

## **1.0 INTRODUCTION**

This report presents the findings of the Geotechnical and Environmental Limited Phase II Investigation for a proposed switching station to be located in Utica, New York, by AT&T. The services were performed in accordance with the Dames & Moore Proposal dated May 5, 1997, as amended by the Proposal Addendum dated June 16, 1997. The work was authorized by American Telephone & Telegraph (AT&T) Purchase Order Nos. Q52326665A and Q52326665B.

## **2.0 PURPOSE AND SCOPE OF SERVICE**

The purpose of the Geotechnical and Environmental Limited Phase II Investigation was to evaluate the subsurface conditions at the above referenced site to attempt to provide preliminary foundation design recommendations to identify potential environmental (hazardous waste) impacts that may affect the proposed development. To accomplish this purpose, Dames & Moore has performed the following scope of service:

- Prepared a Health and Safety Plan (Appendix A).
- Retained the services of a drilling subcontractor for the drilling of twelve test borings.
- Converted one of the Borings (MWB-14) into a temporary groundwater monitoring well.
- Retained the services of a subcontractor for the excavation of eight test pits.
- Retained the services of an analytical laboratory to perform various analytical tests on selected soil and groundwater samples.
- Performed various analytical procedures on selected samples to identify potential asbestos containing material (ACM).
- Performed geotechnical laboratory testing of selected samples.
- Estimated geotechnical properties of the encountered materials.

- Presented our findings and recommendations concerning the geotechnical and environmental aspects of project development.

### **3.0 SITE DESCRIPTION**

#### **3.1 SITE LOCATION**

The general vicinity of the subject site is shown on Figure 1. The site is located at 26-34 Whitesboro Street in Oneida County, Utica, New York. The subject property is comprised of three adjacent parcels, containing less than 1 acre, which were vacant and undeveloped at the time of the field activity performed from June 24 through July 2, 1997. The overall outline of the property is shown on the Site Plan, Figure 2 (see map pocket).

At the time of Dames & Moore's field activities, the subject property was observed to be unpaved and overgrown with weeds and grass. The surface of the site was littered with miscellaneous paper, discarded tires and demolition debris including bricks, wood, and tiles.

Whitesboro Street lies to the south of the site, and vacant lots adjoin the site to the east and west. Farther to the east and west, respectively, are an elevated highway and a building occupied by PH ADV, whose operations consist of printing brochures. To the north are Water Street, Conrail Railroad Tracks, and a brick building occupied by Carlo Massi Wholesale Fruit and Produce.

The southern half of the site gently slopes downward to the northwest. A more pronounced downward slope exists at the north end of the site adjacent to Water Street, where slopes approach about 12% (i.e., 12 feet vertical relief per 100 feet horizontal).

#### **3.2 REGIONAL GEOLOGY**

The site elevation is about 420 feet above mean sea level (MSL). According to the \_\_\_\_\_\*\*, is mapped as being underlain by fill, geologically recent alluvium, and glacial deposits. Below the glacial deposits, the bedrock is anticipated to consist of the Trenton Group Formation - Black Utica Shale of the Paleozoic Era.

### **4.0 PROPOSED IMPROVEMENTS**

The proposed switching station is reportedly a one-story masonry building with an estimated footprint of approximately 6,450 square feet (See Figure 3). Future expansion of the facility is expected to increase the footprint area to a total of about 11,375 square feet. Adjacent to the northeast and northwest sides of the proposed switching station, respectively, a loading space and parking areas are planned.

The locations of the proposed building, loading spaces and parking area are shown on Figure 3. According to conversations with the Cima Group (Cima), project architect, the proposed switching station structure is typically supported by spread and strip footings with a concrete slab-on-grade. The specific loads to be supported by the foundation are not currently known, however, the loads are likely to be less than 50 to 100 kips. Grading on-site is expected to be minor, with cuts and fills of less than 5 feet in thickness.

#### **5.0 SUMMARY OF JUNE 18, 1997 PHASE I REPORT**

Dames & Moore reviewed the report titled "Phase I Environmental Site Assessment - Proposed AT & T Parcel - 26-34 Whiteboro Street - Utica, New York," (Phase I), dated June 18, 1997, to provide background information prior to the commencement of the Phase II activities. A summary of the information reviewed is outlined below.

The above referenced Phase I indicated that the site is currently owned by the city of Utica and is comprised of three adjacent parcels that occupy an area of less than one acre. The parcels are located in the central portion of the block bounded by Water Street, Hotel Street, Whitesboro Street, and Division Street. A review of the report indicates that the property was occupied by structures from at least the early 1900's until the structures were demolished (approximately two to three years ago) after an on-site fire. The area contains industrial operations dating back to the early 1800's likely associated with the Erie Canal, including the Utica Steam Engine and Boiler Works. Representatives of the City of Utica indicated that former building foundations and demolition debris may remain on-site. It could not be determined whether demolition debris was placed in the basement or if basement walls and/or slabs are present on the property. Due to the proximity of the site to the Mohawk River, it is likely that the site is underlain by fill soils and alluvial soils.

The site was occupied historically by the Horocks Ibbotson & Co. facility from at least 1925 until 1973. This operation manufactured fishing rods and likely used oils, paints, solvents, glues and associated petroleum compounds. Numerous listed releases, including one CERCLIS site, were identified in the vicinity of the property. Due to the presence of

relatively shallow groundwater (10-20 feet above ground surface), the report concludes that impacts to groundwater are possible due to the historical onsite activities and the adjacent industrial activities.

## **6.0 SUBSURFACE INVESTIGATION**

### **6.1 HEALTH & SAFETY PLAN**

A Health & Safety Plan was prepared to identify potential exposure to Dames & Moore workers during the field activities. The Health & Safety Plans recommends the use of monitoring equipment and provides guidelines for the use of personal protective equipment (PPE) during the drilling and excavation operations. A copy of the Health & Safety Plan is presented in Appendix A.

### **6.2 SOIL SAMPLING**

The subsurface conditions at the site were investigated by drilling twelve test borings and excavating eight test pits at the locations shown on Figure 3 (Test Pit and Boring Location Plan). Each boring was drilled by MARCOR Environmental Remediation, Inc. (MARCOR) using a truck-mounted hollow-stem auger drill rig. The test pits were also excavated by MARCOR utilizing a rubber tire backhoe. Two representatives from Dames & Moore observed the drilling and test pit excavation activities. The field personnel identified the soil samples, logged the borings and test pits, observed groundwater levels, performed environmental sampling and collected other pertinent site information. The ground surface elevation at each boring and test pit was estimated by Dames & Moore personnel in the field based on information provided by Anthony R. DeNigro, L.S. (Figure 2, Site Plan).

Soil samples were collected and Standard Penetration Tests (SPTs) were performed using a standard split-barrel sampler driven with a hammer weighing 140 pounds free falling 30 inches (ASTM D-1586). Samples were also obtained with Dames & Moore Type-U sampler in general accordance with ASTM D-3550.

Headspace measurements were performed on soil samples using an Organic Vapor Meter (OVM). The headspace readings were obtained by placing the soil sample in a plastic bag, allowing the sample to off-gas potential volatile compounds, and subsequently inserting the probe of the OVM into the headspace of the plastic bag. Headspace readings and ambient OVM readings are presented on the boring and test pit logs, Appendix B.

Soil samples were obtained from boring Nos. B-8, MWB-14, B-14, and B-4 and Test Pit No. TP-4. Selected soil samples were analyzed for the presence of volatile organic compounds (EPA Test Method 8260), total petroleum hydrocarbons (gasoline range organics [GRO] and diesel range organics [DRO]), and RCRA metals (EPA Test Method 6010/7471). Prior to each sampling event, the sampling equipment was washed in a solvent, acid, and trisodium phosphate wash with successive tap water rinses to use to reduce the potential for cross contamination between sampling points. The sampling equipment was final rinsed with dionized water and allowed to air dry.

Each boring was grouted with a cement bentonite mix upon completion. Various borings (Borings 7, 8, 9, and 15) required significant grout, suggesting possible subsurface voids. The test pits were immediately backfilled following excavation and sampling. Soil samples collected from the borings and test pits were preserved and transported to the Dames & Moore Eastern Regional Geotechnical Laboratory located in Cranford, New Jersey, for visual examination, testing and temporary storage. Samples of inspected asbestos containing materials (ACMs) were transported to the Dames & Moore Regional Asbestos Laboratory located in Salem, New Hampshire. Soil samples selected for chemical analysis were submitted to Environmental Research, Inc. laboratory in Edison, New Jersey.

### 6.3 SUBSURFACE CONDITIONS

The subsurface conditions encountered during the investigation are generally in agreement with the anticipated site geology. Boring and test pit logs are included in Appendix B. In summary, the general site stratigraphy consists of the following major units, described in descending order of depth:

**Stratum 1 (Fill):** This stratum consists of brown/dark gray, coarse to fine sand with varying amounts of silt and gravel mixed with demolition debris including red bricks, mortar, wood (burned and unburned), concrete and decomposed wood fibers. Occasional elevated organic vapor readings were observed (TP-4 and TP-12) suggestive of petroleum releases. The fill was heterogeneous and may be comprised entirely of demolition debris without a soil matrix in portions of the site. There is evidence of abandoned concrete footings and floor slabs within portions of the proposed building footprint. The relative density of this stratum ranges from loose to very dense and is generally dry to moist. This stratum generally extends from the ground surface to depths ranging from 4.5 feet to 11 feet below the ground surface (bgs).

**Stratum 2 (Loose Alluvial Sand):** This stratum consists of brown/dark brown/yellowish red/brownish yellow coarse to fine sand with trace to little amounts of silt, and trace to some amounts of fine gravel. The relative density of this stratum ranges from very loose to medium dense. It is usually wet. This stratum generally extends from beneath the fill (Stratum 1) to depths ranging from 13.5 feet to 18.5 feet bgs.

**Stratum 3 (Glacial Deposits):** This stratum consists of gray to grayish brown, coarse to fine sand and coarse to fine gravel, with varying amounts of silt and clay, and occasional to frequent boulders and cobbles. The depositions within this strata appear to be segregated into alternating layers of relatively coarse materials (gravel and sand with trace to some silt) and relatively fine materials (fine sand and clayey silt with trace amounts of gravel and coarse to medium fine sand) which may be indicative of a recessional moraine. The relative density of the coarse material generally ranges from medium dense to very dense, while the consistency of the fine material generally ranges from very stiff to hard. The moisture content was observed to range from wet to dry. This stratum generally extends from beneath the Loose Alluvial Sand (Stratum 2) to beyond the maximum depth explored during the current investigation (i.e., beyond 30 to 33 feet bgs). The thickness of Stratum 3, and the depth to bedrock at the site, are not currently known.

#### 6.4 GROUNDWATER INVESTIGATION

A temporary groundwater monitoring well was installed to obtain additional information on the quality of groundwater at the site. The temporary groundwater monitoring well was installed in exploratory boring MWB-14 on June 26, 1997. The temporary monitoring well consisted of a 2-inch PVC (solid) casing extending to a depth of approximately 4 feet bgs. A 15 foot, 2-inch PVC screened (.010-inch slotted) section extended from approximately 4 feet bgs to approximately 19 feet bgs. The annular space between the boring wall and the screen was filled with No. 1 sand (6 bags). The sand extended approximately 1 foot above the top of the screen and a temporary 1 foot bentonite seal was placed in the annular space above the screen. The remainder of the borehole was temporarily filled with drill cuttings and mounded to reduce the potential for run off migrating into the temporary monitoring well.

The groundwater monitoring well was developed by pumping/surging on June 27, 1997, and sampled on June 30, 1997. Prior to sampling, the well was purged of approximately 6 gallons using a centrifugal pump. The groundwater samples were obtained using a disposable polyethylene bailer with a new cord. Field blanks and trip blanks were submitted

to the laboratory in accordance with established QA/QC protocol. Recharge during purging appeared to relatively rapid and no significant odors or sheens observed during the sampling activities. However, the groundwater sample did contain a relatively high turbidity. A copy of the groundwater sampling log is presented in Appendix C.

## **6.5 GROUNDWATER CONDITIONS**

It is estimated that the groundwater surface is approximately 9 to 10.5 feet below the existing ground surface (approximate elevation 403 feet to 401.5 feet). Based on the topography and surficial drainage patterns shown on the USGS Quadrangle, the direction of shallow groundwater flow is likely to the northeast, towards the Mohawk River. It should be recognized that this groundwater table was encountered during the summer, and is likely subjected to changes during periods of precipitation. There is evidence within the borings that the groundwater table may fluctuate to within about 6 feet below the ground surface during the spring or periods of heavy rain.

## **7.0 LABORATORY ANALYSIS**

### **7.1 GEOTECHNICAL ANALYSIS**

Geotechnical laboratory testing was performed on selected samples to confirm field classifications and to estimate the pertinent engineering properties of the encountered materials. Tests included Moisture-Density, Atterberg Limits and Grain-Size analysis. The results of the tests are summarized in Table 1. Grain-size curves and additional data are included in Appendix D.

### **7.2 ENVIRONMENTAL ANALYSIS**

#### **7.2.1 ASBESTOS**

Various materials collected from the test-pits were selected for asbestos content determination. The selected materials generally represented suspected fill materials from a previous building demolition at the site and included tile, black paper and flashing, roof materials and brick. These materials were sent to the Dames & Moore Regional Asbestos Laboratory in Salem, New Hampshire, for analysis. In summary, asbestos were not detected

in the submitted samples using the analytical procedures described in Appendix D. Additional data and information, regarding the asbestos sampling are also included in Appendix D.

## 7.2.2 ANALYTICAL LABORATORY

The following limited number of soil samples were submitted for analytical testing:

### 1. Soil

<u>Test/Method</u>	<u>Number Submitted</u>
Volatile Organics (TCL VOA + 10)/8260	3
8 RCRA metals/6010/7470	1
Total Petroleum Hydrocarbons (GROs &DROs)/	4

### 2. Groundwater:

<u>Test/Method</u>	<u>Number submitted</u>
Volatile Organics (TCL VOA + 10)/8260	1
Semi-volatile Organics(TCLBNA + 20)/8270	1
8 RCRA metals/6010/7470	1

The laboratory analytical data are presented in Appendix D and are summarized in Table 2 and 3. The soil sample locations have been indicated on the boring and test pit logs, which have been included in Appendix B.

## 8.0 ENVIRONMENTAL EVALUATION

### 8.1 GENERAL

A review of Table 2 indicates that a soil sample obtained from approximately 7 ½ feet in Trench TP-4 did obtain concentrations of volatile organics including methylene chloride, acetone, trans-1,2- dichloroethene, and cis-1,2- dichloroethene. In addition, trichloroethene was also measured at a concentration of 0.89  $\mu\text{g}/\text{kg}$ . Methylene chloride was measured in TP-4 at a concentration of 120  $\mu\text{g}/\text{kg}$ . Dames & Moore reviewed of the document entitled, "New York State Department of Environmental Conservation Memorandum HWR-94-4046" dated January 24, 1994, which outlines the recommended action levels provided by the New York State Department of Environmental Conservation. This memorandum, also known as



the Technical and Administrative Guidance Memorandum (TAGM) for the determination of soil clean up objectives, provides the basis for estimating possible clean up levels for hazardous constituents in soil at individual Federal Superfund, State Superfund, Title 3, and Responsible Party sites where it is determined that a clean up at the site to predisposal conditions is not possible nor feasible. These values for the compound/elements detected are also presented on Table 2.

In comparison of Table 2 with the results in TP-4, it appears that the concentrations of methylene chloride are slightly above the objectives, although the result was flagged as a possible laboratory contaminant. Other compounds, including trans-1,2-dichlorethene at 1300  $\mu\text{g}/\text{kg}$ , slightly above objectives. However, based on the sporadic results obtained, it is difficult to ascertain if the results manifest a widespread release condition likely to warrant mitigation action or are representative of isolated releases during the previous manufacturing activities.

A further review of Table 2 indicates that the metals measured are below New York State soil objectives.

A review of the 1925 Sanborn Fire Map indicates that the area sampled for TP-4 is likely in the same area of the former reel room. It is plausible that the use of solvents and petroleum compounds may have been used in this room resulting in releases. The extent of such releases are not known at this time. Also, due to the widespread presence of fill soils/ash on the site, additional testing of the fill and debris for metals and polychloride biphenols (PCBs) is warranted.

A review of Table 3 indicates that the concentrations measured in the groundwater monitoring well are below the New York State water standards. Trichloroethylene was measured at a concentration of 2.2  $\mu\text{g}/\text{l}$ , suggesting that a release of tri-chloroethylene had occurred to the groundwater in vicinity of MWB-14.

It should be recognized that the likely groundwater gradient is north in the vicinity of MWB-14. Therefore, if activities occurred in the vicinity of TP-4 resulting in the release of solvents to soil, additional groundwater monitoring wells may be warranted down gradient to confirm or refute the presence of solvents in the groundwater in this area of the site.

## **9.0 GEOTECHNICAL EVALUATION**

### **9.1 GENERAL**

Based on the design considerations provided by Cima, Dames & Moore has evaluated the feasibility of supporting the proposed masonry building on foundations consisting of either shallow or deep foundations. Based on the thickness and variability of the uncontrolled fill stratum (Stratum 1), the in-situ condition of Stratum 1 is considered inadequate to support shallow foundations. In addition, since the removal and recompaction of Stratum 1 would likely result in significant and uncertain segregation, disposal and staging costs, in part, due to the potential environmental impacts at the site, it is currently recommended that the masonry structure be supported on a deep foundation system.

An alternative removal and recompaction approach to improving the soil beneath the proposed structure may be considered after additional environmental testing is performed within the areas to be excavated. However, it should be recognized that, due the debris observed in the test trenches and the likely depth requirements for a removal and recompaction operation (roughly 8-12 feet below ground surface), a large quantity of debris will likely be required to be removed from the site. This approach would involve additional costs with the importation of fill and the placement of controlled, compacted fill in the excavation.

Recommendations for deep foundations are presented in subsequent sections of this report. However, it should be recognized that the presence of deleterious debris outside the building footprint may lead to pavement distress and the settlement of flatwork. Recommendations for the use of geogrids/geotextiles to reduce the magnitude of settlement can be provided prior to final design.

### **9.2 PILE FOUNDATIONS**

Dames & Moore recommends that the proposed structure be pile supported. It is recommended that either auger-placed pressure injected concrete piles or open end steel pipe piles be used. It is further recommended that these piles be founded in the glacial deposits (Stratum 3). Dames & Moore anticipates that various obstructions will be excavated in the fill and natural subsurface materials which will require pre-excavation, pre-augering, or coring to properly install pile foundations. Accordingly, the contractor should be prepared to handle

such obstructions and should be encouraged to specify unit rates for pre-excitation or concrete coring should it be necessary. Additional recommendations are described below.

### 9.2.1 Auger-Placed Pressure Injected Concrete Piles

Auger-placed pressure injected concrete piles (a.k.a., "auger cast piles") should be constructed of concrete having a minimum of 3,000 psi compressive strength ( $f'c = 3000$  psi) and adequate reinforcing. Requirements for the design and installation of the concrete and reinforcing should follow The American Concrete Institute's Building Code for Reinforced Concrete (ACI-318). Dames & Moore has considered auger cast piles having an outside diameter of 12 inches and recommends a minimum as-installed tip elevation of 385 feet. Creation of a concrete bulb at the pile tip is not required.

For the above-described pile installed as recommended, the allowable axial compressive capacity is estimated to be 25 tons per pile with a factor of safety of at least 2.0. The estimated allowable uplift capacity is 2.5 tons with a factor of safety of at least 3.0. The estimated lateral capacity of each single pile is estimated as follows, assuming a pile cap whose bottom is situated 6 to 7 feet below grade.

Deflection of pile head <u>(inches)</u>	end condition <u>(Fixed/pinned)</u>	Allowable Lateral Capacity, tons <u>(Factor of safety = 2.0)</u>
0.25	Pinned	1.0

Recommendations for pile groups are presented in subsequent sections of this report.

### 9.2.2 Steel Pipe Piles

Dames & Moore has also considered open-ended steel pipe piles with outside diameters of 10.75 inches. It is recommended that these piles be driven with a MKT9B3 double-acting hammer, or equivalent, with a manufacturer's rated energy of about 8,750 foot-pounds. We recommend a final driving resistance of 72 blows per foot (BPF) for the last foot of penetration. Steel pipe piles may be spliced in the field using full penetration butt welds for the full circumference of the piles provided that no more than one splice per pile is permitted. All splices and welds should be water-tight. The purpose of the open end is to allow drilling equipment to remove obstructions at the pile tip, if encountered above the glacial material. Pre-augering should be limited to one foot beyond the fill materials.

The open-end steel pipe piles should have a wall thickness of 0.5 inches and conform to ASTM A-252, Grade II (35 ksi steel). Upon reaching the required tip elevation and termination blow count, the plug which forms inside the pile should be removed to within five feet of the tip and backfilled with  $f'c = 3000$  psi concrete. Concrete and reinforcing design should also follow The American Concrete Institute's Building Code for Reinforced Concrete (ACI-318). If less than 2 inches of free water cannot be maintained within the pile prior to concrete placement, concrete should be introduced using a tremie technique, filling the pile from the bottom up.

For the above-described pile installed as recommended, the allowable axial compressive capacity is estimated to be 30 tons per pile with a factor of safety of at least 2.0. The estimated allowable uplift capacity is 2.5 tons with a factor of safety of at least 3.0. The estimated lateral capacity of each single pile is estimated as follows:

Deflection of pile head (Inches)	end condition (Fixed/pinned)	Allowable lateral capacity, tons (Factor of safety = 2.0)
0.25	Pinned	1.5

### 9.2.3 Pile Groups

Group efficiency for the above-stated axial compression and uplift capacities is 1.0, provided that the pile spacing within the group is at least three pile diameters, center-to-center. For lateral loading, a group efficiency of 1.0 is recommended for the spacing of 8 pile diameters, 0.7 is recommended for the spacing of six pile diameters, and 0.25 is recommended for the spacing of three pile diameters (spacing being in the direction of loading). In addition, the lateral capacities indicated above refer to the resistance due to soil pressure on the side of the pile. Additional resistance to lateral loads will be provided by passive soil pressure against the pile cap. Assuming that the backfill adjacent to the pile cap is comprised of granular material compacted to 95 % of the maximum dry density in accordance with ASTM D-1557 procedures, it is recommended that the passive lateral earth pressure against the pile cap be limited to 100 psf per linear foot of pile cap embedment. This value is consistent with the lateral capacity recommendation for lateral deflection of 0.25 inches based on a factor of safety of at least 2.0 and may not be applicable for lateral deflections exceeding 0.25 inches.

#### **9.2.4 Pile Foundation Settlement**

Pile groups consisting of up to 15 piles designed in accordance with the above recommendations are estimated to incur a total settlement in the range of one-quarter to three-quarters of an inch. Settlement of single piles (not within a multiple pile cap) are estimated at the lower end of this range. Up to 50 % of this settlement may be post-construction settlement.

#### **9.2.5 Pile Testing**

Piles installed in accordance with the previous recommendations do not typically require static pile load tests when allowable axial compressive loads are less than 40 tons. However, it is recommend that quality control procedures be exercised during the installation of the aforementioned piles. These procedures include, but are not limited to, the following:

##### **9.2.5.1 General**

The owner's geotechnical engineer should be provided the opportunity to review and comment on the project's plans and specifications regarding geotechnical matters prior to award to a contractor. All test and production piles should be monitored by the owner's geotechnical engineer to verify compliance with project specifications, and pile logs should be maintained in the field for each installed pile.

##### **9.2.5.2 Auger -Cast Piles**

A minimum of 5% of the production piles should be designated for pile integrity testing using appropriate hardware and software (typically PIT and PITWAP respectively). PIT and PITWAP aid in accessing whether soil necking or poor concrete exists within a pile after construction.

##### **9.2.5.3 Open-End Pipe Piles**

A minimum of 5% of the production piles should be designated for drive tests using a Pile Driving Analyzer (PDA). At least half of the anticipated drive tests should be performed prior to production pile driving to verify the estimated driving criteria, assess hammer performance, and confirm that driving stresses are acceptable. The balance of the drive tests should be reserved for restrikes on concrete filled piles at least 24 hours after their

installation. This will typically require that a small percentage of piles be filled with high early strength concrete having a 3-day compressive strength of 4,000 psi to avoid remobilization of pile driving equipment. Details of the pile drive tests should be developed during formulation of the plans and specifications. Data processing using a Case Pile Wave Analysis Program (CAPWAP) should be performed on at least two piles. CAPWAP is primarily used to confirm pile capacity and refine data obtained from the PDA. Pile capacity obtained by the PDA alone is often not reliable for non-uniform piles and soil conditions due to inherent limitations.

PDA and CAPWAP testing may be desirable for testing Auger-Cast piles as well, depending on field conditions and careful consideration from the owner's geotechnical engineer.

#### **9.2.5.4 Pile Caps**

Special consideration should be applied to pile cap locations such that existing subsurface obstructions do not impede performance of the deep foundation system. Dames & Moore recommends that pile cap locations be over excavated about 2 feet. Obstructions, if encountered should be removed. In no case should an obstruction or otherwise objectionable element be allowed to exist within two feet from the bottom of the pile cap as determined by the owner's geotechnical engineer. Backfill placed under and around a pile cap should conform to the recommendations for structural backfill presented in subsequent sections of this report.

### **9.3 CONCRETE SLABS ON GRADE**

Due to the inadequacy of Stratum 1 as described previously, Dames & Moore believes that concrete slabs within the proposed structure should be pile supported through a system of thickened reinforced slabs and/or grade beams.

### **9.4 TEMPORARY EXCAVATIONS**

It is likely that shallow excavations will be made for the construction of the proposed pile caps and subsurface utilities. Open-cut excavations above the water table (currently estimated at 9 feet below the existing ground surface) can have side slopes as steep as 1(vertical): 1.5(horizontal) without use of a temporary retaining structure. The slopes should be elevated by a qualified geotechnical engineer to confirm that the anticipated materials will

support a 1 to 1.5 temporary slope. Should side slopes exceed that previously stated for excavations in excess of 4 feet deep, the foundation contractor should design a temporary retaining structure in conformance with pertinent OSHA and local safety regulations. The design lateral earth pressure distribution for temporary walls should be assessed by a licenced engineer in the state of New York. Proper surcharge loads, including that which may result from construction equipment, should be added to the pressure diagram and taken into account in the design.

#### **9.5 PAVEMENT DESIGN**

For preliminary design purposes, pavement areas prepared as described below can be designed as 4 inches of asphalt concrete per 6 inches of aggregate base. As discussed previously, the presence of voids and deleterious debris will lead to movement and flatwork settlement. Such settlement may be remediated by removal and replacement with controlled compacted fill soils, or may be mitigated through the use of geogrids/geotextiles. Recommendations for the use of geogrids/geotextiles can be provided for final design.

#### **9.6 CONSTRUCTION DEWATERING**

Due to the encountered subsurface stratigraphy, it is anticipated that periods of perched water may occur during construction, especially during and following periods of rain. Accordingly, it is recommended that temporary excavations be protected from surface water run-off. It is believed that sump pumping from within the excavation will provide adequate control of groundwater infiltration, however, the contractor should be prepared to provide adequate dewatering of excavations using other methods, in the event that sump pumping is not effective, especially in areas containing excessive voids. Discharge permits may be required. Construction below the groundwater table will require a dewatering plan from the contractor.

Due to environmental concerns at the site, special consideration of groundwater contamination migration may be required, including regulatory oversight and permitting, with respect to dewatering and when construction occurs below the groundwater table.

## **9.7 SITE PREPARATION**

### **9.7.1 Stripping and Removal**

Site preparatory activities will typically include the removal of vegetation, debris and remnant underground features and utilities that might interfere with the proposed foundation construction and site design. The depth of stripping will likely be on the order of 1 to 2 feet in areas to receive pavement, while the excavation depth for new subsurface utilities is likely to be on the order of 4 to 6 feet. All utilities should be overexcavated at least 2 feet, or to the satisfaction of the owner's geotechnical engineer, to reduce the potential for differential settlement.

The subgrade should then be proof-rolled prior to fill placement using a vibratory roller weighing at least 10 tons. Loose or soft areas that are detected during proof-rolling operations, which cannot be readily compacted in place, should be replaced with structural fill in accordance with the recommendations provided below. Areas of subgrade where the use of the previously mentioned roller is not feasible should be proven by an alternate method accepted by the owner's geotechnical engineer.

### **9.7.2 Backfill Requirement**

Filling and backfilling operations will be required for the placement of controlled compacted fill, for general site grading and to attain the subgrade elevation for the proposed structure. It is recommended that granular materials be utilized as backfill and fill. For structural backfill and fill material, it is recommended that the following range of grain-size distribution be maintained:

<b>US Standard Sieve Size</b>	<b>Percent Passing by Weight</b>
2 inches	100
3/4 inch	100-60
No. 4	100-40
No. 16	40-20
No. 50	40-5
No. 100	30-0
No. 200	20-0

The backfill material should consist of hard durable particles such as sand, gravel and quarry-processed stone. The backfill material should be free of organic matter, wood, debris, lumps of clay and frozen material and should not be placed on frozen or wet ground. In addition, the backfill material should not contain particles of soft rock, such as shale, or and



elements which would produce detrimental effects to pavements, structures, or utility lines when in the presence of water. Blast furnace slag should not be permitted as backfill material. Material passing the No. 40 sieve should be non-plastic, when tested in accordance with ASTM D-4318. The client should be apprised of the origin of imported material prior to its mobilization to the site, and should be provided sufficient laboratory data to confirm that the impacted material is not hazardous or regulated in accordance with New York State Department of Environmental Conservation regulations.

It is recommended that all structural backfill be placed in layers no greater than 8 inches in loose thickness. Backfill operations should be monitored by the owner's geotechnical engineer. The fill should be compacted to at least 95 percent of the maximum dry density as determined by the ASTM D-1557 method and placed at a moisture content within 2 percent of the optimum moisture content. Backfill placed under areas to receive traffic loading should be compacted to 95 percent of the maximum dry density as determined by the ASTM D-1557 Method for a depth of at least 2 feet below the pavement box. Backfill placed below this level should be compacted to at least 90 percent of the maximum dry density as determined by the ASTM D-1557 Method. Fill placed merely to raise the grade, which will not be subjected to structural or traffic loads, should be compacted to at least 90 percent of the maximum dry density, as determined by ASTM D-1557.

#### **9.8 SOIL RESISTIVITY TO STRAY DC AND AC ELECTRICAL CURRENTS**

Due to the nature of the proposed structure, Dames & Moore anticipates that corrosion protection may be required for piles installed at this site. Dames & Moore should be advised accordingly should the site be developed in the future. At such time, additional information may be required from the owner to provide design recommendations.

Soil resistivity will likely vary horizontally and vertically within the subsurface. Dames & Moore recommends that site-specific soil resistivity estimates, measuring techniques and field testing be the responsibility of a qualified electrical engineer familiar with the design of the required grounding systems.

#### **9.9 FROST PROTECTION**

The maximum depth of frost penetration anticipated at the site is approximately 6 feet. Therefore, Dames & Moore recommends that all underground utilities be located at least 6

feet below ground surface whenever possible. Pile caps, or shallow foundations, should be embedded a minimum of 6.5 feet below ground surface.

During construction, temporary frost protection should be employed by the contractor in areas of structural or traffic loading whenever freezing conditions are anticipated, particularly at the end of work shifts. Such protection may include the use of frost blankets, or temporary fill. During periods of freezing conditions, all affected areas should be observed and tested by the owner's geotechnical engineer prior to receiving backfill or fill, regardless of the frost protection employed by the contractor.

## **10.0 DISCUSSION AND RECOMMENDATIONS**

### **10.1 ENVIRONMENTAL**

Based on the limited information generated during the Phase II Investigation, it can be confirmed that releases of hazardous materials have occurred to the site. Although initial measured concentrations are below or only slightly above New York State Department of Environmental Conservation recommended action levels, it is recommended that additional exploratory activities be conducted in the vicinity of TP-4 to attempt to define the lateral extent of impacts. In addition, it is recommended that additional monitoring wells be installed upgradient and downgradient of TP-4 to evaluate the potential for impact to groundwater. As discussed previously, additional testing of the fill soils for metals, semi-volatile organics, and PCBs, is warranted based on initial laboratory data, the debris observed, and the history of the area.

### **10.2 GEOTECHNICAL**

The results of the geotechnical investigation indicate that the upper materials underlying the proposed building footprint consist of fill soils with various percentages of deleterious debris including concrete and brick. It is not known if basement slabs are still present within the footprint of the building. Therefore, due to the unsuitable condition of the subsurface soils, it is recommended that the structure be founded on a pile and grade beam system. It should be recognized however, that installation of piles through concrete and other debris may be very difficult. Redrilling and/or pre-excavation may be necessary. Removal and recompaction of controlled compacted fill will still be necessary in areas likely to support settlement sensitive improvements including pavement and concrete flat work. An alternative to deeper foundation system is the removal and recompaction of soils within the building

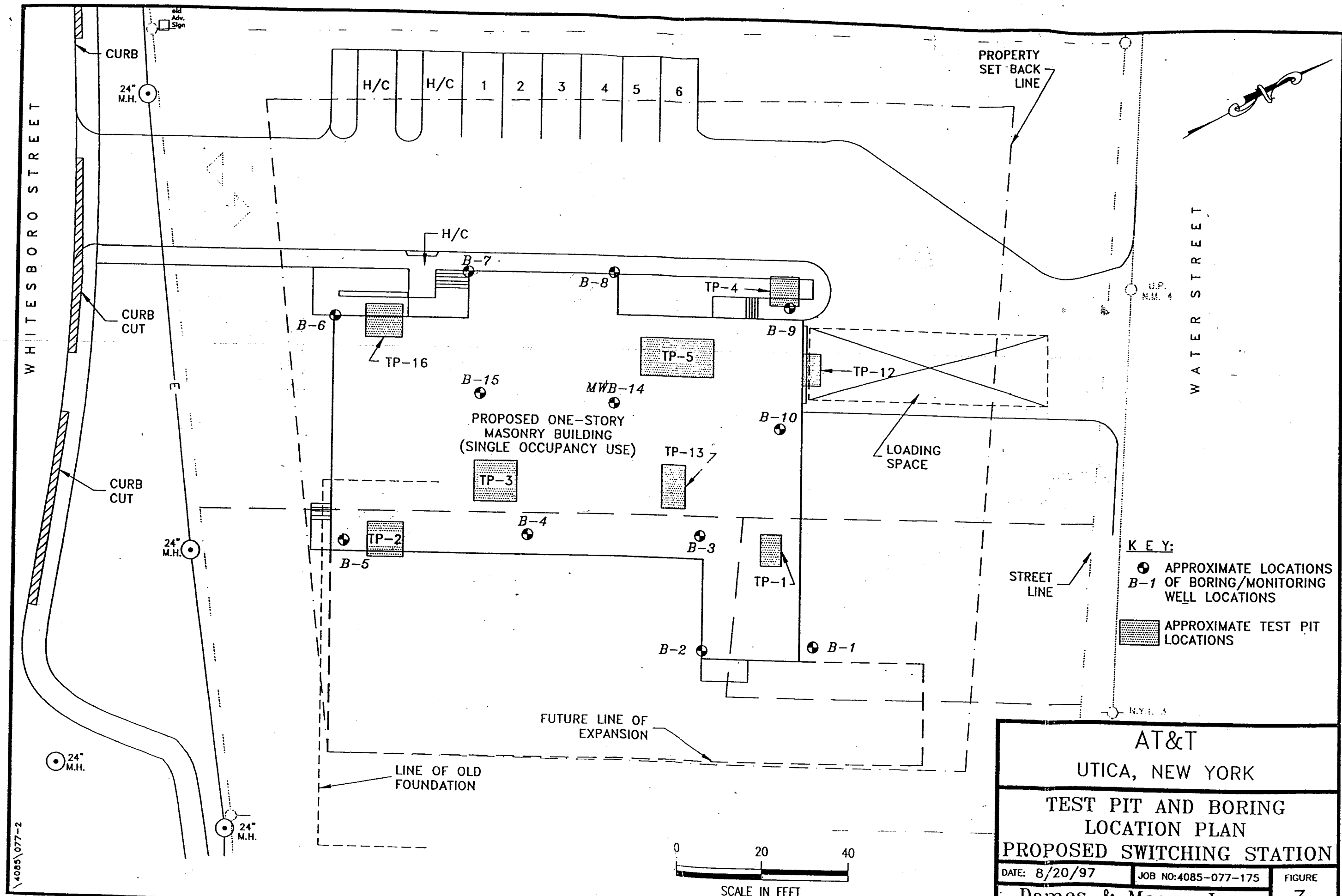
footprint, however, additional information is necessary concerning potential environmental impacts to quantify the cost benefit of such an alternative.

#### **11.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS**

The recommendations of this report pertain only to the site investigated and are based on the assumption that subsurface conditions do not deviate from those encountered during the field investigation. Should variations or undesirable conditions arise during construction, or if proposed construction differs from that currently planned, Dames & Moore should be notified so that supplemental recommendations can be given.

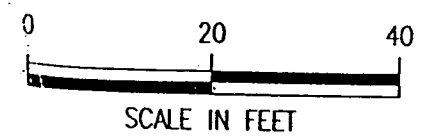
This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the recommendations and information contained in this report are brought to the attention of the Architect and Engineer for the project and incorporated into future plans and specifications. It is also understood that it is the owner's responsibility to insure that contractors and subcontractors carry out such recommendations in the field.

The findings of this report are valid as of the present date, however, natural processes and works of man can change the conditions of a property. In addition, legislation, technical innovations, and knowledge are always evolving. Therefore, the findings in this report may be invalidated in whole or part by changes outside our control. Accordingly, this report is perpetually subject to review and in any case should not be relied upon after a period of three years.



- KEY:**
- APPROXIMATE LOCATIONS B-1 OF BORING/MONITORING WELL LOCATIONS
  - ▨ APPROXIMATE TEST PIT LOCATIONS

<p><b>AT&amp;T</b>  <b>UTICA, NEW YORK</b></p>		
<p><b>TEST PIT AND BORING          LOCATION PLAN          PROPOSED SWITCHING STATION</b></p>		
<p>DATE: 8/20/97</p>	<p>JOB NO: 4085-077-175</p>	<p>FIGURE</p>
<p><b>Dames &amp; Moore, Inc.</b>          CRANFORD, NEW JERSEY</p>		<p><b>3</b></p>



4085\077-2

**TABLE 1**  
**SUMMARY OF GEOTECHNICAL TESTING - INDEX/PHYSICAL PROPERTIES**  
**A. T. & T. - UTICA, NEW YORK**  
**04085-077**  
**JULY, 1997**

BORING	SAMPLE NUMBER	DEPTH TESTED	FIELD MOIST DENSITY (PCF)	NATURAL MOISTURE CONTENT (%)	CLASSIFICATION					NOTES	ASTM D-2487 GROUP NAME
					LL	PL	PI	%<#200	USCS		
B-1	S-6	25'-25'7"	-	10.6	13	12	1	61.1	ML	Dark Gray Clayey SILT, some coarse to fine sand, trace fine gravel	Sandy silt
B-3	U-1	10'-12'	124.3	20.7	-	-	-	8.6	SP-SM	Brown medium to fine SAND, little coarse to fine gravel, trace silt	Poorly graded sand with silt
B-5	S-5	20'-22'	-	-	-	-	-	13.0	GM	Dark Brown/Dark Gray coarse to fine GRAVEL, and coarse to fine sand, little silt	Silty gravel with sand
B-7	S-4	15'-17'	-	6.7	14	13	1	46.3	SM	Grayish Brown coarse to fine SAND, and clayey silt, little fine gravel	Silty sand
B-7	S-6	25'-25'9"	-	-	16	-	NP	35.9	SM	Dark Gray/Dark Brown coarse to fine SAND, and silt, some coarse to fine gravel	Silty sand with gravel
B-10	U-1	10'-12'	90.3	19.9	-	-	-	6.7	SP-SM	Brown coarse to fine SAND, some fine gravel, trace silt	Poorly graded sand with silt and gravel

**TABLE 2  
SUMMARY OF ANALYTICAL TEST RESULTS**

**SOIL SAMPLES**

SAMPLE	NY SPEC TA6M SOIL OBJECTIVE	B-8	MWB-14	B-15	TP-4	B-4
DEPTH		9'-10"	9.5'-10'	9'-10'	7.5'	8'-9'
COMPOUNDS DETECTED	mg/kg					
GRO	NA	<7380 µg/kg	<7410 µg/kg	<7220 µg/kg	NA	<7420 µg/kg
DRO	NA	49.3 mg/kg	9.2 mg/kg	30.7 mg/kg	NA	140. mg/kg
Methylene Chloride	0.1	NA	12 µg/kg	NA	12 µg/kg	NA
Acetone	0.2	NA	42 µg/kg	NA	770 µg/kg	NA
Trans - 1,2,-Dichloroethne	0.3	NA	<1.2 µg/kg	NA	1300 µg/kg	NA
cis-1,2, - Dichloroethene	NA	NA	<1.2 µg/kg	NA	16000 µg/kg	NA
Trichlorothene	0.7	NA	7.4 µg/kg	NA	.89 µg/kg	NA
Arsenic	7.5	NA	4.2 mg/kg	NA	NA	NA
Barium	300	NA	14.5 mg/kg	NA	NA	NA
Cadmium	1	NA	<0.071 mg/kg	NA	NA	NA
Chromium	10	NA	6.6 mg/kg	NA	NA	NA
Lead	0	NA	5.5 mg/kg	NA	NA	NA
Mercury	0.1	NA	0.13 mg/kg	NA	NA	NA
Selenium	2	NA	<0.76 mg/kg	NA	NA	NA
Silver	B	NA	<0.24 mg/kg	NA	NA	NA

NA = Not Analyzed  
 GRO = Gasoline Range Organics  
 DRO = Diesel Range Organics  
 B = Site Background

**TABLE 3  
SUMMARY OF ANALYTICAL LABORATORY RESULTS**

**GROUNDWATER SAMPLE - MWB-14  
OBTAINED 6/30/97**

<b>COMPOUND DETECTED</b>	<b>CONCENTRATIONS DETECTED (<math>\mu\text{g/l}</math>)</b>	<b>NY STATE AMBIENT WATER STANDARD (<math>\mu\text{g/l}</math>)</b>
Trichloroethene	2.2	5
Arsenic	20	50
Barium	2010	1000
Cadium	<0.40	10
Chromium	41.3	50
Lead	22.4	50
Mercury	0.14	2
Selenium	<4017	10
Silver	<0.90	50

Sample analyzed for volatile organics (EPA Test Method 8260), semi volatile organics (EPA Test Method 625) and metals.

# TEST PIT LOG

TP-1

4'W x 6.5'L x 4.8'D

	TOPSOIL	GRASS/VEGETATION
1	SOIL SAMPLE ●1.5 bgs      FILL	TOPSOIL, ROOTS 1 BRICK, TIRES, WOOD, ALUMINUM, HOSES, PLASTICS, (FILL)
3	DARK,GRAY-SILT AND FINE TO COARSE SAND, LITTLE GRAVEL (MOIST)	3
5	TEST PIT TERMINATED ●4.8' bgs. NO GROUNDWATER ENCOUNTERED. TEST PIT BACKFILLED.	5
7		7
10		10

DEPTH IN FEET (APPROXIMATE)

**NOTE:**

1. ASBESTOS - BRICK.

4085\077-8

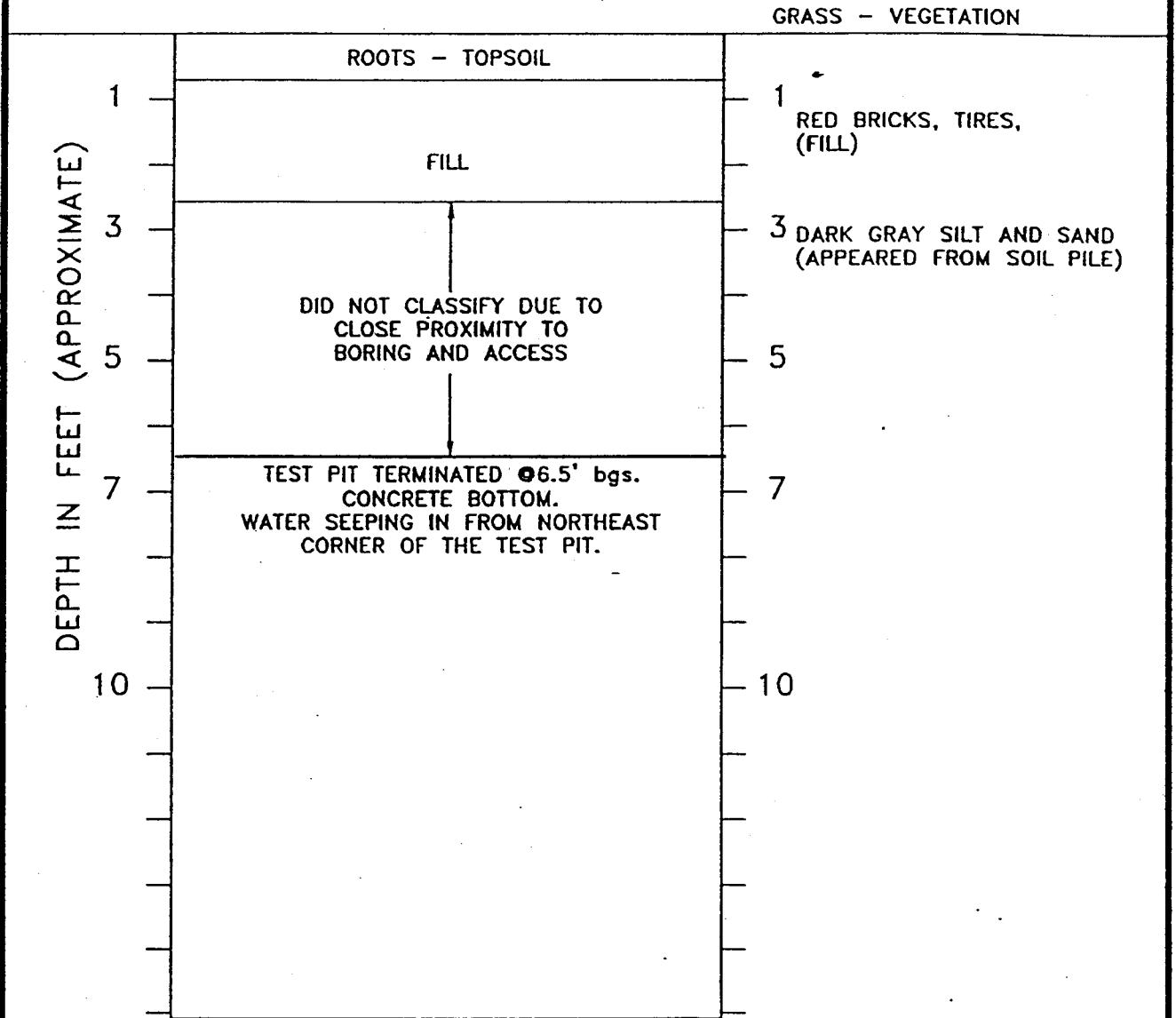
AT&T UTICA, NEW YORK		
TEST PIT LOG TP-1		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-



# TEST PIT LOG

## TP-2

7'W x 8'L x 6.5'D



**NOTE:**

1. NO ASBESOS COLLECTED.

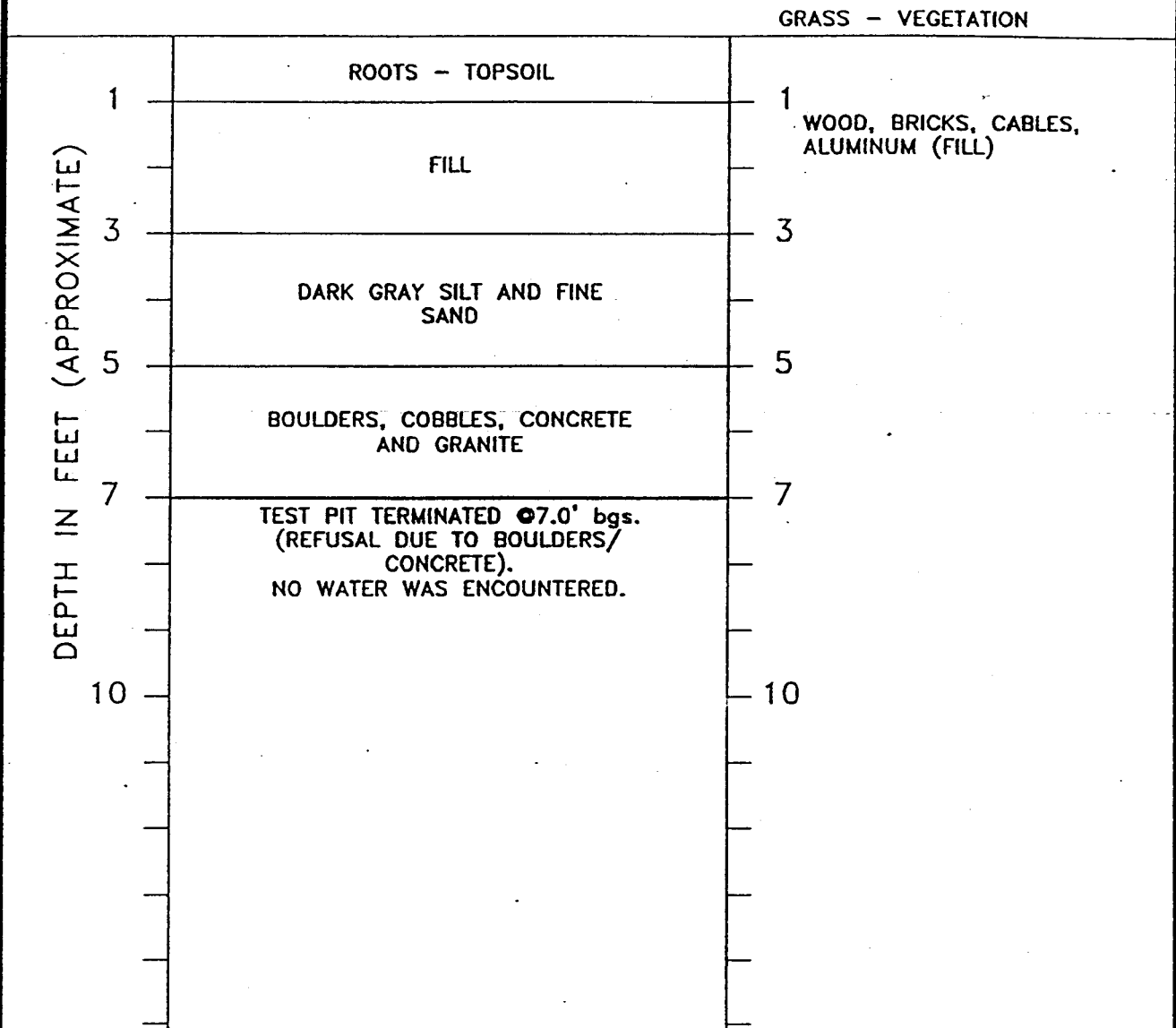
4085\077-4

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-2		
DATE: 6/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST PIT LOG

## TP-3

9'W x 7'L x 7'D



DEPTH IN FEET (APPROXIMATE)

**NOTE:**

1. NO ASBESOS OR SOIL SAMPLES COLLECTED.

4085\077-3

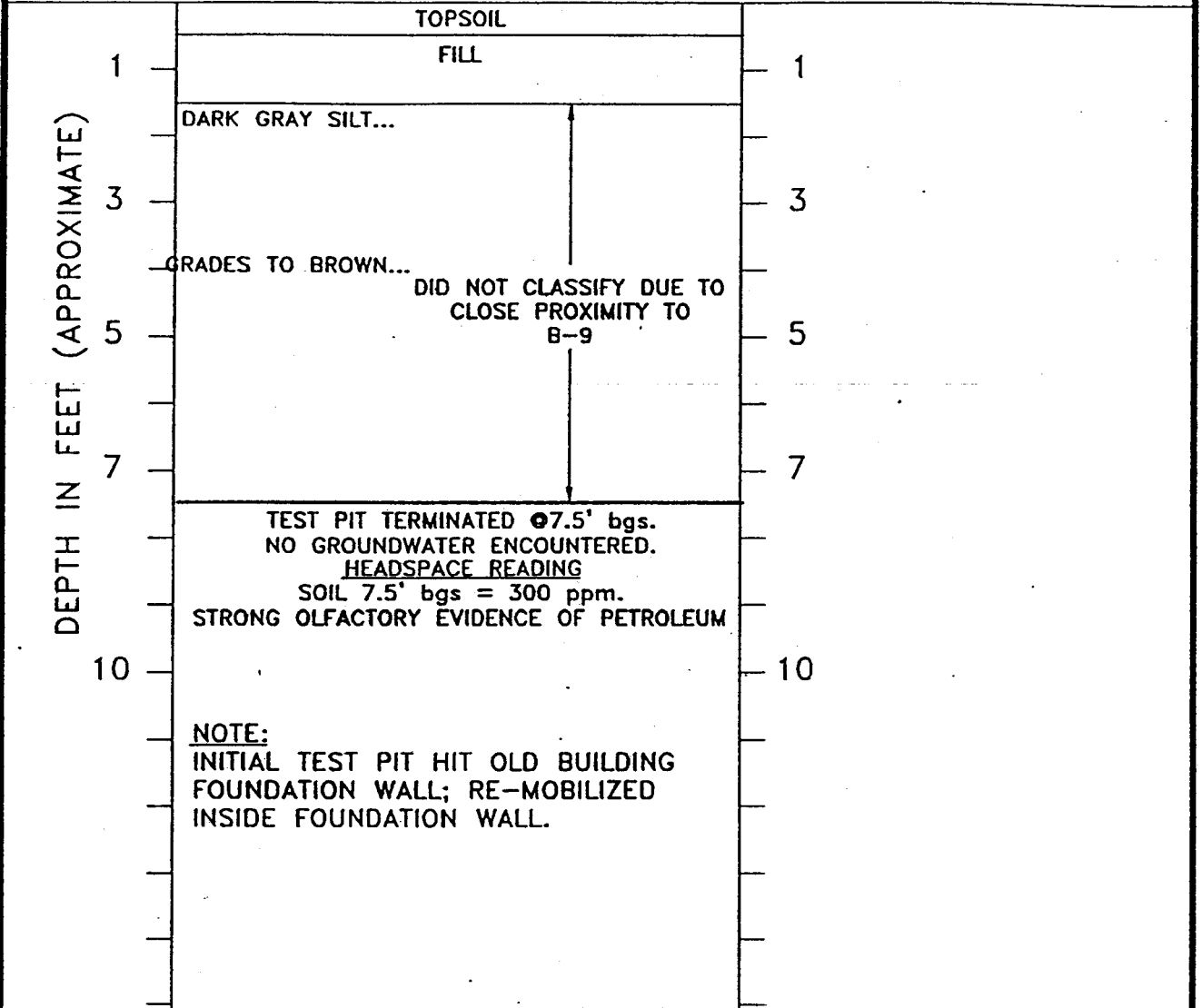
AT&T UTICA, NEW YORK		
TEST PIT LOG TP-3		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST PIT LOG

## TP-4

7'W x 14'L x 7.5'D  
(APPROXIMATELY 1.5' WEST OF B-9)

VEGETATION & TOPSOIL



**NOTE:**

1. ASBESTOS-TILE, PAPER
2. PHOTOGRAPHS TAKEN.
3. ENVIRONMENTAL (VOC) SAMPLES COLLECTED.

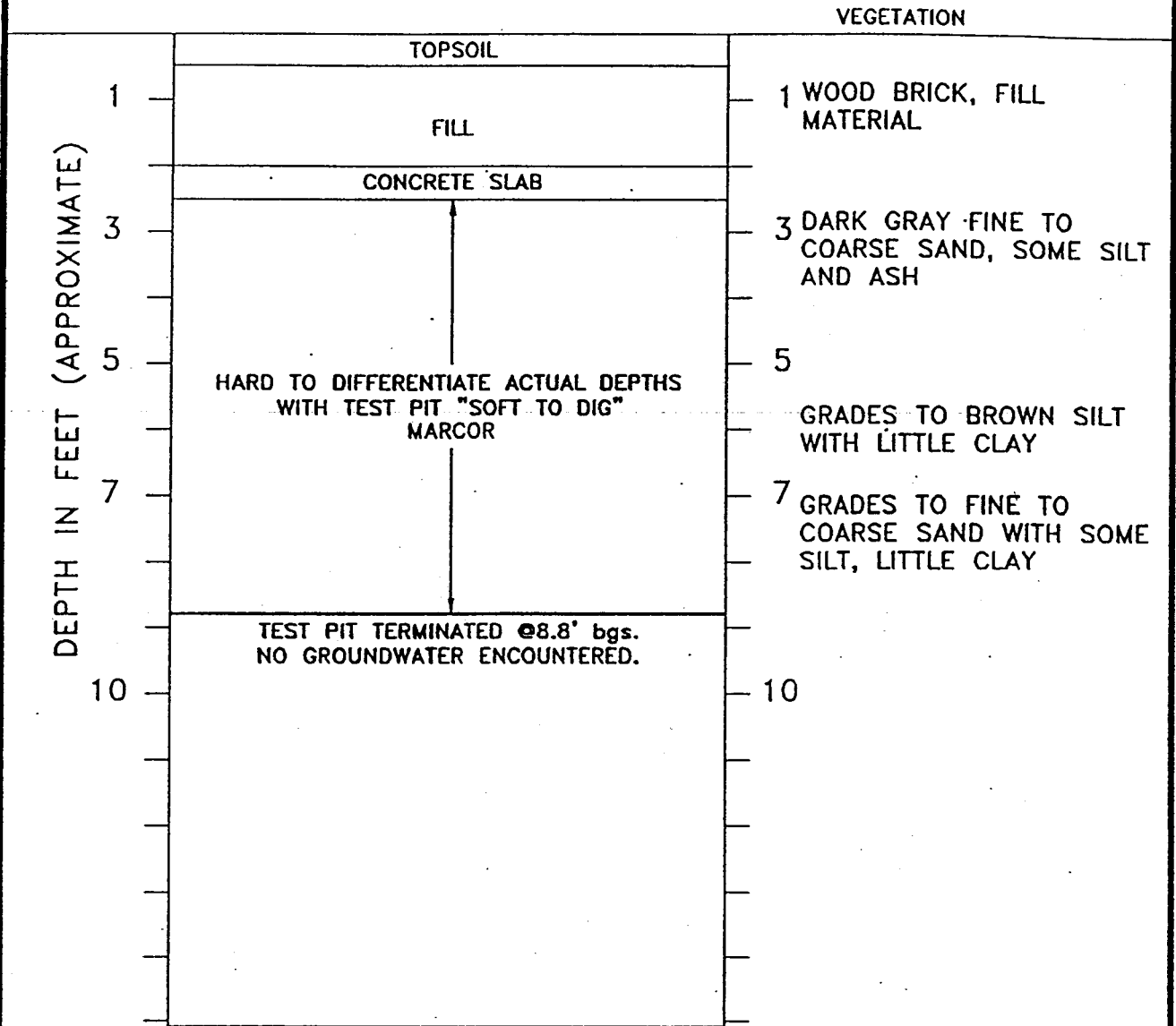
4085\077-5

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-4		
DATE: 8/21/87	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST PIT LOG

TP-5

7'W x 17'L x 8.8'D



**NOTE:**

1. ASBESTOS - BRICK.

4085\077-9

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-5		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST PIT LOG

## TP-12

4'W x 6'L x 4.5'D

		GRASS/VEGETATION
DEPTH IN FEET (APPROXIMATE)	TOPSOIL	TOPSOIL, ROOTS
	FILL	1 BRICKS, WOOD, TIRES, DEBRIS
	DARK GRAY SILT WITH SOME FINE TO COARSE SAND (MOIST)	<u>OVM</u> 3 15 ppm
	OLIVE GRAY FINE TO COARSE SAND WITH SOME SILT, LITTLE GRAVEL	4 ppm
	TEST PIT TERMINATED @4.5' bgs. NO GROUNDWATER ENCOUNTERED.	5
7		7
10		10

**NOTE:**

1. ASBESTOS SAMPLES: BRICK, TILE, FLASHING.

4085\077-10

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-12		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST PIT LOG

## TP-13

5'W x 8'L x 4'D

		GRASS/VEGETATION
1	TOPSOIL	ROOTS
1	FILL	1 BROWN SILT WITH SOME FINE SAND (DRY-DENSE)
3	FILL	3 BRICK-PRIMARILY SOME: PLASTIC, ROPE; WOOD (DRY)
5	TEST PIT TERMINATED @ 4.0' bgs. NO GROUNDWATER ENCOUNTERED.	
7		7
10		10

DEPTH IN FEET (APPROXIMATE)

**NOTE:**

1. NO PHOTOGRAPHS TAKEN BY PC.
2. TEST PIT PHOTOGRAPHED BY PAVEL.

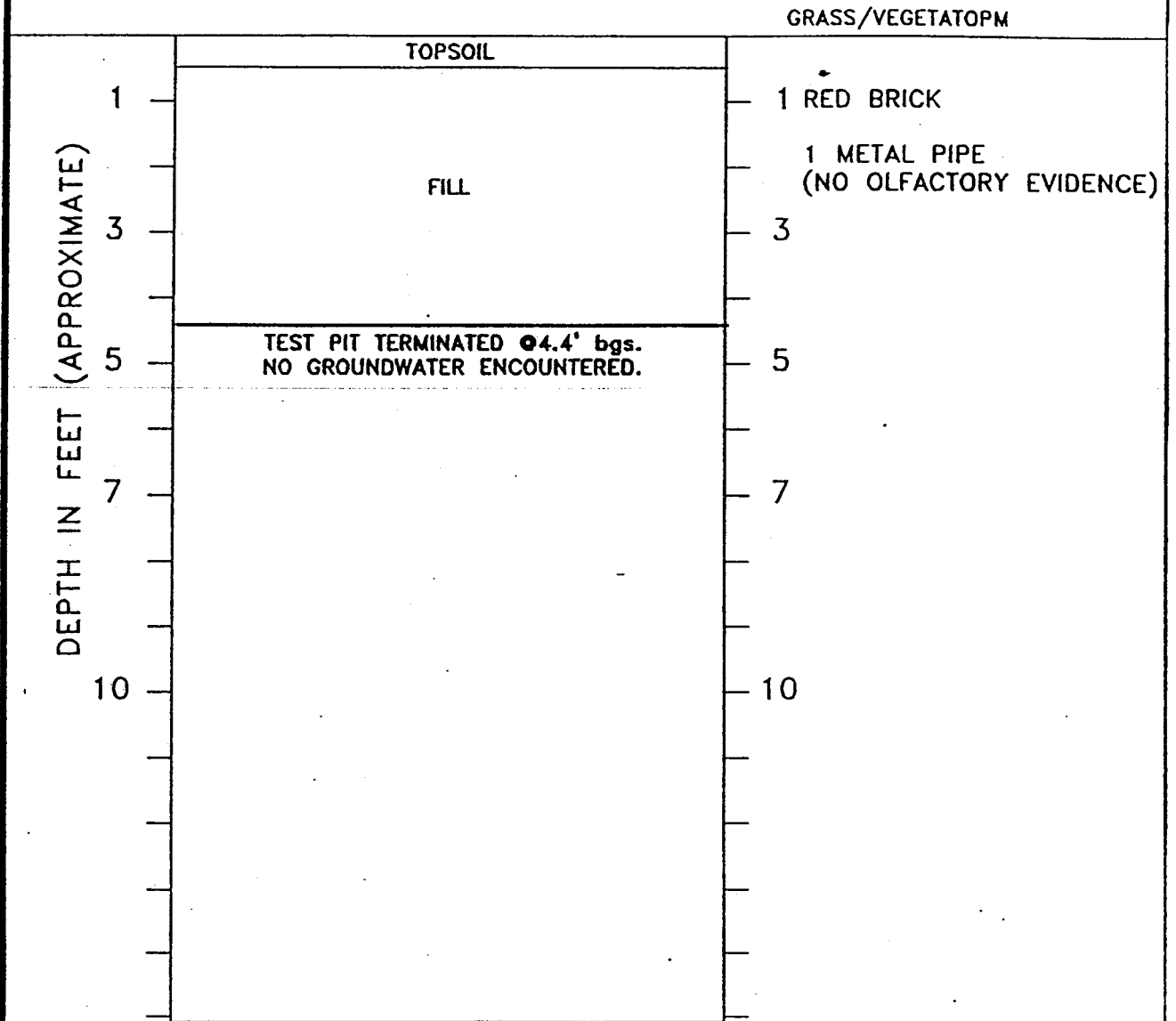
4085\077-7

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-13		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE: -
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

# TEST- PIT- LOG

## TP-16

6'W x 8'L x 4.4'D



**NOTE:**

1. ASBESTOS FLASHING.
2. NO SOIL SAMPLES COLLECTED-NO SOIL IN TEST PIT.

4085\077-6

AT&T UTICA, NEW YORK		
TEST PIT LOG TP-16		
DATE: 8/21/97	JOB NO.: 4085-075-175	FIGURE
Dames & Moore, Inc. CRANFORD, NEW JERSEY		-

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077		CLIENT: AT&T		LOCATION: UTICA, NEW YORK	
DRILLING METHOD: CANTIERA CT 280				BORING NUMBER B-1	
4" I.D. HOLLOW STEM AUGER				SHEET 1 of 2	
SAMPLING METHOD: 140#24" OR 2" SPLIT SPOON (SPT)				DRILLING	
				START	FINISH
TIME:	1620			TIME	1413
DATE:	6/24/87			DATE	6/24/87
DEPTH TO GROUNDWATER (FEET)	10.2'			DATE	6/24/87

ELEVATION: 411.5'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085-077-B-1

SAMPLER TYPE	INCHES DOWN RECORDED	OVN READING (PPM)	SAMPLE NO. DEPTH	BLOWS/ SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		4			0		SURFACE CONDITIONS: LEVEL, TALL GRASS (BRUSH)
SPT	24	0	5-1	15	33	BDL	1	FILL	BROWN/ DARK BROWN FINE SAND AND SILT MIXED WITH FRAGMENTS OF RED BRICK, DRY DENSE
	16	0	6'	18			2		GRADING TO PREDOMINANTLY BRICK AND BRICK FRAGMENTS
		0	2'	12			3		
							4		HARD DRILLING
		0		4			5		
SPT	24	0	5-2	3	5	BDL	6	SM	BROWN/ DARK BROWN MEDIUM TO FINE SAND, SOME SILT, FREQUENT WHITE INTRUSIONS, WET, LOOSE, (FILL)
	22	0	5'	2			7	SM	BROWN/ YELLOWISH RED COARSE TO FINE SAND, SOME COARSE TO FINE GRAVEL, LITTLE SILT & CLAY, WET, LOOSE
		0	7'	2			8		
							9		
		0		1			10		
SPT	24	0	5-3	0	0	BDL	11	SP	BROWN/ YELLOWISH RED COARSE TO FINE SAND, TRACE SILT SOME FINE GRAVEL, WET, LOOSE
	12	0	10'	0			12		
		0	12'	1			13		
							14		
				1			15		
SPT	24	0	5-4	7	19	BDL	16		GRAY-BROWN COARSE TO FINE SAND, SOME SILT, SOME FINE GRAVEL (TILL)
	10	0	15'	12			17		GRADING TO DARK GRAYISH BROWN
		0	17'	28			18		
							19		
							20	SP-SM	



LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTORRA CT 360		BORING NUMBER B-1
4" I.D. HOLLOW STEM AUGER		SHEET 2 OF 2
SAMPLING METHOD: 140/824" OR 2" SPLIT SPOON (SPT)		DRILLING START FINISH TIME TIME DATE DATE 6/24/97 6/24/97
TIME:		
DATE:		
DEPTH TO GROUNDWATER (FEET)		

ELEVATION: 411.5±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\B-1

SAMPLER TYPE	NO. OF SAMPLES REGISTERED	QYM READING (PPH)	SAMPLE NO. / BLOW/8" SAMPLER	N VALUE	HEADSPACE READING (PPH)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
			12			20		SURFACE CONDITIONS: LEVEL, TALL GRASS (BRUSH)
SPT	24 / 14	0	23 / 36	59	BDL	21	SP-SM	GRAY COARSE TO FINE SAND, TRACE SILT, SOME FINE GRAVEL WITH FREQUENT FRAGMENTS OF BLACK SHALE, WET, VERY DENSE
			31			22		
						23		
						24		
SPT	8 / 8	0	19 / 50/2	59	BDL	25	SM	DARK GRAY COARSE TO FINE SAND & CLAYEY SILT, TRACE FINE GRAVEL, MOIST, VERY DENSE
						26		
						27		
						28		
						29		VERY SLOW AND HARD DRILLING
						30	EOB	GRADING WITH OCCASIONAL BOULDERS
SPT	1 / 1	0	50/1			31		
						32		
						33		
						34		NOTES:
						35		1. BORING TERMINATED AT A DEPTH OF ABOUT 30'-1" BELOW GROUND SURFACE ON 6/24/97.
						36		2. GROUND WATER SUSPECTED AT A DEPTH OF 10 FEET BELOW SURFACE ELEVATION ON 6/24/97.
						37		3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
						38		4. EOB = END OF BORING
						39		5. BDL = BELOW DETECTABLE LIMITS
						40		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER:  
04085-077

CLIENT:  
AT&T

LOCATION:  
LITICA, NEW YORK

DRILLING METHOD:  
CANTERBA CT 380

BORING NUMBER  
8-2

4" LD. HOLLOW STEM AUGER

SHEET  
1 OF 2

SAMPLING METHOD:  
140/824" ON 2" SPLIT SPOON (SPT)

DRILLING

TIME:	1021				START	FINISH
DATE:	7/1/87				TIME	TIME
					1510	1000

ELEVATION: 412'±

DEPTH TO GROUNDWATER (FEET)  
10.2'

DATE  
6/30/87

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\8-2

SAMPLER TYPE	INCHES DRIVER RECORDED	OVER READING (PPH)	SAMPLE NO. SAMPLE DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPH)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		28			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS
SPT	24	0	3-1	65	84	BDL	1	FILL	RED, BROWN, & GRAY COARSE TO FINE SAND AND COARSE TO FINE GRAVEL. LITTLE SILT, FREQUENT FRAGMENTS OF BRICK, DRY, VERY DENSE
	16	0	6'	19			2		
			2'	25			3		
							4		
							5		
SPT	7	0	5-2	50/1	50/1	BDL	6		GRADING TO BRICKS & MISCELLANEOUS DEMOLITION DEBRIS SPLIT SPOON BOUNCES
	5	0	5'				7		
			7'				8		
							9		
							10		
SPT	24	0	5-3	1		BDL	11	SP	DARK BROWN FINE TO COARSE SAND, SOME FINE GRAVEL, LITTLE SILT, WET, LOOSE
	17	0	10'	1	2	BDL	12		
			12'	3			13		
							14		
							15		
SPT	24	0	3-4	14		BDL	16		GRAY COARSE TO FINE SAND, SOME COARSE TO FINE GRAVEL, LITTLE CLAYEY SILT, FREQUENT FRAGMENTS OF BLACK SHALE, MOIST, DENSE, (TILL)
	8		15'	23	49	BDL	17		
			17'	20			18		
							19	CP-CL	GRAY COARSE TO FINE GRAVEL, SOME COARSE TO FINE SAND, TRACE CLAYEY SILT, WET, DENSE
							20		

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\07\B-2

LOCATION OF BORING		JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
SEE BORING LOCATION PLAN				BORING NUMBER 8-2
DRILLING METHOD: CANTORRA CT 360 4" I.D. HOLLOW STEM AUGER			SHEET 2 OF 2	
SAMPLING METHOD: 140/824" ON 2" SPLIT SPOON (SPT)				
DRILLING				
TIME:			START TIME	FINISH TIME
DATE:			1413	1605
DEPTH TO GROUNDWATER (FEET)			DATE 8/24/87	DATE 8/24/87

SAMPLER TYPE	INCHES DOWN RECORDED	OVM READING (PPM)	SAMPLE NO. DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAIN	DESCRIPTION
		0		8			20		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS
SPT	24	0	8-8	12	33	BDL	21	GP-GM	GRAY COARSE TO FINE GRAVEL, SOME COARSE TO FINE SAND, TRACE CLAYEY SILT, WET, DENSE
	20	0	20'	21			22		
			22'	31			23		
							24		
							25	SM	GRADING WITH SOME CLAYEY SILT, DRY, VERY DENSE
SPT	5	0	5-6	50/5	R	BDL	26		
	5		25'				27		
			25'3"				28		
							29		VERY SLOW AND HARD DRILLING
		0		1			30		
SPT	24	0	5-7	0	13	BDL	31		DARK GRAY MEDIUM TO FINE SAND, TRACE SILT, WET, MEDIUM DENSE
	17	0	30'	13			32		
		0	32'	32			32		AS ABOVE
			32'	28			33	EOB	
SPT	7		5-8	50/1	50/1		33		
	7		32'				34		
			32'7"				35		NOTES:
							36		1. BORING TERMINATED AT A DEPTH OF ABOUT 32'-7" BELOW GROUND SURFACE ON 7/1/87.
							37		2. GROUND WATER SUSPECTED AT A DEPTH OF 10 FEET BELOW SURFACE ELEVATION ON 7/1/87.
							38		3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
							39		4. EOB = END OF BORING
							40		5. BDL = BELOW DETECTABLE LIMITS

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER:  
04085-077

CLIENT:  
AT&T

LOCATION:  
UTICA, NEW YORK

DRILLING METHOD: CANTERBURY CT 380

BORING NUMBER  
B-3

6" I.D. HOLLOW STEM AUGER

SHEET  
1 OF 2

SAMPLING METHOD:  
140#24" ON 2" SPLIT SPOON (SPT)

DRILLING

140#30" ON DAMES & MOORE TYPE U (U)

TIME:	1350			START	FINISH
DATE:	7/1/87			TIME	TIME
				1030	1310

ELEVATION: 411.5'±

DEPTH TO GROUNDWATER (FEET)	10.4'			DATE	DATE
				7/1/87	7/1/87

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\B-2

SAMPLER TYPE	NO. OF SAMPLES	DEPTH (FT)	BLOWS/6" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
SURFACE CONDITIONS: LEVEL FILL, TALL GRASS								
FILL								
SPT	24	0	23			0		BROWN FINE GRAVEL, SOME COARSE TO FINE SAND, LITTLE SILT, DRY, DENSE
	10	0	25	35	BDL	1		GRADING TO PREDOMINATELY BRICK, BRICK FRAGMENTS, AND MORTAR
			14			2		
						3		
						4		
						5		
SPT	5	0	50/S	R	BDL	5		REFUSAL TO AUGER AT ±5.5' (PROBABLE CONCRETE FOOTING)
	3					6		
						7		
						8		
						9	SP	
						10		
			2			10		BROWN COARSE TO FINE SAND, TRACE SILT, WET, LOOSE
U	24		3	7	BDL	11		
	5		4			11		
			2			12		AS ABOVE
		0				12		
SPT	5	0		1	BDL	13		
	3	0				13		
		0				14		
						15		
		0	9			15		GRAYISH BROWN FINE SAND AND SILT, LITTLE FINE GRAVEL, MOIST, MEDIUM DENSE
SPT	24	0	11	21	BDL	16	SM	
	24	0	10			16		
		0	17			17		
						18	SP-SM	
						19		GRAY COARSE TO FINE GRAVEL, SOME COARSE TO FINE SAND, TRACE CLAYEY SILT, WET, DENSE
						20		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTERBA CT 350		BORING NUMBER B-3
4" I.D. HOLLOW STEM AUGER		SHEET 2 OF 2
SAMPLING METHOD: 140/024" ON 2" SPLIT SPOON (SPT)		DRILLING
140/030" ON DAMES & MOORE TYPE U (U)		START TIME 1030
TIME:		FINISH TIME 1310
DATE:		DATE 8/24/87
DEPTH TO GROUNDWATER (FEET)		DATE 8/24/87

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\B-2

SAMPLER TYPE	INCHES DOWN RECORDED	QVN READING (PPH)	SAMPLE NO. (FEET)	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPH)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		7			20		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS
SPT	24 19	0	5-5 20'	11 17	28	BDL	21		GRAYISH BROWN COARSE TO FINE SAND, TRACE SILT, SOME COARSE TO FINE GRAVEL, WET, DENSE
			22'	21			22		
							23		
							24		
				50/5			25	SM	GRAYISH BROWN COARSE TO FINE SAND, LITTLE SILT, LITTLE FINE GRAVEL, MOIST, VERY DENSE
SPT	7 5	0	5-4 25'		R	BDL	26		
			25.5'				27		
							28		
							29		VERY SLOW AND HARD DRILLING
				36			30		DARK BROWN COARSE TO FINE SAND, TRACE SILT, WET, VERY DENSE
SPT	9 9	0	5-7 30'	50/3	50/3	BDL	31	EOB	
			30.5'				32		NOTES:
							33		1. BORING TERMINATED AT A DEPTH OF ABOUT 32'-9" BELOW GROUND SURFACE ON 7/1/97.
							34		2. GROUND WATER SUSPECTED AT A DEPTH OF 10 FEET BELOW SURFACE ELEVATION ON 7/1/97.
							35		3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
							36		4. EOB = END OF BORING
							37		5. BDL = BELOW DETECTABLE LIMITS
							38		
							39		
							40		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077		CLIENT: AT&T		LOCATION: UTICA, NEW YORK	
DRILLING METHOD: CANTORRA CT 350				BORING NUMBER B-4	
SAMPLING METHOD: 4" LB. HOLLOW STEM AUGER				SHEET 1 OF 2	
140#B24" ON 2" SPLIT SPOON (SPT)				DRILLING	
				START	FINISH
TIME:	1347			TIME	1310
DATE:	6/30/87			DATE	6/30/87
DEPTH TO GROUNDWATER (FEET)	6.2'			DATE	6/30/87

ELEVATION: 412'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\B-4

SAMPLER TYPE	INCHES DOWN LOGS	QVM READING (PPM)	SAMPLE NO. / FEET	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		4			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, WOOD, BRICK
SPT	24	0	8-1	7	11	BDL	1	FILL	BROWN SILT, SOME FINE SAND MIXED WITH FRAGMENTS OF RED BRICK, DRY, MEDIUM DENSE, (FILL)
	16	0	9'	4			2		
			2'	4			3		
							4		
							5		
SPT	8	0	5-2	50/2	50/2	BDL	6		GRADING TO BROWN FRAGMENTS OF WOOD, FREQUENT DECOMPOSED WOOD FIBERS, OCCASIONAL POCKETS OF MORTAR FRAGMENTS, SOME COARSE TO FINE SAND
	7		5'				7		
			5'8"	1			8		
SPT	24	0	5-3	1	3	BDL	8		BROWN/ YELLOWISH RED COARSE TO FINE SAND, LITTLE SILT, LITTLE FINE GRAVEL, WET, LOOSE
	11		7'	2			9		
			9'	4			10		
				3			11		
SPT	24	0	5-4	4	8	BDL	10	SM	AS ABOVE
	10		9'	4			11		
			11'	4			12		
							13		
							14		
							15		
SPT	24	0	5-5	15			15		GRAYISH BROWN COARSE TO FINE SAND, SOME CLAYEY SILT, LITTLE FINE GRAVEL, WET, DENSE
	7		15'	22	50	BDL	16	SM	
			17'	28			17		
				35			18		
							19		
							20		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077		CLIENT: AT&T		LOCATION: LITICA, NEW YORK	
DRILLING METHOD: CAMPTERRA CT 340				BORING NUMBER 8-4	
4" I.D. HOLLOW STEM AUGER				SHEET 2 of 2	
SAMPLING METHOD: 140#24" ON 2" SPLIT SPOON (SPT)				DRILLING	
				START	FINISH
TIME:				TIME 1110	TIME 1310
DATE:				DATE 6/30/97	DATE 6/30/97
DEPTH TO GROUNDWATER (FEET)					

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES BATH RECORDED	CM READING (PPM)	SAMPLE NO. SAMPLE DEPTH	BLOWS / 8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH
		0		1			20	
SPT	24	0	5-4	8	26	BDL	21	
	13	0	20'	18			22	
			22'	26			23	
							24	
				61			25	
SPT	7	0	5-4	50/1	50/1	BDL	26	
	7		25'				27	
			27'				28	
							29	
							30	
				50/5			31	
SPT	9	0	5-4		R	BDL	31	EOB
	9		30'				32	
			30.5'				33	
							34	
							35	
							36	
							37	
							38	
							39	
							40	

SURFACE CONDITIONS: LEVEL FILL, TALL GRASS

DESCRIPTION

GRADING WITH CLAYEY SILT, BECOMING SILT

DARK GRAY COARSE TO FINE SAND, SOME SILT, LITTLE FINE GRAVEL, DRY/MOIST, VERY DENSE

HARD DRILLING

AS ABOVE

- NOTES:
- BORING TERMINATED AT A DEPTH OF ABOUT 32'-5" BELOW GROUND SURFACE ON 6/30/97.
  - GROUND WATER SUSPECTED AT A DEPTH OF 8.5 FEET BELOW SURFACE ELEVATION ON 6/30/97.
  - BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
  - EOB = END OF BORING
  - BDL = BELOW DETECTABLE LIMITS

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077		CLIENT: AT&T		LOCATION: UTICA, NEW YORK	
DRILLING METHOD: CANTERBURY CT 350				BORING NUMBER B-5	
4" LB. HOLLOW STEM AUGER				SHEET 1 OF 2	
SAMPLING METHOD: 140/824" ON 2" SPLIT SPOON (SPT)				DRILLING	
				START	FINISH
TIME:				TIME	TIME
DATE:				1130	1400
DEPTH TO GROUNDWATER (FEET)				DATE	DATE
				6/24/97	6/24/97

ELEVATION: 412'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

04085\077\B-5 BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DRIVE IN RECORDED	OVM READING (PPM)	SAMPLE NO. SAMPLE DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, WOOD, BRICK	
									DESCRIPTION	
SPT	24	0	5-1	10	17	BDL	0	FILL	GRAY/DARK GRAY FINE SAND AND SILTY CLAY, SOME FINE GRAVEL, MOIST, MEDIUM DENSE, 1/4" THICK LAYER OF BLACK WOOD AT 1.5'	
	18	0	6'	7						
			2'	3						
SPT	19	0	5-2	7	14	BDL	5	SP	GRADING TO SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, FREQUENT WOOD FRAGMENTS, MOIST, MEDIUM STIFF	
	4		5'	7						
			6.7'	50/1						
							7		GRINDING FROM 7 TO 7.75 FEET (POSSIBLE CONCRETE SLAB)	
SPT	24	0	5-3	3	5	BDL	10	SP	BROWN COARSE TO FINE SAND, TRACE SILT, SOME FINE GRAVEL, WET, LOOSE	
	7	0	10'	2						
		0	12'	2						
SPT	24	0	5-4	4	21	BDL	15	SM	GRAYISH BROWN CLAY & SILT, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST, VERY STIFF	
	20	0	15'	17						
		0	17'	18						
							14	CL		
							19	GP	GRAYISH BROWN COARSE TO FINE SAND, LITTLE CLAYEY SILT, LITTLE FINE GRAVEL, WET, MEDIUM DENSE	
							20			



LOCATION OF BORING  <b>SEE BORING LOCATION PLAN</b>		JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTONIA CT 380 4" I.D. HOLLOW STEM AUGER			BORING NUMBER 8-5	
SAMPLING METHOD: 140/024" OH 2" SPLIT SPOON (SPT)			SHEET 2 OF 2	
			DRILLING	
			START TIME	FINISH TIME
			1130	1400
			DATE	DATE
			6/24/97	6/24/97
DEPTH TO GROUNDWATER (FEET)				

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\8-5

SAMPLER TYPE	INCHES DRIVE IN RESISTANCE	Q/M READING (PPM)	SAMPLE NO. / SPLIT	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		2			20	GP	SURFACE CONDITIONS: LEVEL FILL, TALL GRASS
SPT	24	0	8-5	12	27	BDL	21		DARK BROWN / DARK GRAY COARSE TO FINE GRAVEL, LITTLE COARSE TO FINE SAND, TRACE SILT, FREQUENT COBBLES, WET, MEDIUM DENSE
	21	0	20"	15			22		
			22"	21			23		
							24		
				50/5			25	SM	DARK GRAY / DARK BROWN COARSE TO FINE SAND, SOME CLAYEY SILT, LITTLE FINE GRAVEL, MOIST, VERY DENSE
SPT	5	0	8-4		R	BDL	26		
	5		25"				27		
			25'5"				28		
							29	GP-GM	
				50/5			30		DARK BROWN / DARK GRAY COARSE TO FINE GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT, FREQUENT COBBLES, WET, VERY DENSE
SPT	5	0	8-7		R	BDL	31	EOB	
	5		30"				32		
			30'5"				33		NOTES: 1. BORING TERMINATED AT A DEPTH OF ABOUT 30'-5" BELOW GROUND SURFACE ON 6/24/97. 2. GROUND WATER SUSPECTED AT A DEPTH OF 8 FEET BELOW SURFACE ELEVATION ON 6/24/97. 3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION. 4. EOB = END OF BORING 5. BDL = BELOW DETECTABLE LIMITS
							34		
							35		
							36		
							37		
							38		
							39		
							40		

104085\077\8-6 BY PAVEL BARESH  
 DRILLING CONTR. MARCOR ENVIRONMENTAL  
 CHK'D BY D. MAZUJIAN

LOCATION OF BORING <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px 0;">SEE BORING LOCATION PLAN</div>	JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
	DRILLING METHOD: CANTORRA CT 360 4" I.D. HOLLOW STEM AUGER		BORING NUMBER B-6
	SAMPLING METHOD: 140#24" ON 2" SPLIT SPOON (SPT)		SHEET 1 OF 2
			DRILLING START      FINISH TIME:      TIME DATE:      1230    1430 DATE      DATE 8/25+/87    8/25/87
ELEVATION: 412'±			

SAMPLER TYPE	BLANK CORRECTED SPT	OVM READING (PPM)	SAMPLE DEPTH (FT)	BLOWERS/ SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		5			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, WOOD, BRICK
SPT	24 9	0 0	5-1 6'	16 7	23	BDL	1	FILL	RED BRICKS AND BRICK FRAGMENTS, DRY, MEDIUM DENSE
			2'	7			2		
							3		
							4		BROWN/GRAY/RED COARSE TO FINE SAND, SOME FINE TO COARSE GRAVEL, TRACE SILT, FREQUENT FRAGMENTS OF CONCRETE AND WOOD, DRY, MEDIUM DENSE
				36			5		BROWN MEDIUM TO FINE SAND, LITTLE SILT,
SPT	24 12	0	5-2 5' 6'	6 6 6	12	BDL	6		MOIST, MEDIUM DENSE
			6'	6			7		
							8		
							9		
				2			10	SP	SPOON WET, EVIDENCE OF BROWN SAND
SPT	24 0		5-3 10'	2 3	5	BDL	11		BROWNISH YELLOW FINE TO COARSE SAND, LITTLE SILT, WET, LOOSE
		0	12'	2			12		SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, VERY MOIST/WET, MEDIUM DENSE
SPT	24 24	0 0	5-4 12'	1 1	2	BDL	13		
		0	14'	9			14	SC	
							15	MI	BROWN COARSE TO FINE SAND AND CLAY & SILT, LITTLE COARSE TO FINE GRAVEL, WET, LOOSE
SPT	24 24	0 0	5-5 15'	12 17	29	BDL	16	?	GRAYISH BROWN COARSE TO FINE SAND, SOME SILT, LITTLE FINE GRAVEL, FREQUENT FRAGMENTS OF BLACK SHALE, MOIST/DRY, DENSE
		0	17'	19			17		
							18		
							19	SP	
							20		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTORRA CT 350 4" I.D. HOLLOW STEM AUGER		BORING NUMBER: 8-6
SAMPLING METHOD: 140#24" ON 2" SPLIT SPOON (SPT)		SHEET: 2 OF 2
		DRILLING
TIME:		START TIME: 1230
DATE:		FINISH TIME: 1430
DEPTH TO GROUNDWATER (FEET)		DATE: 6/25/87
		DATE: 6/25/87

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DRIVEN INCHES RECORDED	Q/M READING (PPM)	SAMPLE NO. DEPTH	BLOWS / 18" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION
		0		7			20	SP	
SPT	24	0	5-6	12	31	BDL	21		DARK GRAY COARSE TO FINE SAND, LITTLE FINE GRAVEL, TRACE SILT, WET, DENSE
	24	0	20'	19			22		
			22'	27			23		
							24		
							25		DARK GRAY/GRAY FINE TO COARSE SAND, SOME FINE GRAVEL, TRACE SILT, FREQUENT SHALE FRAGMENTS
SPT	9	0	5-7	50/3	50/3	BDL	26	SM	DARK GRAY / DARK BROWN MEDIUM TO FINE SAND, SOME SILT, SOME FINE GRAVEL, FREQUENT FRAGMENTS OF BLACK SHALE, MOIST, VERY DENSE
	8		25'				27		
			25'				28		
							29	GP-GM	
							30		DARK BROWN / DARK GRAY COARSE TO FINE GRAVEL, SOME
SPT	7	0	5-8	50/1	50/1	BDL	31	EOB	COARSE TO FINE SAND, TRACE CLAYEY SILT, OCCASIONAL COBBLES, MOIST, VERY DENSE
	6		30'				32		
			30"				33		
							34		
							35		
							36		
							37		
							38		
							39		
							40		

- NOTES:
- BORING TERMINATED AT A DEPTH OF ABOUT 30'-7" BELOW GROUND SURFACE ON 6/25/97.
  - GROUND WATER SUSPECTED AT A DEPTH OF 8 FEET BELOW SURFACE ELEVATION ON 6/25/97.
  - BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
  - EOB = END OF BORING
  - BDL = BELOW DETECTABLE LIMITS

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER:  
04085-077

CLIENT:  
AT&T

LOCATION:  
UTICA, NEW YORK

DRILLING METHOD:  
CANTERVA CT 360  
4" I.D. HOLLOW STEM AUGER

BORING NUMBER  
8-7

SAMPLING METHOD:  
140#24" OH 2" SPLIT SPOON (SPT)

SHEET  
1 of 2

DRILLING				START	FINISH
TIME:				TIME	TIME
DATE:				1500	0800
DEPTH TO GROUNDWATER (FEET)				DATE	DATE
				6/25/87	6/26/87

ELEVATION: 411.5'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077A-7

SAMPLER TYPE	INCHES DOWN RECORDED	GVN READING (PPH)	SAMPLE NO. DEPTH	BLOWS/ SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		5			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, DEBRIS
SPT	24 11	0 0	S-1 0'	11 9	20	BDL	1	FILL	BROWN & RED COARSE TO FINE SAND, SOME COARSE TO FINE GRAVEL, LITTLE SILT, FREQUENT FRAGMENTS OF BRICK AND WOOD DRY, MEDIUM DENSE
			2'	13			2		
							3		
							4		
				38			5		GRADING WITH FRAGMENTS OF CONCRETE
SPT	24 12	0	S-2 5' 6'	17 13 10	30	BDL	6		
							7		HARD DRILLING, AUGER GRINDING
							8		
							9		
				1			10	SP	DARK BROWN COARSE TO FINE SAND, LITTLE FINE GRAVEL, TRACE SILT, WET, VERY LOOSE
SPT	24 14		S-3 10' 12'	1 0 0	1	BDL	11		
							12		
							13		
							14	SM	
				11			15		
SPT	24 24	0 0	S-4 15' 17'	25 31 34	56	BDL	16		GRAYISH BROWN COARSE TO FINE SAND, LITTLE SILT, TRACE FINE GRAVEL, DRY/MOIST, VERY DENSE
							17		
							18		
							19	SP-CM	
							20		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077		CLIENT: AT&T	LOCATION: UTICA, NEW YORK	
DRILLING METHOD: CANTORRA CT 280			BORING NUMBER B-7	
4" I.D. HOLLOW STEM ANCHER			SHEET 2 of 2	
SAMPLING METHOD: 140#24" ON 2" SPLIT SPOON (SPT)			DRILLING	
TIME:			START	FINISH
DATE:			1500	0800
DEPTH TO GROUNDWATER (FEET)			DATE 6/25/97	DATE 6/26/97

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DOWN RECORDED	DOWN READING (PPM)	SAMPLER NO. SAMPLER DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL DEPTH	SURFACE CONDITIONS: DESCRIPTION
		0		9			20	SP-G	GRAYISH BROWN FINE GRAVEL, LITTLE COARSE TO FINE SAND, TRACE CLAYEY SILT, WET, VERY DENSE
SPT	24	0	S-5	27	57	BDL	21		
	19	0	20"	30			22		
			22"	29			23		
							24		
				45			25	GC	DARK GRAY / DARK BROWN COARSE TO FINE GRAVEL, SOME TO FINE SAND, LITTLE CLAY & SILT, MOIST, VERY HARD
SPT	9	0	S-4	50/3	50/3	BDL	26		
	9		25"				27		
			25 1/2"				28	SM	
							29		
				50/5			30		DARK BROWN / DARK GRAY COARSE TO FINE SAND, SOME FINE GRAVEL, LITTLE SILT, MOIST, VERY DENSE
SPT	5		S-7		R	BDL	31	EOB	COBBLES, MOIST, VERY DENSE
	5		30"				32		
			30 1/2"				33		NOTES: 1. BORING TERMINATED AT A DEPTH OF ABOUT 30'-5" BELOW GROUND SURFACE ON 6/26/97. 2. GROUND WATER SUSPECTED AT A DEPTH OF 8 FEET BELOW SURFACE ELEVATION ON 6/26/97. 3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION. 4. EOB = END OF BORING 5. BDL = BELOW DETECTABLE LIMITS
							34		
							35		
							36		
							37		
							38		
							39		
							40		

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER:  
04085-077

CLIENT:  
AT&T

LOCATION:  
UTICA, NEW YORK

DRILLING METHOD: CANTONIA CT 340  
4" LB. HOLLOW STEM AUGER

BORING NUMBER  
B-8

SAMPLING METHOD:  
140#24" ON 2" SPLIT SPOON (SPT)

SHEET  
1 OF 2

TIME:

DRILLING  
START TIME  
0930

DATE:

FINISH TIME  
1200

DEPTH TO GROUNDWATER (FEET)

DATE  
8/26/87

ELEVATION: 411.5'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAYEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES OPEN INCHES RECORDED	DOWN READING (PPM)	SAMPLE NO. DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		4			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, WOOD, BRICK
SPT	24 9	0	5-1 0'	21 18	49	BDL	1	FILL	BROWN COARSE TO FINE SAND, SOME SILT, FREQUENT FRAGMENTS OF BRICK AND WOOD, DRY, DENSE (FILL)
			2'	36			2		
							3		GRADING TO LOOSE
							4	FILL	
							5		
SPT	24 20	0	5-2 0'	4 4	8	BDL	6		BROWN/DARK BROWN FINE TO COARSE SAND, LITTLE FINE GRAVEL, LITTLE SILT, MOIST, LOOSE
			7'	5			7		
SPT	24 17	0	5-3 7'	3 2	5	BDL	8		GRADING WITH BLACK DEBRIS, MOIST
			8'	4			9	SM	
SPT	24 13	0	5-4 8'	4 5	9	BDL	10		BROWN COARSE TO FINE SAND, LITTLE SILT, SOME COARSE TO FINE GRAVEL, MOIST, LOOSE
			11'	2			11	SP-SM	BROWN COARSE TO FINE SAND, LITTLE FINE GRAVEL, TRACE SILT, WET, LOOSE
							12		
							13		
							14		
SPT	24 18	0	5-5 15'	26 36	62	BDL	15		GRADING WITH AND COARSE TO FINE GRAVEL, VERY DENSE
			17'	39			16		
							17		
							18	SM	BROWN COARSE TO FINE SAND, SOME SILT & CLAY, TRACE FINE GRAVEL, MOIST, VERY DENSE
							19	SP	
							20		

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

LOCATION OF BORING										JOB NUMBER: 04085-077		CLIENT: AT&T		LOCATION: UTICA, NEW YORK	
SEE BORING LOCATION PLAN										DRILLING METHOD: CANTERNA CT 360 4" I.D. HOLLOW STEM AUGER				BORING NUMBER B-8	
										SAMPLING METHOD: 140#24" ON 2" SPLIT SPOON (SPT)				SHEET 2 OF 2	
										DRILLING		START	FINISH		
										TIME:	TIME:	DATE:	DATE:		
												0930	1200		
										DEPTH TO GROUNDWATER (FEET)	DATE	DATE		6/26/97	6/26/97
										SURFACE CONDITIONS:					
										DESCRIPTION					
										20	SP	GRAYISH BROWN MEDIUM TO FINE SAND, TRACE SILT, WET, LOOSE			
SPT	24	0	5-4	0	0	BDL				21					
	24	0	20'	0								GRADING TO COARSE TO FINE SAND			
		0	22'	1						22					
		0		21											
SPT	16	0	5-7	45	95/10	BDL				23					
	16	0	22'	50/4											
			25'4"							24	SM	GRAYISH BROWN COARSE TO FINE SAND AND SILT, TRACE FINE GRAVEL, MOIST, VERY DENSE			
										25		DARK GRAY / DARK BROWN COARSE TO FINE GRAVEL, SOME TO FINE SAND, LITTLE CLAY & SILT, MOIST, VERY HARD			
SPT	4	0	5-8		R	BDL				26	SP-SM				
	4		25'												
			25'4"							27					
										28	ML				
										29					
										30		DARK GRAY / DARK BROWN CLAYEY SILT, SOME FINE SAND, TRACE FINE GRAVEL, MOIST, HARD			
SPT	3		5-8		R	BDL				31	EOB				
	3		30'												
			30'3"							32					
										NOTES:					
										1. BORING TERMINATED AT A DEPTH OF ABOUT 30'-3" BELOW GROUND SURFACE ON 6/26/97.					
										2. GROUND WATER SUSPECTED AT A DEPTH OF 9.5 FEET BELOW SURFACE ELEVATION ON 6/26/97.					
										3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.					
										4. EOB = END OF BORING					
										5. BDL = BELOW DETECTABLE LIMITS					
										33					
										34					
										35					
										36					
										37					
										38					
										39					
										40					

LOCATION OF BORING		JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
SEE BORING LOCATION PLAN		DRILLING METHOD: CANTORRA CT 380	BORING NUMBER 8-9	
		SAMPLING METHOD: 4" LB. HOLLOW STEM ANCHER		SHEET 1 of 2
		140#24" ON 2" SPLIT SPOON (SPT)		DRILLING
		TIME:	START	FINISH
		DATE:	1630	0910
		DEPTH TO GROUNDWATER (FEET)	DATE	DATE
			6/24/87	6/25/87

ELEVATION: 411'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DOWN REGISTER	DYN READING (PPM)	SAMPLE NO. (FEET)	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, SOME WOOD									
		0		5			0		
SPT	24	0	5-1	3	8	BDL	1	FILL	BROWN, BLACK, & WHITE SILT, SOME COARSE TO FINE SAND
	14	0	9'	5					FREQUENT FRAGMENTS OF BRICK AND WOOD, DRY, MEDIUM STIFF
			2'	9			2		
							3		
							4		
							5	SM	
SPT	24	0	5-2	3	5	BDL	6		DARK BROWN COARSE TO FINE SAND, SOME SILT, LITTLE FINE GRAVEL, WET, LOOSE
	13		5'	2					
			7'	3			7		
							8		
							9		
							10	SP	
SPT	24	0	5-3	0	2	BDL	11		DARK BROWN COARSE TO FINE SAND, TRACE SILT, SOME FINE GRAVEL, WET, LOOSE
	8		10'	2					
			12'	1			12		
							13		
							14		
							15		
SPT	24	0	5-4	9	20	BDL	16	SM	GRAYISH BROWN COARSE TO FINE SAND AND CLAYEY SILT
	24	0	15'	11					TRACE FINE GRAVEL, MOIST, MEDIUM DENSE
		0	17'	8			17		
							18		
							19	SP-SM	
							20		

04085\077\8-9



LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTEREA CT 860		BORING NUMBER B-9
4" I.D. HOLLOW STEM AUGER		SHEET 2 OF 2
SAMPLING METHOD: 140#24" OR 2" SPLIT SPOON (SPT)		DRILLING
		START TIME
TIME:		1630
DATE:		0910
DEPTH TO GROUNDWATER (FEET)		DATE
		6/24/97

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\9-8

SAMPLER TYPE	INCHES DRIVEN REGISTERED	OWN READING (PPM)	SAMPLE NO. & DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		6			20	SP-SM	GRAYISH BROWN MEDIUM TO FINE SAND, SOME FINE GRAVEL, TRACE SILT, WET, MEDIUM DENSE
SPT	24	0	5-5	11	19	BDL	21	SM	GRAYISH BROWN FINE SAND AND SILT, WET, MEDIUM DENSE
	15	0	20'	8			22		
		0	22'	9			23		
							24	SC	
							25		GRAYISH BROWN MEDIUM TO FINE SAND AND CLAY & SILT
SPT	2	0	5-6	50/2	R	BDL	26		TRACE FINE GRAVEL, WET, VERY DENSE
	2		25'				27		
			25-2'				28		
							29	SM/ML	
				11			30		OLIVE GRAY FINE SAND, AND SILT, BLACK SHALE FRAGMENTS
SPT	23		5-7	40	113	BDL	31		IN TIP, MOIST, VERY DENSE
	18		30'	73			32	EOB	NOTES:
			31-11'	100/5			33		1. BORING TERMINATED AT A DEPTH OF ABOUT 31'-11" BELOW GROUND SURFACE ON 6/25/97.
							34		2. GROUND WATER SUSPECTED AT A DEPTH OF 6 FEET BELOW SURFACE ELEVATION ON 6/25/97.
							35		3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
							36		4. EOB = END OF BORING
							37		5. BDL = BELOW DETECTABLE LIMITS
							38		
							39		
							40		

LOCATION OF BORING		JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
SEE BORING LOCATION PLAN		DRILLING METHOD: CATERPILLAR CT 580		BORING NUMBER 8-10
		4" I.D. HOLLOW STEM AUGER		SHEET 1 OF 2
		SAMPLING METHOD: 140#B34" ON 2" SPLIT SPOON (SPT)		DRILLING
		140#B30" ON BAUMES & MOORE TYPE U (U)		START
		TIME:		FINISH
		DATE:		TIME 1345 1615
		DEPTH TO GROUNDWATER (FEET)		DATE 7/1/87 7/1/87

ELEVATION: 411.5'±

DRILLING CONTR. MARCOR ENVIRONMENTAL  
 BY PAVEL BARESH  
 CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DOWN REGISTERED	OVN READING (PPM)	SAMPLE NO. / DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION
		0		3			0		SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, SOME WOOD NEXT TO SOME TIRES
SPT	24	0	S-1	15	31	BDL	1	FILL	BROWN FINE TO COARSE SAND SOME SILT, FREQUENT FRAGMENTS OF BRICK, DRY, DENSE
	8	0	6"	16			2		
			2'	4			3		
							4		
							5		
SPT	3	0	S-2	50/3	R	BDL	6		WOOD FRAGMENTS AND BLACK/ BROWN COARSE TO FINE SAND, LITTLE SILT, DRY, VERY DENSE
	2		5'				7		AUGER REFUSAL AT 5' DUE TO CONCRETE, MOVED BOREHOLE STILL HARD DRILLING, PETROLEUM ODOR NOTICED AT 5'
			5'3"				8		
							9		
							10	SP	BROWN COARSE TO FINE SAND, TRACE SILT, TRACE FINE GRAVEL, WET, LOOSE
U	24	0	U-1	4	10	BDL	11		
	5		10'	6			12		
			12'	6			13		GRADING WITH PETROLEUM ODOR, SHEEN ON SAMPLE TO VERY LOOSE
SPT	24	0	S-3				14		
	13	0	12'				15		
		0	14'				16		
				1			17		GRADING WITHOUT PETROLEUM ODOR, WITHOUT SHEEN
SPT	24	0	S-4	10	23	BDL	18	SM	
	13	0	15'	13			19		
		0	17'	16			20	SP-SM	GRAYISH BROWN COARSE TO FINE SAND, SOME CLAYEY SILT, TRACE FINE GRAVEL, MOIST, MEDIUM DENSE

04085\077\8-9

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
DRILLING METHOD: CANTONIA CT 360		BORING NUMBER: 8-10
SAMPLING METHOD: 4" LD. HOLLOW STEM AUGER		SHEET: 2 of 2
140#x24" OH 3" SPLIT SPOON (SPT)		DRILLING
TIME:		START TIME: 1345
DATE:		FINISH TIME: 1615
DEPTH TO GROUNDWATER (FEET)		DATE: 7/1/97
		DATE: 7/1/97

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

04085\077\B-9

SAMPLER TYPE	ROCKES DRYING RECORDED	OWN READING (PPM)	SAMPLE NO. DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION
		0		6			20		
SPT	24	0	5-5	14	28	BDL	21	SM	GRAY MEDIUM TO FINE SAND, TRACE SILT, WET, MEDIUM DENSE
	14	0	20'	14					
		0	22'	18			22		
							23		
							24	SM	
				33			25		
SPT	7	0	5-4	50/1	50/1	BDL	26		GRAYISH BROWN COARSE TO FINE SAND, LITTLE SILT, LITTLE FINE GRAVEL, WET, VERY DENSE
	6		25'				27		
			25'				28		
							29	SM	
				50/1			30		
SPT	1		5-7		R	BDL	31	EOB	GRAYISH BROWN CLAY & SILT, LITTLE FINE GRAVEL, LITTLE COARSE TO FINE SAND, MOIST, HARD
	1		30'				32		
			30'1"				33		
							34		
							35		
							36		
							37		
							38		
							39		
							40		

NOTES:

- BORING TERMINATED AT A DEPTH OF ABOUT 30'-1" BELOW GROUND SURFACE ON 7/1/97.
- GROUND WATER SUSPECTED AT A DEPTH OF 9 FEET BELOW SURFACE ELEVATION ON 7/1/97.
- BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.
- EOB = END OF BORING
- BDL = BELOW DETECTABLE LIMITS

LOCATION OF BORING

SEE BORING LOCATION PLAN

JOB NUMBER:  
04085-077

CLIENT:  
AT&T

LOCATION:  
UTICA, NEW YORK

BORING METHOD: CARTERIA CT 350

BORING NUMBER

4" I.D. HOLLOW STEM AUGER

B-15

SAMPLING METHOD:

SHEET

140#B24" ON 2" SPLIT SPOON (SPT)

1 of 2

140#B30" ON DAMES & MOORE TYPE U (U)

DRILLING

TIME:

START

FINISH

DATE:

TIME

TIME

DEPTH TO  
GROUNDWATER  
(FEET)

DATE

DATE

ELEVATION: 412'±

DRILLING CONTR. MARCOR ENVIRONMENTAL

04085\077\B-15  
BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

SAMPLER TYPE	INCHES DOWN IN REGISTER	OVM READING (PPM)	SAMPLE NO.	BLOWS / 6" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: LEVEL FILL, TALL GRASS, SOME WOOD NEXT TO SOME TIRES	
									DESCRIPTION	
		0		22			0		GRAY & WHITE FRAGMENTS OF BRICK AND CONCRETE, SOME	
SPT	24	0	S-1	17	36	BDL	1	FILL	COARSE TO FINE SAND, TRACE SILT, WET, DENSE	
	14	0	0'	19			2			
			2'	23			3			
							4			
				16			5		GRADING TO COBBLE TO FINE SAND SIZED CONCRETE FRAGMENTS	
SPT	24	0	S-2	18	50	BDL	6		AND COARSE TO FINE SAND, TRACE SILT, MOIST, DENSE	
	19		5'	32			7			
			7'	21			8		AS ABOVE	
				48			9			
SPT	24	0	S-3	24	51	BDL	10		BROWN MEDIUM TO FINE SAND, LITTLE SILT, MOIST VERY DENSE	
	13		7'	27			11		ENVIRONMENTAL SAMPLE TAKEN AT 9' AT 0852 (TPHL)	
			9'	10			12	SM		
			9'	9			13			
SPT	24	0	S-4	8	14	BDL	14			
	5		9'	6			15		GRADING WITHOUT PETROLEUM ODOR, WITHOUT SHEEN	
			11'	4			16			
				3			17			
SPT	24	0	S-5	15	38	BDL	18			
	18		15'	23			19	ML	GRAYISH BROWN COARSE TO FINE SAND, SOME CLAYEY SILT,	
			17'	25			20		TRACE FINE GRAVEL, MOIST, MEDIUM DENSE	

DRILLING CONTR. MARCOR ENVIRONMENTAL

BY PAVEL BARESH  
CHK'D BY D. MAZUJIAN

104085\077\B-15

LOCATION OF BORING		JOB NUMBER: 04085-077	CLIENT: AT&T	LOCATION: UTICA, NEW YORK
SEE BORING LOCATION PLAN		DRILLING METHOD: CANTERRA CT 380	BORING NUMBER B-15	
		4" I.D. HOLLOW STEM AUGER		SHEET 2 of 2
		SAMPLING METHOD: 140#24" OH 2" SPLIT SPOON (SPT)		DRILLING
		TIME:	START 0820	FINISH 1030
		DATE:	DATE 6/27/97	DATE 6/27/97
		DEPTH TO GROUNDWATER (FEET)		

SAMPLER TYPE	INCHES OPENED REGISTERED	OVM READING (PPM)	SAMPLE NO. SAMPLE DEPTH	BLOWS/8" SAMPLER	N VALUE	HEADSPACE READING (PPM)	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS:	
									DESCRIPTION	
		0		11			20			
SPT	24	0	7-8	18	49	BDL	21	ML	GRAYISH BROWN SILT, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, WET, HARD	
	12	0	20'	31			22			
		0	22'	42			23			
							24	SP-SM		
				34			25			
SPT	9	0	5-7	50/3	50/3	BDL	26		DARK BROWN/DARK GRAY FINE GRAVEL, LITTLE COARSE TO FINE SAND, LITTLE SILT & CLAY, MOIST, VERY DENSE	
	7		25'				27			
			25'9"				28			
							29	SM		
				50/S			30			
SPT	5		5-6		R	BDL	31	EOB	DARK GRAY/ DARK BROWN COARSE TO FINE SAND, SOME SILT TRACE FINE GRAVEL, MOIST, VERY DENSE	
	4		30'				32			
			30'5"				33		NOTES:	
							34		1. BORING TERMINATED AT A DEPTH OF ABOUT 30'-5" BELOW GROUND SURFACE ON 6/27/97.	
							35		2. GROUND WATER SUSPECTED AT A DEPTH OF 11 FEET BELOW SURFACE ELEVATION ON 6/27/97.	
							36		3. BORING WAS GROUTED TO THE SURFACE WITH CEMENT BENTONITE MIX UPON COMPLETION.	
							37		4. EOB = END OF BORING	
							38		5. BDL = BELOW DETECTABLE LIMITS	
							39			
							40			

Well Permit #: \_\_\_\_\_

**Dames & Moore Inc.**  
**Groundwater Sampling Log**  
Well ID #: MUG-14

Project Name: AT&T  
Project Location: UTICA, NY

Project #: 04085-077  
Sampling Date: 6/30/97  
Weather: JUNNY IN THE 80s, HUMID

**Well Specs. (as installed)**

Inner Diam. (inches): 2"  
Ref. Point Elev. (ft. MSL): \_\_\_\_\_  
Depth to Bottom (ft.): 21.5'  
Depth to the Top of Screen (ft.): \_\_\_\_\_  
Dist. from Grnd to Ref. Pt (ft.): 2.5'  
Screen Length (ft.)/Slot Size (in.): 15'  
Well Material (PVC or Steel): PVC  
Well Type ([S]tickup or [F]lushmount): S  
Well Use ([M]on., [I]ndust., [D]om., [Mu]nci.): M

**Initial Measurements/Calculations**

PID/FID Reading (ppm): 0  
Depth to Prod. (ft.): \_\_\_\_\_  
Depth to Water (ft.): 12.68  
Depth to Bottom (ft.): 21.84  
Prod. Thickness (ft.): \_\_\_\_\_  
Prod. Vol. (ft.): \_\_\_\_\_  
Static Water Col. Ht. (ft.): 9.16  
Static Water Vol. {SWV} (gal)<sup>(1)</sup>: 1.47  
Min. Purge Vol. {SWV\*3} (gal): 4.41

**Times/Volume/Purge Rate**

Purging Start Time: 0845  
Purging End Time: 0852

Volume Purged (gal): 6 GAL  
Purge Rate (gpm): .86

Purged Dry: Yes  No

Sampling Start Time: 0900  
Sampling End Time: 0916

Sample Depth (feet): 14'

**Purge Method (check one):**

Submersible Pump  Centrifugal Pump  Bailor  Other (explain): \_\_\_\_\_

**Sampling Method (check one):**

Stainless Steel Bailor  Poly. Bailor  Teko Bailor  Other (explain): \_\_\_\_\_

**Sample Appearance (color, odor, sheen, etc.):**

NO ODOR, SHEEN, VERY TURBID

**Scheduled Analytical Parameters (check those that apply):**

**Organics:**  PP List  TCL List  (Other (explain): \_\_\_\_\_)  
 VOC+ 10  BN+  HNA+ 20  Pest.  Herb.  PCBs

**Inorganics:**  PP List  TCL List  (Other (explain): \_\_\_\_\_)  
 Unfiltered Metals  Filtered Metals  CN

**Conventional:**  TPHC  TDS  TSS  TOC  COD  BOD  
 (Other (explain): \_\_\_\_\_)

**Perservatives added to samples (check those that apply):**

HCl added to VOCs  H<sub>2</sub>O<sub>2</sub> added to TPHC  HNO<sub>3</sub> added to Metals  NaOH added to CN  
 Others (list): \_\_\_\_\_

Corresponding field blank: \_\_\_\_\_ Corresponding trip blank: \_\_\_\_\_

Additional Comments: \_\_\_\_\_

Sampling Personnel: PANEL BARESH

Water Quality Data	Prior to Purging	After Purging <sup>(2)</sup>	After Samplin
Depth to Water (feet)	12.68	15.97	13.08
pH (standard units)	6.78	7.10	7.17
Temp. (°C)	12.10	14.10	11.7
Spec. Cond. (mS/cm)	1.67	1.72	1.69
D.O. (mg/L)	1.67	4.79	1.83
Turbidity (NTU)	999	999	999
Salinity (%)	.07	.08	.07