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HYDROGEOLOGY OF THE AMAX PROPERTY
IN
WOOD COUNTY, W. VIRGINIA

HYDROGEOLOGY OF THE AMAX PROPERTY IN
WOOD COUNTY, WEST VIRGINIA

by

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INTRODUCTION

To ensure against groundwater contamination by the disposed materials at the AMAX property in Wood County, West Virginia, it is necessary to accomplish two objectives. These objectives are: 1) demonstrate that the wastes will not come into contact with a zone of saturation underlying the site, and 2) cover the wastes with a material with a permeability sufficiently low that water is prevented from infiltrating them, saturating them and subsequently moving downward toward the water table beneath.

To achieve the first objective, it is necessary to determine the location of the permanent groundwater table beneath the proposed waste disposal site and to ascertain the absence of low permeability hydrostratigraphic units beneath the site that could cause perched saturated zones to form above them and above the permanent water table during the periods of high runoff and infiltration. Such perched saturated mounds, if they exist, are known to dissipate laterally and can cause saturation of wastes located above the perching hydrostratigraphic unit even if infiltration from directly above the waste is prevented by a low permeability cover. The occurrence of this phenomenon has been demonstrated and studied at the DOE disposal site in Idaho for example, but it was not found to occur in the study area, as will be described subsequently.

The field investigation at the AMAX Wood County site utilized state of the art drilling methods, sampling procedures, and borehole geophysical logging to define the hydrostratigraphy at the site. In addition, a backhoe was employed to excavate several pits on the property. These pits extended to depths of 11 to 12 feet. The materials in the walls of the pits were investigated according to the procedures described in the soils report for the site by Woodward-Clyde Consultants (August 1980).

The results of the investigation of the backhoe pits indicate that a layer of clayey silt of thickness ranging from 1 to 10 feet covers most of the surface of the area adjacent to and in some locations beneath the proposed waste disposal site.

The borehole geophysical logging data and the samples from the two boreholes drilled at the site in combination indicated that the aforementioned surficial fine grained layer is underlain to bedrock by a section of fine sand to coarse gravel. Bedrock at the site is approximately 100 feet below ground surface. The groundwater table at the site ranges between 50 and 55 feet below ground surface. No perched saturated zones exist above the water table and there are no fine grained (clay or silt) hydrostratigraphic units which could be expected to act as perching horizons. This observation is substantiated in subsequent discussions of the borehole geophysical logging program and of the collection of field data.

One can conclude, therefore, that a disposal cell located in the upper 20 feet of the unsaturated section and covered by a low permeability clay cap would not encounter saturated conditions. The lowermost portion of the wastes would lie at least 30 feet above the regional water table. The implications of this conclusion in the context of the design of the proposed disposal facility at the site are discussed in this report.

DESCRIPTION OF BACKHOE PIT NEAR MONITOR WELL NO. 1

A backhoe pit 11 feet in depth was excavated 60 feet east of Monitor Well No. 1*. One of its purposes was to provide information on the upper 10 feet of material present at the site because of the difficulties encountered in obtaining drillhole information at this shallow depth. The pit was logged as follows:

<u>Depth in Feet</u>	<u>Material Classification</u>
0.0-0.5	man-made fill
0.5-3.0	clay, very silty and sandy (CL-ML)
3.0-11.0	gravel, very sandy, slightly silty (GP-GM)

* For maps showing locations see: "Stabilization Plan, Wood County, West Virginia," by AMAX Environmental Services, Inc., Sept. 1980.

DESCRIPTION OF BACKHOE PIT NEAR MONITOR WELL NO. 2

A backhoe pit 12 feet in depth was excavated 60 feet northwest of Monitor Well No. 2. The purpose of the pit was to obtain more precise data on the upper 12 feet of the materials in the vicinity of Monitor Well No. 2. The upper portion of a section near Monitor Well No. 2 was known to be fine grained and, based on experience at Monitor Well No. 1, it was anticipated that difficulty would be encountered in recovering samples from the drill hole while this material was being penetrated. The backhoe pit was intended to remove this data gap. The backhoe pit revealed that the material in the vicinity of Monitor Well No. 2 consists of two feet of man-made fill (sand and gravel with some silt and clay) overlying one foot of a buried topsoil horizon. The bottom of the topsoil lies at a depth of three feet. Some of it has been reworked. Between the depths of three and eight feet, a clayey silt or silty clay exists. Between 8 and 9.5 feet this silty clay or clayey silt material grades into a fine grained sand. The bottom of the hole at a depth of 12 feet encountered a clean fine to medium grained sand. As indicated in the section of this report that discusses borehole geophysical logging, the material between the bottom of the backhoe pit and bedrock surface of 96.5 feet consists of sand and gravel with no evidence of silt or clay lenses.

In summary, the backhoe pit in the vicinity of Monitor Well No. 2 indicates that the wastes located east of the well could penetrate or extend into the fine grained surficial material described above, and bottom in the unsaturated fine to medium sand underlying the clayey silt or in the fine grained surficial material of approximately six feet in thickness.

TEST HOLE DRILLING PROCEDURES

Two test holes were drilled at the AMAX Wood County site. The holes were multi-purpose. The primary purpose of drilling was to delineate the hydrostratigraphy beneath and adjacent to the proposed stabilization area. More specifically, the holes were designed to determine whether any fine grained strata occur within the coarser grained sand and gravel stream terrace deposits known to exist at the site. The investigators anticipated that obtaining samples of the sand and gravel terrace deposits from a borehole would be difficult. Coarse gravels are known to plug split spoon samplers, thereby precluding the entry of fine grained material into the sampler. This characteristic of gravel deposits presents difficulty in obtaining undisturbed in situ samples. The investigators proved to be correct. To overcome this limitation and still obtain a continuous hydrostratigraphic record from the boreholes, a decision was made to design the drilling program to accommodate borehole geophysical logging probes. Borehole geophysical logging probes provide optimal results when lowered and raised in an open hole (uncased hole). These conditions were achieved by drilling the holes at the Wood County site with an eight-inch mud rotary bit. This drilling procedure permits a bentonite slurry to be pumped down the inside of the drill stem and exit at the bit. The mud is flushed back up the hole alongside the bit. The flowing mud carries the drill cuttings upward and out of the hole. The cuttings are then deposited in a settling pit built into the mud pumping circuit at the surface of the ground. When drilling is complete, pumping of the mud continues until all cuttings have been removed from the hole. The hole is then left full of mud with a specific gravity sufficiently high to prevent the walls of the hole from caving. This procedure allows the borehole geophysical probes to be lowered and raised in the hole through the mud. In the case of the Wood County site, the two holes were drilled to bedrock. Subsequently a neutron log, a density

log (gamma gamma), a three-arm averaging caliper log, and a natural gamma log were run in the two test holes. These logs in combination facilitate the identification of hydrostratigraphic variations as small as one-foot thick at the site. The interpretation of the hydrostratigraphy at the site, based on the borehole geophysical log characteristics, is presented in subsequent sections of this report.

In an effort to obtain physical samples of the hydrogeologic material encountered during sampling, split spoon sampling tubes were lowered periodically through the drill stem pipe via small diameter rods. The outside diameter of the split spoon sampler was two inches. The inside diameter of the sampler was 1.5 inches. These dimensions proved to produce only limited samples because the gravels present at the site tended to plug the sampler and prevent the entry of fine material into it. None of the efforts to obtain such samples in Monitor Well 1 proved successful. However, in Monitor Well 2, five split spoon samples of limited volume were obtained. These samples are believed to be reasonably representative of the material present at the site. A portion of them was used to determine distribution coefficient values for thorium, as will be discussed in a subsequent addendum to this report.

Grab samples of drill cuttings also were collected from the drilling fluid as it emanated from the drill hole and entered the drilling mud settling pit. These samples were collected at three-foot intervals in Monitor Well 1 and periodically in Monitor Well 2. This drilling and sampling procedure provides grab samples that are not directly representative of the hydrostratigraphy at the site. Only material with a grain size distribution coarser than coarse sand can be separated from the drilling mud. The fine and medium sand settles in the mud settling pit, and although it can be observed as it enters the pit, it is impossible to separate it cleanly from the mud. Therefore, to interpret the hydrostratigraphy from the drill

holes, it is essential to interpret the geophysical logs jointly with the grab samples and the samples obtained with the split spoon sampler. This procedure has been followed in the subsequent sections on borehole geophysical log interpretation. In combination, these three data sources yield reliable results with respect to the interpretation of the hydrostratigraphy at the site.

The secondary objective of the drilling program was to provide access to ground water beneath and adjacent to the proposed waste disposal site. The two holes were drilled to bedrock. Monitor Well No. 1 was drilled to a depth of 99 feet 10 inches (referred to hereinafter as 100 feet) and Monitor Well No. 2 was drilled to a depth of 96 feet 6 inches (referred to hereinafter as 96.5 feet). After the borehole geophysical logging probes were lowered and raised through the mud in the drill hole, a four-inch outside diameter PVC schedule 80 pipe was lowered through the mud in the hole and bottomed on bedrock. The lower 20 feet of the tube was slotted to allow exit and entry of water. The drilling mud was then removed from the hole by pumping water down the inside of the tube and allowing it to exit through the slotted portion of the tube and to flow up out of the hole alongside the tube. This procedure was continued until the drilling mud was removed from the hole. Monitor Wells 1 and 2 were then finished according to the diagrams presented in Figures 1 and 2. The well finishing procedures consisted of the installation of a gravel pack at the bottom of the well around the slotted portion of the PVC casing. This gravel pack was covered with approximately five feet of sand. Approximately 20 feet of cement grout was then tremied (pumped) into the hole outside the casing on top of the sand. This provided a seal that extended from below the water table to above the water table in each of the two wells. Native clayey silt or silty clay was then used to backfill the holes to a depth approximately 20 feet below ground surface. Powdered bentonite was then poured into the hole to a depth of six feet. It was

possible to use dry bentonite for this upper seal because the holes were dry at these depths. A six-foot thick seal of cement grout was then installed to ground surface on top of the bentonite. The purpose of the detailed sealing procedure is to assure that no water originating at the ground surface is allowed to move down the pipes and into the saturated zone at the bottom of the piezometers and alter the characteristics of the groundwater.

Subsequently a 0.33 horsepower submersible pump was installed in each well and allowed to remain in place. These pumps were wired for connection to a portable generator so that a long-term monitoring program can be implemented after the waste stabilization plan has been completed.

GEOPHYSICAL LOG CORRELATIONS - MONITOR WELL 1 (MW-1)
AMAX-WOOD COUNTY, WEST VIRGINIA

Monitoring Well 1 was drilled on the AMAX Wood County site on June 24 and 25, 1980, to a depth of 100 feet where it contacted bedrock. Four geophysical logs were run in this test hole to a maximum depth of 96.5 feet. The four logs included in this geophysical suite were the natural gamma, neutron epithermal neutron, gamma gamma and the caliper logs. The logs were run on June 26, 1980. Grab samples were retrieved from the test hole during drilling and were correlated with geophysical logs.

The four geophysical logs facilitated an assessment of variations in porosity and density of the subsurface materials. Interpretations with respect to varying grain size distribution within the borehole were made on the basis of these logs. Three radiation logs were run; they were the natural gamma log, the neutron epithermal neutron, and the gamma gamma density logs. The natural gamma log measures the natural radioactivity of the subsurface material. It is indicative of silt and clay lenses or radioactive contamination at a site. In the case of Monitor Well 1, the natural gamma tool recorded very low count rates within the subsurface materials with a small increase within the top 7 feet of materials. This increase is indicative of a finer grained matrix (Fig. 3). Otherwise, the gamma ray log showed clean sands and gravels throughout the borehole. The neutron epithermal neutron tool and gamma gamma tools were used to assess variation in subsurface porosity and density. Both of these tools are affected by changes in borehole diameter and rugosity (nonuniformity) so a caliper log was run in conjunction with them. The caliper log (Fig. 4) indicates that caving occurred within the top 30 feet of the borehole. This caving affects the neutron epithermal neutron and gamma gamma log responses. A large volume of drilling mud also was lost in this

upper 30-foot section during completion. Below the 30-foot zone, the neutron epithermal neutron log indicates a small variation in porosity which is a function of varying percentages of sands and gravels within the borehole (Fig. 3). The neutron epithermal neutron log was run on an expanded scale to emphasize the porosity range (between 20 and 30 percent) which is within the range of sands and gravels. If any clay or silt lenses had occurred within the lower 70 feet of the borehole the neutron log would have extended to the left, indicating substantial increases in porosity associated with finer grained hydrostratigraphic units. The gamma gamma log is a density indicator that is calibrated in grams per cubic centimeter. The density log below a depth of 30 feet is consistent at approximately 2 grams per cubic centimeter. This value reflects coarse grained sediments (Fig. 5). Correlations among the geophysical logs run and the borehole samples are included in Table 1.

GEOPHYSICAL LOG CORRELATIONS - MONITOR WELL 2 (MW-2)

Monitor Well 2 was drilled on the AMAX Wood County site on June 26 and 27, 1980, to a depth of 96.5 feet where it contacted bedrock. Four geophysical logs were run in this hole on June 27th by Snyder Drilling Services of Greyville, Illinois. The four logs run were the same as those selected for Monitor Well 1 as described previously.

Cuttings from Monitor Well 2 were sampled via grab samples, and the split spoon samples were taken from within the drill stem. Some difficulties were experienced in obtaining split spoon samples because of the coarseness of material encountered. In general, the drilling, logging, and sampling indicated that the section was composed of sands and gravels to bedrock with the exception of approximately 12 feet of fine-grained silty material at the surface (Figs. 6, 7 and 8).

Monitor Well 2 was drilled with mud rotary bit and logged through the mud suspension with three radiation sondes and a caliper tool. Table 2 provides a detailed interpretation of the subsurface hydrostratigraphy utilizing the geophysical logs and return samples.

Geophysical Logging Summary

Logging results at both MW-1 and MW-2 indicate that the hydrostratigraphic section under the AMAX Wood County site is composed entirely of sands and gravels to bedrock. Some fine grained silty-clay material is present at the surface as evidenced by the higher natural gamma counts (Figs. 3 and 6) but does not extend below a depth of 10 feet. Some variation in grain size occurs within the sand and gravel section as shown by

the geophysical logs. This variation ranges between coarse gravel to sand as a function of the river's dynamic Paleodepositional characteristics.

Figure 9 depicts a hydrostratigraphic correlation between MW-1 and MW-2 utilizing the natural gamma logs from each hole. This cross section extends approximately from east to west on the site and indicates the consistency of the section underlying the area.

A computer printout from numerical log calibrations is presented in Appendix A. These calibrations are presented on a 0.1-foot basis and indicate the minute variations in porosity in the section. The lithology column on the left provides a marker description for the numerical calibrations which is consistently either "clean sand" or "shaley sand" for the entire sections of both MW-1 or MW-2.

DESCRIPTION OF GENERAL HYDROGEOLOGIC ENVIRONMENT

The field data described previously in combination with data available from other drilling projects can be used to interpret the hydrogeologic environment at the AMAX property near Parkersburg, West Virginia. This information is pertinent to the decision-making process regarding the final disposal of contaminated solid wastes located on selected portions of the AMAX property. The additional information is derived in essence from three reports. These are:

1. A report by the West Virginia Geologic Survey entitled "Groundwater Conditions Along the Ohio Valley at Parkersburg, West Virginia," by Russel M. Jeffords, Bulletin No. 10, dated 1945.
2. Records of test holes taken from a report entitled "Report on Ground Water Investigation at New Plant Site of the Carborundum Metal Company, Inc., Near Parkersburg, West Virginia." The report is dated July 20, 1956. The author is E. J. Schaefer.
3. A report entitled "Subsurface Investigation, L. B. Foster Pipe Foundation Plant." This report was prepared for the L. B. Foster Company by Ohio Valley Testing Laboratory, Inc. It is dated March 1977.

On the basis of information presented in reference 1, above, the hydrogeologic environment at the Washington Bottom site is entirely within the unglaciated portion of the Allegheny Plateau physiographic provinces.

The locations of the test holes mentioned in items 2 and 3 above are shown on Plate 1. The locations are near the road extending along the northeast boundary of the property and the

railroad track trending northeast-southwest on the property. The driller's logs of test wells 1 and 2 (TW-1 and TW-2) are shown in Table 3. Table 4, A, B, C and D present the driller's logs of the four additional wells located on Plate 1. As indicated by the aforementioned logs, the site is located on or in an upper clay extending from a few feet to as much as 10 feet below the surface. The underlying sand and gravel ranges in thickness up to 99 feet to bedrock. The thicker sand and gravel deposits underlie the higher terraces. The hydrostratigraphic section beneath the proposed control cell consists of 90 to 100 feet of variable sand and gravel overlying bedrock. The water table is at a depth of 50 to 55 feet depending on topographic relief. There are no low permeability layers beneath the site that would cause perched saturated groundwater mounds to form during groundwater recharge events.

The general features of the hydrostratigraphic section are as follows. The section consists of silt, clay silt, silty sands and gravelly sands. The clayey silty materials occur primarily near the top of the section, and the sands and gravels occur lower in the section above bedrock. The water ranges in depth from 50 to 55 feet below ground surface, depending on relief. The permeability of most of the hydrostratigraphic section based on grain-size distribution graphs (Figure 11, D_{10} sizes and uniformity coefficients) can be expected to be high to very high. Well yields support this information and can be expected to be in the order of 100 gallons per minute or greater.

The zirconium sponge plant was located near the east edge of the highest of the aforementioned terraces within several hundred feet of the east bedrock wall of the river valley. In this area, the previously described data indicate that the thickness of the alluvium is in the order of 100 feet. The alluvium thins toward the west (toward the river).

TABLE 3

Driller's logs of two test wells shown in Plate 1

Driller's Log of Test Well 1 (TW-1 on Plate 1)

Depth (feet)

<u>From</u>	<u>To</u>	<u>Materials encountered in drilling</u>
0	8	clay
8	35	dirty gravel
35	45	sand, fine
45	67	sand and little gravel
67	85	sand and gravel
85	98	sand and gravel, cleaner
98		sandstone rock

Driller's Log of Test Well 2 (TW-2 on Plate 1)

Depth (feet)

<u>From</u>	<u>To</u>	<u>Materials encountered in drilling</u>
0	10	clay
10	20	dirty gravel
20	30	sand, fine
30	50	sand, little gravel
50	60	sand and gravel
60	70	sand, little gravel
70	85	sand and gravel
85	99	sand and gravel, clean
99		sandstone rock

TABLE 1 - GEOPHYSICAL LOG INTERPRETATIONS AND CORRELATION WITH
AVAILABLE SAMPLES - MW - 1

DEPTH INTERVAL (FT.)	GEOPHYSICAL LOG DESCRIPTION	SAMPLE DESCRIPTION
0 - 3	The natural gamma log in this borehole indicates a maximum response between 65 and 80 counts per second. This is indicative of a silt zone, possibly with some clay. The caliper log indicates a hole diameter increasing from 10.5 to 14.5 inches. This is a result of the jetting effect from the drill bit in these finer grain sediments.	No samples were taken from the test hole but visual examination of materials was available from a geotechnical test pit located 60 feet east of the test hole (see text for description of pit).
3 - 6	The natural gamma log indicates coarsening of the section into the silt-fine sand range as the count rates decrease. The porosity log indicates increasing porosity, partially because of the fine-grained nature of the sample and the amount of washout in the borehole. The caliper log registers a borehole diameter of 11 to 13 inches. The density log is increasing in density but its response is affected strongly by the irregularity in the size of this borehole.	A grab sample was taken at a depth of 6 feet which showed rounded to subrounded coarse gravel in a silt matrix.
6 - 9	The natural gamma log indicates that the section is grading into a clean gravel and sand with a very low natural radioactive response of approximately 40 counts per second. The neutron log indicates a high porosity because of the presence of a large washout in this zone. The caliper log shows a hole diameter varying from 12 to 19 inches which would be indicative of relatively coarse grained materials that were easily washed out	A grab sample was taken from a depth of 9 feet indicating very coarse sand, subrounded gravel and some large "gravels".

TABLE 1 - cont'd

6 - 9 (cont'd)	of the borehole during drilling despite the thick drilling mud used during the hole construction. The density log shows a very low reading in this zone because the tool was primarily reading mud density and not formation density.	
9 - 12	Hole diameters vary from a maximum of 10.5 inches to 18.1 inches which causes the neutron log to indicate a very high porosity in this zone because the tool is measuring borehole rugosity and not voids in the subsurface matrix. The gamma gamma log is still measuring a very low density for the same reason.	A grab sample was taken at about 12 feet which was composed of rounded coarse sands.
12 - 15	The gamma ray log indicates a clean sand and gravel environment while the neutron log shows a decrease in porosity associated with a change in borehole diameter. The caliper log indicates that the borehole diameter varies between 10.6 and 13.8 inches in this interval. The density log is very erratic because of this hole diameter effect.	A grab sample at 15 feet indicates very coarse rounded gravels.
15 - 18	Clean sands and gravels are indicated on the natural log while the neutron log indicates an increase in porosity due to an increase in diameter of the borehole. The caliper log shows a hole diameter varying from 20.9 to 10.2 inches and increasing to 14 inches. This causes a very erratic density log.	A grab sample was composed of medium gravel at 18 feet.
18 - 21	All coarse material is indicated by the natural gamma log while high porosities are still indicated by the neutron log because of large diameter fluctuations as indicated by the caliper log and gamma gamma logs. A large amount of drilling fluid was lost in this interval of the test hole during drilling.	A grab sample at 21 feet collected fine gravels and coarse sands at this zone.

TABLE 1 - cont'd

21 - 24	Very slight increases in the natural gamma log counts indicate somewhat finer materials in this interval of the borehole. The caliper log indicates that the hole diameter changes from 13.8 to 9.6 inches while the density log measures an increasing density in this area. This density response is a result of the decrease in diameter of the borehole which allows the gamma gamma tool to measure borehole densities instead of mud densities. The neutron log indicates a decrease in porosity which is also indicative of the decrease in hole diameter.	A sample of coarse sand with some gravel was taken at a depth of 24 feet.
24 - 27	The natural gamma log indicates clean sands grading to gravels while the porosity log shows a decrease in porosity. The gamma gamma density log shows varying densities between 2.01 and 2.25 grams per cc while the caliper log shows a changing diameter from 9.3 to 10.8 inches. The caliper log accounts for the varying density responses in this interval.	A grab sample at 27 feet shows coarse sands with rounded gravels.
27 - 30	The natural gamma log indicates clean coarse-grained materials in the gravel range while the neutron log shows an increase in porosity. The density log shows a decrease in density and the caliper log indicates an increase in hole diameter to between 10.2 and 11 inches.	Gravels with some coarse sand were collected in the 30-foot grab sample.
30 - 33	The natural gamma log indicates a decrease in grain size; the neutron log shows a decrease in porosity into the range of coarse sands. The density log indicates an increase in density to about 2.11 grams per cc while the caliper log indicates a decrease in borehole diameter from 10.9 to 8.2 inches. Below a depth of 33 feet, the borehole diameter is much more consistent and does not cause the neutron log to fluctuate as much as it does above the 33-foot zone.	A grab sample at 33 feet indicates mostly coarse sand with a few gravels.

TABLE 1 - cont'd

33 - 36	Clean coarse gravels are indicated by the natural gamma log while the constant porosity is indicated on the neutron log. The caliper log shows a hole diameter of between 7.9 and 8.9 inches while the density log is relatively consistent at about 2.1 grams per cc within a range of 0.1.	The grab sample at 36 feet indicates gravels with a very coarse sand matrix with a few small cobbles included in the sample.
36 - 39	The natural gamma log indicates clean sands and gravels while the neutron log shows a continual decline in porosity. The caliper log is relatively steady at 8.2 inches in diameter and the density is consistent for sands and gravels at approximately 2.05 grams per cc.	A grab sample at 39 feet collected gravels and coarse sands.
39 - 42	The natural gamma log indicates a coarsening and/or fining of the subsurface materials. The porosity log indicates an increasing porosity trend near the 42-foot zone, while the density begins to decrease to approximately 1.99 grams per cc. The caliper log in this zone is steady at about 8.1 inches in diameter.	A grab sample collected at 42 feet indicates coarse gravels and a coarse sand matrix with rounded sandstone and quartz gravels.
42 - 45	The natural gamma log indicates clean gravels and sands in this zone while the porosity log shows an increasing, then decreasing porosity in the range of 2 or 3 percent. The caliper log shows a relatively steady hole diameter of 8.5 inches while the gamma density log indicates a decreasing, then increasing density. This trend correlates with the increasing and decreasing porosity.	A grab sample taken at 45 feet shows coarse gravels and coarse sand matrix.
45 - 48	The natural gamma log indicates clean sands and gravels with a predominance of sands or fine gravels in this zone. The neutron porosity log shows an increasing porosity associated with a fining of subsurface materials while the density increases to approximately 2.18 grams per cc. The caliper	The grab sample taken at 48 feet indicates gravels and coarse sand.

TABLE 1 - cont'd

45 - 48 (cont'd)	log shows a small variability in hole diameter from 7.7 to 8.2 inches at this depth interval.	
48 - 51	The natural gamma log shows clean sands at this interval while the porosity log is relatively consistent and the density decreases to a value of 1.90 grams per cc. The hole diameter for this zone ranges from 7.7 to 8.1 inches.	Coarse sands with very few gravels were encountered in the grab sample at 51 feet.
51 - 54	The natural gamma log indicates coarsening of materials with no fine grain matrix while the density log indicates density increasing to approximately 2 grams per cc. The caliper log shows a decrease in hole diameter to 7.8 inches. The bit size for this hole is 7.4 inches. Because there are no clay or silt lenses in the borehole which could swell and pinch the borehole, hole diameters less than the bit size must be a function of mud-cake build-up. This occurs several times in the two test holes.	A grab sample taken at 54 feet is composed of 50 percent gravel and 50 percent coarse sand. This is consistent with the representation of an increasing grain size shown by the natural gamma log.
54 - 57	The caliper log indicates some hole squeeze (diameter less than drilled diameter) in this zone due to mud-cake build-up. The natural gamma log indicates a clean environment composed of gravels while the neutron epithermal neutron log indicates a porosity change of 3 or 4 percent in the interval from 54 to 57 feet. The gamma gamma log measures a somewhat consistent density between 1.97 and 2.13 grams per cc.	The grab sample taken at 57 feet was composed of coarse sand and gravel but the sample was hard to obtain and may have been a composite because of the necessity of fluid jetting in order to bring the samples to the surface. Mud circulation also was lost temporarily in this zone due to increased permeability.
57 - 60	The natural gamma log indicates a decrease in grain size from gravels to a predominance of sand. The caliper log measures a hole diameter varying from 6.7 to 8.2 inches which is again a function of mud-cake thickness. The gamma gamma log indicates that density averages about 2.1 grams per cc while the	A sample taken in this zone consists of coarse sand and gravel. It is also in this zone that the driller began thinning the drilling mud because of less circulation loss due to finer-grained materials encountered near the 60-foot zone.

TABLE 1 - cont'd

57 - 60 (cont'd)	neutron epithermal neutron log shows an increase in porosity to a maximum of about 33 percent at the 60-foot level.	
60 - 63	The natural gamma log indicates a relatively large homogeneous section of fine-grained sediments primarily in the range of coarse sand. The caliper log indicates a mud-cake build-up of approximately 1 inch on the sides of the borehole where a relatively constant diameter of 6.8 inches was measured. The density approaches a relatively consistent value of 2.15 grams per cc while the neutron epithermal neutron log shows a decrease in porosity.	The sample taken at 63 feet indicates relatively homogeneous coarse sand in this zone. Sample descriptions for the next 6 feet indicate consistency of this homogeneous sand horizon.
63 - 66	The natural gamma log indicates a very consistent clean sand horizon while the porosity log is steady at about 27 percent and the density log is consistent at 2.16 grams per cc. The caliper log depicts the original hole size with about 0.5 inches of mud-cake build-up on the sides.	A grab sample taken at 66 feet consists of homogeneous coarse sands with no gravels or fine-grained materials present. It must be remembered that the sampling procedure utilized a coarse screen which only collected samples of coarse sand-size or larger. The geophysical log did not indicate the presence of any materials smaller than coarse sand in this horizon so it is felt that the grab sample probably is representative.
66 - 69	The natural gamma log indicates that the subsurface is composed of primarily coarse sand though coarsening with depth. The neutron epithermal neutron log indicates a slight (2 percent) increase in porosity while the gamma log shows density decreasing by approximately 0.08 gram per cc. The caliper log indicates hole diameter consistency with a small amount of mud-cake build-up. No breakouts have been experienced in the lower part of this hole, particularly in the sand sequences as compared to the coarse gravel sequences.	The grab sample taken at 69 feet indicates relatively homogeneous coarse sand.

TABLE 1 - cont'd

69 - 72

The natural gamma log indicates a coarsening of the sand or the presence of some fine gravels in the next horizon. The neutron (porosity) log depicts the thin 1-foot interval of decreased porosity by only a 2 percent change. The gamma gamma log is consistent with the neutron log in that it indicates a 1-foot thick zone of decreased density of 0.03 of a gram per cc. The caliper log measures a relatively clean borehole environment of approximately 7.8 inches in diameter. This is consistent with the bit size.

A grab sample taken at 72 feet indicates the presence of coarse sand which has been coarsening since 69 feet.

72 - 75

The natural gamma log is measuring the responses of coarse sand with some gravels which decreases the natural gamma response. The neutron epithermal neutron log shows a decrease in porosity by about 2 percent while the gamma density log is measuring an average density value of 2.15 grams per cc. The caliper log shows a constant hole diameter slightly larger than the drill bit size.

A grab sample taken at 75 feet indicates that subsurface materials consist of coarse sand and gravels.

75 - 78

The natural gamma log indicates coarse sands intermixed with fine gravels as the depth increases. The neutron epithermal neutron log shows a small increase in porosity while the density log is consistent in response to the previous horizon. The caliper log is measuring a true hole diameter of approximately 7.7 inches. No mud build-up is occurring in this zone of the hole.

Grab samples at 78-foot intervals indicate coarse sand and fine gravel at this section.

78 - 81

The natural gamma log indicates coarse sands and gravels with an increased percentage of gravels toward the 81-foot zone. The neutron epithermal neutron log is showing a decrease in porosity while the density log shows an increase in density of approximately 0.2 grams

A sample taken at 81 feet indicates coarse sand and fine gravel present in the borehole. The drilling mud at this point is very thin and it is doubtful that many coarse gravels could be brought to the surface for collection by the drilling mud at this horizon. Consequently, the grab sample may not be representative of the 81-foot horizon.

TABLE 1 - cont'd

78 - 81
(cont'd)

per cc. The caliper log indicates a decrease in hole diameter of approximately 0.4 inches which brings it true to original bore diameter.

81 - 84

The natural gamma log shows the increase in grain-size fraction in this horizon probably to a medium gravel with some coarse sand matrix. The porosity log measures a slight increase in porosity while the gamma density log is somewhat consistent at about 2.15 grams per cc. The caliper log shows the hole increasing in size to the standard bit size of 7.5 inches. This probably is due to the presence of coarser-grained materials which would allow the mud-cake to be absorbed into the formation rather than building up on the outside of the walls.

The grab sample taken at 84 feet indicates coarse sand and fine gravels. Again, the sampling procedure must be considered when determining whether this is a representative sample of subsurface materials.

84 - 87

The natural gamma log indicates that grain sizes are decreasing to coarse sand and possibly some fine gravels in this horizon. The neutron epithermal neutron log indicates a decrease in porosity to approximately 25 percent while the gamma density log varies between 2.15 and 2.00 grams per cc. The caliper log shows approximately 1 inch of mud-cake build-up on the borehole for the next 6 feet of the hole.

The grab sample taken at 87 feet collected coarse sand and fine gravels at this interval.

87 - 90

The natural gamma log is showing an increase in grain-size between 87 and 89 feet. No more natural gamma log is available in this hole because of the tool configuration which placed the natural gamma sensing head above the neutron epithermal neutron tool which was run simultaneously in the hole. Consequently, approximately 5 feet of the lower portion of this borehole are not monitored by the natural gamma probe. At the 87 to 90 foot interval, the neutron epithermal neutron log indicates a

The sample at 90 feet consisted of rounded gravels and coarse sands.

TABLE 1 - cont'd

87 - 90
(cont'd)

relatively consistent porosity of approximately 25 percent. The gamma density log has decreased by approximately 0.08 gram per cc in the last 3-foot interval while the caliper log is showing a mud-cake build-up on the borehole wall. It is probable that the hole diameter in the lower portion of this borehole is true to bore and that the decrease in diameter indicate the presence of mud-cake build-up on the sides.

90 - 93

There is no natural gamma log available for this interval as described previously. The neutron epithermal neutron log is measuring an increase in porosity which has been consistent with sand-size fractions in other portions of the hole. The gamma density log indicates variability in subsurface densities of approximately .2 grams per cc. The caliper log indicates that the hole diameter is varying by approximately 2 inches in size from mud-cake build-up and borehole rugosity.

The sample retrieved in this interval consisted of coarse sand and fine to coarse gravels. Some of these coarse gravels may have been brought up in this interval by the sampling procedure in that the drilling fluid was jetted at this zone to remove some of the coarser materials. These may not have been retrieved at other intervals.

93 - 96

No natural gamma log was available for this interval and the neutron epithermal neutron log shows a decrease in porosity toward the bottom of this hole. The gamma density log is slightly variable at about 2.1 grams per cc and decreasing while the caliper log indicates a relatively consistent hole diameter of about 8 inches.

Gravel was obtained in the grab sample taken at 96 feet.

96 - 99

There are no geophysical logs available for this lower interval of the hole because of gravel settling from the drilling mud of the previous day.

The sample from this lower interval indicated coarse sands with medium gravels but cannot be substantiated by geophysical logs since the logging sondes could not penetrate through the bottom sluff.

Bedrock at bottom of hole.

The drilling continued to 99.8 feet where a bedrock sample of fine sandstone was brought up. No geophysical logs are available for the bedrock materials because the drilling was not designed to penetrate the bedrock.

TABLE 2 - GEOPHYSICAL LOG INTERPRETATIONS AND CORRELATION WITH
AVAILABLE SAMPLES - MW - 2

DEPTH INTERVAL (FT.)	GEOPHYSICAL LOG DESCRIPTION	SAMPLE DESCRIPTION
0 - 3	The natural gamma log indicates increasing natural radioactivity from the surface to a depth of about 3 feet. This is a function of small grain size within the silt or silty clay range which tend to have higher percentages of Potassium 40, a natural gamma emitter. The radiational readings are only on the order of magnitude of 110 counts per second which is one less than would be expected for a pure clay. There is no neutron epithermal neutron log in this zone because this sonde was run simultaneously and in tandem with the natural gamma log, thereby forcing a data loss of approximately 4 feet. Conversely, it should be noted that the natural gamma log has a loss of approximately 4 feet at the bottom of the hole due to its position on top of the neutron epithermal neutron sonde. The caliper log in this 0 to 3-foot interval indicates that the drilling fluid jetted out a larger diameter hole than the bit size. The average hole diameter in this interval is approximately 10 inches. This large hole diameter strongly affects the gamma gamma response which is reading in the mud-water range at 1.36 grams per cc.	No samples were taken out of the hole in this initial interval but the materials were examined via a backhoe pit dug 60 feet northwest of the Monitor Well. In this backhoe pit, the first 2 feet of material consisted of man-made fill, mostly sands and gravels with some silty clay. The next foot (2 to 3 feet in depth) consisted of a top-soil horizon.
3 - 6	The natural gamma log indicates decreasing natural radioactivity which suggests an increase in grain size on this interval. The caliper log shows a marked decrease in bore-hole diameter from 10.5 to 6 inches. The	No grab or split spoon samples were taken in this interval but the horizon was examined via a backhoe pit dug nearby. The 3 to 6 foot interval in the backhoe pit indicated clayey silt or silty clay grading into a sandy silty clay at approximately 8 feet.

TABLE 2 - cont'd

3 - 6
(cont'd)

gamma gamma log in this interval shows a rapidly increasing density as a function of the hole diameter change. The neutron epithermal neutron log is coming on scale at a rather high porosity of approximately 42 percent; this is probably a function of the fineness in subsurface materials as indicated in the pit discussed under "sample description."

6 - 9

The natural gamma log is relatively stable at approximately 80 counts per second indicating the presence of relatively fine-grained materials. This response is not in the clay size range however. The density log shows a general decrease in density while the caliper log shows a squeezing of the hole to a diameter of approximately 5.5 inches which is less than the bit size used to drill the hole. Some of this squeezing may be a function of mud build-up and some the function of hole squeezing due to unsupported borehole walls and fine-grained materials.

The sample at the 6 to 9-foot interval was analyzed in the backhoe pit and not from grab or silt spoon samples. The backhoe pit indicates coarsening of materials with depth.

9 - 12

The natural gamma log indicates a sharp decrease in natural radioactivity indicative of coarse-grained, clean (no fines) materials. The log reaches a level of approximately 65 counts per second which is indicative of a clean, coarse sand and gravel material throughout the rest of this borehole. The caliper log shows the hole diameter approaching that of the original drilling size so that the reading on the gamma gamma log should be indicative of formation densities. This density is approximately 2.0 grams per cc. The neutron epithermal neutron log is relatively constant at 35 percent but is showing a shift toward a much lower porosity. This shift occurs when materials grade from fine to coarse.

The only sample examined for this depth interval was that within the backhoe pit which indicated a transition to fine-grained clean sand from the initial silty-clay sand near the surface of this borehole.

TABLE 2 - cont'd

12 - 15

The natural gamma log has decreased in count to its minimum value indicative of very clean gravels. The neutron epithermal neutron log shows a marked shift to lesser porosities which is also indicative of coarsening of subsurface materials. The caliper log fluctuates between 5.1 and 7.9 inches in diameter, indicating the presence of some mud-cake build-up and hole squeeze. Subsurface densities in this horizon are irregular because of borehole rugosity as indicated by the caliper log.

A grab sample was taken at a depth of 14 feet. This sample is composed of coarse sand with some fine gravel in a silt matrix. Grab samples were collected with a screen which was only capable of collecting coarse sand or larger materials. Such samples cannot retain finer grained materials if they should exist. Consequently, the geophysical logs must be relied upon to indicate the presence or absence of fine-grained materials.

15 - 18

The natural gamma log is very steady, indicating the presence of clean sand with some gravel. The neutron epithermal neutron log is relatively constant at approximately 25 percent while the gamma density log shows a steady increase in density from 1.50 to 2.15 gm/cc. The caliper log in this horizon indicates hole diameters varying 2 inches in size which explains most of the variability in the gamma gamma log.

A split spoon sample was collected at a sample depth of 17 to 19 feet and was composed of medium sand to fine gravel. Sample volume was very small because of plugging of the sample tube with gravels.

18 - 21

The natural gamma log is very steady with possibly a small trend towards decreasing counts. The neutron epithermal neutron log shows a small variability in porosity from approximately 27 to 25 percent. The gamma gamma log shows a rather large increase in density to approximately 2.20 grams per cc. This increase in density is a function of the coarsening of materials into the gravel size range. The caliper log shows an increasing hole diameter to 7.7 inches.

The only sample taken at this interval was the split spoon sample described in the previous interval.

21 - 24

The natural gamma log consistently shows a small scale trend of decreasing counts which can be interpreted as a change in percentage of fine to coarse-grained sands and gravels. The neutron epithermal neutron log shows an increase in porosity for the 3-foot interval

No sample was obtained at the 21 to 24-foot interval.

TABLE 2 - cont'd

21 - 24
(cont'd)

between 22 and 25 feet which may indicate a small zone dominated by clean sands rather than coarse gravels. Conversely the caliper log for this zone shows an enlarged hole diameter of approximately 8.3 inches in size which would indicate that the hole had caved at this zone. This increased hole diameter would tend to cause a shift to higher porosities on the neutron epithermal neutron logs. For this reason, it is demonstrated that the neutron epithermal log is affected by the hole diameter and is not measuring only changes in porosity and subsequently grain size at this horizon. The density log for this hole interval shows the decrease in density which would be a function of the variability of hole diameter. The indicator log in this borehole appears to be the natural gamma log which is not highly affected by borehole rugosity and diameter variability as are the density and porosity logs. When the caliper log indicates an increase in hole diameter, the density log will show a decrease in density while the porosity log will show increase in porosity.

24 - 27

The natural gamma log indicates a slight shift to the right indicating a decrease in grain size to the sand range. The caliper log shows a decrease in hole diameter from 9.1 inches down to approximately 6.2 inches. The gamma log has a reading of approximately 1.97 grams per cc while the neutron epithermal neutron log shows a decrease in porosity at this zone.

A split spoon sample composed of medium to coarse sand was taken at the 25 through 27-foot interval.

27 - 30

The natural gamma log shows a 1-foot zone of decreased grain size possibly due to a medium sand layer between 28 and 29 feet below surface. The section then coarsens to coarse sands and fine gravels at 30 feet. The neutron porosity log continues to show a decrease in porosity with only a small

The only sample for this horizon is a split spoon sample taken at 25 to 27 feet as previously described.

TABLE 2 - cont'd

27 - 30
(cont'd)

excursion to the left (increased porosity) at the 29-foot depth. The caliper log is continuing to show a decrease in hole diameter down to 5.2 inches and the gamma gamma log is increasing in density to approximately 1.96 grams per cc.

30 - 33

The natural gamma log shows a marked decrease in count rate indicative of a coarsening of the borehole materials, possibly to a coarse gravel. The neutron epithermal neutron log reads a minimum porosity value of 19 percent while the caliper log indicates some hole variability between 5.2 and 6.3 inches in diameter. This small hole size is probably a function of mud-cake build-up which would tend to decrease the responses of the gamma gamma log as seen at the interval between 30 and 33 feet. The gamma gamma log is a true measure of the formation density when the hole diameter is less than bit size due to mud-cake build-up.

There were no samples at this interval.

33 - 36

The natural gamma log indicates a return of the subsurface materials to a finer fraction of coarse sands and fine gravels. The neutron porosity log shows an increase in porosity which would also be indicative of this decrease in grain size. The caliper log is registering a hole diameter much less than originally drilled indicating the presence of mud-cake build-up on the walls which has decreased the density values to 1.77 grams per cc.

A grab sample was taken at 35 feet which was composed of gravel. The sand was lost within the mud during the sampling procedure.

36 - 39

The natural gamma log shows a general shift toward a coarser material between 36 and 38 feet. The neutron epithermal neutron log continues to show an increase in porosity while the gamma gamma log depicts very low density values in the range of 1.65 grams per cc. These low values and high porosities are

No samples.

TABLE 2 - cont'd

36 - 39 (cont'd)	interpreted as a function of borehole rugosity and mud-cake build-up. The caliper log is indicating borehole diameter changes of up to 2 inches in this interval.	
39 - 42	The natural gamma log is relatively steady within this horizon indicating a coarsening of the fraction below 40.5 feet. The neutron porosity log shows a decrease in porosity while the caliper log is varying between 7.7 and 6.6 inches in diameter. The borehole diameter at 40.5 to 41 feet should be approximately true; thus the density log readings of approximately 1.91 to 1.97 grams per cc should be indicative of the subsurface densities of the coarse gravels and sands.	A split spoon sample was taken at the 40 to 42-foot interval which consisted of homogenous medium grained sand.
42 - 45	The natural gamma log is very steady in this horizon with one exception: 44.5 feet below surface it appears the sands may decrease in grain size slightly. The porosity log generally showed a decrease in porosity except for a maximum at this 44.5-foot zone where the porosity increased to 27 percent. These two pieces of evidence would indicate a small half-foot interval of finer grain material at this horizon, probably within the range of fine sand but containing no silts or clays. The gamma gamma log in this horizon is somewhat irregular between 2.1 and 1.96 grams per cc which may be a function of variable hole diameter as indicated by the caliper log.	A grab sample was taken at 45 feet which was composed of coarse sand and gravel.
45 - 48	The natural gamma log indicates two zones of decreasing grain size at 46 and 48 feet below surface. The extent of this decrease would be on the order of magnitude of changing from coarse sand and gravel to coarse sand with few if any gravels at this horizon. The neutron epithermal neutron log shows a steady increase in porosity while the gamma gamma log is somewhat variable equal approximately to 1.95	There were no samples collected at this interval.

TABLE 2 - cont'd

45 - 48
(cont'd)

grams per cc. The caliper log indicates decreasing hole diameter which is a function of mud-cake build-up.

48 - 51

The natural gamma log indicates relatively homogeneous conditions at this interval in the coarse sand and medium gravel range. The neutron porosity log shows a maximum in porosity of 30 percent while the gamma gamma log shows a decrease in density to a minimum of approximately 1.75 grams per cc. It is felt that these two pieces of evidence (contrary to the natural gamma log) indicate hole enlargement at this interval which may not be evident on the caliper log because of mud-cake build-up. The caliper log at this interval does indicate a decrease in hole diameter to approximately 6.3 inches which is 1 inch smaller than the initial hole size.

No sample was taken at this interval.

51 - 54

The natural gamma log indicates that at approximately 52 feet in depth subsurface materials are fine to approximately medium to fine sands with very few gravels included. The neutron porosity log goes from a minimum of 23 percent to 30 percent which is a function of the coarsening to fining trend between 50 and 54 feet. The caliper log shows an increase in the hole diameter to approximately 7 inches in size which is relatively close to the true hole size. The gamma gamma log shows a return of the subsurface densities to approximately 2.05 grams per cc which is within the expected range for these subsurface materials.

A split spoon sample was taken at the interval of 52 to 54 feet below ground surface and was composed of medium to coarse grained sands with a limited amount of gravel. This split spoon sample substantiates the natural gamma and neutron epithermal neutron log responses for this interval.

54 - 57

The natural gamma log is relatively consistent in this zone though possibly indicating a coarsening of the section between 55 and 57.5 feet in depth. The coarsening of this fraction may cause borehole instability and increased breakouts which then can be filled in with mud-cake as indicated by the caliper

There were no samples taken at this interval.

TABLE 2 - cont'd

54 - 57
(cont'd)

log. The neutron porosity log shows an increase in porosity with a slight decrease in porosity between 56.5 and 57 feet in depth which may be measuring borehole rugosity at this interval. The gamma gamma log is somewhat erratic in this zone going from approximately 2.1 grams per cc down to 1.96 and averaging approximately 2.0 grams per cc.

57 - 60

The natural gamma log indicates the presence of fine sand at 58 feet in depth with the section coarsening to medium sands and gravels between 59.5 and 62 feet in depth. A neutron porosity log measures a somewhat consistent porosity of 25 percent while the gamma gamma log shows a major decrease in density at the 59 to 60-foot zone. This change in density is a function of the hole diameter change at the 60-foot zone indicated by the caliper log.

A grab sample was taken at 60 feet composed of gravel with some coarse sand.

60 - 63

The natural gamma log shows coarse sands and gravels present between 60 and 62 feet, then fining at the 62-foot zone and remaining constant at 64 feet. The neutron porosity log shows a decrease in porosity with depth while the caliper log indicates a minimum hole diameter of 4.8 inches varying to less than 6.1 inches at this interval. This small hole diameter is a function of mud-cake build-up and hole squeeze. The gamma gamma log indicates an increase in density to approximately 2.7 grams per cc which is the maximum density encountered within the borehole. This density increase may be a function of the presence of some large gravels and cobbles in this horizon.

No samples taken at this interval.

63 - 66

The natural gamma log indicates a constant response from fine sands in this horizon. The neutron epithermal neutron log shows a somewhat steady porosity response within 24-27 percent while the gamma gamma log somewhat

No samples at this interval.

TABLE 2 - cont'd

63 - 66 (cont'd)	decrease to approximately 2.03 grams per cc. The caliper log does show an average hole diameter of approximately 5.5 inches in this interval.	
66 - 69	The natural gamma log shows a gravel zone at approximately 67.5 feet extending to 68 feet in depth, then returning to medium to fine sands at a depth of 69 feet. The neutron epithermal neutron log shows a constant porosity with one small excursion to an increased porosity at 68 feet which may coincide with the increased percent of gravels indicated by the natural gamma log. This increased porosity is probably a function of borehole wall instability due to larger grain size at that horizon. The caliper log shows an increase in hole diameter to approximately 6.3 inches at the 69-foot depth.	No samples at this interval.
69 - 72	The natural gamma log indicates sands with few gravels composing this interval of the borehole. The neutron porosity log shows a variable porosity between 20 and 32 percent while the gamma gamma log is relatively constant at approximately 1.85 grams per cc. Porosity irregularities and the low density values are probably caused by mud-cake build-up as indicated by the caliper log at this horizon. The caliper log shows a relatively constant diameter of approximately 6.3 to 6.8 inches but may not be indicating rugosity features which would tend to vary the neutron and gamma logs.	A split spoon sample was taken between 70 and 72 feet and composed of medium to fine sands with few gravels. The sample was mostly composed of medium sand.
72 - 75	The natural gamma log shows a slight coarsening of the subsurface materials to include some gravels in addition to the medium sands. The neutron porosity log shows a decrease in porosity while the gamma density log shows an increase in density to approximately 2.13 grams per cc. The caliper log indicates that squeezing was occurring in the	A grab sample was taken at 75 feet which was composed of coarse sand and gravel.

TABLE 2 - cont'd

72 - 75
(cont'd)

borehole in conjunction with mud-cake build-up. This decreases the hole diameter to less than 6.5 inches in diameter.

75 - 78

The natural gamma log shows a 1-foot interval between 76 and 77 feet which is composed of medium to fine sands with no gravels. The neutron epithermal neutron log shows a decrease in porosity at this horizon with an average porosity of 21 percent. The gamma gamma log is quite variable between 2.25 and 1.79 cc because of borehole rugosity measured by the caliper sonde.

No sample at this interval.

78 - 81

The natural gamma log shows a 1-foot interval between 79 and 80 feet of medium to fine sands. The section then grades to coarse sands with few gravels below 80 feet. The neutron epithermal neutron log shows an increase in porosity associated with a fining of the sediments between 79 and 80 feet and a decrease in porosity below that zone. The gamma gamma log is somewhat variable at values ranging from 1.77 to 2.04 grams per cc. This variability is probably a function of borehole rugosity which is not well measured by the caliper log because of mud-cake build-up.

A grab sample was taken at 80 feet which was composed of rounded gravels with some coarse sand.

81 - 84

There is no more natural gamma log for this section of the hole because of the tool configuration as explained for Monitor Well 1. The neutron epithermal neutron log is relatively consistent at this horizon at a porosity of approximately 22 percent, while the gamma gamma log varies between 2.06 and 2.18 grams per cc. The caliper log shows almost true hole diameter, then a decrease in hole diameter probably because of mud-cake build-up below a depth of 82 feet.

No samples at this interval.

TABLE 2 - cont'd

84 - 87

The neutron porosity log indicates a steady porosity while the gamma gamma log shows an average density of 2.1 grams per cc. The caliper log for this zone shows a pinched hole diameter of less than 6.5 inches.

A grab sample was taken at 85 feet which consisted of gravel in a silty matrix. The silty matrix was not sampled within the grab sample but was reported by the driller.

87 - 90

The neutron epithermal neutron log was taken to a depth of 89.5 feet in this monitor well. The porosity log at this interval indicated an increase in porosity possibly as a function of decreased grain size. The gamma gamma log shows a consistent density of approximately 2.26 grams per cc while the caliper log showed a decrease in hole size.

There were no samples at this interval.

90 - 93

The only geophysical log taken below a depth of 90 feet was a caliper log which indicated an approximate hole diameter of 5.5 inches. It appeared that the hole had sloughed to a depth of 91 feet over the night probably because of the settling of coarse and fine grained materials within the drilling fluid.

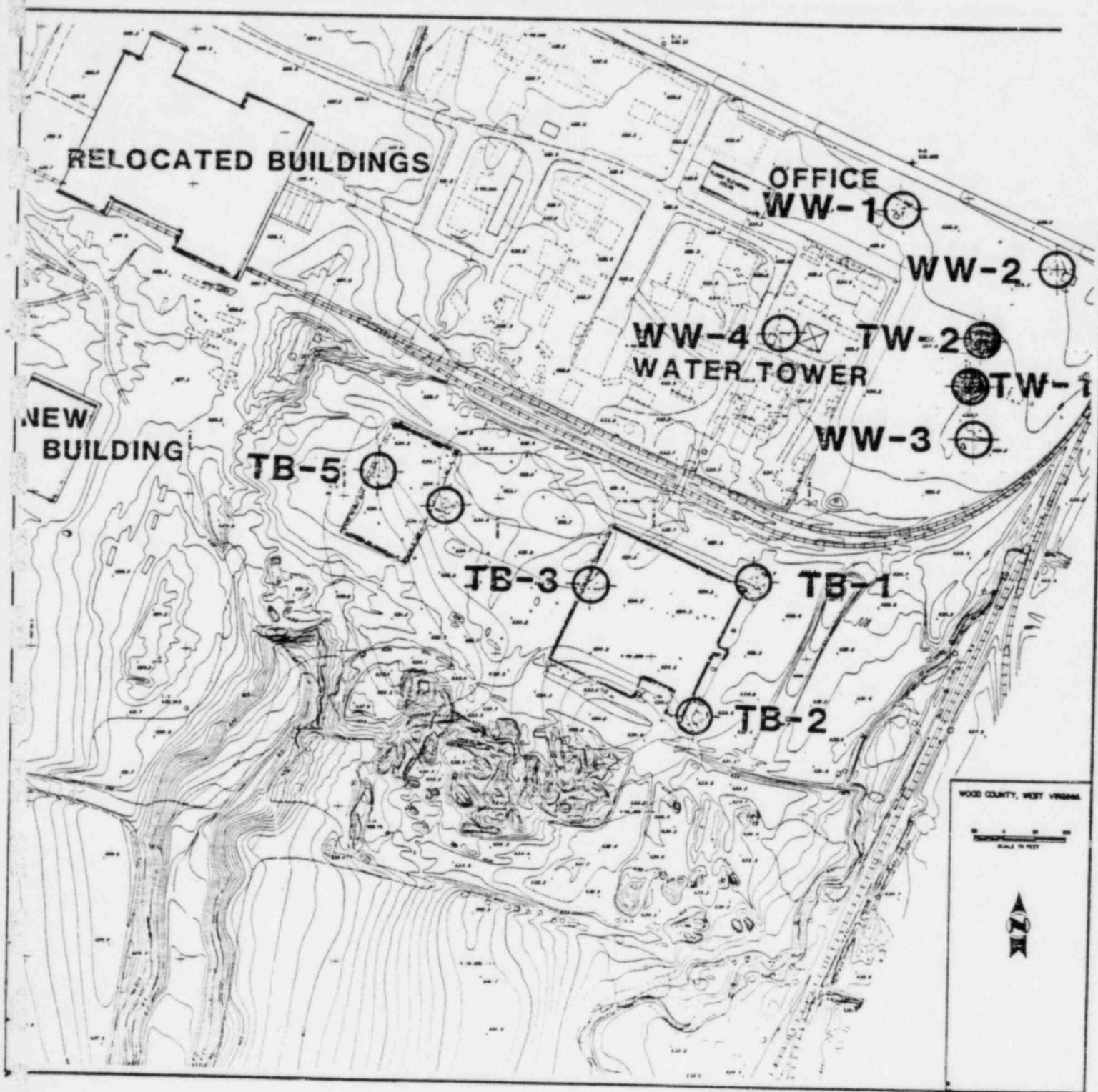
A grab sample taken at 90 feet indicated rounded gravels with some coarse sand.

The rest of the samples taken within the borehole showed medium to large clean gravels below ground surface.

The bottom of the monitor well is located at 95 feet 6 inches below ground surface.

TABLE 5
ENGINEERING USE DATA
CLASSIFICATION

Soil Type	Depth to Seasonal Water Table (feet)	Depth to Bedrock (feet)	Depth from Surface (inches)	USDA Texture	Unified	AASHO	Range in Permeability (in.-hr.)	Range in Reaction ph	Shrink- Swell Potential
Wheeling	4+	10+	0-34	Silt loam to silty clay loam.	ML, CL	A-4, A-6	.63-2.0	5.5-6.5	Moderate
			34-64	Very fine sandy loam to very gravelly sandy loam	ML, CL SM	A-4, A-6	2.0-6.3	5.0-5.5	Low
			64-80	Stratified sand and gravel	GW-GM, GC, GM	A-2	6.3+	----	Low
Sciotoville	2+	10+	0-15	Silt loam, loam	ML	A-4	2.0-6.3	----	Low
			15-32	Silt loam	CL-ML	A-6,	.20-.63	5.0-6.0	Moderate
			32-46	Fine sandy	SM	A-2	6.3+	5.0-5.6	Low
Lakin	5+	5+	0-11	Loamy fine sand	SM	A-2	6.3+	----	Low
			11-144	Loamy fine sand to sand	SM SP-SM	A-2, A-1	6.3+	4.5-5.5	Low
Ginat	0	10+	0-11	Silt loam	ML	A-4	.63-2.0	----	Low
			11-52	Clay loam or sandy clay loam	ML-CL	A-6	.20-0.63	4.5-5.5	Low- Moderate
			52-60	Loamy fine sand	SM-ML	A-4, A-2	6.3+	4.5-5.5	Low



WELLS

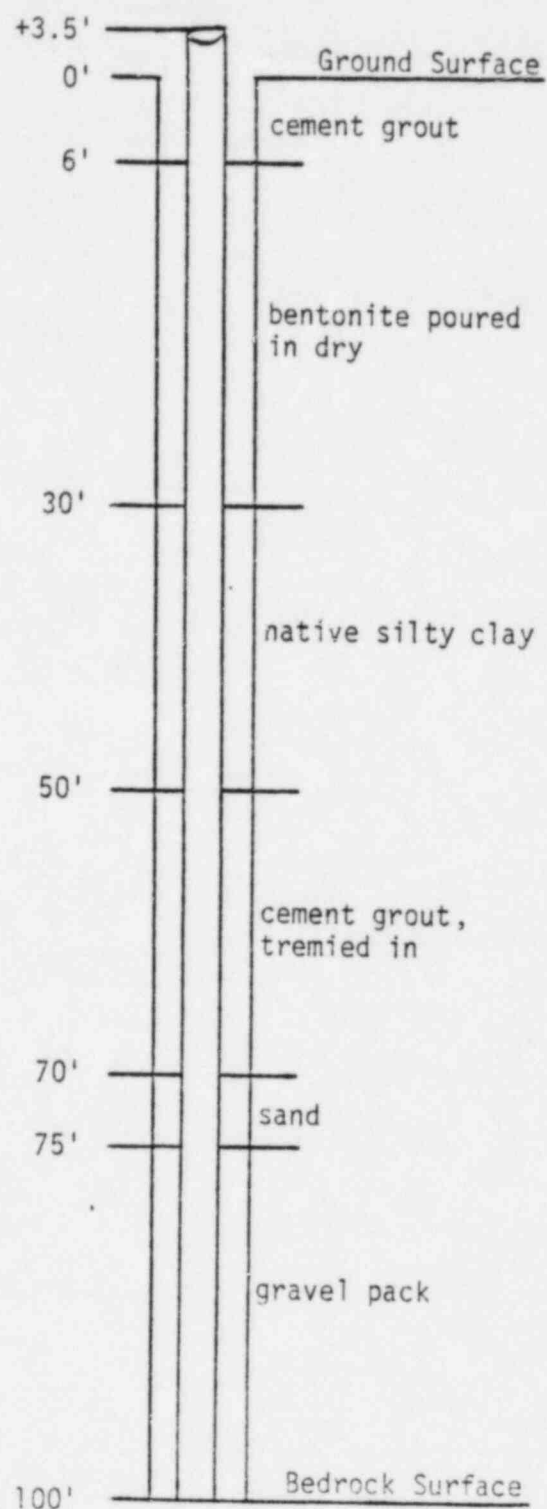


Figure 1. Completion of Monitor Well #1

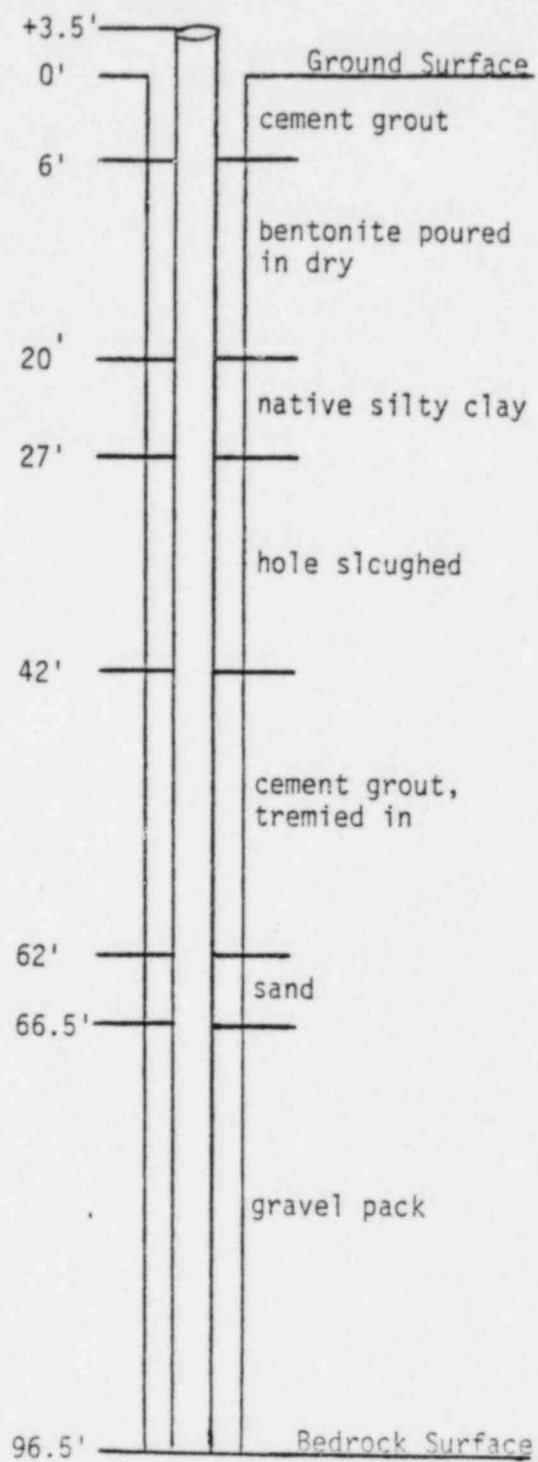
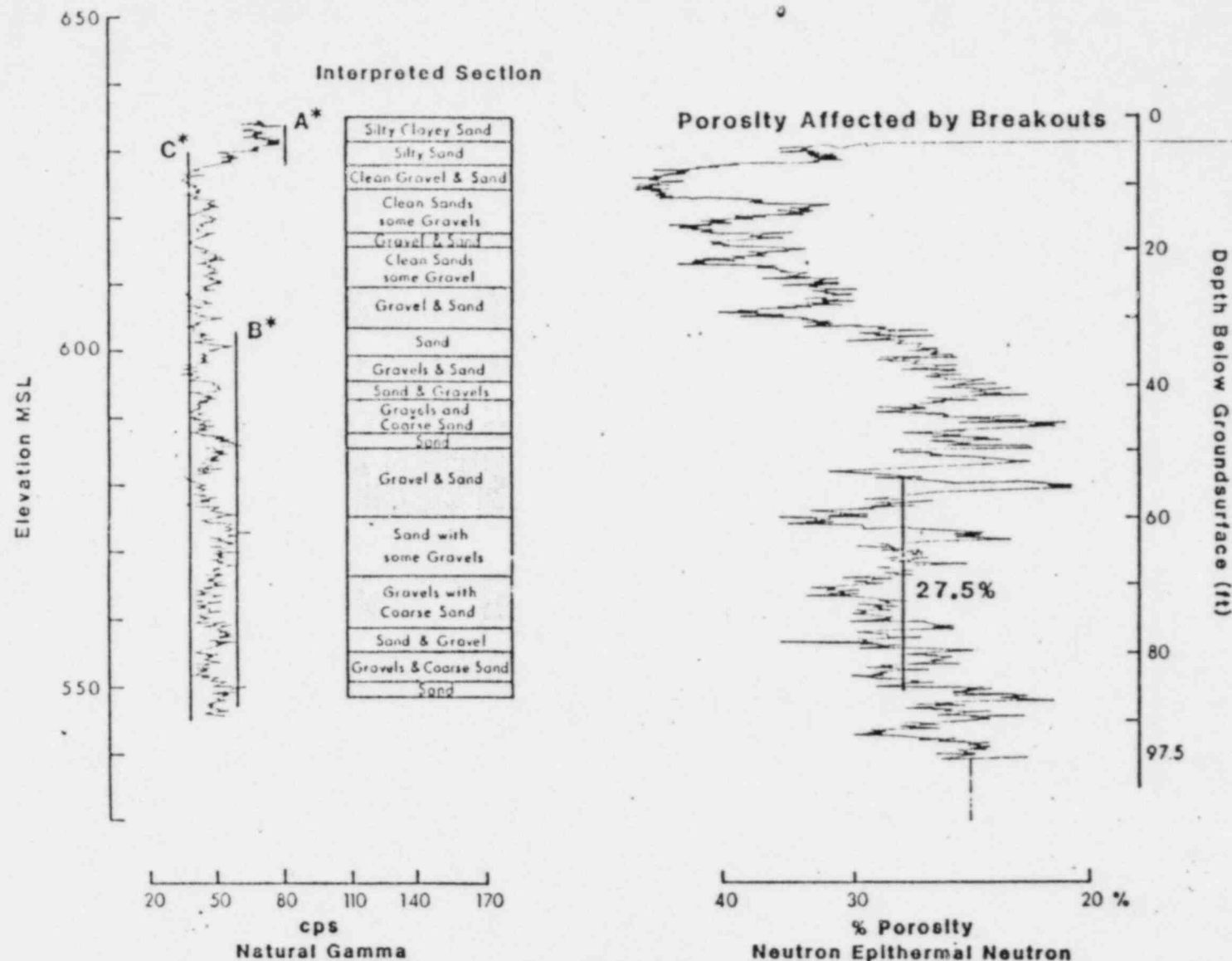


Figure 2. Completion of Monitor Well #2



- *A Silty-Clayey Sand ≈ 80 cps
- *B Medium to Coarse Sand ≈ 58 cps
- *C Clean Gravels and Sand ≈ 45 cps

FIGURE 3. Natural Gamma & Epithermal Neutron Logs for MW-1, Amax-Wood County Site, W. Va. Detailed Interpretations Available in Table 1.

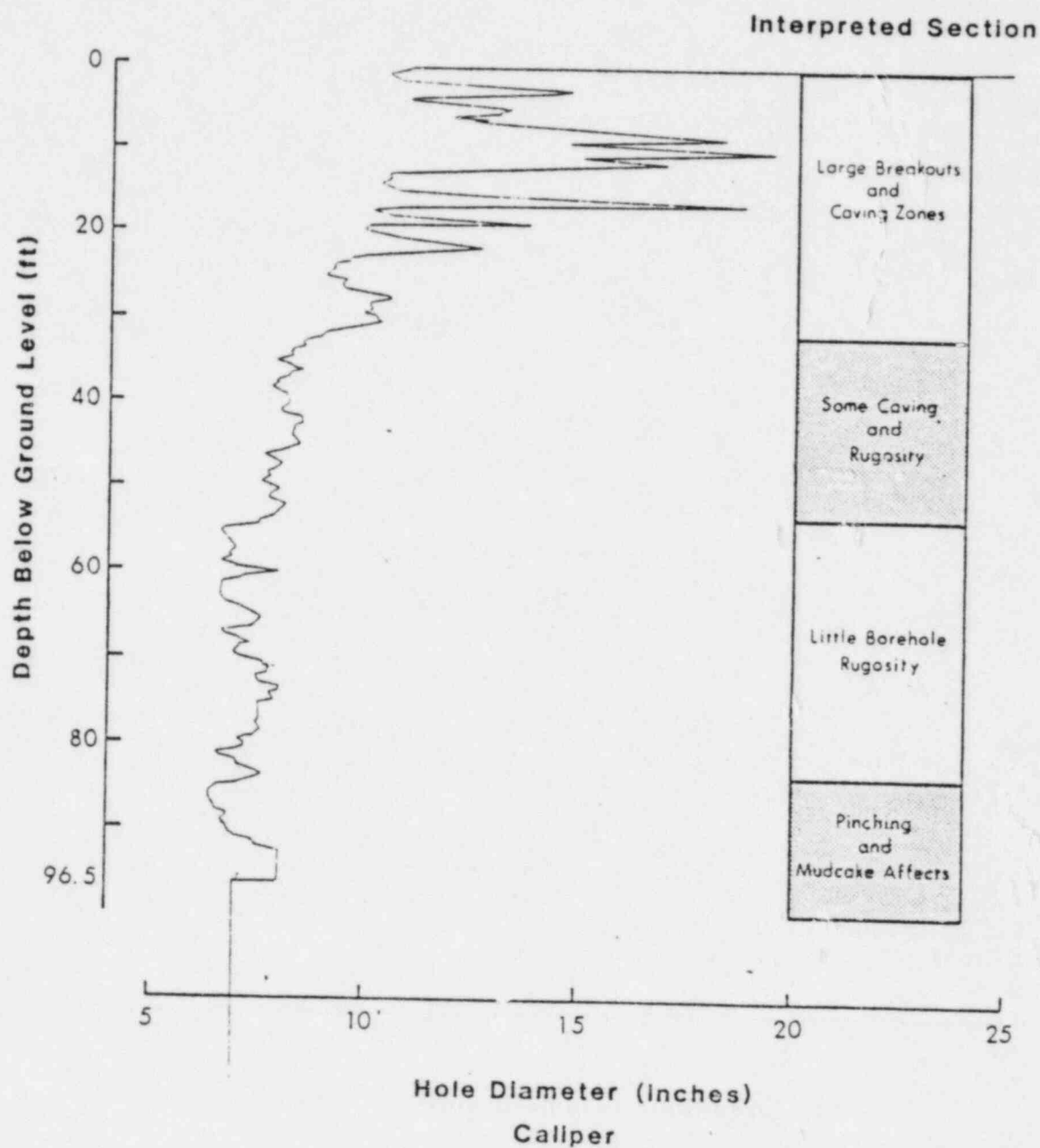


FIGURE 4. Caliper Log for MW-1, Amax-Wood County, W. Va.
Detailed Interpretations Available in Table 1.

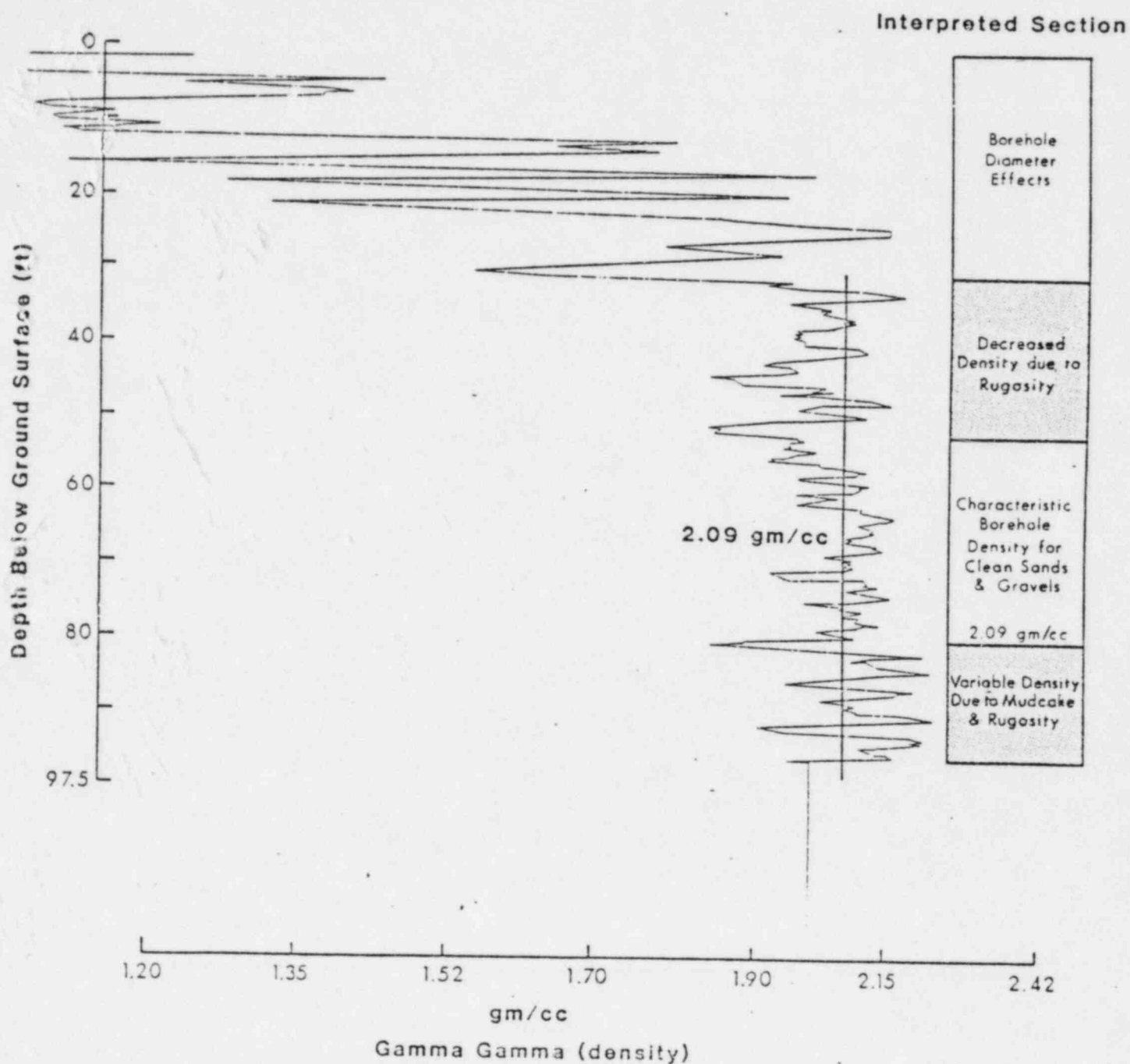


FIGURE 5.

Gamma Gamma (density) Log for MW-1, Amax-Wood County, W. Va.
Detailed Interpretations Available in Table 1.

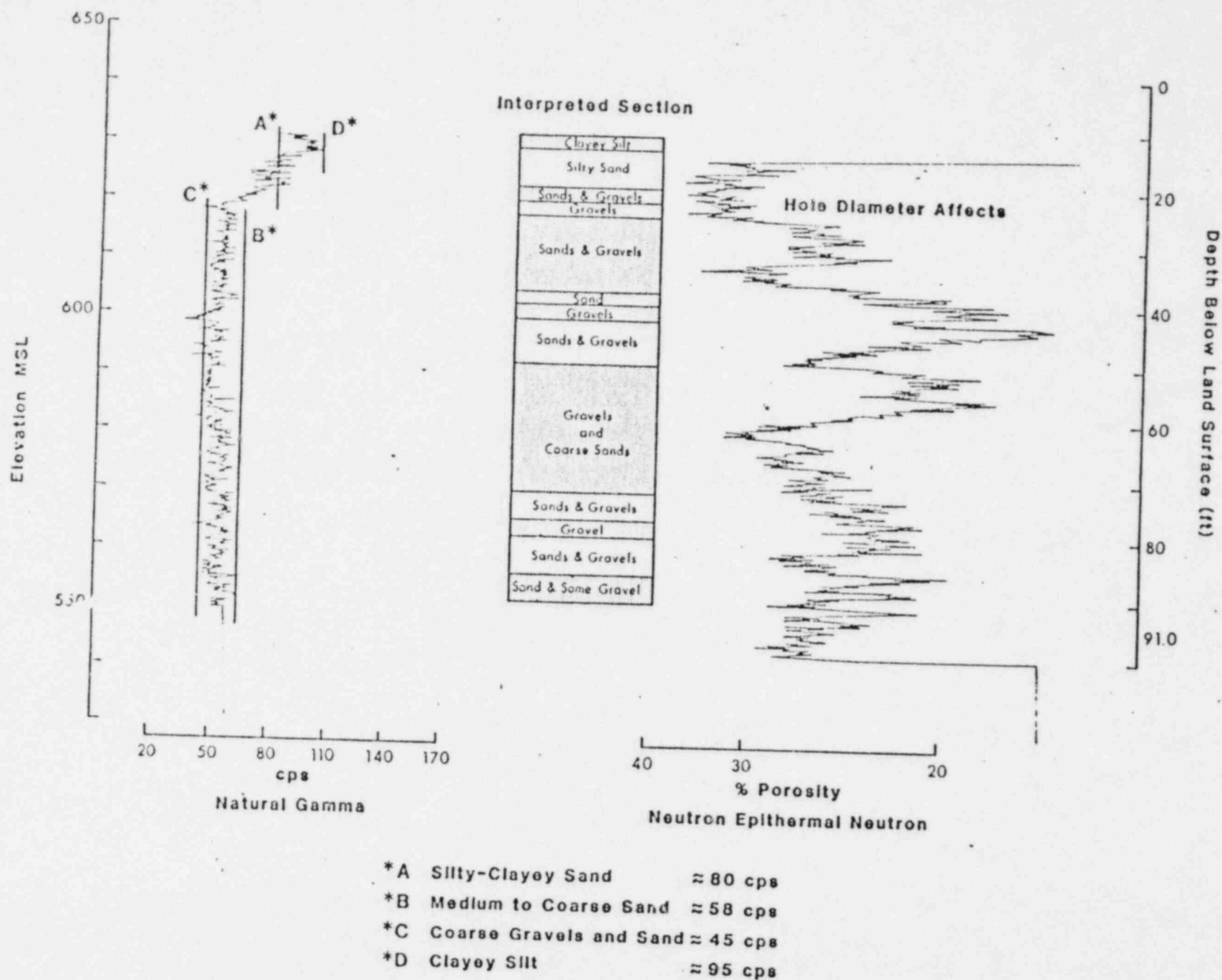


FIGURE 6. Natural Gamma and Neutron Epithermal Neutron Logs for MW-2, Amax-Parkersburg, W. Va. Detailed Interpretations Available in Table 2.

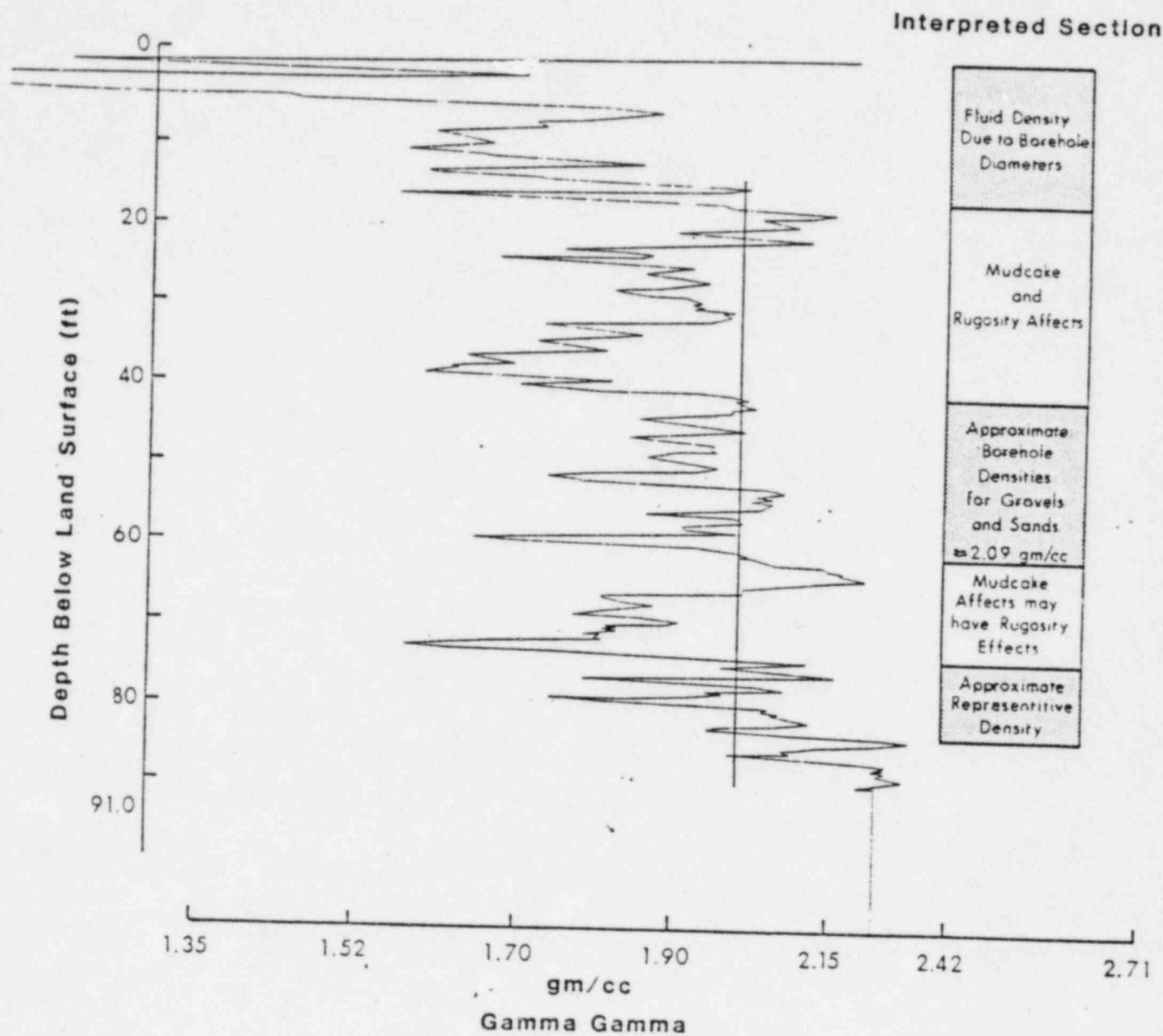


FIGURE 7.

Gamma Gamma (density) Log of MW-2, Amax-Parkersburg, W. Va.
Detailed Interpretations Available in Table 2.

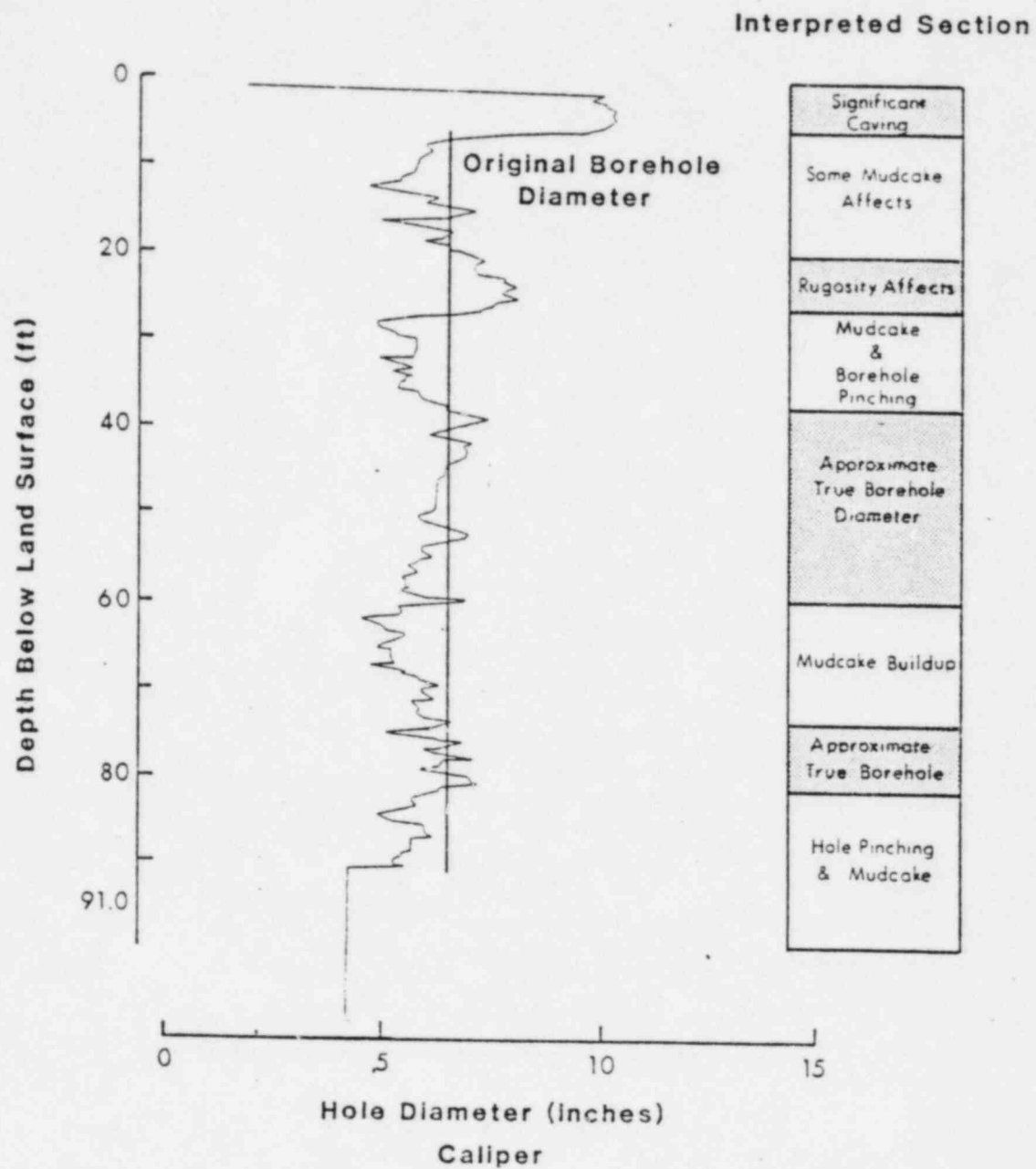


FIGURE 8. Caliper Log for MW-2, Amax-Parkersburg, W. Va.
Detailed Interpretation Available in Table 2.

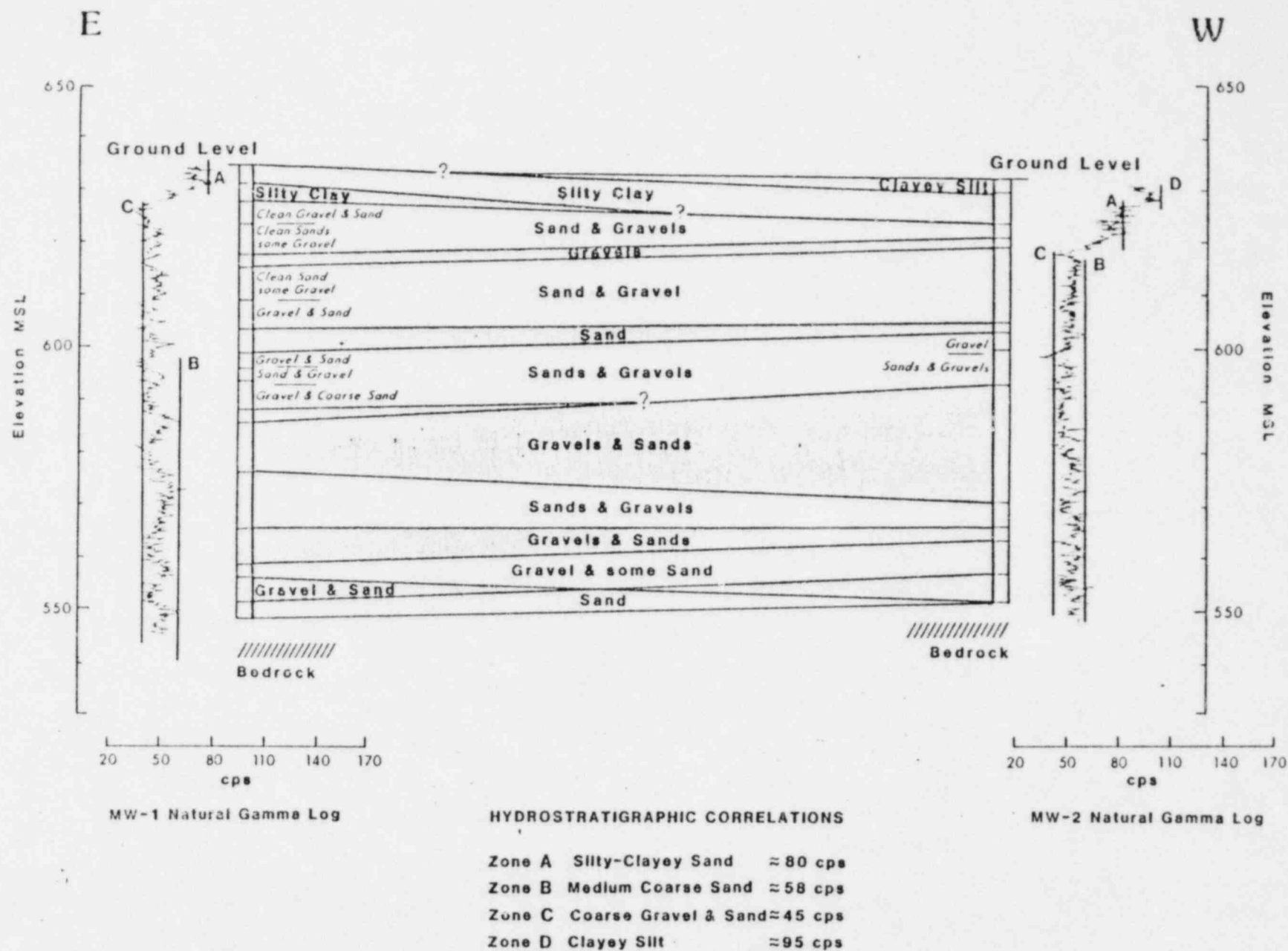


FIGURE 9. East-West Correlation Between MW-1 and MW-2; Normal Gamma and Lithology Logs

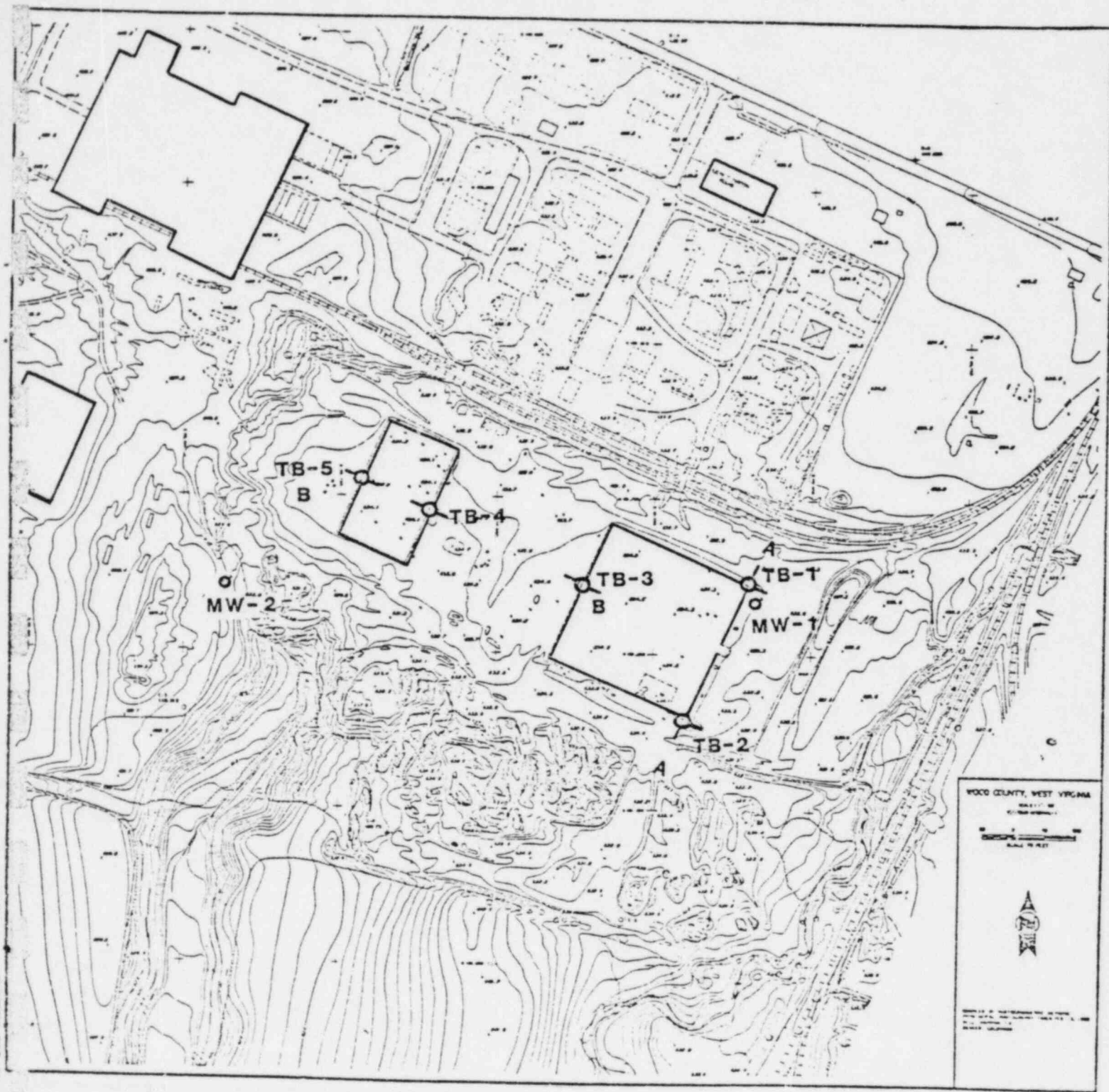
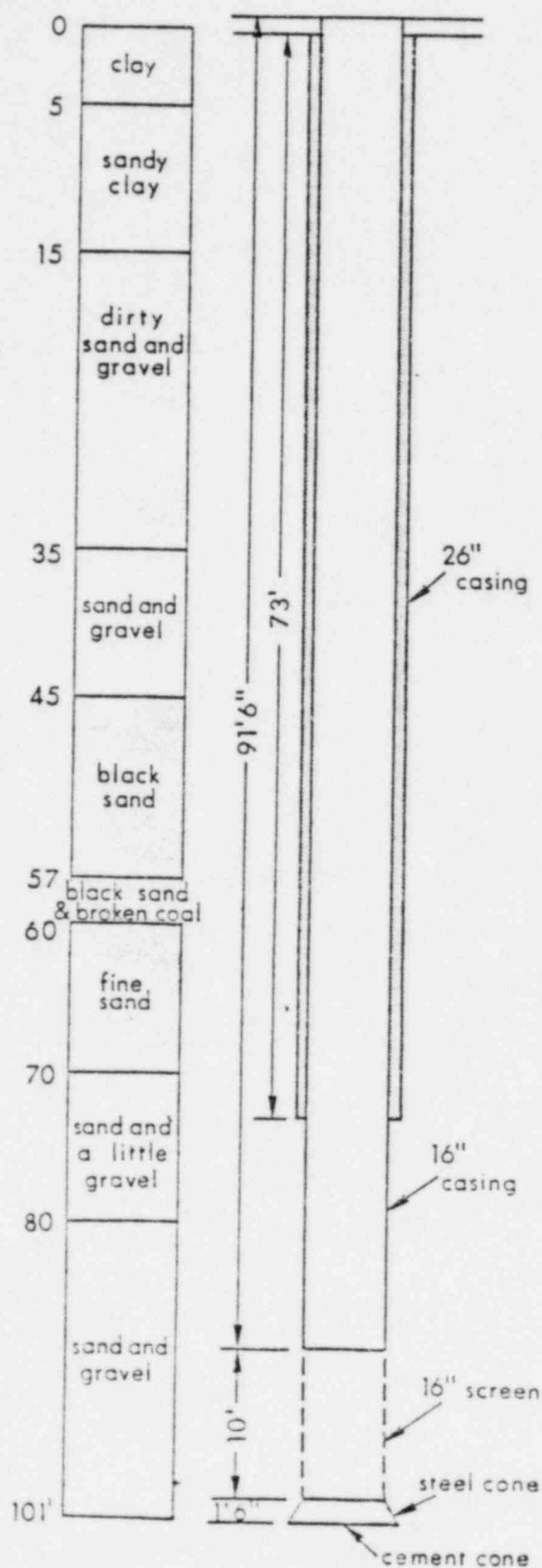


Figure 10. Location of test borings.

TABLE 5
ENGINEERING USE DATA
CLASSIFICATION

Soil Type	Depth to Seasonal Water Table (feet)	Depth to Bedrock (feet)	Depth from Surface (inches)	USDA Texture	Unified	AASHO	Range in Permeability (in.-hr.)	Range in Reaction ph	Shrink- Swell Potential
Wheeling	4+	10+	0-34	Silt loam to silty clay loam.	ML, CL	A-4, A-6	.63-2.0	5.5-6.5	Moderate
			34-64	Very fine sandy loam to very gravelly sandy loam	ML, CL SM	A-4, A-6	2.0-6.3	5.0-5.5	Low
			64-80	Stratified sand and gravel	GW-GM, GC, GM	A-2	6.3+	----	Low
Sciotoville	2+	10+	0-15	Silt loam, loam	ML	A-4	2.0-6.3	----	Low
			15-32	Silt loam	CL-ML	A-6,	.20-.63	5.0-6.0	Moderate
			32-46	Fine sandy	SM	A-2	6.3+	5.0-5.6	Low
Lakin	5+	5+	0-11	Loamy fine sand	SM	A-2	6.3+	----	Low
			11-144	Loamy fine sand to sand	SM SP-SM	A-2, A-1	6.3+	4.5-5.5	Low
Ginat	0	10+	0-11	Silt loam	ML	A-4	.63-2.0	----	Low
			11-52	Clay loam or sandy clay loam	ML-CL	A-6	.20-0.63	4.5-5.5	Low- Moderate
			52-60	Loamy fine sand	SM-ML	A-4, A-2	6.3+	4.5-5.5	Low



MATERIAL:

Pit: 73' of 26" steel casing
and
91'6" of 16" steel casing.

Screen: 10' of 16" Layen Bronze
shutter screen.

Cone: 16" x 22" x 1'6" steel
cone.

WELL:

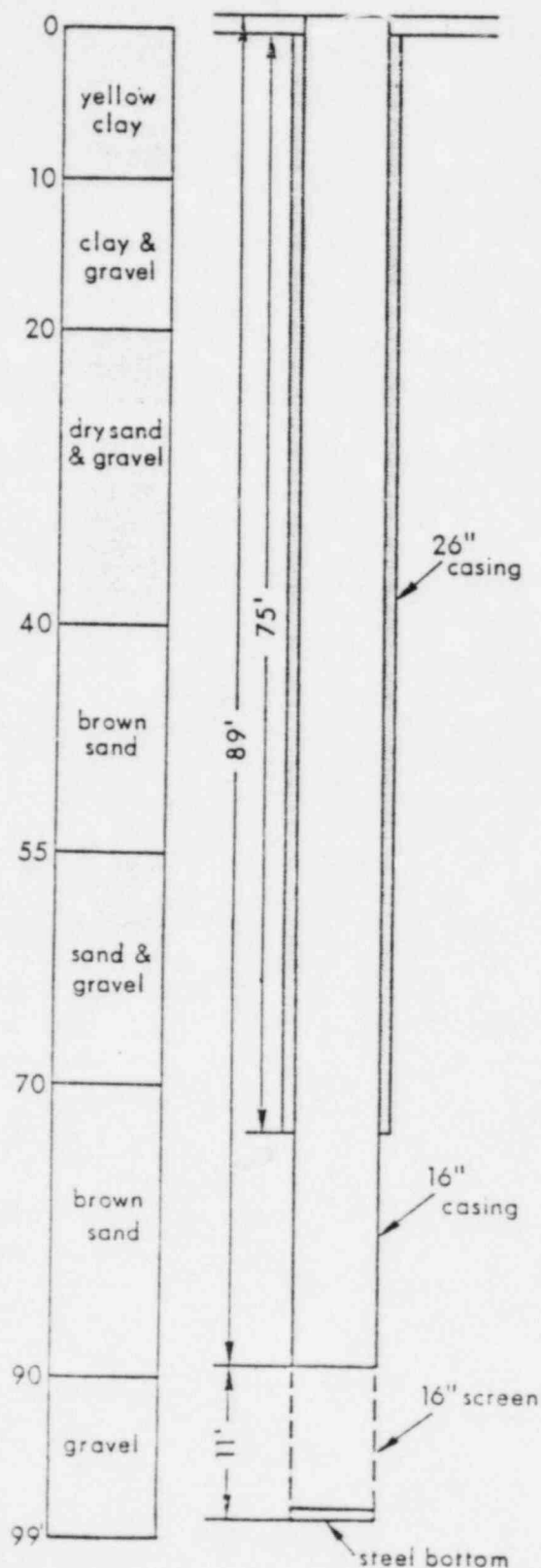
Capacity	250 G.P.M.
Guarantee	250 G.P.M.
Started	7-18-56
Finished	8-10-56
Accepted	8-10-56
Static Level	64'
P. Level	72'
Pressure	
Pumped	250 G.P.M.
Depth	100'6"

REMARKS:

12 tons of pea gravel used.

Gas engine on right angle drive.

TABLE 4B Driller's Log of Well No. 2 shown in Plate 1.

MATERIAL:

Pit: 75' of 26" steel casing
and
89' of 16" steel casing.

Screen: 10' of 16" bronze
shutter screen.

Cone: Steel bottom.

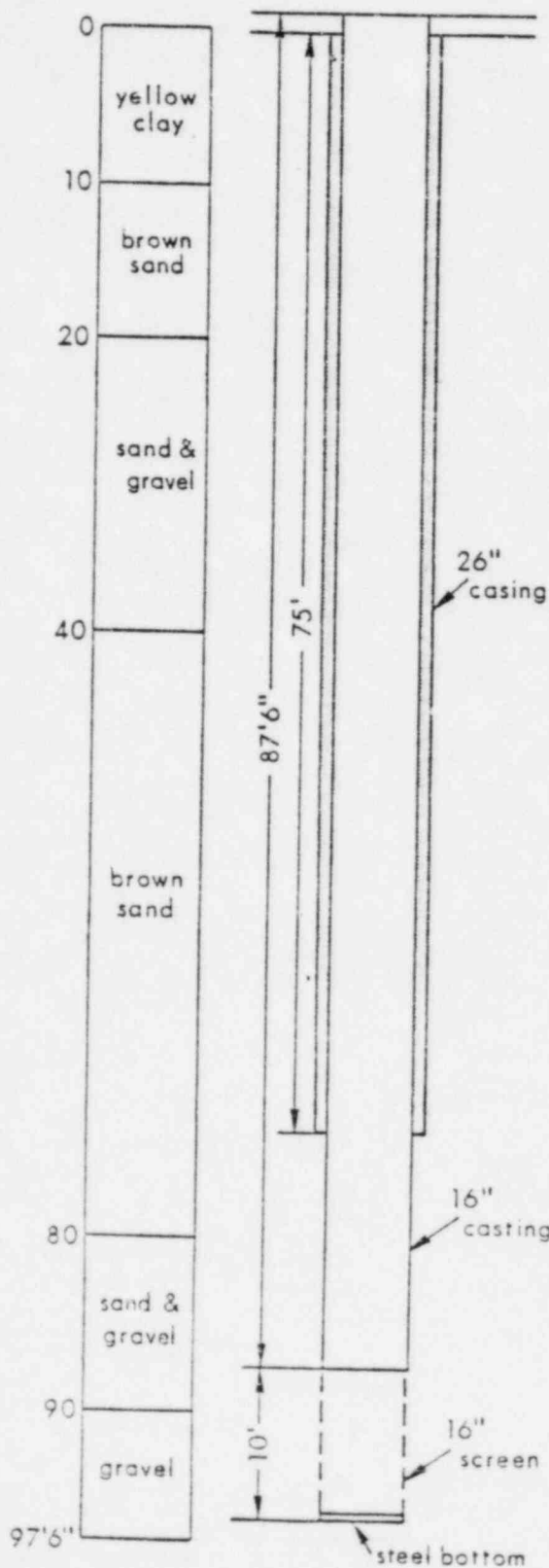
WELL:

Capacity	250 G.P.M.
Guarantee	250 G.P.M.
Started	8-1-56
Finished	8-15-56
Accepted	8-15-56
Static Level	63'6"
P. Level	65'
Pressure	
Pumped	250 G.P.M.
Depth	99'

REMARKS

Used 15 tons of pea gravel.

TABLE 4C Driller's Log of Well No. 3 shown in Plate 1



MATERIAL:

Pit: 75' of 26" steel casing
and
87'6" of 16" steel casing.

Screen: 10' of 16" layne
bronze shutter screen.

Cone: Steel Bottom.

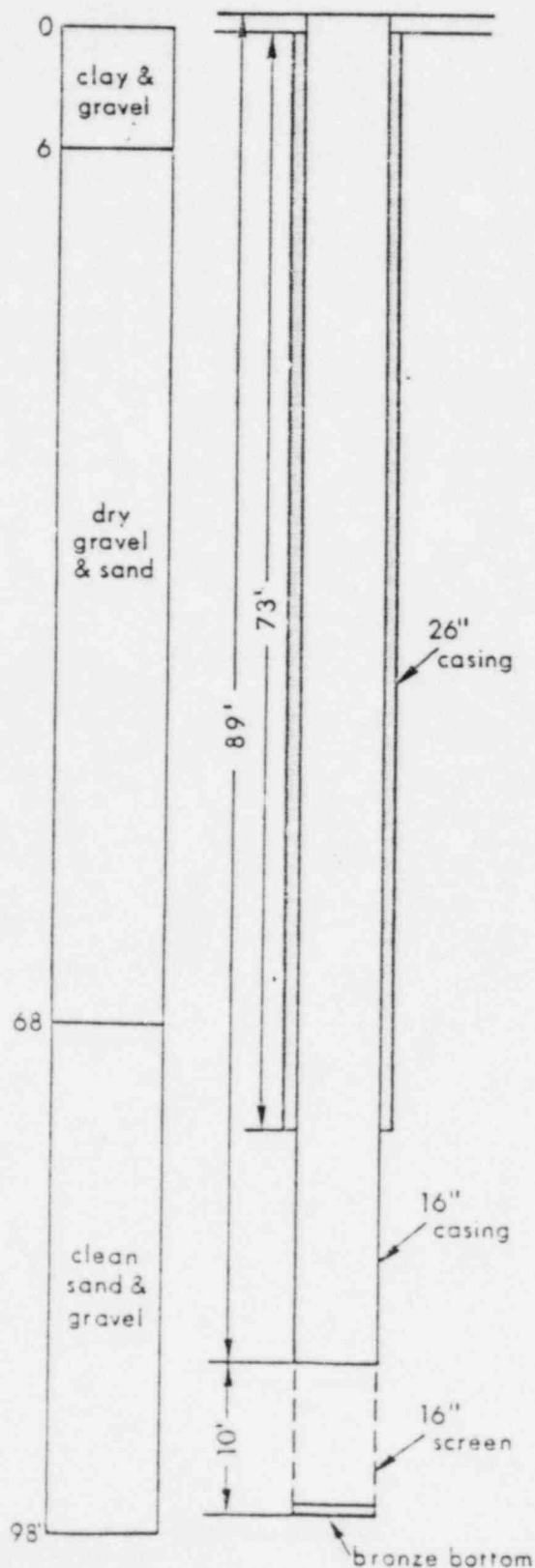
WELL:

Capacity	250 G.P.M.
Guarantee	250 G.P.M.
Started	8-22-56
Finished	8-29-56
Accepted	8-29-56
Static Level	60'
P. Level	62'6"
Pressure	
Pumped	250 G.P.M.
Depth	97'6"

REMARKS:

Used 18 tons of gravel.

TABLE 4D Driller's Log of well No. 4 shown in Plate 1

MATERIAL:

Pit: 73' of 26" steel casing
and
89' of 16" steel casing.

Screen: 10' of 16" cook
bronze screen.

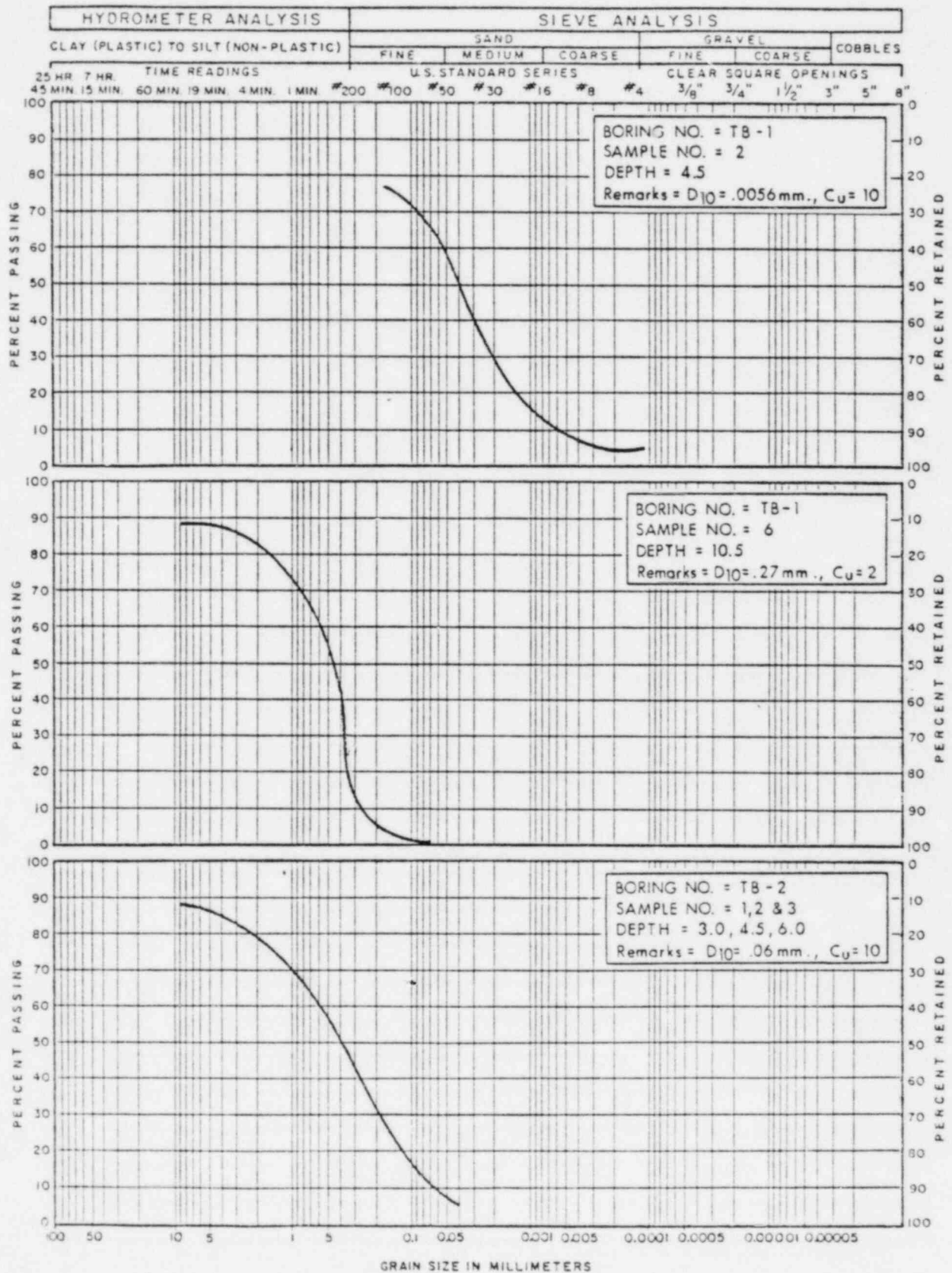
Cone: Bronze bottom.

WELL:

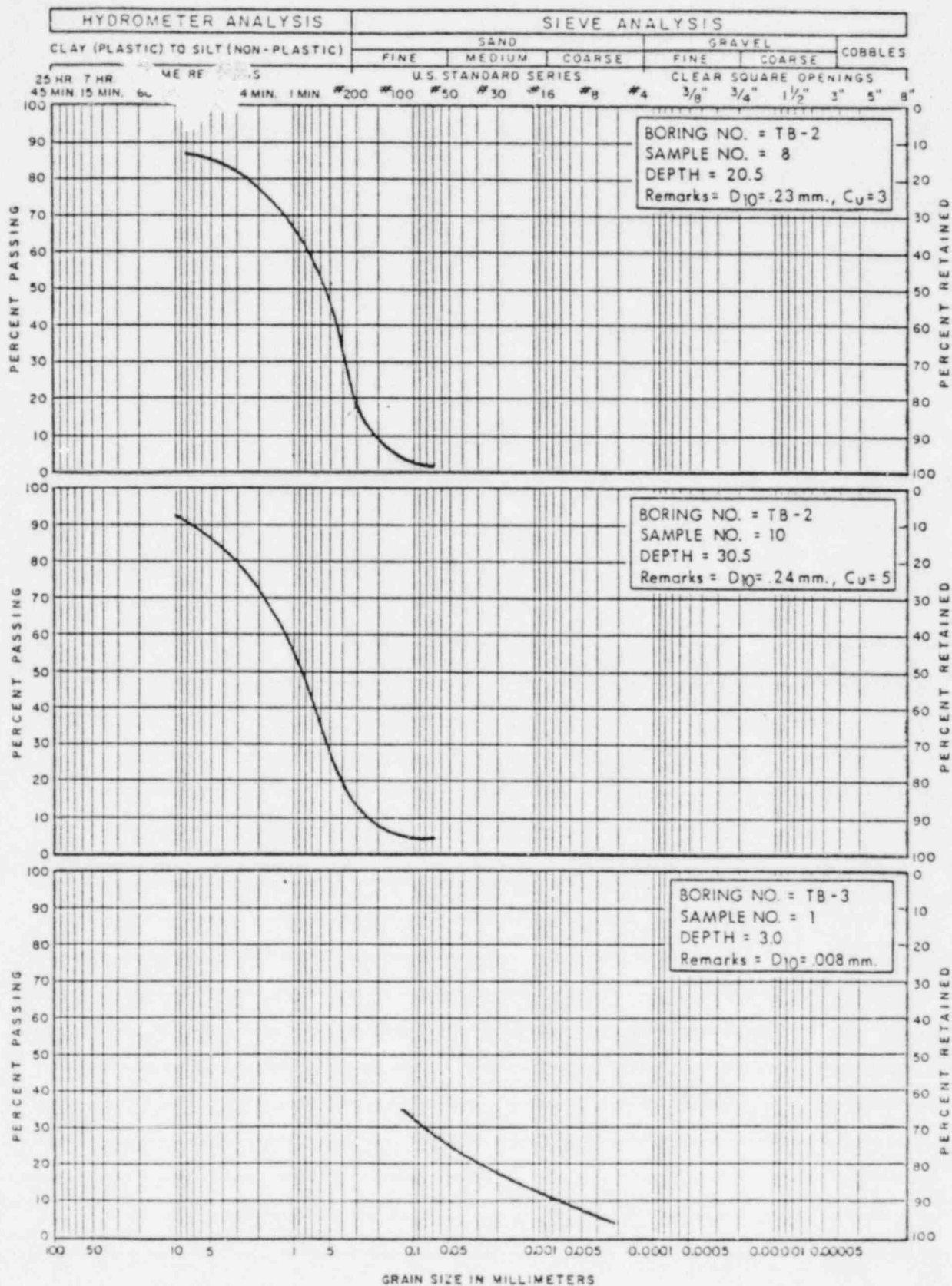
Capacity	275 G.P.M.
Guarantee	275 G.P.M.
Started	10-30-56
Finished	12-4-56
Accepted	1-16-57
Static Level	66'
P. Level	72'
Pressure	
Pumped	275 G.P.M.
Depth	98'

REMARKS:

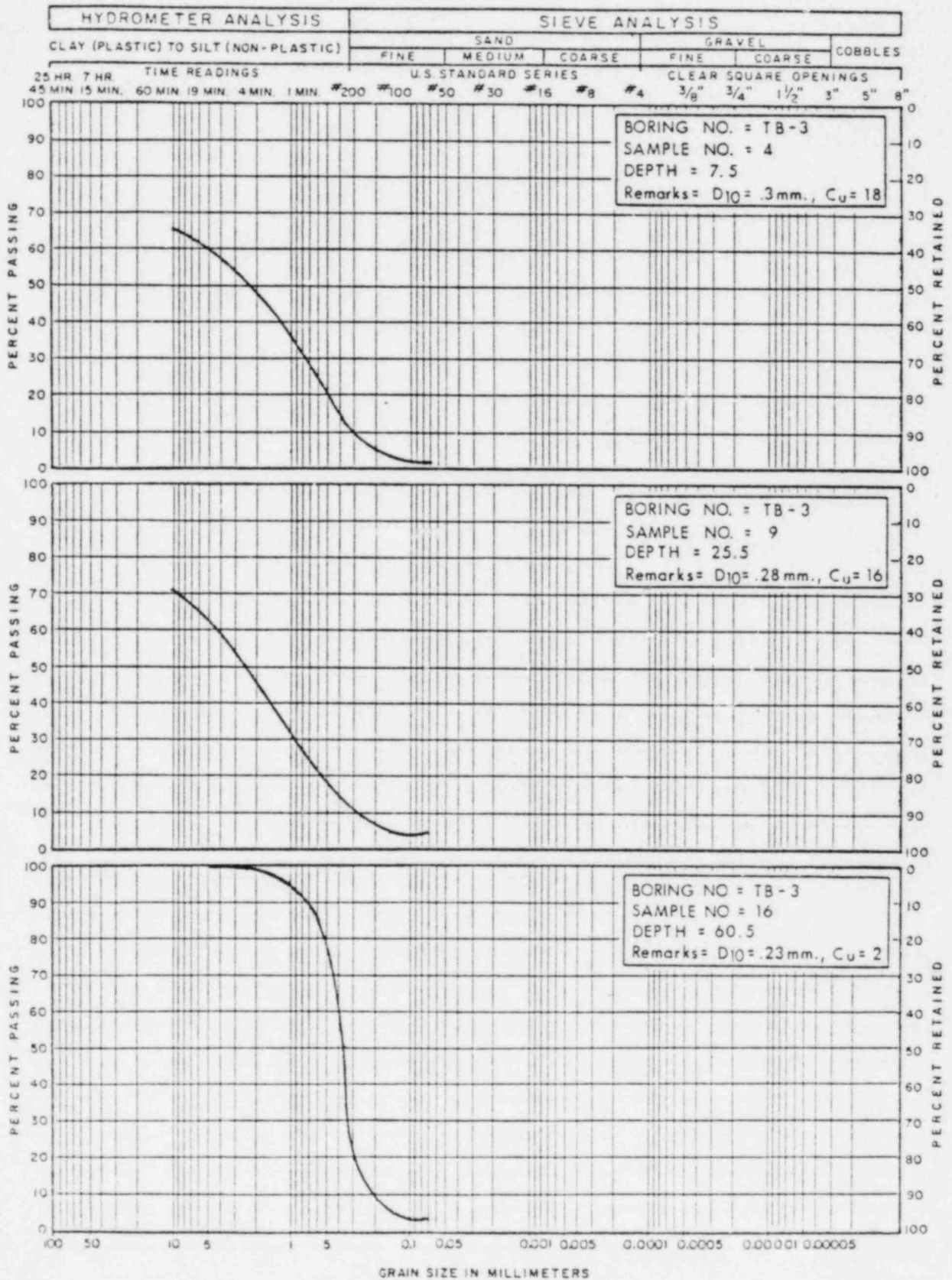
16 tons of pea gravel.



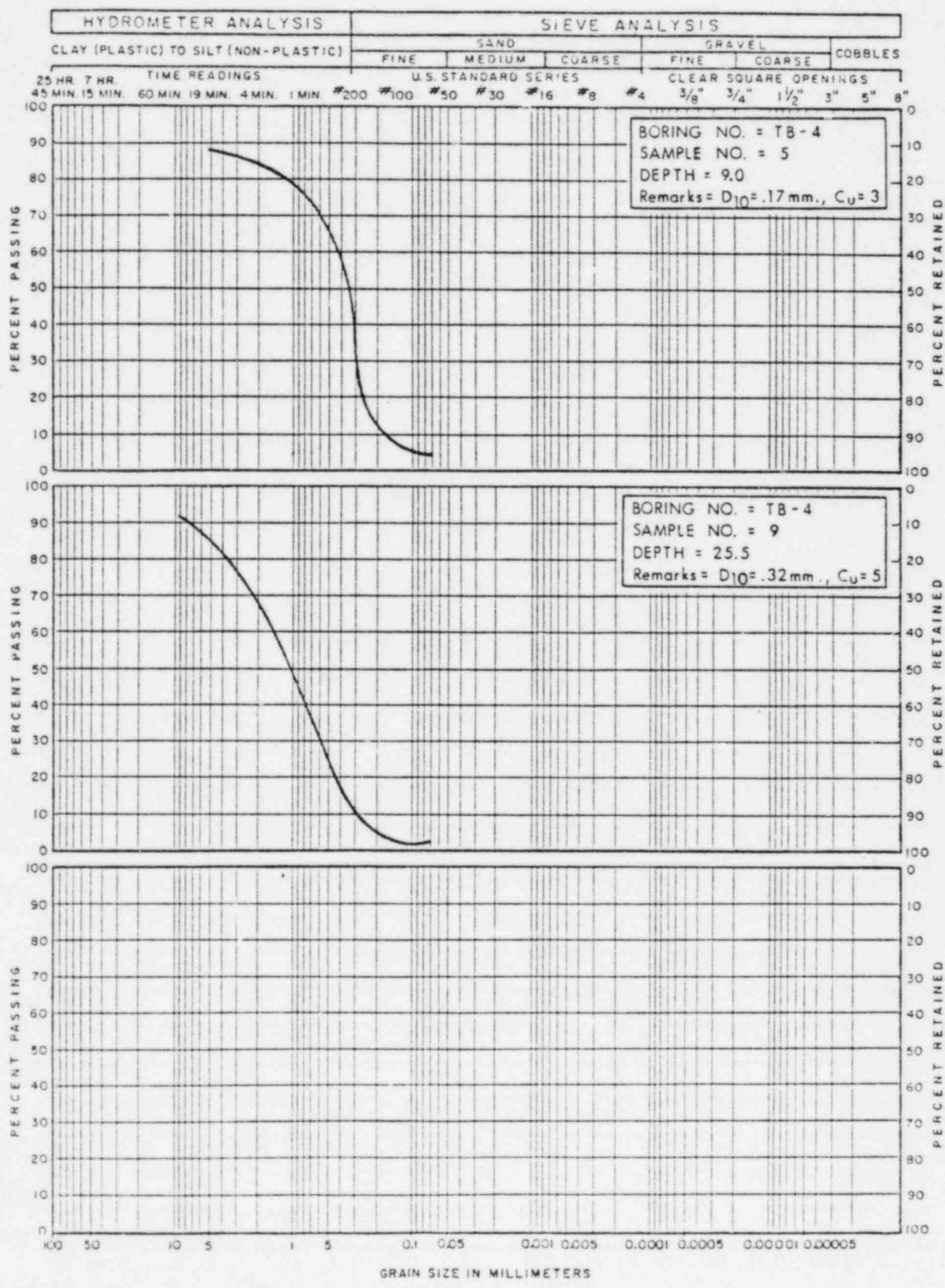
GRADATION ANALYSIS



GRADATION ANALYSIS



GRADATION ANALYSIS



GRADATION ANALYSIS

TABLE 6
CLASSIFICATION TEST DATA

<u>Hole Number</u>	<u>Sample Number</u>	<u>Depth (Ft.)</u>	<u>Natural Moisture Content (%)</u>	<u>ATTERBERG LIMITS</u>			
				<u>Liquid Limit (%)</u>	<u>Plastic Limit (%)</u>	<u>Plastic Index</u>	<u>Liquid Index</u>
TB-1	1	3.0	21.6				
	2	4.5	25.4				
	3	6.0	27.0		NON-PLASTIC		
	4	7.5	12.4		NON-PLASTIC		
	5	9.0	6.8				
	6	10.5	5.7				
	7	15.5	7.6				
	8	20.5	9.1				
	9	25.5	7.9				
	10	30.5	5.4				
TB-2	1	3.0	14.2				
	2	4.5	36.9				
	3	6.0	41.4		NON-PLASTIC		
	4	7.5	16.7				
	5	9.0	11.9				
	6	10.5	10.1				
	7	15.5	10.6				
	8	20.5	14.8				
	9	25.5	5.1				
	10	30.5	4.6				
TB-3	1	3.0	12.5		NON-PLASTIC		
	2	4.5	12.3				
	3	6.0	21.3				
	4	7.5	8.4		NON-PLASTIC		
	5	9.0	8.1				
	6	10.5	7.0				
	7	15.5	7.0				
	8	20.5	5.2				
	9	25.5	7.4				
	10	30.5	3.9				
	11	35.5	5.1				
	12	40.5	6.2				
	13	45.5	5.1				
	14	50.5	4.1				
	15	55.5	4.3				
	16	60.5	4.6				
	17	65.5	12.9				

<u>Hole Number</u>	<u>Sample Number</u>	<u>Depth (Ft.)</u>	<u>Natural Moisture Content (%)</u>	<u>ATTERBERG LIMITS</u>			
				<u>Liquid Limit (%)</u>	<u>Plastic Limit (%)</u>	<u>Plastic Index</u>	<u>Liquid Index</u>
TB-4	1	3.0	21.8	31.8	22.9	8.9	-16
	2	4.5	21.5				
	3	6.0	21.3				
	4	7.5	16.3				
	5	9.0	10.3				
	6	10.5	11.3				
	7	15.5	8.6				
	8	20.5	10.0				
	9	25.5	5.0				
	10	30.5	4.6				
TB-5	1	3.0	12.6	26.10	23.3	5.4	16
	2	4.5	9.1				
	3	6.0	24.2				
	4	7.5	23.0				
	5	9.0	24.2				
	6	10.5	23.0				
	7	15.5	6.0				
	8	20.5	14.6				
	9	25.5	8.7				
	10	30.5	10.2				

APPENDIX A

Computer Printout Calibrations for Geophysical Logs
Run in MW-1 and MW-2 at Amax-Parkersburg, West Virginia

DATACOMP^R

LITHOLOGICAL

LISTING

for

MW-1

RUN DATE: 7 / 9 / 80

DEPTH	TIME	LOG	GR/CC	DTIME	INCHES	IMPEDANCE
10.0 - 1	CLEAN SAND	15	31	2.01	0.0US/FT 16.2	0
10.1 - 2	CLEAN SAND	14	32	1.91	0.0US/FT 15.2	0
10.2 - 3	CLEAN SAND	14	32	1.94	0.0US/FT 15.3	0
10.3 - 4	CLEAN SAND	15	32	1.96	0.0US/FT 15.4	0
10.4 - 5	CLEAN SAND	16	32	2.01	0.0US/FT 15.7	0
10.5 - 6	CLEAN SAND	15	32	2.06	0.0US/FT 15.9	0
10.6 - 7	CLEAN SAND	15	32	2.11	0.0US/FT 16.3	0
10.7 - 8	CLEAN SAND	15	31	2.19	0.0US/FT 16.9	0
10.8 - 9	CLEAN SAND	15	30	2.26	0.0US/FT 17.7	0
10.9 - 0	CLEAN SAND	15	30	2.28	0.0US/FT 18.1	0
11.0 - 1	CLEAN SAND	14	30	2.26	0.0US/FT 18.4	0
11.1 - 2	CLEAN SAND	13	31	2.20	0.0US/FT 17.8	0
11.2 - 3	CLEAN SAND	13	31	2.13	0.0US/FT 17.3	0
11.3 - 4	CLEAN SAND	12	32	2.01	0.0US/FT 16.3	0
11.4 - 5	CLEAN SAND	13	33	1.90	0.0US/FT 15.4	0
11.5 - 6	CLEAN SAND	14	35	1.79	0.0US/FT 14.6	0
11.6 - 7	CLEAN SAND	15	33	1.66	0.0US/FT 13.6	0
11.7 - 8	CLEAN SAND	17	32	1.56	0.0US/FT 12.6	0
11.8 - 9	CLEAN SAND	17	32	1.50	0.0US/FT 11.9	0
11.9 - 0	CLEAN SAND	17	32	1.56	0.0US/FT 11.3	0
12.0 - 1	CLEAN SAND	17	32	1.62	0.0US/FT 11.1	0
12.1 - 2	CLEAN SAND	15	33	1.69	0.0US/FT 10.8	0
12.2 - 3	CLEAN SAND	14	33	1.80	0.0US/FT 10.7	0
12.3 - 4	CLEAN SAND	16	31	1.93	0.0US/FT 10.7	0
12.4 - 5	CLEAN SAND	19	31	1.98	0.0US/FT 10.8	0
12.5 - 6	CLEAN SAND	18	31	2.04	0.0US/FT 11.1	0
12.6 - 7	CLEAN SAND	18	33	2.07	0.0US/FT 11.1	0
12.7 - 8	CLEAN SAND	15	32	2.10	0.0US/FT 11.1	0
12.8 - 9	CLEAN SAND	13	31	2.07	0.0US/FT 11.1	0
12.9 - 0	CLEAN SAND	15	30	2.04	0.0US/FT 11.1	0
13.0 - 1	CLEAN SAND	17	29	1.94	0.0US/FT 11.1	0
13.1 - 2	CLEAN SAND	16	30	1.89	0.0US/FT 10.9	0
13.2 - 3	CLEAN SAND	14	31	1.85	0.0US/FT 10.9	0
13.3 - 4	CLEAN SAND	13	31	1.86	0.0US/FT 10.8	0
13.4 - 5	CLEAN SAND	14	30	1.87	0.0US/FT 10.7	0
13.5 - 6	CLEAN SAND	15	31	1.89	0.0US/FT 10.7	0
13.6 - 7	CLEAN SAND	12	33	1.91	0.0US/FT 10.7	0
13.7 - 8	CLEAN SAND	8	36	1.92	0.0US/FT 10.6	0
13.8 - 9	CLEAN SAND	13	33	1.95	0.0US/FT 10.6	0
13.9 - 0	CLEAN SAND	17	31	1.97	0.0US/FT 10.6	0
14.0 - 1	CLEAN SAND	17	30	2.01	0.0US/FT 10.7	0
14.1 - 2	CLEAN SAND	17	28	2.04	0.0US/FT 10.9	0
14.2 - 3	CLEAN SAND	17	30	2.06	0.0US/FT 11.1	0
14.3 - 4	CLEAN SAND	18	31	2.06	0.0US/FT 11.2	0
14.4 - 5	CLEAN SAND	16	34	2.08	0.0US/FT 11.4	0
14.5 - 6	CLEAN SAND	15	32	2.05	0.0US/FT 11.7	0
14.6 - 7	CLEAN SAND	17	29	2.05	0.0US/FT 12.1	0
14.7 - 8	CLEAN SAND	19	29	2.02	0.0US/FT 12.4	0
14.8 - 9	CLEAN SAND	16	31	1.99	0.0US/FT 12.8	0
14.9 - 0	CLEAN SAND	14	32	2.05	0.0US/FT 13.8	0
15.0 - 1	CLEAN SAND	14	32	2.11	0.0US/FT 14.8	0
15.1 - 2	CLEAN SAND	14	30	2.13	0.0US/FT 15.9	0
15.2 - 3	CLEAN SAND	15	27	2.25	0.0US/FT 17.1	0
15.3 - 4	CLEAN SAND	17	26	2.32	0.0US/FT 18.3	0
15.4 - 5	CLEAN SAND	15	28	2.29	0.0US/FT 19.7	0
15.5 - 6	CLEAN SAND	13	29	2.26	0.0US/FT 20.3	0
15.6 - 7	CLEAN SAND	14	29	2.23	0.0US/FT 20.9	0
15.7 - 8	CLEAN SAND	15	28	2.22	0.0US/FT 19.4	0
15.8 - 9	CLEAN SAND	14	28	2.21	0.0US/FT 18.1	0
15.9 - 0	CLEAN SAND	13	29	1.99	0.0US/FT 16.2	0

DEPTH	LITHOLOGY	CLAY %	POROSITY %	DENSITY GM/CC	SOUND TIME	CHLIFER INCHES	ACOUS/FT IMPEDENCE
16.0 - 1	CLEAN SAND	12	33	1.80	0.00S/FT	14.3	0
16.1 - 2	CLEAN SAND	12	38	1.60	0.00S/FT	12.4	0
16.2 - 3	CLEAN SAND	13	36	1.63	0.00S/FT	11.8	0
16.3 - 4	CLEAN SAND	14	35	1.69	0.00S/FT	11.3	0
16.4 - 5	CLEAN SAND	16	35	1.75	0.00S/FT	10.8	0
16.5 - 6	CLEAN SAND	16	36	1.82	0.00S/FT	10.4	0
16.6 - 7	CLEAN SAND	16	37	1.90	0.00S/FT	10.2	0
16.7 - 8	CLEAN SAND	16	34	2.03	0.00S/FT	10.3	0
16.8 - 9	CLEAN SAND	15	31	2.13	0.00S/FT	10.6	0
16.9 - 0	CLEAN SAND	15	32	2.20	0.00S/FT	10.6	0
17.0 - 1	CLEAN SAND	16	32	2.34	0.00S/FT	10.7	0
17.1 - 2	CLEAN SAND	15	33	2.26	0.00S/FT	10.7	0
17.2 - 3	CLEAN SAND	14	33	2.26	0.00S/FT	10.8	0
17.3 - 4	CLEAN SAND	13	34	2.26	0.00S/FT	10.9	0
17.4 - 5	CLEAN SAND	12	35	2.24	0.00S/FT	11.2	0
17.5 - 6	CLEAN SAND	13	34	2.24	0.00S/FT	11.6	0
17.6 - 7	CLEAN SAND	13	32	2.22	0.00S/FT	11.9	0
17.7 - 8	CLEAN SAND	12	31	2.22	0.00S/FT	12.4	0
17.8 - 9	CLEAN SAND	11	31	2.18	0.00S/FT	13.2	0
17.9 - 0	CLEAN SAND	13	30	2.16	0.00S/FT	14.1	0
18.0 - 1	CLEAN SAND	14	30	2.03	0.00S/FT	14.6	0
18.1 - 2	CLEAN SAND	12	31	2.03	0.00S/FT	15.1	0
18.2 - 3	CLEAN SAND	10	33	1.93	0.00S/FT	14.8	0
18.3 - 4	CLEAN SAND	8	34	1.94	0.00S/FT	14.7	0
18.4 - 5	CLEAN SAND	11	34	1.79	0.00S/FT	13.3	0
18.5 - 6	CLEAN SAND	14	32	1.70	0.00S/FT	11.9	0
18.6 - 7	CLEAN SAND	13	35	1.62	0.00S/FT	10.7	0
18.7 - 8	CLEAN SAND	12	37	1.70	0.00S/FT	10.4	0
18.8 - 9	CLEAN SAND	15	34	1.80	0.00S/FT	10.3	0
18.9 - 0	CLEAN SAND	18	31	1.86	0.00S/FT	10.2	0
19.0 - 1	CLEAN SAND	16	33	1.93	0.00S/FT	10.2	0
19.1 - 2	CLEAN SAND	14	34	2.00	0.00S/FT	10.2	0
19.2 - 3	CLEAN SAND	15	34	2.06	0.00S/FT	10.2	0
19.3 - 4	CLEAN SAND	16	32	2.09	0.00S/FT	10.3	0
19.4 - 5	CLEAN SAND	13	33	2.13	0.00S/FT	10.4	0
19.5 - 6	CLEAN SAND	11	34	2.15	0.00S/FT	10.6	0
19.6 - 7	CLEAN SAND	14	32	2.18	0.00S/FT	10.7	0
19.7 - 8	CLEAN SAND	18	31	2.21	0.00S/FT	10.8	0
19.8 - 9	CLEAN SAND	17	31	2.23	0.00S/FT	10.9	0
19.9 - 0	CLEAN SAND	17	31	2.27	0.00S/FT	11.2	0
20.0 - 1	SHALY SAND	20	29	2.26	0.00S/FT	11.1	0
20.1 - 2	SHALY SAND	24	27	2.24	0.00S/FT	11.1	0
20.2 - 3	SHALY SAND	21	29	2.22	0.00S/FT	11.1	0
20.3 - 4	CLEAN SAND	18	31	2.20	0.00S/FT	11.2	0
20.4 - 5	CLEAN SAND	15	34	2.18	0.00S/FT	11.3	0
20.5 - 6	CLEAN SAND	15	35	2.16	0.00S/FT	11.6	0
20.6 - 7	CLEAN SAND	15	35	2.14	0.00S/FT	11.8	0
20.7 - 8	CLEAN SAND	16	34	2.04	0.00S/FT	12.4	0
20.8 - 9	CLEAN SAND	17	32	2.04	0.00S/FT	13.1	0
20.9 - 0	CLEAN SAND	15	31	1.99	0.00S/FT	13.3	0
21.0 - 1	CLEAN SAND	13	32	1.94	0.00S/FT	13.6	0
21.1 - 2	CLEAN SAND	12	33	1.89	0.00S/FT	13.8	0
21.2 - 3	CLEAN SAND	12	35	1.78	0.00S/FT	12.9	0
21.3 - 4	CLEAN SAND	15	36	1.70	0.00S/FT	12.2	0
21.4 - 5	CLEAN SAND	16	35	1.69	0.00S/FT	11.8	0
21.5 - 6	CLEAN SAND	16	35	1.71	0.00S/FT	11.6	0
21.6 - 7	CLEAN SAND	15	36	1.71	0.00S/FT	11.3	0
21.7 - 8	CLEAN SAND	15	34	1.70	0.00S/FT	11.1	0
21.8 - 9	CLEAN SAND	17	31	1.68	0.00S/FT	10.7	0
21.9 - 0	CLEAN SAND	18	31	1.68	0.00S/FT	10.4	0

15-18'

19-21'

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
22.0	- 1	CLEAN SAND	17	32	1.70	0.00S/FT	10.4	0
22.1	- 2	CLEAN SAND	15	33	1.73	0.00S/FT	10.6	0
22.2	- 3	CLEAN SAND	17	32	1.72	0.00S/FT	10.3	0
22.3	- 4	CLEAN SAND	18	31	1.70	0.00S/FT	10.1	0
22.4	- 5	CLEAN SAND	18	31	1.77	0.00S/FT	10.1	0
22.5	- 6	CLEAN SAND	18	31	1.85	0.00S/FT	10.1	0
22.6	- 7	CLEAN SAND	18	32	1.88	0.00S/FT	10.1	0
22.7	- 8	CLEAN SAND	18	31	1.90	0.00S/FT	10.1	0
22.8	- 9	CLEAN SAND	18	30	1.96	0.00S/FT	10.1	0
22.9	- 0	CLEAN SAND	17	31	1.99	0.00S/FT	9.9	0
23.0	- 1	CLEAN SAND	16	32	1.97	0.00S/FT	9.8	0
23.1	- 2	CLEAN SAND	15	32	1.98	0.00S/FT	9.8	0
23.2	- 3	CLEAN SAND	14	32	1.99	0.00S/FT	9.8	0
23.3	- 4	CLEAN SAND	16	31	2.00	0.00S/FT	9.7	0
23.4	- 5	CLEAN SAND	18	31	2.02	0.00S/FT	9.7	0
23.5	- 6	CLEAN SAND	16	33	2.03	0.00S/FT	9.6	0
23.6	- 7	CLEAN SAND	14	34	2.05	0.00S/FT	9.6	0
23.7	- 8	CLEAN SAND	17	32	2.08	0.00S/FT	9.7	0
23.8	- 9	SHALY SAND	20	29	2.10	0.00S/FT	9.8	0
23.9	- 0	SHALY SAND	20	29	2.18	0.00S/FT	9.7	0
24.0	- 1	SHALY SAND	20	29	2.18	0.00S/FT	9.6	0
24.1	- 2	CLEAN SAND	18	29	2.20	0.00S/FT	9.6	0
24.2	- 3	CLEAN SAND	17	30	2.21	0.00S/FT	9.6	0
24.3	- 4	CLEAN SAND	16	31	2.20	0.00S/FT	9.4	0
24.4	- 5	CLEAN SAND	16	32	2.19	0.00S/FT	9.3	0
24.5	- 6	CLEAN SAND	14	33	2.20	0.00S/FT	9.3	0
24.6	- 7	CLEAN SAND	12	34	2.19	0.00S/FT	9.3	0
24.7	- 8	CLEAN SAND	14	33	2.19	0.00S/FT	9.3	0
24.8	- 9	CLEAN SAND	16	31	2.22	0.00S/FT	9.4	0
24.9	- 0	CLEAN SAND	15	31	2.27	0.00S/FT	9.7	0
25.0	- 1	CLEAN SAND	13	32	2.22	0.00S/FT	9.8	0
25.1	- 2	CLEAN SAND	12	33	2.26	0.00S/FT	10.1	0
25.2	- 3	CLEAN SAND	17	30	2.25	0.00S/FT	9.8	0
25.3	- 4	SHALY SAND	21	27	2.19	0.00S/FT	9.7	0
25.4	- 5	CLEAN SAND	16	30	2.16	0.00S/FT	9.7	0
25.5	- 6	CLEAN SAND	12	32	2.15	0.00S/FT	9.8	0
25.6	- 7	CLEAN SAND	12	32	2.13	0.00S/FT	9.8	0
25.7	- 8	CLEAN SAND	12	31	2.12	0.00S/FT	9.8	0
25.8	- 9	CLEAN SAND	10	33	2.09	0.00S/FT	9.7	0
25.9	- 0	CLEAN SAND	9	35	2.07	0.00S/FT	9.7	0
26.0	- 1	CLEAN SAND	11	33	2.07	0.00S/FT	9.7	0
26.1	- 2	CLEAN SAND	13	32	2.06	0.00S/FT	9.7	0
26.2	- 3	CLEAN SAND	11	33	2.04	0.00S/FT	9.8	0
26.3	- 4	CLEAN SAND	9	35	2.02	0.00S/FT	9.9	0
26.4	- 5	CLEAN SAND	13	32	2.04	0.00S/FT	10.2	0
26.5	- 6	CLEAN SAND	17	29	2.06	0.00S/FT	10.4	0
26.6	- 7	CLEAN SAND	15	30	2.05	0.00S/FT	10.7	0
26.7	- 8	CLEAN SAND	13	31	2.01	0.00S/FT	10.7	0
26.8	- 9	CLEAN SAND	15	31	2.01	0.00S/FT	10.7	0
26.9	- 0	CLEAN SAND	18	29	2.03	0.00S/FT	10.8	0
27.0	- 1	SHALY SAND	20	26	2.04	0.00S/FT	11.1	0
27.1	- 2	CLEAN SAND	15	28	2.09	0.00S/FT	11.2	0
27.2	- 3	CLEAN SAND	11	30	2.09	0.00S/FT	11.2	0
27.3	- 4	CLEAN SAND	11	32	2.11	0.00S/FT	11.1	0
27.4	- 5	CLEAN SAND	10	33	2.11	0.00S/FT	10.8	0
27.5	- 6	CLEAN SAND	12	31	2.11	0.00S/FT	10.6	0
27.6	- 7	CLEAN SAND	14	29	2.14	0.00S/FT	10.6	0
27.7	- 8	CLEAN SAND	17	20	2.16	0.00S/FT	10.6	0
27.8	- 9	CLEAN SAND	15	32	2.16	0.00S/FT	10.4	0
27.9	- 0	CLEAN SAND	12	32	2.16	0.00S/FT	10.4	0

21-24'

24-27'

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
28.0	- 1	CLEAN SAND	13	32	2.15	0.00S/FT	10.4	0
28.1	- 2	CLEAN SAND	12	32	2.13	0.00S/FT	10.4	0
28.2	- 3	CLEAN SAND	12	32	2.12	0.00S/FT	10.6	0
28.3	- 4	CLEAN SAND	13	33	2.12	0.00S/FT	10.7	0
28.4	- 5	CLEAN SAND	11	36	2.08	0.00S/FT	10.6	0
28.5	- 6	CLEAN SAND	10	37	2.06	0.00S/FT	10.6	0
28.6	- 7	CLEAN SAND	11	37	2.01	0.00S/FT	10.3	0
28.7	- 8	CLEAN SAND	13	36	1.99	0.00S/FT	10.2	0
28.8	- 9	CLEAN SAND	13	36	1.98	0.00S/FT	10.3	0
28.9	- 0	CLEAN SAND	14	35	1.98	0.00S/FT	10.4	0
29.0	- 1	CLEAN SAND	12	35	1.91	0.00S/FT	10.6	0
29.1	- 2	CLEAN SAND	10	34	1.94	0.00S/FT	10.7	0
29.2	- 3	CLEAN SAND	15	32	1.95	0.00S/FT	10.7	0
29.3	- 4	SHALY SAND	20	29	1.94	0.00S/FT	10.7	0
29.4	- 5	CLEAN SAND	19	31	1.91	0.00S/FT	10.6	0
29.5	- 6	CLEAN SAND	17	32	1.89	0.00S/FT	10.6	0
29.6	- 7	CLEAN SAND	15	34	1.88	0.00S/FT	10.7	0
29.7	- 8	CLEAN SAND	14	35	1.88	0.00S/FT	10.9	0
29.8	- 9	CLEAN SAND	13	35	1.85	0.00S/FT	10.9	0
29.9	- 0	CLEAN SAND	13	33	1.83	0.00S/FT	10.9	0
30.0	- 1	CLEAN SAND	14	32	1.79	0.00S/FT	10.8	0
30.1	- 2	CLEAN SAND	14	31	1.77	0.00S/FT	10.8	0
30.2	- 3	CLEAN SAND	14	30	1.73	0.00S/FT	10.7	0
30.3	- 4	CLEAN SAND	13	31	1.76	0.00S/FT	10.7	0
30.4	- 5	CLEAN SAND	12	33	1.75	0.00S/FT	10.4	0
30.5	- 6	CLEAN SAND	10	34	1.76	0.00S/FT	10.3	0
30.6	- 7	CLEAN SAND	9	34	1.79	0.00S/FT	10.1	0
30.7	- 8	CLEAN SAND	11	32	1.84	0.00S/FT	9.9	0
30.8	- 9	CLEAN SAND	12	31	1.90	0.00S/FT	9.8	0
30.9	- 0	CLEAN SAND	13	32	1.95	0.00S/FT	9.7	0
31.0	- 1	CLEAN SAND	13	33	1.96	0.00S/FT	9.6	0
31.1	- 2	CLEAN SAND	12	36	1.96	0.00S/FT	9.4	0
31.2	- 3	CLEAN SAND	11	34	1.98	0.00S/FT	9.4	0
31.3	- 4	CLEAN SAND	13	31	1.98	0.00S/FT	9.4	0
31.4	- 5	CLEAN SAND	14	30	2.00	0.00S/FT	9.6	0
31.5	- 6	CLEAN SAND	14	30	2.04	0.00S/FT	9.4	0
31.6	- 7	CLEAN SAND	15	29	2.02	0.00S/FT	9.4	0
31.7	- 8	CLEAN SAND	15	27	2.00	0.00S/FT	9.3	0
31.8	- 9	CLEAN SAND	13	29	1.98	0.00S/FT	9.2	0
31.9	- 0	CLEAN SAND	11	30	1.96	0.00S/FT	9.1	0
32.0	- 1	CLEAN SAND	13	30	1.95	0.00S/FT	8.9	0
32.1	- 2	CLEAN SAND	16	29	1.97	0.00S/FT	8.9	0
32.2	- 3	CLEAN SAND	18	29	1.99	0.00S/FT	8.9	0
32.3	- 4	SHALY SAND	19	28	1.99	0.00S/FT	8.8	0
32.4	- 5	CLEAN SAND	16	29	1.98	0.00S/FT	8.8	0
32.5	- 6	CLEAN SAND	13	31	1.97	0.00S/FT	8.9	0
32.6	- 7	CLEAN SAND	12	29	1.98	0.00S/FT	9.2	0
32.7	- 8	CLEAN SAND	13	27	2.10	0.00S/FT	8.9	0
32.8	- 9	CLEAN SAND	14	29	2.11	0.00S/FT	8.8	0
32.9	- 0	CLEAN SAND	14	30	2.12	0.00S/FT	8.7	0
33.0	- 1	CLEAN SAND	13	32	2.12	0.00S/FT	8.6	0
33.1	- 2	CLEAN SAND	12	34	2.12	0.00S/FT	8.6	0
33.2	- 3	CLEAN SAND	10	34	2.15	0.00S/FT	8.6	0
33.3	- 4	CLEAN SAND	12	31	2.17	0.00S/FT	8.4	0
33.4	- 5	CLEAN SAND	13	29	2.21	0.00S/FT	8.3	0
33.5	- 6	CLEAN SAND	15	29	2.19	0.00S/FT	8.4	0
33.6	- 7	CLEAN SAND	17	29	2.17	0.00S/FT	8.7	0
33.7	- 8	CLEAN SAND	15	29	2.15	0.00S/FT	8.7	0
33.8	- 9	CLEAN SAND	14	28	2.12	0.00S/FT	8.8	0
33.9	- 0	CLEAN SAND	16	28	2.12	0.00S/FT	8.7	0

27-30

30-33

				X	Z	GM/CC	DTIME	INCHES	IMPEDEANCE
34.0	-1	SHALY SAND		19	27	2.11	0.0US/FT	8.6	0
34.1	-2	CLEAN SAND		18	27	2.10	0.0US/FT	8.6	0
34.2	-3	CLEAN SAND		16	27	2.08	0.0US/FT	8.6	0
34.3	-4	CLEAN SAND		16	27	2.05	0.0US/FT	8.3	0
34.4	-5	CLEAN SAND		16	27	2.02	0.0US/FT	8.2	0
34.5	-6	CLEAN SAND		17	26	2.00	0.0US/FT	8.1	0
34.6	-7	CLEAN SAND		18	25	1.98	0.0US/FT	7.9	0
34.7	-8	CLEAN SAND		16	27	2.01	0.0US/FT	8.2	0
34.8	-9	CLEAN SAND		14	30	2.04	0.0US/FT	8.4	0
34.9	-10	CLEAN SAND	33-36'	14	29	2.03	0.0US/FT	8.4	0
35.0	-11	CLEAN SAND		14	28	2.05	0.0US/FT	8.4	0
35.1	-12	CLEAN SAND		14	27	2.07	0.0US/FT	8.4	0
35.2	-13	CLEAN SAND		14	27	2.06	0.0US/FT	8.6	0
35.3	-14	CLEAN SAND		13	27	2.06	0.0US/FT	8.7	0
35.4	-15	CLEAN SAND		12	28	2.06	0.0US/FT	8.9	0
35.5	-16	CLEAN SAND		12	27	2.07	0.0US/FT	8.9	0
35.6	-17	CLEAN SAND		15	26	2.05	0.0US/FT	8.9	0
35.7	-18	CLEAN SAND		16	26	2.03	0.0US/FT	8.7	0
35.8	-19	CLEAN SAND		18	26	2.05	0.0US/FT	8.6	0
35.9	-20	CLEAN SAND		14	29	2.08	0.0US/FT	8.6	0
36.0	-21	CLEAN SAND	-----	11	32	2.08	0.0US/FT	8.6	0
36.1	-22	CLEAN SAND		10	33	2.09	0.0US/FT	8.7	0
36.2	-23	CLEAN SAND		8	34	2.08	0.0US/FT	8.6	0
36.3	-24	CLEAN SAND		10	32	2.07	0.0US/FT	8.6	0
36.4	-25	CLEAN SAND		12	30	2.10	0.0US/FT	8.6	0
36.5	-26	CLEAN SAND		13	30	2.12	0.0US/FT	8.6	0
36.6	-27	CLEAN SAND		14	29	2.10	0.0US/FT	8.3	0
36.7	-28	CLEAN SAND		11	29	2.07	0.0US/FT	8.2	0
36.8	-29	CLEAN SAND		8	29	2.10	0.0US/FT	8.2	0
36.9	-30	CLEAN SAND		10	29	2.12	0.0US/FT	8.2	0
37.0	-31	CLEAN SAND		12	29	2.11	0.0US/FT	8.2	0
37.1	-32	CLEAN SAND		12	29	2.10	0.0US/FT	8.2	0
37.2	-33	CLEAN SAND		13	29	2.08	0.0US/FT	8.2	0
37.3	-34	CLEAN SAND		13	28	2.08	0.0US/FT	8.2	0
37.4	-35	CLEAN SAND	36-39'	12	28	2.08	0.0US/FT	8.2	0
37.5	-36	CLEAN SAND		11	30	2.07	0.0US/FT	8.2	0
37.6	-37	CLEAN SAND		9	33	2.08	0.0US/FT	8.1	0
37.7	-38	CLEAN SAND		8	31	2.08	0.0US/FT	7.9	0
37.8	-39	CLEAN SAND		9	29	2.07	0.0US/FT	7.8	0
37.9	-40	CLEAN SAND		9	29	2.05	0.0US/FT	7.9	0
38.0	-41	CLEAN SAND		12	28	2.04	0.0US/FT	8.1	0
38.1	-42	CLEAN SAND		14	27	2.02	0.0US/FT	8.3	0
38.2	-43	CLEAN SAND		13	26	2.03	0.0US/FT	8.3	0
38.3	-44	CLEAN SAND		13	28	2.03	0.0US/FT	8.3	0
38.4	-45	CLEAN SAND		12	29	2.02	0.0US/FT	8.3	0
38.5	-46	CLEAN SAND		12	29	2.01	0.0US/FT	8.3	0
38.6	-47	CLEAN SAND		10	29	2.00	0.0US/FT	8.4	0
38.7	-48	CLEAN SAND		8	29	2.01	0.0US/FT	8.4	0
38.8	-49	CLEAN SAND		13	28	2.03	0.0US/FT	8.4	0
38.9	-50	CLEAN SAND		17	27	2.02	0.0US/FT	8.4	0
39.0	-51	CLEAN SAND	-----	16	26	2.00	0.0US/FT	8.4	0
39.1	-52	CLEAN SAND		14	26	2.01	0.0US/FT	8.4	0
39.2	-53	CLEAN SAND		16	25	2.01	0.0US/FT	8.6	0
39.3	-54	CLEAN SAND		19	24	2.02	0.0US/FT	8.6	0
39.4	-55	CLEAN SAND		19	25	2.02	0.0US/FT	8.6	0
39.5	-56	SHALY SAND		19	25	2.02	0.0US/FT	8.4	0
39.6	-57	CLEAN SAND		18	25	2.02	0.0US/FT	8.4	0
39.7	-58	CLEAN SAND		16	24	2.02	0.0US/FT	8.6	0
39.8	-59	CLEAN SAND		18	24	2.02	0.0US/FT	8.7	0
39.9	-60	SHALY SAND		20	23	2.01	0.0US/FT	8.6	0

DEPTH	TIME	TEMP	GRM/CC	DTIME	INCHES	IMPEDENCE
40.0 - 1	CLEAN SAND	19	24	2.04	0.00S/FT 8.4	0
40.1 - 2	CLEAN SAND	17	26	2.06	0.00S/FT 8.3	0
40.2 - 3	CLEAN SAND	16	27	2.07	0.00S/FT 8.3	0
40.3 - 4	CLEAN SAND	17	25	2.08	0.00S/FT 8.2	0
40.4 - 5	CLEAN SAND	18	23	2.10	0.00S/FT 8.2	0
40.5 - 6	CLEAN SAND	14	25	2.12	0.00S/FT 8.2	0
40.6 - 7	CLEAN SAND	10	27	2.12	0.00S/FT 8.2	0
40.7 - 8	CLEAN SAND	13	26	2.11	0.00S/FT 8.1	0
40.8 - 9	CLEAN SAND	16	25	2.13	0.00S/FT 8.1	0
40.9 - 0	CLEAN SAND	14	26	2.14	0.00S/FT 8.1	0
41.0 - 1	CLEAN SAND	12	27	2.14	0.00S/FT 8.2	0
41.1 - 2	CLEAN SAND	14	26	2.13	0.00S/FT 8.3	0
41.2 - 3	CLEAN SAND	16	25	2.13	0.00S/FT 8.4	0
41.3 - 4	CLEAN SAND	16	25	2.11	0.00S/FT 8.6	0
41.4 - 5	CLEAN SAND	15	24	2.09	0.00S/FT 8.7	0
41.5 - 6	CLEAN SAND	17	23	2.07	0.00S/FT 8.8	0
41.6 - 7	CLEAN SAND	18	23	2.05	0.00S/FT 8.8	0
41.7 - 8	CLEAN SAND	16	25	2.04	0.00S/FT 8.8	0
41.8 - 9	CLEAN SAND	14	26	2.03	0.00S/FT 8.8	0
41.9 - 0	CLEAN SAND	14	26	2.00	0.00S/FT 8.9	0
42.0 - 1	CLEAN SAND	14	28	1.96	0.00S/FT 8.9	0
42.1 - 2	CLEAN SAND	14	29	1.97	0.00S/FT 9.1	0
42.2 - 3	CLEAN SAND	13	27	1.98	0.00S/FT 8.8	0
42.3 - 4	CLEAN SAND	12	26	1.98	0.00S/FT 8.7	0
42.4 - 5	CLEAN SAND	14	26	1.98	0.00S/FT 8.7	0
42.5 - 6	CLEAN SAND	16	27	1.98	0.00S/FT 8.7	0
42.6 - 7	CLEAN SAND	14	27	1.96	0.00S/FT 8.6	0
42.7 - 8	CLEAN SAND	12	28	1.94	0.00S/FT 8.6	0
42.8 - 9	CLEAN SAND	12	29	1.97	0.00S/FT 8.6	0
42.9 - 0	CLEAN SAND	12	29	2.00	0.00S/FT 8.6	0
43.0 - 1	CLEAN SAND	12	30	2.01	0.00S/FT 8.7	0
43.1 - 2	CLEAN SAND	13	31	2.01	0.00S/FT 8.6	0
43.2 - 3	CLEAN SAND	13	30	2.02	0.00S/FT 8.6	0
43.3 - 4	CLEAN SAND	13	29	2.01	0.00S/FT 8.6	0
43.4 - 5	CLEAN SAND	13	29	2.01	0.00S/FT 8.6	0
43.5 - 6	CLEAN SAND	12	30	2.01	0.00S/FT 8.6	0
43.6 - 7	CLEAN SAND	13	29	2.00	0.00S/FT 8.6	0
43.7 - 8	CLEAN SAND	13	28	1.99	0.00S/FT 8.6	0
43.8 - 9	CLEAN SAND	13	29	1.97	0.00S/FT 8.6	0
43.9 - 0	CLEAN SAND	13	29	1.95	0.00S/FT 8.6	0
44.0 - 1	CLEAN SAND	11	30	1.94	0.00S/FT 8.6	0
44.1 - 2	CLEAN SAND	9	31	1.91	0.00S/FT 8.6	0
44.2 - 3	CLEAN SAND	12	30	1.89	0.00S/FT 8.7	0
44.3 - 4	CLEAN SAND	15	28	1.87	0.00S/FT 8.7	0
44.4 - 5	CLEAN SAND	16	26	1.88	0.00S/FT 8.8	0
44.5 - 6	CLEAN SAND	17	23	1.89	0.00S/FT 8.8	0
44.6 - 7	CLEAN SAND	14	25	1.90	0.00S/FT 8.8	0
44.7 - 8	CLEAN SAND	12	27	1.92	0.00S/FT 8.7	0
44.8 - 9	CLEAN SAND	11	28	1.90	0.00S/FT 8.7	0
44.9 - 0	CLEAN SAND	10	29	1.89	0.00S/FT 8.4	0
45.0 - 1	CLEAN SAND	11	27	1.90	0.00S/FT 8.3	0
45.1 - 2	CLEAN SAND	12	25	1.91	0.00S/FT 8.3	0
45.2 - 3	CLEAN SAND	13	25	1.92	0.00S/FT 8.4	0
45.3 - 4	CLEAN SAND	15	24	1.95	0.00S/FT 8.2	0
45.4 - 5	CLEAN SAND	16	25	1.99	0.00S/FT 8.1	0
45.5 - 6	CLEAN SAND	18	25	2.02	0.00S/FT 7.9	0
45.6 - 7	SHALY SAND	19	26	2.05	0.00S/FT 7.8	0
45.7 - 8	CLEAN SAND	16	25	2.03	0.00S/FT 7.7	0
45.8 - 9	CLEAN SAND	13	24	2.05	0.00S/FT 7.7	0
45.9 - 0	CLEAN SAND	14	24	2.01	0.00S/FT 7.7	0

					GRAVITY	DEPTH	INCHES	INFORMATION
46.0	- 1	CLEAN SAND	16	23	2.05	0.005/FT	7.7	0
46.1	- 2	CLEAN SAND	13	24	2.07	0.005/FT	7.8	0
46.2	- 3	CLEAN SAND	11	24	2.09	0.005/FT	7.7	0
46.3	- 4	CLEAN SAND	13	24	2.10	0.005/FT	7.7	0
46.4	- 5	CLEAN SAND	14	23	2.05	0.005/FT	7.8	0
46.5	- 6	CLEAN SAND	12	26	2.01	0.005/FT	8.1	0
46.6	- 7	CLEAN SAND	10	29	1.97	0.005/FT	8.1	0
46.7	- 8	CLEAN SAND	11	28	1.98	0.005/FT	8.2	0
46.8	- 9	CLEAN SAND	13	26	1.99	0.005/FT	8.3	0
46.9	- 0	CLEAN SAND	16	26	2.02	0.005/FT	8.4	0
47.0	- 1	CLEAN SAND	19	25	2.08	0.005/FT	8.3	0
47.1	- 2	CLEAN SAND	19	26	2.09	0.005/FT	8.2	0
47.2	- 3	SHALY SAND	19	27	2.10	0.005/FT	8.1	0
47.3	- 4	SHALY SAND	20	26	2.12	0.005/FT	8.1	0
47.4	- 5	SHALY SAND	19	25	2.15	0.005/FT	8.1	0
47.5	- 6	CLEAN SAND	19	25	2.16	0.005/FT	8.1	0
47.6	- 7	CLEAN SAND	19	25	2.18	0.005/FT	8.1	0
47.7	- 8	CLEAN SAND	19	25	2.19	0.005/FT	8.1	0
47.8	- 9	SHALY SAND	19	25	2.17	0.005/FT	7.9	0
47.9	- 0	SHALY SAND	20	25	2.15	0.005/FT	7.8	0
48.0	- 1	SHALY SAND	21	24	2.14	0.005/FT	7.8	0
48.1	- 2	SHALY SAND	24	22	2.13	0.005/FT	7.8	0
48.2	- 3	SHALY SAND	24	21	2.11	0.005/FT	7.9	0
48.3	- 4	SHALY SAND	24	21	2.09	0.005/FT	7.9	0
48.4	- 5	SHALY SAND	19	24	2.07	0.005/FT	8.1	0
48.5	- 6	CLEAN SAND	14	27	2.05	0.005/FT	7.9	0
48.6	- 7	CLEAN SAND	16	26	2.02	0.005/FT	7.9	0
48.7	- 8	CLEAN SAND	18	25	2.01	0.005/FT	7.8	0
48.8	- 9	CLEAN SAND	17	26	2.00	0.005/FT	7.7	0
48.9	- 0	CLEAN SAND	16	27	2.01	0.005/FT	7.7	0
49.0	- 1	CLEAN SAND	14	27	2.03	0.005/FT	7.7	0
49.1	- 2	CLEAN SAND	13	27	2.05	0.005/FT	7.7	0
49.2	- 3	CLEAN SAND	16	25	2.07	0.005/FT	7.8	0
49.3	- 4	SHALY SAND	20	24	2.10	0.005/FT	7.9	0
49.4	- 5	SHALY SAND	20	22	2.13	0.005/FT	8.1	0
49.5	- 6	SHALY SAND	20	21	2.13	0.005/FT	8.1	0
49.6	- 7	CLEAN SAND	17	24	2.14	0.005/FT	8.2	0
49.7	- 8	CLEAN SAND	15	27	2.14	0.005/FT	8.3	0
49.8	- 9	CLEAN SAND	15	27	2.13	0.005/FT	8.4	0
49.9	- 0	CLEAN SAND	16	27	2.12	0.005/FT	8.3	0
50.0	- 1	CLEAN SAND	17	27	2.12	0.005/FT	8.2	0
50.1	- 2	CLEAN SAND	19	28	2.12	0.005/FT	8.2	0
50.2	- 3	CLEAN SAND	17	28	2.09	0.005/FT	8.2	0
50.3	- 4	CLEAN SAND	15	28	2.06	0.005/FT	8.1	0
50.4	- 5	CLEAN SAND	13	28	2.04	0.005/FT	8.1	0
50.5	- 6	CLEAN SAND	15	28	2.02	0.005/FT	8.1	0
50.6	- 7	CLEAN SAND	17	27	2.01	0.005/FT	8.1	0
50.7	- 8	CLEAN SAND	16	27	1.96	0.005/FT	7.9	0
50.8	- 9	CLEAN SAND	15	26	1.91	0.005/FT	7.8	0
50.9	- 0	CLEAN SAND	14	27	1.90	0.005/FT	7.8	0
51.0	- 1	CLEAN SAND	13	28	1.89	0.005/FT	7.8	0
51.1	- 2	CLEAN SAND	15	27	1.89	0.005/FT	7.8	0
51.2	- 3	CLEAN SAND	17	25	1.88	0.005/FT	7.9	0
51.3	- 4	CLEAN SAND	13	26	1.89	0.005/FT	8.1	0
51.4	- 5	CLEAN SAND	9	27	1.89	0.005/FT	8.2	0
51.5	- 6	CLEAN SAND	12	26	1.88	0.005/FT	8.4	0
51.6	- 7	CLEAN SAND	18	24	1.87	0.005/FT	8.4	0
51.7	- 8	SHALY SAND	19	22	1.87	0.005/FT	8.6	0
51.8	- 9	SHALY SAND	21	21	1.89	0.005/FT	8.4	0
51.9	- 0	CLEAN SAND	17	22	1.91	0.005/FT	8.4	0

45-1121

48-51

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
52.0	- 1	CLEAN SAND	13	26	1.92	0.00S/FT	8.4	0
52.1	- 2	CLEAN SAND	13	26	1.93	0.00S/FT	8.4	0
52.2	- 3	CLEAN SAND	14	25	1.95	0.00S/FT	8.3	0
52.3	- 4	CLEAN SAND	14	25	1.97	0.00S/FT	8.2	0
52.4	- 5	CLEAN SAND	14	25	1.98	0.00S/FT	8.2	0
52.5	- 6	CLEAN SAND	13	27	1.99	0.00S/FT	8.2	0
52.6	- 7	CLEAN SAND	11	28	2.00	0.00S/FT	8.3	0
52.7	- 8	CLEAN SAND	10	30	2.01	0.00S/FT	8.2	0
52.8	- 9	CLEAN SAND	9	32	2.03	0.00S/FT	8.2	0
52.9	- 0	CLEAN SAND	9	34	2.03	0.00S/FT	8.2	0
53.0	- 1	CLEAN SAND	9	35	2.03	0.00S/FT	8.2	0
53.1	- 2	CLEAN SAND	10	34	2.03	0.00S/FT	8.1	0
53.2	- 3	CLEAN SAND	12	33	2.03	0.00S/FT	8.1	0
53.3	- 4	CLEAN SAND	11	33	2.02	0.00S/FT	7.9	0
53.4	- 5	CLEAN SAND	10	33	2.00	0.00S/FT	7.8	0
53.5	- 6	CLEAN SAND	10	32	2.01	0.00S/FT	7.8	0
53.6	- 7	CLEAN SAND	9	31	2.01	0.00S/FT	7.9	0
53.7	- 8	CLEAN SAND	12	29	2.01	0.00S/FT	7.9	0
53.8	- 9	CLEAN SAND	15	28	2.01	0.00S/FT	7.9	0
53.9	- 0	CLEAN SAND	13	29	1.99	0.00S/FT	7.8	0
54.0	- 1	CLEAN SAND	11	30	1.97	0.00S/FT	7.7	0
54.1	- 2	CLEAN SAND	13	30	1.99	0.00S/FT	7.7	0
54.2	- 3	CLEAN SAND	16	29	2.00	0.00S/FT	7.4	0
54.3	- 4	CLEAN SAND	12	31	2.01	0.00S/FT	7.3	0
54.4	- 5	CLEAN SAND	8	32	2.04	0.00S/FT	7.2	0
54.5	- 6	CLEAN SAND	13	29	2.06	0.00S/FT	7.1	0
54.6	- 7	CLEAN SAND	17	27	2.05	0.00S/FT	6.9	0
54.7	- 8	CLEAN SAND	15	28	2.03	0.00S/FT	6.8	0
54.8	- 9	CLEAN SAND	14	26	2.04	0.00S/FT	6.7	0
54.9	- 0	CLEAN SAND	13	25	2.04	0.00S/FT	6.7	0
55.0	- 1	CLEAN SAND	13	24	2.02	0.00S/FT	6.8	0
55.1	- 2	CLEAN SAND	15	23	2.01	0.00S/FT	6.9	0
55.2	- 3	CLEAN SAND	14	23	2.00	0.00S/FT	6.9	0
55.3	- 4	CLEAN SAND	13	24	2.00	0.00S/FT	6.9	0
55.4	- 5	CLEAN SAND	12	24	2.00	0.00S/FT	6.9	0
55.5	- 6	CLEAN SAND	11	25	1.99	0.00S/FT	6.9	0
55.6	- 7	CLEAN SAND	11	24	1.97	0.00S/FT	6.9	0
55.7	- 8	CLEAN SAND	12	24	1.95	0.00S/FT	7.1	0
55.8	- 9	CLEAN SAND	14	22	1.96	0.00S/FT	6.9	0
55.9	- 0	CLEAN SAND	16	22	1.97	0.00S/FT	6.9	0
56.0	- 1	CLEAN SAND	16	23	1.99	0.00S/FT	7.1	0
56.1	- 2	CLEAN SAND	16	25	2.01	0.00S/FT	7.3	0
56.2	- 3	CLEAN SAND	14	28	2.03	0.00S/FT	7.2	0
56.3	- 4	CLEAN SAND	13	27	2.05	0.00S/FT	7.2	0
56.4	- 5	CLEAN SAND	14	25	2.04	0.00S/FT	7.2	0
56.5	- 6	CLEAN SAND	15	27	2.03	0.00S/FT	7.2	0
56.6	- 7	CLEAN SAND	15	28	2.05	0.00S/FT	7.3	0
56.7	- 8	CLEAN SAND	15	29	2.08	0.00S/FT	7.3	0
56.8	- 9	CLEAN SAND	12	32	2.07	0.00S/FT	7.3	0
56.9	- 0	CLEAN SAND	8	32	2.07	0.00S/FT	7.2	0
57.0	- 1	CLEAN SAND	9	31	2.10	0.00S/FT	7.2	0
57.1	- 2	CLEAN SAND	10	32	2.14	0.00S/FT	7.2	0
57.2	- 3	CLEAN SAND	9	33	2.13	0.00S/FT	7.2	0
57.3	- 4	CLEAN SAND	8	31	2.13	0.00S/FT	7.1	0
57.4	- 5	CLEAN SAND	7	30	2.12	0.00S/FT	7.1	0
57.5	- 6	CLEAN SAND	9	31	2.13	0.00S/FT	7.1	0
57.6	- 7	CLEAN SAND	11	32	2.13	0.00S/FT	7.1	0
57.7	- 8	CLEAN SAND	13	31	2.10	0.00S/FT	6.9	0
57.8	- 9	CLEAN SAND	14	29	2.07	0.00S/FT	6.9	0
57.9	- 0	CLEAN SAND	14	29	2.05	0.00S/FT	7.1	0

DEPTH		LITHOLOGY		GRAVITY DENSITY		DENSITY	DTIME	CHLIMPER	ACQUISITION
				%	%	GM/CC		INCHES	IMPEDENCE
58.0	- 1	CLEAN SAND		13	28	2.02	0.00S/FT	7.2	0
58.1	- 2	CLEAN SAND		15	28	2.03	0.00S/FT	7.2	0
58.2	- 3	CLEAN SAND		16	28	2.04	0.00S/FT	7.2	0
58.3	- 4	CLEAN SAND		17	28	2.01	0.00S/FT	6.9	0
58.4	- 5	CLEAN SAND		18	28	1.97	0.00S/FT	6.7	0
58.5	- 6	SHALY SAND		20	27	2.01	0.00S/FT	6.7	0
58.6	- 7	SHALY SAND		24	26	2.05	0.00S/FT	6.8	0
58.7	- 8	SHALY SAND		21	28	2.08	0.00S/FT	6.8	0
58.8	- 9	CLEAN SAND		19	29	2.12	0.00S/FT	6.9	0
58.9	- 0	SHALY SAND		19	28	2.13	0.00S/FT	6.9	0
59.0	- 1	SHALY SAND		20	29	2.14	0.00S/FT	6.9	0
59.1	- 2	CLEAN SAND		16	32	2.13	0.00S/FT	6.9	0
59.2	- 3	CLEAN SAND		12	32	2.12	0.00S/FT	7.2	0
59.3	- 4	CLEAN SAND		13	30	2.11	0.00S/FT	7.4	0
59.4	- 5	CLEAN SAND		14	31	2.13	0.00S/FT	7.6	0
59.5	- 6	CLEAN SAND		15	33	2.14	0.00S/FT	7.7	0
59.6	- 7	CLEAN SAND		16	32	2.13	0.00S/FT	7.8	0
59.7	- 8	CLEAN SAND		15	32	2.11	0.00S/FT	7.9	0
59.8	- 9	CLEAN SAND		14	33	2.10	0.00S/FT	8.2	0
59.9	- 0	CLEAN SAND		15	33	2.08	0.00S/FT	8.6	0
60.0	- 1	CLEAN SAND		17	32	2.07	0.00S/FT	8.3	0
60.1	- 2	CLEAN SAND		19	31	2.06	0.00S/FT	8.2	0
60.2	- 3	SHALY SAND		20	29	2.04	0.00S/FT	7.8	0
60.3	- 4	SHALY SAND		20	29	2.01	0.00S/FT	7.4	0
60.4	- 5	SHALY SAND		20	30	1.99	0.00S/FT	7.4	0
60.5	- 6	CLEAN SAND		18	33	2.03	0.00S/FT	7.6	0
60.6	- 7	CLEAN SAND		17	32	2.07	0.00S/FT	7.4	0
60.7	- 8	SHALY SAND		20	30	2.08	0.00S/FT	7.3	0
60.8	- 9	SHALY SAND		23	27	2.10	0.00S/FT	7.1	0
60.9	- 0	SHALY SAND		24	26	2.07	0.00S/FT	6.9	0
61.0	- 1	SHALY SAND		24	25	2.04	0.00S/FT	6.8	0
61.1	- 2	SHALY SAND		20	26	2.06	0.00S/FT	6.8	0
61.2	- 3	CLEAN SAND		17	29	2.07	0.00S/FT	6.8	0
61.3	- 4	SHALY SAND		21	29	2.04	0.00S/FT	6.8	0
61.4	- 5	SHALY SAND		27	24	2.01	0.00S/FT	6.8	0
61.5	- 6	SHALY SAND		23	24	2.01	0.00S/FT	6.9	0
61.6	- 7	SHALY SAND		20	26	2.00	0.00S/FT	6.8	0
61.7	- 8	SHALY SAND		23	24	2.02	0.00S/FT	6.8	0
61.8	- 9	SHALY SAND		27	22	2.03	0.00S/FT	6.8	0
61.9	- 0	SHALY SAND		20	24	2.03	0.00S/FT	6.8	0
62.0	- 1	CLEAN SAND		14	27	2.03	0.00S/FT	6.8	0
62.1	- 2	CLEAN SAND		15	26	2.03	0.00S/FT	6.9	0
62.2	- 3	CLEAN SAND		16	26	2.07	0.00S/FT	6.9	0
62.3	- 4	CLEAN SAND		17	25	2.10	0.00S/FT	6.9	0
62.4	- 5	CLEAN SAND		17	25	2.12	0.00S/FT	6.8	0
62.5	- 6	CLEAN SAND		18	24	2.13	0.00S/FT	6.8	0
62.6	- 7	SHALY SAND		19	24	2.12	0.00S/FT	6.8	0
62.7	- 8	SHALY SAND		20	25	2.11	0.00S/FT	6.8	0
62.8	- 9	SHALY SAND		19	24	2.12	0.00S/FT	6.8	0
62.9	- 0	CLEAN SAND		18	23	2.13	0.00S/FT	6.8	0
63.0	- 1	SHALY SAND		21	22	2.15	0.00S/FT	6.8	0
63.1	- 2	SHALY SAND		24	21	2.18	0.00S/FT	6.8	0
63.2	- 3	SHALY SAND		22	22	2.18	0.00S/FT	6.8	0
63.3	- 4	SHALY SAND		20	23	2.18	0.00S/FT	6.8	0
63.4	- 5	CLEAN SAND		17	25	2.19	0.00S/FT	6.8	0
63.5	- 6	CLEAN SAND		14	28	2.20	0.00S/FT	6.9	0
63.6	- 7	CLEAN SAND		15	28	2.18	0.00S/FT	6.9	0
63.7	- 8	CLEAN SAND		17	27	2.16	0.00S/FT	7.1	0
63.8	- 9	CLEAN SAND		17	27	2.16	0.00S/FT	7.1	0
63.9	- 0	CLEAN SAND		17	27	2.15	0.00S/FT	7.2	0

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
70.0	- 1	CLEAN SAND	11	32	2.10	0.00S/FT	7.2	0
70.1	- 2	CLEAN SAND	11	33	2.10	0.00S/FT	7.2	0
70.2	- 3	CLEAN SAND	12	34	2.11	0.00S/FT	7.3	0
70.3	- 4	CLEAN SAND	15	32	2.11	0.00S/FT	7.6	0
70.4	- 5	SHALY SAND	19	30	2.11	0.00S/FT	7.6	0
70.5	- 6	CLEAN SAND	16	31	2.11	0.00S/FT	7.7	0
70.6	- 7	CLEAN SAND	14	33	2.10	0.00S/FT	7.7	0
70.7	- 8	CLEAN SAND	19	29	2.10	0.00S/FT	7.8	0
70.8	- 9	SHALY SAND	23	25	2.09	0.00S/FT	7.8	0
70.9	- 0	CLEAN SAND	17	30	2.09	0.00S/FT	7.8	0
71.0	- 1	CLEAN SAND	12	34	2.08	0.00S/FT	7.9	0
71.1	- 2	CLEAN SAND	12	33	2.08	0.00S/FT	8.1	0
71.2	- 3	CLEAN SAND	13	32	2.02	0.00S/FT	7.9	0
71.3	- 4	CLEAN SAND	15	31	1.96	0.00S/FT	7.9	0
71.4	- 5	CLEAN SAND	17	30	1.96	0.00S/FT	7.9	0
71.5	- 6	CLEAN SAND	17	29	1.97	0.00S/FT	7.9	0
71.6	- 7	CLEAN SAND	18	28	1.98	0.00S/FT	8.1	0
71.7	- 8	CLEAN SAND	16	31	2.00	0.00S/FT	8.1	0
71.8	- 9	CLEAN SAND	14	34	2.00	0.00S/FT	8.2	0
71.9	- 0	CLEAN SAND	13	34	2.00	0.00S/FT	7.9	0
72.0	- 1	CLEAN SAND	12	33	1.98	0.00S/FT	7.7	0
72.1	- 2	CLEAN SAND	12	33	1.97	0.00S/FT	7.6	0
72.2	- 3	CLEAN SAND	13	32	2.02	0.00S/FT	7.6	0
72.3	- 4	CLEAN SAND	11	32	2.07	0.00S/FT	7.6	0
72.4	- 5	CLEAN SAND	9	32	2.11	0.00S/FT	7.7	0
72.5	- 6	CLEAN SAND	11	31	2.14	0.00S/FT	7.6	0
72.6	- 7	CLEAN SAND	13	30	2.13	0.00S/FT	7.6	0
72.7	- 8	CLEAN SAND	16	28	2.11	0.00S/FT	7.6	0
72.8	- 9	CLEAN SAND	19	26	2.13	0.00S/FT	7.6	0
72.9	- 0	CLEAN SAND	18	27	2.15	0.00S/FT	7.7	0
73.0	- 1	CLEAN SAND	17	28	2.15	0.00S/FT	7.9	0
73.1	- 2	CLEAN SAND	16	29	2.16	0.00S/FT	8.1	0
73.2	- 3	CLEAN SAND	16	30	2.16	0.00S/FT	8.2	0
73.3	- 4	CLEAN SAND	15	30	2.13	0.00S/FT	8.3	0
73.4	- 5	CLEAN SAND	15	30	2.10	0.00S/FT	8.3	0
73.5	- 6	CLEAN SAND	14	30	2.09	0.00S/FT	8.3	0
73.6	- 7	CLEAN SAND	13	30	2.07	0.00S/FT	8.3	0
73.7	- 8	CLEAN SAND	11	31	2.10	0.00S/FT	8.3	0
73.8	- 9	CLEAN SAND	10	32	2.13	0.00S/FT	8.4	0
73.9	- 0	CLEAN SAND	12	30	2.14	0.00S/FT	8.2	0
74.0	- 1	CLEAN SAND	15	29	2.14	0.00S/FT	8.1	0
74.1	- 2	CLEAN SAND	16	29	2.14	0.00S/FT	7.9	0
74.2	- 3	CLEAN SAND	17	30	2.16	0.00S/FT	7.9	0
74.3	- 4	CLEAN SAND	18	28	2.17	0.00S/FT	7.9	0
74.4	- 5	SHALY SAND	20	28	2.18	0.00S/FT	8.1	0
74.5	- 6	CLEAN SAND	17	29	2.20	0.00S/FT	8.1	0
74.6	- 7	CLEAN SAND	15	30	2.18	0.00S/FT	8.1	0
74.7	- 8	CLEAN SAND	13	32	2.16	0.00S/FT	8.2	0
74.8	- 9	CLEAN SAND	12	32	2.15	0.00S/FT	8.4	0
74.9	- 0	CLEAN SAND	17	29	2.14	0.00S/FT	8.2	0
75.0	- 1	SHALY SAND	23	26	2.10	0.00S/FT	7.9	0
75.1	- 2	SHALY SAND	20	27	2.05	0.00S/FT	7.8	0
75.2	- 3	CLEAN SAND	18	28	2.03	0.00S/FT	7.8	0
75.3	- 4	CLEAN SAND	15	29	2.01	0.00S/FT	7.8	0
75.4	- 5	CLEAN SAND	13	32	2.03	0.00S/FT	7.8	0
75.5	- 6	CLEAN SAND	14	31	2.04	0.00S/FT	7.8	0
75.6	- 7	CLEAN SAND	15	30	2.07	0.00S/FT	7.8	0
75.7	- 8	CLEAN SAND	15	29	2.10	0.00S/FT	7.8	0
75.8	- 9	CLEAN SAND	14	29	2.09	0.00S/FT	7.7	0
75.9	- 0	CLEAN SAND	16	27	2.09	0.00S/FT	7.7	0

DEPTH	LITHOLOGY	GRAVITY POROSITY		VELOCITY	SOUND	GRAINING	ACOUSTIC
		%	%	GM/CC	DTIME	INCHES	IMPEDENCE
76.0 - 1	CLEAN SAND	19	26	2.08	0.00S/FT	7.7	0
76.1 - 2	SHALY SAND	19	26	2.07	0.00S/FT	7.8	0
76.2 - 3	SHALY SAND	20	25	2.09	0.00S/FT	7.8	0
76.3 - 4	CLEAN SAND	18	24	2.11	0.00S/FT	7.8	0
76.4 - 5	CLEAN SAND	16	26	2.12	0.00S/FT	7.7	0
76.5 - 6	CLEAN SAND	17	27	2.13	0.00S/FT	7.7	0
76.6 - 7	CLEAN SAND	17	26	2.11	0.00S/FT	7.7	0
76.7 - 8	CLEAN SAND	19	25	2.09	0.00S/FT	7.8	0
76.8 - 9	SHALY SAND	20	24	2.09	0.00S/FT	7.8	0
76.9 - 0	SHALY SAND	19	23	2.09	0.00S/FT	7.8	0
77.0 - 1	CLEAN SAND	18	26	2.10	0.00S/FT	7.8	0
77.1 - 2	CLEAN SAND	15	30	2.09	0.00S/FT	7.8	0
77.2 - 3	CLEAN SAND	13	31	2.08	0.00S/FT	7.8	0
77.3 - 4	CLEAN SAND	17	29	2.10	0.00S/FT	7.8	0
77.4 - 5	SHALY SAND	20	27	2.10	0.00S/FT	7.8	0
77.5 - 6	SHALY SAND	21	27	2.10	0.00S/FT	7.9	0
77.6 - 7	SHALY SAND	21	27	2.11	0.00S/FT	7.7	0
77.7 - 8	SHALY SAND	20	27	2.12	0.00S/FT	7.6	0
77.8 - 9	CLEAN SAND	19	27	2.12	0.00S/FT	7.6	0
77.9 - 0	CLEAN SAND	18	26	2.13	0.00S/FT	7.7	0
78.0 - 1	CLEAN SAND	17	27	2.15	0.00S/FT	7.7	0
78.1 - 2	CLEAN SAND	15	28	2.17	0.00S/FT	7.7	0
78.2 - 3	CLEAN SAND	14	28	2.14	0.00S/FT	7.7	0
78.3 - 4	CLEAN SAND	18	26	2.11	0.00S/FT	7.8	0
78.4 - 5	SHALY SAND	21	26	2.13	0.00S/FT	7.8	0
78.5 - 6	SHALY SAND	19	29	2.14	0.00S/FT	7.8	0
78.6 - 7	CLEAN SAND	17	32	2.12	0.00S/FT	7.8	0
78.7 - 8	CLEAN SAND	13	36	2.10	0.00S/FT	7.9	0
78.8 - 9	CLEAN SAND	11	35	2.07	0.00S/FT	7.9	0
78.9 - 0	CLEAN SAND	11	31	2.05	0.00S/FT	7.9	0
79.0 - 1	CLEAN SAND	12	32	2.05	0.00S/FT	7.8	0
79.1 - 2	CLEAN SAND	12	32	2.04	0.00S/FT	7.8	0
79.2 - 3	CLEAN SAND	12	32	2.04	0.00S/FT	7.6	0
79.3 - 4	CLEAN SAND	15	29	2.04	0.00S/FT	7.4	0
79.4 - 5	SHALY SAND	19	27	2.06	0.00S/FT	7.3	0
79.5 - 6	CLEAN SAND	18	28	2.08	0.00S/FT	7.3	0
79.6 - 7	CLEAN SAND	17	28	2.10	0.00S/FT	7.3	0
79.7 - 8	CLEAN SAND	16	28	2.12	0.00S/FT	7.3	0
79.8 - 9	CLEAN SAND	15	28	2.11	0.00S/FT	7.3	0
79.9 - 0	CLEAN SAND	14	27	2.10	0.00S/FT	7.4	0
80.0 - 1	CLEAN SAND	14	26	2.12	0.00S/FT	7.4	0
80.1 - 2	CLEAN SAND	13	26	2.13	0.00S/FT	7.4	0
80.2 - 3	CLEAN SAND	13	27	2.11	0.00S/FT	7.4	0
80.3 - 4	CLEAN SAND	15	27	2.09	0.00S/FT	7.4	0
80.4 - 5	CLEAN SAND	19	26	2.01	0.00S/FT	7.4	0
80.5 - 6	CLEAN SAND	19	27	1.93	0.00S/FT	7.6	0
80.6 - 7	CLEAN SAND	19	27	1.94	0.00S/FT	7.6	0
80.7 - 8	CLEAN SAND	12	29	1.95	0.00S/FT	7.6	0
80.8 - 9	CLEAN SAND	9	30	1.92	0.00S/FT	7.4	0
80.9 - 0	CLEAN SAND	13	28	1.89	0.00S/FT	7.4	0
81.0 - 1	CLEAN SAND	16	26	1.86	0.00S/FT	7.1	0
81.1 - 2	CLEAN SAND	15	27	1.88	0.00S/FT	6.8	0
81.2 - 3	CLEAN SAND	13	28	1.90	0.00S/FT	6.7	0
81.3 - 4	CLEAN SAND	13	28	1.96	0.00S/FT	6.7	0
81.4 - 5	CLEAN SAND	13	29	2.01	0.00S/FT	6.7	0
81.5 - 6	CLEAN SAND	12	29	2.05	0.00S/FT	6.8	0
81.6 - 7	CLEAN SAND	11	29	2.09	0.00S/FT	6.8	0
81.7 - 8	CLEAN SAND	12	29	2.12	0.00S/FT	6.8	0
81.8 - 9	CLEAN SAND	12	27	2.15	0.00S/FT	6.8	0
81.9 - 0	CLEAN SAND	12	26	2.19	0.00S/FT	6.9	0

75-78'

78-81'

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
82.0	- 1	CLEAN SAND	14	27	2.23	0.0US/FT	7.1	0
82.1	- 2	CLEAN SAND	14	29	2.25	0.0US/FT	7.3	0
82.2	- 3	CLEAN SAND	14	28	2.26	0.0US/FT	7.2	0
82.3	- 4	CLEAN SAND	13	29	2.23	0.0US/FT	7.2	0
82.4	- 5	CLEAN SAND	11	32	2.19	0.0US/FT	7.2	0
82.5	- 6	CLEAN SAND	10	34	2.16	0.0US/FT	7.3	0
82.6	- 7	CLEAN SAND	10	33	2.15	0.0US/FT	7.2	0
82.7	- 8	CLEAN SAND	14	29	2.14	0.0US/FT	7.2	0
82.8	- 9	SHALY SAND	20	26	2.08	0.0US/FT	7.3	0
82.9	- 0	CLEAN SAND	15	27	2.10	0.0US/FT	7.4	0
83.0	- 1	CLEAN SAND	12	29	2.12	0.0US/FT	7.4	0
83.1	- 2	CLEAN SAND	13	29	2.12	0.0US/FT	7.4	0
83.2	- 3	CLEAN SAND	14	29	2.13	0.0US/FT	7.4	0
83.3	- 4	CLEAN SAND	14	30	2.14	0.0US/FT	7.6	0
83.4	- 5	CLEAN SAND	15	29	2.15	0.0US/FT	7.6	0
83.5	- 6	CLEAN SAND	17	28	2.13	0.0US/FT	7.7	0
83.6	- 7	SHALY SAND	20	28	2.12	0.0US/FT	7.7	0
83.7	- 8	CLEAN SAND	19	30	2.15	0.0US/FT	7.8	0
83.8	- 9	CLEAN SAND	18	29	2.19	0.0US/FT	7.9	0
83.9	- 0	CLEAN SAND	14	30	2.21	0.0US/FT	8.1	0
84.0	- 1	CLEAN SAND	12	32	2.22	0.0US/FT	7.9	0
84.1	- 2	CLEAN SAND	15	31	2.24	0.0US/FT	7.8	0
84.2	- 3	SHALY SAND	20	28	2.27	0.0US/FT	7.8	0
84.3	- 4	SHALY SAND	24	25	2.26	0.0US/FT	7.8	0
84.4	- 5	SHALY SAND	29	22	2.24	0.0US/FT	7.7	0
84.5	- 6	SHALY SAND	22	24	2.22	0.0US/FT	7.7	0
84.6	- 7	CLEAN SAND	16	28	2.19	0.0US/FT	7.6	0
84.7	- 8	CLEAN SAND	15	28	2.17	0.0US/FT	7.6	0
84.8	- 9	CLEAN SAND	14	28	2.17	0.0US/FT	7.4	0
84.9	- 0	CLEAN SAND	18	26	2.16	0.0US/FT	7.3	0
85.0	- 1	SHALY SAND	22	25	2.17	0.0US/FT	7.3	0
85.1	- 2	CLEAN SAND	18	29	2.17	0.0US/FT	7.1	0
85.2	- 3	CLEAN SAND	14	30	2.14	0.0US/FT	6.9	0
85.3	- 4	CLEAN SAND	18	27	2.12	0.0US/FT	6.8	0
85.4	- 5	SHALY SAND	21	24	2.12	0.0US/FT	6.8	0
85.5	- 6	CLEAN SAND	18	25	2.11	0.0US/FT	6.8	0
85.6	- 7	CLEAN SAND	15	25	2.09	0.0US/FT	6.8	0
85.7	- 8	CLEAN SAND	16	25	2.07	0.0US/FT	6.8	0
85.8	- 9	CLEAN SAND	16	25	2.05	0.0US/FT	6.8	0
85.9	- 0	CLEAN SAND	17	25	2.03	0.0US/FT	6.7	0
86.0	- 1	CLEAN SAND	19	24	2.02	0.0US/FT	6.7	0
86.1	- 2	CLEAN SAND	18	25	2.00	0.0US/FT	6.6	0
86.2	- 3	CLEAN SAND	17	24	2.00	0.0US/FT	6.4	0
86.3	- 4	CLEAN SAND	17	23	2.00	0.0US/FT	6.6	0
86.4	- 5	CLEAN SAND	18	24	2.01	0.0US/FT	6.7	0
86.5	- 6	CLEAN SAND	17	25	2.01	0.0US/FT	6.7	0
86.6	- 7	CLEAN SAND	15	26	2.05	0.0US/FT	6.7	0
86.7	- 8	CLEAN SAND	14	27	2.10	0.0US/FT	6.6	0
86.8	- 9	CLEAN SAND	14	26	2.13	0.0US/FT	6.6	0
86.9	- 0	CLEAN SAND	15	25	2.21	0.0US/FT	6.6	0
87.0	- 1	CLEAN SAND	14	25	2.22	0.0US/FT	6.6	0
87.1	- 2	CLEAN SAND	13	25	2.23	0.0US/FT	6.6	0
87.2	- 3	CLEAN SAND	14	24	2.21	0.0US/FT	6.6	0
87.3	- 4	CLEAN SAND	16	22	2.19	0.0US/FT	6.7	0
87.4	- 5	CLEAN SAND	15	23	2.21	0.0US/FT	6.7	0
87.5	- 6	CLEAN SAND	14	24	2.20	0.0US/FT	6.7	0
87.6	- 7	CLEAN SAND	16	24	2.19	0.0US/FT	6.7	0
87.7	- 8	CLEAN SAND	18	24	2.18	0.0US/FT	6.8	0
87.8	- 9	CLEAN SAND	18	24	2.15	0.0US/FT	6.7	0
87.9	- 0	SHALY SAND	19	25	2.12	0.0US/FT	6.7	0

DATACOMP_R

LITHOLOGICAL

LISTING

for

MW-2

RUN DATE: 7 / 9 / 80

			3' intervals	%	%	GM/CC	DTIME	INCHES	IMPEDENCE
10.0	- 1	SHALY SAND	Corresponding to Total of intervals	26	26	1.56	0.0US/FT	6.3	0
10.1	- 2	SHALY SAND		27	27	1.56	0.0US/FT	6.2	0
10.2	- 3	SHALY SAND		27	28	1.58	0.0US/FT	6.2	0
10.3	- 4	SHALY SAND		28	26	1.60	0.0US/FT	6.2	0
10.4	- 5	SHALY SAND		25	26	1.62	0.0US/FT	5.9	0
10.5	- 6	SHALY SAND		22	26	1.64	0.0US/FT	5.8	0
10.6	- 7	SHALY SAND		22	28	1.65	0.0US/FT	5.7	0
10.7	- 8	SHALY SAND		21	30	1.66	0.0US/FT	5.9	0
10.8	- 9	SHALY SAND		23	29	1.67	0.0US/FT	6.3	0
10.9	- 0	SHALY SAND		26	27	1.68	0.0US/FT	6.1	0
11.0	- 1	SHALY SAND	2-12	28	24	1.69	0.0US/FT	5.8	0
11.1	- 2	SHALY SAND		23	27	1.72	0.0US/FT	5.7	0
11.2	- 3	CLEAN SAND		17	30	1.75	0.0US/FT	5.4	0
11.3	- 4	SHALY SAND		23	29	1.77	0.0US/FT	5.3	0
11.4	- 5	SHALY SAND		28	25	1.82	0.0US/FT	5.2	0
11.5	- 6	SHALY SAND		25	27	1.87	0.0US/FT	5.1	0
11.6	- 7	SHALY SAND		21	29	1.88	0.0US/FT	4.9	0
11.7	- 8	CLEAN SAND		19	30	1.90	0.0US/FT	4.9	0
11.8	- 9	CLEAN SAND		17	32	1.86	0.0US/FT	4.9	0
11.9	- 0	SHALY SAND		20	31	1.82	0.0US/FT	5.1	0
12.0	- 1	SHALY SAND		19	31	1.79	0.0US/FT	5.2	0
12.1	- 2	SHALY SAND		19	30	1.76	0.0US/FT	5.3	0
12.2	- 3	CLEAN SAND		16	33	1.73	0.0US/FT	5.4	0
12.3	- 4	CLEAN SAND		13	36	1.68	0.0US/FT	5.7	0
12.4	- 5	CLEAN SAND		13	36	1.64	0.0US/FT	6.1	0
12.5	- 6	CLEAN SAND		13	36	1.62	0.0US/FT	6.4	0
12.6	- 7	CLEAN SAND		17	32	1.60	0.0US/FT	6.7	0
12.7	- 8	SHALY SAND		21	29	1.58	0.0US/FT	6.9	0
12.8	- 9	CLEAN SAND		18	29	1.56	0.0US/FT	6.8	0
12.9	- 0	CLEAN SAND		15	32	1.60	0.0US/FT	6.8	0
13.0	- 1	CLEAN SAND		17	32	1.64	0.0US/FT	6.7	0
13.1	- 2	SHALY SAND		19	30	1.67	0.0US/FT	6.6	0
13.2	- 3	CLEAN SAND		19	29	1.69	0.0US/FT	6.4	0
13.3	- 4	CLEAN SAND		18	30	1.72	0.0US/FT	6.3	0
13.4	- 5	CLEAN SAND		16	31	1.72	0.0US/FT	6.3	0
13.5	- 6	SHALY SAND	12-15	20	28	1.72	0.0US/FT	6.3	0
13.6	- 7	SHALY SAND		25	25	1.70	0.0US/FT	6.4	0
13.7	- 8	SHALY SAND		22	26	1.68	0.0US/FT	6.6	0
13.8	- 9	SHALY SAND		20	26	1.72	0.0US/FT	6.6	0
13.9	- 0	SHALY SAND		20	27	1.75	0.0US/FT	6.7	0
14.0	- 1	SHALY SAND		19	26	1.79	0.0US/FT	6.8	0
14.1	- 2	SHALY SAND		19	25	1.89	0.0US/FT	7.2	0
14.2	- 3	SHALY SAND		20	23	2.01	0.0US/FT	7.6	0
14.3	- 4	SHALY SAND		21	24	2.06	0.0US/FT	7.7	0
14.4	- 5	SHALY SAND		22	23	2.11	0.0US/FT	7.8	0
14.5	- 6	SHALY SAND		20	23	2.14	0.0US/FT	7.9	0
14.6	- 7	CLEAN SAND		19	26	2.11	0.0US/FT	7.6	0
14.7	- 8	SHALY SAND		20	27	2.10	0.0US/FT	7.3	0
14.8	- 9	SHALY SAND		23	24	2.11	0.0US/FT	7.4	0
14.9	- 0	CLEAN SAND		18	27	2.12	0.0US/FT	7.6	0
15.0	- 1	CLEAN SAND		17	28	2.00	0.0US/FT	7.3	0
15.1	- 2	CLEAN SAND		16	28	1.88	0.0US/FT	7.1	0
15.2	- 3	SHALY SAND		19	26	1.81	0.0US/FT	6.9	0
15.3	- 4	SHALY SAND		22	25	1.75	0.0US/FT	6.2	0
15.4	- 5	SHALY SAND		22	26	1.69	0.0US/FT	5.4	0
15.5	- 6	SHALY SAND		22	25	1.60	0.0US/FT	5.3	0
15.6	- 7	CLEAN SAND		18	25	1.51	0.0US/FT	5.3	0
15.7	- 8	CLEAN SAND		14	27	1.52	0.0US/FT	5.3	0
15.8	- 9	CLEAN SAND		17	26	1.54	0.0US/FT	5.4	0
15.9	- 0	SHALY SAND		20	26	1.65	0.0US/FT	5.6	0

			%	%	GM/UC	DTIME	INCHES	IMPEDENCE
16.0	- 1	CLEAN SAND	17	23	1.76	0.0US/FT	5.8	0
16.1	- 2	CLEAN SAND	19	27	1.80	0.0US/FT	6.1	0
16.2	- 3	SHALY SAND	21	25	1.83	0.0US/FT	6.3	0
16.3	- 4	SHALY SAND	21	25	1.86	0.0US/FT	6.6	0
16.4	- 5	SHALY SAND	22	25	1.89	0.0US/FT	6.7	0
16.5	- 6	SHALY SAND	21	24	1.92	0.0US/FT	6.8	0
16.6	- 7	SHALY SAND	20	24	1.96	0.0US/FT	7.1	0
16.7	- 8	CLEAN SAND	18	24	2.00	0.0US/FT	7.2	0
16.8	- 9	CLEAN SAND	15	26	2.00	0.0US/FT	7.3	0
16.9	- 0	CLEAN SAND	17	25	2.00	0.0US/FT	7.4	0
17.0	- 1	CLEAN SAND	17	26	2.01	0.0US/FT	7.1	0
17.1	- 2	CLEAN SAND	18	27	2.06	0.0US/FT	6.8	0
17.2	- 3	SHALY SAND	19	24	2.09	0.0US/FT	6.9	0
17.3	- 4	SHALY SAND	20	22	2.13	0.0US/FT	7.1	0
17.4	- 5	CLEAN SAND	18	25	2.17	0.0US/FT	7.2	0
17.5	- 6	CLEAN SAND	16	28	2.16	0.0US/FT	7.1	0
17.6	- 7	CLEAN SAND	18	27	2.16	0.0US/FT	6.9	0
17.7	- 8	SHALY SAND	20	26	2.15	0.0US/FT	6.7	0
17.8	- 9	SHALY SAND	21	25	2.14	0.0US/FT	6.6	0
17.9	- 0	SHALY SAND	23	24	2.12	0.0US/FT	6.4	0
18.0	- 1	SHALY SAND	20	25	2.10	0.0US/FT	6.3	0
18.1	- 2	CLEAN SAND	18	27	2.09	0.0US/FT	6.3	0
18.2	- 3	CLEAN SAND	15	30	2.07	0.0US/FT	6.4	0
18.3	- 4	CLEAN SAND	12	31	2.06	0.0US/FT	6.6	0
18.4	- 5	SHALY SAND	20	26	2.03	0.0US/FT	6.7	0
18.5	- 6	SHALY SAND	20	27	2.01	0.0US/FT	6.8	0
18.6	- 7	SHALY SAND	20	27	2.02	0.0US/FT	6.9	0
18.7	- 8	SHALY SAND	19	26	2.04	0.0US/FT	6.9	0
18.8	- 9	SHALY SAND	19	26	2.08	0.0US/FT	7.1	0
18.9	- 0	SHALY SAND	19	26	2.12	0.0US/FT	7.1	0
19.0	- 1	SHALY SAND	19	27	2.11	0.0US/FT	7.1	0
19.1	- 2	CLEAN SAND	18	27	2.11	0.0US/FT	7.2	0
19.2	- 3	CLEAN SAND	17	27	2.11	0.0US/FT	7.3	0
19.3	- 4	CLEAN SAND	18	25	2.10	0.0US/FT	7.3	0
19.4	- 5	SHALY SAND	20	24	2.09	0.0US/FT	7.3	0
19.5	- 6	SHALY SAND	21	24	2.07	0.0US/FT	7.3	0
19.6	- 7	SHALY SAND	22	25	2.06	0.0US/FT	7.3	0
19.7	- 8	SHALY SAND	20	27	2.03	0.0US/FT	7.4	0
19.8	- 9	CLEAN SAND	18	27	2.00	0.0US/FT	7.6	0
19.9	- 0	SHALY SAND	20	25	2.00	0.0US/FT	7.7	0
20.0	- 1	CLEAN SAND	17	25	1.97	0.0US/FT	7.7	0
20.1	- 2	CLEAN SAND	15	26	2.00	0.0US/FT	7.8	0
20.2	- 3	CLEAN SAND	19	22	2.03	0.0US/FT	7.9	0
20.3	- 4	SHALY SAND	22	22	2.03	0.0US/FT	7.8	0
20.4	- 5	CLEAN SAND	19	25	2.04	0.0US/FT	7.8	0
20.5	- 6	CLEAN SAND	15	26	2.04	0.0US/FT	7.7	0
20.6	- 7	CLEAN SAND	15	25	2.08	0.0US/FT	7.7	0
20.7	- 8	CLEAN SAND	14	25	2.12	0.0US/FT	7.7	0
20.8	- 9	CLEAN SAND	17	25	2.16	0.0US/FT	7.7	0
20.9	- 0	SHALY SAND	20	24	2.20	0.0US/FT	7.7	0
21.0	- 1	CLEAN SAND	17	26	2.24	0.0US/FT	7.7	0
21.1	- 2	CLEAN SAND	14	27	2.22	0.0US/FT	7.7	0
21.2	- 3	CLEAN SAND	12	29	2.19	0.0US/FT	7.7	0
21.3	- 4	CLEAN SAND	18	27	2.14	0.0US/FT	7.7	0
21.4	- 5	SHALY SAND	20	25	2.08	0.0US/FT	7.7	0
21.5	- 6	CLEAN SAND	19	28	2.05	0.0US/FT	7.7	0
21.6	- 7	CLEAN SAND	14	22	1.99	0.0US/FT	7.6	0
21.7	- 8	CLEAN SAND	18	28	1.96	0.0US/FT	7.6	0
21.8	- 9	SHALY SAND	20	28	1.93	0.0US/FT	7.6	0
21.9	- 0	SHALY SAND	21	27	1.91	0.0US/FT	7.7	0

						GRVCC	DTIME	INCHES	IMPEDENCE
22.0	- 1	CLEAN SAND	19	27	1.99	0.0US/FT	7.7	0	
22.1	- 2	CLEAN SAND	17	28	1.87	0.0US/FT	7.7	0	
22.2	- 3	CLEAN SAND	15	32	1.86	0.0US/FT	7.8	0	
22.3	- 4	CLEAN SAND	12	36	1.87	0.0US/FT	8.1	0	
22.4	- 5	CLEAN SAND	16	31	1.88	0.0US/FT	8.3	0	
22.5	- 6	CLEAN SAND	19	27	1.93	0.0US/FT	8.3	0	
22.6	- 7	CLEAN SAND	15	29	1.98	0.0US/FT	8.4	0	
22.7	- 8	CLEAN SAND	11	30	2.03	0.0US/FT	8.6	0	
22.8	- 9	CLEAN SAND	15	29	2.02	0.0US/FT	8.3	0	
22.9	- 0	CLEAN SAND	18	29	2.04	0.0US/FT	8.2	0	
23.0	- 1	SHALY SAND	20	27	2.09	0.0US/FT	8.3	0	
23.1	- 2	CLEAN SAND	18	27	2.08	0.0US/FT	8.4	0	
23.2	- 3	CLEAN SAND	16	30	2.05	0.0US/FT	8.4	0	
23.3	- 4	CLEAN SAND	16	29	2.04	0.0US/FT	8.6	0	
23.4	- 5	CLEAN SAND	17	28	1.99	0.0US/FT	8.7	0	
23.5	- 6	SHALY SAND	19	27	1.92	0.0US/FT	8.7	0	
23.6	- 7	SHALY SAND	21	26	1.89	0.0US/FT	8.7	0	
23.7	- 8	SHALY SAND	19	26	1.84	0.0US/FT	8.6	0	
23.8	- 9	CLEAN SAND	17	26	1.86	0.0US/FT	8.4	0	
23.9	- 0	CLEAN SAND	18	28	1.87	0.0US/FT	8.3	0	
24.0	- 1	CLEAN SAND	19	29	1.93	0.0US/FT	8.3	0	
24.1	- 2	CLEAN SAND	18	29	1.98	0.0US/FT	8.3	0	
24.2	- 3	CLEAN SAND	18	28	2.03	0.0US/FT	8.3	0	
24.3	- 4	SHALY SAND	19	27	2.08	0.0US/FT	8.3	0	
24.4	- 5	SHALY SAND	20	26	2.09	0.0US/FT	8.3	0	
24.5	- 6	SHALY SAND	20	26	2.12	0.0US/FT	8.4	0	
24.6	- 7	CLEAN SAND	18	27	2.11	0.0US/FT	8.6	0	
24.7	- 8	CLEAN SAND	16	27	2.17	0.0US/FT	8.8	0	
24.8	- 9	CLEAN SAND	19	26	2.17	0.0US/FT	9.1	0	
24.9	- 0	SHALY SAND	21	25	2.11	0.0US/FT	8.8	0	
25.0	- 1	CLEAN SAND	19	25	2.05	0.0US/FT	8.6	0	
25.1	- 2	CLEAN SAND	16	25	2.02	0.0US/FT	8.3	0	
25.2	- 3	CLEAN SAND	17	25	2.01	0.0US/FT	8.2	0	
25.3	- 4	CLEAN SAND	18	25	2.01	0.0US/FT	8.2	0	
25.4	- 5	CLEAN SAND	15	27	2.03	0.0US/FT	8.3	0	
25.5	- 6	CLEAN SAND	16	25	2.05	0.0US/FT	8.4	0	
25.6	- 7	CLEAN SAND	18	23	2.01	0.0US/FT	8.1	0	
25.7	- 8	CLEAN SAND	18	23	1.98	0.0US/FT	7.8	0	
25.8	- 9	CLEAN SAND	19	24	2.00	0.0US/FT	7.9	0	
25.9	- 0	SHALY SAND	19	24	2.04	0.0US/FT	8.2	0	
26.0	- 1	SHALY SAND	20	24	2.02	0.0US/FT	7.9	0	
26.1	- 2	CLEAN SAND	17	25	2.00	0.0US/FT	7.7	0	
26.2	- 3	CLEAN SAND	15	26	1.99	0.0US/FT	7.6	0	
26.3	- 4	CLEAN SAND	14	26	2.00	0.0US/FT	7.4	0	
26.4	- 5	CLEAN SAND	14	26	2.00	0.0US/FT	7.3	0	
26.5	- 6	CLEAN SAND	19	24	1.99	0.0US/FT	7.2	0	
26.6	- 7	SHALY SAND	19	23	1.97	0.0US/FT	7.1	0	
26.7	- 8	SHALY SAND	20	25	1.94	0.0US/FT	7.1	0	
26.8	- 9	CLEAN SAND	16	25	1.91	0.0US/FT	6.7	0	
26.9	- 0	CLEAN SAND	12	25	1.90	0.0US/FT	6.4	0	
27.0	- 1	CLEAN SAND	14	23	1.90	0.0US/FT	6.2	0	
27.1	- 2	CLEAN SAND	16	21	1.88	0.0US/FT	5.7	0	
27.2	- 3	SHALY SAND	19	22	1.86	0.0US/FT	5.3	0	
27.3	- 4	SHALY SAND	22	22	1.84	0.0US/FT	5.3	0	
27.4	- 5	SHALY SAND	20	21	1.84	0.0US/FT	5.3	0	
27.5	- 6	SHALY SAND	21	19	1.84	0.0US/FT	5.4	0	
27.6	- 7	SHALY SAND	22	20	1.82	0.0US/FT	5.3	0	
27.7	- 8	SHALY SAND	22	22	1.82	0.0US/FT	5.2	0	
27.8	- 9	SHALY SAND	22	22	1.82	0.0US/FT	5.2	0	
27.9	- 0	SHALY SAND	20	22	1.82	0.0US/FT	5.2	0	

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE	
28.0	-	1	SHALY SAND	19	24	1.83	0.00S/FT	5.2	0
28.1	-	2	CLEAN SAND	17	25	1.84	0.00S/FT	5.2	0
28.2	-	3	CLEAN SAND	16	22	1.85	0.00S/FT	5.3	0
28.3	-	4	CLEAN SAND	17	21	1.89	0.00S/FT	5.4	0
28.4	-	5	SHALY SAND	19	19	1.93	0.00S/FT	5.7	0
28.5	-	6	CLEAN SAND	16	21	1.92	0.00S/FT	5.7	0
28.6	-	7	CLEAN SAND	13	23	1.91	0.00S/FT	5.8	0
28.7	-	8	CLEAN SAND	16	23	1.93	0.00S/FT	5.9	0
28.8	-	9	CLEAN SAND	19	22	1.95	0.00S/FT	5.7	0
28.9	-	0	CLEAN SAND	17	22	1.95	0.00S/FT	5.6	0
29.0	-	1	CLEAN SAND	16	22	1.95	0.00S/FT	5.8	0
29.1	-	2	SHALY SAND	20	21	1.94	0.00S/FT	6.2	0
29.2	-	3	CLEAN SAND	18	22	1.93	0.00S/FT	6.2	0
29.3	-	4	CLEAN SAND	17	19	1.93	0.00S/FT	6.3	0
29.4	-	5	CLEAN SAND	17	21	1.93	0.00S/FT	6.3	0
29.5	-	6	CLEAN SAND	17	22	1.94	0.00S/FT	6.3	0
29.6	-	7	CLEAN SAND	16	22	1.94	0.00S/FT	6.4	0
29.7	-	8	CLEAN SAND	15	22	1.93	0.00S/FT	6.3	0
29.8	-	9	CLEAN SAND	19	21	1.96	0.00S/FT	6.3	0
29.9	-	0	SHALY SAND	22	19	1.99	0.00S/FT	6.3	0
30.0	-	1	CLEAN SAND	15	20	1.99	0.00S/FT	6.3	0
30.1	-	2	CLEAN SAND	16	21	1.99	0.00S/FT	6.3	0
30.2	-	3	CLEAN SAND	17	21	1.98	0.00S/FT	6.3	0
30.3	-	4	CLEAN SAND	17	22	1.98	0.00S/FT	6.3	0
30.4	-	5	CLEAN SAND	17	23	1.98	0.00S/FT	6.4	0
30.5	-	6	CLEAN SAND	14	24	1.98	0.00S/FT	6.3	0
30.6	-	7	CLEAN SAND	13	25	1.97	0.00S/FT	6.3	0
30.7	-	8	CLEAN SAND	15	25	1.99	0.00S/FT	6.3	0
30.8	-	9	CLEAN SAND	18	24	2.01	0.00S/FT	6.3	0
30.9	-	0	CLEAN SAND	18	23	2.00	0.00S/FT	6.3	0
31.0	-	1	CLEAN SAND	15	24	1.98	0.00S/FT	6.3	0
31.1	-	2	CLEAN SAND	13	25	1.97	0.00S/FT	6.3	0
31.2	-	3	CLEAN SAND	13	24	1.98	0.00S/FT	6.3	0
31.3	-	4	CLEAN SAND	13	23	1.98	0.00S/FT	6.3	0
31.4	-	5	CLEAN SAND	13	24	1.97	0.00S/FT	6.2	0
31.5	-	6	CLEAN SAND	12	25	1.96	0.00S/FT	6.1	0
31.6	-	7	CLEAN SAND	11	26	1.91	0.00S/FT	5.6	0
31.7	-	8	CLEAN SAND	13	25	1.86	0.00S/FT	5.2	0
31.8	-	9	CLEAN SAND	16	22	1.83	0.00S/FT	5.3	0
31.9	-	0	CLEAN SAND	15	21	1.80	0.00S/FT	5.6	0
32.0	-	1	CLEAN SAND	14	21	1.77	0.00S/FT	5.8	0
32.1	-	2	CLEAN SAND	13	21	1.74	0.00S/FT	6.1	0
32.2	-	3	CLEAN SAND	12	21	1.71	0.00S/FT	6.3	0
32.3	-	4	CLEAN SAND	13	21	1.73	0.00S/FT	6.3	0
32.4	-	5	CLEAN SAND	13	20	1.75	0.00S/FT	6.3	0
32.5	-	6	CLEAN SAND	13	19	1.76	0.00S/FT	6.2	0
32.6	-	7	CLEAN SAND	14	19	1.76	0.00S/FT	6.1	0
32.7	-	8	CLEAN SAND	16	19	1.80	0.00S/FT	6.1	0
32.8	-	9	CLEAN SAND	17	20	1.84	0.00S/FT	5.8	0
32.9	-	0	CLEAN SAND	19	19	1.85	0.00S/FT	5.6	0
33.0	-	1	CLEAN SAND	17	20	1.87	0.00S/FT	5.7	0
33.1	-	2	CLEAN SAND	15	19	1.87	0.00S/FT	5.8	0
33.2	-	3	CLEAN SAND	15	19	1.87	0.00S/FT	6.1	0
33.3	-	4	CLEAN SAND	15	19	1.86	0.00S/FT	6.2	0
33.4	-	5	CLEAN SAND	15	20	1.86	0.00S/FT	6.2	0
33.5	-	6	CLEAN SAND	15	22	1.87	0.00S/FT	6.2	0
33.6	-	7	CLEAN SAND	14	23	1.84	0.00S/FT	6.2	0
33.7	-	8	CLEAN SAND	14	24	1.81	0.00S/FT	6.1	0
33.8	-	9	CLEAN SAND	16	22	1.79	0.00S/FT	6.1	0
33.9	-	0	CLEAN SAND	19	21	1.78	0.00S/FT	6.1	0

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					GRAVITY	DENSITY	INCHES	IMPEDENCE
34.0	-1	SHALY SAND	20	20	1.76	0.00US/FT	6.1	0
34.1	-2	CLEAN SAND	18	20	1.73	0.00US/FT	6.2	0
34.2	-3	CLEAN SAND	17	22	1.73	0.00US/FT	6.1	0
34.3	-4	CLEAN SAND	17	23	1.73	0.00US/FT	5.9	0
34.4	-5	CLEAN SAND	18	23	1.72	0.00US/FT	5.8	0
34.5	-6	CLEAN SAND	17	23	1.73	0.00US/FT	5.8	0
34.6	-7	CLEAN SAND	17	23	1.73	0.00US/FT	5.9	0
34.7	-8	CLEAN SAND	17	23	1.75	0.00US/FT	6.1	0
34.8	-9	CLEAN SAND	18	24	1.77	0.00US/FT	5.8	0
34.9	-10	CLEAN SAND	18	24	1.79	0.00US/FT	5.7	0
35.0	-1	CLEAN SAND	17	25	1.81	0.00US/FT	5.8	0
35.1	-2	CLEAN SAND	16	24	1.83	0.00US/FT	6.1	0
35.2	-3	SHALY SAND	20	22	1.83	0.00US/FT	6.2	0
35.3	-4	SHALY SAND	24	21	1.82	0.00US/FT	6.3	0
35.4	-5	SHALY SAND	20	22	1.80	0.00US/FT	6.3	0
35.5	-6	CLEAN SAND	15	24	1.77	0.00US/FT	6.4	0
35.6	-7	CLEAN SAND	14	25	1.76	0.00US/FT	6.4	0
35.7	-8	CLEAN SAND	13	26	1.76	0.00US/FT	6.4	0
35.8	-9	CLEAN SAND	16	26	1.71	0.00US/FT	6.3	0
35.9	-10	CLEAN SAND	19	26	1.67	0.00US/FT	6.3	0
36.0	-1	CLEAN SAND	10	29	1.66	0.00US/FT	6.3	0
36.1	-2	CLEAN SAND	12	27	1.65	0.00US/FT	6.4	0
36.2	-3	CLEAN SAND	15	26	1.64	0.00US/FT	6.4	0
36.3	-4	CLEAN SAND	13	27	1.64	0.00US/FT	6.4	0
36.4	-5	CLEAN SAND	11	28	1.64	0.00US/FT	6.6	0
36.5	-6	CLEAN SAND	13	27	1.64	0.00US/FT	6.7	0
36.6	-7	CLEAN SAND	14	27	1.64	0.00US/FT	6.8	0
36.7	-8	CLEAN SAND	14	27	1.65	0.00US/FT	6.8	0
36.8	-9	CLEAN SAND	14	26	1.66	0.00US/FT	6.8	0
36.9	-10	CLEAN SAND	14	26	1.68	0.00US/FT	6.9	0
37.0	-1	CLEAN SAND	13	27	1.71	0.00US/FT	7.1	0
37.1	-2	CLEAN SAND	12	29	1.73	0.00US/FT	7.2	0
37.2	-3	CLEAN SAND	13	30	1.71	0.00US/FT	7.1	0
37.3	-4	CLEAN SAND	14	30	1.69	0.00US/FT	7.1	0
37.4	-5	CLEAN SAND	18	26	1.68	0.00US/FT	7.1	0
37.5	-6	SHALY SAND	22	24	1.66	0.00US/FT	6.9	0
37.6	-7	CLEAN SAND	18	27	1.64	0.00US/FT	6.9	0
37.7	-8	CLEAN SAND	14	29	1.64	0.00US/FT	6.9	0
37.8	-9	CLEAN SAND	12	30	1.64	0.00US/FT	7.1	0
37.9	-10	CLEAN SAND	9	31	1.61	0.00US/FT	7.1	0
38.0	-1	CLEAN SAND	14	29	1.59	0.00US/FT	7.1	0
38.1	-2	CLEAN SAND	15	28	1.60	0.00US/FT	7.2	0
38.2	-3	CLEAN SAND	16	28	1.62	0.00US/FT	7.3	0
38.3	-4	CLEAN SAND	15	30	1.65	0.00US/FT	7.6	0
38.4	-5	CLEAN SAND	15	28	1.67	0.00US/FT	7.6	0
38.5	-6	CLEAN SAND	16	27	1.69	0.00US/FT	7.6	0
38.6	-7	CLEAN SAND	16	26	1.75	0.00US/FT	7.6	0
38.7	-8	CLEAN SAND	16	26	1.84	0.00US/FT	7.9	0
38.8	-9	CLEAN SAND	17	25	1.95	0.00US/FT	8.3	0
38.9	-10	CLEAN SAND	17	24	1.99	0.00US/FT	8.2	0
39.0	-1	CLEAN SAND	17	24	1.97	0.00US/FT	8.2	0
39.1	-2	CLEAN SAND	16	24	1.89	0.00US/FT	7.7	0
39.2	-3	CLEAN SAND	15	25	1.83	0.00US/FT	7.2	0
39.3	-4	CLEAN SAND	16	25	1.83	0.00US/FT	7.3	0
39.4	-5	CLEAN SAND	17	24	1.83	0.00US/FT	7.4	0
39.5	-6	CLEAN SAND	18	24	1.82	0.00US/FT	7.4	0
39.6	-7	CLEAN SAND	18	23	1.79	0.00US/FT	7.4	0
39.7	-8	CLEAN SAND	18	24	1.77	0.00US/FT	7.4	0
39.8	-9	CLEAN SAND	16	24	1.73	0.00US/FT	7.3	0
39.9	-10	CLEAN SAND	15	24	1.76	0.00US/FT	7.3	0

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			Z	Z	GM/CC	DTIME	INCHES	IMPEDEANCE
40.0	- 1	CLEAN SAND	14	23	1.79	0.00S/FT	7.3	0
40.1	- 2	CLEAN SAND	14	23	1.79	0.00S/FT	7.1	0
40.2	- 3	CLEAN SAND	14	24	1.78	0.00S/FT	6.9	0
40.3	- 4	CLEAN SAND	13	24	1.81	0.00S/FT	6.8	0
40.4	- 5	CLEAN SAND	15	23	1.84	0.00S/FT	6.7	0
40.5	- 6	CLEAN SAND	15	22	1.91	0.00S/FT	6.6	0
40.6	- 7	CLEAN SAND	15	22	1.97	0.00S/FT	6.6	0
40.7	- 8	CLEAN SAND	16	23	1.97	0.00S/FT	6.6	0
40.8	- 9	CLEAN SAND	17	20	1.97	0.00S/FT	6.8	0
40.9	- 0	CLEAN SAND	15	22	2.00	0.00S/FT	7.1	0
41.0	- 1	CLEAN SAND	14	24	2.05	0.00S/FT	7.3	0
41.1	- 2	CLEAN SAND	15	24	2.08	0.00S/FT	7.6	0
41.2	- 3	CLEAN SAND	15	23	2.10	0.00S/FT	7.7	0
41.3	- 4	CLEAN SAND	14	22	2.11	0.00S/FT	7.8	0
41.4	- 5	CLEAN SAND	13	22	2.07	0.00S/FT	7.6	0
41.5	- 6	CLEAN SAND	13	23	2.06	0.00S/FT	7.4	0
41.6	- 7	CLEAN SAND	15	23	2.05	0.00S/FT	7.3	0
41.7	- 8	CLEAN SAND	17	23	2.05	0.00S/FT	7.3	0
41.8	- 9	CLEAN SAND	14	24	2.06	0.00S/FT	7.3	0
41.9	- 0	CLEAN SAND	12	25	2.06	0.00S/FT	7.3	0
42.0	- 1	CLEAN SAND	13	24	2.07	0.00S/FT	7.3	0
42.1	- 2	CLEAN SAND	15	22	2.08	0.00S/FT	7.4	0
42.2	- 3	CLEAN SAND	18	20	2.08	0.00S/FT	7.4	0
42.3	- 4	CLEAN SAND	16	22	2.08	0.00S/FT	7.4	0
42.4	- 5	CLEAN SAND	14	23	2.08	0.00S/FT	7.6	0
42.5	- 6	CLEAN SAND	15	22	2.07	0.00S/FT	7.6	0
42.6	- 7	CLEAN SAND	15	23	2.07	0.00S/FT	7.6	0
42.7	- 8	CLEAN SAND	15	24	2.06	0.00S/FT	7.6	0
42.8	- 9	CLEAN SAND	15	24	2.08	0.00S/FT	7.6	0
42.9	- 0	CLEAN SAND	14	23	2.09	0.00S/FT	7.6	0
43.0	- 1	CLEAN SAND	14	24	2.05	0.00S/FT	7.6	0
43.1	- 2	CLEAN SAND	13	25	2.01	0.00S/FT	7.6	0
43.2	- 3	CLEAN SAND	13	24	1.99	0.00S/FT	7.4	0
43.3	- 4	CLEAN SAND	13	24	1.98	0.00S/FT	7.4	0
43.4	- 5	CLEAN SAND	13	24	1.95	0.00S/FT	7.4	0
43.5	- 6	SHALY SAND	19	23	1.93	0.00S/FT	7.4	0
43.6	- 7	SHALY SAND	19	24	1.92	0.00S/FT	7.4	0
43.7	- 8	SHALY SAND	19	23	1.89	0.00S/FT	7.3	0
43.8	- 9	CLEAN SAND	17	22	1.87	0.00S/FT	7.2	0
43.9	- 0	CLEAN SAND	14	25	1.89	0.00S/FT	7.2	0
44.0	- 1	CLEAN SAND	13	27	1.90	0.00S/FT	7.1	0
44.1	- 2	CLEAN SAND	12	26	1.91	0.00S/FT	7.1	0
44.2	- 3	CLEAN SAND	12	25	1.91	0.00S/FT	7.1	0
44.3	- 4	CLEAN SAND	13	24	1.93	0.00S/FT	7.1	0
44.4	- 5	CLEAN SAND	14	23	1.94	0.00S/FT	7.1	0
44.5	- 6	CLEAN SAND	16	22	1.96	0.00S/FT	7.1	0
44.6	- 7	CLEAN SAND	14	23	1.97	0.00S/FT	7.1	0
44.7	- 8	CLEAN SAND	13	24	2.01	0.00S/FT	7.1	0
44.8	- 9	CLEAN SAND	16	22	2.06	0.00S/FT	7.2	0
44.9	- 0	CLEAN SAND	12	23	2.04	0.00S/FT	7.1	0
45.0	- 1	CLEAN SAND	9	24	2.04	0.00S/FT	7.1	0
45.1	- 2	CLEAN SAND	12	23	2.02	0.00S/FT	7.1	0
45.2	- 3	CLEAN SAND	15	22	1.99	0.00S/FT	7.1	0
45.3	- 4	CLEAN SAND	15	22	1.99	0.00S/FT	7.2	0
45.4	- 5	CLEAN SAND	15	23	1.96	0.00S/FT	7.1	0
45.5	- 6	SHALY SAND	20	22	1.93	0.00S/FT	7.1	0
45.6	- 7	SHALY SAND	24	20	1.91	0.00S/FT	7.1	0
45.7	- 8	CLEAN SAND	17	22	1.89	0.00S/FT	6.9	0
45.8	- 9	CLEAN SAND	17	22	1.87	0.00S/FT	6.9	0
45.9	- 0	CLEAN SAND	17	22	1.86	0.00S/FT	6.9	0

			%	%	GM/CC	DTIME	INCHES	IMPEDENCE
46.0	- 1	CLEAN SAND	14	24	1.85	0.00S/FT	6.9	0
46.1	- 2	CLEAN SAND	11	24	1.84	0.00S/FT	6.9	0
46.2	- 3	CLEAN SAND	12	22	1.84	0.00S/FT	6.9	0
46.3	- 4	CLEAN SAND	12	25	1.84	0.00S/FT	6.8	0
46.4	- 5	CLEAN SAND	13	25	1.86	0.00S/FT	6.8	0
46.5	- 6	CLEAN SAND	13	24	1.88	0.00S/FT	6.8	0
46.6	- 7	CLEAN SAND	14	25	1.90	0.00S/FT	6.8	0
46.7	- 8	CLEAN SAND	15	25	1.92	0.00S/FT	6.8	0
46.8	- 9	CLEAN SAND	17	24	1.94	0.00S/FT	6.8	0
46.9	- 0	CLEAN SAND	16	23	1.97	0.00S/FT	6.8	0
47.0	- 1	CLEAN SAND	16	24	1.97	0.00S/FT	6.8	0
47.1	- 2	CLEAN SAND	15	25	1.97	0.00S/FT	6.8	0
47.2	- 3	CLEAN SAND	14	25	1.96	0.00S/FT	6.9	0
47.3	- 4	CLEAN SAND	17	24	1.96	0.00S/FT	6.8	0
47.4	- 5	SHALY SAND	19	24	1.97	0.00S/FT	6.8	0
47.5	- 6	CLEAN SAND	16	26	1.97	0.00S/FT	6.8	0
47.6	- 7	CLEAN SAND	19	25	1.98	0.00S/FT	6.8	0
47.7	- 8	SHALY SAND	21	24	1.99	0.00S/FT	6.8	0
47.8	- 9	SHALY SAND	23	24	1.95	0.00S/FT	6.8	0
47.9	- 0	SHALY SAND	25	22	1.91	0.00S/FT	6.8	0
48.0	- 1	SHALY SAND	22	22	1.91	0.00S/FT	6.8	0
48.1	- 2	SHALY SAND	19	25	1.91	0.00S/FT	6.8	0
48.2	- 3	CLEAN SAND	15	27	1.91	0.00S/FT	6.8	0
48.3	- 4	CLEAN SAND	12	29	1.90	0.00S/FT	6.8	0
48.4	- 5	CLEAN SAND	14	27	1.90	0.00S/FT	6.8	0
48.5	- 6	CLEAN SAND	18	27	1.88	0.00S/FT	6.8	0
48.6	- 7	CLEAN SAND	13	31	1.85	0.00S/FT	6.8	0
48.7	- 8	CLEAN SAND	10	34	1.87	0.00S/FT	6.8	0
48.8	- 9	CLEAN SAND	11	31	1.89	0.00S/FT	6.8	0
48.9	- 0	CLEAN SAND	12	28	1.89	0.00S/FT	6.8	0
49.0	- 1	CLEAN SAND	13	29	1.90	0.00S/FT	6.8	0
49.1	- 2	CLEAN SAND	18	29	1.91	0.00S/FT	6.8	0
49.2	- 3	SHALY SAND	23	26	1.92	0.00S/FT	6.8	0
49.3	- 4	CLEAN SAND	19	27	1.93	0.00S/FT	6.7	0
49.4	- 5	CLEAN SAND	14	29	1.95	0.00S/FT	6.7	0
49.5	- 6	CLEAN SAND	13	29	1.96	0.00S/FT	6.7	0
49.6	- 7	CLEAN SAND	13	30	1.97	0.00S/FT	6.7	0
49.7	- 8	CLEAN SAND	15	31	1.99	0.00S/FT	6.7	0
49.8	- 9	CLEAN SAND	18	28	1.97	0.00S/FT	6.4	0
49.9	- 0	CLEAN SAND	19	28	1.96	0.00S/FT	6.3	0
50.0	- 1	CLEAN SAND	17	30	1.97	0.00S/FT	6.3	0
50.1	- 2	CLEAN SAND	16	31	1.97	0.00S/FT	6.4	0
50.2	- 3	CLEAN SAND	17	31	1.97	0.00S/FT	6.3	0
50.3	- 4	CLEAN SAND	19	30	1.92	0.00S/FT	6.3	0
50.4	- 5	CLEAN SAND	16	31	1.89	0.00S/FT	6.3	0
50.5	- 6	CLEAN SAND	14	33	1.87	0.00S/FT	6.3	0
50.6	- 7	CLEAN SAND	15	30	1.85	0.00S/FT	6.3	0
50.7	- 8	CLEAN SAND	16	28	1.82	0.00S/FT	6.4	0
50.8	- 9	CLEAN SAND	12	33	1.81	0.00S/FT	6.5	0
50.9	- 0	CLEAN SAND	15	34	1.79	0.00S/FT	6.7	0
51.0	- 1	CLEAN SAND	18	31	1.77	0.00S/FT	6.8	0
51.1	- 2	CLEAN SAND	18	29	1.75	0.00S/FT	6.9	0
51.2	- 3	CLEAN SAND	17	30	1.74	0.00S/FT	6.9	0
51.3	- 4	CLEAN SAND	19	30	1.74	0.00S/FT	7.1	0
51.4	- 5	SHALY SAND	20	28	1.74	0.00S/FT	6.9	0
51.5	- 6	SHALY SAND	19	27	1.76	0.00S/FT	6.9	0
51.6	- 7	SHALY SAND	20	27	1.77	0.00S/FT	7.1	0
51.7	- 8	SHALY SAND	22	27	1.81	0.00S/FT	7.3	0
51.8	- 9	SHALY SAND	21	26	1.82	0.00S/FT	7.4	0
51.9	- 0	SHALY SAND	21	26	1.85	0.00S/FT	7.7	0

			Z	N	GRAVITY	DTIME	UNITES	IMPEDENCE
52.0	-1	SHALY SAND	19	26	1.86	0.00S/FT	7.6	0
52.1	-2	CLEAN SAND	18	27	1.89	0.00S/FT	7.6	0
52.2	-3	CLEAN SAND	17	27	1.92	0.00S/FT	7.6	0
52.3	-4	CLEAN SAND	16	28	1.97	0.00S/FT	7.6	0
52.4	-5	CLEAN SAND	14	29	2.03	0.00S/FT	7.6	0
52.5	-6	SHALY SAND	20	26	2.08	0.00S/FT	7.7	0
52.6	-7	SHALY SAND	26	23	2.10	0.00S/FT	7.6	0
52.7	-8	SHALY SAND	20	25	2.12	0.00S/FT	7.6	0
52.8	-9	CLEAN SAND	15	28	2.12	0.00S/FT	7.3	0
52.9	-0	CLEAN SAND	17	26	2.08	0.00S/FT	7.1	0
53.0	-1	SHALY SAND	19	25	2.06	0.00S/FT	6.9	0
53.1	-2	CLEAN SAND	18	27	2.05	0.00S/FT	6.8	0
53.2	-3	CLEAN SAND	17	27	2.05	0.00S/FT	6.7	0
53.3	-4	CLEAN SAND	15	28	2.05	0.00S/FT	6.6	0
53.4	-5	CLEAN SAND	18	27	2.04	0.00S/FT	6.4	0
53.5	-6	SHALY SAND	21	25	2.03	0.00S/FT	6.4	0
53.6	-7	SHALY SAND	20	25	2.04	0.00S/FT	6.4	0
53.7	-8	SHALY SAND	20	25	2.06	0.00S/FT	6.6	0
53.8	-9	SHALY SAND	22	24	2.04	0.00S/FT	6.4	0
53.9	-0	SHALY SAND	24	24	2.01	0.00S/FT	6.4	0
54.0	-1	CLEAN SAND	17	28	2.02	0.00S/FT	6.4	0
54.1	-2	CLEAN SAND	17	28	2.03	0.00S/FT	6.4	0
54.2	-3	CLEAN SAND	17	28	2.04	0.00S/FT	6.4	0
54.3	-4	CLEAN SAND	19	28	2.05	0.00S/FT	6.7	0
54.4	-5	SHALY SAND	20	26	2.06	0.00S/FT	6.9	0
54.5	-6	CLEAN SAND	17	29	2.06	0.00S/FT	6.8	0
54.6	-7	CLEAN SAND	14	31	2.05	0.00S/FT	6.7	0
54.7	-8	CLEAN SAND	16	29	2.05	0.00S/FT	6.7	0
54.8	-9	CLEAN SAND	19	28	2.04	0.00S/FT	6.6	0
54.9	-0	CLEAN SAND	15	29	2.05	0.00S/FT	6.4	0
55.0	-1	CLEAN SAND	15	29	2.05	0.00S/FT	6.3	0
55.1	-2	CLEAN SAND	15	29	2.04	0.00S/FT	6.3	0
55.2	-3	CLEAN SAND	14	29	2.02	0.00S/FT	6.3	0
55.3	-4	CLEAN SAND	13	29	2.00	0.00S/FT	6.3	0
55.4	-5	SHALY SAND	24	25	1.99	0.00S/FT	6.3	0
55.5	-6	SHALY SAND	20	27	1.98	0.00S/FT	6.3	0
55.6	-7	CLEAN SAND	17	29	1.92	0.00S/FT	6.3	0
55.7	-8	CLEAN SAND	17	29	1.85	0.00S/FT	6.2	0
55.8	-9	CLEAN SAND	17	30	1.87	0.00S/FT	6.1	0
55.9	-0	SHALY SAND	20	28	1.88	0.00S/FT	6.1	0
56.0	-1	SHALY SAND	22	27	1.90	0.00S/FT	6.1	0
56.1	-2	CLEAN SAND	19	27	1.93	0.00S/FT	6.1	0
56.2	-3	CLEAN SAND	15	28	1.95	0.00S/FT	6.2	0
56.3	-4	CLEAN SAND	18	26	1.98	0.00S/FT	6.3	0
56.4	-5	SHALY SAND	22	24	2.01	0.00S/FT	6.4	0
56.5	-6	CLEAN SAND	18	26	2.01	0.00S/FT	6.6	0
56.6	-7	CLEAN SAND	15	28	2.02	0.00S/FT	6.4	0
56.7	-8	CLEAN SAND	13	28	2.03	0.00S/FT	6.4	0
56.8	-9	CLEAN SAND	14	28	2.02	0.00S/FT	6.2	0
56.9	-0	CLEAN SAND	14	27	2.02	0.00S/FT	6.1	0
57.0	-1	CLEAN SAND	17	25	2.00	0.00S/FT	5.9	0
57.1	-2	SHALY SAND	20	25	1.98	0.00S/FT	5.9	0
57.2	-3	SHALY SAND	22	25	1.95	0.00S/FT	5.9	0
57.3	-4	SHALY SAND	20	24	1.93	0.00S/FT	6.1	0
57.4	-5	CLEAN SAND	19	25	1.92	0.00S/FT	6.2	0
57.5	-6	SHALY SAND	22	24	1.91	0.00S/FT	6.2	0
57.6	-7	SHALY SAND	27	22	1.91	0.00S/FT	6.2	0
57.7	-8	SHALY SAND	22	24	1.91	0.00S/FT	6.2	0
57.8	-9	CLEAN SAND	18	26	1.94	0.00S/FT	6.1	0
57.9	-0	CLEAN SAND	18	25	1.97	0.00S/FT	6.1	0

51-54

54-57

				N	N	GR/CC	DTIME	INCHES	IMPEDENCE
58.0	- 1	SHALY SAND		19	25	1.99	0.0US/FT	6.1	0
58.1	- 2	SHALY SAND		20	25	2.00	0.0US/FT	6.1	0
58.2	- 3	SHALY SAND		20	25	2.01	0.0US/FT	6.2	0
58.3	- 4	CLEAN SAND		19	26	2.02	0.0US/FT	6.2	0
58.4	- 5	CLEAN SAND		18	28	2.01	0.0US/FT	6.2	0
58.5	- 6	CLEAN SAND		18	27	2.01	0.0US/FT	5.9	0
58.6	- 7	CLEAN SAND		14	27	1.97	0.0US/FT	5.8	0
58.7	- 8	CLEAN SAND		10	30	1.93	0.0US/FT	5.7	0
58.8	- 9	CLEAN SAND		15	29	1.85	0.0US/FT	5.8	0
58.9	- 0	SHALY SAND		20	26	1.79	0.0US/FT	6.1	0
59.0	- 1	CLEAN SAND	57-60'	10	30	1.71	0.0US/FT	6.2	0
59.1	- 2	CLEAN SAND		12	30	1.64	0.0US/FT	6.2	0
59.2	- 3	CLEAN SAND		13	30	1.64	0.0US/FT	6.2	0
59.3	- 4	CLEAN SAND		14	30	1.64	0.0US/FT	6.3	0
59.4	- 5	CLEAN SAND		16	28	1.64	0.0US/FT	6.4	0
59.5	- 6	CLEAN SAND		18	27	1.65	0.0US/FT	6.6	0
59.6	- 7	SHALY SAND		20	26	1.67	0.0US/FT	6.8	0
59.7	- 8	CLEAN SAND		17	27	1.72	0.0US/FT	7.1	0
59.8	- 9	CLEAN SAND		14	25	1.81	0.0US/FT	7.4	0
59.9	- 0	CLEAN SAND		15	26	1.91	0.0US/FT	7.7	0
60.0	- 1	CLEAN SAND		17	26	2.03	0.0US/FT	8.1	0
60.1	- 2	CLEAN SAND		13	29	1.99	0.0US/FT	7.6	0
60.2	- 3	CLEAN SAND		15	30	1.95	0.0US/FT	7.1	0
60.3	- 4	CLEAN SAND		16	27	1.95	0.0US/FT	6.6	0
60.4	- 5	CLEAN SAND		14	28	1.96	0.0US/FT	6.3	0
60.5	- 6	CLEAN SAND		13	28	1.97	0.0US/FT	6.2	0
60.6	- 7	CLEAN SAND		14	29	1.99	0.0US/FT	6.1	0
60.7	- 8	CLEAN SAND		16	29	1.99	0.0US/FT	5.9	0
60.8	- 9	CLEAN SAND		15	28	2.00	0.0US/FT	5.8	0
60.9	- 0	CLEAN SAND		16	26	2.01	0.0US/FT	5.9	0
61.0	- 1	CLEAN SAND		18	26	2.02	0.0US/FT	6.1	0
61.1	- 2	CLEAN SAND		15	27	2.04	0.0US/FT	6.1	0
61.2	- 3	CLEAN SAND		13	28	2.02	0.0US/FT	6.2	0
61.3	- 4	CLEAN SAND		16	26	1.99	0.0US/FT	6.2	0
61.4	- 5	SHALY SAND		20	25	1.97	0.0US/FT	6.3	0
61.5	- 6	CLEAN SAND	60-63'	11	30	2.01	0.0US/FT	6.1	0
61.6	- 7	CLEAN SAND		13	30	2.05	0.0US/FT	5.9	0
61.7	- 8	CLEAN SAND		16	27	2.05	0.0US/FT	5.8	0
61.8	- 9	CLEAN SAND		18	25	2.06	0.0US/FT	5.6	0
61.9	- 0	SHALY SAND		21	24	2.05	0.0US/FT	5.3	0
62.0	- 1	CLEAN SAND		15	27	2.05	0.0US/FT	5.2	0
62.1	- 2	SHALY SAND		20	25	2.03	0.0US/FT	4.9	0
62.2	- 3	SHALY SAND		25	24	2.06	0.0US/FT	4.8	0
62.3	- 4	SHALY SAND		20	24	2.10	0.0US/FT	4.8	0
62.4	- 5	CLEAN SAND		16	27	2.11	0.0US/FT	4.9	0
62.5	- 6	CLEAN SAND		17	28	2.12	0.0US/FT	5.1	0
62.6	- 7	CLEAN SAND		18	24	2.12	0.0US/FT	5.2	0
62.7	- 8	SHALY SAND		20	21	2.12	0.0US/FT	5.3	0
62.8	- 9	SHALY SAND		21	22	2.15	0.0US/FT	5.2	0
62.9	- 0	SHALY SAND		20	23	2.17	0.0US/FT	5.4	0
63.0	- 1	SHALY SAND		20	24	2.15	0.0US/FT	5.4	0
63.1	- 2	CLEAN SAND		19	25	2.14	0.0US/FT	5.4	0
63.2	- 3	CLEAN SAND		18	24	2.16	0.0US/FT	5.4	0
63.3	- 4	CLEAN SAND		17	25	2.18	0.0US/FT	5.4	0
63.4	- 5	CLEAN SAND		17	25	2.19	0.0US/FT	5.4	0
63.5	- 6	CLEAN SAND		17	24	2.19	0.0US/FT	5.4	0
63.6	- 7	CLEAN SAND		15	23	2.19	0.0US/FT	5.6	0
63.7	- 8	CLEAN SAND		14	27	2.20	0.0US/FT	5.7	0
63.8	- 9	CLEAN SAND		16	27	2.20	0.0US/FT	5.8	0
63.9	- 0	CLEAN SAND		17	27	2.20	0.0US/FT	5.9	0

			N	N	GRAVITY	DEPTH	INCHES	PERCENTAGE
64.0	-1	CLEAN SAND	18	26	2.20	0.00US/FT	6.1	0
64.1	-2	CLEAN SAND	19	25	2.20	0.00US/FT	6.2	0
64.2	-3	SHALY SAND	20	24	2.18	0.00US/FT	6.2	0
64.3	-4	SHALY SAND	19	24	2.16	0.00US/FT	6.2	0
64.4	-5	CLEAN SAND	19	25	2.14	0.00US/FT	6.2	0
64.5	-6	SHALY SAND	20	24	2.13	0.00US/FT	6.1	0
64.6	-7	SHALY SAND	21	24	2.11	0.00US/FT	6.1	0
64.7	-8	SHALY SAND	21	24	2.09	0.00US/FT	5.8	0
64.8	-9	SHALY SAND	22	23	2.06	0.00US/FT	5.7	0
64.9	-10	CLEAN SAND	17	25	2.04	0.00US/FT	5.7	0
65.0	-11	CLEAN SAND	19	24	2.03	0.00US/FT	5.7	0
65.1	-12	SHALY SAND	20	23	2.02	0.00US/FT	5.7	0
65.2	-13	SHALY SAND	20	23	2.01	0.00US/FT	5.6	0
65.3	-14	SHALY SAND	20	23	2.01	0.00US/FT	5.4	0
65.4	-15	CLEAN SAND	14	26	2.00	0.00US/FT	5.3	0
65.5	-16	CLEAN SAND	16	25	2.01	0.00US/FT	5.3	0
65.6	-17	CLEAN SAND	18	25	2.02	0.00US/FT	5.3	0
65.7	-18	CLEAN SAND	17	26	2.03	0.00US/FT	5.4	0
65.8	-19	CLEAN SAND	17	26	2.04	0.00US/FT	5.4	0
65.9	-20	CLEAN SAND	18	25	2.02	0.00US/FT	5.4	0
66.0	-21	SHALY SAND	19	24	2.00	0.00US/FT	5.6	0
66.1	-22	SHALY SAND	20	22	1.92	0.00US/FT	5.7	0
66.2	-23	SHALY SAND	21	22	1.85	0.00US/FT	5.8	0
66.3	-24	SHALY SAND	19	23	1.84	0.00US/FT	5.8	0
66.4	-25	CLEAN SAND	17	22	1.82	0.00US/FT	5.8	0
66.5	-26	CLEAN SAND	16	24	1.81	0.00US/FT	5.7	0
66.6	-27	CLEAN SAND	17	25	1.80	0.00US/FT	5.6	0
66.7	-28	CLEAN SAND	18	24	1.80	0.00US/FT	5.6	0
66.8	-29	CLEAN SAND	17	23	1.81	0.00US/FT	5.6	0
66.9	-30	CLEAN SAND	17	23	1.82	0.00US/FT	5.7	0
67.0	-31	CLEAN SAND	17	24	1.84	0.00US/FT	5.8	0
67.1	-32	CLEAN SAND	16	25	1.85	0.00US/FT	6.1	0
67.2	-33	CLEAN SAND	16	25	1.86	0.00US/FT	5.8	0
67.3	-34	CLEAN SAND	16	24	1.87	0.00US/FT	5.6	0
67.4	-35	CLEAN SAND	15	26	1.88	0.00US/FT	5.3	0
67.5	-36	CLEAN SAND	15	28	1.89	0.00US/FT	5.2	0
67.6	-37	CLEAN SAND	15	27	1.90	0.00US/FT	5.2	0
67.7	-38	CLEAN SAND	15	26	1.88	0.00US/FT	5.2	0
67.8	-39	CLEAN SAND	18	25	1.85	0.00US/FT	5.2	0
67.9	-40	SHALY SAND	20	24	1.87	0.00US/FT	5.4	0
68.0	-41	CLEAN SAND	19	24	1.88	0.00US/FT	5.7	0
68.1	-42	CLEAN SAND	17	23	1.87	0.00US/FT	6.1	0
68.2	-43	CLEAN SAND	19	23	1.85	0.00US/FT	6.2	0
68.3	-44	SHALY SAND	20	22	1.84	0.00US/FT	6.3	0
68.4	-45	SHALY SAND	24	22	1.82	0.00US/FT	6.1	0
68.5	-46	SHALY SAND	19	24	1.81	0.00US/FT	5.8	0
68.6	-47	CLEAN SAND	14	25	1.79	0.00US/FT	6.1	0
68.7	-48	CLEAN SAND	16	23	1.77	0.00US/FT	6.3	0
68.8	-49	CLEAN SAND	19	21	1.76	0.00US/FT	6.3	0
68.9	-50	CLEAN SAND	17	23	1.75	0.00US/FT	6.3	0
69.0	-51	CLEAN SAND	16	26	1.78	0.00US/FT	6.3	0
69.1	-52	CLEAN SAND	17	26	1.81	0.00US/FT	6.3	0
69.2	-53	CLEAN SAND	18	25	1.84	0.00US/FT	6.2	0
69.3	-54	SHALY SAND	20	23	1.88	0.00US/FT	6.4	0
69.4	-55	SHALY SAND	19	22	1.91	0.00US/FT	6.7	0
69.5	-56	CLEAN SAND	19	22	1.91	0.00US/FT	6.8	0
69.6	-57	CLEAN SAND	14	25	1.93	0.00US/FT	6.9	0
69.7	-58	CLEAN SAND	9	28	1.95	0.00US/FT	7.2	0
69.8	-59	CLEAN SAND	15	26	1.91	0.00US/FT	6.9	0
69.9	-60	CLEAN SAND	18	25	1.90	0.00US/FT	6.8	0

			N	N	GM/CC	OTIME	INCHES	IMPEDENCE
70.0	- 1	SHALY SAND	21	23	1.88	0.0US/FT	6.6	0
70.1	- 2	SHALY SAND	22	22	1.85	0.0US/FT	6.4	0
70.2	- 3	SHALY SAND	23	20	1.82	0.0US/FT	6.4	0
70.3	- 4	CLEAN SAND	18	25	1.83	0.0US/FT	6.6	0
70.4	- 5	SHALY SAND	20	24	1.84	0.0US/FT	6.4	0
70.5	- 6	SHALY SAND	22	23	1.82	0.0US/FT	6.4	0
70.6	- 7	SHALY SAND	22	21	1.81	0.0US/FT	6.4	0
70.7	- 8	SHALY SAND	22	20	1.82	0.0US/FT	6.4	0
70.8	- 9	CLEAN SAND	19	23	1.85	0.0US/FT	6.6	0
70.9	- 0	CLEAN SAND	15	26	1.83	0.0US/FT	6.6	0
71.0	- 1	CLEAN SAND	18	25	1.80	0.0US/FT	6.7	0
71.1	- 2	CLEAN SAND	16	26	1.80	0.0US/FT	6.8	0
71.2	- 3	CLEAN SAND	13	27	1.80	0.0US/FT	6.8	0
71.3	- 4	CLEAN SAND	15	27	1.81	0.0US/FT	6.8	0
71.4	- 5	CLEAN SAND	18	28	1.80	0.0US/FT	6.6	0
71.5	- 6	SHALY SAND	21	26	1.79	0.0US/FT	6.4	0
71.6	- 7	SHALY SAND	24	24	1.80	0.0US/FT	6.3	0
71.7	- 8	CLEAN SAND	19	28	1.81	0.0US/FT	6.2	0
71.8	- 9	CLEAN SAND	13	32	1.82	0.0US/FT	6.2	0
71.9	- 0	SHALY SAND	21	26	1.84	0.0US/FT	6.2	0
72.0	- 1	SHALY SAND	20	25	1.83	0.0US/FT	6.2	0
72.1	- 2	SHALY SAND	20	26	1.82	0.0US/FT	6.3	0
72.2	- 3	CLEAN SAND	18	28	1.80	0.0US/FT	6.4	0
72.3	- 4	CLEAN SAND	16	28	1.78	0.0US/FT	6.4	0
72.4	- 5	CLEAN SAND	18	27	1.75	0.0US/FT	6.6	0
72.5	- 6	SHALY SAND	20	27	1.72	0.0US/FT	6.4	0
72.6	- 7	SHALY SAND	21	25	1.68	0.0US/FT	6.4	0
72.7	- 8	CLEAN SAND	18	27	1.65	0.0US/FT	6.4	0
72.8	- 9	CLEAN SAND	15	27	1.62	0.0US/FT	6.3	0
72.9	- 0	CLEAN SAND	15	26	1.61	0.0US/FT	6.3	0
73.0	- 1	CLEAN SAND	16	27	1.59	0.0US/FT	6.3	0
73.1	- 2	CLEAN SAND	18	28	1.56	0.0US/FT	6.3	0
73.2	- 3	SHALY SAND	21	25	1.54	0.0US/FT	6.3	0
73.3	- 4	SHALY SAND	19	26	1.57	0.0US/FT	6.3	0
73.4	- 5	CLEAN SAND	18	27	1.60	0.0US/FT	6.3	0
73.5	- 6	SHALY SAND	20	26	1.62	0.0US/FT	6.6	0
73.6	- 7	CLEAN SAND	18	26	1.65	0.0US/FT	6.8	0
73.7	- 8	CLEAN SAND	16	27	1.67	0.0US/FT	6.9	0
73.8	- 9	CLEAN SAND	14	29	1.76	0.0US/FT	7.2	0
73.9	- 0	CLEAN SAND	12	31	1.82	0.0US/FT	7.2	0
74.0	- 1	CLEAN SAND	17	27	1.88	0.0US/FT	7.2	0
74.1	- 2	CLEAN SAND	15	25	1.96	0.0US/FT	7.3	0
74.2	- 3	CLEAN SAND	14	25	2.00	0.0US/FT	7.2	0
74.3	- 4	CLEAN SAND	15	25	2.04	0.0US/FT	7.1	0
74.4	- 5	CLEAN SAND	16	27	2.06	0.0US/FT	7.1	0
74.5	- 6	CLEAN SAND	19	27	2.08	0.0US/FT	7.1	0
74.6	- 7	SHALY SAND	20	25	2.10	0.0US/FT	6.9	0
74.7	- 8	SHALY SAND	22	24	2.13	0.0US/FT	6.8	0
74.8	- 9	CLEAN SAND	18	23	2.12	0.0US/FT	6.4	0
74.9	- 0	CLEAN SAND	14	23	2.10	0.0US/FT	6.2	0
75.0	- 1	CLEAN SAND	15	22	2.09	0.0US/FT	5.9	0
75.1	- 2	CLEAN SAND	15	23	2.07	0.0US/FT	5.7	0
75.2	- 3	CLEAN SAND	15	24	2.04	0.0US/FT	5.6	0
75.3	- 4	CLEAN SAND	16	24	2.02	0.0US/FT	5.4	0
75.4	- 5	CLEAN SAND	17	23	2.00	0.0US/FT	5.4	0
75.5	- 6	CLEAN SAND	11	24	1.97	0.0US/FT	5.4	0
75.6	- 7	CLEAN SAND	14	24	1.99	0.0US/FT	5.4	0
75.7	- 8	CLEAN SAND	17	24	2.01	0.0US/FT	5.6	0
75.8	- 9	SHALY SAND	21	21	2.04	0.0US/FT	5.8	0
75.9	- 0	SHALY SAND	26	20	2.07	0.0US/FT	6.2	0

				N	N	GM/CC	DTIME	INCHES	IMPERMEABLE
76.0	- 1	SHALY SAND		23	22	2.11	0.00S/FT	6.4	0
76.1	- 2	SHALY SAND		23	22	2.15	0.00S/FT	6.8	0
76.2	- 3	SHALY SAND		24	23	2.16	0.00S/FT	6.9	0
76.3	- 4	SHALY SAND		21	22	2.18	0.00S/FT	7.1	0
76.4	- 5	SHALY SAND		19	24	2.22	0.00S/FT	7.2	0
76.5	- 6	SHALY SAND		19	24	2.25	0.00S/FT	7.4	0
76.6	- 7	CLEAN SAND		16	26	2.16	0.00S/FT	7.6	0
76.7	- 8	CLEAN SAND		14	27	2.05	0.00S/FT	7.4	0
76.8	- 9	CLEAN SAND	75-18	16	26	1.99	0.00S/FT	7.2	0
76.9	- 0	CLEAN SAND		17	26	1.91	0.00S/FT	7.1	0
77.0	- 1	CLEAN SAND		18	26	1.85	0.00S/FT	6.8	0
77.1	- 2	SHALY SAND		26	22	1.79	0.00S/FT	6.6	0
77.2	- 3	SHALY SAND		21	25	1.73	0.00S/FT	6.4	0
77.3	- 4	CLEAN SAND		17	27	1.79	0.00S/FT	6.4	0
77.4	- 5	CLEAN SAND		13	28	1.85	0.00S/FT	6.4	0
77.5	- 6	CLEAN SAND		14	27	1.89	0.00S/FT	6.6	0
77.6	- 7	CLEAN SAND		17	25	1.94	0.00S/FT	6.6	0
77.7	- 8	SHALY SAND		19	24	1.99	0.00S/FT	6.7	0
77.8	- 9	SHALY SAND		21	22	2.04	0.00S/FT	6.9	0
77.9	- 0	SHALY SAND		21	22	2.11	0.00S/FT	7.2	0
78.0	- 1	SHALY SAND	————	21	21	2.17	0.00S/FT	7.6	0
78.1	- 2	CLEAN SAND		17	23	2.17	0.00S/FT	7.8	0
78.2	- 3	CLEAN SAND		18	21	2.18	0.00S/FT	8.1	0
78.3	- 4	CLEAN SAND		19	20	2.10	0.00S/FT	7.8	0
78.4	- 5	CLEAN SAND		18	22	2.03	0.00S/FT	7.7	0
78.5	- 6	CLEAN SAND		16	25	2.04	0.00S/FT	7.6	0
78.6	- 7	CLEAN SAND		14	27	2.03	0.00S/FT	7.3	0
78.7	- 8	SHALY SAND		19	25	2.02	0.00S/FT	7.1	0
78.8	- 9	SHALY SAND		24	23	2.01	0.00S/FT	7.1	0
78.9	- 0	CLEAN SAND		18	25	2.01	0.00S/FT	7.2	0
79.0	- 1	SHALY SAND		24	22	1.97	0.00S/FT	6.9	0
79.1	- 2	SHALY SAND		24	23	1.95	0.00S/FT	6.8	0
79.2	- 3	SHALY SAND		23	24	1.89	0.00S/FT	6.7	0
79.3	- 4	SHALY SAND		21	27	1.83	0.00S/FT	6.7	0
79.4	- 5	SHALY SAND		20	26	1.77	0.00S/FT	6.7	0
79.5	- 6	SHALY SAND		23	23	1.71	0.00S/FT	6.6	0
79.6	- 7	SHALY SAND		21	25	1.73	0.00S/FT	6.4	0
79.7	- 8	SHALY SAND		20	28	1.75	0.00S/FT	6.4	0
79.8	- 9	CLEAN SAND	78-21	17	27	1.81	0.00S/FT	6.4	0
79.9	- 0	CLEAN SAND		15	27	1.87	0.00S/FT	6.4	0
80.0	- 1	SHALY SAND		21	25	1.91	0.00S/FT	6.6	0
80.1	- 2	CLEAN SAND		19	27	1.95	0.00S/FT	6.8	0
80.2	- 3	CLEAN SAND		16	30	1.98	0.00S/FT	6.9	0
80.3	- 4	SHALY SAND		20	28	2.04	0.00S/FT	7.2	0
80.4	- 5	CLEAN SAND		15	30	2.08	0.00S/FT	7.4	0
80.5	- 6	CLEAN SAND		15	28	2.10	0.00S/FT	7.4	0
80.6	- 7	CLEAN SAND		15	27	2.11	0.00S/FT	7.6	0
80.7	- 8	CLEAN SAND		18	25	2.11	0.00S/FT	7.6	0
80.8	- 9	SHALY SAND		20	22	2.12	0.00S/FT	7.6	0
80.9	- 0	SHALY SAND		20	20	2.13	0.00S/FT	7.6	0
81.0	- 1	SHALY SAND	————	20	21	2.16	0.00S/FT	7.7	0