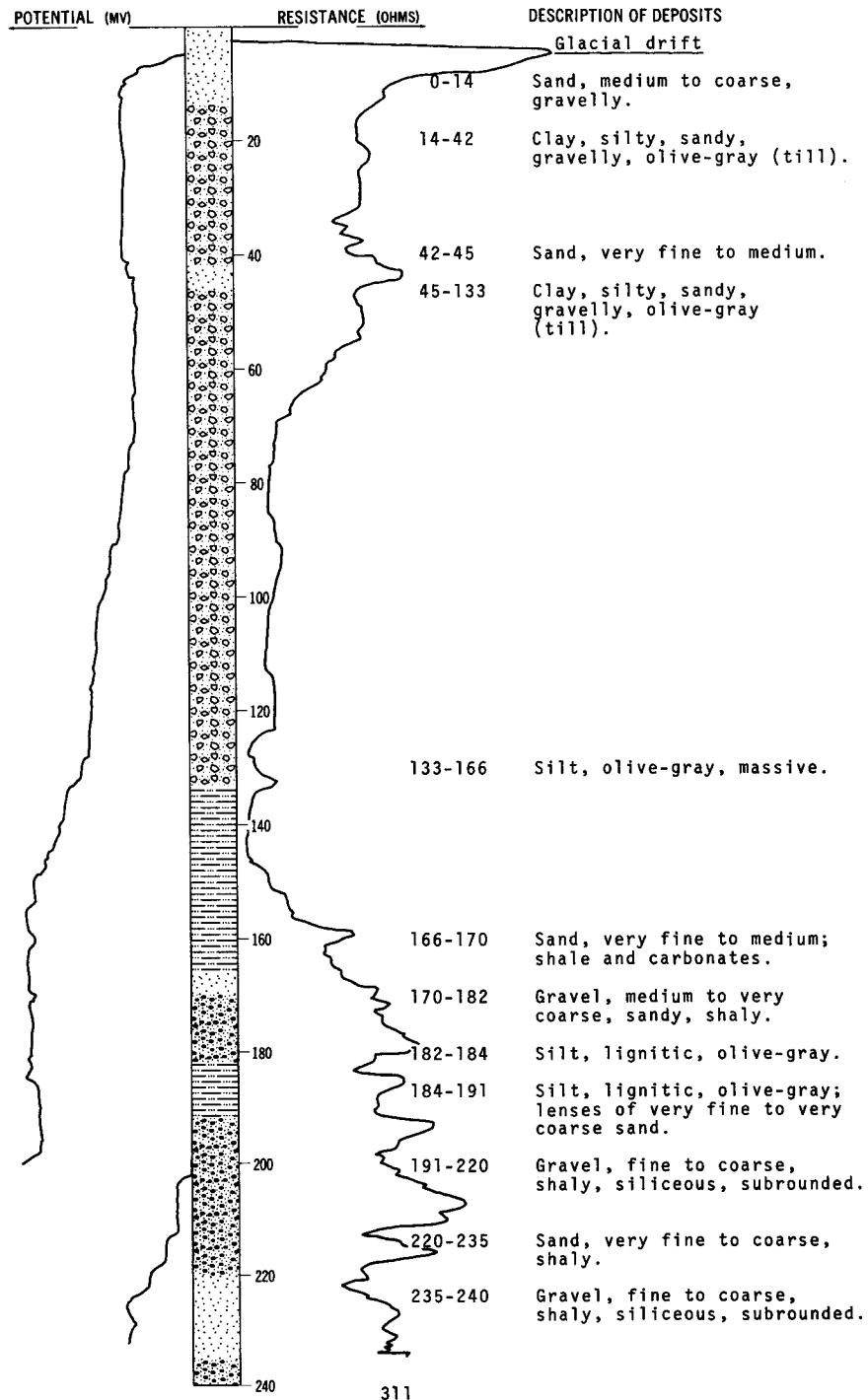


LOCATION: 146-60-17ABC1

DATE DRILLED: May 1972

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 320  
(FT)



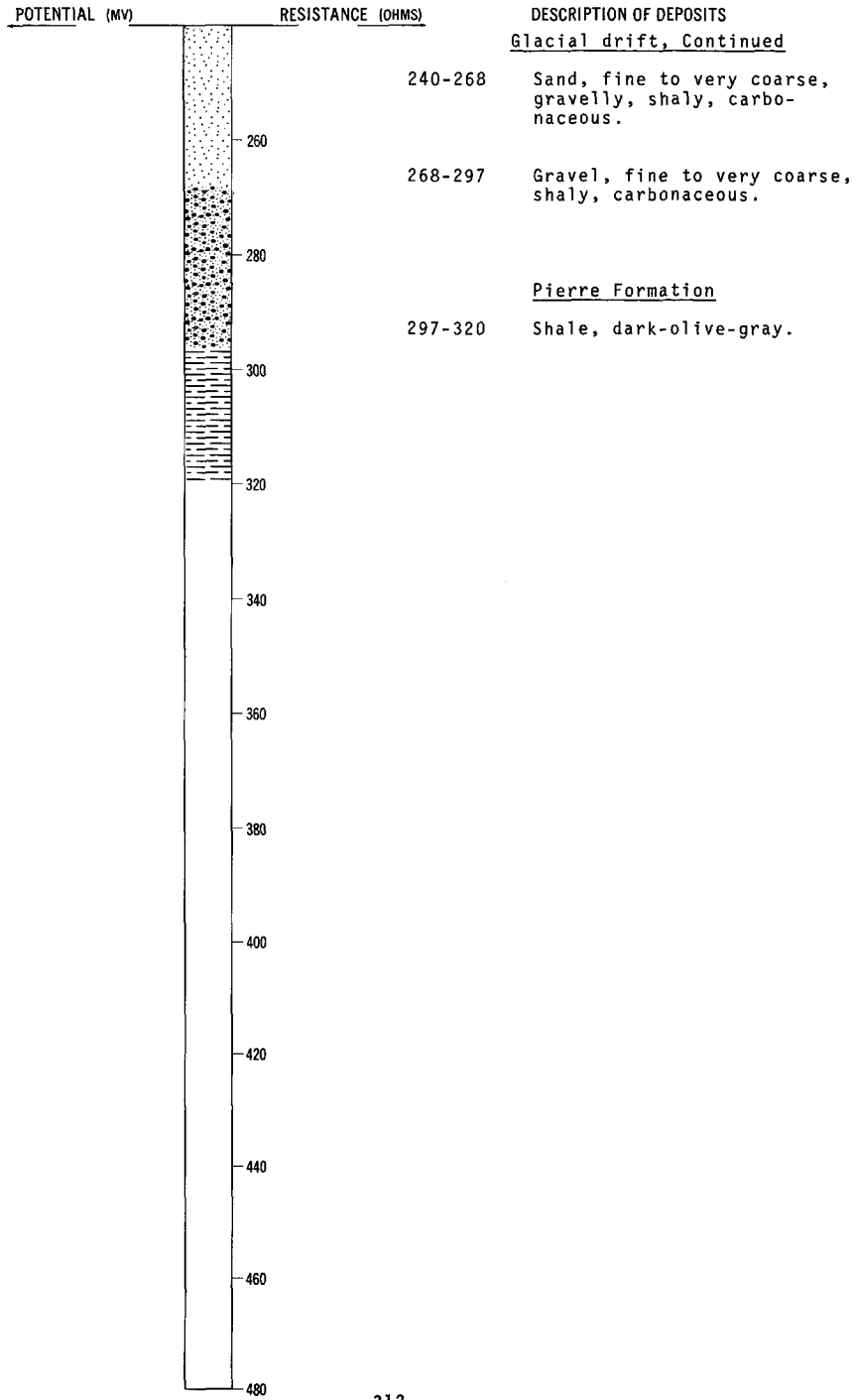
NDSWC 8304B, Continued

LOCATION: 146-60-17ABC1

DATE DRILLED: May 1972

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 320  
(FT)

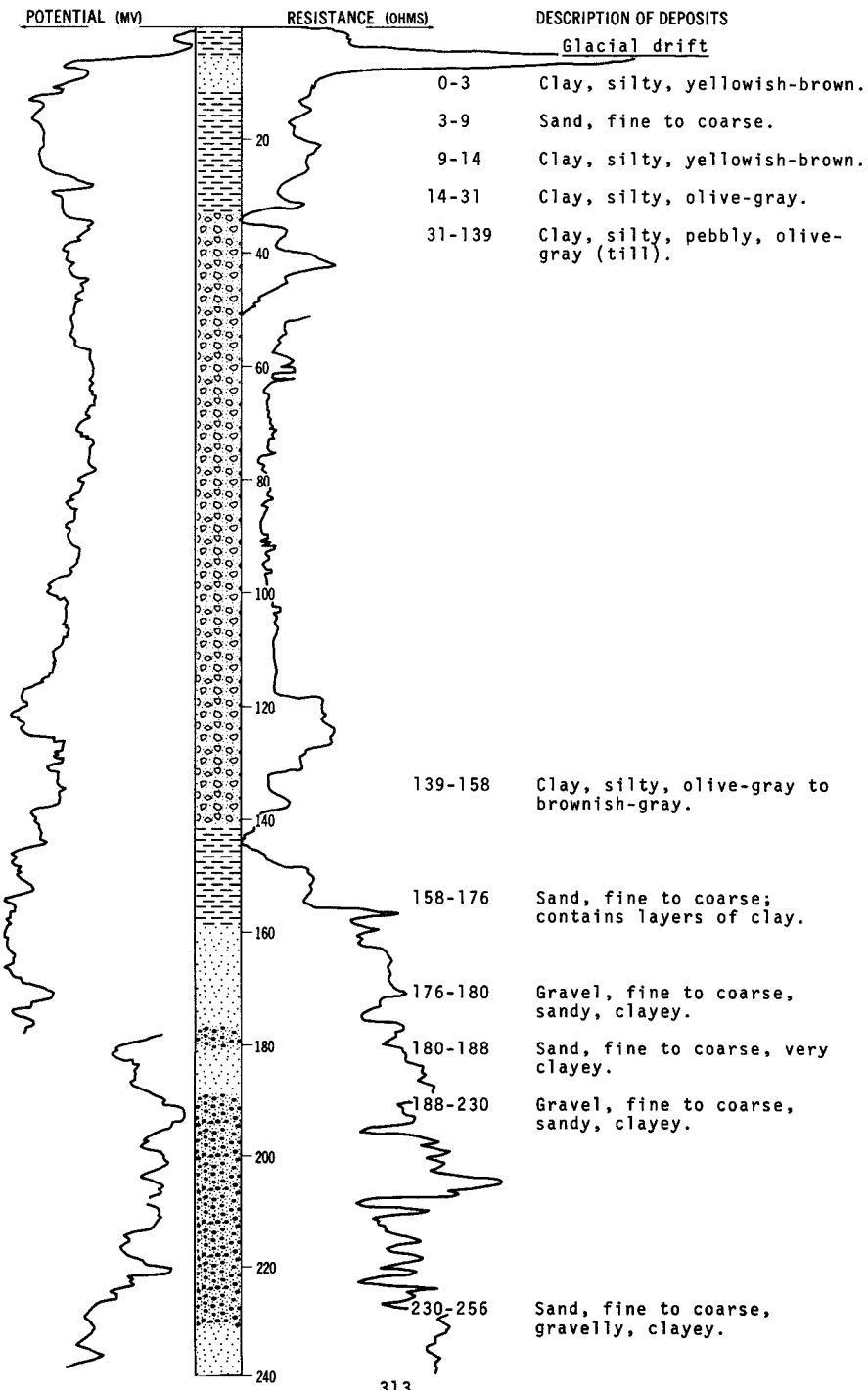


LOCATION: 146-60-17ABC2

DATE DRILLED: May 1972

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 320  
(FT)

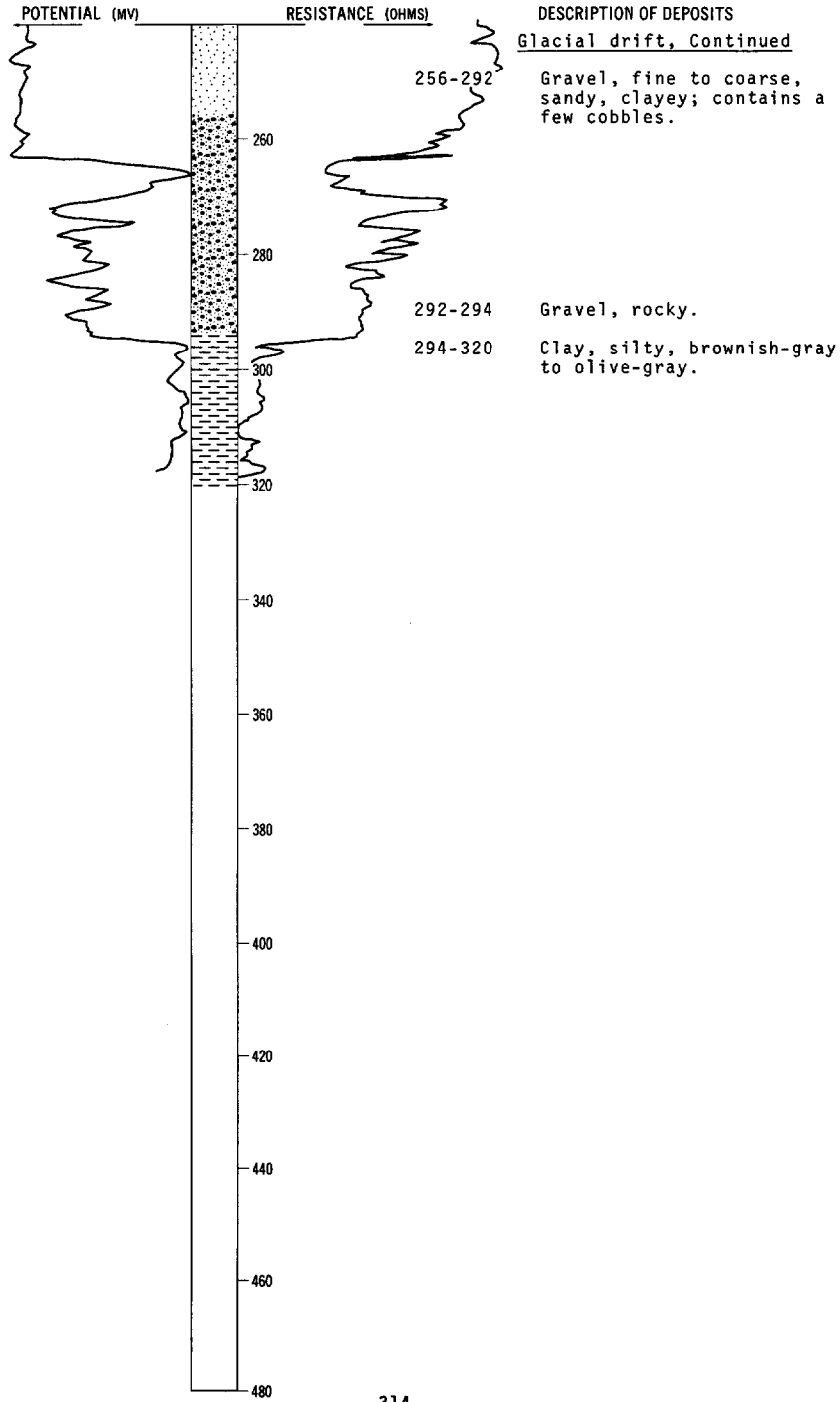


LOCATION: 146-60-17ABC2

ALTITUDE: 1455  
(FT, MSL)

DATE DRILLED: May 1972

DEPTH: 320  
(FT)



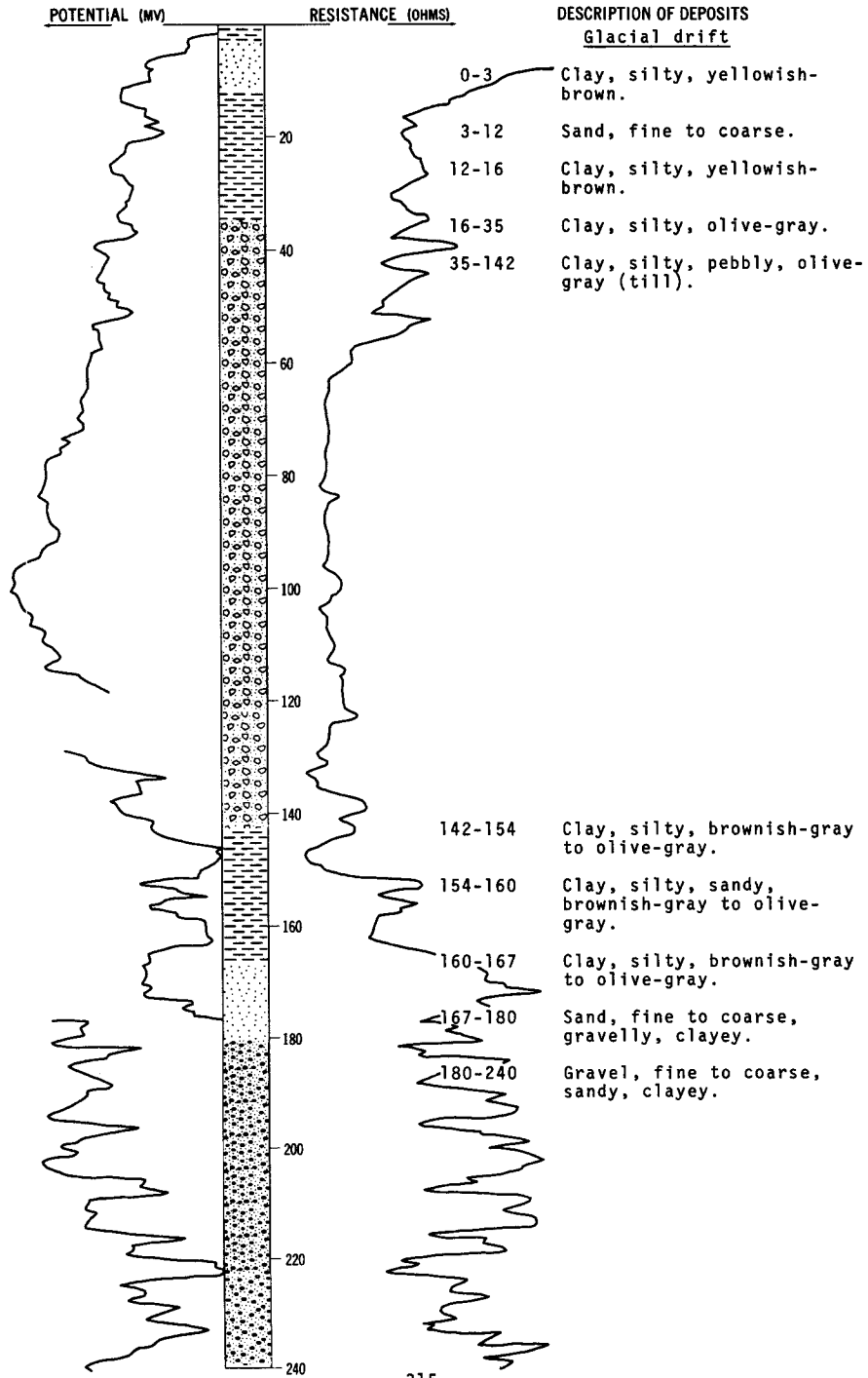


LOCATION: 146-60-17ABC3

ALTITUDE: 1455  
(FT, MSL)

DATE DRILLED: May 1972

DEPTH: 320  
(FT)



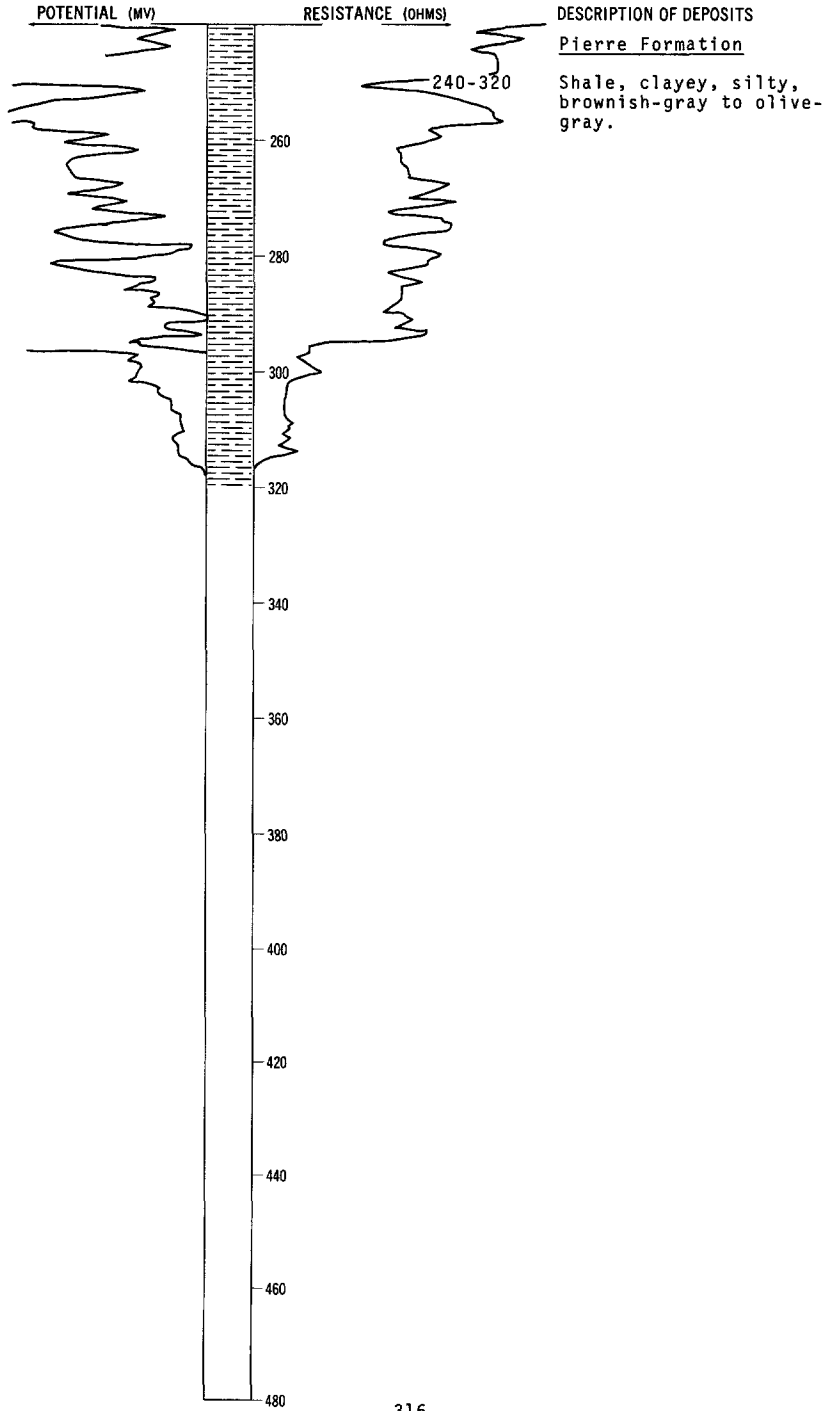
NDSWC 8304D, Continued

LOCATION: 146-60-17ABC3

DATE DRILLED: May 1972

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 320  
(FT)



146-60-17ABC4  
NDSWC 8304E

Altitude: 1455 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, yellowish-brown-----	3	3
	Sand, fine to coarse-----	9	12
	Clay, silty, yellowish-brown-----	4	16
	Clay, silty, olive-gray-----	18	34
	Clay, silty, olive-gray; occasional boulders (till)-----	110	144
	Clay, silty, brownish-gray to olive-gray-----	10	154
	Clay, silty, brownish-gray to olive-gray; interbedded with sand layers-----	7	161
	Clay, silty, brownish-gray-----	6	167
	Sand, fine to coarse, gravelly; interbedded with clay layers-----	13	180
	Gravel, fine to coarse, clayey, sandy, cobbly, bouldery-----	60	240

146-60-17ABC5  
NDSWC Production Well

Altitude: 1455 feet

Glacial drift:			
	Sand, gravelly, oxidized-----	18	18
	Clay, silty, gravelly, olive-gray; occasional silty and sandy lenses-----	122	140
	Silt, olive-gray, massive, soft-----	38	178
	Sand, medium to coarse-----	12	190
	Sand, coarse to very coarse-----	3	193
	Sand, coarse; gravel-----	2	195
	Sand, medium; gravel-----	11	206
	Sand, coarse to very coarse-----	11	217
	Sand, medium to coarse-----	28	245

146-60-18AAA  
(Log from Empire Drilling Co.)

Altitude: 1456 feet

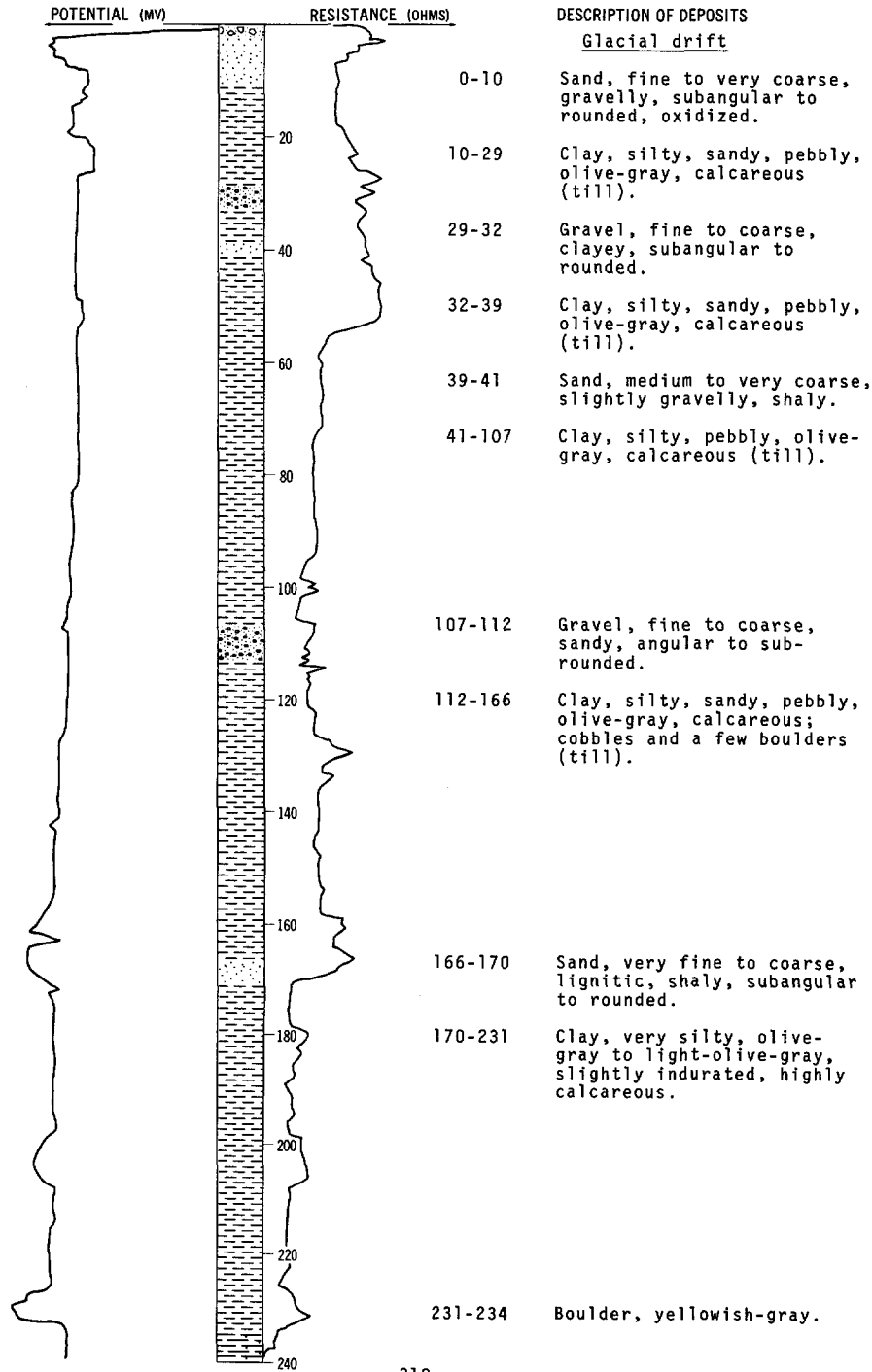
Glacial drift:			
	Sand-----	23	23
	Till, gray-----	11	34
	Sand and gravel-----	5	39
	Till, gray-----	40	79
	Sand-----	2	81
	Till, gray; sand layers-----	77	158
	Sand-----	7	165
	Gravel-----	15	180

LOCATION: 146-60-18BBA

DATE DRILLED: September 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 260  
(FT)



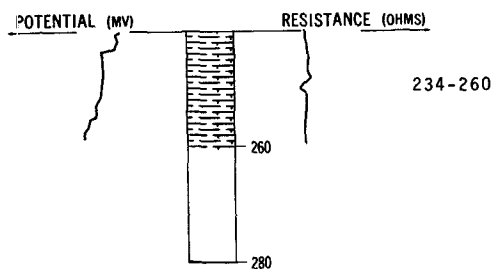
NDSWC 8511, Continued

LOCATION: 146-60-18BBA

DATE DRILLED: September 1972

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 260  
(FT)



DESCRIPTION OF DEPOSITS

Pierre Formation

Shale, siliceous, medium-dark-gray to dark-brown, moderately well indurated, slightly calcareous.

146-60-18BBB  
NDSWC 8510

Altitude: 1460 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, fine to very coarse, gravelly, subangular to subrounded-----	10	10
	Clay, silty, sandy, pebbly, olive-gray, moderately calcareous; a few thin gravel stringers (till)-----	11	21
	Sand, fine to coarse, shaly, lignitic, subangular to subrounded-----	4	25
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	35
	Gravel, fine to coarse, sandy, angular to rounded-----	3	38
	Clay, silty, sandy, pebbly, olive-gray, calcareous (till)-----	22	60

146-60-18DDB  
(Log from Empire Drilling Co.)

Altitude: 1455 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Soil, black-----	2	2
	Till, buff, silty, oxidized-----	20	22
	Till, bluish-gray, silty, unoxidized----	13	35
	Till, bluish-gray, very silty-----	6	41
	Sand, fine to coarse-----	2	43
	Till, bluish-gray-----	6	49
	Sand, fine to medium; gravel, fine-----	2	51
	Till, bluish-gray, clayey-----	28	79
	Gravel, fine, sandy; predominantly shale fragments-----	3	82
	Sand, medium to very coarse, poorly sorted, predominantly shale-----	8	90
	Silt, gray, clayey-----	2	92
	Sand, fine to coarse, poorly sorted, clean-----	3	95
	Till, bluish-gray, clayey (granite boulder at 98 ft)-----	5	100
	Silt, gray, clayey-----	5	105
	Sand, very fine to fine, silty-----	14	119
	Silt, gray, very sandy-----	6	125
	Sand, gray, very silty-----	4	129
	Gravel, medium to coarse, subangular to subrounded (granite and limestone) clean-----	4	133
	Gravel, coarse to very coarse, angular to rounded-----	7	140
	Sand, coarse to very coarse,-----	15	155
	Till, bluish-gray, silty, very cohesive--	20	175
	Sand, gray, very fine to fine (poor samples)-----	15	190
	Gravel, fine to medium, angular, clean--	10	200
	Sand, medium to very coarse-----	5	205
	Gravel, medium to coarse, angular, predominantly shale-----	5	210
	Gravel, medium to coarse, angular, predominantly shale; some coarse sand--	5	215
Pierre Formation:			
	Shale, dark-bluish-gray-----	5	220

146-60-27CDC  
(Log from Schnell, Inc.)

Altitude: 1442 feet

Glacial drift:			
	Topsoil-----	2	2
	Clay, sandy-----	3	5
	Sand-----	9	14
	Clay, silty, sandy, gray (till)-----	10	24
	Sand; clay layers-----	9	33
	Clay, silty, sandy, pebbly, gray (till)--	25	58
	Clay, silty, sandy, gray (till)-----	52	110
	Sand and gravel-----	11	121
	Clay, sandy, silty, gray (till)-----	11	132
	Sand, medium-----	18	150
	Gravel, medium-----	50	200

146-60-29DDB  
(Log from Schnell, Inc.)

Altitude: 1450 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Sand and gravel-----	8	10
	Till, oxidized-----	2	12
	Sand and gravel-----	11	23
	Till, gray-----	27	50
	Till, gray; boulders-----	15	65
	Till, gray-----	21	86
	Sand; clay layers-----	6	92
	Till, gray-----	57	149
	Sand, medium-----	19	168
	Gravel-----	32	200

146-60-29DDD  
(Log from Schnell, Inc.)

Altitude: 1446 feet

Glacial drift:			
	Topsoil-----	2	2
	Sand and gravel-----	21	23
	Till, gray-----	27	50
	Till, gray; boulders-----	15	65
	Till, gray-----	21	86
	Sand; clay layers-----	6	92
	Till, gray-----	57	149
	Sand, medium-----	19	168
	Gravel-----	46	214
Pierre Formation:			
	Shale-----	4	218

146-60-30AAD2  
(Log from Schnell, Inc.)

Altitude: 1465 feet

Glacial drift:			
	Topsoil-----	2	2
	Sand-----	11	13
	Till, hard, gray; boulders-----	108	121
	Clay, soft, sandy; sand layers-----	30	151
	Sand, fine-----	12	163
	Gravel, medium-----	9	172
	Gravel, fine-----	8	180
	Gravel; lignite and shale pebbles-----	15	195
	Clay, hard-----	2	197

146-60-30ADC  
(Log from Schnell, Inc.)

Altitude: 1450 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Sand and gravel-----	13	15
	Till, gray-----	39	54
	Sand-----	5	59
	Till, gray; boulders-----	91	150
	Sand, coarse-----	7	157
	Clay, sandy-----	90	247
	Sand, medium-----	15	262
	Gravel, fine to medium; lignite and shale pebbles-----	6	268
	Clay, hard-----	2	270

146-60-30CCA  
(Log from Schnell, Inc.)

Altitude: 1443 feet

Glacial drift:			
	Topsoil-----	2	2
	Till, oxidized-----	15	17
	Till, gray-----	3	20
	Gravel-----	1	21
	Till, gray-----	94	115
	Gravel-----	4	119
	Till, gray-----	2	121
	Gravel-----	2	123
	Till, gray-----	34	157
	Gravel-----	5	162
	Till, gray-----	8	170
	Gravel, coarse-----	5	175
	Till, gray-----	14	189
Pierre Formation:			
	Shale-----	6	195

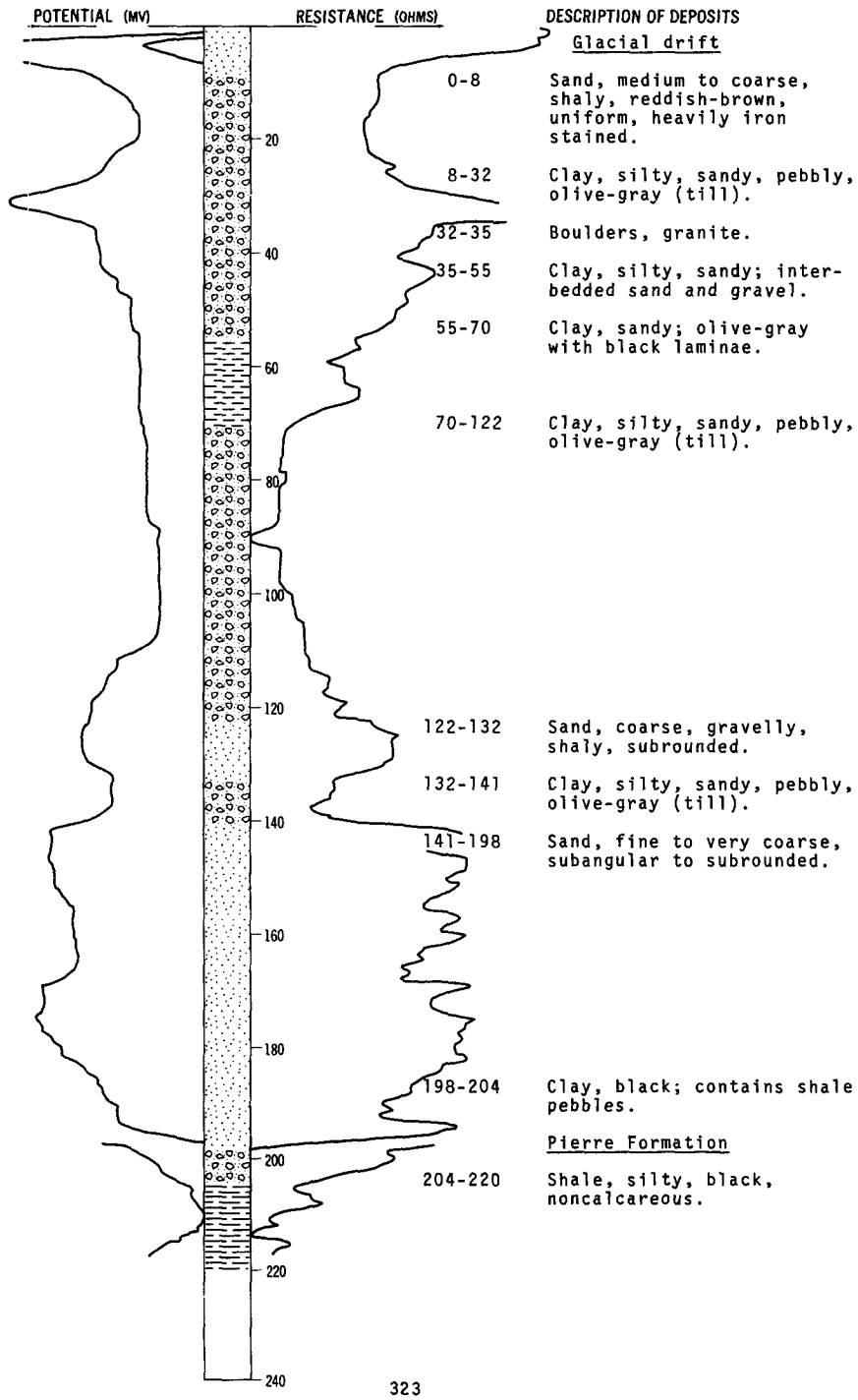


LOCATION: 146-60-33CCC

DATE DRILLED: August 1971

ALTITUDE: 1442  
(FT, MSL)

DEPTH: 220  
(FT)

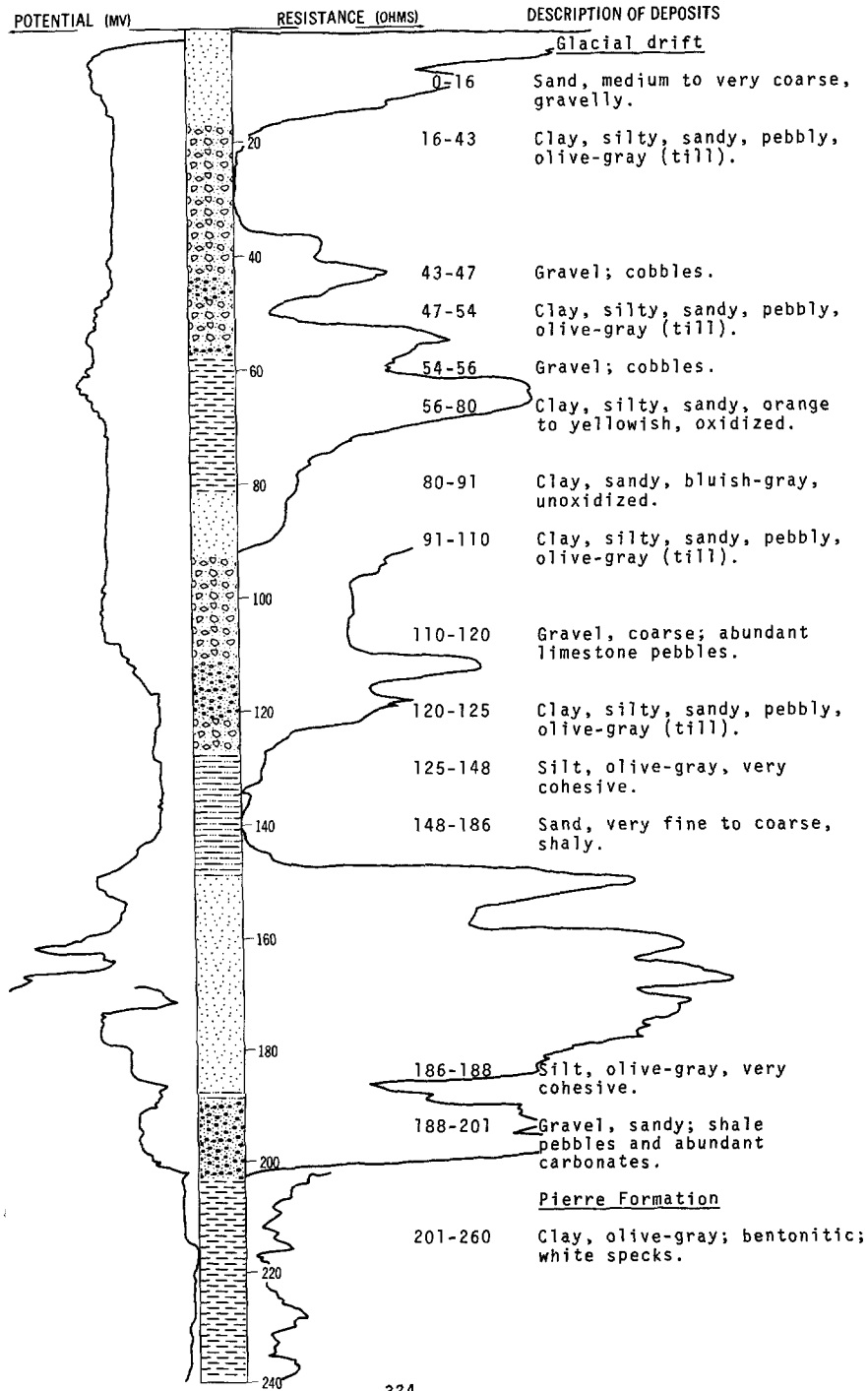


LOCATION: 146-60-34BBB

DATE DRILLED: April 1972

ALTITUDE: 1440  
(FT, MSL)

DEPTH: 260  
(FT)



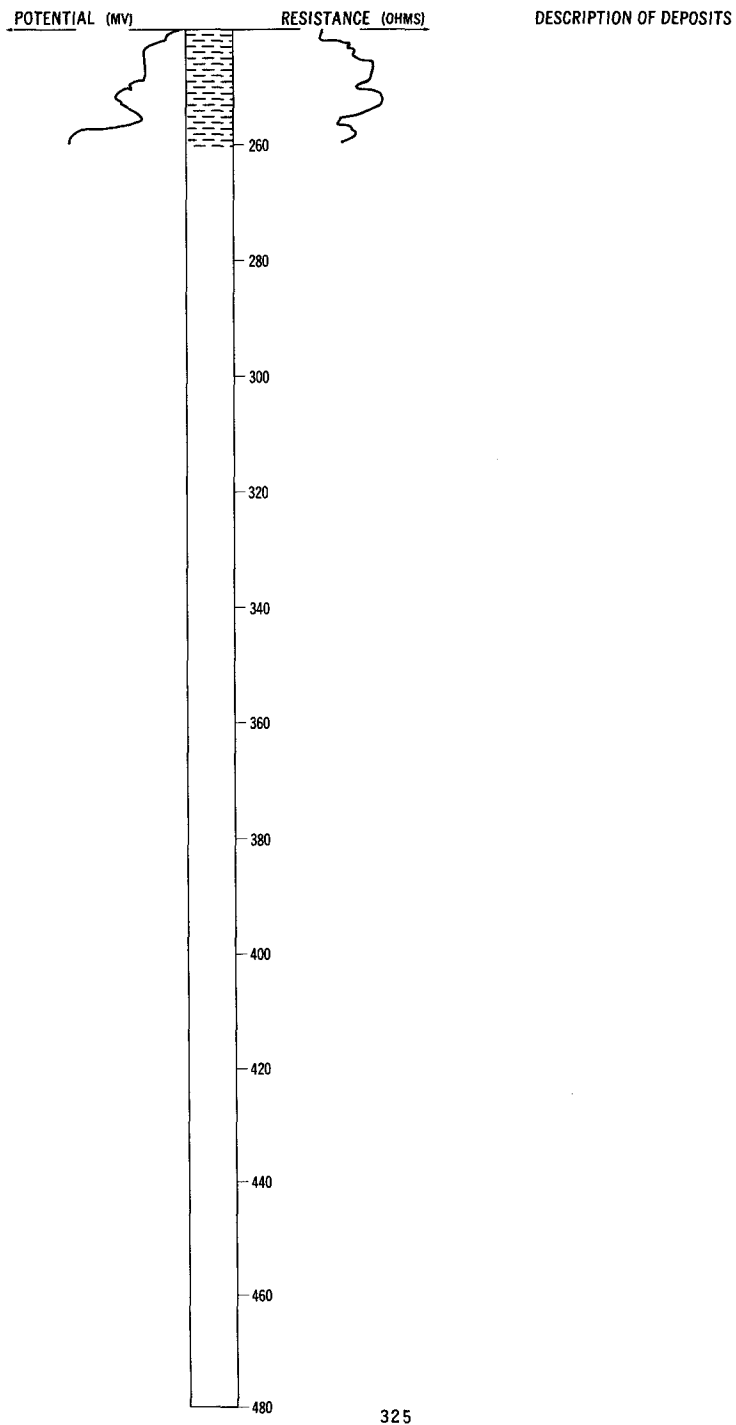
NDSWC 8300, Continued

LOCATION: 146-60-34BBB

DATE DRILLED: April 1972

ALTITUDE: 1440  
(FT. MSL)

DEPTH: 260  
(FT)

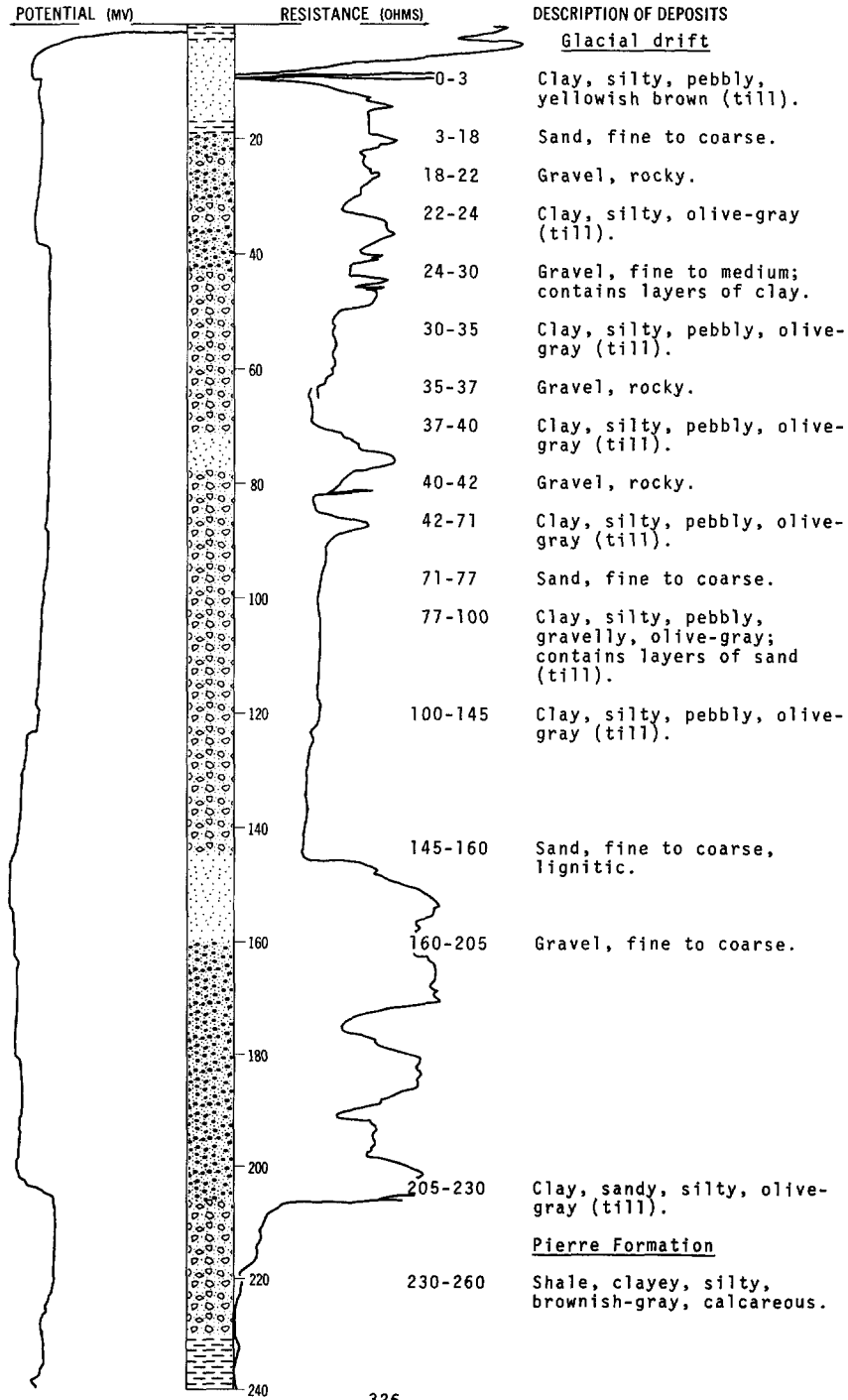


LOCATION: 146-60-36CCC

DATE DRILLED: April 1972

ALTITUDE: 1445  
(FT, MSL)

DEPTH: 260  
(FT)



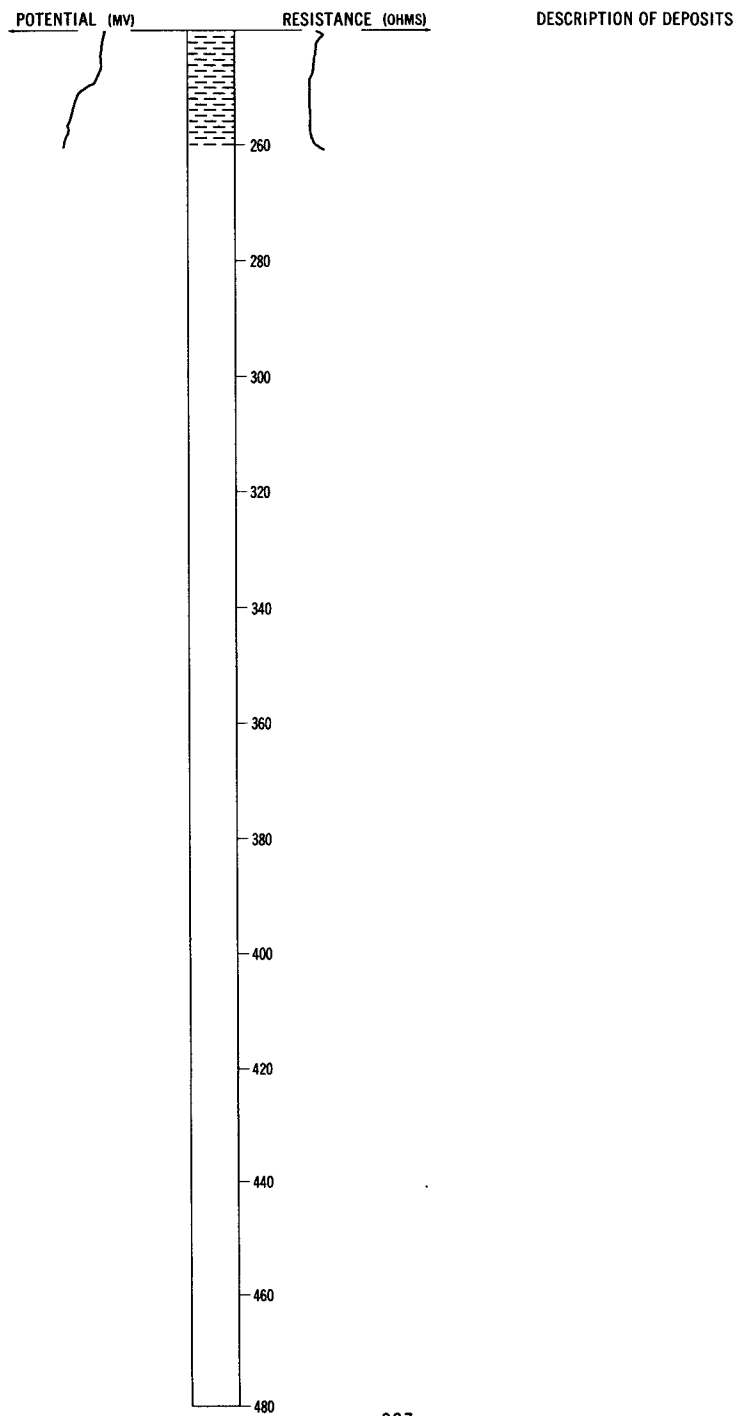
NDSWC 8299, Continued

LOCATION: 146-60-36CCC

DATE DRILLED: April 1972

ALTITUDE: 1445  
(FT, MSL)

DEPTH: 260  
(FT)

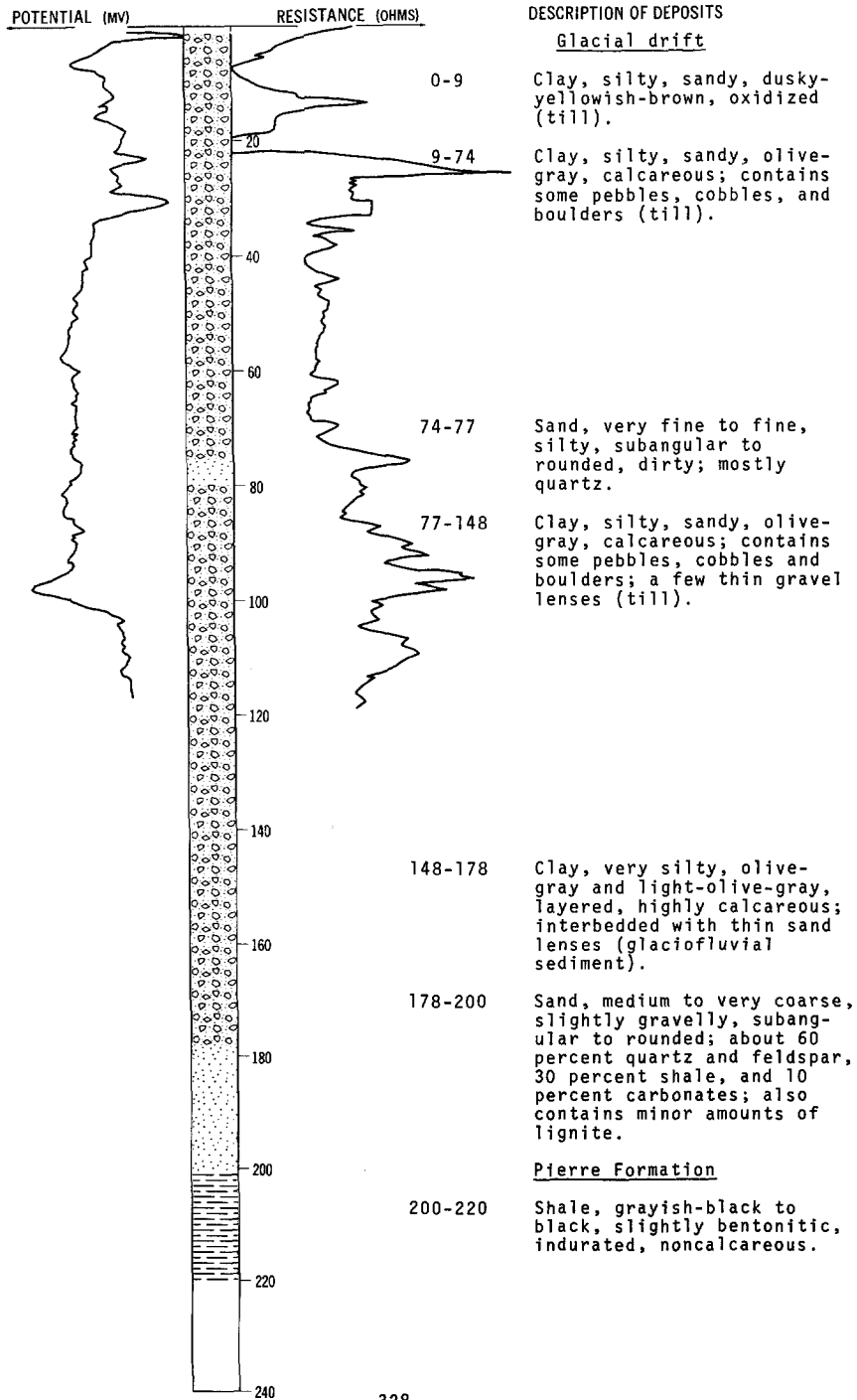


LOCATION: 146-61-02DCC

DATE DRILLED: October 1970

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 220  
(FT)

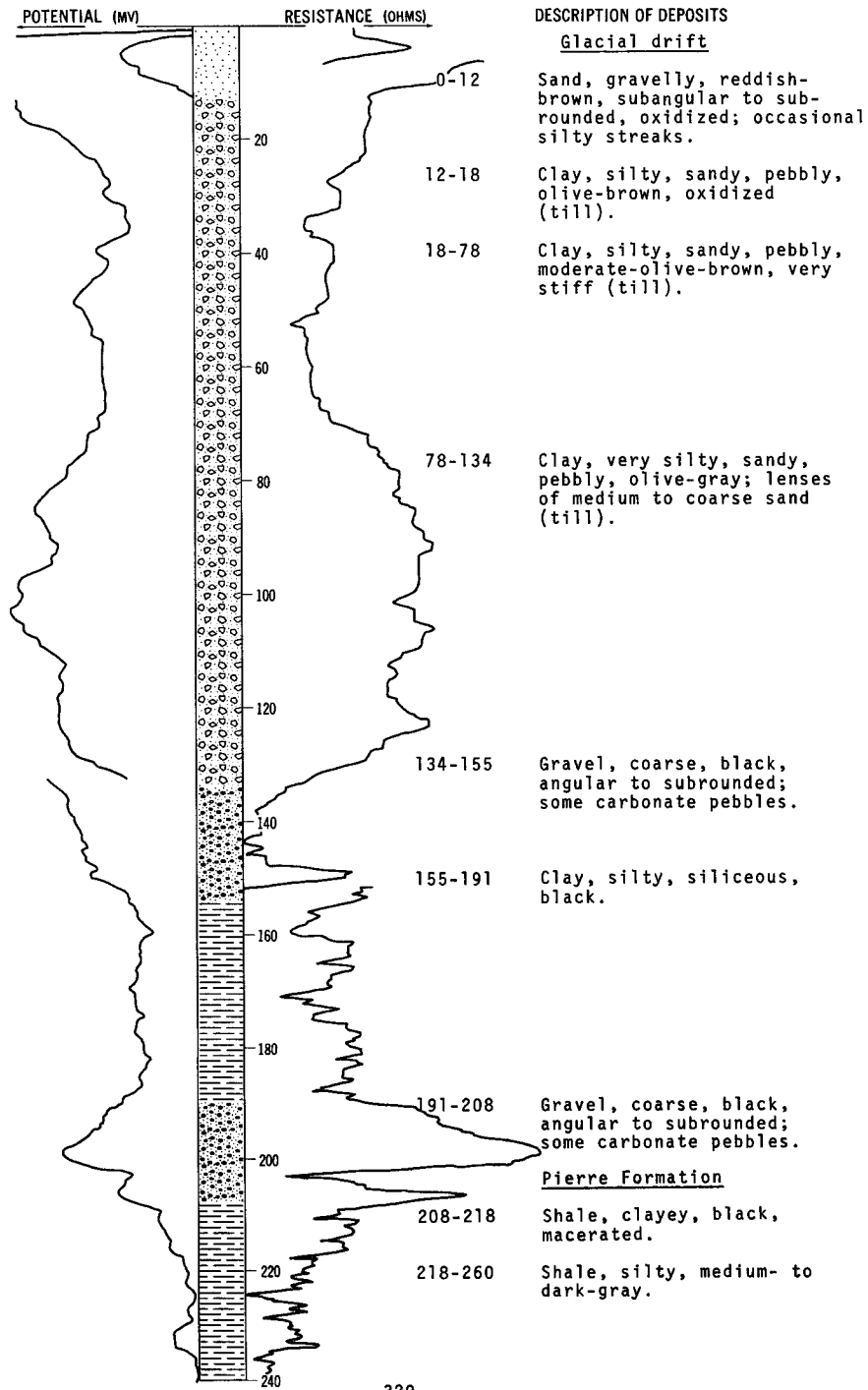


LOCATION: 146-61-04BBB

DATE DRILLED: August 1970

ALTITUDE: 1455  
(FT, MSL)

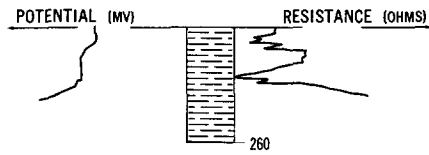
DEPTH: 260  
(FT)



NDSWC 4351, Continued

LOCATION: 146-61-04BBB  
 ALTITUDE: 1455  
 (FT, MSL)

DATE DRILLED: August 1970  
 DEPTH: 260  
 (FT)

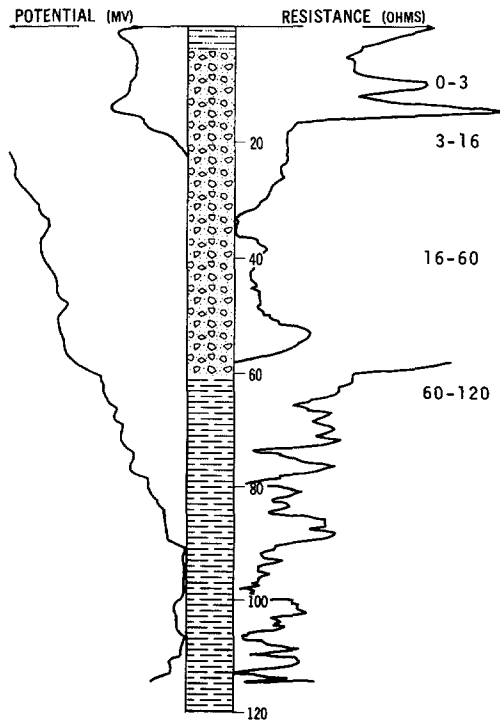


DESCRIPTION OF DEPOSITS

NDSWC 4348

LOCATION: 146-61-07CCC  
 ALTITUDE: 1479  
 (FT, MSL)

DATE DRILLED: August 1971  
 DEPTH: 120  
 (FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-3 Silt, sandy, yellowish-gray, leached, oxidized.

3-16 Clay, very silty, sandy, pebbly, dusky-yellow to moderate-olive-brown, oxidized; cobbles and boulders (till).

16-60 Clay, very silty, sandy, olive-gray; occasional carbonate and shale pebbles (till).

Pierre Formation

60-120 Shale, siliceous, black; thinly interbedded with medium-gray clay layers.

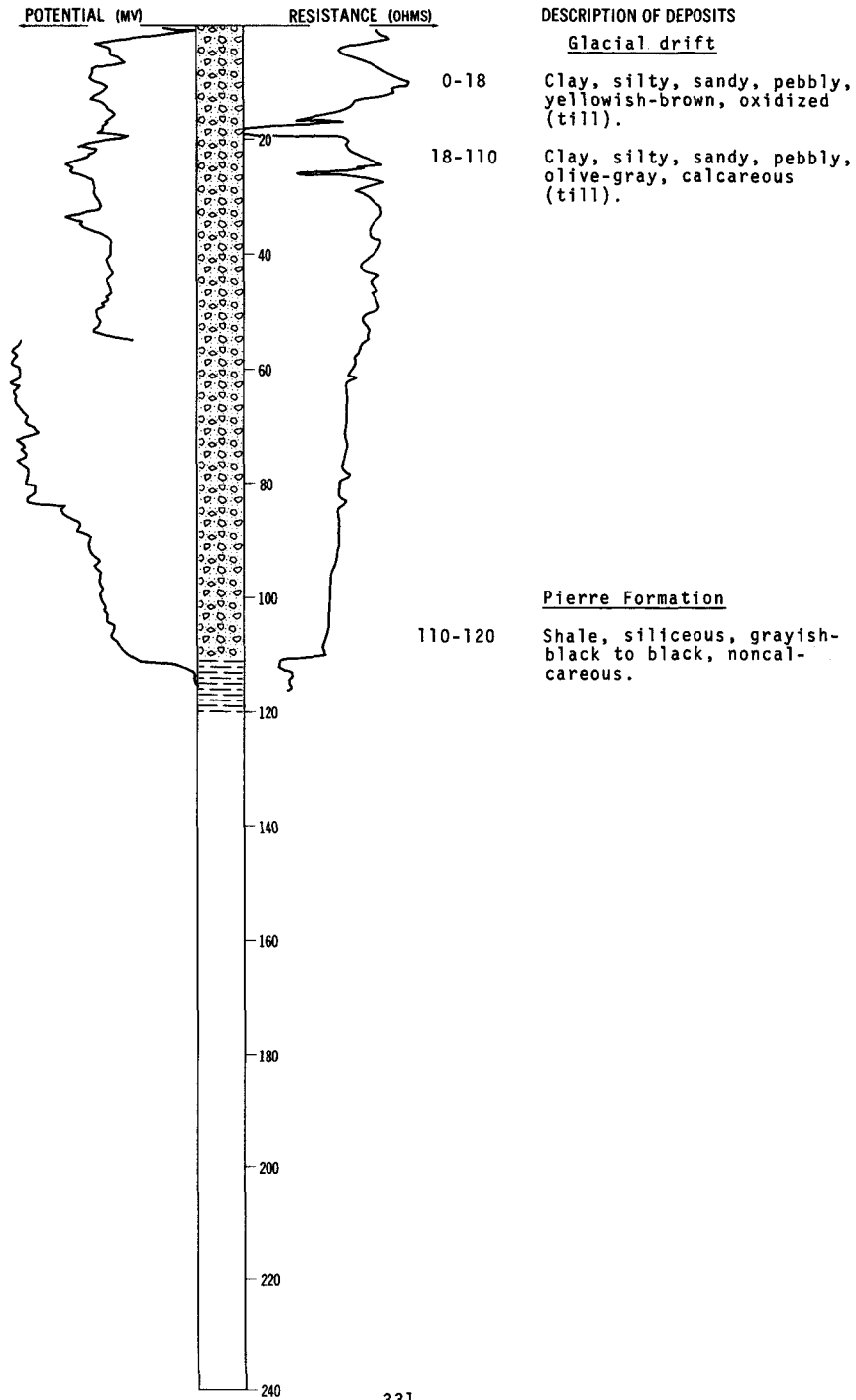


LOCATION: 146-61-07DDD

DATE DRILLED: October 1970

ALTITUDE: 1460  
(FT, MSL)

DEPTH: 120  
(FT)

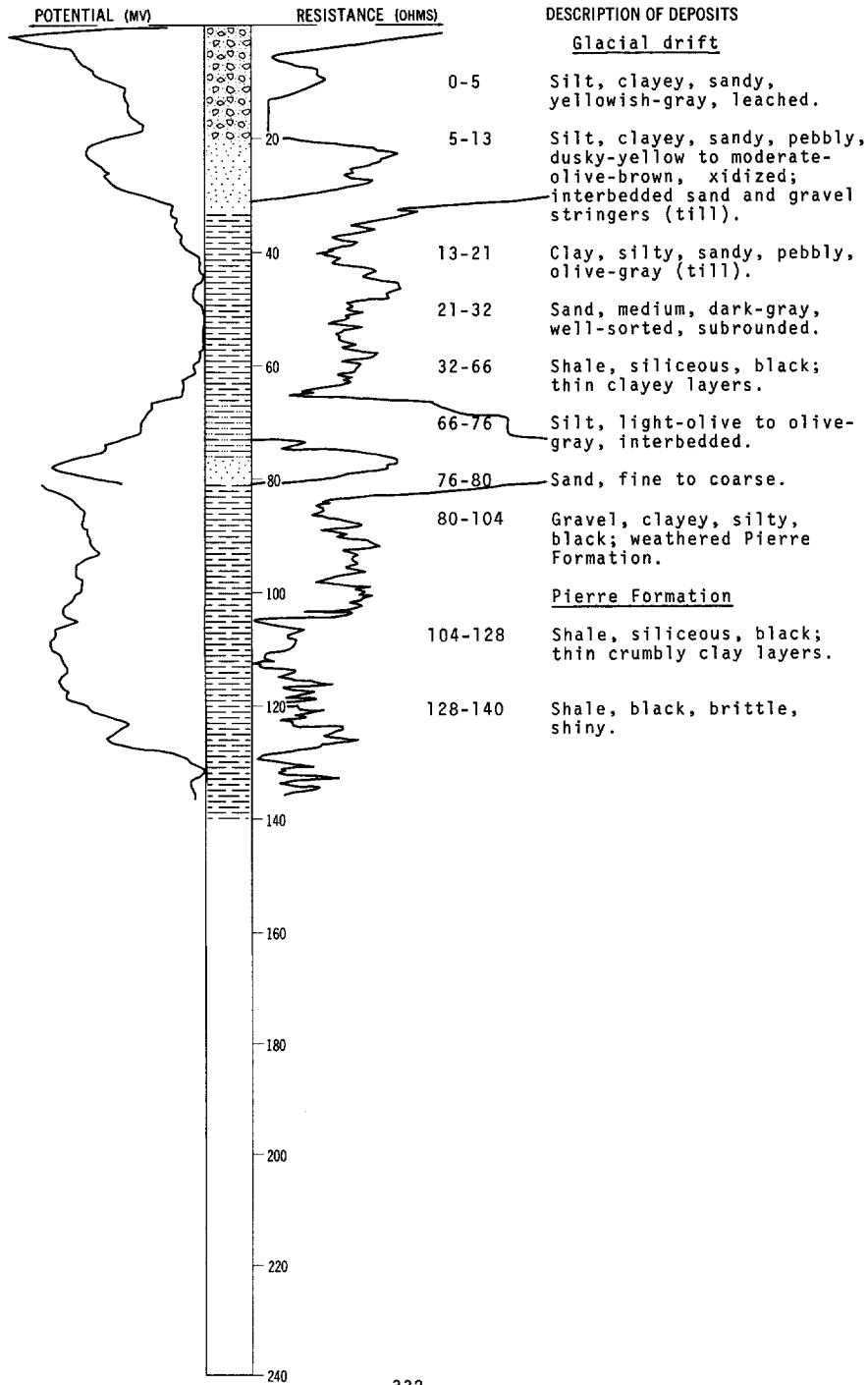


LOCATION: 146-61-08BBB

DATE DRILLED: August 1971

ALTITUDE: 1475  
(FT, MSL)

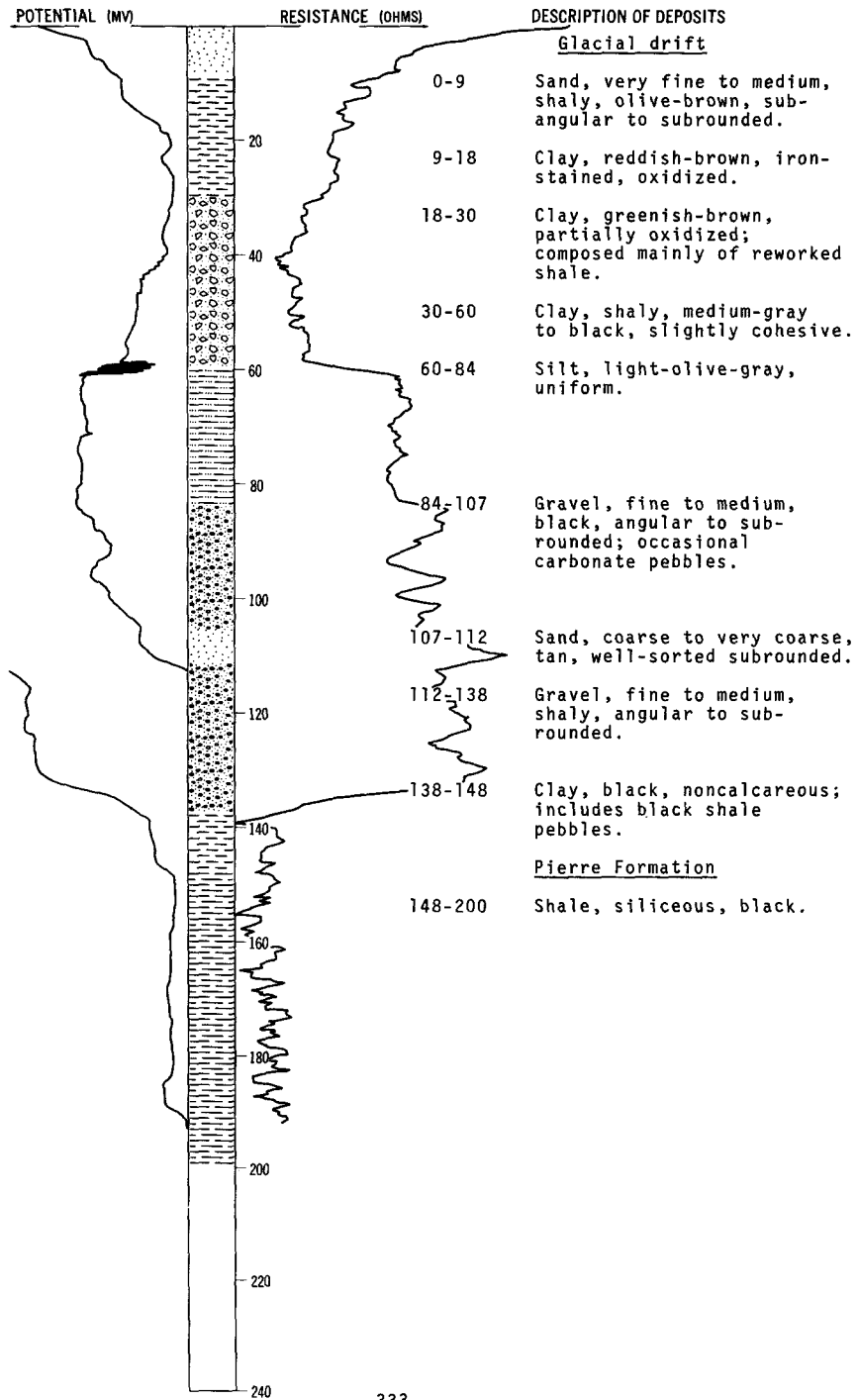
DEPTH: 140  
(FT)



NDSWC 4347

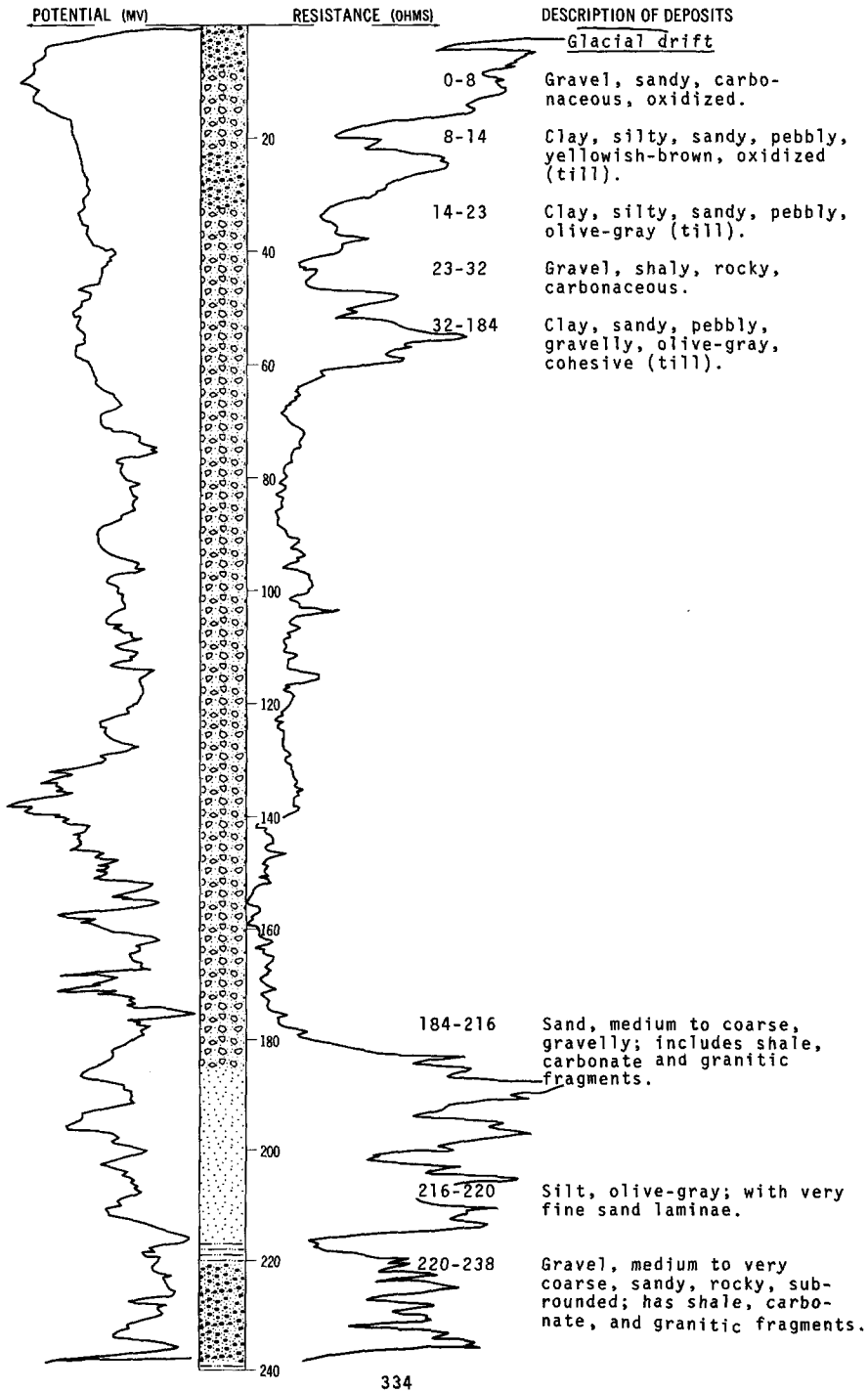
LOCATION: 146-61-08DDD  
 ALTITUDE: 1454  
 (FT. MSL)

DATE DRILLED: August 1971  
 DEPTH: 200  
 (FT)



LOCATION: 146-61-11CDD  
 ALTITUDE: 1455  
 (FT. MSL)

DATE DRILLED: April 1972  
 DEPTH: 260  
 (FT)



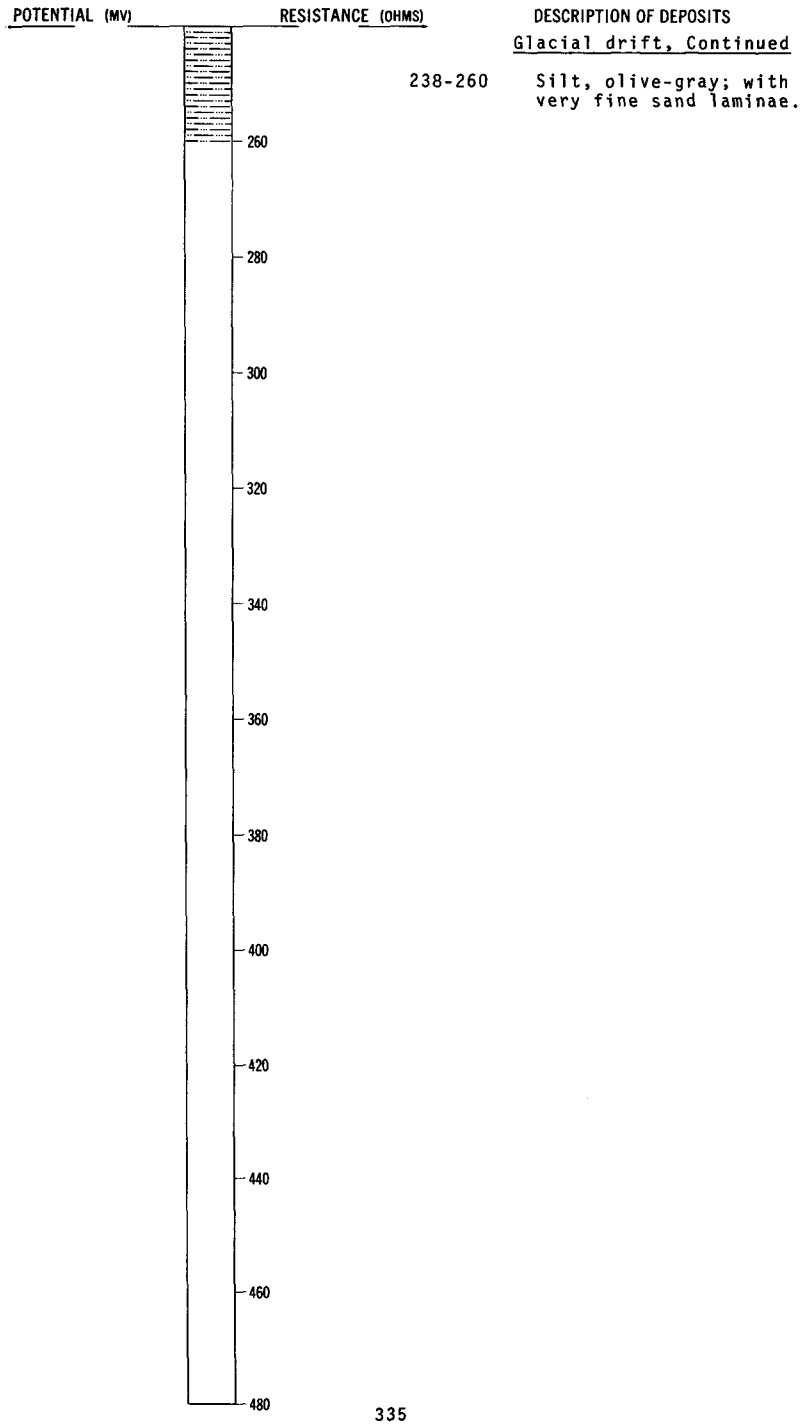
NDSWC 8296C, Continued

LOCATION: 146-61-11CDD

DATE DRILLED: April 1972

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 260  
(FT)

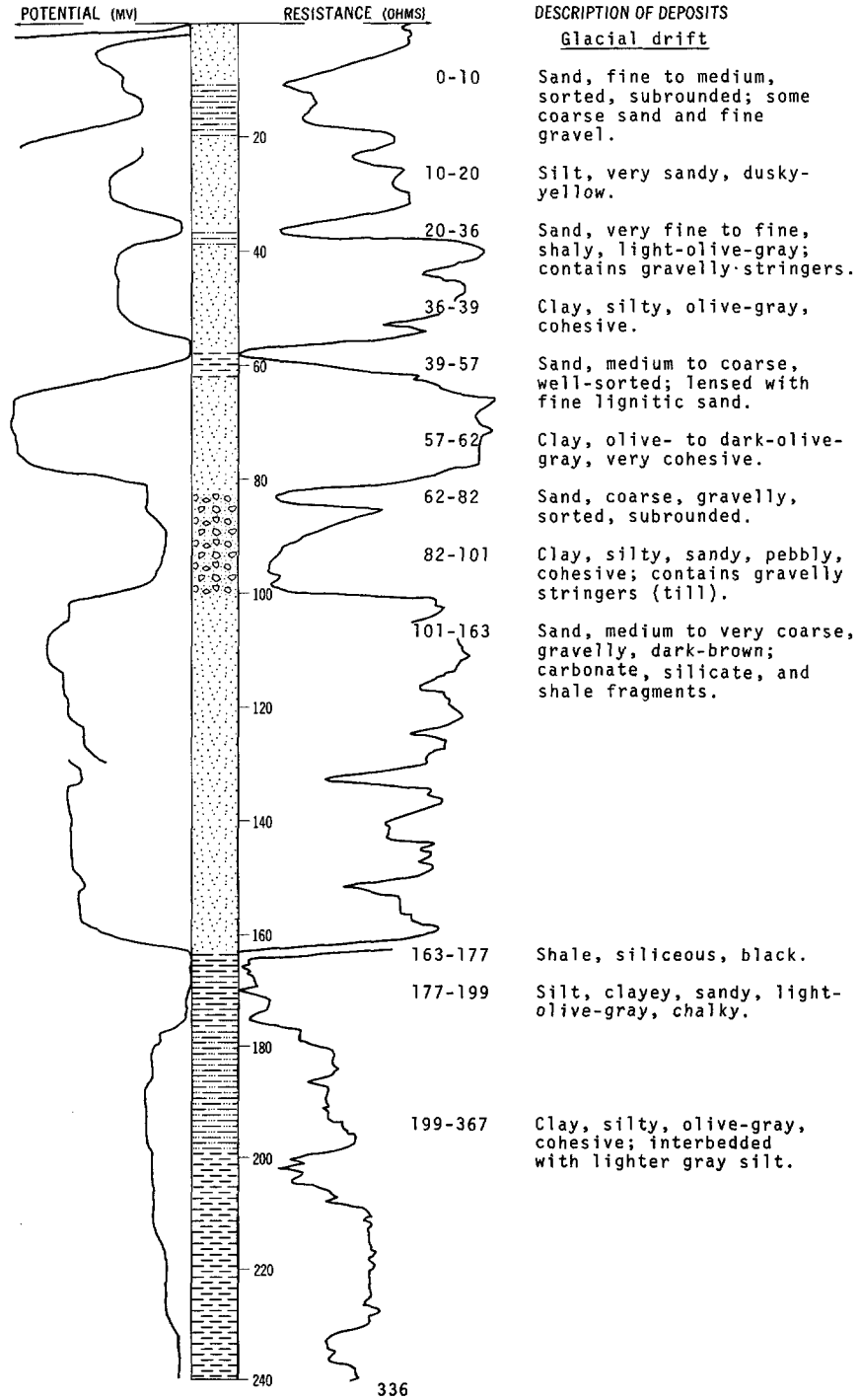


LOCATION: 146-61-12CCC1

DATE DRILLED: August 1971

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 430  
(FT)



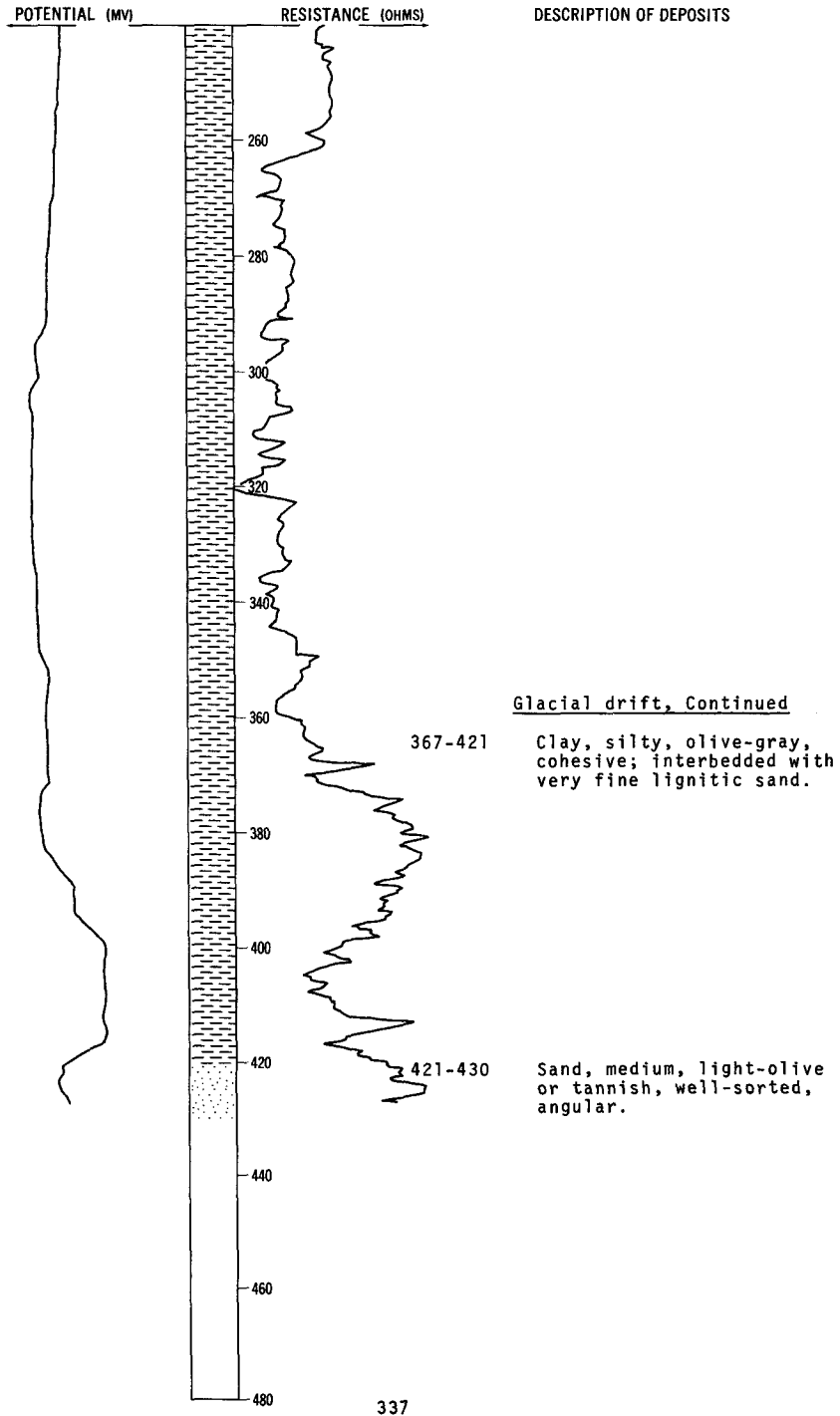
NDSWC 4346, Continued

LOCATION: 146-61-12CCC1

DATE DRILLED: August 1971

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 430  
(FT)

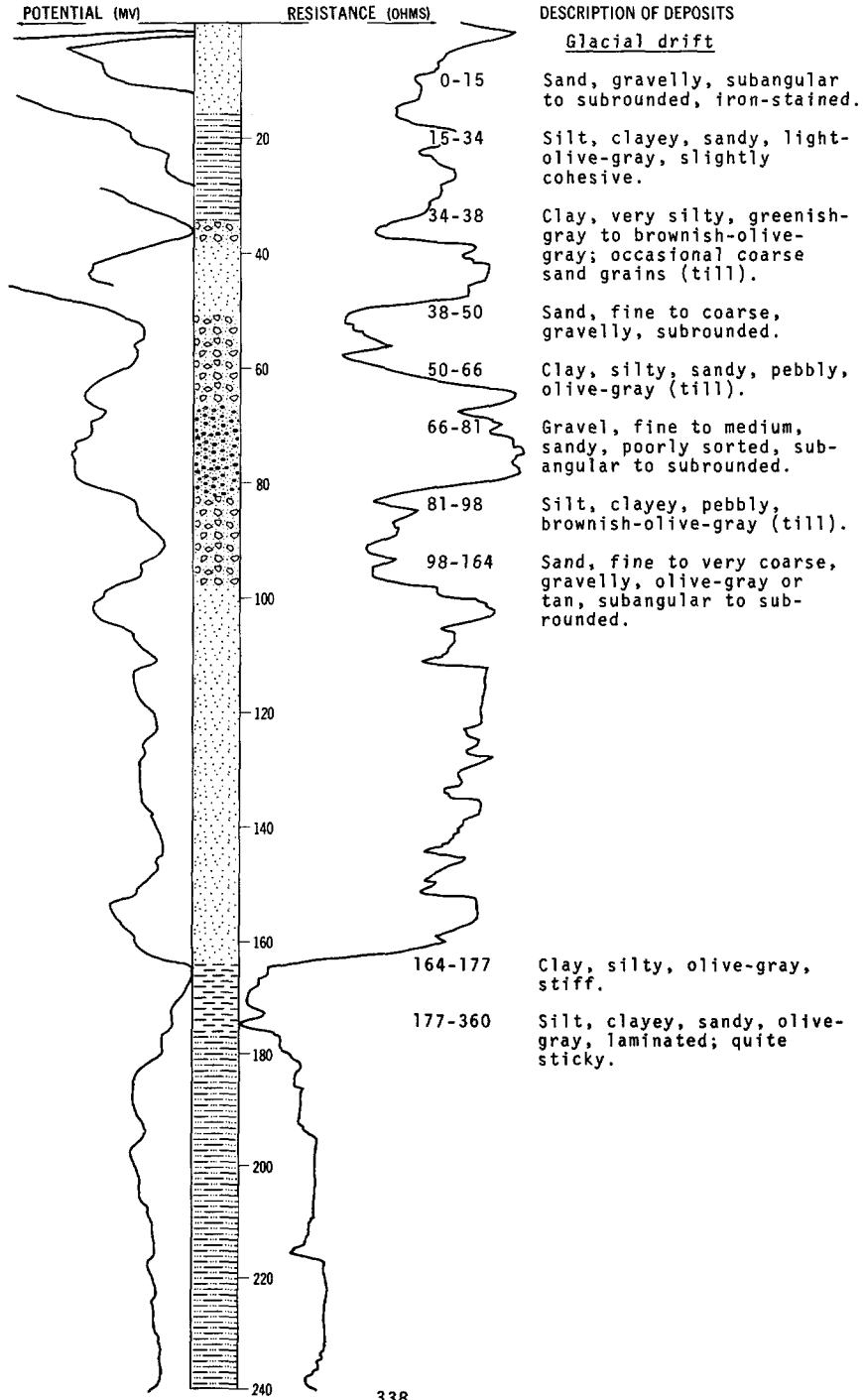


LOCATION: 146-61-12CCC2

DATE DRILLED: September 1971

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 550  
(FT)





NDSWC 4378, Continued

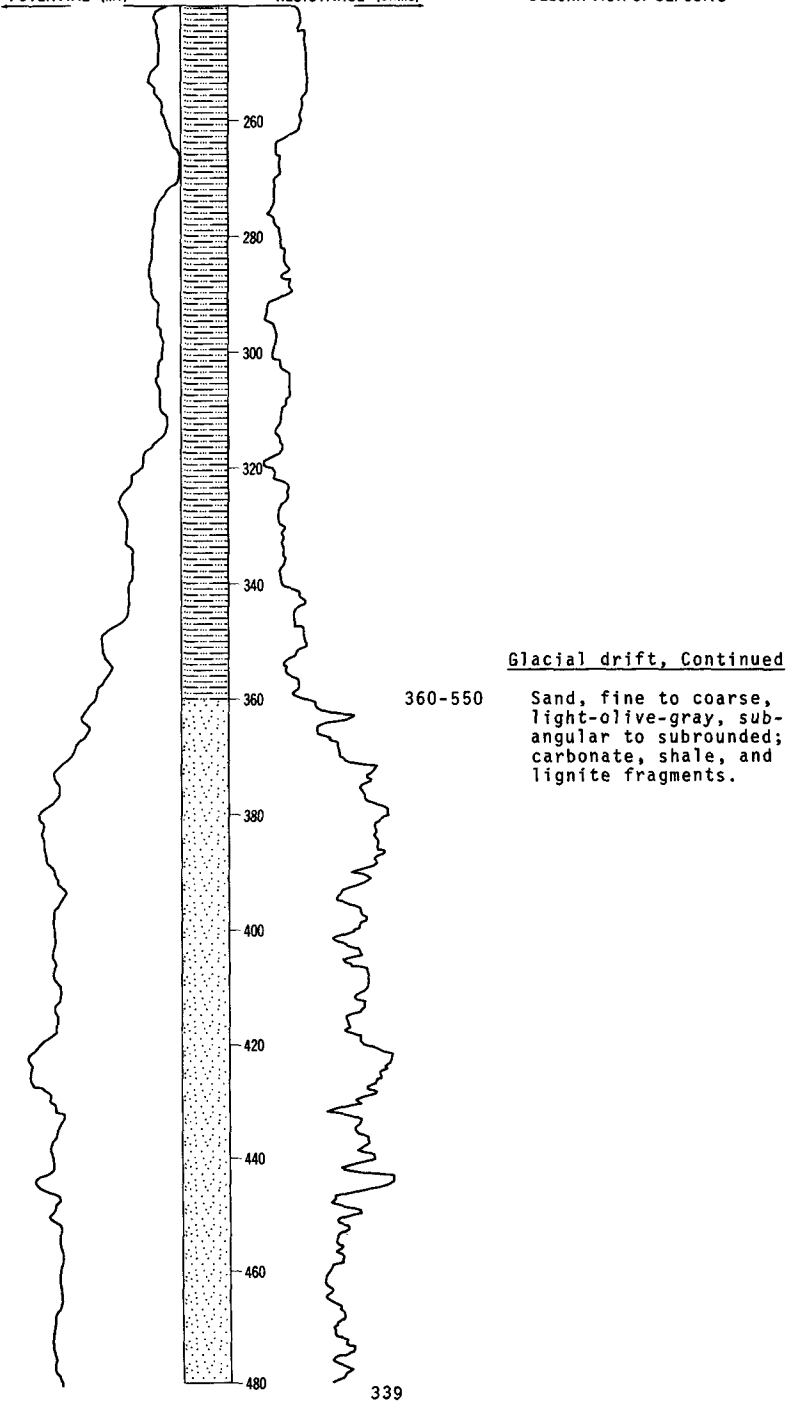
LOCATION: 146-61-12CCC2

DATE DRILLED: September 1971

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 550  
(FT)

POTENTIAL (MV)      RESISTANCE (OHMS)      DESCRIPTION OF DEPOSITS



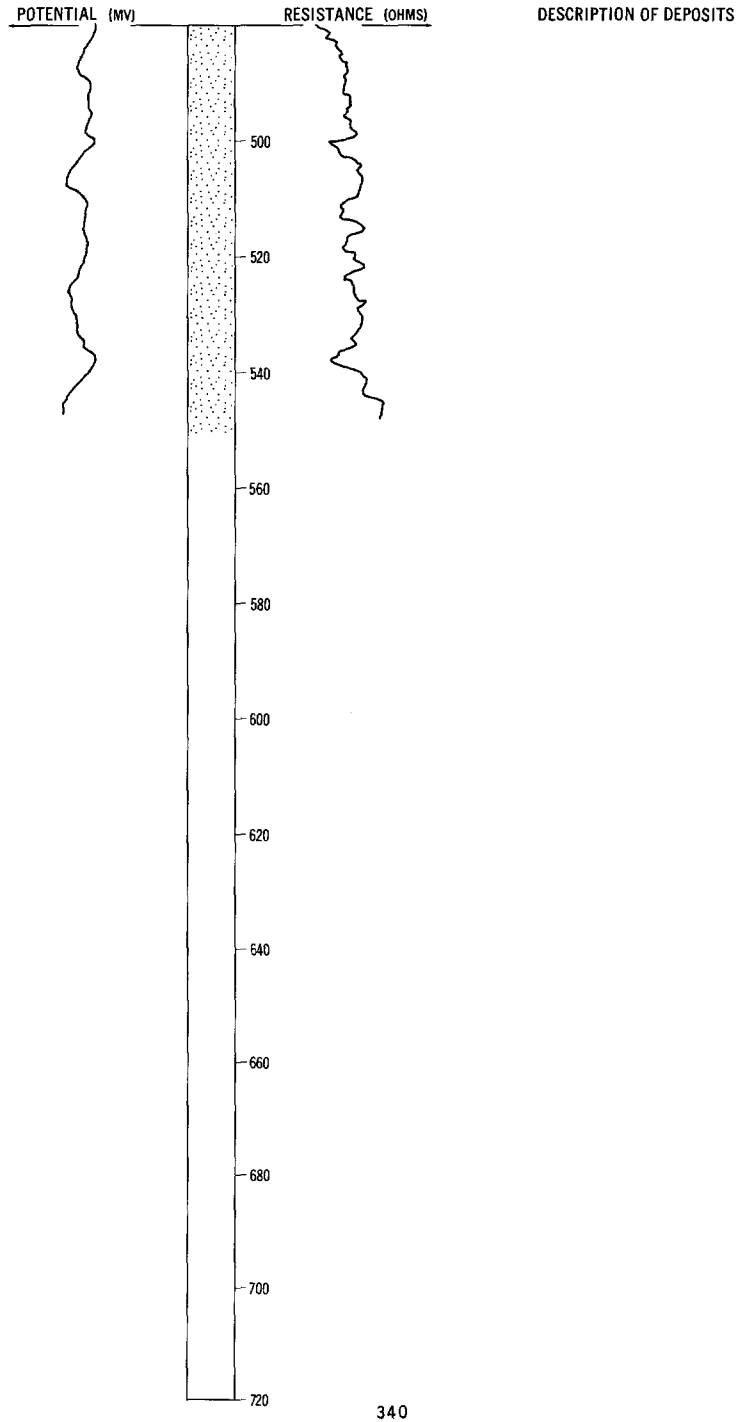
NDSWC 4378, Continued

LOCATION: 146-61-12CCC2

DATE DRILLED: September 1971

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 550  
(FT)



146-61-14ADC  
(Log from Schnell, Inc.)

Altitude: 1463 feet

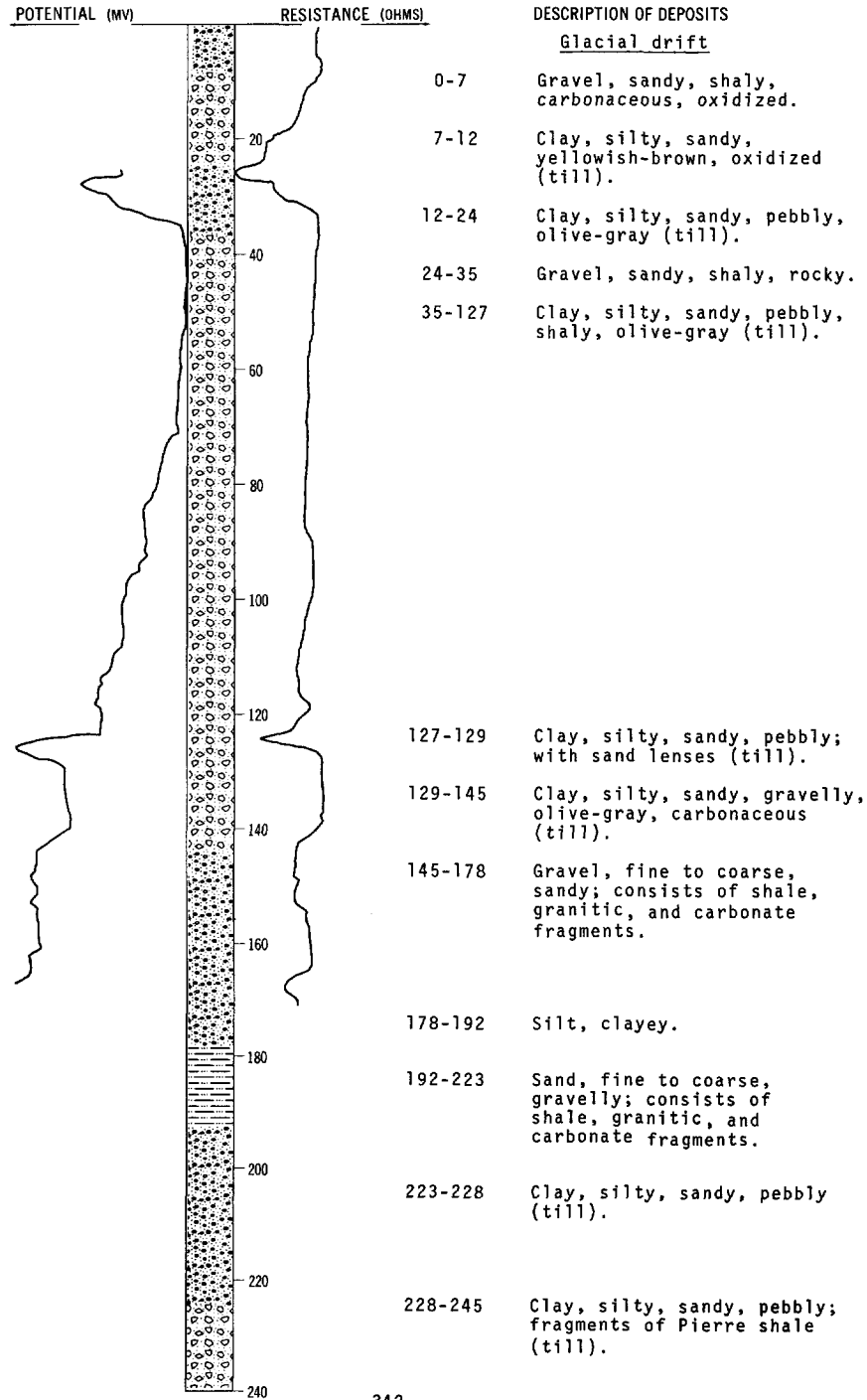
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, brown, sandy-----	1	1
	Sand, medium to coarse, silty, poorly sorted, angular; terrace deposits (Bald Hill Creek)-----	4	5
	Same as above-----	5	10
	Same as above-----	4	14
	Till, buff, clayey-----	2	16
	Gravel, very coarse, subround, clean---	4	20
	Gravel, coarse, subrounded, sandy, clean	7	27
	Till, bluish-gray, sandy-----	3	30
	Gravel, very coarse, clean, angular to subrounded-----	4	34
	Sand, very fine to fine, silty, poorly sorted-----	6	40
	Till, bluish-gray, sandy-----	2	42
	Sand, fine to medium, rounded-----	17	59
	Clay, gray-----	1	60
	Sand, fine to coarse, clayey-----	4	64
	Gravel, coarse, sandy-----	2	66
	Sand, coarse, angular, clean; shale gravel near base-----	4	70
	Sand, medium to coarse, angular well-sorted; gravel, fine to medium, angular-----	5	75
	Sand, medium to coarse, subangular, clean; some shale gravel-----	3	78
	Gravel, fine to medium, angular-----	2	80
	Sand, medium to very coarse, subangular to subrounded, clean-----	6	86
	Gravel, fine to medium; predominantly shale; sand, coarse to very coarse; predominantly limestone, clean-----	4	90
	Sand, very fine to fine, silty (poor samples due to washed out hole)-----	20	110
	Sand, very fine to medium, angular; gravel, fine, angular; predominantly shale-----	10	120

LOCATION: 146-61-14BAB1

DATE DRILLED: April 1972

ALTITUDE: 1457  
(FT, MSL)

DEPTH: 300  
(FT)



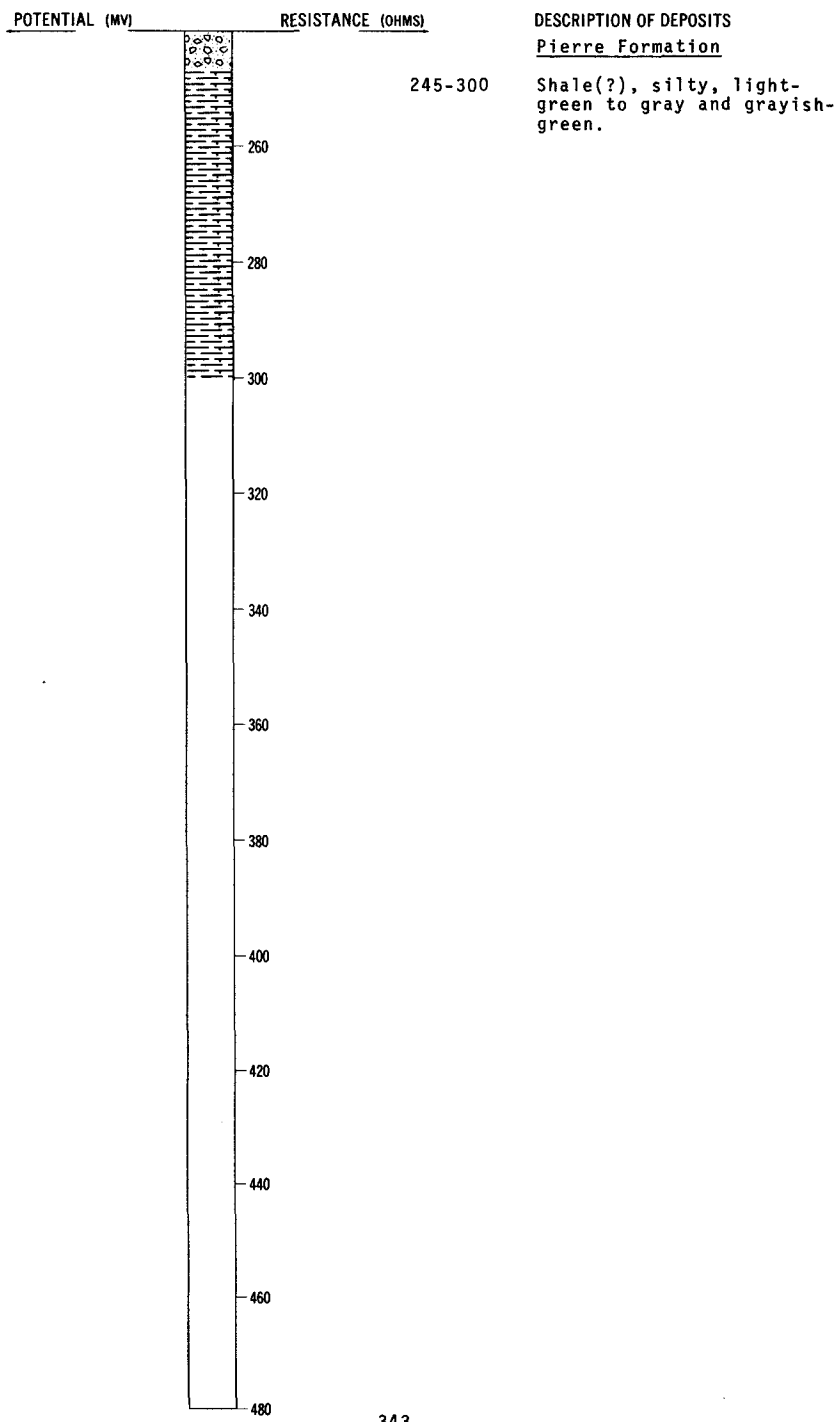
NDSWC 8296, Continued

LOCATION: 146-61-14BAB1

DATE DRILLED: April 1972

ALTITUDE: 1457  
(FT, MSL)

DEPTH: 300  
(FT)

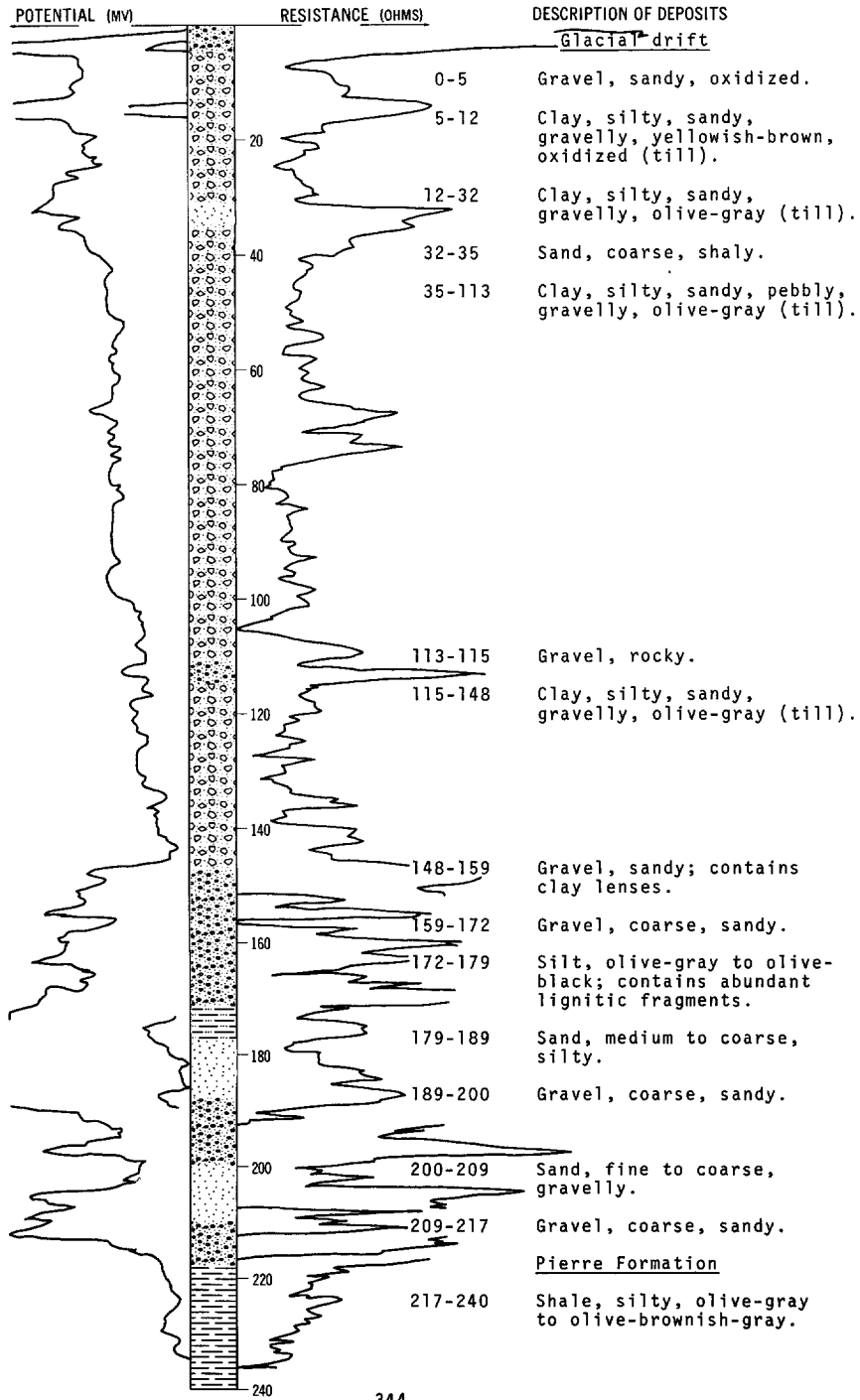


LOCATION: 146-61-14BAB2

DATE DRILLED: April 1972

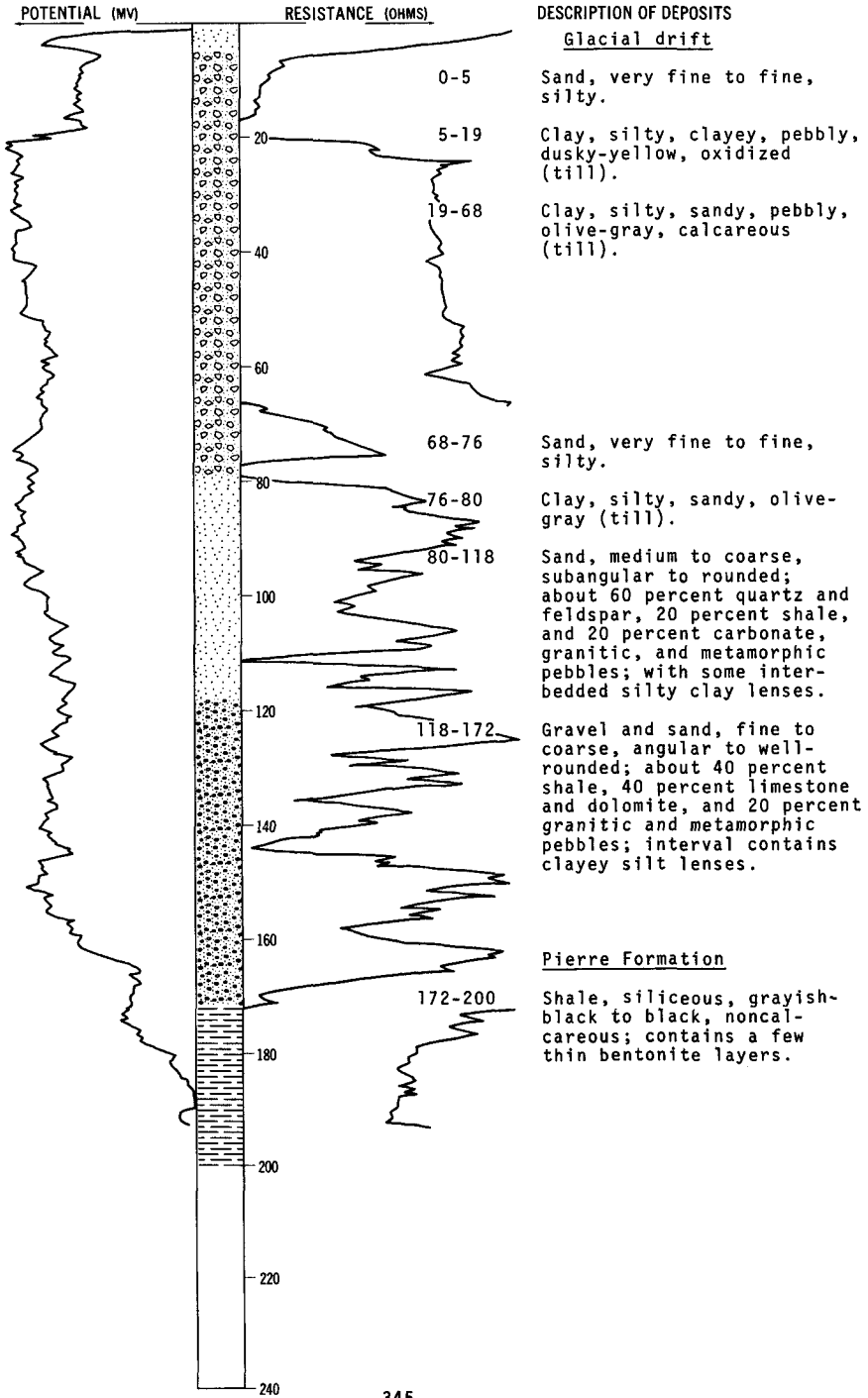
ALTITUDE: 1453  
(FT, MSL)

DEPTH: 240  
(FT)



LOCATION: 146-61-15BBB  
 ALTITUDE: 1455  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 200  
 (FT)

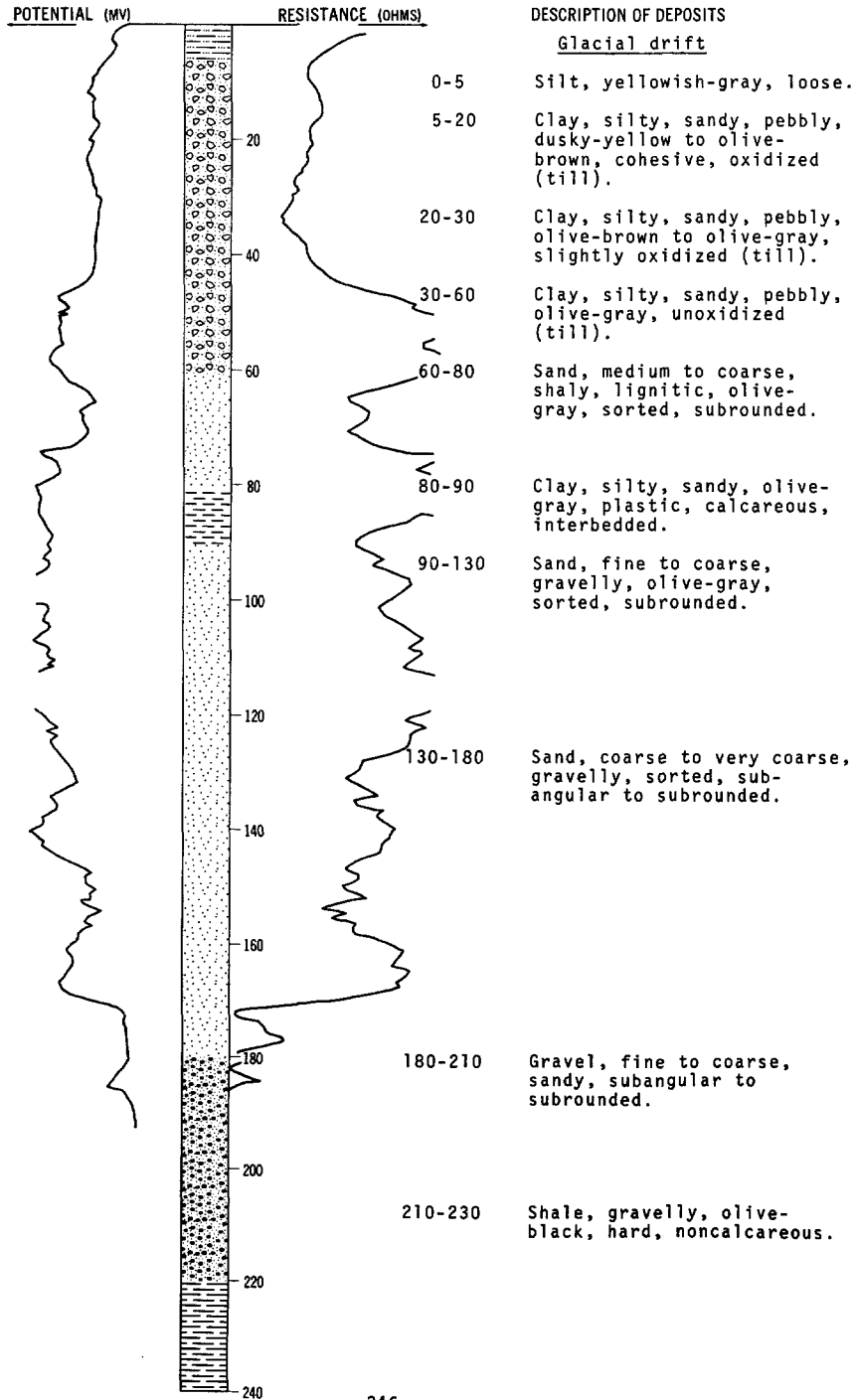


LOCATION: 146-61-19CCC

DATE DRILLED: July 1964

ALTITUDE: 1474  
 (FT, MSL)

DEPTH: 252  
 (FT)





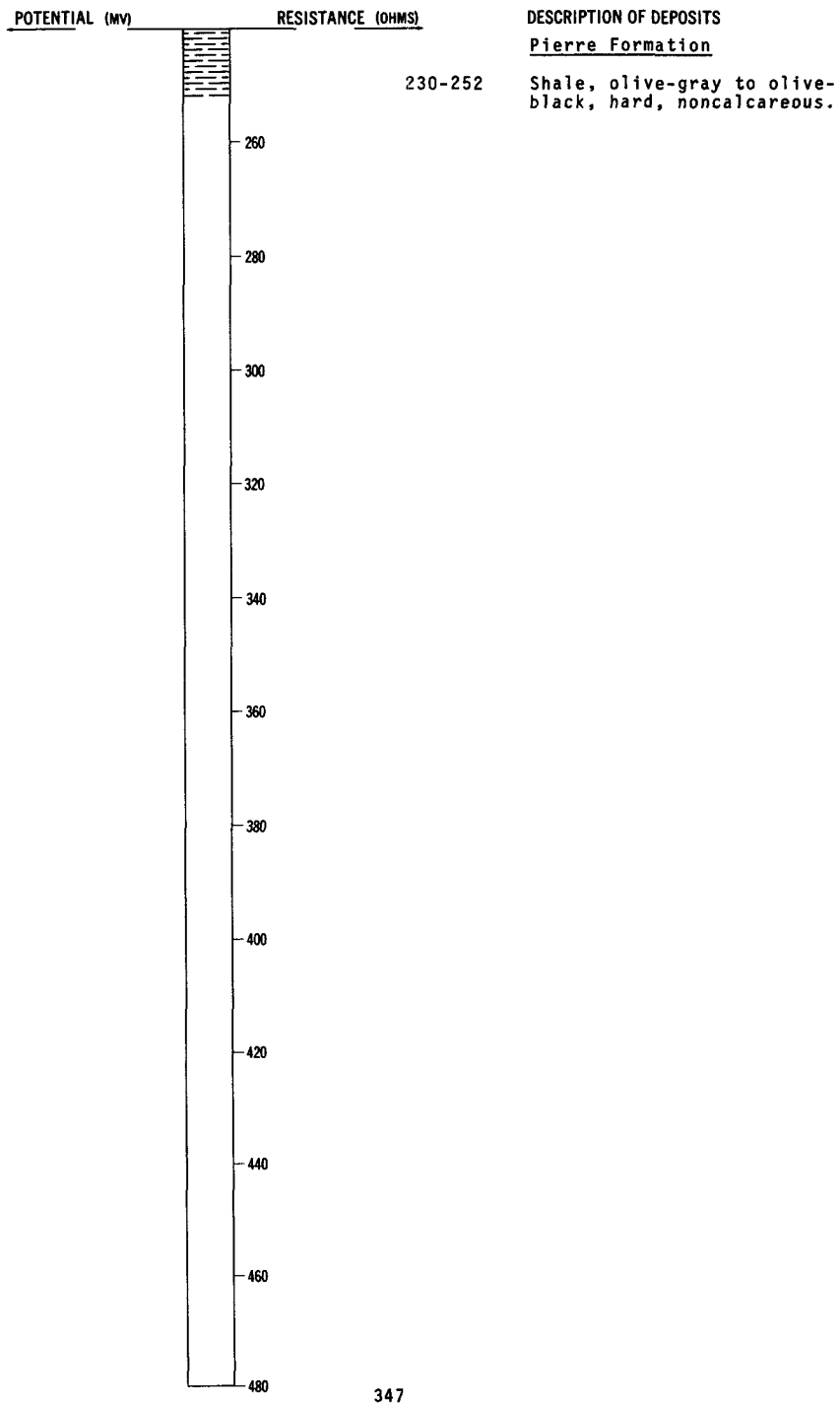
NDSWC 2264, Continued

LOCATION: 146-61-19CCC

DATE DRILLED: July 1964

ALTITUDE: 1474  
(FT, MSL)

DEPTH: 252  
(FT)

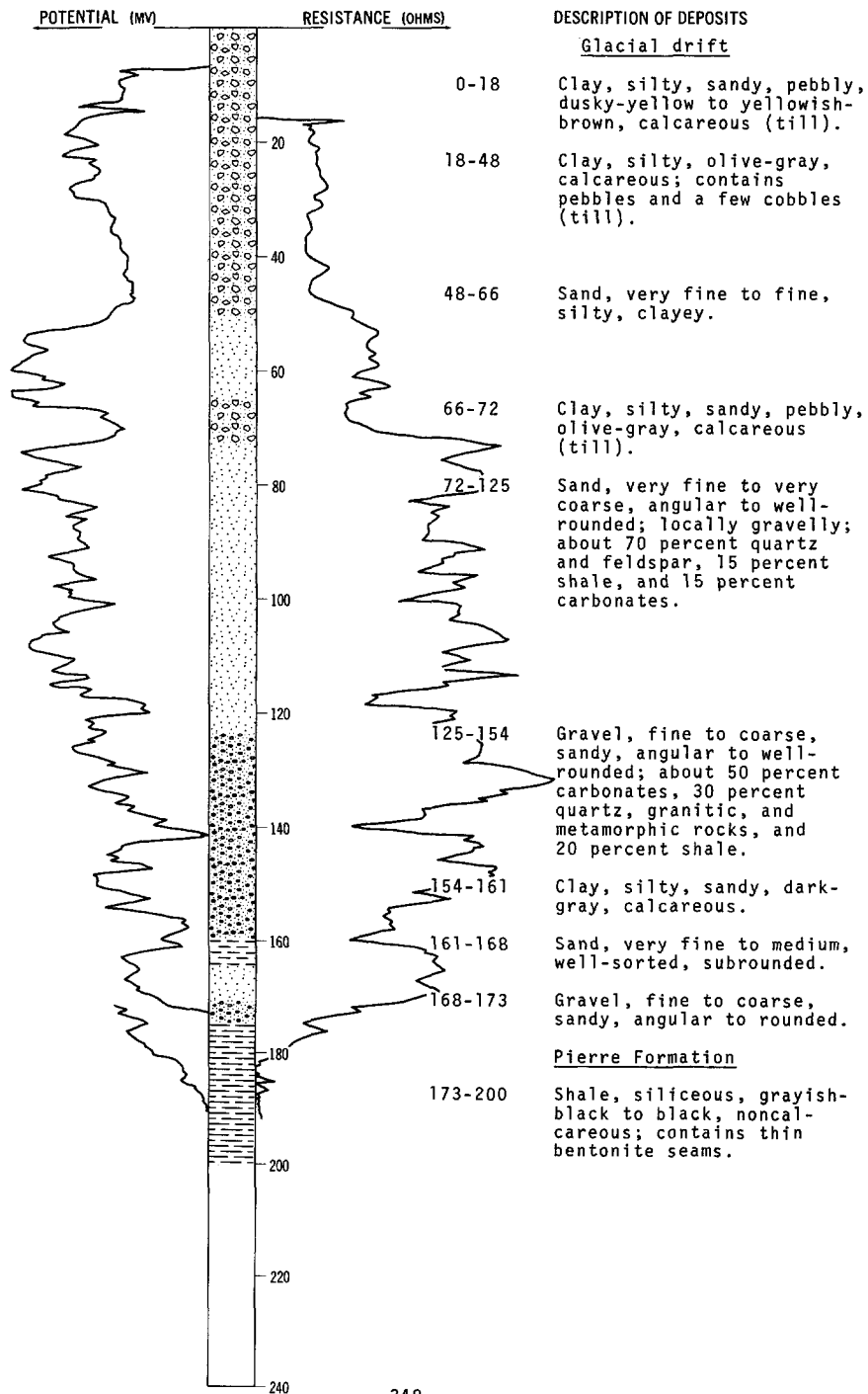


LOCATION: 146-61-22BCC

DATE DRILLED: October 1970

ALTITUDE: 1455  
(FT, MSL)

DEPTH: 200  
(FT)



146-61-25BAC  
(Log from Schnell, Inc.)

Altitude: 1430 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, black (boulder at 2 ft)-----	2	2
	Till, buff, clayey, very pebbly-----	16	18
	Till, bluish-gray, silty to sandy-----	7	25
	Till, bluish-gray, silty to sandy (granite boulder at 26 ft)-----	5	30
	Till, bluish-gray, silty to sandy (limestone boulder at 34 ft)-----	5	35
	Till, bluish-gray, silty to sandy-----	5	40
	Till, bluish-gray, silty-----	13	53
	Sand, medium to coarse, poorly sorted; gravel, fine to medium, angular to rounded-----	7	60
	Sand, very fine to medium, silty-----	20	80
	Sand, medium to coarse, very clean-----	20	100
	Sample gap-----	10	110
	Gravel, fine to coarse, subangular to subrounded; minor amounts of coarse sand-----	15	125
	Gravel, coarse to very coarse, angular; predominantly shale fragments-----	8	133
	Sand, medium to coarse, gravelly-----	6	139
	Sand, very fine to medium, silty, lignitic-----	11	150
	Sand, fine to medium, very clean-----	4	154
	Gravel, medium to coarse, angular, sandy-----	4	158
	Sand, medium to coarse, very clean-----	10	168
Pierre Formation:			
	Shale, bluish-gray-----	7	175

146-61-25BAD  
(Log from Empire Drilling Co.)

Altitude: 1440 feet

Glacial drift:			
	Clay, sandy-----	10	10
	Gravel; boulder-----	2	12
	Till, gray-----	37	49
	Gravel-----	11	60

146-61-25BBD  
(Log from Schnell, Inc.)

Altitude: 1430 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	2	2
	Boulders-----	2	4
	Till, oxidized-----	14	18
	Till, gray-----	36	54
	Gravel-----	6	60
	Sand, fine-----	25	85
	Till, gray-----	2	87
	Sand, medium-----	3	90
	Sand, coarse-----	30	120
	Gravel; shale pebbles-----	8	128
	Sand, medium-----	12	140
	Sand, coarse; gravel; lignite-----	29	169
Pierre Formation:			
	Shale-----	6	175

146-61-25DAB  
(Log from Schnell, Inc.)

Altitude: 1440 feet

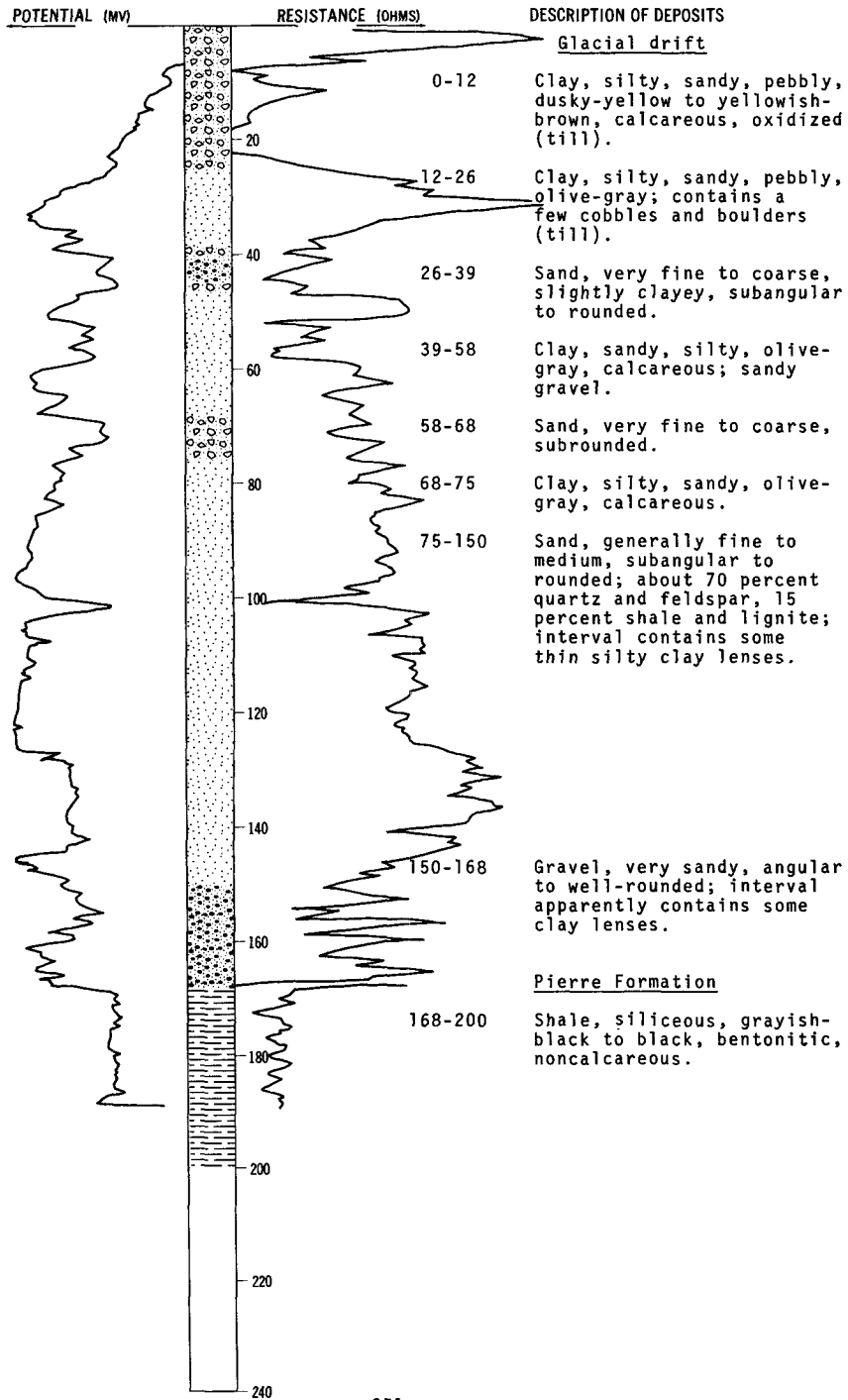
Glacial drift:			
	Topsoil-----	2	2
	Till, oxidized; boulders-----	12	14
	Gravel-----	1	15
	Till, oxidized; boulders-----	14	29
	Till, gray-----	6	35
	Sand, fine-----	10	45
	Clay-----	4	49
	Sand, fine to medium-----	41	90
	Sand; clay layers-----	8	98
	Sand, medium-----	11	109
	Lignite-----	1	110
	Gravel, medium-----	11	121
	Clay, hard-----	2	123

LOCATION: 146-61-34BBB

DATE DRILLED: October 1970

ALTITUDE: 1465  
(FT, MSL)

DEPTH: 200  
(FT)

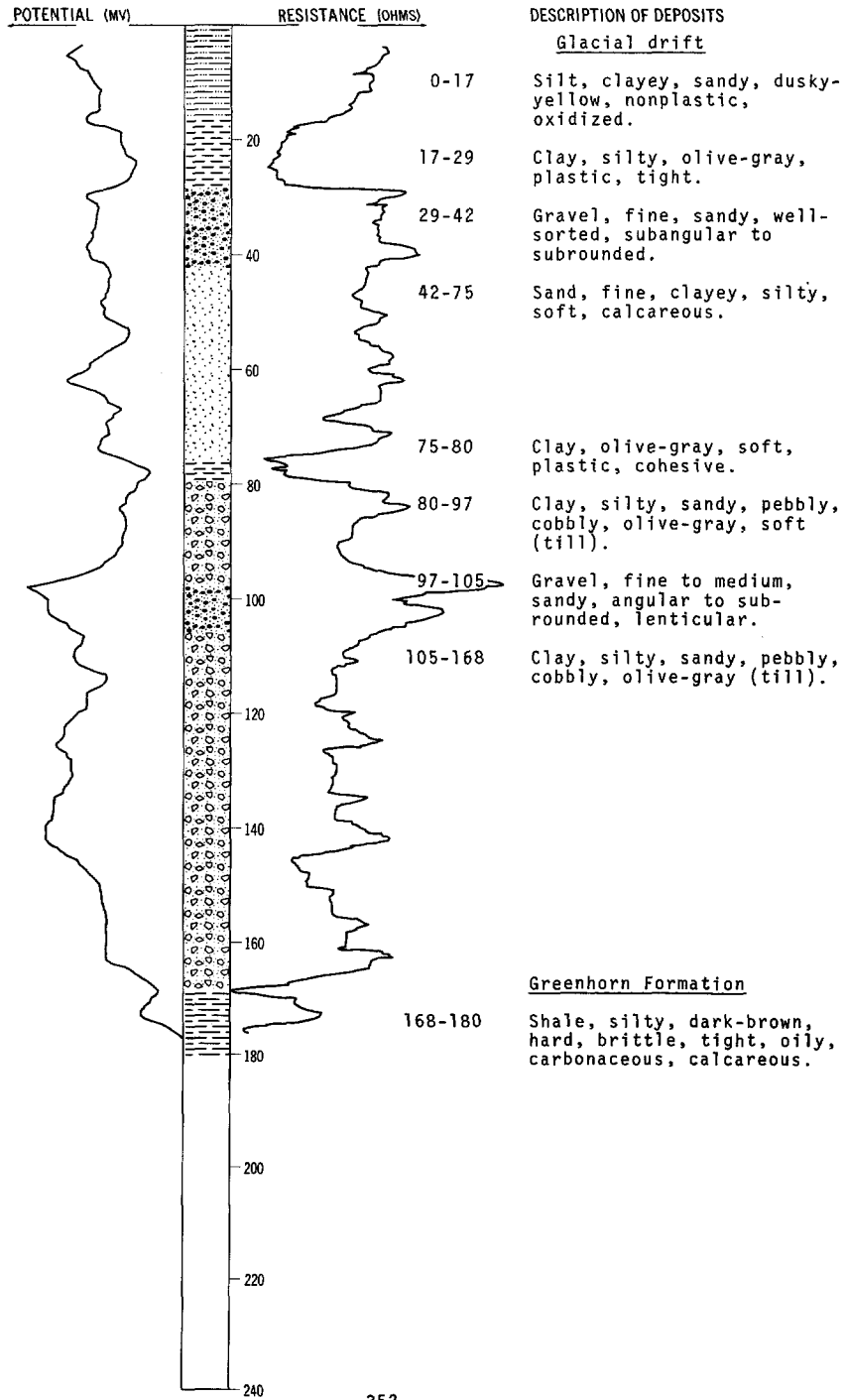


LOCATION: 147-54-09CCC

DATE DRILLED: June 1970

ALTITUDE: 1084  
(FT, MSL)

DEPTH: 180  
(FT)

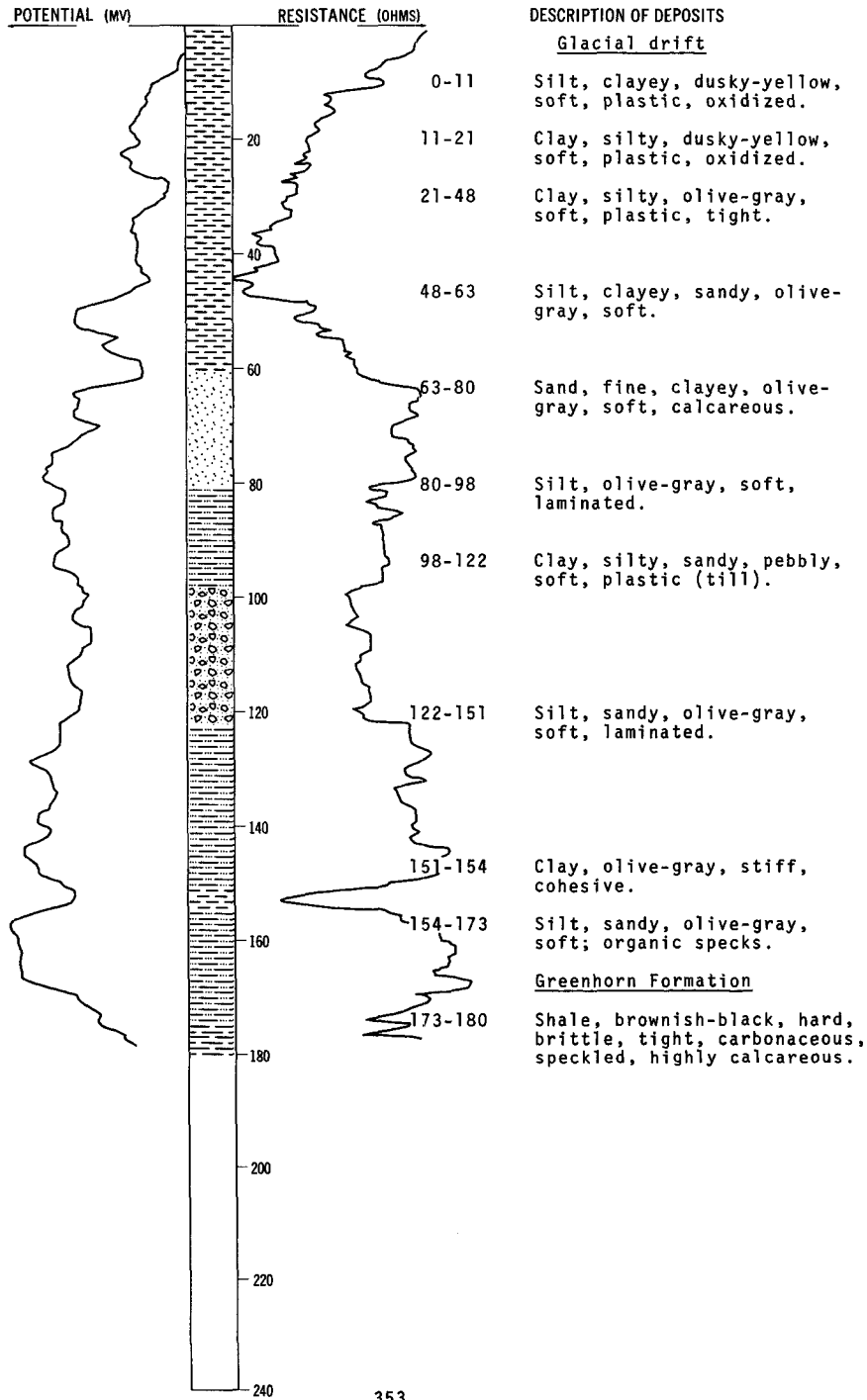


LOCATION: 147-54-11DDD

ALTITUDE: 1065  
(FT, MSL)

DATE DRILLED: June 1970

DEPTH: 180  
(FT)



147-54-15ABB  
NDSWC 4032

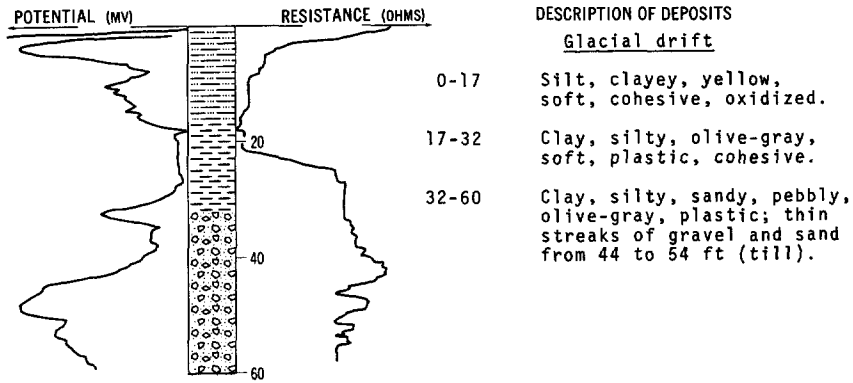
Altitude: 1075 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey, dusky-yellow, soft cohesive-----	19	19
	Clay, silty, olive-gray, soft, cohesive, plastic-----	33	52
	Clay, silty, sandy, pebbly, olive-gray, soft, plastic (till)-----	16	68
	Gravel, silty, sandy, clayey-----	12	80

NDSWC 4030

LOCATION: 147-54-18AAA  
ALTITUDE: 1092  
(FT, MSL)

DATE DRILLED: June 1970  
DEPTH: 60  
(FT)



147-54-18BBB  
SCS 8

Altitude: 1100 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, sandy, clayey-----	1	1
	Clay, silty, sandy-----	1	2
	Silt, clayey, sandy; organic material---	8	10

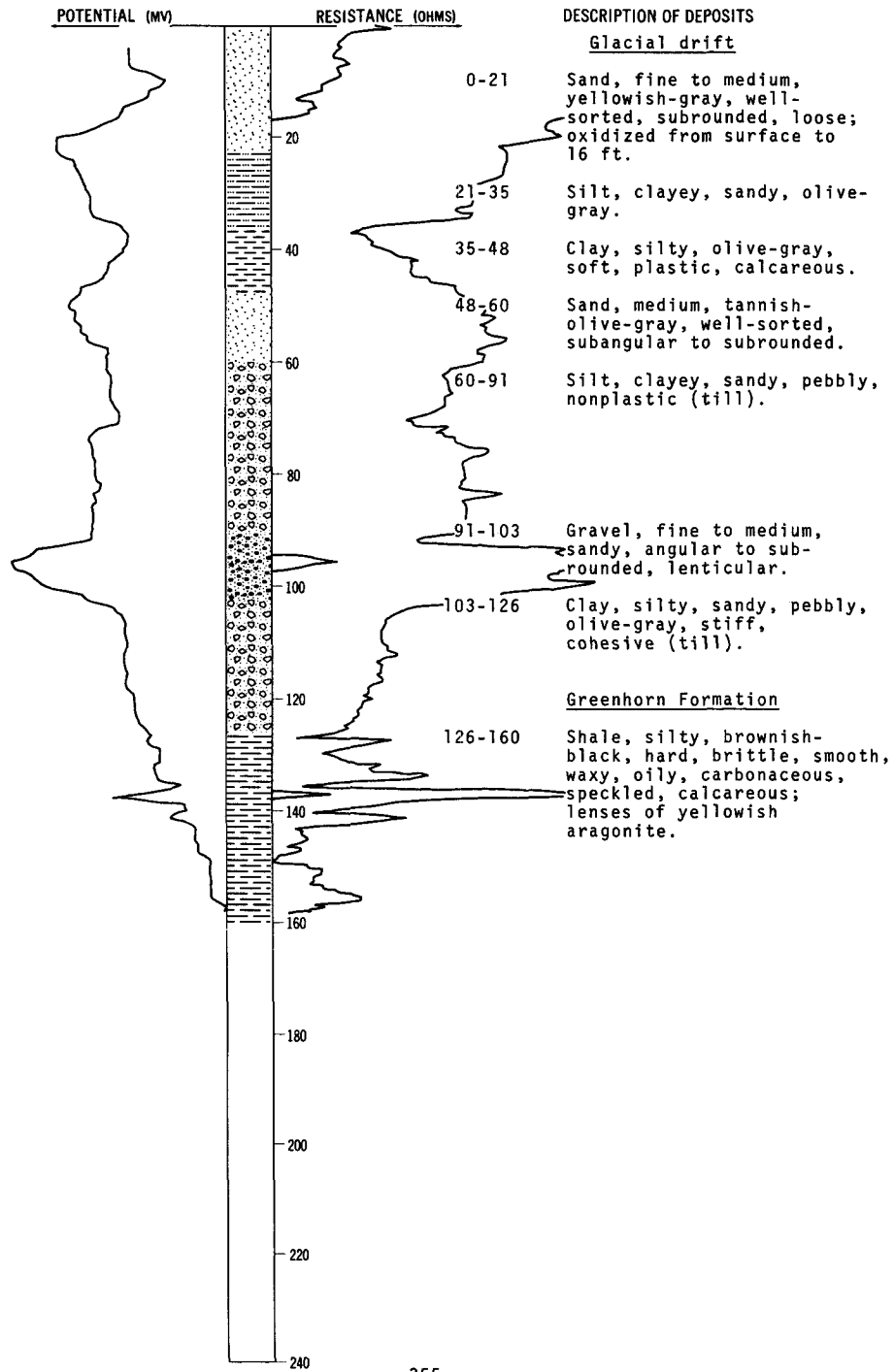


LOCATION: 147-54-27ADA

DATE DRILLED: June 1970

ALTITUDE: 1010  
(FT, MSL)

DEPTH: 160  
(FT)

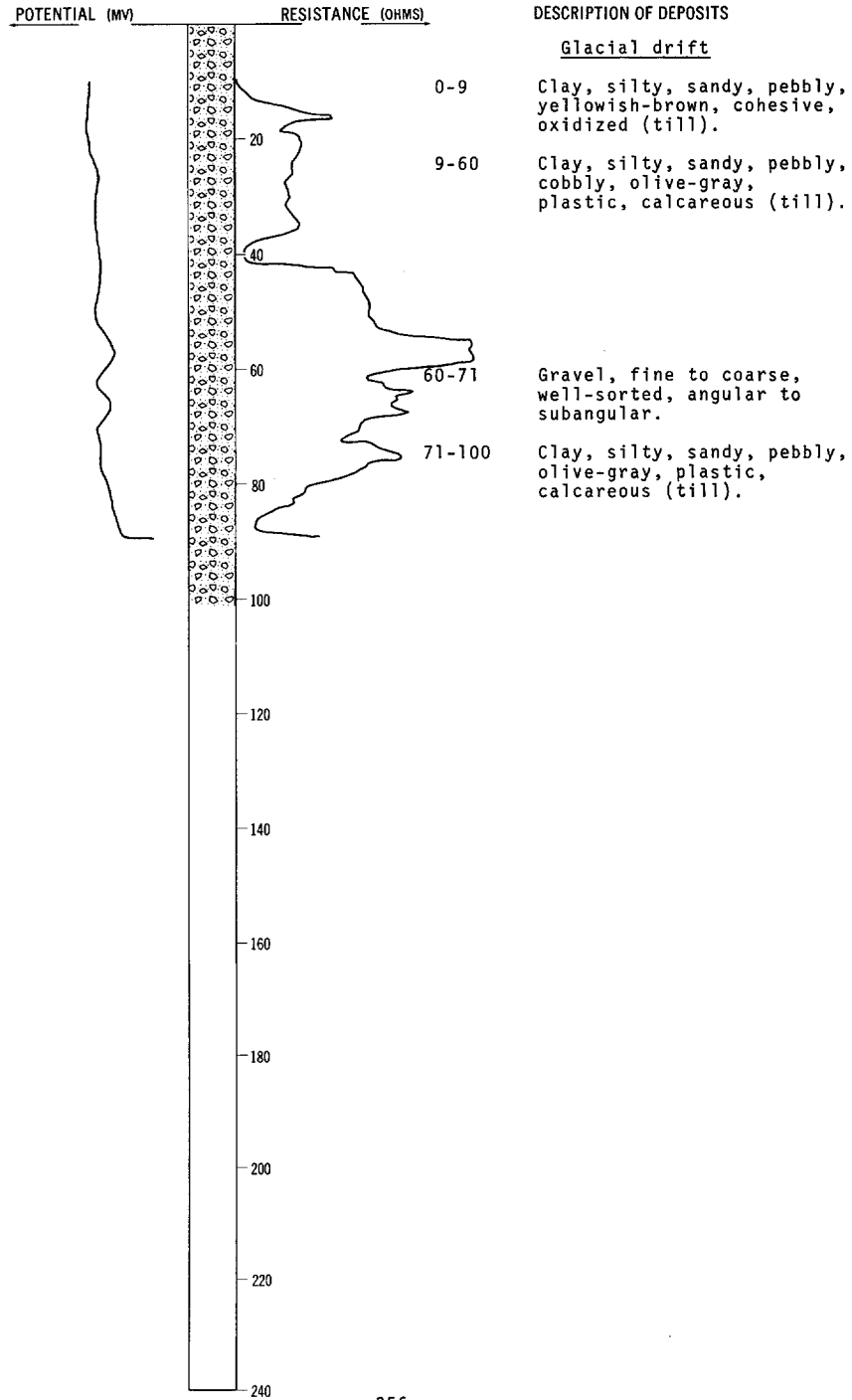


LOCATION: 147-54-29BCC

DATE DRILLED: June 1972

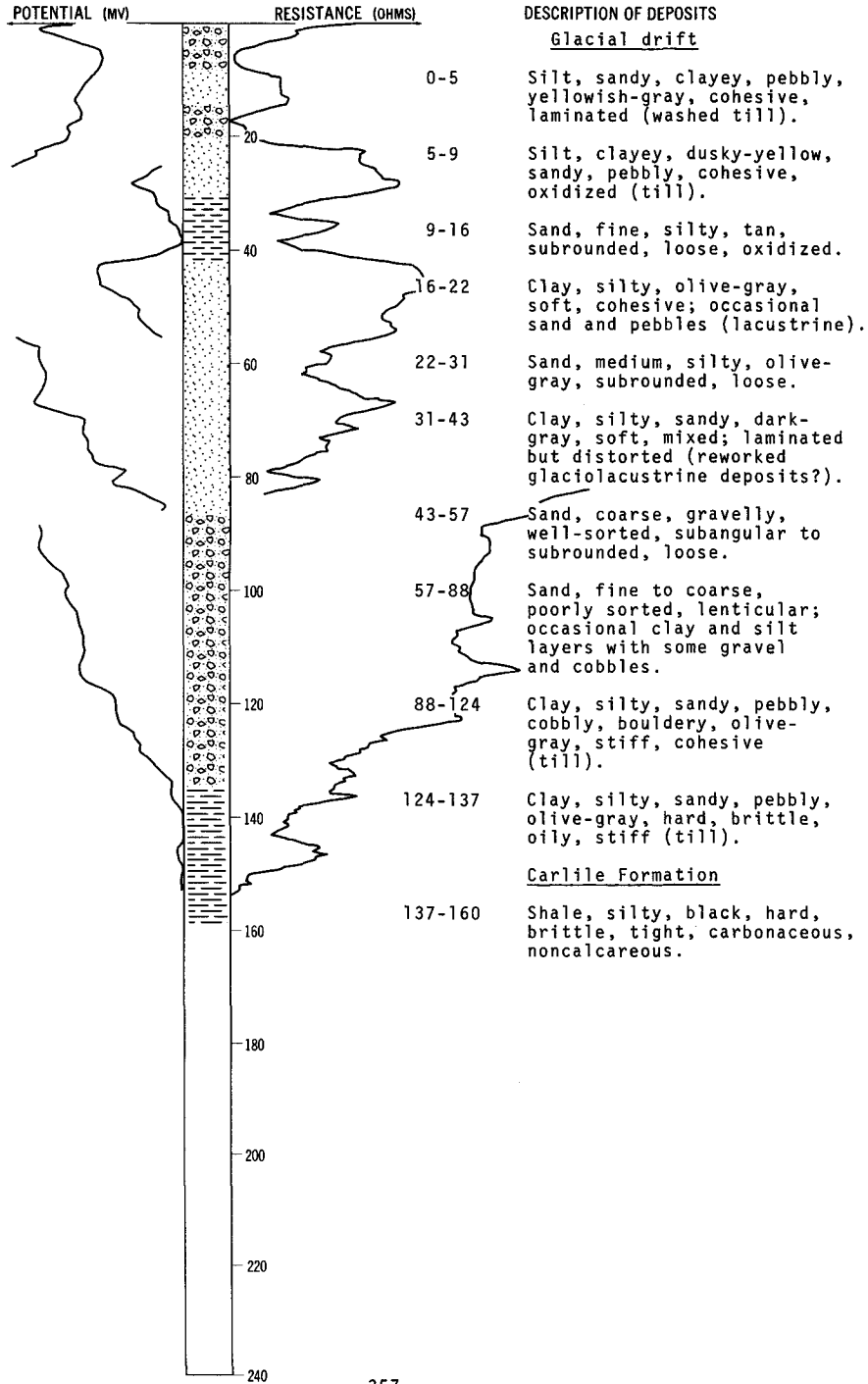
ALTITUDE: 1092  
(FT, MSL)

DEPTH: 100  
(FT)



LOCATION: 147-54-29CCC  
 ALTITUDE: 1095  
 (FT, MSL)

DATE DRILLED: November 1970  
 DEPTH: 160  
 (FT)



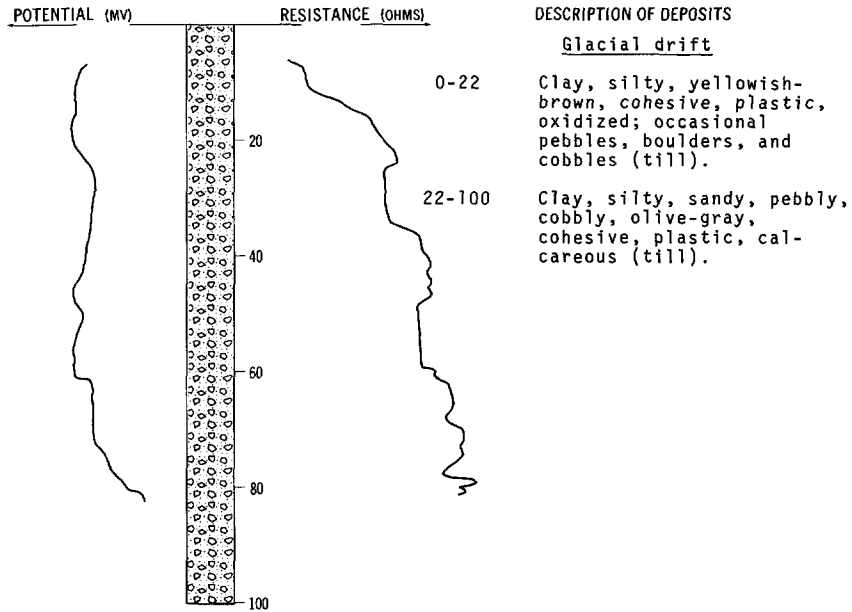
NDSWC 8375

LOCATION: 147-54-29DCD

DATE DRILLED: June 1972

ALTITUDE: 1088  
(FT, MSL)

DEPTH: 100  
(FT)



147-54-30CCC  
NDSWC 8372

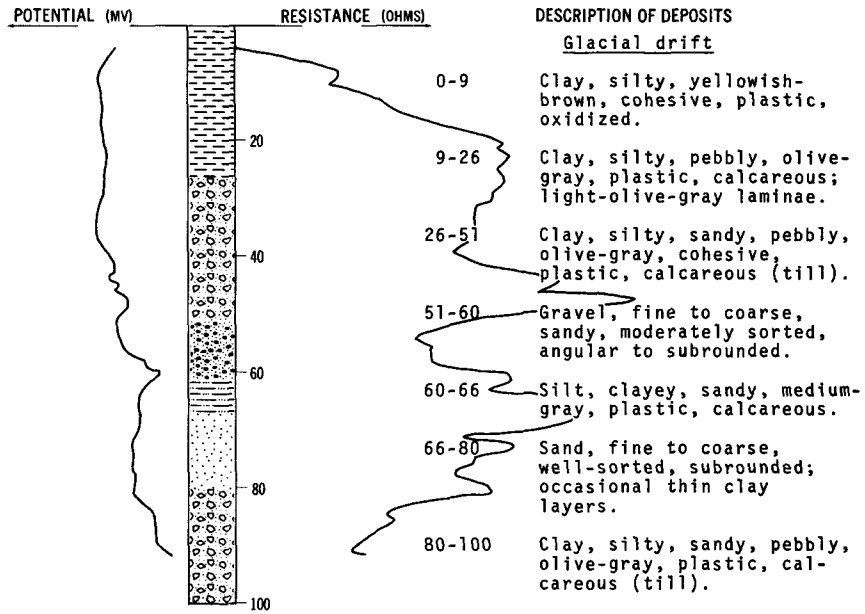
Altitude: 1107 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, cohesive, plastic, oxidized (till)-----	9	9
	Clay, silty, sandy, pebbly, cobbly, olive-gray, cohesive, plastic, calcareous (till)-----	13	22
	Gravel, fine to coarse, poorly sorted, subangular to rounded-----	2	24
	Clay, silty, sandy, pebbly, cobbly, olive-gray, cohesive, plastic, calcareous (till)-----	6	30
	Silt, clayey, medium-gray, cohesive, plastic, calcareous-----	45	75
	Clay, sandy, silty, pebbly, olive-gray, plastic, calcareous (till)-----	25	100

NDSWC 8373

LOCATION: 147-54-31AAB  
 ALTITUDE: 1098  
 (FT, MSL)

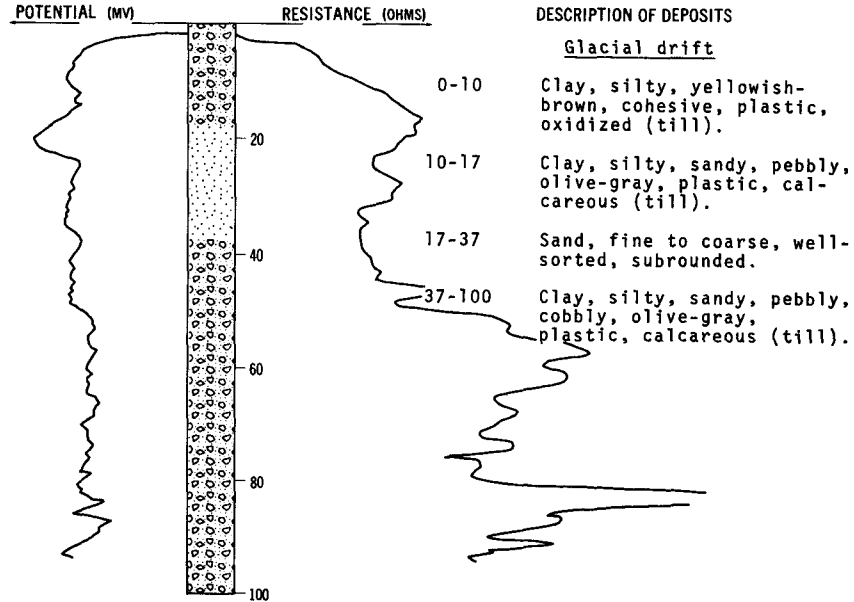
DATE DRILLED: June 1972  
 DEPTH: 100  
 (FT)



NDSWC 8376

LOCATION: 147-54-31DAA  
 ALTITUDE: 1100  
 (FT, MSL)

DATE DRILLED: June 1972  
 DEPTH: 100  
 (FT)



147-55-01BBB  
SCS 6

Altitude: 1120 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy-----	3.50	3.50
	Sand, silty, clayey-----	.50	4
	Silt, clayey, sandy-----	.75	4.75
	Clay, silty-----	.15	4.90
	Silt, clayey, sandy-----	1.85	6.75
	Sand, silty-----	.25	7.00
	Silt, sandy, clayey-----	1.75	8.75
	Sand, silty-----	.50	9.25
	Silt, clayey, silty-----	1.00	10.25

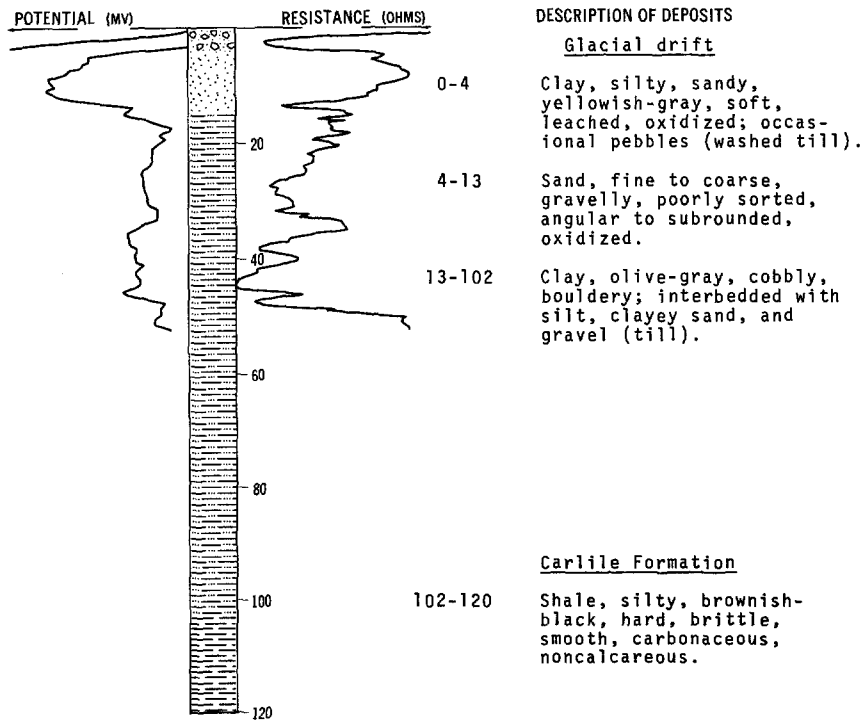
NDSWC 4026

LOCATION: 147-55-01CBB1

DATE DRILLED: June 1970

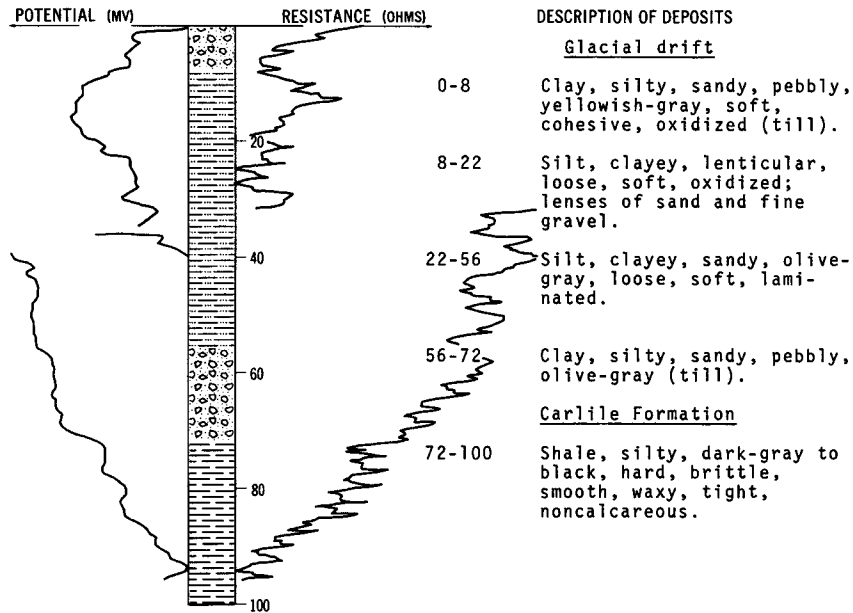
ALTITUDE: 1110  
(FT, MSL)

DEPTH: 120  
(FT)



LOCATION: 147-55-04AAA  
 ALTITUDE: 1155  
 (FT, MSL)

DATE DRILLED: November 1970  
 DEPTH: 100  
 (FT)



147-55-08ADD  
 USBR 17

Altitude: 1213.9 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, sandy, tan, moist, calcareous-----	15	15
	Clay, silty, sandy, gravelly, brown, moist-----	3	18

147-55-11AAA  
 SCS 2

Altitude: 1120 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy-----	2.50	2.50
	Sand-----	2.00	4.50
	Sand, silty-----	.50	5.00
	Silt, clayey, sandy-----	3.75	8.75
	Sand, silty, gravelly-----	.50	9.25

147-55-11ABA1  
 NDSWC 4027

Altitude: 1117 feet

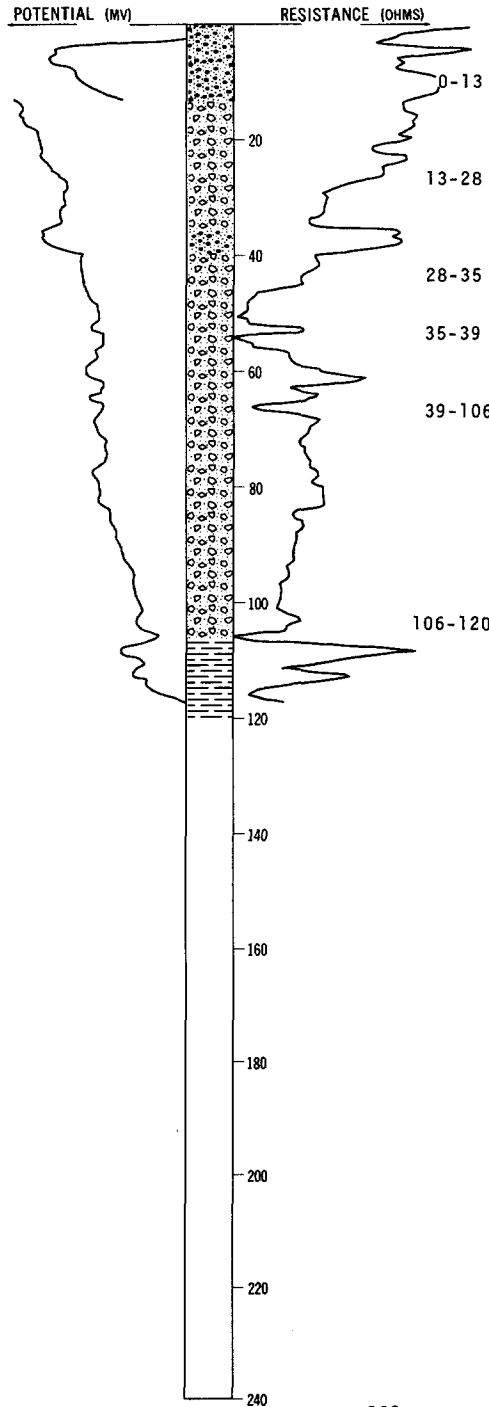
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-gray, soft, oxidized; numerous sand and gravel stringers (till)-----	13	13
	Clay, olive-gray, light; interbedded with silt, clayey sand and coarse sand lenses (till)-----	27	40

LOCATION: 147-55-11ABB

DATE DRILLED: June 1970

ALTITUDE: 1136  
(FT, MSL)

DEPTH: 120  
(FT)



DESCRIPTION OF DEPOSITS

Glacial drift

0-13 Gravel, sandy, poorly sorted, angular to sub-rounded, oxidized; streaks of silty clay.

13-28 Silt, clayey, sandy, pebbly, yellowish-gray, plastic, oxidized; gravel stringers (washed till).

28-35 Clay, silty, sandy, soft, cohesive, plastic (till).

35-39 Gravel, fine to medium, well-sorted, subangular to subrounded.

39-106 Clay, silty, sandy, pebbly, olive-gray, soft; interbedded with silt and clayey sand (reworked lacustrine deposits in till).

Carlile Formation

106-120 Shale, silty, sandy, dark-brown to black, hard, brittle, smooth, oily, carbonaceous, calcareous; calcite and aragonite beds.

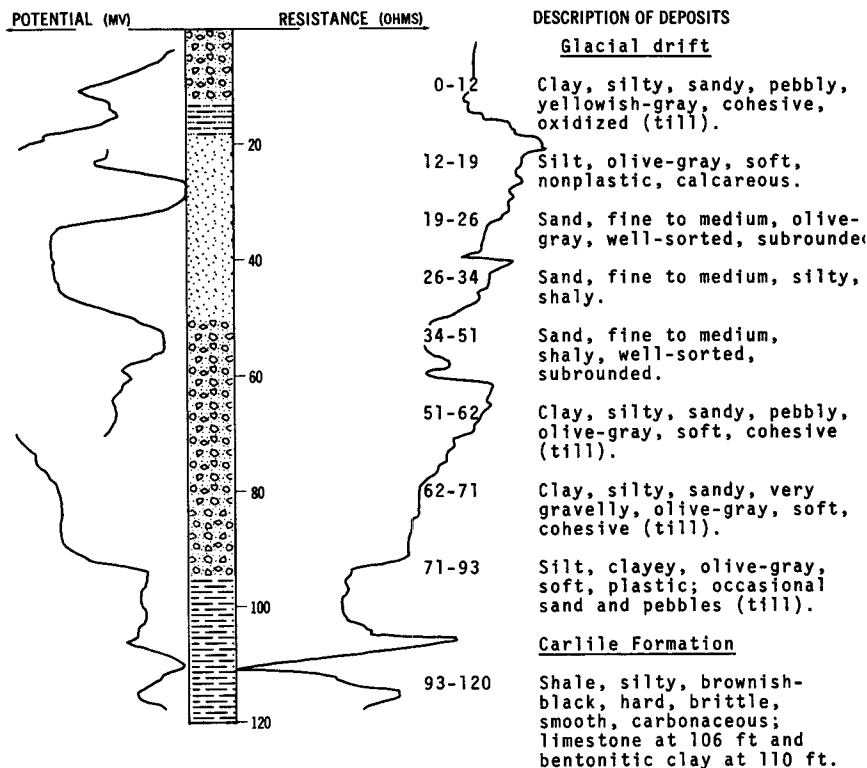


LOCATION: 147-55-11CCC

DATE DRILLED: June 1970

ALTITUDE: 1142  
(FT, MSL)

DEPTH: 120  
(FT)



147-55-12BBB1  
NDSWC 4025

Altitude: 1108 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-gray, soft, oxidized; lenses of sandy gravel (till)-----	17	17
	Clay, silty, sandy, olive-gray, soft, cohesive; streaks of shale, sand, and gravel and blocks of silt and clayey sand (reworked lacustrine sediments in till)-----	16	33
	Gravel, fine to coarse, moderately sorted, subrounded; till lenses?-----	7	40

147-55-12DDD  
NDSWC 4029

Altitude: 1103 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, yellowish-gray, soft, cohesive, oxidized; occasional pebbles (washed till?)-----	24	24
	Silt, light-olive, soft, cohesive; fine clayey sand-----	13	37
	Gravel, fine to coarse, sandy, well-sorted, angular to rounded-----	12	49
	Clay, silty, sandy, pebbly, olive-gray, hard, blocky; occasional cobbles and boulders (till)-----	11	60

147-55-13BAA  
NDSWC 4028

Altitude: 1105 feet

Glacial drift:			
	Clay, silty, sandy, dusky-yellow, soft, oxidized; occasional pebbles and sandy gravel stringers (till)-----	19	19
	Clay, silty, sandy, pebbly, olive-gray, soft, chunky (till)-----	3	22
	Gravel, fine to medium, sandy, shaly, dark-gray, moderately sorted, angular to rounded-----	10	32
	Clay, silty, sandy, pebbly, olive-gray, soft to hard (till)-----	8	40

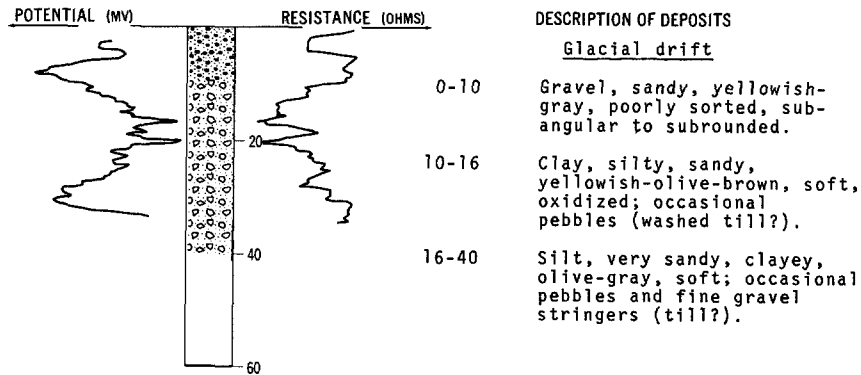
NDSWC 4024

LOCATION: 147-55-13BBB

DATE DRILLED: June 1970

ALTITUDE: 1108  
(FT, MSL)

DEPTH: 40  
(FT)

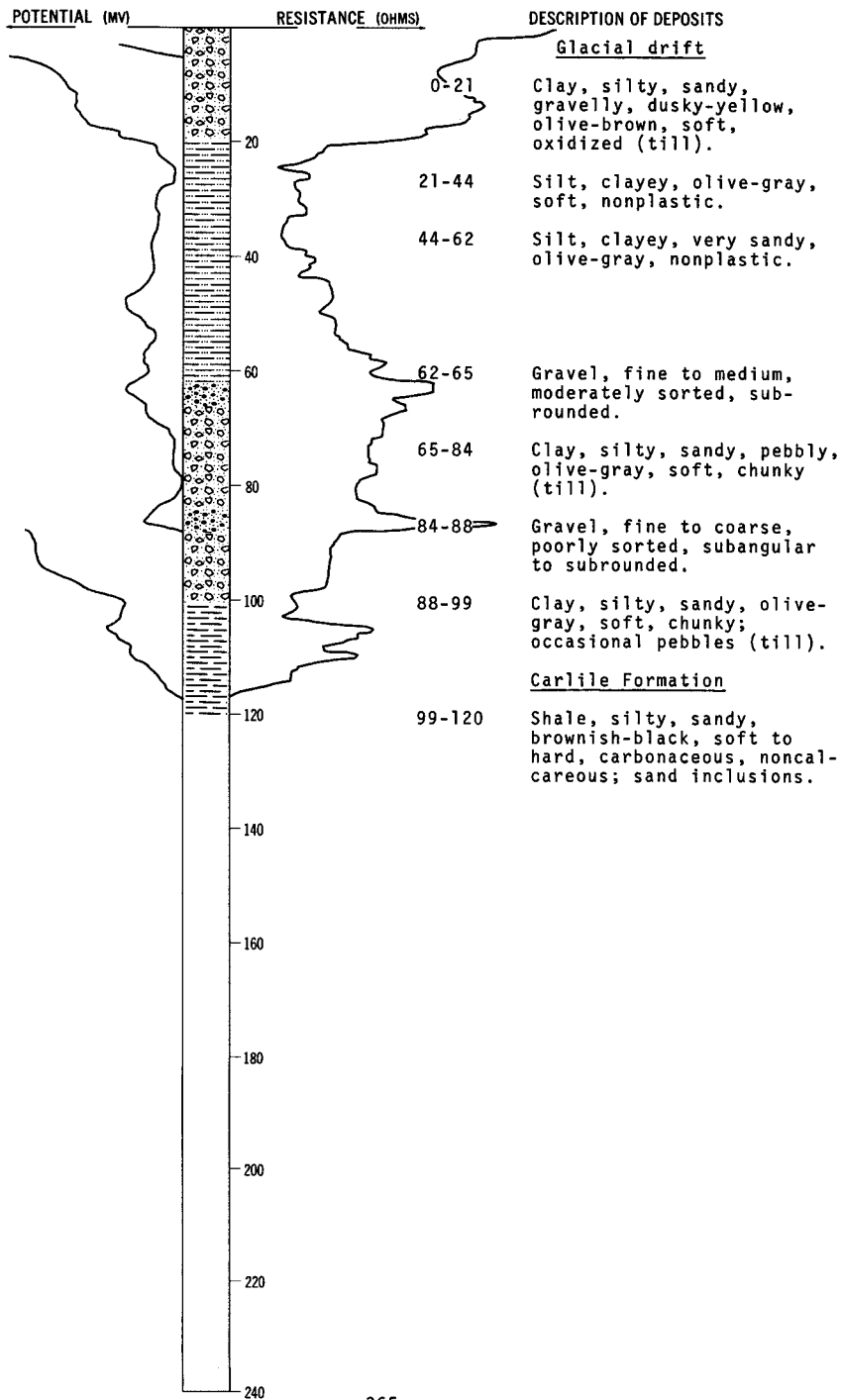


LOCATION: 147-55-14ABB

DATE DRILLED: June 1970

ALTITUDE: 1133  
(FT, MSL)

DEPTH: 120  
(FT)

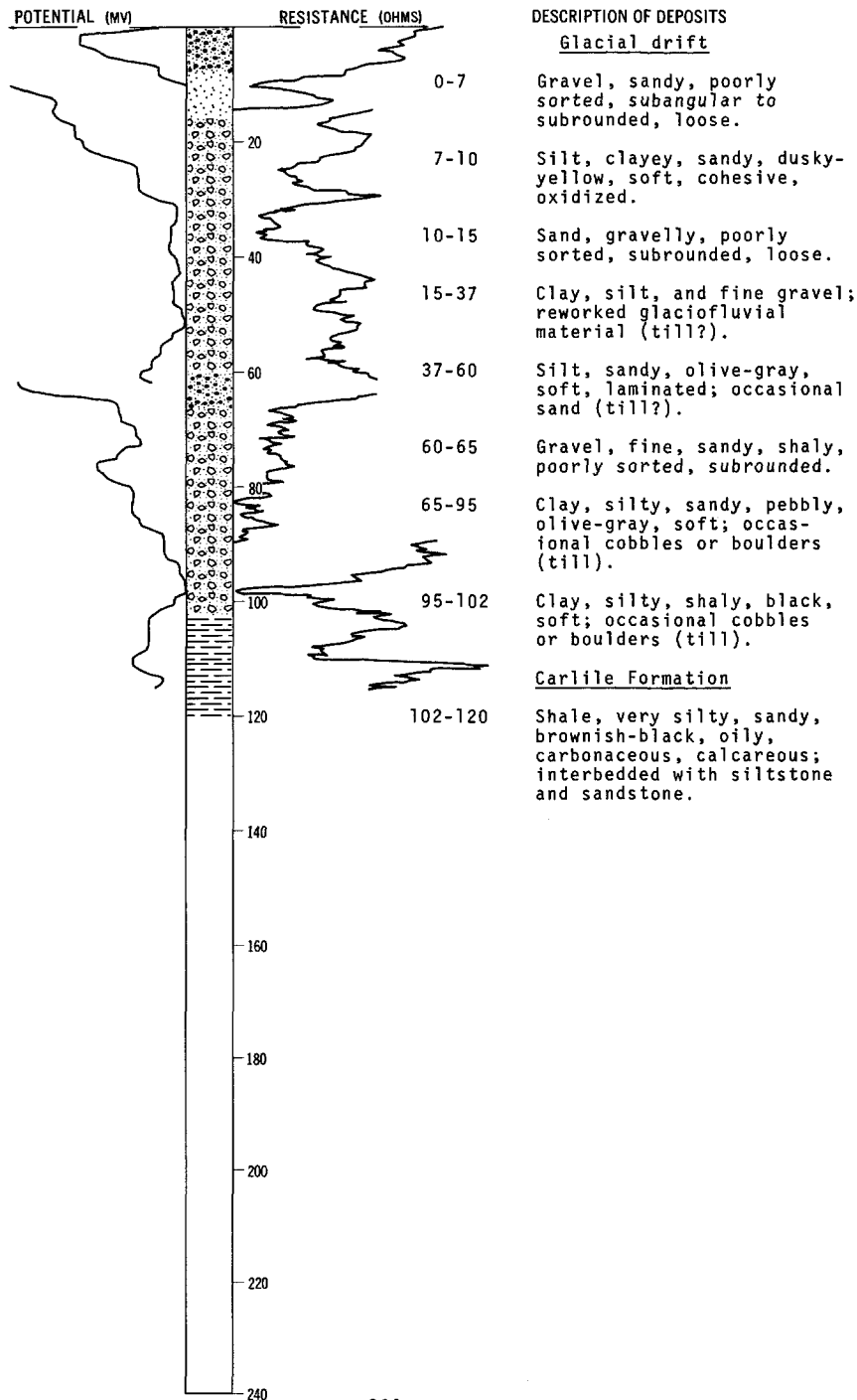


LOCATION: 147-55-14CDC

DATE DRILLED: November 1970

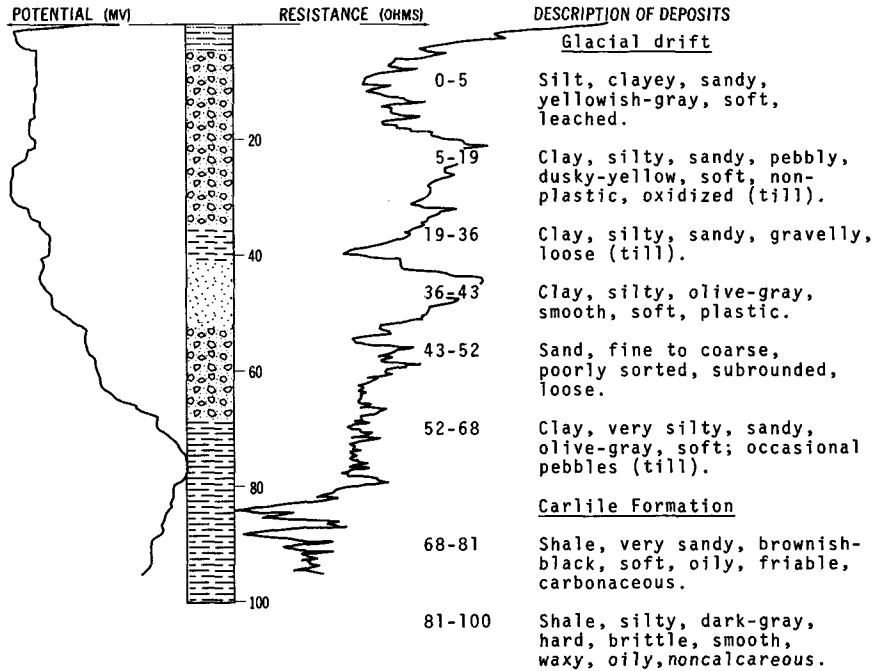
ALTITUDE: 1140  
(FT, MSL)

DEPTH: 120  
(FT)



LOCATION: 147-55-17BBB  
 ALTITUDE: 1245  
 (FT, MSL)

DATE DRILLED: November 1970  
 DEPTH: 100  
 (FT)



147-55-22AAC  
 (Log from I. J. Wilhite and Simcox Oil)

Altitude: 1155 feet

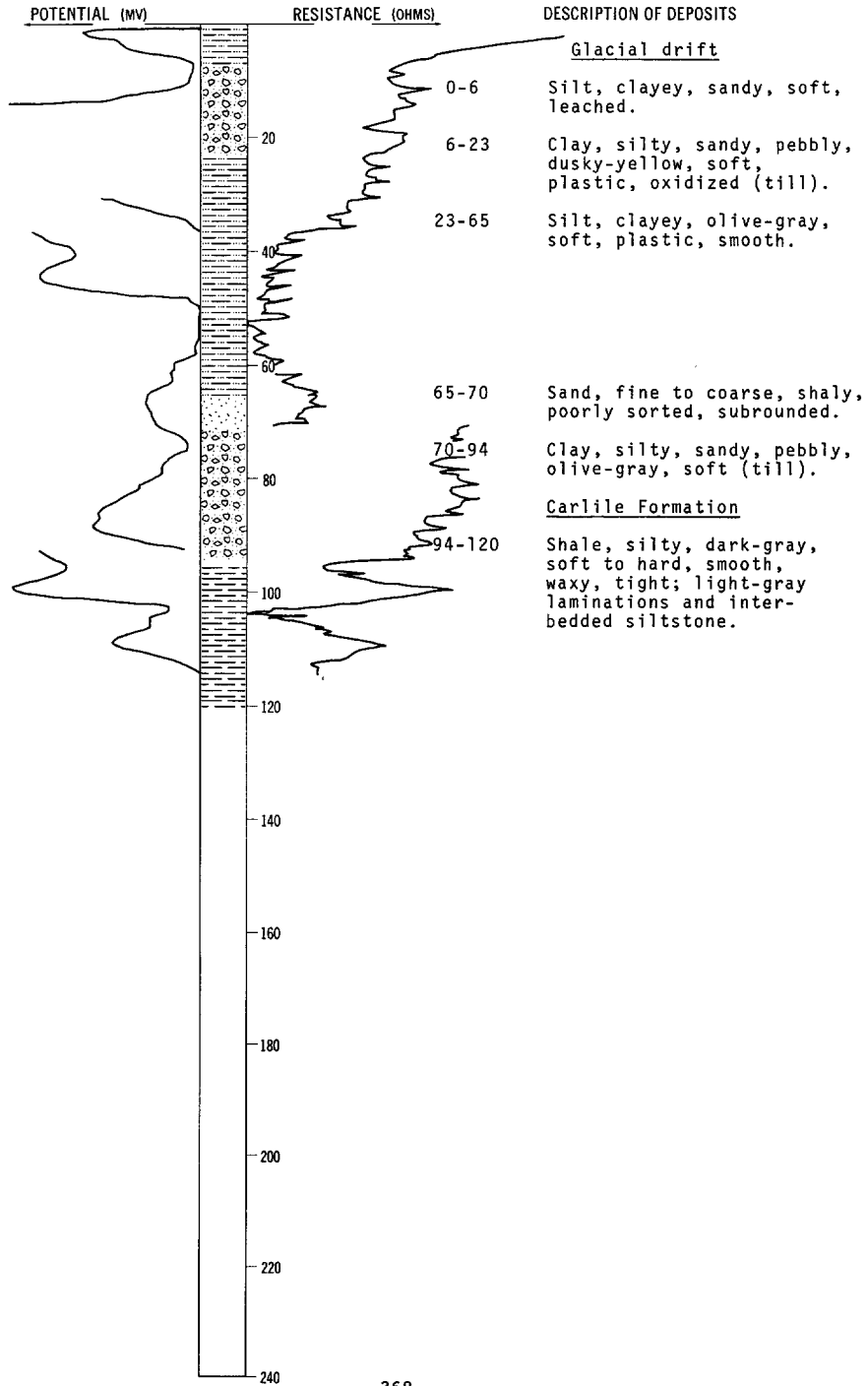
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, gray, silty, sandy, gravelly; with isolated gravel lenses (till)-----	110	110
Cretaceous, undifferentiated:	Shale, gray, calcareous-----	115	225
	Shale, brown to gray, fissile, very calcareous, carbonaceous; with interbedded limestone lenses and calcareous specks-----	150	375
	Shale, gray, calcareous; with black carbonaceous inclusions, pyrite, and calcite lenses-----	140	515
	Sandstone, fine-grained, gray, loose, silty-----	25	540
	Limestone, gray, dense, hard, argillaceous-----	2	542
	Siltstone, gray, sandy, shaly, bentonitic-----	20	562

LOCATION: 147-55-26BBA

DATE DRILLED: November 1970

ALTITUDE: 1150  
(FT, MSL)

DEPTH: 120  
(FT)

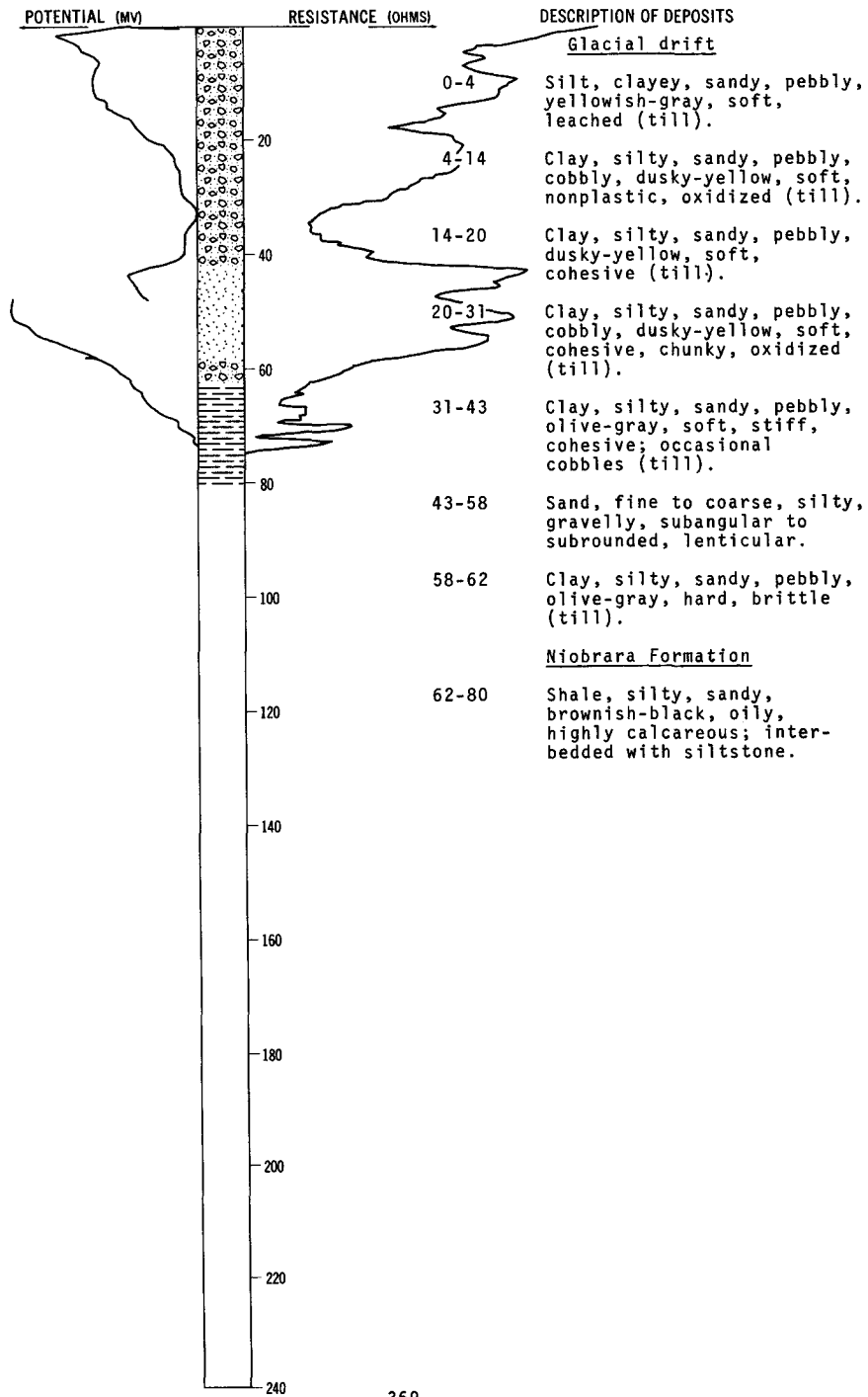


LOCATION: 147-55-29CCB

DATE DRILLED: November 1970

ALTITUDE: 1240  
(FT, MSL)

DEPTH: 80  
(FT)

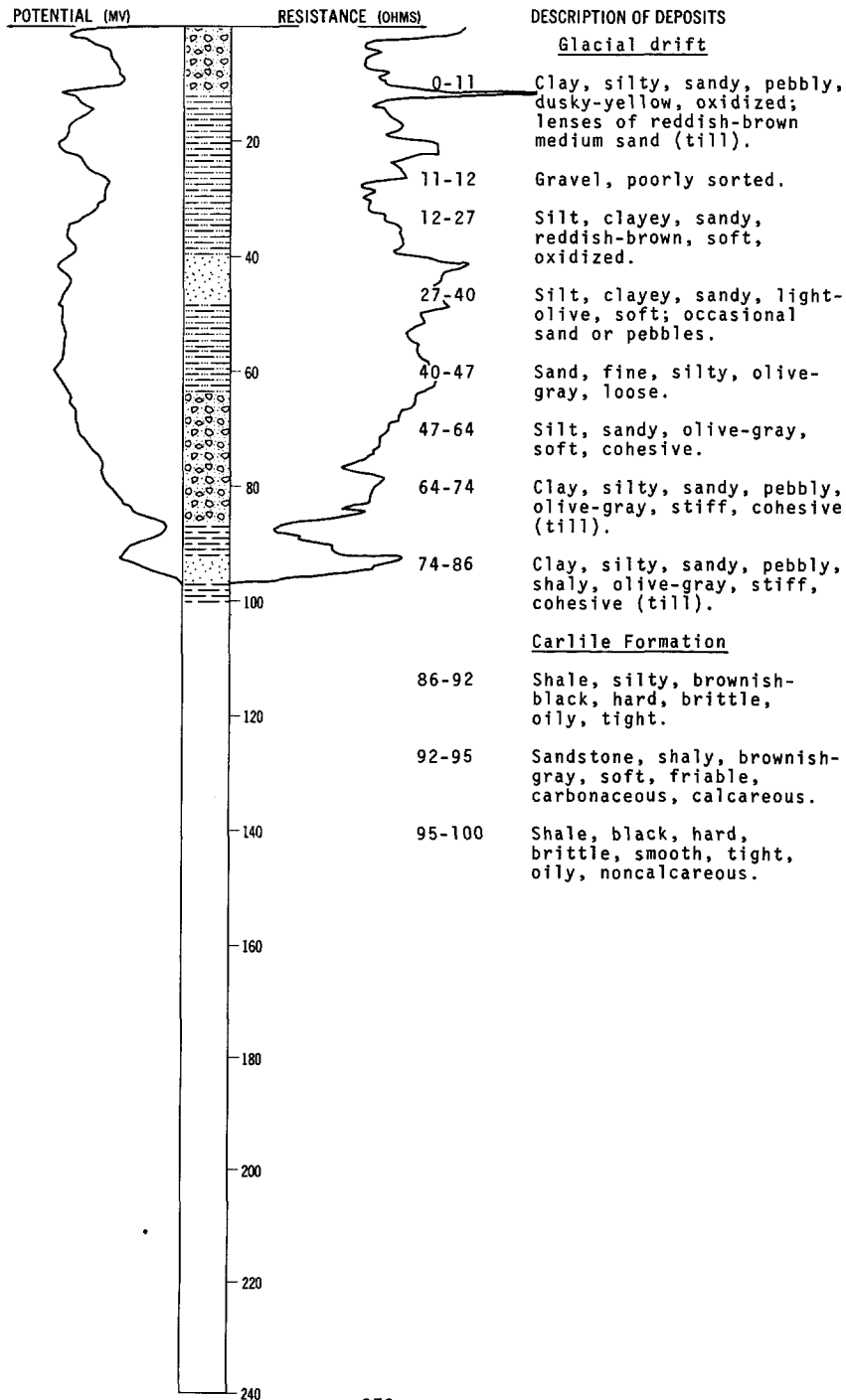


LOCATION: 147-55-35CDC

DATE DRILLED: June 1970

ALTITUDE: 1135  
(FT, MSL)

DEPTH: 100  
(FT)





147-56-06BCB2  
 USGS Auger 5  
 (Log from Dennis, 1947)

Altitude: 1440 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, silty, black-----	2	2
	Clay, brown, with streaks of silty coarse sand-----	1	3
	Clay, sand, and gravel, yellow to gray, poorly sorted-----	1	4
	Sand and gravel, with some clay-----	2	6

147-56-06BCC  
 USGS Auger 6  
 (Log from Dennis, 1947)

Altitude: 1420 feet

Glacial drift:			
	Topsoil, silty, black-----	2	2
	Silt, brown-----	2	4
	Till, weathered, yellow to brown-----	4	8
	Till, unweathered, blue-gray-----	1	9

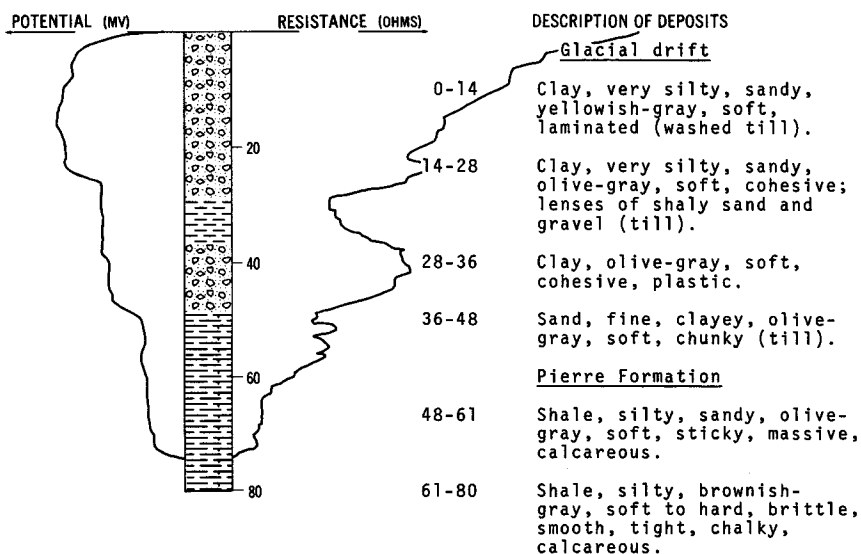
NDSWC 4284

LOCATION: 147-56-15DDD

DATE DRILLED: October 1970

ALTITUDE: 1340  
 (FT, MSL)

DEPTH: 80  
 (FT)

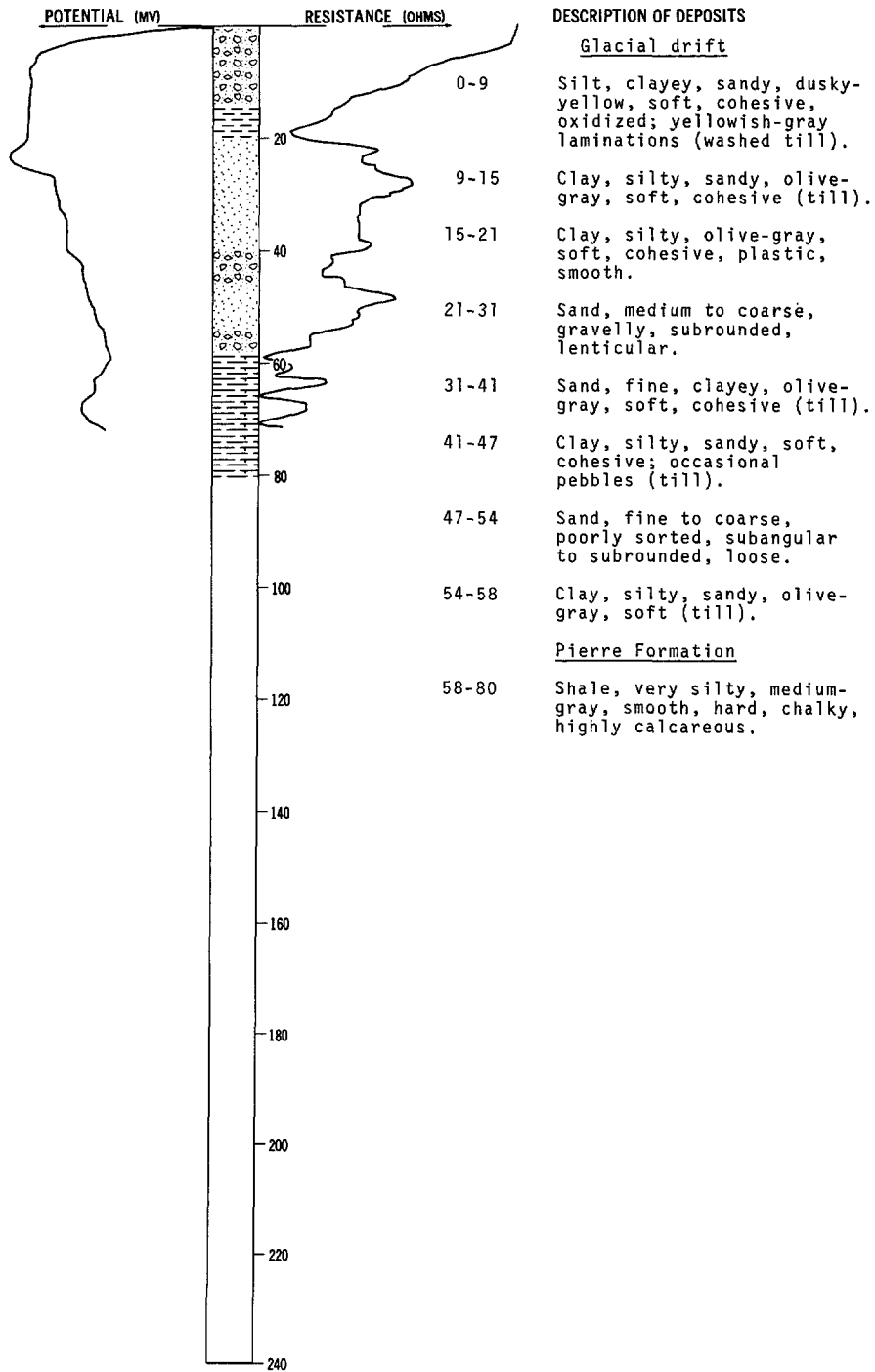


LOCATION: 147-56-26DDD

DATE DRILLED: October 1970

ALTITUDE: 1295  
(FT, MSL)

DEPTH: 80  
(FT)



147-56-27DAA  
USBR 16

Altitude: 1349.3 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, black, moist-----	4	4
	Clay, silty, sandy, gravelly, brown, moist-----	14	18

147-56-28CCC  
NDSWC 5620

Altitude: 1385 feet

Glacial drift:			
	Clay, silty, sandy, pebbly, dusky-yellow, plastic, oxidized (till)-----	14	14
	Clay, silty, sandy, pebbly, olive-gray, plastic, cohesive, calcareous; occasional cobbles (till)-----	6	20
Pierre Formation:			
	Shale, clayey, light-gray, very calcareous, white-specked-----	40	60

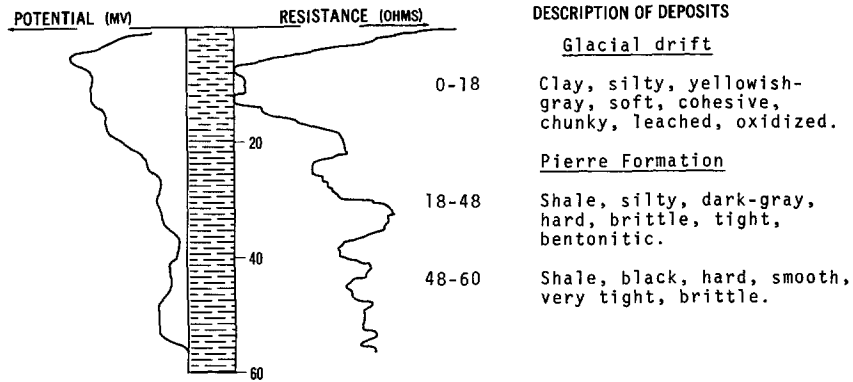
147-56-30DCD  
(Log from Lehigh Portland Cement Co.)

Altitude: 1460 feet

Glacial drift:			
	Gravel, sand, clay, and some boulders (till)-----	80	80
Pierre Formation:			
	Shale, clayey, soft-----	30	110
	Shale, medium-gray, soft, calcareous---	22	132
	Shale, dark-gray, bentonitic-----	58	190
	Shale-----	30	220
	Shale, dark-gray, pyritic, calcareous---	20	240
	Shale-----	40	280
	Shale, dark-gray, soft, plastic, calcareous-----	9	289
	Shale, green-blue, brownish-red-----	2	291
Niobrara Formation:			
	Limestone, medium-gray, white-specked, massive, fossiliferous-----	25	316
	Shale, limy, clayey, dark-gray, soft---	5	321
	Shale, dark-gray, white-specked, hard---	20	341
	Shale, dark-gray to black, clayey, pyritic, micaceous-----	29	370
	Shale, dark-gray to black, soft, plastic, pyritic, carbonaceous-----	21	391

LOCATION: 147-56-33CCD  
 ALTITUDE: 1365  
 (FT, MSL)

DATE DRILLED: October 1970  
 DEPTH: 60  
 (FT)



147-57-01DDD  
 USBR 15

Altitude: 1465.7 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, black, moist, organic-----	5	5
	Clay, silty, sandy, gravelly, brown, moist (till)-----	13	18

147-57-02ADD  
 USGS 7  
 (Log from Dennis, 1947)

Altitude: 1480 feet

Glacial drift:			
	Topsoil, black, and clay gray-----	6	6
	Sand, medium to coarse, with some clay--	2	8
	Clay, sand, and gravel, yellow, unsorted-----	11	19
	Clay, sand, and gravel, gray, unsorted--	43	62
Pierre Formation:			
	Shale-----	4	66

147-57-02BBB1  
 USGS 10  
 (Log from Dennis, 1947)

Altitude: 1520 feet

Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	28	28
	Clay, sand, and gravel, gray, unsorted--	12	40
	Sand and gravel-----	30	70
	Clay, sand, and gravel, gray, unsorted--	4	74
	Gravel, with some clay and silt-----	7	81
	Limestone boulder-----	1	82
Pierre Formation:			
	Shale-----	3	85

147-57-02BBB2  
(Log from Frederickson's, Inc.)

Altitude: 1525 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
<b>Glacial drift:</b>			
	Topsoil, black-----	1	1
	Clay, yellow-----	4	5
	Sand, brown-----	2	7
	Sandy clay, yellow-----	15	22
	Sandy clay, blue-----	23	45
	Sand, gravel-----	12	57
	Clay, blue-----	2	59
	Sand and gravel, blue-----	2	61
	Dirty sand, gravel, blue-----	4	65
	Clay and boulders, blue-----	6	71
	Sand, blue-----	1	72
	Hard sandy clay, blue-----	8	80
<b>Pierre Formation:</b>			
	Shale, blue-----	2	82

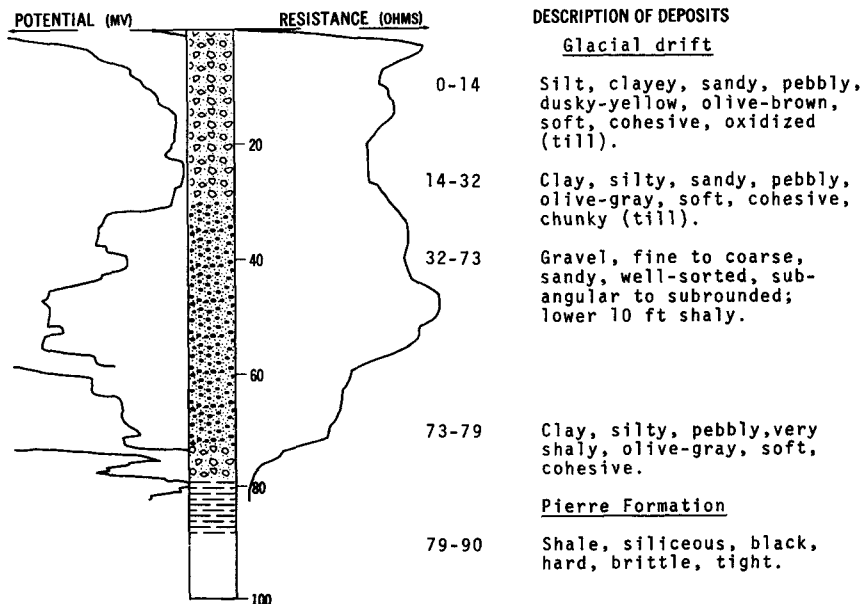
NDSWC 4280

LOCATION: 147-57-02BBB3

DATE DRILLED: October 1970

ALTITUDE: 1520  
(FT, MSL)

DEPTH: 90  
(FT)

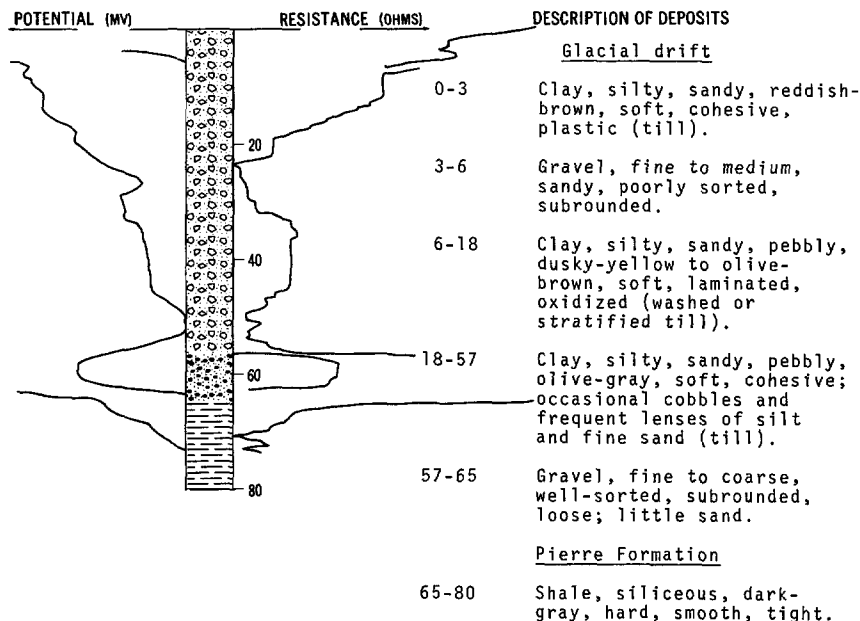


LOCATION: 147-57-02CCC

DATE DRILLED: October 1970

ALTITUDE: 1505  
(FT, MSL)

DEPTH: 80  
(FT)



147-57-02DAA  
USGS 4  
(Log from Dennis, 1947)

Altitude: 1485 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
<u>Glacial drift:</u>			
	Clay, sand, and gravel, yellow, unsorted	19	19
	Clay, sand, and gravel, gray, unsorted--	10	29
	Gravel, with considerable clay and silt-	1	30
	Clay, sand, and gravel, gray, unsorted--	26	56
<u>Pierre Formation:</u>			
	Shale-----	14	70

147-57-03ADD  
USGS 11  
(Log from Dennis, 1947)

Altitude: 1505 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
<u>Glacial drift:</u>			
	Clay, sand, and gravel, yellow, unsorted	16	16
	Clay, sand, and gravel, gray, unsorted--	38	54
	Sand and gravel, with some clay-----	9	63
	Clay, sand, and gravel, gray, unsorted--	13	76
	Gravel with some clay-----	9	85
	Boulders and gravel-----	5	90
	Clay, gray, and boulders-----	7	97
<u>Pierre Formation:</u>			
	Shale-----	3	100

147-57-12BBB  
 USGS 5  
 (Log from Dennis, 1947)

Altitude: 1490 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	88	8
	Clay, sand, and gravel, gray, unsorted--	14	22
	Gravel, with considerable clay and silt--	9	31
	Gravel, with some clay and silt-----	9	40
	Gravel, with considerable clay and silt-	7	47
Pierre Formation:			
	Shale-----	10	57

147-57-12BBC1  
 USGS 6  
 (Log from Dennis, 1947)

Altitude: 1490 feet

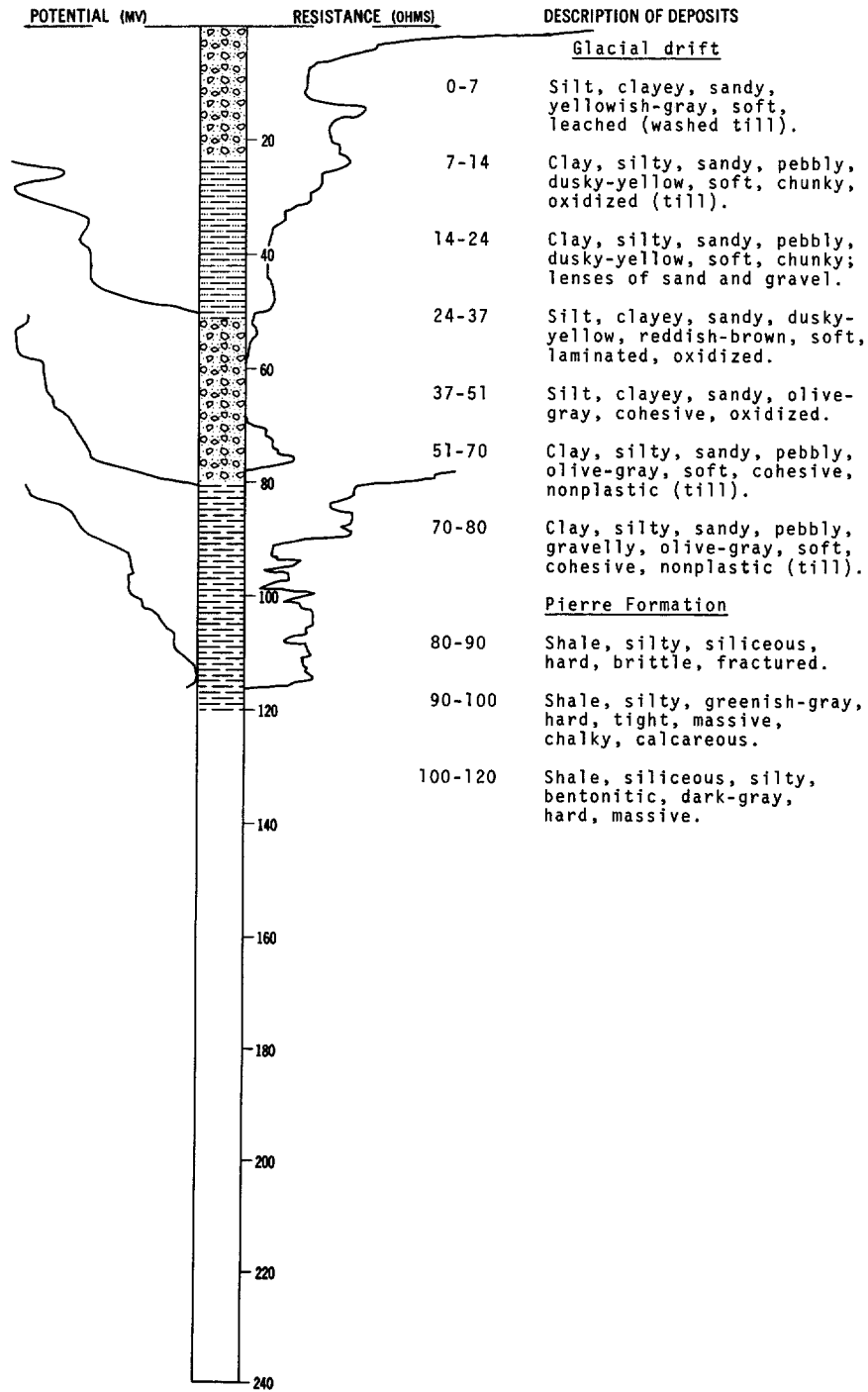
Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	27	27
	Clay, sand, and gravel, gray, unsorted--	31	58
Pierre Formation:			
	Shale-----	12	70

LOCATION: 147-57-22BBB

DATE DRILLED: October 1970

ALTITUDE: 1535  
(FT, MSL)

DEPTH: 120  
(FT)





147-57-27DDD2  
(Log from Frederickson's, Inc.)

Altitude: 1515 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	2	2
	Clay, yellow-----	25	27
	Clay, blue-----	30	57
	Clay; lensed with sand, blue-----	13	70
Pierre Formation:			
	Shale, hard, blue-----	32	102

147-57-30ADD  
(Log from Frederickson's, Inc.)

Altitude: 1470 feet

Glacial drift:			
	Topsoil, black-----	2	2
	Clay, yellow-----	28	30
	Clay, blue-----	32	62
	Clay; with lenses of sand, blue-----	10	72
Pierre Formation:			
	Shale, hard, blue (bit sample)-----	72	

147-58-03AAC  
(Log from Northern Resources, Inc.)

Altitude: 1456 feet

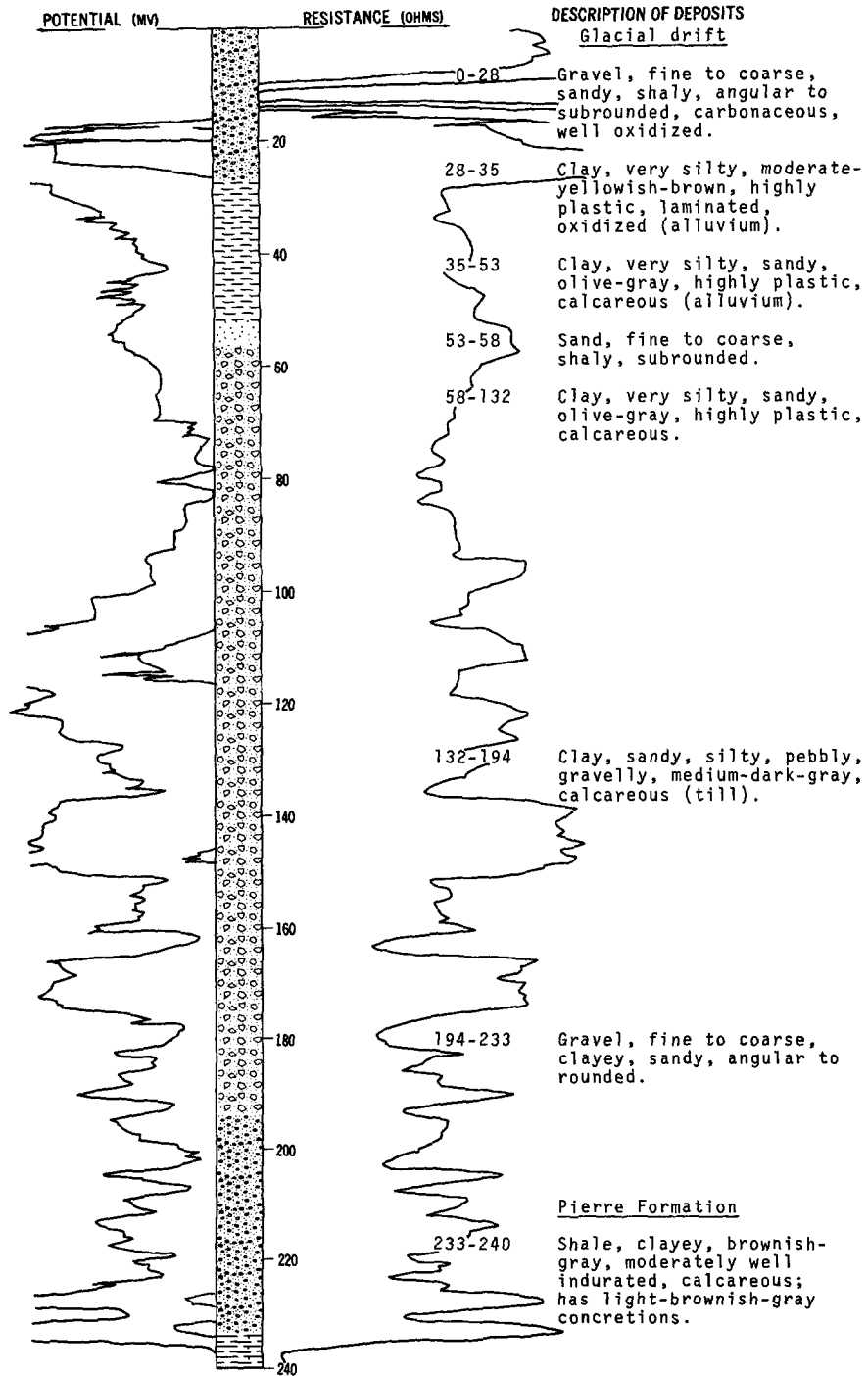
Glacial drift:			
	Loam, shaly, light-olive-gray-----	2	2
	Boulders-----	1	3
	Loam, sandy, pebbly, light-olive-gray---	2	5
	Gravel, medium to coarse, sandy-----	12	17
	Loam, sandy, pebbly, dark-olive-gray (till)-----	4	21
	Boulder-----	6	27
	Clay, pebbly, cohesive (till)-----	5	32
	Gravel-----	6	38
Pierre Formation:			
	Shale, black-----	52	90
	No log-----	1190	1280

LOCATION: 147-58-07ABA

DATE DRILLED: July 1971

ALTITUDE: 1350  
(FT, MSL)

DEPTH: 240  
(FT)



147-58-08CCA  
(Log from Northern Resources, Inc.)

Altitude: 1320 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey, sandy (alluvium)-----	5	5
	Loam, light-olive-gray, oxidized-----	15	20
	Loam, pebbly, dark-olive-gray, unoxidized (till)-----	5	25
	Sand, fine, gravelly-----	5	30
	Sand, fine to coarse, shaly-----	10	40
	Sand, fine to coarse, shaly, lignitic---	20	60
	Gravel, coarse, shaly-----	10	70
	Sand, fine to coarse, gravelly-----	10	80
	Gravel, coarse, sandy-----	10	90
	Sand, gravelly, silty, clayey-----	10	100
	Gravel, fine to coarse, sandy, silty---	30	130
	Gravel, fine, silty, shaly, lignitic---	50	180
	Cobbles, gravelly-----	4	184
Pierre Formation:			
	Shale, clayey, black, noncalcareous----	49	233
	No log-----	927	1160

147-58-14CCD  
(Log from Northern Resources, Inc.)

Altitude: 1337 feet

Glacial drift:			
	Clay, pebbly, sandy, light-yellow-gray, oxidized-----	1	1
Pierre Formation:			
	Shale, light-gray, bentonitic-----	63	64
	No log-----	1016	1080

147-58-23CBB3  
NDSWC 8050

Altitude: 1320 feet

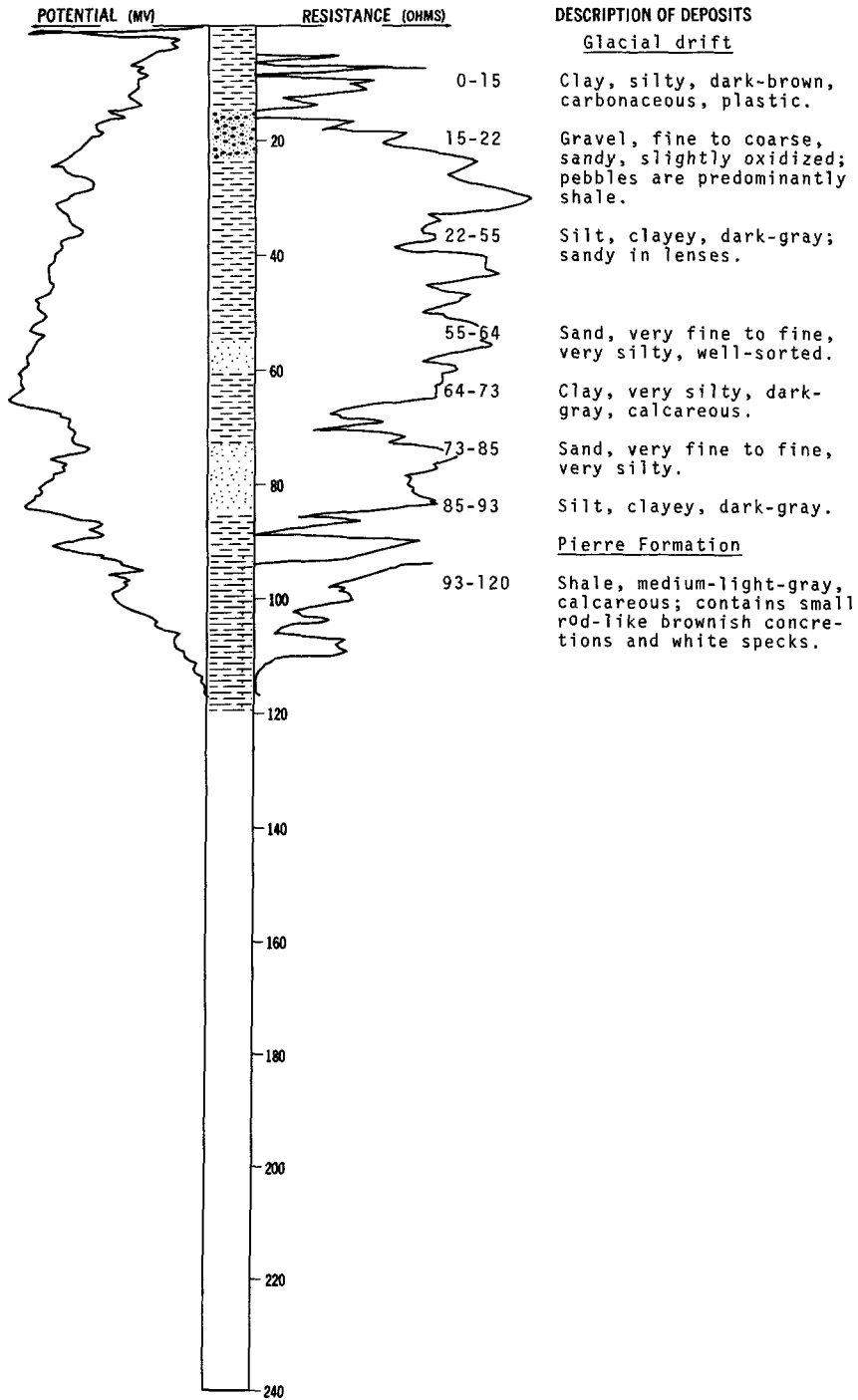
Glacial drift:			
	Gravel, fine to coarse, sandy, clayey, angular to subrounded, well- oxidized; mostly carbonates and shale-----	27	27
	Clay, very silty, moderate-yellowish- brown, plastic, oxidized (alluvium)---	5	32
	Clay, very silty, olive-gray, plastic (alluvium)-----	55	87
Pierre Formation:			
	Shale, clayey, medium-light-gray, mod- erately well indurated, slightly calcareous; brownish-gray concretions-	13	100

LOCATION: 147-58-27AAB

DATE DRILLED: November 1970

ALTITUDE: 1305  
(FT, MSL)

DEPTH: 120  
(FT)

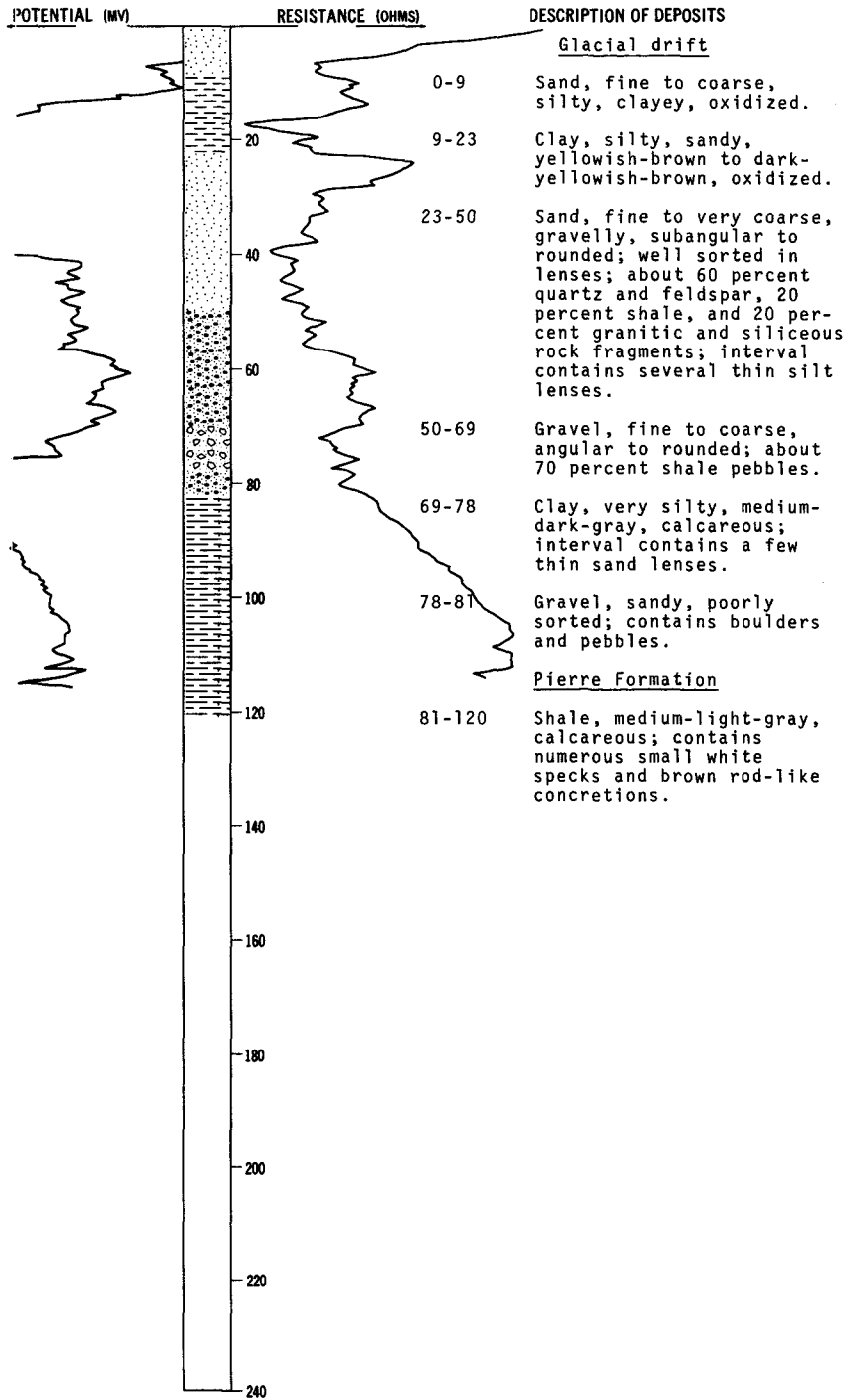


LOCATION: 147-58-27B8B

DATE DRILLED: November 1970

ALTITUDE: 1325  
(FT, MSL)

DEPTH: 120  
(FT)

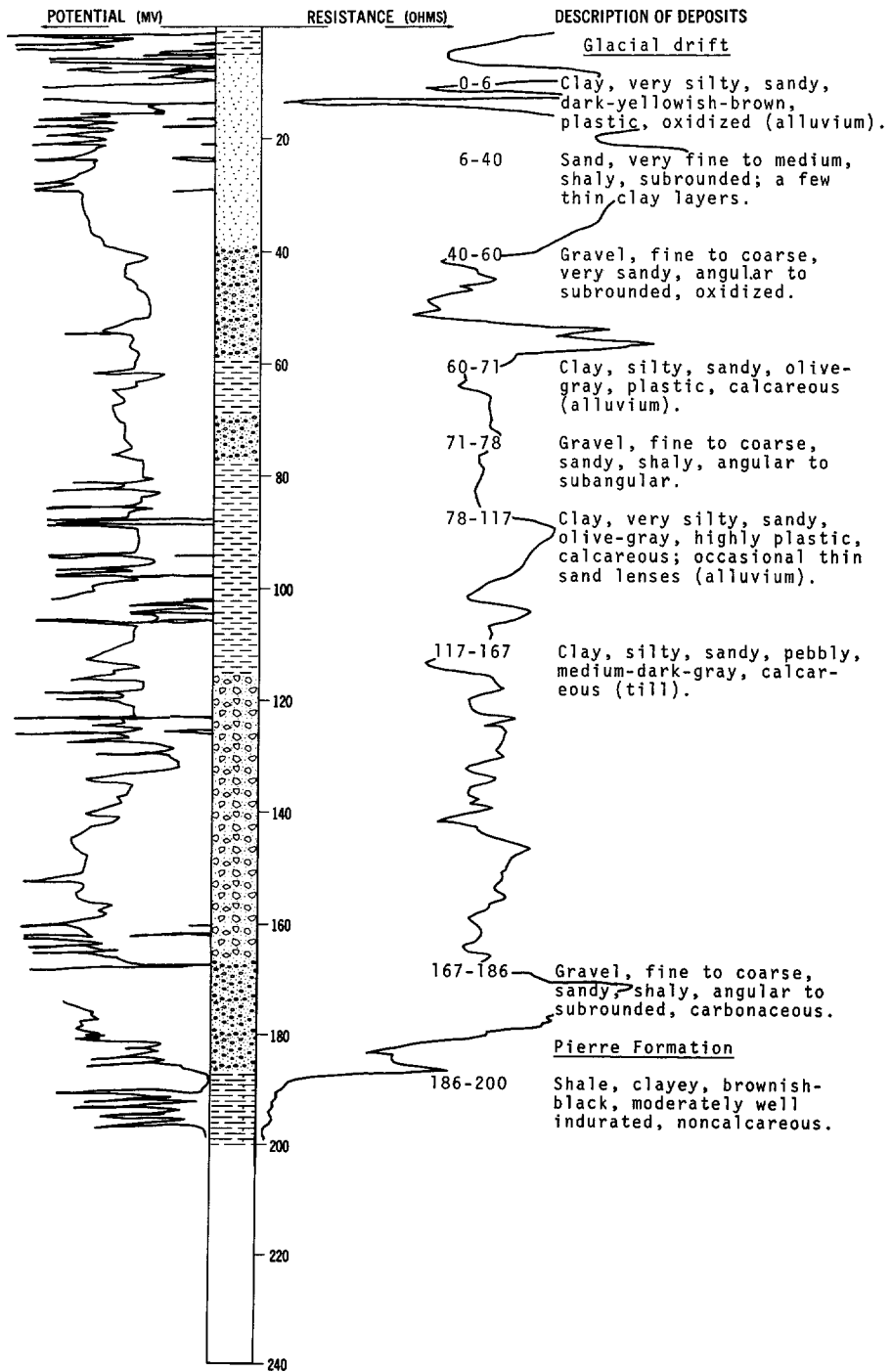


LOCATION: 147-58-28ABB

DATE DRILLED: July 1971

ALTITUDE: 1325  
(FT, MSL)

DEPTH: 200  
(FT)



147-58-28BAA  
(Log from Frederickson's, Inc.)

Altitude: 1325 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, brown-----	2	2
	Clay, sandy, yellow-----	36	38
	Sand, silty, gray-----	4	42
	Clay, sandy, silty, blue (till)-----	20	62
Pierre Formation:			
	Shale, clayey, gray-----	25	87

147-58-28DBA  
(Log from Frederickson's, Inc.)

Altitude: 1370 feet

Glacial drift:			
	Topsoil, black-----	2	2
	Clay, sandy, gravelly, mixed-----	16	18
	Sand-----	14	32
	Sand, gravelly, brown-----	20	52
	Sand, gray-----	12	64
Pierre Formation:			
	Shale, black-----	-	64

147-58-32BBC  
NDSWC 8052

Altitude: 1505 feet

Glacial drift:			
	Clay, silty, gravelly, sandy, pebbly, yellowish-brown, oxidized (till)-----	11	11
	Gravel, fine to coarse, sandy, clayey, angular to subrounded, well-oxidized--	31	42
	Clay, silty, sandy, pebbly, gravelly, gray to dark-reddish-brown, cohesive, calcareous (till)-----	25	67
	Gravel, fine to coarse, clayey, sandy, angular to subrounded, slightly oxidized-----	24	91
Pierre Formation:			
	Shale, siliceous, grayish-black to black, well-indurated, noncalcareous-----	9	100

147-58-33BBB  
NDSWC 8051

Altitude: 1460 feet

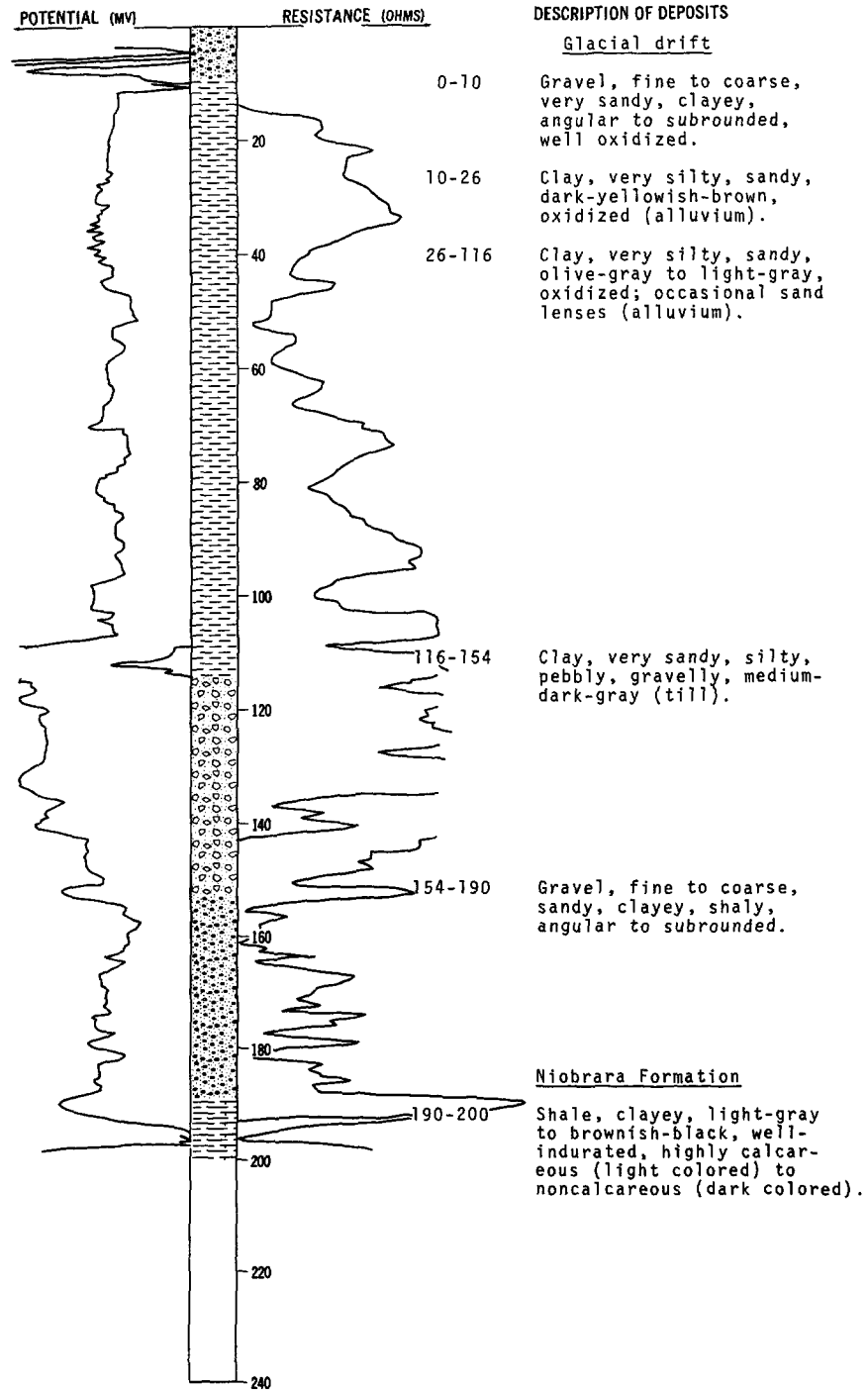
Glacial drift:			
	Clay, silty, gravelly, sandy, pebbly, dark-yellowish-brown, oxidized (till)-	8	8
Pierre Formation:			
	Shale, siliceous, grayish-black, well-indurated, noncalcareous-----	32	40

LOCATION: 147-58-36DCC

DATE DRILLED: July 1971

ALTITUDE: 1307  
(FT, MSL)

DEPTH: 200  
(FT)





147-59-02AAA  
NDSWC 8047

Altitude: 1450 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, very silty, sandy, gravelly, dark-yellowish-brown, plastic, oxidized (till)-----	5	5
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, slightly oxidized, noncalcareous-----	35	40

147-59-03BCB  
NDSWC 8045

Altitude: 1400 feet

Glacial drift:	Clay, very sandy, gravelly, pebbly, dark-yellowish-brown, oxidized (till)-----	8	8
Pierre Formation:	Shale, siliceous, grayish-black to black to greenish-gray, indurated, noncalcareous-----	32	40

147-59-03DDD  
NDSWC 8044

Altitude: 1440 feet

Glacial drift:	Sand, very fine to fine, clayey, light-brown, subangular, well oxidized-----	6	6
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, oxidized, noncalcareous----	14	20

147-59-09AAA  
NDSWC 8043

Altitude: 1445 feet

Glacial drift:	Clay, very silty, pebbly, dark-yellowish-brown, partially oxidized; numerous angular shale fragments-----	24	24
	Clay, very silty, pebbly, medium-dark-gray to dark-gray, slightly calcareous; numerous angular shale fragments (till)-----	16	40
	Clay, silty, sandy, pebbly, olive-gray, calcareous (till)-----	48	88
Pierre Formation:	Shale, siliceous, grayish-black to black, indurated, noncalcareous-----	12	100

147-59-19BBA  
(Log from Empire Drilling Co.)

Altitude: 1475 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Till, sandy, oxidized-----	22	22
	Sand-----	8	30
	Clay-----	5	35
	Gravel-----	2	37
	Till, gray-----	16	53
Pierre Formation:			
	Shale-----	7	60

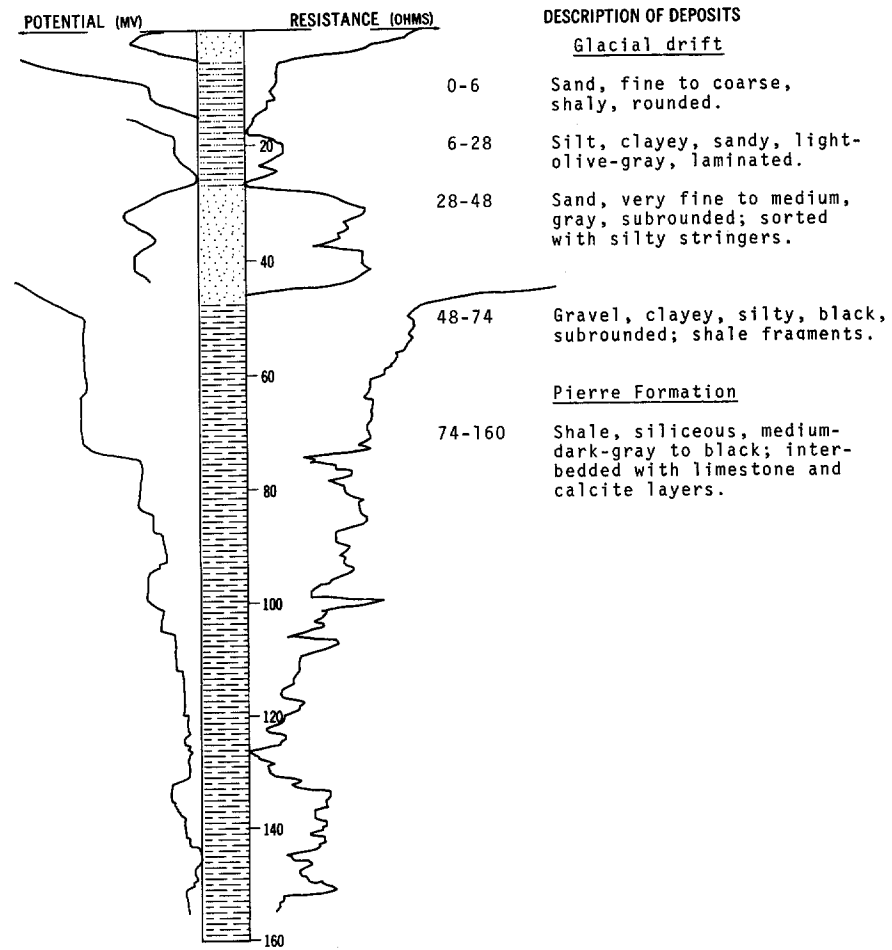
NDSWC 4373

LOCATION: 147-59-31BBB

DATE DRILLED: August 1971

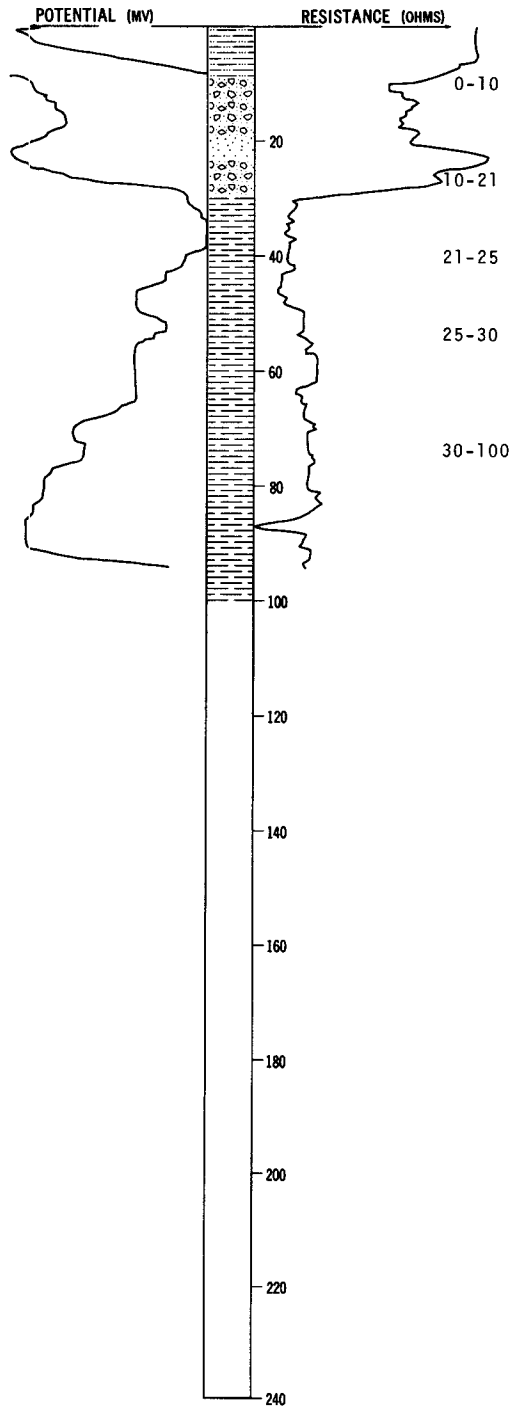
ALTITUDE: 1470  
(FT, MSL)

DEPTH: 160  
(FT)



LOCATION: 147-60-01CCC  
 ALTITUDE: 1448  
 (FT, MSL)

DATE DRILLED: August 1971  
 DEPTH: 100  
 (FT)



**DESCRIPTION OF DEPOSITS**

Glacial drift

0-10 Silt, clayey, sandy, shaly, yellowish-gray to reddish-brown, iron-stained, oxidized.

10-21 Clay, very silty, sandy, pebbly, olive-gray, cohesive (till).

21-25 Sand, medium to coarse, subrounded; contains shale and carbonate fragments.

25-30 Clay, very silty, sandy, pebbly, olive-gray, cohesive (till).

Pierre Formation

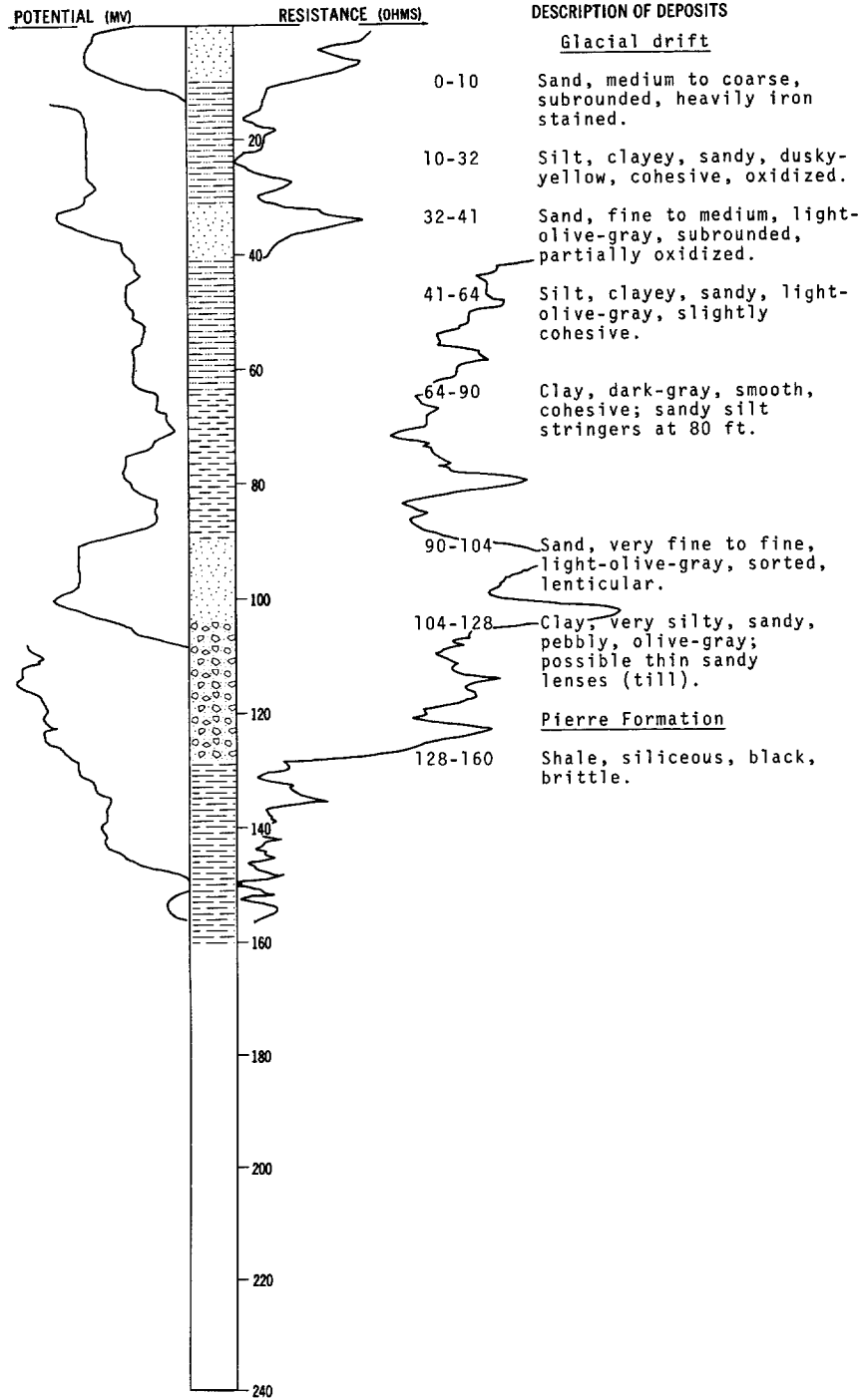
30-100 Shale, siliceous, black, fissile; contains limestone lenses.

LOCATION: 147-60-07AAA

DATE DRILLED: August 1971

ALTITUDE: 1540  
(FT, MSL)

DEPTH: 160  
(FT)

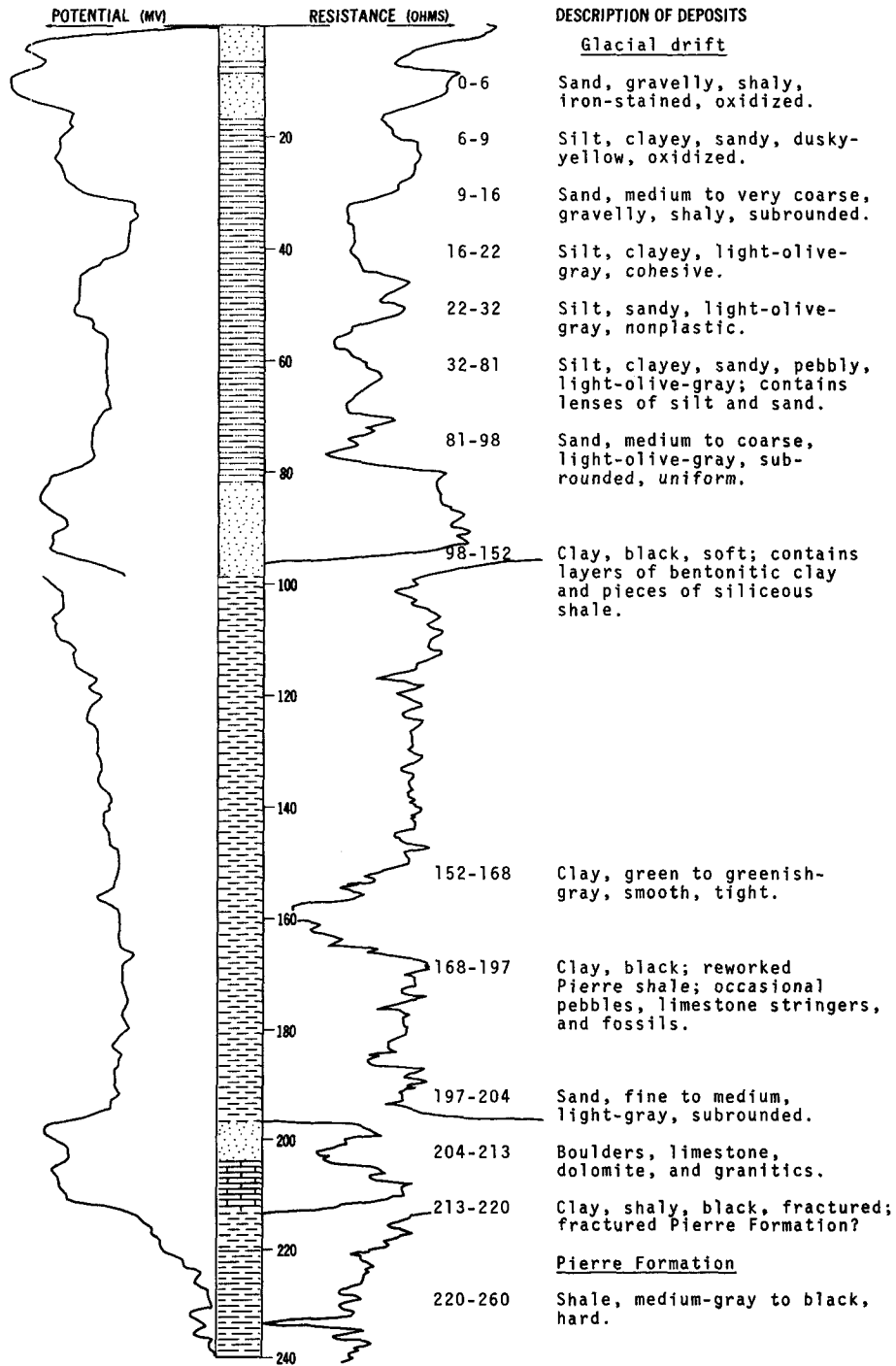


LOCATION: 147-60-07CCC

ALTITUDE: 1505  
(FT, MSL)

DATE DRILLED: August 1971

DEPTH: 260  
(FT)



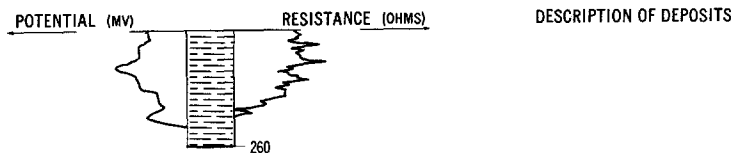
NDSWC 4355, Continued

LOCATION: 147-60-07CCC

DATE DRILLED: August 1971

ALTITUDE: 1505  
(FT, MSL)

DEPTH: 260  
(FT)



147-60-07DDA1  
(Log from Empire Drilling Co.)

Altitude: 1520 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Sand and gravel-----	18	18
	Clay, sandy, yellow-----	18	36
	Clay, sandy, blue-----	15	51
Pierre Formation:			
	Shale-----	9	60

147-60-07DDA2  
(Log from Empire Drilling Co.)

Altitude: 1520 feet

Glacial drift:			
	Sand and gravel-----	15	15
	Clay, sandy, yellow-----	10	25
	Sand, fine, blue-----	20	45
	Clay, sandy-----	45	90
	Sand, very fine-----	10	100
	Clay, sandy-----	16	116
	Till, gray-----	4	120

147-60-07DDB  
(Log from Empire Drilling Co.)

Altitude: 1515 feet

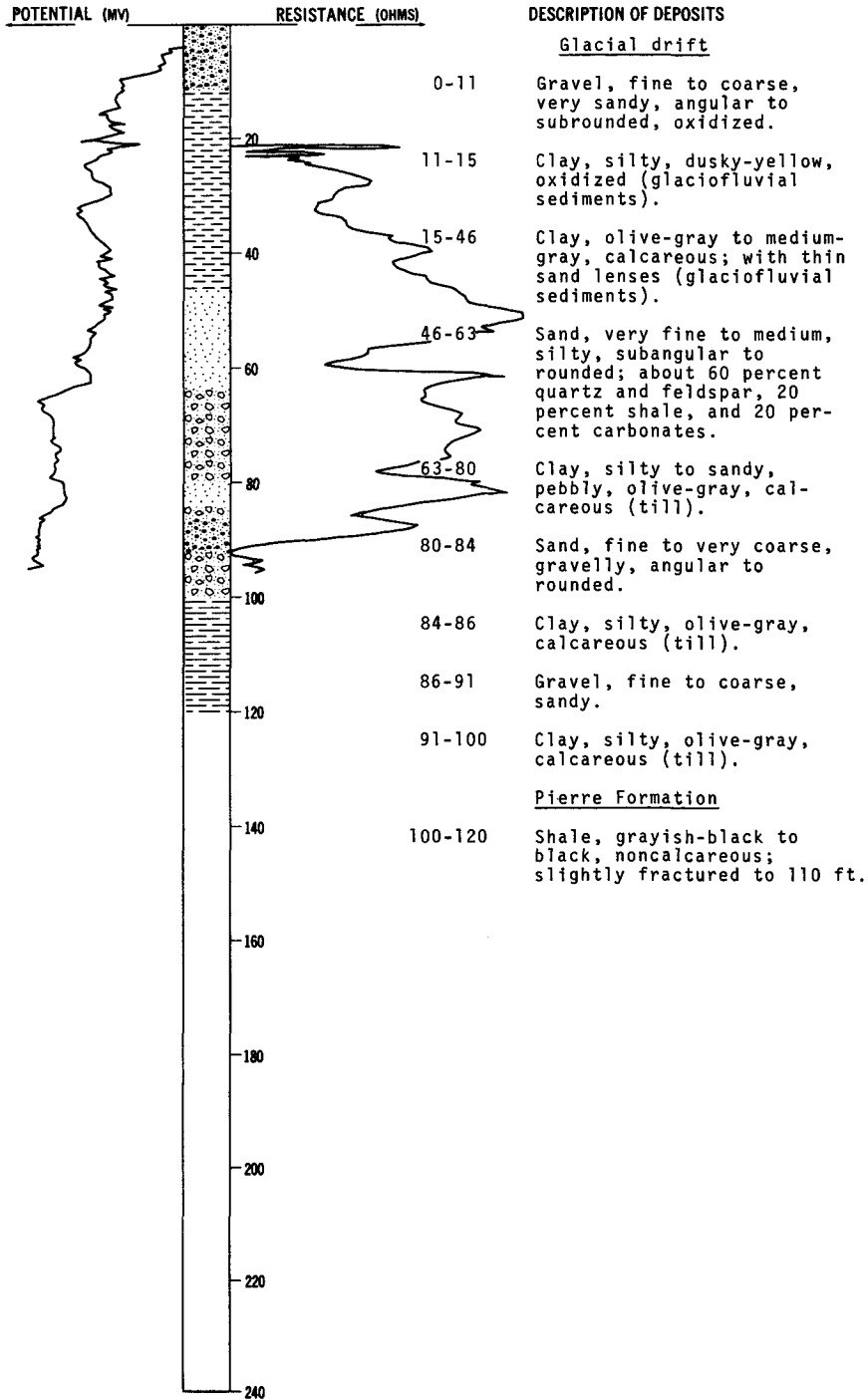
Glacial drift:			
	Sand and gravel-----	12	12
	Clay, sandy, yellow-----	9	21
	Sand, fine-----	15	36
	Clay, sandy-----	26	62
	Till, gray-----	12	74
	Gravel-----	11	85
	Till, gray-----	12	97
Pierre Formation:			
	Shale-----	3	100

LOCATION: 147-60-07DDD

DATE DRILLED: October 1970

ALTITUDE: 1515  
(FT, MSL)

DEPTH: 120  
(FT)



147-60-08AA  
(Log from Schnell, Inc.)

Altitude: 1550 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	1	1
	Shale, pebbly; gravel, coarse-----	16	17
	Clay, sandy-----	68	85
	Till, hard, gray-----	10	95
	Sand and gravel-----	20	115
	Till, bouldery, gray-----	70	185
	Clay, sandy-----	25	210
	Sand, fine-----	10	220
	Gravel, medium-----	20	240
	Gravel, medium to coarse-----	33	273
Pierre Formation:			
	Shale-----	2	275

147-60-08BDB  
(Log from Empire Drilling Co.)

Altitude: 1550 feet

Glacial drift:			
	Clay, silty, sandy, tan (till)-----	20	20
	Clay, silty, sandy, gray (till)-----	50	70
	Clay, sandy-----	10	80
	Clay, sandy, silty, gray-----	50	130
Pierre Formation:			
	Shale-----	10	140

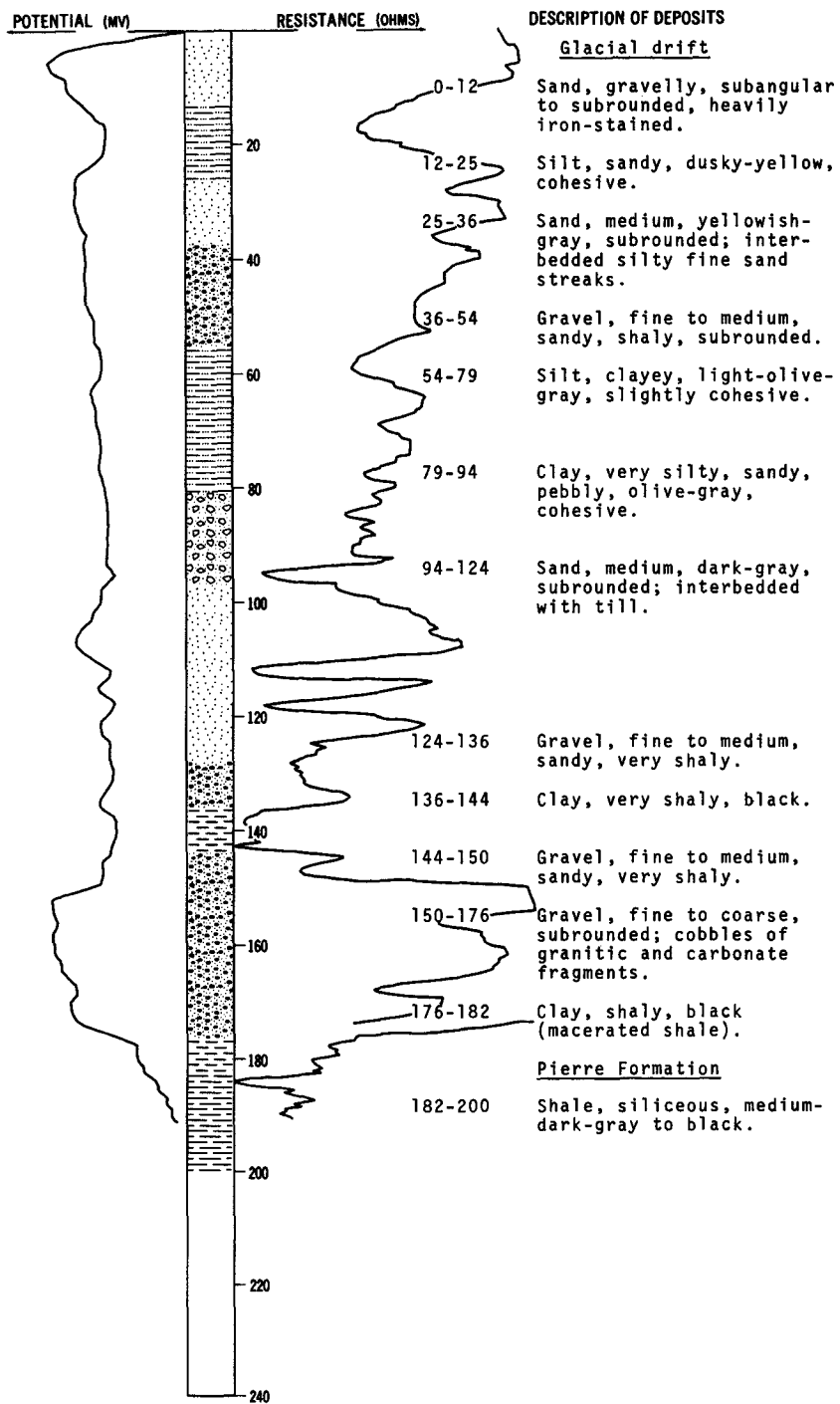


LOCATION: 147-60-09CCC

DATE DRILLED: August 1971

ALTITUDE: 1520  
(FT, MSL)

DEPTH: 200  
(FT)



147-60-15AAA  
NDSWC 5907

Altitude: 1480 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, silty, sandy, pebbly, moderate-yellowish-brown to dusky-yellow, oxidized-----	18	18
	Clay, very silty, sandy, dusky-yellow to moderate-yellowish-brown, oxidized (glaciolacustrine sediment)-----	10	28
	Clay, very silty, sandy, olive-gray, highly calcareous (glaciolacustrine sediment)-----	14	42
Pierre Formation:			
	Shale, siliceous, grayish-black to black, indurated, noncalcareous; occasional bentonite layering-----	18	60

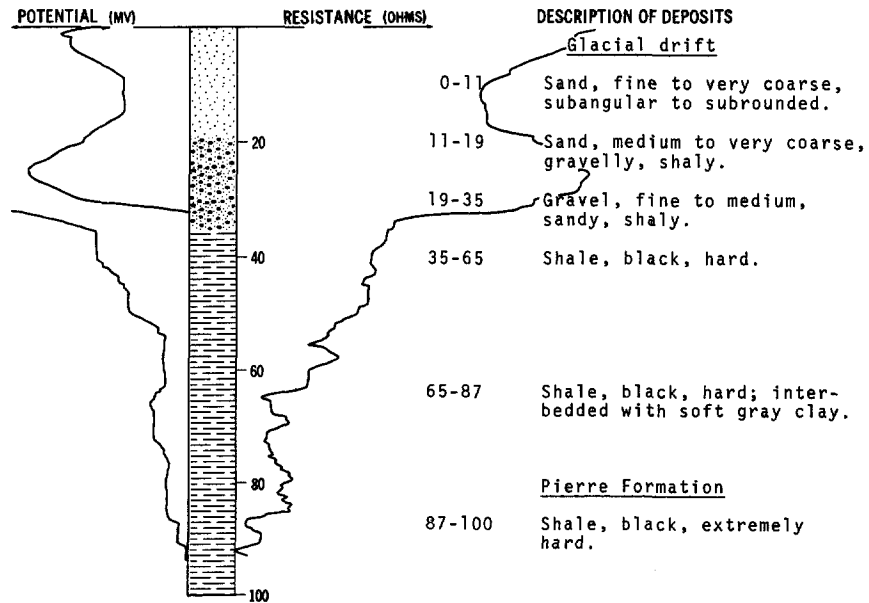
NDSWC 4372

LOCATION: 147-60-25CCD

DATE DRILLED: August 1971

ALTITUDE: 1450  
(FT, MSL)

DEPTH: 100  
(FT)

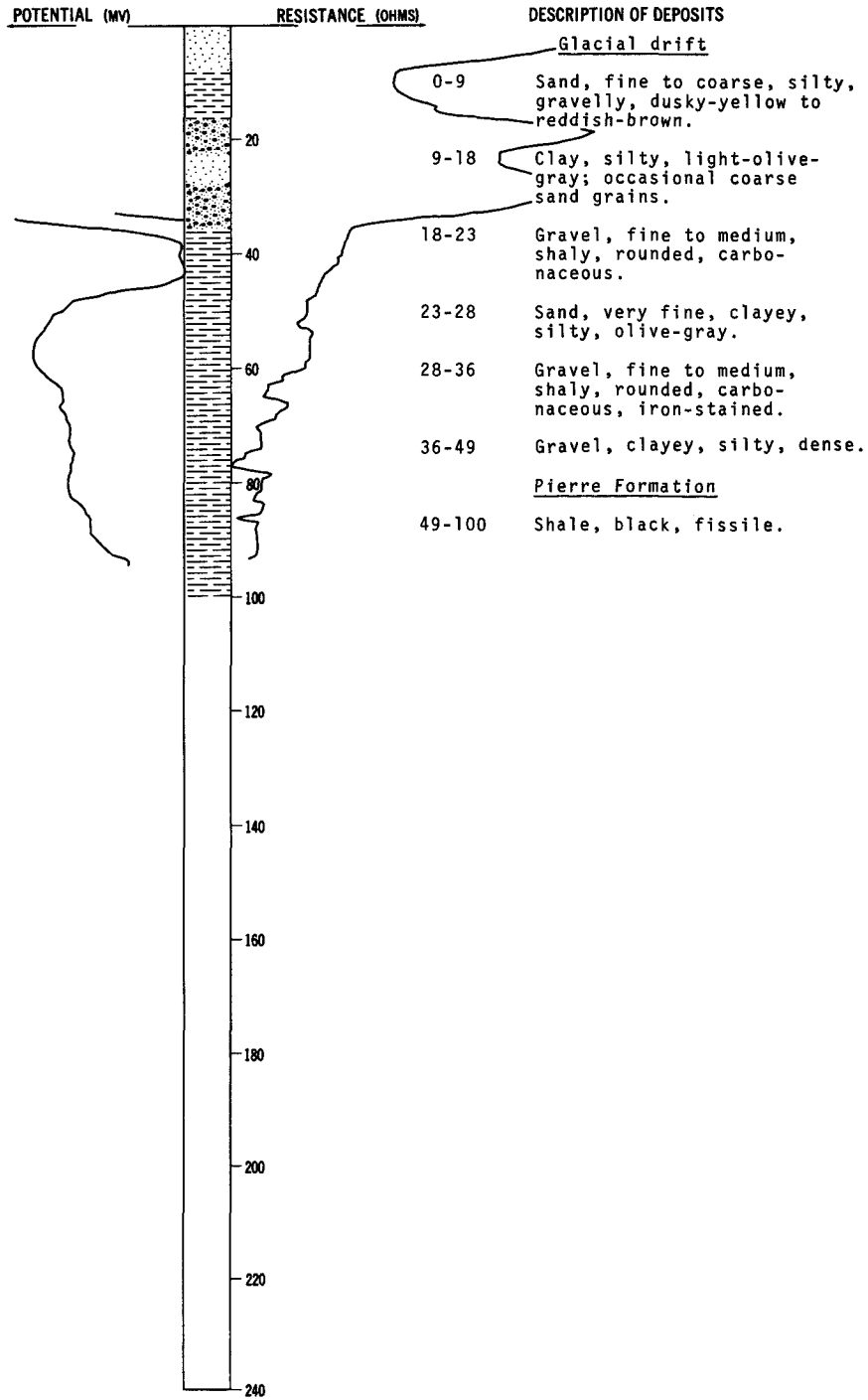


LOCATION: 147-60-27DDD

DATE DRILLED: August 1971

ALTITUDE: 1435  
(FT, MSL)

DEPTH: 100  
(FT)

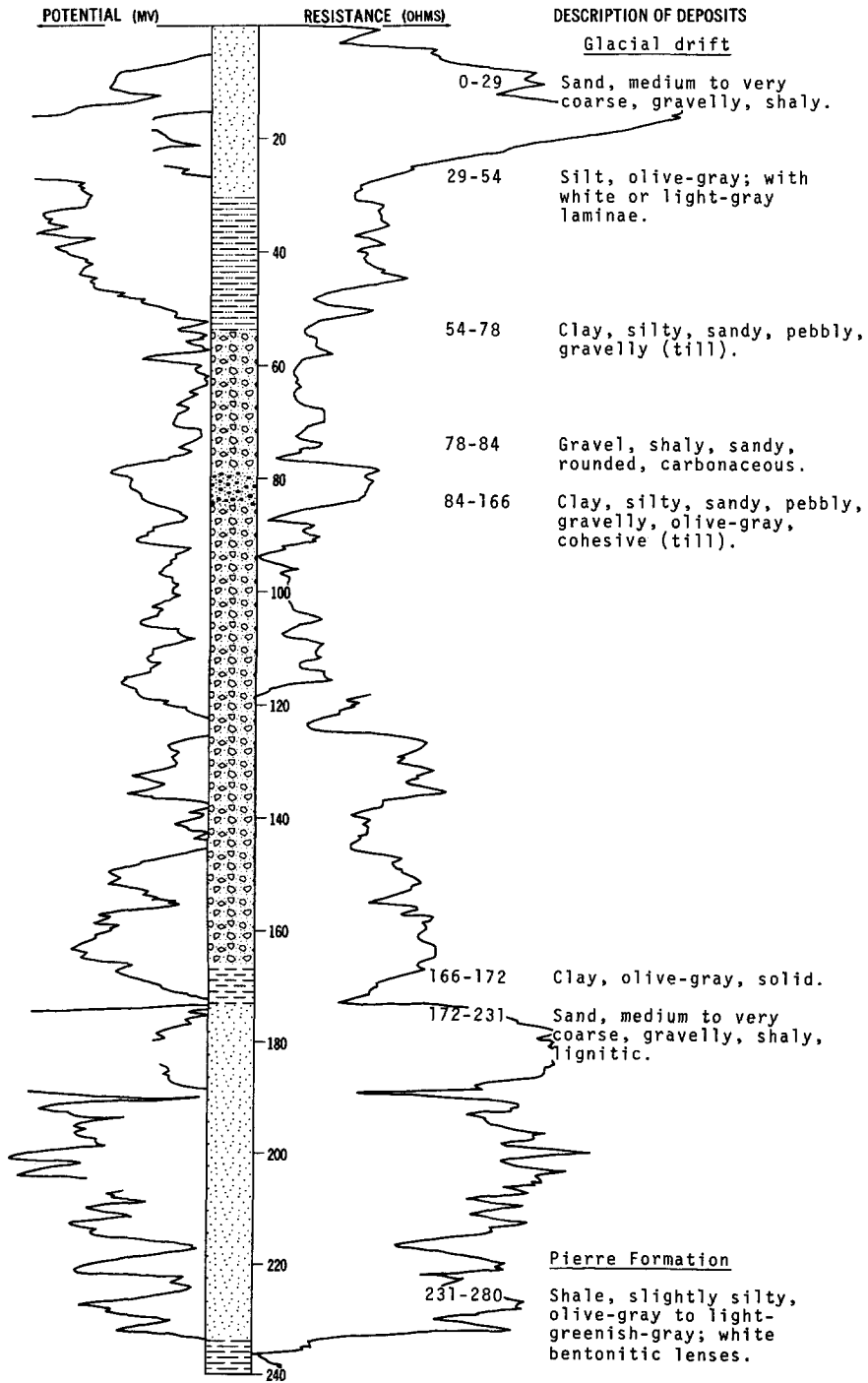


LOCATION: 147-60-31ABB

DATE DRILLED: May 1972

ALTITUDE: 1480  
(FT, MSL)

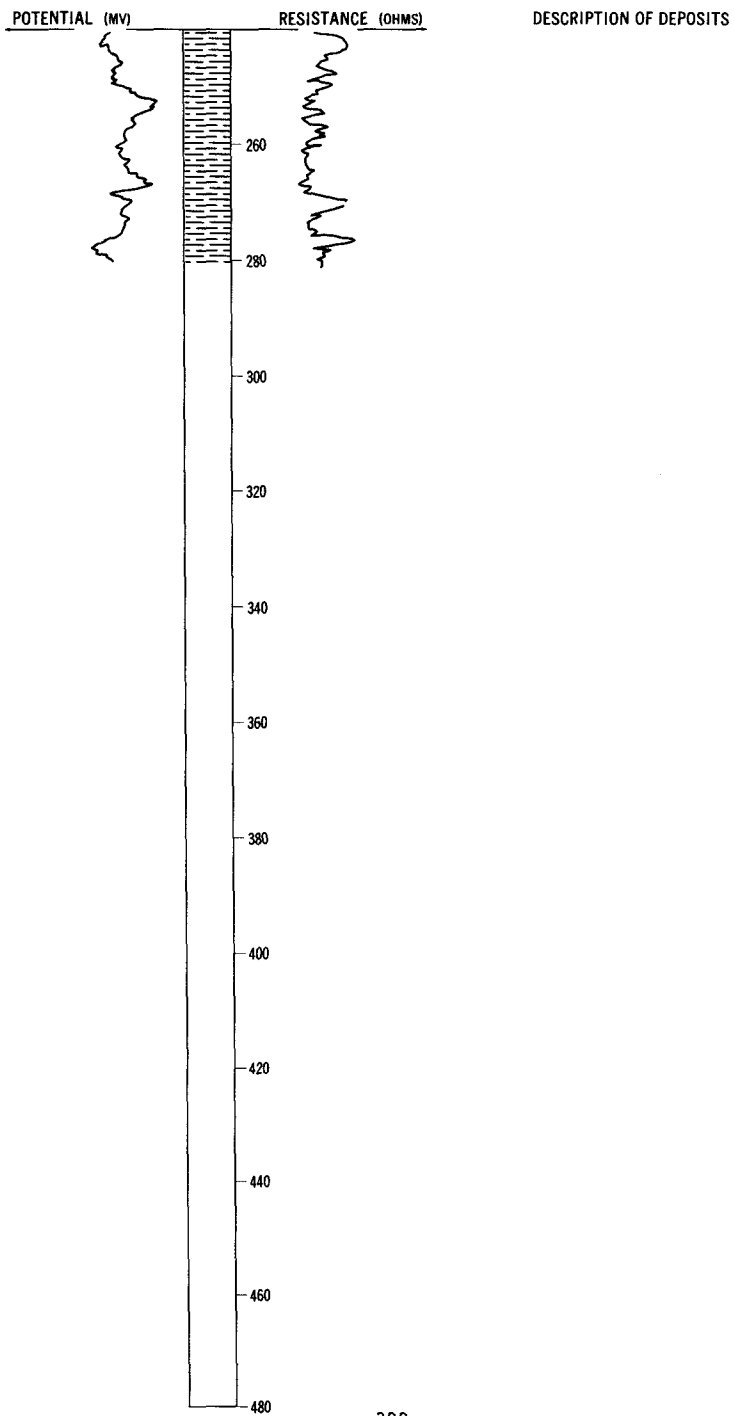
DEPTH: 280  
(FT)



NDSWC 8303, Continued

LOCATION: 147-60-31ABB  
ALTITUDE: 1480  
(FT, MSL)

DATE DRILLED: May 1972  
DEPTH: 280  
(FT)

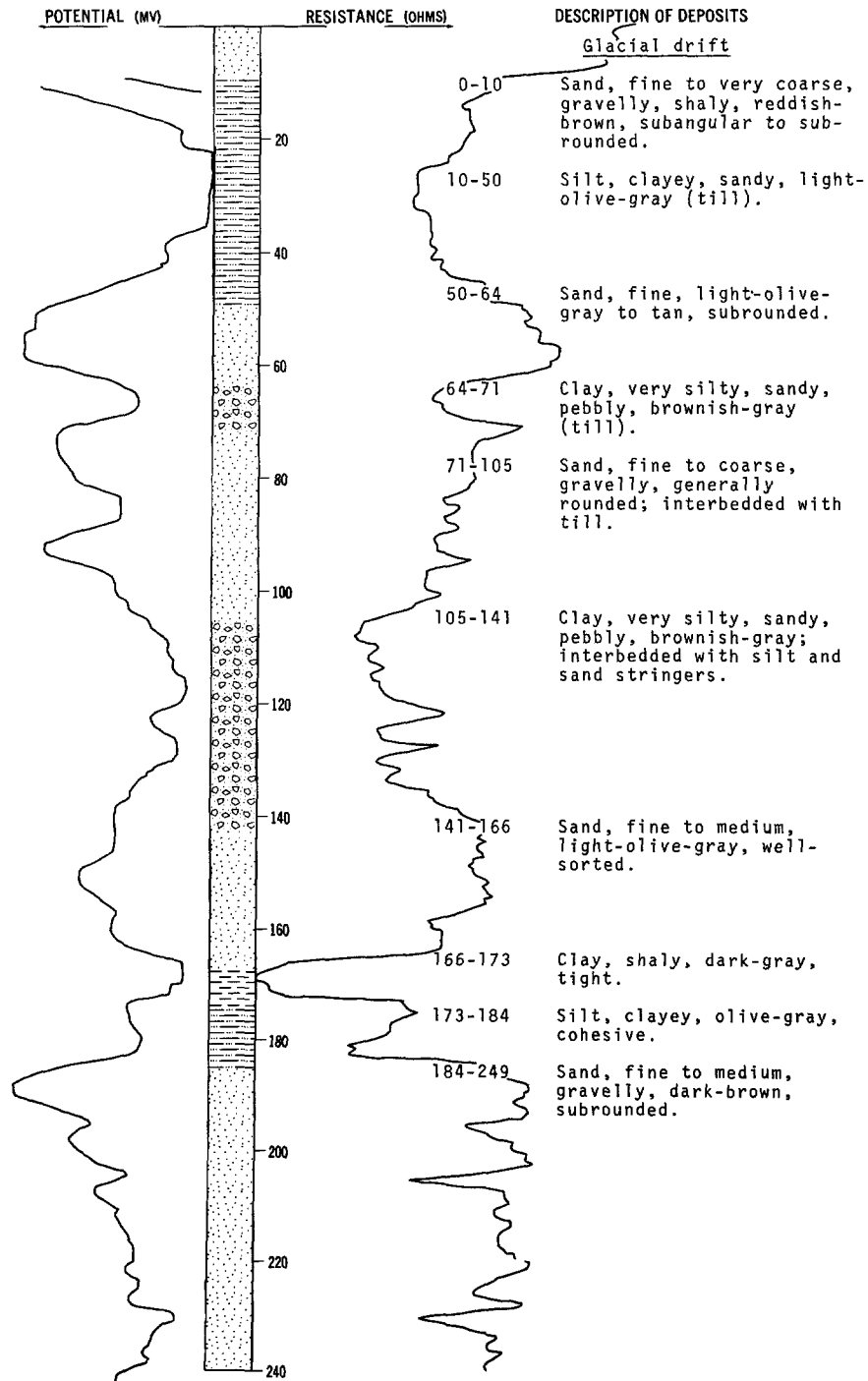


LOCATION: 147-61-01CCC

DATE DRILLED: August 1971

ALTITUDE: 1525  
(FT, MSL)

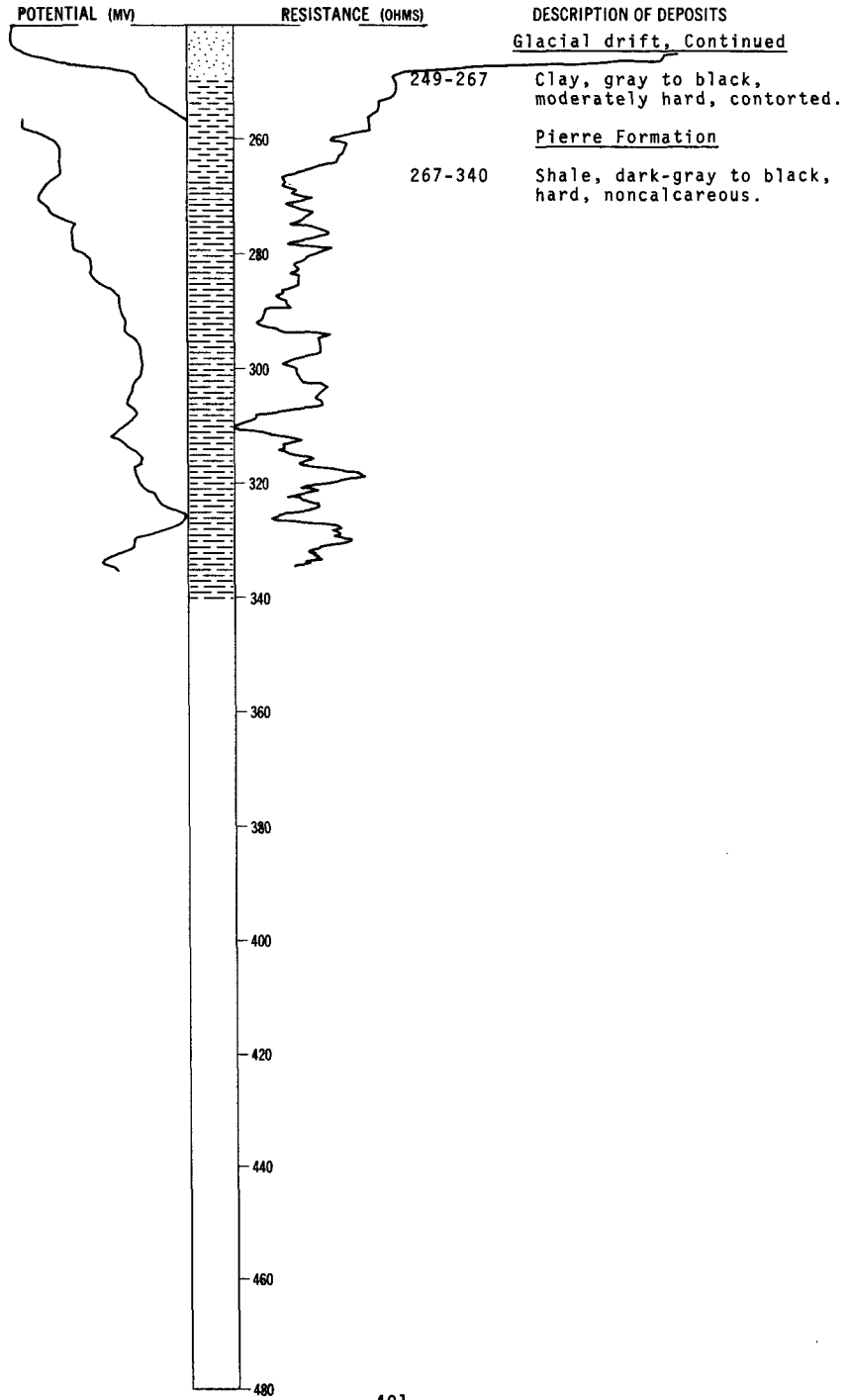
DEPTH: 340  
(FT)



LOCATION: 147-61-01CCC  
ALTITUDE: 1525  
(FT, MSL)

NDSWC 4358, Continued

DATE DRILLED: August 1971  
DEPTH: 340  
(FT)

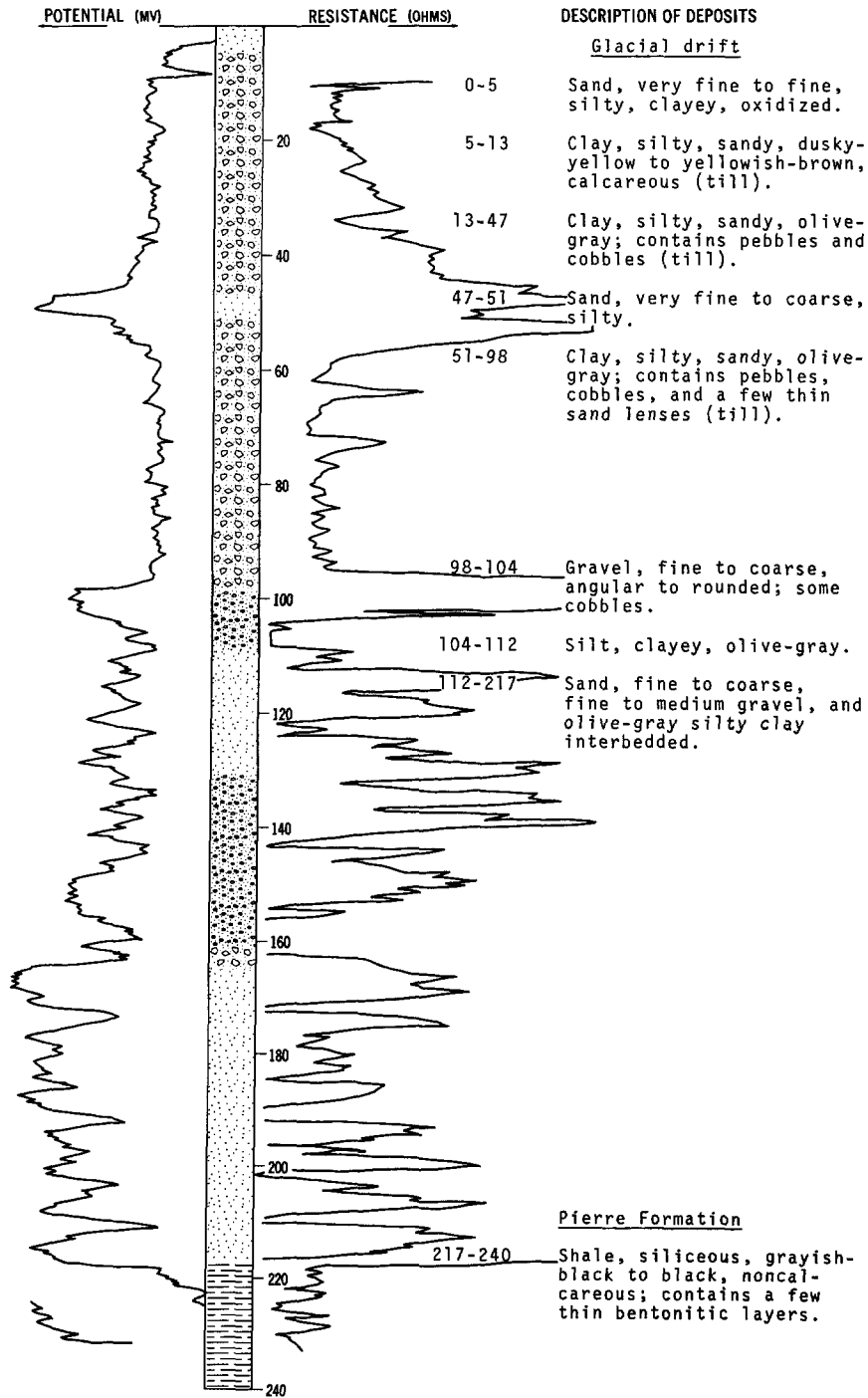


LOCATION: 147-61-05BBB

DATE DRILLED: October 1970

ALTITUDE: 1510  
(FT, MSL)

DEPTH: 240  
(FT)



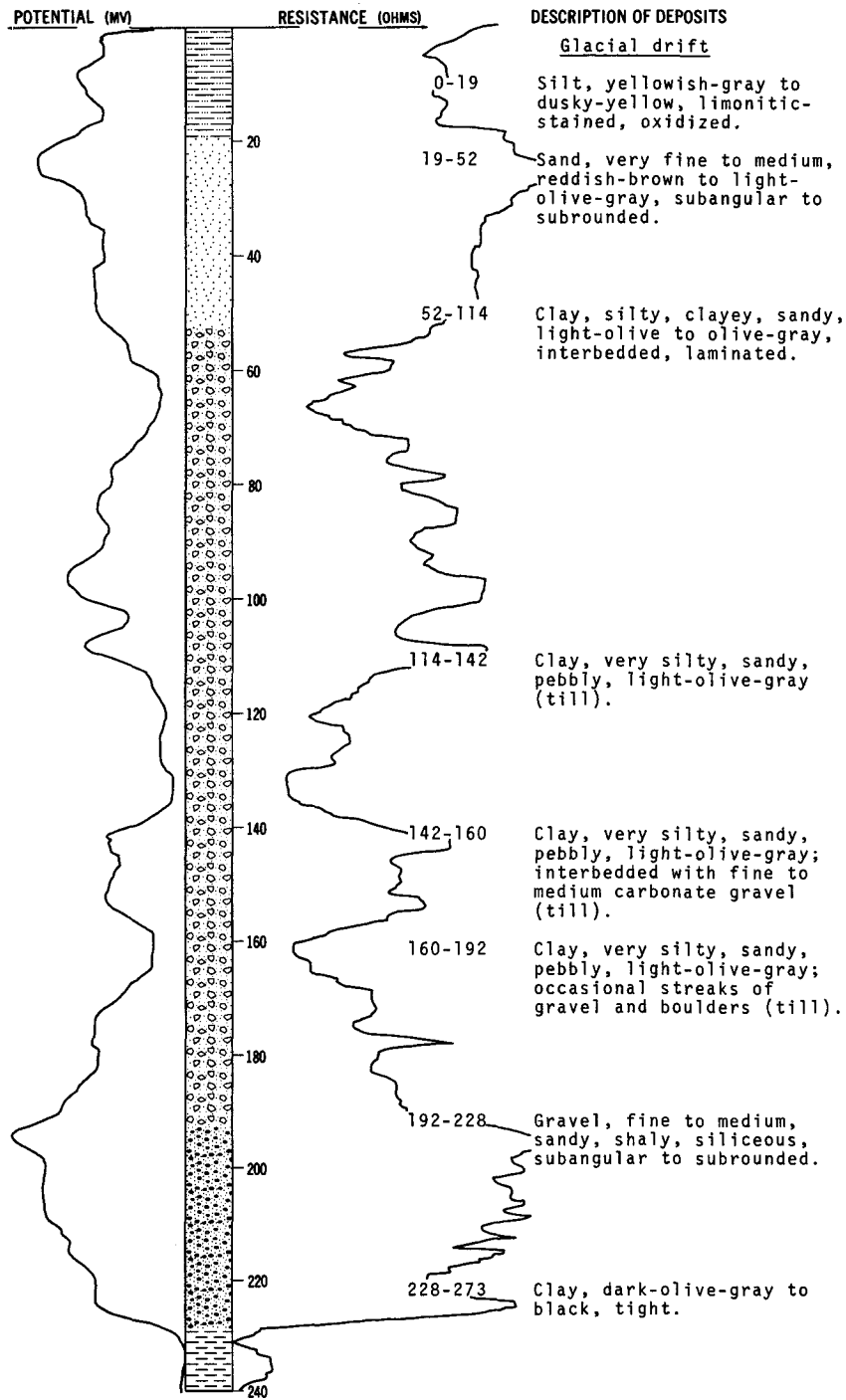


LOCATION: 147-61-09DDD

DATE DRILLED: August 1971

ALTITUDE: 1548  
(FT, MSL)

DEPTH: 360  
(FT)



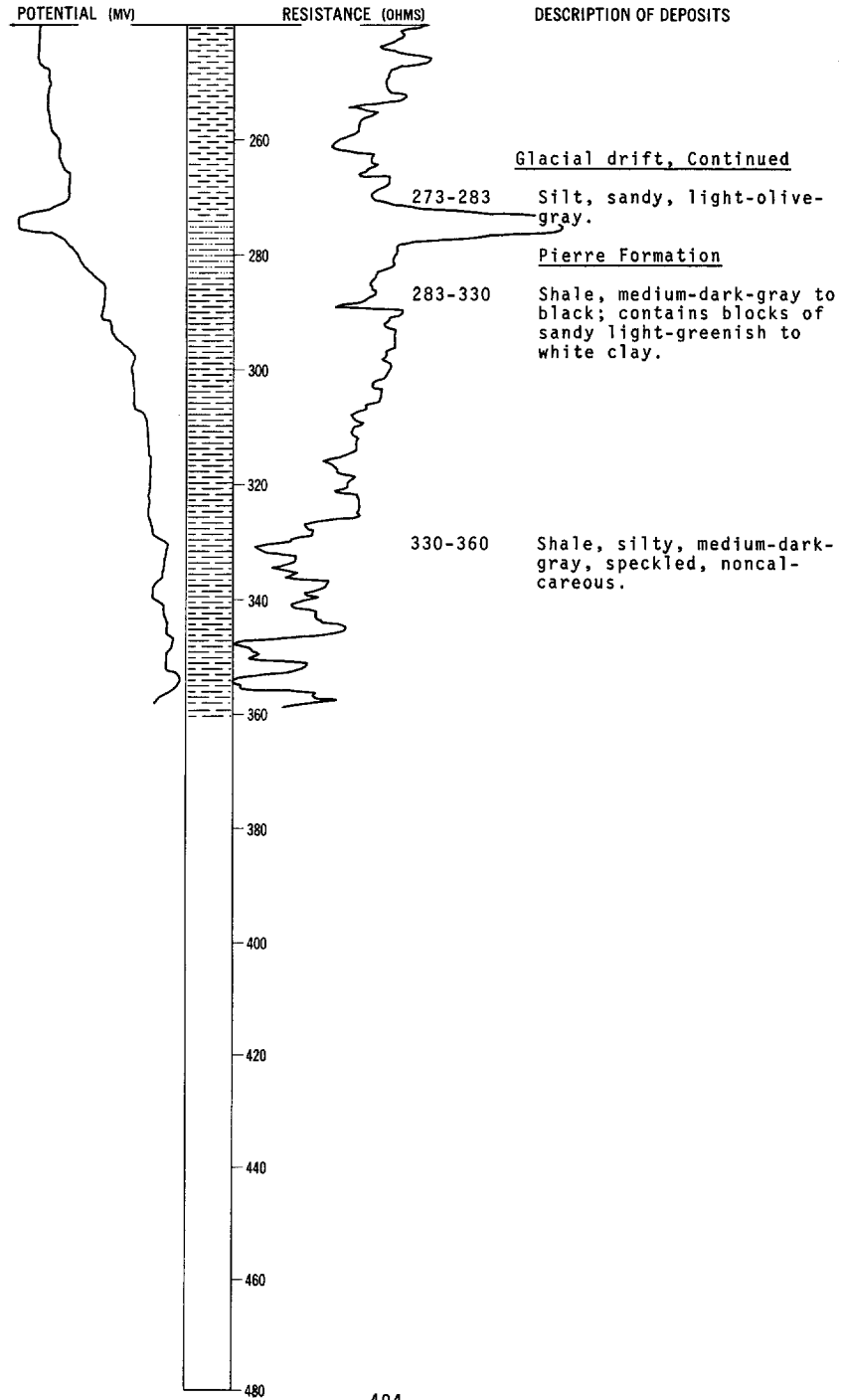
NDSWC 4368, Continued

LOCATION: 147-61-09DDD

DATE DRILLED: August 1971

ALTITUDE: 1548  
(FT, MSL)

DEPTH: 360  
(FT)

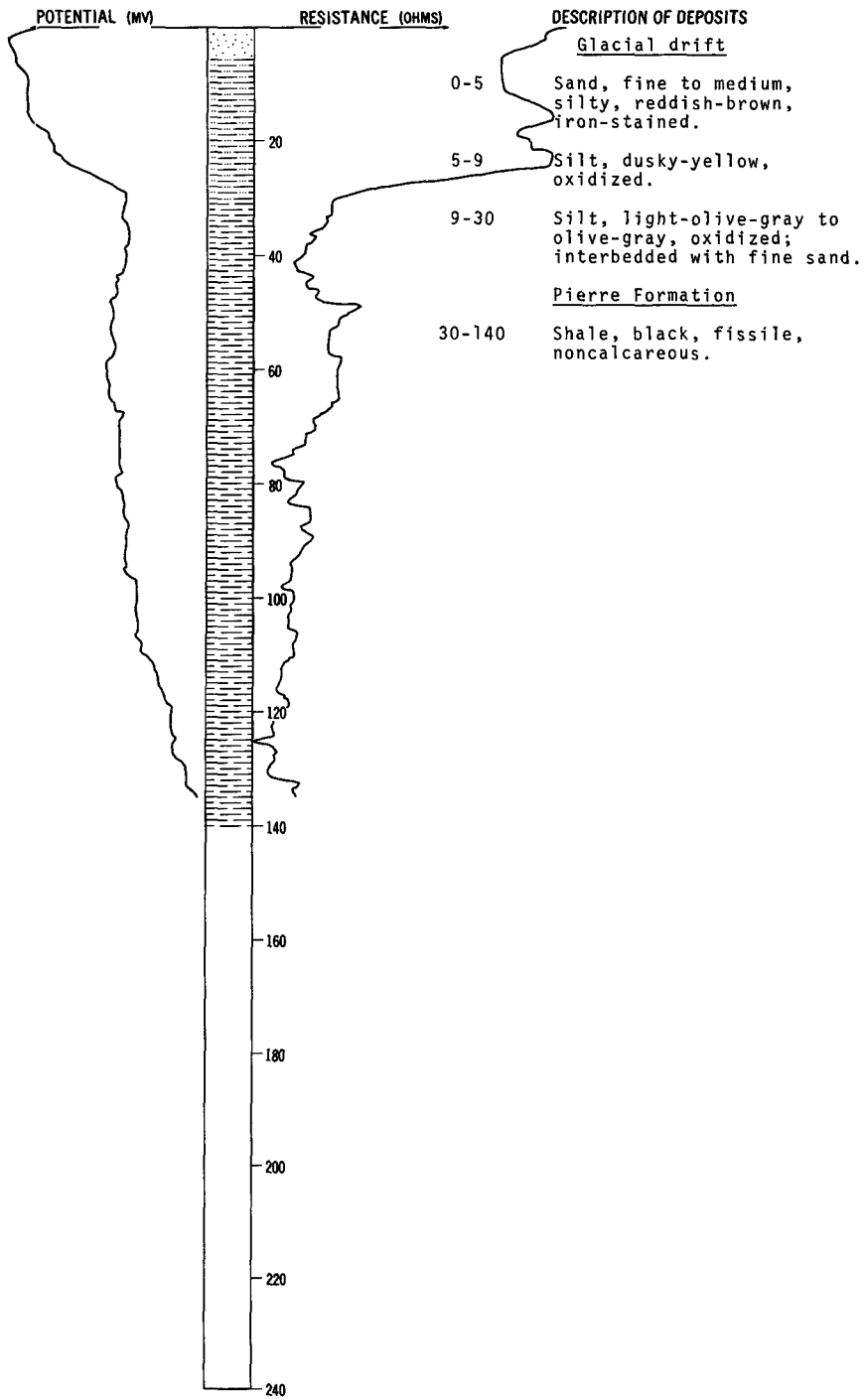


LOCATION: 147-61-19AAA

DATE DRILLED: August 1971

ALTITUDE: 1486  
(FT, MSL)

DEPTH: 140  
(FT)

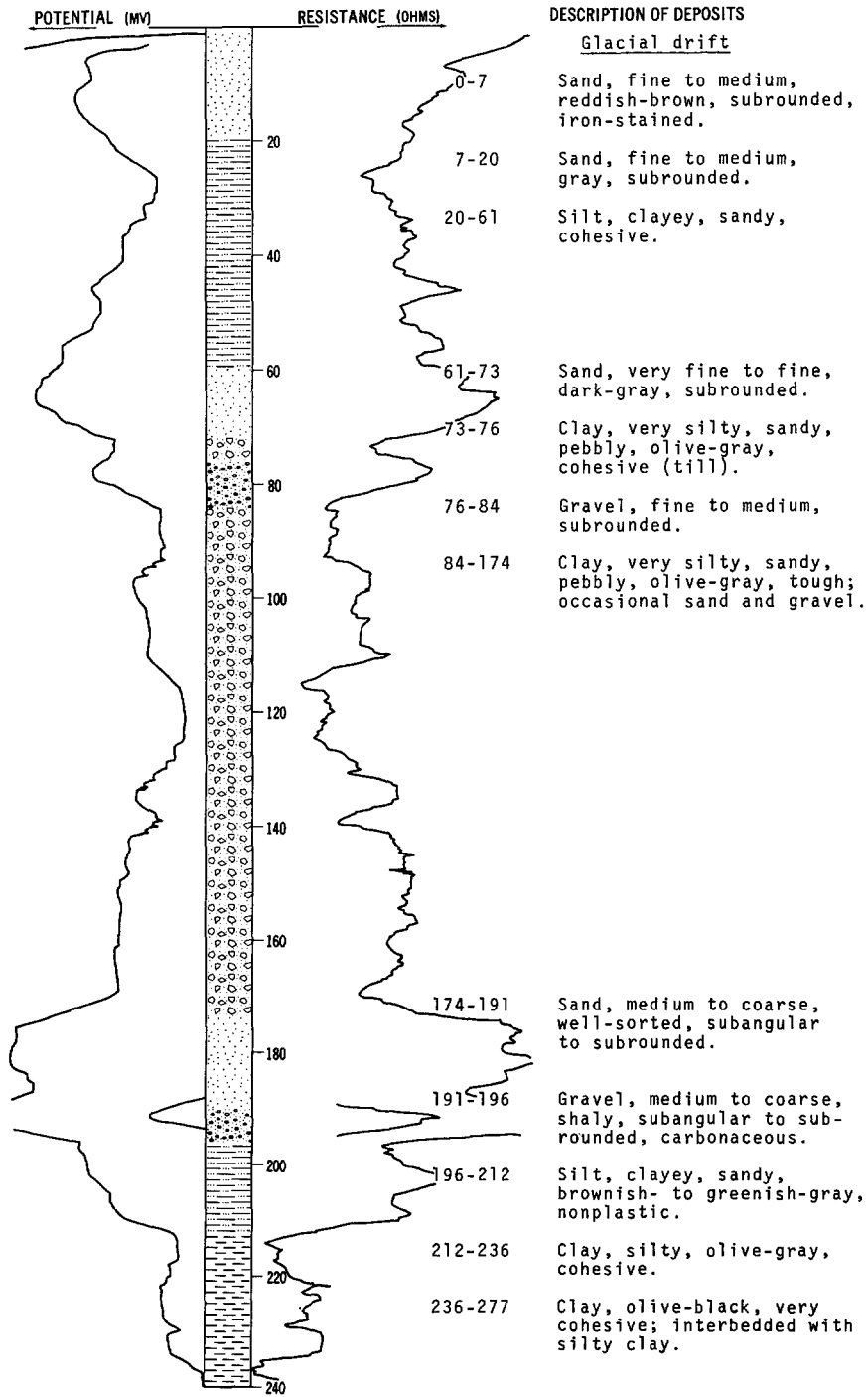


LOCATION: 147-61-22DDD

DATE DRILLED: August 1971

ALTITUDE: 1505  
(FT, MSL)

DEPTH: 360  
(FT)



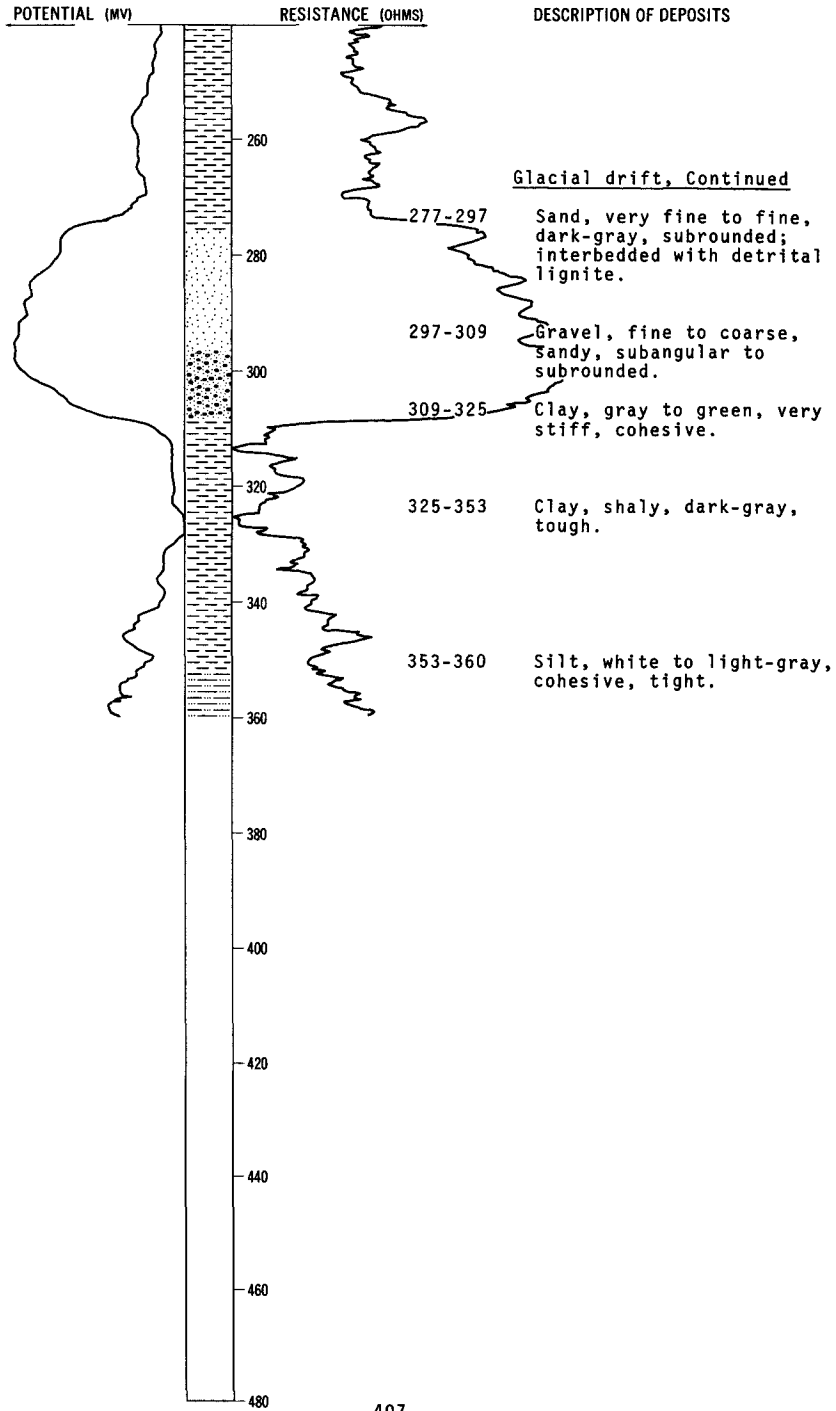
NDSWC 4353, Continued

LOCATION: 147-61-22DDD

DATE DRILLED: August 1971

ALTITUDE: 1505  
(FT, MSL)

DEPTH: 360  
(FT)

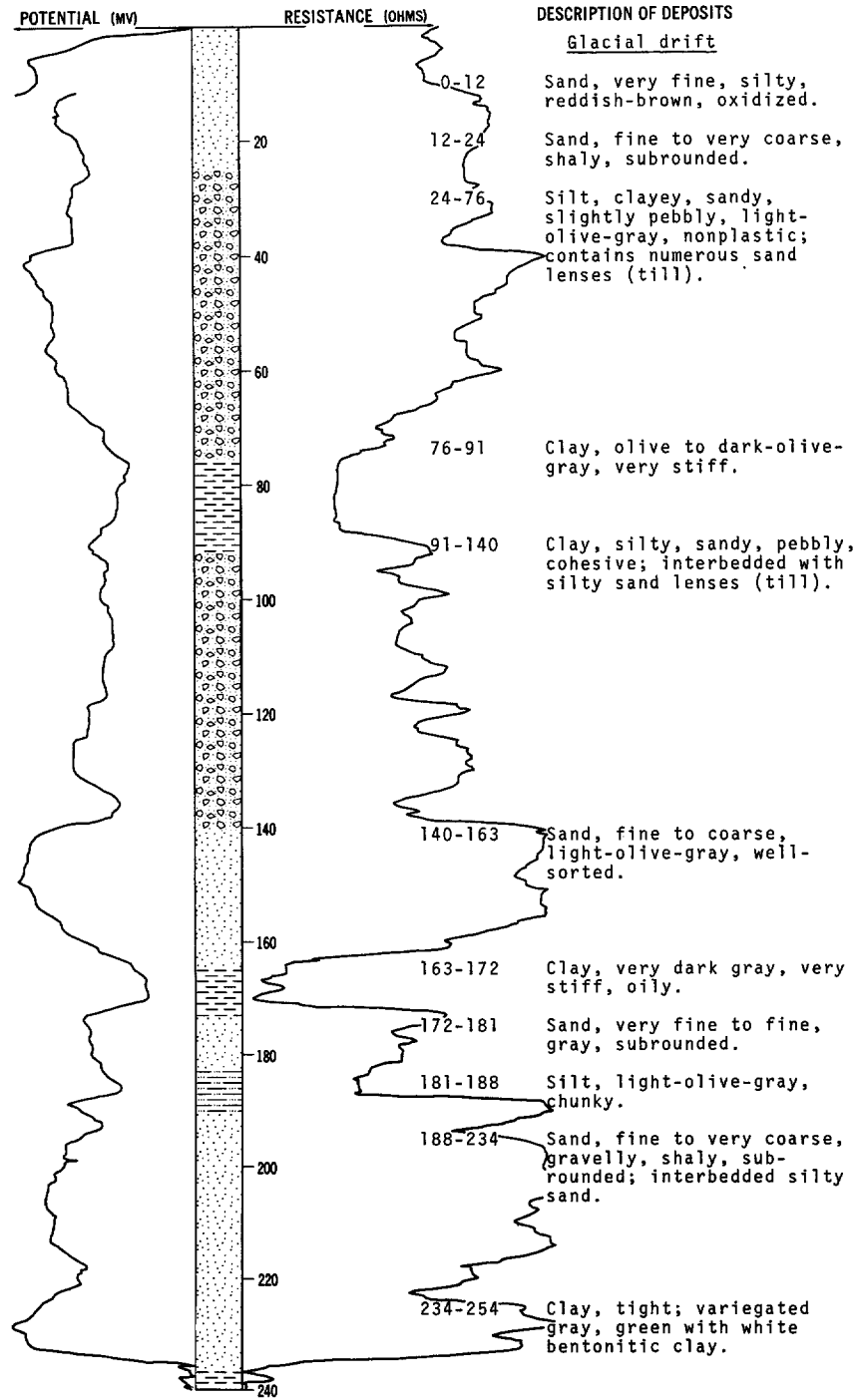


LOCATION: 147-61-24BBB

DATE DRILLED: August 1971

ALTITUDE: 1475  
(FT, MSL)

DEPTH: 300  
(FT)



NDSWC 4354, Continued

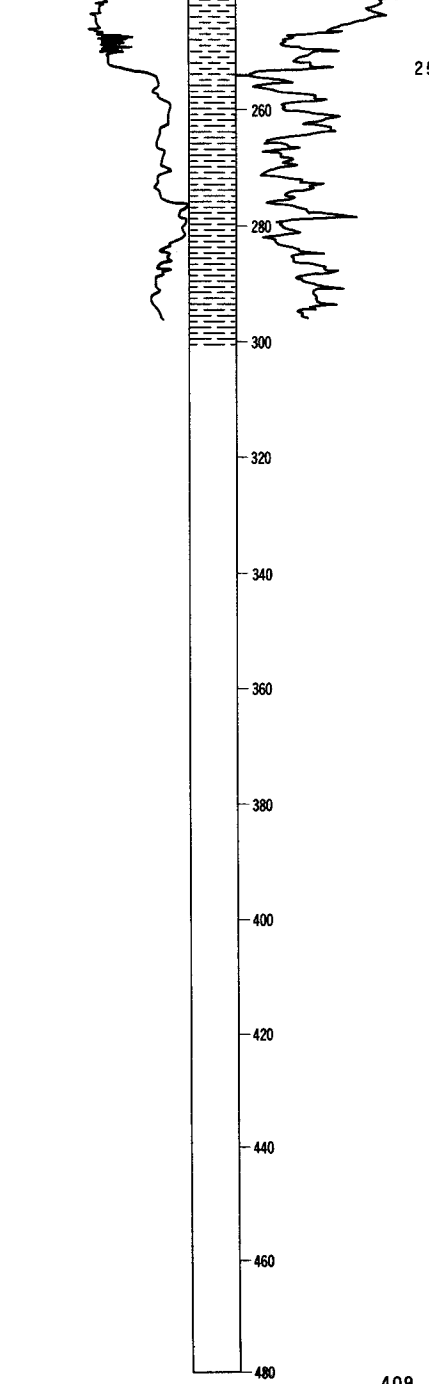
LOCATION: 147-61-24BBB

DATE DRILLED: August 1971

ALTITUDE: 1475  
(FT, MSL)

DEPTH: 300  
(FT)

POTENTIAL (MV)      RESISTANCE (OHMS)



DESCRIPTION OF DEPOSITS

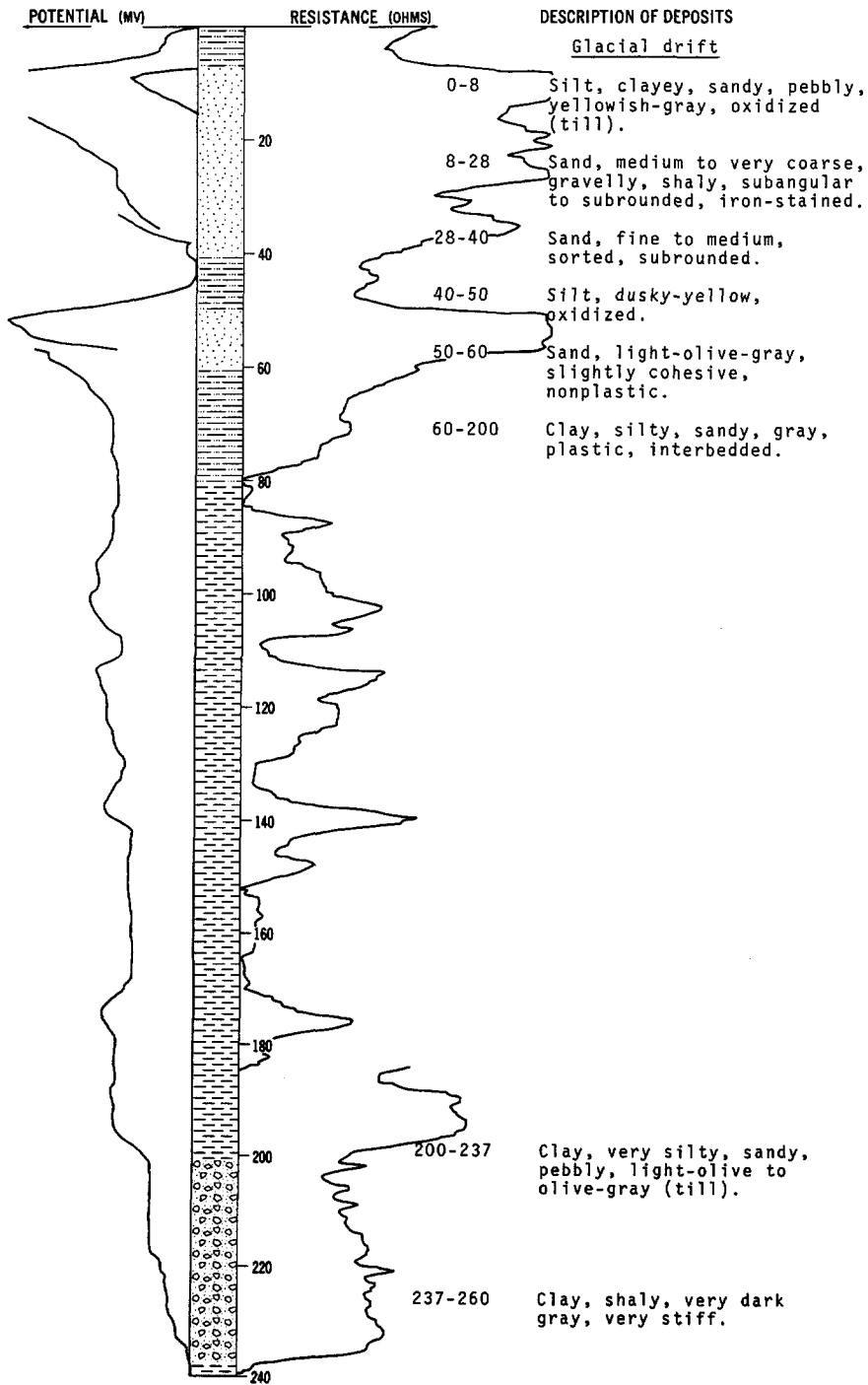
Pierre Formation  
254-300 Shale, medium-dark-gray,  
brittle, speckled, tight.

LOCATION: 147-61-24DCC

DATE DRILLED: August 1971

ALTITUDE: 1480  
(FT, MSL)

DEPTH: 380  
(FT)





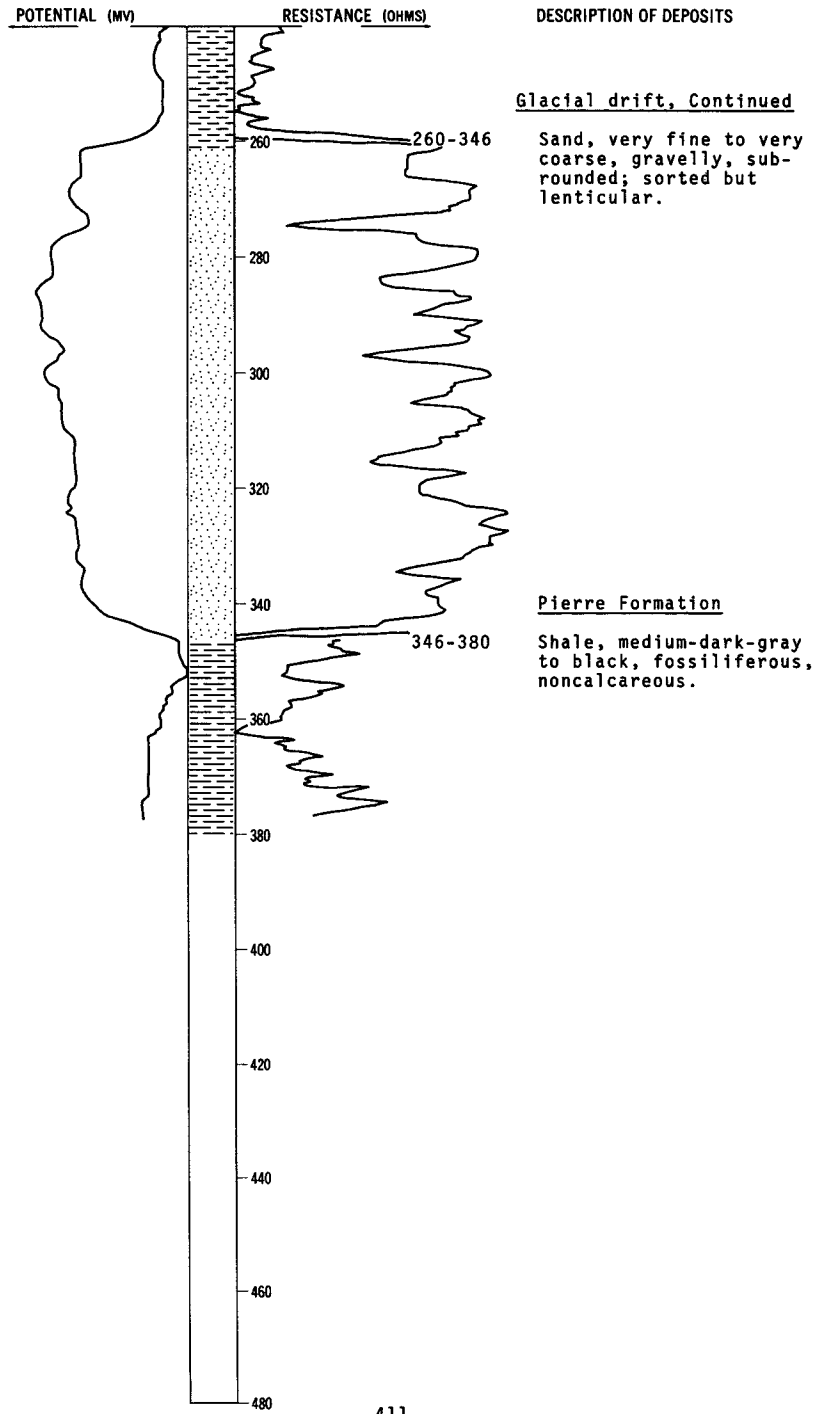
NDSWC 4359, Continued

LOCATION: 147-61-24DCC

DATE DRILLED: August 1971

ALTITUDE: 1480  
(FT, MSL)

DEPTH: 380  
(FT)

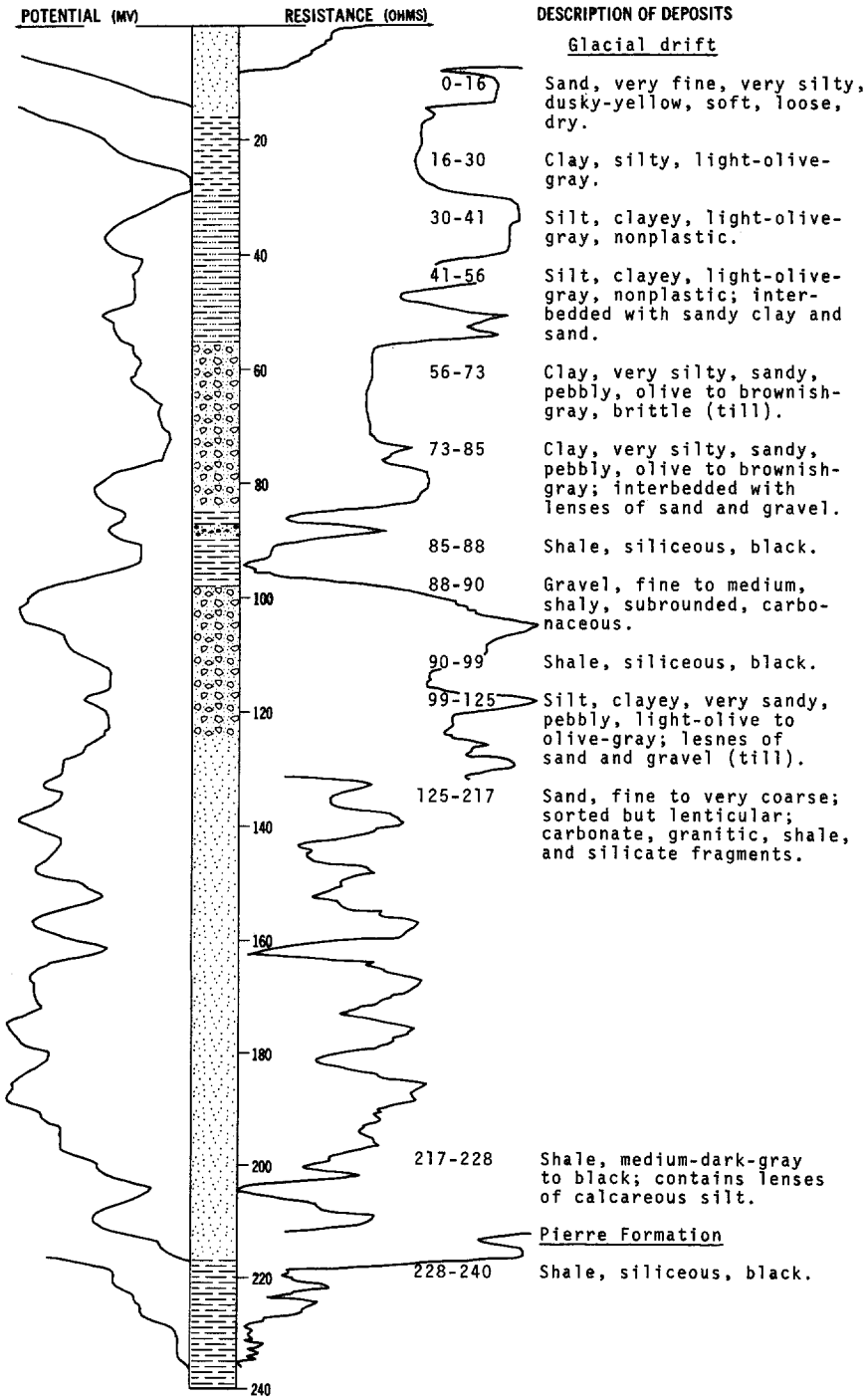


LOCATION: 147-61-27CCC

DATE DRILLED: August 1971

ALTITUDE: 1495  
(FT, MSL)

DEPTH: 240  
(FT)

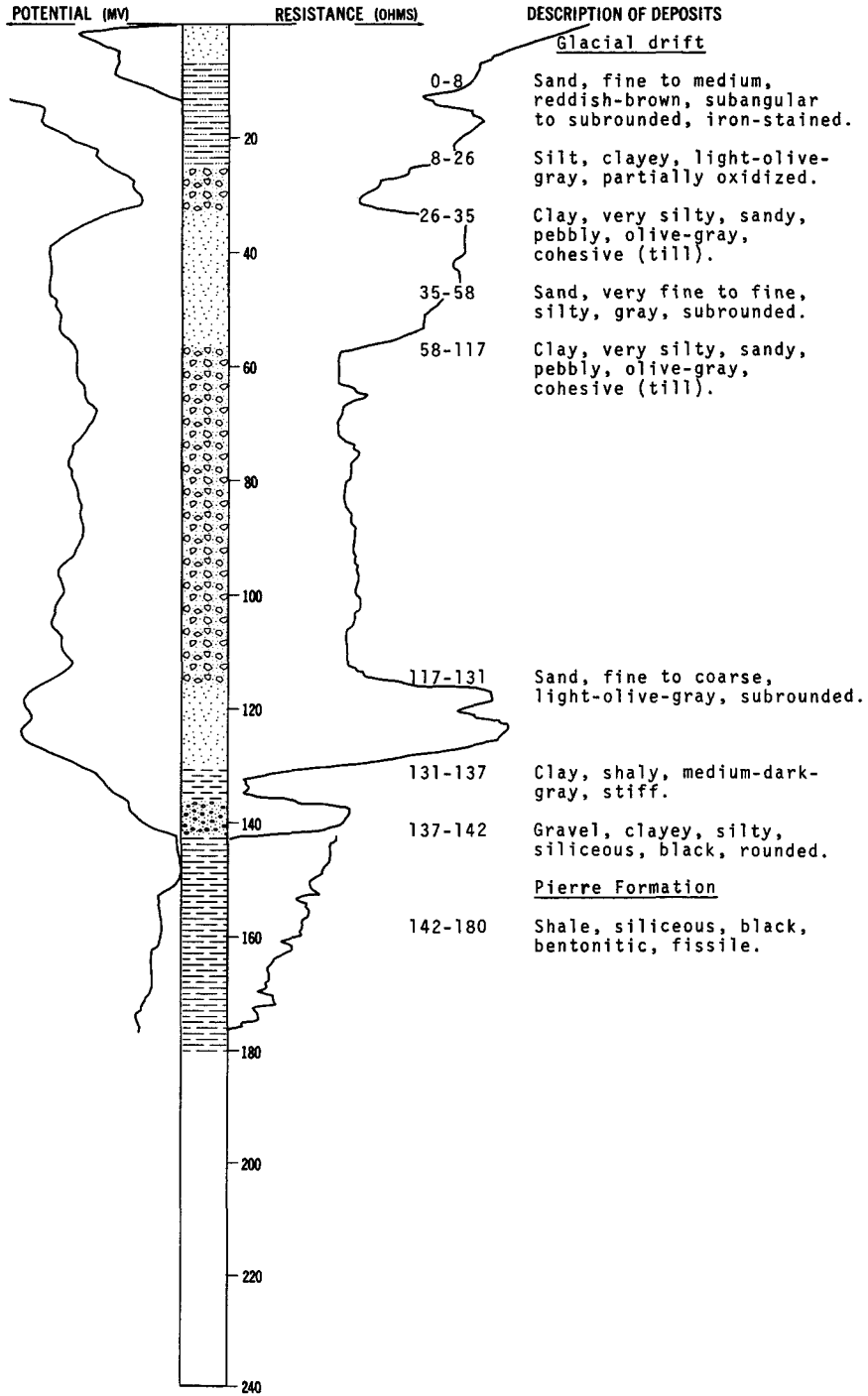


LOCATION: 147-61-30BBB

DATE DRILLED: August 1971

ALTITUDE: 1500  
(FT, MSL)

DEPTH: 180  
(FT)



148-54-01AAB  
NDSWC 762-10

Altitude: 1090 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, yellowish-brown, calcareous, oxidized, concretionary-----	18	18
	Clay, silty, lignitic, greenish-gray, soft, calcareous-----	80	98
	Clay, sandy, gravelly, olive-gray (till)-----	9	107
	Clay, silty, gravelly, some cobbles (till)-----	4	111
	Clay, silty, gravelly, calcareous; interbedded with laminated silty clay (till)-----	86	197
	Gravel, sandy, pebbly; sandy silty olive-gray laminated calcareous clay (till)-----	7	204
	Clay, sandy, lignitic, greenish-gray, soft, brittle, calcareous (till)-----	14	218
Greenhorn Formation:	Shale, olive-gray, hard, white-specked, highly calcareous-----	24	242

148-54-04CCD  
USBR 19

Altitude: 1095.5 feet

Glacial drift:			
	Silt, black, moist, organic-----	7	7
	Sand, silty, brown, calcareous-----	11	18

148-54-08CCC  
NDSWC 1180  
(Log from Adolphson, 1962)

Altitude: 1100 feet

Glacial drift:			
	Topsoil, black-----	2	2
	Clay, yellow, smooth-----	5	7
	Clay, dark-gray, smooth-----	3	10
	Clay, yellow, smooth-----	7	17
	Clay, light-gray, smooth-----	45	62
	Clay, gray; fine to medium gravel; shale pebbles (till)-----	105	167
Greenhorn Formation:	Shale, dark-gray-----	13	180

148-54-09CDD  
 NDSWC 1159  
 (Log from Adolphson, 1962)

Altitude: 1065 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, brown-----	15	16
	Clay, sandy, blue-----	13	29
	Sand, fine, silty-----	3	32
	Clay, sandy, gray-brown-----	14	46
	Clay, gray; fine to medium gravel; shale pebbles (till)-----	20	66
	Sand, medium to coarse; fine to medium gravel; shale pebbles-----	7	73
	Clay, gray, fine to medium gravel; shale pebbles (till)-----	28	101
	Gravel, fine to medium; shale pebbles-----	19	120
	Clay, gray, fine to medium gravel; shale pebbles (some shells in this interval) (till)-----	43	163
	Sand, fine to medium, silty; shale pebbles-----	21	184
Greenhorn Formation:			
	Shale, smooth, blue-gray-----	16	200

148-54-10CCC  
 NDSWC 1165  
 (Log from Adolphson, 1962)

Altitude: 1100 feet

Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, brown-----	19	20
	Sand, fine, silty-----	16	36
	Clay, sandy, gray-----	59	95
	Clay, gray; fine to medium gravel; shale pebbles (till)-----	12	107
	Sand, fine, silty-----	1	108
	Clay, gray; fine to medium gravel; shale pebbles (till)-----	57	165

148-54-11CCC  
 NDSWC 1158  
 (Log from Adolphson, 1962)

Altitude: 1100 feet

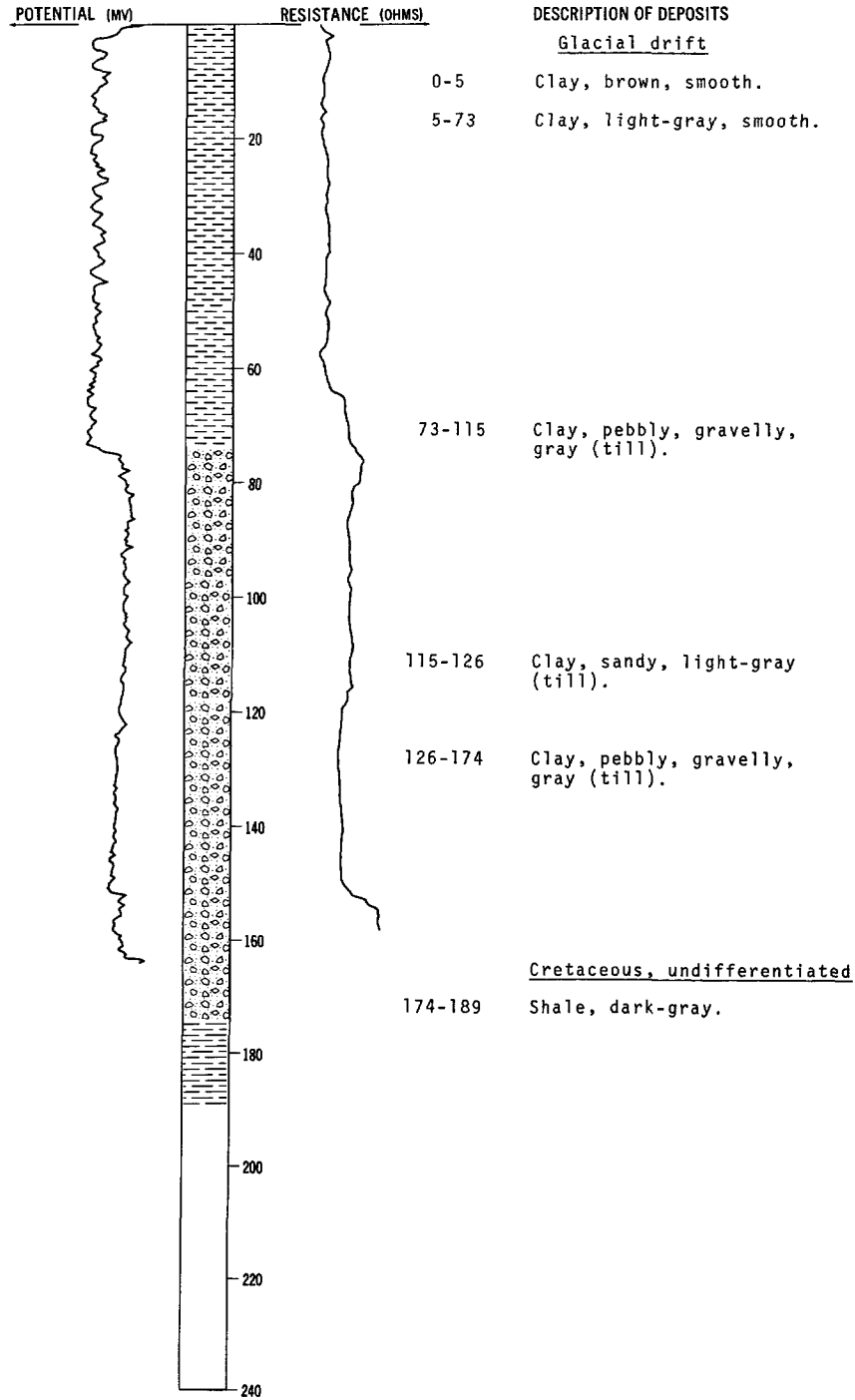
Glacial drift:			
	Topsoil, black-----	1	1
	Clay, light-brown, gray-----	1	2
	Clay, sandy, yellow-----	14	16
	Sand, very fine, brown-----	4	20
	Sand, very fine, gray-----	40	60
	Clay, sandy, gray-----	36	96
	Clay, gray; fine to medium gravel; shale pebbles ( a few small boulders) (till)-----	121	217
Greenhorn Formation:			
	Shale, smooth, blue-gray-----	13	230

LOCATION: 148-54-13DDD

DATE DRILLED: August 1957

ALTITUDE: 1080  
(FT, MSL)

DEPTH: 189  
(FT)

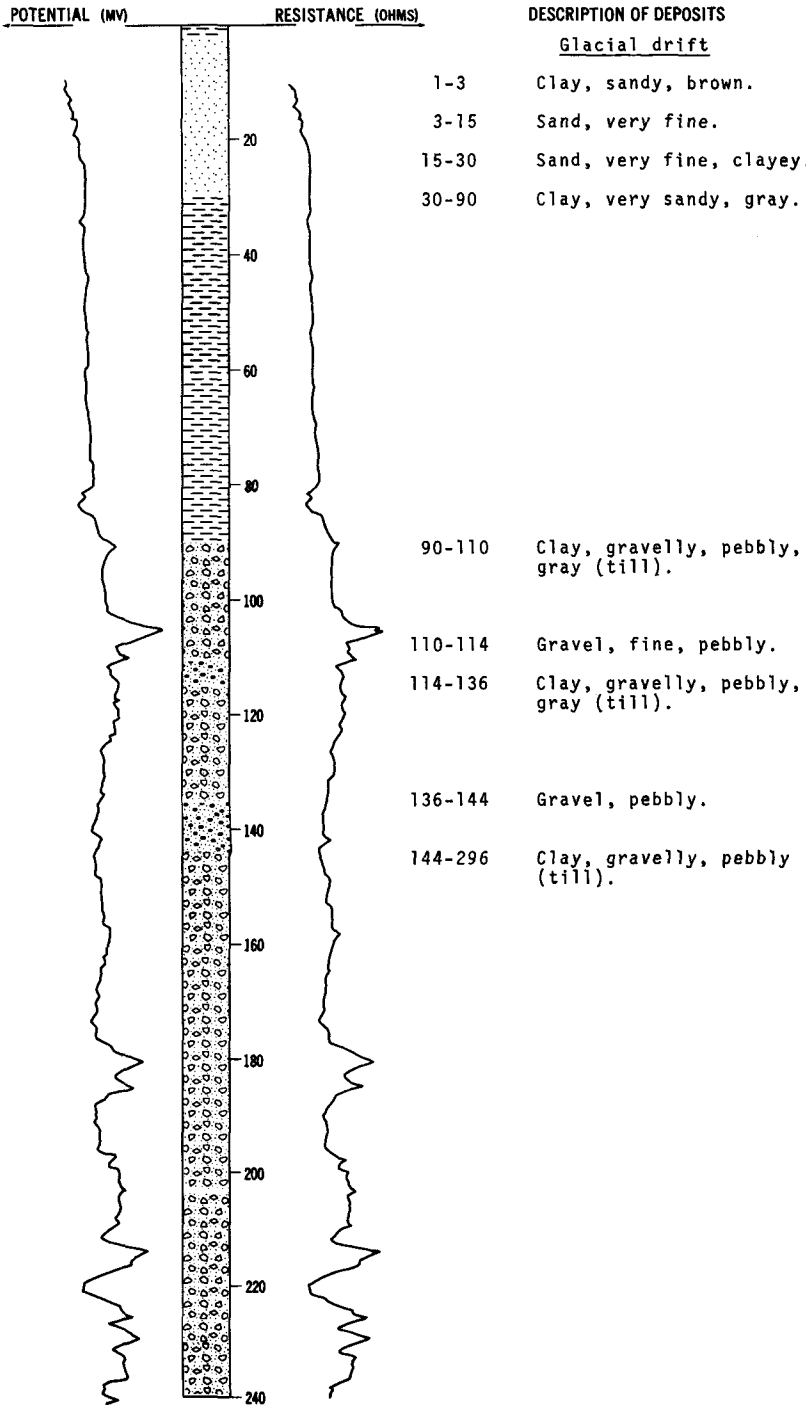


LOCATION: 148-54-14AAA

DATE DRILLED: September 1956

ALTITUDE: 1090  
(FT, MSL)

DEPTH: 310  
(FT)



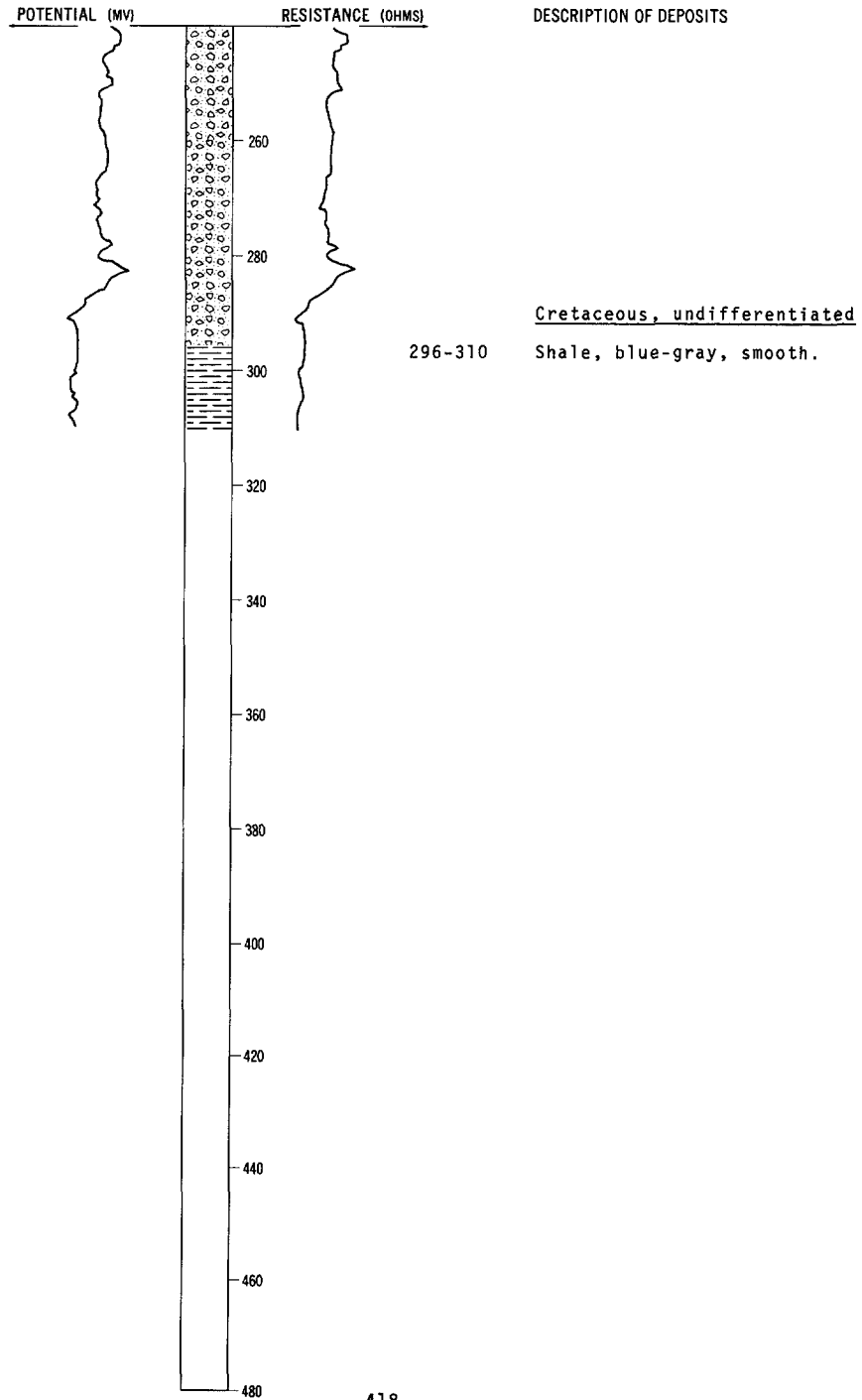
NDSWC 1157, Continued

LOCATION: 148-54-14AAA

DATE DRILLED: September 1956

ALTITUDE: 1090  
(FT, MSL)

DEPTH: 310  
(FT)



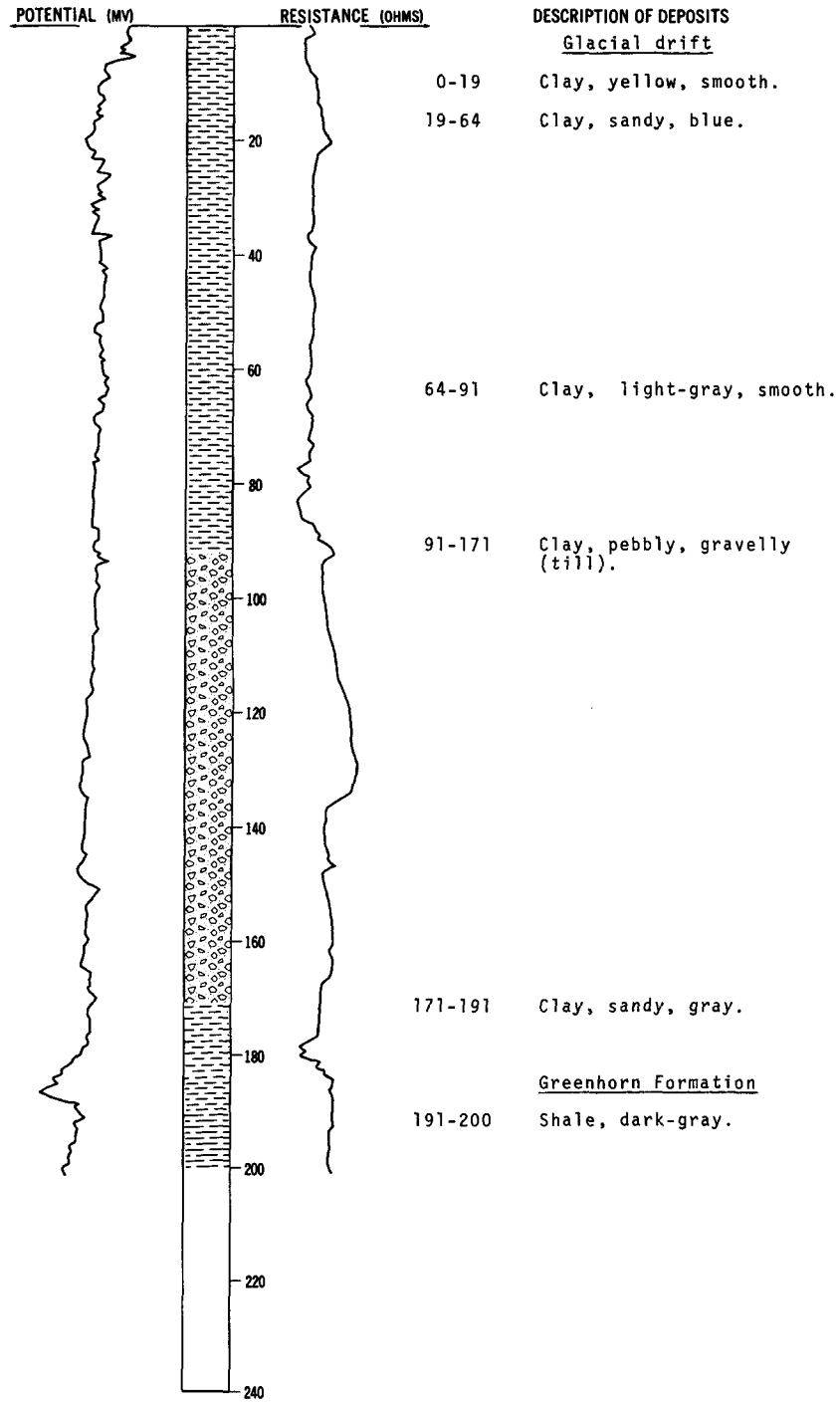


LOCATION: 148-54-15ABB

DATE DRILLED: August 1957

ALTITUDE: 1100  
(FT, MSL)

DEPTH: 200  
(FT)

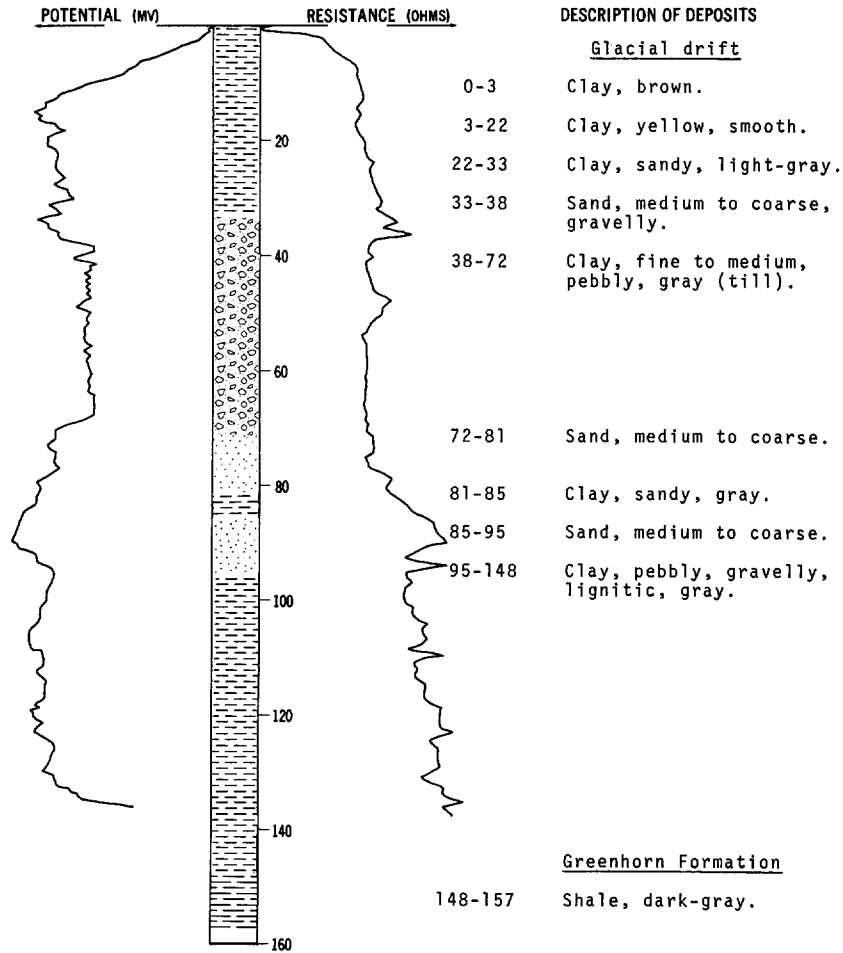


LOCATION: 148-54-17DAD

DATE DRILLED: September 1957

ALTITUDE: 1085  
(FT, MSL)

DEPTH: 157  
(FT)



148-54-20DAD  
NDSWC 1185  
(Log from Adolphson, 1962)

Altitude: 1075 feet

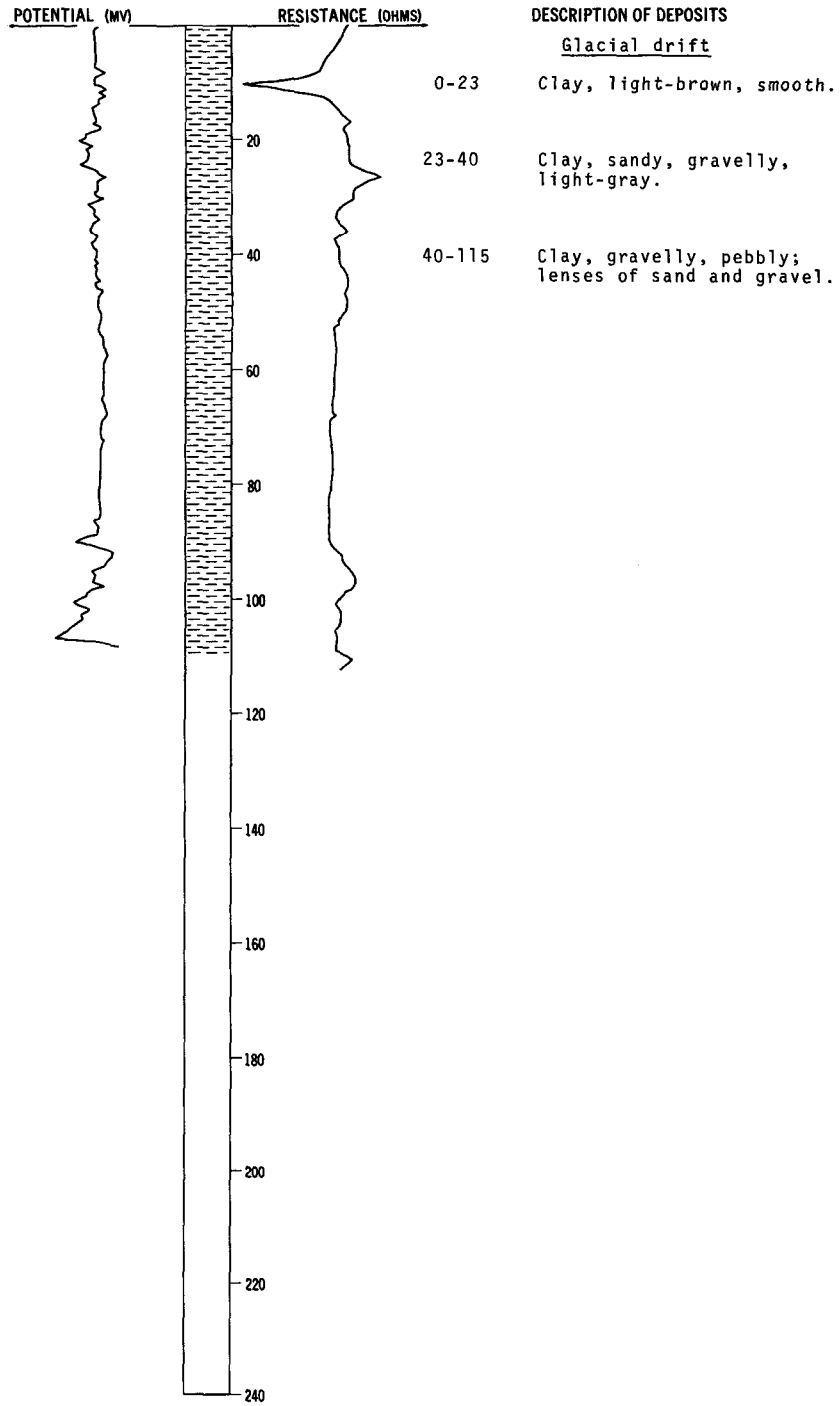
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<u>Glacial drift:</u>			
	Topsoil, black-----	1	1
	Clay, brown, smooth (a few feet of alluvium undifferentiated)-----	18	19
	Clay, light-gray, sandy-----	3	22
	Clay, light-gray; medium to coarse gravel-----	8	30

LOCATION: 148-54-28AAA

DATE DRILLED: August 1957

ALTITUDE: 1070  
(FT, MSL)

DEPTH: 115  
(FT)

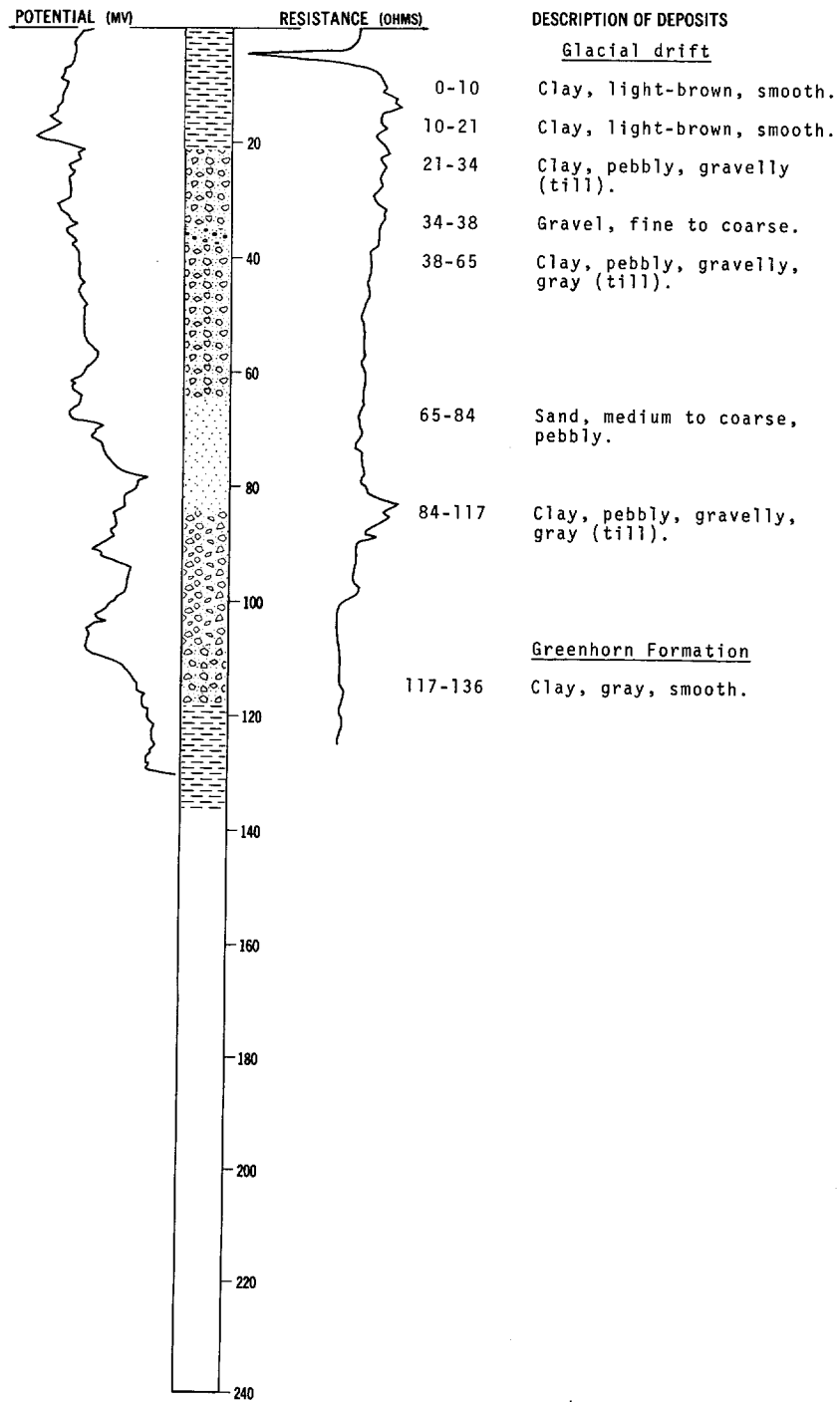


LOCATION: 148-54-35BBB

DATE DRILLED: August 1957

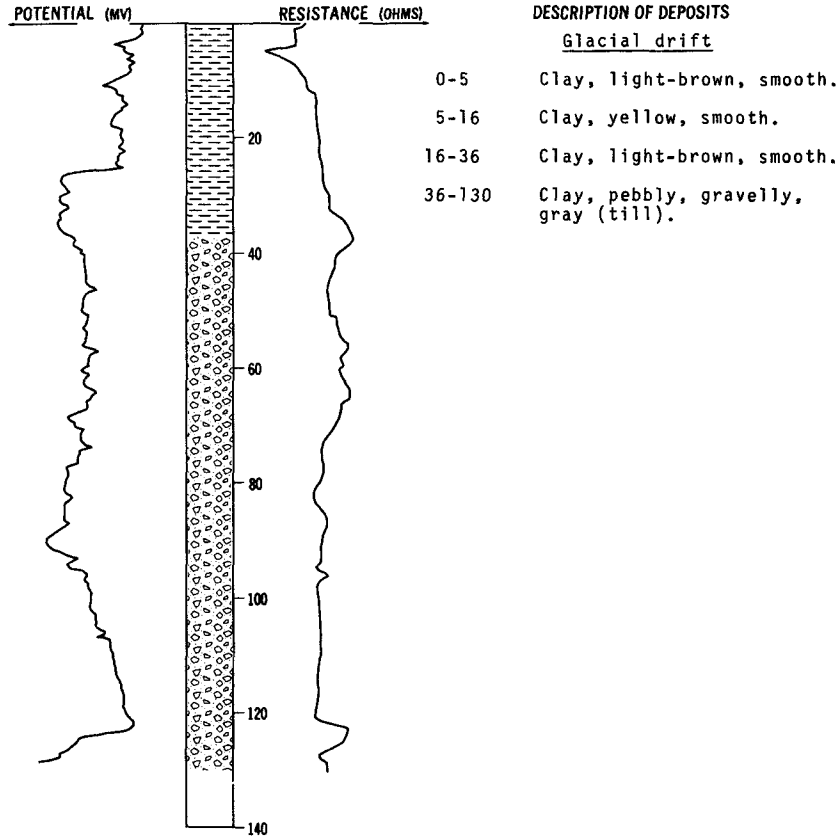
ALTITUDE: 1050  
(FT, MSL)

DEPTH: 136  
(FT)



LOCATION: 148-55-12DDD  
 ALTITUDE: 1110  
 (FT, MSL)

DATE DRILLED: August 1957  
 DEPTH: 130  
 (FT)



148-55-20CCA  
 (Log from U.S. Air Force)

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty, sandy, organic, yellowish-brown-----	3	3
	Sand, fine, clayey, silty, gravelly, yellowish-brown-----	5	8
	Clay, sandy, silty, gravelly, yellowish-brown-----	16	24
	Sand, clayey, silty, gravelly, brown-----	11	35
	Silt, sandy, clayey, gravelly, gray-----	13	48
	Silt, clayey, sandy, gravelly, gray; isolated sand lenses-----	22	70
	Sand, fine, silty, gray-----	4	74
Niobrara Formation:			
	Shale, black; dark-brown from 74 to 83 ft-----	26	100

148-55-20CCB1  
(Log from U.S. Air Force)

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<b>Glacial drift:</b>			
	Clay, silty, sandy, stiff, brown-----	10	10
	Sand, fine to medium, silty, clayey, dense, yellowish-brown-----	10	20
	Clay, silty, sandy, stiff, gravelly, isolated cobbles, dense, brownish- gray-----	20	40
	Silt, clayey, sandy, soft, light-gray---	4	44
	Clay, silty, sandy, pebbly-----	10	54
	Sand, fine to coarse, silty, clayey, gravelly; with isolated pebbles-----	10	64
	Silt, clayey, sandy, pebbly, light- gray-----	20	84
<b>Niobrara Formation:</b>			
	Shale, tan to brown, calcareous-----	12	96
	Shale, calcareous, gray to dark-gray---	24	120
	Shale, gray to dark-gray, calcareous; with tan calcareous specks and limestone lenses-----	40	160
	Limestone, hard, shaly, pyritic, dark- gray; with angular quartz grains and columnar pyrite crystals; lenses of tan siltstone-----	48	208
	Shale, gray, calcareous-----	16	224
	Shale, gray, sandy, silty, calcareous---	16	240
	Shale, dark-gray, carbonaceous, silty, calcareous-----	40	280
	Shale, dark-gray, pyritic, calcareous; with tan glauconitic limestone and light-gray sandstone lenses-----	20	300
	Shale, micaceous, tan; with gray silt- stone lenses-----	36	336
<b>Greenhorn Formation:</b>			
	Shale, gray, calcareous, carbonaceous, silty-----	24	360
	Shale, dark-gray, calcareous, fossil- iferous, silty, sandy, carbonaceous, calcareous specks-----	44	404
	Shale, dark-gray, very calcareous; with white calcareous specks and gray to blue bentonite lenses; thin lenses of light-gray calcareous siltstone present-----	44	448
	Shale, gray, soft; with lenses of white bentonite-----	12	460
	Shale, silty, gray, soft, calcareous; with calcareous specks-----	20	480
	Shale, gray, very calcareous, fossil- iferous; with lenses of white to gray calcareous siltstone-----	28	508
	Shale, light-gray, calcareous; with dark specks and lenses of gray calcareous siltstone-----	32	540
	Siltstone, calcareous, light-gray to white; gradational to fine grained calcareous sandstone-----	40	580
	Sandstone, silty, calcareous, pyritic, micaceous, light- to medium-gray-----	16	596
	Shale, silty, gray, calcareous, micaceous, fossiliferous-----	24	620

148-55-20CCB1, Continued  
(Log from U.S. Air Force)

Altitude: 1240 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Dakota Group:			
	Sandstone, quartz, fine-grained, white, angular to rounded-----	42	662
	Sandstone, quartz, fine-grained, white, angular to rounded, pyritic-----	38	700
	Sandstone, fine-grained, light-gray to white, moderately cemented, calcareous	40	740
	Sandstone, medium-grained, white, poorly cemented, rounded-----	16	756
	Shale, sandy, silty, gray, carbonaceous, pyritic; sandstone and siltstone lenses-----	76	832
	Shale, sandy, gray, pyritic; coal lenses-----	32	864
	Sandstone, fine to coarse, angular to well-rounded, pyritic-----	36	900
	Siltstone, sandy, gray, dense, pyritic--	20	920
	Sandstone, fine to coarse, rounded to angular, cherty, pyritic; coal lenses--	24	944
	Sandstone, fine, light-gray to tan, pyritic-----	26	970
Ordovician, undifferentiated:			
	Limestone, white to light-gray, dolomitic-----	10	980

148-55-20CCC  
(Log from Simcox Oil Co.)

Altitude: 1245 feet

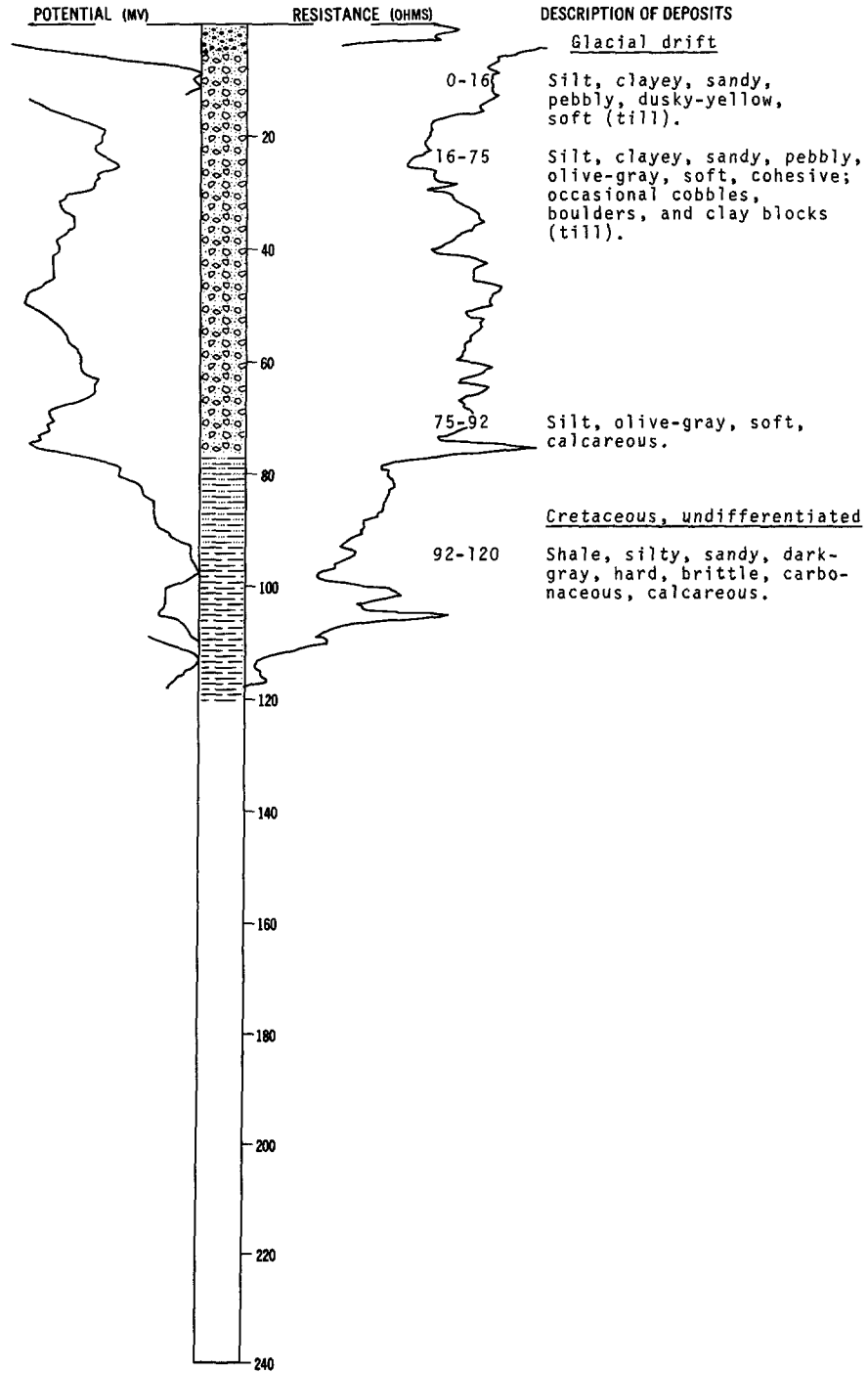
Glacial drift:			
	Clay, yellowish-brown, silty, sandy, gravelly (till)-----	58	58
	Gravel, sandy, clayey-----	8	66
Niobrara Formation:			
	Shale, gray, carbonaceous, calcareous; with interbedded limestone stringers--	271	337
Greenhorn Formation:			
	Shale, gray, calcareous, carbonaceous; with tan calcareous specks, interbedded limestone and siltstone-----	138	475
Mowry Formation:			
	Shale, gray, soft; with orange aragonite and gray bentonite stringers-----	77	552
	Sandstone, silty, loose, fine-grained; with interbedded shale-----	49	601

LOCATION: 148-55-23BAA

DATE DRILLED: June 1970

ALTITUDE: 1125  
(FT, MSL)

DEPTH: 120  
(FT)





148-55-25ABB  
USBR 18

Altitude: 1103.3 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, black, moist, organic, calcareous-	4	4
	Silt, clayey, tan, moist, calcareous----	3	7
	Clay, silty, sandy, gravelly, brown, moist (till)-----	7	14
	Clay, silty, sandy, gravelly, gray, moist (till)-----	4	18

148-55-29BBC  
(Log from U.S. Air Force)

Altitude: 1240 feet

Glacial drift:			
	Clay, silty, sandy, dusky-yellow, soft (till)-----	18	18
	Clay, silty, sandy, gravelly, olive-gray (till)-----	16	34
	Sand, medium to coarse, silty, shaly, angular to subangular-----	33	67
	Clay, olive-gray (till)-----	11	78

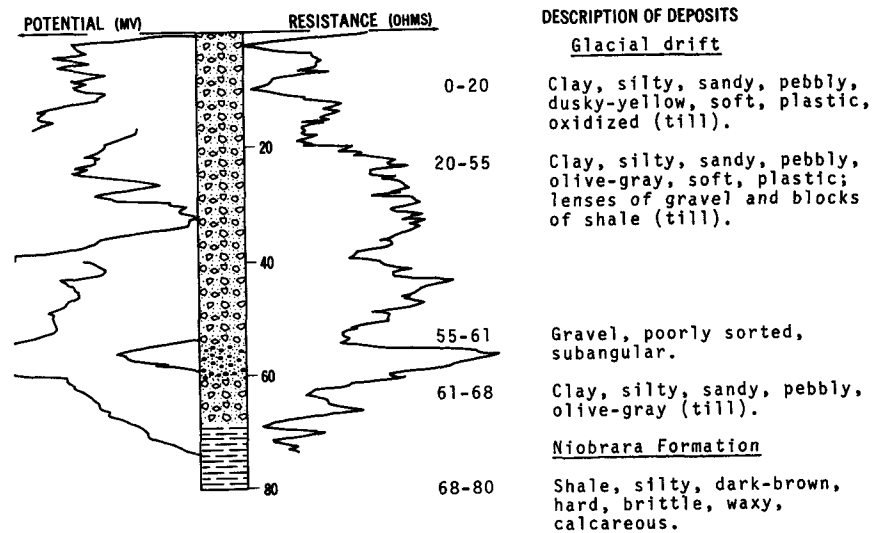
NDSWC 4019

LOCATION: 148-55-30AAA

ALTITUDE: 1244  
(FT, MSL)

DATE DRILLED: June 1970

DEPTH: 80  
(FT)



148-55-30BAB  
(Log from Simcox Oil Co.)

Altitude: 1250 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, sandy, silty, till-----	100	100
Niobrara Formation:			
	Shale, gray, argillaceous; with interbedded limestone and siltstone-----	266	366
Greenhorn Formation:			
	Shale, gray, calcareous, blacky; with tan calcareous specks and yellow aragonite-----	130	496
Mowry Formation:			
	Shale, gray, soft, slightly calcareous; with interbedded siltstone and limestone-----	207	703
Dakota Group:			
	Sandstone, gray, loose, fine-grained----	12	715
	Shale, gray, silty, sandy, pyritic-----	7	722
	Sandstone, loose, white, fine-grained---	27	749
	Shale, gray, soft, silty, sandy; with pyrite and limestone-----	33	782
	Sandstone, white, loose, fine-grained, silty; with interbedded shale-----	158	940
Fuson Formation:			
	Shale, red, soft, sandy, silty; with interbedded white gypsum-----	45	985
Red River Formation:			
	Limestone, buff, dolomitic, crystalline-	132	1117

148-55-30CDD1  
(Log from Frederickson's, Inc.)

Altitude: 1250 feet

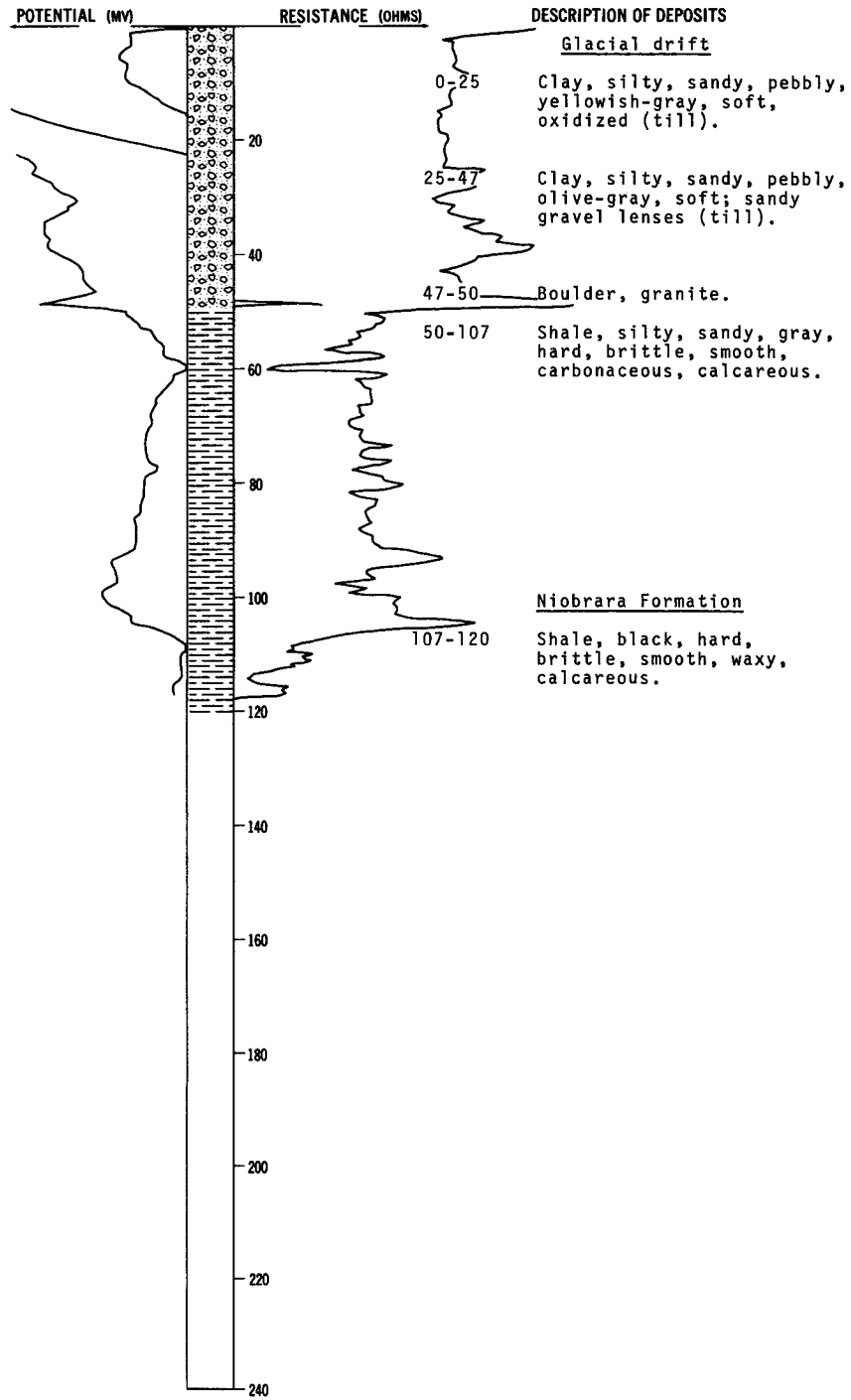
Glacial drift:			
	Topsoil, brown-----	2	2
	Clay, yellow-----	12	14
	Sand and gravel, brown-----	8	22
	Clay, sandy, blue-----	25	47
Niobrara Formation:			
	Shale, sticky, blue-----	153	200

LOCATION: 148-55-30CDD2

DATE DRILLED: June 1970

ALTITUDE: 1245  
(FT, MSL)

DEPTH: 120  
(FT)

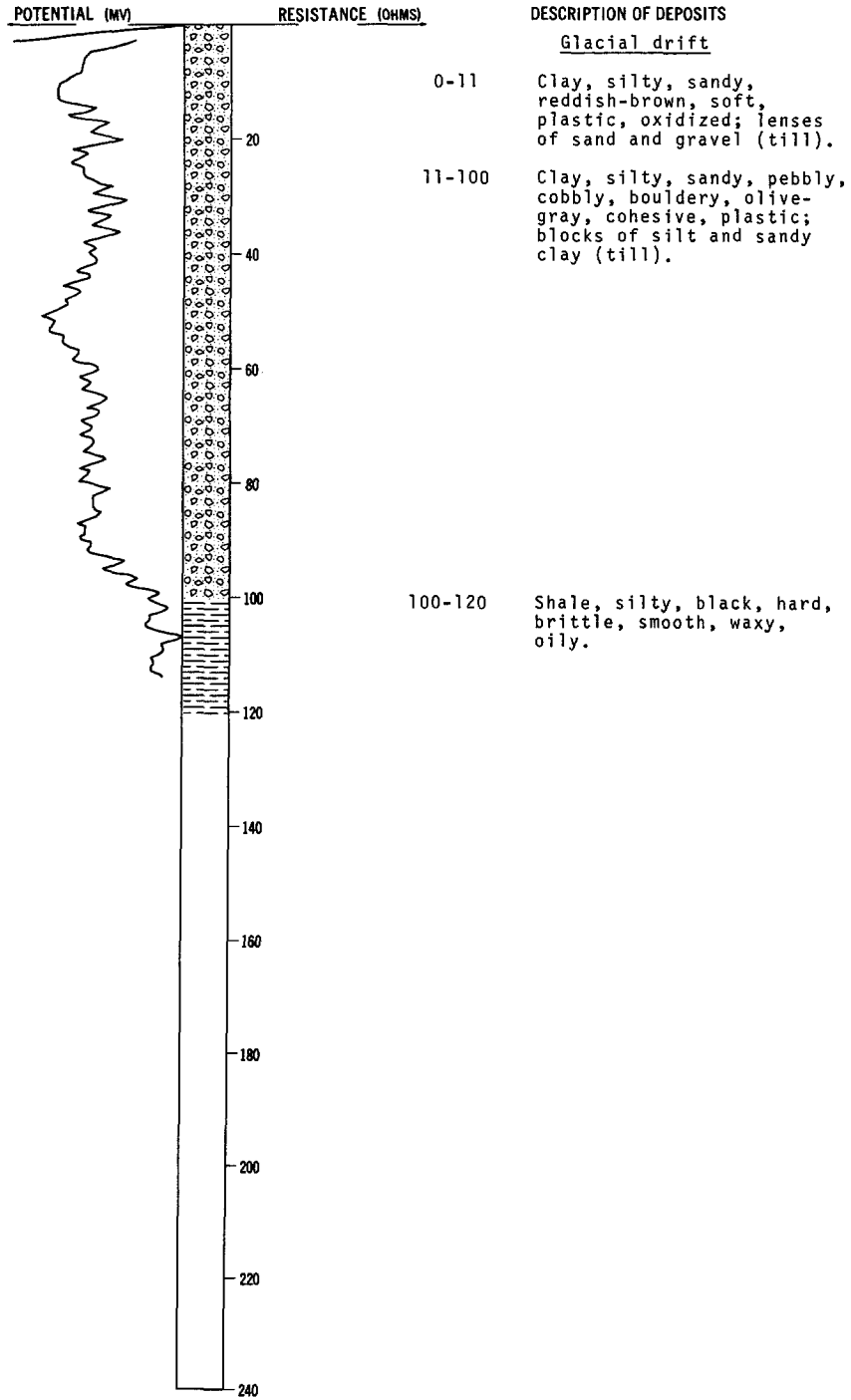


LOCATION: 148-55-36BBB

DATE DRILLED: November 1970

ALTITUDE: 1110  
(FT, MSL)

DEPTH: 120  
(FT)

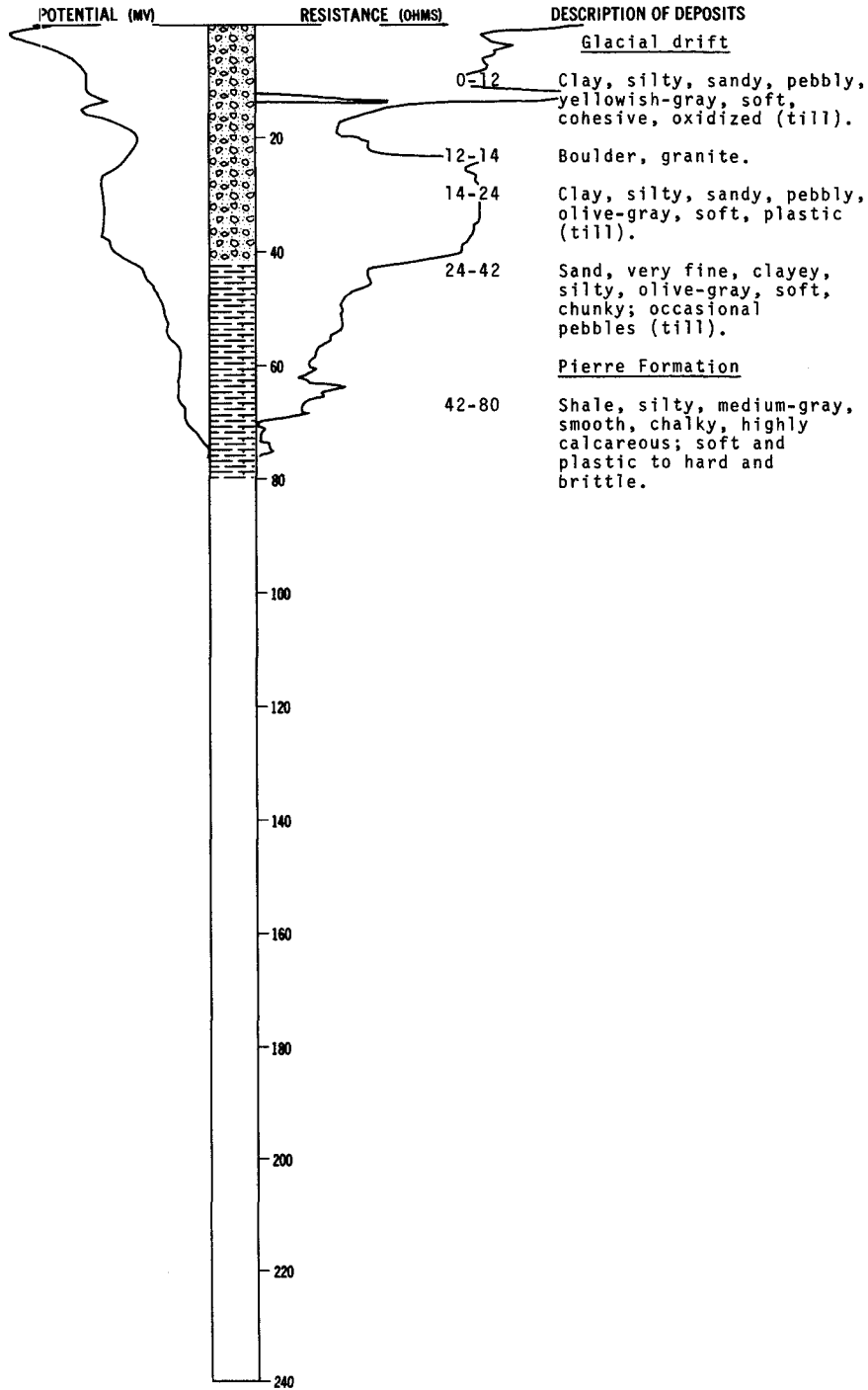


LOCATION: 148-56-09DDD

DATE DRILLED: October 1970

ALTITUDE: 1385  
(FT, MSL)

DEPTH: 80  
(FT)

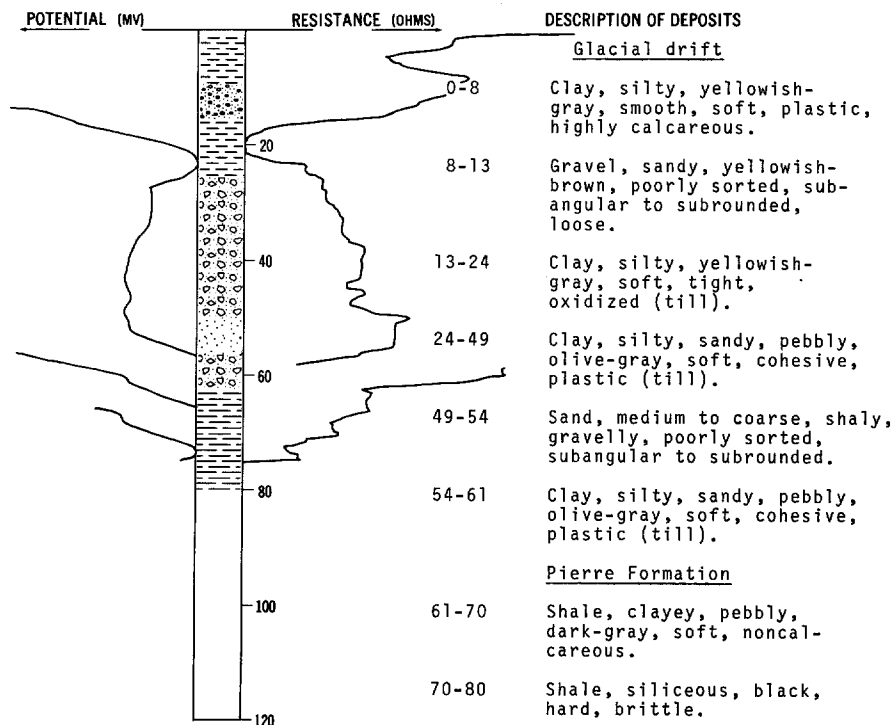


LOCATION: 148-56-18CCC

DATE DRILLED: October 1970

ALTITUDE: 1470  
(FT, MSL)

DEPTH: 80  
(FT)



148-56-22DDD  
(Log from Northern Resources, Inc.)

Altitude: 1349 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
<u>Glacial drift:</u>			
	Clay, sandy, silty, olive-gray (till)---	40	40
	Sand, gravelly-----	10	50
<u>Pierre Formation:</u>			
	Shale, gray, calcareous, fractured-----	10	60
	No log-----	1000	1060

148-56-31BBA  
USGS 4  
(Log from Dennis, 1947)

Altitude: 1452 feet

<u>Glacial drift:</u>			
	Topsoil, sandy, black-----	1	1
	Till, weathered, yellow to brown-----	6	7
	Till, unweathered, gray-----	2	9
	Sand and gravel-----	1	10
	Till, unweathered, blue-gray-----	1	11

148-56-31BBB  
USGS 3  
(Log from Dennis, 1947)

Altitude: 1457 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	1	1
	Sand, coarse, saturated-----	1	2
	Till, weathered, yellow to brown-----	6	8
	Till, unweathered, blue-gray-----	1	9

148-56-36CDD  
USGS 9  
(Log from Dennis, 1947)

Altitude: 1288 feet

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Till, weathered, yellow to brown-----	7	8
	Till, unweathered, blue-gray-----	6	14

148-57-06CBD1  
(Log from U.S. Air Force)

Altitude: 1512 feet

Glacial drift:			
	Clay, organic-----	1	1
	Clay, sandy, silty-----	17	18
	Sand, fine to coarse-----	6	24
	Clay, silty, sandy-----	13	37
	Clay and silt-----	11	48
Pierre Formation:			
	Shale, fractured-----	8	56
	Shale-----	74	130

148-57-06CBD2  
(Log from U.S. Air Force)

Altitude: 1512 feet

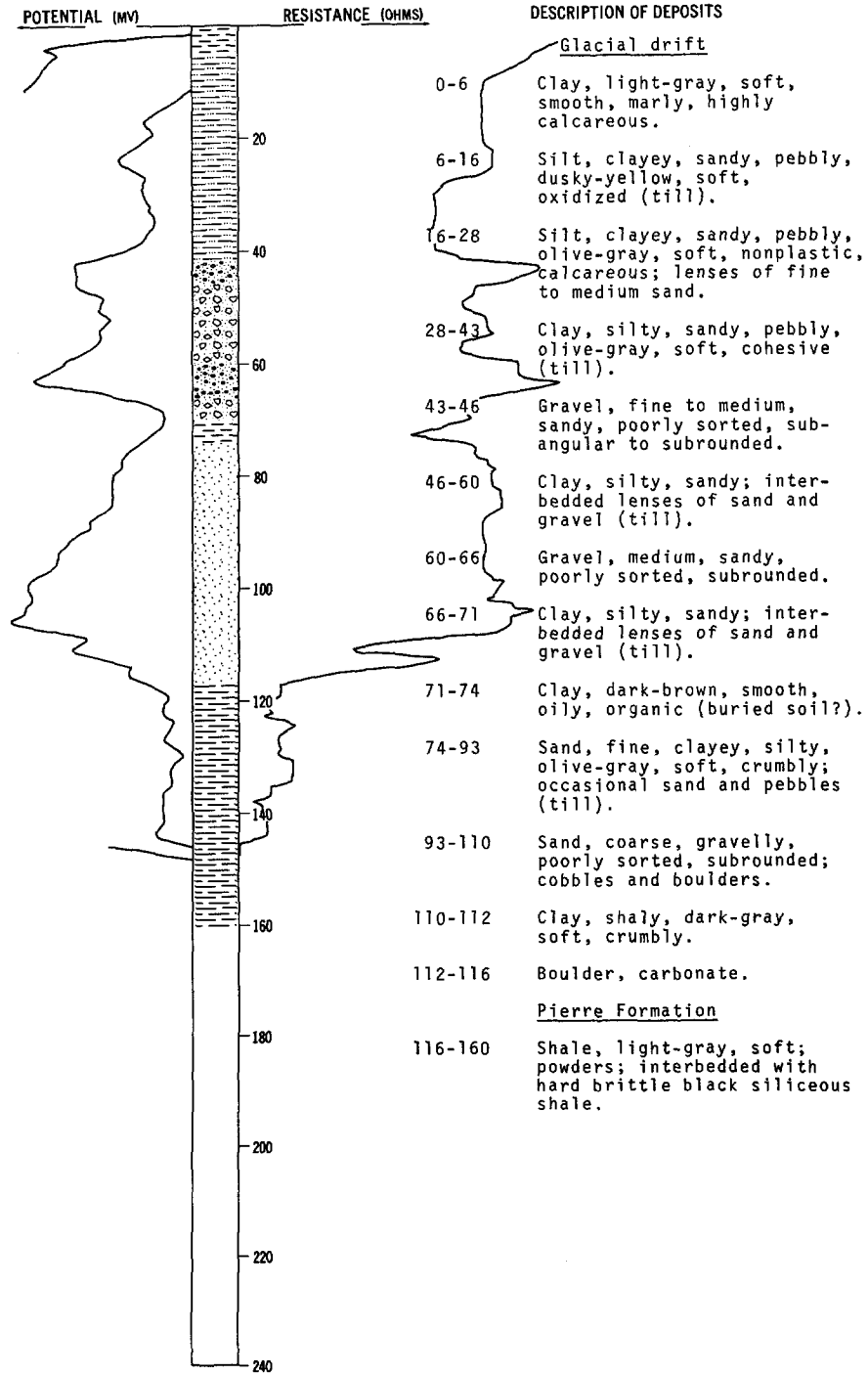
Glacial drift:			
	Clay, sandy, organic, black-----	3	3
	Silt, clayey, sandy, trace of gravel, brown-----	14	17
	Silt, clayey, sandy, trace of gravel, gray-----	32	49
	Shale and silt, dark-gray-----	4	53
	Clay, silty, bentonitic, gray-----	2	55
Pierre Formation:			
	Shale, dark-gray, thin bedded, contains calcareous nodules-----	75	130

LOCATION: 148-57-08DDD

DATE DRILLED: October 1970

ALTITUDE: 1515  
(FT, MSL)

DEPTH: 160  
(FT)





148-57-27CCC  
USGS 3  
(Log from Dennis, 1947)

Altitude: 1530 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	18	18
	Clay, sand, and gravel, light-gray, unsorted-----	29	47
	Gravel and sand, with some silt and clay	13	60
	Clay, sand, and gravel, gray, unsorted--	5	65
	Gravel and sand, with considerable clay-	10	75
	Gravel-----	7	82
	Boulders-----	1	83
	Clay, sand, and gravel, gray, unsorted--	2	85
Pierre Formation:			
	Shale-----	4	89

148-57-27CDD1  
USGS 2  
(Log from Dennis, 1947)

Altitude: 1530 feet

Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	26	26
	Clay, sand, and gravel, gray, unsorted--	51	77
	Gravel-----	10	87
	Gravel, with considerable clay and silt-	4	91
Pierre Formation:			
	Shale, dark-gray-----	8	99

148-57-27CDD2  
(Log from Frederickson's, Inc.)

Altitude: 1530 feet

Glacial drift:			
	Topsoil, black-----	1	1
	Clay, very sandy, brown-----	8	9
	Clay, sandy, brown-----	14	23
	Clay, sandy, blue-----	23	46
	Clay, very sandy, blue-----	5	51
	Clay, sandy, blue-----	36	87
	Boulder, whitish-----	1	88
	Clay, blue-----	2	90
Pierre Formation:			
	Shale, blue-----	2	92

148-57-34ADD  
USGS 8  
(Log from Dennis, 1947)

Altitude: 1505 feet

Glacial drift:			
	Topsoil, black-----	2	2
	Clay, sand, and gravel, yellow, unsorted	19	21
	Clay, sand, and gravel, gray, unsorted--	54	75
Pierre Formation:			
	Shale-----	4	79

148-57-34DAD1  
 USGS 9  
 (Log from Dennis, 1947)

Altitude: 1500 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	15	15
	Gravel, with some clay and silt-----	11	26
	Boulders and gravel-----	4	30
	Sand and gravel-----	10	40
	Clay, sand, and gravel, gray, unsorted--	25	65
	Granite boulder-----	1	66
Pierre Formation:			
	Shale-----	1	67

148-57-34DAD2  
 (Log from Frederickson's, Inc.)

Altitude: 1505 feet

Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, yellow-----	22	23
	Sand and gravel, dirty, colored-----	13	36
	Clay, sandy, soft, blue-----	14	50

148-57-34DDA  
 (Log from Frederickson's, Inc.)

Altitude: 1505 feet

Glacial drift:			
	Topsoil, black-----	6	6
	Clay, sandy, yellow-----	21	27
	Clay, sandy, blue-----	12	39
	Sand, colored-----	14	53
	Clay, sandy, soft, blue-----	10	63

148-57-34DDD  
 (Log from Frederickson's, Inc.)

Altitude: 1520 feet

Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, yellow-----	22	23
	Clay, sandy, blue-----	22	45
	Sand, silty, gravelly, colored-----	4	49
	Sand and gravel, colored-----	7	56
	Clay, sandy, lensed with sand, blue----	5	61
	Clay, sandy, blue-----	12	73
	Sand, brown-----	1	74
	Clay, sandy, blue-----	1	75
Pierre Formation:			
	Shale, blue-----	2	77

148-57-36AAA  
 USGS  
 (Log from Dennis, 1947)

Altitude: 1455 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	1	1
	Till, weathered, yellow to brown-----	9	10
	Till, unweathered, blue-gray-----	6	16

148-57-36AAB  
 USGS  
 (Log from Dennis, 1947)

Altitude: 1460 feet

Glacial drift:			
	Topsoil, silty, black-----	2	2
	Till, weathered, gray to brown-----	1	3
	Till, weathered, yellow-----	8	11
	Till, weathered, gray-----	2	13

148-57-36BBB  
 USGS 1  
 (Log from Dennis, 1947)

Altitude: 1455 feet

Glacial drift:			
	Clay, sand, and gravel, yellow, unsorted	3	3
	Clay, sand, and gravel, gray, unsorted--	17	20
	Gravel, with considerable clay and silt-----	1	21
Pierre Formation:			
	Shale, gray-----	7	28

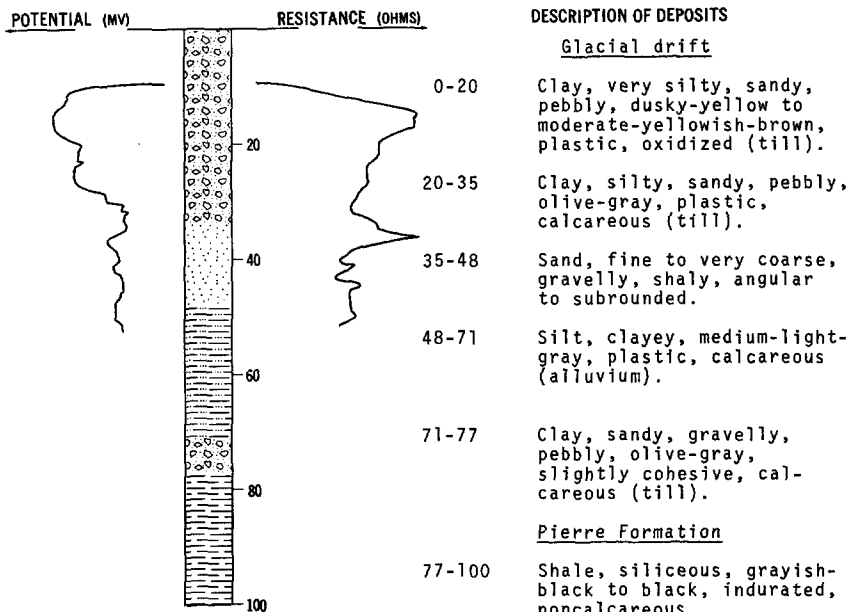
NDSWC 8061

LOCATION: 148-58-13CDD

DATE DRILLED: July 1971

ALTITUDE: 1500  
(FT, MSL)

DEPTH: 100  
(FT)



148-58-14AAA  
NDSWC 8059

Altitude: 1480 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, silty, sandy, pebbly, moderate-yellowish-brown, plastic, oxidized (till)	2	2
	Gravel, fine to coarse, sandy, shaly, angular to subrounded, well-oxidized	13	15
	Silt, clayey, medium-dark-gray, plastic, calcareous (alluvium)	2	17
Pierre Formation:			
	Shale, siliceous, grayish-black to black, noncalcareous	23	40

148-58-14BAA  
NDSWC 8060

Altitude: 1510 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, very fine to fine, silty, clayey, subrounded, well-oxidized-----	5	5
	Clay, silty, sandy, pebbly, moderate-yellowish-brown, plastic, oxidized (till)-----	13	18
	Clay, silty, sandy, pebbly, medium-dark-gray, moderately plastic, calcareous (till)-----	27	45
Pierre Formation:			
	Shale, siliceous, grayish-black to black, indurated, noncalcareous-----	15	60

148-58-28DBA  
(Log from Northern Resources, Inc.)

Altitude: 1467 feet

Glacial drift:			
	Sand, silty-----	10	10
	Loam, light-olive-gray, pebbly (till)---	4	14
	Loam, dark-olive-gray, pebbly (till)---	6	20
	Clay, shaly, dark-gray; with shifs of Pierre shale-----	19	39
Pierre Formation:			
	Shale, angular (bit sample)-----	--	39
	No log-----	1241	1280

148-59-13AAA  
NDSWC 5908

Altitude: 1320 feet

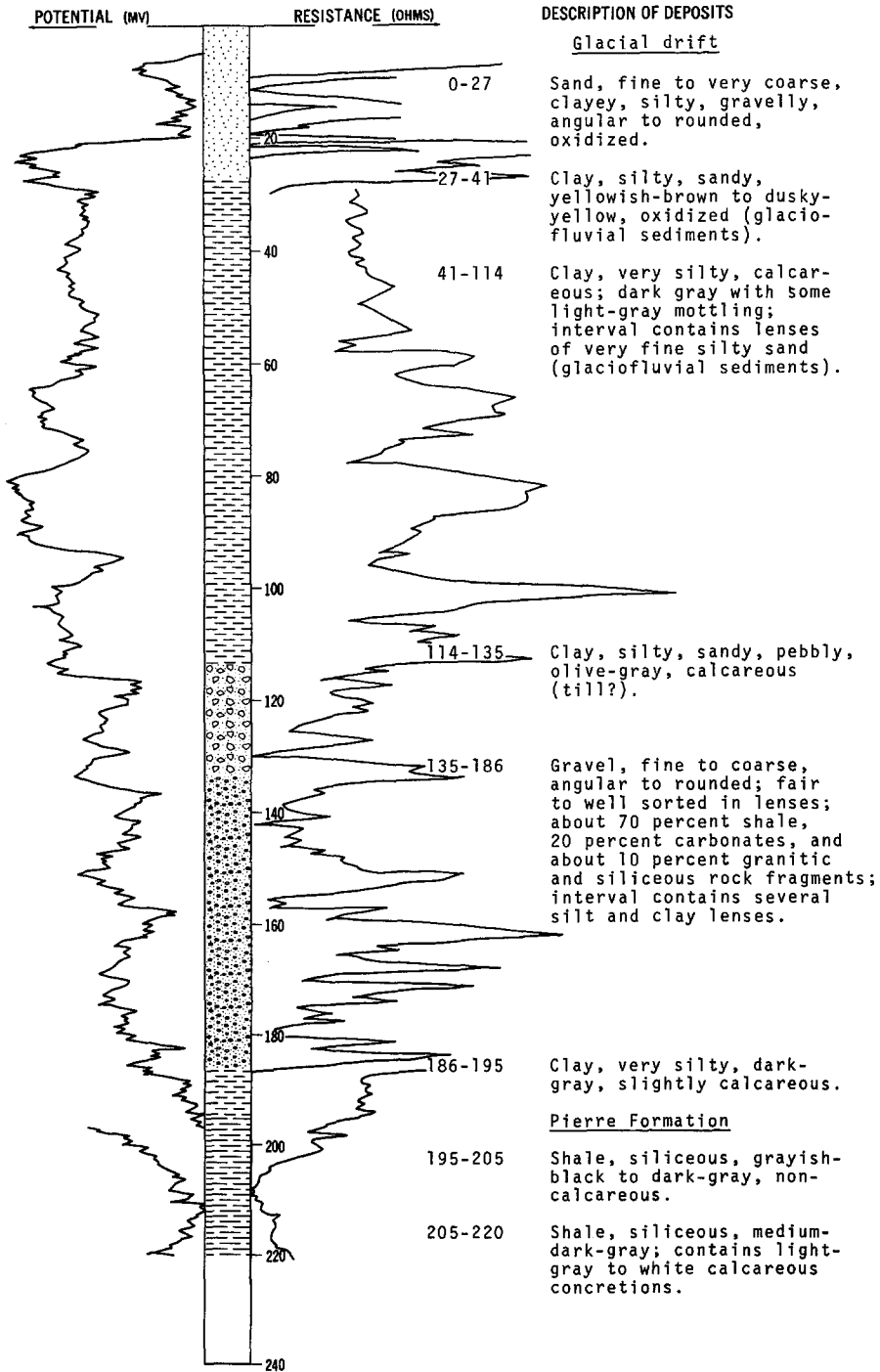
Glacial drift:			
	Clay, very silty, brownish-black, plastic, carbonaceous (alluvium)-0----	10	10
	Clay, very silty, medium-gray, plastic, calcareous (alluvium)-----	22	32
Pierre Formation:			
	Shale, siliceous, medium-gray, indurated, noncalcareous-----	33	65
	Shale, clayey, medium-light-gray, indurated, slightly calcareous-----	15	80

LOCATION: 148-59-13BAB

DATE DRILLED: November 1970

ALTITUDE: 1340  
(FT, MSL)

DEPTH: 220  
(FT)



148-59-13DDD  
NDSWC 5909

Altitude: 1335 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, very fine to coarse, shaly, angular, oxidized-----	7	7
Pierre Formation:			
	Shale, siliceous, grayish-black, brittle, noncalcareous, bedded-----	13	20

148-59-18BBB  
NDSWC 8509

Altitude: 1460 feet

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	22	22
	Clay, silty, sandy, pebbly, gravelly, olive-gray, brittle, calcareous (till)-----	12	34
Pierre Formation:			
	Shale, siliceous, grayish-black, well-indurated, noncalcareous-----	6	40

148-59-25CCB  
NDSWC 8041

Altitude: 1342 feet

Glacial drift:			
	Gravel, fine to coarse, clayey, shaly, oxidized-----	6	6
	Clay, very silty, sandy, pebbly, dusky-yellow, plastic, oxidized (till)-----	10	16
	Sand, very fine to fine, clayey, shaly, oxidized-----	10	26
Pierre Formation:			
	Shale, siliceous, grayish-black to black, noncalcareous-----	14	40

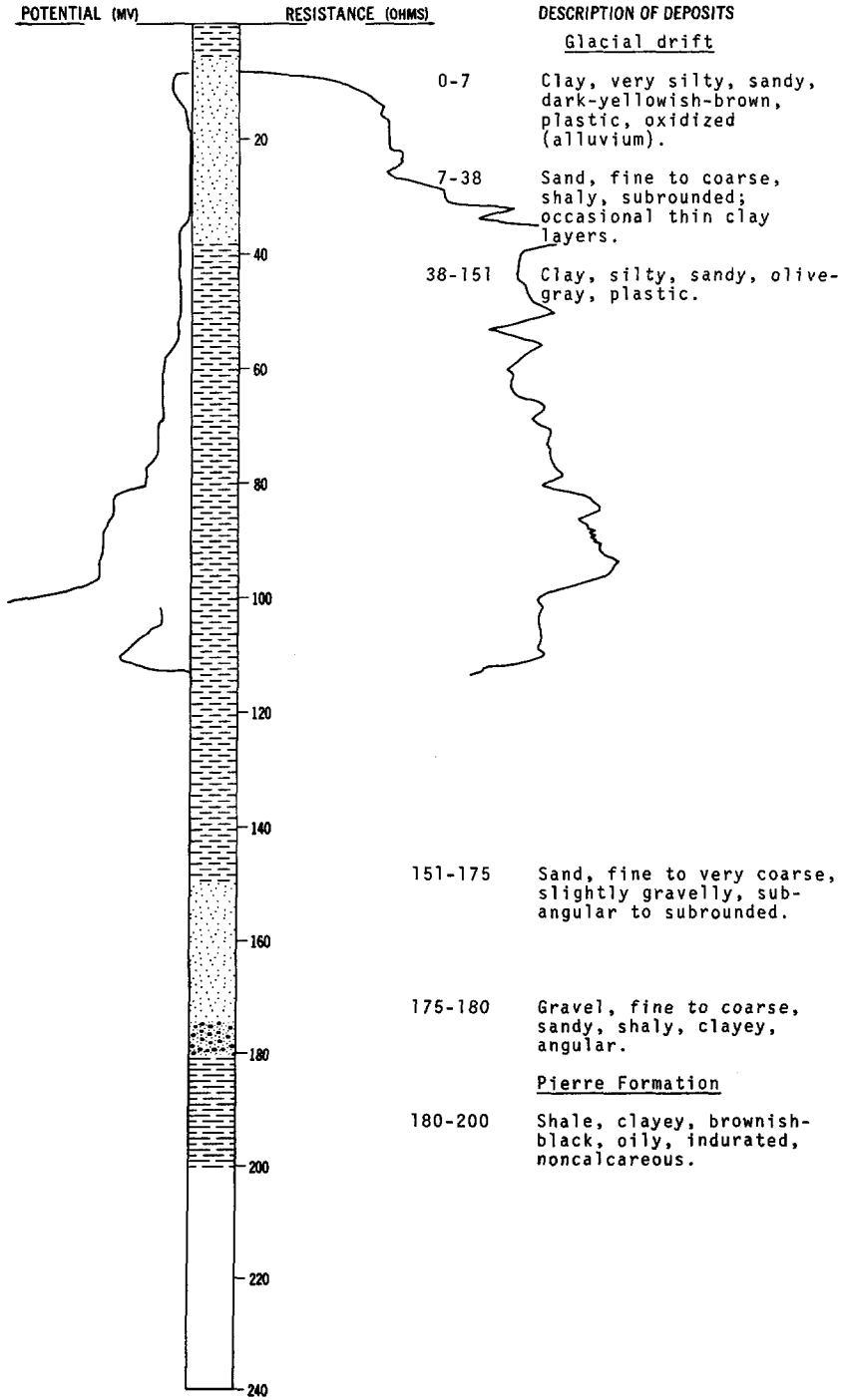
148-59-26BBC  
NDSWC 8042

Altitude: 1385 feet

Glacial drift:			
	Topsoil, pebbly, clayey, sandy, shaly, grayish-black-----	2	2
Pierre Formation:			
	Shale, siliceous, grayish-black to black, noncalcareous-----	18	20

LOCATION: 148-59-26BDB  
 ALTITUDE: 1330  
 (FT, MSL)

DATE DRILLED: July 1971  
 DEPTH: 200  
 (FT)





Altitude: 1435 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, very silty, moderate-yellowish-brown, plastic, oxidized (glacio-fluvial sediment)-----	11	11
Pierre Formation:			
	Shale, siliceous, grayish-black to black, indurated, noncalcareous-----	29	40

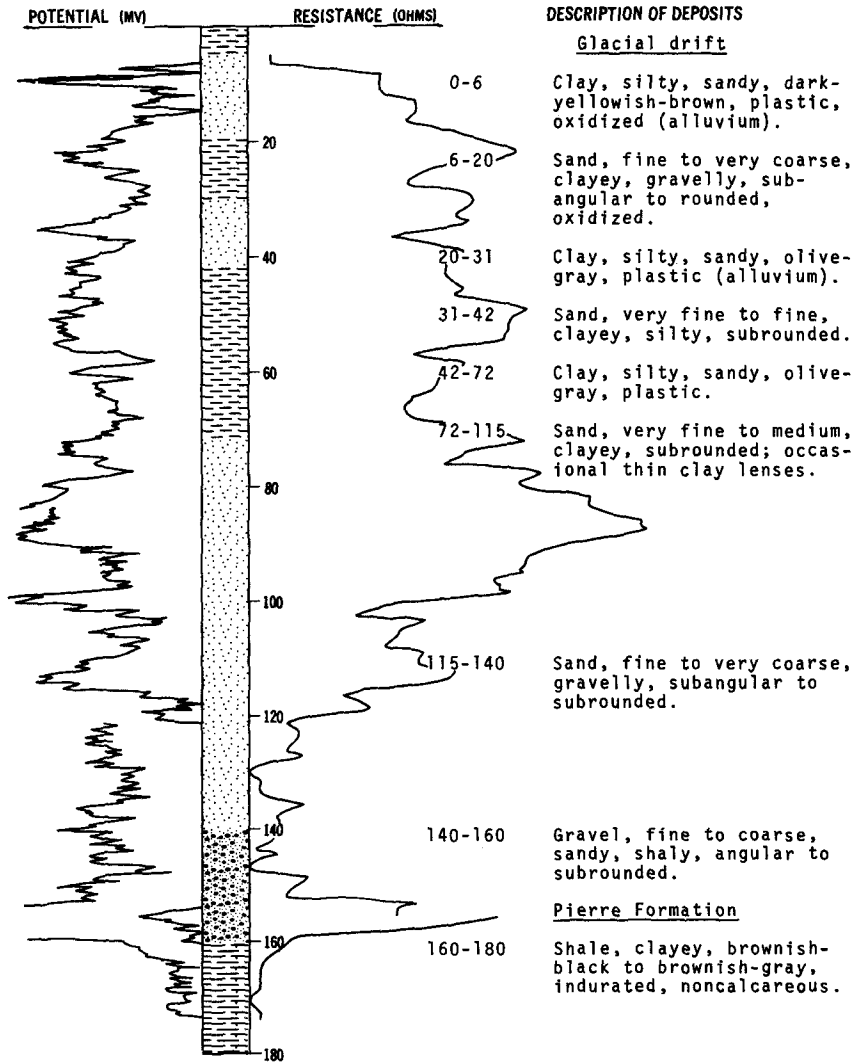
NDSWC 8048

LOCATION: 148-59-36AAB

DATE DRILLED: July 1971

ALTITUDE: 1320  
(FT, MSL)

DEPTH: 180  
(FT)

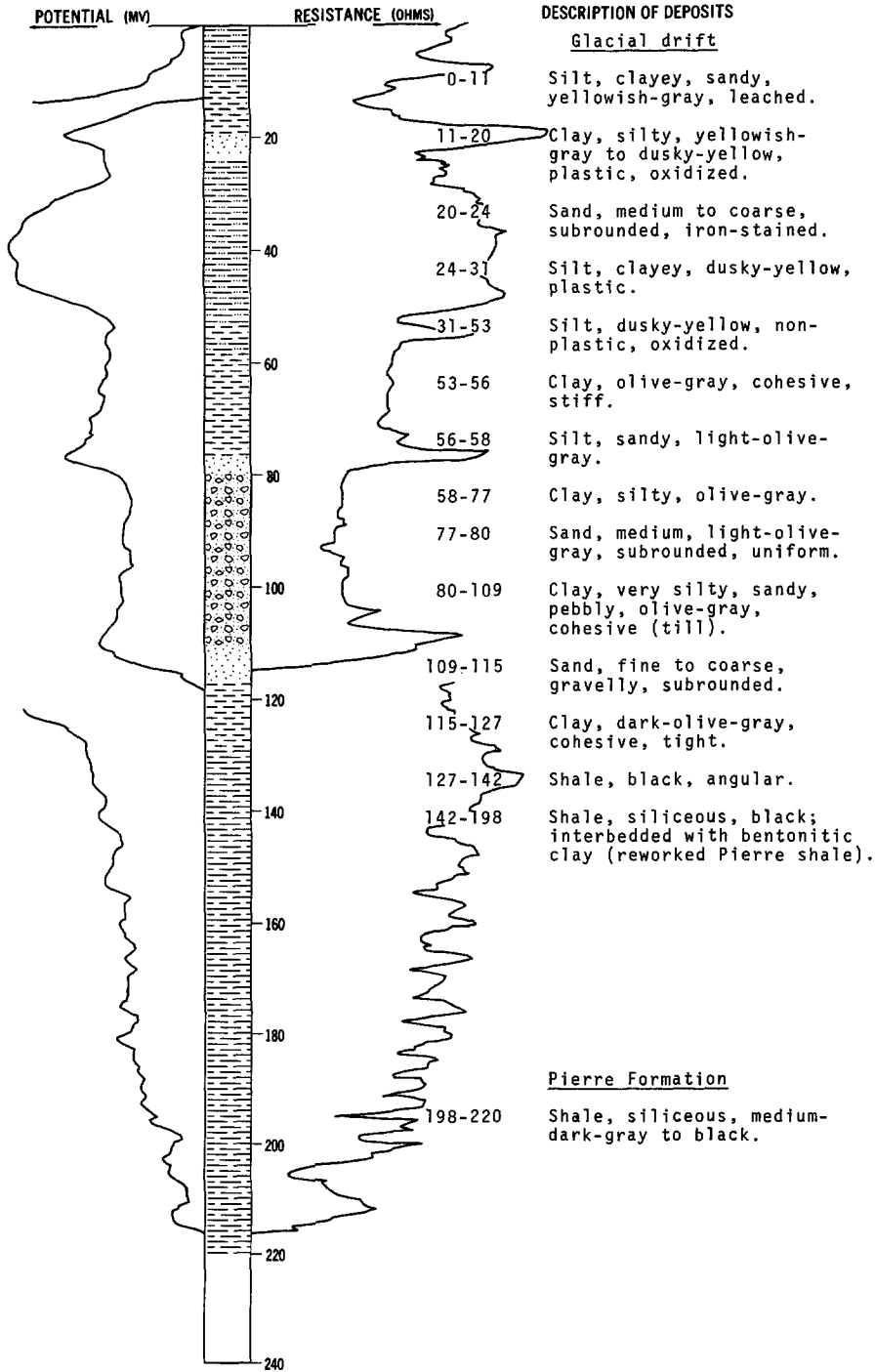


LOCATION: 148-60-07DDD

DATE DRILLED: August 1971

ALTITUDE: 1498  
(FT, MSL)

DEPTH: 220  
(FT)



Altitude: 1470 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Clay, very silty, pebbly, moderate-yellowish-brown, cohesive, oxidized (till)-----	11	11
	Silt, clayey, sandy, medium-gray, calcareous (glaciofluvial sediment)-----	12	23
	Clay, silty, pebbly, gravelly, olive-gray (till)-----	11	34
Pierre Formation:			
	Shale, siliceous, grayish-black, well-indurated, noncalcareous-----	6	40

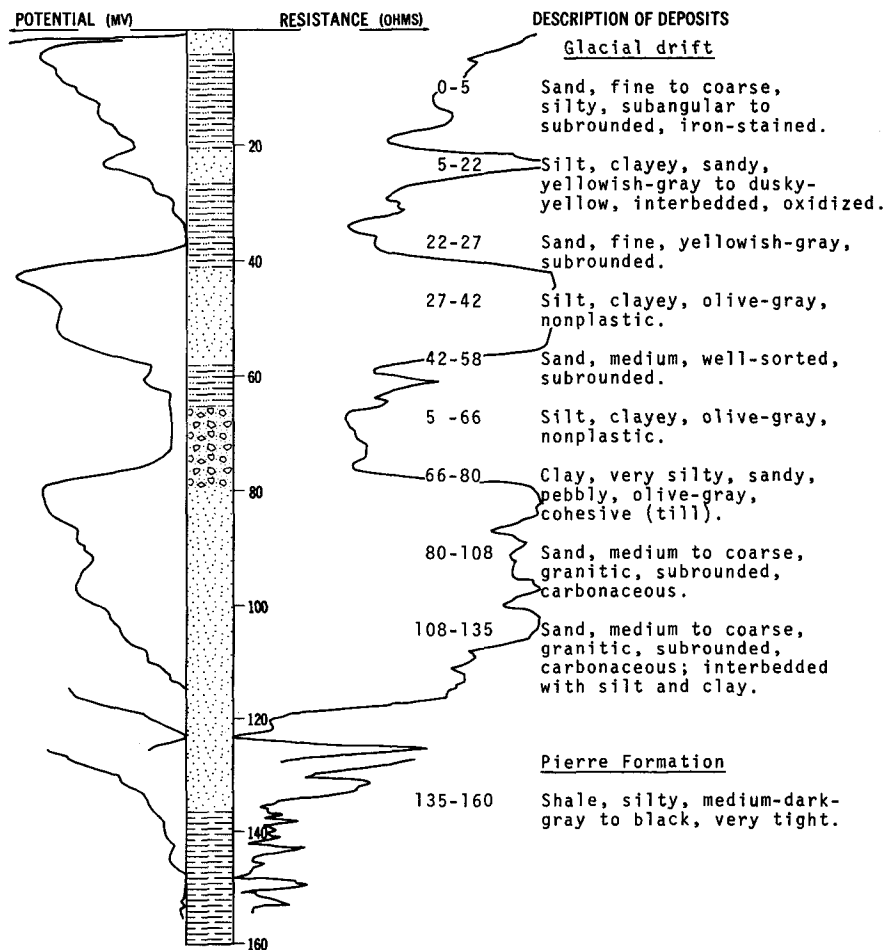
NDSWC 4361

LOCATION: 148-60-18BBA

DATE DRILLED: August 1971

ALTITUDE: 1495  
(FT. MSL)

DEPTH: 160  
(FT)



148-60-23CCC  
NDSWC 8508

Altitude: 1465 feet

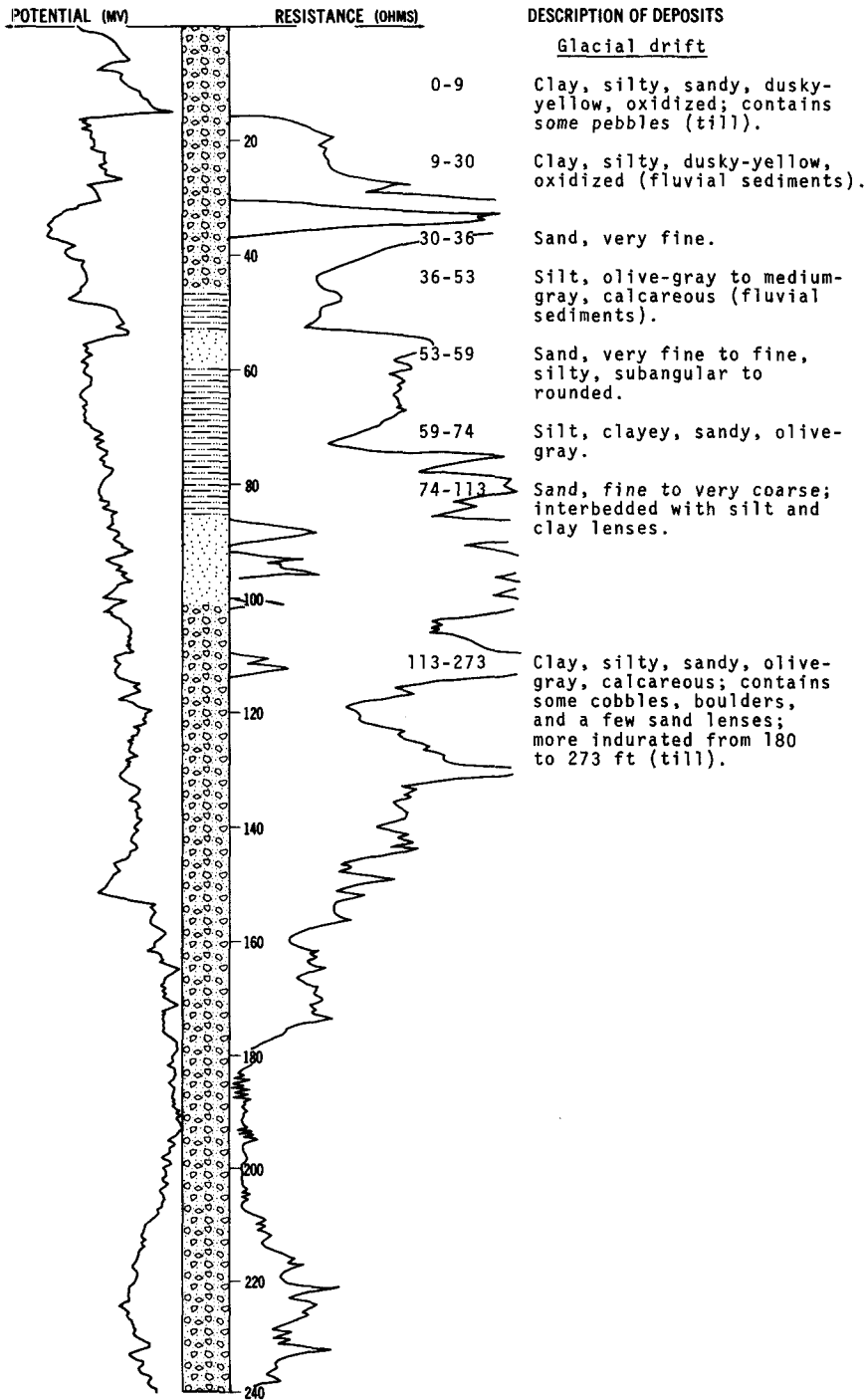
<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to coarse, sandy, clayey, shaly, angular to subrounded-----	16	16
	Clay, silty, sandy, pebbly, moderate-yellowish-brown, oxidized (till)-----	5	21
	Clay, silty, sandy, pebbly, gravelly, olive-gray, calcareous (till)-----	16	37
Pierre Formation:			
	Shale, siliceous, grayish-black, well-indurated, noncalcareous-----	3	40

LOCATION: 148-61-04CCC

DATE DRILLED: October 1970

ALTITUDE: 1575  
(FT, MSL)

DEPTH: 280  
(FT)



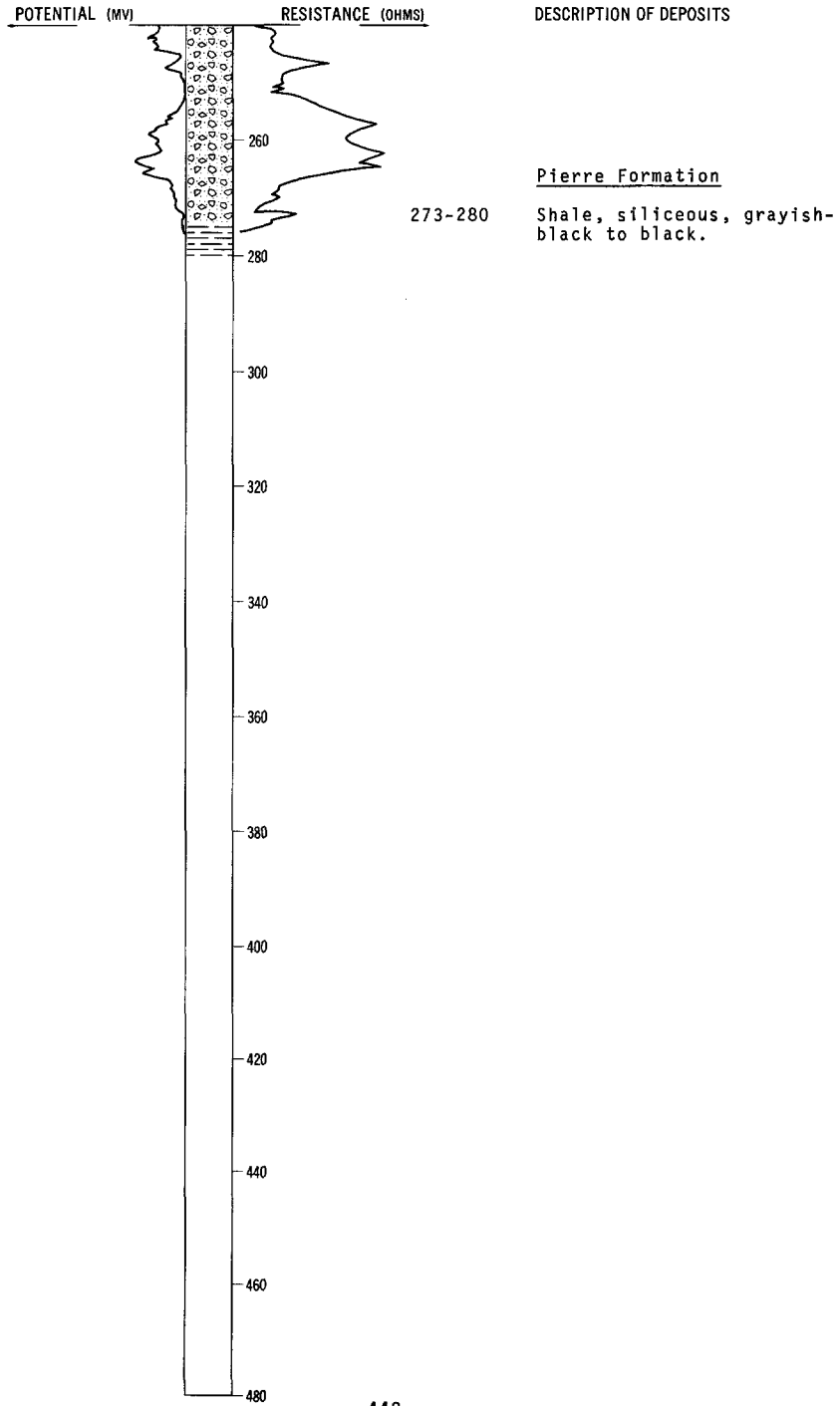
NDSWC 5877, Continued

LOCATION: 148-61-04CCC

DATE DRILLED: October 1970

ALTITUDE: 1575  
(FT, MSL)

DEPTH: 280  
(FT)

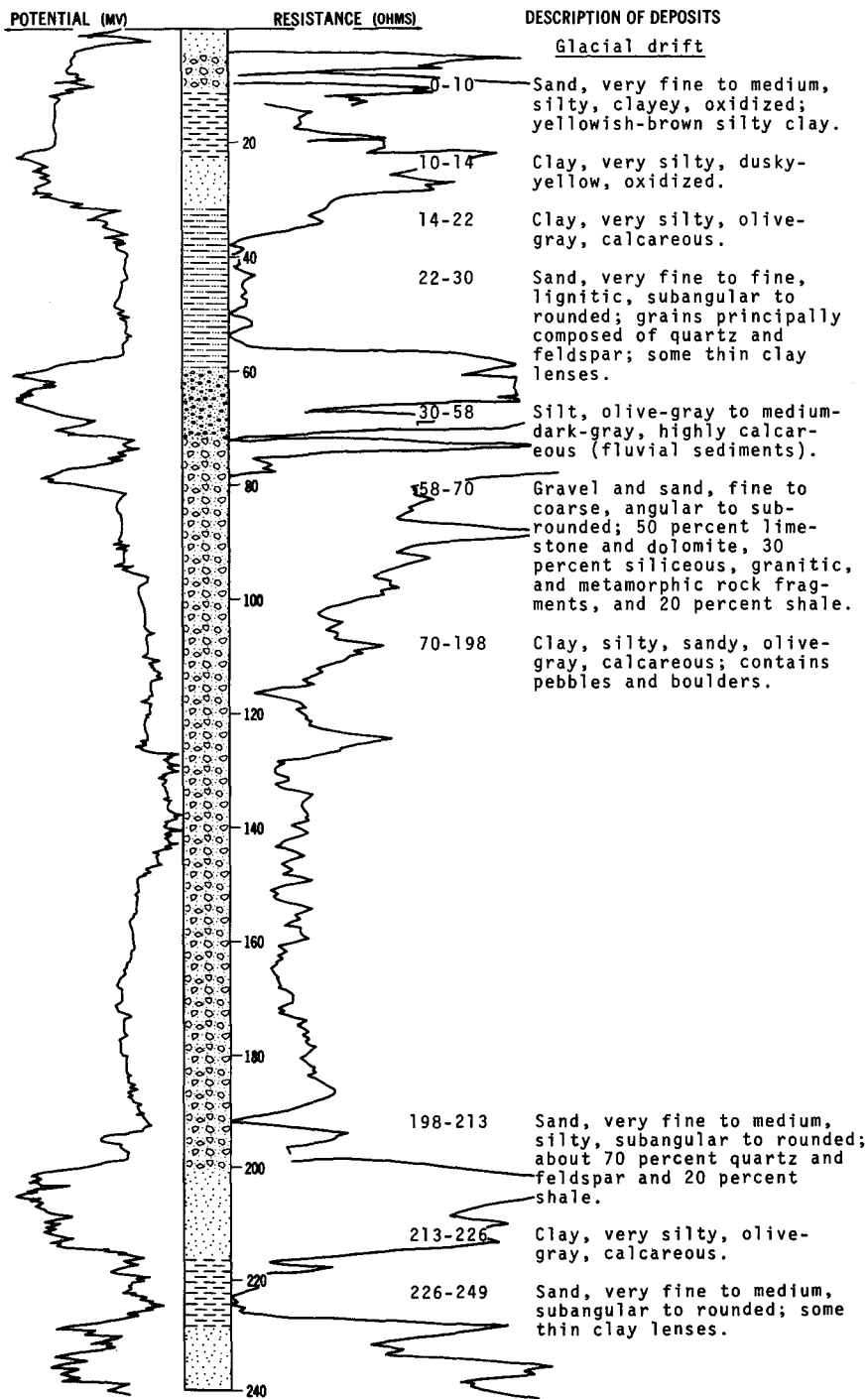


LOCATION: 148-61-07BAB

DATE DRILLED: October 1970

ALTITUDE: 1525  
(FT, MSL)

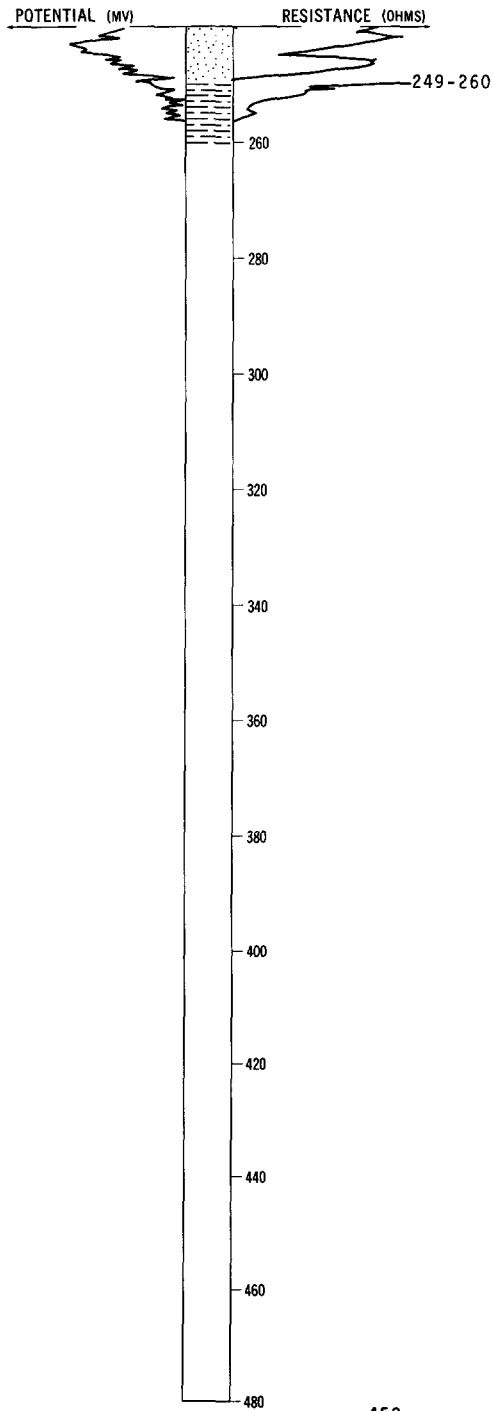
DEPTH: 260  
(FT)



NDSWC 5876, Continued

LOCATION: 148-61-07BAB  
ALTITUDE: 1525  
(FT, MSL)

DATE DRILLED: October 1970  
DEPTH: 260  
(FT)



DESCRIPTION OF DEPOSITS

Pierre Formation

Shale, siliceous, grayish-black to black; few thin bentonite layers.

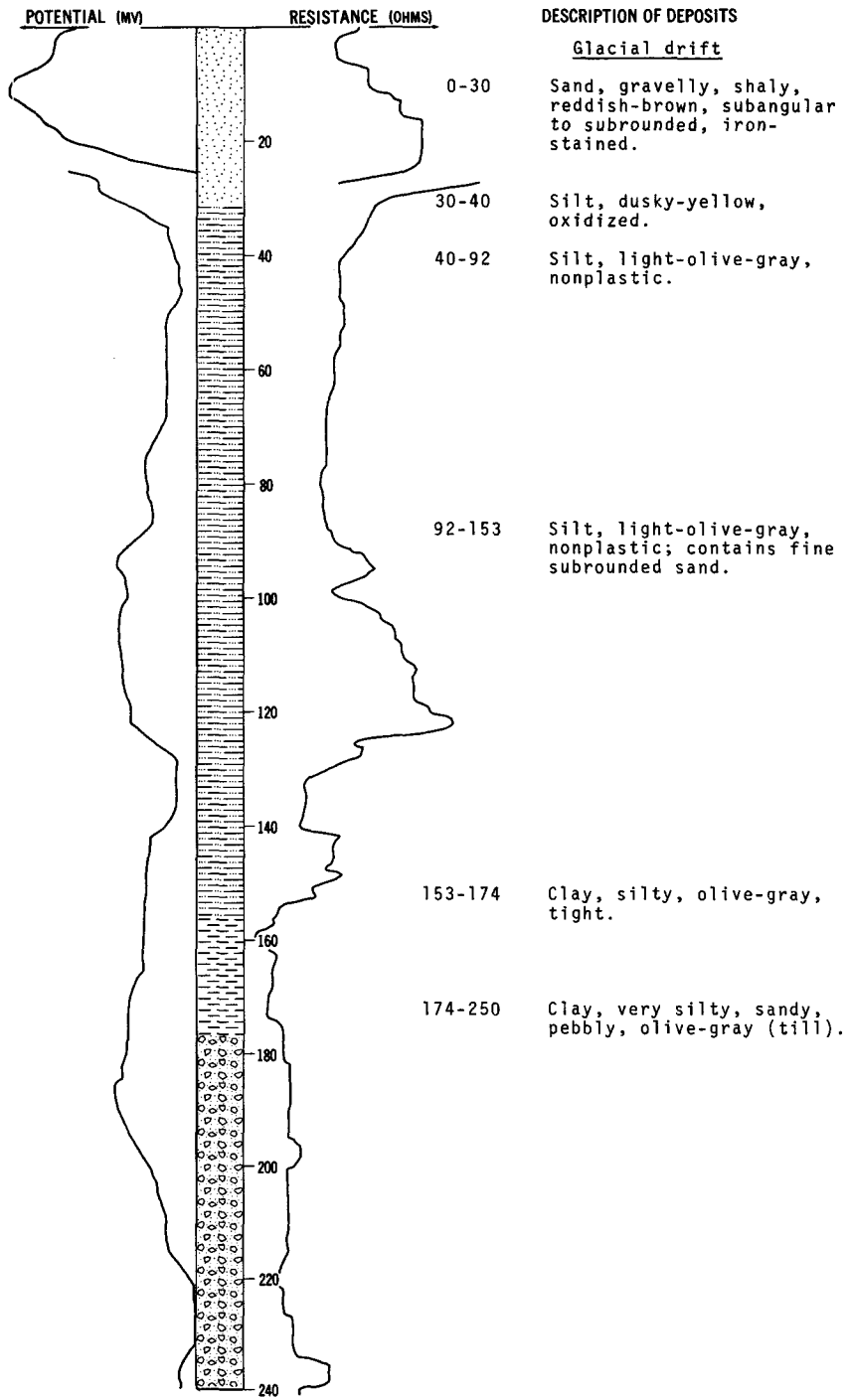


LOCATION: 148-61-10AAA

DATE DRILLED: August 1971

ALTITUDE: 1600  
(FT, MSL)

DEPTH: 380  
(FT)



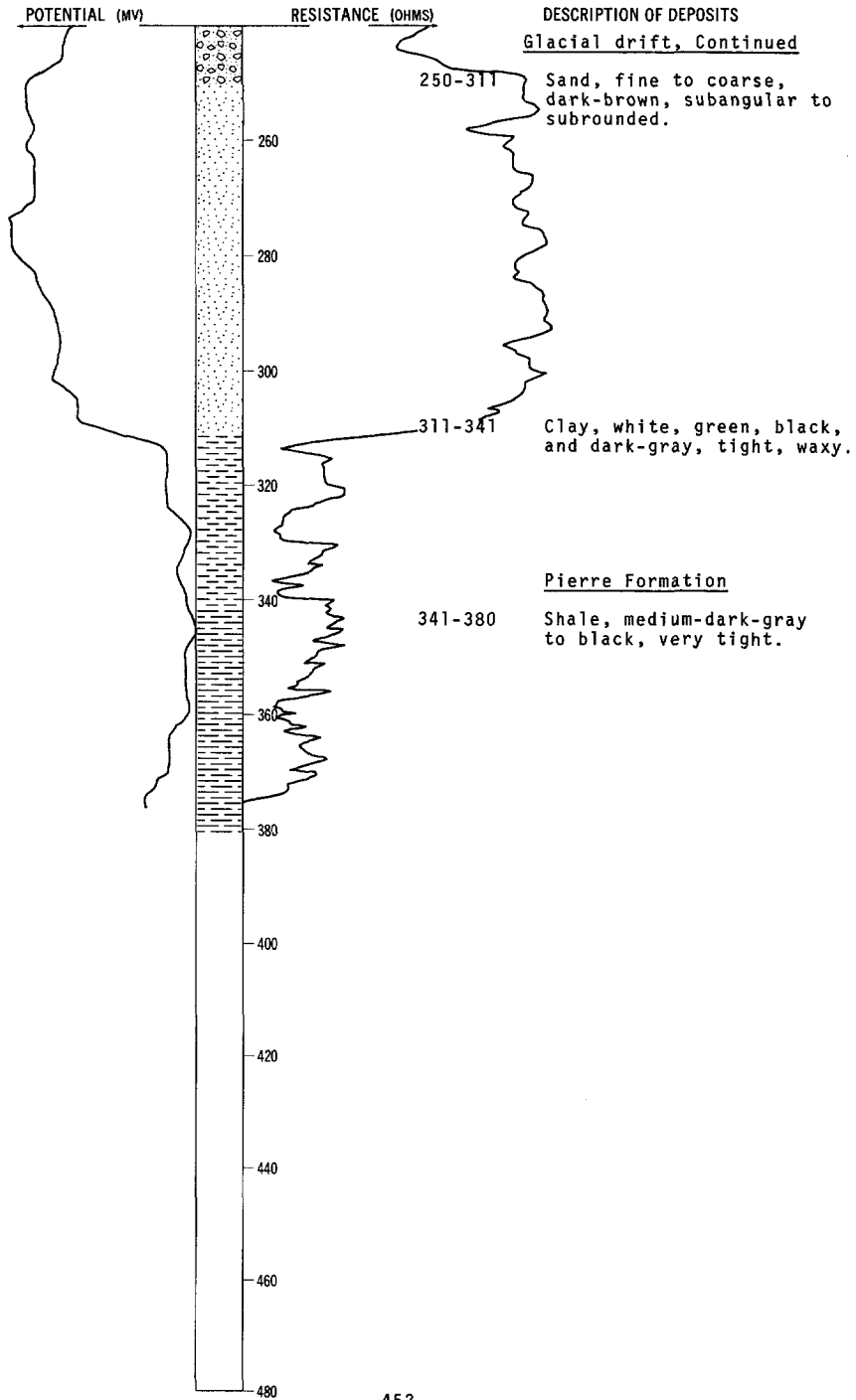
NDSWC 4362, Continued

LOCATION: 148-61-10AAA

DATE DRILLED: August 1971

ALTITUDE: 1600  
(FT, MSL)

DEPTH: 380  
(FT)

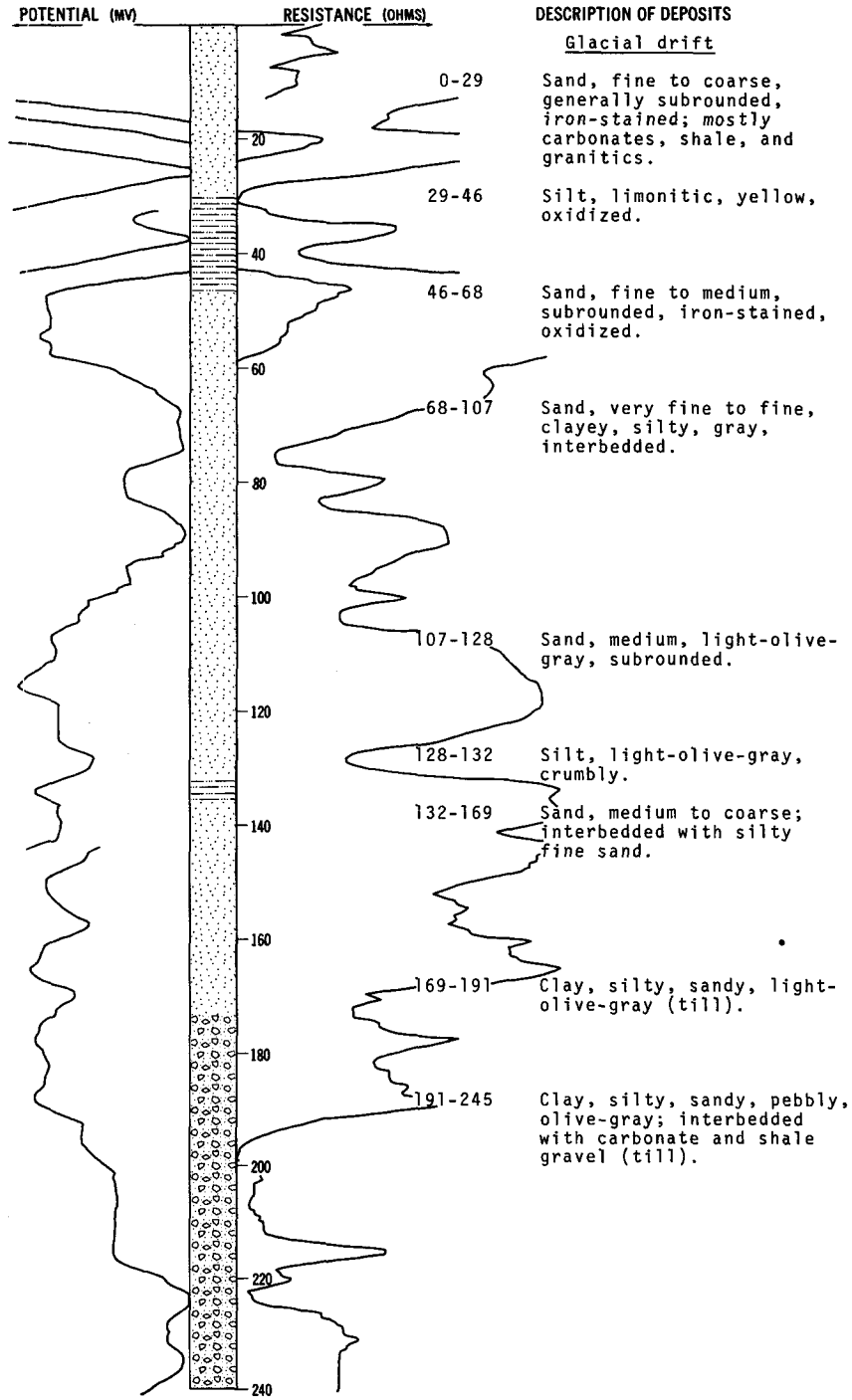


LOCATION: 148-61-10CCC2

DATE DRILLED: August 1971

ALTITUDE: 1615  
(FT, MSL)

DEPTH: 470  
(FT)



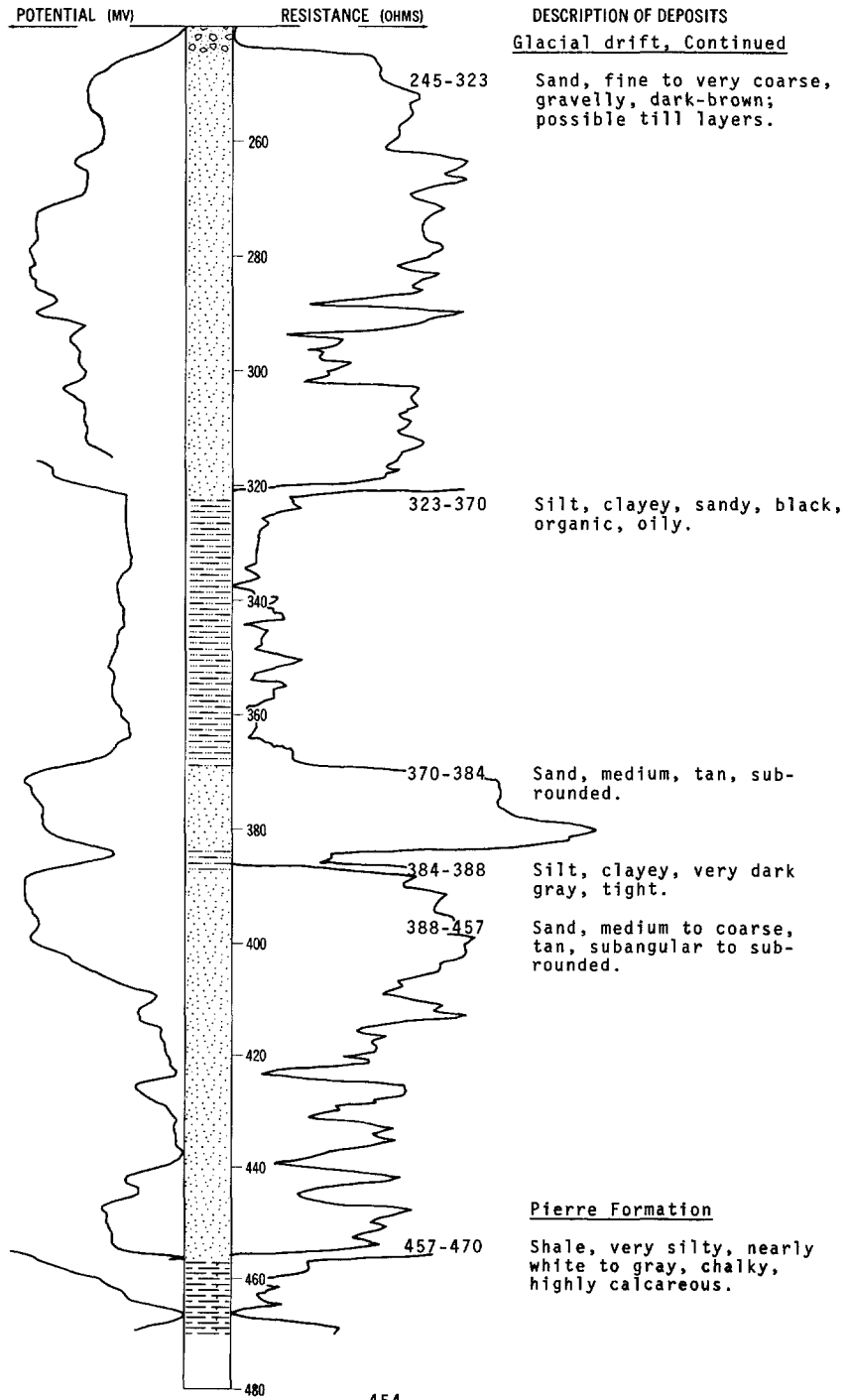
NDSWC 4365, Continued

LOCATION: 148-61-10CCC2

DATE DRILLED: August 1971

ALTITUDE: 1615  
(FT, MSL)

DEPTH: 470  
(FT)

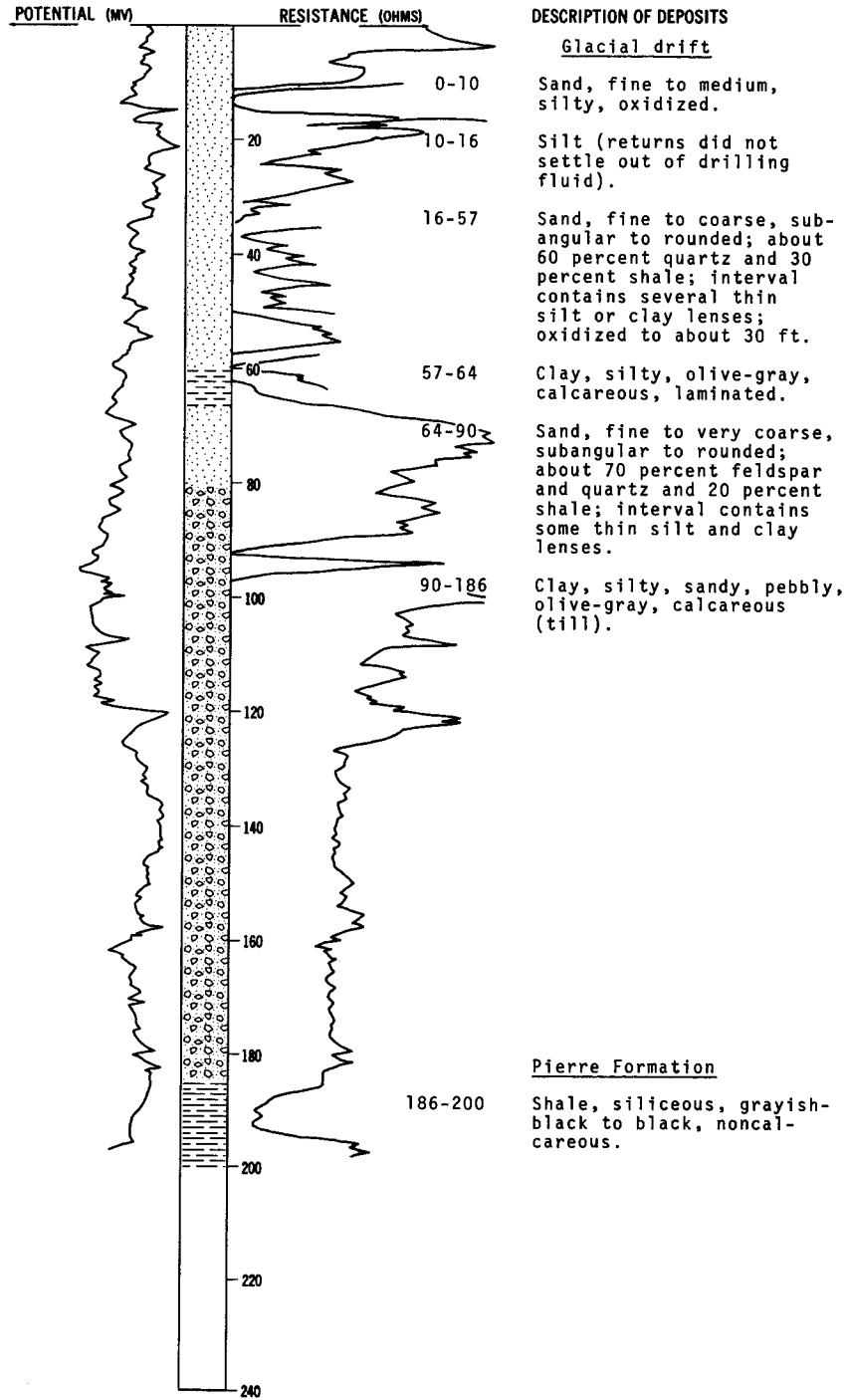


LOCATION: 148-61-11AAA1

DATE DRILLED: October 1970

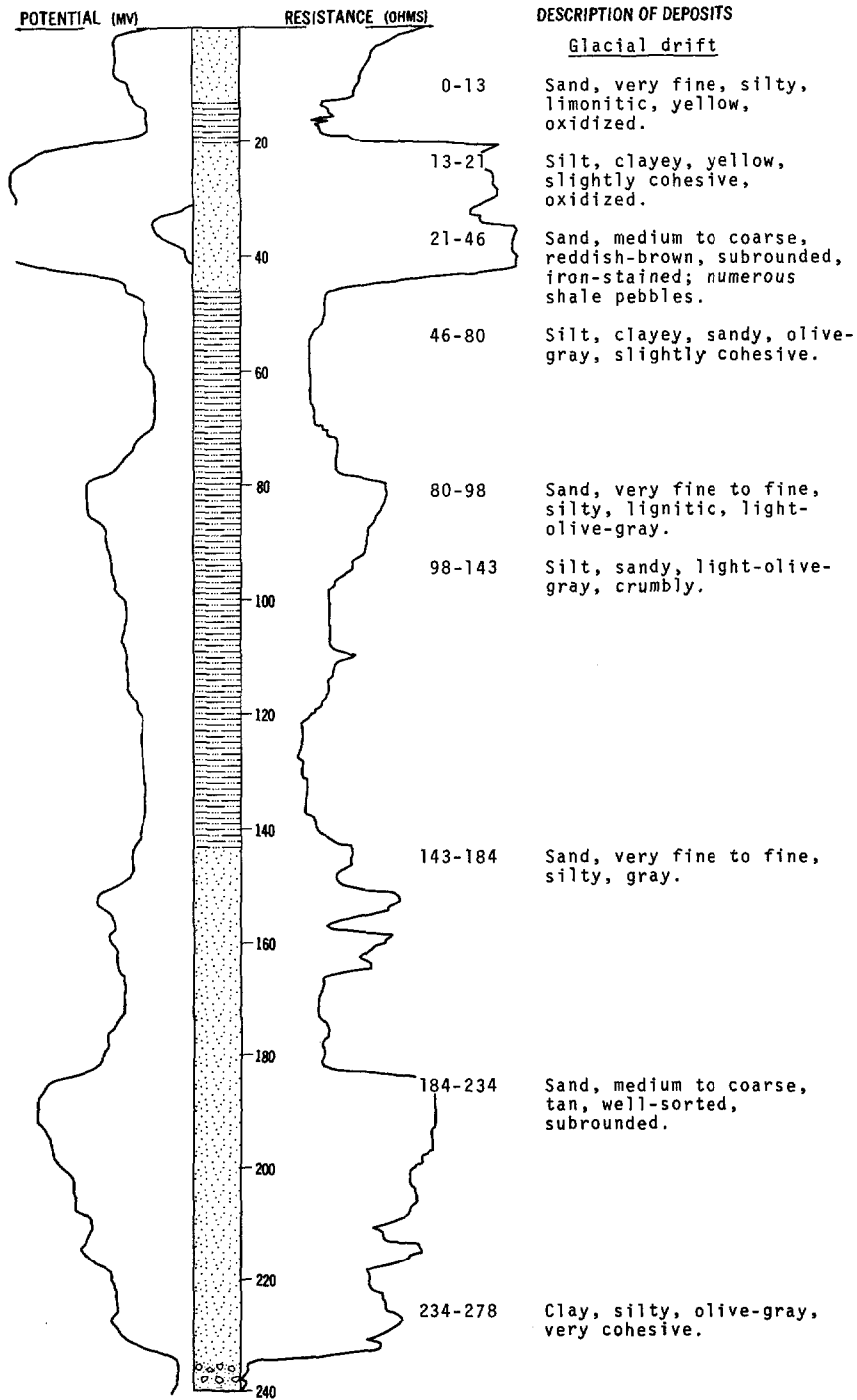
ALTITUDE: 1530  
(FT. MSL)

DEPTH: 200  
(FT)



LOCATION: 148-61-20AAA  
 ALTITUDE: 1608  
 (FT. MSL)

DATE DRILLED: August 1971  
 DEPTH: 380  
 (FT)



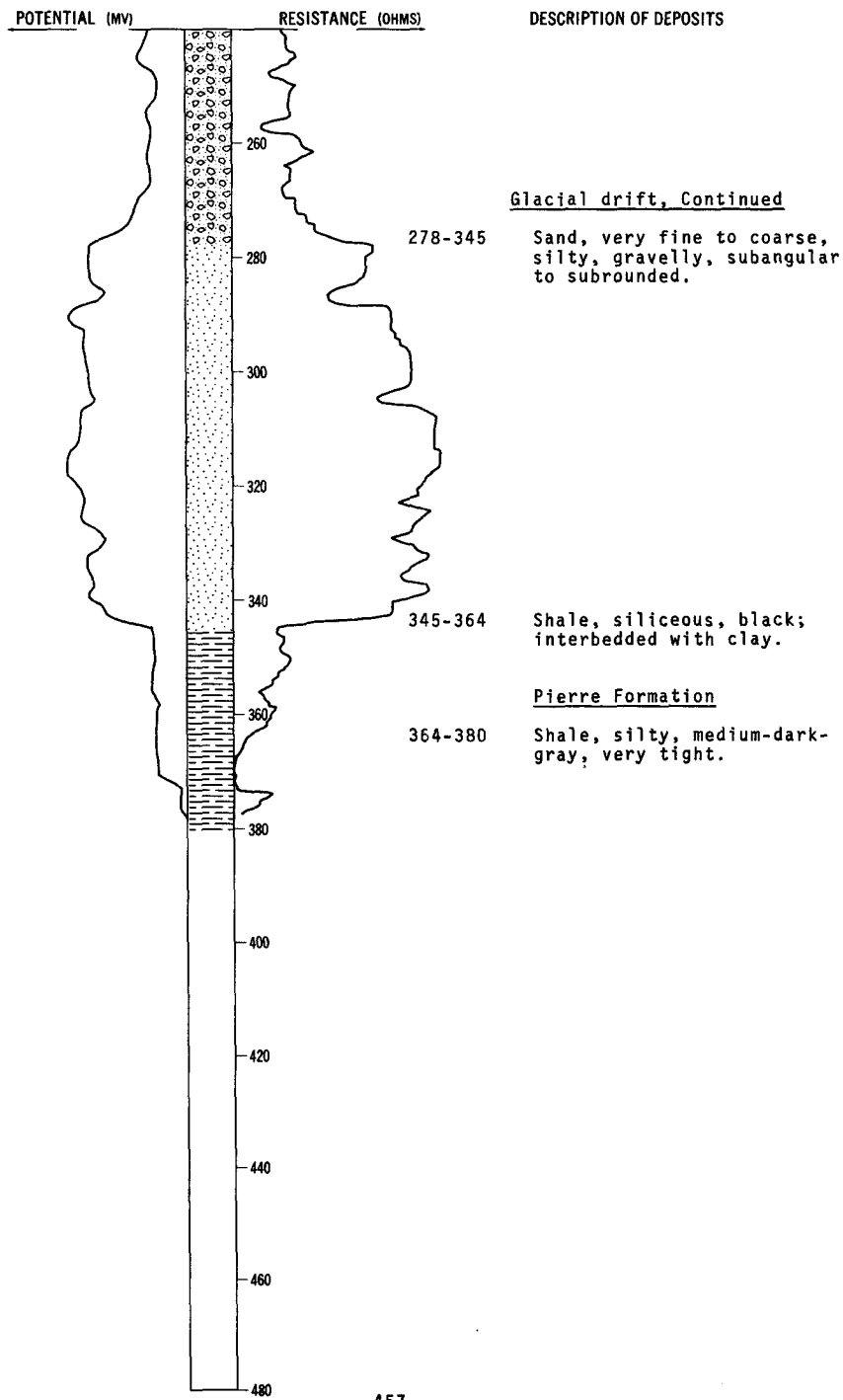
NDSWC 4366, Continued

LOCATION: 148-61-20AAA

DATE DRILLED: August 1971

ALTITUDE: 1608  
(FT, MSL)

DEPTH: 380  
(FT)

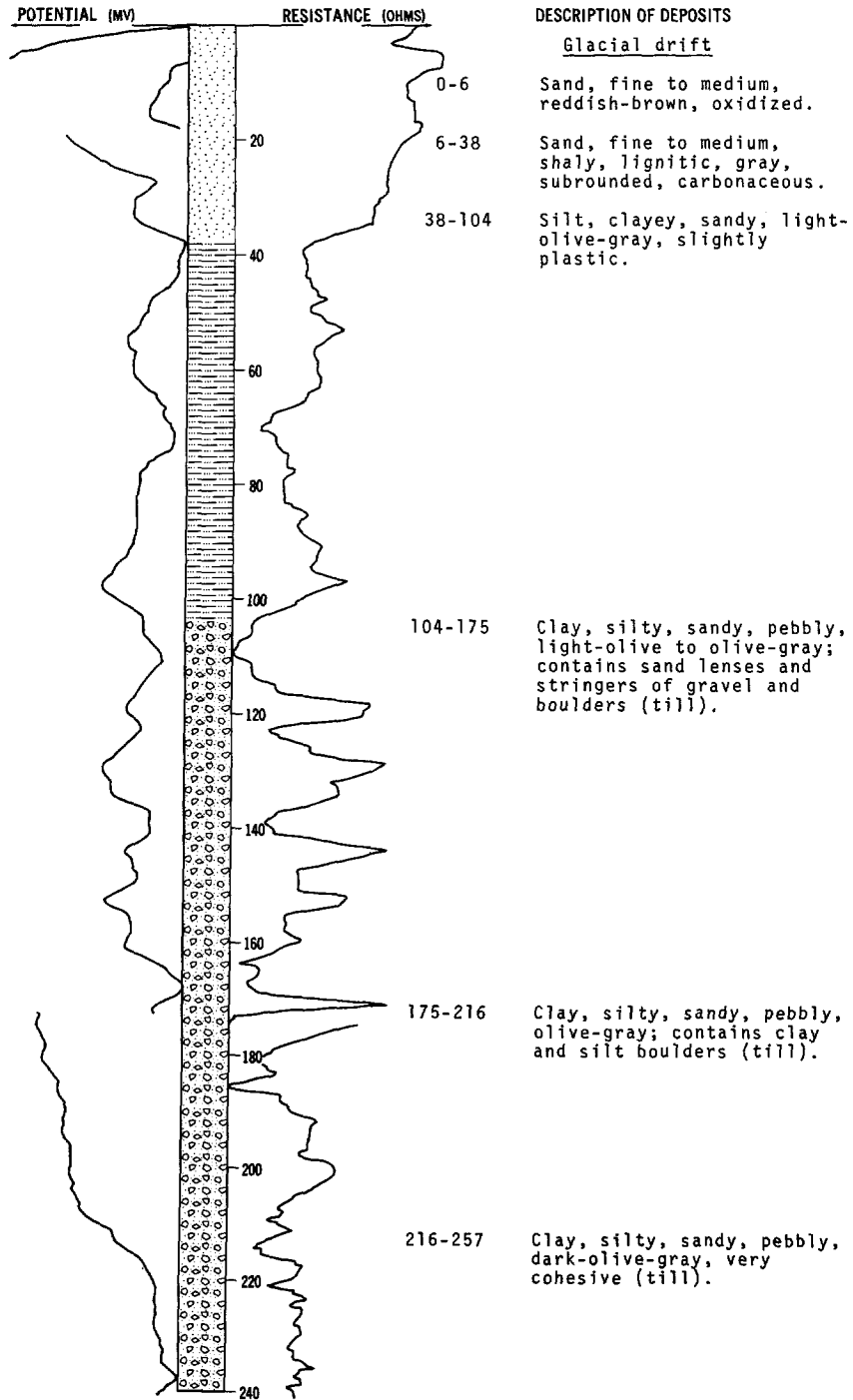


LOCATION: 148-61-22DDD

DATE DRILLED: August 1971

ALTITUDE: 1585  
(FT, MSL)

DEPTH: 400  
(FT)





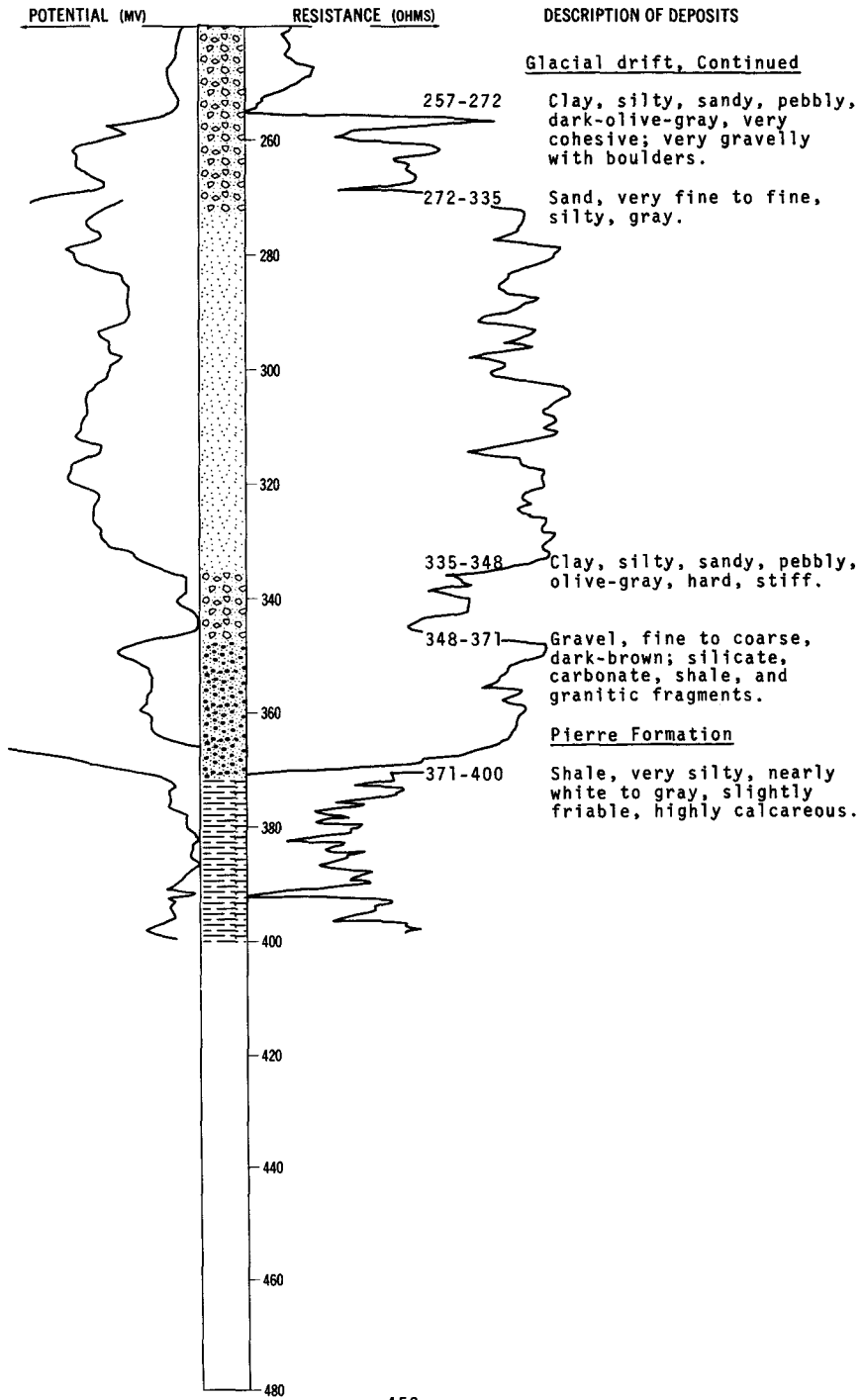
NDSWC 4364, Continued

LOCATION: 148-61-22DDD

DATE DRILLED: August 1971

ALTITUDE: 1585  
(FT, MSL)

DEPTH: 400  
(FT)

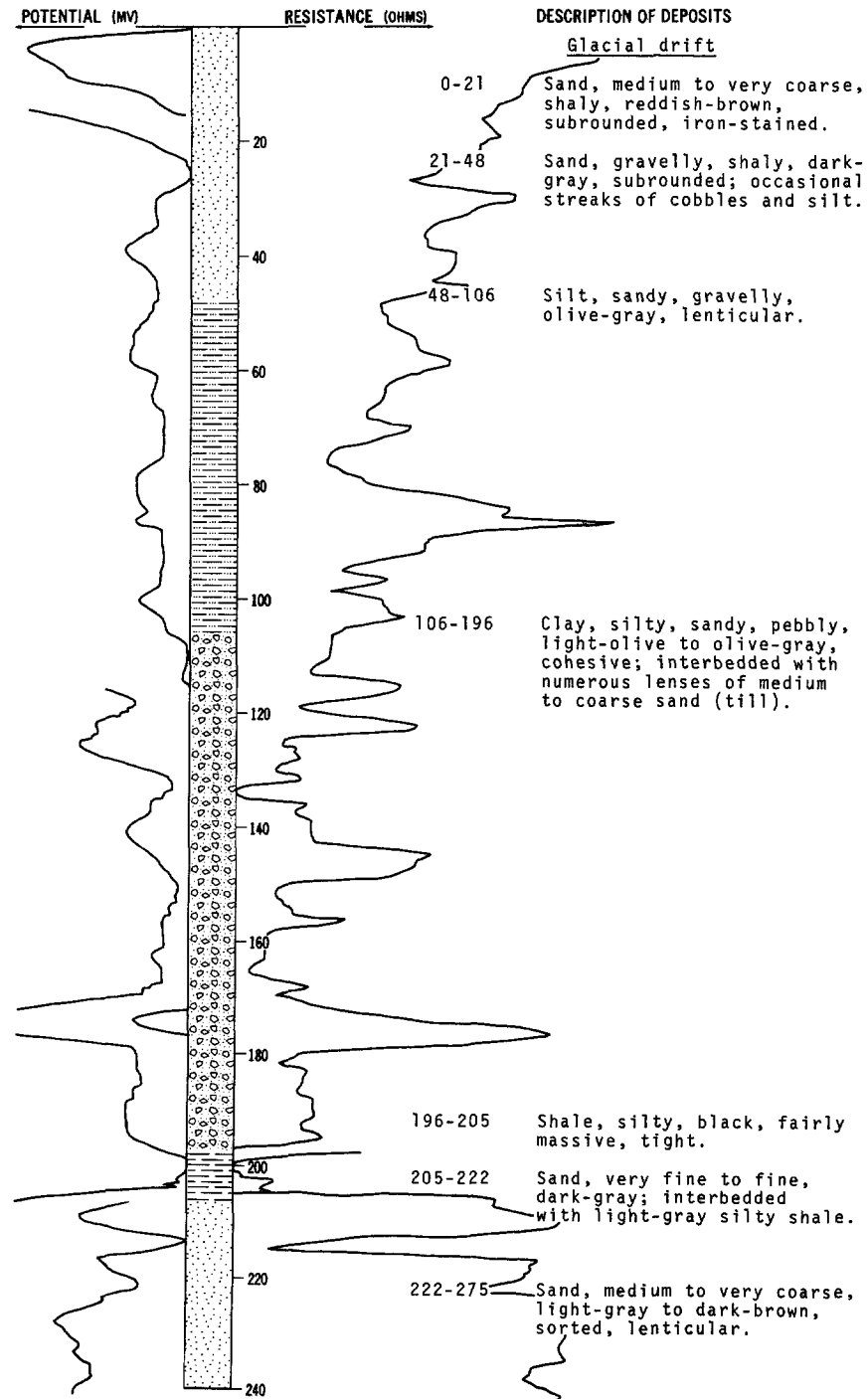


LOCATION: 148-61-23AAA

DATE DRILLED: August 1971

ALTITUDE: 1530  
(FT, MSL)

DEPTH: 300  
(FT)



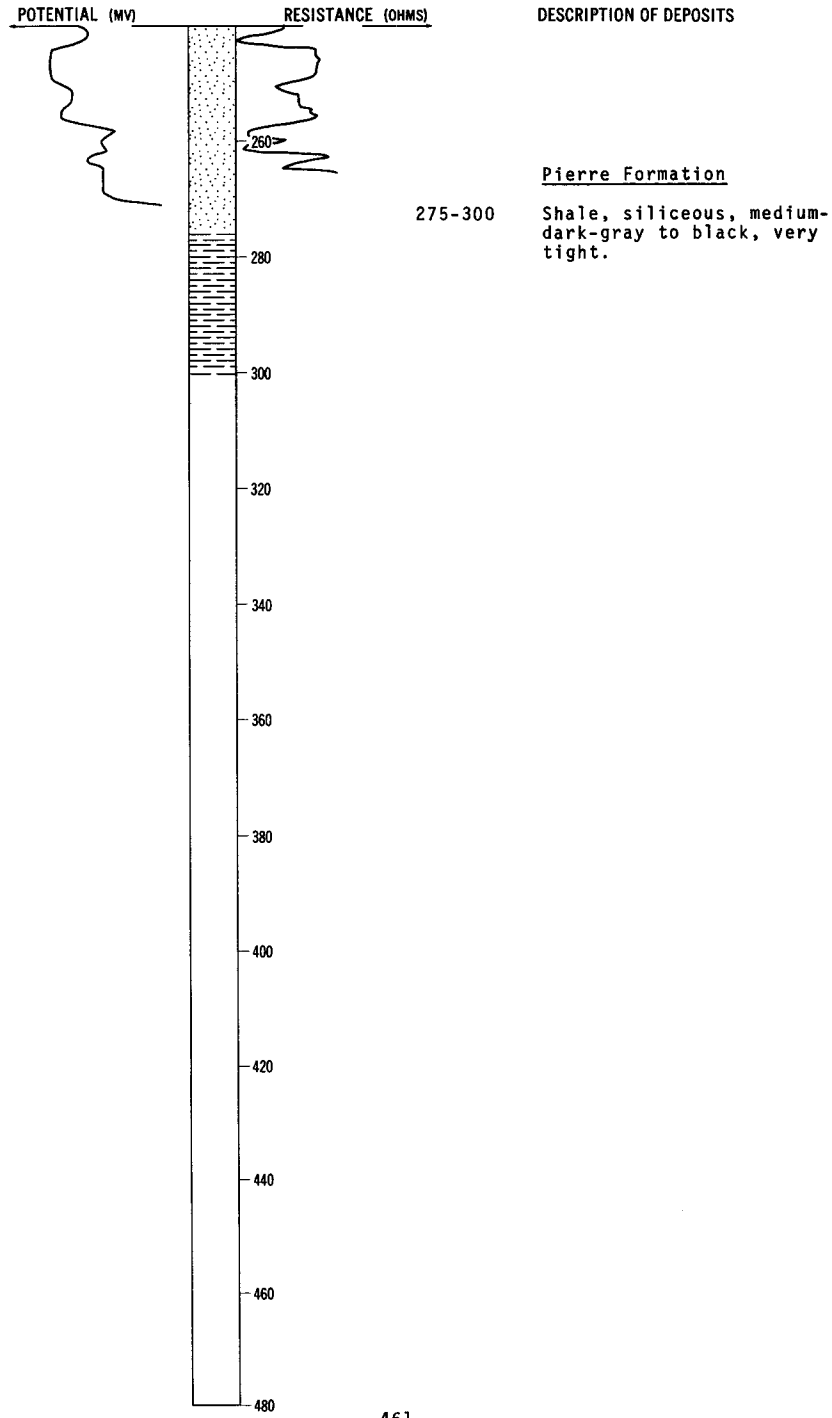
NDSWC 4363, Continued

LOCATION: 148-61-23AAA

DATE DRILLED: August 1971

ALTITUDE: 1530  
(FT, MSL)

DEPTH: 300  
(FT)

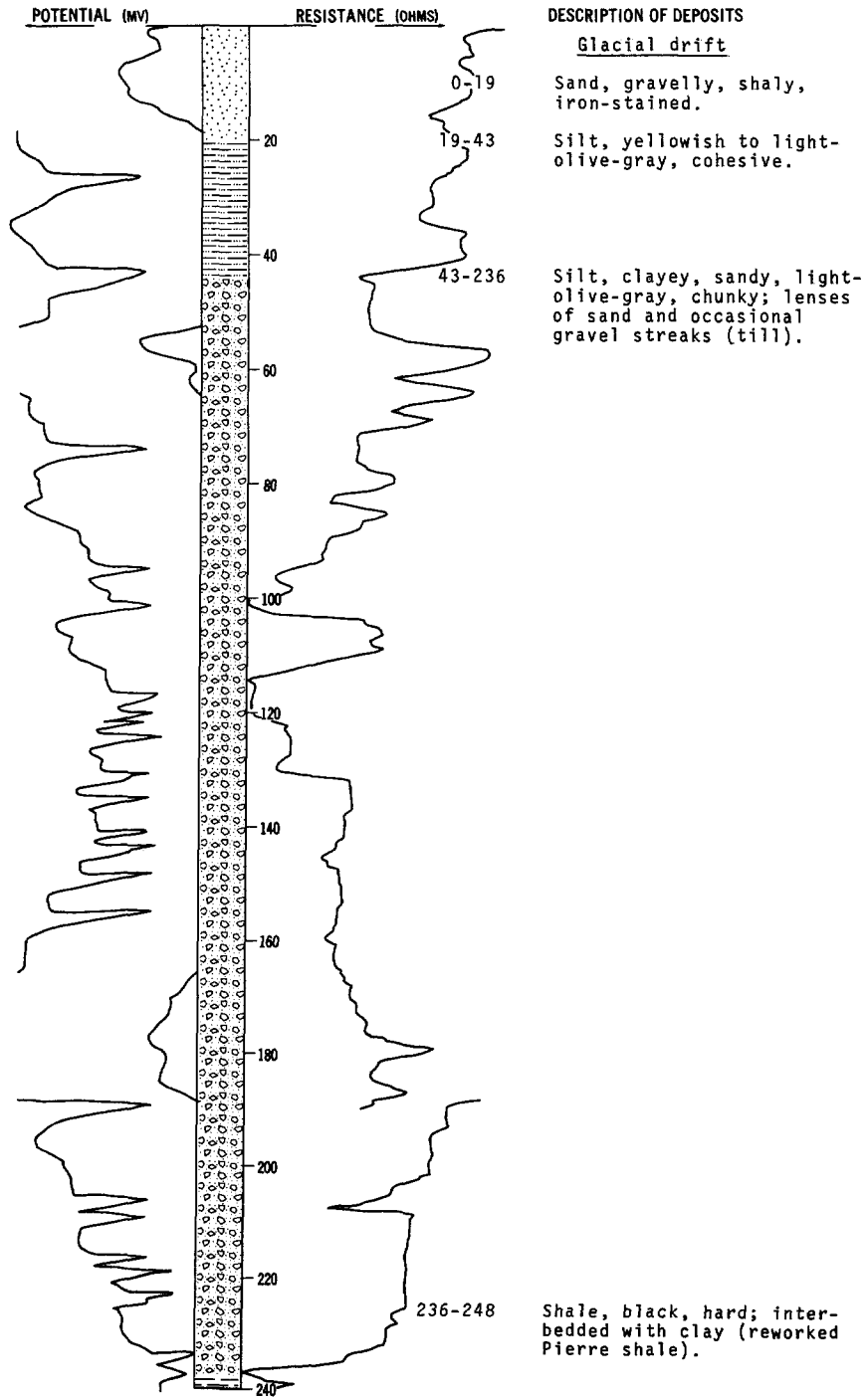


LOCATION: 148-61-31BBB

ALTITUDE: 1525  
(FT, MSL)

DATE DRILLED: August 1971

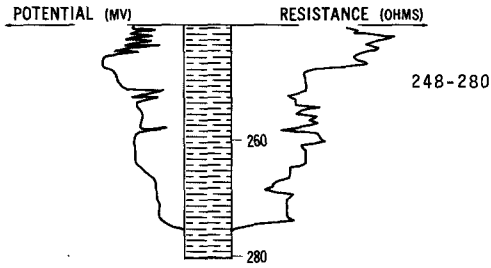
DEPTH: 280  
(FT)



NDSWC 4367, Continued

LOCATION: 148-61-31BBB  
 ALTITUDE: 1525  
 (FT, MSL)

DATE DRILLED: August 1971  
 DEPTH: 280  
 (FT)



DESCRIPTION OF DEPOSITS  
Pierre Formation  
 248-280 Shale, silty, medium-dark-gray to black, fossiliferous.

148-61-36BCC  
 (Log from Empire Drilling Co.)

Altitude: 1525 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand and gravel-----	17	17
	Clay, sandy, gray-----	68	85
	Till, gray-----	10	95
	Sand, coarse-----	20	115
	Till, gray-----	70	185
	Clay-----	25	210
	Sand, fine-----	15	225
	Sand and gravel; lignite layers-----	48	273
Pierre Formation:			
	Shale-----	2	275

TABLE 4.--Chemical analyses of samples of ground water

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE OF SAMPLE	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MNI) (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (MG/L)	DIS-SOLVED DUE AT 180°C (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICRO-MHDS)	PH (UNITS)	TEMPERATURE (DEG C)	
144-054-01ABB	51	128	06-22-72	26	--	50	122	33	155	13	516	0	321	31	.1	1.0	700	956	439	16	3.2	42	1400	7.7	7.0
144-054-02AAD	--	180	07-27-70	28	40	50	146	67	164	16	501	0	430	50	.2	110	570	1630	660	229	2.8	35	1810	7.7	7.0
144-054-14AAD	51	53	07-27-70	25	180	730	275	100	24	9.0	362	0	838	15	.1	1.0	210	1540	801	.3	4	1810	7.7	--	
144-054-18AAA	51	76	06-16-70	27	560	640	86	24	4.9	2.9	322	0	50	1.6	<.1	1.0	<.1	387	313	49	.1	3	563	7.8	7.0
144-054-22DCD1	51	103	08-03-71	26	<.0	270	174	55	27	8.8	412	0	370	2.8	.2	1.4	440	879	682	324	.5	8	1190	7.5	7.5
144-054-22DCD2	51	113	08-03-71	25	<.0	1900	191	51	36	8.8	488	0	339	3.6	.2	.1	180	931	687	287	.6	10	1270	7.9	7.5
144-054-22DCD4	51	93	10-05-71	27	680	1100	202	49	18	8.6	455	0	364	4.2	.2	1.0	660	913	706	333	.3	5	1250	7.5	--
144-054-22DCD4	51	93	10-29-71	27	530	1200	188	50	18	8.6	445	0	343	4.6	.3	1.0	600	880	674	309	.3	5	1200	7.5	--
144-054-22DCD4	51	93	10-30-71	27	580	1300	188	48	18	8.6	441	0	343	2.7	.2	.1	800	856	667	305	.3	5	1190	7.6	--
144-054-22DCD4	51	93	10-31-71	28	520	1000	186	49	18	8.6	444	0	342	3.0	.2	1.0	<.1	860	666	302	.3	5	1190	7.6	--
144-054-22DCD4	51	93	11-01-71	27	520	1100	187	49	18	8.6	446	0	336	2.9	.2	1.0	660	865	670	304	.3	5	1200	7.6	--
144-054-22DCD4	51	93	11-02-71	27	<.0	1000	187	49	18	8.6	448	0	337	2.8	.2	1.0	800	865	667	300	.3	5	1210	7.4	--
144-054-240DD	51	123	06-22-72	27	40	190	174	49	8.1	6.3	363	0	360	1.1	.1	1.0	200	838	637	339	.1	3	1100	7.8	7.5
144-054-27ABD	51	83	08-04-71	26	820	300	170	56	12	7.2	382	0	334	2.6	.2	1.1	40	837	655	342	.2	4	1130	7.5	7.0
144-054-28CCD	51	104	06-10-70	30	150	1100	134	25	22	5.5	386	0	184	1.2	.1	<.1	190	580	439	116	.5	10	867	7.7	7.0
144-054-290DD	51	20	08-05-70	27	--	20	116	154	83	17	582	0	242	63	.5	350	70	1340	523	446	1.2	16	1960	7.9	6.0
144-054-31CCC	51	103	06-21-72	21	--	1090	141	45	53	9.6	423	0	311	5.7	.2	1.0	200	893	538	191	1.0	17	1130	8.1	--
144-055-020DD1	--	32	07-27-70	25	320	150	76	23	7.9	2.7	330	0	34	1.3	.1	1.0	180	317	286	15	.2	6	558	7.8	--
144-055-068CB1	--	23	09-15-46	--	--	--	118	23	6.8	--	330	6	125	5.0	--	--	--	482	480	118	.1	4	--	7.7	--
144-055-068CB2	51	138	06-07-70	27	<.0	280	152	35	411	16	331	0	543	4.6	.3	1.0	900	1780	524	244	7.8	62	2740	7.9	7.5
144-055-068CCZ	51	18	06-17-70	28	<.0	490	183	70	28	4.1	346	0	483	9.4	.2	<.1	<.1	1050	743	459	.4	7	1290	7.6	5.0
144-055-078DA	--	24	05-03-67	--	700	--	170	40	<.1	--	105	98	250	<.1	--	--	--	493	588	340	.0	0	--	>8.2	--
144-055-09AB8	51	39	06-07-70	30	1300	1200	146	45	69	8.7	292	0	459	14	.2	<.1	1000	893	552	312	1.3	21	1240	7.6	7.0
144-055-10AB82	51	23	06-18-70	26	2400	820	145	44	35	5.5	339	0	324	1.4	<.1	<.1	<.1	805	544	264	.7	12	1040	7.6	5.0
144-055-19CCD1	D	742	04-10-69	8.5	1430	--	192	64	--	206	--	1220	581	2.1	2.0	--	--	3000	744	574	--	--	4200	7.7	--
144-055-19CCD1	D	742	08-25-71	7.6	6500	130	170	63	890	39	230	0	1300	660	2.0	1.0	--	3160	190	490	14	71	4590	7.5	--
144-055-25ABA	51	93	08-06-71	17	1900	10	115	39	26	7.6	315	0	253	5.1	.3	2.1	930	660	449	191	.5	11	914	7.5	6.0
144-055-260DD	51	68	06-08-70	30	<.0	570	186	38	80	9.3	434	0	413	25	.1	<.1	300	1030	620	254	1.4	22	1370	7.6	7.5
144-055-260DD	51	73	08-03-71	27	50	30	160	52	24	9.0	308	0	402	4.8	.3	2.6	660	849	612	359	.4	8	1160	7.5	6.0
144-055-27CCG	51	81	06-08-70	29	20	540	141	31	40	5.9	385	0	267	2.6	.2	<.1	40	720	482	157	.8	15	1020	7.7	7.5
144-055-29ABA	--	30	07-21-70	25	<.0	890	233	116	130	7.1	380	0	971	16	.1	38	180	1840	1060	748	1.7	21	2170	7.7	--
144-055-33R0D	--	60	06-15-71	26	3400	1340	--	65	20	5.3	278	0	295	708	.2	1.0	240	997	791	563	.3	1	1590	7.1	--
144-055-33CAD2	51	243	06-17-70	29	1100	420	144	37	574	14	395	0	43	1000	.2	<.1	370	2170	512	188	11	70	3550	7.7	6.5
144-055-34DCC	51	70	07-21-70	26	--	610	110	24	5.3	3.8	337	0	107	31	.5	<.1	150	446	372	96	.1	3	244	7.9	7.5
144-056-01ACB	--	28	09-15-46	--	--	--	400	110	25	--	417	0	1062	31	--	--	--	--	1450	1170	.3	4	--	7.6	--
144-056-01BAD	--	34	09-15-46	--	--	--	291	22	45	--	373	0	555	26	--	--	--	--	818	511	.7	11	--	7.8	--
144-056-01BB8	--	45	09-06-46	--	--	--	204	80	60	--	346	0	412	14	--	--	--	--	956	472	--	--	--	8.0	--
144-056-01BB8	--	36	09-15-46	--	--	--	157	33	--	<.1	271	0	360	13	--	--	--	--	612	387	.0	0	--	7.8	--
144-056-01BCA1	--	42	09-15-46	--	--	--	560	85	--	--	495	0	1056	182	--	--	--	--	1750	1340	--	--	--	7.5	--
144-056-01BCA2	--	40	09-15-46	--	--	--	383	109	<.1	--	490	0	810	100	--	--	--	--	1410	1000	.0	0	--	7.8	--
144-056-01BCB2	--	65	09-15-46	--	--	--	160	10	16	--	371	0	161	3.0	--	--	--	--	442	136	.3	7	--	7.8	--
144-056-01CAA	--	37	09-15-46	--	--	--	450	85	<.1	--	410	0	906	134	--	--	--	--	1475	1140	.0	0	--	7.6	--
144-056-01DAD	--	39	10-16-69	26	500	10	268	90	27	5.2	320	0	695	76	.1	.1	<.1	1340	1040	778	.4	5	1750	7.6	7.0
144-056-02ADD	--	50	05-03-67	--	400	--	228	85	200	--	239	186	847	31	--	--	--	1480	920	--	2.9	32	--	>8.2	--
144-056-080DD	--	87	07-21-70	25	<.0	40	341	267	221	70	563	0	659	322	.2	1030	<.1	3820	1950	1490	2.2	19	4540	7.4	6.5
144-056-12C8B	--	24	07-21-70	26	<.0	200	250	75	59	5.2	375	0	706	22	.1	13	60	1370	935	627	.8	12	1680	7.7	--
144-056-24C8C1	--	50	07-21-70	26	16000	580	278	77	19	5.1	382	0	673	30	.1	<.1	90	1330	1010	697	.3	4	1630	7.4	--
144-056-28DCD1	--	22	07-21-70	27	<.0	40	291	336	170	7.1	827	0	1390	120	.2	196	<.1	3090	2150	1430	1.6	15	3520	7.5	--
144-057-0388B	--	65	07-21-70	25	1300	70	458	327	114	10	430	0	2180	26	.2	9.4	270	3480	2490	2140	1.0	9	3500	7.5	7.0
144-057-21ADD2	--	80	07-20-70	25	<.0	860	255	49	213	13	437	0	866	19	.1	2.5	450	1630	837	478	3.2	35	2100	7.6	7.5
144-057-230DD1	51	32																							



LOCAL NUMBER	MAJOR J. ADUFER	DEPTH OF WELL	DATE SAMPLE	SOLID SILICA (MG/L)	SOLID IRON (MG/L)	SOLID MANGANESE (MG/L)	SOLID CALCIUM (MG/L)	SOLID SODIUM (MG/L)	SOLID POTASSIUM (MG/L)	SOLID CHLORIDE (MG/L)	SOLID SULFATE (MG/L)	SOLID CARBONATE (MG/L)	SOLID SILICATE (MG/L)	SOLID CHLORIDE (MG/L)	SOLID FLUORIDE (MG/L)	SOLID NITRATE (MG/L)	SOLID BORON (MG/L)	SOLID SILICATES (MG/L)	HARDNESS (MG/L)	HARDNESS (MG/L)	SODIUM AP-RATIO	PERCENT SODIUM	SPECTRO-CONDUCTIVITY (UMH/CM)	TEMPERATURE (DEG C)
145-038-11A11	51	204	08-14-71	29	530	30	21	2.4	152	6.0	395	0	72	39	0	4.0	300	540	49	7.5	10	650	8.2	
145-038-11A12	51	183	10-14-72	26	4600	480	159	4.0	480	6.0	787	0	787	29	0	2.0	380	1480	262	0	18	599	8.2	
145-038-24A08	51	40	08-04-71	26	100	60	422	107	944	2.8	392	0	2900	193	0	205	310	3200	642	0	44	2040	7.5	
145-038-24A09	51	42	07-11-71	26	100	700	84	21	7.4	2.8	392	0	16	0	0	0	360	1800	180	0	54	180	6.0	
145-038-28A08	51	122	08-24-72	26	100	410	70	20	1.8	2.8	392	0	19	0	0	1.0	140	300	238	0	13	473	8.1	
145-038-28A09	51	43	08-11-71	25	100	30	376	318	224	12.0	425	0	2150	50	0	106	740	3640	2240	0	18	3840	7.6	
145-038-28A10	51	11	08-14-71	26	2200	100	130	146	177	3.4	390	0	335	62	0	4.3	260	1300	514	0	47	1570	7.6	
145-038-28A11	51	32	08-14-71	26	480	180	130	29	29	5.0	395	0	359	0	0	2.8	2600	1300	814	0	7	150	7.0	
145-038-28A12	51	40	08-24-71	26	1300	105	105	27	151	8.0	612	0	144	37	0	2.4	210	817	372	0	34	1240	7.6	
145-038-28A13	51	103	11-05-70	25	1500	10	52	22	192	5.0	656	0	160	44	0	2.5	660	798	342	0	6	1240	7.9	
145-038-28A14	51	154	08-10-71	25	100	30	55	28	250	9.4	557	0	159	43	0	2.5	660	888	341	0	6	1400	7.9	
145-038-28A15	51	161	08-10-71	25	480	50	78	40	250	9.4	504	0	406	62	0	6.0	990	1170	599	0	60	1740	7.0	
145-038-28A16	51	163	10-29-70	23	1000	30	49	44	243	9.4	554	0	310	81	0	1.0	80	1010	303	0	63	1570	8.0	
145-038-28A17	51	161	08-01-71	23	31	70	118	11	1275	11	462	0	464	29	0	1.0	4600	3410	112	0	53	6100	7.8	
145-038-28A18	51	85	10-27-70	25	70	50	76	27	175	8.4	584	0	160	29	0	1.0	220	2140	778	0	51	2970	7.9	
145-038-28A19	51	71	08-12-71	26	1000	50	230	103	224	15	307	0	1090	115	0	4.9	800	1050	429	0	13	2970	7.6	
145-038-28A20	51	50	10-29-70	26	180	10	98	45	28	4.6	414	0	128	4.2	0	0	80	587	429	0	12	817	7.8	
145-038-28A21	51	55	08-24-72	19	740	450	104	140	50	18	443	0	129	30	0	1.0	240	1730	926	0	20	1010	7.2	
145-038-28A22	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A23	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A24	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A25	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A26	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A27	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A28	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A29	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A30	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A31	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A32	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A33	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A34	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A35	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A36	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A37	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A38	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A39	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A40	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A41	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A42	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A43	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A44	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A45	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A46	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A47	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A48	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A49	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A50	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A51	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A52	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A53	51	141	07-27-70	27	270	270	79	23	356	12	339	0	217	384	0	4.4	1300	1280	292	0	13	2220	7.8	
145-038-28A54	51	92	08-08-70	12	100	20	83	30	11	13	313	0	81	6.1	0	0	0	460	330	0	6	687	7.7	
145-038-28A55	51	18	08-24-70	21	100	190	40	46	20	4.6	270	0	129	5.6	0	1.4	200	1230	236	0	10	806	7.8	
145-038-28A56	51	40	07-14-65	19	40	40	152	40	72	8.0	393	0	341	20	0	1.3	250	942	542	0	22	1220	7.7	
145-038-28A57	51	141	07-27-																					



LOCAL NUMBER	MAJOR AQUIFER/	DEPTH OF WELL (FT.)	DATE OF SAMPLE	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED TMS-SIUM (MG/L)	BICARBONATE (MG/L)	CARBONATE (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED AMMONIUM (NH4) (MG/L)	DIS-SOLVED PHOSPHATE (P) (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICRO-MHDS)	PH (UNITS)	TEMPERATURE (DEG C)	
146-040-09CCC	51	228	05-02-72	26	2430	730	112	40	365	11	383	0	864	54	.1	1.0	570	1640	446	132	7.5	63	2320	8.1	7.0	
146-040-100DD	51	103	10-18-72	26	460	400	25	16	159	6.3	414	0	85	30	.4	1.0	990	1510	128	0	6.1	72	840	8.0	--	
146-040-14AAA	52	130	10-27-70	28	1700	440	84	101	266	8.8	474	0	608	120	.5	6.3	490	1490	624	235	4.6	48	2120	7.9	7.0	
146-040-16AAA	52	180	10-24-70	27	320	10	57	24	204	6.8	398	0	189	116	.2	5.5	30	821	240	0	5.7	64	1310	7.7	7.0	
146-040-17AB8	51	183	05-04-72	27	1600	170	97	29	152	7.2	481	0	146	34	.2	1.0	450	661	261	0	4.1	55	1070	8.2	6.0	
146-040-17ABC1	51	203	05-05-72	26	110	60	53	22	162	7.4	460	0	142	52	.2	1.0	290	670	221	0	4.7	60	1100	8.2	7.0	
146-040-17ABC2	51	202	05-05-72	27	480	30	55	27	195	7.5	471	0	148	41	.2	1.0	390	669	246	0	4.3	57	1080	8.2	7.0	
146-040-17ABC3	51	283	05-05-72	27	460	180	67	31	427	9.1	419	0	734	114	.2	1.0	430	1590	293	0	11	75	2340	8.1	7.0	
146-040-17ABC4	51	203	06-21-72	30	1700	100	53	23	187	7.4	471	0	141	39	.2	1.0	360	481	225	0	4.6	59	1090	7.9	7.0	
146-040-17ABC5	51	244	08-11-72	28	1400	90	52	23	182	8.9	462	0	182	71	.3	1.0	640	755	225	0	5.6	64	1200	7.6	7.0	
146-040-17ABC5	51	244	08-12-72	27	1600	80	52	24	194	8.2	463	0	198	72	.3	1.0	790	724	230	0	5.6	64	1220	7.6	--	
146-040-17ABC5	51	244	08-13-72	27	700	80	53	24	200	8.9	464	0	207	72	.3	1.0	820	744	231	0	5.7	64	1230	7.6	--	
146-040-17ABC5	51	244	08-14-72	28	1900	330	53	25	200	9.2	465	0	210	72	.3	1.0	710	683	222	0	5.7	64	1240	7.6	--	
146-040-17ABC5	51	244	08-14-72	27	1500	60	51	23	174	8.6	447	0	144	35	.3	1.0	750	758	234	0	5.1	62	1100	7.4	7.0	
146-040-17ABC5	51	244	08-15-72	27	160	900	53	37	195	6.8	447	0	214	74	.3	.5	320	809	286	0	5.0	59	1270	7.5	--	
146-040-220DD	--	15	06-17-71	23	<1	70	48	60	69	8.4	387	0	133	28	.4	21	100	576	367	50	1.6	28	896	8.0	5.0	
146-040-30AAD1	--	30	06-17-71	30	620	40	155	48	12	5.1	270	0	358	25	.4	1.0	170	792	585	363	4.2	4	1040	8.0	9.5	
146-040-33CCC	51	181	08-19-71	29	720	20	35	13	240	7.0	456	0	141	150	.4	5.1	530	887	140	0	9.5	79	1460	8.1	--	
146-040-34888	51	194	06-27-72	28	140	230	45	22	241	6.8	446	0	2310	140	.9	2.0	570	840	201	0	7.4	71	1380	8.0	6.5	
146-040-350AA	--	14	06-10-71	27	<1	270	83	27	37	3.3	314	0	104	19	.3	2.5	350	445	317	59	4.2	20	840	7.6	--	
146-040-36CCC	51	183	04-27-72	28	1380	320	42	13	213	4.6	373	0	119	144	.2	1.0	410	749	157	0	7.4	74	1270	7.8	6.0	
146-041-02DCC	52	193	10-22-70	23	200	10	41	20	121	5.8	375	0	123	19	.3	1.0	590	514	194	0	3.9	58	856	7.8	7.5	
146-041-06CC8	--	200	06-24-71	25	2500	70	25	11	910	12	605	0	51	1130	.8	<1	3000	2230	109	0	38	94	4450	7.9	10.0	
146-041-080DD	51	131	09-14-71	27	130	250	247	142	762	16	443	0	2310	140	.9	1.7	350	3930	1200	837	9.6	58	4790	7.8	6.0	
146-041-11CCD	51	204	04-21-72	27	140	1400	56	16	137	6.8	378	0	110	55	.4	1.0	110	560	204	0	4.2	68	900	7.6	7.0	
146-041-12CCC1	51	141	06-19-72	29	370	230	31	17	186	6.9	558	0	54	22	.4	.3	380	605	147	0	6.7	72	756	8.2	7.0	
146-041-12CCC2	51	590	09-20-71	30	120	260	65	22	343	13	607	0	285	151	.7	204	490	1200	253	0	9.4	73	1900	8.1	7.0	
146-041-12CCG2	51	590	04-18-72	28	940	940	62	19	339	13	607	0	268	146	.3	.3	570	1210	234	0	9.6	75	1910	8.0	--	
146-041-14BAB1	51	178	04-20-72	26	--	1700	49	18	272	8.3	448	0	198	145	.4	.2	360	930	195	0	8.5	74	1450	7.8	7.0	
146-041-14BAB2	51	214	04-20-72	27	2600	710	41	15	301	8.2	472	0	190	173	.3	1.0	320	936	165	0	10	79	1580	7.5	7.0	
146-041-15888	51	140	10-22-70	22	860	10	46	27	119	4.4	409	0	172	17	.2	2.5	690	619	274	0	3.1	48	985	8.0	7.0	
146-041-20DCC	--	90	06-17-71	30	<1	1300	123	47	53	6.4	486	0	134	61	.3	5.8	--	709	499	90	1.0	18	1100	7.7	7.5	
146-041-22BCC	51	150	10-22-70	23	30	10	52	44	213	8.7	373	0	391	64	.2	4.2	730	991	310	4	5.3	59	1500	7.9	7.0	
146-041-34888	52	163	10-27-70	25	440	20	63	26	232	9.1	609	0	239	37	.3	2.5	240	945	266	0	6.2	65	1440	7.8	7.0	
147-054-02CCD	0	595	05-05-70	3.2	3400	180	367	125	1000	46	191	0	1520	1350	1.8	6.6	2100	4740	1430	1270	12	59	6640	7.3	6.0	
147-054-05DAD	--	675	05-05-70	2.2	17000	210	392	133	1060	49	165	0	1580	1590	1.6	<1	1500	5110	1610	1470	11	58	7310	7.7	--	
147-054-29BCC	51	65	07-07-72	26	100	470	79	20	62	8.5	372	0	71	28	.2	.3	140	533	278	0	1.6	32	774	7.7	7.5	
147-054-29CCC	51	43	11-13-70	26	80	<1	76	25	28	7.1	317	0	68	15	.1	1.0	310	397	292	32	.7	17	644	7.7	6.5	
147-054-31AAB	51	75	06-30-72	26	40	450	88	23	53	7.5	344	0	133	20	.2	1.0	110	549	316	34	1.3	26	817	7.4	7.0	
147-054-31DAA	51	30	08-24-72	34	1100	30	368	168	142	230	836	0	948	184	.8	311	470	2690	1610	924	1.5	16	3510	7.5	8.0	
147-054-39CCC	--	45	07-23-70	27	820	30	245	77	17	9.7	379	0	480	50	.6	115	<1	1250	829	618	0	4.2	4	1700	7.6	7.5
147-055-11AAB	01	38	06-27-70	27	3000	430	374	167	234	19	492	0	1540	115	.4	<1	60	2940	1620	1220	2.5	24	3230	7.5	9.0	
147-055-11CCC	51	42	06-28-70	28	1100	230	93	28	45	5.4	429	0	84	6.4	.5	<1	150	490	349	0	1.0	22	879	7.8	6.0	
147-055-14DCC	51	41	11-13-70	26	2400	10	117	55	60	8.8	303	0	357	19	.1	2.5	240	832	518	269	1.1	20	1140	7.7	9.0	
147-056-05C88	--	36	07-23-70	26	100	20	210	110	68	8.4	413	0	448	94	.3	238	<1	1400	976	637	.9	13	2080	7.8	6.5	
147-056-06C88	--	24	07-23-70	30	<1	920	189	72	117	9.3	392	0	698	46	<1	25	90	1510	788	446	2.8	33	1920	7.7	8.0	
147-056-26D0D	51	38	10-31-70	25	5300	40	152	74	231	15	281	0	792	94	.1	1.8	310	1500	684	453	3.8	42	2100	7.8	6.5	
147-056-28C0D1	31	20	08-05-49	--	1200	--	112	84	<1	--	332	0	233	65	.2	4.3	--	--	625	353	--	0	--	7.9	--	
147-056-28C0C3	--	32	10-14-49	27	2800	70	166	59	102	8.1	395	0	517	23	.2	<1	<1	1120	656	332	1.7	25	1500	7.8		

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE OF SAMPLE	DIS-SOLVED SILICA (SI O2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (CO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED FRESHWATER (RESIDUE AT 180°C) (UG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SODIUM AD-SORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICROHMOS)	TEMPERATURE (°C)	
147-097-29000		120	07-23-70	26	200	120	260	88	16	5.6	434	0	499	40	2	196	<1	1340	1010	654	2	3	1880	7.7	
147-097-29000	P	18	07-23-70	25	<1	50	149	35	149	7.7	355	0	547	40	4	2.5	<1	1230	564	273	2.7	34	1630	7.7	
147-098-02028		33	06-23-71	25	300	40	193	77	452	17	625	0	928	320	1.0	311	<1	2930	800	0	10	63	4040	6.0	
147-098-36040		36	06-23-71	26	140	1900	112	29	144	8.5	405	0	335	35	1.1	2.5	210	937	397	65	3.2	44	1320	7.4	
147-060-01040		22	06-10-71	23	<1	70	238	99	207	27	668	0	600	118	3	164	280	1790	1000	452	2.8	30	2520	7.5	
147-060-07000		55	10-21-70	21	640	500	58	18	6.2	4.2	240	0	28	2.0	1	<1	240	244	219	23	2	6	415	8.0	
147-060-08040		32	04-18-71	26	<1	80	113	30	30	5.8	304	0	146	53	4	21	170	591	405	156	4	14	863	7.3	
147-060-08040		33	04-29-71	25	<1	20	133	43	15	4.9	377	0	156	80	5	2.5	210	678	508	240	3	6	1000	7.6	
147-060-09000		160	08-25-71	28	<1	1200	61	13	34	6.4	207	0	49	9.1	5	1.0	580	335	206	0	1.0	26	542	8.1	
147-060-26040		47	06-10-71	23	<1	40	271	249	366	12	528	0	1140	300	4	490	350	3260	1700	1270	3.8	32	4200	7.5	
147-060-31088		222	05-03-72	28	900	90	42	20	200	6.6	474	0	104	92	2	1.0	290	701	188	0	6.3	69	1180	8.2	
147-061-01000		240	08-25-71	29	1100	80	45	16	235	7.8	386	0	173	161	5	3.7	440	880	180	0	7.4	73	1400	8.1	
147-061-01000		240	09-14-71	32	<1	10	46	18	240	7.3	380	4	156	159	6	2.5	400	860	187	0	7.4	72	1410	8.3	
147-061-05888		203	11-10-70	29	80	890	111	29	130	13	437	0	309	6.2	2	1.1	590	836	396	38	2.8	41	1220	8.0	
147-061-22000		303	09-14-71	30	<1	10	15	6.2	241	5.3	407	0	159	64	6	2.0	400	729	63	0	13	88	1160	7.9	
147-061-24888		220	08-24-71	29	680	30	51	16	181	7.0	363	0	179	90	5	5.2	800	752	193	0	5.7	66	1190	8.1	
147-061-24888		193	09-20-71	31	<1	60	88	25	56	6.8	376	0	128	9.7	1	1.0	530	522	322	14	1.4	27	805	7.8	
147-061-26000		33	06-24-71	25	--	150	218	109	71	9.2	409	0	739	54	1	3	2.5	210	1590	995	680	1.0	13	1720	7.5
148-054-09000		200	09-19-56	--	800	--	71	26	210	13	438	24	324	54	1	7	6	1280	828	0	5	4	80	8.1	
148-054-17040		157	09-27-57	--	380	--	163	48	41	5.0	330	0	300	28	5	2	50	926	406	334	7	13	--	7.9	
148-055-18040		27	08-04-70	25	50	40	364	289	205	54	543	0	1160	430	6	445	70	3500	2100	1650	1.9	17	5070	7.7	
148-055-20000		730	06--43	10	220	290	385	160	1000	39	190	12	1900	1500	2.8	--	--	5190	1600	1398	11	57	--	8.3	
148-055-20000	D	730	06-18-69	7.4	4900	151	392	151	1020	--	203	0	1470	1510	2.2	1.1	--	4910	1600	1430	--	58	6850	7.7	
148-055-20000	O	730	08-24-71	7.2	31000	290	370	160	1000	142	190	0	1500	1500	2.0	3.7	--	2040	1400	1400	21	57	7250	7.2	
148-055-20000	51	40	09-29-67	26	1400	--	108	38	13	4.8	370	0	139	2.5	3	<1	40	515	426	123	3	6	776	7.8	
148-055-30000		56	06-27-70	27	1200	410	173	53	126	12	427	0	513	33	1	<1	110	1220	650	300	2.2	29	1570	7.6	
148-056-01000		26	07-22-70	26	<1	10	202	43	226	13	418	0	475	119	4	4.2	430	1570	683	340	3.8	41	2130	7.7	
148-056-05000		35	07-22-70	25	<1	490	163	100	121	4.6	446	0	519	101	1	56	330	1300	820	454	1.8	24	1790	7.6	
148-056-14000		23	07-25-70	29	<1	20	348	141	176	9.6	508	0	1150	101	<1	85	90	2250	1450	1030	2.0	21	2760	7.4	
148-056-18000		58	10-27-70	23	95000	40	354	468	492	17	377	0	3270	23	3	16	420	5240	2810	2500	4.0	27	5190	7.7	
148-056-19000		56	07-22-70	25	<1	270	224	74	446	12	444	0	988	165	1	156	980	1720	870	340	6.6	52	3080	7.6	
148-056-34000		45	07-22-70	24	100	270	216	134	61	3.7	422	0	831	12	4	2.7	110	1480	1090	744	8	11	1840	8.0	
148-057-03000		33	07-22-70	28	320	200	554	417	867	98	861	0	3060	409	2	592	<1	6470	3100	2390	6.8	37	7230	7.5	
148-057-08000		61	10-24-70	24	2100	310	117	113	34	7.5	319	0	513	19	2	1.0	140	1010	756	494	5	9	1360	7.6	
148-057-21000		64	09-25-70	27	240	30	317	121	49	5.1	455	0	280	481	1	59	<1	1760	1290	916	6	8	2650	7.7	
148-057-27000		86	09-20-67	--	2400	--	10	3.2	538	--	550	46	371	21	--	--	--	1770	41	0	38	97	--	--	
148-057-27000		120	07-22-70	26	<1	70	14	3.2	603	8.0	690	0	785	5.0	2	3	2700	1720	48	0	3.8	96	2560	8.0	
148-057-33800		90	07-22-70	26	<1	640	224	69	52	7.6	493	0	520	12	1	4.6	240	1160	842	410	4.8	12	1530	7.4	
148-057-34000		67	06-17-67	--	--	--	129	9.5	130	--	325	15	324	11	--	--	--	936	361	70	3.0	44	--	7.7	
148-057-39800		73	06-20-66	--	600	--	184	66	222	--	369	0	888	32	--	--	--	2240	688	420	3.6	40	--	--	
148-057-39800		71	06-20-66	--	1100	--	86	21	262	--	522	0	455	--	--	--	--	1130	302	0	6.6	65	--	--	
148-057-39800		112	07-12-66	--	8000	--	101	37	247	--	329	29	587	28	--	--	--	1100	385	86	5.2	57	--	8.2	
148-057-39800		112	08-07-66	--	800	--	101	32	242	--	329	29	587	28	--	--	--	1000	385	86	5.4	58	--	8.2	
148-058-03000		38	07-20-71	25	520	1700	263	83	147	11	352	0	901	49	3	4.8	310	1800	1000	711	2.0	24	2165	7.4	
148-058-13000		45	08-02-71	25	<1	10	107	44	54	6.3	332	0	276	5.5	4	1.0	270	737	477	175	1.1	20	1020	7.6	
148-058-26000		9	04-05-71	31	<1	630	44	33	44	3.6	317	0	52	19	9	9.9	140	333	244	0	1.2	28	611	7.8	
148-058-26000		5	08-14-66	--	600	--	49	25	11	--	218	0	328	--	--	--	--	843	259	96	1.3	8	--	--	
148-058-26000		3	04-15-71	23	<1	10	90	36	49	3.9	310	0	213	8.4	6	11	140	562	372	116	1.1	22	851	7.7	
148-058-33000		32	06-23-71	22	260	150	420	153	1700	30	633	0	4060	342	9	309	380	7760	1680	1160	18	68	8250	7.6	
148-059-13800		163	11-10-70	26	--	620	79	18	48	8.0	322	0	84	14	2	2.5	30	449	273	9	1.3	27	687	8.0	
148-059-26000		163	07-27-71	27	<1	10	98	26	93	5.8	375	0	197	23	6	2.5	310	637	353	45	2.1	36	983	7.9	
148-059-26000		143	07-28-71	26	240	230	52	15	44	6.4	316	0													