

Report HW31407 ~~B~~ 3.1.1983
Phase II - vol 1

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Poughkeepsie, New York

**FINAL REPORT:
HYDROGEOLOGY
AND
CHEMISTRY
OF
BUILDING 952 AREA**

151/200-54

March 1983

Lawler, Matusky & Skelly Engineers

Environmental Science & Engineering Consultants

One Blue Hill Plaza

Pearl River, New York 10965

IBM (Poughkeepsie)

HYDROGEOLOGY AND CHEMISTRY OF
BUILDING 952 AREA

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CHAPTER 1.0

INTRODUCTION

1.1 BACKGROUND

IBM (Poughkeepsie) has conducted several investigations in recent years to characterize the hydrogeology and groundwater quality at its main plant site and at some of its leased properties in the Poughkeepsie area. This report on the leased property on Neptune Road, about one-half mile south of the main plant site, is one of a series describing the 1982 program that was conducted by Lawler, Matusky & Skelly Engineers (LMS) under contract to IBM.

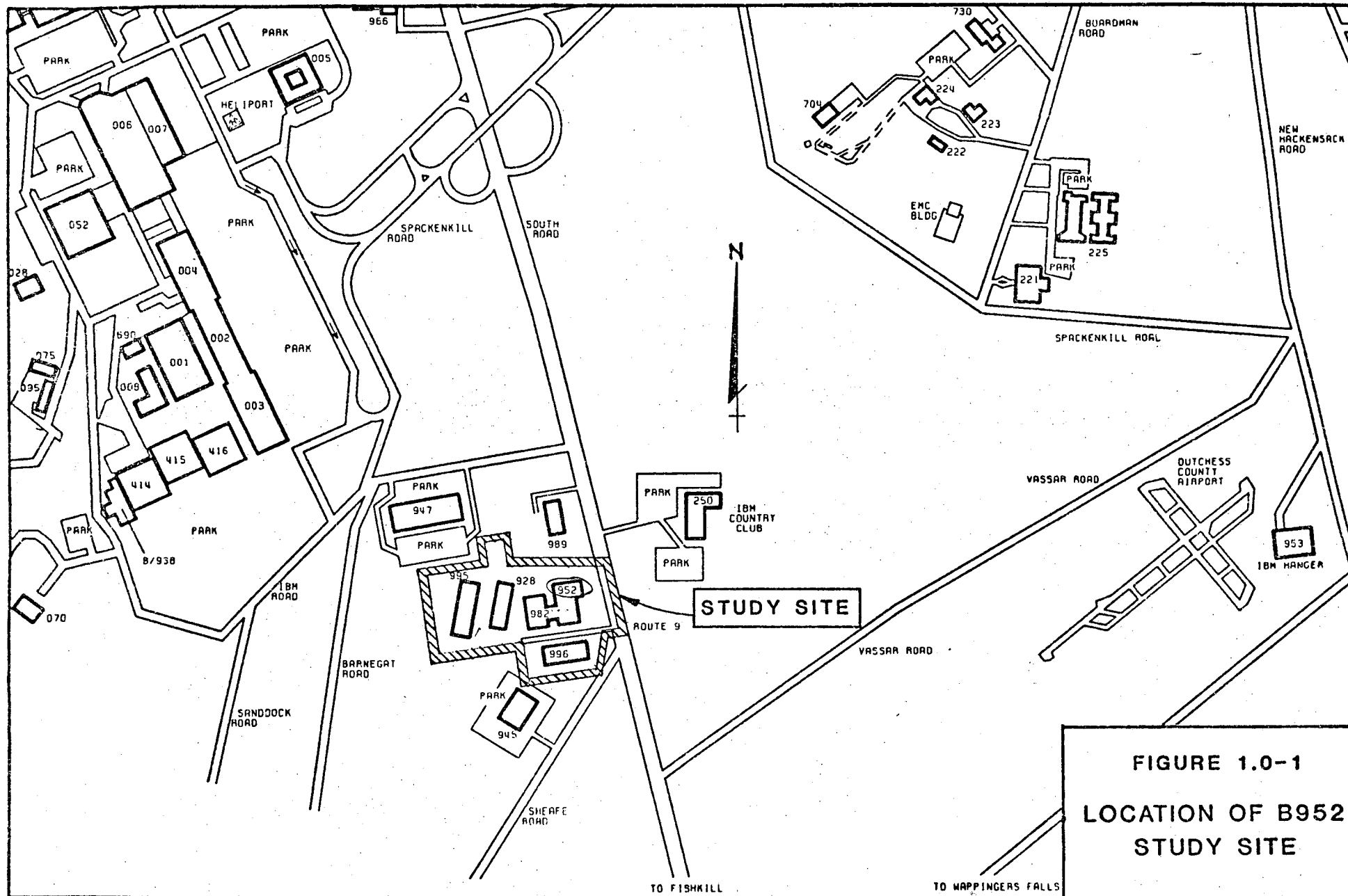
The location of the building (B952) site study area is shown schematically on Figure 1.0-1. The site includes IBM Building Nos. 952, 982, 928, 995, and 996. A detailed map of the site, including the locations of all borings, is on Plate 1.

The 1981 program began the study of this overall site by drilling and sampling a single boring near the northeast corner of B982. Priority volatile organic chemicals were found in that boring; although the single boring did not allow a definition of the local hydrogeology, it was concluded that this situation should be investigated further.

The purpose of the present study was to expand the previous analysis to cover the entire area occupied by IBM.

The LMS study was designed to:

- Define the hydrogeology of the B952 site.
- Delineate the extent of chemicals present and their movement.



This report includes all data collected in 1981 and 1982 portions of the study. Chapter 2.0 of this report (written by R.E. Wright Associates, Inc. [REWAI]) summarizes the hydrogeologic analysis of the area. Chapter 3.0 presents the results of groundwater chemical analyses. The appendices contain all new (1982) data as well as that collected in 1981:

Appendix A - Soil Sampling, Drilling, and Well Point
Installation

Appendix B - Boring Logs

Appendix C - Soil Sampling Logs

Appendix D - Sampling Procedures, Analytical and
Preservation Techniques

Appendix E - Field Data Sheets

Appendix F - Boring Water Chemistry Data

Appendix G - Soil Sample Chemistry

CHAPTER 2.0

HYDROGEOLOGIC ANALYSIS

2.1 REGIONAL SETTING

The B952 site occupies a topographic position on a broad upland (about elevation 135) between Casper Creek, 2000 ft to the southeast, and a small unnamed stream, 3500 ft to the northwest (Figure 2.0-1). To the northeast and southwest, the site is flanked by two prominent hills at surface elevations greater than 200 ft. Surface water drainage from the site is primarily to the southeast toward Casper Creek, although no provisions for stormwater drainage away from the site currently exist.

2.1.1 Geology

The site is located in an outcrop area of the Wappinger Formation which is approximately a mile wide and extends for a considerable distance in a northeast-southwest trending band. This limestone outcrop area is fault-contacted on the northwest with the shale of the Normanskill Formation, which underlies the main plant site area. The contact on the southeast side of the limestone is a normal geologic contact with this same Normanskill Formation shale (Figure 2.0-1).

The limestone bedding in this area generally strikes N25-35°E and dips to the southeast at various high angles at or exceeding 45°. The limestone bedrock is normally highly fractured and susceptible to solutioning by groundwater which produces highly variable permeability with distinct directional properties.

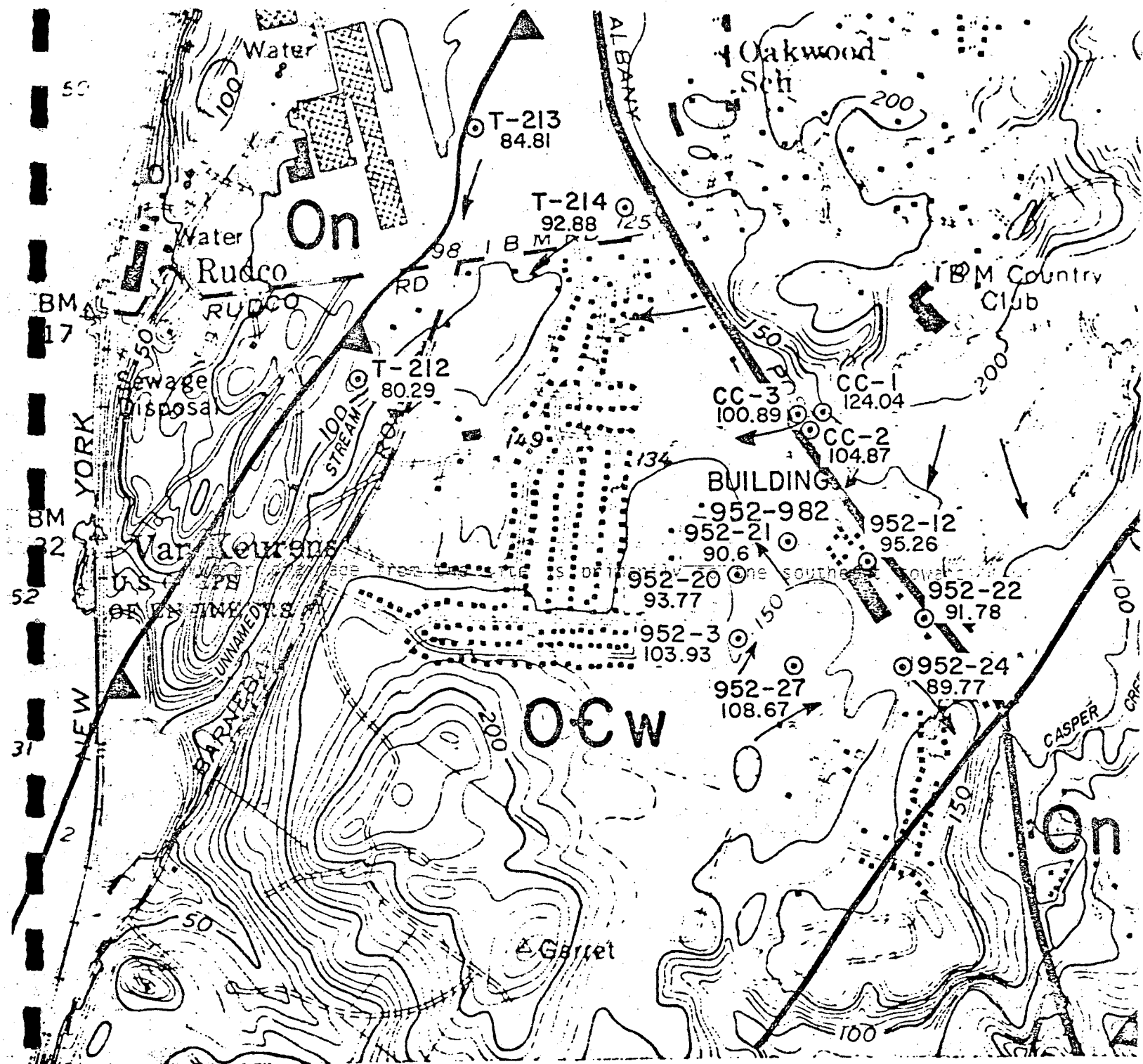


Figure 2.0-1 Regional Setting

LEGEND

Geology/Stratigraphy

Middle Ordovician Age

ON - Normanskill Formation (part of the Hudson River Formation): Dark gray calcareous shale often highly fractured; containing calcite stringers and green sandstone beds in places.

Lower Ordovician to Upper Cambrian

OCW - Wappinger Formation - limestone and dolostone.

○ Monitoring wells located on the IBM Poughkeepsie Main Plant Site (T), Country Club (CC) and Building 952/ Site (952).

— Bedrock Contacts

↗ Thrust or reverse fault; saw teeth overthrust block

→ Direction of groundwater flow

The limestone bedrock is overlain by a variable thickness of unconsolidated sediments, including primarily glacially derived tills, outwash, and lake deposits. These unconsolidated materials are for the most part unsaturated within the B952 site area, although there are minor perched water table conditions in localized areas and small areas of saturated sediments in the bottom of bedrock valleys. A more detailed description of the unconsolidated materials on the site follows in a later section.

2.1.2 Groundwater

Figure 2.0-1 shows the water level elevations in numerous borings surrounding the perimeter of the B952 site, borings drilled at the Country Club to the north of this site, and borings completed on the eastern portion of the main plant site. Also shown on this figure are the regional flow arrows, depicting the configuration of groundwater movement in areas surrounding the site.

It is apparent from these elevations and flow arrows that the movement of groundwater is toward the B952 site from the two topographically high areas on the northeast and southwest perimeters. In the other two directions, the flow of groundwater is away from the site: toward Casper Creek to the southeast and the unnamed stream to the northwest. This figure also shows that the direction of groundwater movement in the vicinity of IBM Road is south and southwest toward this same unnamed stream.

In addition to these apparent natural groundwater gradients, there are numerous domestic and commercial water supply wells in the immediate vicinity of the B952 site which may create artificial stresses in the aquifer. As a result of these artificial stresses, flow in the limestone aquifer away from the site may be either partially or totally intercepted by these off-site wells.

2.2 SITE HYDROGEOLOGY

2.2.1 Bedrock Aquifer

As noted above, the bedrock underlying the B952 site is limestone and dolomite of the Wappinger Formation. As in the case of most carbonate rock types, this formation is susceptible to weathering by solutioning. As a result, the permeability of this bedrock aquifer is highly variable, from very low values where the fractures in the rock may actually be rehealed by calcite re-precipitation to very high values where significant open voids have resulted from the solutioning.

Evidence of this high degree of variability is prevalent in the drilling data from air rotary borings completed on the site. The yield of these wells, when being blown during drilling ranged from very low rates (less than a gallon per minute) to very high rates (100+ gallons per minute). The higher yield wells definitely were associated with locations at which significant voids were encountered; such significant voids were encountered in at least seven of the air rotary borings completed on the site, with the largest void encountered being 26 ft in Boring 952-11.

A normal result of this solution-type of weathering is that the surface of the bedrock/soil interface is highly irregular. However, at this particular site the surface of the limestone has been subject to glacial action, which may account for the fact that it is not very irregular (Plate 2). The bedrock contours on Plate 2 generally reveal a closed depression immediately south of B952 and B982, centering around Boring 952-14. Bedrock elevations surrounding this closed depression generally rise to the east, north, and west. One other low area does occur in the vicinity of Boring

Karst

952-13, which appears to be a bedrock depression that may be open to the east. Total relief on the bedrock surface is roughly 40 ft, ranging from a low of 80.78 ft above mean sea level (amsl) at Boring 952-14 to a high of 121.13 ft amsl at Boring 952-6.

In an attempt to characterize the hydraulic coefficients of this limestone aquifer, two forms of testing were performed: packer tests and pulse tests. The packer tests were performed in existing (but no longer used) drinking water wells 952-DW-1 and 952-DW-2. The results of these packer tests yielded transmissivity values of 1500 gallons per day per foot (gpd/ft) and storativity of 1×10^{-3} . Assuming that the transmissivity measured in these tests is distributed over the total 300-ft saturated thickness of the limestone aquifer penetrated by the wells, the permeability calculated from this data is 5 gpd/ft^2 , or 0.7 ft per day.

The pulse tests were run on five borings at this site. They yielded permeability values generally an order of magnitude greater than the permeability calculated from the packer tests: from a low of 1.3 ft per day to a high of 83.4 ft per day. This range in permeability is indicative of the high degree of variability in the water transmitting characteristics of limestone aquifers. The fact that the range in permeabilities for the pulse tests is significantly higher than the value calculated from the packer test probably results from the fact that the pulse tests were performed in shallow borings where the greater fracturing and solutioning of the shallow rock would yield a higher permeability value. The packer tests, on the other hand, were run in the two deep drinking water wells, which would tend to provide a more integrated value of the rock permeability to that depth.

*does fracturing
+ solutioning
decr. w/ depth?*

2.2.2 Unconsolidated Deposits

The unconsolidated deposits in the Poughkeepsie area are the result of erosion and sedimentation which took place during the advance and

retreat of the Pleistocene glaciers, and the reworking of these resulting sediments by recent streams. The general effect of the glaciations was to smooth bedrock topography, round off hilltops, and fill valleys with sediments. In the B952 area the glacial sediments completely blanket the bedrock.

Predominant types of unconsolidated deposits found under the B952 area are, from oldest to youngest:

1. glacial till, deposited by ice over a glacially eroded topography
2. outwash material consisting of gravels, sands, and silts, the result of the reworking and redeposition of the tills and other materials
3. alluvial silts and clays, the result of low energy transient conditions in lakes and floodplains
- Top* 4. man-made fill material

Plates 3 and 4 show overall relationships of these unconsolidated materials in cross section. The sediments are thickest (greater than 55 ft) at Boring 952-14 southeast of B982, becoming thinner in all directions from that point. Thicknesses of less than 10 ft are found along portions of Route 9, where outcrops across the road indicate either complete erosion or non-deposition. Comparison of the present topography with pre-excavation topography indicates that over 30 ft of sediments have probably been excavated from the area to the south of Building 928 and redistributed.

The heterogeneity of grain size and the sorting characteristics of these sediments result in the ability to store and transmit water varying greatly over relatively short lateral and vertical distances. This ability is a direct function of the primary, or intergranular, porosity and permeability, and may range from extremely low in glacial till, silts, and clays, to very high in well-sorted sand and gravel.

The sediments under the B952 area are predominantly unsaturated (see Plates 3 and 4), and play a relatively minor role in the groundwater hydrology of the area. They can, however, influence infiltration rates into the groundwater system, and may produce local "perched" water table conditions, which were noted in a number of borings over the site.

2.2.2.1 Glacial Till. Glacial till is a heterogeneous mixture of sediments deposited directly by ice, and is generally very poorly sorted and contains highly variable rock fragment types of local to very distant derivation. In the area around Building 952, the till is composed of a dense and compact mixture of clay, silt, sand, and gravel, with occasional cobbles and boulders, in which clay, silt, and sand tend to predominate. The coarse fraction is generally composed of local material such as shale and dolomite, with some sandstone and chert occurring infrequently.

1 Sediments
2 Till
3 Bedrock

This till occurs sporadically under many parts of the area, sandwiched between bedrock and overlying sediments. However, most of the till has apparently been eroded and replaced with other sediments (Plates 3 and 4), and now ranges in thickness from 0 to about 20 ft.

Glacial till is comparatively very impermeable and although it may create local "perched" water table conditions, the glacial till in this area is probably not extensive enough to constitute a significant barrier to infiltration or groundwater flow.

2.2.2.2 Outwash and Coarse-Grained Deposits. The outwash deposits are the most extensive in volume and extent in this area. These were deposited by melt water as the glacial ice receded, in one of two ways:

1. as a melt-water stream deposit, from sediment laden streams eroding the tills and filling all depressions and low areas with sands and gravels or,
2. as a kame deposit, from sedimentation on top of the ice itself, and the resulting deposit being "let down" to its present position as the ice melted. The main evidence for this latter interpretation is the pre-excavation topography, which clearly shows an irregularly shaped mound of sediment characteristic of kame deposits.

These water-laid deposits are better sorted than the glacial tills, and range from clean, sandy gravel to silty, gravelly sand, and gravelly, sandy silt. The degree of sorting and ratios of fine- to coarse-grained material is unknown throughout most of the property, as most borings were done by air-rotary drilling. During drilling the returns from different intervals can be mixed together, or some finer material may be washed out if water is used for dust control. As a result, only general changes in sediment characteristics may be detected.

In general, the outwash deposits become finer grained upward, although even the coarsest portions contain intervals of finer grained material. The outwash deposits are by far the thickest and most extensive of all the unconsolidated deposits under the property, and are present to some extent under all the buildings, in thicknesses to more than 55 ft.

These deposits have moderate to high porosity and permeability, especially in the coarser, deeper portions where sorting is apparently best. However, saturated thicknesses are less than 12 ft even in the deepest portions of the deposits. As a result, they play a relatively minor role in the storage and transmission of groundwater in this area.

2.2.2.3 Alluvial Silt and Clay. Alluvial silt and clay occur sporadically throughout the sands and gravels in this area. They generally occur as thin layers representing local low-energy depositional environments, i.e., overbank and lake deposits. The most significant deposit of silt and clay material occurs under portions of B952 and B982 as a lense in coarser material, to which it grades laterally. The clay and silt layers are often interbedded, or grade into one another, and range from pure clay or silt to a pebbly, sandy mixture.

These fine materials have a relatively low permeability. They may act as retardants to infiltration, and create local "perched" water table conditions. Their affect on infiltration and transport is most significant in the area of Borings 952-1 and 952-2 where fairly shallow perched zones (7-11 ft below the surface) were noted in the borings.

2.2.2.4 Fill. During construction of the buildings in this area, a relatively large amount of material was apparently excavated and redeposited as fill. More than 30 ft was removed from some areas. The fill is generally recognizable by a complete lack of bedding and structure, and plays a negligible role in the hydrogeology of this area, because it is unsaturated.

2.2.3 Groundwater Movement

As discussed in Section 2.1, Regional Setting, the B952 site occurs in a groundwater recharge area located between Casper Creek and the unnamed creek northwest of the site in the vicinity of the IBM main plant site (Figure 2.0-1). As a result of this hydrogeologic location, the water levels beneath the site can be expected to reflect decreasing head potential with greater depth into the bedrock aquifer. This declining head with depth was first confirmed

by water level measurements in shallow monitoring wells completed during the first phase of the field work and the water levels recorded in the two drinking water wells which are significantly deeper. Subsequently, deeper monitoring wells were drilled over the entire site to characterize the distribution of head in the deeper flow system which more accurately reflects the flow of groundwater within the site and beyond the site perimeter. This deeper groundwater configuration is also expected to better reflect the effects of adjacent pumping wells at both commercial and domestic properties surrounding the B952 site.

This declining head with depth begins with a shallow perched, saturated zone in the soil aquifer which results primarily from the variation in permeability of the shallow silts and sands and the underlying till. Because the characteristics of the soils vary significantly over the site, the presence of this shallow saturated zone and the depth at which it occurs also varies. As a result, it is a discontinuous saturated zone that probably does not account for any significant groundwater movement off the site other than in very localized areas close to the perimeter. However, water from this shallow perched zone can and does eventually infiltrate into the bedrock aquifer.

Shallow head potential measured in the bedrock aquifer at numerous borings indicates water levels on the order of 5 to 10 ft higher than the water levels in deeper monitoring wells. This higher head potential in the shallower zone of the rock as noted above is characteristic of recharge zones in bedrock aquifers. In order to get a better definition of the distribution of head potential with depth over the site, four nested piezometers were constructed at Borings 952-15, 952-17, 952-22, and 952-27. The depth intervals and water levels for each of the individual piezometers installed at these locations are shown on the graphic logs contained in Appendix A of this report.

Why it is a Recharge Area

Piezometric levels measured in the constructed piezometers generally confirm the observation that there is declining head with depth. The most dramatic vertical gradients (0.3 - 0.8) occur in the top 30 ft of bedrock. Deeper in the rock vertical gradients range from 0.003 to 0.005.

Little head differential was measured between the upper piezometer and the lower piezometer in 952-15. However, there is overwhelming evidence that a strong vertical component does exist in this area based on water levels in 952-7 and 952-DW-2.

It is expected that the higher gradients in the upper bedrock are a result of the rapid infiltration of precipitation through upper sediments being retarded in the upper levels of the bedrock. The infiltration, which is introduced in concentrated areas over the site (through wet wells and infiltration galleries) spreads horizontally in the bedrock and continues vertically to deeper levels in the bedrock aquifer. } 2

Plate 5 shows the water level contours for the deep monitoring wells within the B952 site. Also shown on this plate are the locations of pumping wells beyond the limits of the site which were used in the interpretation of the flow configuration data for these water levels. In general, these contours show that groundwater flows onto the B952 site from the south, at the southwest corner of the site, and from the east and northeast, at the northeast end of the site. Conversely, groundwater flow is away from the site to the southeast, the north, and the northwest. While it cannot be confirmed from strictly on-site data, the groundwater flow off site to the southeast is apparently in response to the natural flow of groundwater toward the discharge point at Casper Creek. However, the presence of off-site wells which are currently in use to the southeast may also be influencing this direction of groundwater movement. }

The groundwater movement off site to the north and northwest is definitely related to the operation of off-site wells at the adjacent Dodge dealership, the trailer park to the north of the Dodge dealership, and the residence which immediately borders the site on the northwest. This conclusion is based on water level recording data which clearly show a response in on-site wells to pumping of off-site wells.

The potential effects of off-site pumping wells to the east across Albany Post Road (Route 9) cannot be detected in the water level data on site, but the potential effects of the pumping well at the gas station in the northwestern corner of the intersection of Neptune Road and Route 9 can. This particular pumping well, which is located in proximity to B952, appears to draw water directly from the area of Building 952 operations and also from the area of Boring 952-22 across Neptune Road to the south (Plate 5).

As mentioned above, movement of groundwater in the perched soil zone off site would be expected to be very limited in extent because of the discontinuity of this perched horizon. Saturated soil does occur in other areas, particularly in the vicinity of Borings 952-14 and 952-26, where the thickness of saturated sediments is as great as 10 ft. However, analysis of bedrock surface and water level contours indicates that along the perimeter to the south of this area of saturated soil, which is the direction in which groundwater movement occurs, the thickness of the saturated sediments is reduced to 2 ft or less. Additionally, it is projected, based on extrapolations of the contours, to pinch out not far from the property line. Therefore, groundwater flow off site in the saturated soils is insignificant.

CHAPTER 3.0

GROUNDWATER AND SOIL SAMPLING AND CHEMICAL ANALYSIS

3.1 INTRODUCTION

The purpose of this chapter is to present a summary of the chemistry found in the B952 groundwater and soils. All chemistry data, upon which this summary is based, are found in Appendices F and G.

3.2 GROUNDWATER SAMPLING AND ANALYTICAL METHODS

The sampling and chemical analysis generally followed the protocols established during the 1981 program and are presented in Appendix D. Some of the principles and factors of the sampling are explained here to provide a clear understanding of the application of the general protocols to the present study. The location of the borings drilled and sampled in this program are located on Plate 1.

Most of the borings in this study are large (6-in. diameter), drilled deep (100-200 ft) in the rock with an air rotary rig. The nature of the air rotary process is such that development of the boring takes place during the drilling, i.e., the compressed air delivered to the drilling head acts as an air lift pump, so that formation water is drawn into the boring, pumped up by the compressed air, and blown out at the surface. Unlike the soil augered borings, no development of the boring is necessary, because the water standing in the boring after drilling is all formation water, not water introduced into the boring at the surface to assist in the drilling. Because of the air pumping, however, this water might have had its volatile organic compounds (VOAS) stripped from it. For this reason, the borings were bailed with a centrifugal

pump after drilling. Some "tight" borings were pumped to dryness, so that all water in the boring after pumping was formation water free from agitation. At borings that flowed more freely, three volumes were pumped out, running the pump from top to bottom of the boring to ensure that all water standing in the boring after pumping was fresh from the formation.

The first sample in such an air rotary boring was taken at least 6 hrs, and usually more than 24 hrs, after completion of the pumping (bailing). After that first sampling, subsequent samples were taken without further bailing of the boring.

Some of the borings at B952 (952-1, 2, and 5 through 10) were drilled with a soil auger. The standard protocol of complete development immediately after drilling, and bailing three volumes at each sampling was followed. *Why?*

Chemical analysis in the program centered around the priority organic compounds, particularly the VOAS and the base neutrals (B/Ns). At the outset of the program, the analyses were being done at the same detection limits used in the 1981 program, i.e., 10 ppb for the VOAS, B/Ns, and pesticides/PCBs, and 25 ppb for the acid/phenolics. As the program proceeded, it became apparent that greater sensitivity in these analyses was required to differentiate borings from one another and to assess fully the potential effect of these chemicals. In mid-November, the detection limits for the organic compounds were reduced to one-tenth of that originally used, i.e., to 1 ppb for the VOAS, B/Ns, and pesticides/PCBs, and 2.5 ppb for the acid phenolics.

Throughout the program, detection limits for metals were those used in the 1981 program; these detection limits vary from metal to metal and are related to levels of significance in groundwater by comparison to New York State groundwater standards.

The following laboratories performed the analytical work:

- Environmental Testing and Certification (ETC): most of the priority organic chemistry on both water and soils samples
- Camo Pollution Control: some priority organic chemistry on water samples
- General Testing: oil and grease analyses on soil samples
- LMS: metals plus general chemistry on water and soil samples

3.3 GROUNDWATER DATA SUMMARY

Data from Appendix F are summarized on Table 3.0-1. This table lists all priority organic compounds for which at least one analytical result at 1 ppb or greater was reported by the laboratory.

A review of this data shows that only VOAs and B/Ns were found in elevated concentrations, i.e., there were no unusual findings of pH, ammonia, oil and grease, TOC, heavy metals, pesticides/PCBs, or acid/phenolics.

3.4 SOIL SAMPLES SUMMARY

3.4.1 Soils Under B952 and B982

Soils under both Building 952 and B982 were sampled, by hand augering and by a pneumatic powered auger, for chemical analysis. Sampling locations are shown on Figure 3.0-1. All sampling took place in the unsaturated zone up to a depth of about 20 ft; groundwater table in this area is roughly 30 ft below grade (the building floor level). All data collected in this sampling and analysis program are in Appendix G.

TABLE 3.0-1 (Page 1 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS.)=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL	952-1 (ORIG)	952-1 (ORIG)	952-1 (ORIG)	952-1 (ORIG)	952-1 (ORIG)	952-1 (ORIG)
DATE	2 DEC 81	17 FEB 82	5 OCT 82	22 OCT 82	22 OCT 82	2 NOV 82
INV-NO	811015	011016	820027	820097	020097	820132
LAB	(by RECRA)	(by RECRA)	-	(by CAMO)	(by ETC)	-
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	-	NR	NR	NR	NR	NR
bis(2-ethylhexyl)phthalate	-	NR	NR	NR	NR	NR
1,2-dichlorobenzene	-	NR	NR	NR	NR	NR
1,3-dichlorobenzene	-	NR	NR	NR	NR	NR
1,4-dichlorobenzene	-	NR	NR	NR	NR	NR
diethylphthalate	-	NR	NR	NR	NR	NR
di-n-butylphthalate	-	NR	NR	NR	NR	NR
di-n-octyl-phthalate	-	NR	NR	NR	NR	NR
fluoranthene	-	NR	NR	NR	NR	NR
naphthalene	-	NR	NR	NR	NR	NR
phenanthrene	-	NR	NR	NR	NR	NR
pyrene	-	NR	NR	NR	NR	NR
1,2,4-trichlorobenzene	-	NR	NR	NR	NR	NR
VOLATILES (ppb)						
benzene	BM @10	-	-	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	-	-	-
dichlorobromomethane	-	-	-	3	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	26	10	10	6	7	-
1,2-dichloroethane	-	-	11	4	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	36	31	19	15	13	-
ethylbenzene	-	-	BM @10	-	-	-
methylene chloride	-	-	23	-	8	1
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	-	-	643	-	-	BM @10
toluene	-	-	BM @10	-	-	BM @10
1,1,1-trichloroethane	77	71	36	15	16	BM @10
1,1,2-trichloroethane	-	-	BM @10	-	-	-
trichloroethylene	54	52	117	19	21	BM @10
trichlorofluoromethane	-	-	BM @10	-	-	2
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

- means none detected

TABLE 3.0-1 (Page 2 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-2 (ORIG) 18 OCT 82 820064	952-2 (ORIG) 22 OCT 82 820096 (by CAMO)	952-2 (ORIG) 22 OCT 82 820096 (by ETC)	952-2 (ORIG) 2 NOV 82 820131	952-3 (ORIG) 18 OCT 82 820065	952-3 (ORIG) 16 NOV 82 820194
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	-	NR	NR	-	NR	-
bis(2-ethylhexyl)phthalate	-	NR	NR	-	NR	3
1,2-dichlorobenzene	442	NR	NR	360	NR	BM @10
1,3-dichlorobenzene	237	NR	NR	109	NR	-
1,4-dichlorobenzene	169	NR	NR	31	NR	-
diethylphthalate	BM @10	NR	NR	-	NR	-
di-n-butylphthalate	-	NR	NR	-	NR	BM @10
di-n-octyl-phthalate	-	NR	NR	-	NR	-
fluoranthene	-	NR	NR	-	NR	-
naphthalene	BM @10	NR	NR	-	NR	-
phenanthrene	-	NR	NR	-	NR	-
pyrene	-	NR	NR	-	NR	-
1,2,4-trichlorobenzene	39	NR	NR	13	NR	-
VOLATILES (ppb)						
benzene	-	-	-	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	BM @10	2	3	3	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	3	1	-	-
dichlorobromomethane	-	2	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	12	-	4	7	-	-
1,2-dichloroethane	-	6	3	-	-	-
1,1-dichloroethylene	-	-	-	BM @10	-	-
trans-1,2-dichloroethylene	34	6	13	16	-	-
ethylbenzene	-	-	-	BM @10	-	-
methylene chloride	10	-	7	1	14	17
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	BM @10	3	1	2	-	-
toluene	BM @10	-	2	3	BM @10	BM @10
1,1,1-trichloroethane	67	4	13	29	-	-
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	44	4	11	22	-	-
trichlorofluoromethane	-	-	-	1	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

- means none detected

TABLE 3.0-1 (Page 3 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-4 (ORIG) 13 OCT 82 820052	952-4 (ORIG) 2 NOV 82 820134	952-4 (ORIG) 16 NOV 82 820195	952-5 (ORIG) 12 OCT 82 820051	952-5 (ORIG) 1 NOV 82 820129	952-5 (ORIG) 16 NOV 82 820196
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acetophthene	NR	NR	-	NR	NR	-
bis(2-ethylhexyl)phthalate	NR	NR	1	NR	NR	-
1,2-dichlorobenzene	NR	NR	-	NR	NR	-
1,3-dichlorobenzene	NR	NR	-	NR	NR	-
1,4-dichlorobenzene	NR	NR	-	NR	NR	-
diethylphthalate	NR	NR	-	NR	NR	-
di-n-butylphthalate	NR	NR	**	NR	NR	**
di-n-octyl-phthalate	NR	NR	-	NR	NR	-
fluoranthene	NR	NR	-	NR	NR	-
naphthalene	NR	NR	**	NR	NR	-
phenanthrene	NR	NR	-	NR	NR	-
pyrene	NR	NR	-	NR	NR	-
1,2,4-trichlorobenzene	NR	NR	-	NR	NR	-
VOLATILES (ppb)						
benzene	-	-	-	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	-	-	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	-	-	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	-	-	**	-	-	-
ethylbenzene	-	BM @10	-	-	-	-
methylene chloride	BM @10	1	17	BM @10	6	20
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	BM @10	-	-	BM @10	-	-
toluene	-	1	**	-	5	**
1,1,1-trichloroethane	-	BM @10	-	-	-	-
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	-	-	**	BM @10	-	-
trichlorofluoromethane	BM @10	2	-	BM @10	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o, p-xylene	-	-	-	-	-	-
o, xylene	-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

** - Value not within specified range

- means none detected

TABLE 3.0-1 (Page 4 of 12)

SUMMARY OF CHEMISTRY

VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION	952-6	952-6	952-6	952-7	952-7	952-7
ORIG/REPL	(ORIG)	(ORIG)	(ORIG)	(ORIG)	(ORIG)	(ORIG)
DATE	29 OCT 82	29 OCT 82	16 NOV 82	7 OCT 82	7 OCT 82	18 OCT 82
INV-NO	820124	820124	820197	820034	820034	820063
LAB	(by ETC)	(by CAMO)	-	(by CAMO)	(by LMS)	-
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	-	-	-	NR	NR	-
bis(2-ethylhexyl)phthalate	-	-	**	NR	NR	-
1,2-dichlorobenzene	-	-	**	NR	NR	BM @10
1,3-dichlorobenzene	-	-	-	NR	NR	-
1,4-dichlorobenzene	-	-	-	NR	NR	-
diethylphthalate	-	-	-	NR	NR	BM @10
di-n-butylphthalate	3	-	**	NR	NR	-
di-n-octyl-phthalate	-	-	-	NR	NR	-
fluoranthene	-	-	-	NR	NR	-
naphthalene	-	-	-	NR	NR	-
phenanthrene	-	-	-	NR	NR	-
pyrene	-	-	-	NR	NR	-
1,2,4-trichlorobenzene	-	-	-	NR	NR	-
VOLATILES (ppb)						
benzene	-	-	**	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	12	-	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	8	-
1,1-dichloroethane	2	5	-	-	-	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	-	-	-	-	-	-
ethylbenzene	-	-	**	-	-	-
methylene chloride	8	2	15	-	-	BM @10
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	BM @10	-	-	-	-	-
toluene	BM @10	-	**	10	-	-
1,1,1-trichloroethane	BM @10	-	**	-	2	BM @10
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	BM @10	-	-	-	-	-
trichlorofluoromethane	-	-	-	-	-	BM @10
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	**	-
o,p-xylene	BM @10	-	-	-	2	-
o,xylene	-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

** - Value not within specified range

TABLE 3.0-1 (Page 5 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-7 (ORIG) 22 OCT 82 820098 (by CAMO)	952-7 (ORIG) 22 OCT 82 820098 (by ETC)	952-7 (ORIG) 29 OCT 82 820123 (by ETC)	952-7 (ORIG) 29 OCT 82 820123 (by CAMO)	952-7 (ORIG) 16 NOV 82 820198	952-8 (ORIG) 1 NOV 82 820128
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	NR	NR	BM @10	-	-	-
bis(2-ethylhexyl)phthalate	NR	NR	-	-	2	-
1,2-dichlorobenzene	NR	NR	-	-	**	-
1,3-dichlorobenzene	NR	NR	-	-	-	-
1,4-dichlorobenzene	NR	NR	-	-	-	-
diethylphthalate	NR	NR	-	-	-	-
di-n-butylphthalate	NR	NR	7	-	**	-
di-n-octyl-phthalate	NR	NR	-	-	-	-
fluoranthene	NR	NR	-	-	-	-
naphthalene	NR	NR	-	-	**	-
phenanthrene	NR	NR	-	-	-	-
pyrene	NR	NR	-	-	-	-
1,2,4-trichlorobenzene	NR	NR	-	-	-	-
VOLATILES (ppb)						
benzene	-	-	1	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	-	BM @10	-	-	-
chlorodibromomethane	-	-	BM @10	-	-	-
chloroform	-	-	2	-	-	-
dichlorobromomethane	-	-	1	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	-	1	-
1,2-dichloroethane	3	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	-	-	-	-	-	-
ethylbenzene	8	4	BM @10	-	-	-
methylene chloride	-	5	1	2	16	5
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	-	-	BM @10	-	-	-
toluene	-	-	2	-	**	1
1,1,1-trichloroethane	1	-	1	-	**	-
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	-	-	BM @10	-	-	-
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	4	-	6
m-xylene	-	-	3	-	-	-
o, p-xylene	-	-	-	-	-	-
o, xylene	-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

** - Value not within specified range

TABLE 3.0-1 (Page 6 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-8 (ORIG) 16 NOV 82 820199	952-9 (ORIG) 8 NOV 82 820150	952-9 (ORIG) 16 NOV 82 820200	952-10 (ORIG) 21 NOV 82 820266	952-11 (ORIG) 23 NOV 82 820273	952-13 (ORIG) 21 NOV 82 820265
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	NR	-	NR	-	-	-
bis(2-ethylhexyl)phthalate	NR	-	NR	1	-	1
1,2-dichlorobenzene	NR	-	NR	18	3	**
1,3-dichlorobenzene	NR	-	NR	3	42	-
1,4-dichlorobenzene	NR	-	NR	6	6	**
diethylphthalate	NR	-	NR	-	-	-
di-n-butylphthalate	NR	-	NR	**	**	**
di-n-octyl-phthalate	NR	-	NR	-	-	-
fluoranthene	NR	-	NR	-	-	-
naphthalene	NR	-	NR	**	-	-
phenanthrene	NR	-	NR	-	-	-
pyrene	NR	-	NR	-	-	-
1,2,4-trichlorobenzene	NR	-	NR	1	1	1
VOLATILES (ppb)						
benzene	-	-	-	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	14	-	6	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	BM @10	6	-	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	40	3	5
1,2-dichloroethane	-	-	-	3	-	-
1,1-dichloroethylene	-	-	-	2	**	-
trans-1,2-dichloroethylene	-	-	-	22	3	-
ethylbenzene	-	-	-	-	-	-
methylene chloride	14	18	16	32	22	41
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	-	-	-	2	**	-
toluene	**	BM @10	BM @10	3	**	-
1,1,1-trichloroethane	**	-	-	63	8	3
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	-	-	-	35	5	2
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	2	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	1	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	-	-	-	1	-	**

NR - Not run

BM - Below method detection limit

** - Value not within specified range

- none detected

TABLE 3.0-1 (Page 7 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-13 (ORIG) 28 NOV 82 820291	952-14 (ORIG) 21 NOV 82 820269	952-14 (ORIG) 28 NOV 82 820292	952-15 (ORIG) 23 NOV 82 820270	952-16 (ORIG) 23 NOV 82 820272	952-17 (ORIG) 17 NOV 82 820204
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	NR	-	NR	-	-	NR
bis(2-ethylhexyl)phthalate	NR	14	NR	13	-	NR
1,2-dichlorobenzene	NR	-	NR	3	1	NR
1,3-dichlorobenzene	NR	-	NR	-	-	NR
1,4-dichlorobenzene	NR	-	NR	1	-	NR
diethylphthalate	NR	-	NR	-	-	NR
di-n-butylphthalate	NR	3	NR	-	1	NR
di-n-octyl-phthalate	NR	-	NR	-	-	NR
fluoranthene	NR	-	NR	-	-	NR
naphthalene	NR	-	NR	-	1	NR
phenanthrene	NR	-	NR	-	-	NR
pyrene	NR	-	NR	-	-	NR
1,2,4-trichlorobenzene	NR	-	NR	-	-	NR
VOLATILES (ppb)						
benzene	-	-	-	-	-	**
bromoform	-	-	-	-	-	-
chlorobenzene	-	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	-	-	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	4	-	-	1	-	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	**	-	-	**	-	-
ethylbenzene	-	-	-	-	-	-
methylene chloride	2	35	2	31	20	11
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	**	-	**	**	-	**
toluene	1	1	**	1	**	1
1,1,1-trichloroethane	2	3	2	2	-	1
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	1	2	**	1	-	-
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	-	**	-	-	-	-

NR - Not run

** - Value not within specified range

- means none detected

TABLE 3.0-1 (Page 8 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION	952-17	952-17	952-18	952-19	952-20	952-21
ORIG/REPL	(ORIG)	(ORIG)	(ORIG)	(ORIG)	(ORIG)	(ORIG)
DATE	21 NOV 82	28 NOV 82	21 NOV 82	21 NOV 82	23 NOV 82	23 NOV 82
INV-NO	820264	820290	820267	820268	820274	820271
LAB	-	-	-	-	-	-
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	-	NR	-	-	-	-
bis(2-ethylhexyl)phthalate	-	NR	-	-	-	9
1,2-dichlorobenzene	**	NR	**	**	-	1
1,3-dichlorobenzene	-	NR	**	-	-	-
1,4-dichlorobenzene	**	NR	**	**	-	-
diethylphthalate	**	NR	**	**	**	-
di-n-butylphthalate	**	NR	**	**	4	-
di-n-octyl-phthalate	-	NR	-	-	-	-
fluoranthene	-	NR	-	-	-	-
naphthalene	-	NR	-	-	-	-
phenanthrene	-	NR	-	-	-	-
pyrene	-	NR	-	-	-	-
1,2,4-trichlorobenzene	-	NR	-	-	-	-
VOLOATILES (ppb)						
benzene	-	-	-	-	-	-
bromoform	3	-	-	-	-	-
chlorobenzene	2	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	-	-	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	-	-	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	-	-	-	-	-	-
ethylbenzene	-	-	-	-	-	-
methylene chloride	31	2	22	29	5	28
1,1,2,2-tetrachloroethane	16	-	-	-	-	-
tetrachloroethylene	**	**	-	-	5	-
toluene	1	**	-	-	1	-
1,1,1-trichloroethane	-	1	-	-	-	-
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	-	**	-	-	4	-
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	2	-	**	-	-	-

NR - Not run

** - Value not within specified range

- means none detected

TABLE 3.0-1 (Page 9 of 12)

SUMMARY OF CHEMISTRY

VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-21 (ORIG) 28 NOV 82 820289	952-22 (ORIG) 28 NOV 82 820297	952-23 (ORIG) 29 NOV 82 820298	952-24 (ORIG) 29 NOV 82 820299	952-25 (ORIG) 29 NOV 82 820300	952-26 (ORIG) 29 NOV 82 820301
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	NR	-	NR	**	NR	**
bis(2-ethylhexyl)phthalate	NR	-	NR	-	NR	-
1,2-dichlorobenzene	NR	-	NR	-	NR	-
1,3-dichlorobenzene	NR	-	NR	-	NR	-
1,4-dichlorobenzene	NR	-	NR	-	NR	-
diethylphthalate	NR	-	NR	-	NR	-
di-n-butylphthalate	NR	2	NR	1	NR	**
di-n-octyl-phthalate	NR	-	NR	-	NR	-
fluoranthene	NR	-	NR	2	NR	2
naphthalene	NR	-	NR	-	NR	-
phenanthrene	NR	-	NR	4	NR	3
pyrene	NR	-	NR	1	NR	1
1,2,4-trichlorobenzene	NR	-	NR	-	NR	-
VOLATILES (ppb)						
benzene	-	-	-	**	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	**	-	-	-	-	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	1	-	-	1	2	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	**	-	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	-	-
trans-1,2-dichloroethylene	-	-	-	**	-	-
ethylbenzene	-	-	-	-	-	-
methylene chloride	2	5	9	5	6	6
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	1	**	**	**	**	-
toluene	1	2	2	5	5	4
1,1,1-trichloroethane	**	**	**	3	**	-
1,1,2-trichloroethane	-	-	-	-	-	-
trichloroethylene	**	1	-	3	-	-
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	**	-	-	-	-	-

NR - Not run

** - Value not within specified range

- means none detected

TABLE 3.0-1 (Page 10 of 12)
 SUMMARY OF CHEMISTRY
 VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

STATION ORIG/REPL DATE INV-NO LAB	952-27 (ORIG) 29 NOV 82 820302	952-28 (ORIG) 29 NOV 82 820303	952-DW-1 (ORIG) 3 NOV 82 820148	952-DW-1B (ORIG) 18 NOV 82 820263	952-DW-1M (ORIG) 18 NOV 82 820262	952-DW-1T (ORIG) 18 NOV 82 820261
COMPOUNDS (UNIT)						
BASE/NEUTRALS (ppb)						
acenaphthene	NR	-	NR	NR	NR	NR
bis(2-ethylhexyl)phthalate	NR	-	NR	NR	NR	NR
1,2-dichlorobenzene	NR	-	NR	NR	NR	NR
1,3-dichlorobenzene	NR	-	NR	NR	NR	NR
1,4-dichlorobenzene	NR	-	NR	NR	NR	NR
diethylphthalate	NR	-	NR	NR	NR	NR
di-n-butylphthalate	NR	-	NR	NR	NR	NR
di-n-octyl-phthalate	NR	1	NR	NR	NR	NR
fluoranthene	NR	-	NR	NR	NR	NR
naphthalene	NR	-	NR	NR	NR	NR
phenanthrene	NR	-	NR	NR	NR	NR
pyrene	NR	-	NR	NR	NR	NR
1,2,4-trichlorobenzene	NR	-	NR	NR	NP	NR
VOLATILES (ppb)						
benzene	-	**	-	-	-	-
bromoform	-	-	-	-	-	-
chlorobenzene	-	**	-	-	**	-
chlorodibromomethane	-	-	-	-	-	-
chloroform	-	-	-	-	**	-
dichlorobromomethane	-	-	-	-	-	-
dichlorodifluoromethane	-	-	-	-	-	-
1,1-dichloroethane	-	-	-	-	**	-
1,2-dichloroethane	-	-	-	-	-	-
1,1-dichloroethylene	-	-	-	-	**	-
trans-1,2-dichloroethylene	-	-	-	-	**	-
ethylbenzene	-	**	-	-	-	-
methylene chloride	5	12	BM @10	2	5	**
1,1,2,2-tetrachloroethane	-	-	-	-	-	-
tetrachloroethylene	-	**	-	-	-	-
toluene	1	5	-	**	**	-
1,1,1-trichloroethane	-	**	-	-	2	-
1,1,2-trichloroethane	-	-	-	-	**	-
trichloroethylene	-	-	BM @10	1	5	-
trichlorofluoromethane	-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-
xylene	-	-	-	-	-	-
m-xylene	-	-	-	-	-	-
o,p-xylene	-	-	-	-	-	-
o,xylene	-	1	-	-	-	-

NR - Not run

BM - Below method detection limit

** - Value not within specified range

- means none detected

TABLE 3.0-1 (Page 11 of 12)

SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

	STATION DRIG/REPL DATE INV-NO LAB	952-DW-2 (ORIG) 22 OCT 82 B20201 (by LMS)	952-DW-2 (ORIG) 22 OCT 82 B20201 (by LMS)	952-DW-2 (REPL) 22 OCT 82 B20201 (by LMS)	952-DW-2 (ORIG) 3 NOV 82 B20149	952-DW-2B (ORIG) 17 NOV 82 B20260	952-DW-2M (ORIG) 17 NOV 82 B20259
COMPOUNDS (UNIT)							
BASE/NEUTRALS (ppb)							
acenaphthene		NR	NR	NR	NR	NR	NR
bis(2-ethylhexyl)phthalate		NR	NR	NR	NR	NR	NR
1,2-dichlorobenzene		NR	NR	NR	NR	NR	NR
1,3-dichlorobenzene		NR	NR	NR	NR	NR	NR
1,4-dichlorobenzene		NR	NR	NR	NR	NR	NR
diethylphthalate		NR	NR	NR	NR	NR	NR
di-n-butylphthalate		NR	NR	NR	NR	NR	NR
di-n-octyl-phthalate		NR	NR	NR	NR	NR	NR
fluoranthene		NR	NR	NR	NR	NR	NR
naphthalene		NR	NR	NR	NR	NR	NR
phenanthrene		NR	NR	NR	NR	NR	NR
pyrene		NR	NR	NR	NR	NR	NR
1,2,4-trichlorobenzene		NR	NR	NR	NR	NR	NR
VOLATILES (ppb)							
benzene		-	-	-	-	-	-
bromoform		-	-	-	-	-	-
chlorobenzene		-	-	-	-	-	-
chlorodibromomethane		6	6	6	-	-	-
chloroform		-	-	-	-	-	-
dichlorobromomethane		-	2	2	-	-	-
dichlorodifluoromethane		-	-	-	-	-	-
1,1-dichloroethane		-	-	-	-	-	-
1,2-dichloroethane		-	-	-	-	-	-
1,1-dichloroethylene		-	-	-	-	-	-
trans-1,2-dichloroethylene		-	-	-	-	-	-
ethylbenzene		-	-	-	-	-	-
methylene chloride		6	-	5	BM @10	-	-
1,1,2,2-tetrachloroethane		-	-	-	-	-	-
tetrachloroethylene		-	-	-	-	-	-
toluene		-	-	-	BM @10	**	1
1,1,1-trichloroethane		-	1	1	-	-	-
1,1,2-trichloroethane		-	-	-	-	-	-
trichloroethylene		-	-	-	BM @10	-	1
trichlorofluoromethane		-	-	-	-	-	-
1,1,2-trichloro-1,2,2-trifluoroethane		-	-	-	-	-	-
xylene		-	-	-	-	-	-
m-xylene		-	-	-	-	-	-
o,p-xylene		-	-	-	-	-	-
o,xylene		-	-	-	-	-	-

NR - Not run

BM - Below method detection limit

** - Value not within specified range

- none were detected

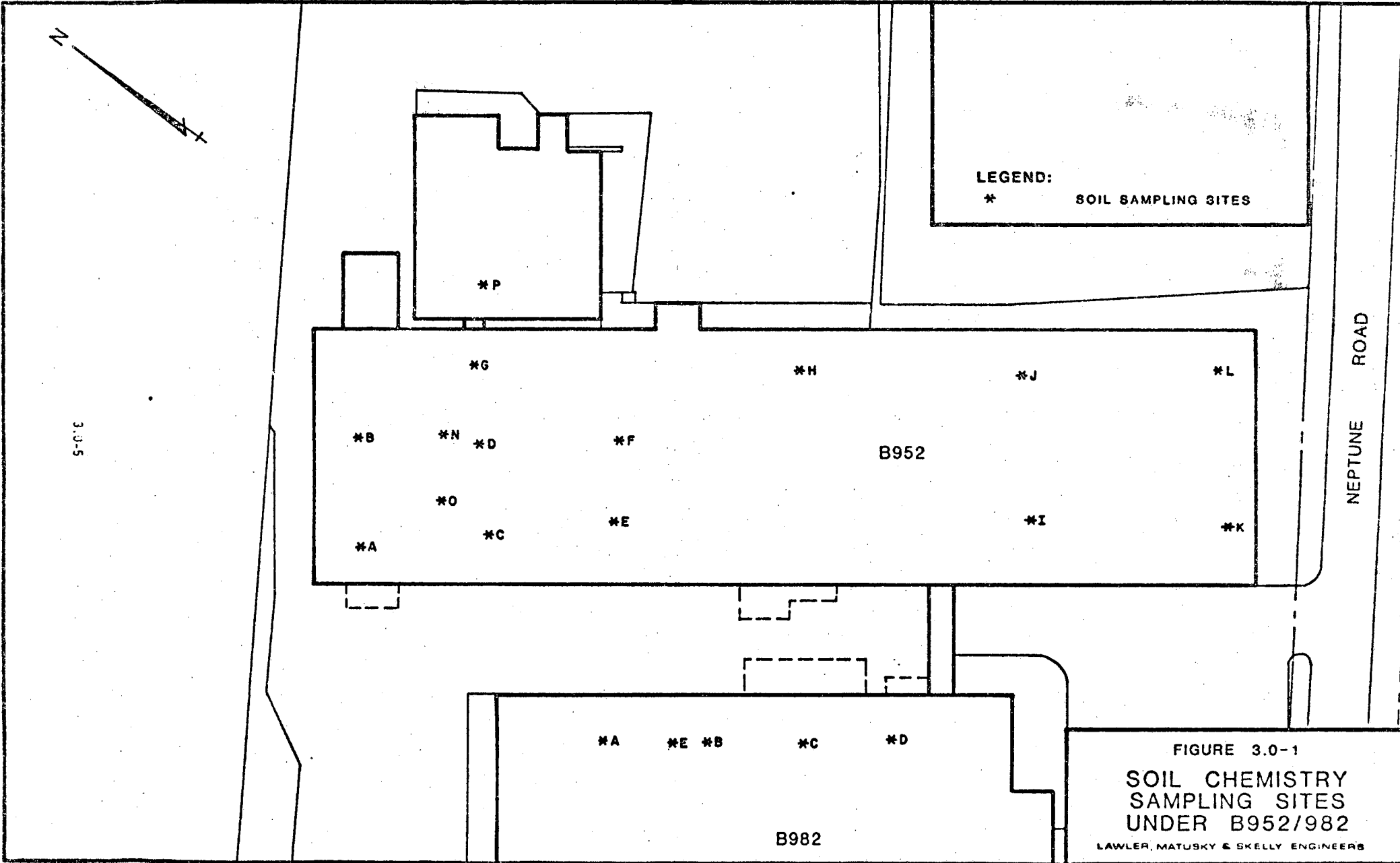
SUMMARY OF CHEMISTRY
VOA & B/N CONCENTRATIONS >=1PPB AT BUILDINGS 952/982

	STATION ORIG/REPL	952-DW-2T (ORIG)	B995N-SEPT (ORIG)	DRILL-WATR (ORIG)
	DATE	17 NOV 82	29 DEC 82	21 NOV 82
	INV-NO	820258	820577	820304
COMPOUNDS (UNIT)	LAB	-	-	-
BASE/NEUTRALS (ppb)				
acenaphthene	NR	-	-	-
bis(2-ethylhexyl)phthalate	NR	16	2	-
1,2-dichlorobenzene	NR	-	-	-
1,3-dichlorobenzene	NR	-	-	-
1,4-dichlorobenzene	NR	-	-	-
diethylphthalate	NR	**	-	-
di-n-butylphthalate	NR	1	2	-
di-n-octylphthalate	NR	**	-	-
fluoranthene	NR	-	-	-
naphthalene	NR	**	-	-
phenanthrene	NR	-	-	-
pyrene	NR	-	-	-
1,2,4-trichlorobenzene	NR	-	-	-
VOLATILES (ppb)				
benzene	-	-	-	-
bromoform	-	-	**	-
chlorobenzene	-	-	-	-
chlorodibromomethane	-	-	12	-
chloroform	-	24	53	-
dichlorobromomethane	-	7	24	-
dichlorodifluoromethane	-	-	-	-
1,1-dichloroethane	-	-	-	-
1,2-dichloroethane	-	-	-	-
1,1-dichloroethylene	-	-	-	-
trans-1,2-dichloroethylene	-	-	-	-
ethylbenzene	-	-	-	-
methylene chloride	4	1	27	-
1,1,2,2-tetrachloroethane	-	-	-	-
tetrachloroethylene	-	-	-	-
toluene	1	**	-	-
1,1,1-trichloroethane	**	-	-	-
1,1,2-trichloroethane	-	-	-	-
trichloroethylene	-	-	-	-
trichlorofluoromethane	-	3	-	-
1,1,2-trichloro-1,2,2-trifluoroethane	-	-	-	-
xylene	-	-	-	-
m-xylene	-	-	-	-
o,p-xylene	-	-	-	-
o,xylene	-	-	-	-

NR - Not run

** - Value not within specified range

- means none detected



3.4.2 Soils in B952/982 Alcove

In the alcove between B952 and B982, to the north of the passageway between these two buildings, a sampling program similar to that inside B952 was carried out. The sampling locations are shown in Figure 3.0-2 and the data are summarized in Appendix G.

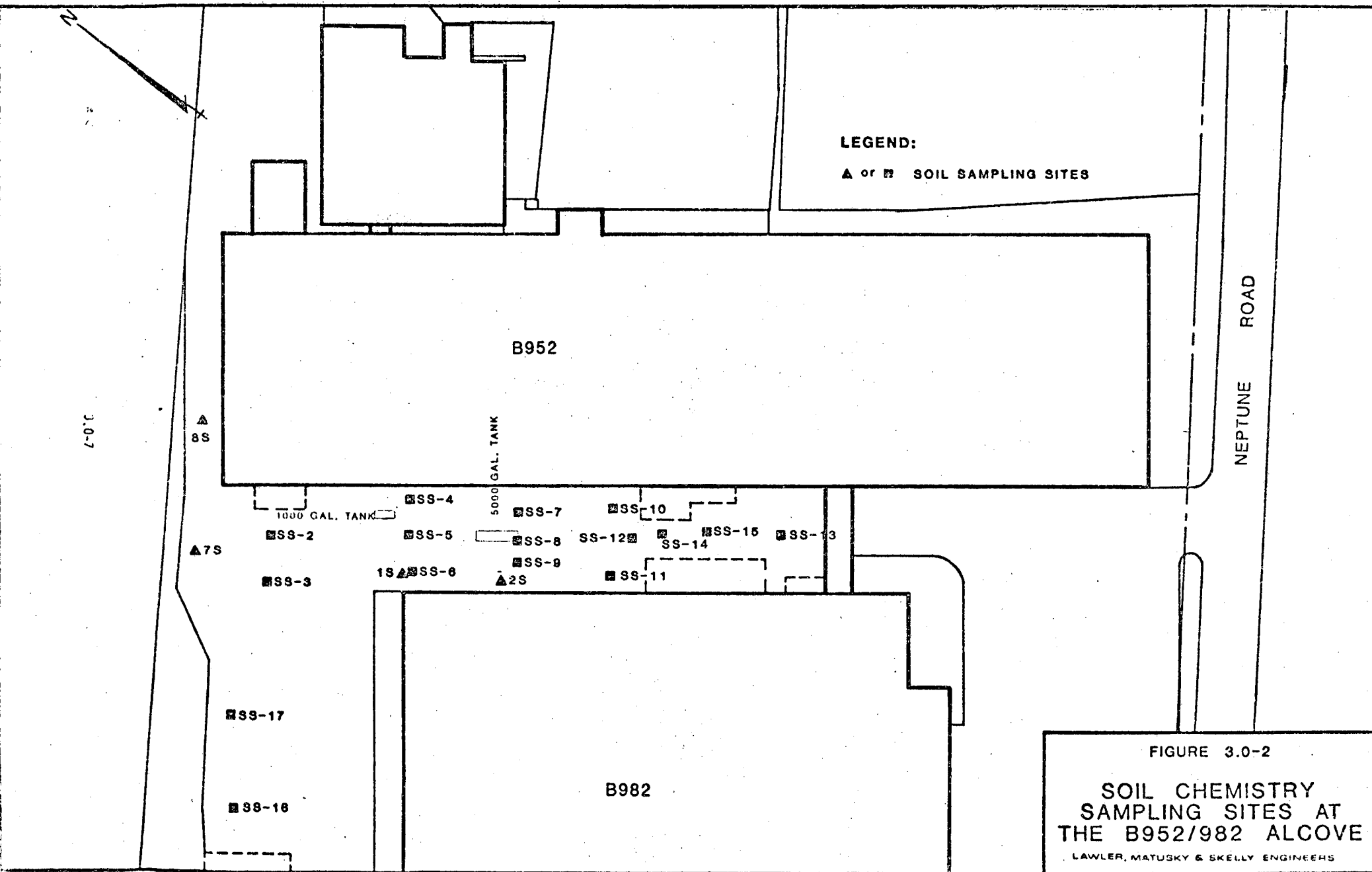


FIGURE 3.0-2

SOIL CHEMISTRY
 SAMPLING SITES AT
 THE B952/982 ALCOVE

LAWLER, MATUSKY & SKELLY ENGINEERS

APPENDIX A

SOIL SAMPLING, DRILLING, AND WELL POINT INSTALLATION

APPENDIX A

SOIL SAMPLING, DRILLING, AND WELL POINT INSTALLATION

Drilling and Sampling Procedures

All drilling equipment and operators were provided by a subcontractor. One supervising geologist, provided by REWAI, was assigned to each drilling crew.

Soil Boring - Rock Coring

Two truck-mounted, hollow-stem auger drilling rigs owned and operated by Empire Soil Investigations, Inc. were used for this drilling. Both rigs were capable of coring with water and used the same size hollow-stem augers: 7-in. O.D. augers and 3-in. O.D. NX core. Similarities between these rigs assured that a uniform drilling procedure was followed.

Continuous split-spoon sampling of the overlying soils was conducted with a 2-in. O.D., 2-ft split-spoon sampler. After being advanced 2 ft, the spoon and sample were removed and the augers advanced through the same 2-ft interval. Soil samples collected by thin wall tube samples were used, if necessary, to supplement split-spoon samples. Soil samples were logged in the field before removal from the spoon and the amount of recovery was measured. Once logged, the samples were transferred to new 8-oz glass jars with metal screw caps or retained in their tube liners. Jar caps were lined with aluminum foil and tubes were sealed with hot wax.

An NX roller bit was used to clean the hole at the top of bedrock, if necessary, and a core barrel was used to collect rock samples. Rock cores were measured for recovery while still in the NX barrel.

After measurement, the cores were placed in properly labeled boxes and returned to REWAI's offices in Harrisburg, PA, where they are stored.

Air Rotary Drilling

Air rotary rigs were used at locations where the soil was less than 6 ft thick, or where it was determined in advance that soil logging was not necessary to achieve program objectives; examples of the latter are areas of unsaturated soil or where sufficient geological information already existed. Air rotary rigs were supplied by Eckerson and Sons, Inc., in the early part of the program, and later by both Greening and Boyd.

A standard air rotary drilling rig with a tricone roller bit was used to advance a 12-in. hole a minimum of 5 ft into bedrock. A 6-in. I.D. (minimum) PVC (or steel) casing pipe was installed in the 12-in. hole and the annulus between the pipe and hole was protected on the surface from debris and well cuttings.

A 6-in. roller bit was then used to advance the hole below the bottom of the casing to a scheduled depth or until adequate water (greater than 0.1 gpm) was encountered. After termination of advancement of the hole, the well was developed by blowing air from the bottom of the hole until the supervising geologist was satisfied that the hole was properly developed. ?

Samples of soil or rock were collected continuously from the drilling returns and packaged in 5-ft intervals. Groundwater yield of the well was evaluated at the end of each drill rod and at the termination of the hole.

Sample Handling and Storage

Soil samples were transported to REWAI's Middletown office for further analysis and for correlation purposes. One-half of the samples from each spoon were taped shut with clear plastic tape to prevent opening except by LMS or its laboratory. These taped samples were delivered to LMS upon request for chemical analysis.

Piezometer and Standpipe Construction Procedures

In the construction of all borings a basic design was followed so that uniformity was maintained. The controlling feature that necessitates variations in the design is the elevation of the static water level (SWL) with regard to the local stratigraphy and the top of bedrock and the desire to segregate the chemical quality of various aquifers.

Monitoring Well Construction Using Soil Boring-Rock Coring Rig

Except when a shallow soil aquifer boring was located adjacent to a deep boring, the following procedures were followed. A continuous split-spoon sample was collected, followed by advancement of the auger to bedrock. After cleaning the hole with an NX sized roller bit, an NX core barrel was used to collect rock samples.

A 1.66-in. O.D., 1.18-in. I.D., flush joint, taper-threaded 10-slot screen was installed either within or above the bedrock unit. Taper-threaded Schedule 40 flush joint, solid PVC pipe was fitted to the screen and extended to 2 ft above ground surface. This pipe and screen was steam-cleaned prior to well installation.

Screened interval for each well was selected by REWAI. Special care was taken so that screens and packing did not provide a conduit for

flow through an aquitard. The screened interval selected depended on the aquifer of interest in each specific location. Variations of the construction of the monitoring wells are outlined in the following paragraphs.

Rock Aquifer Monitoring Wells. Monitoring wells to measure the SWL and to retrieve water samples from the bedrock were constructed either as a rock piezometer or as a rock standpipe. All figures in this discussion show borings finished at the surface with protective pipe above grade.

Rock Piezometer. Figure A-1 is an example of a rock piezometer. SWL is above the top of bedrock and saturated sediments overlie bedrock. The hole is extended a minimum of 20 ft into bedrock. The screened interval extends from the bottom of the hole to 5 ft below the bedrock surface. Specially graded sand fills the annulus between the rock and the screen and extends 1 to 2 ft above the top of the screen. Bentonite extends to above the estimated SWL. Neat portland cement grout is used only above the estimated SWL.

Rock Standpipe. Figure A-2 is an example of a rock standpipe. SWL is below the top of bedrock. The hole is extended a minimum of 20 ft below the estimated soil water level and the screened interval extends from the bottom of the hole to 1 or 2 ft above the estimated SWL. Specially graded sand extends 1 to 2 ft above the top of the screen.

One foot of bentonite was placed above the sand and the remainder of the annulus was filled with neat portland cement grout.

Figure A-1

ROCK AQUIFER PIEZOMETER

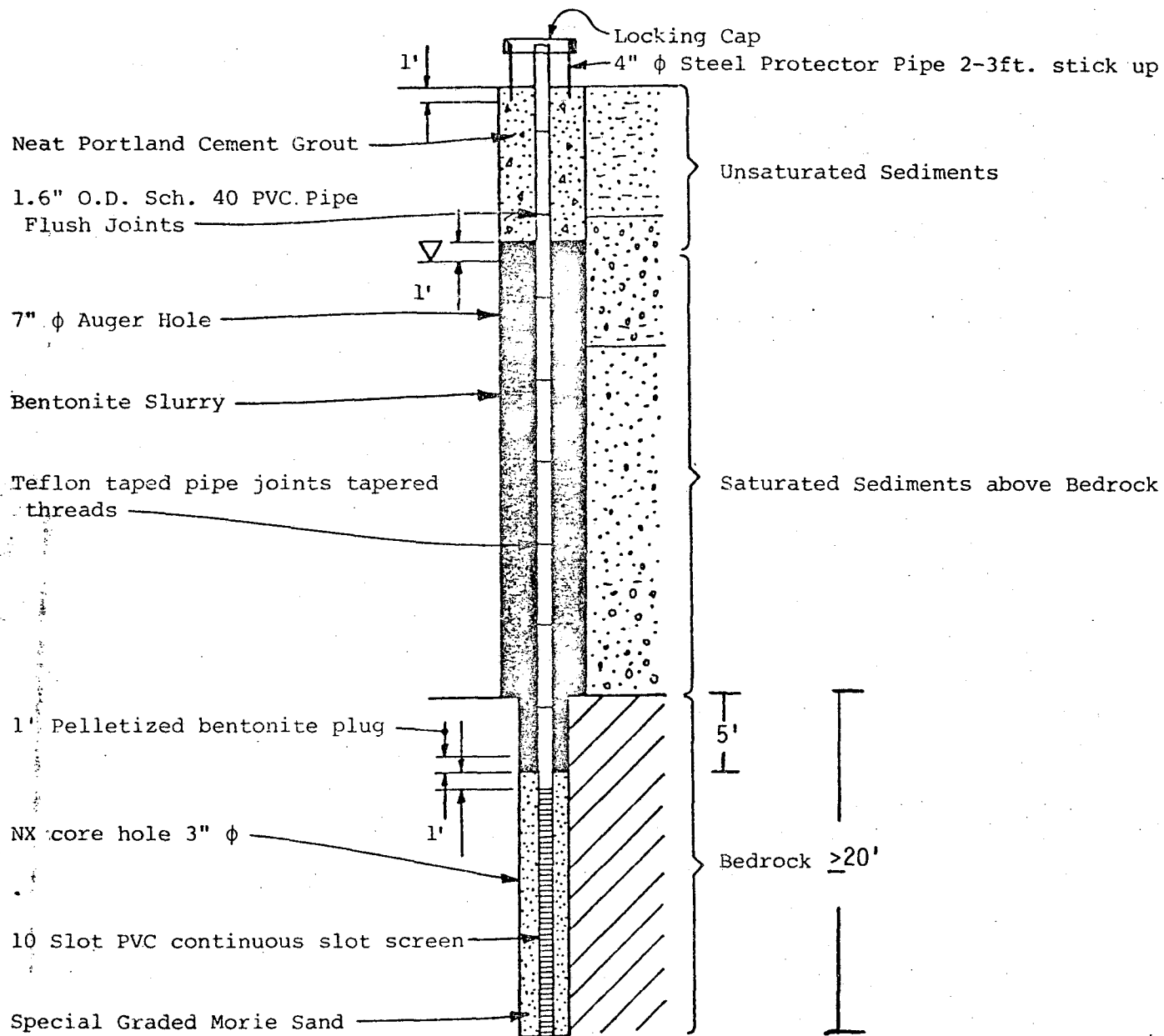
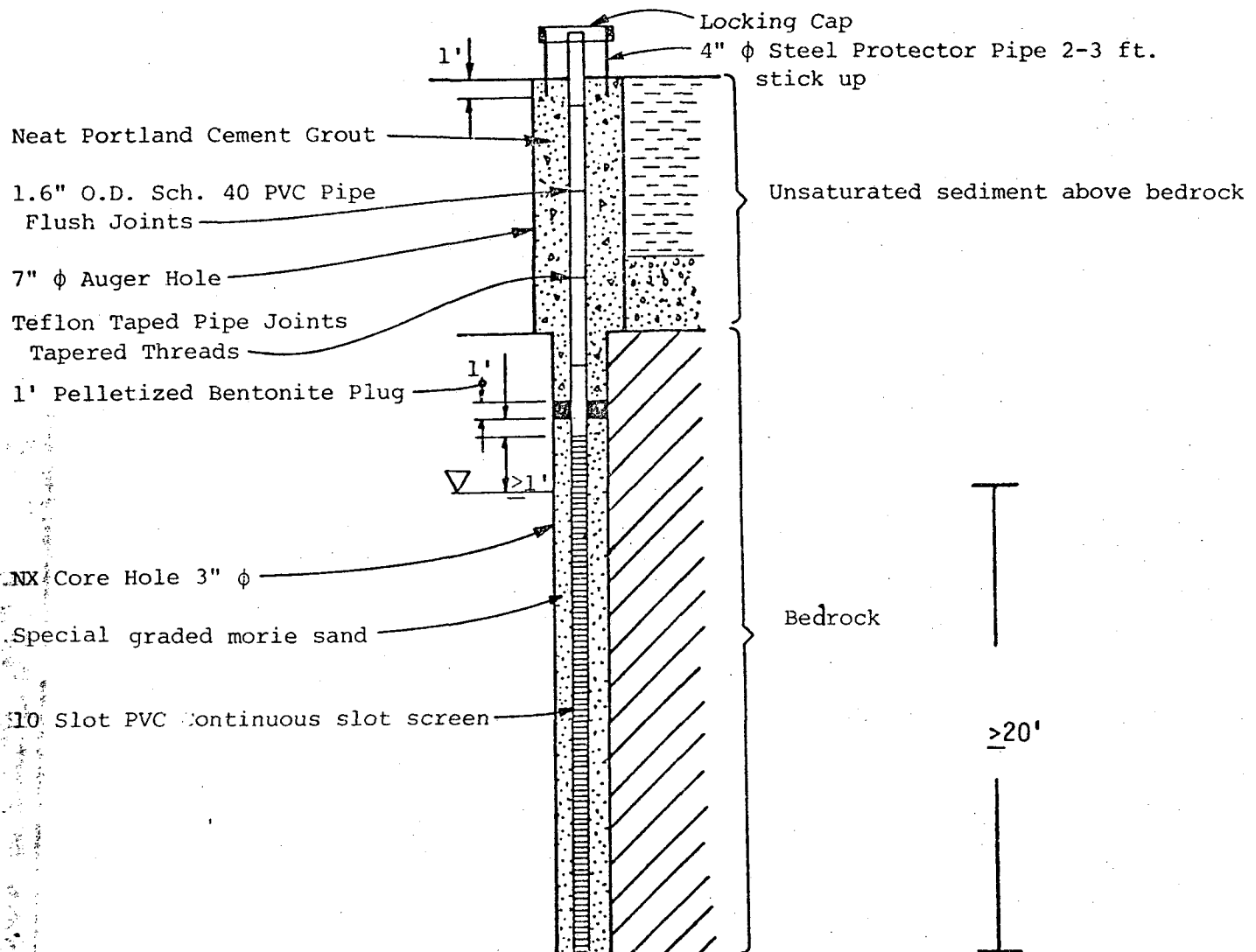


Figure A-2
ROCK AQUIFER STAND PIPE



Soil Aquifer Monitoring Wells

Monitoring wells to measure soil water level and to retrieve water samples from the bedrock were constructed either as a soil piezometer or as a soil standpipe.

In both cases, well construction began upon completion of soil sampling and proof drilling of approximately 5 ft of bedrock, following the procedure described below:

- The hole which penetrated into bedrock was plugged with pelletized bentonite. A sand choke was then placed above the bentonite followed by the well screen and standpipe.
- As the augers were withdrawn, Morie OON sand was poured into the annular space to a level 1 to 2 ft above the top of the screen. One foot of bentonite pellets were placed above the top of the screen. If necessary, bentonite slurry was pumped into the well to above the estimated SWL. A slurry of neat portland cement with less than or equal to 6 gal per sack and 4% bentonite additive was then used to grout the remainder of the hole to the ground surface.

Soil Piezometer. Figure A-3 illustrates a soil piezometer. This configuration was used when it was necessary to consider a lower segment of the saturated unconsolidated zone. Critical in this design was the use of the bentonite slurry below the static groundwater level. Neat portland cement grout or a portland sand and gravel mix was used for stability above the SWL.

Soil Standpipe. A soil standpipe (Figure A-4) was designed to have the static groundwater level within the screened portion of the well. The soil standpipe was used to monitor the entire saturated "soil" aquifer or the upper portion of the "soil" aquifer. Sand filled the annulus between the formation and the screen and extended approximately 1 ft above the top of the screen.

Figure A-3
SOIL AQUIFER PIEZOMETER

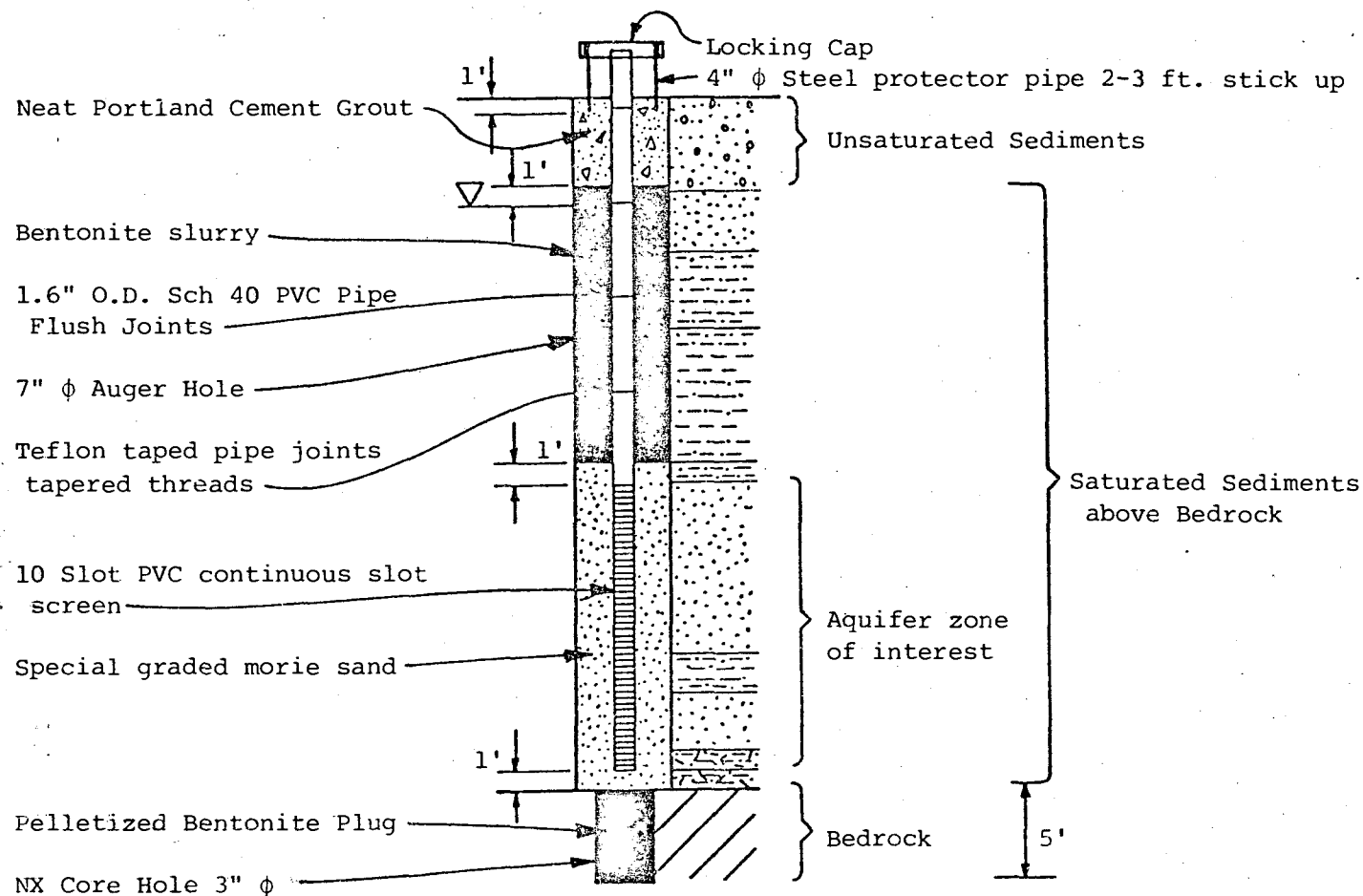
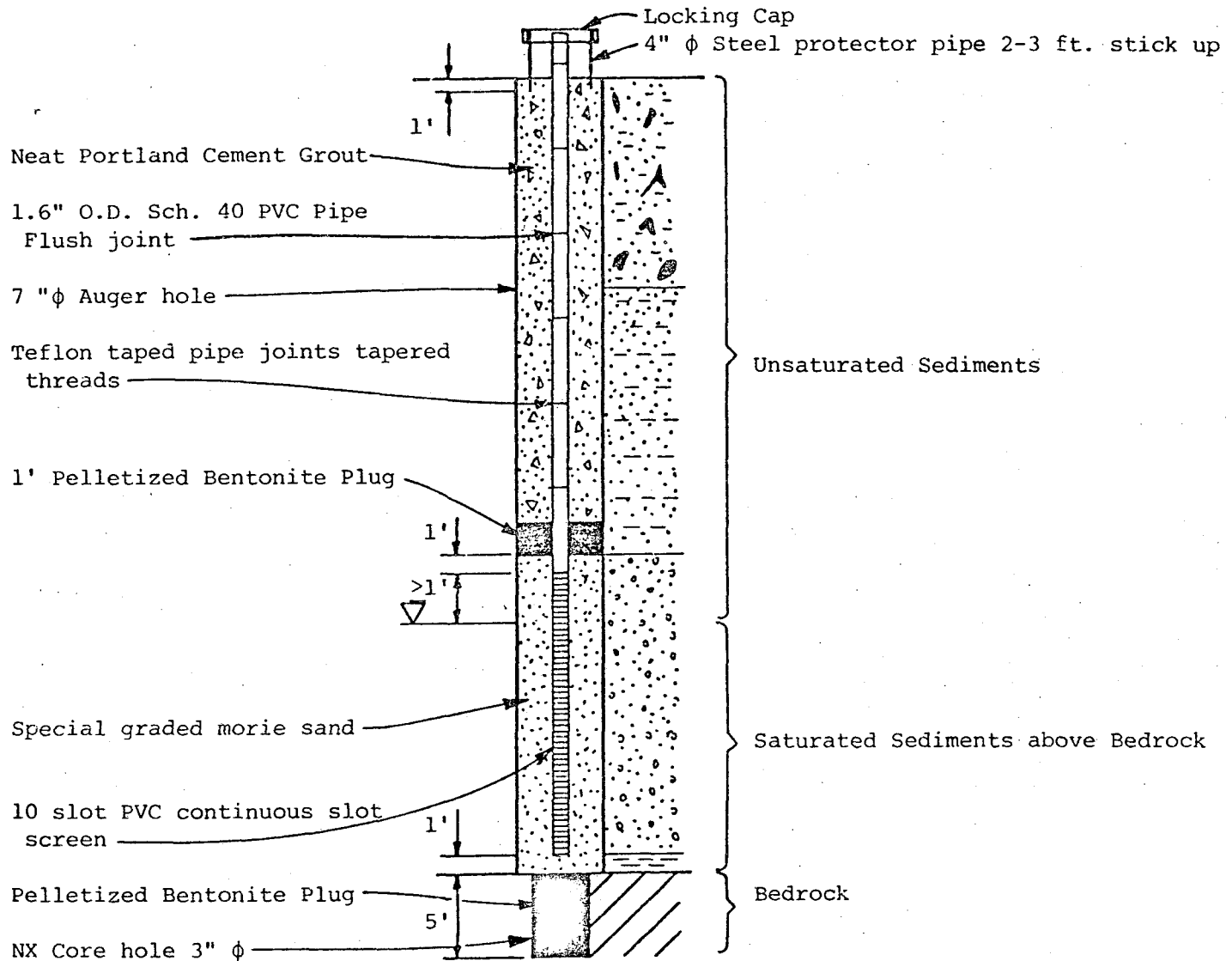


Figure A-4
SOIL AQUIFER STAND PIPE



A pelletized bentonite plug was placed above the sand to prevent surface water or grout water from entering the screen. Neat portland cement grout was used to fill the annulus around the solid standpipe above the bentonite plug.

Monitoring Well Construction Using Air Rotary Rig

Figures A-5 and A-6 illustrate the monitoring well construction for use with air rotary holes. Little additional work needed to be done after drilling was complete. A pelletized bentonite plug was placed at the base of the casing pipe and the annulus between the casing pipe. Where the water table was below the bottom of the casing, the 12-in. hole was filled with neat portland cement grout (Figure A-5, Air Rotary Standpipe). Where the water table was above the bottom of the casing pipe, bentonite slurry was placed in the annulus to a minimum of 1 ft above the water table (Figure A-6, Air Rotary Piezometer).

Solid PVC casing pipe, available in 20-ft lengths, was used to support the soil above bedrock. If more than 20 ft was required, a joint was accomplished by use of stainless steel sheet metal screws through the belled end fittings and covered by a Fernco coupling.

Well Development Procedures

Development followed well construction and preceded sampling. Its purpose was twofold:

1. To improve the flow of water into the well screen by removing fine particles from the formation immediately around the screened pack.

Figure A-5
AIR ROTARY STAND PIPE

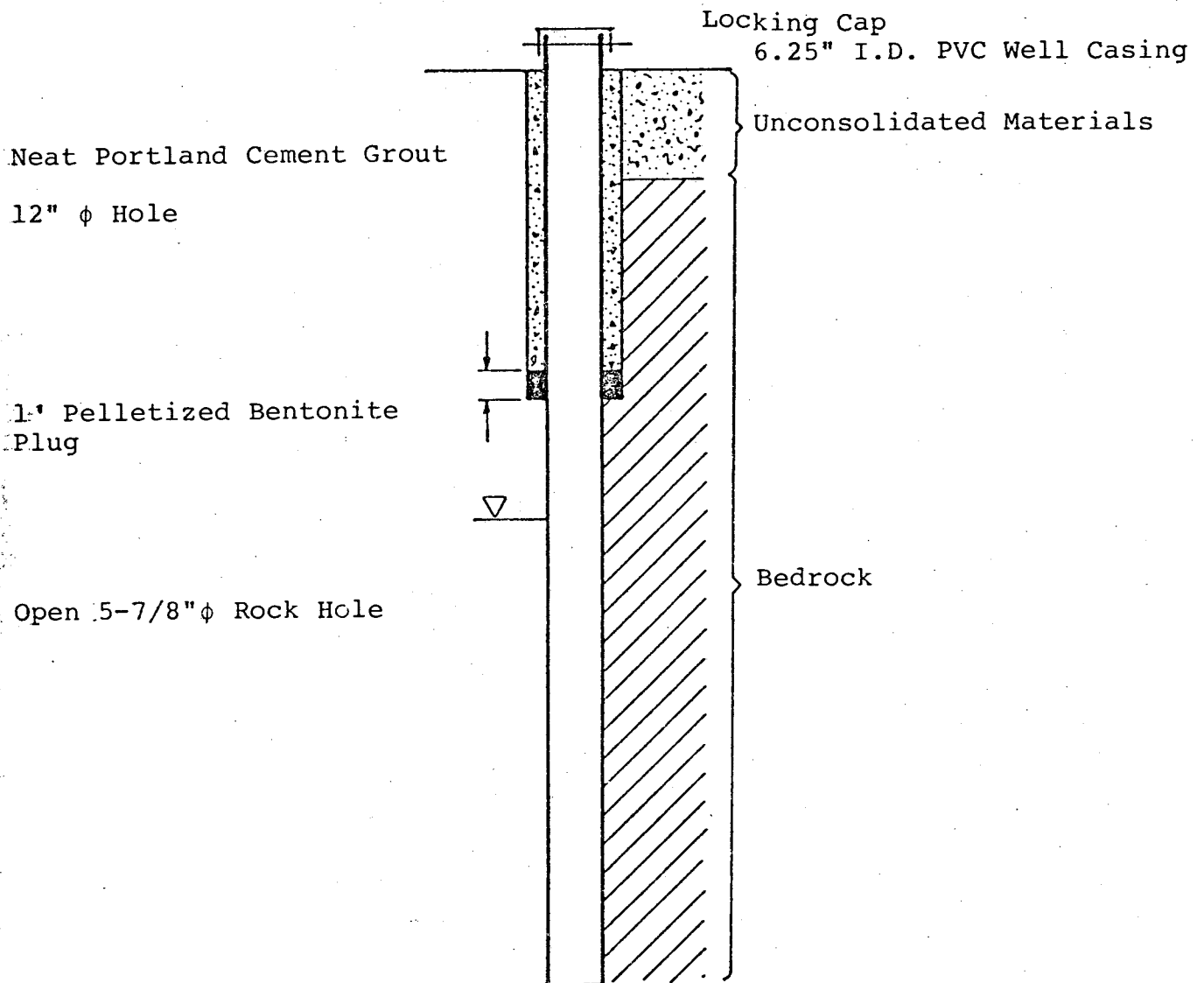
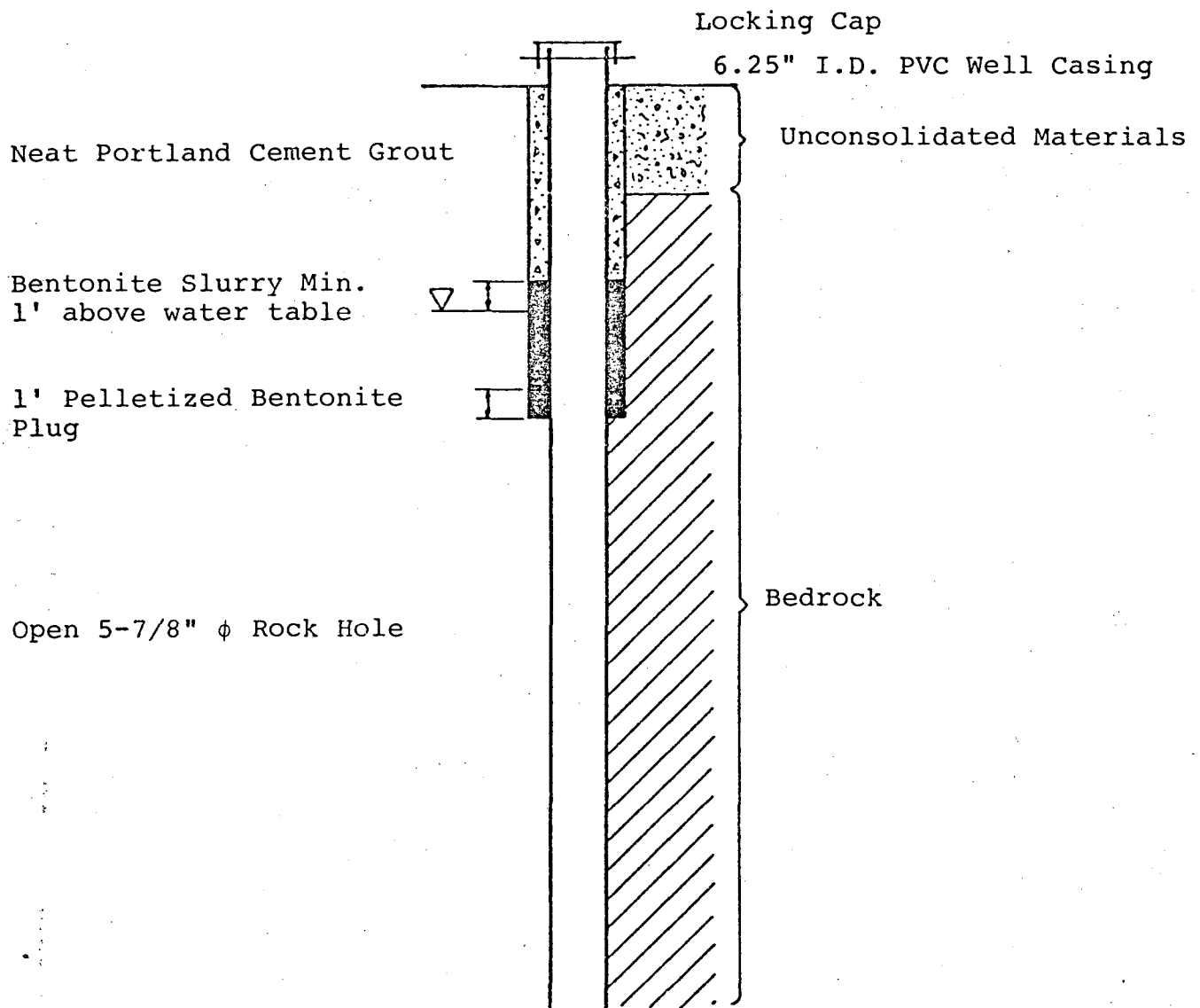


Figure A-6
AIR ROTARY PIEZOMETER



2. To remove from the well any potential effects the construction might have had on the physical or chemical characteristics of the groundwater samples.

Development of air rotary holes was adequately accomplished during the drilling procedure, and except in unusual cases no additional post-drilling development was necessary. The following section applies to the wells constructed with the soil boring-rock coring equipment.

As a general rule, development started a minimum of 24 hrs after construction of the well to give grout time to set up and bentonite a chance to completely hydrate.

In an effort to standardize development procedures for all wells and to minimize the amount of water introduced into the aquifer, two methods of well development were used, air lift and mechanical surge block. These methods resulted in better developed wells, took less time for development, and optimized well yields, making water sampling less time consuming.

Air Lift

The standard development technique used in each well involved the use of compressed air. Filtered air from a 100-cfm compressor was introduced into the well through steam-cleaned PVC or polyethylene pipe. The development pipe was inserted in the well and while blowing was worked up and down the screened portion of the well. A shroud was placed directly above the top of the well pipe to direct the development water to the ground.

The 100-cfm compressor, in addition to the standard built-in filter on the air discharge, was fitted with a 5 μ m final filter which

reduced impurities in the air to less than 1 ppm. Both air filters were changed on a regular basis. *white that?*

This method was continued until the water was visibly clear. After clarity was obtained, samples were collected and tested in the field for pH and specific conductivity. While continually blowing, the well samples were collected at a minimum of 10-min intervals and tested for pH and specific conductivity. Three consecutive readings with less than 5% variation of specific conductivity and 0.1 standard pH unit variation were considered evidence that the well was adequately developed. *3?*

In very low yield wells where there was not enough water to clean sediment from within and around the well screen, water was added to the well intermittently and then blown with air. *3?*

Surge Block

The air lift method is not as effective if the yield of the well is very low. In that case, a more vigorous method of well development was utilized. A surge block, constructed of a piece of solid PVC stock, was attached to rigid PVC pipe and worked up and down the screened section of the well. This action forced formation water in and out of the well screen and pack, causing removal of fines from immediately around the well. *by any other name a plumber's helper!*

Removal of water from the well was either by air lift as described above or by intermittent automatic air lift utilizing bottled nitrogen. The same guidelines for evaluating the progress and effectiveness of the development of the air lift method were used for the surge block method.

Permeability Testing

Following development, some wells were pulse-tested for measurement of formation permeability. This was accomplished by monitoring the water level response to displacement and evacuation of water in the well. To achieve the displacement and evacuation, a solid PVC slug was lowered into and removed from the water table. The slugs were constructed of sand-filled PVC piping sealed with screw-on caps and were of various lengths and diameters in order to best fit the design and construction of the well. A pressure transducer and strip chart recorder were used to monitor the changes in water level.

Before the test, a technician completed a standard data sheet concerning information regarding the well construction, slug size, and water level. Next, the transducer was lowered to approximately 10 ft below the water level and the strip chart was calibrated. Once calibration was complete, the slug was rapidly and smoothly lowered until it rested 1 ft below the original water level. This created the effect of adding a volume of water equal to the volume of the slug. Once the artificial head dissipated, the slug was rapidly removed, causing a volume of water equal to the volume of the slug to be removed. The well was then left to recover. During the entire process, the transducer and strip chart continuously recorded the changes in water level over time. After the well recovered, the test was repeated when possible.

Using the well construction data, the slug data, and the strip chart records of the test, the permeability of the aquifer was determined using standard analytical methods.

Quality Control

To reduce the possibility of contamination of soil and water samples from drilling procedures and materials used in well construction, several precautions listed below were taken.

The first precaution was to use clean flush-joint threaded PVC pipe in all borings. This PVC pipe was steam-cleaned on site. Furthermore, this pipe did not come into contact with equipment or personnel during the installation process after being cleaned. Threaded male and female ends on the pipe eliminated the need for solvent welding of PVC riser pipes which might otherwise contaminate water samples.

The drilling rigs and tools were thoroughly steam-cleaned both prior to mobilization to IBM's property and during drilling operations when equipment was moved from one area of the plant site to another. In addition, the split-spoon sampler was cleaned on site with a portable steam jenny before each sample was taken. Both of these procedures helped reduce sampling errors that might otherwise be assigned to cross-contamination.

Precautions were also exercised when coring bedrock. Only clean tap water was introduced to the hole during this operation. This method was chosen over the standard procedure of utilizing a local surface water source.

*From
where
in what
(transport)*

Each two-man crew of drilling operators was supervised by one REWAI inspector. Both the drillers and supervisors maintained separate records of the blow counts required to drive the spoon. In addition, separate field logs of the soil samples were maintained. The primary responsibility of the REWAI supervisor was to select an appropriate boring design and ensure that the well was constructed

to agreed-upon specifications. Additional responsibilities included measuring static water levels; field logging of soil samples with respect to odor, color, and texture; ensuring that the boring was maintained as free as possible from any contamination; ensuring that sampling spoons and drilling equipment were thoroughly cleaned when necessary; assuring that sample containers for both soil samples and bedrock cores were properly labeled and stored; and assuring that records taken by the drillers and the supervisor were in agreement.

As stated, air rotary holes were drilled in areas where depth to bedrock was less than 6 ft when depth to water table exceeded the depth capability of the sampling procedure. A 12-in. diameter hole was drilled to a maximum depth of 17 ft and a 20-ft length of 8-in. Schedule 80 PVC casing pipe was installed to the bottom of the 12-in. hole. This pipe was then grouted in place by pumping grout in the annulus between the 8-in. pipe and the 12-in. hole. Upon installation of the pipe and grout, a 6-in. diameter hole was drilled from the bottom of the 12-in. pipe to a depth of 20 ft below the groundwater table or until sufficient water was encountered.

One or more field services technicians were assigned to this project full time for the duration of the field work.

APPENDIX B

BORING LOGS

RIM OF MANHOLE

24" MAX.

TOP OF PVC OR STEEL
(NO CASING)

GRADE ELEVATION

17 1/2"

FRAME w/ COVER

15" Ø x 18" LONG
CMP GALV. 16 GA.

GROUT OR
FILL CONC.

3/4" Ø DRAIN
PVC OR IRON

STONE

NOTE: ABOVE IS FOR AIR ROTA
BORINGS (USUALLY 6" Ø)
NO STANDPIPE IS NEED
PVC CASING IS STANDPI
GROUT AND FINISH ON
OUTSIDE OF CMP AS
ABOVE FOR THESE
BORINGS. FOR SOIL
BORINGS (USUALLY 12"
STANDPIPE IS NEEDED
GROUT AND FINISH ON
OUTSIDE OF PVC FOR
THESE BORINGS.

NOTE: ABOVE IS FOR AIR ROTARY BORINGS (USUALLY 6"Ø). NO STANDPIPE IS NEEDED. PVC CASING IS STANDPIPE. GROUT AND FINISH ON OUTSIDE OF CMP AS ABOVE FOR THESE BORINGS. FOR SOIL BORINGS (USUALLY 12"Ø) STANDPIPE IS NEEDED. GROUT AND FINISH ON OUTSIDE OF PVC FOR THESE BORINGS.

"MANHOLE" FINISHING

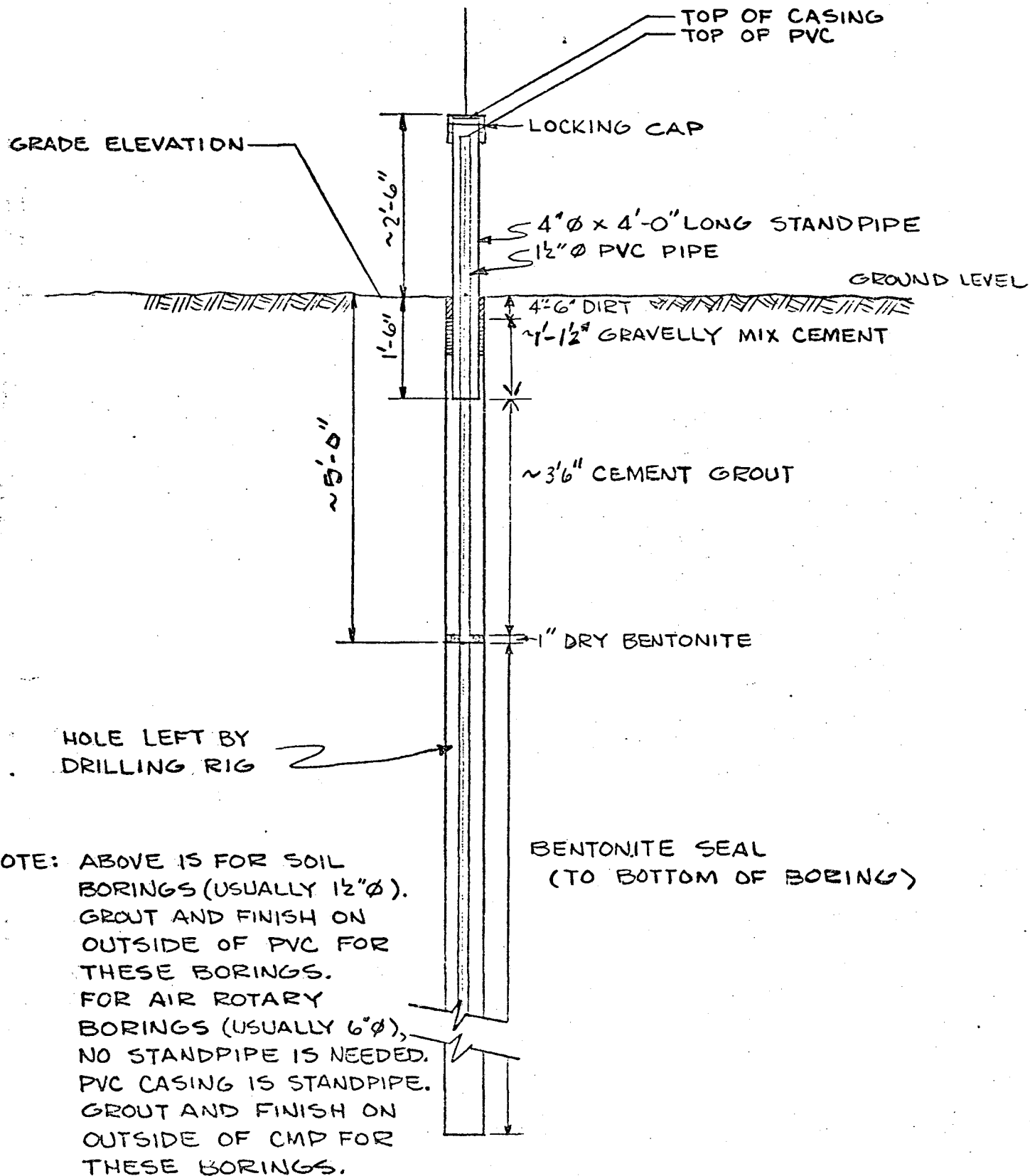


TABLE B-1

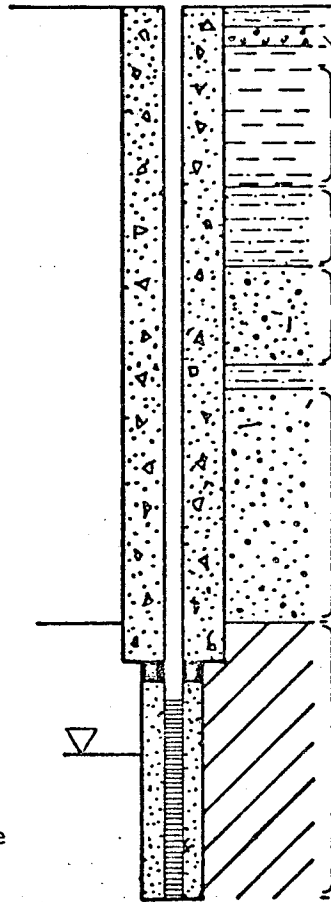
BORING HORIZONTAL AND VERTICAL CONTROL

BORING No.	COORDINATES		4 Ft OFFSET		GRADE ELEVATION (ft)	TOP OF CASING ELEVATION (ft)	MANHOLE RIM ELEVATION (ft)	TOP OF PVC (dia. in.)	OTHER
	NORTH	EAST	ELEVATION (ft)	DIRECTION				ELEVATION	
952-1	599,331.5	611,778.0	-	-	134.98	134.71	135.04	134.25 (1 1/4)	-
952-1S	599,336.5	611,778.0	-	-	135.00	-	135.09	135.01 (1 1/4)	-
952-2	599,290.6	611,803.9	-	-	135.17	134.86	135.28	134.49 (3/4)	-
952-2S	599,295.1	611,803.9	-	-	135.19	-	135.32	134.83 (1 1/4)	-
952-3	598,827.7	611,072.6	144.52	E	144.51	-	144.46	144.09 (7)	-
952-4	599,446.9	611,328.9	138.75	E	138.33	-	a	140.59 (6)	-
952-5	598,878.6	611,716.4	137.25	S	137.04	139.65	a	139.65 (1 1/4)	-
952-6	599,360.1	612,080.2	130.74	N	130.83	130.67	130.82	129.36 (3/4)	-
952-7	599,423.2	611,723.2	-	-	135.49	135.10	135.44	134.06 (3/4)	-
952-7S	599,423.2	611,728.5	-	-	135.60	135.19	135.63	134.79 (3/4)	-
952-8	599,456.2	611,777.5	135.53	W	135.50	135.39	135.58	134.18 (3/4)	-
952-8S	599,456.2	611,782.5	-	-	135.71	135.29	135.64	134.81 (3/4)	-
952-9	599,127.3	612,119.2	135.45	N	135.30	137.78	a	137.59 (1 1/4)	-
952-10	599,323.3	611,812.9	135.22	S	135.22	134.71	135.03	134.51 (3/4)	-
952-11	599,136.2	611,950.9	-	-	135.59	135.35	135.60	134.90 (3/4)	-
952-12	599,547.6	611,935.6	135.35	S	135.40	135.07	135.26	134.39 (3/4)	-
952-13	599,391.3	611,995.5	135.37	N	131.34	131.14	131.38	130.00 (3/4)	-
952-14	599,038.2	611,941.7	135.72	N	135.78	135.30	135.73	135.05 (3/4)	-
952-15	599,277.4	611,670.1	135.45	E	135.45	134.48	b	134.62 (3/4)	Piezometers El. 138.49, 134.54
952-16	599,026.7	611,714.4	-	-	135.64	135.41	135.61	-	-
952-17	599,668.5	611,518.8	138.12	S	138.10	137.33	138.00	137.08 (3/4)	-
952-18	599,178.6	611,080.8	142.46	E	142.46	144.23	b	-	-
952-19	599,055.3	611,342.6	142.66	N	142.63	142.38	142.63	-	-
952-20	599,315.7	611,122.6	141.13	N	141.23	142.80	b	-	-
952-21	599,668.1	611,361.5	138.89	SW	138.99	138.26	138.99	138.17 (3/4)	-
952-22	599,101.6	612,322.5	128.13	N	128.18	127.63	128.05	127.70 (3/4)	Piezometers El. 127.56, 127.47, 127.61
952-23	599,054.2	612,233.5	130.41	N	130.46	130.04	130.46	129.73 (3/4)	-
952-24	598,685.0	612,228.5	136.97	N	137.10	136.94	137.10	136.44 (3/4)	-
952-25	598,688.2	611,983.8	136.07	N	136.30	135.95	136.10	135.38 (3/4)	-
952-26	598,809.1	611,768.1	140.64	W	140.72	140.54	140.78	140.13 (3/4)	-
952-27	598,714.8	611,445.0	143.04	E	-	141.96 ^c	142.72	141.78 (3/4)	-
952-28	598,698.5	611,685.4	142.91	W	-	142.34	142.73	141.96 (3/4)	-

^a No Manholes; standpipe.^b Not measured.^c With locking cap on.

BOREHOLE NO. 71/952-1*

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0—	Hand Augered		
	2-3-2-3	S-1	Dark grayish-brown grading to yellowish-brown gravelly silt
	3-4-4-5	S-2	Dark brown sandy gravel
			Dark yellowish-brown and gray silty clay with trace of coarse sand.
10—	5-11-17-30	S-3	Saturated at 7'.
	16-26-37-100/.4	S-4	Light olive brown varied silt with occasional layer of fine sand (moist)
	90-75-58-47	S-5	Dark grayish-brown very gravelly fine sand (dry)
	29-46-63-118	S-6	Light olive brown gravelly silt
20—	30-60-100/.4	S-7	
	38-57-78-90	S-8	
	78-60-83-62	S-9	
	59-100/.4	S-10	Dark grayish-brown very gravelly fine sand (dry)
	41-50-77-44	S-11	
	18-25-30-33	S-12	
30—	79-100/.4	S-13	
	100/.1	No sample	
	100%	R-1	Bedrock:
			Light gray dolomite
	100%	R-2	
40—	Roller Bit	No sample	
45—			



Vertical Scale
1" = 10'

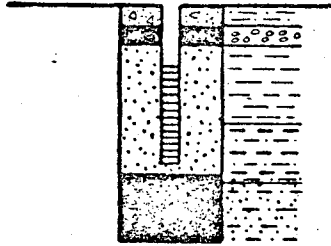
Drilling Began 10/28/81
Drilling Completed 10/29/81
Well Construction Completed 10/29/81
Development Completed 12/2/81
Total Depth 45'
Depth to Refusal 31'

SWL (date) 96.88' (12/2/82)
Screened Interval 45'-35'
Aquifer Rock
Elevation, Ground Surface 134.98'
Elevation, Top of Casing 134.98'
Hole Dia: 7" Hollow stem/NX core/RB 42'-45'
Monitoring Tube: 1.5" FJ SCH 80 PVC

*This boring was drilled as part of 1981 Program during which it was referred to as T-71. In the 1982 Program, the boring number was changed to 952-1.

BOREHOLE NO. 952-1S

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0-	Hand Augered to 6'		Dark grayish-brown gravelly silt.
	3-4-4-8	S-1A, B	Dark brown sandy gravel.
	3-4-11-18	S-2A, B, C	Gray silty clay with trace of sand.
10-	12-34-50-60	S-3A	Medium gray silty clay, wet.
12-			Medium olive yellow/brown silty, clayey, medium to fine sand; damp.



Vertical Scale
1" = 10'

Drilling Began - 11/15/82
Drilling Completed - 11/16/82
Well Construction
Completed - 11/16/82
Development Completed - NA (dry)
Total Depth - 12'
Depth to Refusal - NA

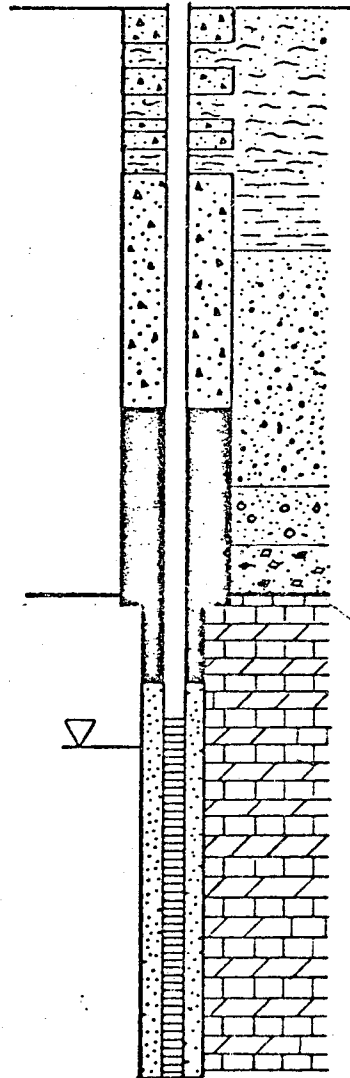
SWL (date) - Dry (12/3/82)
Screened Interval 3' - 8'
Aquifer - Soil
Elevation, Ground Surface - 135.0'
Elevation, Top of Casing
Hole Dia: 7" hollow stem auger
Monitoring Tube - 1-1/4" Sch 40 FJ PVC

BOREHOLE NO. 952-2

Depth in feet	Blow Ct. Recovery	Sample # Run #
------------------	----------------------	-------------------

Description

- 0	Hand Augered to 6.0'	
	6-7-5-5	S-1
- 10	2-3-4-4	S-2
	7-6-6-5	S-3
	4-4-6-5	S-4
	2-2-2-2	S-5
	2-1-1-1	S-6
- 20	1-1-1-1	S-7
	2-3-4-16	S-8
	7-2-2-2	S-9
	1-1-5-20	S-10
	12-6-11-20	S-11
	15-26-100/.4	S-12
- 30	Augered 0.6'	N.S.
	100/.1	N.S.
	3.0/3.5	Run 1
	Casing Run 0.9'	N.S.
	1.0/4.5	Run 2
- 40		
	4.7/5.0	Run 3
	5.0/5.0	Run 4
- 50		
- 54	1.5/4.0	Run 5



Dark gray to grayish-brown gravelly, sandy loam and gravelly sand, grading to light olive brown sandy silt at 6 ft. and silty clay at 10 ft. Saturated; slight chemical odor between 6 and 8 ft.

Dark yellowish-brown to light brownish-gray gravelly fine to coarse grained sand; no odor.

Dark yellowish-brown silty fine to very fine-grained sand and cobbly gravel.

Brown to gray fine to very fine sandy limestone gravel; moist. Fragmented limestone.

Dolomitic limestone with clay, sand, and gravel filled solution cavities. Broken and fractured rock throughout.

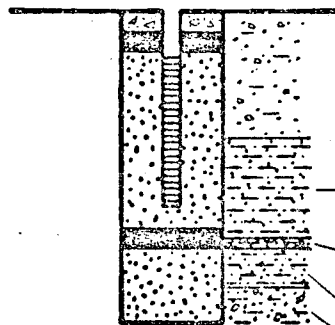
Vertical Scale
1" = 10'

Drilling Began - 10/5/82
Drilling Completed - 10/6/82
Well Construction
Completed - 10/6/82
Development Completed - 10/8/82
Total Depth - 54.0'
Depth to Refusal - 29.4'

SWL (date) - 97.59 (12/2/82)
Screened Interval - 35.9' to 54.0'
Aquifer - Rock
Elevation, Ground Surface - 135.17'
Elevation, Top of Casing -
Hole Dia: 7" H.S./3-3/8" casing/MXM core
Monitoring Tube: 1-1/4" SCH 40 FJ PVC

BOREHOLE NO. 952-2S

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 -	Hand Augered to 6'		Dark brown silty, gravelly sand.
	2-3-4-7	S-1	
	4-6-7-7	S-2	
10 -	5-10-10-15	S-3A,S-3B	Medium yellowish brown slightly sandy, clayey silt; wet
	5-10-13-13	S-4	Dark olive brown silty, gravelly fine to coarse sand
16 -	10-9-6-6	S-5	Olive brown sandy silt Dark brown silty, gravelly, fine to coarse sand



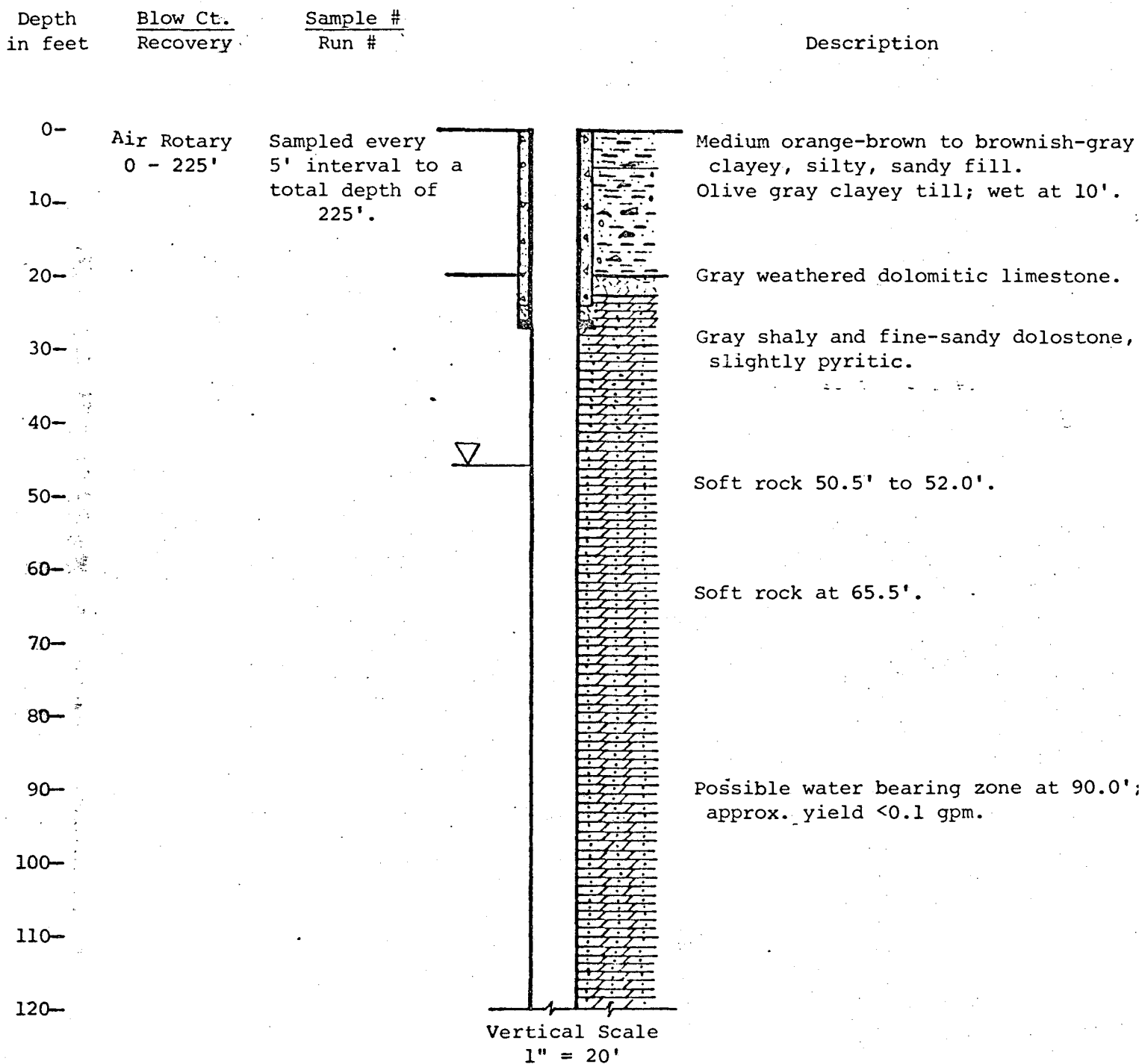
Vertical Scale
1" = 10'

Drilling Began - 11/15/82
Drilling Completed - 11/16/82
Well Construction
Completed - 11/16/82
Development Completed - NA (Dry)
Total Depth - 16'
Depth to Bedrock - NA

SWL (date) - Dry (12/3/82)
Screened Interval 2.5' - 10'
Aquifer - Soil
Elevation, Ground Surface - 135.19
Elevation, Top of Casing
Hole Dia: 7" hollow stem auger
Casing: 1-1/4" Sch 40 FJ PVC

BOREHOLE NO. 952-3

(Page 1 of 2)



Drilling Began - 9/30/82 *
 Drilling Completed - 9/30/82 *
 Well Construction
 Completed - 9/30/82 *
 Development Completed - 9/30/82 *
 Total Depth - 225'
 Depth to Refusal - 19.8'

SWL (date) - 103.93' (12/2/82)
 Screened Interval - Open rock hole.
 Aquifer - Rock
 Elevation, Ground Surface - 144.51'
 Elevation, Top of Casing
 Hole Dia: 12" air rotary/6" air rotary
 Casing: 6" SCH 40 PVC

BOREHOLE NO. 952-3
(Page 2 of 2)

Depth
in feet

Blow Ct.
Recovery

Sample #
Run #

Description

120-

130-

140-

150-

160-

170-

180-

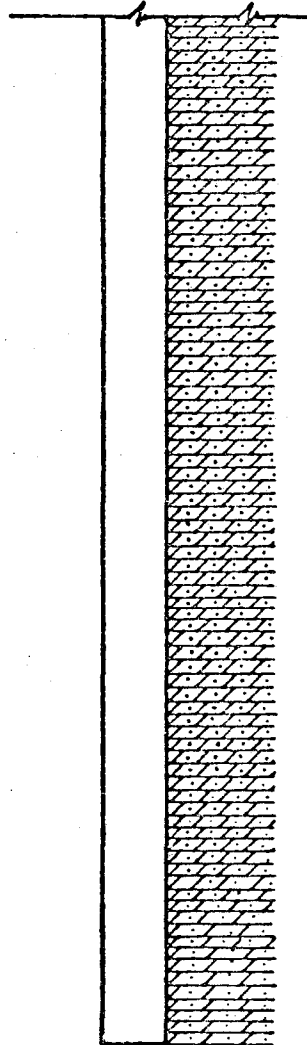
190-

200-

210-

220-

225-



Gray shaly and fine-sandy dolostone,
slightly pyritic.
Broken zone at 122'; approx. yield
of 1 to 1-1/2 gpm.

Broken zone at 158'.

Broken zone at 166'.

170' to 225' soft zones throughout

Estimated Total Blown Yield is 7 gpm

Vertical Scale
1" = 20'

* NOTE: Boring 952-3 was originally drilled to a depth of 117'. On 11/30/82 this hole was deepened to its present depth.

BOREHOLE NO. 952-4

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0	Hand Augered to 2.6'		Macadam
	Air Rotary	AR-1	Yellow brown gravelly sandy loam.
		AR-2	
10		AR-3	Orange brown, clayey, sandy, gravelly silt, poorly sorted.
		N.S.	Note: Formation collapsed against casing.
20		5.0'	
		AR-4	Gray brown clayey, silty sandy gravel, poorly sorted.
		AR-5	
30		AR-6	Medium to dark gray; silty to fine sandy dolomite with quartz veins and occasional brown fine-grained calcareous sandstone interbeds; trace of iron staining.
		AR-7	
40		AR-8	
		AR-9	
50		AR-10	
		AR-11	
60		AR-12	Yield is <1/2 gpm at 60'.
		AR-13	Weathered zone from 60 - 65'.
70		AR-14	
76		N.S. 1.0'	Estimated total blown zone of 2 gpm.

Vertical Scale
1" = 10'

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BOREHOLE NO. 952-4 (cont.)

Drilling Began - 9/30/82 -
Drilling Completed - 10/4/82
Well Construction
Completed - 10/5/82
Development Completed - 10/5/82
Total Depth - 76'
Depth to Refusal - 26'

SWL (date) - 93.6 (12/2/82)*
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 138.33'
Elevation, Top of Casing -
Hole Dia: 12" air rotary/6" air rotary
Casing: 6" SCH 40 PVC

* Water level fluctuates in response to nearby pumping well.

BOREHOLE NO. 952-5

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
- 0	Hand Augered to 4.3'		Dark brown very gravelly sandy loam.
	13-18-21-29	N.S.	
	15-18-23-29	S-1	Pebbly quartzitic sandy gravel; moderate to well rounded gravel and medium-grained sand.
	17-18-17-12	S-2	
- 10	6-8-8-14	S-3	Dark grayish-brown medium to coarse grained sand; some gravel and cob- bles; weathered and slightly moist.
	12-10-10-12	S-4	
	9-10-13-13	S-5	
	12-17-22-19	S-6	
	19-22-32-24	S-7	
- 20	13-35-50-64	S-8	Very dark gray brown to light olive brown till-like material with increasing clay content and variable gravel mineralogy. Occa- sional thin layers of well sorted sand.
	42-35-27-19	S-9	
	17-35-64-62	S-10	
	44-88-162-84	S-11	
	200/.5	S-12	
- 30	Augered 1.5'	N.S.	
	25-40-48-39	S-13	
	51-62-41-44	S-14	
	19-22-25-42	S-15	Till; light olive brown clayey fine sand gravel; very moist to satur- ated.
	25-36-48-73	S-16	
	45-100/.2	S-17	
- 40	Augered 0.3'	N.S.	
	2.8/4.0	Run 1	Severely broken, mechanically and chemically weathered, sandy dolomite.
	0.5/2.5	Run 2	
	3" casing 0.5'	N.S.	
- 50	2.1/6.0	Run 3	
	2.9/5.0	Run 4	
	1.3/5.0	Run 5	
- 60			
- 62			

Vertical Scale
1" = 10'

Drilling Began - 9/29/82
Drilling Completed - 9/29/82
Well Construction
Completed - 10/1/82
Development Completed - 10/7/82
Total Depth - 62.0'
Depth to Refusal - 38.7'
N.S. = No Sample

SWL (date) - 101.85 (12/2/82)
Screened Interval - 46.4' to 62'
Aquifer - Rock
Elevation, Ground Surface - 137.04'
Elevation, Top of Casing -
Hole Dia: 7" H.S. Auger/3-3/8" casing/NXM
Monitoring Tube: 1-1/4" SCH 40 FJ PVC

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BOREHOLE NO. 952-6

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 --	Augered 36-36-19-24 15-20-23-48 40-43-55-100/.2 Augered	S-1 S-2 S-3	Dark brown to gray gravelly sand, dry to slightly moist, noncohesive, fill.
10 --	1.7/3.2 0.8/4.7	R-1 R-2	
20 --	2.0/4.7 0.7/3.7 Casing Run	R-3 R-4	Sandy dolomite with voids filled with sand and gravel; weathered fragments of sandstone, granite, limestone, or shale.
30 --	2.0/4.0 1.0/3.5 0.6/1.5 0.0/2.0 Roller Bit	R-5 R-6 R-7 R-8	
40 --	2.0/5.0 4.2/5.0	R-9 R-10	
50 --	3.6/4.2 4.5/5.0 2.0/1.8	R-11 R-12 R-13	Gray, sandy, dolomite.
60 --			

Vertical Scale: 1" = 10'

Drilling Began - 10/19/82
 Drilling Completed - 10/22/82
 Well Construction
 Completed - 10/22/82
 Development Completed - 10/26/82
 Total Depth - 60.0'
 Depth to Refusal - 9.7'

SWL (date) - 91.0' (12/2/82)
 Screened Interval - 44.2' to 60.0'
 Aquifer - Rock
 Elevation, Ground Surface - 130.83'
 Elevation, Top of Casing
 Hole Dia: 7" Hollow stem/4-4/5" casing/
 3" NX core
 Monitoring Tube: 1-1/4" FJ PVC

BOREHOLE NO. 952-7

Depth 0 _ in feet	Blow Ct. Recovery	Sample # Run #	Description
	Hand Augered to 5.0'		Macadam
	6-8-9-10	S-1	Dark yellowish-brown gravelly sand dry to moist, poorly cohesive, slight chemical odor at 11 ft.
	7-10-10-11	S-2	
	12-15-13-14	S-3	
10 -	9-12-13-13	S-4	Dark brown to dark grayish-brown gravelly fine- to coarse-grained sand; cohesion improving, occasional slight chemical odor, moist.
	8-9-11-14	S-5	
	9-12-13-13	S-6	
	7-11-12-13	S-7	
	7-35-42-64	S-8	
20 -	50-35-18-36	S-9	Yellowish-brown silty, clayey, gravelly fine to very fine-grained sand; very tight cohesive, till- like material; saturated at 19 feet, no discharge odors.
	35-40-18-18	S-10	
	31-66-100/.2	S-11	
	Augered 0.8'	N.S.	
	200/.5	S-12	
	Augered 1.5'	N.S.	
30 -	31-36/.3	S-13	Fragmented limestone 30.1-30.5'
	Augered 0.2'	N.S.	
	100/.1	S-14	
	Augered 0.4'	N.S.	Dolomitic limestone, occasional fractures, solution cavities, calcite veins.
	4.0/4.1	Run 1	
	3.4/4.2	Run 2	
40 -	Rollerbit 0.2'	N.S.	
	3.7/5.0	Run 3	
	4.7/3.6	Run 4	
	3.5/3.0	Run 5	
50 -			

Vertical Scale
1" = 10'

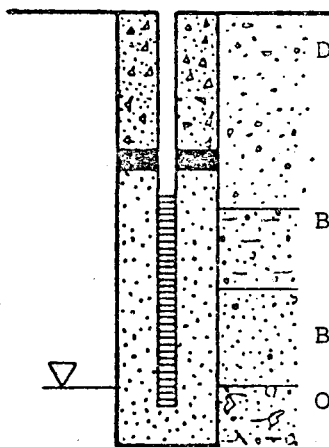
Drilling Began - 10/1/82
Drilling Completed - 10/5/82
Well Construction
Completed - 10/5/82
Development Completed - 10/6/82
Total Depth - 50.6'
Depth to Refusal - 30.1'

SWL (date) - 103.11 (12/2/82)
Screened Interval - 32.4' to 50.5'
Aquifer - Rock
Elevation, Ground Surface - 135.49'
Elevation, Top of Casing -
Hole Diameter: 7" hollow stem/3-3/8"
casing/NXM Core
Monitoring Tube: 1-1/4" SCH 40 FJ PVC

N.S. = No sample

BOREHOLE NO. 952-7S

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 -	Augered to 10'		Dark yellowish-brown gravelly sand.
10 -	32-30-19-14 14-14-20-17 10-13-12-12 9-10-10-13	S-1 S-2 S-3 S-4	Brown silty, pebbly fine and very fine sand, with thin gravel and sand layers at base; dry to moist; some odor.
20 -	8-38-40-41	S-5	Brownish-gray gravelly very fine to very coarse sand; saturated at base.
22 -	21-20-40-95	S-6	Olive gray and brownish-gray clayey, silty, pebbly, sand; till; saturated.



Vertical Scale
1" = 10'

Drilling Began - 11/15/82
Drilling Completed - 11/16/82
Well Construction
Completed - 11/16/82
Development Completed - 12/1/82
Total Depth - 22'
Depth to Refusal - NA

SWL (date) - 116.43' (12/3/82)
Screened Interval 9.5' - 20.0'
Aquifer - Soil
Elevation, Ground Surface - 135.60'
Elevation, Top of Casing
Hole Dia: 7" hollow stem auger
Monitoring Tube: 1-1/4" Sch 40 FJ PVC

BOREHOLE NO. 952-8

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0-	40-20-17-11	S-1	Gray fine sand and pebbly limestone gravel (road base).
	6-10-5-5	S-2	Yellowish-brown gravelly, clayey silt, moderately moist.
	15-17-28-14	S-3	Yellowish-brown silty, gravelly sand.
	5-5-10-13	S-4	Yellowish-brown gravelly, silty varved clay, moist to very moist.
10-	6-14-20-20	S-5	Yellowish-brown gravelly sandy silt.
	7-12-19-29	S-6	Yellowish-brown clayey fine sand with some gravel.
	36-42-49-60	S-7	Yellowish-brown gravelly sand, dry to slightly moist.
	33-31-24-26	S-8	
	21-29-29-23	S-9	
20-	20-13-19-26	S-10	
	55-39-78-60	S-11	
	200-100/.1	S-12	
	Casing Run	N.S. 0.4'	
	2.0/3.5	R-1	
	Casing Run	N.S. 0.5'	
30-	3.2/4.0	R-2	Medium to dark gray sandy dolomite and dolomitic limestone; fractured, occasional weathered zone.
	1.4/4.2	R-3	Rock void 26.5-27.0'
			Fractured rock at 27.5', 30.0', and throughout the section from 35.2' to 54.5'.
40-	4.8/4.8	R-4	
	5.0/5.0	R-5	
	5.0/5.0	R-6	
50-	4.5/4.5	R-7	
54.5-			

Vertical Scale
1" = 10'

Drilling Began - 10/25/82
Drilling Completed - 10/26/82
Well Construction
Completed - 10/26/82
Development Completed - 10/29/82
Total Depth - 54.5'
Depth to Refusal - 22.6

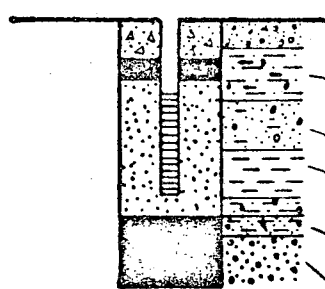
SWL (date) - 105.58' (12/2/82)
Screened Interval - 27.8 to 53.9'
Aquifer - Rock
Elevation, Ground Surface - 135.5'
Elevation, Top of Casing
Hole Dia: 7" Hollow stem/4" casing/NXM
Core
Monitoring Tube: 1-1/4" SCH 40 FJ SS

BOREHOLE NO. 952-8S

Depth in feet	Blow Ct. Recovery	Sample # Run #
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Description

0 -	Hand Augered to 10'	
10 -	21-20-24-18	S-1,A,B
	31-170/.5	S-2
13.7 -	Power Augered 0.8'	N.S.



Gray fine sand and pebbly limestone gravel (road base).
 Yellowish-brown gravelly, clayey silty moderately moist.
 Yellowish-brown silty, gravelly sand
 Yellowish-brown gravelly, silty varved clay, moist to very moist.
 Yellowish-brown silty, gravelly very fine to very coarse sand, moist.
 Light brownish-gray gravelly sand, loose and dry.

Vertical Scale
 1" = 10'

Drilling Began - 11/16/82
 Drilling Completed - 11/16/82
 Well Construction
 Completed - 11/16/82
 Development Completed - NA
 Total Depth - 13.7'
 Depth to Refusal - NA

SWL (date) - Dry (12/3/82)
 Screened Interval - 3.7' to 9.0'
 Aquifer - Soil
 Elevation, Ground Surface - 135.71'
 Elevation, Top of Casing -
 Hole Dia: 7" H.S. Auger
 Monitoring Tube: 1-1/4" SCH 40 FJ PVC

BOREHOLE NO. 952-9

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 —	Hand augered to 5.3'		Dark yellowish brown sandy loam.
	Augered	N.S. 2.7'	Yellowish brown gravelly loamy sand to loamy sand.
	3-4-5-6	S-1	Brown clayey silt w/fine sand layers, wet at 10'.
10 —	3-3-4-7	S-2	Brown fine sandy silt w/layers of coarse sand and clay laminae throughout.
	3-4-4-5	S-3	Brown silt w/coarse gray sand layer shale fragments and rounded lime- stone pebbles.
	2-2-3-3	S-4	Gray brown silty sand to clayey silt w/coarse sand laminae and small shale pieces; moist.
	3-3-3-5	S-5	Till; dark gray brown gravelly coar- sand with shale pieces, limestone and quartz cobbles, dry.
	4-4-5-14	S-6	Interbedded gray sandy dolomite and dolomitic limestone with thin quar- veins and voids throughout.
20 —	6-13-17-30	S-7	Dark and light gray mottled sandy dolomitic limestone with voids.
	13-20-25-31	S-8	Brown and gray clayey sandy silt and gravel.
	13-17-66-24	S-9	Calcareous gray shale w/iron and pyrite laminae.
	10-100/.1	S-10	Gray sandy dolomite w/few calcite, quartz, and shale lenses and inclusions.
	Augered	N.S. 0.4'	Gray dolomite with black shale and quartz laminae; calcite inclusion sandy from 44' to 47'.
30 —	1.2/3.0	R-1	
	2.2/5.0	R-2	
	32-78-49-100/.2	S-11	
	4" casing	N.S. 0.3'	
	3.0/3.0	R-3	
40 —	3.6/3.5	R-4	
	6.7/7.5	R-5	
50 —	4.7/4.4	R-6	
	4.4/4.4	R-7	
60 —	Rollerbit	N.S. 1.2'	

Vertical Scale: 1' = 10'

Drilling Began - 11/1/82
 Drilling Completed - 11/3/82
 Well Construction
 Completed - 11/3/82
 Development Completed - 11/4/82
 Total Depth - 61.0'
 Depth to Refusal - 26.6'

SWL (date) - 90.92 (12/2/82)
 Screened Interval - 37.3 to 60.2'
 Aquifer - Rock
 Elevation, Ground Surface - 135.3'
 Elevation, Top of Casing
 Hole Dia: 7" Hollow Stem auger/
 4" casing/NXM Core
 Monitoring Tube: 1-1/4" Sch.40 FJ PVC

BOREHOLE NO. 952-10

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0-	Hand Augered to 6.0'		Dark yellowish-brown silty gravelly fine to coarse sand.
	4-3-3-3	S-1,A,B	
	3-3-4-4	S-2,A,B	
10-	4-4-5-4	S-3,A,B	Olive yellow clayey silt
	4-5-5-7	S-4,A,B	
	5-4-4-3	S-5,A,B	Yellow brown clayey, silty, sandy, gravel
	2-2-2-3	S-6	
	1-1-2-1	S-7	
20-	2-2-2-1	S-8	
	WR-1-1-1	S-9	
	2-1-1-2	S-10	
	WR-WR-WR-1	S-11,A,B,C	Yellow brown clayey, silty, pebbly sand; saturated, olive brown at base
	1-1-1-1	N.S. 2.0'	
30-	WR-WR-WR-1	S-12	
	2-4-4-117	S-13,A,B	
	1.6/4.0	R-1	Light to dark gray fine sandy dolomite and dolomitic sandstone, with some thin shaly partings, weathered and gravelly in upper portions from 33.5' to 40'.
40-	1.7/2.7	R-2	
	3.1/2.0	R-3	
	5.0/5.0	R-4	Weathered zones at 43' and 55'.
50-	5.0/5.0	R-5	
	10.0/10.0	R-6	
60-	3.1/5.0	R-7	
68.8-			

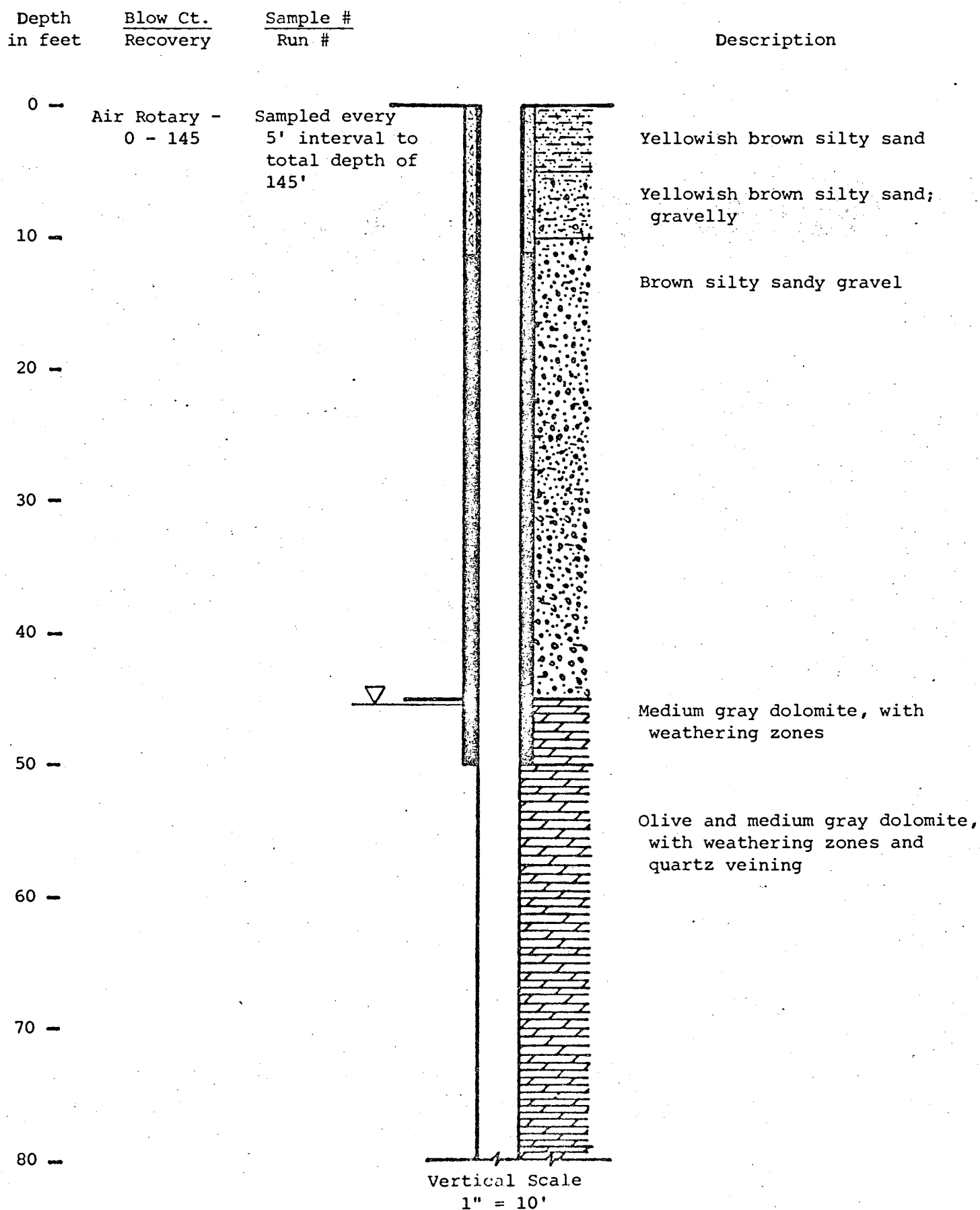
Vertical Scale
1" = 20'

Drilling Began - 11/16/82
Drilling Completed - 11/18/82
Well Construction
Completed - 11/18/82
Development Completed - 12/1/82
Total Depth - 68.8'
Depth to Bedrock - 33.5'

SWL (date) - 97.92' (12/3/82)
Screened Interval - 38.4' to 66.8'
Aquifer - Rock
Elevation, Ground Surface - 135.22'
Elevation, Top of Casing
Hole Dia: 7" H.S. Auger/NXM Core
Casing: 1 1/4" Sch 40 FJ PVC

BOREHOLE NO. 952-11

(Page 1 of 2)



BOREHOLE NO. 952-11

(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
80 -			Rock void from 79' to 105'; approx. yield = 60 gpm.
90 -			Rock void, much water; void looks as if it is filled with loose clay and silt.
100 -			
110 -			Dark gray dolomite, few chips returned, weathered zones
120 -			123' to 125' soft rock and water bearing zone.
130 -			
140 -			
145 -			Estimated Total Blown Yield of 100 gpm.

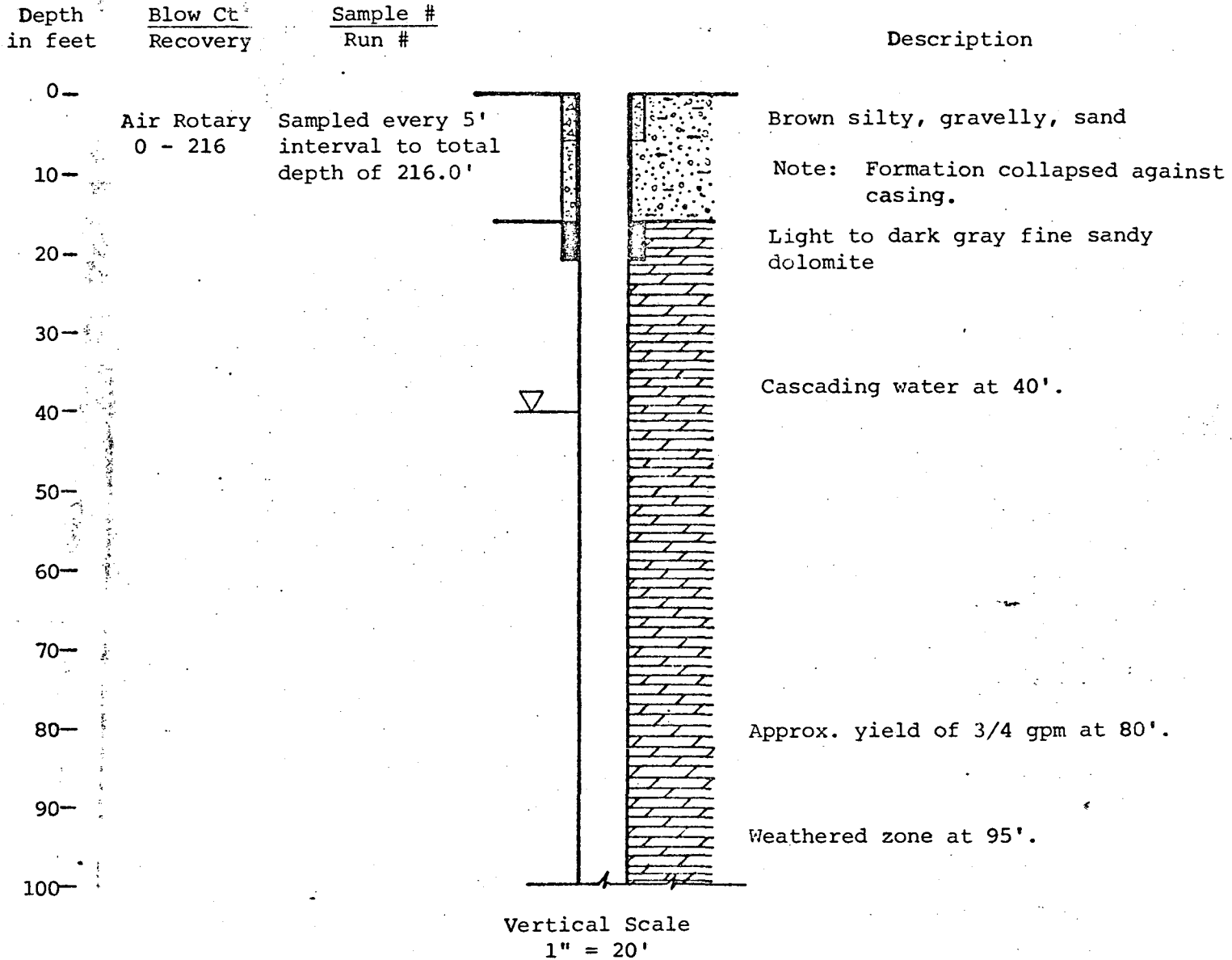
Vertical Scale: 1" = 10'

Drilling Began - 11/20/82
 Drilling Completed - 11/20/82
 Well Construction
 Completed - 11/20/82
 Development Completed - 11/20/82
 Total Depth - 145.0'
 Depth to Bedrock - 45'

SWL (date) - 90.93' (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - rock
 Elevation, Ground Surface - 135.68'
 Elevation, Top of Casing
 Hole Dia: 10" air rotary/6" air rotary
 Casing: 6" steel casing

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BOREHOLE NO. 952-12*
(Page 1 of 2)



BOREHOLE NO. 952-12*

(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
100 -			Light to dark gray fine sandy dolomite
110 -			
120 -			
130 -			
140 -			
150 -			No cutting or water return; void or fracture zone.
160 -			
170 -			
180 -			
190 -			
200 -			
210 -			
216 -			

Vertical Scale

1" = 20'

Drilling Began - 11/14/82
Drilling Completed - 11/17/82

Well Construction

Completed - 11/17/82

Development Completed - 11/17/82

Total Depth - 216'

Depth to Bedrock - 16'

SWL (date) - 95.26' (12/2/82)
Screened Interval - Open rock hole

Aquifer - Rock

Elevation, Ground Surface - 135.4'

Elevation, Top of Casing

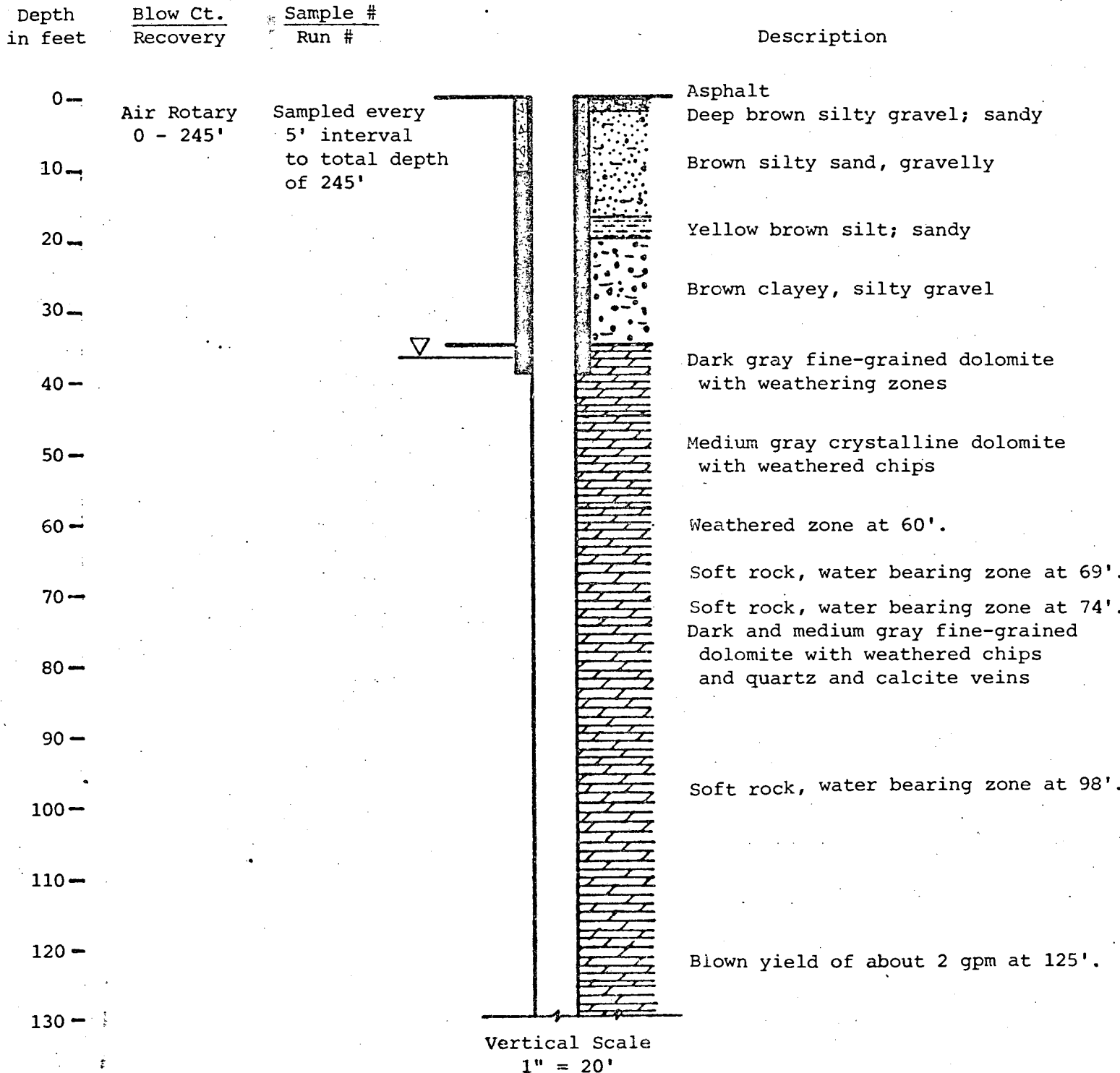
Hole Dia: 12" air rotary/6" air rotary

Casing: 6" steel casing

*Pump stuck in boring on 20 November 1982.

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BOREHOLE NO. 952-13
(Page 1 of 2)



BOREHOLE NO. 952-13
(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run	Description
130--			Soft rock, possible water bearing zone from 132 - 135'.
140--			
150--			
160--			
170--			Dark and medium gray fine-grained dolomite with weathered chips and quartz and calcite veins
180--			Weathered zone at 186'.
190--			
200--			Soft rock, water bearing zone 202' to 203'.
210--			
220--			Water bearing zone at 223'; approx. yield of 10 gpm.
230--			
240--			Estimated total blown yield of 15 gpm
245--			

Vertical Scale
1" = 20'

Drilling Began - 11/17/82
Drilling Completed - 11/17/82
Well Construction
Completed - 11/17/82
Development Completed - 11/17/82
Total Depth - 245'
Depth to Bedrock - 35'

SWL (date) - 94.38' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 131.34'
Elevation, Top of Casing
Hole Dia: 10" air rotary/6" air rotary
Casing: 6" steel casing

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 —	Air Rotary 0 - 162'	Sampled every 5' interval to a total depth of 162'	Yellowish-slightly silty sand; trace gravel.
10 —			Yellowish-brown silty gravelly sand; olive gray between 15 and 24 feet.
20 —			
30 —			Olive brown silty gravel.
40 —			
50 —			
60 —			Dark gray fine grained dolomite with weathering zones and quartz veins; occasional medium gray and olive gray zones.
70 —			Soft rock at 69'.
80 —			

Vertical Scale
1" = 20'

BOREHOLE NO. 952-14
(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run #
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Description

80 —

90 —

100 —

110 —

120 —

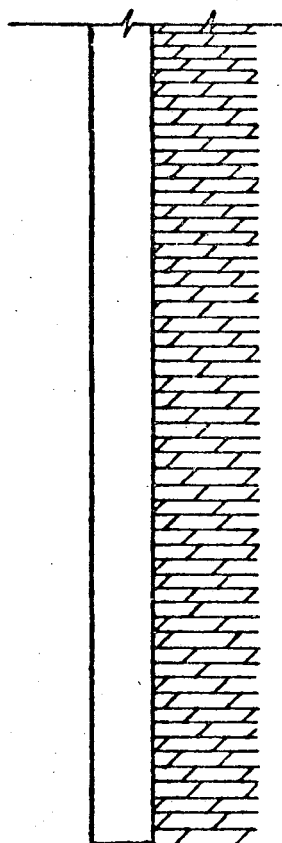
130 —

140 —

150 —

160 —

162 —



Dark gray fine grained dolomite with weathering zones and quartz veins; occasional medium gray and olive gray zones.

Soft rock, water bearing zone from 123' to 126'.

Soft rock at 139'.

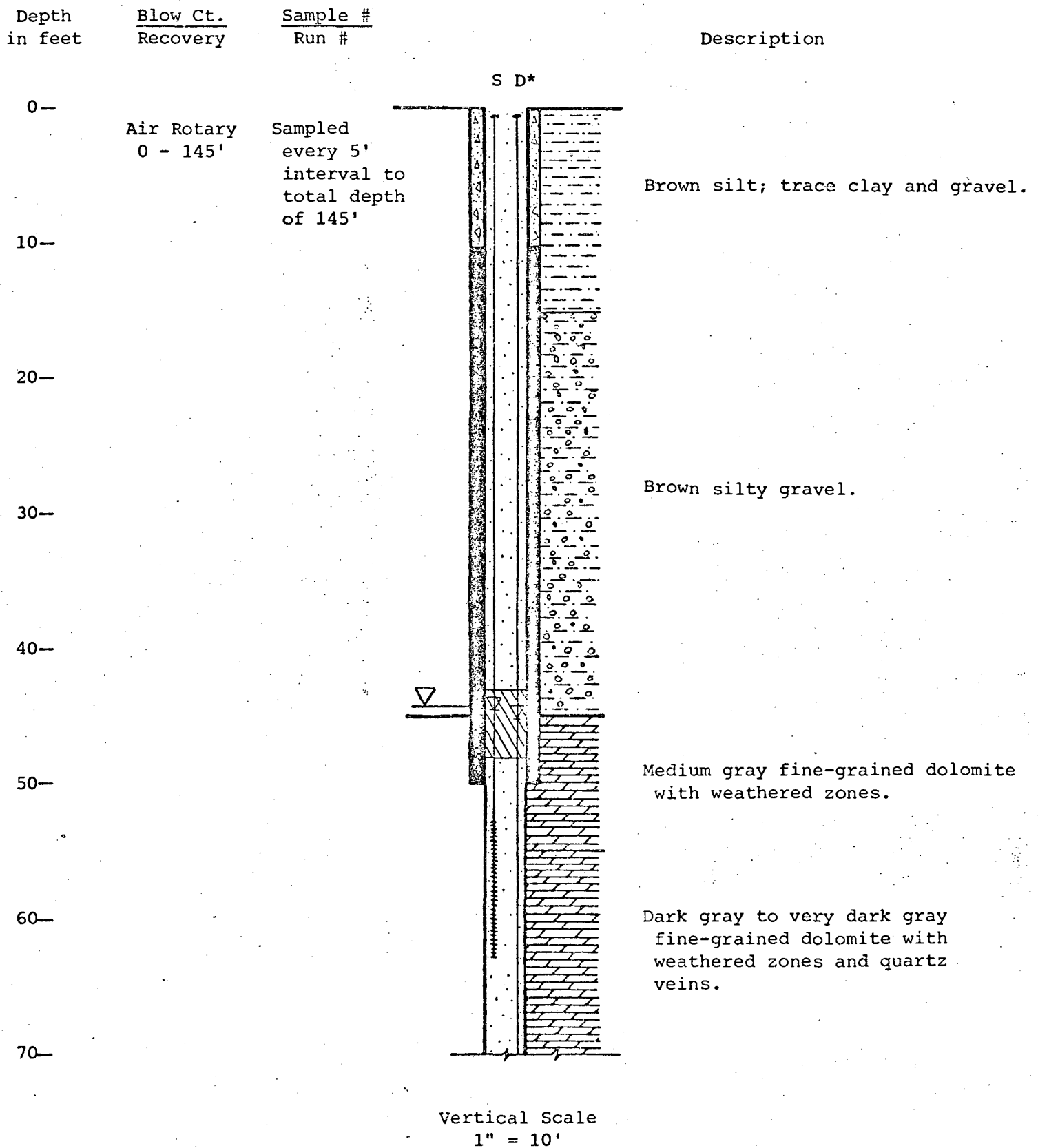
Soft rock, water bearing zone from 149' to 160'.

Vertical Scale
1" = 20'

Drilling Began - 11/19/82
Drilling Completed - 11/19/82
Well Construction
Completed - 11/19/82
Development Completed - 11/19/82
Total Depth - 162'
Depth to Bedrock - 55'

SWL (date) - 90.9' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 135.78'
Elevation, Top of Casing
Hole Dia: 10" air rotary/6" air rotary
Casing: 6" steel casing

BOREHOLE NO. 952-15



* The water elevation in each piezometer, S (shallow), and D (deep), is indicated by ∇ ; piezometer construction is shown by  sand and  bentonite symbols.

BOREHOLE NO. 952-15

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
70—			
80—			
90—			
100—			Dark gray to very dark gray fine-grained dolomite with weathered zones and quartz veins. Weathered zone at 100'.
110—			
120—			
130—			Blown yield of about 5 gpm at 127'.
140—			
145—			Estimated Total Blown Yield of 10 gpm

Vertical Scale: 1" = 10'

Drilling Began - 11/18/82
 Drilling Completed - 11/18/82
 Well Construction
 Completed - 11/18/82
 Development Completed - 11/18/82
 Total Depth - 145'
 Depth to Bedrock - 45'

SWL (date) - 90.97' (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 135.45'
 Elevation, Top of Casing
 Hole Dia: 10" air rotary/6" air rotary
 Casing: 6" steel casing

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BOREHOLE NO. 952-16

(Page 1 of 2)

Depth
in feetBlow Ct.
RecoverySample #
Run #

Description

0—

Air Rotary
0 - 145'Sampled every
5' interval to
total depth of
145'Brown sand; some gravel; trace
silt

10—

Yellowish brown silty sandy
gravel

20—

30—

40—

50—

60—

70—

Vertical Scale
1" = 10'

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
70--			Dark grey fine grained dolomite with weathered zones and quartz veins; medium gray from 90-95'
80--			
90--			Soft rock at 89'. Soft rock from 92' to 102'; void near 95'.
100--			
110--			Soft rock from 105' to 109'. Soft rock from 114' to 119'.
120--			
130--			
140--			
145--			Estimated Total Blown Yield 2.5 gpm.

Vertical Scale

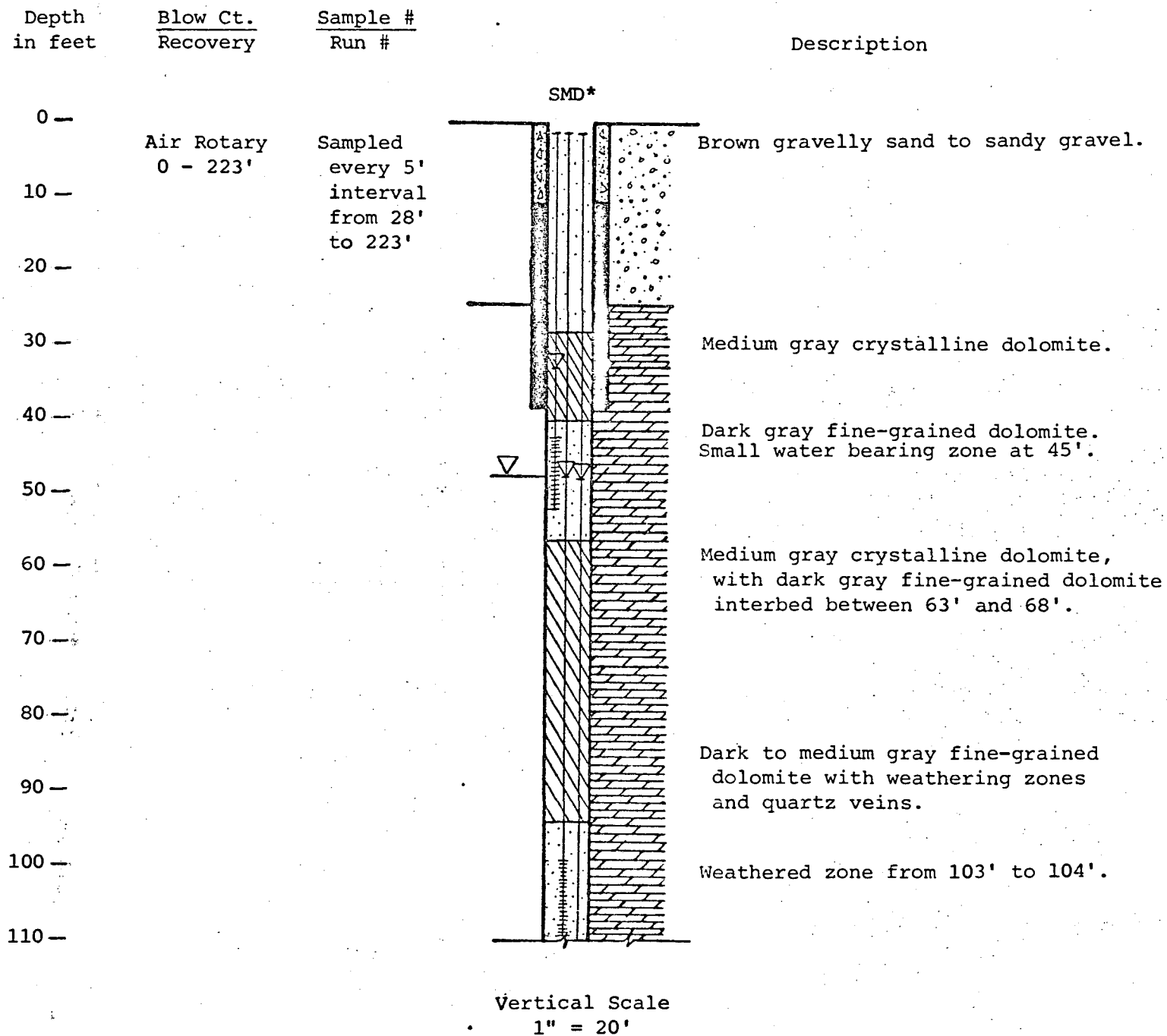
1" = 10'

Drilling Began - 11/20/82
 Drilling Completed - 11/20/82
 Well Construction
 Completed - 11/20/82
 Development Completed - 11/20/82
 Total Depth - 145'
 Depth to bedrock - 43'

SWL (date) - 90.96 (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 135.67'
 Elevation, Top of Casing
 Hole Dia: 10" air rotary/6" air rotary
 Casing - 6" steel casing

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BOREHOLE NO. 952-17
(Page 1 of 2)

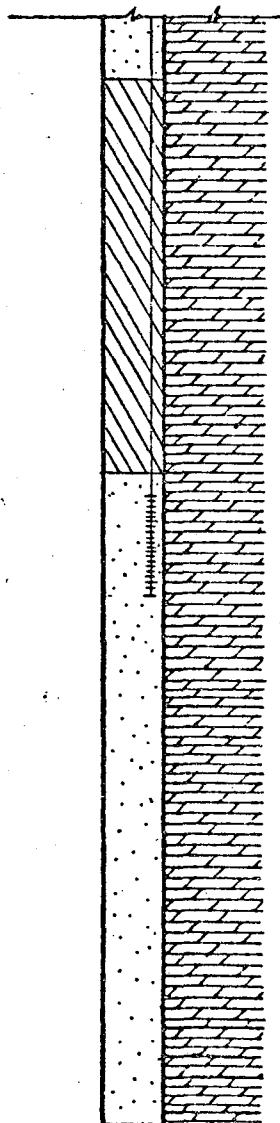


* The water elevation in each piezometer, S (shallow), M (middle) and D (deep), is indicated by ▽ ; piezometer construction is shown by  sand and  bentonite symbols.

BOREHOLE NO. 952-17
(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
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110—
120—
130—
140—
150—
160—
170—
180—
190—
200—
210—
220—
223—



Soft rock at 140'.

Dark to medium gray fine-grained
dolomite with weathering zones
and quartz veins.

Water bearing zone at 168'.

Estimated Total Blown Yield of 5 gp
Light greenish-gray fine-grained
dolomite.
Medium gray fine-grained dolomite.

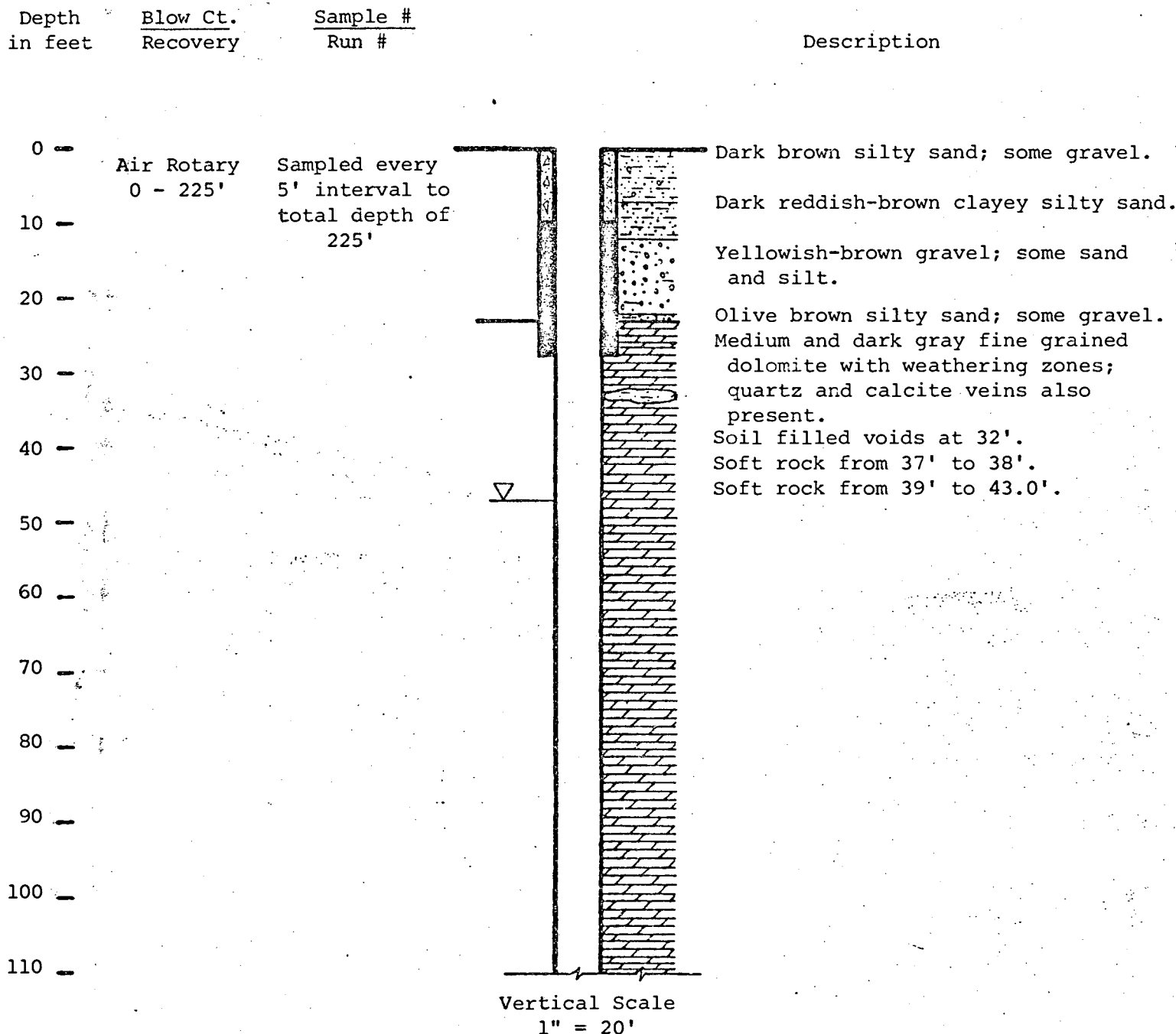
Vertical Scale
1" = 20'

Drilling Began - 11/15/82
Drilling Completed - 11/15/82
Well Construction
Completed - 11/15/82
Development Completed - 11/15/82
Total Depth - 223'
Depth to Bedrock - 24.5'

SWL (date) - 90.76' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 138.1'
Elevation, Top of Casing
Hole Dia: 10" air rotary/6" air rotary
Casing: 6" steel casing

BOREHOLE NO. 952-18

(Page 1 of 2)



Drilling Began - 11/16/82
 Drilling Completed - 11/16/82
 Well Construction
 Completed - 11/16/82
 Development Completed - 11/16/82
 Total Depth - 225'
 Depth to Bedrock - 23'

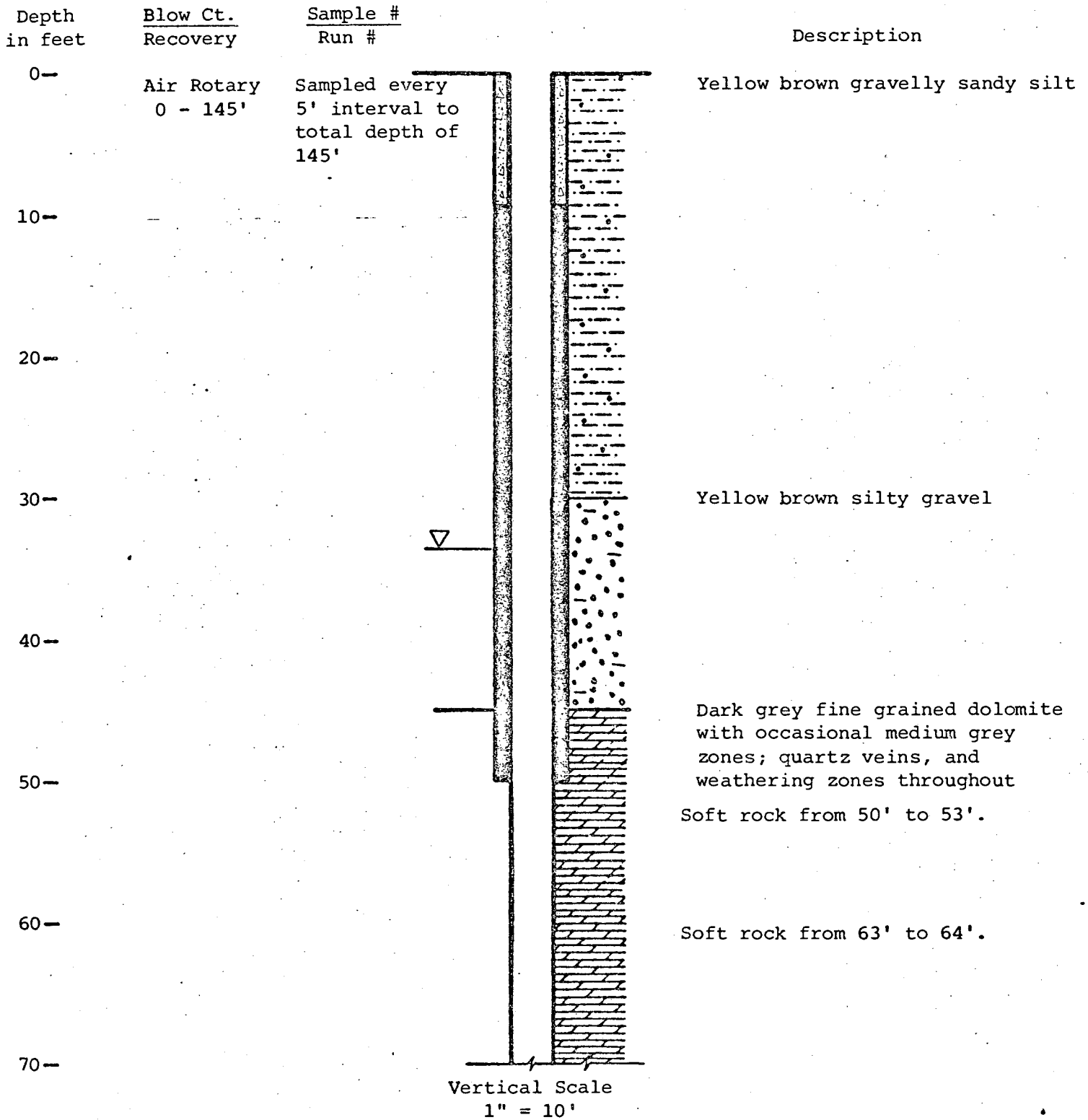
SWL (date) 95.79' (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 142.46'
 Elevation, Top of Casing -
 Hole Dia: 10" air rotary/6" air rotary
 Casing: 6" steel casing

BOREHOLE NO. 952-18
(Page 2 of 2)

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
110 —			Medium and dark gray fine grained dolomite with weathering zones; quartz and calcite veins also present.
120 —			
130 —			
140 —			Soft rock, water bearing zone from 145' to 151'; approx. yield of 2 gpm.
150 —			
160 —			
170 —			
180 —			
190 —			
200 —			
210 —			
220 —			
225 —			Estimated Total Blown Yield of 3 gpm.

Vertical Scale
1" = 20'

BOREHOLE NO. 952-19



BOREHOLE NO. 952-19

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
70—			Dark grey fine grained dolomite with occasional medium grey zones; quartz veins, and weathering zones throughout Soft rock from 72' to 73'.
80—			
90—			
100—			
110—			
120—			Soft rock from 118' to 121'.
130—			Medium grey fine grained dolomite
140—			
145—			Estimated Total Blown Yield of <25 gpm.

Vertical Scale

1" = 10'

Drilling Began - 11/17/82
 Drilling Completed - 11/17/82
 Well Construction
 Completed - 11/17/82
 Development Completed - 11/17/82
 Total Depth - 145'
 Depth to Bedrock 45'

SWL (date) - 109.21 (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 142.63
 Elevation, Top of Casing
 Hole Dia: 10" air rotary/6" air rotary
 Casing: 6" steel casing

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BORING NO. 952-20

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 -	Air Rotary 0 - 225'	Sampled every 5' interval to a total depth of 225'	Olive tan overburden.
10 -			
20 -			Light gray weathered dolomite
30 -			
40 -			Void.
50 -			Dark to medium gray dolomite; solvent odor in cuttings.
60 -			
70 -			
80 -			
90 -			
100 -			
110 -			
120 -			

Vertical Scale
1" = 20'

BORING NO. 952-20

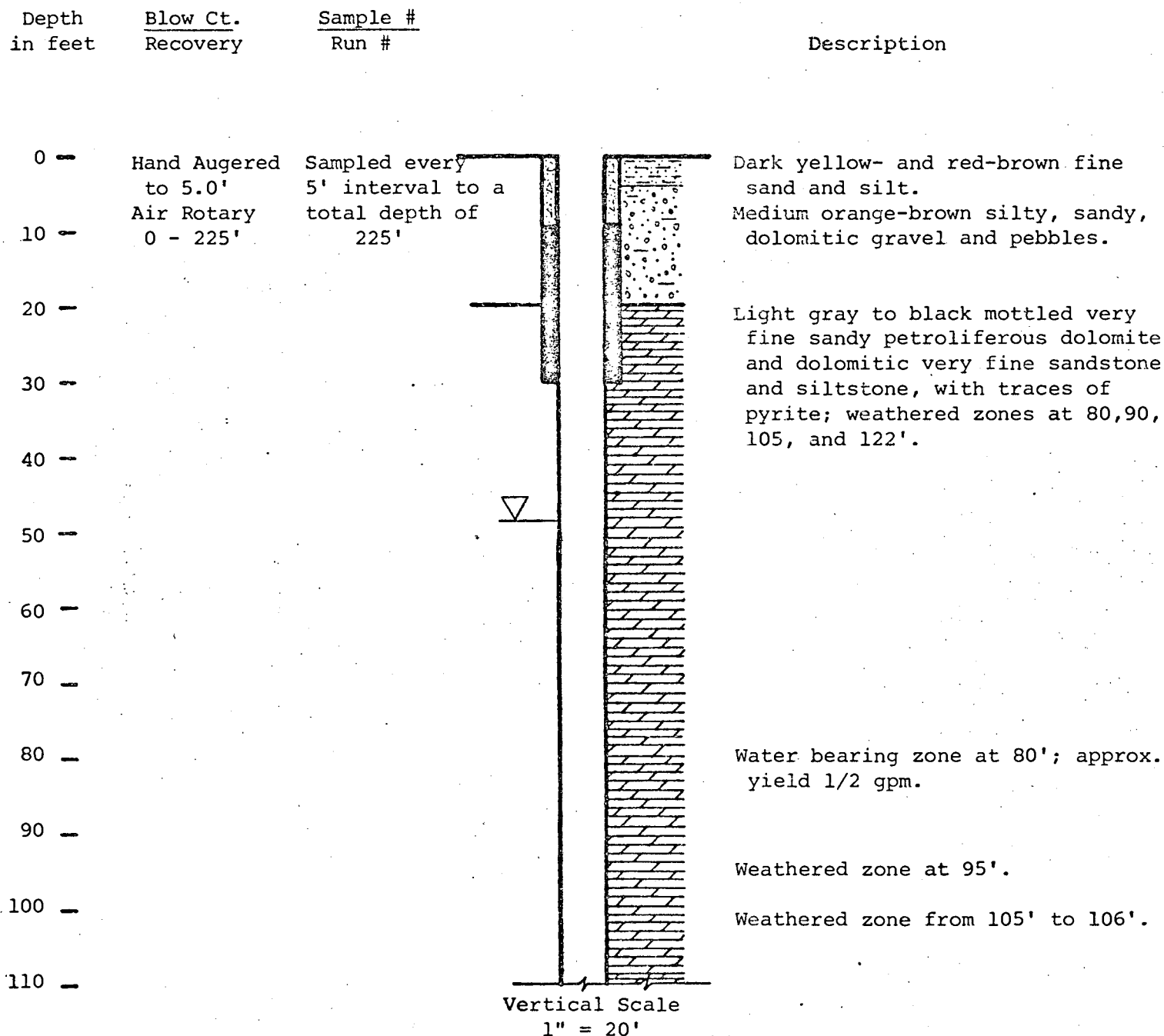
Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
120 -			Dark to medium gray dolomite; solvent odor in cuttings.
130 -			
140 -			
150 -			
160 -			
170 -			Water bearing zone at 170'; approx. yield of 2 gpm.
180 -			Water bearing zone at 195'; approx. yield of 2-5 gpm.
190 -			
200 -			
210 -			Water bearing zone at 215'; approx. yield of 10 gpm.
220 -			
225 -			

Vertical Scale
1" = 20'

Drilling Began - 11/22/82
 Drilling Completed - 11/23/82
 Well Construction
 Completed - 11/23/82
 Development Completed - 11/23/82
 Total Depth - 225'
 Depth to Bedrock - 22'

SWL (date) 93.77 (12/2/82)
 Screened Interval - open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 141.23'
 Elevation, Top of Casing -
 Hole Dia: 10" air rotary/6" air rotary
 Monitoring Tube: 6" steel casing

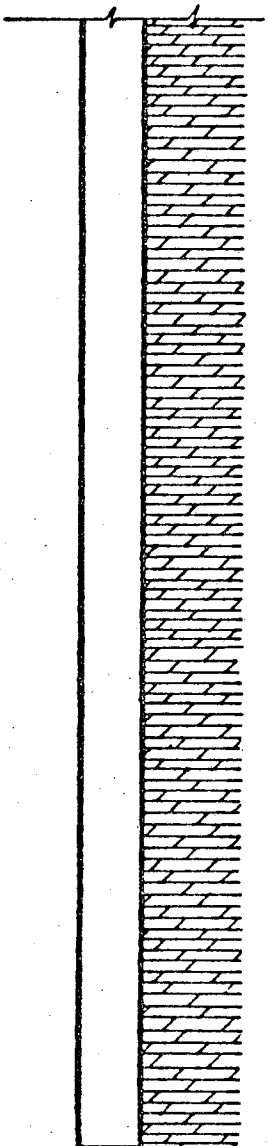
BOREHOLE NO. 952-21



Drilling Began - 11/21/82
 Drilling Completed - 11/21/82
 Well Construction
 Completed - 11/21/82
 Development Completed - 11/21/82
 Total Depth - 225'
 Depth to Bedrock - 20.5'

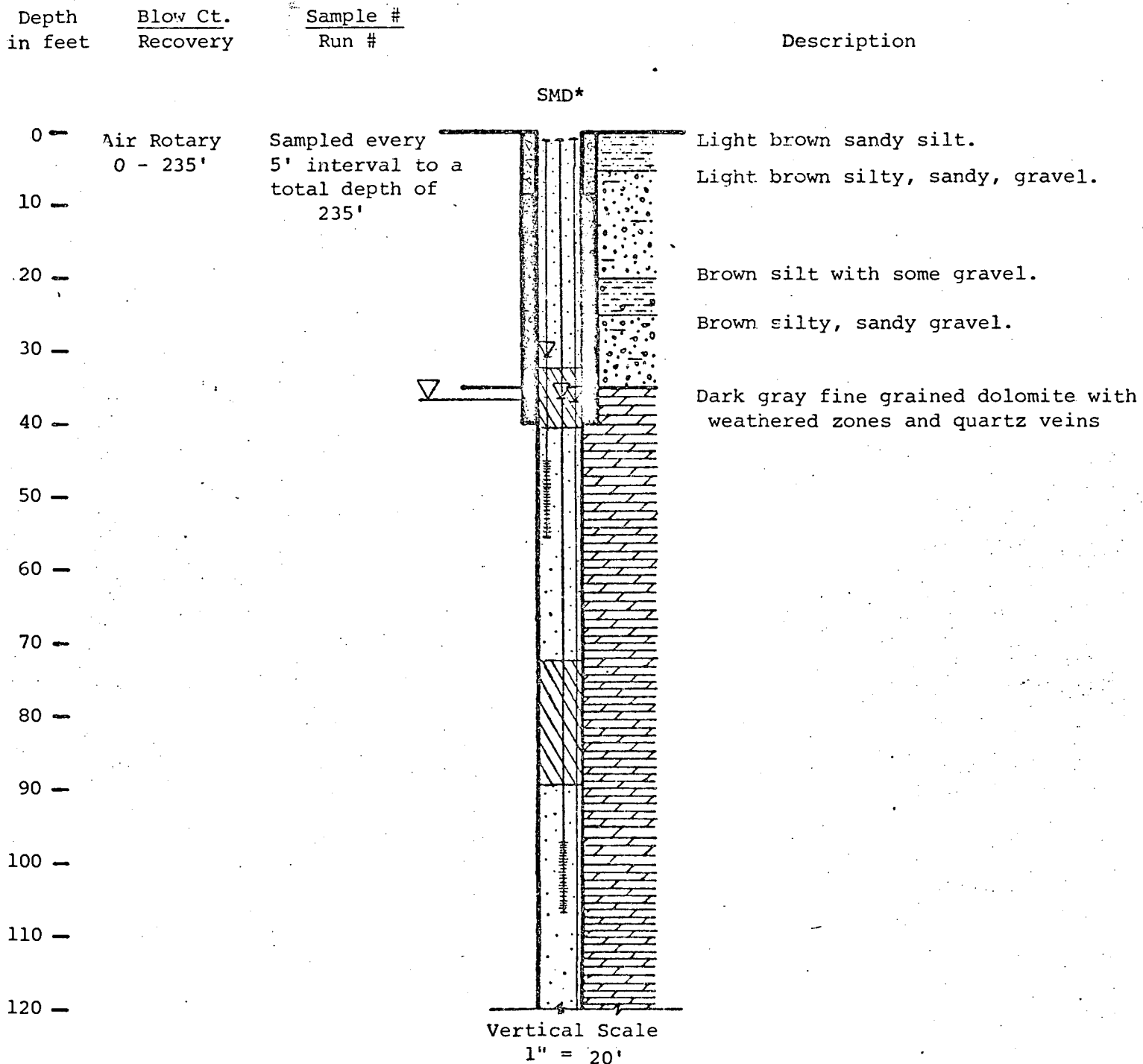
SWL (date) - 90.60 (12/6/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 138.99'
 Elevation, Top of Casing -
 Hole Dia: 10" air rotary/6" air rotary
 Monitoring tube: 6" steel casing

BOREHOLE NO. 952-21

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
110 —			 Light gray to black mottled very fine sandy petroliferous dolomite and dolomitic very fine sandstone and siltstone, with traces of pyrite; weathered zones at 105, and 122'. Soft rock, water bearing zone from 120' to 125'.
120 —			
130 —			
140 —			
150 —			
160 —			
170 —			
180 —			
190 —			
200 —			
210 —			Estimated Total Blown Yield of 3 gpm
220 —			
225 —			

Vertical Scale
1" = 20'

BOREHOLE NO. 952-22



Drilling Began - 11/23/82
 Drilling Completed - 11/23/82
 Well Construction
 Completed - 11/23/82
 Development Completed - 11/23/82
 Total Depth - 235.0'
 Depth to Bedrock - 35.0'

SWL (date) - 91.78 (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 128.18
 Elevation, Top of Casing
 Hole Dia: 10" air rotary/6" air rotary
 Monitoring Tube: 6" steel casing

* See next page.

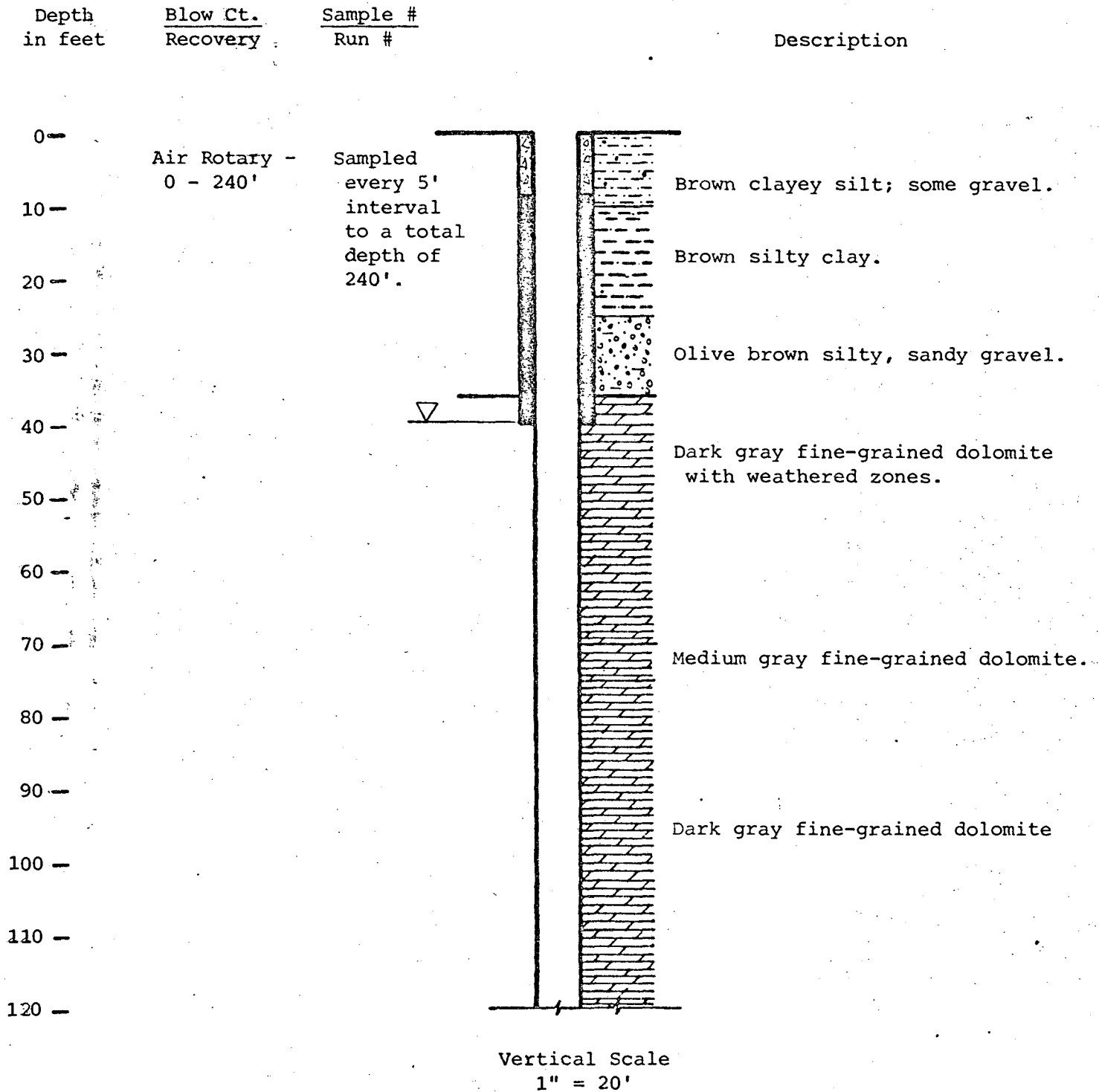
BOREHOLE NO. 952-22

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
120 --			Dark gray fine grained dolomite with weathered zones and quartz veins Soft rock from 132' to 133'.
130 --			
140 --			
150 --			
160 --			Soft rock, water bearing zone from 185' to 190'; approx. yield of 3 - 4 gpm.
170 --			
180 --			
190 --			
200 --			Medium gray fine grained dolomite.
210 --			Dark gray fine grained dolomite with weathering zones Soft rock from 214' to 216'.
220 --			Estimated Total Blown Yield of 30 to 40 gpm.
230 --			
235 --			

Vertical Scale
1" = 20'

* The water elevation in each piezometer, S (shallow), M (middle), and D (deep), is indicated by ▽ ; piezometer construction is shown by  sand and  bentonite.symbols.

BOREHOLE NO. 952-23



BOREHOLE NO. 952-23

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
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120 -

130 -

140 -

150 -

160 -

170 -

180 -

190 -

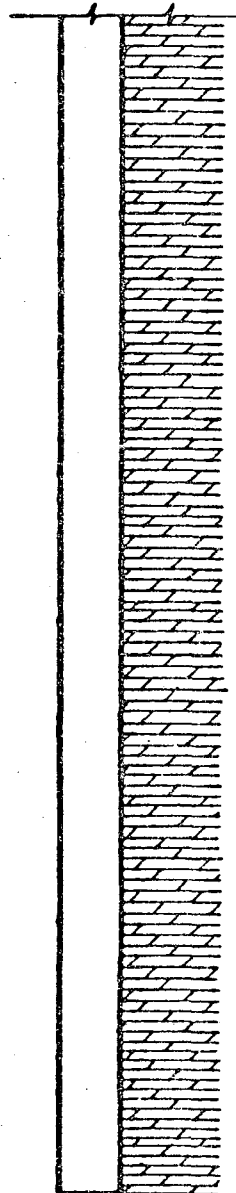
200 -

210 -

220 -

230 -

240 -



Soft rock at 165'.

Soft rock at 175'.

Dark gray fine-grained dolomite;
many weathered zones below 165'.
Soft rock, water bearing zone at 185'.

Estimated Total Blown Yield of
35 - 40 gpm.

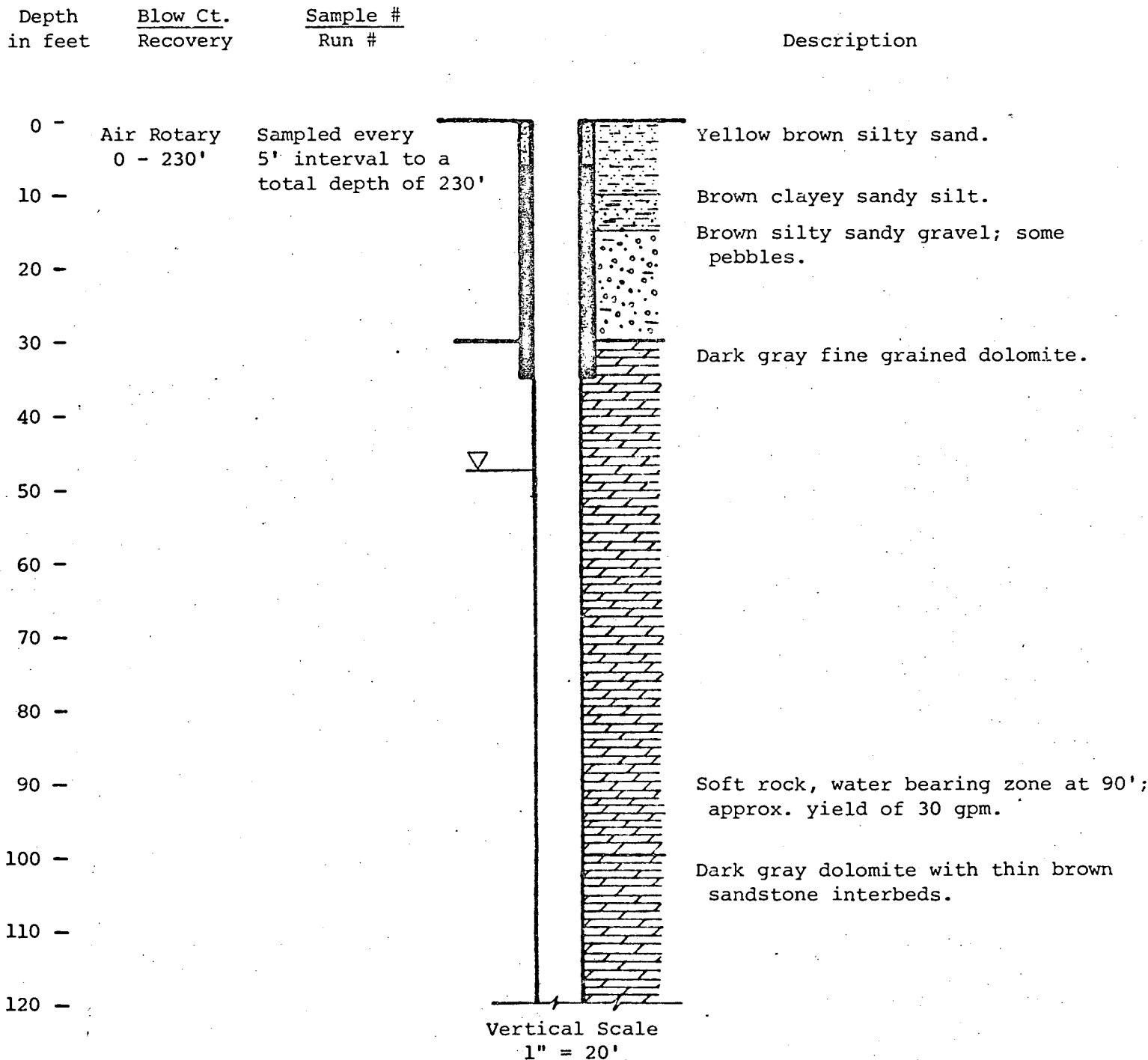
Vertical Scale
1" = 20'

Drilling Began - 11/24/82
Drilling Completed - 11/24/82
Well Construction
Completed - 11/24/82
Development Completed - 11/24/82
Total Depth - 240'
Depth to Bedrock - 36'

SWL (date) - 91.42' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 130.46'
Elevation, Top of Casing
Hole Dia: 10" air rotary/6" air rotary
Casing: 6" steel casing

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BOREHOLE NO. 952-24



BOREHOLE NO. 952-24

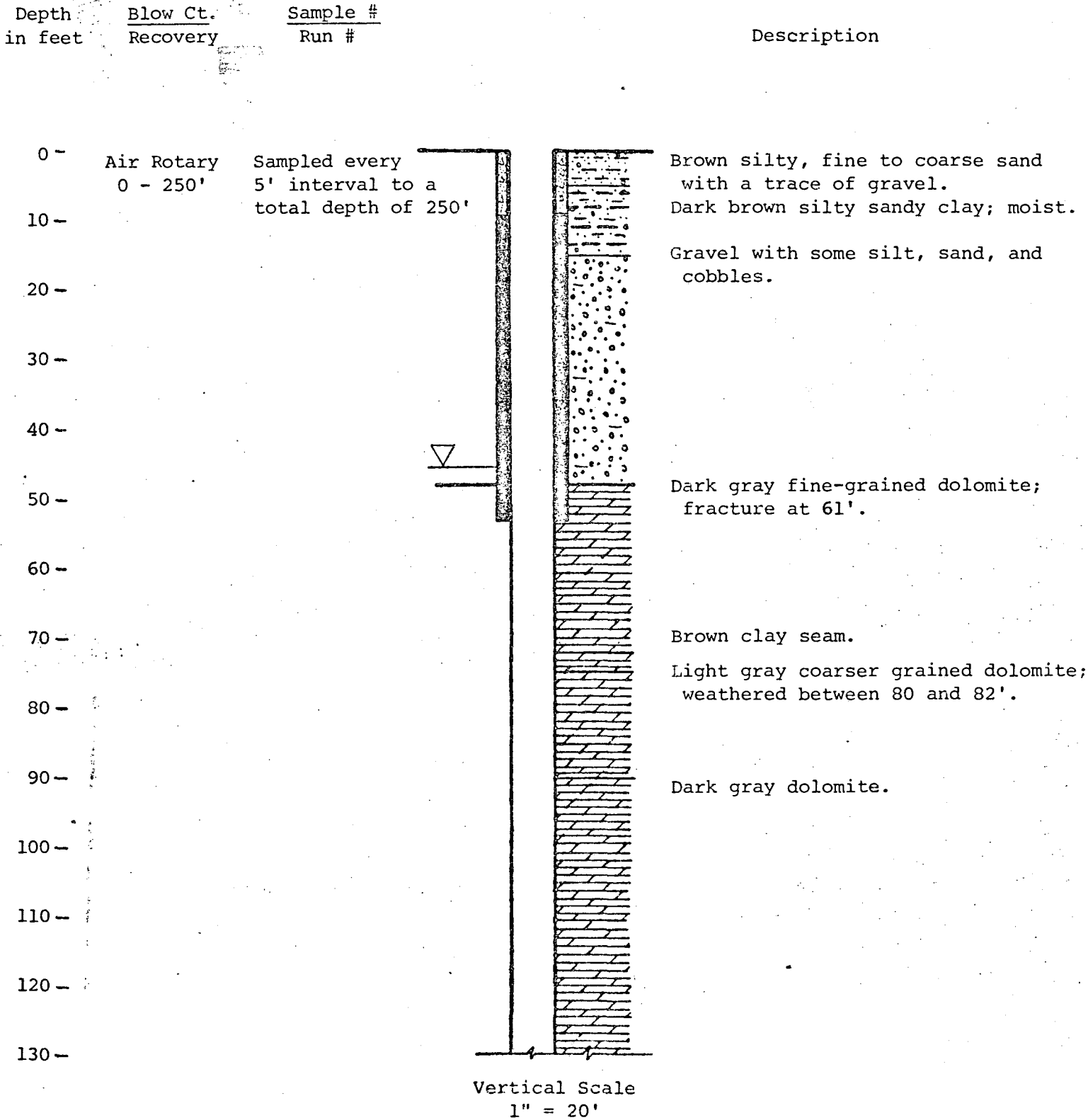
Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
120 -			Dark gray dolomite with thin brown sandstone interbeds.
130 -			
140 -			
150 -			
160 -			
170 -			Soft rock, water bearing zone from 170' to 173'.
180 -			Soft rock, water bearing zone from 181' to 185'; approx. yield of 20 gpm
190 -			Dark gray fine grained dolomite.
200 -			
210 -			
220 -			
230 -			Estimated Total Blown Yield of 60 gpm

Vertical Scale
1" = 20'

Drilling Began - 11/24/82
Drilling Completed - 11/24/82
Well Construction
Completed - 11/24/82
Development Completed - 11/24/82
Total Depth - 230'
Depth to Bedrock - 30'

SWL (date) - 89.77' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 137.1'
Elevation, Top of Casing -
Hole Dia: 12" air rotary/6" air rotary
Casing: 6" steel casing.

BOREHOLE NO. 952-25



BOREHOLE NO. 952-25

Depth in feet	Blow Ct. Recovery	Sample # Run #
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Description

130-

Dark gray dolomite.

140-

150-

160-

170-

180-

Interbedded light and dark gray dolomite; clay seam between 215' and 216'.

190-

200-

210-

220-

230-

240-

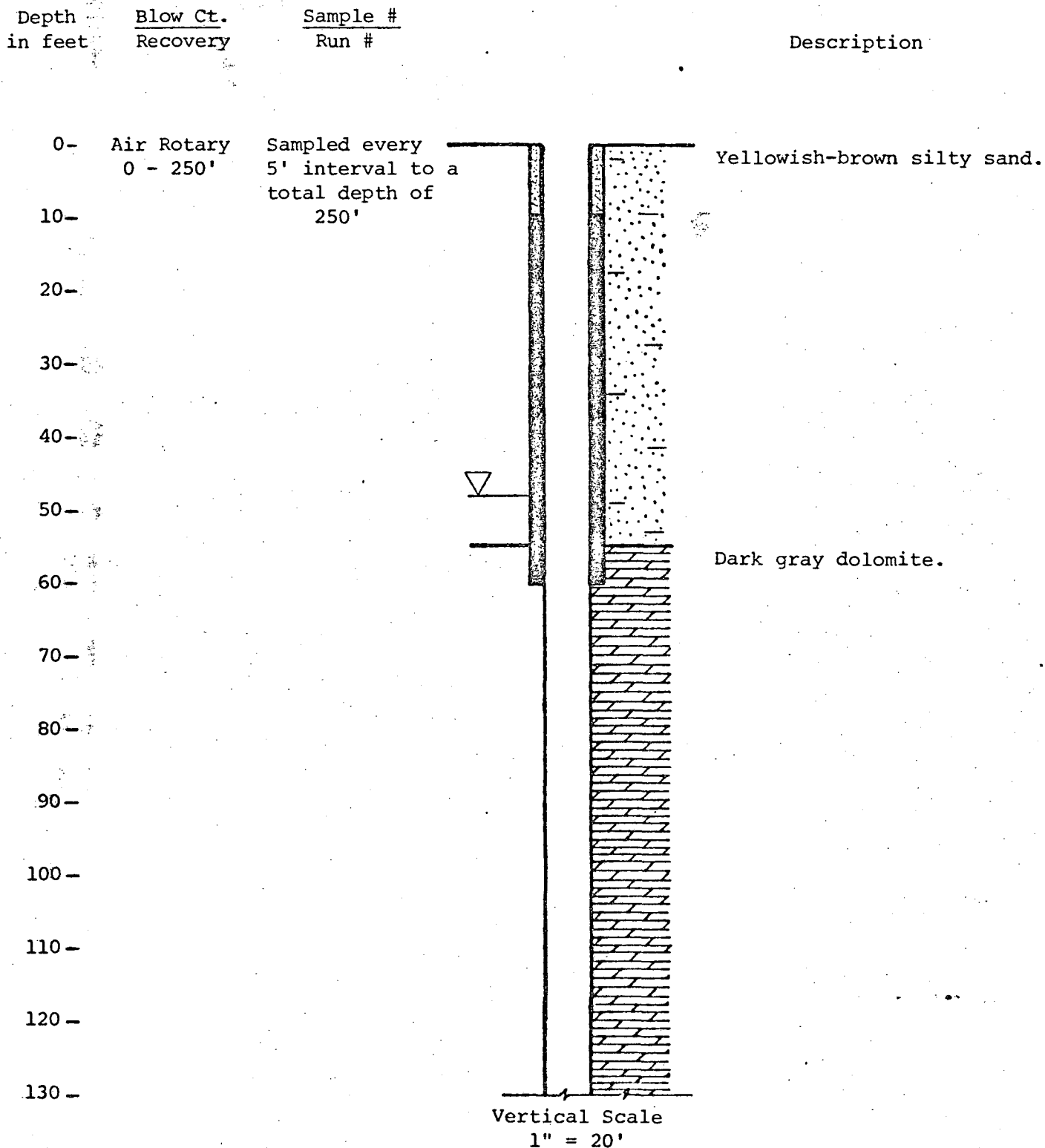
250-

Vertical Scale
1" = 20'

Drilling Began - 11/24/82
Drilling Completed - 11/24/82
Well Construction
Completed - 11/24/82
Development Completed - 11/24/82
Total Depth - 250'
Depth to Bedrock - 48'

SWL (date) 90.62' (12/2/82)
Screened Interval - Open rock hole.
Aquifer - Rock
Elevation, Ground Surface - 136.30'
Elevation, Top of Casing -
Hole Dia: 12" air rotary/6" air rotary
Casing: 6" steel casing

BOREHOLE NO. 952-26



BOREHOLE NO. 952-26

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
------------------	----------------------	-------------------	-------------

130 -

140 -

150 -

160 -

170 -

180 -

190 -

200 -

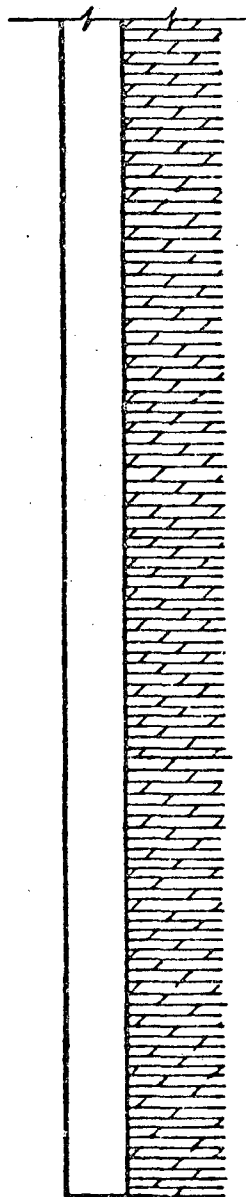
210 -

220 -

230 -

240 -

250 -



Dark gray dolomite.

Light gray dolomite.

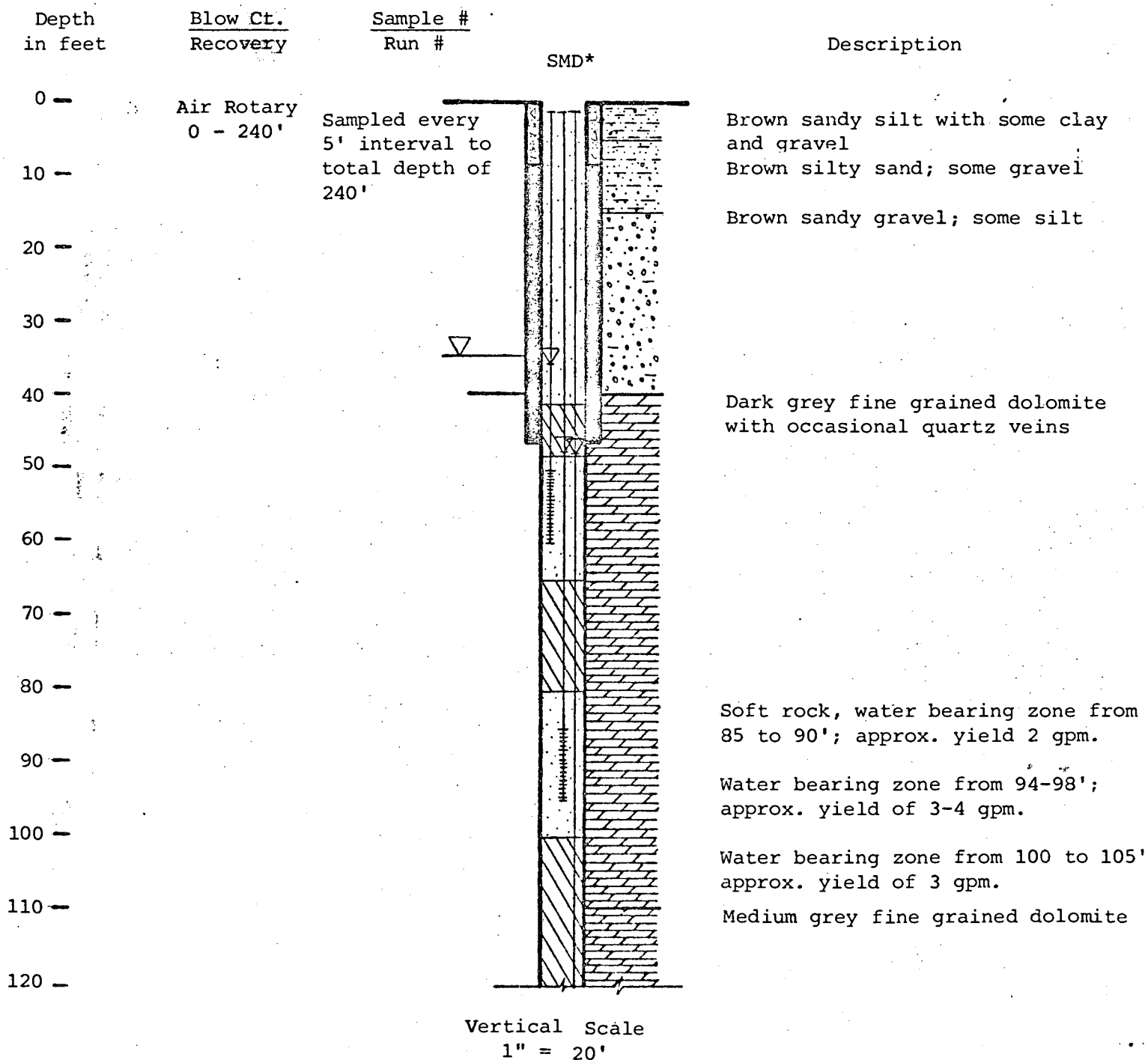
Vertical Scale
1" = 20'

BOREHOLE NO. 952-26

Drilling Began - 11/24/82
Drilling Completed - 11/24/82
Well Construction
Completed - 11/24/82
Development Completed - 11/24/82
Total Depth - 250'
Depth to Bedrock - 55'

SWL (date) - 92.72' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 140.72'
Elevation, Top of Casing -
Hole Dia: 10" air rotary/6" air rotary
Casing: 6" steel casing

BOREHOLE NO. 952-27



* The water elevation in each piezometer, S (shallow), M (middle), and D (deep), is indicated by ▽ ; piezometer construction is shown by  sand and  bentonite symbols.

BOREHOLE NO. 952-27

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
120--			Medium grey fine grained dolomite
130--			Dark grey fine grained dolomite
140--			
150--			
160--			
170--			
180--			Soft rock, water bearing zone from 174' to 180'.
190--			
200--			Medium grey fine grained dolomite
210--			Dark grey fine grained dolomite
220--			
230--			
240--			Estimated Total Blown Yield of 10 gpm.

Vertical Scale
1" = 20'

Drilling Began - 11/23/82
 Drilling Completed - 11/24/82
 Well Construction
 Completed - 11/24/82
 Development Completed - 11/24/82
 Total Depth - 240'
 Depth to Bedrock - 41'

SWL (date) - 108.67 (12/2/82)
 Screened Interval - Open rock hole
 Aquifer - Rock
 Elevation, Ground Surface - 143.04
 Elevation, Top of Casing - 144.88
 Hole Dia: 12" air rotary/6" air rotary
 Casing: 6" steel casing

BOREHOLE NO. 952-28

Depth
in feet

Blow Ct.
Recovery

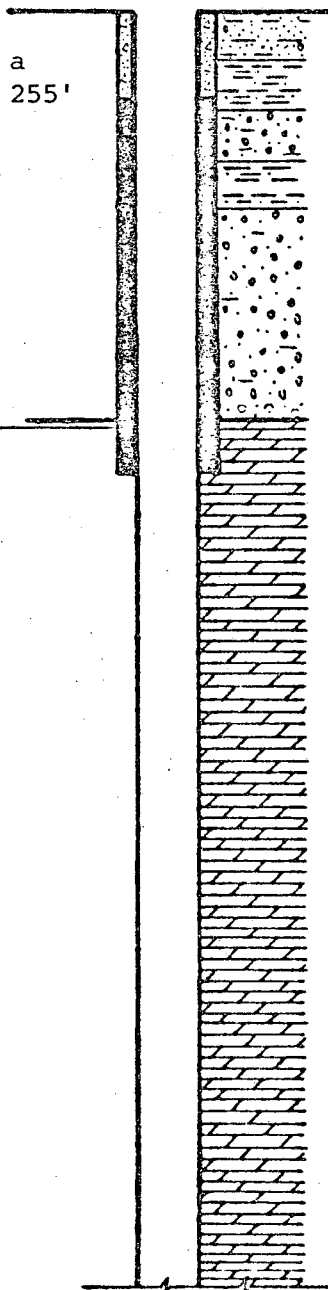
Sample #
Run #

Description

0-
10-
20-
30-
40-
50-
60-
70-
80-
90-
100-
110-
120-
130-

Air Rotary
0 - 255'

Sampled every
5' interval to a
total depth of 255'



Brown silty sand; some gravel.

Brown silty clay.

Brown silty sandy gravel.

Brown silty clay.

Brown silty sandy gravel.

Dark gray fine grained dolomite with
occasional quartz veins.

Water bearing zone at 75'; approx.
yield of 1 gpm.

Vertical Scale
1" = 20'

BOREHOLE NO. 952-28

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
130 -			Dark gray fine grained dolomite with occasional quartz veins.
140 -			
150 -			
160 -			
170 -			
180 -			
190 -			
200 -			
210 -			
220 -			
230 -			Medium gray fine grained dolomite.
240 -			
250 -			
255 -			Estimated Total Blown yield of 1 gpm.

Vertical Scale
1" = 20'

BOREHOLE NO. 952-28

Drilling Began - 11/22/82
Drilling Completed - 11/23/82
Well Construction
Completed - 11/23/82
Development Completed - 11/23/82
Total Depth - 255'
Depth to Bedrock - 42'

SWL (date) - 100.33' (12/2/82)
Screened Interval - Open rock hole
Aquifer - Rock
Elevation, Ground Surface - 142.91
Elevation, Top of Casing - 144.89
Hole Dia: 12" air rotary/6" air rotary
Casing: 6" steel casing

APPENDIX C
SOIL SAMPLE LOGS

SOIL PROFILE DESCRIPTIONS FOR
IBM-BUILDING 952

Boring #952-A

Total Depth: 70" Date: 11/19/82

<u>Depth</u>	<u>Description</u>
0 - 8":	Concrete
8 - 48":	Dark yellowish-brown silt loam; 10-20% coarse fragments.
48 - 57":	Grayish-brown silt loam.
57 - 60":	Dark yellowish-brown sandy loam.
60 - 70":	Dark yellowish-gray silt loam.
70":	Rock fragment - refusal

Sampled Interval: 60"

Sample Number: 6064

Boring #952-B*

Total Depth: 126" Date: 11/19/82

<u>Depth</u>	<u>Description</u>
0 - 8":	No sample.
8 - 18":	Dark yellowish-brown gravelly silt loam; 20% coarse fragments
18 - 24":	Dark grayish-brown gravelly silt loam; strong odor; 20% coarse fragments.
24 - 80":	Yellowish-brown silt loam; <5% coarse fragments.
80 - 126":	Dark yellowish-brown gravelly sandy loam; 20% coarse fragments.

Moist soil 53 inches to 60 inches.

Sampled Interval: 18"
60"
120"

Sample Number: 6075
6065
6061

*Hand augered then completed with pneumatic drilling machine.

Boring #952-C

Total Depth: 84" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 8":	No sample.
8 - 42":	Dark yellowish-brown silt loam to silt; 20% coarse fragments.
42 - 80":	Dark gray silty clay; 10-20% coarse fragments.
80 - 84":	Yellowish-brown silt loam to silt.
84":	Fragment - refusal
	Very moist 60 inches to 80 inches.

Sampled Interval: 60"

Sample Number: 6056

Boring #952-D*

Total Depth: 115" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 8":	Concrete
8 - 18":	Dark grayish-brown silt loam; odor; 5-10% coarse fragments.
18 - 48":	Yellowish-brown to brownish-yellow silt loam; <5% coarse fragments.
48 - 66":	Reddish-brown fine sandy loam; <5% coarse fragments.
66 - 84":	Yellowish-brown silt loam to silt; <5% coarse fragments.
84 - 90":	Dark reddish-brown gravelly sandy loam; 20% coarse fragments.
90 - 115":	Dark yellowish-brown silt loam; <5% coarse fragments.
115":	Fragment refusal.

Sampled Interval: 18"
60"

Sample Number: 6057
6058

*Hand augered then completed with pneumatic drilling machine.

Boring #952-E *

Total Depth: 110" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 8":	Concrete
8 - 16":	Dark yellowish-brown gravelly sandy loam; 20% coarse fragments.
16 - 110":	Dark yellowish-brown gravelly loamy sand; 30-40% coarse fragments.
110":	Fragment refusal

Sampled Interval: 60"

Sample Number: 6059

*Hand augered then completed with pneumatic drilling machine.

Boring #952-F

Total Depth: 144" Date: 11/21/82

<u>Depth</u>	<u>Description</u>
0 - 6":	Concrete
6 - 12":	Yellowish-brown gravelly sandy loam; 20% coarse fragments.
12 - 20":	Dark yellowish-brown gravelly sandy loam; 20% coarse fragments.
20 - 72":	Dark yellowish-brown gravelly loamy sand to sand; 20% coarse fragments.
72 - 132":	Dark yellowish-brown fine sand; 10% coarse fragments.
132 - 144":	Dark yellowish-brown gravelly sand; 30% coarse fragments.
144":	Fragment refusal.

Sampled Interval: 24"
72"
144"

Sample Number: 6052
6046
6051

Boring #952-G

Total Depth: 75" Date: 11/21/82

<u>Depth</u>	<u>Description</u>
0 - 7":	Concrete
7 - 30":	Grayish-brown silt loam; odor; 5-10% coarse fragments.
30 - 40":	Greenish-gray silt loam; odor; <5% coarse fragments.
40 - 48":	Yellowish-brown silt loam; <5% coarse fragments.
48 - 75":	Dark yellowish-brown fine sandy loam; <5% coarse fragments.
75":	Fragment refusal.

Sampled Interval: 18" Sample Number: 6050
72" 6049

Boring #952-H

Total Depth: 30" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 7":	Concrete
7 - 30":	Dark yellowish-brown very gravelly sandy loam to loamy sand; 50-60% coarse fragments.
30":	Fragment refusal.

Sampled Interval: 24" to 30" Sample Number: 6060

Boring #952-I

Total Depth: 72" Date: 11/21/82

<u>Depth</u>	<u>Description</u>
0 - 9":	Concrete
9 - 20":	Dark reddish-brown fine loamy sand; <5% coarse fragments.
20 - 36":	Yellowish-brown fine loamy sand; <5% coarse fragments.
36 - 72":	Dark yellowish-brown silt loam; 10% coarse fragments.

Sampled Interval: 36" Sample Number: 6070
72" 6071

Boring #952-J

Total Depth: 36" Date: 11/21/82

<u>Depth</u>	<u>Description</u>
0 - 10":	Concrete
10 - 14":	Dark yellowish-brown gravelly silt loam.
14 - 36":	Grayish-brown gravelly silt loam; very slight odor.
36":	Fragment refusal.

Sampled Interval: 18"	Sample Number: 6068
36":	6069

Boring #952-K

Total Depth: 68" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 10½":	Concrete
10½ - 56":	Dark yellowish-brown gravelly sandy loam; 20% coarse fragments.
56 - 62":	Yellowish-brown fine sandy loam; 5% coarse fragments.
62 - 68":	Dark yellowish-brown gravelly sandy loam; 10-20% coarse fragments.
68":	Fragment refusal.

Sampled Interval: 24"	Sample Number: 6055
66":	6054

Boring #952-L

Total Depth: 21" Date: 11/20/82

<u>Depth</u>	<u>Description</u>
0 - 11":	Concrete
11 - 21":	Dark reddish-brown gravelly sandy loam; 30-50% coarse fragments.
21":	Fragment refusal.

Sampled Interval: 18"	Sample Number: 6053
-----------------------	---------------------

Boring #952-M

Total Depth: 26" Date: 11/20/82

Depth

Description

0 - 8":

Concrete

8 - 26":

Dark reddish-brown very gravelly sandy loam; 50% coarse fragments.

26":

Fragment refusal.

Sampled Interval: No Samples

Boring #952-N

Total Depth: 103" Date: 11/21/82

Depth

Description

0 - 8":

Concrete

8 - 16":

Dark yellowish-brown gravelly silt loam; 5-10% coarse fragments.

16 - 20":

Dark gray silt loam; odor; 5-10% coarse fragments.

20 - 30":

Yellowish-brown silt loam to silt; 5-10% coarse fragments.

30 - 72":

Yellowish-brown silt loam to silty clay; 5-10% coarse fragments.

72 - 103":

Grayish-brown silt loam; 5-10% coarse fragments.

103":

Fragment refusal.

Sampled Interval: 18"
72"

Sample Number: 6047
6048

Boring #952-0

Total Depth: 144" Date: 11/21/82

Depth

Description

0 - 8";

Concrete

8 - 12":

Dark yellowish-brown gravelly silt loam to fine sandy loam;
30% coarse fragments.

Boring #952-0 (Cont.)

<u>Depth</u>	<u>Description</u>
12 - 20":	Dark grayish-brown gravelly sandy loam; odorous; 30% coarse fragments.
20 - 90":	Yellowish-brown gravelly fine sandy loam; 30% coarse fragments.
90 - 120":	Yellowish-brown silt loam to silt; <5% coarse fragments.
120 - 144":	Yellowish-brown fine sand.
	Moist at 90+ inches.

Sampled Interval:	15"	Sample Number:	6074
	72"		6073
	144"		6072

Boring #952-P

Total Depth: 54" Date: 11/21/82

<u>Depth</u>	<u>Description</u>
0 - 7":	Concrete
7 - 12":	Dark reddish-brown gravelly sandy loam; 30-50% coarse fragments.
12 - 39":	Dark yellowish-brown gravelly sandy loam; very slight odor; 30-50% coarse fragments.
39 - 54":	Dark yellowish-brown gravelly fine sand; 20-25% coarse fragments.
54":	Fragment refusal.

Sampled Interval:	24"	Sample Number:	6066
	54"		6067

Boring #982-A

Total Depth: 38" Date: 11/23/82

<u>Depth</u>	<u>Description</u>
0 - 6":	Concrete
6 - 20":	Dark yellowish-brown very gravelly sand with cobbles; 45% coarse fragments.
20 - 28":	Yellowish-brown loam; 15-25% coarse fragments.
28 - 31":	Grey silt loam; <10% coarse fragments.
31 - 38":	Yellowish-brown gravelly sandy loam; 30% coarse fragments.
38":	Fragment refusal.

Sampled Interval: 30"

Sample Number: B5611 V2, V6

Boring #982-B

Total Depth: 29" Date: 11/22/82

<u>Depth</u>	<u>Description</u>
0 - 7":	Concrete
7 - 29":	Yellowish-brown very gravelly loamy sand to sand with many cobbles; 40% coarse fragments.
29":	Fragment refusal.

Sampled Interval: 25"

Sample Number: B5609 V3, V4

Boring #982-C

<u>Depth</u>	<u>Description</u>
0 - 8":	Concrete
8 - 23":	Yellowish-brown gravelly loamy sand with cobbles; 35% coarse fragments.
23":	Fragment refusal.

Sampled Interval: 23"

Sample Number: B5609 V1, V2

Boring #982-D

Total Depth: 16" Date: 11/23/82

<u>Depth</u>	<u>Description</u>
0 - 6":	Concrete
6 - 16":	Dark yellowish-brown gravelly sandy loam; 30% coarse fragments.
16":	Fragment refusal.

Sampled Interval: 16"

Sample Number: B5605 V5, V6

BOREHOLE NO. 952-B *

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0-	Hand Augered to 10.5'		Dark yellowish-brown gravelly silt loam; 20% coarse fragments.
5-			Dark grayish-brown gravelly silt loam; strong odor; 20% coarse fragments.
			Yellowish-brown silt loam; <5% coarse fragments.
			Dark yellowish-brown gravelly sandy loam; 20% coarse fragments.
10-	Ran Casing 1.5'	N.S.	
	105-100/0	B-1	Olive gray silty sandy gravel.
	Ran Casing 1.5'	N.S.	
	100/.3	B-2	
15-	Ran Casing 1.7'	N.S.	
	20-19-13-14	B-3,A,B	Olive gray silty gravelly sand.
	18-36-38-100/.4	B-4,A,B	Olive gray gravelly silt.
20-			

Vertical Scale
1" = 5'

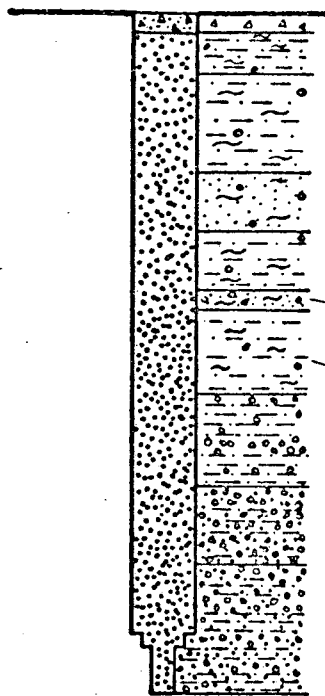
Drilling Began - 11/29/82
Drilling Completed - 11/30/82
Well Construction
Completed - NA
Development Completed - NA
Total Depth - 19.9'
Depth to Refusal - 19.9'

SWL (date) - NA
Screened Interval - NA
Aquifer - NA
Elevation, Ground Surface - 135.80'
Elevation, Top of Casing - NA
Hole Dia: 3" casing
Monitoring Tube: NA

*Hand augered then completed with pneumatic drilling machine.

BOREHOLE NO. 952-D*

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 -	Hand Augered to 9.6'		Concrete
			Dark grayish-brown silt loam; odor; 5-10% coarse fragments.
			Yellowish-brown to brownish-yellow silt loam; <5% coarse fragments.
5 -			Reddish-brown fine sandy loam; <5% coarse fragments.
			Yellowish-brown silt loam to silt; <5% coarse fragments.
	Ran Casing 0.4'	N.S.	Dark reddish-brown gravelly sandy loam; 20% coarse fragments.
10 -			Dark yellowish-brown silt loam; <5% coarse fragments.
	73-37-29-24	D-1,A,B	Dark olive gray gravelly silt.
	18-22-20-18	D-2,A,B	Dark olive brown silty sandy gravel.
15 -	32-50-70-100/.1	D-3,A,B	Olive gray to gray brown gravelly silt.
	Roller bit 0.5'	N.S.	
	45-54-100/.3	D-4,A,B	
20 -			



Vertical Scale
1" = 5'

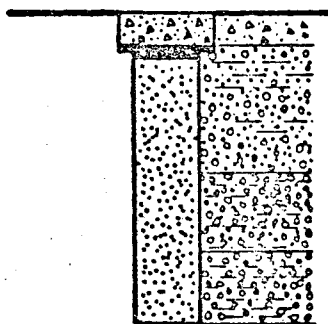
Drilling Began - 12/1/82
Drilling Completed - 12/2/82
Well Construction
Completed - NA
Development Completed - NA
Total Depth - 17.4'
Depth to Refusal - 17.4'

SWL (date) - NA
Screened Interval - NA
Aquifer - NA
Elevation, Ground Surface - 135.8'
Elevation, Top of Casing - NA
Hole Dia: 3" casing, 2-5/8" RB, 2" spoo
Monitoring Tube: NA

*Hand augered then completed with pneumatic drilling machine.

BOREHOLE NO. 982-E*

Depth in feet	Blow Ct. Recovery	Sample # Run #	Description
0 -	Concrete core 0.7'		Concrete
	34-39-38/.3	E-1,A,B	Gray-brown gravelly silty sand.
	95-100/.3	E-2,A,B	
5 -	34-28-36-51	E-3,A,B	Grayish-brown silty gravel with some sand.
	30-44-54-49	E-4,A,B	Olive brown to gray silty gravel.
10 -			



Vertical Scale
1" = 5'

Drilling Began - 12/7/82
Drilling Completed - 12/8/82
Well Construction
Completed - NA
Development Completed - NA
Total Depth - 8.0'
Depth to Refusal - NA

SWL (date) - NA
Screened Interval - NA
Aquifer - NA
Elevation, Ground Surface - 135.59'
Elevation, Top of Casing - NA
Hole Dia: 3" casing
Monitoring Tube - NA

*Hand augered then completed with pneumatic drilling machine.

Shallow Soil Sample Points Between
Buildings 952 and 982

952-SS12

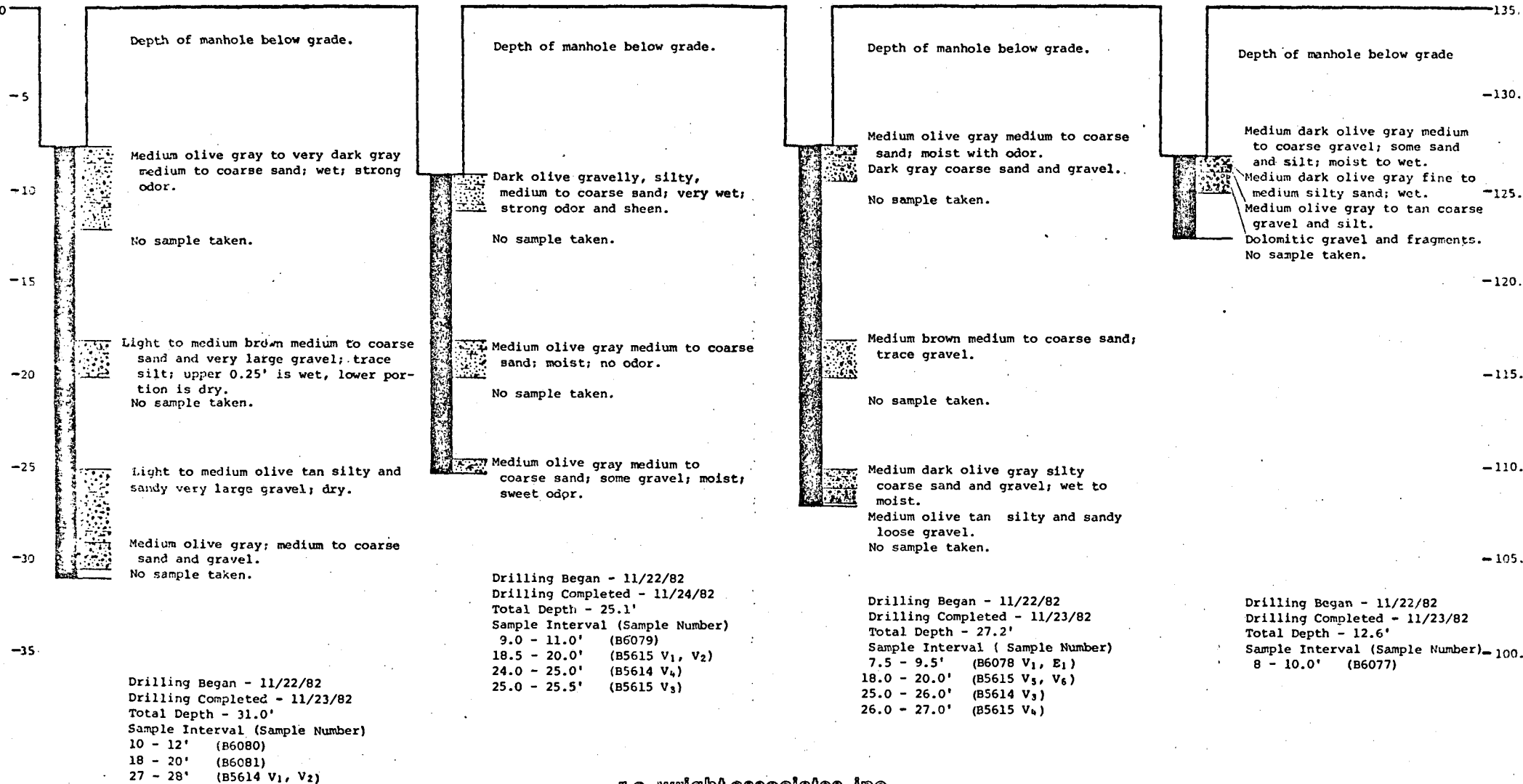
952-SS15

952-SS13

952-SS14

Elev.

Depth
in feet



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Shallow Soil Sample Points Between
Buildings 952 and 982

952-SS2

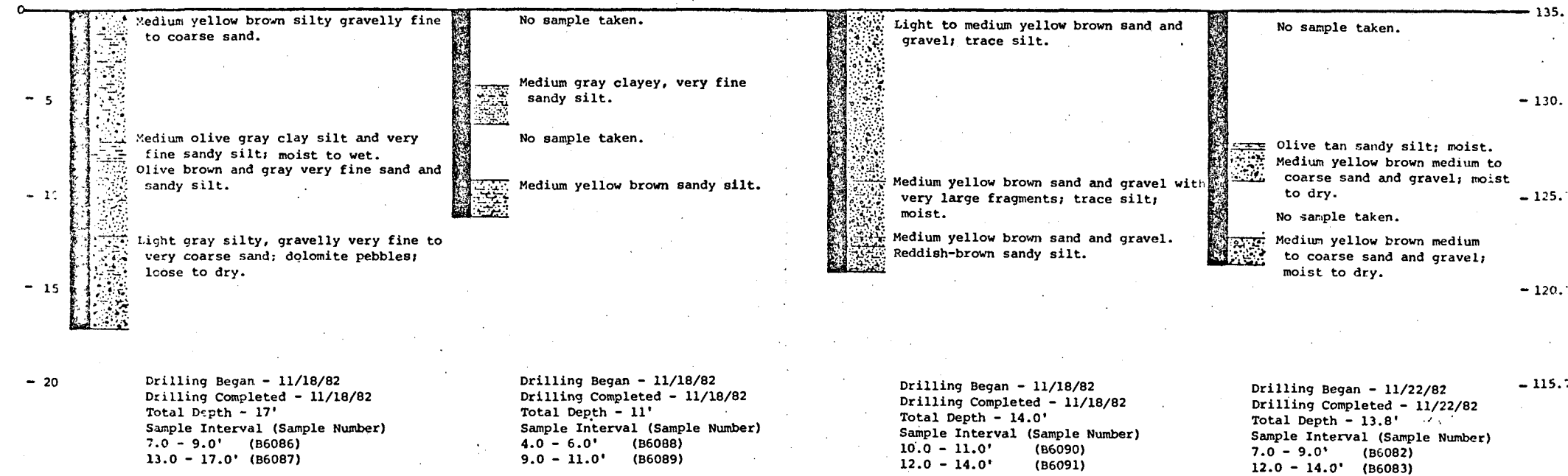
952-SS3

952-SS16

952-SS17

Depth
in feet

Elev.



r.e. wright associates, inc.

Shallow Soil Sample Points Between
Buildings 952 and 982

952-SS4

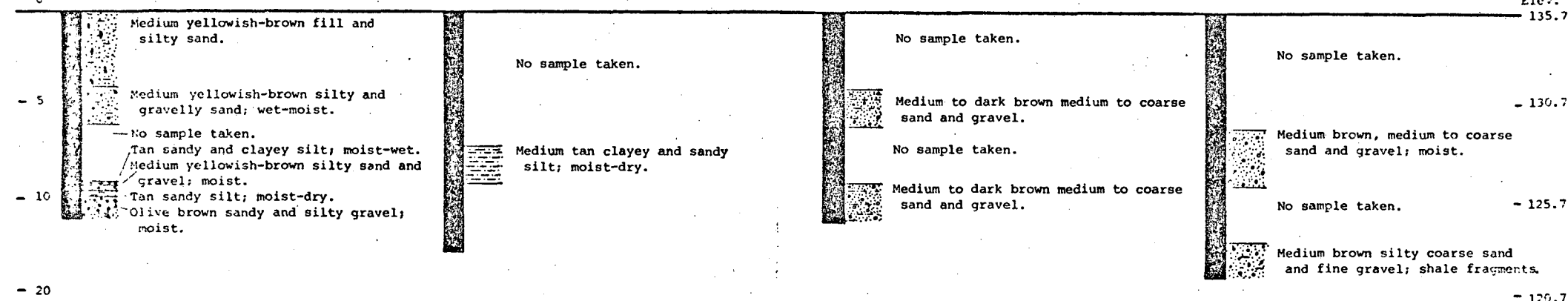
952-SS5

952-SS7

952-SS10

Depth
in feet
C

Elev.
135.7



Drilling Began - 11/22/82
Drilling Completed - 11/22/82
Total Depth - 11.0'
Sample Interval (Sample Number)
4 - 6' (B6084)
9 - 11' (B6085)

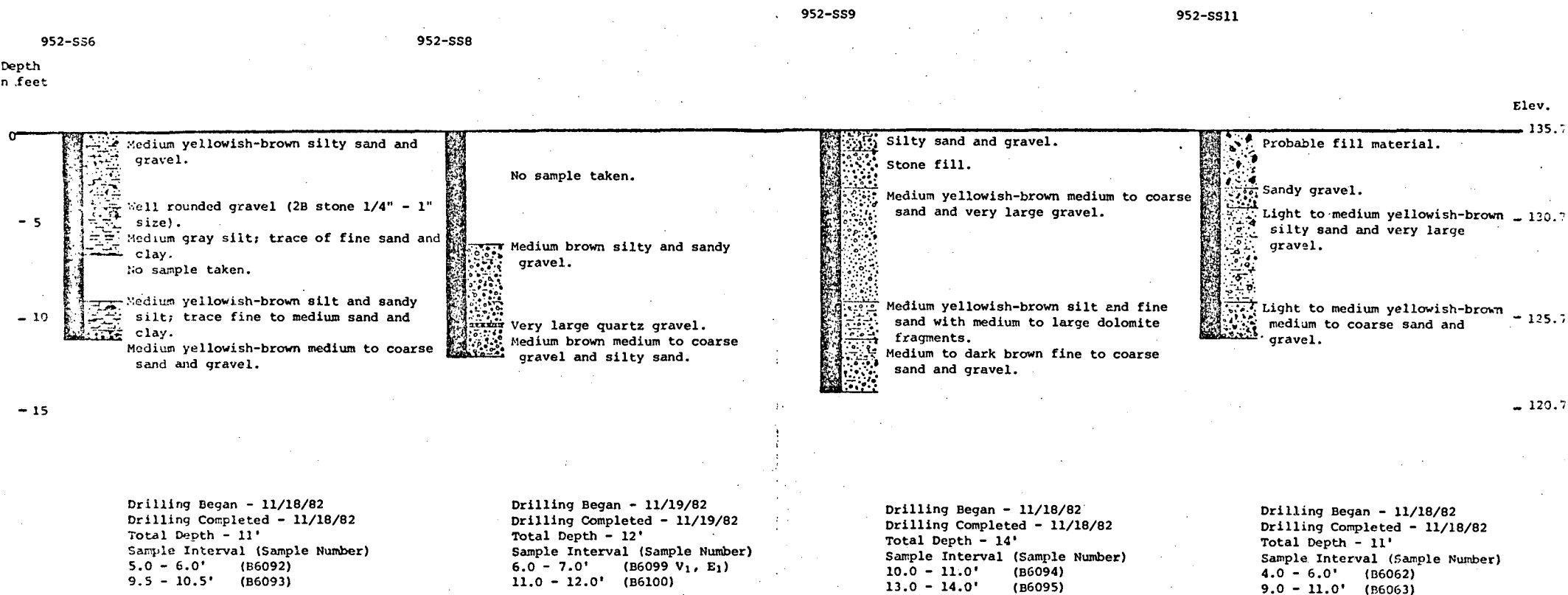
Drilling Began - 11/22/82
Drilling Completed - 11/22/82
Total Depth - 12.8'
Sample Interval (Sample Number)
7 - 9' (B6076)

Drilling Began - 11/19/82
Drilling Completed - 11/19/82
Total Depth - 11'
Sample Interval (Sample Number)
4 - 6' (B6101)
9 - 11' (B6096)

Drilling Began - 11/18/82
Drilling Completed - 11/18/82
Total Depth - 14'
Sample Interval (Sample Number)
7 - 9' (B6097)
12 - 14' (B6098)

r.e. wright associates, inc.

Shallow Soil Sample Points Between
Buildings 952 and 982



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APPENDIX D

SAMPLING PROCEDURES, ANALYTICAL METHODS,
and PRESERVATION TECHNIQUES

APPENDIX D

SAMPLING PROCEDURES, ANALYTICAL METHODS, AND PRESERVATION TECHNIQUES

This appendix contains the general sampling procedures given to the field crews for this program. Also included are the analytical methods used, as well as preservation techniques for the samples collected. The appendix has been subdivided into three parts. The first part contains the instructions given to the field crews for sampling borings less than or equal to 30 ft. The second part is the instructions for sampling borings greater than 30 ft. (It should be noted that these instructions are general and that exceptions to these procedures did occur.) The third part contains the analytical methods and preservation techniques.

APPENDIX D-1

SAMPLING PROCEDURE FOR BORINGS WITH SWL $\leq$ 30 FT

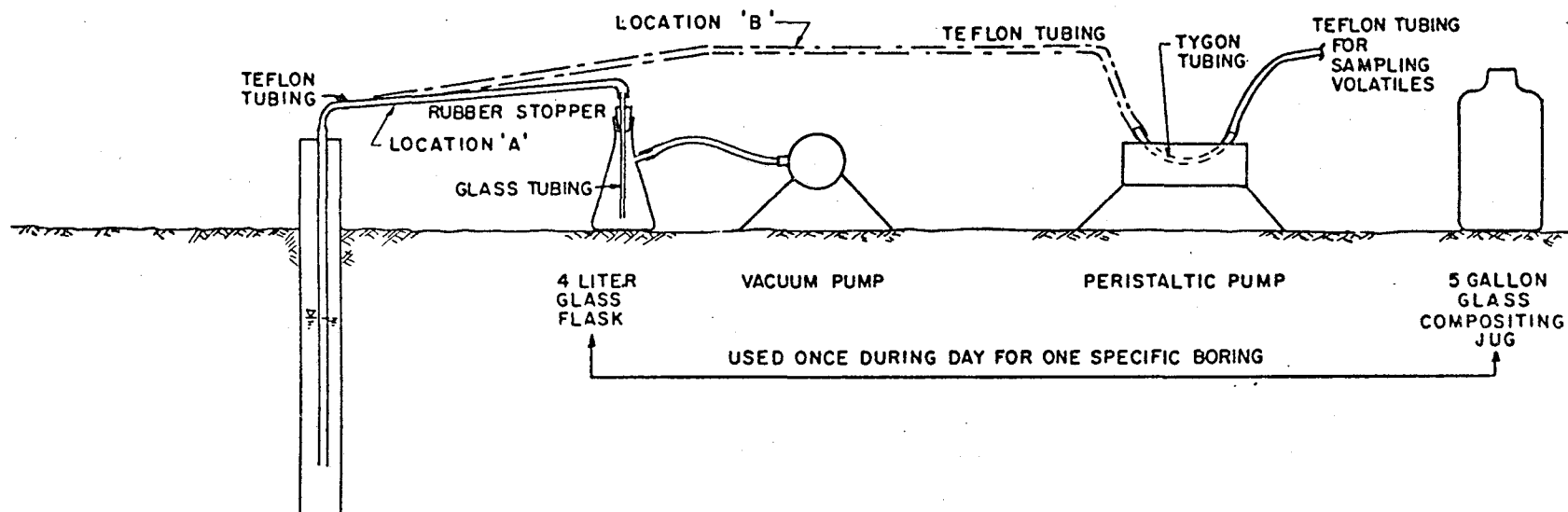
This appendix details the instructions given to the field sampling crews. Refer to Figure D-1.

1. Determine static water level with a static water level indicator and record depth to water. Record reference point, i.e., casing, ground, etc.
2. Determine depth of boring by lowering static water level indicator to bottom. Record reference point.
3. Measure and record height of casing.
4. Set up vacuum pump and flask as well as peristaltic pump.

FIGURE D-1

EQUIPMENT ARRANGEMENT FOR SAMPLING IBM BORINGS FOR
PRIORITY AND CONVENTIONAL CHEMICALS

Used for Borings with SWL ≤ 30 ft.



BORING CASING AND SCREEN

NOTE: ALL TUBING SHOWN (TEFLON AND TYGON)
DEDICATED TO BORING

TEFLON TUBING TO EITHER
LOCATION 'A' OR 'B'

5. Attach Teflon tubing (designated for that boring) and start bailing, using vacuum pump. If boring is air rotary type (diameter 6-8 in.), use submersible pump to bail. Pump should be wiped on outside with organic free water, one gallon of which should be pumped through system before the pump is placed in the boring. Generally, air rotary borings are bailed only at the first sampling.
6. Bail three volumes of boring as determined by diameter of boring and difference between static water level and bottom level. Use bailing procedure developed for that boring. Refer to boring summary table, which will give instructions for table to be used for bailing. Air rotary borings are bailed to dryness or three volumes, whichever comes first.
7. After bailing, determine and record static water level. Allow boring to recover to original level or to >75% of original water column depth. If refilling appears to be slow, go on to next boring and come back later to sample.
8. Once boring has refilled, start taking sample from 1/2 to 1 ft from bottom, using vacuum pump. Record sample depth. Based on analyses to be performed, collect a sample in a 4-liter vacuum flask equal to one-third of the total required sample volume.
9. After collecting sample, turn off pump, disconnect rubber stopper, and pour contents into large (5-gal) glass compositor.
10. Repeat Steps 8 and 9 for mid-depth and surface samples. Record sample depth. Volumes for all three depths should be equal.

11. Mix contents of glass compositior and remove sample for pH and temperature. Measure and record pH and temperature on field data sheets. Fill up sample bottles, cap bottles securely, and keep on ice. Add preservative as needed. 2
12. Switch Teflon tubing to peristaltic pump. Starting from surface, fill two volatile vials. After capping, invert and tap sides to check for air bubbles. If present, refill until air bubbles disappear.
13. Proceed as in Step 12 for mid-depth and bottom samples.
- 13a. If drawdown is significant, it is better to do the volatiles first before collecting samples for remaining parameters.
14. Determine and record static water level after sampling.
15. When finished, place Teflon tubing into large plastic bag labeled for the particular boring.
16. Pack and label samples to be sent to outside lab. Place at prearranged site for pickup by Purolator Courier.
17. Samples should be analyzed for TOC, and possibly oil and grease or metals, after they are returned to lab.

APPENDIX D-2

SAMPLING PROCEDURE FOR BORINGS WITH SWL >30 FT

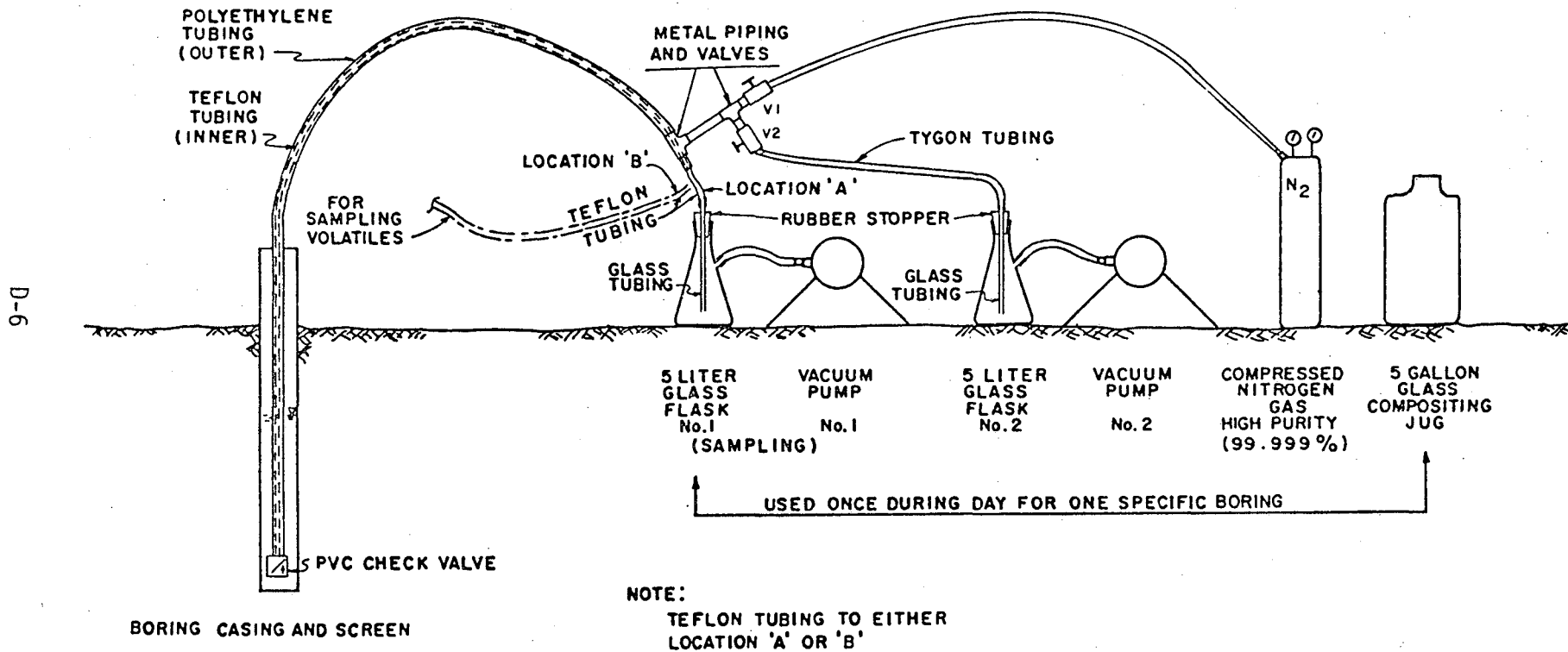
This appendix details the instructions given to the field sampling crews. Refer to Figure D-2.

1. Determine static water level with a static water level indicator and record depth to water. Record reference point, i.e., casing, ground, etc.
2. Determine depth of boring by lowering static water level indicator to bottom. Record reference point.
3. Measure and record height of casing.
4. To bail boring set up two vacuum pumps and flasks.
5. Lower nitrogen lift system tubing into boring and connect to vacuum flask as shown in Figure B-2.
6. Use quick connect to attach nitrogen gas hose to valve 1. (Make sure both valves 1 and 2 are closed.)
7. Open valve 2 and start vacuum pumps 1 and 2. When full pressure is reached, close valve 2 and open valve 1.
8. As soon as water appears in flask 1, shut off valve 2.
9. When water ceases to flow into flask 1, repeat Steps 7 and 8.

FIGURE D-2

EQUIPMENT ARRANGEMENT FOR SAMPLING IBM BORINGS FOR
PRIORITY AND CONVENTIONAL CHEMICALS

Used for borings with SWL > 30 ft.



10. If boring is air rotary type (diameter 6-8 in.), use submersible pump to bail. Pump should be wiped on outside with organic free water, one gallon of which should be pumped through system before the pump is placed in the boring. Generally, air rotary borings are bailed only at the first sampling.
11. Bail three volumes of boring as determined by diameter of boring and difference between static water level and bottom level. Use bailing procedure developed for that boring. Refer to boring summary table which will give instructions for table to be used for bailing. Air rotary borings are bailed to dryness or three volumes, whichever comes first.
12. After bailing, determine and record static water level. Allow boring to recover to original level or to >75% of original water column depth. If refilling appears to be slow, go on to next boring and come back later to sample.
13. Once boring has refilled, start taking sample from 1/2 to 1 ft from bottom, using nitrogen lift system. Record sample depth. Based on analyses to be performed, collect a sample in a 4-liter vacuum flask equal to one-third of the total required sample volume.
14. After collecting sample, turn off pump, disconnect rubber stopper, and pour contents into large (5-gal) glass compositor.
15. Repeat Steps 7, 8, and 9 for mid-depth and surface samples. Record sample depth. Volumes for all three depths should be equal.
16. Mix contents of glass compositor and remove sample for pH and temperature. Measure and record pH and temperature on field

data sheets. Fill up sample bottles, cap bottles securely, and keep on ice. Add preservative as needed.

17. To collect volatiles, repeat Steps 7, 8, and 9.
18. As soon as nitrogen valve (valve 1) is opened, disconnect flask 1.
19. Leave nitrogen valve on until water appears at sampling tube, then turn off valve 1. Fill both vials. To cap off, let nitrogen pass out of tube, then fill up remainder of vial with drops.
20. Proceed as above for mid-depth and bottom samples.
21. Determine and record static water level after sampling.
22. When finished, wash outside of nitrogen lift system with organic free water and place in wrapper.
23. Pack and label samples to be sent to outside lab. Place at prearranged site for pickup by Purolator Courier.
24. Analyze samples for TOC, and possibly oil and grease and metals, after they are returned to lab.

APPENDIX D-3

ANALYTICAL METHODS AND PRESERVATION TECHNIQUES

Table D-1 lists the analytical methods and preservation techniques employed in this program. It is important to note that the extra compounds (e.g., xylene, freon TF) are included in the general category in which they fall (e.g., volatiles).

Most analyses for organic chemicals were performed by Environmental Testing and Certification Corp. (ETC). To meet requisite holding times, samples were shipped via Purolator Courier immediately upon completion of a day's sampling. These were in all cases received by ETC the following morning, thereby meeting the required holding times. In some cases, samples were delivered the same day they were sampled. Chain of custody was established and adhered to on all sample shipments. The remainder of the analyses were performed mainly by LMS at its laboratory in Nyack, NY. Standard in-house procedures of sample custody were used. Several other laboratories were used for specific projects during the study. These were ERG, Camo Laboratories of Hyde Park, General Testing of Rochester, NY and Chem Tech of New York City.

In general, LMS used either standard methods or EPA-approved techniques for its field and laboratory analyses. ETC used EPA Methods 624 and 625 for the organic constituents. Metals, cyanide, and phenol analyses were done according to EPA Method of Chemical Analyses of Water and Wastes.

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TABLE 0-1 (Page 1 of 2)
CHEMICAL ANALYSES INFORMATION

PARAMETER	CONTAINER ^a	PRESERVATIVE ^a	HOLDING ^a TIME	ANALYTICAL ^a METHOD
Temperature	P,G	Analyze immediately	-	Mercury thermometer (EPA 170.1)
Ammonia Nitrogen	P,G	H ₂ SO ₄ to pH<2 Cool, 4°C	28 days	Electrode (EPA 350.3)
pH	P,G	Determine on site	2 hrs	Electrometric Measurement (EPA 150.1)
Specific Conductance	P,G	Cool, 4°C	28 days	Wheatstone Bridge Conductimetry (EPA 120.1)
TOC	P,G	H ₂ SO ₄ to pH<2 Cool, 4°C	28 days	Combustion Infra-red Method (EPA 415.1)
Oil and Grease	G	Cool, 4°C H ₂ SO ₄ to pH<2	28 days	Liquid-Liquid extraction with trichlorotrifluoroethane-gravimetric (EPA 413.1)
Cyanide	P,G	Cool, 4°C NaOH to pH>12 ^b 0.008% Na ₂ S ₂ O ₃	14 days	Colorimetric Automated UV (EPA 335.3)
Phenols	P,G	Cool, 4°C H ₂ SO ₄ to pH<2	28 days	Colorimetric Automated 4AAP with distillation (EPA 420.1)

^a From 40 CFR Part 136, Fed Reg., Dec. 18, 1979.

^b Should only be used in presence of residual chlorine.

TABLE D-1 (Page 2 of 2)
CHEMICAL ANALYSES INFORMATION

PARAMETER	CONTAINER ^a	PRESERVATIVE ^a	HOLDING ^a TIME	ANALYTICAL ^a METHOD
Mercury	P,G	HNO ₃ to pH<2 0.05% K ₂ Cr ₂ O ₇	28 days	0.45 μm filtration- flameless atomic absorption (EPA 245.1)
Metals (except above)	P,G	HNO ₃ to pH<2	6 mos.	0.45 μm filtration- digestion - atomic absorption (EPA 200 Series)
Volatile Organics (Except Acrolein and Acrylonitrile)	G, Teflon- lined septum	Cool, 4°C 0.008% Na ₂ S ₂ O ₃ ^b	14 days	GC/MS Method 624
Acrolein and Acrylonitrile	G, Teflon- lined septum	Cool, 4°C 0.008% Na ₂ S ₂ O ₃ ^b	3 days	GC/MS Method 624
Base/Neutral Extractables	G, Teflon- lined cap	Cool, 4°C 0.008% Na ₂ S ₂ O ₃ ^b	7 days (until extraction) 30 days (after extraction)	GS/MS Method 625
Acid Extractables	G, Teflon- lined cap	Cool, 4°C H ₂ SO ₄ to pH<2 0.008% Na ₂ S ₂ O ₃ ^b	7 days (until extraction) 30 days (after extraction)	GC/MS Method 625
Pesticides/PCBs	G, Teflon- lined cap	Cool, 4°C 0.008% Na ₂ S ₂ O ₃ ^b	7 days (until extraction) 30 days (after extraction)	GC Method 608

^a From 40 CFR Part 136, Fed Reg., Dec. 18, 1979.

^b Should only be used in presence of residual chlorine.

APPENDIX E
FIELD DATA SHEETS

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-1 (Inventory no. 811015)	2 DEC 81	1145	46'5"	33'1.5"	1.2	7.0	33'2.5"	33'7"	33'2"	Sample taken with ABS hose equipped with check valve. Composite sample
								45'11"		
(Inventory no. 811016)	17 FEB 82	0830	46'5"	33'4"	1.0	3.0	-	33'10"	33'6"	Used polyethylene sampler
								33'10"		
(Inventory no. 820027)	5 OCT 82	0850	46'5"	37'5"	0.8	2.5	-	45'11"	37'5"	Nitrogen system used
								37'11"		
(Inventory no. 820097)	22 OCT 82	0725	46'5"	39'0.5"	1.6	5	-	41'11"	39'0.5"	
								40'0"		
(Inventory no. 820132)	2 NOV 82	1025	46'5"	39'1"	0.5	1.4	39'1"	42'0"	39'1"	
								39'7"		
								42'9"		
								45'11"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-2 (Inventory no. 820064)	18 OCT 82	1010	56'7"	44'3"	1.1	3.3	44'3"	44'9" 50'5" 56'1"	44'3"	
(Inventory no. 820096)	22 OCT 82	0915	56'7"	44'3"	1.3	4.0	-	45'0" 47'0"	-	
(Inventory no. 820131)	2 NOV 82	0712	56'7"	43'10"	0.8	2.4	43'10"	44'4" 50'2" 56'1"	43'10"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-3 (Inventory no. 820065)	18 OCT 82	1140	119'0"	42'10"	11.1	120	99'6"	43'4" 69'3" 101'2.5"	44'0"	Bailed on 10/12, sampled on 10/18
(Inventory no. 820194)	16 NOV 82	1000	119'0"	41'6"	-	-	-	42'0" 79'6" 116'11"	41'6"	Did not bail

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-4 (Inventory no. 820052)	13 OCT 82	1530	77'6"	42'1"	51.9	67.5	70'5"	50'1" 60'0" 69'11"	50'5"	Bailed on 10/12, recover to 49'7" on 10/13
(Inventory no. 820134)	2 NOV 82	1150	77'6"	51'0"	-	-	-	51'6" 64'2" 77'0"	51'7"	Did not bail
(Inventory no. 820195)	16 NOV 82	1030	77'6"	41'3.5"	-	-	-	41'11" 59'5" 77'0"	41'5"	Did not bail

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-5 (Inventory no. 820051)	12 OCT 82	1025	64'7.5"	37'4"	2.5	7.5	37'4"	37'10" 50'11" 64'1"	37'4"	Used nitrogen system
	1 NOV 82	1635	64'7.5"	37'11"	1.7	5.0	38'0"	38'6" 51'3" 64'1"	38'1"	
(Inventory no. 820129)										
	16 NOV 82	0900	64'7.5"	37'1"	1.8	5.3	37'2"	37'8" 50'10" 64'1"	37'2"	
(Inventory no. 820196)										

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-6 (Inventory no. 820124)	29 OCT 82	0945	60'2"	41'1.5"	1.4	5.2	41'1.5"	41'7" 50'1" 58'8"	41'1.5"	
	16 NOV 82	1100	60'2"	27'10"	1.2	3.8	40'1"	40'7" 50'1" 59'8"	40'2"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-7 (Inventory no. 820034)	7 OCT 82	1035	53'7.5"	35'11"	-	4.9	-	36'5" 44'2" 53'1"	36'3"	Did not bail
(Inventory no. 820063)	18 OCT 82	1630	53'7.5"	35'8.5"	1.7	5.0	52'3.5"	35'11" 44'6" 53'1"	42'10"	Let boring recover to 35'5" before sampling
(Inventory no. 820078)	22 OCT 82	0830	53'7.5"	32'9"	1.92	5.75	49'0"	49'0"	46'6"	
(Inventory no. 820123)	29 OCT 82	0815	50'8"	32'0"	1.7	1.7	32'5"	32'11" 41'6" 50'2"	32'6.5"	
(Inventory no. 820198)	16 NOV 82	1200	50'8"	31'7"	1.2	3.7	31'10"	32'4" 41'3" 50'3"	31'10"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-8 (Inventory no. 820128)	1 NOV 82	1530	53'9"	29'10"	1.5	4.6	46'6"	38'9" 43'4" 48'0"	43'0"	Let boring recover to 38'3" before sampling
(Inventory no. 820199)	16 NOV 82	1400	53'9"	29'7.5"	1.5	4.6	29'8"	30'4" 41'10" 53'3"	29'8"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-9 (Inventory no. 820150)	8 NOV 82	0900	62'11"	47'8.5"	1.0	2.9	47'8.5"	47'2" 53'9" 60'0"	47'8.5"	
	16 NOV 82	1500	62'11"	47'2"	1.0	3.0	47'3.5"	47'9" 55'0" 62'4"	47'3.5"	
(Inventory no. 820200)										

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-10 (Inventory no. 820266)	21 NOV 82	1400	69'11"	41'10.5"	1.8	5.4	42'10.5"	42'8" 56'0" 69'5"	42'2"	Bailed on 11/20; sampled on 11/21. SWL before sampling= 42'1.5"

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-11	23 NOV 82	0600	83'8.5"	46'0.5"	55.5	112	45'7"	45'1"	45'7"	
(Inventory no. 020273)								64'7"		
								83'2"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-13 (Inventory no. 820265)	21 NOV 82	1300	243'6"	32'8.5"	316.5	637.5	40'0"	38'0" 119'0" 200'0"	37'7"	Bailed on 11/20, sampled on 11/21, SWL before sampling = 37'3.5"
(Inventory no. 820291)	28 NOV 82	1430	243'6"	37'9.5"	-	-	-	38'3" 119'1" 200'0"	37'11"	Did not bail

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-14 (Inventory no. 820269)	21 NOV 82	1700	225'1"	46'6.5"	174	229.2	98'0"	46'0" 103'11" 161'10"	46'3.5"	Let boring recover to 45'6" before sampling
(Inventory no. 820292)	23 NOV 82	1530	225'1"	45'4"	-	-	-	45'10" 122'11" 200'0"	46'2.5"	Did not bail

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-15	23 NOV 82	0330	143'11.5"	45'7"	148.5	300	45'9"	46'1"	45'10.5"	
(Inventory no. 820270)								74'10"		
								143'6"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-16 (Inventory no. 820272)	23 NOV 82	0530	139'1"	46'4"	139.5	195	51'1.5"	51'8" 95'2" 138'7"	49'6"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-17 (Inventory no. 820204)	17 NOV 82	1700	225'1"	52'10"	-	-	-	53'4" 81'8" 110'0"	53'2.5"	Did not bail
(Inventory no. 820264)	21 NOV 82	1200	225'1"	50'10.5"	262	787.5	120'9"	51'3" 112'2.5" 174'2.5"	51'3"	Bailed on 11/20; sampled on 11/21 - SWL before sampling= 50'9"
(Inventory no. 820290)	28 NOV 82	1330	225'1"	50'2"	-	-	-	50'8" 125'4" 200'0"	50'4"	Did not bail

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-18 (Inventory no. 820267)	21 NOV 82	1500	225'3.5"	47'2"	167	309.5	87'8"	49'9" 124'10" 200'0"	50'1"	Let boring recover to 49'3.5" before sampling

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-19	21 NOV 82	1600	53'0"	33'0.5"	130	300	33'4"	33'8"	33'2"	Let boring recover to 33'2" before sampling
(Inventory no. 820268)								43'1"		
								52'6"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-20	23 NOV 82	0530	225'4"	52'0"	259.5	505	52'11"	53'5"	52'9"	
(Inventory no. 820274)								126'8"		
								200'0"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-21 (Inventory no. 820271)	23 NOV 82	0500	224'0"	49'5.5"	262.5	525	51'5.5"	52'0" 126'0" 200'0"	51'0"	
	20 NOV 82	1230	224'0"	48'8"	-	-	-	49'2" 124'7" 200'0"	49'1"	Did not bail
(Inventory no. 820289)										

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-22 (Inventory no. B20297)	28 NOV 82	1630	234'10"	38'0"	295.5	588	38'7"	39'1" 109'7" 200'0"	38'9.5"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-23	29 NOV 82	1230	175'3"	40'11"	201	405	58'9.5"	59'3"	46'1"	
(Inventory no. 820298)								117'0"		
								174'9"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-24 (Inventory no. B20299)	29 NOV 82	1000	94'0"	47'4.5"	70.5	140	47'2".	47'8" 47'7" 47'6"	47'4"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-25 (Inventory no. 820300)	29 NOV 82	1100	81'5"	45'9.5"	54	109	45'10"	46'4" 63'7" 80'11"	45'0"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-26 (Inventory no. 820301)	29 NOV 82	1300	248'10"	48'0"	300	601	49'0"	49'6" 124'9" 200'0"	50'0"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-27 (Inventory no. 820302)	29 NOV 82	1400	248'0.5"	36'7"	317	414	36'7.5"	37'1" 118'7" 200'0"	37'2"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-28 (Inventory no. 020303)	29 NOV 82	1500	258'3"	44'9"	321	636	38'7"	39'1" 119'7" 200'0"	38'9.5"	

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-1 (Inventory no. 020148)	3 NOV 82	1605	353'0"	40'1"	-	-	-	40'8" 55'4" 70'0"	40'2.5"	Drinking water well

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-1B (Inventory no. 820263)	18 NOV 82	1438	353'0"	-	-	-	-	-	-	Each depth analyzed separately, bottom layer of 952-DW-1.
								343'0"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-1M (Inventory no. 820262)	18 NOV 82	1303	353'0"	-	-	-	-	224'0"	-	Analysis of middle layer of 952-DW-1.

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-1T (Inventory no. 820261)	18 NOV 82	1106	353'0"	-	-	-	-	113'0"	-	Analysis of top layer of 952-DW-1.

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-2 (Inventory no. 820201)	22 OCT 82	0000	352'0"	-	-	-	-	-	-	No field data taken
(Inventory no. 820149)	3 NOV 82	1530	352'0"	2"	-	-	-	42'6" 62'7" 83'0"	42'0"	Drinking water well

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-2B (Inventory no. 820260)	17 NOV 82	1604	352'0"	-	-	-	-	-	-	Each depth analyzed separately; bottom layer of 952-DW-2.
								345'0"		

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-2A (Inventory no. 820257)	17 NOV 82	1750	352'0"	-	-	-	-	220'0"	-	Analysis of middle layer of 952-DW-2.

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
952-DW-2T (Inventory no. 820258)	17 NOV 82	1855	352'0"	-	-	-	-	113'0"	-	Analysis of top layer of 952-DW-2.

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
B795N-SEPT 29 DEC 82	0000		-	-	-	-	-	-	-	No field data
(Inventory no. 820577)										

* All measurements from top of casing

FIELD DATA SHEET
BUILDINGS 952/982

STATION	DATE	TIME	BORING* DEPTH	STATIC* WATER LEVEL	BORING* CAPACITY (gal)	BAILED VOLUME (gal)	STATIC WATER* LEVEL AFTER BAILING	SAMPLING* DEPTH	STATIC WATER* LEVEL AFTER SAMPLING	NOTES
DRILL-WATR 21 NOV 82	0000		-	-	-	-	-	-	-	No field data
(Inventory no. 820304)										

* All measurements from top of casing

APPENDIX F

BORING WATER CHEMISTRY DATA

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-1 (Inventory no. B11015) (Analyzed by RECRA)	2 DEC 81	1145	7.6	12.7	44.4	.23	ND @5	ACIDS/PHENOLICS ND @25 BASE/NEUTRALS ND @10 VOLATILES benzene - BM @10 1,1-dichloroethane - 26 trans-1,2-dichloroethylene - 36 1,1,1-trichloroethane - 77 trichloroethylene - 54 PESTICIDES/PCB'S Aldrin - .02 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Total Cyanide - ND @50 Total recoverable phenolics - ND @10	chromium - .010 copper - .010 nickel - .05 zinc - .012
(Inventory no. B11016) (Analyzed by RECRA)	17 FEB 82	0830	8.1	8.7	5.4	.05	ND @5	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES 1,1-dichloroethane - 10 trans-1,2-dichloroethylene - 31 1,1,1-trichloroethane - 71 trichloroethylene - 52 PESTICIDES/PCB'S ND @.01 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	zinc - .012

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-1 (Inventory no. 820027)	5 OCT 82	0850	7.69	17.7	10.0	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES 1,1-dichloroethane - 10 1,2-dichloroethane - 11 trans-1,2-dichloroethylene - 19 ethylbenzene - BM @10 methylene chloride - 23 tetrachloroethylene - 643 toluene - BM @10 1,1,1-trichloroethane - 36 1,1,2-trichloroethane - BM @10 trichloroethylene - 117 trichlorofluoromethane - BM @10 PESTICIDES/PCB'S ND @10 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	antimony - BM @.003 cadmium - .0005 chromium - .0015 copper - .03 lead - BM @.001 mercury - BM @0.0002 nickel - BM @0.04 silver - BM @.0002 thallium - BM @.001 zinc - .030

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-1 (Inventory no. 820097A) (Sample analyzed by CAMD)	22 OCT 82	0925	8.0	10.2	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES dichlorobromomethane - 3 1,1-dichloroethane - 6 1,2-dichloroethane - 4 trans-1,2-dichloroethylene - 15 1,1,1-trichloroethane - 15 trichloroethylene - 19 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820097B) (Sample analyzed by ETC)		0925	8.0	10.2	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES 1,1-dichloroethane - 7 trans-1,2-dichloroethylene - 13 methylene chloride - 8 1,1,1-trichloroethane - 16 trichloroethylene - 21 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-1 (Inventory no. 820132)	2 NOV 82	1025	7.95	19.3	13	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 1 tetrachloroethylene - BM @10 toluene - BM @10 1,1,1-trichloroethane - BM @10 trichloroethylene - BM @10 trichlorofluoromethane - 2 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-2 (Inventory no. 820064)	18 OCT 82	1010	8.45	13.0	14.0	NR	NR	ACIDS/PHENOLICS 2,4-dichlorophenol - BM @25 BASE/NEUTRALS 1,2-dichlorobenzene - 442 1,3-dichlorobenzene - 237 1,4-dichlorobenzene - 169 diethylphthalate - BM @10 naphthalene - BM @10 1,2,4-trichlorobenzene - 39 VOLATILES chlorobenzene - BM @10 1,1-dichloroethane - 12 trans-1,2-dichloroethylene - 34 methylene chloride - 10 tetrachloroethylene - BM @10 toluene - BM @10 1,1,1-trichloroethane - 67 trichloroethylene - 44 PESTICIDES/PCB'S ND @10 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Total Cyanide - ND @50 Total recoverable phenolics - 54	antimony - BM @0.2 arsenic - BM @0.001 beryllium - BM @0.005 cadmium - 0.0001 chromium - 0.08 copper - BM @0.02 lead - 0.0011 mercury - 0.0004 nickel - 0.08 silver - BM @0.01 zinc - 0.028

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-2 (Inventory no. 820096A) (Sample analyzed by CAMO)	22 OCT 82	0915	8.2	10.2	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chlorobenzene - 2 dichlorobromomethane - 2 1,2-dichloroethane - 6 trans-1,2-dichloroethylene - 6 tetrachloroethylene - 3 1,1,1-trichloroethane - 4 trichloroethylene - 4 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-2 (Inventory no. 820096B) (Sample analyzed by ETC)	22 OCT 82	0915	8.2	10.2	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chlorobenzene - 3 chloroform - 3 1,1-dichloroethane - 4 1,2-dichloroethane - 3 trans-1,2-dichloroethylene - 13 methylene chloride - 7 tetrachloroethylene - 1 toluene - 2 1,1,1-trichloroethane - 13 trichloroethylene - 11 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-2 (Inventory no. B20131)	2 NOV 82	0912	7.36	20.1	13	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS 1,2-dichlorobenzene - 360 1,3-dichlorobenzene - 109 1,4-dichlorobenzene - 31 1,2,4-trichlorobenzene - 13 VOLATILES chlorobenzene - 3 chloroform - 1 1,1-dichloroethane - 7 1,1-dichloroethylene - BM @10 trans-1,2-dichloroethylene - 16 ethylbenzene - BM @10 methylene chloride - 1 tetrachloroethylene - 2 toluene - 3 1,1,1-trichloroethane - 29 trichloroethylene - 22 trichlorofluoromethane - 1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 752/782
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-3 (Inventory no. 020065)	18 OCT 82	1140	7.42	12.3	13.0	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 14 toluene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 020194)	16 NOV 82	1000	8.15	8.0	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 3 1,2-dichlorobenzene - BM @10 di-n-butylphthalate - BM @10 VOLATILES methylene chloride - 17 toluene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-4 (Inventory no. 820052)	13 OCT 82	02 1530	6.83	13.4	14.0	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - BM @10 tetrachloroethylene - BM @10 trichlorofluoromethane - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820134)	2 NOV 82	1150	7.27	18.9	15	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES ethylbenzene - BM @10 methylene chloride - 1 toluene - 1 1,1,1-trichloroethane - BM @10 trichlorofluoromethane - 2 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-4 (Inventory no. 820195)	16 NOV 82	1030	7.69	8.0	15	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 1 di-n-butylphthalate - BM @1 naphthalene - BM @1 VOLATILES trans-1,2-dichloroethylene - BM @1 methylene chloride - 17 toluene - BM @1 trichloroethylene - BM @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-5 (Inventory no. 820051)	12 OCT 82	1025	7.25	13.4	12	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - BM @10 tetrachloroethylene - BM @10 trichloroethylene - BM @10 trichlorofluoromethane - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820129)	1 NOV 82	1635	7.59	15.4	11.0	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 6 toluene - 5 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-5 (Inventory no. 820196)	16 NOV 82	0900	7.33	9.3	14	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS di-n-butylphthalate - BM @1 VOLATILES methylene chloride - 20 toluene - BM @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-6 (Inventory no. 820124) Sample analyzed by ETC	29 OCT 82	0945	7.46	14.5	15.5	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS di-n-butylphthalate - 3 VOLATILES 1,1-dichloroethane - 2 methylene chloride - 8 tetrachloroethylene - BM @10 toluene - BM @10 1,1,1-trichloroethane - BM @10 trichloroethylene - BM @10 m-xylene - ND @10 o,p-xylene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820124B) Sample analyzed by CAMO		0945	7.46	14.5	15.5	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS ND @1 VOLATILES 1,1-dichloroethane - 5 methylene chloride - 2 xylene - ND @2 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-6 (Inventory no. 820197)	16 NOV 82	1100	7.88	9.6	18	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @1 1,2-dichlorobenzene - BM @1 di-n-butylphthalate - BM @1 VOLATILES benzene - BM @1 ethylbenzene - BM @1 methylene chloride - 15 toluene - BM @1 1,1,1-trichloroethane - BM @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7 (Inventory no. 820034) (Sample analyzed by CAMO)	7 OCT 82	1035	NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chloroform - 12 toluene - 10 xylene - ND 05 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820034B) (Sample analyzed by LMS)		1035	NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES dichlorodifluoromethane - 8 1,1,1-trichloroethane - 2 m-xylene - BM 01 o,p-xylene - 2 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7 (Inventory no. 820063)	18 OCT 82	1630	7.69	13.9	12.0	NR	NR	ACIDS/PHENOLICS ND @25 BASE/NEUTRALS 1,2-dichlorobenzene - BM @10 diethylphthalate - BM @10 VOLATILES methylene chloride - BM @10 1,1,1-trichloroethane - BM @10 trichlorofluoromethane - BM @10 PESTICIDES/PCB'S ND @10 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Total Cyanide - ND @50 Total recoverable phenolics - ND @10	antimony - BM @0.2 arsenic - BM @0.001 beryllium - BM @0.005 cadmium - 0.0002 chromium - 0.11 lead - 0.0014 mercury - 0.0008 nickel - 0.07 silver - 0.01 zinc - 0.009
(Inventory no. 820098A) Sample analyzed by CAMO	22 OCT 82	0830	8.15	14.9	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES 1,2-dichloroethane - 3 ethylbenzene - 8 1,1,1-trichloroethane - 1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7 (Inventory no. 820098B) (Sample analyzed by ETC)	22 OCT 82	0830	8.15	14.9	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES ethylbenzene - 4 methylene chloride - 5 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7	29 OCT 82	0815	7.23	13.2	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS acenaphthene - BM @10 di-n-butylphthalate - 7 VOLATILES benzene - 1 chlorobenzene - BM @10 chlorodibromomethane - BM @10 chloroform - 2 dichlorobromomethane - 1 ethylbenzene - BM @10 methylene chloride - 1 tetrachloroethylene - BM @10 toluene - 2 1,1,1-trichloroethane - 1 trichloroethylene - BM @10 m-xylene - 3 o,p-xylene - ND @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

(Inventory no: 820123A)
Sample analyzed by ETC

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7 (Inventory no. 820123B) Sample analyzed by CAMO	29 OCT 82	0015	7.23	13.2	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS ND @1 VOLATILES methylene chloride - 2 xylene - 4 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820198)	16 NOV 82	1200	8.23	11.0	25	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 2 1,2-dichlorobenzene - BM @1 di-n-butylphthalate - BM @1 naphthalene - BM @1 VOLATILES 1,1-dichloroethane - 1 methylene chloride - 16 toluene - BM @1 1,1,1-trichloroethane - BM @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-8 (Inventory no. 820128)	1 NOV 82	1530	8.10	17.8	13.0	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS ND @10 VOLATILES methylene chloride - 5 toluene - 1 PESTICIDES/PCB'S ND @10 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820199)	16 NOV 82	1400	8.21	11.0	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 14 toluene - BM @1 1,1,1-trichloroethane - BM @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-7 (Inventory no. 820150)	8 NOV 82	0900	8.02	16.9	15	NR	NR	ACIDS/PHENOLICS ND @1 BASE/NEUTRALS ND @1 VOLATILES chlorobenzene - 14 methylene chloride - 18 toluene - BM @10 PESTICIDES/PCB'S ND @1 OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Total Cyanide - ND @80 Total recoverable phenolics - ND @200	antimony - 0.5 arsenic - 0.003 cadmium - 0.0002 chromium - 0.14 copper - BM @0.02 lead - BM @0.001 mercury - 0.0004 nickel - BM @0.04 silver - BM @0.01 thallium - 0.12 zinc - 0.018
(Inventory no. 820200)	16 NOV 82	1500	7.68	9.8	15	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chloroform - BM @10 methylene chloride - 16 toluene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
752-10 (Inventory no. 820266)	21 NOV 82	1400	7.95	14.1	26	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 1 1,2-dichlorobenzene - 18 1,3-dichlorobenzene - 3 1,4-dichlorobenzene - 6 di-n-butylphthalate - BM @1 naphthalene - BM @1 1,2,4-trichlorobenzene - 1 VOLATILES chlorobenzene - 6 chloroform - 6 1,1-dichloroethane - 40 1,2-dichloroethane - 3 1,1-dichloroethylene - 2 trans-1,2-dichloroethylene - 22 methylene chloride - 32 tetrachloroethylene - 2 toluene - 3 1,1,1-trichloroethane - 63 trichloroethylene - 35 1,1,2-trichloro-1,2,2-trifluoroethane - 2 m-xylene - 1 o,p-xylene - ND @1 m,p-xylene - ND @1 o,xylene - 1 +10 VOLATILES SCAN tetrachloroethylene - P trichloroethylene - P1 Dichlorobenzene (2 compounds) - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified
P1 - Present but prob. field contam.

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-11 (Inventory no. B20273)	23 NOV 82	0600	8.03	15.7	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS 1,2-dichlorobenzene - 3 1,3-dichlorobenzene - 42 1,4-dichlorobenzene - 6 di-n-butylphthalate - BM @1 1,2,4-trichlorobenzene - 1 +10 BASE/NEUTRALS SCAN 1,2-dichlorobenzene - P 1,3-dichlorobenzene - P diacetone alcohol - P VOLATILES 1,1-dichloroethane - 3 1,1-dichloroethylene - BM @1 trans-1,2-dichloroethylene - 3 methylene chloride - 22 tetrachloroethylene - BM @1 toluene - BM @1 1,1,1-trichloroethane - 8 trichloroethylene - 5 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
752-13 (Inventory no. 820265)	21 NOV 82	1300	7.45	14.5	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 1 1,2-dichlorobenzene - BM @1 1,4-dichlorobenzene - BM @1 di-n-butylphthalate - BM @1 1,2,4-trichlorobenzene - 1 +10 BASE/NEUTRALS SCAN tetrachloroethylene - P trichloroethylene - P1 VOLATILES 1,1-dichloroethane - 5 methylene chloride - 41 1,1,1-trichloroethane - 3 trichloroethylene - 2 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - BM @1 +10 VOLATILES SCAN Dichlorobenzene - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified
 P1 - Present but prob. field contam.

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-13 (Inventory no. 820291)	28 NOV 82	1430	7.36	12.1	15	NR	BM @5	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES 1,1-dichloroethane - 4 trans-1,2-dichloroethylene - BM @1 methylene chloride - 2 tetrachloroethylene - BM @1 toluene - 1 1,1,1-trichloroethane - 2 trichloroethylene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	antimony - 0.44 arsenic - BM @0.001 chromium - BM @0.05 copper - BM @0.02 mercury - .00100 nickel - BM @0.04 silver - BM @0.01 zinc - 0.019

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-14 (Inventory no. 020269)	21 NOV 82	1700	7.65	13.5	12	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 14 di-n-butylphthalate - 3 VOLATILES methylene chloride - 35 toluene - 1 1,1,1-trichloroethane - 3 trichloroethylene - 2 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - BM @1 +10 VOLATILES SCAN DICHLOROBENZENE - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

DATA SHEET

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-15 (Inventory no. 820270)	23 NOV 82	0330	7.9	15.9	18	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 13 1,2-dichlorobenzene - 3 1,4-dichlorobenzene - 1 +10 BASE/NEUTRALS SCAN Phenol,2,6-bis(1,1-dimethyl)-4-methyl - P diacetone alcohol - P VOLATILES 1,1-dichloroethane - 1 trans-1,2-dichloroethylene - BM @1 methylene chloride - 31 tetrachloroethylene - BM @1 toluene - 1 1,1,1-trichloroethane - 2 trichloroethylene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN 1,4-Dichlorobenzene - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
DATA-SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TDC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-16 (Inventory no. 020272)	23 NOV 82	0530	8.22	14.4	12	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS 1,2-dichlorobenzene - 1 di-n-butylphthalate - 1 naphthalene - 1 +10 BASE/NEUTRALS SCAN tetrachloroethylene - P trichloroethylene - P1 VOLATILES methylene chloride - 20 toluene - BM @1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified
P1 - Present but prob. field contam.

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-17 (Inventory no. 820204)	17 NOV 82	1700	8.03	13.0	14	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES benzene - EM @1 methylene chloride - 11 tetrachloroethylene - EM @1 toluene - 1 1,1,1-trichloroethane - 1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

EM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-17 (Inventory no. 820264)	21 NOV 82	1200	7.6	14.0	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS 1,2-dichlorobenzene - BM @1 1,4-dichlorobenzene - BM @1 diethylphthalate - BM @1 di-n-butylphthalate - BM @1 +10 BASE/NEUTRALS SCAN tetrachloroethylene - P trichloroethylene - P1 VOLATILES bromoform - 3 chlorobenzene - 2 methylene chloride - 31 1,1,2,2-tetrachloroethane - 16 tetrachloroethylene - BM @1 toluene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - 2 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

ND - None detected

BM - Below method detection limit

P - Present but not quantified

P1 - Present but prob. field contam.

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-17	28 NOV 82	1330	7.69	11.4	13	NR	BM @5	ACIDS/PHENOLICS	antimony - BM @0.2
(Inventory no. 020290)								NR	arsenic - 0.0015
								BASE/NEUTRALS	beryllium - BM @.005
								NR	chromium - BM @0.05
								VOLATILES	copper - BM @0.02
								methylene chloride - 2	mercury - .00124
								tetrachloroethylene - BM @1	silver - BM @0.01
								toluene - BM @1	zinc - 0.024
								1,1,1-trichloroethane - 1	
								trichloroethylene - BM @1	
								1,1,2-trichloro-1,2,2-trifluoroethane -	
								ND @1	
								m,p-xylene - ND @1	
								o,xylene - ND @1	
								+10 VOLATILES SCAN	
								ND	
								PESTICIDES/PCB'S	
								NR	
								OTHER NON-PRIORITY ORGANICS	
								NR	
								MISCELLANEOUS ANALYSES	
								NR	

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-10 (Inventory no. 820267)	21 NOV 82	1500	7.45	13.5	15	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS 1,2-dichlorobenzene - BM @1 1,3-dichlorobenzene - BM @1 1,4-dichlorobenzene - BM @1 diethylphthalate - BM @1 di-n-butylphthalate - BM @1 +10 BASE/NEUTRALS SCAN tetrachloroethylene - P trichloroethylene - P VOLATILES methylene chloride - 22 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - BM @1 +10 VOLATILES SCAN Dichlorobenzene - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-19 (Inventory no. 820268)	21 NOV 82	1600	7.32	13.2	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS butyl benzylphthalate - BM @1 1,2-dichlorobenzene - BM @1 1,4-dichlorobenzene - BM @1 diethylphthalate - BM @1 di-n-butylphthalate - BM @1 +10 BASE/NEUTRALS SCAN tetrachloroethylene - P trichloroethylene - P VOLATILES methylene chloride - 29 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN Trichlorobenzene - P PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-20 (Inventory no. 820274)	23 NOV 82	0530	7.94	14.5	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS butyl benzylphthalate - BM @1 diethylphthalate - BM @1 di-n-butylphthalate - 4 +10 BASE/NEUTRALS SCAN 2H-azepin-2-one, hexahydro - P Alkene - P VOLATILES methylene chloride - 5 tetrachloroethylene - 5 toluene - 1 trichloroethylene - 4 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run

ND - None detected

BM - Below method detection limit

P - Present but not quantified

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-21 (Inventory no. B20271)	23 NOV 82	0500	8.23	15.3	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 9 1,2-dichlorobenzene - 1 +10 BASE/NEUTRALS SCAN diacetone alcohol - P VOLATILES methylene chloride - 28 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
P - Present but not quantified

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-21	28 NOV 82	1230	7.62	9.7	16.5	NR	BM @5	ACIDS/PHENOLICS	antimony - .27
(Inventory no. 820289)								NR	arsenic - BM @0.001
								BASE/NEUTRALS	chromium - BM @0.05
								NR	copper - BM @0.02
								VOLATILES	mercury - .00055
								chlorobenzene - BM @1	nickel - BM @0.04
								chloroform - 1	silver - BM @0.01
								methylene chloride - 2	zinc - 0.014
								tetrachloroethylene - 1	
								toluene - 1	
								1,1,1-trichloroethane - BM @1	
								trichloroethylene - BM @1	
								1,1,2-trichloro-1,2,2-trifluoroethane -	
								ND @1	
								m,p-xylene - ND @1	
								o,xylene - BM @1	
								+10 VOLATILES SCAN	
								ND	
								PESTICIDES/PCB'S	
								NR	
								OTHER NON-PRIORITY ORGANICS	
								NR	
								MISCELLANEOUS ANALYSES	
								NR	

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 752/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-22 (Inventory no. 820297)	28 NOV 82	1630	7.3	13.0	16	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS di-n-butylphthalate - 2 VOLATILES methylene chloride - 5 tetrachloroethylene - BM @1 toluene - 2 1,1,1-trichloroethane - BM @1 trichloroethylene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	antimony - .38 arsenic - BM @0.001 cadmium - BM @0.0001 chromium - 0.06 copper - BM @0.02 mercury - BM @0.0002 silver - BM @0.01 thallium - BM @0.10 zinc - 0.017

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982

NR - Not run
ND - None detected
EM - Below method detection limit

DATA SHEET

NR - Not run
ND - None detected
BM - Below method detection limit

DATA SHEET

NR - Not run
ND - None detected
EM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TDC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-26	29 NOV 82	1300	7.8	12.3	14	.07	BM @5	ACIDS/PHENOLICS	antimony - .62
(Inventory no. 820301)								NR	arsenic - 0.0016
								BASE/NEUTRALS	beryllium - BM @.005
								acenaphthene - BM @1	cadmium - BM @0.0001
								chrysene - BM @1	chromium - 0.03
								di-n-butylphthalate - BM @1	copper - BM @0.02
								fluoranthene - 2	mercury - BM @.0002
								phenanthrene - 3	silver - BM @0.01
								pyrene - 1	thallium - BM @0.10
								VOLATILES	zinc - 0.026
								methylene chloride - 6	
								toluene - 4	
								1,1,2-trichloro-1,2,2-trifluoroethane -	
								ND @1	
								m,p-xylene - ND @1	
								o,xylene - ND @1	
								+10 VOLATILES SCAN	
								ND	
								PESTICIDES/PCB'S	
								NR	
								OTHER NON-PRIORITY ORGANICS	
								NR	
								MISCELLANEOUS ANALYSES	
								NR	

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-27 (Inventory no. 820302)	29 NOV 82	1400	7.75	12.2	138M @.03	BM @5		ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 5 toluene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	antimony - .46 arsenic - BM @0.001 cadmium - 0.00011 chromium - BM @0.05 copper - BM @0.02 lead - BM @0.001 zinc - 0.027

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-28 (Inventory no. 020303)	29 NOV 82	1500	7.5	12.0	138M	0.03	BM 05	ACIDS/PHENOLICS NR BASE/NEUTRALS di-n-octyl-phthalate - 1 VOLATILES benzene - BM @1 chlorobenzene - BM @1 ethylbenzene - BM @1 methylene chloride - 12 tetrachloroethylene - BM @1 toluene - 5 1,1,1-trichloroethane - BM @1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - 1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	antimony - .27 arsenic - BM @0.001 cadmium - BM @0.0001 chromium - BM @0.05 copper - BM @0.02 lead - BM @0.001 mercury - .00194 silver - BM @0.01 thallium - BM @0.10 zinc - 0.036

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-1 (Inventory no. 820148)	3 NOV 82	1605	7.18	15.0	17	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - BM @10 trichloroethylene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-1B (Inventory no. 820263)	18 NOV 82	1438	6.95	11.9	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 2 toluene - EM @1 trichloroethylene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 1,016	NR

NR - Not run

ND - None detected

EM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-1M (Inventory no. B20262)	10 NOV 82	1303	6.95	11.8	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chlorobenzene - BM @1 chloroform - BM @1 1,1-dichloroethane - BM @1 1,1-dichloroethylene - BM @1 trans-1,2-dichloroethylene - BM @1 methylene chloride - S toluene - BM @1 1,1,1-trichloroethane - 2 1,1,2-trichloroethane - BM @1 trichloroethylene - S 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 1,067	NR

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-1T (Inventory no. 820261)	18 NOV 82	1106	6.6	11.8	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - BM @i 1,1,2-trichloro-1,2,2-trifluoroethane - ND @i +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 965	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-2 (Inventory no. 820201A) LMS	22 OCT 82	0000	NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chlorodibromomethane - 6 dichlorobromomethane - ND @10 methylene chloride - 6 1,1,1-trichloroethane - ND @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR
(Inventory no. 820201R) SAMPLE ANALYZED BY LMS		0000	NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES chlorodibromomethane - 6,6 dichlorobromomethane - 2,2 methylene chloride - ND @10,5 1,1,1-trichloroethane - 1,1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-2 (Inventory no. 020149)	3 NOV 82	1530	8.51	17.3	18	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - BM @10 toluene - BM @10 trichloroethylene - BM @10 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-2B (Inventory no. 820260)	17 NOV 82	1604	7.35	11.0	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES toluene - BM #1 1,1,2-trichloro-1,2,2-trifluoroethane - ND #1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 1,153	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-2M (Inventory no. B20259)	17 NOV 82	1750	7.35	11.0	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES toluene - 1 trichloroethylene - 1 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 1,125	NR

NR - Not run
ND - None detected

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
952-DW-21 (Inventory no. 920258)	17 NOV 82	1055	7.35	11.0	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS NR VOLATILES methylene chloride - 4 toluene - 1 1,1,1-trichloroethane - BM 01 1,1,2-trichloro-1,2,2-trifluoroethane - ND 01 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES Specific conductance - 1,111	NR

NR -- Not run

ND -- None detected

BM -- Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
D995N-SEPT 29 DEC 82 0000 (Inventory no. 820577)			NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 16 butyl benzylphthalate - BM @1 diethylphthalate - BM @1 di-n-butylphthalate - 1 di-n-octyl-phthalate - BM @1 naphthalene - BM @1 VOLATILES chloroform - 24 dichlorobromomethane - 7 methylene chloride - 1 toluene - BM @1 trichlorofluoromethane - 3 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
DATA SHEET

STATION NO.	DATE	TIME	pH	TEMP. (C)	TOC (ppm)	NH3-N (ppm)	OIL & GREASE (ppm)	ORGANICS (ppb)	METALS (ppm)
DRILL-WATR 21 NOV 82 0000 (Inventory no. 820304)			NR	NR	NR	NR	NR	ACIDS/PHENOLICS NR BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 2 di-n-butylphthalate - 2 +10 BASE/NEUTRALS SCAN ND VOLATILES bromoform - BM @1 chlorodibromomethane - 12 chloroform - 53 dichlorobromomethane - 24 methylene chloride - 27 1,1,2-trichloro-1,2,2-trifluoroethane - ND @1 m,p-xylene - ND @1 o,xylene - ND @1 +10 VOLATILES SCAN ND PESTICIDES/PCB'S NR OTHER NON-PRIORITY ORGANICS NR MISCELLANEOUS ANALYSES NR	NR

NR - Not run
ND - None detected
BM - Below method detection limit

APPENDIX G
SOIL SAMPLE CHEMISTRY

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-1S	820386	8-10	2A	15 NOV 82	NR	VOLATILES methylene chloride - 129 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-2S	820357	10-12	3A	15 NOV 82	NR	VOLATILES methylene chloride - 150 tetrachloroethylene - BM @50 1,1,1-trichloroethane - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-7S	820387	18-20	S5	15 NOV 82	NR	VOLATILES methylene chloride - 1,800 toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-8S	820388	10-12	S1A	15 NOV 82	NR	VOLATILES ethylbenzene - BM @50 methylene chloride - 62 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-A	820363	5		17 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES acrylonitrile - BM @50 methylene chloride - 55 toluene - BM @50 trichlorofluoromethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
752-D	820362	1.5	BA	19 NOV 82	NR	BASE/NEUTRALS naphthalene - BM @330 VOLATILES methylene chloride - 91 toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820364	5	BB	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - 53 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820383	10.0	BC	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - 333 naphthalene - BM @330 VOLATILES acrylonitrile - BM @500 methylene chloride - 332 toluene - BM @500 1,1,1-trichloroethane - BM @500 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-B	820486	12-12.5	BD	1 DEC 82	NR	BASE/NEUTRALS butyl benzylphthalate - 586 di-n-butylphthalate - BM +10 BASE/NEUTRALS SCAN C3 Alkyl benzene (2 compounds) - P C4 Alkyl benzene (2 compounds) - P 4-Hydroxy-4-methyl-2-pentanone - P Alkanes (2 compounds) - P Alkene - P xylene (2 compounds) - P VOLATILES methylene chloride - 73 i,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN ND OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
	820487	14-14.3	BE	1 DEC 82	NR	BASE/NEUTRALS ND @330 +10 BASE/NEUTRALS SCAN Alkene (2 compounds) - P C3 Alkyl benzene (2 compounds) - P 4-Hydroxy-4-methyl-2-pentanone - P Alkanes (2 compounds) - P xylene (2 compounds) - P VOLATILES methylene chloride - 53 i,1,1-trichloroethane - BM @50 i,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN ND

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-B	B20491	16-18	BF	1 DEC 82	NR	BASE/NEUTRALS ND @330 +10 BASE/NEUTRALS SCAN diacetone alcohol - P Alkanes (2 compounds) - P xylene (2 compounds) - P C3 Alkyl benzene (4 compounds) - P VOLATILES methylene chloride - 58 toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - BM @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN ND
	B20492	18-20	BG	1 DEC 82	NR	BASE/NEUTRALS ND @330 +10 BASE/NEUTRALS SCAN diacetone alcohol - P C3 Alkyl benzene (2 compounds) - P Alkanes (2 compounds) - P C4 Alkyl benzene - P xylene (2 compounds) - P VOLATILES methylene chloride - 64 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN ND

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-C	820447	5		20 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 340 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 900 N-nitrosodiphenylamine - BM @330 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES 1,1-dichloroethane - 355 1,1-dichloroethylene - 167 methylene chloride - 71 toluene - BM @50 trichlorofluoromethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - BM @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
952-D	820359	1.5	DA	20 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - BM @50 toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

P - Present but not quantified

BUILDINGS 752/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-D	820449	5.0	DB	20 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 di-n-butylphthalate - 340 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES 1,1-dichloroethane - BM @50 methylene chloride - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
	820508	10-12	DC	1 DEC 82	NR	VOLATILES tetrachloroethylene - BM @50 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - BM @50 +10 VOLATILES SCAN 1-(1-Butenyloxy)-heptane - P
	820509	12-14	DD	1 DEC 82	NR	VOLATILES toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN 1-(1-Butenyloxy)-heptane - P

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-D	820510	14-15.6	DE	1 DEC 82	NR	VOLATILES benzene - BM @50 methylene chloride - 289 toluene - 84 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN Unsaturated ether - P
	820511	16-17.4	DF	1 DEC 82	NR	VOLATILES methylene chloride - 157 toluene - 81 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN Unsaturated ether - P
952-E	820360	5.0		20 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES acrylonitrile - 765 bromoform - 64 chlorodibromomethane - BM @50 methylene chloride - BM @50 1,1,2,2-tetrachloroethane - 103 toluene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloroethane - BM @50 trichloroethylene - 99 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-F	820379	2.0	FA	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 51 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820377	6.0	FB	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - 527 naphthalene - BM @330 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - 81 toluene - BM @50 1,1,1-trichloroethane - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
	820378	12.0	FC	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 51 toluene - 75 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-G	820380	1.0-1.5	GA	21 NOV 82	NR	BASE/NEUTRALS acenaphthene - BM @330 butyl benzylphthalate - BM @330 di-n-butylphthalate - 550 fluoranthene - BM @330 N-nitrosodiphenylamine - BM @330 phenanthrene - 600 pyrene - BM @330 +10 BASE/NEUTRALS SCAN diacetone alcohol - P Dimethyl naphthalene - P m,p-xylene - P o,xylene - P Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P Alkane (6 compounds) - P VOLATILES methylene chloride - 311 toluene - 428 1,1,1-trichloroethane - 54 trichloroethylene - BM @50 trichlorofluoromethane - 179 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - 5,618,000
	820452	6.0	GB	21 NOV 82	NR	BASE/NEUTRALS diethylphthalate - BM @330 di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 56 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-H	820361	2.5		20 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES acrylonitrile - 519 methylene chloride - BM @50 1,1,2,2-tetrachloroethane - BM @50 toluene - BM @50 1,1,1-trichloroethane - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-I	820384	3.0	IA	21 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 433 naphthalene - BM @330 VOLATILES methylene chloride - 167 1,1,2-trichloro-1,2,2-trifluoroethane - BM @50
	820450	6.0	IB	21 NOV 82	NR	BASE/NEUTRALS butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 393 naphthalene - BM @330 VOLATILES acrylonitrile - BM @500 methylene chloride - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-J	820367	1.5	JA	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 117 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-J	820376	3.0	JB	21 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 335 di-n-butylphthalate - 700 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - BM @50 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
952-K	820358	2.0	KA	20 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 435 VOLATILES methylene chloride - BM @50 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820448	5.5	KB	20 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 50 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-L	820381	1.5		20 NOV 82	NR	BASE/NEUTRALS butyl benzylphthalate - 833 di-n-butylphthalate - BM @330 naphthalene - BM @330 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - BM @50 toluene - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
952-N	820453	1.3	NA	21 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 726 VOLATILES methylene chloride - 67 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820454	6.0	NB	21 NOV 82	NR	BASE/NEUTRALS butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 467 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - 57 toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
 ND - None detected
 BM - Below method detection limit
 P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-D	820382	1.25	0A	21 NOV 82	NR	BASE/NEUTRALS ND @330 VOLATILES acrylonitrile - BM @500 methylene chloride - BM @50 toluene - BM @50 1,1,1-trichloroethane - BM @50 trichlorofluoromethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820451	6.0	0B	21 NOV 82	NR	BASE/NEUTRALS butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 553 VOLATILES acrylonitrile - BM @500 methylene chloride - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820385	12.0	0C	21 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 720 naphthalene - BM @330 VOLATILES methylene chloride - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-P	820365	2	PA	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - BM @50 tetrachloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-P	820366	4.5	PB	21 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 186 tetrachloroethylene - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-SS-2	820315	7.0-9.0	2A	18 NOV 82	NR	BASE/NEUTRALS 1,2-dichlorobenzene - BM @330 VOLATILES methylene chloride - 469 toluene - BM @50
	820316	13.0-17.0	2B	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 574 toluene - BM @50
952-SS-3	820317	4.0-6.0	3A	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 659 toluene - BM @50 1,1,1-trichloroethane - BM @50
	820318	9.0-11.0	3B	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 825 toluene - BM @50

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SQ-4	020323	4.0-6.0	4A	22 NOV 82	NR	BASE/NEUTRALS acenaphthene - BM @330 acenaphthylene - BM @330 anthracene - BM @330 benzo(a)anthracene - 363 benzo(a)pyrene - BM @330 benzo(b)fluoranthene - BM @330 benzo(k)fluoranthene - BM @330 bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 1,2-dichlorobenzene - BM @330 1,4-dichlorobenzene - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 573 di-n-octyl-phthalate - BM @330 fluoranthene - 973 fluorene - BM @330 indeno(1,2,3-cd)pyrene - BM @330 naphthalene - BM @330 phenanthrene - 430 pyrene - 997 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES methylene chloride - 103 1,1,1-trichloroethane - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - 76,000

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SS-4	820324	9.0-11.0	4B	22 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 450 naphthalene - BM @330 +10 BASE/NEUTRALS SCAN Alkanes - P Alkenes cycloalkanes - P Alkl benzenes - P VOLATILES acrylonitrile - BM @500 chloroform - BM @50 1,1-dichloroethane - 222 1,1-dichloroethylene - BM @50 methylene chloride - 70 1,1,1-trichloroethane - 184 1,1,2-trichloro-1,2,2-trifluoroethane - 85 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - <5,000
952-SS-5	820325	7.0-9.0	5	22 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 di-n-butylphthalate - 423 naphthalene - BM @330 VOLATILES acrolein - BM @500 methylene chloride - 144 toluene - BM @50 1,1,1-trichloroethane - BM @50
952-SS-6	820321	4.5-6.5	6A	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 1,230

NR - Not run

BM - Below method detection limit

P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-33-6	820322	9.0-11.0	6B	18 NOV 82	NR	BASE/NEUTRALS ND @330 VOLATILES methylene chloride - i,420
952-33-7	820307	4.0-6.0	7A	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 209 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820308	9.0-11.0	7B	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 601 1,1,1-trichloroethane - BM @50 trichloroethylene - 52 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-33-8	820305	6.0-8.0	8A	19 NOV 82	NR	BASE/NEUTRALS 1,2-dichlorobenzene - BM @330 di-n-butylphthalate - BM @330 1,2,4 - trichlorobenzene - BM @330 VOLATILES methylene chloride - 195 toluene - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SS-8	820306	10.0-12.0	8B	19 NOV 82	NR	BASE/NEUTRALS 1,2-dichlorobenzene - 3,200 1,3-dichlorobenzene - 420 1,4-dichlorobenzene - 798 1,2,4-trichlorobenzene - BM @330 VOLATILES methylene chloride - 348 trichloroethylene - 105 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 OTHER NON-PRIORITY ORGANICS Petroleum hydrocarbons - 110,000
952-SS-9	820309	9.0-11.0	9A	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 1,575 trichloroethylene - 82
	820310	12.0-14.0	9B	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES trans-1,2-dichloroethylene - BM @50 methylene chloride - 3,110 trichloroethylene - 202
952-SS-10	820311	4.0-6.0	10A	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 749 1,1,1-trichloroethane - BM @50 trichloroethylene - 60 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run

ND - None detected

BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SS-10	820312	9.0-11.0	10B	19 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES trans-1,2-dichloroethylene - BM @50 methylene chloride - 229 toluene - BM @50 1,1,1-trichloroethane - BM @50 trichloroethylene - 121 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-SS-11	820313	4.0-6.0	11A	18 NOV 82	NR	BASE/NEUTRALS 1,2-dichlorobenzene - BM @330 1,3-dichlorobenzene - BM @330 di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 1,000 tetrachloroethylene - BM @50 1,1,1-trichloroethane - BM @50
	820314	7.0-11.0	11B	18 NOV 82	NR	BASE/NEUTRALS 1,2-dichlorobenzene - BM @330 1,3-dichlorobenzene - BM @330 VOLATILES methylene chloride - 794 1,1,1-trichloroethane - BM @50
952-SS-12	820326	10.0-12.0	12A	22 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 65 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SS-13	020329	7.5-9.5	13A	22 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 1,230 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - 1,000 di-n-octyl-phthalate - BM @330 fluoranthene - 376 naphthalene - BM @330 phenanthrene - BM @330 pyrene - 400 VOLATILES methylene chloride - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-SS-14	020478	8-10		22 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - 587 butyl benzylphthalate - BM @330 di-n-butylphthalate - 333 fluoranthene - BM @330 pyrene - BM @330 VOLATILES methylene chloride - 122 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-SS-15	020333	9.0-11.0	15A	22 NOV 82	NR	VOLATILES methylene chloride - BM @50 1,1,1-trichloroethane - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
952-SS-16	020319	9-11	16A	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 749 toluene - BM @50

NR - Not run
ND - None detected
BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
952-SS-16	820320	12-14	16B	18 NOV 82	NR	BASE/NEUTRALS di-n-butylphthalate - BM @330 VOLATILES methylene chloride - 951 1,1,2,2-tetrachloroethane - BM @50
952-SS-17	820369	7-9	17A	22 NOV 82	NR	BASE/NEUTRALS bis(2-ethylhexyl)phthalate - BM @330 butyl benzylphthalate - BM @330 diethylphthalate - BM @330 di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES methylene chloride - 78 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
	820368	12-14	17B	22 NOV 82	NR	BASE/NEUTRALS diethylphthalate - BM @330 di-n-butylphthalate - BM @330 naphthalene - BM @330 VOLATILES toluene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50
982-A	820488	2.5		1 DEC 82	NR	VOLATILES methylene chloride - 70;81 1,1,1-trichloroethane - ND @50;BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50;ND @50 +10 VOLATILES SCAN ND;ND
982-B	820489	2.08		23 NOV 82	NR	VOLATILES methylene chloride - 61;67 1,1,1-trichloroethane - BM @50;BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50;ND @50 +10 VOLATILES SCAN ND;ND

NR - Not run
 ND - None detected
 BM - Below method detection limit

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

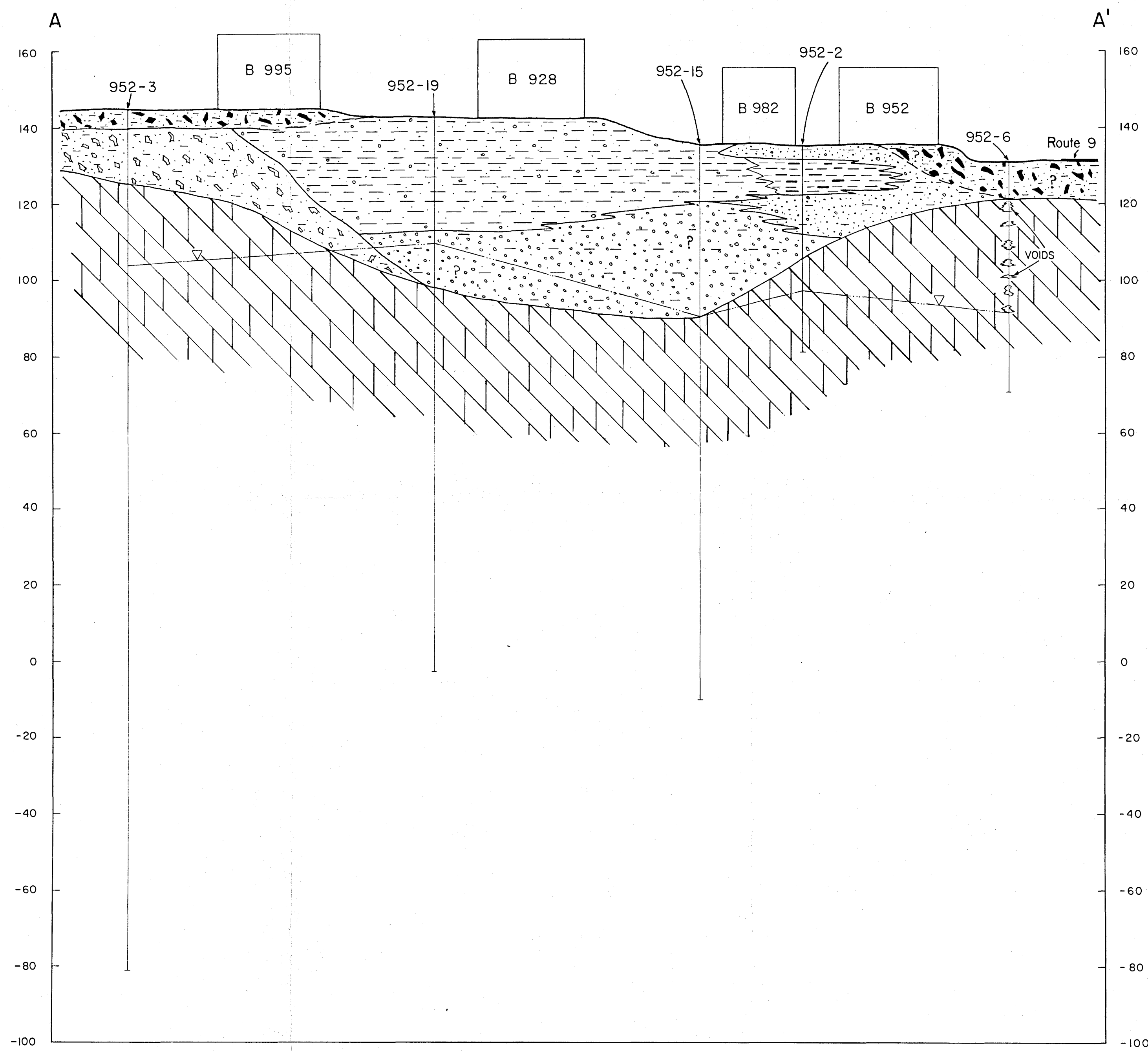
STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
982-C	020490	1.92		23 NOV 82	NR	VOLATILES methylene chloride - BM @50;71 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50;ND @50 +10 VOLATILES SCAN ND;ND
982-D	020483	1.33		23 NOV 82	NR	VOLATILES acrylonitrile - BM @500;ND @500 methylene chloride - 85;75 tetrachloroethylene - BM @50;ND @50 1,1,1-trichloroethane - BM @50;ND @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50;ND @50 +10 VOLATILES SCAN ND;ND
982-E	020512	0.7-2.0	EA	7 DEC 82	NR	VOLATILES benzene - BM @50 methylene chloride - 184 toluene - 85 1,1,1-trichloroethane - BM @50 trichloroethylene - BM @50 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN Unsaturated ether - P
	020513	2.0-2.8	EB	7 DEC 82	NR	VOLATILES methylene chloride - 149 toluene - 114 1,1,1-trichloroethane - BM @50 trichloroethylene - 58 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN Unsaturated ether - P Unsaturated alkane - P

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified

BUILDINGS 952/982
SEDIMENT/SOIL SAMPLING SUMMARY

STATION NUMBER	INVENTORY NUMBER	DEPTH (ft)	SOIL SAMPLE	DATE COLLECTED	DRY WEIGHT(%)	CHEMISTRY RESULT (ppb)
982-E	820514	4.0-6.0	EC	7 DEC 82	NR	VOLATILES benzene - BM @50 methylene chloride - 166 toluene - 64 1,1,1-trichloroethane - BM @50 trichloroethylene - 71 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - ND @50 +10 VOLATILES SCAN Unsaturated ether - P
	820515	6.0-8.0	ED	7 DEC 82	NR	VOLATILES benzene - BM @50 trans-1,2-dichloroethylene - BM @50 methylene chloride - 227 tetrachloroethylene - BM @50 toluene - 247 1,1,1-trichloroethane - BM @50 trichloroethylene - 237 1,1,2-trichloro-1,2,2-trifluoroethane - ND @50 m,p-xylene - ND @50 o,xylene - 64 +10 VOLATILES SCAN Unsaturated ether - P

NR - Not run
ND - None detected
BM - Below method detection limit
P - Present but not quantified



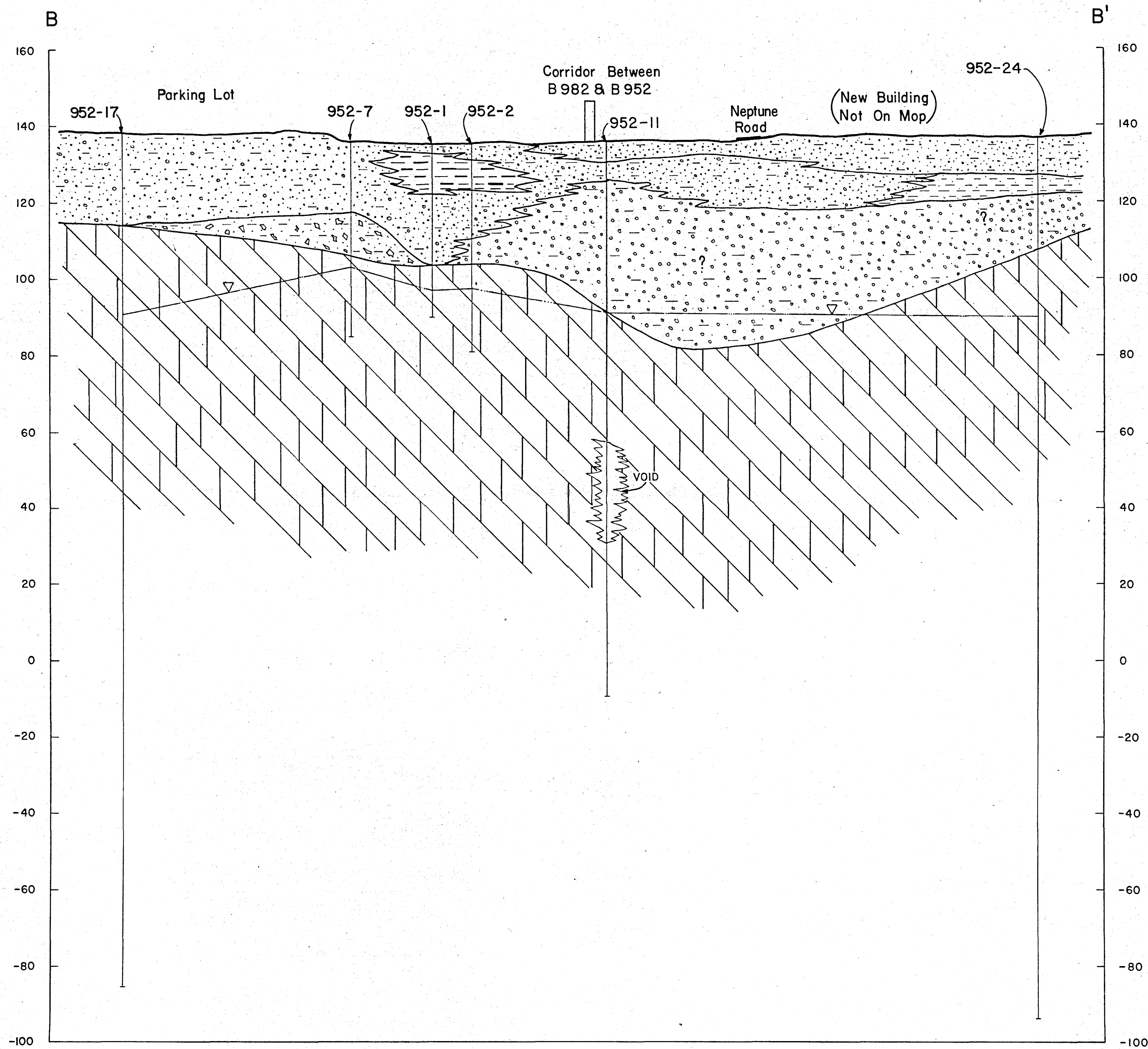
LEGEND

- SILT AND CLAY
- SILTY SAND
- SILTY GRAVELLY SAND
- SANDY SILT
- SILTY, SANDY, GRAVEL
- TILL
- SANDY GRAVELLY SILT
- DOLOMITE
- FILL
- BEDROCK WATER TABLE OR PIEZOMETRIC SURFACE

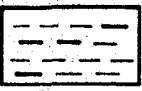
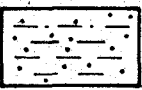
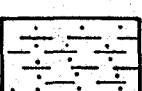
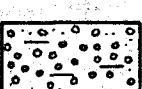
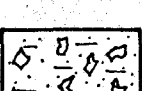
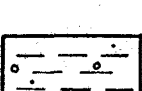
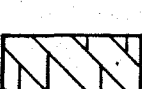
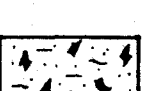
SCALE: HORIZ. 1"=100'
VERT. 1"= 20'

PLATE 3

IBM CORPORATION POUGHKEEPSIE, NEW YORK		LAWLER, MATUSKY AND SKELLY ENGINEERS
CROSS SECTION A-A'		
drawn RAM/BSC	approved	drawing no.
checked	date 12-29-82	
r. e. wright associates, inc. earth resources consultants harrisburg pennsylvania		



LEGEND

-  SILT AND CLAY
-  SILTY SAND
-  SILTY GRAVELLY SAND
-  SANDY SILT
-  SILTY, SANDY, GRAVEL
-  TILL
-  SANDY GRAVELLY SILT
-  DOLOMITE
-  FILL
-  BEDROCK WATER TABLE OR PIEZOMETRIC SURFACE

SCALE: HORIZ. 1"=100'
VERT. 1"= 20'

PLATE 4

IBM CORPORATION POUGHKEEPSIE, NEW YORK	LAWLER, MATUSKY AND SKELLY ENGINEERS
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CROSS SECTION B-B'

drawn RAM/GC.	approved	drawing no.
checked	date 12-29-82	

 **r. e. wright associates, inc.**
earth resources consultants
harrisburg pennsylvania

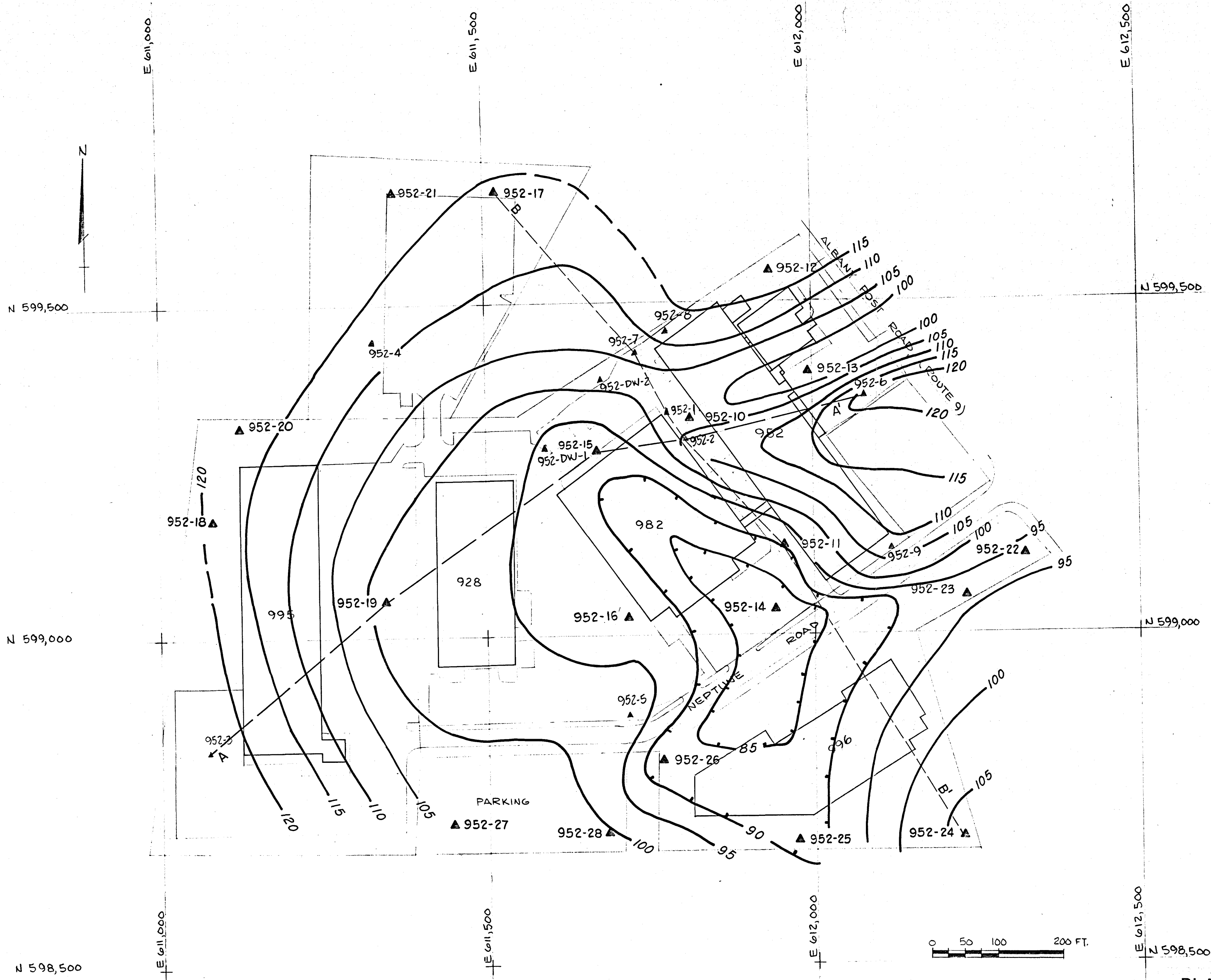


PLATE 2

Lawler, Matusky & Skelly Engineers
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

drawn RAM	approved	drawing no.
checked	date 12/30/82	
r. e. wright associates, inc. earth resources consultants harrisburg pennsylvania		

B952 SITE
BEDROCK CONTOUR MAP

DATE

DWG. NO.
8263

