GEOTECHNICAL ROADWAY REPORT
I-84 RECONSTRUCTION
STATE PROJECT 151-273
WATERBURY, CONNECTICUT

by

Haley & Aldrich, Inc.
Rocky Hill, Connecticut

for

Ammann & Whitney
Rye, New York

File No. 91313-113
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Attention: James A. Hund

Subject: Roadway Report
I-84 Reconstruction, State Project No. 151-273
Waterbury, Connecticut

Ladies and Gentlemen:

This report provides the results of our geotechnical engineering studies for roadway design of the I-84 Reconstruction project, located in Waterbury, Connecticut. This work was conducted in accordance with our agreement dated 30 January 2009. This revision includes the addition of the reconstruction of Reidville Drive and the east end realignment.

PROPOSED CONSTRUCTION

Improvements will be made to 4300 m of Interstate 84 in Waterbury, Connecticut, as shown on Figure 1, Project Locus. The project starts approximately 500 m west of Hamilton Avenue Over I-84, just east of Pierpoint Road Over I-84, as shown on Figures 2A through 2H. I-84 will be widened to accommodate three, 3.6-m wide travel lanes in each direction with 3.6-m wide inside and outside paved shoulders. The project also includes improvements to:

- 530 m of Hamilton Avenue (between Sta. HA 25+060 and 25+530);
- 431 m of reconstructed westbound Exit 23 Off-Ramp (between Sta. WB23 21+249 and 21+680);
- 144 m of reconstructed eastbound Exit 23 Off-Ramp (between Sta. EB23 15+025 and 15+169);
- 730 m of reconstructed eastbound Exit 23 On-Ramp (between Sta. EB23 31+420 and 32+150);
- 1390 m of new eastbound Exit 24 Off-Ramp (between Sta. EB 9+980 and 11+370);
- 411 m of new westbound Exit 24 On-Ramp (between WB24 12+100 and 12+511);
- 444 m of reconstructed eastbound Exit 25 On-Ramp (between EB25 33+896 and 34+340;
- 423 m of reconstructed westbound Exit 25 Off-Ramp (between WB25 13+807 and 14+230);
- 780 m of reconstructed Harpers Ferry Road (between HFR 60+020 and 60+800);
- 600 m of relocated Reidville Drive (between RD 10+000 and 10+600);

- 1,000 m of reconstructed Reidville Drive (between RD 10+600 and Scott Road);
- 360 m of reconstructed Plank Road (between PR 70+000 and 70+360
- 1300 m of relocated Plank Road East (between Sta. PRE 50+000 and 51+300);
- 300 m of reconstructed East Main Street (between Sta. EM 30+100 and 30+400);
- 500 m of relocated Mad River (between EB 24 11+240 and HFR 60+720);
- 580 m of relocated Beaver Pond Brook (between WB 3+640 and 4+220.

Elevations are in meters and refer to NGVD-29.

SITE CONDITIONS

The project extends 4300 m through developed and undeveloped areas of Waterbury. The highway alignment will be straightened between approximately Sta. WB 1+700 and 3+360. The new alignment will be about 90 m south of the current alignment at Sta. WB 2+480 near Harpers Ferry Road, and about 10 m north of the current alignment at Sta. WB 3+260 opposite Calvary Cemetery. The alignment will be at about the same location between WB Sta. 0+800 and 1+700, and between WB 3+360 and 5+180.

The I-84 highway and eastbound Exit 24 Off-Ramp will cross the north embankment of a breached dam and the dry lakebed of the former Scovill Pond between WB 2+000 and 2+400 (refer to Figures 2B and 2D). The dam consists of a concrete spillway with earth embankments on the north and south sides. Embankment crest grade is El. 114.4. The spillway has a crest grade at El. 108.7 and a low flow channel at El. 107.0. Design drawings dated 1959 indicate that a concrete and steel sheetpile corewall is located within the earth embankments, and the top of corewall is about 0.5 m below the crest. However, we excavated test pits TP31 to TP 34 along the crest of the north embankment, and could not confirm the presence of the corewall.

A berm containing contaminated fill was placed within the former Scovill Pond during the late 1990's in the approximate area shown on Figure 2B, and the new highway will be constructed over the berm. Contaminated fill placed in the berm was characterized by the DEP as "Connecticut Regulated Waste", and includes petroleum-contaminated soils and demolition debris from an off-site location, and also contaminated Scovill Pond lake bottom sediments excavated for the current Mad River channel. Under an agreement with the DEP, off-site contaminated fill was placed in a layer up to about 2-m thick within the western portion of the berm and covered with a 1.2-m thick layer of excavated lake-bottom sediments. Excavated sediments from the channel excavation were placed within the eastern portion of the berm. The DEP required that contaminated fill be placed above groundwater in an area not susceptible to erosion. A drawing showing the as-built plan limits and a cross-section through the contaminated fill berm is included in Appendix G. Results of chemical tests performed on contaminated soils are also included in Appendix G.

The relocated Reidville Drive will cross a former sand and gravel quarry between RD 10+000 to 10+400. The quarry is located on a hillside south of I-84 and east of Harpers Ferry Road.

The relocated Plank Road East will be constructed along the toe of a steep wooded slope between Stas. PRE 50+440 and 50+700. The slope is located north of I-84 and south of Calvary Cemetery.

Existing Structures

Structures within the project limits include the following:

- Bridge No. 4321, Hamilton Avenue Over I-84
- Bridge No. 1224, I-84 Over Mad River
- Bridge No. 5774, I-84 Over Scovill Pond
- Bridge No. 151-207-2. Eastbound Exit 24 Off-Ramp Over Scovill Pond
- Bridge 1226, Harpers Ferry Road Over I-84
- Bridge 1228, Scott Road Bridge Over I-84
- Culvert 1226F, Plank Road Over Mad River
- Culvert 1227, I-84 Over Beaver Pond Brook
- Culvert 2537, I-84 Over Beaver Pond Brook
- Scovill Pond Dam (breached)

The existing bridge design drawings indicate that I-84 Over Mad River, I-84 Over Scovill Pond, and Eastbound Exit 24 Off-Ramp Over Scovill Pond are supported on piles. The other bridges are supported on spread footings. Each structure will be replaced or demolished as part of this project. New bridges and culverts are discussed in separate reports.

There are numerous utilities below the highway, including storm drains, overhead and underground electric, fiber optic lines, and other utilities.

SUBSURFACE EXPLORATIONS

Recent Test Borings

Haley & Aldrich planned, coordinated, and monitored a subsurface exploration program consisting of 267 test borings and 37 test pits. One hundred and one test borings and 63 test pits were conducted to obtain subsurface information for roadway design; 166 borings were conducted for structure design.

General Borings, Inc., Prospect, Connecticut, conducted the explorations between November 2000 and June 2001, April 2003 (R-201 through R-207), and February and March 2009 (R301 through R313, S111-101 through S111-108). Test borings were advanced to depths between 1.9 and 31.4 m below ground surface using flush-joint casing or hollow-stem augers. Split-spoon samples were recovered at maximum 1.5-m intervals. NX-size (55-mm dia.) bedrock core samples were recovered from most of the structure borings drilled at bridge locations, and from a number of retaining wall and roadway borings. Borings drilled for roadway evaluation (designated R-1, R-2, R-201 etc.) and for retaining walls or culverts (S101-1, S101-2, S201-1, etc.) were terminated in medium dense to dense granular soils or bedrock. Borings drilled for bridge structures (S2-1, S2-2, etc.) were generally terminated in rock. The S111 series were drilled at the proposed overhead signs. We used data from roadway and structure test borings in our roadway evaluation. Logs of test borings are presented in Appendix A. Locations of test borings are shown on Figures 2A to 2H, except the S11 series which are provided in Appendix H.
The test pits were excavated with a rubber-tire mounted backhoe. Test pits TP1 through TP30 were excavated along the unpaved road south of the rock cut between Stas. WB 4+450 and 4+890, and

terminated at refusal on bedrock. Test pits TP31 through TP34 were excavated along the crest of the breached Scovill Pond Dam, were terminated at the maximum reach of the backhoe. Test pits TP204-1 through TP204-3 were excavated south of Sta. RD 10+490 under the direction of Berger Lehman Associates to determine the location of storm drain. Test pit logs are presented in Appendix B.

Eighteen groundwater observation wells were installed in selected test borings to obtain information on groundwater levels. Observation well installation reports and tabulations of measured water levels are provided in Appendix C.

A-I Engineers, Inc., surveyed as-drilled locations of explorations. Electronic copies of the logs have been provided in microstation format.

Previous Test Borings

Test borings were drilled in the late 1950's at each of the existing bridge structures. Locations of previous test borings are shown on Figures 2A to 2H. Logs of the borings are included in Appendix E.

Laboratory Testing

We conducted a laboratory testing program consisting of 75 grain size distribution analyses on representative soil samples. Seven unconfined compression tests and seven hardness series tests were performed on bedrock core samples. Laboratory testing was conducted in the Haley & Aldrich laboratory in general accordance with standard ASTM practices. Test results are presented in Appendix F.

SUBSURFACE CONDITIONS

Subsurface conditions in the borings consist of fill, alluvial deposits, glaciofluvial deposits, and glacial till overlying bedrock. Soil strata are described below, in order of increasing depth below ground surface.

Thickness (m)	Generalized Description
0.2 to 8.1	**Fill** – Medium dense to dense, coarse to fine SAND, trace to little gravel and silt, trace organic matter, common cobbles and boulders, with occasional wood fragments. Roots, concrete, wood, brick, asphalt, glass fragments and other materials characteristic of urban fill were noted in borings S104-1 to S104-4, S112-3, S112-4, and R303. A chemical odor was noted in boring S10-4, R-29, and S104-1. Black stains or petroleum odors were noted in borings S2-5, S5-1, S5-2, S6-1, S112-1, S113-2, S121-2, S203B-1, S203B-2, S1227-2, R-25 to R-28, R-29A, R-30, R-30A, R-30B, R-31, R-31B, R-35A, R-76A.
0 to 2.2	**Alluvial Deposits** – Very loose to medium dense, interbedded dark gray SILT,

Thickness (m)	Generalized Description
	trace organic matter, and gray-brown coarse to fine SAND, trace silt. An odor similar to petroleum was noted in borings S6-3, S121-1, S121-2, R-30, R-31A, and R-31C.
0.3 to 26.1	**Glaciofluvial Deposits** – Medium dense to very dense, brown, coarse to fine SAND and GRAVEL, trace to some silt, common cobbles and boulders. An odor similar to fuel was noted in borings S5-1, S5-2, S6-1, S6-2, S6-5, S104-4 OW, S112-1, S113-2, S121-1, S121-2, S203B-1, S203B-2, R-27, R-28, and R-29A, R-31A, R-31C, and R-76A.
0.4 to 7.5	**Glacial Till** – Very dense, light brown, coarse to fine SAND, trace to some silt, little gravel, common cobbles and boulders. An odor similar to fuel was noted in boring S2-5.
--	**Bedrock** – Bedrock is described as hard, fresh to moderately weathered, granitic GNEISS, and is part of the Waterbury Gneiss formation. Rock Quality Designation (RQD) values were highly variable, ranging from 0 percent (poor quality rock) to 100 percent (excellent quality rock). However, the average RQD (Rock Quality Designation) is 66 percent, and most of the RQD values were between 30 and 80 percent, indicating the typical rock quality is fair to good. Up to about 3 m of weathered rock overlies sound rock in some areas. Bedrock outcrops are visible on the southwest side of Hamilton Avenue Over I-84, on the south side of the new relocated Reidville Drive at about Sta. RD 10+300, and on the south side of I-84 between WB Sta. 4+500 and 4+850. We mapped the bedrock geology of the Reidville Drive and WB Sta. 4+500 to 4+850 exposures to evaluate bedrock geologic features. A summary of bedrock geologic mapping data is presented in Appendix D.

Fill for the earth embankment of the breached dam is located within the western portion of Scovill Pond. Boring S113-1 and test pits TP31 through TP34 were conducted from the crest of the north embankment and encountered embankment fill, which consists primarily of sand and gravel.

Materials placed in the contaminated fill berm in the late 1990's include petroleum-contaminated soils and solid waste, primarily concrete and metal of various sizes up to about 1.2 m. Fuel odors noted in nearby borings are probably from petroleum-contaminated fill in the berm, but could be contaminated lake bottom sediments unrelated to the berm.

Very loose alluvial deposits up to 2.1-m thick were encountered in previous explorations drilled within Scovill Pond. Very loose alluvial deposits were encountered at ground surface in borings EMD-B108 and S6-4. Loose to medium dense alluvial deposits were encountered beneath fill in recent borings S6-3, S121-1, S121-2, R27, R30, R31A, and R31C. The fill has compressed the alluvial deposits and increased its density from a Standard Penetration Test (SPT) N-Value of zero (very loose) in borings EMD-B108 and S6-

4, to between 3 and 16 (very loose to medium dense) in borings S6-3, S121-1, S121-2, R27, R30, R31A, and R31C.

Seven unconfined compression (UC) tests and seven hardness series tests were conducted on representative bedrock core samples recovered from S1,3-3 through S1,3-5, S7-3, S7-4, and S9-3. Unconfined compressive strengths varied from 61 to 212 MPa. Total hardness determined using the proposed method by Tarkoy[(1)] varied from 44 to 164. A summary of laboratory test results is presented in Appendix F. A figure from the Tarkoy paper showing the range of total hardness for various rock types is also included in Appendix F.

A subsurface profile along test pits TP1 through TP30, located south of the rock cut between Sta. WB 4+480 and 4+880 is presented on Figure 3. These test pits were excavated to evaluate the depth to rock, for design of a trench to intercept surface and subsurface water flow.

Groundwater

Groundwater levels vary across the project area. Between Stas. WB 1+500 and 4+400 groundwater levels are influenced by water levels in the Mad River and Beaver Pond Brook. West of Sta. WB 1+500 and east of WB 4+400, the level of the bedrock surface influences groundwater. Groundwater levels will fluctuate with season, precipitation, and nearby construction activity. Water levels are included on the exploration logs in Appendix A. Tabulations of measured water levels in observation wells are included in Appendix C.

Ice buildup occurs on the rock cut slope on the south side of I-84 between Stas. EB 4+540 and EB 4+890 during prolonged periods of freezing temperatures. Groundwater flows continuously over the bedrock surface and through joints in the bedrock to the face of the cut.

GEOTECHNICAL ENGINEERING RECOMMENDATIONS

Proposed Roadway Construction

Proposed construction includes widening and reconstruction of 4300 m of highway and associated access ramps. Fill embankments are up to about 8-m high and cuts are up to about 20-m high.
The typical pavement section proposed by Berger Lehman Associates is as follows:

Material	Thickness (mm)
Superpave (12.5 mm)	**100 (placed in two equal lifts)**
Superpave (9.5 mm)	25
Reinforced Concrete Pavement	230
Processed Aggregate Base	250

Preload in Former Scovill Pond

The highway embankment will cross the breached dam and the dry lakebed of the former Scovill pond between WB 2+000 and 2+400 (refer to Figures 2B and 2D). Up to 4 m of fill will be placed for the I-84

highway embankment, and up to 8 m of fill will be placed for the adjacent EB Exit 24 Off-Ramp between Retaining Walls 113 and 114. The fill and alluvial deposits in the former Scovill Pond are highly variable in density and composition. Contaminated fill overlies alluvial deposits in most areas of the contaminated fill berm. Alluvial deposits were replaced with gravel beneath a road around the perimeter of the berm. Very loose alluvial deposits which have not been preloaded by the contaminated fill berm, are outside the limits of the berm.

The variable subsurface conditions create the potential for significant differential settlement over short distances. Differential settlement is likely near the eastern limits of the contaminated fill berm, where subgrade soils change abruptly from medium dense sand and gravel for road at the perimeter of the berm to very loose alluvial deposits outside the berm. Differential settlement will also occur between the perimeter gravel road and adjacent areas inside the berm. Based on data from the recent borings, we estimate total settlement beneath retaining walls 113 and 114 on the order of 50 to 100 mm, with differential settlement approaching 100 mm. Up to 50 mm of settlement is expected beneath the I-84 highway embankment.

We considered excavating and replacing the loose fill and alluvial deposits. However, excavation would extend about 2 m below groundwater, and special disposal of contaminated soils and dewatering fluids would likely be required.

Due to the variable subsurface conditions and the potential for significant differential settlement, we recommend the I-84 highway embankment and Walls 113 and 114 be preloaded. The preload should be constructed full height within the limits of the proposed roadways. We anticipate settlement will take 1½ to 2 months to complete. Settlement platforms should be placed within the Wall 113/114 and I-84 roadway embankment areas prior to placement of the preload. Settlement should be monitored by optical survey during and following placement of the preload, and the data used to evaluate when the preload can be removed.

Bedrock Subgrade Areas

Based on the results of subsurface explorations and observations of bedrock exposures, we anticipate bedrock will be encountered at roadway subgrade in the areas indicated on Table I. We recommend that the subbase thickness be increased to 450 mm in rock subgrade areas to promote subsurface drainage. We provided cross-sections showing rock lines for the Reidville Drive and I-84 WB 4+480 to 4+880 rock cut areas.

Underdrains and Drainage of Base and Subbase Layers

Recommended limits of underdrains are listed in Table II. Design underdrains according to standard detail M-751-B. Where underdrains are not provided, slope base and subbase layers downward toward the edges of the embankment, and allow these layers to daylight at the edges. Pavement edge drains should be provided in areas not recommended for underdrains, except along retaining walls that will have free-draining granular backfill.

Soil and Rock Cuts

Permanent cut slopes in natural soil or embankment fill should be 1V:2H or flatter. Except for cuts in rock no slopes steeper than 1V:1.5H are planned. Where slopes are designed for 1V:1.5H and are less than 4.5m high and above the water table, slope treatment of Turf Establishment with Erosion Control Matting is recommended.

Along Harpers Ferry Road from Sta. 6+270 to 6+330, a 10 m high, 1V:1.5H slope is planned. For this area, we recommend that a Reinforced Soil Slope be incorporated in this fill slope. The slope is created by widening the roadway and steepening the slope. We recommend the reinforced soil slope consist of horizontal geotextile layers that are spaced vertically at 400 mm. The geotextile should extend 4m into the slope from the face. An additional 1m length of material be used to retain the fill at the face and wrap back into the slope, held in place by the next layer of geotextile and fill. Turf Establishment with Erosion Control Matting should then be placed on the slope.

A cut slope in both soil and rock will be excavated along the right side of Reidville Drive between Sta. RD 10+000 and 10+400. The height of the cut will be up to about 25 m, with soil and rock portions each about 10 to 15-m high. The following comments apply to the soil slope:

1. Intermediate benches are not required for slope stability. Stabilized grassed slopes should work.
2. Water may run along the rock surface for the cut slope on the right side. If that occurs, we would recommend a 12 in. thick blanket of 2 in. size crushed stone at the lower approximately 3 meters of the soil slope (measured along the slope), with the blanket contiguous with the toe drain that is planned.
3. If bedrock level during construction is lower than anticipated, 1V:1.5H rip rap covered slopes could be used to "gain ground" horizontally, and result in no change to the edge of the cut line (no property impact changes). This should be assessed during construction.

A cut slope in both soil and rock will be excavated along the south side of I-84 between EB 4+480 and 4+540. The height of the cut will be up to about 6 m, and mostly in rock.

Based on the results of our bedrock geological evaluation, we recommend the Reidville Drive rock cut be no steeper than 2V:1H, and the I-84 rock cut be no steeper than 2.5V:1H. Provide a minimum 3-m wide horizontal bench between the crest of the rock cut and the toe of the soil slope.
Provide a single line of drain holes at the toe of each rock cut. The line of drain holes should be located 1.5 to 2 m above the toe of the cut, on a 3 m horizontal spacing. Drain holes should be at least 50-mm dia., 6-m long, and inclined 10 degrees from horizontal, sloping downward toward the face. The drains are recommended to relieve hydrostatic pressures in joints and fractures within the rock, and will function similar to weep holes in a retaining wall. Drain hole details will be provided in the special provision for controlled blasting.

We recommend that a trench drain be provided at the toe of the soil slopes in both areas. The purpose of the trench is to intercept surface runoff and groundwater flow above the bedrock surface, and redirect it away

from the rock cut, thereby reducing ice buildup on the rock face. A recommended drain detail is provided on Figure 4A.

We recommend that blasting for trenches at the toe of the rock slopes be conducted as part of this work, and that the rock in the channel be excavated at this time. This will allow for future trench excavation, if necessary, without blasting and rock excavation.

Relocated Mad River and Beaver Pond Brook Channels

Approximately 500 m of the Mad River channel will be relocated and channelized between the eastbound Exit 24 off ramp and the intersection of Harpers Ferry Road and Plank Road. The channel will typically be 12 to 14 m wide, and bottom of channel grade will vary from El. 109.5 within the former Scovill Pond, to El. 111.4 at the intersection. Subsurface conditions above channel bottom grade consist of fill, alluvial deposits, and glaciofluvial deposits. Based on the boring data, bedrock excavation will not be required. Excavation will extend below groundwater and requires appropriate water handling methods. We understand a special provision will be provided to address water handling.

Approximately 700 m of Beaver Pond Brook will be relocated and channelized between I-84 Sta. WB 3+640 and WB 4+220. The channel will typically be about 4.8 m wide, and will have a bottom grade at El. 130.0 at I-84 Sta. WB 3+640, El. 133.5 at Scott Road, and El. 136.5 at I-84 Sta. WB 4+220. Subsurface conditions above channel subgrade consist of fill, glaciofluvial deposits, and bedrock. Bedrock was encountered at or above channel grade in borings B93-OW, B94 and B95. Based on bedrock surface levels encountered in the borings, we anticipate that up to 2 m of bedrock excavation will be required in the area between borings R-91 and S109-1. Excavation will extend below groundwater, and cofferdam and dewatering should be specified.

Channel slopes designed at 1V:2H are recommended. We recommend that riprap be placed for erosion and scour protection on the surface of channel slopes in accordance with DOT guidelines.

Turf reinforcement mats (TRMs) may also be considered for protection of channel slopes. However, cobbles, boulders, or other protruding objects at subgrade level must be removed and replaced with granular fill, otherwise water can flow beneath the TRM and damage the installation. Additionally, cobbles and boulders will not support vegetation within the TRM. The type, number, and frequency of anchorages must comply with manufacturer recommendations. Cobbles and boulders that obstruct pin or anchor trench installation should be removed, and the holes backfilled with granular fill.

Overhead Signs

We understand drilled pier foundations are planned for the overhead signs in accordance with standard CTDOT details for tubular sign support structures.

Reuse of Excavated Materials

Excavated materials will include fill, alluvial deposits, glaciofluvial deposits, glacial till, and bedrock. In general, excavated materials may be reused as embankment fill. However, based on the results of laboratory gradation analyses, excavated materials will generally not be suitable for reuse as granular fill or pervious structure backfill.

Roots, concrete, wood, brick, asphalt, glass fragments and other materials characteristic of urban fill were noted in borings S104-1 to S104-4, S112-3,S112-4, and R303. Odors similar to fuel were noted in most of the borings drilled within the former Scovill Pond, borings drilled for culvert 203B, and in other areas. Contaminated materials should be disposed of in accordance with applicable State and regulatory agency requirements.

CONSTRUCTION CONSIDERATIONS

General

This section provides comments related to foundation construction and other geotechnical aspects of the project. It will aid those responsible for preparation of contract plans and specifications and those involved with construction monitoring. Contractors should evaluate potential construction problems on the basis of their own knowledge and experience in the area and on the basis of similar localities, taking into account their own proposed equipment, construction methods and procedures.

Preload

A preload is recommended within Scovill Pond for the Wall 113/114 and I-84 highway embankments. The preload should be shown on the drawings as full height within the limits of the proposed roadways. Contractors should be advised that a steepened slope or temporary wall will likely be required on the south side of Wall 113, due to the proximity of the Mad River. Settlement platforms should be installed prior to placement of the preload, and monitored by optical survey during and following preload placement.

Excavation and Temporary Lateral Support

Conventional heavy construction equipment appears practical for excavation of soil. Some boulders are anticipated. We anticipate that excavations may be open cut. However, temporary lateral support such as steel sheet piling or soldier piles and lagging may be necessary to protect adjacent roadways, utilities, other nearby structures, and excavations.

The geometry of temporary cuts and fills should conform to OSHA excavation regulations contained in 29 CFR Part 1926, latest edition. Temporary soil slopes of 1V:1.5H above groundwater appear appropriate, but should be confirmed based on conditions during construction. Temporary barriers parallel to the road may be warranted where significant side hill cuts are planned to prevent dislodged rocks from rolling into the road.

Black stains and odors similar to fuel were noted in most of the borings drilled within the former Scovill Pond, for Culvert 203B, and in other areas. Excavation will encounter petroleum-contaminated soils and contaminated demolition debris, as well as contaminated sediments excavated for the Mad River. The environmental impacts of contamination should be evaluated, including health and safety of workers during construction, whether excavated materials may be reused as fill, and other issues.

Bedrock Excavation

Blasting will be necessary to excavate rock. We recommend that controlled blasting procedures be required to reduce disruption and impacts to nearby structures.

Dewatering

We anticipate that, in general, excavation dewatering may be accomplished by open pumping from the sumps located in the bottom of excavations.

The contractor should be responsible for handling and disposal of water from excavation dewatering or turbid water from construction operations in accordance with the sedimentation and erosion control requirements contained in the contract documents, project permits, and regulatory agency requirements.

Shrink and Swell

Assume a bulking factor for blasted rock of 25 percent between the intact condition and reuse as embankment fill. Soils to be reused may be assumed to shrink 5 percent, considering compaction and removal of unsuitable material.

Special Provisions

We will prepare special provisions of specifications for controlled blasting and preloading.

Closure

This report has been prepared for specific application to the I-84 Reconstruction project in Waterbury, in accordance with generally accepted geotechnical engineering practices. In the event that changes in the nature, design or location of the project elements are planned, the conclusions and recommendations contained in this report should not be considered valid, unless the changes are reviewed by Haley & Aldrich, Inc. and the conclusions of this report modified or verified in writing.

The analyses and recommendations are based, in part, upon the data obtained from the referenced subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations then appear, it may be necessary to reevaluate the recommendations of this report.

We appreciate the opportunity to provide engineering services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Philip J Dunaj
Senior Engineer

Thomas W. Nolan, P.E.
Vice President

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Enclosures:

- Table I – Anticipated Areas of Bedrock Subgrade
- Table II – Recommended Areas of Pavement Underdrains
- Figure 1 – Project Locus
- Figures 2A-H– Subsurface Exploration Location Plan
- Figure 3 – Subsurface Profile Along Test Pits TP1 to TP30
- Figure 4A – Drain Between Crest of Rock Slope and Toe of Soil Slope
- Appendix A – Logs of Recent Test Borings
- Appendix B – Logs of Recent Test Pits
- Appendix C – Observation Well Installation Reports & Measured Water Levels
- Appendix D - Summary of Bedrock Geologic Data
- Appendix E – Logs of Previous Test Borings
- Appendix F – Laboratory Test Results
- Appendix G – As-Built Plan Limits and Cross-Section of Contaminated Fill Berm, and Chemical Test Data
- Appendix H – 2009 Boring Location Plans

TABLE I
ANTICIPATED AREAS OF BEDROCK SUBGRADE
I-84 RECONSTRUCTION, STATE PROJECT 151-273
WATERBURY, CONNECTICUT

LOCATION	STATION	SIDE
I-84	WB 1+240 TO 1+380	BOTH EB and WB SIDES
	WB 1+380 TO 1+410	EB SIDE
	WB 2+500 TO 2+700	EB SIDE
	WB 3+160 TO 3+200	WB SIDE
	WB 4+480 TO 4+860	EB SIDE
	E24 10+280 TO 10+440	BOTH SIDES
REIDVILLE DRIVE	10+040 TO 10+060	RIGHT SIDE
	10+060 TO 10+400	BOTH SIDES
BEAVER POND BROOK	Between Borings R-91 and S109-1	

NOTES:

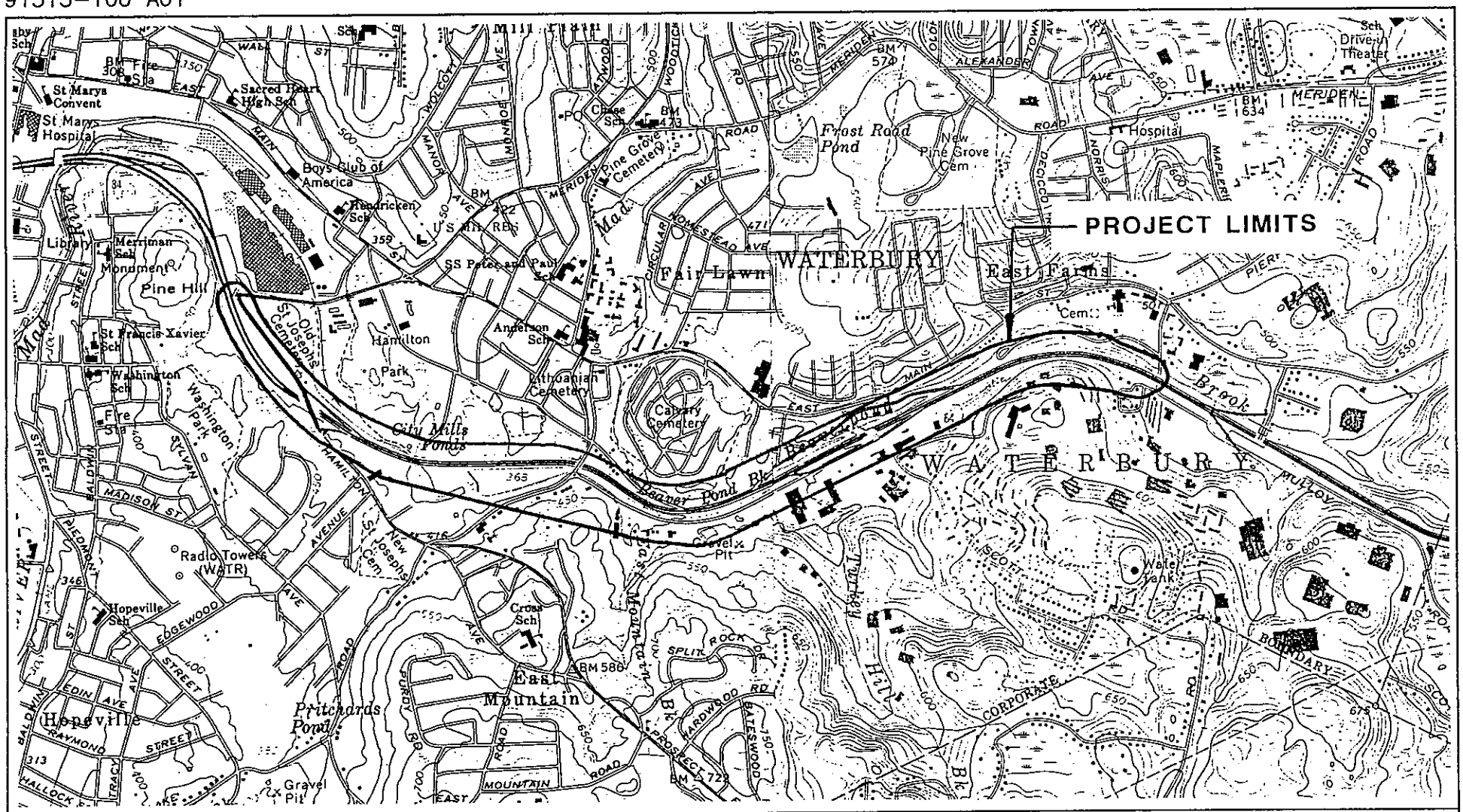
1. Thickness of subbase will be at least 450 mm in areas of bedrock subgrade.
2. Provide pavement edge drains in areas not recommended for underdrains, except along retaining walls.

TABLE II
RECOMMENDED AREAS OF UNDERDRAINS
I-84 RECONSTRUCTION, STATE PROJECT 151-273
WATERBURY, CONNECTICUT

ROAD	STATION	LOCATION
I-84	WB 0+900 to 1+160	EB SIDE
	WB 1+160 TO 1+340	EB AND WB SIDES
	WB 1+340 TO 1+400	EB SIDE
	WB 1+400 TO 1+500	EB AND WB SIDES
	WB 1+500 + 1+920	EB SIDE
	WB 1+920 TO 2+240	EB AND WB SIDES
	WB 2+240 TO 2+280	WB SIDE
	WB 2+360 + 2+420	EB SIDE
	WB 2+420 TO 2+780	EB AND WB SIDES
	WB 2+780 TO 3+360	WB SIDE
	WB 3+360 TO 3+740	EB SIDE
	WB 3+740 TO 3+920	EB AND WB SIDES
	WB 3+920 TO 4+060	EB SIDE
	WB 4+060 TO 4+080	WB SIDE
	WB 4+450 TO 4+600	EB SIDE
	WB 4+600 TO 4+800	EB AND WB SIDES
	WB 4+800 TO 4+910	EB SIDE
EB EXIT 23 OFF RAMP	EB23 15+000 TO 15+169	BOTH SIDES
WB EXIT 23 OFF RAMP	WB23 21+246 AND 21+310	BOTH SIDES
	WB23 21+310 AND 21+680	RIGHT SIDE
WB EXIT 24 ON RAMP	WB24 12+220 TO 12+320	LEFT SIDE
EB EXIT 24 OFF RAMP	EB24 10+000 to 10+760	BOTH SIDES
	EB24 10+760 to 10+880	LEFT SIDE
EB EXIT 25 ON RAMP	EB25 33+900 TO 34+020	RIGHT SIDE
	EB25 34+020 TO 34+200	LEFT SIDE
REIDVILLE DRIVE	RD 10+000 TO 10+400	BOTH SIDES
HAMILTON AVENUE	HA 25+000 TO 25+200	BOTH SIDES
HARPERS FERRY ROAD	HFR 60+080 TO 60+360	RIGHT SIDE
	HFR 60+580 TO 60+780	RIGHT SIDE
EAST MAIN STREET	EM 30+160 TO 30+360	BOTH SIDES
	EM 30+360 TO 30+400	LEFT SIDE
PLANK ROAD	PR 70+060 TO 70+080	LEFT SIDE
	PR 70+060 TO 70+360	BOTH SIDES
PLANK ROAD EAST	PRE 50+040 TO 50+120	RIGHT SIDE
	PRE 50+290 TO 50+320	LEFT SIDE
	PRE 50+400 TO 50+770	LEFT SIDE
	PRE 50+840 TO 51+160	BOTH SIDES

NOTE: Pavement underdrains are recommended in the areas listed. Alternatively, provide drainage ditches, and place pavement base and subbase course layers so that they daylight into the ditches.

91313-100 A01



SITE COORDINATES: 41°32'30.96"N 73°01'24.11"W

U.S.G.S. QUADRANGLES: WATERBURY & SOUTHINGTON, CONNECTICUT

HALLEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

U.S. INTERSTATE 84 RECONSTRUCTION
STATE PROJECT NO. 151-273
WATERBURY, CONNECTICUT

PROJECT LOCUS

SCALE: 1:24,000

APRIL 2002

FIGURE 1

NOTES

1. BASE PLAN PROVIDED BY BERGER LEHMAN ASSOCIATES. BORING LOCATIONS WERE SURVEYED BY A-1 ENGINEERS, MIDDLETOWN CONNECTICUT.
2. ELEVATIONS ARE IN METERS, REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

LEGEND

- LOCATION OF PREVIOUS TEST BORING
- LOCATION OF RECENT TEST BORING DRILLED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.
- LOCATION OF RECENT TEST PIT EXCAVATED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.

ISSUE	DATE	REVISIONS	BY
C	04/18/2002	ISSUED FOR REPORT	H&A
B	09/05/2000	ISSUE FOR DRILLING BID	H&A
A	03/10/2000	ISSUE FOR PRELIMINARY DESIGN	H&A

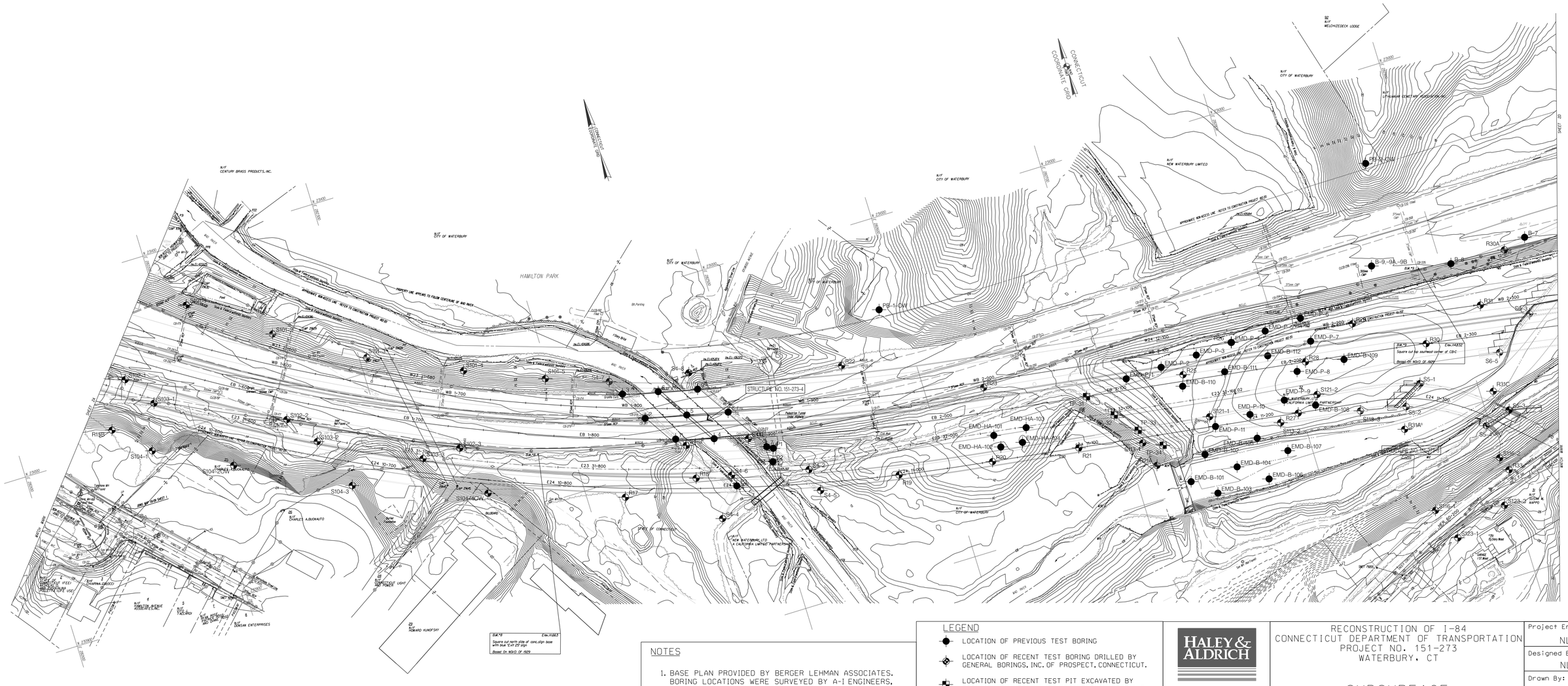
HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS
Haley & Aldrich, Inc.
110 National Drive
Glastonbury, CT 06033-4318
Tel: 860.659.4248
Fax: 860.659.4003

RECONSTRUCTION OF I-84
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273
WATERBURY, CT

SUBSURFACE EXPLORATION PLAN

0 1 2
THIS BAR MEASURES 2 CM AT TRUE SCALE

Date:	APRIL 2002
File No.	91313-100
Scale:	AS SHOWN
Filename:	WB2733R.DGN
Project Engineer:	NLW
Designed By:	NLW
Drawn By:	RJS
Checked By:	JPD
Sheet No.:	1 of 8
Drawing No.	2A
Issue	C



NOTES

1. BASE PLAN PROVIDED BY BERGER LEHMAN ASSOCIATES. BORING LOCATIONS WERE SURVEYED BY A-I ENGINEERS, MIDDLETOWN CONNECTICUT.
2. ELEVATIONS ARE IN METERS, REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

LEGEND

- LOCATION OF PREVIOUS TEST BORING
- LOCATION OF RECENT TEST BORING DRILLED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.
- LOCATION OF RECENT TEST PIT EXCAVATED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.

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RECONSTRUCTION OF I-84
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273
WATERBURY, CT

SUBSURFACE EXPLORATION PLAN

0 1 2
THIS BAR MEASURES 2 CM AT TRUE SCALE

Date: APRIL 2002	File No. 91313-100	
Scale: AS SHOWN	Filename: WB2734R.DGN	

Project Engineer:	NLW
Designed By:	NLW
Drawn By:	RJS
Checked By:	JPD
Sheet No.:	2 of 8
Drawing No.	2B
Issue	C

NOTES

1. BASE PLAN PROVIDED BY BERGER LEHMAN ASSOCIATES. BORING LOCATIONS WERE SURVEYED BY A-I ENGINEERS, MIDDLETOWN CONNECTICUT.
2. ELEVATIONS ARE IN METERS, REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

0 25 50 75 100
SCALE IN METERS

LEGEND

- LOCATION OF PREVIOUS TEST BORING
- LOCATION OF RECENT TEST BORING DRILLED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.
- LOCATION OF RECENT TEST PIT EXCAVATED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.

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Fax: 860.659.4003

RECONSTRUCTION OF I-84
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273
WATERBURY, CT

SUBSURFACE EXPLORATION PLAN

0 1 2
THIS BAR MEASURES 2 CM AT TRUE SCALE

Date:	APRIL 2002
File No.	91313-100
Scale:	AS SHOWN
Filename:	WB2735R.DGN
Project Engineer:	NLW
Designed By:	NLW
Drawn By:	RJS
Checked By:	JPD
Sheet No.:	3 of 8
Drawing No.	2C
Issue	C

MATCH MARK
SHEET 2C
STATE OF CONN.
STRUCTURE NO. 151-273-10
STRUCTURE NO. 151-273-7
STRUCTURE NO. 151-273-6
CONNECTICUT COORDINATE GRID
STATE GRID
N/F
MARY T. CANTILLON
N/F
A&S REALTY CORPORATION
N/F
T.L. ASSOCIATES A CONNECTICUT GENERAL PARTNERSHIP
N/F
WILLIAM P. WASTSHANKA
MARY R. WASTSHANKA
N/F
KIMCO WATERBURY 600 INC.
N/F
THE WATERBURY CONSTRUCTION COMPANY INC.
N/F
ROBERT CACCIONA
N/F
FIRST FEDERAL SAVINGS AND LOAN ASSOCIATION OF WATERBURY
N/F
CONNECTICUT NATIONAL BANK
N/F
ANNA MARIA SEGNO ARIO
N/F
ROSES MUSIC CONCERT GRANT
N/F
BARTHOLOMEW LOROSILA et al
BM 2-600
BM 2-700
BM 2-900
BM 3-000
BM 10-500
BM 10-600
BM 10-700
BM 1-000
BM 1-500
BM 1-700
BM 1-900
BM 2-000
BM 2-100
BM 2-200
BM 2-300
BM 2-400
BM 2-500
BM 2-600
BM 2-700
BM 2-800
BM 2-900
BM 3-000
BM 3-100
BM 3-200
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BM 3-600
BM 3-700
BM 3-800
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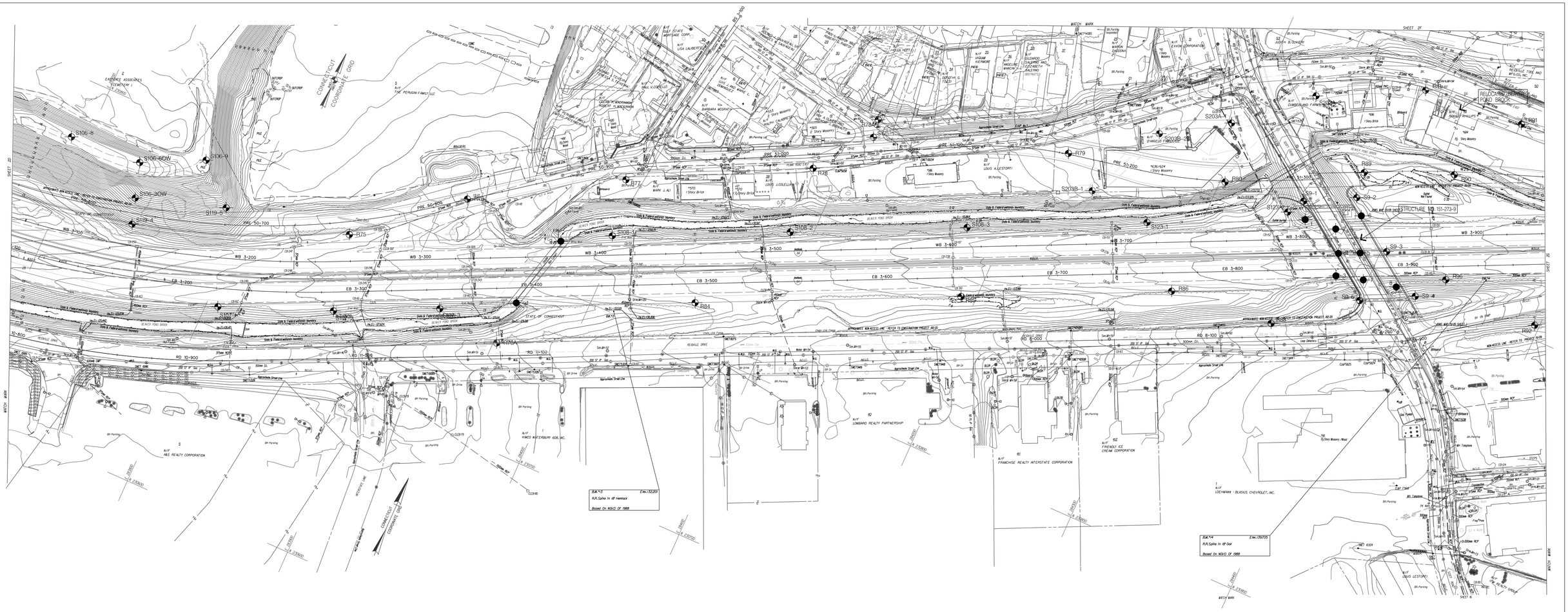
BM 4-800
BM



NOTES

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LEGEND

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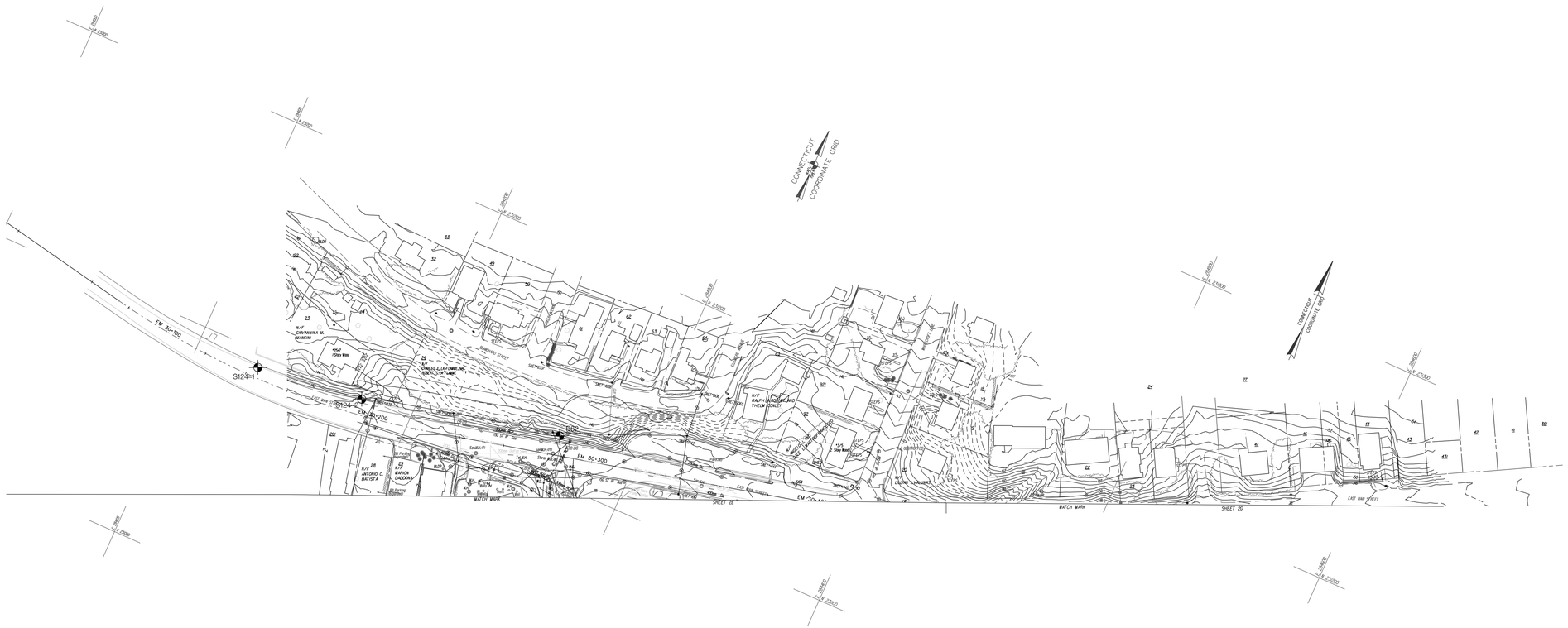
RECONSTRUCTION OF I-84
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273
WATERBURY, CT

SUBSURFACE EXPLORATION PLAN

0 1 2
THIS BAR MEASURES 2 CM AT TRUE SCALE

Date: APRIL 2002	File No. 91313-100
Scale: AS SHOWN	Filename: WB2739R.DGN

Project Engineer:	NLW
Designed By:	NLW
Drawn By:	RJS
Checked By:	JPD
Sheet No.:	5 of 8
Drawing No.	2E
Issue	C



0 25 50 75 100
SCALE IN METERS

NOTES

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LEGEND

- LOCATION OF PREVIOUS TEST BORING
- LOCATION OF RECENT TEST BORING DRILLED BY GENERAL BORINGS, INC. OF PROSPECT, CONNECTICUT.
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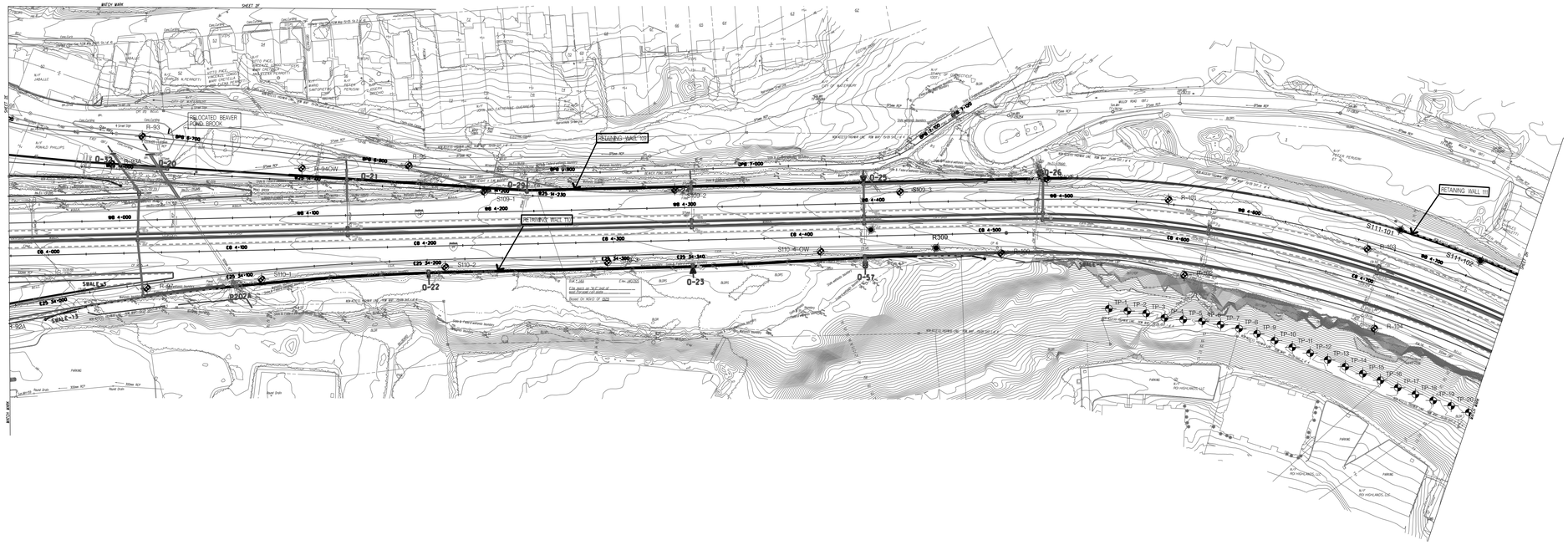
RECONSTRUCTION OF I-84
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273
WATERBURY, CT

SUBSURFACE EXPLORATION PLAN

0 1 2
THIS BAR MEASURES 2 CM AT TRUE SCALE

Date: APRIL 2002	File No. 91313-100
Scale: AS SHOWN	Filename: WB27310R.DGN

Project Engineer:	NLW
Designed By:	NLW
Drawn By:	RJS
Checked By:	JPD
Sheet No.:	6 of 8
Drawing No.	2F
Issue	C


RELOCATED BEAVER POND BROOK
RETAINING WALL 101
RETAINING WALL 102
RETAINING WALL 111
B-93
B-92A
B-94OW
B-95
B-96
B-97
B-98
B-99
B-100
B-101
B-102
B-103
B-104
B-105
B-106
B-107
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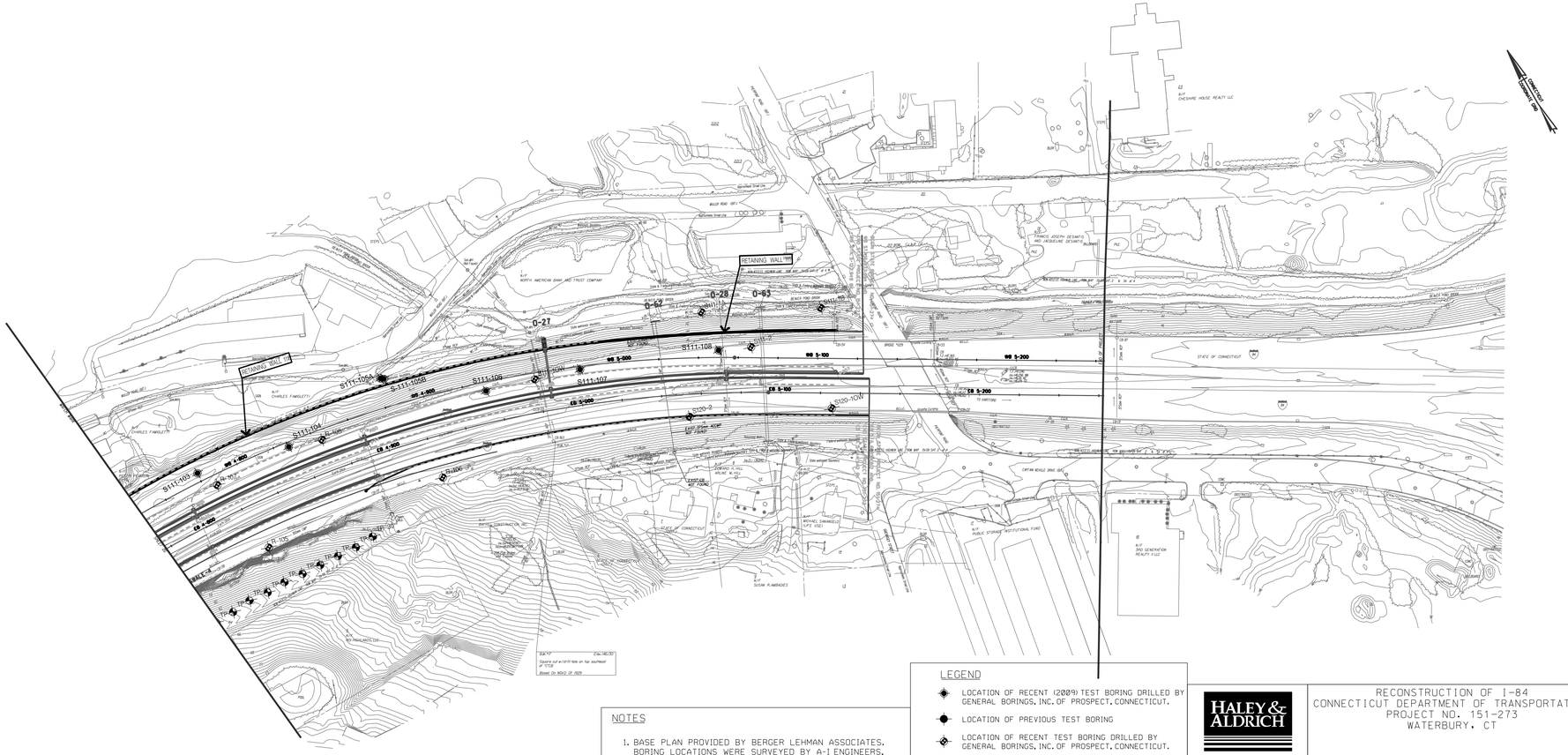
B-132
B-133
B-134


RETAINING WALL 1B
RETAINING WALL 1A
S111-108
S111-109
S111-107
S111-106
S111-105
S111-104
S111-103
S111-109A
S111-106B
S120-2
S120-1ON
S111-2
S111-1B
B-106
B-105
B-104
B-103
B-102
B-101
B-27
B-28
B-62
B-63
TR-1
TR-2
TR-3
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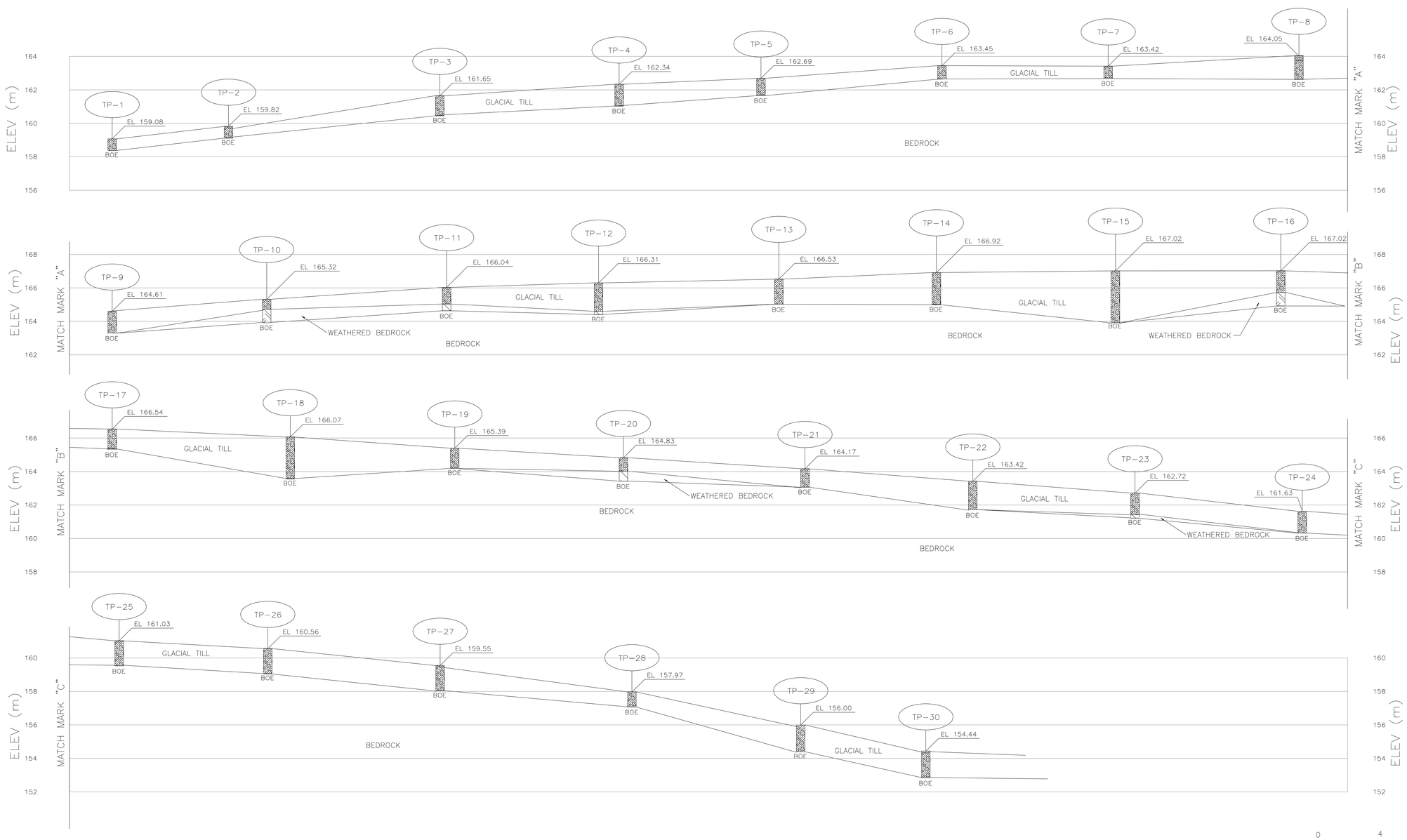
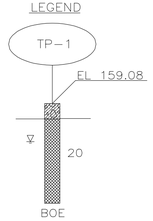
TR-39
TR-40



LITHOLOGY GRAPHICS

Glacial Till — Decomposed Bedrock

LEGEND



EXPLORATION DESIGNATION

APPROXIMATE GROUND SURFACE ELEVATION (METERS) AT EXPLORATION

MAJOR STRATUM BOUNDARY BETWEEN DIFFERENT SOIL TYPES

WATER LEVEL NOTED DURING OR SHORTLY AFTER EXCAVATION

SAMPLE LOCATION AND INTERVAL. SEE SAMPLER GRAPHIC LEGEND FOR SAMPLE TYPE

BOTTOM OF EXPLORATION

NOTES:

1. SEE FIGURE 2, SUBSURFACE EXPLORATION PLAN, FOR TEST BORING LOCATIONS.
2. FOR DETAILED DESCRIPTION OF SUBSURFACE MATERIAL REFER TO TEST BORING LOGS CONTAINED IN APPENDIX A OF THIS REPORT.
3. LINES REPRESENTING CHANGES IN STRATA ARE BASED UPON INTERPOLATION BETWEEN SUBSURFACE EXPLORATIONS AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS AT OTHER THAN SPECIFIED EXPLORATION LOCATIONS.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

U.S. INTERSTATE ROUTE 84 RECONSTRUCTION
STATE PROJECT NO. 151-273
WATERBURY, CONNECTICUT

SUBSURFACE PROFILE ALONG TEST PITS TP1 TO TP30

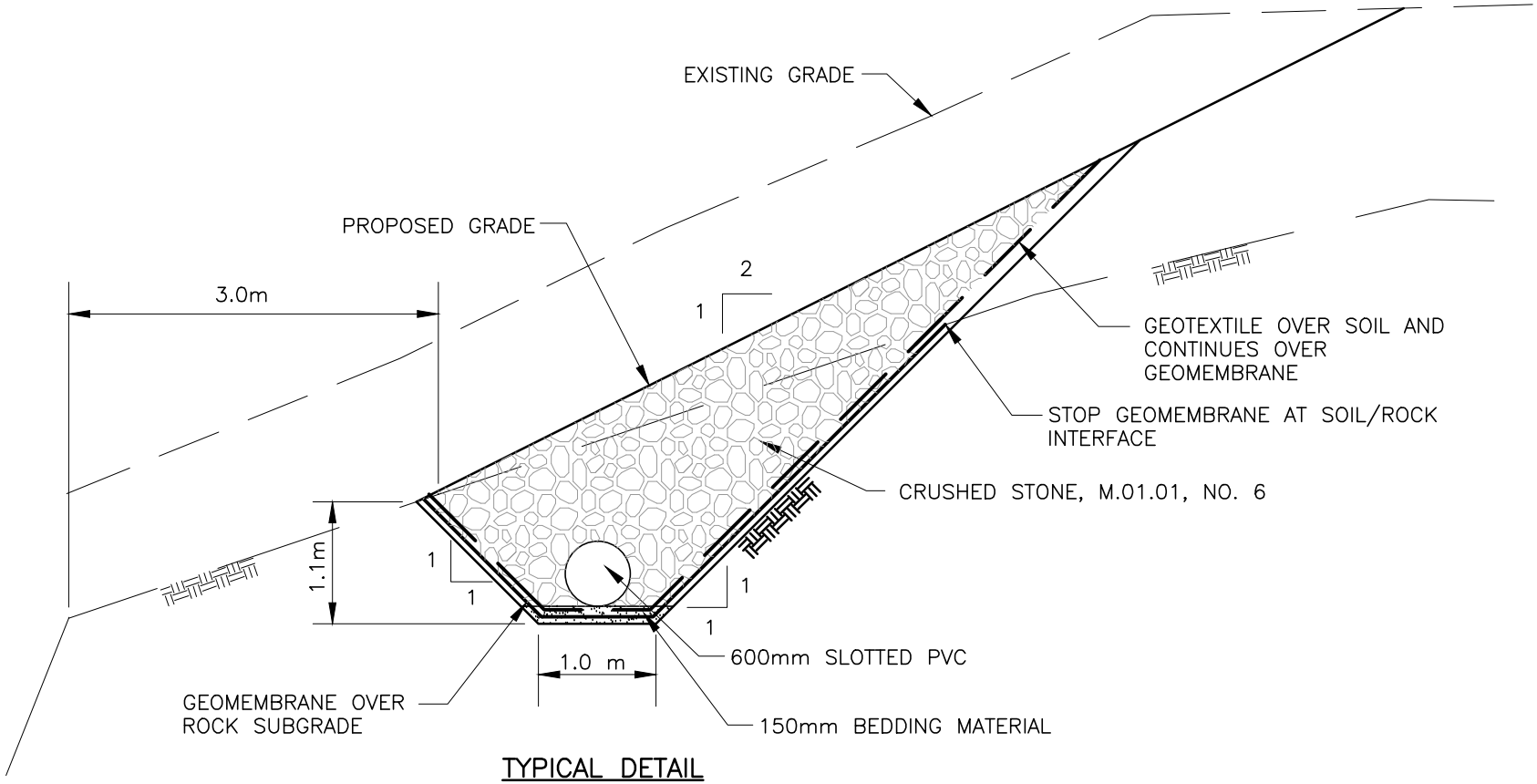
SCALE: AS SHOWN

MARCH 2002

100/icing study/91313-100 E02

FIGURE 3

91313-100 A17



TYPICAL DETAIL

NOTES:

1. DO NOT PLACE GEOMEMBRANE OVER SOIL SUBGRADE.

2. GEOTEXTILE SHALL BE SELECTED FROM CONNDOT APPROVED PRODUCTS LIST FOR GEOTEXTILES AND SHALL BE FOR SUBSURFACE DRAINAGE, CLASS A.

3. GEOMEMBRANE SHALL BE MINIMUM 30 MIL THICK HIGH DENSITY POLYETHELENE (HDPE).

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

U.S. INTERSTATE ROUTE 84 RECONSTRUCTION
STATE PROJECT NO. 151-273
WATERBURY, CONNECTICUT

DRAIN BETWEEN ROCK SLOPE AND TOE OF SOIL SLOPE

NOT TO SCALE

MAY 2003

FIGURE 4A

APPENDIX A

Logs of Recent Test Borings

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231370.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281779.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.6**	Utilized													
Date Started: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	6	13	16	16		Medium dense dark brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, asphalt, burnt odor
		0.61-1.22	2	0.61	0.15	D	7	8	7	4		Medium dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		1.52-2.13	3	0.61	0.10	D	2	2	2	2	117.08 1.52	
		2.13-2.74	4	0.61	0.30	D	11	13	16	13	116.47 2.13	Loose black fine SAND and SILT, little coarse sand, gravel with roots (possible topsoil), organic odor -FILL-
		3.05-3.25	5	0.20	0.18	D	35	50/0.05			115.35 3.25	Medium dense brown coarse to fine SAND and medium to fine GRAVEL Very dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.25 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
			3.25 m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-1**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231294.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281827.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.1**	Utilized						X		X					
Date Started: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	5	5	10	11		Medium dense brown coarse to fine SAND, some gravel, little silt, with few roots
		0.61-1.22	2	0.61	0.20	D	6	7	7	10		Medium dense brown coarse to fine SAND, some gravel, trace silt
											116.58	-FILL-
		1.52-2.13	3	0.61	0.36	D	10	15	25	20	1.52	Dense light brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		2.13-2.74	4	0.61	0.41	D	56	60	37	35		Same as D3, except very dense with cobbles
		3.05-3.66	5	0.61	0.38	D	25	20	21	37	114.44	Dense brown fine SAND, some gravel, little coarse sand, silt
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-2**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231267.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281915.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **115.4**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **26 April 2001**	Utilized						X		X					
Date Finished: **26 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
@ **3.50** m after **0.5**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.48	D	7	12	12	6		Medium dense brown coarse to fine SAND, little gravel, silt, asphalt
		0.61-1.22	2	0.61	0.30	D	6	5	3	3		Loose brown coarse to fine SAND, some silt, little gravel
		1.52-2.13	3	0.61	0.61	D	7	8	7	11	113.86 1.52	-FILL-
												Medium dense brown SILT, little coarse to fine sand
		3.05-3.66	4	0.61	0.48	D	27	14	16	19	111.72 3.66	Dense brown SILT and fine SAND, little medium to fine gravel, trace coarse sand, wet -GLACIAL TILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-3**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231228.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281885.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **117.9**	Utilized						X		X					
Date Started: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.51** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	4	3	3	4		Loose dark brown loamy SILT and coarse to fine SAND,little gravel with roots
		0.61-1.22	2	0.61	0.48	D	10	19	28	25	117.14	Dense brown coarse to fine SAND, some gravel
											0.76	-FILL-
		1.52-2.13	3	0.61	0.51	D	30	28	32	35		Dense brown SILT, some coarse to fine sand, trace gravel
												Very dense brown SILT and fine SAND, little coarse sand, fine gravel
		3.05-3.66	4	0.61	0.38	D	32	23	20	25	114.24	Dense brown SILT and fine SAND, some fine gravel, little coarse sand
											3.66	-GLACIAL TILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
hsa	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-4**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231211.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281976.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.4**	Utilized						X		X					X
Date Started: **26 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 April 2001**	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	8	11	18	40	114.23	Medium dense brown coarse to fine SAND and GRAVEL, trace silt -FILL-
		1.20-2.72	1	1.52	1.22	C		[RQD = 44%]			1.20	Auger refusal at 1.2 m. Hard, fresh to slightly weathered, gray to white GRANITIC GNEISS. Joints are high angle to vertical, close to very closely spaced, smooth, undulating, tight to open -BEDROCK-
											112.71	
											2.72	Bottom of Exploration at 2.72 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**1.2**	**1.20** m	**1.52** m
			No. of Samples	
			1D, 1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-5**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231172.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281942.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **117.4**														
Date Started: **17 April 2001**	Utilized		X						X					X
Date Finished: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **NO** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	5	7	30		Medium dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
		1.52-2.13	2	0.61	0.15	D	13	13	8	14		Medium dense brown coarse to fine GRAVEL and coarse to fine SAND, little silt, wet
											114.96 2.44	-FILL-
		3.05-3.05 3.05-4.57	3 1	0.00 1.52	0.00 1.40	D C	50/0 50/0	[RQD = .%] [RQD = 77%]				No recovery Very hard, fresh, gray and white to pink, coarse to fine grained GRANITIC GNEISS. Foliation is indistinct. Joints are moderately dipping to high angle, close to moderate, rough, undulating to stepped, discolored, open. Note: Calcite filled healed fractures, some secondary mineral growth
											112.83 4.57	-BEDROCK-
5												
10												
15												

Bottom of Exploration at 4.57 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.0**	**3.05** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-6**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231130.47**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281991.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **120.4**	Utilized		X						X					X
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.39	1	0.39	0.05	D	4	23	50/0.01			Very dense brown coarse to fine SAND and coarse GRAVEL, trace silt -FILL-
		0.61-1.06	2	0.45	0.25	D	13	37	40	50/0.00	119.67 0.76	
		1.52-1.52	3	0.00	0.00	D	50/0	[RQD = 38%]			119.06 1.37	Very dense brown SILT and coarse to fine GRAVEL, little coarse to fine SAND -GLACIAL TILL-
		1.52-3.05	1	1.53	1.40	C	50/0				117.38 3.05	Hard, fresh gray and white, coarse to fine grained GNEISS. Foliation is low angle, extremely close. Joints are moderately dipping to high angle, very close to moderate, rough, undulating, discolored, open -BEDROCK-
5												Bottom of Exploration at 3.05 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**1.5**	**1.52** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-7**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231171.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282035.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.8**	Utilized						X		X					
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	2	2	10	15	0.15	-TOPSOIL-
												Medium dense gray coarse to fine SAND, little gravel, wood, trace silt
		1.52-2.13	2	0.61	0.10	D	14	13	10	17		Medium dense gray coarse to fine SAND and GRAVEL, little silt
											114.30	-FILL-
											2.50	Dense brown SILT, some sand, little gravel, coarse sand
		3.05-3.66	3	0.61	0.45	D	19	21	20	15	113.14	
											3.66	-GLACIAL TILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety homer.**
Borehole backfilled with drill cuttings. NE means Not Encountered

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-8**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-9**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231123.18**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282109.49**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.3**														
Date Started: **18 April 2001**	Utilized						X		X					
Date Finished: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	3	5	10	13		Medium dense dark brown coarse to fine SAND, some gravel, little wood, trace brick, silt
		1.52-1.82	2	0.30	0.08	D	49	100				Very dense brown GRAVEL, some coarse to fine sand, little brick specks, trace silt, wood
		3.05-3.66	3	0.61	0.03	D	5	6	10	13	110.68	Piece of coarse gravel in spoon tip. (Drill cuttings are a brown coarse to fine SAND, trace silt)
											3.66	-FILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-9**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-10**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231233.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282023.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.7**	Utilized						X		X					
Date Started: **29 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 March 2001**	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	15	25	26	22		Very dense brown coarse to fine SAND, little asphalt, trace medium to fine gravel
		0.61-1.22	2	0.61	0.15	D	10	9	7	5		Medium dense brown fine SAND, some coarse sand, trace fine gravel
		1.52-2.13	3	0.61	0.30	D	2	1	1	2		Very loose dark brown coarse to fine SAND, little cinders, trace fine gravel
		2.13-2.74	4	0.61	0.09	D	2	1	1	1		Same as D3
		3.05-3.66	5	0.61	0.30	D	3	3	5	7	115.35	Same as D3, except loose
											114.99	-FILL-
											3.66	Loose dark brown fine SAND, little coarse sand, trace fine gravel
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-10**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-11**
DRILLER	STATE OF CONNECTICUT	Line & Station
	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231176.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282109.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **104.4**	Utilized						X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.37** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.12	D	2	4	6	3	0.03	-TOPSOIL- Medium dense black to brown coarse to fine GRAVEL and coarse to fine SAND, little silt, sheen
		1.52-1.97	2	0.45	0.26	D	35	50	100		102.88 / 1.52	-FILL- Very dense orange-brown coarse to fine SAND, little medium gravel and silt, no odor, wet, sheen
		3.05-3.20	3	0.15	0.00	D	100				101.20 / 3.20	Auger refusal at 2.13 m. on boulder Very dense brown to tan coarse to fine SAND and coarse to fine GRAVEL, some boulders -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.20 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.20** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-11**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-12**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231141.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282136.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.4**														
Date Started: **24 April 2001**	Utilized			X					X					
Date Finished: **24 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	3	2	2	4		Loose dark brown SILT and fine SAND, trace fine gravel, organics
		1.52-1.62	2	0.10	0.00	D	100/0.10					S2- No recovery
		1.52-2.29	1	0.77	0.00	C						Cored boulders 1.52 m. to 2.29 m.
											103.30	
		3.05-3.20	3	0.15	0.15	D	100				3.05 3.20	Very dense brown coarse to fine SAND, trace silt, wet
												-FILL-
5												Bottom of Exploration at 3.20 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**3.1**	**3.20** m	**-** m
			No. of Samples	
			3D,1C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-12**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-13**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231115.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282156.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **109.3**														
Date Started: **25 April 2001**	Utilized						X		X					
Date Finished: **25 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	1	2	2	4	108.69	-TOPSOIL-
		0.61-1.22	2	0.61	0.05	D	7	8	12	19	0.61	Medium dense brown coarse to fine SAND, little silt, trace medium to fine gravel, moist
		1.52-2.13	3	0.61	0.00	D	17	29	51	51		No recovery, pushing cobble
		2.13-2.23	4	0.10	0.00	D	100/0.10				106.86	No Recovery
		2.44-3.05	5	0.61	0.36	D	24	24	21	14	2.44	-FILL-
		3.05-3.66	6	0.61	0.00	D	38	32	39	29		Dense orange-brown coarse to fine SAND, little medium to fine gravel, silt, no odor, moist
		3.66-3.99	7	0.33	0.23	D	30	51	100/0.30			No recovery
											104.73	Very dense gray-brown coarse to fine SAND, little medium to fine gravel, trace silt, moist
5		4.57-4.57	8	0.00	0.00	D	100/0.00				4.57	Steady grind on auger 4.2 m. to 4.57 m.
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.57 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.5**	**4.57** m	**-** m
			No. of Samples	
			8D	

NOTES: **Skid mounted Diedrich D-25 with cat head to drive safety hammer.**
Borehole backfilled with drill cuttings. NE means Not Encountered

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-13**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-15A**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231036.03**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282123.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.1**	Utilized		X			X			X					
Date Started: **28 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 March 2001**	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.00** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.43	1	0.43	0.30	D	13	25	100/0.13		0.15	-TOPSOIL- Very dense brown coarse to fine SAND, little cobble and boulder fragments
		1.52-2.13	2	0.61	0.30	D	13	26	41	39	117.57 1.52	Note: Boulders and cobbles 0.43 to 1.52 m. -FILL- Very dense tan coarse to fine SAND, trace medium to fine gravel, trace silt
		2.13-2.51	3	0.38	0.15	D	39	33	100/0.08			Very dense tan fine SAND, some coarse sand, trace medium to fine gravel
		3.05-3.40	4	0.35	0.25	D	33	31	100/0.05			Very dense red brown coarse to fine SAND, trace fine gravel, moist
5		4.57-4.77	5	0.20	0.09	D	39	100/0.05				Very dense brown coarse to fine GRAVEL, little coarse to fine sand, wet
		6.10-6.48	6	0.38	0.15	D	52	56	100/0.08		112.61 6.48	Very dense brown coarse to fine SAND, trace medium to fine gravel -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 6.48 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.1**	**6.48** m	**-** m
NW	**3.1**	**6.1**	No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-15A**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-15B**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230988.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282158.13**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.4**	Utilized			X		X	X		X					
Date Started: **27 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 March 2001**	Size I.D. (mm)	60	76	100	64	X	X		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	5	8	16	19		Medium red-brown medium to fine SAND, fine gravel, little asphalt, trace glass
		0.61-1.22	2	0.61	0.05	D	19	8	12	29		Medium dense coarse GRAVEL, trace medium to fine sand
		1.52-2.13	3	0.61	0.30	D	7	9	9	5		Medium dense brown medium to fine SAND, little fine gravel, asphalt, trace silt
		2.13-2.74	4	0.61	0.30	D	4	4	7	9	122.24 2.13	Medium dense brown medium to fine SAND, trace fine gravel, trace asphalt (moist)
		3.05-3.66	5	0.61	0.15	D	12	14	16	9		Dense brown medium to fine SAND, trace coarse to fine gravel, trace roots
5		4.57-5.18	6	0.61	0.15	D	19	12	1	1		D6 same as D5, except trace brick
		5.18-5.79	7	0.61	0.05	D	1	1	16	18		Medium dense red brick fragments, little medium to fine sand
											118.27 6.10	-FILL-
												Very dense brown medium to fine SAND, trace medium to fine gravel
		7.62-8.23	9	0.61	0.10	D	28	31	29	45		Very dense brown medium to fine SAND, trace medium to fine gravel
10		9.14-9.60	10	0.46	0.30	D	31	82	100/0.0			D10 same as D9, except trace rock fragments
		10.67-10.97	11	0.30	0.15	D	75	100/0.15				Very dense brown medium to fine SAND, little coarse to fine gravel, trace rock fragments
		11.58-13.72	1	2.14	1.07	C						Cored Boulder 11.58 m to 13.72 m
												Rollerbit from 13.72 m to 14.33 m
15		14.33-15.85	2	1.52	1.37	C						Cored boulder 14.33 m to 15.58 m

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.1**	**15.85** m	**0.00** m
HSA	**3.1**	**11.6**	No. of Samples	
Casing	**11.6**	**15.9**	**11D,2C**	

NOTES: **Truck mounted with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-15B**
Sheet **1** of **2**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-15B**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230988.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282158.13**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **124.4**
Date Started: **27 March 2001**
Date Finished: **28 March 2001**
Groundwater Observations
@ _____ m after _____
@ m after

	Casing				Auger		Mud	Sampler		Core Barrel			
Utilized			X		X	X		X					
Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Size I.D. (mm)	60	76	100	64	X	X		35		35	35	55	55
Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											108.52	-GLACIOFLUVIAL DEPOSITS-
											15.85	Bottom of exploration at 15.85 m
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**3.1**	**15.85** m	**0.00** m
HSA	**3.1**	**11.6**	No. of Samples	
Casing	**11.6**	**15.9**	**11D,2C**	

NOTES: **Truck mounted with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-15B**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-17**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230890.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282420.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.5**	Utilized						X		X					
Date Started: **1 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	3	16	22	38	0.15 / 109.89	-TOPSOIL-
		0.61-1.04	2	0.43	0.30	D	17	29	100/0.13		0.61	Dense dark gray to brown coarse to fine SAND, some gravel, little silt, concrete pieces
		1.52-2.13	3	0.61	0.23	D	23	11	15	36		-FILL- Very dense brown fine SAND, some silt, coarse to fine gravel, trace coarse sand, with cobbles
		2.13-2.74	4	0.61	0.23	D	32	46	58	61		Medium dense brown fine SAND and SILT, little gravel, coarse sand
		3.05-3.66	5	0.61	0.00	D	15	16	8	6	106.84 / 3.66	Very dense brown coarse to fine SAND and coarse to fine GRAVEL No recovery, spoon wet -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.66 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-17**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-18**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230892.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282464.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.2**	Utilized						X		X					
Date Started: **4 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	7	14	4	15		Medium dense dark brown SILT and fine SAND, trace coarse sand, fine gravel, roots, leaves
		0.61-1.22	2	0.61	0.38	D	5	7	7	18		Medium dense dark brown coarse to fine SAND, little gravel, silt, asphalt
											104.99	
		1.52-2.13	3	0.61	0.46	D	29	37	17	20	1.22	-FILL-
		2.13-2.74	4	0.61	0.41	D	12	59	68	63		Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		3.05-3.35	5	0.30	0.18	D	54	98			102.86	Very dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
											3.35	
5												Note: Running sands at 3.05 m. Very dense gray brown coarse to fine GRAVEL, little coarse to fine sand, silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.35 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.35** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-18**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-19**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230856.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282573.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **109.2**	Utilized						X		X					
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.41	D	1	1	1	1	0.15	Very loose dark brown loamy SILT, with leaves grass, roots
		0.61-1.22	2	0.61	0.43	D	1	6	11	12	108.29	
											0.91	Very loose orange-brown SILT, with roots
											107.68	Medium dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		1.52-1.65	3	0.13	0.08	D	100/0.13				1.52	
											106.90	Very dense white corse to medium GRAVEL, with cobbles
											2.30	-FILL-
		3.05-3.66	4	0.61	0.41	D	16	54	36	23	105.54	Very dense orange-brown coarse to fine SAND, some coarse to fine gravel, trace silt
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion. NE= Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-19**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-20**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230851.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282637.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.0**	Utilized						X		X					
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	2	3	9	4	112.39	Medium dense dark brown fine SAND, some silt, little gravel, trace grass, leaves
		0.61-0.91	2	0.30	0.30	D	7	100			0.61	-ALLUVIAL DEPOSITS-
		1.52-1.65	3	0.13	0.10	D	100/0.13					Very dense brown medium GRAVEL
		2.13-2.23	4	0.10	0.10	D	100/0.10					Boulder at .91 m. Very dense brown coarse to fine SAND, little silt, trace fine gravel, trace organics
											109.95 3.05	Boulder 1.65 m. Very dense brown coarse to fine GRAVEL, trace silt, fine sand, with cobbles
5												Auger refusal on boulder at 2.29 m. moved boring 4 times
												Auger refusal at 3.05 m.
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.05 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.05** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion. NE= Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-20**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-21**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230841.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282675.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **109.3**	Utilized						X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.80** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	1	1	2	2		Very loose dark brown to reddish brown coarse to fine SAND, some silt, little medium to fine gravel, trace organics
											108.22	
											1.10	-FILL-
		1.52-1.67	2	0.15	0.08	D	100					Very dense brown to gray-brown medium to fine GRAVEL and coarse to fine SAND, some silt, wet
												Boulders from 1.5 m. to 2.1 m.
											106.12	
		3.05-3.20	3	0.15	0.14	D	100				3.20	Very dense gray-brown coarse to fine SAND, little silt, wet
												-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.20 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.20** m	**-** m
			No. of Samples	
			3D	

NOTES: **Truck mounted Mobile Drill B-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-21**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-21A-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230819.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282694.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **109.1**	Utilized						X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.05	D	1	2	3	7	108.70	Loose dark gray-brown fine SAND and SILT, trace coarse sand, fine gravel
		0.61-0.76	2	0.15	0.05	D	100				0.40 / 107.90	Very dense gray-brown coarse GRAVEL and coarse to fine SAND, little silt (probable boulder fragments for recovery)
											1.20	-FILL-
		3.05-3.66	3	0.61	0.30	D	76	50	50	100	105.44	Very dense dark gray medium to fine GRAVEL and coarse to fine SAND, wet
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Boring offset 6 times due to obstructions (boulders). Observation well installed upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-21A-OW**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-22**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230925.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282559.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.6**	Utilized						X		X					
Date Started: **19 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	4	2	4	7	111.99	Loose dark brown to brown coarse to fine SAND, little silt, with roots
		0.61-1.22	2	0.61	0.10	D	21	27	30	39	0.61	-TOPSOIL-
		1.52-2.13	3	0.61	0.30	D	11	32	14	9	111.08 1.52	Very dense brown coarse to fine SAND, little gravel -FILL-
		3.05-3.66	4	0.61	0.15	D	10	5	5	5	108.94 3.66	Dense brown fine SAND, some medium to fine gravel, little coarse sand, trace silt. Unable to advance auger past 1.52 m., moved borehole Medium dense brown coarse to fine SAND and medium to fine GRAVEL, little silt -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-22**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-23**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230887.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282654.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.8**	Utilized						X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	2	3	7	6	0.05	-TOPSOIL-
												Loose dark brown coarse to fine SAND, little medium to fine gravel, trace silt, particles of glass and wood, moist
		1.52-1.82	2	0.30	0.20	D	32	100				Very dense gray-brown coarse to fine SAND, some coarse to fine gravel, little silt
												Auger refusal at 3.0 m.
											110.62	
											3.22	Boring terminated due to broken auger shoe
												-FILL-
5												Bottom of Exploration at 3.22 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.2**	**3.22** m	**-** m
			No. of Samples	
			2D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Boring terminated due to broken auger shoe. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-23**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-25**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230856.67**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282725.81**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.4**	Utilized						X		X					
Date Started: **7 May 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **7 May 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.90** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	4	3	3		Loose brown fine SAND and SILT, little coarse sand, trace organics, trace black staining (grease odor)
		0.61-1.22	2	0.61	0.05	D	3	3	3	2		Same as D1, except no organics, trace coarse sand
		1.52-1.84	3	0.32	0.20	D	1	9	50/.02		109.64	Very dense black SILT, trace fine gravel, petroleum odor, moist
											1.80	-FILL-
		3.05-3.15	4	0.10	0.10	D	100/.10					Very dense brown coarse to fine SAND, little silt, fine gravel
												Note: Cobble at 1.84 m.
5		4.57-4.87	5	0.30	0.20	D	65	100			106.57	Very dense gray-brown coarse to fine SAND, little gravel, silt
											4.87	Very dense gray-brown coarse to fine SAND, some medium to fine gravel, trace silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.87 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.87** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-25**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-26**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230876.05**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282772.89**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.5**	Utilized						X		X					
Date Started: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.00** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.14	D	4	2	1	1		Very loose brown coarse to fine SAND, some silt, trace organics (weeds), moist
		0.61-1.22	2	0.61	0.08	D	4	6	15	28	109.61 0.91	
											109.15 1.37	Medium dense dark brown to black SILT, some fine sand, trace coarse sand and fine gravel, strong diesel fuel odor, wet -FILL-
		2.44-3.05	3	0.61	0.61	D	30	19	14	12		Boulder from 1.37 m. to 2.44 m.
		3.05-3.66	4	0.61	0.46	D	7	11	11	15		Dense olive to gray-brown coarse to fine SAND, some coarse to fine gravel, little silt; wet Same as S3, except "medium dense."
5		4.57-5.18	5	0.61	0.61	D	64	62	63	69	105.34 5.18	Same as S4, except "very dense." -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-26**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-27**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230825.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282797.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.8**	Utilized						X		X					
Date Started: **14 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	2	4	7	9		Medium dense brown fine SAND, little silt, trace coarse sand, grass, leaves
		0.61-1.22	2	0.61	0.30	D	4	7	9	8		Medium dense dark brown SAND, some silt, trace coarse sand, fine gravel, slight odor
											110.28	-FILL-
		1.52-2.13	3	0.61	0.51	D	2	3	3	5	1.52	Loose gray interbedded SILT and fine SAND, trace organics in silt
		2.13-2.74	4	0.61	0.25	D	4	4	5	4		Same as D3
		3.05-3.66	5	0.61	0.41	D	7	24	28	36	108.14	Very dense dark gray fine SAND, some silt, trace organics
											3.66	-ALLUVIAL DEPOSITS-
5		4.57-4.80	6	0.23	0.03	D	27	100/.08			107.00	Very dense olive brown coarse to fine SAND, some medium to fine gravel, trace organics, slight petroleum odor
											4.80	Very dense dark brown medium GRAVEL, little silt, fine sand
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.80 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**4.80** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-27**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-28**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230850.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282810.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.4**		Utilized						X		X					
Date Started: **1 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.60** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	14	6	5	6		Medium dense dark brown coarse to fine SAND and SILT; moist
		0.61-1.22	2	0.61	0.41	D	7	4	3	3	111.61 0.78	Loose black SILT and coarse to fine SAND, trace fine gravel, trace organics; moist, fuel oil odor
		1.52-2.13	3	0.61	0.28	D	5	5	6	7	110.39 2.00	Same as S2, except "medium dense."
		2.13-2.74	4	0.61	0.46	D	7	5	5	4	110.10 2.29	Medium dense gray coarse to fine SAND, trace silt; odor, moist
		3.05-3.66	5	0.61	0.46	D	1	2	3	9	108.99 3.40	Loose black SILT and fine SAND, some coarse sand, trace organics (leaves); moist, fuel oil odor
		3.66-4.27	6	0.61	0.30	D	12	14	24	28		Same as S4, except loose -FILL-
5		4.57-4.57	7	0.00	0.00	D	50/0.0	--	--	--		Loose light brown coarse to fine SAND, some coarse to fine gravel, little silt;
		5.18-5.79	8	0.61	0.30	D	48	47	37	39	106.60 5.79	Dense light brown coarse to fine SAND and coarse to fine GRAVEL, little silt; wet, slight odor No recovery Note: Auger through cobbles 4.57m. to 5.18 m. Very dense light brown coarse to fine SAND, little coarse to fine gravel, trace silt, wet -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.79 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.79** m	**-** m
			No. of Samples	
			8D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-28**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-29**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230863.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282842.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**	Utilized						X		X					
Date Started: **1 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ _____ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	9	2	8	27	0.10	Medium dense brown coarse to fine SAND and SILT, trace roots, moist
		0.61-1.22	2	0.61	0.41	D	7	12	19	49		Dense brown coarse to fine SAND, little coarse to fine gravel, trace silt; moist, slight odor (like new plastic)
		1.52-1.60	3	0.08	0.00	D	100/0.08	--	--	--		Dense brown coarse to fine SAND, trace coarse to fine gravel, silt, wet
											109.32	No recovery, boulder fragments in tip of spoon
											2.59	Note: Boulder from 1.60 m. to 1.88 m.
												Note: Common cobbles and boulders to 2.59 m.; auger refusal at 2.59 m.
5												Note: Borehole moved 1.07 m. SE to avoid boulder. See "Boring Report R-29A" for details
												-FILL-
												Bottom of Exploration at 2.59 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**2.6**	**2.59** m	**-** m
			No. of Samples	
			3D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-29**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-29A**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230862.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282843.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.0**		Utilized						X		X					
Date Started: **1 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**		Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.40** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Note: R-29A is continuation of R-29, Augered 0.0 - 1.52 m
		1.52-2.13	1	0.61	0.18	D	23	50	86	35		Very dense gray-brown coarse to fine GRAVEL, some coarse to fine sand, little silt, moist, slight fuel odor
		2.13-2.26	2	0.13	0.05	D	100/0.13	--	--	--	109.74 2.26	Same as S1, except "wet."
												-FILL-
		3.05-3.58	3	0.53	0.25	D	6	7	28	100/0.08		Dense gray-brown coarse to fine GRAVEL and coarse to fine SAND, trace silt; wet, slight fuel odor
5		4.57-4.85	4	0.28	0.25	D	71	100/0.13	--	--	107.15 4.85	Note: Auger through common cobbles and boulders 3.59 - 4.57 m. Same as S3, except "no odor."
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.85 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**4.85** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-29A**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-30**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230840.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282878.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**		Utilized						X		X					
Date Started: **13 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.07** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.51	D	4	7	14	15		Medium dense dark brown SILT and fine SAND, little coarse sand, fine gravel, with wood, leaves
		0.61-1.22	2	0.61	0.25	D	11	13	23	19	110.99 0.91	Dense brown coarse to fine SAND, little medium to fine gravel
		1.52-2.13	3	0.61	0.30	D	20	5	3	3	110.35 1.55 / 110.22 1.68	Dense gray fine SAND, little silt, coarse sand, petroleum odor
		2.13-2.74	4	0.61	0.38	D	3	2	3	6		Loose dark brown to black fine SAND, trace silt, roots (black soil, smells burnt)
		3.05-3.58	5	0.53	0.33	D	2	7	38	55/0.08	108.70 3.20	-FILL-
5		4.57-5.18	6	0.61	0.41	D	5	30	21	24		Loose gray coarse to fine SAND, slight odor Loose dark gray laminated SILT and fine SAND layers, slight petroleum odor
											106.72 5.18	-ALLUVIAL DEPOSITS-
												Dense gray brown corse to fine SAND and coarse to fine GRAVEL, trace silt Very dense gray brown coarse to fine SAND, little silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-30**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-30A-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230880.93**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282935.95**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **116.4**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **17 April 2001**	Utilized						X		X					
Date Finished: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **5.20** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											116.11 0.30	-BITUMINOUS CONCRETE-
		0.30-0.91	1	0.61	0.23	D	7	33	35	15		Very dense light brown to brown fine SAND, some medium to fine gravel, trace silt, coarse sand
		0.91-1.52	2	0.61	0.34	D	47	45	67	37		Very dense coarse to fine SAND, little gravel, silt
		1.52-1.97	3	0.45	0.25	D	31	84	50			Note: strong petroleum odor in dark brown drill cuttings at 1.5 m.
												Very dense dark brown coarse to fine SAND, little medium to fine gravel, trace silt, strong fuel odor, moist
		3.05-3.66	4	0.61	0.22	D	97	56	14	100		Very dense light brown coarse to fine SAND, trace silt, moist
5												Common boulders 4.60 m. to 5.18 m.
		5.18-5.79	5	0.61	0.40	D	13	7	5	7	111.23 5.18	-FILL-
												Medium dense orange-brown coarse to fine SAND, little silt, wet
		6.10-6.25	6	0.15	0.08	D	100				110.16 6.25	Very dense gray-brown coarse to fine SAND, little silt, wet
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.25 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.25** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Observation well installed upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-30A-OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-30B**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230888.86**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283001.68**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.6**		Utilized						X		X					
Date Started: **12 April 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **12 April 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **6.10** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.45	1	0.45	0.03	D	14	27	100/0.15		116.28	Very dense gray medium to fine GRAVEL
											0.30	Very dense gray brown coarse to fine SAND, little coarse to fine gravel, silt, strong fuel odor, moist
		1.52-2.13	2	0.61	0.10	D	19	45	51	63		Very dense coarse to fine SAND and coarse to fine GRAVEL, trace silt, fuel odor, moist
		3.05-3.35	3	0.30	0.15	D	75	100/0.15				Very dense black BITUMINOUS CONCRETE and gray-brown coarse to fine SAND, plastic, rubber, wood
											112.01	-FILL-
5		4.57-4.57	4	0.00	0.00	D	50/0.00				4.57	Auger through boulder 4.57 m. to 5.03 m.
											111.35 5.03	
		6.10-6.71	5	0.61	0.27	D	19	38	59	86		Very dense medium to fine GRAVEL and coarse to fine SAND, little silt, no odor, wet
											109.87 6.71	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.71 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.71** m	**-** m
			No. of Samples	
			5D	

NOTES: **Bombardier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-30B**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-30C**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230872.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283034.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.5**	Utilized						X		X					
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											118.20	-BITUMINOUS CONCRETE-
		0.30-0.60	1	0.30	0.18	D	22	100			0.30	Very dense orange-brown coarse to fine SAND,little medium to fine gravel, silt, no odor, moist
		0.91-1.52	2	0.61	0.28	D	20	13	13	19		
		1.52-2.13	3	0.61	0.21	D	19	35	16	34		Split spoon refusal at 0.6 m.
		2.13-2.74	4	0.61	0.24	D	3	5	11	9		Medium dense light brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, moist
												Dense brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, moist
		3.96-4.26	5	0.30	0.05	D	52	100				Medium dense orange-brown coarse to fine SAND, little coarse to fine gravel and silt, no odor, moist
5		4.57-4.72	6	0.15	0.00	D	100					Split spoon refusal at 4.26 m., probable boulder
		5.49-5.49	7	0.00	0.00	D	50/0.00					Split spoon refusal at 4.72 m., probable boulder, no recovery
											112.56	Split spoon refusal at 5.49 m., no recovery
											5.94	Auger refusal at 5.94 m. Boring terminated
												-BOULDER FILL-
												Bottom of Exploration at 5.94 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.5**	**5.94** m	**-** m
			No. of Samples	
			7D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings and asphalt patch applied. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-30C**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-31**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230851.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282915.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.2**	Utilized						X		X					
Date Started: **13 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.83** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.41	D	7	5	6	7		Medium dense dark brown to brown SILT and coarse to fine SAND, trace fine gravel, organics
		0.61-1.22	2	0.61	0.30	D	6	2	3	3		Loose brown coarse to fine SAND, overlying a dark gray silt and fine sand, petroleum odor
		1.52-2.13	3	0.61	0.30	D	1	2	2	6	108.22	Very loose dark brown SILT and coarse to fine SAND, trace fine gravel, leaves, slight odor
		2.13-2.74	4	0.61	0.20	D	19	27	38	43	1.98	-FILL-
		3.05-3.50	5	0.45	0.30	D	27	48	100			Very dense gray brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
		3.66-4.27	6	0.61	0.30	D	2	9	13	12		Very dense olive brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
5		4.57-5.18	7	0.61	0.25	D	11	8	8	9		Medium dense gray brown coarse to fine SAND, little fine gravel
											105.02	Medium dense gray brown coarse to fine SAND, trace fine gravel, silt
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-31**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-31A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230807.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282852.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.9**	Utilized						X		X					
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **7 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.46** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											109.97	Cobble Rip Rap
												-FILL-
		0.91-1.52	1	0.61	0.51	D	5	5	8	6	0.91	Medium dense gray stratified SILT and fine SAND, layer, petroleum odor
		1.52-2.13	2	0.61	0.30	D	4	7	9	11	108.75	Medium dense gray brown coarse to fine SAND, little silt
		2.13-2.74	3	0.61	0.36	D	10	20	38	43	2.13	-ALLUVIAL DEPOSITS-
		3.05-3.05	4	0.00	0.00	D	50/0					Very dense olive brown coarse to fine SAND and GRAVEL, trace silt On cobble at 3.05 m.
5		4.57-5.18	5	0.61	0.61	D	7	11	21	18	105.70	Dense dark olive brown fine SAND, some silt, trace coarse sand, petroleum odor, possible staining
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-31A**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-31B**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230860.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282994.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.1**	Utilized						X		X					
Date Started: **13 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	2	1	1	1		Very loose brown coarse to fine SAND, little silt, leaves, grass, wood
		0.61-1.22	2	0.61	0.05	D	0	0	1	0		Very loose brown SILT and coarse to fine SAND, trace fine gravel, leaves, wood, slight petroleum odor
		1.52-2.13	3	0.61	0.30	D	1	9	13	49	109.42	
											1.68	Medium dense dark to gray-brown coarse to fine GRAVEL and coarse to fine SAND, trace silt, with boulders
											108.66	
											2.44	Auger refusal at 2.13 m. Moved forward 0.61 m. Auger refusal at 2.44 m.
												-FILL-
5												Bottom of Exploration at 2.44 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**2.4**	**2.44** m	**-** m
			No. of Samples	
			3D	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-31B**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-31C**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230812.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282903.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.1**	Utilized						X		X					
Date Started: **14 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.07** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.35	1	0.35	0.30	D	21	46	100/.05			Very dense brown fine SAND and SILT, little coarse sand, with grass, cobbles to 1.22 m.
		1.52-2.13	2	0.61	0.36	D	7	5	2	3	109.27	Loose brown coarse to fine SAND, little silt, trace fine gravel
		2.13-2.74	3	0.61	0.00	D	3	3	5	6	108.97 2.13	-FILL-
		3.05-3.66	4	0.61	0.30	D	2	3	9	15	107.75 3.35	Loose gray brown fine SAND and SILT, petroleum odor
5		4.57-4.85	5	0.28	0.15	D	48	50/.13				No recovery Medium dense gray brown PEAT and ORGANIC SILT, some fine sand, petroleum odor -ALLUVIAL DEPOSITS-
		5.64-5.64	6	0.00	0.00	D	50/0				105.46 5.64	Medium dense olive gray brown coarse to fine SAND, trace fine gravel, silt, petroleum odor, sheen, with cobbles Very dense olive brown fine SAND, little silt, trace fine gravel No recovery, auger refusal -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.64 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.6**	**5.64** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-31C**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-35A**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230772.75**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283027.19**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.7**		Utilized					X	X		X					
Date Started: **28 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 March 2001**		Size I.D. (mm)	60	76	100	64	0.05	83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.00** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.60	D1	0.60	0.13	D	4	7	8	5	124.04	Medium dense fine SAND, little coarse sand, trace medium to fine gravel, cobbles, roots
		0.61-1.22	D2	0.61	0.46	D	6	8	17	19	0.61	Medium dense brown coarse to fine SAND, little medium to fine gravel, little rock fragments, trace roots
		1.52-2.13	D3	0.61	0.48	D	7	4	3	3		Loose brown fine SAND, little coarse sand, trace fine gravel, rock fragments, odor
		2.13-2.74	D4	0.61	0.51	D	1	0	6	6	121.95	Loose brown fine SAND, little coarse sand, trace medium to fine gravel, trace silt, organics
		3.05-3.75	D5	0.70	0.46	D	6	8	11	15	2.70	-FILL-
											120.95 3.70	Medium dense light brown coarse to fine SAND, trace medium to fine gravel
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.7 m
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.7**	**3.70** m	**--** m
			No. of Samples	
			5D	

NOTES: **Bomb mounted with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-35A**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-35B**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230767.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283100.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **125.5**	Utilized						X		X					
Date Started: **27 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 April 2001**	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	3	4	5	5		Loose brown coarse to fine SAND, trace gravel, silt, roots
		0.61-1.22	2	0.61	0.48	D	5	5	5	8		Loose brown coarse to fine SAND, trace silt
		1.52-2.13	3	0.61	0.30	D	28	56	32	25		Very dense brown coarse to fine SAND and GRAVEL, trace silt
											123.37 / 2.13	
											122.45	-FILL-
		3.05-3.66	4	0.61	0.05	D	30	48	60	55	3.05 / 121.84	Very dense brown SILT and GRAVEL, trace coarse to fine sand
											3.66	Bottom of Exploration at 3.66 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-35B**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-36**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230700.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283023.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **148.5**	Utilized			X					X					
Date Started: **23 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	4	8	9	10		Medium dense brown coarse to fine SAND and GRAVEL, trace silt with concrete and asphalt
		0.61-1.22	2	0.61	0.30	D	18	13	10	14		Same as D1
											146.94	-FILL-
		1.52-2.06	3	0.54	0.15	D	11	16	20	50/0.09	1.52	Dense brown coarse to fine SAND and GRAVEL, trace silt
											145.46	
		3.05-3.66	4	0.61	0.20	D	10	13	17	17	3.00	Medium dense gray brown coarse to fine SAND, trace silt
5		4.57-5.18	5	0.61	0.20	D	17	23	22	20		Dense brown coarse to fine SAND, some silt, trace gravel
		5.18-5.23	6	0.05	0.00	D	50/0.05					No recovery
											142.21	-GLACIOFLUVIAL DEPOSITS-
		6.25-7.77	1	1.52	1.46	C		[RQD = 59%]			6.25	Very hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Joints are low angle to moderately dipping, very close to moderately spaced, smooth, undulating, fresh, tight to open
											140.69	-BEDROCK-
											7.77	Bottom of Exploration at 7.77 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**4.6**	**6.25** m	**1.52** m
			No. of Samples	
			6D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-36**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-37**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230671.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283057.36**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **151.7**	Utilized			X			X		X					
Date Started: **23 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **24 April 2001**	Size I.D. (mm)	60	76	100	64		50		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.28	1	0.28	0.20	D	6	53/0.13			0.28	Very dense brown coarse to fine SAND, trace gravel, silt -FILL-
		1.52-2.13	2	0.61	0.30	D	28	33	55	32		Cored boulders to 1.5 m. Very dense gray to brown coarse to fine SAND and GRAVEL, trace silt Cored boulders to 4.6 m. -GLACIOFLUVIAL DEPOSITS-
5		4.60-6.12	1	1.52	1.40	C		[RQD = 76%]			147.13 4.60 145.61	Very hard, fresh to slightly weathered, gray BIOTITE GNEISS. Joints are low to high angle, close to moderately spaced, smooth, planar, tight to open
											6.12	-BEDROCK- Bottom of Exploration at 6.12 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**2.6**	**4.60** m	**1.52** m
HW	**0.0**	**1.5**	No. of Samples	
			2D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-37**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-38**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230722.56**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283061.75**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **144.8**	Utilized		X	X					X					X
Date Started: **19 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	4	4	5		Loose dark brown fine SAND and fine GRAVEL, little silt, trace coarse sand, with roots, asphalt
		0.61-1.22	2	0.61	0.15	D	13	10	13	8		Medium dense red-brown and black coarse to fine SAND and fine GRAVEL, trace silt, asphalt (0.5 m. layer)
		1.52-2.13	3	0.61	0.15	D	8	10	9	11	143.23 1.52	-FILL-
											141.70	Medium dense gray-brown fine SAND and GRAVEL, some silt, trace coarse sand
		3.05-3.66	4	0.61	0.30	D	7	5	7	23	3.05	Medium dense brown coarse to fine SAND, trace silt
5		4.57-5.18	5	0.61	0.18	D	23	22	23	25		Dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		6.10-6.71	6	0.61	0.00	D	22	10	11	13		No recovery
		7.62-7.87	7	0.25	0.05	D	23	50/.10				Very dense brown coarse to fine GRAVEL, trace coarse to fine sand, silt
10		9.14-9.75	8	0.61	0.30	D	18	28	37	50		Very dense brown to dark brown coarse to fine SAND and GRAVEL,little silt
		10.36-11.27	1	0.91	0.74	C						Cored boulders 10.36 m. to 11.58 m.
		12.19-12.29	9	0.10	0.00	D	50/.10					No recovery
		13.72-13.72	10	0.00	0.00	D	50/0	[RQD = 77%]			131.03 13.72	-GLACIOFLUVIAL DEPOSITS- No recovery
15		13.73-15.25	2	1.52	1.33	C						Very hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is vertical,

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**9.1**	**13.72** m	**1.52** m
NW	**0.0**	**12.2**	No. of Samples	
			10D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-38**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-38**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230722.56**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283061.75**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **144.8**														
Date Started: **19 April 2001**	Utilized		X	X					X					X
Date Finished: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											129.51 15.24	extremely close. Joints are moderately dipping, very close to moderate, rough, stepped, discolored, open -BEDROCK- Bottom of Exploration at 15.24 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**9.1**	**13.72** m	**1.52** m
NW	**0.0**	**12.2**	No. of Samples	
			10D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-38**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-40**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230700.97**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283095.37**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.6**	Utilized			X					X					
Date Started: **25 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	7	9	10	10	146.96	Medium dense brown coarse to fine SAND, some medium to fine gravel, trace silt
		0.61-1.22	2	0.61	0.36	D	32	28	25	30	0.61	-ALLUVIAL DEPOSITS-
		1.52-2.13	3	0.61	0.38	D	16	30	19	15		Very dense brown to gray coarse to fine SAND and GRAVEL, trace silt Dense tan to gray coarse to fine SAND and GRAVEL, trace silt
		3.05-3.66	4	0.61	0.30	D	42	28	20	22		Same as D3 Cored boulders from 4.6 m. to 5.49 m.
5												
		5.49-7.01	1	1.52	1.36	C		[RQD = 96%]			142.08 5.49	-GLACIOFLUVIAL DEPOSITS- Very hard, fresh to slightly weathered, gray BIOTITE GNEISS. Joints are low angle to vertical, close to very closely spaced, smooth, stepped, tight to open
											140.56 7.01	-BEDROCK- Bottom of Exploration at 7.01 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**4.6**	**5.49** m	**1.52** m
			No. of Samples	
			4D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-40**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-42-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230700.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283157.63**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.0**	Utilized			X					X					
Date Started: **25 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **25 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	11	16	22	35		Dense brown to gray coarse to fine SAND, little medium to fine gravel, trace silt
											145.46	-FILL-
		1.52-1.67	2	0.15	0.08	D	100				1.52	Very dense gray coarse to fine GRAVEL, some coarse to fine sand, trace silt
											143.93	
		3.05-3.06	3	0.01	0.00	D	100/0.01				3.05	No recovery Probable cobbles and boulders
											142.41	
5		4.57-4.80	4	0.23	0.05	D	65	100/0.08			4.57	Very dense gray-brown coarse to fine GRAVEL and SAND, trace silt
											140.27	-GLACIOFLUVIAL DEPOSITS-
		6.71-8.23	1	1.52	1.37	C		[RQD = 68%]			6.71	Very hard, fresh, gray to white BIOTITE GNEISS. Joints are low angle to moderately dipping, close to very closely spaced, smooth, planar, fresh, tight to open
		8.23-9.75	2	1.52	1.50	C		[RQD = 93%]				Same as C1, except joints are close to moderately close, undulating
10		9.75-11.27	3	1.52	1.51	C		[RQD = 77%]				Same as C1, except with 2 bands of GRANITIC GNEISS approximately 0.15 m. thick and 0.61 m. apart
		11.28-12.80	4	1.52	1.42	C		[RQD = 81%]				Same as C1, except joints are low to high angle, undulating
											134.18	-BEDROCK-
											12.80	Bottom of Exploration at 12.80 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**6.7**	**6.71** m	**6.09** m
			No. of Samples	
			4D,4C	

NOTES: **Bomb mounted Diedrich D-50 with with winch to drive safety hammer. Observation well installed, see R-42-OW Installation Log for details**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-42-OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-45**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230697.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283244.72**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.0**	Utilized		X						X					X
Date Started: **26 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.30	1	0.30		D	5	7	50/0.00		138.66	Medium dense brown coarse to fine SAND, some gravel, silt.
		0.61-2.13	1	1.52	1.31	C		[RQD = 86%]			138.35 0.30 0.61	-FILL-
												-WEATHERED BEDROCK-
		2.13-3.65	2	1.52	1.47	C		[RQD = 83%]			136.83 2.13	Very hard, fresh, to slightly weathered, gray BIOTITE GNEISS. Foliation is low angle to moderately dipping . Joints are low angle to moderately dipping, close to moderately spaced, rough, stepped, fresh, open
		3.66-5.18	3	1.52	1.41	C		[RQD = 79%]				Hard, slightly weathered, gray to white BIOTITE GNEISS. Foliation is moderately dipping. Joints are high angled, rough, undulating and discolored, open
5												
		5.18-6.70	4	1.52	1.52	C		[RQD = 82%]				Same as C2, except with approximately 0.6 m. layer of quartzite within biotite GNEISS Same as C2, except joints are moderately dipping, rough, stepped
											132.26	-BEDROCK-
											6.70	Bottom of Exploration at 6.70 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**0.6**	**0.61** m	**6.10** m
			No. of Samples	
			1D,4C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-45**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-49**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230740.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283191.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **129.8**	Utilized		X						X					X
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.15** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	6	7	14	39		Medium dense olive-brown fine SAND and SILT, some coarse to fine gravel, trace coarse sand
		1.52-1.97	2	0.45	0.30	D	13	21	100			Very dense olive-brown fine SAND, some coarse sand, little medium to fine gravel, silt
											126.75	
		3.05-3.05	3	0.00	0.00	D	50/0				3.05	No Recovery
		3.35-4.87	1	1.52	1.39	C		[RQD = 86%]				-GLACIOFLUVIAL DEPOSITS-
5		4.88-6.40	2	1.52	1.33	C		[RQD = 78%]				C1- Very hard, fresh, gray and white to pink, coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, moderate to wide, rough, undulating, discolored, open. C2- Same as C1, except joints are very close to wide.
											123.40	
											6.40	-BEDROCK-
												Bottom of Exploration at 6.40 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.1**	**3.35** m	**3.05** m
			No. of Samples	
			3D,2C	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-49**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-50**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230738.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283220.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **131.5**	Utilized		X						X					X
Date Started: **21 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	8	11	17	39		Medium dense brown medium to fine GRAVEL and fine SAND, little coarse sand, trace silt
											130.13	-GLACIOFLUVIAL DEPOSITS-
		1.37-2.89	1	1.52	1.52	C		[RQD = 70%]			1.37	Very hard, fresh, gray and white, coarse to fine grained garnet BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, very close to moderately rough, undulating, fresh to discolored, open
		2.90-4.42	2	1.52	1.38	C		[RQD = 55%]				Note: Pegmatite veins present C2-Same as C1 except with secondary mineral growth healed joints C3-Same as C1
5		4.42-5.94	3	1.52	1.13	C		[RQD = 52%]				
		5.94-7.46	4	1.52	1.47	C		[RQD = 74%]				C4-Same as C1 except joints are low to high angle
											124.04	-BEDROCK-
											7.46	Bottom of Exploration at 7.46 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**1.4**	**1.37** m	**6.10** m
			No. of Samples	
			1D,4C	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-50**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-51**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230733.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283250.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.6**	Utilized		X						X					X
Date Started: **19 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	8	11	14	23		Medium dense brown fine SAND, some silt, little coarse sand trace gravel
											131.08	-GLACIAL TILL-
		1.52-1.82	2	0.30	0.10	D	25	100			130.57	Very dense white coarse to fine sand and gravel
		1.83-3.35	1	1.52	1.28	C		[RQD = 79%]			1.83	-WEATHERED BEDROCK-
											129.25	Hard, fresh, gray and white, coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, moderate, rough, undulating, discolored, open
											3.35	-BEDROCK-
5												Bottom of Exploration at 3.35 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**1.8**	**1.83** m	**1.52** m
			No. of Samples	
			2D,1C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-51**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-52-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230729.47**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283269.59**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **130.6**	Utilized		X						X					X
Date Started: **20 May 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 May 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	11	14	21	20	129.94 / 0.61	Dense gray-brown coarse to fine SAND, little coarse to fine gravel, trace silt -FILL-
		1.52-1.97	2	0.45	0.10	D	53	100			128.05 / 2.50	Very dense olive-brown fine SAND, some coarse to fine gravel, silt, trace coarse sand -GLACIAL TILL-
		2.59-3.50	1	0.91	67.00	C		[RQD = 52%]				Hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is high angle to vertical, very to extremely close. Joints are moderately dipping, close to moderate, rough, undulating, fresh, open
		3.51-5.03	2	1.52	1.03	C		[RQD = 39%]				Hard, fresh, to slightly weathered, gray, pink and white, coarse to fine grained GRANITIC GNEISS. Foliation is high angle to vertical, extremely close. Joints are low angle to vertical, very close to moderate, rough, undulating, fresh to discolored, open. Fractured zone from 4.66 m. to 5.03 m.
5												
		5.03-6.55	3	1.52	0.88	C		[RQD = 48%]				Same as C1, except coarse to fine grained GRANITIC GNEISS. Foliation is low angle. Joints are low angle to moderately dipping
		6.55-8.07	4	1.52	1.37	C		[RQD = 84%]				Hard, fresh, gray and white, coarse to fine grained GRANITIC GNEISS. Foliation is low angle to moderately dipping, extremely close. Joints are low angle, close to moderate, rough, undulating, discolored, open
		8.08-9.30	5	1.22	1.13	C		[RQD = 64%]			121.25 / 9.30	Same as C4, except joints are wide spaced. Fractured zone 8.08 m. to 8.13 m. -BEDROCK-
10												
15												

Bottom of Exploration at 9.30 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**2.6**	**2.59** m	**7.01** m
			No. of Samples	
			2D,5C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-52-OW**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-54**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230861.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283179.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.6**	Utilized						X		X					X
Date Started: **11 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.70** m after **-**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	2	4	7	21	0.10	-TOPSOIL-
		0.61-1.22	2	0.61	0.41	D	24	16	18	11	0.30	Medium dense brown medium to fine GRAVEL and coarse to fine SAND
		1.52-2.13	3	0.61	0.61	D	5	8	33	24		-FILL-
												Medium dense light brown coarse to fine SAND, some coarse to fine gravel, trace silt, moist
												Dense light brown coarse to fine SAND, some coarse to fine gravel, trace silt, moist
		3.05-3.35	4	0.30	0.15	D	10	50/.03			111.09	Dense light brown coarse to fine SAND, little silt, wet with occasional dark brown bedding planes
		3.51-5.03	1	1.52	1.20	C		[RQD = 87%]			3.51	Very dense light brown coarse to fine SAND, trace silt, wet
5											109.57	-GLACIOFLUVIAL DEPOSITS-
											5.03	Very hard, fresh, to slightly weathered, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is high angle to vertical, extremely to very close. Joints are low angle, very close to moderately rough, undulating to stepped, discolored, open.
												-BEDROCK-
												Bottom of Exploration at 5.03 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.5**	**3.51** m	**1.52** m
			No. of Samples	
			4D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-54**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-55**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230845.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283216.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **114.9**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **12 April 2001**	Utilized						X		X					
Date Finished: **12 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **1.10** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.33	D	4	3	5	9	0.10	-TOPSOIL-
		0.61-1.22	2	0.61	0.40	D	16	17	17	16	113.90	Medium dense light brown coarse to fine SAND, little medium to fine gravel, silt, moist
		1.50-2.11	3	0.61	0.51	D	7	7	10	13	1.00	Dense brown coarse to fine SAND, little medium to fine gravel, silt, moist
												-FILL-
		3.00-3.61	4	0.61	0.51	D	7	7	8	9		Medium dense orange-brown coarse to fine SAND, trace silt, moist Medium dense orange-brown coarse to fine SAND, trace fine gravel, silt, wet
5		4.60-5.21	5	0.61	0.41	D	15	16	18	20	110.00	Medium dense coarse light brown to fine SAND, trace silt, no odor, wet with frequent red brown oxidized bedding planes
											109.69 5.21	Dense light brown coarse to fine SAND, trace silt, wet
												Dense coarse to fine SAND, some coarse to fine gravel, trace silt, wet
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.21 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.21** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-55**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-56**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230824.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283252.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.6**	Utilized		X						X					X
Date Started: **6 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **6 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	3	7	11	14		Medium dense dark brown coarse to fine SAND, some silt, little fine gravel
		0.61-1.22	2	0.61	0.38	D	6	9	8	9		Medium dense brown coarse to fine SAND, some medium to fine gravel, little silt, trace roots
											114.38 / 1.22	-FILL-
		1.52-1.87	3	0.35	0.08	D	11	37	50/0.05			Very dense brown GRAVEL, some coarse to fine sand, trace silt with cobbles
		3.05-3.66	4	0.61	0.25	D	44	44	56	34		Same as D3
5		4.57-5.18	5	0.61	0.41	D	26	14	13	15	111.03 / 4.57	Medium dense brown fine SAND, trace coarse sand
												Note: Running sands at 6.10 m.
		6.10-6.71	6	0.61	0.51	D	14	24	21	26		Dense brown coarse to fine SAND
		7.62-7.92	7	0.30	0.13	D	30	60			107.98 / 7.62	Very dense brown gray SILT and fine SAND
											106.61	-GLACIOFLUVIAL DEPOSITS-
											106.15 / 8.99	-WEATHERED BEDROCK-
10		9.45-10.97	1	1.52	0.93	C		[RQD = 34%]			9.45	Hard, fresh, green-gray and white, coarse to fine grained garnet BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, very close to moderate, rough, undulating, fresh to discolored, open.
											104.63 / 10.97	Note: Fractured zone from 10.0 m. to 10.24 m.
												-BEDROCK-
												Bottom of Exploration at 10.97 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**9.4**	**9.45** m	**1.52** m
			No. of Samples	
			7D,1C	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-56**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-57**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230800.01**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283286.24**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.2**	Utilized		X						X					X
Date Started: **5 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **5 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.41	D	2	7	5	8	0.20	-TOPSOIL-
		0.61-1.22	2	0.61	0.30	D	7	7	14	23	0.35	Medium dense brown to dark brown fine SAND, some silt, little coarse sand and roots, trace fine gravel, organic odor, moist
		1.52-1.88	3	0.36	0.33	D	21	46	100/0.05		113.65 1.52	Medium dense light brown to brown coarse to fine SAND, little coarse to fine gravel and silt, trace wood, ash and wood cinders, moist
												Very dense yellow brown coarse to fine SAND, some silt and fine gravel, wet
		3.05-3.22	4	0.17	0.00	D	27	100/0.02				-FILL-
		3.66-4.12	1	0.46	0.30	C						Very dense black coarse to fine GRAVEL, little coarse to fine sand, trace silt, wet (Boulder at 1.88 m.)
5		4.57-4.62	5	0.05	0.02	D	100/0.05					Piece of coarse gravel in spoon tip
		4.72-5.94	2	1.22	0.60	C						Cored boulder 3.66 to 4.11 m.
		6.10-6.48	6	0.38	0.20	D	45	54	50/0.08			Very dense brown coarse to fine GRAVEL, little fine sand, silt, trace coarse sand
											107.55	Boulder from 6.71 to 7.47 m.
		7.62-9.14	3	1.52	1.44	C		[RQD = 55%]			7.62	-GLACIOFLUVIAL DEPOSITS-
											106.03 9.14	Hard, fresh to slightly weathered, gray and white, coarse to fine grained Biotite GNEISS. Foliation is moderately dipping, extremely close. Joints are moderately dipping to vertical, very close to wide, rough, undulating, fresh to discolored, open.
10												Note: Fractured from 7.82 to 8.09 m.
												-BEDROCK-
												Bottom of Exploration at 9.14 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.2**	**7.62** m	**1.52** m
			No. of Samples	
			6D,3C	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-57**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-61**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230797.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283112.08**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **125.0**	Utilized					X			X					
Date Started: **28 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 March 2001**	Size I.D. (mm)	60	76	100	64	0.05			35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	D1	0.61	0.38	D	4	6	7	7		Medium dense coarse to fine SAND, trace medium to fine gravel
		0.61-1.22	D2	0.61	0.08	D	8	11	13	11		Medium dense coarse to fine SAND, some fine gravel, trace medium gravel, rock fragments
		1.52-2.13	D3	0.61	0.30	D	12	7	7	9		Same as D2
		2.13-2.74	D4	0.61	0.46	D	7	8	8	7		Medium dense brown coarse to fine SAND, trace medium to fine gravel
		3.00-3.61	D5	0.61	0.46	D	10	11	11	12		Medium dense brown coarse SAND, little fine sand, trace medium to fine gravel, cobbles
5		4.60-5.21	D6	0.61	0.51	D	12	10	10	13	119.85	Medium dense brown fine SAND, little medium to fine gravel, trace rock fragments
											5.20	-FILL-
												Bottom of Exploration at 5.2 m
10												
15												

Casing Size	From	To	Meters of Earth	Rock
0.05 SSA	**0.0**	**5.2**	**5.20** m	**--** m
			No. of Samples	
			6D	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-61**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-63**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230774.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283213.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **125.1**	Utilized			X			X		X					
Date Started: **12 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **12 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.40** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	7	15	29	37		Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, no odor, wet Boulder from 0.61 m. to 1.2 m.
		1.50-2.11	2	0.61	0.15	D	47	18	16	12		Dense brown medium to fine GRAVEL and coarse to fine SAND, trace silt, wet
		3.05-3.66	3	0.61	0.15	D	39	61	33	41		Very dense dark gray coarse to fine GRAVEL and coarse to fine SAND, little silt, wet
5		4.57-5.18	4	0.61	0.56	D	64	70	80	52	119.92	Very dense gray brown medium to fine GRAVEL and coarse to fine SAND, little silt, wet
											5.18	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-63**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-65**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230948.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283181.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.1**	Utilized						X		X					
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.74** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.48	D	5	8	11	25	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.51	D	7	11	8	11		Medium dense brown fine SAND, some coarse sand, little silt, fine gravel
		1.52-2.13	3	0.61	0.30	D	5	4	4	6		Medium dense dark brown fine SAND, little silt, coarse sand, trace fine gravel with
		2.13-2.74	4	0.61	0.48	D	10	13	4	3		Loose dark brown fine SAND, little silt, trace coarse sand, medium gravel
		3.05-3.33	5	0.28	0.20	D	20	50/.13			111.77	Medium dense brown, coarse to fine SAND, little coarse to fine gravel, trace silt, wood with cobbles
											3.33	Dense brown, coarse to fine GRAVEL, some coarse to fine sand
5												-FILL-
												Bottom of Exploration at 3.33 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.33** m	**-** m
			No. of Samples	
			5D	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-65**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-66**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231026.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283213.79**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.0**	Utilized			X			X		X					
Date Started: **16 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.10-0.57	1	0.47	0.36	D	30	28	37	50/0.02	0.10	-ASPHALT-
		1.52-2.13	2	0.61	0.15	D	32	12	13	15		Very dense brown coarse to fine SAND and GRAVEL Split spoon refusal on boulder at 0.57 m. Auger refusal, switched to HW casing. Boulder to 1.07 m. Medium dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
											111.92	
		3.05-3.66	3	0.61	0.30	D	35	40	46	37	3.05 111.31	-FILL-
											3.66	Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**3.1**	**3.66** m	**-** m
HSA	**0.0**	**0.5**	No. of Samples	
			3D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings and asphalt patch applied.**
NO means Not Observed

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-66**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-67**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230821.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283216.63**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.1**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NA** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.30-0.91	1	0.61	0.46	D	7	26	28	18	0.23	-ASPHALT and ROADSTONE-
		0.91-1.52	2	0.61	0.00	D	6	5	5	6		Very dense red brown coarse to fine SAND, little coal, trace medium to fine gravel
		1.52-2.13	3	0.61	0.15	D	7	14	33	36		No recovery
											120.09	-FILL-
		3.05-3.13	4	0.08	0.08	D	100/0.08				3.00	Dense tan coarse to fine SAND, trace medium to fine gravel, trace cobbles
											3.13	Very dense coarse gravel
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.13 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.13** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-67**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-68**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230832.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283153.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.1**	Utilized					X								
Date Started: **11 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.38	D	4	5	5	8	122.72	-TOPSOIL-
		0.61-1.22	2	0.61	0.36	D	16	22	16	13	0.38	Loose medium to fine GRAVEL, moist Dense brown coarse to fine SAND, little medium to fine gravel, trace silt, moist
		1.52-2.13	3	0.61	0.38	D	6	23	33	8	121.58 1.52	-FILL- Very dense brown coarse to fine SAND, trace silt
		3.05-3.66	4	0.61	0.46	D	6	7	7	9	119.44 3.66	Medium dense coarse to fine SAND, trace coarse to fine gravel, silt with occasional dark brown bedding planes, moist -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.66 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-68**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-69**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230771.19**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283290.91**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **121.5**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **-**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.30-0.76	1	0.46	0.15	D	29	51	100		0.15	-ASPHALT and ROADSTONE-
											120.60	Very dense red brown coarse to fine SAND, little fine gravel, trace coarse to medium gravel, roots
		1.22-1.83	2	0.61	0.30	D	8	9	8	8	0.91	-FILL-
		1.83-2.44	3	0.61	0.30	D	6	6	17	35		Medium dense tan coarse to fine SAND, trace fine gravel
											118.77	Medium dense tan coarse to fine SAND, trace fine gravel, silt
		3.05-3.66	4	0.61	0.35	D	19	14	17	32	2.74	Dense olive fine SAND, little coarse sand, trace gravel
											117.85	-GLACIOFLUVIAL DEPOSITS-
5											3.66	Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-69**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-70-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230697.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283373.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **119.0**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **10 April 2001**	Utilized						X		X					
Date Finished: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **2.74** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	7	12	6	5	0.10	-TOPSOIL-
		0.61-1.22	2	0.61	0.25	D	7	5	3	2		Medium dense light brown coarse to fine SAND, little medium to fine gravel, trace silt, moist
		1.52-2.13	3	0.61	0.15	D	3	9	7	3		Loose brown coarse to fine SAND, little medium to fine gravel, trace silt, moist Same as D2, except medium dense
		2.13-2.74	4	0.61	0.10	D	4	4	3	2		Loose brown coarse to fine SAND, little medium to fine gravel, trace silt, wet
		3.05-3.66	5	0.61	0.41	D	50	48	34	28	115.95 3.05 115.34	-FILL-
											3.66	Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt, wet -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Observation well installed in completed borehole**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-70-OW**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-72**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230694.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283417.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.7**	Utilized						X		X					
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ _____ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.30	1	0.15	0.15	D	100				0.08	-ASPHALT-
												Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt cobbles and boulders to 1.52 m.
		1.52-1.52	2	0.00	0.00	D	50/0					No recovery, on cobble
		3.05-3.50	3	0.45	0.05	D	14	72	100		115.20	Very dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
											3.50	-FILL-
												Bottom of Exploration at 3.50 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.51** m	**-** m
			No. of Samples	
			3D	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-72**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-75**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230780.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283858.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **130.0**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.33	D	7	9	5	7	0.13	-TOPSOIL-
		0.61-1.22	2	0.61	0.41	D	11	13	17	17		Medium dense brown fine SAND, little coarse sand, medium to fine gravel, trace silt
		1.52-2.13	3	0.61	0.30	D	19	23	27	31		Dense brown coarse to fine SAND, trace silt, fine gravel
												Very dense light brown coarse to fine SAND, some coarse to fine gravel
		3.06-3.49	4	0.43	0.23	D	23	27	50/.13		126.51	Very dense brown coarse to fine SAND, little silt, trace gravel
											3.49	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.49 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.49** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-75**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-76**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230825.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283911.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.0**		Utilized						X		X					
Date Started: **22 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.35	1	0.35	0.30	D	8	13	50/.05		0.15 131.39	-TOPSOIL-
		0.91-1.52	2	0.61	0.15	D	14	19	21	64	0.61	Very dense brown fine SAND and SILT, some coarse to fine gravel, little coarse sand -FILL-
		1.52-1.52	3	0.00	0.00	D	50/0					Dense brown coarse to fine SAND, little silt, trace fine gravel, roots No recovery, on cobble
		3.05-3.66	4	0.61	0.41	D	69	32	45	60	128.34 3.66	Very dense brown coarse to fine SAND -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-76**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-76A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230753.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283961.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **131.5**	Utilized						X		X					
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.72** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											0.15	-ASPHALT-
		0.30-0.60	1	0.30	0.15	D	29	100			130.89 0.61	Very dense brown coarse to fine SAND, little medium to fine gravel, trace silt -FILL-
		1.52-2.13	2	0.61	0.30	D	18	17	29	36		Cobbles to 1.52 m. Dense brown fine SAND, little coarse sand, trace silt, slight odor
		3.05-3.66	3	0.61	0.30	D	24	12	12	16		Medium dense brown fine SAND, trace fine gravel, silt, coarse sand
5		4.57-4.87	4	0.30	0.13	D	25	28	100/0			Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		6.10-6.48	5	0.38	0.30	D	28	50	100/.08		125.02 6.48	Very dense brown coarse to fine SAND, little medium to fine gravel -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 6.48 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HAS	**0.0**	**6.1**	**6.48** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-76A**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-77**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230872.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283989.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **133.3**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.23	D	13	19	31	30	0.05	-ASPHALT-
		0.76-1.37	2	0.61	0.41	D	11	15	17	25		Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt
		1.52-1.67	3	0.15	0.15	D	100				131.63	Dense brown coarse to fine SAND, some medium to fine gravel, trace silt
											1.67	Very dense light brown coarse to fine SAND and medium to fine GRAVEL
											130.25	-FILL-
		3.05-3.05	4	0.00	0.00	D	50/0				3.05	No recovery. Coarse to fine SAND and coarse to fine GRAVEL, coming up on augers
												-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.05 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.05** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-77**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-78**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230921.67**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284086.34**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.8**		Utilized						X		X					
Date Started: **19 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.30	D	3	3	3	5	0.15	-ASPHALT-
		0.76-1.37	2	0.61	0.20	D	5	7	7	9	131.25	Loose brown fine SAND, trace fine gravel, silt, cobbles
		1.52-2.13	3	0.61	0.18	D	10	13	11	14	1.52	Medium dense brown fine SAND, little coarse sand, trace fine gravel, silt, cobbles, moist
												-FILL-
												Medium dense brown coarse to fine SAND, trace fine gravel, silt, wet
		3.05-3.66	4	0.61	0.36	D	10	10	13	17	129.11	Same as D3
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-78**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-80**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231034.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284326.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **141.0**	Utilized						X		X					
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.35	D	8	9	12	16	140.24	Medium dense brown coarse to fine SAND, little coarse to fine gravel
		0.76-1.37	2	0.61	0.35	D	16	19	28	20	0.76	-FILL-
		1.52-2.13	3	0.61	0.40	D	19	15	18	26		Dense brown coarse to fine SAND, little coarse to fine gravel, trace silt Same as C2
		3.05-3.66	4	0.61	0.18	D	28	25	18	15		Dense brown fine SAND, trace coarse to fine gravel
		3.66-4.27	5	0.61	0.40	D	15	14	36	25		Very dense brown coarse to fine SAND, little coarse to fine gravel, wet
5		4.57-4.77	6	0.20	0.15	D	28	100/0.03			136.23 4.77	Very dense brown coarse to fine SAND, some coarse to fine gravel -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 4.77 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.77** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-80**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-81OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231106.32**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284389.54**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.6**	Utilized						X		X					
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.68** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.41	D	8	13	17	24	0.05	-ASPHALT-
		0.76-1.37	2	0.61	0.30	D	17	9	6	15		Dense brown coarse to fine SAND, some medium to fine gravel, trace silt, with brick, concrete
		1.52-2.13	3	0.61	0.51	D	5	13	7	7		Medium dense brown to red coarse to fine SAND, some fine gravel, brick, concrete
		2.13-2.74	4	0.61	0.00	D	7	15	13	27		Medium dense coarse to fine SAND and medium to fine GRAVEL, little silt No recovery
		3.05-3.50	5	0.45	0.30	D	16	21	100		135.10 3.50	Very dense brown SILT and fine SAND, some coarse to fine gravel -FILL-
5												
												Boulder 4.57 m. to 5.33 m.
		6.10-6.25	6	0.15	0.02	D	100					Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		7.62-8.23	7	0.61	0.33	D	20	25	17	14	130.37 8.23	Dense brown coarse to fine SAND, little fine gravel, trace silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 8.23 m.
10												
												Auger refusals at 4.42 m. and 5.18 m. Borehole moved twice to complete
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.6**	**8.23** m	**-** m
			No. of Samples	
			7D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-81OW**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-82**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231117.23**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284270.66**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.6**														
Date Started: **7 May 2001**	Utilized						X		X					
Date Finished: **7 May 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **3.05** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.15	1	0.15	0.05	D	100				0.15	-ASPHALT-
											139.72	Very dense brown fine SAND, little silt, fine gravel, trace coarse sand
		0.91-0.99	2	0.08	0.08	D	50/.08				0.91	-FILL-
		1.52-2.13	3	0.61	0.36	D	45	67	42	62		Very dense brown coarse to fine SAND, some gravel, trace silt
												Very dense brown fine SAND, little gravel, coarse sand, trace silt with cobbles
											137.43	
		3.05-3.20	4	0.15	0.15	D	100				3.20	Very dense brown coarse to fine SAND and GRAVEL, trace silt
												-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.20 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.20** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-82**

Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-84**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230824.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284054.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.1**	Utilized						X		X					
Date Started: **19 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	8	11	8	11	0.10	-TOPSOIL-
		0.61-1.22	2	0.61	0.40	D	7	4	4	4	130.88	Medium dense orange-brown coarse to fine SAND, little medium to fine gravel and silt, moist
		1.52-2.13	3	0.61	0.48	D	4	2	3	8	1.22 / 130.00	Loose orange-brown coarse to fine SAND, little silt, trace medium to fine gravel, organics, moist
		2.13-2.74	4	0.61	0.33	D	14	37	37	33	2.10	Loose orange-brown coarse to fine SAND, little medium to fine gravel, silt, moist
		3.05-3.66	5	0.61	0.38	D	25	34	70	46	128.44	-FILL-
											3.66	Very dense orange-brown coarse to fine SAND, little medium to fine gravel, silt, moist
5												Very dense light brown coarse to fine SAND, little medium to fine gravel, silt, moist
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings and asphalt patch applied. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-84**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-85**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230889.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284191.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **133.3**														
Date Started: **20 April 2001**	Utilized					X			X					
Date Finished: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	57			35		35	35	55	55
@ **2.13** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	3	4	5		Loose brown coarse to fine SAND, some fine gravel, little silt, trace roots
		0.61-1.22	2	0.61	0.23	D	3	4	4	7		Loose dark brown SILT, some fine sand, trace coarse sand
											131.93	
		1.52-2.13	3	0.61	0.46	D	6	8	8	10	1.37	-FILL-
		2.13-2.74	4	0.61	0.38	D	7	8	9	11		Medium dense brown fine SAND and SILT Same as D3, except trace coarse sand
		3.05-3.66	5	0.61	0.23	D	9	11	14	6		Medium dense brown SILT, some fine sand, little coarse sand, trace gravel
											129.64 3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Skid mounted Diedrich D-25 with rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-85**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-86**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230934.67**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284293.77**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **134.2**	Utilized						X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	3	4	6	11	0.15	-TOPSOIL-
		0.61-0.66	2	0.05	0.05	D	100/0.05				133.02 1.22	Medium dense black coarse to fine SAND, some silt with roots
		1.52-2.13	3	0.61	0.30	D	3	4	4	4		Very dense black and brown mottled coarse to fine SAND and SILT, some fine gravel
		2.13-2.74	4	0.61	0.46	D	4	4	3	5	131.19	Loose brown SILT, some coarse to fine sand, little fine gravel Loose brown SILT and coarse to fine SAND, some coarse to fine gravel
		3.05-3.66	5	0.61	0.15	D	3	7	14	17	130.89 130.58 3.66	-FILL- Medium dense dark brown SILT, trace clay Medium dense brown SILT, some coarse to fine sand, little coarse to fine gravel, trace clay -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.66 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Skid mounted Diedrich D-25 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-86**
Sheet **1** of **1**

M. Jennett	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-88**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230948.39**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284367.36**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **142.4**	Utilized						X		X					
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.30	D	12	14	28	27	0.08	-ASPHALT-
		0.76-1.37	2	0.61	0.15	D	25	28	30	19		Dense brown coarse to fine SAND, little coarse to fine gravel, silt
		1.52-2.13	3	0.61	0.30	D	28	13	7	7		Very dense dark brown coarse to fine SAND, little fine gravel, trace silt
		2.13-2.74	4	0.61	0.05	D	7	15	16	10		Medium dense brown SILT and fine SAND, little medium to fine gravel, trace coarse sand
		3.05-3.66	5	0.61	0.30	D	12	14	17	19		Dense brown coarse to fine SAND, little medium to fine gravel, trace silt D5 same as D4
											138.73	-FILL-
											3.66	Bottom of Exploration at 3.66 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-88**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-89OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231047.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284373.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **135.7**	Utilized						X		X					
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.45** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	4	3	18	75	0.20	-TOPSOIL-
											134.70	Medium dense gray SILT, little coarse to fine sand with cobbles
											1.00	-FILL-
		1.52-1.82	2	0.30	0.30	D	17	100				Very dense gray to orange-brown coarse to fine SAND, medium to fine gravel, trace silt
											132.65	-GLACIOFLUVIAL DEPOSITS-
		3.05-3.05	3	0.00	0.00	D	50/0.00				3.05	No recovery
												Bottom of Exploration at 3.05 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.05** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Observation well installed in completed borehole**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-89OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-90**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231067.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284420.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **136.0**														
Date Started: **18 April 2001**	Utilized						X		X					
Date Finished: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **0.45** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	2	1	1	4	0.15	-TOPSOIL-
											134.94	Very loose dark to orange brown fine SAND and SILT, little coarse sand with roots, cobbles
		1.52-1.97	2	0.45	0.30	D	16	31	100		1.06	Very dense orange brown fine SAND, some silt, little gravel
											132.80	
		3.05-3.20	3	0.15	0.08	D	100				3.20	Very dense orange brown coarse to fine SAND, some coarse to fine gravel, trace silt -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.20 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.20** m	**-** m
			No. of Samples	
			3D	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-90**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-91**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231109.54**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284447.24**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**		Utilized						X		X					
Date Started: **26 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.51** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.15	D	5	3	5	4	0.15	-ASPHALT-
		0.76-1.37	2	0.61	0.08	D	3	2	3	3		Loose brown coarse to fine SAND, trace medium to fine gravel, silt, trace roots
		1.52-1.67	3	0.15	0.08	D	100					Loose dark brown coarse to fine SAND, some asphalt, trace fine gravel
												Very dense brown coarse to fine GRAVEL, trace coarse to fine sand, trace concrete
		3.05-3.50	4	0.45	0.33	D	11	16	100		135.41	Very dense red-brown fine SAND, trace coarse sand, coarse to fine gravel
											3.50	-FILL-
		4.37-4.67	5	0.30	0.18	D	19	100				Very dense brown coarse to fine SAND, trace fine gravel, with cobbles
5		4.60-4.60	6	0.00	0.00	D	50/0.00					No recovery, boulder
		6.10-6.55	7	0.45	0.38	D	11	24	100			Very dense brown coarse to fine SAND, some coarse to fine gravel
											131.46	-GLACIOFLUVIAL DEPOSITS-
											7.45	Bottom of Exploration at 7.46 m.
												Auger refusal at 3.45 m. Moved borehole 0.45 m. east and augered to 4.6 m.
10												Auger refusal at 4.90 m. Moved borehole 0.60 m. south and augered to 4.37 m.
												Auger refusal at 7.45 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.5**	**7.45** m	**-** m
			No. of Samples	
			7D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-91**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-92**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231003.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284497.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **145.1**														
Date Started: **19 April 2001**	Utilized					X			X					
Date Finished: **19 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	3	4	3	9		Loose brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		0.61-1.22	2	0.61	0.15	D	7	13	14	28		Medium dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		1.22-1.83	3	0.61	0.08	D	27	37	29	16	143.25	Very dense brown coarse to fine SAND, some gravel, trace silt
											1.85	Auger refusal at 1.85 m.
												-FILL-
												Bottom of Exploration at 1.85 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**1.9**	**1.85** m	**-** m
			No. of Samples	
			3D	

NOTES: **Tripod mounted rig with rope and cat-head to drive safety hammer.**
Borehole backfilled with drill cuttings

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-92**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-92A**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231003.79**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284497.78**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **145.1**	Utilized						X		X					
Date Started: **27 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 April 2001**	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	5	4	6	11		Loose brown coarse to fine SAND, some gravel, trace silt
											143.53	-FILL-
		1.52-2.13	2	0.61	0.48	D	38	56	50	48	1.52	Very dense brown coarse to fine SAND and GRAVEL, trace silt
											142.00	
		3.05-3.66	3	0.61	0.30	D	50	58	38	43	3.05 141.39	Very dense brown SILT, some gravel, coarse to fine sand
											3.66	-GLACIAL TILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			3D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-92A**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-93**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231128.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284527.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**	Utilized						X		X					X
Date Started: **23 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.46	1	0.46	0.28	D	8	24	33	50/0.00		Very dense brown loamy SILT, little fine sand, trace gravel, roots, leaves
		1.52-1.67	2	0.15	0.15	D	100					Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		3.05-3.20	3	0.15	0.15	D	100					Very dense brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
											134.33	-FILL-
5		4.57-4.72	4	0.15	0.10	D	100	[RQD = .%]			4.57	Very dense gray-brown coarse to fine SAND and GRAVEL, trace silt, weathered bedrock
		4.57-6.09	1	1.52	1.37	C		[RQD = 71%]			132.80	Very Hard, fresh, gray and white, coarse to fine grained Biotite GNEISS. Foliation is high angle, extremely close. Joints are low to high angle, close to wide spaced, rough undulating fresh to discolored, open
											6.10	-BEDROCK-
10												
15												

Bottom of Exploration at 6.10 m.

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.57** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-93**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-93A**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231108.88**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284518.25**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**														
Date Started: **29 March 2001**	Utilized					X	X		X					
Date Finished:	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50	83		35		35	35	55	55
@ **2.13** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.46	D	13	15	11	13	0.15	-ASPHALT-
		0.76-1.14	2	0.38	0.30	D	14	26	100/0.08		137.34	Medium dense brown coarse to fine SAND, trace fine gravel, trace rock fragments Very dense brown coarse to fine SAND, trace medium to fine gravel, trace rock fragments
		1.52-2.13	3	0.61	0.61	D	11	13	13	17	1.52	-FILL-
		2.13-2.74	4	0.61	0.25	D	26	19	10	10		Medium dense red-brown fine SAND, little coarse sand, trace medium to fine gravel, mottled
		3.05-3.66	5	0.61	0.46	D	13	13	11	13		Same as D3, except wet, no mottles Same as D4
		3.66-4.06	6	0.40	0.15	D	15	26	100/0.10			Same as D5, except very dense
5		3.96-5.48	1	1.52	0.56	C						Cored boulders 3.96 m. to 5.49 m.
		5.79-6.40	2	0.61	0.36	C						Cored boulders 5.79 m. to 6.40 m.
		6.40-6.68	7	0.28	0.28	D	27	100/0.13				Very dense brown coarse to fine SAND, little medium to fine gravel, trace silt with cobbles
											131.54 137.32	-GLACIOFLUVIAL DEPOSITS-
		7.62-7.62	8	0.00	0.00	D	50/0.0				7.62	No recovery Drill action indicates possible weathered rock at 7.32 m. -WEATHERED BEDROCK-
10												Bottom of Exploration at 7.62 m.
												Auger refusal at 1.52 m. Moved borehole 0.91 m. SW, augered to 1.52 m.
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.9**	**7.62** m	**-** m
HSA	**0.0**	**7.6**	No. of Samples	
			8D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-93A**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-94OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231147.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284611.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.8**	Utilized		X						X					
Date Started: **3 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **3 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	2	7	17	21	139.54	Medium dense dark brown coarse to fine SAND, some coarse to fine gravel, little silt, roots, wood
		0.61-1.22	2	0.61	0.61	D	7	9	28	11	0.30	-FILL-
		1.52-2.13	3	0.61	0.13	D	23	7	6	19		Dense brown fine SAND, some silt, coarse to fine gravel, trace coarse sand Medium dense brown fine SAND, little silt, coarse sand, trace fine gravel
		3.05-3.66	4	0.61	0.51	D	5	3	2	3		Loose brown SILT and coarse to fine SAND, little gravel
		3.96-4.57	1	0.61	0.30	C						Cored boulder from 3.96 to 4.57 m.
5		4.57-5.18	5	0.61	0.08	D	4	11	6	20		Same as D4
											134.51	-GLACIOFLUVIAL DEPOSITS-
											5.33	No recovery, possible bedrock
											133.74	
		6.10-6.10	6	0.00	0.00	D	50/0.00				6.10	Bottom of Exploration at 6.10 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**5.5**	**6.10** m	**-** m
			No. of Samples	
			6D,1C	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Observation well installed in completed boring**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-94OW**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-95**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231172.18**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284662.74**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**	Utilized													
Date Started: **17 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											138.64	-BITUMINOUS CONCRETE-
		0.30-0.91	1	0.61	0.31	D	19	16	22	26	0.30	Dense red-brown coarse to fine SAND, little medium to fine gravel and silt, no odor, moist Split spoon refusal at 0.91 m.
		0.91-0.91	2	0.00	0.00	D	50/0.00				137.42	-FILL-
		1.52-3.04	1	1.52	1.52	C		[RQD = 93%]			1.52	Very hard fresh gray and white BIOTITE GNEISS. Foliation is high angle to vertical, extremely to very close. Joints are low angle moderately dipping, moderately undulating, tight to partly open, fresh
											135.90	
											3.04	-BEDROCK-
5												Bottom of Exploration at 3.04 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
			1.52 m	**1.52** m
			No. of Samples	
			2D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-95**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-96**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231012.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284439.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.1**	Utilized						X		X					
Date Started: **9 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **9 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.02	D	2	4	8	13	0.15	-TOPSOIL-
		0.61-0.66	2	0.05	0.03	D	100/0.05				137.00	Medium dense brown fine SAND and SILT, little coarse sand, trace gravel,roots
											1.10	Two pieces of coarse gravel in spoon
		1.52-2.13	3	0.61	0.30	D	12	28	46	51		-FILL-
		2.13-2.74	4	0.61	0.38	D	17	32	47	39		Very dense brown fine SAND and SILT, little coarse sand, trace gravel
		3.05-3.46	5	0.41	0.15	D	9	17	100/0.11		134.64	Very dense brown fine SAND, little silt, gravel, trace coarse sand
											3.46	Very dense brown fine SAND, some gravel, trace silt, coarse sand
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.46 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.46** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-96**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-97**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231056.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284562.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.7**	Utilized						X		X					
Date Started: **11 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	3	5	7	0.15	-TOPSOIL-
		0.61-0.84	2	0.23	0.15	D	17	50/0.08			138.10 0.61	Loose brown to red brown fine SAND, little silt, trace coarse sand, fine gravel with roots
												-FILL-
		1.52-1.75	3	0.23	0.15	D	13	50/0.08				Very dense red brown coarse to fine SAND, trace fine gravel
												Very dense brown fine SAND and medium to fine GRAVEL, little silt with cobbles
											135.66	
		3.05-3.20	4	0.15	0.00	D	50				3.05 3.20	No recovery
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 3.20 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.20** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-97**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-100**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231257.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284969.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **142.3**	Utilized						X		X					
Date Started: **8 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	4	16	18	21	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.30	D	24	37	41	47		Dense red brown to brown fine SAND, little silt, trace coarse sand, gravel
		1.52-1.78	3	0.26	0.15	D	26	100/0.11				Very dense brown coarse to fine SAND and GRAVEL, trace silt Same as D2
											139.25	
		3.05-3.05	4	0.00	0.00	D	100/0.00				3.05	No recovery -FILL-
5												Bottom of Exploration at 3.05 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.0**	**3.05** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-100**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-101**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231319.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285038.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **144.0**														
Date Started: **2 April 2001**	Utilized						X		X					
Date Finished: **2 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NO** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	12	24	22	18		Dense brown fine SAND, some medium to fine gravel, little silt, coarse sand
		0.61-1.22	2	0.61	0.38	D	18	16	16	14		Same as D1
		1.52-1.80	3	0.28	0.15	D	22	100/0.13				Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt
											141.26	Boulders from 1.80 to 2.74 m.
											2.74	-FILL-
												Bottom of Exploration at 2.74 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**2.5**	**2.47** m	**-** m
			No. of Samples	
			3D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings. 'NO' means not observed**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-101**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-102**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231286.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285062.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **143.7**	Utilized						X		X					
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	2	19	20	36	0.15	-TOPSOIL-
		0.61-1.02	2	0.41	0.23	D	25	32	50/0.11		0.30	Dense red brown fine SAND, little silt, coarse sand, gravel -FILL-
		1.52-1.57	3	0.05	0.02	D	50/0.05	[RQD = -1%]			142.18 1.52	Very dense brown coarse to fine SAND and GRAVEL, trace silt -GLACIOFLUVIAL DEPOSITS-
		1.57-3.09	1	1.52	1.22	C		[RQD = 34%]			140.61 3.09	Piece of coarse gravel in tip Hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low angle to moderately dipping, very close to close, rough, undulating to stepped, fresh to discolored, open -BEDROCK-
5												
10												
15												

Bottom of Exploration at 3.09 m.

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**1.5**	**1.57** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-102**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-103**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231338.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285145.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.4**														
Date Started: **2 April 2001**	Utilized						X		X					
Date Finished: **2 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	11	16	22	29		Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
		0.61-0.69	2	0.08	0.00	D	50/0.08					No recovery
		1.52-1.60	3	0.08	0.08	D	50/0.08					Very dense brown fine SAND and SILT, little coarse gravel
											144.27	
											2.13	-FILL-
												Bottom of Exploration at 2.13 m.
												Note: Hole relocated 5 times with auger refusals from 1.32 to 2.13 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**2.1**	**2.13** m	**-** m
			No. of Samples	
			3D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-103**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-104**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231301.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285166.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **144.7**	Utilized						X		X					X
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.38	D	1	5	11	21		Medium dense brown to red-brown fine SAND and SILT, little gravel
		0.61-0.69	2	0.08	0.00	D	50/0.08					No recovery
		1.57-2.18	3	0.61	0.23	D	2	10	19	27	142.57	Medium dense gray-brown fine SAND and GRAVEL, little coarse sand, trace silt
		2.13-3.65	1	1.52	1.52	C		[RQD = 91%]			2.13	-GLACIOFLUVIAL DEPOSITS-
											141.05	Hard, fresh, gray and white, medium to fine grained MUSCOVITE-BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low angle to moderately dipping, close to moderate, rough, undulating, fresh to discolored, open
5											3.65	-BEDROCK-
												Bottom of Exploration at 3.65 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**1.5**	**2.13** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-104**

Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-105**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231300.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285272.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **145.4**	Utilized						X		X					
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	2	10	14	21	0.15	-TOPSOIL-
		0.61-0.91	2	0.30	0.15	D	39	100			144.79 / 0.61	Medium dense gray and brown coarse to fine GRAVEL and coarse to fine SAND, trace silt -FILL-
		0.91-2.43	1	1.52	1.29	C		[RQD = 81%]			144.49 / 0.91	Very dense red-brown coarse to fine GRAVEL, little coarse to fine sand, trace silt -GLACIOFLUVIAL DEPOSITS-
											142.97 / 2.43	Hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low angle to moderately dipping, close to moderate, rough, undulating, discolored, open. Note: Biotite altering to secondary mineral -BEDROCK-
5												
10												
15												

Bottom of Exploration at 2.43 m.

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**0.9**	**0.91** m	**1.52** m
			No. of Samples	
			2D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-105**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-106**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231287.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285365.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.0**	Utilized						X							
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ _____ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.20	D	4	9	11	26		Medium dense dark brown fine SAND, little silt, fine gravel, trace coarse sand with roots
		0.61-1.22	2	0.61	0.20	D	21	24	17	16		Dense brown fine SAND, little silt, fine gravel, trace coarse sand
											144.63	-FILL-
		1.52-2.13	3	0.61	0.46	D	7	6	4	9	1.37	Medium dense orange brown SILT, little fine sand, trace clay
		2.13-2.33	4	0.20	0.15	D	21	100/0.05			143.80 2.20	Very dense orange brown SILT overlying an orange brown coarse to fine SAND, some gravel, trace silt
		3.05-3.66	5	0.61	0.30	D	36	46	46	53	142.34 3.66	Very dense brown SILT and fine GRAVEL, little coarse to fine sand -GLACIAL TILL-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.0**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-106**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-107**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231340.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285265.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.6**		Utilized						X		X					
Date Started: **2 April 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 April 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	3	12	17	14		Medium dense brown to red brown fine SAND, little silt, trace coarse sand, roots
		0.61-1.22	2	0.61	0.61	D	11	16	21	68	145.69	
											0.91	-FILL-
		1.52-1.52	3	0.00	0.00	D	100/0.00					Dense brown coarse to fine SAND, some medium to fine gravel, trace silt No recovery, cobbles to 2.44 m.
		2.44-3.05	4	0.61	0.30	D	21	13	26	21		Dense brown fine SAND, little silt, coarse to fine gravel, trace coarse sand, moist
		3.05-3.66	5	0.61	0.05	D	17	23	39	58	142.94	Very dense brown coarse to fine GRAVEL and fine SAND, little silt, trace coarse sand
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-107**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **R-108**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231334.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285322.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.0**	Utilized						X		X					
Date Started: **2 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.43	D	2	4	6	11		Medium dense red brown fine SAND, trace gravel, silt
		0.61-1.04	2	0.43	0.25	D	19	36	100/0.13		145.96	Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
											1.04	-FILL-
		1.52-2.13	3	0.61	0.23	D	16	27	38	41		Very dense light brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		2.13-2.18	4	0.05	0.00	D	100/0.05				144.41	On boulder at 2.13 m., auger refusal at 2.59 m.
											2.59	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 2.59 m.
5												Moved borehole twice due to auger refusals at 2.13 m. and 2.49 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**2.1**	**2.59** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **R-108**
Sheet **1** of **1**

Connecticut DOT Boring Report

Driller:	D.Campbell/E.DelPriore			Hole No.:	R301
Inspector:	S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231505.204
Start Date:	3-13-09	Route No.:	Interstate 84	Easting:	281757.407
Finish Date:	3-26-09	Bridge No.:	VMS Location No. 3	Surface Elevation:	117.603

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @8.07 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0						BITUMINOUS CONCRETE		
	S-1	23 81 80/.05	0.36	0.30		FILL	Very dense brown to gray-brown coarse to fine SAND, some coarse to fine gravel, little silt, weathered petroleum odor below 0.61 m Note: Auger grinding from approximately 0.63 to 1.52 m through cobbles/boulders	117
1								
	S-2	15 27 79 90	0.61	0.0			No recovery	116
2								
	S-3	7 9 10 21	0.61	0.08			Medium dense brown coarse to fine SAND, some coarse to fine gravel, silt, frequent cobbles, no odor, moist (poor recovery-gravel lodged in spoon tip)	115
3	S-4	6 7 12 9	0.61	0.20			Similar to S3, except little gravel	
	S-5	27 75 16 11	0.61	0.18			Similar to S4, except SAND and GRAVEL Note: Auger grinding from approximately 4.11 to 4.75 m with refusal at 4.75 m	114
4								
		3.5 4	0.61	0.46			Note: Cored through boulder from approximately 4.11 m to 5.79 m	113
5	S-6	5 8 24 51	0.61	0.28			Similar to S3, except with trace brick	
								112
6	S-7	50/.05	0.05	0.05			Similar to S6, except with trace green glass	
						GLACIO-FLUVIAL DEPOSITS	Note: Drill action indicates stratum change at approximately 6.40 ft	111
	S-8	16 90 50/.03	0.33	0.25			Very dense yellow-brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, moist	
7								
	S-9	50/.03	0.03	0.0			No recovery	110
8								
								109
9								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 13.19 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 2
No. of Soil Samples: 12 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	D.Campbell/E.DelPriore	**Connecticut DOT Boring Report**		Hole No.:	R301
Inspector:	S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231505.204
Start Date:	3-13-09	Route No.:	Interstate 84	Easting:	281757.407
Finish Date:	3-26-09	Bridge No.:	VMS Location No. 3	Surface Elevation:	117.603

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @8.07 m

Depth (m)	SAMPLES: Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
9	S-10	22 38 53 50/0	0.46	0.36		GLACIAL TILL	Very dense yellow-brown coarse to fine SAND, some medium to fine gravel, trace silt, no odor, wet	108
10							Very dense gray-brown coarse to fine SAND and coarse to fine GRAVEL, some silt, bonded in-situ, no odor, wet Note: Auger grinding from approximately 9.9 to 10.06 m. Cored boulder from 10.06 to 10.82 m	107
11	S-11	83 100/.05	0.2	0.05			Very dense gray coarse GRAVEL, trace sand and silt, wet (boulder fragment	106
12							Note: Boulder from approximately 11.28 to 11.89 m, very dense gravelly soil with cobbles from 11.89 to 12.80 m	105
13	S-12	31 39 75/.08	0.38	0.08			Very dense black to pink GRAVEL, trace sand, silt (boulder fragment) Note: Possible weathered rock from 10.06 to 13.19 m (difficult determination)	104
14							END OF BORING 13.19 m	103
15								102
16								101
17								100
18								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 13.19 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 2 of 2
No. of Soil Samples: 12 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: R302
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231351.697
Start Date: 2-24-09	Route No.: Interstate 84	Easting: 284785.214
Finish Date: 2-24-09	Bridge No.: Overhead Sign Location No. 2	Surface Elevation: 119.071

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	3 5 8 17	0.61	0.10			TOPSOIL	Loose dark brown FINE SAND and SILT, trace coarse sand, trace medium to fine gravel, little roots/organics, slight organic odor, dry	119
	S-2	100/.15	0.15	0.08			FILL	Medium dense gray-brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, dry	
1									118
2	S-3	18 100/.15	0.3	0.20			GLACIO-FLUVIAL DEPOSITS	Gray coarse to medium GRAVEL, no odor, dry (boulder fragments)	117
	S-4	50/0	0.0	0.0				Note: Cored BOULDER and CONCRETE from 1.22 to 1.83 m	
3	S-5	100/.05	0.05	0.0				Dense light brown coarse to fine SAND, some coarse to fine gravel, some silt, no odor, moist Note: Numerous cobbles and boulders from approximately 2.13 to 4.57 m No recovery No recovery	116
4									115
	S-6	100/.15	0.15	0.08				Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, no odor, wet (poor recovery)	
5									114
6	C-1		1.52	1.37		3	BEDROCK	Biotite SCHIST. Dark gray to black banded, medium-grained, medium thick to laminated foliation (moderately dipping), highly to intensely fractured (along foliation and occassionally across foliation), moderately weathered, very strong, with occasional thin pink granitic seams (intrusions) along foliation	113
						3			
						3			
7						4			112
						3			
								END OF BORING 7.32 m	
8									111
9									110
10									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 5.79 m Rock: 1.52 m		
No. of Soil Samples: 6 No. of Core Runs: 1		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: R303
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231144.567
Start Date: 2-23-09	Route No.: Interstate 84	Easting: 282082.943
Finish Date: 2-23-09	Bridge No.: VMS Location No. 1	Surface Elevation: 116.438

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	11 17 14 16	0.61	0.46		TOPSOIL / FILL	Medium dense dark brown FINE SAND and SILT with organics, dry	116
	S-2	12 15 8 18	0.61	0.38			Dense light brown to black coarse to fine SAND, some silt, trace coarse to fine gravel, with coal dust/particles, no odor, dry	
1							Similar to S1, below 0.05 m, except medium dense, little brick and concrete, no odor, moist	115
	S-3	7 8 11 100/.08	0.53	0.30			Medium dense red to beige BRICK and CONCRETE fragments, no odor, dry	
2								114
	S-4	7 6 8 10	0.61	0.30			Medium dense brown coarse to fine SAND and SILT, little coarse to fine gravel, trace concrete, no odor, dry	
3	S-5	7 6 7 6	0.61	0.38			Similar to S4, except little brick and concrete	113
4								112
	S-6	4 3 2 3	0.61	0.46			Loose black coarse to fine SAND and fine GRAVEL, little silt, with sand to gravel-sized particles of coal, slag, trace glass; occasional yellow oxidized particles and undetermined blue-green and white particles (possible copper oxidation and ash), no odor, dry	
5	S-7	2 2 1 2	0.61	0.30				111
6							Similar to S6, except very loose, trace beige furnace brick	
	S-8	1 2 2 2	0.61	0.51			Very loose black to dark gray silt-sized COAL DUST, trace sand to gravel-sized coal particles, slight musty odor, dry	110
7	S-9	2 5 8 50/.08	0.53	0.30			Similar to S7, except medium dense	
						GLACIO-FLUVIAL DEPOSITS	Note: Auger refusal at 7.62 m. Cored BOULDER from approximately 7.62 to 8.05 m	109
8								
	S-10	23 34 78 92	0.61	0.43			Very dense light brown to yellow-brown coarse to fine SAND, some medium to fine gravel, some silt, no odor, wet	108
9								
	S-11	47 56 79 100	0.61	0.30			Very dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet	107
10							Note: Auger refusal on probable boulder at 10.06 m	
							END OF BORING 10.06 m	106
11								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 10.06 m Rock: 0 m		
No. of Soil Samples: 11 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	D. Campbell	**Connecticut DOT Boring Report**		Hole No.:	R304
Inspector:	S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	230904.609
Start Date:	3-12-09	Route No.:	Interstate 84	Easting:	282649.497
Finish Date:	3-12-09	Bridge No.:	VMS Location No. 3	Surface Elevation:	114.117

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @4.72 m after 0.25 hours

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	5 6 21 20	0.6	0.18			TOPSOIL	Dense black dark brown SILT and FINE SAND, trace medium to fine gravel, coarse sand, roots	114
	S-2	28 50/.03	0.18	0.30			FILL	Dense yellow-brown to light brown FINE SAND, little silt, trace coarse to fine gravel, coarse sand, no odor, dry	
1									113
	S-3	72 50/.00	0.15	0.10				Similar to S1 (below 0.08 m), except moist Note: Boulder encountered from approximately 0.64 to 1.3 m	
2									112
	S-4	50/0.5	0.05	0.05				Very dense gray-brown coarse to fine GRAVEL,some coarse to fine sand, little silt, no odor, dry Note: Cobbles and boulder from approximately 1.67 to 2.44 m	
3	S-5	52 58 50/00.3	0.33	0.0			GLACIO-FLUVIAL DEPOSITS	Similar to S3; cobble approximately 2.49 to 2.68 m No recovery	111
4								Note: Cuttings from approximately 3.05 to 4.57 consist of light brown coarse to fine GRAVEL and coarse to fine SAND, trace silt, numerous cobbles	110
	S-6	75/.08	0.08	0.03					
	C-1		1.37	0.80		2		Coarse gravel (cobble fragment)	
5						4		Cored through cobbles and boulders	109
						1			
						2			
6	S-7	90 100/.08	0.23	0.08		1.5		Very dense gray-brown to brown coarse to fine SAND and medium to fine GRAVEL, trace silt, no odor, wet	108
7								END OF BORING 6.33 m	107
8									106
9									105
10									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 6.33 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 7 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	E. DelPriore	**Connecticut DOT Boring Report**		Hole No.:	R305
Inspector:	C. Albers/S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	230882.704
Start Date:	2-26-09	Route No.:	Interstate 84	Easting:	282650.922
Finish Date:	2-26-09	Bridge No.:	Overhead Sign Location No. 3	Surface Elevation:	113.258

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	10 26 25 27	0.61	0.05		TOPSOIL FILL	Very dense red-brown coarse to fine SAND and GRAVEL, trace silt, no odor	113
	S-2	61 64 45 34	0.61	0.28		GLACIO-FLUVIAL DEPOSITS	Similar to S1 Very dense light brown to tan coarse to fine SAND and coarse to fine GRAVEL, trace silt, no odor	
1								112
							Note: Boulder encountered from approximately 1.52 to 1.83 m	
2	S-3	100/.03	0.03	0.0			Boulder fragment in spoon tip. Auger refusal at 1.83 m, relocated 1.52 m west. Auger refusal at 1.83 m, relocated 1.52 m north. Auger refusal at 2.44 m	111
							Note: Cored boulders from approximately 2.44 to 3.66 m	
3								110
4							Note: Auger refusal at 3.81 m. Cored boulders from 3.81 to 4.57 m	109
	S-4	41 64 100/.15	0.46	0.30			Very dense light brown coarse to fine SAND, some medium to fine gravel, little silt, no odor, moist	
5						GLACIAL TILL		108
6	S-5	100/.15	0.15	0.10			Similar to S4, possible weathered rock in spoon tip	107
							END OF BORING 6.25 m	
7								106
8								105
9								104
10								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 6.25 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 5 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: R306
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 230821.4
Start Date: 2-26-09	Route No.: Interstate 84	Easting: 283216.494
Finish Date: 2-26-09	Bridge No.: Overhead Sign Location No. 4	Surface Elevation: 123.095

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	26 59 73 52	0.61	0.61		TOPSOIL	Dense dark brown coarse to fine SAND and SILT, with organics, no odor, moist	123
						FILL		
	S-2	27 22 16 13	0.61	0.30		GLACIO-FLUVIAL DEPOSITS	Dense brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, dry	
1							Dense yellow-brown coarse to fine SAND, little fine gravel, trace silt, no odor, dry	122
2	S-3	5 7 10 10	0.61	0.46			Medium dense light brown coarse to fine SAND, some medium to fine gravel, trace silt, no odor, dry	121
	S-4	11 11 10 10	0.61	0.36			Medium dense tan to light brown coarse to fine SAND, little coarse to fine gravel, trace silt, no odor, dry	
3	S-5	18 9 55 36	0.61	0.0			No recovery	120
4							Note: Numerous cobbles and boulders from approximately 3.96 to 4.57 m, auger refusal at 4.57 m	119
5							Note: Cored boulder from 4.57 to 5.18 m, recovered 0.46 m fragment	118
							Note: Numerous cobbles and boulders from 5.18 to 6.10 m and 6.10 to 7.01 m	
6	S-6	100/.03	0.03	0.0			No recovery	117
							Note: Advanced roller bit past bottom of HSA casing, refusal at approximately 7.01 m	
7							END OF BORING 7.01 m	116
8								115
9								114
10								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 7.01 m Rock: 0 m		
No. of Soil Samples: 6 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: R307
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 230792.036
Start Date: 2-26-09	Route No.: Interstate 84	Easting: 283887.624
Finish Date: 2-26-09	Bridge No.: Overhead Sign Location No. 5	Surface Elevation: 130.400

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0						BITUMINOUS CONCRETE		130
						CONCRETE		
	S-1	11 118/.15	0.3	0.08		FILL	Medium dense brown coarse to fine SAND, some silt, trace gravel, with cobble fragment in spoon tip	
1								129
	S-2	8 12 7 19	0.61	0.33		GLACIO-FLUVIAL DEPOSITS	Similar to S1	
2							Dense brown to yellow-brown SILT, some fine sand, trace gravel, no odor, wet	
	S-3	18 7 6 5	0.61	0.38			Similar to S2 (below 1.6 m)	128
3								
	S-4	2 5 21 29	0.61	0.43			Similar to S3, except loose	
						GLACIO-FLUVIAL DEPOSITS	Dense gray to brown coarse to fine SAND, some gravel, little silt, no odor, moist	127
4								126
	S-5	22 38 36 41	0.61	0.51			Very dense brown to gray-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet	
5								125
6	S-6	14 22 28 37	0.61	0.51			Similar to S5	124
7							END OF BORING 6.71 m	123
8								122
9								121
10								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 7.01 m Rock: 0 m		
No. of Soil Samples: 6 No. of Core Runs: 0		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	R. Posa			Hole No.:	R308
Inspector:	C. Albers/S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	230953.13
Start Date:	2-24-09	Route No.:	Interstate 84	Easting:	284331.572
Finish Date:	2-24-09	Bridge No.:	Overhead Sign Location No. 6	Surface Elevation:	134.872

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	5 4 2 3	0.61	0.46			TOPSOIL	Loose dark brown fine SAND and SILT with organics,slight organic odor, no odor, moist	
							FILL	Loose brown coarse to fine SAND, some silt, trace medium to fine gravel, no odor, moist	
	S-2	3 4 4 6	0.61	0.56				Loose brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, no odor, moist	134
1							GLACIO-FLUVIAL DEPOSITS	Dense brown coarse to fine SAND, some coarse to fine gravel, some silt, no odor, moist	
	S-3	11 20 22 21	0.61	0.41				Similar to S2 (below 1.22 m)	133
2	S-4	18 21 23 29	0.61	0.56				Similar to 3, except little coarse to fine gravel, no odor, wet	
									132
3								Note: Auger refusal at 3.66 m	
	C-1		1.52	1.49		3	BEDROCK	SCHIST: Gray to dark gray, medium-grained, laminated (high angle) foliation, moderately fractured (horizontal to low angle, across foliation), slightly weathered to fresh, very strong	131
4						3			
						3			
						3			
5						3			130
	C-2		1.52	1.52		3		Similar to C1, except fresh, occasional coarse-grained seams	
						4			
6						3			129
						4			
						3			
7								END OF BORING 6.71 m	128
8									127
9									126
10									125

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 3.66 m Rock: 3.05 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 4 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller: E. DelPriore	**Connecticut DOT Boring Report**	Hole No.: R309
Inspector: E. Danaher	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231246.033
Start Date: 2-25-09	Route No.: Interstate 84	Easting: 284936.413
Finish Date: 2-25-09	Bridge No.: VMS Location No. 37	Surface Elevation: 141.748

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	24 17 11 8	0.61	0.36		FILL	Medium dnese brown SILT and coarse to fine SAND, little coare to fine gravel, no odor, moist	
	S-2	6 8 7 9	0.61	0.46		BURIED TOPSOIL	Medium dense dark brown SILT with organics, trace fine sand, organic odor, no odor, moist	141
1						SUBSOIL	Similar to S1 (below 0.46 m)	
	S-3	31 32 30 33	0.61	0.43		GLACIO-FLUVIAL DEPOSITS	Medium dnese yellow-brown to orange-brown SILT, trace fine sand, no odor, moist	140
2							Dense tan to light brown coarse to fine SAND, some coarse to fine gravel, trace silt, no odor, moist	
								139
3	S-4	24 21 19 33	0.61	0.54			Dense yellow-brown to light brown fine SAND, little coarse sand, trace fine gravel, trace silt, no odor, wet	
4								138
	S-5	32 43 100/.15	0.46	0.30			Very dense yellow-brown to light brown fine SAND, little medium sand, little silt, trace gravel, no odor, wet	137
5								
								136
6	S-6	100/.15	0.15	0.03			Similar to S5	
7								135
	S-7	50/0	0.0	0.0			No recovery	134
8								
								133
9	S-8	28 31 44 53	0.61	0.46			Very dense brown coarse to fine SAND, some coare to fine gravel, trace silt, no odor, wet	
								132
10							END OF BORING 9.75 m	
								131
11								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 9.75 m Rock: 0 m		
No. of Soil Samples: 8 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	T. McGovern	**Connecticut DOT Boring Report**		Hole No.:	R310
Inspector:	E. Danaher	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	230709.894
Start Date:	3-12-09	Route No.:	Interstate 84	Easting:	286483.978
Finish Date:	3-12-09	Bridge No.:	VMS Location No. 2	Surface Elevation:	162.788

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @5.18 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	17 35 48 100	0.61	0.20		BITUMINOUS CONCRETE FILL	Very dense gray-brown coarse to fine SAND and medium to fine GRAVEL, little silt, micaceous, no odor, dry	162
1	S-2	56 71 100/.15 -	0.46	0.15			Similar to S1, except trace coarse gravel	
	S-3	31 23 18 10	0.61	0.30			Similar to S2, except dense, dark brown	161
2	S-4	33 16 8 7	0.61	0.46			Similar to S3, except gray-brown to yellow-brown Note: Cobble encountered at 2.74 m	160
3	S-5	8 41 100/.15 -	0.46	0.10			Very dense brown to yellow-brown coarse to fine SAND and SILT, little fine gravel, trace wood, no odor, dry Note: Boulder approximately 11.5 to 4.57 m	159
4	S-6	43 100/.08 - -	0.23	0.15			Very dense gray to white coarse to medium GRAVEL trace fine gravel, coarse to fine sand, silt, no odor, dry	158
5						GLACIO-FLUVIAL DEPOSITS		157
6	S-7	30 23 23 100	0.61	0.46			Dense yellow-brown FINE SAND and SILT, no odor, wet	156
7							Note: Refusal at 7.01 m. Cored cobbles and boulders with sand seams from approximately 7.01 to 8.23 m	155
8	S-8	100/.15 - - -	0.15	0.15	-		Very dense brown to yellow-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet	154
9							END OF BORING 8.38 m	153
10								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 8.38 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 8 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	E. DelPriore	**Connecticut DOT Boring Report**		Hole No.:	R311
Inspector:	E. Danaher	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231615.999
Start Date:	3-12-09	Route No.:	Interstate 84	Easting:	288956.931
Finish Date:	3-12-09	Bridge No.:	VMS Location No. 3	Surface Elevation:	119.323

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @5.64 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0						BITUMINOUS CONCRETE		
	S-1	40 42 49 47	0.61	0.46		FILL	Very dense gray-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, dry	119
1	S-2	65 28 31 42	0.61	0.30			Very dense gray-brown coarse to fine SAND, some silt, little medium to fine gravel, micaceous, no odor, dry	118
	S-3	89 40 39 45	0.61	0.46			Very dense brown to red-brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, dry	
2	S-4	74 72 92 100	0.61	0.15			Very dense dark gray coarse to fine SAND and coarse to fine GRAVEL, little silt, micaceous, no odor, dry	117
	S-5	37 33 32 47	0.61	0.51			Very dense brown to red-brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, dry	
3	S-6	53 39 48 52	0.61	0.20			Similar to S5	116
4							Note: Boulder approximatley 3.96 to 4.57 m	115
	S-7	13 18 100/.15	0.46	0.20			Dense gray-brown FINE SAND and SILT, trace coarse sand, medium to fine gravel, with black wood, no odor, moist: Refusal at 5.03 m	
5								114
	S-8	53 100/.15	0.3	0.24			Similar to S7, except red-brown, with wood, we at approximately 5.64 m	
6						GLACIO-FLUVIAL DEPOSITS		
	S-9	83 100/.15	0.3	0.15			Very dense red-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet	113
7								112
	S-10	7 13 16 25	0.61	0.46			Medium dense brown coarse to fine SAND, trace fine gravel, silt, no odor, wet	
8								111
9	S-11	8 14 24 30	0.61	0.61			Similar to S10, except dense	110
10							END OF BORING 9.75 m	109
11								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 9.75 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 11 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	R. Posa	**Connecticut DOT Boring Report**		Hole No.:	R312
Inspector:	C. Albers	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	232924.032
Start Date:	2-25-09	Route No.:	Interstate 84	Easting:	292890.829
Finish Date:	2-25-09	Bridge No.:	VMS Location No. 4	Surface Elevation:	52.027

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	3 5 7 14	0.61	0.43		TOPSOIL		52
						FILL	Medium dense red-brown coarse to fine SAND, some silt, little gravel	
	S-2	12 14 14 19	0.61	0.56			Similar to S1	
1								51
	S-3	8 13 14 21	0.61	0.38		GLACIO-FLUVIAL DEPOSITS	Medium dense red-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, moist	
2	S-4	16 18 18 27	0.61	0.53			Similar to S3, except dense	50
3	S-5	46 37 35 39	0.61	0.43		GLACIAL TILL	Very dense red-brown coarse to fine SAND, and coarse to fine GRAVEL, little silt, no odor, dry	49
4								48
	S-6	8 10 13 19	0.61	0.53			Medium dense red-brown coarse to fine SAND, some silt, trace gravel, no odor, wet	
5								47
6	S-7	10 13 18 21	0.61	0.46			Dense red-brown coarse to fine SAND and SILT, trace gravel, no odor, moist, well bonded in-situ	46
7								45
	S-8	8 15 19 27	0.61	0.51			Similar to S7	
8								44
							END OF BORING 8.2 m	
9								43
10								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 8.2 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 8 No. of Core Runs: 0		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	R. Posa			Hole No.:	R313
Inspector:	C. Albers	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	236675.483
Start Date:	2-25-09	Route No.:	Interstate 84	Easting:	292012.902
Finish Date:	2-25-09	Bridge No.:	VMS Location No. 5	Surface Elevation:	52.583

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @0.6 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	2 3 5 11	0.61	0.30			FILL	Loose brown to red-brown coarse to fine SAND, some silt, little gravel, no odor, moist	
	S-2	11 14 16 15	0.61	0.46				Medium dense red-brown coarse to fine SAND, some silt, little medium to fine gravel, no odor, wet	52
1									
	S-3	39 107/.15 - -	0.3	0.23			HIGHLY WEATHERED BEDROCK	Very dense light brown to light red-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, dry	51
2									
	S-4	100/.08 - - -	0.08	0.08				Similar to S3	50
3	S-5	50/0 - - -	0.0	0.0			MODERATELY WEATHERED BEDROCK	Split spoon refusal at 3.0 m	
								Auger refusal at 4.27 m	49
4									
	C-1		1.52	1.50		2 2 2 2 2	BEDROCK	Pink to light gray ARKOSIC SANDSTONE, coarse-grained, massively bedded, moderately to slightly fractured, fresh, strong to very strong	48
5									47
	C-2		1.52	1.45		2 3 3 2 2		Red-brown SILTSTONE, fine-grained, medium to thickly bedded, highly fractured (low angle to moderately dipping), moderately to slightly weathered, medium strong to strong, frequent gray calcareous seams	46
6									
7									
								END OF BORING 7.32 m	45
8									
									44
9									
									43
10									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 4.27 m Rock: 3.15 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 5 No. of Core Runs: 2		SM-001-M REV. 1/02

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231220.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281986.33**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.4**	Utilized		X						X					X
Date Started: **13 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Asphalt and Road Base
		0.30-0.91	1	0.61	0.30	D	7	15	11	19	0.28	Medium dense dark brown coarse to fine SAND, little fine gravel, silt
											118.44	
											1.00	-FILL-
		1.52-2.13	2	0.61	0.41	D	11	13	15	8		Medium dense dark brown coarse to fine GRAVEL, some coarse to fine sand, trace silt
											116.29	
		3.05-3.15	3	0.10	0.10	D	100/10				3.15	Very dense brown fine SAND, some gravel, little coarse sand, silt
		3.35-4.87	1	1.52	1.25	C		[RQD = 40%]				
												-GLACIOFLUVIAL DEPOSITS-
5		4.88-6.40	2	1.52	1.31	C		[RQD = 34%]				C1- Very hard, fresh, gray and white coarse to fine grained BIOTITE ORTHOCLASE QUARTZ GNEISS. Foliation is moderately dipping, extremely close, Joints are low to high angle, rough, undulating, fresh to discolored, open.
											113.04	
											6.40	Note: Healed high and low angle joints. Rock is highly fractured in several places
												C2- Very hard, fresh, to slightly weathered, gray and white coarse to fine grained BIOTITE ORTHOCLASE QUARTZ GNEISS. Foliation is moderately dipping, extremely close, Joints appear to be conjugate, moderately dipping to low angle, very close to close, rough, undulating, fresh to discolored, open.
10												-BEDROCK-
												Bottom of Exploration at 6.40 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**3.1**	**3.35** m	**3.05** m
			No. of Samples	
			3D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-1**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231207.63**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282012.36**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **120.3**	Utilized		X						X					X
Date Started: **13 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.45	D	8	11	7	6	0.15	Asphalt
											119.26	Medium dense gray brown coarse to fine SAND, and medium to fine gravel
		1.52-1.82	2	0.30	0.30	D	29	100			1.00	-FILL-
												Very dense gray brown coarse to fine SAND, and coarse to fine gravel
		3.05-3.50	3	0.45	0.30	D	19	31	100			Same as D2
5												Cored from 4.57 m. to 5.33 m. Boulders R= .61 m.
		6.10-6.15	4	0.05	0.00	D	50/.05					No recovery
											112.94	-GLACIOFLUVIAL DEPOSITS-
		7.62-9.14	1	1.52	1.25	C		[RQD = 59%]			7.32	C1- Very hard, fresh, gray, pink, and white coarse to fine grained granitic GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle, to moderately dipping, very close to close, rough, planar to undulating, discolored, open to tight.
10		9.14-10.66	2	1.52	1.45	C		[RQD = 44%]				C2- Same as C1, except with coarse to fine grained pegmatite, discolored to disintegrated, open. Fractured zone from 10.15 m. to 10.33 m.
											109.59	-BEDROCK-
											10.67	Bottom of Exploration at 10.67 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.3**	**3.35** m	**3.05** m
			No. of Samples	
			4D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-2**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231167.97**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282008.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.3**	Utilized		X						X					X
Date Started: **5 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **5 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.55** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.30	D	11	17	23	29	0.15	Asphalt
											114.34	Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, cobble at .91 m.
											0.91	-FILL-
											112.96	Boulders from 1.37 m. to 1.83 m. Possible top of rock at 2.29 m.
											2.29	-GLACIOFLUVIAL DEPOSITS-
		3.05-4.57	1	1.52	1.43	C		[RQD = 58%]				Very hard, fresh, gray to pink and white, coarse to fine grained GRANITIC GNEISS. Foliation is low angle extremely close. Joints are low angle to vertical, close to moderate, rough, fresh to discolored, open.
5		4.57-6.09	2	1.52	1.52	C		[RQD = 85%]				Same as C1, except fresh to slightly weathered, joints are very close to moderate, low angle
		6.10-7.62	3	1.52	1.42	C		[RQD = 93%]				Same as C1, except joints are low angle moderate
		7.62-9.14	4	1.52	1.26	C		[RQD = 83%]				Very hard, fresh, dark gray to white, pink, coarse to fine grained GRANITIC GNEISS, foliation is low angle, extremely close. Joints are low angle, moderate, rough, fresh, open.
											106.15	-BEDROCK-
10											9.10	Bottom of Exploration at 9.10 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**3.1**	**2.29** m	**6.08** m
			No. of Samples	
			1D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-3**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231149.15**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282038.25**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.9**	Utilized		X						X					X
Date Started: **5 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											0.10	Asphalt
		0.30-0.91	1	0.61	0.20	D	12	14	11	16		Medium dense brown and gray coarse to fine SAND, little medium to fine gravel, trace silt
		1.52-2.13	2	0.61	0.15	D	19	9	8	16		Medium dense brown little coarse to fine SAND and GRAVEL, trace silt
											112.32	-FILL-
											2.59	
		3.05-3.28	3	0.23	0.10	D	75	100/.08			111.63	Very dense gray brown GRAVEL, little coarse to fine sand, trace silt
		3.51-5.03	1	1.52	1.43	C		[RQD = 48%]			3.28	-GLACIOFLUVIAL DEPOSITS-
5												C1- Hard, fresh, gray and white, medium to fine grained GNEISS. Foliation is vertical extremely close. Joints are low angle to vertical close to moderate, rough, planar to undulating to planar, discolored, open to tight.
		5.03-6.55	2	1.52	1.49	C		[RQD = 76%]				C2- Same as C1, except joints are very close to moderate.
		6.55-8.07	3	1.52	1.52	C		[RQD = 27%]				C3- Hard, fresh to slightly weathered, gray, coarse to fine grained GNEISS. Foliation is vertical extremely close. Joints are low angle, to high angle, very close to close, rough, planar to undulating to planar, discolored, open to tight.
		8.08-9.60	4	1.52	1.13	C		[RQD = 33%]				C4- Hard, fresh, gray and white, coarse to fine grained GNEISS. Foliation is vertical extremely close. Joints are low angle, to moderate dipping, very close close, rough, fresh to discolored, open.
											105.31	
10											9.60	Bottom of Exploration at 9.60 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.5**	**3.51** m	**6.08** m
			No. of Samples	
			3D,4C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-4**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231123.01**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282025.14**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **121.9**	Utilized		X						X					X
Date Started: **29 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **30 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type	X	Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	5	7	15	14	121.59 0.30	Medium dense, brown coarse to fine SAND, some silt, little fine gravel -FILL-
												Cored through boulder 1.07 m. to 1.83 m. Spun casing through boulder to 2.74 m. Cored boulder 2.74 m. to 3.35 m.
		3.35-3.81	2	0.46	0.25	D	40	70	100		118.08 3.81	Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, (weathered rock) rock lodged in spoon shoe -GLACIOFLUVIAL DEPOSITS-
		3.96-5.48	1	1.52	1.22	C		[RQD = 62%]				C1: Very hard, fresh gray to pink and white, coarse to fine grained granitic GNEISS, foliation is moderately, dipping, extremely to very close, Joints sets appear conjugate, moderately dipping to high angle, close to moderate, rough, undulating, discolored, open.
5		5.49-7.01	2	1.52	1.20	C		[RQD = 10%]				C2: Rock is highly fractured from 5.49 m. to 6.49 m. (no structure) from 6.49 m. to 7.01 m. Hard, fresh, gray white, medium to fine grained BIOTITE GNEISS. Foliation is low angle extremely close. Joints are moderately dipping to low angle very close, rough, planar discolored to fresh, tight.
		7.01-8.53	3	1.52	1.31	C		[RQD = 38%]				C3: Hard, fresh gray to slightly weathered, white medium to fine grained BIOTITE GNEISS. Foliation is moderately, dipping, extremely close. Joints are high angle to moderate dipping, close, rough, planar to undulating, discolored, open.
		8.53-10.05	4	1.52	1.27	C		[RQD = 78%]				Note: Fractures healed with calcite. Calcite on joint surfaces C4: Same as C3, except fresh, coarse to fine grained. Joints are low angle to moderately dipping, moderate to wide -BEDROCK-
10											111.83 10.06	Bottom of Exploration at 10.06 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**4.6**	**3.96** m	**6.10** m
			No. of Samples	
			2D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-5**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231106.08**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282052.24**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.6**	Utilized		X						X					X
Date Started: **1 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.13	D	7	9	9	16	0.15	CONCRETE Medium dense gray coarse to fine SAND, some silt, little medium to fine gravel
		1.52-2.13	2	0.61	0.25	D	5	6	11	19		Medium dense brown coarse to fine SAND, some coarse to fine gravel, little silt
											119.50	-FILL-
		3.05-3.35	3	0.30	0.18	D	23	100			3.05	Very dense brown coarse to fine GRAVEL, little coarse to fine sand, silt
		3.51-5.03	1	1.52	1.08	C		[RQD = 25%]			119.04 3.51	-GLACIOFLUVIAL DEPOSITS-
5												C1: Very hard, fresh to moderately weathered , gray to pink and white, coarse to fine grained granitic GNEISS. Foliation is high angle, extremely close. Joints are high angle to vertical, spacing is very close to moderate, rough, planar, discolored, open. Highly fractured from 4.06 m. to 5.03 m.
		5.03-6.55	2	1.52	0.94	C		[RQD = 94%]				C2: Hard, slightly to moderately weathered, gray white, coarse to fine grained GNEISS. Foliation is high angle, extremely close. Joints are moderately dipping to low angle, close to moderate spacing, rough, undulating, discolored, open highly fractured throughout entire core run.
		6.55-8.07	3	1.52	0.57	C		[RQD = 0%]				C3: Same as C2
		8.08-9.60	4	1.52	1.52	C		[RQD = 86%]				C4: Same as C3, except Joints are low angle to moderately dipping, moderate, tight
											112.95	-BEDROCK-
10											9.60	Bottom of Exploration at 9.60 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.5**	**3.51** m	**6.10** m
			No. of Samples	
			3D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion. Losing water while coring C1 and C2.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-6**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231091.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282030.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **125.3**	Utilized		X						X					X
Date Started: **2 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	10	12	14	18		Medium dense dark brown coarse to fine SAND, little fine gravel, silt
											123.73	Cored from 1.52 m. to 3.05 m. boulders .37 cm. rec.
											1.52	-FILL-
		3.05-3.66	2	0.61	0.30	D	13	9	52	100		Very dense gray brown coarse to fine GRAVEL, some coarse to fine sand, trace silt Boulders 4.57 m. to 5.03 m.
5		4.57-4.57	3	0.00	0.00	D	50/0					
		6.10-6.40	4	0.30	0.15	D	41	100				Very dense brown coarse to fine SAND and GRAVEL
		7.62-7.77	5	0.15	0.08	D	100					Very dense brown coarse to fine SAND, some gravel trace silt
											116.11	-GLACIOFLUVIAL DEPOSITS-
10		9.14-9.14	6	0.00	0.00	D	50/0				9.14	C1- Hard, fresh to slightly weathered, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are moderate, rough, planar to undulating to planar, discolored to decomposed, open.
		10.06-11.58	1	1.52	1.49	C		[RQD = 69%]				
		11.58-13.10	2	1.52	1.52	C		[RQD = 42%]				C2- Same as C1, except foliation is extremely close to indistinct. Joints are moderately, dipping to vertical, extremely close to moderate.
											112.14	-BEDROCK-
											13.11	
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**9.1**	**10.06** m	**3.05** m
			No. of Samples	
			6D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. NO= Not Observed**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-7**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1.3-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231078.47**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282063.85**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.6**	Utilized		X						X					X
Date Started: **1 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											122.30	ASPHALT
		0.30-0.91	1	0.61	0.30	D	5	8	10	16	0.30 121.60	Medium dense black to brown fine SAND, and silt, little coarse sand, trace fine gravel
		1.52-1.52	2	0.00	0.00	D	100/0				1.00	-FILL- No recovery
		3.05-3.66	3	0.61	0.46	D	14	15	30	45		Dense brown SILT, some fine sand, little coarse sand, fine gravel -GLACIOFLUVIAL DEPOSITS-
5		4.57-4.57	4	0.00	0.00	D	100/0	[RQD = 19%]			118.03 4.57	No recovery
		4.58-6.10	1	1.52	0.80	C						C1: Hard, fresh to moderately weathered , gray and white, coarse to fine grained GNEISS. Foliation is moderately dipping, extremely to very close. Joints are low angle to moderately dipping, very close to close, rough, discolored, open to tight. Highly fractured from 5.13 m. to 6.10 m.
		6.10-7.62	2	1.52	0.86	C		[RQD = 25%]				C2: Same as C1, except medium to fine grained. Foliation is extremely close. Joints are close. Highly fractured from 6.1 m. to 6.3 m. & 7.32 m. to 7.62 m.
		7.62-9.14	3	1.52	0.45	C		[RQD = 0%]				C3: Whole run is highly fractured rock. No structure
											113.46 9.14	-BEDROCK-
10												Bottom of Exploration at 9.14 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**4.6**	**4.57** m	**4.56** m
			No. of Samples	
			4D,3C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion. NE= Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1.3-8**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231066.75**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282082.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.1**														
Date Started: **15 December 2000**	Utilized		X						X					X
Date Finished: **15 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **3.35** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	13	7	8	7	0.15	Medium dense loamy SILT and SAND, with some leaves, wood
												-TOPSOIL-
		1.52-2.13	2	0.61	0.45	D	12	14	15	14		Medium dense light brown fine SAND Medium dense light brown fine SAND, trace silt
		3.05-3.66	3	0.61	0.45	D	7	9	9	73	118.42 3.66	Medium dense light brown SILT and GRAVEL, little coarse to fine sand
												-FILL-
5		4.57-4.62	4	0.05	0.00	D	100/.05					No recovery
		6.10-6.71	5	0.61	0.30	D	47	56	65	98		Very dense light brown coarse to fine GRAVEL, some coarse to fine sand, some silt Cored boulders from 7.62 m. to 10.21 m.
10												
											110.95	-GLACIAL TILL-
											11.13	C1- Hard, slightly weathered, gray brown, coarse to fine grained granitic GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to vertical, very close to close, rough, undulating, discolored to decomposed, open.
		12.19-13.71	1	1.52	1.52	C		[RQD = 40%]				
		13.72-15.24	2	1.52	1.19	C		[RQD = 25%]				C2- Same as C1, except joints are very close to moderate. Highly fractured zone from 13.72 m. to 14.39 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**11.1**	**12.19** m	**3.05** m
			No. of Samples	
			5D,2C	

NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-1**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231066.75**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282082.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.1**	Utilized		X						X					X
Date Started: **15 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.35** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											106.84 15.24	-BEDROCK- Bottom of Exploration at 15.24 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**11.1**	**12.19** m	**3.05** m
			No. of Samples	
			5D,2C	

NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-1**

Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231049.16**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282143.13**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.3**	Utilized		X						X		X			
Date Started: **13 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.45	1	0.45	0.30	D	7	13	100			Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, concrete
		1.52-2.13	2	0.61	0.45	D	21	32	58	110		Very dense brown coarse to fine SAND and coarse to fine GRAVEL, with boulders. Boulders 2.59 m. to 3.51 m
											114.75	-FILL-
											3.51	
5		4.57-5.18	3	0.61	0.25	D	52	76	74	61		Very dense brown coarse to fine SAND, some fine gravel, trace silt
											112.26	-GLACIOFLUVIAL DEPOSITS-
		6.10-6.18	4	0.08	0.00	D	100/.08				6.00	No recovery on boulder 6.1 m. to 6.7 m.
		7.52-7.97	5	0.45	0.30	D	43	62	100			Very dense light brown coarse to fine SAND, little fine gravel, little silt
10		9.14-9.14	6	0.00	0.00	D	50/0					No recovery
												Cored boulders from 9.6 m. to 10.67 m. with boulders continuing down to 11.89 m.
											106.37	-GLACIAL TILL-
		12.19-13.71	1	1.52	1.28			[RQD = 33%]			11.89	C1- Hard, fresh, gray, pink and white, medium to fine grained GRANITIC GNEISS. Foliation is high angle, extremely close. Joints are low angle to moderately dipping, very close to close, rough, undulating fresh to discolored, open.
											104.54	-BEDROCK-
15											13.72	Bottom of Exploration at 13.72 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**		**-** m	**-** m
			No. of Samples	
			6D,1C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-2**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231031.52**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282152.08**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.9**	Utilized		X						X					X
Date Started: **15 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.43	D	4	7	13	29		Medium dense dark brown and gray coarse to fine SAND, little silt, gravel
		1.52-1.82	2	0.30	0.30	D	9	100				Very dense brown coarse to fine SAND, some coarse to fine gravel, little silt
											113.89	-FILL-
		3.05-3.66	3	0.61	0.56	D	16	31	47	68	3.05	Very dense light brown to orange brown laminated fine SAND, little coarse sand, little silt, trace gravel
											112.94	-GLACIOFLUVIAL DEPOSITS-
											4.00	
5		4.57-5.18	4	0.61	0.30	D	17	27	38	34		Very dense brown fine SAND and medium to fine GRAVEL, little coarse sand, trace silt
												Cored boulder at 5.33m. to 5.94 m.
		6.10-6.25	5	0.15	0.13	D	100/.15					Very dense gray brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		7.62-7.92	6	0.30	0.13	D	38	100/.15				Very dense brown medium to fine SAND and coarse to fine GRAVEL, little silt
		8.38-9.90	1	1.52	1.52	C		[RQD = 100%]			108.56 8.38	-GLACIAL TILL-
10		9.91-11.43	2	1.52	1.52	C		[RQD = 100%]				C1- Hard slightly weathered, gray coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to vertical, very close to close, rough, undulating, discolored, open. C2- Same as C1
											105.51	-BEDROCK-
											11.43	Bottom of Exploration at 11.43 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**8.4**	**8.38** m	**3.04** m
			No. of Samples	
			6D,2C	

NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-3**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231053.74**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282097.28**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **121.6**	Utilized		X						X					X
Date Started: **18 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.30	D	20	35	22	27	0.15	Black top and road stone
												Very dense brown coarse to fine SAND, some coarse to fine gravel, little silt
		1.52-2.13	2	0.61	0.30	D	29	33	32	25		Very dense gray brown medium to fine SAND, some coarse sand, some coarse to fine gravel, little silt
		3.05-3.43	3	0.38	0.10	D	5	10	100/0.8			Very dense black and dark brown coarse to fine SAND, some medium to fine gravel, little silt Roller bit at 3.43 m.
											117.08	-FILL-
5		4.57-4.57	4	0.00	0.00	D	50/6				4.57	On Boulder
		6.10-6.71	5	0.61	0.20	D	38	74	31	39		Very dense brown coarse to fine GRAVEL, some coarse to fine sand, some silt
		7.62-7.62	6	0.00	0.00	D	50/0					On boulder from 7.62 m. to 8.08 m.
		9.14-9.24	7	0.10	0.10	D	100/.10					Very dense gray coarse to fine GRAVEL, little coarse to fine sand
10												
		10.67-10.77	8	0.10	0.05	D	100/.10				110.83	
		11.28-12.80	1	1.52	1.52	C		[RQD = 76%]			10.82	Very dense coarse to fine GRAVEL, trace silt, trace fine sand
												-GLACIAL TILL-
		12.80-14.32	2	1.52	1.52	C		[RQD = 57%]				C1- Very hard, fresh, gray white, coarse to fine grained GNEISS. Foliation is moderately dipping, extremely close joints are low angle to moderately dipping conjunctive close to moderate, rough, undulating to planar, discolored, open. C2- Same as C1
											107.33	-BEDROCK-
15											14.32	Bottom of Exploration at 14.32 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**1.28** m	**3.05** m
			No. of Samples	
			8D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-4**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231056.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282120.43**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.7**	Utilized		X						X					X
Date Started: **4 May 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 May 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.20	D	14	27	25	53	0.15	-TOPSOIL-
												Very dense brown fine SAND, little silt, coarse sand, gravel with brick specks
		1.22-1.83	2	0.61	0.00	D	23	25	21	20		Piece of gravel in spoon.
												Boulder from 2.74 m. to 3.20 m.
		4.27-4.88	3	0.61	0.08	D	75	30	19	17		Dense gray coarse to fine SAND and GRAVEL, some wood, trace silt, weathered petroleum odor
5												
		5.79-6.40	4	0.61	0.15	D	79	95	42	26	113.43	Very dense brown coarse to fine SAND and GRAVEL, trace silt, weathered petroleum odor
											6.25	-FILL-
		7.32-7.42	5	0.10	0.00	D	100/0.10					Very dense brown fine SAND and SILT, trace grave, weathered petroleum odor No recovery. Only gravel wash in spoon
		8.84-8.99	6	0.15	0.15	D	100/0.15					Very dense brown SILT and fine SAND, little gravel, trace coarse sand
10												
		10.36-10.81	7	0.45	0.15	D	49	81	100			Same as D6, except some medium to fine gravel
											107.79	-GLACIAL TILL-
		11.89-13.41	1	1.52	1.39	C		[RQD = 62%]			11.89	Very hard, fresh to slightly weathered gray white and pink, coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints are vertical to low angle, close to moderate, rough, undulating, discolored, open.
		13.41-14.93	2	1.52	1.52	C		[RQD = 65%]				
15												Note: Healed joints present Same as C1, except joints are moderately dipping

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**11.9**	**11.89** m	**6.10** m
			No. of Samples	
			7D,4C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings. NO = Not Observed**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-5**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S2-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231056.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282120.43**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.7**	Utilized		X						X					X
Date Started: **4 May 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 May 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		14.94-16.46	3	1.52	1.46	C		[RQD = 30%]				to low angle, very close to moderate
		16.46-17.98	4	1.52	1.35	C		[RQD = 9%]				Note: Occasional soil filled fractures Hard, fresh to slightly weathered gray white and pink, coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints moderately dipping, very close to moderate, rough, undulating to planar, discolored, open. Highly fractured from 14.48 m to 15.94 m.
											101.70 17.98	Hard, fresh to slightly weathered, coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close. Joints moderately dipping, indistinct to close, rough, undulating, discolored, open. Highly fractured from 16.46 m to 17.98 m. -BEDROCK- Bottom of Exploration at 17.98 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**11.9**	**11.89** m	**6.10** m
			No. of Samples	
			7D,4C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings. NO = Not Observed**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S2-5**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230892.93**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282501.54**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.6**	Utilized		X						X					X
Date Started: **22 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.45	1	0.45	0.15	D	6	18	100			Very dense brown coarse to fine SAND, trace fine gravel
		1.52-2.13	2	0.61	0.35	D	11	9	17	29		Medium dense brown coarse to fine SAND, little fine gravel, silt
											103.63	-FILL-
		3.05-3.66	3	0.61	0.15	D	27	23	22	24	3.00	Dense brown coarse to fine SAND, some fine gravel, trace silt
5		4.57-5.18	4	0.61	0.20	D	9	11	15	17		Same as S3
		6.10-6.71	5	0.61	0.18	D	16	19	24	21		Dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		7.62-8.23	6	0.61	0.20	D	25	27	30	36		No recovery boulder form 9.14 m. to 9.45 m.
		9.14-9.29	7	0.15	0.00	D	100				97.18	-GLACIOFLUVIAL DEPOSITS-
10											9.45	Weathered rock at 9.45 m.
											95.96	-WEATHERED BEDROCK-
		10.67-12.19	1	1.52	1.52	C		[RQD = 39%]			10.67	C1- Hard, fresh, gray and white coarse to fine grained GNEISS. Foliation is vertical, extremely close. Joints are low angle to vertical, close to moderate, rough, planar to undulating, fresh to discolored, open
		12.19-13.71	2	1.52	1.52	C		[RQD = 91%]				C2- Same as C1, except joint are low angle, undulating
											92.92	-BEDROCK-
											13.71	Bottom of Exploration at 13.71 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**10.6**	**10.67** m	**3.04** m
			No. of Samples	
			7D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-1**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230871.49**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282519.67**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.9**														
Date Started: **20 November 2000**	Utilized		X						X					
Date Finished:	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **3.05** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	6	8	37	59	106.58 0.30	Dense brown coarse to fine SAND, some gravel, little silt -FILL-
		1.52-1.67	2	0.15	0.08	D	100					Very dense gray brown coarse GRAVEL, trace silt, sand
		3.05-3.66	3	0.61	0.45	D	19	23	20	25		Dense brown coarse to fine SAND, trace fine gravel
5		4.57-5.18	4	0.61	0.45	D	18	26	24	32		Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		6.10-6.55	5	0.45	0.30	D	18	27	100/.15			Same as D4
		7.62-7.64	6	0.02	0.00	D	100/.02					No recovery
		8.53-10.05	1	1.52	1.38	C		[RQD = 84%]			98.35 8.53	-GLACIOFLUVIAL DEPOSITS- C1: Hard, fresh, dark gray, medium to fine grained GNEISS. Foliation is indeterminate. Joints are low angle, close to moderate, rough, undulating, fresh to discolored, open
10		10.06-11.58	2	1.52	1.35	C		[RQD = 89%]				C2: Same as C1 -BEDROCK-
											95.30 11.58	BOTTOM OF EXPLORATION 11.58 m
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.6**	**8.53** m	**3.05** m
			No. of Samples	
			6D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-2**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230905.58**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282461.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.7**	Utilized		X						X					X
Date Started: **21 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **5.03** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	3	6	8	11		Medium dense brown coarse to fine SAND, little gravel, trace silt
											105.23	-FILL-
		1.52-2.13	2	0.61	0.45	D	17	20	25	28	1.50	Dense brown coarse to fine SAND, little fine gravel with cobbles
		3.05-3.35	3	0.30	0.00	D	29	100/0.15				No Recovery
5		4.57-4.72	4	0.15	0.15	D	100					Very dense brown medium to fine GRAVEL, some coarse to fine sand, trace silt with cobbles
											100.63	
		6.10-6.71	5	0.61	0.45	D	14	14	15	13	6.10	Medium dense brown coarse to fine SAND, trace silt Boulder from 7.7 m - 8.53 m
		7.62-7.70	6	0.08	0.00	D	100/.08					
10		9.14-9.45	7	0.31	0.15	D	31	100				Very dense brown coarse to fine SAND, some medium to fine gravel with cobbles
		10.67-10.82	8	0.15	0.15	D	100/.15					Very dense brown coarse to fine SAND and fine gravel, trace medium gravel
											94.54	-GLACIOFLUVIAL DEPOSITS-
		12.19-12.19	9	0.00	0.00	D	100/0				12.19	C1: Hard, fresh, gray and white coarse to fine grained granitic GNEISS. Foliation is moderately dipping, extremely close. Joints are moderately dipping to high angle, close to moderate, rough, undulating, fresh, open
		13.11-14.63	1	1.52	1.36	C		[RQD = 64%]				
15		14.63-16.15	2	1.52	1.52	C		[RQD = 64%]				C2: Same as C1 except joints are low to high

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**13.1**	**13.11** m	**3.04** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-3**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230905.58**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282461.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.7**														
Date Started: **21 November 2000**	Utilized		X						X					X
Date Finished:	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **5.03** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												angle, fresh to discolored.
											90.58	
											16.15	BOTTOM OF EXPLORATION 16.15 m
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**13.1**	**13.11** m	**3.04** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-3**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230860.69**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282470.32**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.7**	Utilized		X						X					X
Date Started: **15 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.74** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	9	14	18	17		Dense dark brown to tan fine SAND, some silt, medium to fine gravel, trace coarse sand, wood, roots
		1.52-2.13	2	0.61	0.30	D	27	21	15	11		Dense tan to orange brown coarse to fine SAND, some coarse to fine gravel, trace silt, wood, roots
											103.68	-FILL-
		3.05-3.66	3	0.61	0.45	D	17	16	14	13	3.05	Medium dense tan fine SAND, little coarse sand, trace silt
												-GLACIOFLUVIAL DEPOSITS-
5		4.57-5.18	4	0.61	0.30	D	10	16	21	23		Dense tan fine SAND, little silt, trace coarse sand
		5.79-6.40	5	0.61	0.30	D	63	27	22	25		Same as S4 except trace gravel
		7.62-8.23	6	0.61	0.15	D	14	14	21	26		Dense brown coarse to fine SAND and fine gravel, trace silt
10		9.14-9.29	7	0.15	0.00	D	100					No recovery. Gravel in tip.
											96.06	
		10.67-10.67	8	0.00	0.00	D	100				10.67	No recovery
		11.28-12.80	1	1.52	1.36	C	1.36	[RQD = 58%]				C1: Hard, fresh, gray and white, medium to fine grained muscovite, biotite, quartz, orthoclase GNEISS. Foliation is moderately dipping, extremely to very close. Joints are high angle, perpendicular to foliation, spacing is close to moderate, rough, planar, discolored, open, Pyrite growth on joint surface.
		12.80-14.32	2	1.52	1.52	C	1.52	[RQD = 60%]				C2: Same as C1 except medium to fine grained joints are moderately dipping to low angle, close to moderate
											92.40	
15											14.33	

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**11.28** m	**3.05** m
			No. of Samples	
			8D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-4**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230860.69**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282470.32**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.7**														
Date Started: **15 November 2000**	Utilized		X						X					X
Date Finished: **16 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **2.74** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-BEDROCK- BOTTOM OF EXPLORATION 14.33 m
											89.51	
											17.22	
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**10.7**	**11.28** m	**3.05** m
			No. of Samples	
			8D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-4**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230861.14**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282527.26**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.2**	Utilized		X						X					X
Date Started: **17 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.91** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	2	3	3	6		Loose dark brown SILT, some fine sand, trace fine gravel with common roots, wood
											104.68	-FILL-
		1.52-2.13	2	0.61	0.20	D	53	100			1.52	Very dense gray brown fine GRAVEL and coarse to fine SAND, trace silt, medium gravel
		3.05-3.66	3	0.61	0.30	D	19	31	47	32		Very dense gray brown medium to fine GRAVEL, some coarse to fine sand, trace silt
5		4.57-5.18	4	0.61	0.30	D	21	20	19	16		Dense brown coarse to fine SAND, trace fine gravel, silt
		6.10-6.71	5	0.61	0.45	D	21	23	27	32		Very dense brown coarse to fine SAND, some fine gravel, trace silt
											98.58	-GLACIOFLUVIAL DEPOSITS-
		7.62-7.70	6	0.08	0.00	D	100/.08				7.62	No recovery
		8.58-10.10	1	1.52	1.36	C		[RQD = 84%]				C1: Hard, fresh, gray and white, coarse to fine grained biotite GNEISS. Foliation is high angle, extremely to very close. Joints moderately dipping to low angle, close to moderate, rough, undulating, fresh to discolored, open.
10												
		10.06-11.58	2	1.52	1.49	C		[RQD = 90%]				C2: Same as C1
											94.62	-BEDROCK-
											11.58	BOTTOM OF EXPLORATION 11.58 m
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.6**	**8.58** m	**3.05** m
			No. of Samples	
			6D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-5**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230884.83**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282482.99**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **105.0**	Utilized		X						X					X
Date Started: **16 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.91** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	4	5	4	4		Loose dark brown coarse to fine SAND, some fine gravel, trace silt
		1.52-1.60	2	0.08	0.00	D	100/.08					No recovery. Boulder from 1.52 m - 2.59 m
		3.05-3.66	3	0.61	0.15	D	14	13	12	15	101.33	Medium dense brown coarse to fine SAND, little silt
											3.66	-FILL-
5		4.57-5.18	4	0.61	0.30	D	22	21	23	29		Dense gray brown medium to fine GRAVEL, little coarse to fine sand, trace silt
		6.10-6.71	5	0.61	0.30	D	19	25	38	47	97.99	Very dense brown coarse to fine SAND and fine GRAVEL, trace coarse to medium gravel, silt
											7.00	-GLACIOFLUVIAL DEPOSITS-
		7.62-8.23	6	0.61	0.45	D	34	61	64	76		Very dense brown fine SAND and SILT, trace medium gravel
10		9.14-9.75	7	0.61	0.45	D	58	63	71	112	94.93	Very dense brown fine SAND, some silt, trace coarse sand, fine gravel
		10.06-11.58	1	1.52	1.52	C		[RQD = 80%]			10.06	-GLACIAL TILL-
		11.58-13.10	2	1.52	1.52	C		[RQD = 89%]				C1: Hard, fresh, gray and white, coarse to fine grained GRANITIC GNEISS. Foliation is high angle, extremely close. Joints are moderately dipping to vertical, moderate, rough, planar, discolored, open. C2: Same as C1 * Last 2 m Bx core
											91.88	
											13.11	-BEDROCK- BOTTOM OF EXPLORATION 13.11 m
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.6**	**10.06** m	**3.05** m
			No. of Samples	
			7D,2C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-6**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230950.46**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282424.27**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.2**	Utilized								X					X
Date Started: **7 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	4	5	5	5		Medium dense brown fine sand, brown fine gravel, coarse sand
		1.52-2.13	2	0.61	0.10	D	5	9	30	13		Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
		3.05-3.66	3	0.61	0.15	D	5	7	7	16		Medium dense dark to brown coarse to fine SAND, trace silt
											106.63	-FILL-
5		4.57-5.18	4	0.61	0.15	D	19	27	31	25	4.57	Very dense brown coarse to fine SAND, and medium to fine gravel
		6.10-6.10	5	0.00	0.00	D	50/0					On boulder
		7.62-8.23	6	0.61	0.30	D	65	38	43	100		Very dense dark gray brown coarse to fine SAND, some coarse to fine gravel, trace silt
10		9.14-9.59	7	0.45	0.10	D	29	57	100			Very dense brown coarse to fine GRAVEL, and coarse to fine sand, trace silt
		10.67-11.28	8	0.61	0.10	D	32	47	31	29		Very dense gray brown coarse to fine SAND, and medium to fine gravel
		12.19-12.19	9	0.00	0.00	D	50					Boulder
		13.72-14.33	10	0.61	0.30	D	29	57	53	47		Very dense brown coarse to fine SAND, and fine gravel, trace medium gravel
15												-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**18.9**	**19.51** m	**3.04** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-7**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230950.46**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282424.27**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.2**	Utilized								X					X
Date Started: **7 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.24	11	0.00	0.00	D	50					No recovery
		16.76-17.37	12	0.61	0.30	D	19	23	21	20		Dense light brown coarse to fine SAND, trace fine gravel, silt
		18.29-18.90	13	0.61	0.20	D	28	31	33	100	92.30	Very dense light brown coarse to fine SAND, some medium to fine gravel
											18.90	-GLACIOFLUVIAL DEPOSITS-
20		19.51-21.03	1	1.52	1.52	C		[RQD = 59%]				Roller bit to 19.51 m. C1: Very hard, fresh, gray and white, coarse to fine grained GRANITIC GNEISS. Foliation is high angle, extremely close. Joints are moderately dipping to vertical, close to moderate, rough, undulating, discolored, open. Secondary mineral growth on joint surfaces, also slickensides noted on moderately dipping, joint at 20.16 m.
		21.03-22.55	2	1.52	1.47	C		[RQD = 88%]				C2: Very hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS, with a layer of coarse to fine grained GRANITIC GNEISS. Foliation is moderately dipping, extremely close to wide, rough, undulating to planar, discolored, open to tight.
											88.64 22.56	-BEDROCK-
25												Bottom of Exploration at 22.56 m.
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**18.9**	**19.51** m	**3.04** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-7**

Sheet **2** of **2**

E. Pelky	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230949.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282469.08**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.5**	Utilized		X						X					X
Date Started: **21 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	4	12	12	10		Medium dense brown coarse to fine SAND, some medium to fine gravel, little silt
		1.52-2.13	2	0.61	0.61	D	2	3	6	8		Loose dark brown coarse to fine SAND, trace silt
											103.48	-FILL-
		3.05-3.66	3	0.61	0.30	D	20	20	32	40	3.05	Very dense brown coarse to fine SAND and fine gravel, trace silt with cobbles
5		4.57-4.57	4	0.00	0.00	D	100/0					Drilled boulder from 4.57 - 4.88 m
		6.10-6.71	5	0.61	0.30	D	12	13	15	23		Same as S3
		7.62-7.85	6	0.23	0.15	D	48	50/.08				Very dense gray brown medium to fine GRAVEL, trace coarse to fine sand, silt
10		9.14-9.24	7	0.10	0.05	D	50/1					Very dense gray medium to fine GRAVEL, trace coarse to fine sand, silt
		10.67-10.92	8	0.25	0.28	D	38	100/.1				Very dense brown medium to fine GRAVEL and coarse to fine SAND
		12.19-12.19	9	0.00	0.00	D	100/0				93.73	Boulder 12.19 m. to 12.5 m
											12.80	-GLACIOFLUVIAL DEPOSITS-
		13.72-15.24	1	1.52	1.29	C		[RQD = 76%]				C1: Very hard, fresh, pink to white, coarse to fine grained GRANITIC GNEISS. Foliation is high angle extremely close to indistinct. Joints are low angle, close, rough, stepped to undulating, fresh to discolored, open.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**12.2**	**13.72** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-8**

E. Pelky	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230949.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282469.08**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.5**	Utilized		X						X					X
Date Started: **21 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-16.76	2	1.52	0.30	C		[RQD = 13%]			91.29 15.24	C2: Same as C1 except joints are very close to close.
											89.61	-BEDROCK-
											16.92	BOTTOM OF EXPLORATION 16.92 m
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**12.2**	**13.72** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-8**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-9**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230846.78**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282519.31**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **105.4**		Utilized		X						X					X
Date Started: **1 August 2002**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 August 2002**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **0.95** m after **0**															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	SS	2	2	4	7		Loose dark brown coarse to fine SAND, some silt, trace wood particles and roots material
												Boulder from 1.37 m. to 1.98 m.
											103.00	-FILL-
											2.44	Very dense red-brown to light-brown coarse to fine SAND, little silt, trace gravel
		3.05-3.66	2	0.61	0.16	SS	19	38	36	31		Note: Cobble in tip of split spoon
5		4.57-5.18	3	0.61	0.24	SS	20	25	26	33		Very dense yellow-brown to light-brown coarse to fine SAND, some fine to coarse gravel, trace silt
												Boulder ftom 5.18 m. to 5.64 m.
		6.10-6.10	4	0.00	0.00	SS	50/0				99.04	
		6.55-8.07	1	1.52	1.46	C		[RQD = 82%]			6.40	-GLACIOFLUVIAL DEPOSITS-
											97.37	Hard, fresh, gray and white, medium to fine grained biotite, quartz orthoclase GNEISS, foliation is moderately dipping, very close to close. Joints are high angle, spacing is close to moderate, rough, undulating, discolored, open, some pyrite growth noticeable on joint surface.
											8.07	-BEDROCK-
10												Bottom of Exploration at 8.07 m.
												Note: Borehole backfilled with drill cuttings
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**6.4**	**6.40** m	**1.52** m
			No. of Samples	
			4D, 1C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion. Note: Water level of Mad River is 0.98 meters below ground surface.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-9**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S4-10**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230843.04**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282498.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **106.2**	Utilized		X						X					X
Date Started: **30 July 2002**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 August 2002**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.49** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **0.86** m after **0**														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	SS	2	1	2	4	0.15	-FOREST MAT-
											104.98	Very loose red-brown to yellow-brown sandy SILT, trace root mat
											1.22	Boulder from 0.76 m. to 1.22 m.
												-FILL-
												Note: Could not sample from 1.52 m. to 2.13 m. due to boulders
		3.05-3.66	2	0.61	0.00	SS	21	26	22	29		Boulder from 1.37 m. to 2.13 m. No recovery
												Boulder from 4.27 m. to 4.72 m.
5		4.72-5.33	3	0.61	0.47	SS	9	22	24	26		Dense red-brown to light-brown coarse to fine SAND, little coarse to fine gravel, trace silt
												Boulders from 5.79 m. to 6.71 m.
											99.49	-GLACIOFLUVIAL DEPOSITS-
		7.16-8.68	1	1.52	1.38	C		[RQD = 82%]			6.71	Note: 6.71 m. to 7.01 m. Probable weathered bedrock
											97.52	Very hard, fresh, gray and white, coarse to fine grained biotite quartz GNEISS, foliation is moderately dipping, very close. Joints are low to high angle, spacing is close, rough, planar, slight discoloration, open.
											8.68	-BEDROCK-
10												Bottom of Exploration at 8.68 m.
												Note: Borehole backfilled with drill cuttings
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**6.2**	**6.17** m	**1.52** m
			No. of Samples	
			3D, 1C	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion. Note: Water level of Mad River is 1.60 meters below ground surface.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S4-10**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230820.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282869.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.7**	Utilized		X						X					X
Date Started: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.68** m after **24**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.41	D	5	3	12	15	111.13	Medium dense red-brown coarse to fine SAND, some coarse to fine gravel, trace silt, moist, slight odor noted similar to fuel, top 0.08 m. frozen
		0.61-1.22	2	0.61	0.48	D	13	17	15	14	0.56	Dense black to gray coarse to fine SAND, little silt, trace gravel, moist, odor noted similar to fuel
		1.52-2.13	3	0.61	0.51	D	9	12	15	12	109.56	Same as S2, except medium dense
		2.44-3.05	4	0.61	0.46	D	11	21	21	25	2.13	Note: Auger through cobble 2.1 m. to 2.4 m.
		3.05-3.66	5	0.61	0.51	D	34	28	28	19		-FILL- Dense light brown to olive brown coarse to fine SAND, some gravel, little silt, wet, slight odor noted similar to fuel
5		4.57-5.18	6	0.61	0.38	D	40	51	55	62		Very dense gray brown to olive brown coarse to fine SAND, some coarse to fine gravel, little silt, wet, very slight odor
												Very dense light brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet
		6.10-6.71	7	0.61	0.43	D	14	48	63	70		Note: Cored through boulder 5.2 m. to 6.1 m.; rec.= 0.46 m.
		7.62-8.08	8	0.46	0.29	D	31	39	100/.15			Very dense light brown coarse to fine SAND, little silt, trace coarse to fine gravel, no odor, wet Same as S7
												Note: Drill action suggest few cobbles and boulders
10		9.14-9.14	9	0.00	0.00	D	100/0					No Recovery
												Note: Split spoon refusal on boulder
		10.67-11.28	10	0.61	0.46	D	21	18	39	47		Note: Roller bit through boulder 9.14 m. to 9.53 m. Very dense light brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, wet
		12.19-12.80	11	0.61	0.30	D	15	18	18	31		Note: Drill action suggest cobbles and few boulders Dense gray brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, wet
		13.72-14.33	12	0.61	0.51	D	48	51	27	19		Very dense light brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, wet, no odor
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**19.8**	**21.34** m	**3.05** m
			No. of Samples	
			16D,2C	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-1**
Sheet **1** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230820.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282869.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.7**	Utilized		X						X					X
Date Started: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.68** m after **24**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.29	13	0.05	0.00	D	100/.05					Note: Drill action suggest numerous cobbles and boulders
		16.76-16.76	14	0.00	0.00	D	50/0.0					Note: Roller bit through boulder 14.33 m. to 14.88 m. No Recovery Note: Split spoon refusal at 15.29 m. on boulder
		18.29-18.90	15	0.61	0.00	D	27	26	24	28		Note: Roller bit through boulder 15.29 m. to 15.54 m. No Recovery Note: Split spoon refusal at 16.76 m. on boulder
20		19.81-20.04	16	0.23	0.00	D	58	100/.08				Note: Cored through boulder 16.76 m. to 17.07 m. Note: Roller bit through boulder 17.37 m. to 17.68 m.
		21.34-22.86	1	1.52	1.24	C		[RQD = 82%]			90.35 21.34	No Recovery, coarse gravel lodged in split spoon shoe, probable cobble fragment No Recovery Note: Split spoon refusal on boulder at 20.42 m.
		22.86-24.38	2	1.52	1.06	C		[RQD = 70%]				Note: Boulder to 21.2 m. Note: Roller bit refusal at 21.34 m.
25											87.31 24.38	-GLACIOFLUVIAL DEPOSITS-
												C1- Very hard, fresh, gray and white, coarse to fine grained, BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are moderately dipping, moderate, rough, undulating, fresh, tight. C2- Same as C1, except joints are wide Note: Left last 0.46 m. down the hole -BEDROCK- Bottom of Exploration at 24.38 m.
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**19.8**	**21.34** m	**3.05** m
			No. of Samples	
			16D,2C	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-1**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230812.12**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282857.77**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.4**	Utilized			X					X					X
Date Started: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.29** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	15	17	34	29		Very dense brown coarse to fine SAND and SILT, trace fine gravel, grass, no odor
		0.61-0.61	2	0.00	0.00	D	50/0					No Recovery
		1.52-2.13	3	0.61	0.15	D	15	13	12	17		Medium dense red-brown to black coarse to fine SAND, little fine gravel, silt, strong odor noted similar to fuel
		2.13-2.74	4	0.61	0.45	D	37	61	35	36	109.28 / 2.13	-FILL-
		3.05-3.50	5	0.45	0.50	D	29	48	100			Very dense gray-brown coarse to fine SAND, trace silt, fine gravel, strong odor noted similar to fuel
5		4.57-5.18	6	0.61	0.15	D	47	61	76	79		Very dense gray brown medium to fine GRAVEL and coarse to fine SAND Very dense gray brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		6.10-6.71	7	0.61	0.15	D	15	11	14	16	105.01 / 6.40	Medium dense gray brown coarse to fine SAND and GRAVEL
												Medium dense gray SILT and fine SAND
		7.62-8.23	8	0.61	0.00	D	29	31	34	20		Pushing gravel (pieces in tip)
10		9.14-9.75	9	0.61	0.45	D	18	27	31	22		Very dense gray brown coarse to fine SAND, little fine gravel, trace silt
		10.67-10.97	10	0.30	0.10	D	47	100				Very dense gray brown coarse to fine SAND, some gravel, trace silt
												Boulder 10.97 m. to 11.89 m.
		12.19-12.80	11	0.61	0.10	D	24	14	19	22		Dense gray brown coarse to fine SAND, some fine gravel, trace silt
		13.72-13.82	12	0.10	0.00	D	100/.1					No Recovery
15												Boulder to 15.85 m.

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**19.8**	**22.10** m	**3.05** m
			No. of Samples	
			16D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-2**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230812.12**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282857.77**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.4**	Utilized			X					X					X
Date Started: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.29** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.24	13	0.00	0.00	D	50/0					No Recovery
												Cored boulder 15.85 m. to 16.61 m.
		16.76-17.37	14	0.61	0.61	D	11	17	18	17		Dense brown coarse to fine SAND and coarse to fine GRAVEL, with cobbles
		18.29-18.90	15	0.61	0.61	D	18	25	24	31		Very dense brown coarse to fine SAND, trace fine gravel
20		19.81-19.96	16	0.15	0.00	D	100					No Recovery
												Advanced roller bit to 22.10 m. through boulders
											90.07 / 21.34	-GLACIOFLUVIAL DEPOSITS-
		22.10-23.62	1	1.52	1.52	C		[RQD = 91%]				C1- Hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderate, rough, undulating, discolored, open.
		23.62-25.14	2	1.52	1.52	C		[RQD = 95%]				C2- Same as C1, except foliation is extremely to very close. Joints are moderately dipping, very close to moderate.
25											86.27	-BEDROCK-
											25.14	Bottom of Exploration at 25.14 m.
30												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**19.8**	**22.10** m	**3.05** m
			No. of Samples	
			16D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-2**
Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230791.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282912.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.1**		Utilized		X						X					X
Date Started: **26 February 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 February 2001**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.96** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.30	1	0.30	0.15	D	8	100				Very dense dark brown SILT, with leaves, grass, wood, little coarse gravel (in tip of spoon), trace coarse to fine sand
		0.91-1.52	2	0.61	0.20	D	5	10	8	5		
		1.52-2.13	3	0.61	0.30	D	9	15	25	42	112.24	Cobble from 0.3 m. to .91m.
											1.83	Medium dense brown coarse to fine SAND, some medium to fine gravel, little silt, wood
		2.13-2.26	4	0.13	0.13	D	100/.13					-FILL-
		3.35-3.96	5	0.61	0.30	D	28	30	15	14		Very dense orange brown coarse to fine SAND, little medium to fine gravel, trace coarse to fine gravel
5		4.57-5.18	6	0.61	0.20	D	17	15	13	15		Same as D3
												Boulder 2.74 m. to 3.35 m.
												Dense brown coarse to fine SAND and SILT, some coarse to fine gravel
		6.10-6.71	7	0.61	0.18	D	24	29	17	19		Medium dense brown coarse to fine SAND, little silt, coarse gravel
												Dense brown coarse to fine SAND, some medium to fine gravel, trace silt
		7.62-8.23	8	0.61	0.30	D	9	11	13	18		Medium dense brown coarse to fine SAND, little medium gravel, silt
10		9.14-9.75	9	0.61	0.10	D	15	14	18	23		Dense brown fine SAND, some silt, trace coarse gravel
		10.67-11.28	10	0.61	0.30	D	14	18	19	21		Dense brown fine SAND, little silt, trace sand,
											102.49	-GLACIOFLUVIAL DEPOSITS-
		11.73-13.25	1	1.52	1.21	C		[RQD = 54%]			11.58	C1- Hard, fresh, gray and white medium to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low to high angle close to moderate, rough, undulating, discolored, open.
		13.26-14.78	2	1.52	1.47	C		[RQD = 75%]				C2- Same as C1, except joints are very close to moderate
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**11.73** m	**6.10** m
			No. of Samples	
			10D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-3**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230791.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282912.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.1**	Utilized		X						X					X
Date Started: **26 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 February 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.96** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		14.78-16.30	3	1.52	1.33	C		[RQD = 88%]				C3- Same as C1, except joints are wide spaced
		16.31-17.83	4	1.52	1.19	C		[RQD = 63%]				C4- Same as C1, except joints are low angle to moderately dipping
											96.24	-BEDROCK-
											17.83	Bottom of Exploration at 17.83 m.
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**11.73** m	**6.10** m
			No. of Samples	
			10D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-3**

Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230784.73**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282898.31**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.3**	Utilized		X						X				X	
Date Started: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 February 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.74** m after **16**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	5	6	6	19		Medium dense brown coarse to fine SAND, little fine gravel, trace silt
		0.61-1.22	2	0.61	0.41	D	21	8	16	18		Medium dense brown coarse to fine SAND, little silt, trace fine gravel
		1.52-2.13	3	0.61	0.30	D	7	11	14	24		Medium dense brown coarse to fine SAND and GRAVEL, trace silt
											112.19 2.13	-FILL-
		3.05-3.05	4	0.00	0.00	D	50/0					No recovery on cobble
5		4.57-5.18	5	0.61	0.25	D	8	10	16	18		Medium dense brown coarse to fine SAND, little fine gravel, trace silt
		6.10-6.71	6	0.61	0.36	D	13	16	15	13		Dense brown coarse to fine SAND, little fine gravel, trace silt
		7.62-7.92	7	0.30	0.15	D	18	100				Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
10		9.14-9.75	8	0.61	0.20	D	18	16	11	15		Medium dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		10.67-11.28	9	0.61	0.30	D	11	16	24	21		Dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		12.19-12.80	10	0.61	0.15	D	17	13	13	16		Medium dense brown fine SAND, little silt
15		13.72-14.33	11	0.61	0.00	D	17	15	61	18		No recovery - coarse gravel in spoon tip

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**15.2**	**15.70** m	**6.10** m
			No. of Samples	
			12D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-4**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S5-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230784.73**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282898.31**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.3**	Utilized		X						X				X	
Date Started: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 February 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.74** m after **16**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.54	12	0.30	0.10	D	25	100			98.78	Very dense brown fine SAND and GRAVEL, little silt
		15.70-17.22	1	1.52	1.52	C		[RQD = 80%]			15.54	-GLACIOFLUVIAL DEPOSITS-
		17.22-18.74	2	1.52	1.52	C		[RQD = 68%]				C1- Hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, very close to moderate, rough, planar to undulating, discolored, open
		18.75-20.27	3	1.52	1.52	C		[RQD = 54%]				Note: Mineral growth on some joints surfaces C2- Same as C1 C3- Same as C1, except joints are low angle to vertical, extremely close to moderate
20		20.27-21.79	4	1.52	1.52	C		[RQD = 93%]				C4- Same as C1, except joints are low angle, undulating, fresh to discolored
											92.53	-BEDROCK-
											21.79	Bottom of Exploration at 21.79 m.
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**15.2**	**15.70** m	**6.10** m
			No. of Samples	
			12D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S5-4**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230856.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282963.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.4**														
Date Started: **7 March 2001**	Utilized		X						X					X
Date Finished: **8 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **1.52** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.51	D	2	2	3	2	0.02	-TOPSOIL-
		0.61-1.22	2	0.61	0.41	D	2	2	2	2	110.70	Loose light brown coarse to fine SAND, trace silt, no odor, moist
		1.22-1.83	3	0.61	0.46	D	2	6	6	8	0.68	Loose black SILT and fine SAND, trace coarse sand, acrid odor, wet
											0.83	Medium dense dark brown coarse to fine SAND, some silt, wet, slight acrid odor
		3.05-3.66	4	0.61	0.36	D	16	24	24	27	109.78	Note: Sheen visible on drill water
5		4.57-5.18	5	0.61	0.46	D	11	7	7	6	1.60	-FILL- Medium dense light brown to olive-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, slight odor, wet
												Note: Roller bit through common cobbles and boulders 2.13 m. to 4.57 m.
		6.10-6.71	6	0.61	0.28	D	7	11	15	17		Dense light brown coarse to fine GRAVEL and coarse to fine SAND, trace silt, wet, no odor
		7.62-8.23	7	0.61	0.00	D	6	4	4	4		Medium dense gray to olive-brown coarse to fine GRAVEL and coarse to fine SAND, little silt, wet, no odor
												Medium dense light gray-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, wet
10		9.14-9.75	8	0.61	0.36	D	6	7	9	9		No Recovery Note: Hammer possibly pushed cobble
		10.67-11.02	9	0.35	0.15	D	15	30	50/0.05			Note: Roller bit ahead of casing at 7.62 m. Medium dense light brown to olive-brown coarse to fine SAND, some medium to fine gravel, little silt, no odor, wet
												Very dense light brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, wet
		12.19-12.80	10	0.61	0.30	D	19	20	20	22		Note: Split spoon refusal at 11.02 m. on boulder
											98.27	
		13.72-14.33	11	0.61	0.08	D	19	18	23	29	13.11	Note: Roller bit through boulder 11.02 m. Dense brown fine SAND, some silt, little coarse sand, coarse to fine gravel
15												Dense coarse to fine GRAVEL

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**14.8**	**17.98** m	**3.05** m
			No. of Samples	
			12D,2C	

NOTES: **Bombadier mounted CME-45C with automatic hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230856.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282963.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.4**	Utilized		X						X					X
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		14.78-16.30	1	1.52	0.59	C						Cored boulders with 0.59 m. rec.
		16.76-17.01	12	0.25	0.05	D	15	50/0.13			94.34 17.04	Very dense gray brown medium to fine GRAVEL, some coarse to fine sand, trace silt -GLACIOFLUVIAL DEPOSITS-
		17.98-19.50	2	1.52	1.44	C		[RQD = 64%]				C1- Very hard, fresh to slightly weathered, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is high angle to vertical, extremely close to very close. Joints are low angle to vertical, very close to moderately spaced, rough, undulating to stepped, discolored, open.
20		19.51-21.03	3	1.52	1.17	C		[RQD = 77%]				C2- Same as C1, except joints are low angle to moderately dipping, moderately spaced, undulating, fresh to discolored.
											90.35 21.03	-BEDROCK- Bottom of Exploration at 21.03 m.
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.8**	**17.98** m	**3.05** m
			No. of Samples	
			12D,2C	

NOTES: **Bombadier mounted CME-45C with automatic hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-1**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230849.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283002.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.7**	Utilized			X					X					
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.39** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	11	26	13	13	112.07	Dense dark brown SILT, some fine sand, little coarse sand, trace gravel
		0.61-1.22	2	0.61	0.36	D	2	11	10	9	0.61	Medium dense brown coarse to fine SAND, little medium to fine gravel, trace silt
		1.22-1.83	3	0.61	0.30	D	13	17	5	7		Medium dense brown coarse to fine SAND, trace silt
		1.88-2.49	4	0.61	0.45	D	9	7	7	9	110.24	Medium dense brown coarse to fine SAND, little silt
											2.44	-FILL-
		3.05-3.66	5	0.61	0.15	D	19	13	14	11		Medium dense gray-brown coarse to fine SAND, little silt, trace fine gravel, petroleum odor, wood
5		4.57-5.18	6	0.61	0.20	D	25	65	48	34	107.96 4.72	Boulder 3.66 m. to 4.42 m. Very dense gray brown coarse SAND, some fine sand, little silt, trace coarse to fine gravel
												Very dense orange to gray-brown fine SAND, some silt, coarse sand, little coarse to fine gravel
		6.10-6.71	7	0.61	0.02	D	29	14	13	20		Note: Some coarse gravel, in spoon probable boulder fragments
		7.02-7.63	8	0.61	0.46	D	15	15	27	25	104.70	Medium dense gray brown coarse to fine SAND, little silt, trace fine gravel
											7.98	Very dense orange-brown fine SAND, little silt, trace coarse to fine gravel
10		9.14-9.75	9	0.61	0.15	D	12	10	10	11		Medium dense brown coarse to fine SAND, little silt, trace coarse to fine gravel
												Dense coarse to fine SAND and coarse to fine GRAVEL
		10.67-11.13	10	0.46	0.15	D	19	21	100/6			Very dense coarse to fine SAND and GRAVEL, some silt
		12.19-12.19	11	0.00	0.00	D	50/0					No Recovery
		13.72-13.87	12	0.15	0.00	D	100/0.15					Note: Split spoon refusal at 12.19 m. a probable boulder
15												Note: Roller bit through boulder at 12.19 m. No Recovery

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**17.3**	**17.37** m	**3.04** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-25 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-2**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230849.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283002.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.7**	Utilized			X					X					
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.39** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.54	13	0.30	0.15	D	28	120/0.15			96.83	Dense coarse to fine SAND and medium to fine GRAVEL, trace silt
											15.85	Note: Drill action suggests common cobbles and boulders -GLACIOFLUVIAL DEPOSITS-
		17.37-18.89	1	1.52	1.37	C		[RQD = 70%]				Note: Weathered bedrock at 15.85 m. Roller bitted down to 17.37 m. C1- Very hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is moderately dipping, extremely close. Joints are moderately dipping, parallel to foliation, close to wide spacing, rough, undulating to planar, fresh to discolored, open to tight.
		18.90-20.42	2	1.52	1.26	C		[RQD = 83%]				
20											92.26	C2- Very hard, fresh, gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is moderately dipping, extremely close to very close. Indeterminate joints.
											20.42	-BEDROCK- Bottom of Exploration at 20.42 m.
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**17.3**	**17.37** m	**3.04** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-25 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-2**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230841.11**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282930.47**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**														
Date Started: **12 March 2001**	Utilized		X						X					
Date Finished: **13 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **1.52** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.51	D	11	8	6	6		Medium dense brown fine SAND, trace silt, coarse sand
		0.61-1.22	2	0.61	0.51	D	5	5	6	8		Medium dense brown coarse to fine SAND, trace fine gravel
		1.52-2.13	3	0.61	0.46	D	2	2	1	2	110.35 1.52	-FILL-
		2.13-2.74	4	0.61	0.38	D	12	3	6	20	109.43 2.44	Loose dark gray SILT and fine SAND, trace leaves organics, strong petroleum odor
		3.05-3.30	5	0.25	0.10	D	40	50/0.1				Loose gray brown coarse to fine SAND, trace silt, fine gravel -ALLUVIAL DEPOSITS-
5		4.57-4.70	6	0.13	0.13	D	50/0.13					Very dense gray coarse to fine GRAVEL, trace coarse to fine sand, silt Very dense gray brown medium to fine GRAVEL, some coarse to fine sand, trace silt
		6.10-6.71	7	0.61	0.20	D	23	11	13	11	105.62 6.25 104.87	Medium dense olive-brown SILT and fine SAND, trace coarse to medium gravel
		7.62-8.23	8	0.61	0.36	D	15	13	11	12	7.00	Medium dense brown fine SAND and SILT, trace fine gravel
10		9.14-9.75	9	0.61	0.25	D	15	13	12	13		Medium dense brown coarse to fine SAND, little coarse to fine gravel, silt
		10.67-11.28	10	0.61	0.20	D	9	5	7	9		Medium dense olive fine SAND and SILT, trace coarse sand, medium to fine gravel
		12.19-12.80	11	0.61	0.25	D	10	11	11	13	98.87	Medium dense olive fine SAND, little silt, trace coarse sand
		13.72-14.33	12	0.61	0.61	D	11	11	13	12	13.00	Medium dense brown fine SAND, little silt
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**19.8**	**20.73** m	**3.06** m
			No. of Samples	
			16D,2C	

NOTES: **Bomb mounted CME C-45 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-3**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230841.11**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282930.47**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**	Utilized		X						X					
Date Started: **12 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	13	0.61	0.00	D	12	13	13	15		No Recovery
		16.76-17.37	14	0.61	0.23	D	17	7	9	11		Medium dense olive-brown fine SAND and SILT, little coarse sand, trace medium to fine gravel
		18.29-18.90	15	0.61	0.20	D	11	9	17	23		Medium dense brown coarse SAND, some silt
											92.06	-GLACIOFLUVIAL DEPOSITS-
20		19.81-19.99	16	0.18	0.15	D	50/.025				19.81	Very dense gray-brown coarse to fine GRAVEL and coarse to fine SAND, trace silt (weathered bedrock)
		20.73-22.25	1	1.52	1.52	C		[RQD = 100%]			91.14 20.73	C1- Very hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints low angle to moderately dipping, close to wide, rough, undulating, fresh, open.
		22.25-23.77	2	1.52	1.52			[RQD = 92%]				C2- Same as C1, except foliation is moderately dipping, extremely close to very close. Joints are fresh to discolored (carbonate mineral growth on some joint surfaces).
											88.10 23.77	-BEDROCK-
25												Bottom of Exploration at 23.77 m.
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**19.8**	**20.73** m	**3.06** m
			No. of Samples	
			16D,2C	

NOTES: **Bomb mounted CME C-45 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-3**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230823.89**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282978.55**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.3**	Utilized			X					X					X
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	W	O	R	WOR	109.68 / 0.61	Very loose brown coarse to fine SAND, little gravel, trace silt -ALLUVIAL DEPOSITS-
		1.52-2.13	2	0.61	0.30	D	8	14	28	14		Dense brown coarse to fine SAND, some medium to fine gravel, little silt, with cobbles
		3.08-3.69	3	0.61	0.30	D	20	21	24	27		Dense brown coarse to fine GRAVEL, some coarse to fine sand, trace silt, with cobbles
5		4.57-5.18	4	0.61	0.25	D	29	19	14	50		Dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
		6.10-6.10	5	0.00	0.00	D	50/0					No recovery On boulder from 6.1 m. to 7.47 m.
		7.62-8.23	6	0.61	0.30	D	12	11	13	13		Medium dense brown coarse to fine SAND, trace fine gravel, silt
10		9.10-9.71	7	0.61	0.00	D	8	8	9	11		No recovery
		10.67-10.95	8	0.28	0.20	D	25	50/.13			99.04 / 11.25	Very dense brown coarse to fine SAND and GRAVEL, trace silt Piece of gravel in tip -GLACIOFLUVIAL DEPOSITS-
		12.19-12.27 12.20-13.72	9 1	0.08 1.52	0.02 1.47	D C	50/.08	[RQD = 85%]				
		13.72-15.24	2	1.52	1.52	C		[RQD = 100%]				C1- Very hard, fresh, dark gray and white, coarse to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low angle very close to moderate, rough, undulating, fresh, open. C2- Same as C1, except foliation is extremely close to close. Joints are low angle to moderately
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**12.2**	**12.20** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-4**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230823.89**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282978.55**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.3**	Utilized			X					X					X
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											95.05 15.24	dipping, close to moderate. -BEDROCK- Bottom of Exploration at 15.24 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**12.2**	**12.20** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-4**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera/J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230825.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282913.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**	Utilized		X						X					X
Date Started: **9 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **12 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type	X	Diamond	
@ **1.68** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	18	26	19	29	111.27	Very dense brown coarse to fine SAND, some medium to fine gravel, little silt
		0.61-1.22	2	0.61	0.46	D	24	19	8	6	0.61 / 110.66	Medium dense brown coarse to fine SAND, trace silt, fine gravel
		1.22-1.83	3	0.61	0.46	D	7	6	7	21	1.22	-FILL-
		1.88-2.49	4	0.61	0.15	D	8	10	11	13		Medium dense gray coarse to fine SAND and SILT, slight petroleum odor
		3.05-3.66	5	0.61	0.30	D	17	22	34	41		Medium dense olive-brown SILT and fine SAND, little medium to fine gravel, strong weathered petroleum odor
5		4.57-4.80	6	0.23	0.15	D	39	100/0.08				Very dense olive-brown coarse to fine SAND and medium to fine GRAVEL, trace silt Very dense dark gray-brown coarse to fine SAND, some medium to fine gravel, trace silt
		6.10-6.30	7	0.20	0.15	D	63	100/0.05				Very dense olive-brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		7.62-8.23	8	0.61	0.23	D	31	33	48	51		Very dense olive-brown coarse to fine SAND, some coarse to fine gravel, little silt
10		9.14-9.75	9	0.61	0.23	D	7	8	13	16	102.74 / 9.14	Medium dense olive-gray-brown fine SAND, little coarse sand, trace fine gravel, silt
		10.67-11.28	10	0.61	0.41	D	12	17	17	18		Dense olive-gray-brown coarse to fine SAND and coarse to fine GRAVEL
		12.19-12.80	11	0.61	0.61	D	9	13	15	18		Medium dense olive-gray-brown coarse to fine SAND, trace coarse to fine gravel, silt
		13.72-14.33	12	0.61	0.30	D	27	31	9	5		Dense olive-brown fine SAND and SILT, trace coarse to fine gravel
15											97.55 / 14.33	Roller bit to 15.24 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**13.7**	**15.24** m	**3.06** m
			No. of Samples	
			12D,2C	

NOTES: **Case mounted Mobile Drill B-47 rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-5**
Sheet **1** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera/J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230825.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282913.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.9**														
Date Started: **9 March 2001**	Utilized		X						X					X
Date Finished: **12 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **1.68** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type	X	Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-16.76	1	1.52	1.42	C		[RQD = 89%]				C1- Very hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is vertical, extremely close. Joints are horizontal, close to wide spaced, rough, undulating, fresh to discolored, open.
		16.76-18.28	2	1.52	0.86	C		[RQD = 57%]				C2- Same as C1, except joints are close to moderately spaced
											93.60	-BEDROCK-
											18.28	Bottom of Exploration at 18.28 m.
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**13.7**	**15.24** m	**3.06** m
			No. of Samples	
			12D,2C	

NOTES: **Case mounted Mobile Drill B-47 rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-5**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S6-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230813.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282957.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.2**		Utilized			X					X					X
Date Started: **26 February 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 February 2001**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.15** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.25	D	2	2	11	19		Medium dense white and brown coarse to fine SAND, some gravel, little silt
												Boulder .61 m. to 1.37 m.
											109.64	
		1.52-2.13	2	0.61	0.41	D	22	14	15	20	1.52	-FILL-
												Medium dense gray brown SILT, some fine sand, trace gravel
		3.05-3.66	3	0.61	0.48	D	12	11	11	13		Medium dense brown fine SAND and SILT
5		4.57-5.18	4	0.61	0.46	D	10	8	8	9		Medium dense brown fine SAND, some silt, little coarse sand, trace fine gravel
		6.10-6.71	5	0.61	0.61	D	10	11	10	13		Medium dense brown coarse to fine SAND, trace silt
		7.62-8.00	6	0.38	0.30	D	17	22	50/.05			Very dense brown coarse to fine SAND, little fine gravel, silt, trace medium gravel
											101.86	-GLACIOFLUVIAL DEPOSITS-
10		9.14-10.66	1	1.52	1.39	C		[RQD = 70%]			9.30	C1- Hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is high to low angle, extremely close. Joints are high angle to moderately dipping, moderate rough, undulating to planar, fresh to discolored, open.
		10.67-12.19	2	1.52	0.30	C		[RQD = 7%]				C2- Same as C1, except joints are close
		12.34-13.86	3	1.52	1.34	C		[RQD = 81%]				C3- Hard to moderately hard, fresh, gray and white to brown, medium to fine grained BIOTITE GNEISS. Foliation is high angle, extremely close. Joints are low to high angle, close to moderately rough, fresh to discolored, open.
											97.29	
											13.87	Bottom of Exploration at 13.87 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**9.3**	**9.30** m	**4.06** m
			No. of Samples	
			6D,3C	

NOTES: **Bomb mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S6-6**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230844.98**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283087.44**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.2**	Utilized		X						X					X
Date Started: **13 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **coring**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
	18	0.00-0.61	1	0.61	0.45	D	10	14	24	19		Dense brown coarse to fine SAND, some medium to fine gravel, trace silt
	23											
	45											
	32	1.52-2.13	2	0.61	0.15	D	10	18	17	13		Dense brown fine SAND, little coarse sand, medium to fine gravel, little silt
	31											
	39										112.16	-FILL-
	18	3.05-3.66	3	0.61	0.15	D	5	8	7	5	3.05	Medium dense brown fine SAND, little fine gravel, trace coarse sand, silt
	16											
	32											
5	86	4.57-4.72	4	0.15	0.10	D	100					Very dense brown coarse to fine GRAVEL, trace coarse to fine sand, silt
	113											
	175										108.96	
	39	6.10-6.25	5	0.15	0.00	D	100				6.25	No recovery. SSR @ 6.25. Rollerbit through boulder 6.25-6.86m.
	43											
	76											-GLACIOFLUVIAL DEPOSITS-
	37	7.62-8.23	6	0.61	0.30	D	15	26	55	23		Very dense brown fine SAND, some silt, little coarse sand, fine gravel, trace medium gravel
	60											
	106											
	81	9.14-9.29	7	0.15	0.15	D	125					Very dense brown fine SAND and medium to fine GRAVEL, some silt
10	168											
	243											-GLACIAL TILL-
											104.54	
		10.67-10.71	8	0.04	0.00	D	100/.04				10.67	No recovery
		11.58-13.10	1	1.52	1.52	C		[RQD = 30%]				C1: Hard, slightly to moderately weathered, gray and white, medium to fine grained Biotite orthoclase GNEISS. Foliation is vertical, extremely close. Joints are horizontal to vertical. Close, rough, undulating, discolored, open. Highly fractured zone from 12.5m to 12.9 m. Pyrite crystals and rust on joint surfaces. Core times in .5m/min. = 2.5, 2.5, 2.5.
		13.11-14.63	2	1.52	1.52	C		[RQD = 54%]				
											100.58	C2: Same as C1 except joints are close to moderate, and have healed fractures. Core times
15											14.63	

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**11.58** m	**3.05** m
			No. of Samples	
			8D,2C	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-1**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230844.98**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283087.44**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.2**	Utilized		X						X					X
Date Started: **13 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **coring**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												2, 2.5, 2.5.
												-BEDROCK-
												BOTTOM OF EXPLORATION 14.63 m
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.7**	**11.58** m	**3.05** m
			No. of Samples	
			8D,2C	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-1**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230837.04**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283114.66**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.8**	Utilized		X						X					X
Date Started: **21 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	13	6	7	11		Medium dense brown medium to fine SAND, some silt, trace coarse gravel and roots
		1.52-2.13	2	0.61	0.00	D	12	13	14	11		No Recovery
		3.05-3.66	3	0.61	0.15	D	7	19	37	13		Very dense brown coarse to fine SAND, trace silt, trace fine gravel
5		4.57-5.18	74	0.61	0.15	D	15	28	36	54		Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
											116.70	-FILL-
		6.10-6.71	5	0.61	0.30	D	20	28	36	54	6.10	Very dense light brown medium to fine SAND, little coarse to fine gravel
		7.62-8.23	6	0.61	0.45	D	26	36	63	71		Same as D5
10		9.14-9.44	7	0.30	0.15	D	47	100/.15				Very dense light brown coarse to fine SAND, little coarse to fine gravel, trace silt
		10.67-10.82	8	0.15	0.15	D	100					Same as D7
		12.19-12.19	9	0.00	0.00	D	100/0					No Recovery
											108.47	-GLACIOFLUVIAL DEPOSITS-
15		14.33-15.85	1	1.52	1.52	C		[RQD = 47%]			14.33	C1: Hard, slightly weathered, gray, medium to coarse grained GNEISS. Foliation is high angle,

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.3**	**14.33** m	**3.04** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-2**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230837.04**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283114.66**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **122.8**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **21 December 2000**	Utilized		X						X					X
Date Finished: **22 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.85-17.37	2	1.52	1.52	C		[RQD = 71%]				extremely close. Joints are low angle to high angle, close, rough, undulating, discolored, tight to open. C2: Very hard, slightly weathered, black and white, coarse to fine grained GNEISS. Foliation is high angle, extremely close. Joints are moderately dipping, close to moderate, rough, undulating, discolored, tight.
											105.43 / 17.37	-BEDROCK-
												Bottom of Exploration at 17.37 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**14.3**	**14.33** m	**3.04** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-2**

Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230820.28**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283053.28**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **117.6**		Utilized		X						X					X
Date Started: **8 November 2000**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **12 November 2000**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.38	D	17	19	15	18	0.15	Asphalt and road base Dense brown coarse to fine SAND, some medium to fine gravel
		1.52-2.13	2	0.61	0.25	D	5	7	13	28		Medium dense brown to dark brown coarse to fine SAND, little gravel, silt
		3.05-3.66	3	0.61	0.46	D	9	9	13	17	113.59	Medium dense light brown to orange brown SILT, and fine SAND, trace gravel, and sand
											4.00	-FILL-
5		4.57-5.02	4	0.45	0.20	D	27	36	100			Very dense brown coarse to fine GRAVEL, and coarse to fine sand, with boulders
		6.10-6.71	5	0.61		D	6	8	7	13		Medium dense brown fine SAND, trace coarse sand, silt
		7.62-8.23	6	0.61		D	7	7	10	14		Medium dense brown fine SAND, trace silt, trace coarse sand
10		9.14-9.29	7	0.15	0.00	D	100					On boulder no recovery
												Boulders from 10.36 m. to 11.89 m. (cored from 10.67 m. to 12.19 m.)
		12.19-12.80	8	0.61	0.10	D	15	19	23	38		Dense brown coarse to fine SAND, little coarse to fine gravel, trace silt
		13.72-14.25	9	0.53	0.13	D	37	42	100/.08		103.42	Very dense brown coarse to fine SAND, and coarse to fine gravel, trace silt
15											14.17	

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.2**	**15.24** m	**6.08** m
			No. of Samples	
			9D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-3**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230820.28**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283053.28**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **117.6**	Utilized		X						X					X
Date Started: **8 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **12 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-16.76	1	1.52	1.36	C		[RQD = 67%]				-GLACIOFLUVIAL DEPOSITS- T.O.R. at 14.17 m. (weathered) C1: Very hard, fresh, purple, gray and white, medium to fine grained GARNET BIOTITIE GNEISS. Foliation is high angle, extremely close. Joints are low angle to moderately dipping, very close to moderate, rough, undulating, to stepped, discolored, open to tight. Vertical joint from 15.70 m. to 15.79 m.
		16.76-18.28	2	1.52	1.40	C		[RQD = 89%]				C2: Same as C1, except joints are undulating, fresh, open.
		18.29-19.81	3	1.52	1.49	C		[RQD = 85%]				C3: Same as C2, except vertical joint from 18.59 m. to 18.70 m.
20		19.81-21.33	4	1.52	1.28	C		[RQD = 77%]				C4: Same as C2, except foliation is extremely close to very close, joints are close to wide
											96.25	-BEDROCK-
											21.34	Bottom of Exploration at 21.34 m.
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.2**	**15.24** m	**6.08** m
			No. of Samples	
			9D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-3**
Sheet **2** of **2**

F. Pelky/J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230815.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283083.24**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.5**		Utilized		X						X					X
Date Started: **13 November 2000**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 November 2000**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	12	12	20	24		Dense brown fine SAND, little medium gravel, trace silt, coarse sand
		1.52-2.13	2	0.61	0.20	D	8	5	9	5		Medium dense brown fine SAND, little fine gravel, trace medium gravel, coarse sand
		3.05-3.66	3	0.61	0.15	D	22	12	14	43		Medium dense brown coarse to fine SAND, little silt, trace gravel
											118.51 4.00	-FILL-
5		4.57-4.77	4	0.20	0.10	D	48	50/.05				Very dense brown coarse to fine SAND, some fine gravel, trace silt
		6.10-6.71	5	0.61	0.15	D	18	26	30	32		Very dense brown fine SAND, little silt
		7.62-8.23	6	0.61	0.20	D	22	32	48	60		Very dense brown coarse to fine SAND, some fine gravel, trace medium gravel, boulder from 8.23 m - 8.84 m
10		9.14-9.45	7	0.31	0.20	D	28	100				Very dense brown fine SAND, trace silt
		10.67-11.28	8	0.61	0.20	D	24	28	55	78		Very dense brown fine SAND, little medium to fine gravel, silt, trace coarse sand, boulder 11.58 m - 11.95 m
		12.19-12.80	9	0.61	0.15	D	16	17	15	20		Dense brown fine SAND, some silt, trace fine gravel with fine gravel and coarse sand layer with boulders
		13.72-14.00	10	0.28	0.28	D	23	50/.13				Very dense gray brown coarse to fine SAND and coarse to fine gravel, little silt -GLACIOFLUVIAL DEPOSITS-
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**5.8**	**-** m	**-** m
			No. of Samples	
			11D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-4**
Sheet **1** of **2**

F. Pelky/J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230815.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283083.24**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.5**	Utilized		X						X					X
Date Started: **13 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24	11			D						-GLACIOFLUVIAL DEPOSITS- Cored boulder 15.24 m - 16.0 m
		16.76-18.28	1	1.52	0.95	C	[RQD = 39%]				105.59 16.92	C1: Moderately hard, fresh to slightly weathered, gray to pink, coarse to fine grained, granitic GNEISS. Foliation is high angle to vertical, extremely close. Joints are parallel to foliation, high angle to vertical, spacing is indistinct, rough, undulating, decomposed to discolored, open. Secondary mineral growth on joint surfaces and of mica throughout core. C2: Same as C1 except joints are low angle to high angle, close to moderate. Fractured zone 18.54 m - 18.75 m C3: Hard, fresh, gray and white coarse to fine grained GNEISS. Foliation joints are low to high angle close, rough, undulating, discolored, open. Some secondary mineral growth on joint surfaces and of mica in core. C4: Same as C3
		18.29-19.81	2	1.52	1.17	C	[RQD = 32%]					
20		19.81-21.33	3	1.52	1.42	C	[RQD = 63%]					
		21.31-22.83	4	1.52	1.42	C	[RQD = 82%]					
											99.65 22.86	-BEDROCK- BOTTOM OF EXPLORATION 22.86 m
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**5.8**	**-** m	**-** m
			No. of Samples	
			11D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-4**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230799.29**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282999.14**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **120.2**	Utilized		X						X					X
Date Started: **19 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **21 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	9	7	6	8		Medium dense brown coarse to fine SAND, some medium to fine gravel, some silt
		1.52-2.13	2	0.61	0.00	D	14	27	13	11		No Recovery
											117.11	-FILL-
		3.05-3.66	3	0.61	0.46	D	10	11	14	16	3.05	Medium dense brown coarse to fine SAND, little gravel, silt
5		4.57-4.57	4	0.00	0.00	D	50/0					Roller bit 5.8 m. to 6.1 m.
												Core boulder from 6.1 m. to 7.0 m.
											112.54	-GLACIOFLUVIAL DEPOSITS-
		7.62-8.23	5	0.61	0.45	D	13	29	41	53	7.62	Very dense brown medium to fine SAND and SILT, trace fine gravel (bottom 3 in. coarse gravel)
10		9.14-9.22	6	0.08	0.00	D	100/.08					No Recovery
											109.49	-GLACIAL TILL-
		10.67-12.19	1	1.52	1.30	C		[RQD = 76%]			10.67	C1- Very hard, slightly weathered, red, gray, GRANITIC GNEISS. Foliation is moderate to high angle, extremely close. Joints are moderately dipping, close to moderate, rough, undulating, discolored, tight.
		12.19-13.71	2	1.52	1.37	C		[RQD = 46%]				C2- Very hard, slightly weathered, gray, GRANITIC GNEISS. Foliation is high angle, extremely close. Joints are low to high angle dipping, close, tight to open.
											106.44	
											13.72	-BEDROCK-
15												Bottom of Exploration at 13.72 m.

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**10.6**	**10.67** m	**3.04** m
			No. of Samples	
			6D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-5**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230788.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283038.66**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.4**	Utilized		X						X					
Date Started: **27 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.30	1	0.15	0.15	D	100/.15				0.15	Asphalt and road base Very dense brown SILT and coarse to fine SAND
		1.52-2.13	2	0.61	0.36	D	16	61	44	19		Very dense brown and white coarse to fine SAND and coarse to fine GRAVEL, trace silt
		3.05-3.66	3	0.61	0.30	D	14	13	16	20		Medium dense light brown fine SAND
5		4.57-5.18	4	0.61	0.41	D	16	13	18	21		Dense brown fine SAND and SILT, trace coarse sand
											117.36	-FILL-
		6.10-6.71	5	0.61	0.30	D	11	13	21	24	6.00	Dense brown coarse to fine SAND, trace fine gravel, silt
		7.62-8.23	6	0.61	0.23	D	19	27	25	36		Very dense brown coarse to fine SAND, and fine gravel
10												On boulder at 9.14 m. Cored boulder from 9.30 m. to 9.75 m.
												Cored boulder from 10.67 m. to 11.73 m.
		12.19-12.27	7	0.08	0.00	D	100/.08					No recovery
												Roller bit through cobble and boulders through 14.33 m.
											109.03	-GLACIOFLUVIAL DEPOSITS-
15		14.33-15.85	1	1.52	1.18	C		[RQD = 36%]			14.33	C1- Very hard, fresh to moderately weathered, purple to white, coarse to fine grained GNEISS.

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**12.2**	**14.35** m	**3.05** m
			No. of Samples	
			7D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-6**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S7-6**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230788.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283038.66**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.4**	Utilized		X						X					
Date Started: **27 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		~~15.80-17.32~~	~~2~~	~~1.52~~	~~0.78~~	~~C~~		~~[RQD = 15%]~~				Foliation is high angle to vertical, extremely close. Joints are low angle to vertical, close, rough, undulating, discolored, open. Fractured from 14.69 m. to 14.9 m. C2- Same as C1, except highly fractured from 16.1 m. to 16.61m.
											105.99	
											17.37	-BEDROCK- Bottom of Exploration at 17.37 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**12.2**	**14.35** m	**3.05** m
			No. of Samples	
			7D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S7-6**
Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231003.98**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283190.67**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.0**	Utilized		X						X					X
Date Started: **28 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **30 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.29** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.25	D	10	11	7	15		Medium dense red brown coarse to fine SAND, little medium to fine gravel, trace silt
		1.52-2.13	2	0.61	0.25	D	16	19	11	11		Dense brown coarse to fine SAND and GRAVEL, trace silt, brick and asphalt fragments
											111.98	-FILL-
		3.05-3.66	3	0.61	0.41	D	11	19	15	12	3.05	Dense brown coarse to fine GRAVEL, some coarse to fine sand, little silt
5		4.57-5.18	4	0.61	0.36	D	10	10	16	24		Medium dense brown coarse to fine SAND, some medium to fine gravel
		6.10-6.71	5	0.61	0.30	D	15	19	16	21		Dense brown coarse to fine SAND, little medium to fine gravel, trace silt
												Boulder 7.32 m. to 7.92 m.
10		9.14-9.44	6	0.30	0.20	D	31	100				Very dense brown, medium to fine GRAVEL, little coarse to fine sand, trace silt
		10.67-10.82	7	0.15	0.15	D	100					Very dense gray brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
		12.19-12.44	8	0.25	0.25	D	30	100/.10				Very dense brown coarse to fine SAND and medium to fine gravel, trace silt
15		13.72-14.33	9	0.61	0.15	D	27	23	31	32		Very dense brown fine SAND, trace coarse sand, trace silt

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**18.3**	**17.83** m	**3.51** m
			No. of Samples	
			11D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-1**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231003.98**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283190.67**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.0**	Utilized		X						X					X
Date Started: **28 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **30 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.29** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.39	10	0.15	0.00	D	100					No recovery - pushing gravel
												Boulder from 16.76 m. to 17.53 m.
		16.76-16.76	11	0.00	0.00	D	100/0					
											97.20	-GLACIOFLUVIAL DEPOSITS-
											17.83	Top of rock at 17.83 m.
		18.29-19.81	1	1.52	1.52	C		[RQD = 100%]				Hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is horizontal to low angle, extremely close. Joints are low angle to moderately dipping, close to wide, rough, planar to undulating, discolored, open to tight.
20		19.81-21.33	2	1.52	1.40	C		[RQD = 92%]				Same as C1, except joints are low angle, undulating
												-BEDROCK-
											93.69	
											21.34	Bottom of Exploration at 21.34m.
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**18.3**	**17.83** m	**3.51** m
			No. of Samples	
			11D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-1**

Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231014.73**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283176.18**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.9**	Utilized		X						X					X
Date Started: **21 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	6	18	29	43	114.27 / 0.61	Dense brown coarse to fine SAND, some medium to fine gravel
		1.52-2.13	2	0.61	0.48	D	7	9	9	13	112.38 / 2.50	Medium dense brown coarse to fine SAND and fine GRAVEL with cobbles -FILL-
		3.05-3.66	3	0.61	0.38	D	19	21	26	29	110.88 / 4.00	Dense brown coarse to fine SAND, trace silt, fine gravel with cobbles
5		4.57-5.18	4	0.61	0.43	D	8	16	21	15	108.88 / 6.00	Dense brown fine SAND, little coarse sand, trace fine gravel
		6.10-6.40	5	0.30	0.30	D	48	100				Very dense brown coarse to fine SAND and coarse to fine gravel with cobbles
		7.62-8.23	6	0.61	0.20	D	14	27	39	44		Very dense brown coarse to fine SAND, little medium to fine gravel, trace silt with boulder
10		9.14-9.75	7	0.61	0.28	D	36	39	37	49		Very dense brown coarse to fine SAND, little fine gravel -GLACIOFLUVIAL DEPOSIT-
		10.67-11.28	8	0.61	0.28	D	26	51	39	50		Very dense brown medium to fine GRAVEL and sand, trace silt Boulder from 10.06 - 10.36 m
		12.19-12.34	9	0.15	0.00	D	100					No recovery
15		13.72-14.33	10	0.61	0.41	D	26	21	28	23		Dense brown coarse to fine SAND, trace fine gravel

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**16.8**	**16.31** m	**3.50** m
			No. of Samples	
			11D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-2**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231014.73**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283176.18**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.9**														
Date Started: **21 November 2000**	Utilized		X						X					X
Date Finished: **28 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **3.05** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.74	11	0.50	0.30	D	23	43	56	50/.05	98.57	Very dense brown coarse to fine SAND -GLACIOFLUVIAL DEPOSIT-
		16.76-18.28	1	1.52	1.52	C	[RQD = 82%]				16.31	C1: Hard, fresh, gray and white, medium to fine grained Biotite GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle, very close to moderate, rough, undulating, fresh, open. C2: Same as C1 except joints were close to wide.
		18.28-19.80	2	1.52	1.52	C	[RQD = 92%]				95.07	-BEDROCK-
20											19.81	BOTTOM OF EXPLORATION 19.81 m
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**16.8**	**16.31** m	**3.50** m
			No. of Samples	
			11D,2C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-2**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230986.11**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283183.26**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.8**	Utilized		X						X					X
Date Started: **28 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished:	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **2.60** m after **0**														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	15	8	6	6		Medium dense dark brown coarse to fine SAND, some coarse to fine gravel
		1.52-1.97	2	0.45	0.08	D	14	29	100			Very dense dark brown coarse to fine GRAVEL, and coarse to fine SAND
											111.74	-FILL-
		3.05-3.20	3	0.15	0.00	D	100				3.05	No recovery
5		4.57-5.18	4	0.61	0.30	D	11	17	22	25		Dense brown coarse to fine SAND, and fine gravel
		6.10-6.18	5	0.08	0.00	D	100/.08					No recovery boulder to 6.71 m.
		7.62-8.23	6	0.61	0.45	D	15	21	27	35		Dense brown coarse to fine SAND, and gravel, little silt
												Boulder 8.23 m. to 8.99 m.
10		9.14-9.75	7	0.61	0.45	D	19	27	29	33		Dense brown coarse to fine SAND, trace fine gravel, silt
		10.67-11.12	8	0.45	0.30	D	31	39	100			Very dense brown fine SAND, little coarse sand
		12.19-12.49	9	0.30	0.30	D	38	100				Very dense brown fine SAND, coarse sand, fine gravel
		13.72-13.87	10	0.15	0.05	D	125					Very dense brown fine SAND, little gravel, silt
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**18.9**	**18.29** m	**3.68** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-3**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230986.11**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283183.26**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.8**														
Date Started: **28 November 2000**	Utilized		X						X					X
Date Finished:	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **3.05** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.60** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	11	0.61	0.45	D	15	23	34	57		Very dense light brown fine SAND, trace silt, coarse sand
		16.76-16.91	12	0.15	0.15	D	100					Very dense light brown coarse to fine SAND, trace silt
											96.50	-GLACIOFLUVIAL DEPOSITS-
		18.29-18.29	13	0.00	0.00	D	50/0				18.29	No recovery
		18.90-20.42	1	1.52	1.52	C		[RQD = 62%]				C1: Hard, fresh, gray and white, coarse to fine grained GNEISS. Foliation is high angle, extremely close. Joints are low to high angle, very close to close, rough, undulating, discolored to fresh, open.
20												
		20.42-21.94	2	1.52	1.00	C		[RQD = 38%]				C2: Very hard, fresh, gray and white, coarse to fine grained GNEISS. Foliation is moderately dipping, very to extremely close. Joints are low angle, to moderately dipping, very close to close, rough, undulating, discolored, open.
											92.84	
											21.95	Bottom of Exploration at 21.95 m.
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**18.9**	**18.29** m	**3.68** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-3**

Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230993.56**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283167.83**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.3**	Utilized		X						X					X
Date Started: **27 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	4	8	11	14		Medium dense dark brown coarse to fine SAND, some gravel, asphalt
		1.57-2.02	2	0.45	0.15	D	12	11	100			Very dense brown coarse to fine SAND, trace gravel, trace silt, roots
											111.26	-FILL-
		3.05-3.13	3	0.08	0.00	D	100/.08				3.05	No recovery. Boulder from 3.05 - 3.59 m
5		4.57-5.18	4	0.61	0.30	D	8	10	9	12		Medium dense brown fine SAND, trace silt, coarse sand
		6.10-6.71	5	0.61	0.45	D	17	21	25	32		Dense brown coarse to fine SAND, little medium to fine gravel, trace silt
		7.62-8.23	6	0.61	0.45	D	23	53	54	65		Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt
10		9.14-9.29	7	0.15	0.05	D	100					Very dense brown medium to fine GRAVEL, trace fine sand, silt
		10.67-10.75	8	0.08	0.00	D	100/.08					No recovery. On boulder.
		12.19-12.80	9	0.61	0.10	D	9	21	61	74		Blowing sand at 12.19 washed out Very dense brown coarse to fine SAND
		13.72-14.17	10	0.45	0.45	D	23	39	100			Very dense light brown coarse to fine SAND, little silt, trace coarse to fine gravel
15												-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**19.1**	**19.05** m	**3.81** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D10 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-4**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S8-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230993.56**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283167.83**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.3**														
Date Started: **27 November 2000**	Utilized		X						X					X
Date Finished: **28 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **3.05** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.69	11	0.45	0.45	D	61	70	100			Very dense light brown interbedded coarse to fine SAND and fine SAND, little silt
		16.76-17.51	12	0.75	0.10	D	100					Very dense brown fine SAND, trace silt, coarse sand
		18.29-18.74	13	0.45	0.30	D	19	31	100			Same as D12 with little medium to fine gravel
											95.26 19.05	-GLACIOFLUVIAL DEPOSITS-
20		19.81-21.33	1	1.52	1.35	C		[RQD = 89%]				C1: Hard, fresh, gray and white, medium to fine grained Biotite GNEISS. Foliation is vertical, extremely close. Joints are moderately dipping, moderate, rough, planar to undulating, fresh to discolored.
		21.34-22.86	2	1.52	1.46	C		[RQD = 96%]				C2: Same as C1 except coarse to fine grained. Foliation is high angle and joints are moderately dipping to low angle.
											91.45 22.86	-BEDROCK-
												BOTTOM OF EXPLORATION 22.86 m
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**19.1**	**19.05** m	**3.81** m
			No. of Samples	
			13D,2C	

NOTES: **Bomb mounted Diedrich D10 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S8-4**
Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231021.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284348.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **142.1**	Utilized		X						X					
Date Started: **19 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **5.50** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.33	D	6	12	17	19	0.15	Bituminous Concrete
												Brown coarse to fine SAND, some medium to fine gravel, trace silt
		1.52-2.13	2	0.61	0.25	D	18	20	24	27		Brown medium to fine SAND, some medium to fine gravel, trace silt
												Roller bit through boulder at 2.74 m. to 3.35 m.
5		4.57-5.18	3	0.61	0.05	D	23	30	21	65		Very dense coarse to fine SAND, some coarse to fine gravel, little silt
											134.50	-FILL-
		7.62-8.03	4	0.41	0.33	D	36	78	100		7.62	Very dense brown coarse to fine gravel, some coarse to medium sand, trace silt
10		9.14-9.75	5	0.61	0.33	D	34	37	81	39		Very dense red brown coarse to fine SAND, some coarse to fine gravel, trace silt
		10.67-11.28	6	0.61	0.41	D	35	48	49	52		Same as D5
											129.93	-GLACIOFLUVIAL DEPOSITS-
		12.19-13.71	1	1.52	1.01	C		[RQD = 56%]			12.19	C1- Very hard, fresh, gray and white coarse to fine grained GNEISS. Foliation is moderately dipping, extremely close. Joints are low angle to moderately dipping, very close to moderate, appear to be conjugate, rough, undulating, discolored, open. Pyrite mineral growth on joint surfaces.
		13.72-15.24	2	1.52	1.52	C		[RQD = 74%]				Same as C1
15												

Casing Size	From	To	Meters of Earth	Rock
NE	**0.0**	**12.2**	**12.19** m	**3.05** m
			No. of Samples	
			6D,2C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-1**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231021.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284348.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **142.1**
Date Started: **19 December 2000**
Date Finished: **19 December 2000**

Groundwater Observations
@ **5.50** m after **0**
@ m after

	Casing				Auger		Mud	Sampler		Core Barrel			
Utilized		X						X					
Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											126.88 15.24	-BEDROCK- Bottom of Exploration at 15.24 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NE	**0.0**	**12.2**	**12.19** m	**3.05** m
			No. of Samples	
			6D,2C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-1**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231032.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284379.51**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **137.8**		Utilized		X						X		X			X
Date Started: **14 November 2000**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 November 2000**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **12**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
	16	0.00-0.61	1	0.61	0.45	D	4	6	10	7		Medium dense tan coarse to fine SAND and fine gravel, little medium gravel, trace silt, plastic, wood, roots
	20											
	34											
	19	1.52-2.13	2	0.61	0.30	D	11	17	25	30		Dense tan coarse to fine SAND and fine GRAVEL, trace silt
	35											
	28											
	47	3.05-3.66	3	0.61	0.45	D	17	16	13	11		Medium dense brown fine SAND, little silt
	36											
	59										133.19	-FILL-
5	84	4.57-5.18	4	0.61	0.45	D	8	14	21	40	4.57	Dense tan coarse to fine SAND and medium to fine GRAVEL
	161											
	176											
	81	6.10-6.71	5	0.61	0.45	D	73	64	60	81		Very dense brown coarse to fine SAND and medium to fine GRAVEL
	99											
	153											
	104	7.62-8.23	6	0.61	0.00	D	53	100				No recovery
	113											
	212											
		9.14-9.22	7	0.08	0.00	D	100/.08					No recovery. Piece of coarse gravel in tip of spoon.
10												
		10.67-11.28	8	0.61	0.61	D	17	51	56	100		Very dense light brown fine SAND, trace silt, occasional coarse to fine sand lenses
		12.19-12.80	9	0.61	0.30	D	26	42	58	115		Very dense brown fine SAND, little medium to fine gravel, trace silt with occasional coarse to fine SAND layers
											123.74	-GLACIOFLUVIAL DEPOSITS-
		14.17-15.69	1	1.52	1.52	C		[RQD = 87%]			14.02	C1: Hard, fresh, dark gray and white, medium to fine grained Biotite, quartz, orthoclase GNEISS.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**12.2**	**14.17** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-2**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231032.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284379.51**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **137.8**	Utilized		X						X		X			X
Date Started: **14 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **12**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.70-17.22	2	1.52	1.32	C		[RQD = 62%]				Foliation is moderately dipping, extremely to very close. Joints moderately dipping, close to moderate, rough, fresh to discolored, open, Pyrite crystal growth on joint surfaces. C2: Same as C1 except dark gray to white
											120.54	-BEDROCK-
											17.22	BOTTOM OF EXPLORATION 17.22 m
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**12.2**	**14.17** m	**3.05** m
			No. of Samples	
			9D,2C	

NOTES: **Bomb mounted Diedrich D120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-2**
Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231003.65**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284396.47**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **137.1**	Utilized		X						X					X
Date Started: **4 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.98** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.45	1	0.30	0.10	D	27	100			136.82 / 0.30	Asphalt / Concrete
		1.52-1.72	2	0.20	0.10	D	35	50/.05				Very dense brown and white SILT and coarse to fine SAND, trace gravel Very dense coarse to fine GRAVEL, some medium to fine sand, little silt
											134.07	-FILL-
		3.05-3.20	3	0.15	0.00	D	22	50/0			3.05	No recovery
		3.35-4.87	1	1.52	1.40	C		[RQD = 92%]				Hard, fresh, gray and white, medium to fine grained BIOTITE GNEISS. Foliation is moderate dipping, extremely close to moderate. Joints are low angle close to moderate rough, undulating, fresh to discolored, open
5		4.88-6.40	2	1.52	1.52	C		[RQD = 100%]				C2: Same as C1, except foliation is extremely close. Joints moderately dipping, planar
		6.10-7.62	3	1.52	1.48	C		[RQD = 97%]				C3: Same as C1, except foliation is extremely close to very close. Joints are moderately dipping, moderate spacing
		7.92-9.44	4	1.52	1.23	C		[RQD = 76%]				C4: Same as C1
											127.67	-BEDROCK-
10											9.45	Bottom of Exploration at 9.45 m.
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.4**	**3.35** m	**6.10** m
			No. of Samples	
			3D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-3**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230989.49**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284433.63**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.0**	Utilized		X						X					
Date Started: **14 November 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 November 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **6.10** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **5.15** m after **2.25**														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
	12	0.00-0.61	1	0.61	0.10	D	6	5	3	4		Loose dark brown SILT and SAND, some gravel, wood, root fibers
	19										144.96	-TOPSOIL/FILL-
	62										1.00	
	25	1.52-2.13	2	0.61	0.30	D	40	41	42	51		Very dense brown coarse to fine SAND, little fine gravel, trace silt, medium gravel
	41											
	57											
		3.05-3.66	3	0.61	0.15	D	28	35	21	23		Very dense brown fine SAND and GRAVEL, trace silt
											141.96	
											4.00	
5		4.57-5.18	4	0.61	0.30	D	25	36	48	54		Very dense brown fine SAND, little silt, fine gravel, trace medium gravel
											140.17	-GLACIOFLUVIAL DEPOSITS-
		5.79-7.31	1	1.52	1.44	C		[RQD = 87%]			5.79	C1: Hard, fresh, black gray and white, medium to fine grained Biotite GNEISS. Foliation is moderately dipping, extremely close. Joints moderately dipping, moderate to wide, rough, undulating, fresh open.
		7.32-8.84	2	1.52	1.52	C		[RQD = 100%]				C2: Same as C1
											137.12	-BEDROCK-
											8.84	BOTTOM OF EXPLORATION 8.84 m
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**5.8**	**5.79** m	**3.05** m
			No. of Samples	
			4D,2C	

NOTES: **Bomb mounted Diedrich D- with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-4**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S9-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230977.13**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284401.18**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **143.6**	Utilized		X						X					X
Date Started: **28 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 December 2000**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	7	10	17	10		Medium dense brown coarse to fine SAND, little medium to fine gravel
		1.52-2.13	2	0.61	0.30	D	7	5	8	9		Medium dense brown coarse to fine SAND, trace medium to fine gravel, with cobbles
											140.54	
		3.05-3.15 3.35-4.87	3 1	0.10 1.52	0.05 1.29	D	100/.10	[RQD = 55%]			3.06	Very dense brown coarse GRAVEL and coarse to fine SAND -FILL-
5		4.88-6.40	2	1.52	1.52			[RQD = 93%]				C1- Hard, fresh, purple gray to white, coarse to fine grained GNEISS. Foliation is high angle, extremely to very close. Joints are low angle to vertical, very close to moderate, rough, undulating, discolored, open. Fractured from 3.35 m. to 3.49 m.
											137.20 6.40	C2- Same as C1, except joints are low angle to moderate dipping, very close to wide -BEDROCK-
												Bottom of Exploration at 6.4 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**3.4**	**3.35** m	**3.04** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S9-5**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230892.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283049.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.6**	Utilized		X						X					
Date Started: **9 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	4	6	41	23	115.11	Very dense coarse GRAVEL
											0.50	Dense gray coarse to fine SAND, little coarse to fine gravel, trace silt, no odor, moist
		1.52-2.13	2	0.61	0.10	D	13	17	23	67		Dense gray-brown coarse SAND, little coarse to fine gravel, trace fine sand and silt, no odor, moist
											112.61	-FILL-
		3.05-3.20	3	0.15	0.09	D	100				3.00	Split spoon refusal at 3.2 m., no recovery
5		4.57-5.02	4	0.45	0.00	D	81	75	115			No Recovery
												Split spoon refusal at 5.02 m.
		6.10-6.18	5	0.08	0.00	D	100/0.08					Note: Split spoon drove through dark gray cobble No recovery
												Split spoon refusal at 6.18 m.
		7.62-8.23	6	0.61	0.45	D	18	18	14	17		Dense gray-brown coarse to fine SAND, little coarse to fine gravel, trace silt, no odor, moist
10		9.14-9.75	7	0.61	0.30	D	17	21	20	23		Dense gray brown coarse to fine SAND, little medium gravel, trace silt, no odor, moist
		10.67-10.70	8	0.03	0.03	D	100/0.03					Very dense light brown coarse to fine SAND, trace silt
												Split spoon refusal at 10.7 m.
		12.19-12.80	9	0.61	0.33	D	13	21	33	38		Note: Drill action suggests boulders Very dense gray-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, moist
		13.72-13.75	10	0.03	0.00	D	110/0.03					No Recovery
15												-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**22.4**	**22.40** m	**2.40** m
			No. of Samples	
			15D,2C	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-1**

Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230892.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283049.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.6**	Utilized		X						X					
Date Started: **9 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.54	11	0.30	0.10	D	108	100				Split spoon refusal at 13.75 m.
												Note: Driller noted common boulders and cobbles
		16.76-16.91	12	0.15	0.10	D	100					Very dense gray-brown medium to fine GRAVEL and coarse to fine SAND, trace silt, no odor, moist
												Split spoon refusal at 15.54 m.
		18.29-18.59	13	0.30	0.22	D	40	100				Very dense gray-brown coarse to fine SAND, some medium to fine gravel, trace silt, no odor, wet
		19.18-19.63	14	0.45	0.41	D	38	74	104			Split spoon refusal at 16.91 m. Very dense light brown medium to fine GRAVEL and coarse to fine SAND, little silt, no odor, wet
20												Split spoon refusal at 18.59 m. Very dense gray-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, wet
		21.34-21.34	15	0.00	0.00	D	50/0.00				93.82	Split spoon refusal at 19.63 m.
											21.79	-GLACIOFLUVIAL DEPOSITS-
											93.21	Split spoon refusal at 21.34
		22.40-23.92	1	1.52	1.31	C		[RQD = 100%]			22.40	Note: Possible weathered bedrock at 21.79 m. to 22.40 m.
		23.92-25.44	2	1.52	1.14	C		[RQD = 97%]				Very hard fresh to slightly weathered gray and white BIOTITE GNEISS. Foliation is high angle to vertical, extremely to very close. No joints
25												Same as C1, except joints are low angle to moderately dipping, moderately spaced tight to partly open
											90.17	
											25.44	-BEDROCK-
												Bottom of Exploration at 25.44 m.
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**22.4**	**22.40** m	**2.40** m
			No. of Samples	
			15D,2C	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-1**

Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230890.65**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283043.22**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.6**	Utilized			X					X					X
Date Started: **16 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	11	7	10	15		Medium dense red-brown coarse to fine SAND, little silt, trace gravel with cobbles
		1.52-1.62	2	0.10	0.00	D	100					No recovery Boulder 3.05 m. to 3.66 m.
											112.52	-FILL-
		3.05-3.05	3	0.00	0.00	D	50/0.00				3.05	No recovery
5		4.57-4.72	4	0.15	0.08	D	43	100				Very dense gray coarse to fine GRAVEL and coarse to fine SAND, trace silt
		6.10-6.55	5	0.45	0.15	D	19	34	100			Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		7.67-8.28	6	0.61	0.00	D	15	36	35	51		Piece of coarse gravel in spoon tip
10		9.14-9.75	7	0.61	0.15	D	35	52	21	22		Very dense gray-brown fine SAND, some gravel, little silt, trace coarse sand
		10.67-11.28	8	0.61	0.15	D	12	100	41	39		Very dense brown coarse to fine SAND
		12.19-12.22	9	0.03	0.00	D	50/0.03					No recovery, on boulder
		13.72-14.33	10	0.61	0.15	D	13	31	75	64		Very dense gray-brown coarse to fine SAND and fine GRAVEL, trace silt
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**18.3**	**22.00** m	**2.38** m
			No. of Samples	
			14D,3C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-2**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230890.65**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283043.22**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.6**	Utilized			X					X					X
Date Started: **16 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **17 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.39	11	0.15	0.10	D	115				100.18 / 15.39	Very dense gray-brown coarse to fine SAND and fine GRAVEL, trace silt
												-GLACIOFLUVIAL DEPOSITS-
		16.76-17.37	12	0.61	0.61	D	71	58	82	100		Very dense brown fine SAND and SILT, some gravel
		18.29-18.74	13	0.45	0.30	D	43	68	100			Very dense brown coarse to fine SAND, some silt, gravel
20		19.51-20.73	1	1.22		C						Cored boulders from 19.51 m. to 21.345 m. No recovery Split spoon refusal at 21.34 m.
											94.23	
		21.34-21.34	14	0.00	0.00	D	50/0.00	[RQD = -%]			21.34	Cored boulders from 21.34 m. to 22.0 m.
		21.34-22.86	2	1.52	0.88	C		[RQD = 30%]			93.57	
											22.00	-GLACIAL TILL-
		22.86-24.38	3	1.52	1.12	C		[RQD = 74%]				Very hard, fresh gray and white coarse to fine grained BIOTITE GNEISS. Foliation is vertical, extremely close. Joints are high angle to low angle, close, rough, undulating, discolored, open Same as C1, except foliation is high angle. Joints are close to wide.
											91.19	
25											24.38	-BEDROCK-
												Bottom of Exploration at 24.38 m.
30												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**18.3**	**22.00** m	**2.38** m
			No. of Samples	
			14D,3C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-2**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230876.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283092.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.1**														
Date Started: **28 March 2001**	Utilized		X						X					
Date Finished: **28 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **0.61** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.25	D	3	5	10	17	111.49	Medium dense brown coarse to fine SAND, trace medium to fine gravel, trace roots
		0.61-0.82	2	0.21	0.08	D	16	50/0.05			0.61	Very dense brown coarse to fine GRAVEL, some brick fragments, little coarse to fine sand, wet
											110.58	
		1.52-1.65	3	0.13	0.13	D	50/0.13				1.52	Very dense black coarse to fine SAND, trace fine gravel, trace organics, slight chemical odor
		2.10-2.10	4	0.00	0.00	D	50/0.00					No recovery
											109.10	-FILL-
		3.05-3.66	5	0.61	0.46	D	32	27	30	29	3.00	Very dense black and gray-brown coarse to fine SAND, trace medium to fine gravel, trace rock fragments, organic odor
5		4.57-4.70	6	0.13	0.13	D	50/0.13					Very dense gray coarse to fine GRAVEL, little coarse fine sand
		6.10-6.71	7	0.61	0.51	D	42	48	47	48		Very dense brown coarse to fine SAND, little coarse to fine gravel
		7.62-7.75	8	0.13	0.00	D	50/0.13					No recovery
											102.96	
10		9.14-9.75	9	0.61	0.61	D	10	11	10	10	9.14	Medium dense brown coarse SAND, little fine sand, trace medium to fine gravel
		10.67-11.28	10	0.61	0.61	D	11	10	9	11		Medium dense brown coarse to fine SAND, trace fine gravel, trace rock fragments
											99.91	
		12.19-12.80	11	0.61	0.61	D	11	8	9	12	12.19	Medium dense brown coarse to fine SAND, little coarse to fine gravel
		13.72-14.33	12	0.61	0.61	D	18	23	25	25		Medium dense brown coarse to fine SAND, trace medium to fine gravel
15												-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**15.2**	**15.73** m	**-** m
			No. of Samples	
			13D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-4**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230876.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283092.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.1**	Utilized		X						X					
Date Started: **28 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.61** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.77	13	0.53	0.46	D	16	32	33	50/0.08	96.60	Very dense brown coarse to fine SAND, trace fine gravel
											15.50	-GLACIOFLUVIAL DEPOSITS-
											15.73	Very dense brown fine SAND, trace coarse sand, trace fine gravel
												-GLACIAL TILL-
												Bottom of Exploration at 15.73 m.
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**15.2**	**15.73** m	**-** m
			No. of Samples	
			13D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-4**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-4A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230867.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283093.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.8**														
Date Started: **6 June 2001**	Utilized		X						X					X
Date Finished: **7 June 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **1.22** m after **.5**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Note: Spun casing to 15.2 m.
												Cored 16.76 m. to 19.81 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**15.2**	**16.76** m	**3.05** m
			No. of Samples	
			2C	

NOTES: **Bombadier Diedrich D-50 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-4A**
Sheet **1** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S10-4A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230867.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283093.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.8**	Utilized		X						X					X
Date Started: **6 June 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **7 June 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **.5**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											96.95	
											15.85	Possible weathered bedrock at 15.85 m.
											96.04	
		16.76-18.28	1	1.52	1.05	C		[RQD = 49%]			16.76	Very hard fresh gray and white coarse to fie grained biotite GNEISS. Foliation is moderately dipping, extremely close to close. Joints are moderately dipping to high angle, close to moderate, rough, fresh to discolored, open Same as C1
		18.29-19.81	2	1.52	1.36	C		[RQD = 78%]				
												-BEDROCK-
20											92.99	
											19.81	Bottom of Exploration at 19.81 m.
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**15.2**	**16.76** m	**3.05** m
			No. of Samples	
			2C	

NOTES: **Bombadier Diedrich D-50 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S10-4A**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S101-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231066.62**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282209.99**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **110.8**	Utilized						X		X					X
Date Started: **24 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **24 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	1	1	2	4	110.45	Loose dark brown
		0.61-1.22	2	0.61	0.33	D	6	13	12	11	0.30	-TOPSOIL-
		1.52-2.13	3	0.61	0.30	D	9	6	5	14		Loose orange-brown coarse to fine SAND, little silt, trace medium to fine gravel, no odor, moist
		2.13-2.18	4	0.05	0.03	D	100/0.05					Medium dense light brown coarse to fine SAND, little silt, trace coarse to fine gravel, no odor, moist
		3.05-3.66	5	0.61	0.30	D	8	5	8	8		Medium dense light brown coarse to fine SAND, little silt, no odor, moist
		3.66-4.27	6	0.61	0.10	D	25	7	6	17		Same as D3, except very dense
5		4.57-5.18	7	0.61	0.00	D	15	17	21	32		Split spoon refusal at 2.13
											105.57 5.18	Note: Augered through boulder 2.1 m. to 2.9 m. Medium dense dark brown coarse to fine SAND, little silt, no odor, moist
												Same as D5
												No recovery, rock particles in split spoon
												-FILL-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.5**	**5.18** m	**-** m
			No. of Samples	
			7D	

NOTES: **Skid mounted Diedrich D-25 with cat head to drive safety hammer.**
Borehole backfilled with drill cuttings. NE means Not Encountered

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S101-1**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S101-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231038.73**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282252.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **109.3**														
Date Started: **24 April 2001**	Utilized			X					X					X
Date Finished: **24 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ **4.57** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	4	6	5	5		Loose brown coarse to fine SAND, little silt, medium to fine gravel, trace roots
		1.52-2.13	2	0.61	0.45	D	8	11	15	12		Medium dense brown coarse to fine SAND, little medium to fine gravel, trace silt
		3.05-3.66	3	0.61	0.45	D	10	16	12	17		Medium dense brown coarse to fine SAND, some silt, some medium to fine gravel
5		4.57-5.18	4	0.61	0.45	D	15	14	17	21		Dense brown fine SAND, little silt, trace coarse sand, fine gravel, wet
											104.15 5.18	-FILL-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			4D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S101-2**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S101-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231011.69**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282298.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **108.0**	Utilized			X					X					X
Date Started: **23 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **24 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.28	D	2	3	4	6	0.07	Loose dark brown -TOPSOIL-
		0.61-1.06	2	0.45	0.12	D	6	44	100/0.05			Loose brown coarse to fine SAND,little silt, trace coarse to fine gravel, no odor, moist
		1.52-1.52	3	0.00	--	D	50/0.0					Very dense dark brown coarse to fine SAND, little silt, no odor, moist Split spoon refusal
		3.05-3.66	4	0.61	0.10	D	16	17	15	11	104.35 3.66	No recovery Medium dense dark brown coarse to fine SAND, little fine gravel, trace silt, no odor, wet
5		4.60-5.05	5	0.45	0.00	D	3	10	50/0.05			Note: Driller cored from 1.5 m. to 3.0 m. using core barrel, cored through cobbles -FILL-
		4.88-5.79	1	0.91	0.60	C						Split spoon refusal
		6.10-7.62	2	1.52	0.75	C						No recovery Cored cobbles and boulders from 4.88 m. to 5.79 m.
											100.39 7.62	Cored boulders from 6.10 m. to 7.62 m. -GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 7.62 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**4.6**	**7.62** m	**-** m
			No. of Samples	
			5D,2C	

NOTES: **Skid mounted Diedrich D-25 with cat head to drive safety hammer.**
Borehole backfilled with drill cuttings

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S101-3**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S101-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
M. Sheperd	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230985.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282354.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **108.4**	Utilized			X					X					X
Date Started: **23 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	3	3	5	9		Loose brown coarse to fine SAND, trace silt with wood fragments
		0.61-1.06	2	0.45	0.08	D	9	13	27	50/0.00		Dense brown coarse to fine SAND, little gravel, trace silt
		1.52-2.13	3	0.61	0.30	D	11	16	14	18		Medium dense brown coarse to fine SAND, little gravel, trace silt
		3.05-3.66	4	0.61	0.30	D	15	13	19	24		Medium dense gray-brown medium to fine GRAVEL and coarse to fine SAND, little silt
		3.81-4.42	1	0.61	0.12	C					104.55 3.81	-FILL-
5		4.57-4.57	5	0.00	0.00	D	50/0.00					Cored boulder 3.81 m. to 4.42 m. Cored boulder 4.57 m. to 5.47 m.
		4.58-5.48	2	0.90		C					102.26	
		6.10-6.71	6	0.61	0.45	D	16	26	39	61	6.10	Very dense tan to gray coarse to fine SAND, some gravel, trace silt
		7.62-8.07	7	0.45	0.45	D	19	35	47	50/0.00	100.29 8.07	Same as D6, except with wood fragments -GLACIOFLUVIAL DEPOSITS-
10												Bottom of Exploration at 8.07 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**7.6**	**8.07** m	**-** m
			No. of Samples	
			7D,2C	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S101-4**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S101-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230965.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282397.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **108.0**	Utilized						X		X					X
Date Started: **22 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.98** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	2	3	3	4	107.39	Loose dark brown
		0.61-1.22	2	0.61	0.15	D	4	5	11	5	0.61	-TOPSOIL-
		1.52-2.13	3	0.61	0.30	D	7	7	5	4		Medium dense dark brown coarse to fine SAND, little coarse to fine gravel, silt, trace organics, no odor, moist Medium dense dark brown coarse to fine SAND, little silt, trace organics, no odor, moist
											104.95	
		3.05-3.20	4	0.15	0.02	D	100/0.15				3.05	-FILL- Split spoon refusal. Probable boulder, rock particles in split spoon
5		4.57-4.72	5	0.15	0.02	D	100/0.04					Split spoon refusal. Probable boulder, rock particles in split spoon
											101.88	
		6.10-6.12	6	0.02	0.00	D	100/0.02				6.12	No recovery
		6.12-7.62	1	1.50	0.61	C						Cored boulders 6.12 m. to 7.62 m.
											100.38	No recovery at 7.62
		7.62-7.62	7	0.00	0.00	D	100/0.00				7.62	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 7.62 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**7.62** m	**-** m
			No. of Samples	
			7D,1C	

NOTES: **Skid mounted Diedrich D-25 with cat head to drive safety hammer.**
Borehole backfilled

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S101-5**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S102-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231036.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282170.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.0**	Utilized						X		X					X
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											115.73	-BITUMINOUS CONCRETE-
		0.30-0.60	1	0.30	0.27	D	44	43	100/0.00		0.30	Very dense brown medium to fine GRAVEL and coarse to fine SAND, little silt, no odor, ,moist
		0.91-1.52	2	0.61	0.22	D	87	53	33	30		
		1.52-2.13	3	0.61	0.13	D	23	46	49	100		Note: Driller offset borehole 1.31 m. East due to boulder
												Very dense gray-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor
											113.03	Drove split spoon through cobble
		3.05-3.66	4	0.61	0.43	D	2	2	6	4	3.00	-FILL-
		3.66-4.27	5	0.61	0.41	D	8	26	40	45		Loose orange-brown coarse to fine SAND, little medium to fine gravel, trace silt, no odor, moist
5		4.57-4.72	6	0.15	0.15	D	100					Very dense orange-brown coarse to fine SAND, trace medium to fine gravel, silt, no odor, moist
		5.20-6.10	1	0.90		C						Very dense gray-brown coarse to fine SAND, trace medium to fine gravel, silt, no odor, moist
		6.10-6.55	7	0.45	0.36	D	16	62	100			Split spoon refusal at 4.72 m.
		7.01-8.20	2	1.19		C						Note: Auger refusal at 4.88 m. Cored boulders 5.2 m. to 6.1 m.
												Very dense gray-brown coarse to fine SAND, little medium to fine gravel, silt
											107.83	
											8.20	Split spoon refusal at 6.55 m.
												Note: Auger refusal at 7.01 m. Cored boulders 7.01 m. to 8.2 m.
10												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 8.2 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.0**	**8.20** m	**-** m
			No. of Samples	
			7D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S102-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S102-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230982.88**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282249.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.8**		Utilized						X		X					X
Date Started: **28 February 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 February 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.50** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.33	D	6	6	8	6	112.13	Medium dense brown fine SAND and SILT, little coarse sand, trace gravel and roots; moist, no odor.
											0.71	-TOPSOIL-
		1.52-2.13	2	0.61	0.41	D	24	14	14	21		Medium dense brown coarse to fine SAND, some coarse to fine gravel, trace silt; no odor, moist
		3.05-3.66	3	0.61	0.41	D	13	11	14	13		Same as S2, except trace gravel
5		4.57-5.18	4	0.61	0.41	D	6	15	22	21	108.07	-GLACIOFLUVIAL DEPOSITS-
											4.77 107.66	Dense brown coarse to fine SAND and SILT, trace coarse to fine gravel, no odor, wet
											5.18	-GLACIAL TILL-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S102-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S102-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230943.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282339.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.1**	Utilized													
Date Started: **4 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.96** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Boulders from surface, unable to collect samples
												All cobbles and boulders to 3.05 m.
		3.05-3.16	1	0.11	0.00	D	100/0.11					No recovery, piece of coarse gravel in tip
											108.17 / 3.96	Cobbles and boulders to 4.57 m.
5		4.57-5.18	2	0.61	0.15	D	7	12	8	11		-FILL-
											106.95 / 5.18	Medium dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
			5.18 m	**-** m
			No. of Samples	
			2D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S102-3**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S103-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231017.09**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282179.75**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.4**	Utilized						X		X					X
Date Started: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 February 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **6.00** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.48	D	2	2	5	4	0.15	-TOPSOIL-
												Loose brown coarse to fine SAND and SILT, little gravel, trace organics; no odor, moist
		1.52-2.13	2	0.61	0.02	D	44	46	15	21	112.27	Note: Auger through common cobbles to 1.5 m.
											2.10	Very dense brown coarse to fine GRAVEL and coarse to fine SAND, some silt; no odor, moist; coarse gravel lodged in split spoon shoe
		3.05-3.05	3	0.00	0.00	D	100/0	--	--	--		Note: Auger through common cobbles to 3.0 m.
5		4.57-5.18	4	0.61	0.48	D	13	45	63	80		Note: Split spoon refusal at 3.0 m. on probable boulder
												-FILL-
												Very dense brown coarse to fine SAND and coarse to fine GRAVEL, some silt; no odor, moist
		6.10-6.71	5	0.61	0.41	D	19	40	41	43		Very dense brown coarse to fine SAND, some silt, little gravel; no odor, moist
		7.62-7.85	6	0.23	0.23	D	32	100/0.08	--	--	106.52	Note: Auger to 7.62 m. through common cobbles and boulders
											7.85	Same as S5, except "trace gravel"
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 7.85 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**7.85** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S103-1**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S103-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230968.13**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282262.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.0**	Utilized						X		X					X
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 February 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.50** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.46	D	9	6	12	13	112.15 / 0.81	Medium dense brown fine SAND and SILT, little coarse sand gravel, trace roots; no odor, moist -TOPSOIL-
		1.52-1.52	2	0.00	0.00	D	50/0	--	--	--		No recovery. Auger refusal at 1.52 m. borehole moved 1.22 m. west to avoid boulder
		3.05-3.66	3	0.61	0.41	D	8	11	15	13	109.15 / 3.81	Medium dense light brown coarse to fine SAND, little gravel, trace silt; no odor, moist -GLACIOFLUVIAL DEPOSITS-
5		4.57-4.65	4	0.08	0.08	D	100/0.08	--	--	--	108.31 / 4.65	Note: Common cobbles and boulders 3.81 - 4.65 m. Very dense brown coarse to fine SAND and SILT, little fine gravel, trace coarse to medium gravel; no odor, wet -GLACIAL TILL- Bottom of Exploration at 4.65 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.65** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S103-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S103-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230944.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282317.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.6**	Utilized						X		X					X
Date Started: **4 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ _____ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.63	1	0.63	0.61	D	2	12	17	39	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.61	D	5	14	23	19		Medium dense brown coarse to fine SAND and GRAVEL, trace silt
											110.10	Dense brown coarse to fine SAND and GRAVEL, little silt, glass
		1.52-2.13	3	0.61	0.46	D	3	4	3	5	1.50	-FILL-
		2.13-2.74	4	0.61	0.38	D	4	7	4	4	108.86	Loose orange brown SILT and fine SAND, little fine gravel, coarse sand, roots
		3.05-3.30	5	0.25	0.20	D	29	100/0.10			2.74	Same as D3
												-ALLUVIAL DEPOSITS-
5		4.57-5.18	6	0.61	0.30	D	48	62	59	74	106.42	Very dense gray brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
											5.18	Very dense gray brown coarse to fine GRAVEL, some coarse to fine sand, trace silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S103-3**
Sheet **1** of **1**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230993.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282169.49**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.0**	Utilized		X				X		X				X	
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type	X	Diamond	
@ **5.30** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	8	7	6	5		Medium dense brown to light brown coarse to fine SAND and SILT, trace gravel; trace plastic and concrete (0.02 m. fragment); no odor, moist
		0.61-1.22	2	0.61	0.00	D	12	14	12	6		No recovery; concrete fragments in tip of spoon
		1.52-2.13	3	0.61	0.18	D	6	9	14	100		Medium dense brown coarse to fine SAND, some medium to fine gravel, little silt; no odor, dry
		2.29-2.90	4	0.61	0.10	D	4	3	4	3		Loose dark brown coarse to fine SAND, little silt, trace gravel, trace concrete (0.03 m. fragment); moist, odor
		2.90-3.51	5	0.61	0.15	D	4	4	3	4		Loose brown to black coarse to fine SAND, some coarse to fine gravel, little silt, trace soft white fragments (unknown); moist, slight odor
											120.01	-FILL-
5		4.27-4.73	6	0.46	0.10	D	21	37	100	--	4.00	Very dense light brown coarse to fine SAND and coarse to fine gravel, trace silt; no odor, dry
		6.10-6.71	7	0.61	0.30	D	6	7	39	50		Note: Roller bit advanced 4.72 to 6.10 m.
		7.47-8.99	1	1.52	0.76	C						Dense brown coarse to fine SAND, some coarse to fine gravel and silt; no odor, wet Note: Roller bit refusal at 7.47 m. Cored through boulders 7.47 to 8.99 m; 0.76 m. recovered
10		9.14-9.60	8	0.46	0.30	D	34	62	100	--		Very dense brown coarse to fine SAND, some silt, little fine gravel, trace medium gravel; no odor, moist
		10.67-11.03	9	0.36	0.33	D	50	50	100/0.05	--	112.99	Very dense brown coarse to fine GRAVEL and coarse to fine SAND, some silt; no odor, moist
		11.13-12.65	2	1.52	1.52	C		[RQD = 93%]			11.02	-GLACIOFLUVIAL DEPOSITS-
											111.36	Note: Split spoon refusal at 11.02 m.; roller bit to 11.13 m.
											12.65	Note: Roller bit refusal at 11.13 m.
15												Hard, fresh, gray, medium to fine grained QUARTZ BIOTITE GNEISS; primary joint set moderately dipping, very close, rough, discolored, open -BEDROCK-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**11.0**	**11.02** m	**1.52** m
			No. of Samples	
			9D,2C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-1**
Sheet **1** of **2**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230993.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282169.49**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.0**	Utilized		X				X		X				X	
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type	X	Diamond	
@ **5.30** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Bottom of Exploration at 12.65 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**11.0**	**11.02** m	**1.52** m
			No. of Samples	
			9D,2C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-1**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-2OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230970.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282213.26**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.9**														
Date Started: **15 March 2001**	Utilized		X				X		X					X
Date Finished: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **10.56** m after **82 Days**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.18	D	1	3	3	5		Loose brown fine SAND, little silt, trace coarse sand, gravel, brick pieces, concrete, wood
		0.61-0.61	2	0.00	0.00	D	50/0					Split Spoon Refusal @ 0.61 m.
		1.52-2.13	3	0.61	0.46	D	27	36	18	14		Very dense brown fine SAND, some silt, little brick fragments, asphalt, concrete, trace fine gravel
		2.13-2.26	4	0.13	0.10	D	50/.13					Very dense brown fine SAND, some silt, little fine gravel, trace brick, asphalt
		3.05-3.66	5	0.61	0.36	D	8	9	11	19		Medium dense brown fine SAND, some silt, little slag, concrete, brick pieces
		3.66-4.27	6	0.61	0.30	D	19	27	18	52		Dense black to brown coarse to fine SAND, some coarse to fine gravel, asphalt, concrete
5		4.57-5.18	7	0.61	0.30	D	3	2	1	2		Very loose black coarse to fine SAND, little fine gravel, trace silt
		5.18-5.79	8	0.61	0.15	D	14	9	6	6		Medium dense brown to black fine SAND, some coarse sand, little silt, coarse to fine gravel
		6.10-6.71	9	0.61	0.08	D	13	9	7	15		Medium dense brown SILT and coarse to fine SAND, some medium to fine gravel
		6.71-6.96	10	0.25	0.10	D	21	50/10			116.90	
											7.00	-FILL-
		7.77-8.68	1	0.91		C						Very dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt Boulders from 7.62 to 8.69 m (cored 7.77 to 8.69 m)
10		9.14-9.75	11	0.61	0.36	D	32	35	45	45		
		10.67-11.07	12	0.40	0.30	D	13	27	100/0.1			Very dense brown coarse to fine SAND, trace coarse gravel
		11.07-11.37	2	0.30		C						Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt
		12.19-12.44	13	0.25	0.15	D	33	50/0.1			111.71 12.19	Cobbles & boulders 11.37-12.19 m. -GLACIOFLUVIAL DEPOSITS-
		13.72-13.95	14	0.23	0.15	D	94	100/.08				Very dense tan fine SAND and SILT, some coarse sand, little gravel with cobbles Very dense tan fine SAND and SILT, some coarse sand, little gravel
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**13.7**	**17.06** m	**-** m
			No. of Samples	
			15D,2C	

NOTES: **Case mounted Mobile Drill B-47 rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-2OW**
Sheet **1** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-2OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230970.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282213.26**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.9**														
Date Started: **15 March 2001**	Utilized		X				X		X					X
Date Finished: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **10.56** m after **82 Days**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												On boulder from 14.94-15.54 m.
		16.76-17.06	15	0.30	0.15	D	110	110			106.84	Very dense brown fine SAND, little silt, medium to fine gravel, trace coarse sand
											17.06	-GLACIAL TILL-
												Bottom of Exploration at 17.06 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**13.7**	**17.06** m	**-** m
			No. of Samples	
			15D,2C	

NOTES: **Case mounted Mobile Drill B-47 rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-2OW**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230941.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282275.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.5**	Utilized			X			X		X					X
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	1	3	5	3		Loose brown coarse to fine GRAVEL, some coarse to fine sand, trace silt, concrete
		0.61-1.22	2	0.61	0.13	D	3	2	5	4		Loose brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, brick, wood, with cobbles
		1.52-2.13	3	0.61	0.20	D	30	8	7	8		Medium dense brown to white coarse to fine SAND and medium to fine GRAVEL, trace silt
		2.13-2.74	4	0.61	0.13	D	10	5	5	9		Medium dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt, trace brick specks with cobbles
		3.05-3.66	5	0.61	0.15	D	5	3	7	7		Same as D4
		3.66-3.79	6	0.13	0.00	D	50/.13					No recovery. Moved boring, went through possible concrete from 3.66-4.57 m. with air rotary hammer
5		4.57-5.18	7	0.61	0.20	D	6	8	8	7		Medium dense brown coarse to fine SAND and GRAVEL, trace silt, brick, concrete
		5.18-5.79	8	0.61	0.36	D	11	8	8	9		Medium dense brown coarse to fine GRAVEL and coarse to fine SAND, with brick pieces
		6.10-6.71	9	0.61	0.00	D	17	20	13	19		D9 Piece of gravel in tip
		6.71-7.32	10	0.61	0.05	D	42	43	18	32		Very dense gray coarse to fine GRAVEL, some coarse to fine sand, with cobbles
		7.62-8.23	11	0.61	0.46	D	9	10	9	9	115.42	Medium dense brown and black fine SAND, some gravel, silt, trace coarse sand
											8.08	-FILL-
10		9.14-9.39	12	0.25	0.10	D	20	50/.1				Medium dense light brown laminated SILT and fine SAND
											112.83	Very dense gray brown coarse to fine SAND, little fine gravel, trace silt
		10.67-10.77	13	0.10	0.10	D	50/.10				10.67	Very dense gray and brown fine SAND, little silt, coarse sand, medium to fine gravel
											111.31	-GLACIOFLUVIAL DEPOSITS-
		12.19-12.62	14	0.43	0.41	D	50	50	50/.13		12.19	Very dense tan fine SAND and SILT, some coarse sand, little medium to fine gravel
		13.72-14.12	15	0.40	0.30	D	50	50	50/.10			Same as D14
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**15.5**	**16.00** m	**1.52** m
			No. of Samples	
			16D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-3**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230941.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282275.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.5**	Utilized			X			X		X					X
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.34	16	0.10	0.05	D	50/.10				107.96 / 15.54	Very dense brown fine SAND and SILT, some gravel, trace coarse sand -GLACIAL TILL-
		16.00-17.52	1	1.52	1.52	C		[RQD = 33%]			105.98 / 17.52	Very hard, fresh green gray and white, coarse to fine grained GNEISS. Foliation is indeterminate. Joints are low angle to high angle, very close to moderately spaced, rough, undulating, fresh to discolored, open -BEDROCK-
20												Bottom of Exploration at 17.52 m.
25												
30												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**15.5**	**16.00** m	**1.52** m
			No. of Samples	
			16D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-3**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230912.42**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282347.06**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.9**														
Date Started: **14 March 2001**	Utilized		X				X		X					X
Date Finished: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **10.86** m after **47 days**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	5	6	6	5		Medium dense brown to black coarse to fine SAND and coarse to fine GRAVEL, asphalt and concrete pieces
		0.61-1.22	2	0.61	0.15	D	3	4	6	6		Same as D1
		1.52-2.13	3	0.61	0.20	D	6	8	9	11		Medium dense dark brown coarse to fine SAND, little silt, trace fine gravel, brick specks
		2.13-2.74	4	0.61	0.46	D	6	4	5	5		Medium dense brown to black coarse to fine SAND and coarse to fine GRAVEL, asphalt, concrete
		3.05-3.66	5	0.61	0.48	D	11	15	23	22		Dense dark brown coarse to fine SAND, some coarse to fine gravel, trace silt
											115.35	-FILL-
5		4.57-5.18	6	0.61	0.20	D	7	14	9	11	4.57	Medium dense olive brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
		6.10-6.38	7	0.28	0.13	D	15	50/.13				Very dense black stained coarse to fine SAND, some medium to fine gravel, petroleum odor
		7.62-8.23	8	0.61	0.00	D	7	5	15	7		No recovery
10		9.14-9.75	9	0.61	0.13	D	12	13	13	13		Medium dense gray coarse to medium GRAVEL
		10.67-11.28	10	0.61	0.00	D	50	50	21	20		No recovery
		12.19-12.29	11	0.10	0.08	D	50/.11					Very dense brown medium to fine GRAVEL, some coarse to fine sand, trace silt
											106.20	
		13.72-14.33	12	0.61	0.51	D	32	30	30	33	13.72	Very dense brown fine SAND, little silt, coarse to fine gravel
15											105.14	-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.7**	**14.78** m	**0.91** m
			No. of Samples	
			12D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Observation Well Installed in completed borehole.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-4OW**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S104-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230912.42**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282347.06**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.9**														
Date Started: **14 March 2001**	Utilized		X				X		X					X
Date Finished: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **10.86** m after **47 days**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		14.78-15.69	1	0.91	0.73	C		[RQD = 80%]			14.78 104.23	Very hard fresh gray pink and white coarse to fine grained GRANITIC GNEISS. Joints are low angle to moderately dipping, close, rough, undulating, fresh, open
											15.69	-BEDROCK-
												Bottom of Exploration at 15.69 m.
20												
25												
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**14.7**	**14.78** m	**0.91** m
			No. of Samples	
			12D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Observation Well Installed in completed borehole.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S104-4OW**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S105-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231092.32**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283210.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.5**	Utilized		X				X		X					
Date Started: **13 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ - m after -	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.48	D	23	20	16	14		Dense dark brown coarse to fine SAND, some gravel, trace silt, asphalt
		0.61-1.22	2	0.61	0.15	D	22	23	18	7		Dense dark brown coarse to fine SAND and GRAVEL, trace silt
		1.52-2.13	3	0.61	0.30	D	4	7	7	8	113.34	Medium dense brown to orange-brown fine SAND, little medium to fine gravel, trace coarse sand, silt
											2.13	Hit water main that was not marked by "Call Before You Dig" at 2.13 m. Moved to S105-1A
												-FILL-
5												Bottom of exploration at 2.13 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**1.5**	**2.13** m	**-** m
			No. of Samples	
			3D	

NOTES: **Skid mounted Diedrich D-25 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S105-1**

Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S105-1A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231084.58**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283221.89**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **115.8**	Utilized			X			X		X					
Date Started: **20 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.50** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Augered to 2.13 m. No samples taken. See log S105-1 for details to 2.13 m.
											113.69	-FILL-
		2.13-2.74	1	0.61	0.23	D	48	36	39	31	2.13	Very dense brown fine SAND, some silt, little gravel, coarse sand
		3.05-3.43	2	0.38	0.23	D	26	37	100/0.08			Very dense brown SILT and fine SAND, some gravel, trace coarse sand
5		4.57-5.00	3	0.43	0.13	D	16	28	100/0.13		110.82	Very dense gray brown fine SAND, some silt, trace coarse sand
											5.00	-GLACIOFLUVIAL DEPOSITS-
												Bottom of exploration at 5.00 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**12.2**	**5.00** m	**-** m
			No. of Samples	
			3D	

NOTES: **Skid mounted Diedrich D-25 with rope and cathead to drive safety hammer. Boreholle backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S105-1A**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230733.71**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283564.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **130.7**														
Date Started: **1 March 2001**	Utilized			X			X		X					
Date Finished: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.05	D	2	3	4	4	130.04	Loose brown coarse to fine SAND, trace silt, medium to fine gravel, leaves, wood
		0.61-1.22	2	0.61	0.36	D	3	3	3	3	0.61	-TOPSOIL-
		1.52-2.13	3	0.61	0.41	D	16	6	9	8		Loose brown coarse to fine SAnD, trace fine gravel Medium dense brown fine SAND, little coarse sand, silt, trace medium gravel
		3.05-3.66	4	0.61	0.51	D	14	18	18	20		Dense brown coarse to fine SAND, little fine gravel, trace medium gravel
5		4.57-5.18	5	0.61	0.46	D	17	23	54	47		Very dense light brown coarse to fine SAND and GRAVEL, little silt, boulder to 5.77 m.
		6.10-6.33	6	0.23	0.21	D	38	50/0.08				Very dense orange brown coarse to fine SAND, little coarse to fine gravel
		7.62-8.23	7	0.61	0.36	D	33	47	60	83		Very dense brown coarse to fine SAND and medium to fine GRAVEL
10		9.14-9.75	8	0.61	0.46	D	13	32	36	40		Very dense brown coarse to fine SAND and medium to fine GRAVEL
		10.67-11.28	9	0.61	0.31	D	23	30	36	38		Very dense brown coarse to fine SAND, little fine gravel, trace silt
		12.19-12.80	10	0.61	0.41	D	20	33	37	43	117.85	Very dense brown coarse to fine SAND, trace fine gravel, silt
											12.80	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 12.80 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**12.2**	**12.80** m	**-** m
			No. of Samples	
			10D	

NOTES: **Bomb mounted CME-45C with automatic hammer. NE=Not Encountered.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-1**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230732.93**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283648.61**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **128.6**	Utilized			X			X		X					
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **21 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	4	23	39	50		Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt with cobbles & boulders
											127.07	-FILL-
		1.52-2.13	2	0.61	0.23	D	7	9	9	12	1.52	Medium dense brown to olive brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		2.13-2.23	3	0.10	0.00	D	50/.10				125.54	No recovery
		3.05-3.66	4	0.61	0.13	D	18	25	29	27	3.05	Very dense gray fine SAND, little coarse sand, trace silt
5		4.57-5.18	5	0.61	0.61	D	15	20	19	22	123.41	Dense brown coarse to fine SAND, little silt, fine gravel
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-2**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-3OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230746.43**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283735.89**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **137.7**	Utilized		X						X					
Date Started: **26 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	3	5	5	7	137.06 / 0.60	Medium dense brown coarse to fine SAND, little roots, trace coarse sand -TOPSOIL
		1.52-2.13	2	0.61	0.13	D	7	8	8	10		
		3.05-3.66	3	0.61	0.30	D	10	14	15	17		Medium dense brown coarse to fine SAND, trace fine gravel
5		4.57-4.85	4	0.28	0.08	D	23	50/0.13				Very dense cobble and boulder fragments, some coarse to fine sand
		6.10-6.71	5	0.61	0.13	D	12	23	30	36		Very dense brown fine GRAVEL, some coarse to fine sand, little coarse to medium gravel
		7.62-8.23	6	0.61	0.13	D	15	23	33	37	129.43 / 8.23	Very dense gray medium to fine GRAVEL, little coarse sand, trace fine sand, coarse gravel -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 8.23 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**7.6**	**8.23** m	**-** m
			No. of Samples	
			6D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer. Observation well installed upon completion. See "Observation Well Installation Report S106-3OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-3OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230767.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283579.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing			Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **152.8**		Utilized		X		X		X	X					
Date Started: **13 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**		Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	12	12	10	11		Medium dense brown coarse SAND, some medium to fine gravel, little fine sand
		1.52-2.13	2	0.61	0.45	D	10	11	7	7		Medium dense light brown coarse SAND, some fine sand, little fine gravel
		3.05-3.66	3	0.61	0.30	D	12	19	27	13		Dense light brown fine SAND, some coarse sand, little fine gravel
5		4.57-5.18	4	0.61	0.15	D	14	17	28	16		Dense brown coarse to fine SAND, little fine gravel, trace silt
		6.10-6.71	5	0.61	0.15	D	14	12	13	17		Medium dense brown coarse SAND, little fine sand, trace fine gravel
		7.62-8.23	6	0.61	0.15	D	14	12	13	17		Medium dense brown coarse SAND, little fine sand, trace fine gravel
10		9.14-9.75	7	0.61	0.15	D	12	15	17	16		Same as D6, except dense, trace coarse gravel
		10.67-11.28	8	0.61	0.10	D	14	13	15	13		Same as D6
		12.19-12.80	9	0.61	0.15	D	16	21	14	13		Same as D7
15		13.72-14.33	10	0.61	0.15	D	17	19	21	20		Same as D9

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**4.6**	**30.71** m	**-** m
NW	**0.0**	**30.5**	No. of Samples	
			21D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer. Observation well installed upon completion. See "Observation Well Installation Report S106-4OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-4OW**
Sheet **1** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230767.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283579.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **152.8**		Utilized		X			X		X	X					
Date Started: **13 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**		Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	11	0.61	0.15	D	13	13	17	20		Dense brown coarse to fine SAND, trace fine gravel
		16.76-17.37	12	0.61	0.15	D	14	16	19	18		Same as D11
		18.29-18.90	13	0.61	0.45	D	19	24	51	57		Very dense brown coarse to fine SAND, little silt, trace fine gravel, rock fragments
20		19.81-19.81	14	0.00	0.00	D	100/0.00					No recovery Boulder 19.81 to 20.27 m.
		21.34-21.79	15	0.45	0.15	D	87	65	100			Lost mud between 19.81 and 21.34 m. Very dense brown coarse to fine SAND, some fine gravel, trace coarse gravel
		22.86-23.47	16	0.61	0.45	D	51	74	86	81		Very dense brown coarse to fine SAND, some medium to fine gravel, trace coarse gravel
25		24.38-24.40	17	0.02	0.00	D	100/0.02					No recovery Advanced roller bit through boulder
		25.91-25.91	18	0.00	0.00	D	50/0.00					No recovery Advanced roller bit through boulder
											125.39	
		27.43-27.73	19	0.30	0.15	D	57	100			27.43	Very dense brown fine SAND, some medium to fine gravel, trace silt
30		28.96-29.11	20	0.15	0.10	D	105					Very dense brown fine SAND, trace fine gravel, silt

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**4.6**	**30.71** m	**-** m
NW	**0.0**	**30.5**	No. of Samples	
			21D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer. Observation well installed upon completion. See "Observation Well Installation Report S106-4OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-4OW**
Sheet **2** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230767.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283579.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **152.8**														
Date Started: **13 March 2001**	Utilized		X			X		X	X					
Date Finished: **14 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		30.48-30.71	21	0.23	0.03	D	100/0.08				122.11 30.71	Very dense brown fine SAND, trace coarse gravel, silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 30.71 m.
35												
40												
45												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**4.6**	**30.71** m	**-** m
NW	**0.0**	**30.5**	No. of Samples	
			21D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer. Observation well installed upon completion. See "Observation Well Installation Report S106-4OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-4OW**
Sheet **3** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230765.42**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283654.11**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing			Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.9**		Utilized		X		X		X	X					
Date Started: **15 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 March 2001**		Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	3	7	14	6		Medium dense brown coarse to fine SAND, some silt, coarse to fine gravel
		1.52-2.13	2	0.61	0.10	D	18	27	35	14		Very dense brown coarse to fine SAND, some fine gravel, cobbles, wood fibers
		3.05-3.66	3	0.61	0.00	D	10	7	5	3	143.23	No recovery. Cloth and wood in drill cuttings
											3.66	-FILL-
5		4.57-5.18	4	0.61	0.15	D	11	13	17	15		Dense brown fine SAND, some silt, trace coarse sand, roots, wood fibers
		6.10-6.71	5	0.61	0.00	D	12	24	31	16		No recovery
		7.62-8.23	6	0.61	0.15	D	15	21	23	27		Dense brown coarse to fine SAND, trace coarse to fine gravel, silt
10		9.14-9.75	7	0.61	0.30	D	15	27	31	24		Very dense brown coarse to fine SAND, some fine gravel, with cobbles and boulder fragments
											136.22	
		10.67-11.28	8	0.61	0.15	D	21	32	30	35	10.67	Very dense brown coarse SAND, some medium to fine gravel, trace coarse gravel, fine sand
		12.19-12.80	9	0.61	0.10	D	28	32	31	35		Very dense brown coarse SAND, some fine gravel, little coarse to medium gravel, rock fragments, trace fine sand
											133.17	
		13.72-14.33	10	0.61	0.15	D	23	28	33	29	13.72	Very dense brown medium to fine GRAVEL, some coarse to fine sand, little gravel, rock fragments
15												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**4.6**	**30.51** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-5**
Sheet **1** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230765.42**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283654.11**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.9**														
Date Started: **15 March 2001**	Utilized		X			X		X	X					
Date Finished: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	11	0.61	0.15	D	26	31	38	39		Same as D10
		16.76-17.37	12	0.61	0.45	D	36	51	65	89		Same as D11, except trace silt
		18.29-18.90	13	0.61	0.45	D	29	48	75	100	128.60 18.29	Very dense brown coarse SAND, some fine gravel, little fine sand, trace medium gravel
20		19.81-20.26	14	0.45	0.30	D	34	57	100/0.15			Very dense brown coarse SAND, trace fine gravel, trace fine sand
		21.34-21.34	15	0.00	0.00	D	50/0.00					No recovery. Boulder.
		22.86-23.47	16	0.61	0.45	D	61	49	74	63		Very dense brown fine SAND, trace coarse sand, silt
25		24.38-24.99	17	0.61	0.30	D	75	60	71	73		Very dense brown coarse to fine SAND, little fine gravel, trace silt
		25.91-25.99	18	0.08	0.00	D	100/0.08					No recovery
		27.43-27.43	19	0.00	0.00	D	50/0.00					No recovery
												Note: Boulders, advanced roller bit to 30.48 m.
30												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**4.6**	**30.51** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-5**
Sheet **2** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230765.42**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283654.11**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.9**														
Date Started: **15 March 2001**	Utilized		X			X		X	X					
Date Finished: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											116.38	
		30.48-30.51	20	0.03	0.00	D	100/0.03				30.51	No recovery
												-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 30.51 m.
35												
40												
45												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**4.6**	**30.51** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-5**
Sheet **3** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-6OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230768.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283732.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.8**	Utilized			X				X	X					
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.33	D	8	17	21	8		Dense brown SILT and coarse to fine SAND, some coarse to fine gravel
		0.61-1.22	2	0.61	0.48	D	6	13	16	11	146.97	Medium dense brown coarse to fine SAND, little fine gravel, trace wood
		1.52-2.13	3	0.61	0.46	D	9	13	15	10	0.80	-FILL-
												Medium dense brown fine SAND, little medium to fine gravel, trace coarse sand, silt with cobbles
		3.05-3.66	4	0.61	0.15	D	8	11	13	13		Medium dense brown coarse to fine SAND, little medium to fine gravel, trace silt with cobbles
5		4.57-5.18	5	0.61	0.38	D	8	8	13	12		Medium dense brown fine SAND and SILT, trace coarse sand
		6.10-6.71	6	0.61	0.43	D	11	13	14	11		Medium dense brown fine SAND, some silt, trace coarse sand, fine gravel
		7.62-8.23	7	0.61	0.41	D	10	13	13	14		Medium dense brown laminated fine SAND, some silt with cobbles
10		9.10-9.71	8	0.61	0.00	D	8	8	7	8		Continuous cobbles and boulders 9.1 m. No recovery rock fragments in tip
		10.70-11.31	9	0.61	0.13	D	7	8	9	13		Medium dense brown fine SAND, trace silt, trace coarse sand
		12.19-12.80	10	0.61	0.15	D	12	19	12	34		Dense brown coarse GRAVEL, little fine gravel, trace fine sand, trace silt, with cobbles
		13.72-14.33	11	0.61	0.33	D	13	72	14	33		Dense brown fine GRAVEL, some coarse to fine sand, trace silt, rock fragments
15												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**22.2**	**29.90** m	**1.52** m
			No. of Samples	
			16D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Observation well installed in completed borehole. See "Observation Well Installation Report S106-6OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-6OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230768.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283732.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.8**	Utilized			X				X	X					
Date Started: **7 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **14 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Boulder 14.75 m. to 15.5 m.
		16.76-17.37	12	0.61	0.43	D	21	30	31	28		Dense brown fine SAND, little silt, trace fine gravel
		18.29-18.90	13	0.61	0.43	D	24	21	28	31		Dense brown fine SAND, little silt, fine gravel
20		19.80-19.85	14	0.05	0.00	D	100/.05					No recovery
		21.30-21.60	15	0.30	0.18	D	80	100/.15				Very dense brown coarse SAND, little medium to fine gravel, trace fine sand, rock fragments with cobbles and boulders
											124.57	
		23.20-23.96	1	0.76	0.76	C					23.20	Cored boulders from 23.20 m. to 21.60 m.
25		24.70-25.60	2	0.90	0.44	C		[RQD = 4%]				Cored boulders from 24.70 m. to 25.60 m.
		26.20-27.72	3	1.52	0.83	C		[RQD = 3%]				Cored boulders from 26.20m to 27.71 m
		27.70-27.78	16	0.08	0.00	D	100/0.08					No recovery rock fragment in tip of spoon.
30											117.87	

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**22.2**	**29.90** m	**1.52** m
			No. of Samples	
			16D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Observation well installed in completed borehole. See "Observation Well Installation Report S106-6OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-6OW**
Sheet **2** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-6OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230768.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283732.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.8**														
Date Started: **7 March 2001**	Utilized			X				X	X					
Date Finished: **14 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		29.90-31.42	4	1.52	1.10	C		[RQD = 9%]			29.90	C4- Top- Very hard, slightly weathered, gray, GNEISS. Foliation, moderately dipping, close, rough, undulating, fresh, tight.
											116.35	Bottom- Very hard, moderately weathered, white, mica SCHIST. Foliation, moderately dipping, close, rough, undulating, discolored, open.
											31.42	-BEDROCK- Bottom of Exploration at 31.42 m.
35												
40												
45												

Casing Size	From	To	Meters of Earth	Rock
HW	**0.0**	**22.2**	**29.90** m	**1.52** m
			No. of Samples	
			16D,4C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Observation well installed in completed borehole. See "Observation Well Installation Report S106-6OW" for complete details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-6OW**
Sheet **3** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230762.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283617.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **148.3**	Utilized		X			X		X	X					
Date Started: **16 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 March 2001**	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	7	19	25	7		Dense brown coarse to fine SAND, some rock fragments, trace fine gravel
		1.52-2.13	2	0.61	0.15	D	13	15	12	13		Medium dense red brown fine SAND, little coarse sand, trace fine gravel, silt
		3.05-3.66	3	0.61	0.00	D	12	9	7	8		No recovery, wood in tip of spoon
											143.77	-FILL-
5		4.57-5.18	4	0.61	0.30	D	10	14	15	18	4.57	Medium dense coarse to fine SAND, little fine gravel, trace coarse to medium gravel
		6.10-6.71	5	0.61	0.45	D	11	13	14	19		Same as D4
		7.62-8.23	6	0.61	0.15	D	10	12	12	18		Same as D5
10		9.14-9.59	7	0.45	0.15	D	26	39	100			Very dense tan coarse to fine SAND, trace medium to fine gravel
											137.98	
		10.67-11.28	8	0.61	0.45	D	31	32	32	30	10.36	Very dense light brown mottled coarse to fine SAND, trace fine gravel
		12.19-12.80	9	0.61	0.45	D	27	34	33	30		Very dense tan fine SAND, little coarse sand, trace fine gravel
											134.62	
		13.72-14.17	10	0.45	0.30	D	49	76	100		13.72	Very dense brown coarse to fine SAND, little coarse to fine gravel, rock fragments
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**4.6**	**30.50** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-7**
Sheet **1** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230762.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283617.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **148.3**	Utilized		X			X		X	X					
Date Started: **16 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 March 2001**	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.54	11	0.30	0.10	D	46	100				Same as D10
		16.76-16.79	12	0.03	0.00	D	100/0.03					No recovery, boulder
		18.29-18.90	13	0.61	0.30	D	12	15	17	16		Dense brown coarse to fine SAND, little fine gravel
20		19.81-20.42	14	0.61	0.30	D	11	14	19	17		Same as D13
		21.34-21.36	15	0.02	0.00	D	100/0.02					No recovery, boulder
												Continuous cobbles and boulders, advanced roller bit from 21.36 to 24.38 m.
											124.57 / 23.77	
25		24.38-24.99	16	0.61	0.03	D	51	60	74	93		Very dense fine SAND, trace coarse sand
		25.91-25.91	17	0.00	0.00	D	50/0.00					No recovery, boulder
		27.43-27.58	18	0.15	0.10	D	115					Same as D16
30		28.96-29.06	19	0.10	0.08	D	100/0.10					Very dense coarse to fine SAND, trace fine gravel

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**4.6**	**30.50** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-7**
Sheet **2** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-7**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230762.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283617.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **148.3**														
Date Started: **16 March 2001**	Utilized		X			X		X	X					
Date Finished: **16 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	50			35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											117.84	
		30.48-30.50	20	0.02	0.00	D	100/0.02				30.50	No recovery
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 30.50 m.
35												
40												
45												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**4.6**	**30.50** m	**-** m
NW	**0.0**	**27.4**	No. of Samples	
			20D	

NOTES: **Bombadier Diedrich D-120 with wire winch to drive safety hammer.**
Borehole backfilled upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-7**
Sheet **3** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230766.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283691.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.8**	Utilized		X						X					
Date Started: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	5	13	11	7		Medium dense brown coarse to fine SAND, little coarse to fine gravel, trace silt
		1.52-2.13	2	0.61	0.30	D	15	10	13	18		Same as D1, except trace rock fragments
											144.70	
		3.05-3.66	3	0.61	0.45	D	9	10	16	21	3.05	-FILL-
												Medium dense brown fine SAND, little coarse sand, trace fine gravel
5		4.57-5.18	4	0.61	0.45	D	11	13	15	19		Medium dense brown coarse to fine SAND, trace fine gravel
		6.10-6.71	5	0.61	0.45	D	11	16	17	29		Dense brown coarse to fine SAND, little fine gravel, trace coarse to medium gravel
		7.62-8.23	6	0.61	0.30	D	10	17	15	32		Same as D5
		9.14-9.75	7	0.61	0.10	D	12	14	14	16		Same as D6, except very few cobbles
10												Common cobbles and boulders 9.75 to 10.67 m.
											137.08	
		10.67-11.28	8	0.61	0.45	D	21	23	22	24	10.67	Dense brown coarse to fine SAND, some fine gravel, trace coarse to medium gravel, silt
		12.19-12.80	9	0.61	0.45	D	23	22	24	23		Same as D8
												Common cobbles and boulders 12.8 to 13.72 m.
		13.72-14.33	10	0.61	0.30	D	19	25	20	27		Same as D9, except trace cobbles
15											133.12 / 14.63	

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**30.5**	**30.51** m	**-** m
			No. of Samples	
			21D	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-8**
Sheet **1** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230766.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283691.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **147.8**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **19 March 2001**	Utilized		X						X					
Date Finished: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	11	0.61	0.30	D	30	33	39	47		Very dense tan coarse to fine SAND, trace fine gravel
		16.76-17.21	12	0.45	0.00	D	28	42	100			No recovery, gravel in tip of spoon
		18.29-18.90	13	0.61	0.45	D	29	32	37	41		Very dense tan fine SAND, little coarse sand, trace fine gravel
20		19.81-20.11	14	0.30	0.25	D	68	100				Very dense tan fine SAND, little coarse sand, trace fine gravel
		21.34-21.34	15	0.00	0.00	D	50/0					No recovery, boulder
		22.86-23.16	16	0.30	0.15	D	71	100				Very dense tan fine SAND, little coarse sand, trace fine gravel
25		24.38-24.68	17	0.30	0.03	D	69	100				Very dense tan coarse to fine SAND, trace fine gravel with few cobbles and boulders
		25.91-26.06	18	0.15	0.00	D	100					No recovery, cobbles and boulders
		27.43-27.58	19	0.15	0.08	D	100					Same as D17 with common boulders
30		28.96-28.96	20	0.00	0.00	D	50/0				118.64 29.11	No recovery -GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**30.5**	**30.51** m	**-** m
			No. of Samples	
			21D	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-8**
Sheet **2** of **3**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-8**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230766.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283691.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.8**	Utilized		X						X					
Date Started: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											117.24	
		30.48-30.51	21	0.03	0.00	D	100/0.03				30.51	No recovery
												-WEATHERED BEDROCK-
												Bottom of Exploration at 30.51 m.
35												
40												
45												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**30.5**	**30.51** m	**-** m
			No. of Samples	
			21D	

NOTES: **Bomb mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-8**
Sheet **3** of **3**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-9**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230784.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283765.01**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **151.3**														
Date Started: **28 February 2001**	Utilized		X					X	X			X		
Date Finished: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.41	D	38	23	46	26		Very dense brown to red-brown coarse to fine SAND, some coarse to fine gravel, trace silt
		0.61-1.22	2	0.61	0.30	D	11	8	6	6		Medium dense brown fine SAND, trace silt, medium to fine gravel
		1.83-2.44	3	0.61	0.28	D	11	14	28	11		Medium dense brown coarse to fine SAND, trace silt, fine gravel
		3.00-3.61	4	0.61		D	8	5	8	7	147.64	
											3.66	Medium dense brown coarse to fine SAND and coarse to fine GRAVEL,
5		4.57-5.18	5	0.61	0.13	D	19	11	16	18		Borehole losing water
		6.10-6.71	6	0.61	0.08	D	8	10	13	16		Medium dense brown coarse to fine SAND and medium to fine GRAVEL
		7.62-8.23	7	0.61	0.05	D	19	21	20	20		Dense brown fine SAND, some coarse gravel, little silt
10		9.14-9.75	8	0.61	0.08	D	20	21	26	29		Dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
		10.67-11.28	9	0.61	0.30	D	36	42	44	28		Very dense brown coarse to fine SAND and coarse to fine GRAVEL
		12.19-12.80	10	0.61	0.30	D	17	21	21	26		Dense brown coarse to fine SAND, trace fine gravel, silt
		13.72-14.33	11	0.61	0.43	D	14	20	25	29		Dense brown fine SAND, little silt, coarse sand
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**21.3**	**24.16** m	**1.79** m
			No. of Samples	
			16D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-9**
Sheet **1** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S106-9**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230784.10**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283765.01**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **151.3**														
Date Started: **28 February 2001**	Utilized		X					X	X			X		
Date Finished: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.85	12	0.61	0.25	D	15	21	27	18		Dense brown fine SAND, some silt, trace coarse sand
		16.76-17.37	13	0.61	0.25	D	14	16	19	24		Dense brown SILT and fine SAND
		18.29-18.44	14	0.15	0.10	D	100					Very dense brown GRAVEL, some coarse to fine sand, trace silt
20		19.81-19.89	15	0.08	0.00	D	100/.08					No Recovery
		21.34-21.64	16	0.30	0.21	D	70	100				Very dense brown fine SAND, little silt
											128.14	-GLACIOFLUVIAL DEPOSITS-
											23.16	Possible weathered rock
											126.96	
25		24.34-24.95	1	0.61	0.30	C					24.34 126.35	C1- Cored 0.61 m. with BX core barrel 0.30 m. recovery black and white GNEISS
											24.95	-BEDROCK-
30												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**21.3**	**24.16** m	**1.79** m
			No. of Samples	
			16D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S106-9**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S107-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230715.76**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283812.93**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **129.6**	Utilized						X		X					
Date Started: **8 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.20	D	2	1	1	2		Very loose dark brown to red brown fine SAND and SILT, little gravel, trace coarse sand with roots
		0.61-1.22	2	0.61	0.30	D	2	4	5	7		Loose brown fine SAND, little coarse sand, trace gravel, silt
		1.52-2.13	3	0.61	0.15	D	9	5	5	8		Medium dense brown fine SAND, some silt, little gravel, trace coarse sand
		2.13-2.74	4	0.61	0.30	D	7	7	7	9		Medium dense dark brown coarse to fine SAND, some silt, little gravel
											126.59	
		3.05-3.66	5	0.61	0.30	D	6	12	13	21	3.05	Medium dense dark to orange brown fine SAND, little silt, coarse sand, trace fine gravel, wood
		3.66-4.27	6	0.61	0.30	D	5	7	29	8	125.98 3.66	-FILL-
5		4.57-5.05	7	0.48	0.13	D	53	79	73	100/0.08	124.59 5.05	Dense dark brown fine SAND, some silt, little gravel, trace coarse sand Very dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.05 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.05** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S107-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S107-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230738.03**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283863.38**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **130.1**		Utilized						X		X					
Date Started: **10 April 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	2	4	7	28	129.67	Medium dense dark brown coarse to fine SAND and SILT with roots
		0.61-0.69	2	0.08	0.05	D	100/0.08				0.45	-TOPSOIL-
												Only recovery 2 pieces coarse gravel
		1.52-2.13	3	0.61	0.23	D	7	7	8	22	128.15	Medium dense brown coarse to fine SAND, little gravel, trace silt
		2.13-2.74	4	0.61	0.10	D	29	19	18	21	1.97	-FILL-
		3.05-3.66	5	0.61	0.20	D	12	23	27	18		Dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		3.66-4.27	6	0.61	0.23	D	8	14	14	16		Dense brown fine SAND, little coarse sand, fine gravel, trace silt
												Same as D5 except medium dense
5		4.57-5.18	7	0.61	0.51	D	9	6	6	8		Same as D6
											124.94	
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S107-2**

Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S107-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230766.91**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283922.49**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **130.8**	Utilized						X		X					
Date Started: **8 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	1	0	2	2		Very loose brown fine SAND, little silt, gravel, trace coarse sand
		0.61-1.22	2	0.61	0.23	D	2	10	13	14		Medium dense dark brown fine SAND, some gravel, silt, little coarse sand
		1.52-2.13	3	0.61	0.08	D	19	18	17	21		2 pieces of coarse gravel in spoon tip
		2.13-2.74	4	0.61	0.15	D	17	19	22	7	127.75	Dense dark brown fine SAND, some silt, coarse to fine gravel, trace coarse sand
		3.05-3.66	5	0.61	0.28	D	1	1	5	6	3.00 127.09	Loose orange brown SILT and fine SAND, trace gravel, coarse sand, roots, organic odor
		3.66-4.11	6	0.45	0.36	D	10	41	60		3.66	-FILL-
5		4.57-5.18	7	0.61	0.51	D	33	33	47	45	125.57	Very dense orange brown coarse to fine GRAVEL and coarse to fine SAND
											5.18	Very dense brown coarse to fine SAND and GRAVEL -GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			7D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S107-3**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S108-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230837.53**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284000.02**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **131.9**	Utilized						X		X					
Date Started: **29 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.33	D	3	5	7	9		Medium dense dark brown coarse to fine SAND, little fine gravel, silt, leaves
		0.61-1.22	2	0.61	0.38	D	7	23	11	12		Dense brown coarse to fine SAND, some silt, little gravel
		1.52-2.13	3	0.61	0.41	D	12	20	27	25	130.17	
											1.68	Dense brown coarse to fine SAND, some silt, little fine gravel
												-FILL-
		3.05-3.66	4	0.61	0.61	D	5	3	2	3		Loose brown SILT and fine SAND, little coarse sand, trace clay with leaves, organics
											128.04 3.81	
											127.58 4.27	-FILL-
5												Auger refusal @ 4.27 m. gray coarse to fine SAND and GRAVEL coming upon augers 3.81 to 4.11 m.
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.27 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.3**	**4.27** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S108-1**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S108-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230880.69**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284091.45**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **131.5**		Utilized						X		X					
Date Started: **29 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.96** m after **0.5**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	1	1	3	9		Loose brown coarse to fine SAND, trace silt, fine gravel, leaves
		0.61-1.22	2	0.61	0.38	D	10	19	17	23		Dense brown fine SAND, little medium to fine gravel, coarse sand, trace silt
		1.52-2.13	3	0.61	0.33	D	8	7	7	10		Same as D2, except medium dense with cobbles
												-FILL-
		3.05-3.66	4	0.61	0.23	D	5	6	6	5	128.15	
											3.35	Medium dense brown coarse to fine SAND and coarse to fine GRAVEL, some silt
5		4.57-5.18	5	0.61	0.41	D	12	15	16	20		Dense brown fine SAND, some silt, trace coarse sand
											126.32	
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S108-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S108-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230927.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284178.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **131.4**		Utilized						X		X					
Date Started: **29 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.66** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	1	2	3	3		Loose dark brown SILT and fine SAND, little medium to fine gravel, trace coarse sand, roots, leaves
		0.61-1.22	2	0.61	0.38	D	2	2	1	2		Same as D1, except very loose with asphalt pieces
		1.52-1.69	3	0.17	0.15	D	5	100/0.02			129.75 / 1.69	
		2.13-2.33	4	0.20	0.15	D	58	100/0.05			128.39	Very dense dark brown fine SAND, some coarse to fine gravel, little silt Very dense brown fine SAND and coarse to fine GRAVEL, little silt
		3.05-3.43	5	0.38	0.30	D	15	43	50/0.08		3.05	-FILL-
												Very dense orange brown SILT and fine SAND overlying a coarse to fine SAND and fine GRAVEL layer
5		4.57-5.18	6	0.61	0.51	D	48	24	22	17	126.26	Dense orange brown coarse to fine SAND, some fine gravel
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S108-3**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S109-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231175.72**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284705.16**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.7**	Utilized						X		X					
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.40	1	0.40	0.10	D	24	38	100/0.10		0.08	-ASPHALT-
												Very dense red brown fine SAND with boulders
		1.52-2.13	2	0.61	0.30	D	4	5	5	6	137.53	
		2.13-2.74	3	0.61	0.23	D	5	4	2	4	2.13	- FILL
												Medium dense brown to red-brown fine SAND, little silt, medium to fine gravel
		3.05-3.66	4	0.61	0.36	D	9	4	6	7	136.00	Loose brown coarse to fine SAND, some gravel, little silt wet
											3.66	Medium dense brown fine SAND, some silt, little gravel, trace coarse sand
5		4.57-5.18	5	0.61	0.38	D	12	12	33	21		-ALLUVIAL DEPOSITS-
											134.48	Dense brown fine SAND, little gravel
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S109-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S109-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231218.02**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284796.94**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.4**	Utilized						X		X					
Date Started: **11 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.54	1	0.54	0.23	D	1	0	1	50/0.08	139.92	Very loose red brown fine SAND, trace coarse sand with cobbles
											0.45	-FILL-
		1.52-2.13	2	0.61	0.38	D	30	32	29	19		Very dense orange brown coarse to fine SAND, some medium to fine gravel, little silt
		2.13-2.74	3	0.61	0.00	D	45	14	7	7		No recovery
		3.05-3.66	4	0.61	0.30	D	12	17	36	47		Very dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt Auger refusal at 3.96 m.
											136.41 3.96	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.96 m.
5												
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.0**	**3.96** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S109-2**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S109-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231265.45**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284906.88**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **142.1**	Utilized						X		X					
Date Started: **11 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **11 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.28	D	1	2	3	4		Loose red brown coarse to fine SAND, trace gravel
		0.61-1.22	2	0.61	0.15	D	2	4	5	5		Loose brown fine SAND, little gravel, trace coarse sand
											140.90	
		1.52-3.35	1	1.83	1.52	C					1.22	-FILL-
												Note: Had to move boring several times to get past boulders at 1.52 m.
		3.35-3.96	3	0.61	0.15	D	14	19	47	35		Cored boulders from 1.53 to 3.35 m. Very dense gray coarse to fine SAND and fine GRAVEL
		3.96-4.57	4	0.61	0.20	D	13	19	17	18	137.55	Dense gray coarse to fine SAND and coarse to fine GRAVEL, trace silt
5											4.57	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.57 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**4.57** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S109-3**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S109-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231303.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284975.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **139.6**
Date Started: **18 April 2001**
Date Finished: **18 April 2001**

Groundwater Observations
@ **0.45** m after **0**
@ m after

	Casing				Auger		Mud	Sampler		Core Barrel			
Utilized						X		X					
Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.45	D	3	3	2	3	0.15	-TOPSOIL-
											138.56	Loose brown fine SAND, little silt, coarse sand
											1.00	-FILL-
		1.52-2.13	2	0.61	0.61	D	6	5	4	6		Loose brown fine SAND and SILT
											137.06	-ALLUVIAL DEPOSITS-
											2.50	
		3.05-3.66	3	0.61	0.45	D	8	7	8	11		Medium dense brown fine SAND and SILT, little coarse sand
5		4.57-5.18	4	0.61	0.45	D	8	11	11	10		Medium dense brown coarse to fine SAND
											134.38	-GLACIOFLUVIAL DEPOSITS-
											5.18	Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			4D	

NOTES: **Bombadier mounted Diedrich D-120 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S109-4**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S110-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231085.21**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284616.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.8**	Utilized						X		X					
Date Started: **9 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **9 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.74** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	1	3	1	2	138.16	Very loose red-brown fine SAND, trace gravel, roots
		0.61-1.22	2	0.61	0.23	D	8	9	8	10	0.61	Medium dense brown fine SAND, little gravel, trace silt
		1.52-2.13	3	0.61	0.28	D	4	5	5	5	137.27 1.50	Medium dense gray fine SAND and SILT, trace gravel, coarse sand, slight organic odor
		3.05-3.37	4	0.32	0.23	D	9	16	50/.02		135.40 3.37	Very dense gray coarse to fine SAND, some silt, trace gravel, roots
												-FILL-
5		4.57-5.00	5	0.43	0.41	D	26	35	55/0.13		133.77 5.00	Very dense orange-brown coarse to fine SAND, some gravel, trace silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.0 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.0**	**5.00** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S110-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S110-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231130.82**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284702.44**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.3**	Utilized						X		X					
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	1	2	2	3	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.20	D	2	3	3	4	138.12	Very loose red brown coarse to fine SAND, trace silt, gravel, grass, roots
		1.52-2.13	3	0.61	0.05	D	1	0	1	1	1.22	Loose brown to red brown coarse to fine SAND, some gravel, little silt
		2.13-2.74	4	0.61	0.05	D	W	O	H	-	136.54	Very loose brown GRAVEL, some fine sand, silt Very loose brown fine SAND and GRAVEL, little silt
		3.05-3.66	5	0.61	0.23	D	8	25	39	48	2.80	-FILL- Very dense brown coarse to fine SAND and GRAVEL, little silt
5		4.57-5.18	6	0.61	0.23	D	35	32	21	19	134.16	Very dense orange brown SILT, some fine sand, trace coarse sand
											5.18	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S110-2**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S110-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231168.26**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284780.17**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.7**		Utilized						X		X					
Date Started: **10 April 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	1	0	3	7	139.21	Loose brown coarse to fine SAND, little silt with roots
		0.61-1.22	2	0.61	0.00	D	4	7	9	9	0.45	-TOPSOIL-
												No recovery
		1.52-2.13	3	0.61	0.38	D	4	5	9	10		Medium dense brown fine SAND and GRAVEL, little coarse sand, silt
		3.05-3.66	4	0.61	0.08	D	19	10	10	12	135.96	Medium dense brown coarse to fine SAND, some gravel, little silt, trace roots
											3.70	-FILL-
5		4.57-5.18	5	0.61	0.46	D	3	6	4	3	134.48	Medium dense brown SILT, little fine sand
											5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S110-3**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S110-4-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231219.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284881.16**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.5**	Utilized		X				X		X					
Date Started: **10 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **10 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	2	3	5	11	0.15 139.92	-TOPSOIL-
		0.61-1.22	2	0.61	0.15	D	12	14	19	21	0.61 139.23	Loose red-brown coarse to fine SAND, little gravel, silt with roots -FILL-
		1.52-2.13	3	0.61	0.15	D	5	5	9	18	1.30 138.55	Dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
											1.98	Medium dense gray-brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
		3.05-3.52	4	0.47	0.08	D	21	25	36	100/0.02	136.72 3.81	Very dense brown coarse to fine GRAVEL, little coarse to fine sand, trace silt Auger refusal at 3.81 m. -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 3.81 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.8**	**3.81** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S110-4-OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S111-1A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231294.41**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285519.92**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **139.9**		Utilized													
Date Started: **29 December 2000**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 December 2000**		Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.59** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **1.22** m after **1.0**															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.40	1	0.40	0.13	D	12	17	50/.10			Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt with cobbles to 1.50 m.
		1.52-1.90	2	0.38	0.10	D	37	28	50/.08			Very dense fine SAND, trace coarse to medium sand and gravel, roots, organic fibers, wire
		3.05-3.66	3	0.61	0.30	D	17	28	35	31	136.24 3.66	Very dense dark brown coarse to fine SAND and medium to fine GRAVEL, trace silt -FILL-
5		4.57-5.18	4	0.61	0.61	D	27	27	27	32		Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt
		6.10-6.25	5	0.15	0.15	D	50/.15				133.65 6.25	Very dense brown coarse to fine SAND, little gravel, trace silt -GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.25 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
			6.25 m	**-** m
			No. of Samples	
			5D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S111-1A**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S111-1B**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231266.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285572.95**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.3**		Utilized		X				X		X					
Date Started: **29 December 2000**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **29 December 2000**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **--** m after **--**															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	8	11	17	25		Medium dense brown to black coarse to fine SAND and medium to fine GRAVEL, trace roots
		1.52-1.82	2	0.30	0.08	D	21	100			138.30	Very dense gray brown coarse to fine SAND and oarse to fine GRAVEL, trace silt
											2.00	-FILL-
		3.05-3.15	3	0.10	0.00	D	100/.10					No recovery
5		4.57-4.87	4	0.30	0.30	D	21	100				Very dense brown coarse to fine SAND and fine GRAVEL, trace silt
		6.10-6.55	5	0.45	0.45	D	31	28	100		133.75	Very dense brown coarse to fine SAND and fine GRAVEL, trace silt
											6.55	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.55 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**6.6**	**6.55** m	**--** m
			No. of Samples	
			5D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S111-1B**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S111-1OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231307.08**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285430.42**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.5**	Utilized						X		X					
Date Started: **6 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **6 December 2000**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											147.22	Asphalt
		0.30-0.91	1	0.61	0.30	D	18	17	19	15	0.30	Dense brown coarse to fine SAND, some medium to fine gravel, little silt
		1.52-2.13	2	0.61	0.30	D	20	19	7	6		Medium dense coarse to fine SAND, some medium to fine gravel, little silt, with cobbles, boulders
		3.05-3.05	3	0.00	0.00	D	50/0					On boulder, no recovery
5		4.57-5.18	4	0.61	0.08	D	19	18	17	7		Dense gray brown coarse to fine GRAVEL, little coarse to fine sand, trace silt, with boulders
		6.10-6.10	5	0.00	0.00	D	50/0					On boulder, no recovery
												Boulder to 7.32 m.
											140.20 7.32	-FILL-
												Bottom of Exploration at 7.32 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.3**	**7.32** m	**-** m
			No. of Samples	
			5D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S111-1OW**

Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S111-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231266.78**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285532.72**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.9**														
Date Started: **6 December 2000**	Utilized						X		X					
Date Finished: **6 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.30	D	12	13	14	17	0.15	Asphalt and road base Medium dense brown fine SAND, little coarse sand, trace silt
		1.52-2.13	2	0.61	0.30	D	7	8	10	19		Medium dense brown coarse to fine SAND, little medium to fine gravel, trace silt
		3.05-3.66	3	0.61	30.00	D	19	19	41	22		Very dense dark brown medium to fine GRAVEL and coarse to fine SAND, trace silt Boulder 3.96 m. to 4.27 m.
5		4.57-5.18	4	0.61	0.10	D	10	19	12	6		Dense gray coarse to fine GRAVEL, some coarse to fine sand, trace silt
		6.10-6.71	5	0.61	0.10	D	8	13	9	19		Medium dense gray brown coarse to fine GRAVEL, little fine sand, trace silt
											140.27	
		7.62-7.64	6	0.02	0.00	D	50/.02				7.64	No Recovery -FILL- Bottom of Exploration at 7.64 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.6**	**7.64** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S111-2**
Sheet **1** of **1**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231078.17**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281975.92**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.1**	Utilized		X						X				X	
Date Started: **1 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	10	17	24	30	0.04	-TOPSOIL-
		0.61-1.22	2	0.61	0.15	D	16	23	34	75	120.86	Dense brown coarse to fine SAND, some silt, trace coarse to fine gravel; moist, slight odor
		1.52-1.82	3	0.30	0.15	D	19	100/0.15	--	--	1.22 120.25	Very dense light brown to gray coarse to fine GRAVEL, some coarse to fine sand, trace silt; moist, slight odor
		1.83-3.35	1	1.52	1.48	C		[RQD = 59%]			1.83	-FILL-
											118.73	Very dense light brown coarse to fine GRAVEL, some coarse to fine sand, little silt; fuel odor (coarse gravel probable cobble fragments)
											3.35	-GLACIOFLUVIAL DEPOSITS-
5												Note: Split spoon refusal at 1.83 m.; roller bit refusal at 1.83 m.
												Note: Rock cored 1.83 - 3.35 m.
												C1- Hard, fresh to slightly weathered, black and white, medium to fine-grained BANDED QUARTZ BIOTITE GNEISS. Foliation low angle, extremely close. Primary joint set low angle, extremely close, rough, planar, discolored to decomposed, open.
												-BEDROCK-
												Bottom of Exploration at 3.35 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**1.8**	**1.83** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-1**

Sheet **1** of **1**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231050.32**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282027.06**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.9**	Utilized		X						X				X	
Date Started: **1 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.22** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	7	11	16	0.04	-TOPSOIL-
		0.61-1.22	2	0.61	0.30	D	27	30	13	10	121.65	Medium dense brown coarse to fine SAND, some coarse to fine gravel, little silt; no odor, moist, top 0.08 m. frozen
		1.52-1.67	3	0.15	0.15	D	24	100/0	--	--	1.22 121.20	Dense light brown to olive-brown coarse to fine GRAVEL, some coarse to fine sand, little silt; no odor, moist
		1.68-3.20	1	1.52	1.48	C	[RQD = 89%]				1.67	Same as S2, except gray, wet
											119.67	-FILL-
											3.20	Note: Split spoon refusal at 1.67 m.
5												Note: Roller bit refusal at 1.68 m.
												Note: Rock cored 1.68 to 3.20 m.
												Hard, fresh, gray, medium to fine grained QUARTZ BIOTITE GNEISS. Primary joint set low angle to moderately dipping, extremely close, rough, discolored to decomposed, open.
												-BEDROCK-
												Bottom of Exploration at 3.2 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**1.7**	**1.68** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-3OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231064.85**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **281953.84**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **133.4**		Utilized						X		X					
Date Started: **27 February 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 February 2001**		Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.46** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.30	1	0.30	0.08	D	3	14	100/0	--	133.00 / 0.40	-TOPSOIL-
											132.49 / 0.91	Note: Split spoon refusal at 0.3 m. on probable cobble Very dense black coarse to fine SAND, some silt, little gravel, trace brick, glass, and plastic; no odor, moist -FILL-
		3.05-3.66	2	0.61	0.28	D	54	65	73	100/0.15		Note: Auger refusal at 0.91 m. Note: Cored through boulder 0.91 - 1.68 m.; cored through cobbles 1.68 - 2.13 m. (0.3 m. recovery of GNEISS boulder)
5		4.57-4.87	3	0.30	0.20	D	48	100/0.15	--	--		Note: Roller bit advanced through common cobbles from 2.13 -3.05 m.
		5.33-6.85	C11	1.52	1.35	C		[RQD = 57%]			128.07 / 5.33	Very dense light brown coarse to fine SAND, some coarse to fine GRAVEL and silt; no odor, wet Very dense light brown coarse to fine GRAVEL, some coarse to fine sand and silt; no odor, wet
											126.54 / 6.86	Note: Split spoon refusal at 4.88 m.; roller bit advanced. Note: Auger refusal at 5.33 m.; rock cored 5.33 - 6.86 m. Note: Borehole collapsed at 4.98 m. (16.3 ft.) after rock core and auger retrieval -GLACIAL TILL- Hard, slightly weathered, light to dark gray, medium to fine-grained QUARTZ BIOTITE GNEISS; primary joint set moderately dipping, very close, rough, discolored to decomposed -BEDROCK- Bottom of Exploration at 6.86 m. Note: Groundwater monitoring well installed in completed borehole. See attached "Groundwater Monitoring Well Installation Report S112-3OW" for details
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.3**	**5.33** m	**1.52** m
			No. of Samples	
			3D,1C	

NOTES: **Rear-mounted Mobile Drill B-47 on Case 580E with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-3OW**
Sheet **1** of **1**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231030.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282024.03**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **129.6**	Utilized		X				X		X				X	
Date Started: **26 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 February 2001**	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **5.20** m after **24**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.30	1	0.30	0.08	D	4	100/0.15	--	--	0.05	-TOPSOIL-
		0.61-1.22	2	0.61	0.15	D	18	11	10	4		Note: Split spoon refusal at 0.3 m. on cobble. Auger advanced through cobble to 0.61 m.; moist, no odor
		1.52-2.13	3	0.61	0.61	D	6	5	7	19	127.63	Medium dense dark brown coarse to fine SAND and coarse to fine GRAVEL, some silt on trace bituminous concrete; moist, no odor
		2.13-2.43	4	0.30	0.15	D	41	100/0.15	--	--	2.00	Medium dense orange-brown to black SILT and fine SAND, trace coarse sand and gravel, trace organics and ash (1.52 - 2.0 m.)
											2.13	Medium dense orange-brown coarse to fine SAND and SILT, trace gravel; moist, no odor (2.0 - 2.13 m.)
		3.05-3.35	5	0.30	0.15	D	39	100/0.15	--	--	126.58 3.05	-FILL-
		4.11-5.63	1	1.52	1.19	C		[RQD = 38%]			125.52 4.11	Very dense light brown coarse to fine GRAVEL and coarse to fine SAND, trace silt; no odor, dry (cobble fragments)
5		5.63-7.15	2	1.52	1.51	C		[RQD = 83%]				-GLACIOFLUVIAL DEPOSITS-
											122.47 7.16	Very dense orange-brown coarse to fine SAND and SILT, little coarse to fine gravel; moist, no odor
												Note: Sand contains little mica (weathered schist)
												Note: Split spoon refusal at 3.35 m.
10												-GLACIAL TILL-
												Note: Auger refusal at 4.11 m.
												Note: Roller bit refusal at 4.11 m.
												Note: Rock cored from 4.11 - 7.16 m.
												C1- Hard, slightly weathered, gray and white to orange-brown, coarse to fine medium grained GNEISS. Primary joint set low angle, very close, undulating, discolored to decomposed. Secondary joint set vertical, extremely close, rough, discolored.
												C2- Hard, fresh, dark to light gray, medium to fine grained, MUSCOVITE BIOTITE QUARTZ GNEISS. Primary joint set low angle, extremely close, undulating, discolored to decomposed.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.1**	**4.11** m	**3.04** m
NW	**4.1**	**4.1**	No. of Samples	
			5D,2C	

NOTES: **Rear-mounted Mobile Drill B-47 on Case 580E with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-4OW**
Sheet **1** of **2**

M. Jannette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-4OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231030.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282024.03**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **129.6**	Utilized		X				X		X				X	
Date Started: **26 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **26 February 2001**	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **5.20** m after **24**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-BEDROCK- Bottom of Exploration at 7.16 m.
												Note: Groundwater observation well installed in completed borehole. See attached "Groundwater Observation Well Installation Report S112-4OW" for details
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.1**	**4.11** m	**3.04** m
NW	**4.1**	**4.1**	No. of Samples	
			5D,2C	

NOTES: **Rear-mounted Mobile Drill B-47 on Case 580E with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-4OW**
Sheet **2** of **2**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S112-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231029.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282065.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **123.7**														
Date Started: **27 February 2001**	Utilized						X		X					
Date Finished: **27 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
@ **NE** m after	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.23	1	0.23	0.20	SS	4	100/0.08	--	--	0.15	Very dense brown coarse to fine SAND, some silt, little gravel and organics; no odor, moist -TOPSOIL-
		1.52-1.52	2	0.00	0.00	SS	50/0	--	--	--		Note: Split spoon refusal at 0.23 m. on quartz cobble (quartz cobble fragments in tip of split spoon) Note: Split spoon refusal at 1.52 m. on probable boulder
		3.05-3.66	3	0.61	0.51	SS	53	45	61	53		Note: Auger through common cobbles 1.52 - 3.05 m.; drill cuttings are brown coarse to fine SAND, some gravel, little silt
5		4.57-4.57	4	0.00	0.00	SS	50/0	--	--	--	118.70	Very dense brown coarse to fine SAND and coarse to fine GRAVEL, some silt; no odor, moist Note: Auger to 4.57 m. through few cobbles.
											5.03	Note: Split spoon refusal at 4.57 m. on boulder Note: Auger refusal on boulder at 5.03 m. -GLACIAL TILL-
												Bottom of Exploration at 5.03 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.0**	**5.03** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S112-5**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S113-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230837.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282713.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.4**	Utilized						X		X					
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.27** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	3	5	6	7		Medium dense brown SILT and fine SAND, little coarse sand
		0.61-1.22	2	0.61	0.38	D	4	7	7	7		Medium dense brown coarse to fine SAND, some medium to fine gravel, trace silt
		1.52-2.13	3	0.61	0.15	D	6	6	7	6		Medium dense brown coarse to fine SAND, little gravel, trace silt
		2.13-2.74	4	0.61	0.13	D	7	7	12	8		Same as D3, except with concrete pieces
											111.50	
		3.05-3.66	5	0.61	0.25	D	10	10	9	7	2.90	-FILL-
		3.66-4.27	6	0.61	0.20	D	7	12	12	14		Medium dense brown coarse to fine SAND, some coarse to fine gravel, trace silt
5		4.57-5.21	7	0.64	0.08	D	19	14	17	15		Cobble at 2.74 m. Medium dense brown coarse to fine SAND, little medium to fine gravel, trace silt (moist)
											109.22	
											5.18	Same as D5, with cobbles
												Dense brown fine SAND, little silt, coarse sand, trace medium to fine gravel
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with rope cat head drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S113-1**

Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S113-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230822.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282787.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.6**	Utilized						X		X					
Date Started: **1 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.60** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	5	24	21		Medium dense brown to red-brown coarse to fine GRAVEL, some coarse to fine sand, little silt; moist, no odor
		0.61-1.22	2	0.61	0.20	D	23	27	42	48		Very dense red-brown to orange-brown coarse to fine GRAVEL and coarse to fine SAND, little silt; no odor, dry; orange color is from fragment of weathered mica schist cobble
		1.52-2.13	3	0.61	0.41	D	26	17	13	13		Dense red-brown coarse to fine GRAVEL and coarse to fine SAND, little silt; moist, no odor
		2.13-2.74	4	0.61	0.30	D	15	17	27	27		Dense red-brown coarse to fine GRAVEL, some coarse to fine sand, little silt; no odor, wet
		3.05-3.58	5	0.53	0.28	D	7	22	37	100/0.08	108.20 3.37	Loose black to dark brown SILT and fine SAND, trace fine gravel and coarse sand, trace organics; wet, slight fuel oil odor (top 0.1 m.)
5		4.57-4.70	6	0.13	0.13	D	100/0.13				106.87 4.70	-FILL-
												Very dense gray-brown coarse to fine GRAVEL and coarse to fine SAND, some silt; wet, slight fuel oil odor (bottom 0.18 m.)
												Very dense gray-brown coarse to fine SAND and coarse to fine GRAVEL, little silt; wet, no odor
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.70 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**4.70** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S113-2**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S113-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230815.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282832.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.5**	Utilized						X		X					
Date Started: **13 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **13 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **0.70** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	5	8	11	13		Medium dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
		0.61-1.22	2	0.61	0.36	D	15	17	22	20		Dense brown coarse to fine GRAVEL, little coarse to fine sand, trace silt
		1.52-2.13	3	0.61	0.20	D	14	15	7	5		Medium dense brown coarse to fine GRAVEL and fine SAND, little coarse sand, trace silt
		2.13-2.74	4	0.61	0.20	D	8	8	4	4		Medium dense brown fine SAND and SILT, little gravel
		3.05-3.66	5	0.61	0.41	D	8	11	12	12	108.50 3.00	-FILL-
												Medium dense olive brown coarse to fine SAND, some coarse to fine gravel, trace silt
5		4.57-4.82	6	0.25	0.25	D	30	50/.1			106.68 4.82	Very dense gray brown fine SAND, little coarse sand, silt
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.82 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**4.82** m	**-** m
			No. of Samples	
			6D	

NOTES: **Bomb mounted CME-45 with automatic hammer. Borehole backfilled with drill cuttings upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S113-3**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S114-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230796.80**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282959.74**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.3**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.13	1	0.13	0.08	D	100/0.13				115.36	Very dense brown coarse to fine SAND, little roots, trace fine gravel, silt -ALLUVIAL DEPOSITS-
		0.90-0.98	2	0.08	0.05	D	100/0.08				114.75	
		1.52-2.13	3	0.61	0.13	D	19	21	25	30	113.53	Very dense red-brown coarse to fine SAND, trace fine gravel
		2.13-2.74	4	0.61	0.20	D	27	32	29	40	2.74	Dense brown coarse to fine GRAVEL, some coarse to fine sand, trace cobbles Very dense light brown coarse to fine SAND, little coarse to fine gravel Note: Auger refusal at 2.74 m. -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 2.74 m.
5												
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**2.7**	**2.74** m	**-** m
			No. of Samples	
			4D	

NOTES: **Skid mounted Diedrich D-25 with rope and cat head to drive safety hammer. Borehole backfilled upon completion. NE means Not Encountered**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S114-1**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S115-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230868.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283115.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

Surface Elevation: **114.3**		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: **28 March 2001**	Utilized					X			X					
Date Finished: **28 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	0.05			35		35	35	55	55
@ **1.52** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.20	D	8	7	8	9	113.64	Medium dense brown coarse to fine SAND, little fine gravel, little asphalt, trace coarse to medium gravel
		0.61-1.22	2	0.61	0.46	D	6	7	6	7	0.61	-FILL-
		1.52-2.13	3	0.61	0.48	D	5	4	4	3	112.12	Medium dense brown coarse to fine SAND, trace medium to fine gravel
		2.13-2.74	4	0.61	0.51	D	3	3	4	3	2.13	Same as D2, except loose, wet
		3.05-3.66	5	0.61	0.20	D	3	4	4	3		Loose brown coarse to fine GRAVEL, some coarse sand, trace fine sand
		3.66-4.27	6	0.61	0.51	D	4	13	20	23		Loose gray coarse SAND, trace medium to fine gravel, trace fine sand Dense brown medium to fine GRAVEL, some coarse to fine sand, silt
5		4.60-5.21	7	0.61	0.46	D	15	20	33	41		Same as D6, except very dense
											108.75	-GLACIOFLUVIAL DEPOSITS-
											5.50	Bottom of Exploration at 5.5 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**5.5**	**5.50** m	**-** m
			No. of Samples	
			7D	

NOTES: **Bombadier CME-45C with automatic hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S115-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S116-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230749.00**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282856.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.1**	Utilized						X		X					
Date Started: **4 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **4 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	12	14	19	28		Dense dark brown coarse to fine SAND and SILT, some coarse to fine gravel, wood, with cobbles
		1.52-1.92	2	0.40	0.30	D	9	13	50/0.10		122.30 / 1.80	Dense dark brown SILT and fine SAND, little coarse sand with roots
											121.05 / 3.05	Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
		3.05-3.66	3	0.61	0.00	D	3	4	4	3	120.44 / 3.66	-FILL-
		3.66-4.27	4	0.61	0.36	D	7	9	7	8		No recovery
5		4.57-5.18	5	0.61	0.30	D	13	14	14	15	118.92 / 5.18	Medium dense orange brown fine SAND, and SILT, little coarse sand, trace gravel, roots Medium dense light brown coarse to fine SAND, trace silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S116-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S116-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230766.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282899.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **121.8**	Utilized						X		X					
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	3	4	5	8		Medium dense brown coarse to fine SAND, trace medium to fine gravel, trace asphalt, trace roots
		0.61-1.22	2	0.61	0.08	D	7	13	14	15		Medium dense brown coarse to fine SAND, little medium to fine gravel, trace coarse gravel, trace roots
		1.52-2.13	3	0.61	0.46	D	24	38	49	61		Very dense black-brown coarse to fine SAND, trace medium to fine gravel, trace asphalt
		2.13-2.74	4	0.61	0.38	D	17	23	21	27		Dense black-brown coarse to fine SAND, little medium to fine gravel, little asphalt, trace coarse gravel
		3.05-3.66	5	0.61	0.20	D	21	28	33	35		Very dense brown coarse to fine SAND, trace coarse to fine gravel, trace asphalt
		3.66-4.27	6	0.61	0.18	D	29	35	47	49		Very dense dark brown coarse to fine SAND, trace medium to fine gravel, trace asphalt
5		4.57-4.85	7	0.28	0.28	D	37	100/0.13			117.23 4.57 4.85	-FILL- Very dense orange coarse to fine SAND, trace fine gravel, cobble and boulder fragments, trace roots -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 4.85 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.85** m	**-** m
			No. of Samples	
			7D	

NOTES: **Skid mounted Diedrich D-25 with rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S116-2**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S117-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230982.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283183.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.6**														
Date Started: **20 March 2001**	Utilized					X			X					
Date Finished: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	35			35		35	35	55	55
@ **2.40** m after **0**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.25	D	4	5	7	9		Medium dense brown coarse to fine SAND, some medium to fine gravel, trace silt, leaves, grass
		0.61-1.22	2	0.61	0.48	D	7	10	15	50		Medium dense brown fine SAND, little coarse sand, medium to fine gravel, silt
											113.08	-FILL-
		1.52-2.13	3	0.61	0.33	D	18	20	22	30	1.52	Dense light brown coarse to fine SAND, some coarse to fine gravel, trace silt
		2.13-2.74	4	0.61	0.46	D	30	25	27	33		Same as D3 except very dense with cobbles
		3.05-3.66	5	0.61	0.41	D	15	13	13	10		Medium dense brown coarse to fine GRAVEL, some coarse to fine sand, trace silt
5		4.57-5.18	6	0.61	0.20	D	10	5	4	10		Loose brown coarse to fine SAND, trace fine gravel, silt
											109.42 5.18	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
SSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S117-2**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230748.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283428.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **120.4**	Utilized						X		X					
Date Started: **16 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.27** m after **-**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.20	D	5	9	9	5		Medium dense brown coarse to fine SAND, no odor, moist
		0.61-1.22	2	0.61	0.22	D	3	3	6	9		
		1.22-1.83	3	0.61	0.07	D	5	6	6	15		Same as D2
		1.83-2.44	4	0.61	0.00	D	27	30	32	25	118.59 1.83	-FILL-
												Medium dense light brown coarse to fine SAND, trace silt, no odor, moist No Recovery
		3.05-3.66	5	0.61	0.41	D	6	12	11	11		
5		4.57-5.18	6	0.61	0.43	D	15	26	28	41	115.21 5.21	Dense light brown coarse to fine SAND, trace silt, no odor, wet -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.21 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**4.6**	**5.21** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-1**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-2-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230723.13**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283560.13**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **126.9**	Utilized						X		X					
Date Started: **2 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **2 March 2001**	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.28	D	3	4	4	4	126.31	-TOPSOIL-
		0.61-1.22	2	0.61	0.00	D	4	5	4	4	0.61	Loose dark brown to brown coarse to fine SAND, some medium to fine gravel, little silt
		1.22-1.83	3	0.61	0.00	D	4	4	3	2		
		~~1.83-2.44~~	~~4~~	~~0.61~~	~~0.00~~	~~D~~	~~4~~	~~4~~	~~5~~	~~4~~		No recovery D2 through D4, pushing gravel
											124.48	-FILL-
		2.44-3.05	5	0.61	0.02	D	23	35	47	36	2.44	Piece of coarse gravel in tip with trace amounts of coarse to fine sand
		3.05-3.66	6	0.61	0.46	D	11	13	15	17		Medium dense light brown coarse to fine SAND and medium to fine GRAVEL, trace silt
5		4.57-4.80	7	0.23	0.15	D	50	50/.08				Very dense light brown coarse to fine SAND and medium to fine GRAVEL, trace silt, with cobbles
		6.10-6.71	8	0.61	0.51	D	19	22	37	41		Very dense light brown coarse to fine SAND, some medium to fine gravel, trace silt
		7.62-8.23	9	0.61	0.41	D	35	37	50	48		Same as D8
		~~9.10-9.33~~	~~10~~	~~0.23~~	~~0.00~~	~~D~~	~~50~~	~~50/.08~~			117.59	No recovery
10											9.33	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 9.33 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**9.1**	**9.33** m	**-** m
			No. of Samples	
			10D	

NOTES: **Bomb mounted CME-45C with wire winch to drive safety hammer.**
Observation well installed in completed borehole. NE=Not Encountered

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-2-OW**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-3-OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230720.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283653.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **125.7**	Utilized						X		X					
Date Started: **21 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **21 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.66** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	3	3	4	4	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.46	D	4	4	4	4	125.10 0.61	Loose brown to orange brown coarse to fine SAND, little silt trace fine gravel, wood, leaves
		1.52-1.95	3	0.43	0.30	D	11	19	50/.13		124.19 1.52	Loose orange brown coarse to fine SAND, some silt, trace fine gravel, leaves, stems, wood -FILL-
												Dense gray brown coarse GRAVEL, some fine sand, little silt, trace coarse sand
		3.05-3.66	4	0.61	0.05	D	12	15	16	15		Very dense brown coarse to fine SAND, some medium to fine gravel, trace silt, cobbles
5		4.57-5.18	5	0.61	0.56	D	15	20	23	25		Dense gray brown coarse to fine SAND, some coarse to fine gravel, trace silt
		6.10-6.53	6	0.43	0.41	D	50	50	50/.13			Very dense gray brown fine SAND, little coarse to fine gravel, silt, coarse sand
		7.62-7.87	7	0.25	0.25	D	50	50/.1			118.09 7.62	Boulder @ 7.16 m. Very dense gray brown SILT and fine SAND, some gravel, little coarse sand
		9.14-9.75	8	0.61	0.61	D	18	23	40	47	115.96 9.75	Very dense gray brown fine SAND, some silt, trace gravel, coarse sand -GLACIOFLUVIAL DEPOSITS-
10												Bottom of Exploration at 9.75 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**9.1**	**9.75** m	**-** m
			No. of Samples	
			8D	

NOTES: **Track mounted CME-45C with automatic hammer. Observation well installed in completed borehole**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-3-OW**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230733.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283740.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.0**	Utilized		X						X					
Date Started: **21 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	3	3	4	3		Loose brown coarse to fine SAND, some medium to fine gravel, trace silt, roots, leaves
		0.61-1.22	2	0.61	0.46	D	5	4	5	7		Same as D1
		1.52-2.13	3	0.61	0.15	D	11	15	13	17	130.48 1.52	-TOPSOIL-
											129.41 2.59	Medium dense gray brown coarse to fine SAND and GRAVEL, trace silt with roots
		3.05-3.66	4	0.61	0.44	D	11	13	13	15		Medium dense gray brown coarse to fine SAND, little fine gravel, trace silt
5		4.57-5.18	5	0.61	0.30	D	15	19	23	27		Dense gray brown coarse to fine SAND and GRAVEL, trace silt
		6.10-6.38	6	0.28	0.13	D	18	50/0.13				Very dense gray brown coarse to fine SAND, little fine gravel, silt
		7.62-8.23	7	0.61	0.13	D	18	17	23	29		Dense gray brown coarse to fine SAND and coarse to fine GRAVEL, trace silt
10		9.14-9.75	8	0.61	0.30	D	18	31	36	45		Very dense brown coarse to fine SAND, little gravel, trace silt
		10.67-11.28	9	0.61	0.30	D	23	33	37	48		Very dense gray brown coarse to fine GRAVEL and coarse to fine SAND, trace silt
		12.19-12.80	10	0.61	0.13	D	20	35	40	50		Very dense grown coarse to fine SAND and GRAVEL, little silt
		13.72-13.85	11	0.13	0.13	D	50/0.13					Very dense brown coarse to fine SAND and fine GRAVEL, trace silt
15		14.02-15.09	1	1.07		C						-GLACIOFLUVIAL DEPOSITS-

Casing Size	From	To	Meters of Earth	Rock
NW	**0.0**	**15.2**	**15.37** m	**-** m
			No. of Samples	
			12D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-4**

Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-4**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230733.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283740.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **132.0**	Utilized		X						X					
Date Started: **21 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **23 March 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		15.24-15.37	12	0.13	0.13	D	100/0.13				116.63 15.37	Roller bit to 14.02 m. cored 1.07 m of boulders from 14.02 to 15.09 m. Very dense gray brown coarse to fine SAND, little fine gravel, trace silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 15.37 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**15.2**	**15.37** m	**-** m
			No. of Samples	
			12D,1C	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-4**
Sheet **2** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230762.45**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283787.45**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.2**														
Date Started: **2 April 2001**	Utilized			X				X	X					X
Date Finished: **2 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	2	3	4		Loose brown coarse to fine SAND, some medium to fine gravel
		0.61-1.22	2	0.61	0.36	D	3	2	3	3		Same as D1
		1.52-2.13	3	0.61	0.20	D	6	7	9	9		Medium dense brown coarse to fine SAND and medium to fine GRAVEL
		3.05-3.66	4	0.61	0.30	D	9	8	6	6		Medium dense brown coarse to fine SAND and medium to fine gravel Boulder at 3.96 m. Moved borehole
5		4.57-5.18	5	0.61	0.48	D	27	26	28	25		Very dense brown fine SAND, little coarse and, gravel, trace silt
		6.10-6.48	6	0.38	0.38	D	28	50	50/.08			Very dense gray-brown coarse to fine SAND and GRAVEL, trace silt with cobbles
		7.62-8.23	7	0.61	0.30	D	28	37	50	50		Very dense light brown fine SAND, trace coarse sand, fine gravel
10		9.14-9.22 9.45-9.91	8 1	0.08 0.46	0.02	D C	50/.08					Very dense brown medium to fine GRAVEL and fine SAND, little silt Cored boulders from 9.45 m. to 9.91 m.
		10.67-10.69	9	0.02	0.00	D	50/.02					No recovery
		12.19-12.27	10	0.08	0.00	D	100/.08					
											126.43	-GLACIOFLUVIAL DEPOSITS-
		13.72-15.24	2	1.52	1.07	C		[RQD = 42%]			13.72	Hard fresh to slightly weathered gray and white coarse to fine grained GNEISS. Foliation is low angle, extremely close. Joints are low angle to
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**13.7**	**13.72** m	**1.52** m
			No. of Samples	
			10D,2C	

NOTES: **Skid mounted Diedrich D-25 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-5**
Sheet **1** of **2**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S119-5**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230762.45**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283787.45**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **140.2**														
Date Started: **2 April 2001**	Utilized			X				X	X					X
Date Finished: **2 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow	X	SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											124.91 15.24	moderately dipping, very close to close, rough, undulating, discolored, open -BEDROCK-
												Bottom of Exploration at 15.24 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HW	**0.0**	**13.7**	**13.72** m	**1.52** m
			No. of Samples	
			10D,2C	

NOTES: **Skid mounted Diedrich D-25 with wire winch to drive safety hammer.**
Borehole backfilled with drill cuttings

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S119-5**
Sheet **2** of **2**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S120-1OW**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231219.86**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285552.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **147.0**	Utilized						X		X					
Date Started: **6 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **6 December 2000**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **6.10** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											0.10	Asphalt
		0.30-0.91	1	0.61	0.15	D	12	16	21	22		Dense brown fine SAND, little silt, medium to fine gravel, coarse sand
		1.52-1.97	2	0.45	0.30	D	23	47	100			Very dense brown fine SAND, some medium to fine gravel, little silt, coarse sand
		3.05-3.13	3	0.08	0.00	D	75/.08					No Recovery
5		4.57-5.18	4	0.61	0.08	D	43	20	16	12		Dense gray coarse to fine GRAVEL, trace silt, medium to fine sand
		6.10-6.71	5	0.61	0.30	D	49	43	21	20		Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt (wet)
		7.62-7.85	6	0.23	0.03	D	51	75/.08			139.15 7.85	Very dense coarse to medium GRAVEL, little coarse to fine sand
												-FILL-
10												Bottom of Exploration at 7.85 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.6**	**7.85** m	**-** m
			No. of Samples	
			6D	

NOTES: **Bomb mounted Diedrich D-50 with wire winch to drive safety hammer. Observation well installed in completed borehole. See Observation Well Installation Report S120-1OW for details.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S120-1OW**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S120-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231251.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **285488.43**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **146.5**	Utilized						X		X					
Date Started: **6 December 2000**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **6 December 2000**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.20	D	11	27	33	31	0.15	Asphalt and road base Very dense red brown fine SAND, some coarse to fine gravel, silt, trace coarse sand
		1.52-2.13	2	0.61	0.38	D	19	28	44	30		Very dense brown fine SAND, little medium to fine gravel, silt, trace coarse sand
		3.05-3.20	3	0.15	0.15	D	100					Very dense brown coarse to fine SAND, and coarse to fine gravel, trace silt
5		4.57-4.57	4	0.00	0.00	D	50/0					Cobbles and boulders to 4.57 m. (had to move boring 5 times to get down to 4.57 m.) No Recovery at 4.57 m. and 6.10 m.
											140.43	
		6.10-6.10	5	0.00	0.00	D	100/0				6.10	Cobbles and boulders to 6.10 m. -FILL- Bottom of Exploration at 6.10 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**6.1**	**6.10** m	**-** m
			No. of Samples	
			5D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S120-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S121-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230834.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282753.21**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **111.3**	Utilized						X		X					
Date Started: **28 February 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **28 February 2001**	Size I.D. (mm)	60	76	100	64		X		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.10	D	60	54	63	80		Very dense brown coarse to fine SAND and coarse to fine GRAVEL, little silt; no odor, wet
		0.61-0.61	2	0.00	0.00	D	100/0.0					No recovery
											109.81	
		1.52-2.13	3	0.61	0.41	D	2	3	2	3	1.50	Note: Split spoon refusal at 0.6 m.
		2.13-2.74	4	0.61	0.51	D	1	2	1	1		Note: Auger refusal at 0.9 m.; boring moved 1.0 m. north to avoid boulder
		3.05-3.54	5	0.49	0.49	D	2	15	29	100/0.04	108.01	-FILL-
											3.30	Loose black coarse to fine SAND and SILT, some organics (leaves); moist, slight fuel oil odor
												Same as S3, except "fuel oil odor"
5		4.57-4.72	6	0.15	0.15	D	102/0.15					Same as S4, except trace organics and wet (3.05 m. to 3.35 m.)
											106.13	
											5.18	-ALLUVIAL DEPOSITS-
												Note: Split spoon refusal at 3.54 m.
												Very dense brown coarse to fine GRAVEL, some coarse to fine sand, trace silt; very slight fuel oil odor, wet
												Note: Auger through common cobbles 3.54 m. to 4.57 m.
												Very dense light brown coarse to fine GRAVEL and coarse to fine SAND, trace silt; no odor, wet
10												Note: Auger advanced to 5.18 m. through common cobbles and boulders
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 5.18 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.2**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S121-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S121-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230831.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282811.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **112.4**	Utilized						X		X					
Date Started: **1 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **1 March 2001**	Size I.D. (mm)	60	76	100	64		82		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.90** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	2	3	2	3		Loose brown coarse to fine SAND and SILT, trace organics; no odor, moist
		0.61-1.22	2	0.61	0.46	D	3	3	3	4		Loose dark brown coarse to fine SAND, little silt, trace coarse to fine gravel; moist, slight fuel oil odor
											110.85	
		1.52-2.13	3	0.61	0.51	D	3	3	3	3	1.50	Loose dark brown to black coarse to fine SAND, little silt; moist, fuel oil odor
		2.13-2.74	4	0.61	0.51	D	3	4	4	3		-FILL-
		3.05-3.66	5	0.61	0.56	D	2	2	2	5		Loose black to dark gray coarse to fine SAND, little silt; moist, fuel oil odor
		3.66-4.27	6	0.61	0.46	D	15	34	40	48	108.64 3.71	Loose black to dark gray coarse to fine SAND and SILT, little organics; moist, fuel oil odor -ALLUVIAL DEPOSITS-
5		4.57-4.85	7	0.28	0.25	D	49	100/0.13			107.50 4.85	Very dense gray-brown coarse to fine GRAVEL, some coarse to fine sand, little silt; wet, slight fuel oil odor
												Very dense brown to green-brown coarse to fine GRAVEL, some coarse to fine sand, trace silt; wet, slight odor -GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.85 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**4.85** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with wire winch to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S121-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S122-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230706.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283426.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **116.6**	Utilized		X						X					
Date Started: **18 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **18 April 2001**	Size I.D. (mm)	60	76	100	64				35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.15	1	0.15	0.00	D	100					No recovery, few leaves in spoon
		0.30-0.91	1	0.61	0.61	C						Auger refusal at 0.30 m. Cored boulders from 0.30 to 0.91 m.
		0.95-1.98	2	1.03	1.03	C						Cored boulders from 0.95 to 1.08 m.
											114.60	-FILL-
											2.00	Sand seam at 2.0 m., fine sand in wash
		3.05-3.22	2	0.17	0.15	D	65	50/0.02				Very dense brown fine SAND, little coarse sand, trace silt
											112.33	
											4.27	Note: Roller bit refusal at 4.27 m.
5												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.27 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
NW	**0.0**	**1.0**	**4.27** m	**-** m
			No. of Samples	
			2D,2C	

NOTES: **Skid mounted Diedrich D-25 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S122-1**

Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S122-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230683.50**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283532.90**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **124.3**	Utilized						X		X					
Date Started: **7 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **7 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **8.53** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	1	3	3	7		Loose dark brown coarse to fine SAND, little silt
		0.61-1.22	2	0.61	0.30	D	8	8	7	9		Medium dense brown fine SAND, little gravel
		1.52-2.13	3	0.61	0.23	D	4	3	4	7	122.17	Loose brown coarse to fine SAND, little gravel, trace silt
		2.13-2.74	4	0.61	0.21	D	10	10	6	10	2.13	-FILL-
		3.05-3.66	5	0.61	0.15	D	5	6	11	11		Medium dense brown coarse to fine SAND, some coarse to fine gravel
		3.66-4.27	6	0.61	0.38	D	17	23	14	15		Medium dense brown coarse to fine SAND and some coarse to fine GRAVEL
5		4.57-5.18	7	0.61	0.30	D	31	34	23	27		Dense brown coarse to fine SAND, trace coarse to fine gravel Very dense brown coarse to fine SAND, some coarse to fine gravel
		6.10-6.71	8	0.61	0.38	D	33	27	21	22		Very dense brown fine SAND, trace silt, coarse sand
		7.62-8.23	9	0.61	0.61	D	13	24	26	29		Very dense brown fine SAND, trace silt, coarse sand
		9.14-9.59	10	0.45	0.45	D	33	39	75		114.71	Very dense orange brown coarse to fine SAND
10											9.59	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 9.59 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**9.6**	**9.59** m	**-** m
			No. of Samples	
			10D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S122-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S122-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230693.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283484.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **122.9**		Utilized						X		X					
Date Started: **8 February 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **8 February 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.44** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **6.10** m after **.25**															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	2	6	5	3		Medium dense dark brown fine SAND, some silt, little coarse sand with roots
		0.61-1.22	2	0.61	0.30	D	4	2	4	2		Loose brown coarse to fine SAND, trace silt, gravel
		1.52-2.13	3	0.61	0.13	D	5	5	6	5	120.77	Medium dense dark brown coarse to fine SAND, little silt, trace gravel
		2.13-2.74	4	0.61	0.46	D	4	5	6	5	2.13 119.99	Medium dense brown fine SAND and SILT, little fine gravel
		3.05-3.66	5	0.61	0.25	D	12	9	4	4	2.91	-FILL-
		3.66-4.27	6	0.61	0.30	D	5	4	7	8		Medium dense brown coarse to fine SAND, trace gravel, silt
5		4.57-5.18	7	0.61	0.46	D	8	7	6	7		Medium dense brown fine SAND,little silt, coarse sand, trace fine gravel Medium dense brown fine SAND, little coarse sand
		6.10-6.71	8	0.61	0.51	D	8	10	12	16		Medium dense brown fine SAND, little coarse sand
		7.62-8.23	9	0.61	0.30	D	18	24	36	59	114.67	Very dense brown coarse to fine SAND, trace gravel, silt
											8.23	-GLACIOFLUVIAL DEPOSITS-
10												Bottom of Exploration at 8.23 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.6**	**8.23** m	**-** m
			No. of Samples	
			9D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S122-3**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S123-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230971.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284271.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **133.1**	Utilized						X		X					
Date Started: **27 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.37** m after **1**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.08	D	3	23	30	18		Very dense dark brown SILT and fine SAND, trace coarse to fine gravel, coarse sand, roots
		0.61-1.22	2	0.61	0.08	D	7	3	11	15		Medium dense dark brown SILT and fine SAND, little coarse to fine gravel, trace coarse sand, roots
		1.52-1.67	3	0.15	0.05	D	100				131.43 / 1.67	Very dense dark brown SILT and medium to fine GRAVEL, trace coarse to fine sand -FILL-
												Boulder 1.67 to 1.97 m.
		3.05-3.05	4	0.00	0.00	D	50/0					Boulder 3.05 to 3.96 m.
5		4.57-5.18	5	0.61	0.30	D	19	25	27	33	128.68 / 4.42	Very dense gray coarse to fine SAND and coarse to fine GRAVEL, trace silt
		5.18-5.79	6	0.61	0.45	D	21	30	33	100/0.13	127.31 / 5.79	Same as D5 -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.79 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**5.7**	**5.79** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion. Had to move borings 3 times to get past 3.05 m.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S123-1**
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R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S123-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231006.60**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284340.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **137.3**		Utilized		X				X		X					
Date Started: **27 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **27 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.98** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ **1.27** m after **1.5**															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.15	D	2	4	5	6		Loose dark brown loamy SILT and coarse to fine SAND, trace fine gravel, roots, leaves, wood
		0.61-1.22	2	0.61	0.23	D	13	7	4	11		Medium dense dark brown fine SAND, some silt, coarse to fine gravel, trace coarse sand
		1.52-2.13	3	0.61	0.41	D	7	15	24	27		Dense orange brown mottled fine SAND, some gravel, little silt, trace coarse sand
		2.13-2.60	4	0.47	0.33	D	17	26	58	100/0.02	135.17 2.13	
											134.87 2.43	-FILL-
		3.05-3.66	5	0.61	0.41	D	27	38	41	55	134.25 3.05	Very dense orange brown coarse to fine SAND, little coarse to fine gravel, trace silt
												Very dense black coarse to fine SAND and fine GRAVEL with cobbles
5		4.57-5.07	6	0.50	0.33	D	21	33	56	100/0.05	132.73 4.57	Very dense brown fine SAND, little coarse sand, fine gravel, trace silt with cobbles
												Very dense orange brown coarse to fine SAND, some coarse to fine gravel, trace silt
											131.20 6.10	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.1 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.10** m	**-** m
			No. of Samples	
			6D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S123-2**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S123A-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230759.26**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282792.00**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.8**	Utilized						X		X					
Date Started: **3 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **3 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.61	D	2	4	5	5		Loose brown coarse to fine SAND, some medium to fine gravel
		0.61-1.22	2	0.61	0.61	D	5	5	6	6		Medium dense brown coarse to fine SAND, some medium to fine gravel, trace silt
											112.59 / 1.22	-FILL-
		1.52-2.13	3	0.61	0.23	D	7	11	14	11		Medium dense brown fine SAND, little coarse sand, medium to fine gravel, trace silt
		2.13-2.74	4	0.61	0.61	D	4	8	8	10		Medium dense brown coarse to fine SAND, trace medium to fine gravel
		3.05-3.66	5	0.61	0.38	D	6	5	4	4		Loose brown coarse to fine SAND, trace fine gravel
5		4.57-5.18	6	0.61	0.23	D	6	9	13	21		Medium dense brown coarse to fine SAND, trace fine gravel, silt
		6.10-6.71	7	0.61	0.23	D	7	10	14	18		Medium dense brown coarse to fine SAND, trace fine gravel
											107.10 / 6.71	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.71 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**6.1**	**6.71** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S123A-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S123A-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230758.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **282777.28**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.7**		Utilized						X		X					
Date Started: **3 April 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **3 April 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.23	D	12	17	33	15		Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt with cobbles
		0.61-0.96	2	0.35	0.18	D	17	22	100/0.05		112.69	Very dense brown fine SAND, some coarse to fine gravel, trace coarse sand, silt
		1.52-2.13	3	0.61	0.15	D	4	5	5	5	1.00	-FILL-
												Medium dense light brown coarse to fine SAND
		3.05-3.66	4	0.61	0.30	D	5	6	7	9		Medium dense light brown coarse to fine SAND
5		4.57-4.70	5	0.13	0.08	D	50/0.13					Very dense light brown fine SAND, little coarse sand, trace silt with cobbles
											107.59	Note:Unable to sample at 6.10 m. Material coming up on the augers from 4.57 to 6.1 m is the same as D5 with cobbles
											6.10	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.10 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**6.1**	**6.10** m	**-** m
			No. of Samples	
			5D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat head to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S123A-2**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S124-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231091.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284129.80**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **141.4**	Utilized						X		X					
Date Started: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**	Size I.D. (mm)	60	76	100	64		100		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											141.10	-ASPHALT AND ROADSTONE-
		0.30-0.91	1	0.61	0.38	D	9	11	15	37	0.30	Medium dense brown coarse to fine SAND, little coarse to fine gravel, trace silt
		0.91-1.06	2	0.15	0.10	D	100					Very dense brown coarse to fine SAND, little fine gravel, trace asphalt
		1.07-2.44	1	1.37	1.01	C						
												Note: Auger refusal at 1.07 m. Cored through boulder from 1.07 m. to 2.44 m.. Advanced roller bit to 3.05 m.
											138.65	
											2.75	-FILL-
		3.05-3.50	3	0.45	0.33	D	17	36	100		137.90	Very dense brown coarse to fine SAND, trace fine gravel
											3.50	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.5 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.5**	**3.50** m	**-** m
			No. of Samples	
			3D, 1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S124-1**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S124-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231095.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284177.20**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **141.1**	Utilized						X		X					
Date Started: **16 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NE** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.30-0.91	1	0.61	0.30	D	36	11	8	8	0.25	-ASPHALT and ROADSTONE-
		0.91-1.52	2	0.61	0.46	D	6	7	7	9	140.00	Medium dense brown coarse to fine SAND, trace fine gravel, trace roots, trace silt
		1.52-2.13	3	0.61	0.38	D	14	9	9	7	1.10	Medium dense brown coarse to fine SAND, trace fine gravel, trace roots, trace silt
												-FILL-
											137.90	Medium dense tan fine SAND, trace coarse sand, trace silt
		3.05-3.05	4	0.00	0.00	D	50/0.10				3.20	Medium dense tan coarse to fine SAND, trace fine gravel, trace cobbles No recovery Note: Auger refusal at 3.20 m. -GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.20 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.2**	**3.20** m	**-** m
			No. of Samples	
			4D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S124-2**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S125-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230945.64**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284102.30**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **133.3**		Utilized						X		X					
Date Started: **16 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **-**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.38	D	7	7	7	5	0.08	-ASPHALT-
		0.76-1.37	2	0.61	0.36	D	13	7	8	7	131.76	Medium dense brown fine SAND, mottled Medium dense brown coarse to fine SAND, trace fine gravel, trace cobbles
		1.52-2.13	3	0.61	0.33	D	5	7	7	8	1.52	-FILL-
											130.84 2.44	Medium dense brown fine SAND, trace coarse sand, trace silt, wet
		3.05-3.66	4	0.61	0.39	D	11	16	23	25		Very dense brown coarse to fine SAND, trace medium to fine gravel, trace rock fragments, wet
5		4.57-4.57	5	0.00	0.00	D	50/0.00					No recovery
											127.10	
		6.10-6.18	6	0.08	0.05	D	100/0.08				6.18	Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt -GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 6.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**6.1**	**6.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S125-1**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S125-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230956.77**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284117.02**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **134.0**		Utilized						X		X					
Date Started: **19 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **-**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.15-0.76	1	0.61	0.29	D	6	13	15	18	0.15	-ASPHALT and ROADSTONE-
		0.76-1.37	2	0.61	0.19	D	15	19	27	21	132.62	Medium dense brown coarse to fine SAND, little fine gravel, trace coarse to medium gravel
		1.52-2.13	3	0.61	0.46	D	14	17	19	16	1.37	Dense brown coarse to fine SAND, little medium to fine gravel, trace asphalt, rock fragments
												-FILL-
		3.05-3.66	4	0.61	0.53	D	9	12	13	15		Medium dense brown coarse to fine SAND, trace fine gravel, trace silt, wet Medium dense brown fine SAND, trace coarse sand, trace silt, wet
5		4.57-5.18	5	0.61	0.13	D	10	10	13	15		Medium dense brown coarse to fine SAND, trace fine gravel, trace silt, wet
		6.10-6.25	6	0.15	0.08	D	100/0.15				127.74 6.25	Very dense brown red coarse to fine SAND, trace fine gravel, rock fragments, trace silt, wet
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.25 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.25** m	**-** m
			No. of Samples	
			6D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S125-2**
Sheet **1** of **1**

E. Del Priore	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S127-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230965.30**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284273.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **135.4**														
Date Started: **14 June 2001**	Utilized					X			X					
Date Finished: **14 June 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64	X			35		35	35	55	55
@ _____ m after _____	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	4	16	18	0.20	-TOPSOIL-
		0.61-1.22	2	0.61	0.30	D	20	22	26	28	0.30	Medium dense brown coarse to fine SAND and GRAVEL, some silt
		1.52-2.13	3	0.61	0.30	D	36	25	19	22		-FILL-
												Dense brown coarse to fine SAND and GRAVEL, little silt, with cobbles
												Dense brown coarse to fine SAND, little gravel, trace silt
		3.05-3.66	4	0.61	0.41	D	22	21	24	31	131.74	Dense brown fine SAND, little silt
											3.66	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.66 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
SSA	**0.0**	**3.1**	**3.66** m	**-** m
			No. of Samples	
			4D	

NOTES: **Case mounted Mobile Drill B-47 with rope and cat-head to drive safety hammer. Borehole backfilled with drill cuttings and asphat patch**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S127-1**

Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203A-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231050.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284285.77**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.4**		Utilized						X		X					
Date Started: **20 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	0	0.61	0.30	D	8	9	9	8		Medium dense brown coarse to fine SAND, little fine gravel
		0.61-1.22	2	0.61	0.15	D	7	13	6	6		Medium dense brown coarse to fine SAND, little fine gravel, trace coarse to medium gravel
		1.52-2.13	3	0.61	0.15	D	13	4	3	11		Same as D2, except loose
		2.13-2.74	4	0.61	0.30	D	19	18	22	23	135.84	Dense brown coarse to fine SAND, little fine gravel
											2.59	-FILL-
		3.05-3.66	5	0.61	0.46	D	11	12	19	23		Dense light brown coarse to fine SAND, trace fine gravel
											133.86	Dense light brown coarse to fine SAND, trace fine gravel
5		4.57-5.18	6	0.61	0.46	D	15	17	19	21	4.57	Dense light brown coarse to fine SAND, trace medium to fine gravel, wet
		6.10-6.40	7	0.30	0.30	D	30	100				Very dense brown coarse to fine SAND, trace coarse to fine gravel, moist
		7.62-7.77	8	0.15	0.15	D	100					Same as D7
											130.20 8.23	Note: Running sands at 9.14 m.
10		9.14-9.29	9	0.15	0.05	D	100					Very dense brown fine SAND, trace coarse sand
											127.75	
		10.67-10.97	10	0.30	0.15	D	124	100			127.48	Very dense red brown coarse to fine SAND, some medium to fine gravel
		10.97-12.19	1	1.22		C					10.97	Cored through boulder 10.97 to 12.19 m.
		12.19-12.24	11	0.05	0.03	D	100/0.05					-GLACIOFLUVIAL DEPOSITS- Very dense medium to fine GRAVEL
											124.63	
		13.72-13.80	12	0.08	0.08	D	100/0.08				13.80	Very dense olive fine SAND, trace coarse sand, fine gravel, mottled
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**13.7**	**13.80** m	**-** m
			No. of Samples	
			12D	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203A-1**
Sheet **1** of **2**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203A-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231050.35**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284285.77**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.4**	Utilized						X		X					
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **4.57** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./ DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-GLACIAL TILL-
												Bottom of Exploration at 13.80 m.
20												
25												
30												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**13.7**	**13.80** m	**-** m
			No. of Samples	
			12D	

NOTES: **Truck mounted Mobile Drill B-57 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203A-1**
Sheet **2** of **2**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203A-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231082.45**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284320.23**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**		Utilized						X		X					
Date Started: **19 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**		Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.13** m after **-**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											138.58	-ASPHALT and ROADSTONE-
		0.31-0.76	1	0.45	0.28	D	16	21	100		0.31	Very dense brown coarse to fine SAND, little coarse to fine gravel, trace silt
		1.52-2.13	2	0.61	0.38	D	5	7	6	18		Medium dense red fine SAND, trace fine gravel, silt, moist
											136.39	-FILL-
											2.50	
		3.05-3.20 3.20-4.40	3 1	0.15 1.20	0.15 0.82	D C	100					Very dense coarse to fine SAND, little coarse to fine gravel, wet Cored through boulder 3.2 m to 4.4 m.
											134.49	
5											4.40	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 4.40 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**3.2**	**4.40** m	**-** m
			No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203A-2**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203A-2A**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **23108.45**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284320.23**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **138.9**	Utilized	X					X		X					
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64		0.15		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ _____ m after _____	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												Moved 1 m from s203-2
												Spun auger to refusal at 2.44 m.
												Removed augers and drive 0.08 casing to 2.13 m.
											136.76	
											2.13	-FILL-
		3.05-3.25	1	0.20	0.15	D	42	100/0.05				Cored through boulder from 2.13 m. to 3.05 m.
												Advanced casing to 3.05 m.
5		4.60-5.21	2	0.61	0.30	D	21	34	52	60		Very dense brown medium to fine SAND, some coare to fine gravel, rock fragments
												Note: Advanced sign to 3.7 m.; Advanced roller bit to 4.6 m.
		6.10-6.71	3	0.61	0.40	D	28	51	56	51		Very dense brown medium to fine SAND, trace medium to fine gravel, rock fragments
												Same as D2
											131.39	
		7.60-7.60	4	0.00	0.00	D	100/0.0				7.50	-GLACIOFLUVIAL DEPOSITS-
												No Recovery
												Note: Advanced roller bit through boulder from 7.6 m. to 8.06 m.; Cored through boulder at 8.2 m. to 9.1 m. advanced casing to 8.8 m.
		9.10-9.18	5	0.08	0.00	D	100/0.08					
10		9.40-10.60	1	1.20	0.00	R		[RQD = 0%]				No recovery, boulder
												Note: Advanced roller bit to 9.4 m.
											128.29	
											10.60	No Recovery
												Note: Cored 9.4 m. to 10.6 m.
												-GLACIAL TILL-
												Bottom of Exploration at 10.6 ft.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**2.4**	**9.40** m	**1.20** m
8 Casing	**0.0**	**8.8**	No. of Samples	
			5D, 1R	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon

PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203A-2A**

Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203B-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231001.57**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284215.68**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **136.2**	Utilized						X		X					
Date Started: **16 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.66** m after **-**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-ASPHALT and ROADSTONE-
		0.30-0.83	1	0.53	0.27	D	13	21	35	100/0.08	0.25	Very dense brown coarse to fine SAND, trace coarse to fine gravel, silt
												Augered through boulders and cobbles 0.83 to 1.82 m.
		1.82-2.43	2	0.61	0.23	D	3	3	4	4		Loose dark brown coarse to fine SAND, trace fine gravel, wood fibers, roots, black staining top 0.13 m. of sample
		2.43-3.04	3	0.61	0.23	D	4	3	6	4	133.23	
		3.05-3.66	4	0.61	0.40	D	4	6	9	11	2.99 132.76	Loose orange-brown coarse to fine SAND, trace silt, gravel
											3.46	
												-FILL-
5		4.57-5.18	5	0.61	0.36	D	19	11	15	13		Loose tan coarse to fine SAND, little fine gravel, trace coarse to medium gravel
												Medium dense olive fine SAND, trace roots, moist
												Medium dense tan coarse to fine SAND, trace fine gravel, cobbles
		6.10-6.55	6	0.45	0.30	D	10	13	100			Medium dense tan fine SAND, trace silt, moist
												Very dense olive coarse SAND, some fine sand, trace fine gravel, slight petroleum odor, wet
											128.75	
		7.62-8.23	7	0.61	0.20	D	17	19	23	36	7.47	Dense light brown coarse SAND, little fine sand, fine gravel, wet
												Note: Running sand at 7.60 m.
												Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, wet
		9.14-9.75	8	0.61	0.24	D	8	23	31	33		
10											126.52 9.70	Note: Running sand at 9.14 m.
												Very dense brown coarse to fine SAND, little coarse to fine gravel, trace silt, wet
											125.55	
		10.67-10.67	9	0.00	0.00	D	50/0.00				10.67	No recovery
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 10.67 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**10.7**	**10.67** m	**-** m
			No. of Samples	
			9D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203B-1**
Sheet **1** of **1**

J. Muccino	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S203B-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **231025.84**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **284245.39**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **136.8**	Utilized						X		X					
Date Started: **15 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **15 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.70** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-ASPHALT and ROADSTONE-
		0.30-0.93	1	0.63	0.10	D	8	13	16	33	0.25	Medium dense brown fine SAND, little coarse sand, trace fine gravel, silt, asphalt
		0.91-1.52	2	0.61	0.25	D	35	28	24	8		Very dense brown coarse to fine SAND, some coarse gravel, trace fine gravel, petroleum odor
		1.52-2.13	3	0.61	0.30	D	15	8	5	5		Medium dense brown fine SAND, little coarse to fine gravel, trace silt, strong petroleum odor
		2.13-2.74	4	0.61	0.41	D	5	5	6	5		Medium dense brown fine SAND, little silt, trace coarse sand, roots, strong petroleum odor
		3.05-3.66	5	0.61	0.41	D	17	24	36	51	133.45	Very dense red fine SAND, some silt, petroleum odor in top of sample
											3.36	-FILL-
5		4.57-5.18	6	0.61	0.30	D	18	23	15	15		Very dense brown coarse to fine SAND, some medium to fine gravel, wet
												Dense brown fine SAND, trace coarse sand, .05 m of lens of coarse to fine gravel, strong petroleum odor, wet
		6.10-6.71	7	0.61	0.20	D	21	24	18	20		Dense brown fine SAND, little medium to fine gravel, trace silt, strong petroleum odor
		7.62-7.77	8	0.15	0.08	D	100					Very dense coarse GRAVEL
		9.14-9.29	9	0.15	0.10	D	100				127.36	Very dense brown coarse to fine GRAVEL, little fine sand, trace silt, strong petroleum odor
10											9.45	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 9.45 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**9.5**	**9.45** m	**-** m
			No. of Samples	
			9D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with cement/grout mixture upon completion.**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S203B-2**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S204-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
J. Miller	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230695.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283391.70**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.8**														
Date Started: **9 April 2001**	Utilized						X		X					
Date Finished: **9 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Groundwater Observations	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
@ **2.00** m after **-**	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.38	D	3	3	5	9		Loose brown coarse to fine SAND, little coarse to fine gravel
		0.61-1.22	2	0.61	0.48	D	20	26	7	7		Same as D1, except dense
											117.45	
		1.52-2.13	3	0.61	0.51	D	1	1	2	4	1.30	Very loose light brown coarse to fine SAND, little fine gravel, trace silt, wet
											116.60	
											2.15	-FILL-
		3.05-3.66	4	0.61	0.28	D	56	50/0.13				Very dense gray brown coarse to fine SAND, little coarse to fine gravel, trace silt, wet
5		4.57-5.18	5	0.61	0.51	D	8	10	9	11		Medium dense gray brown coarse to fine SAND, trace silt, wet
		6.10-6.71	6	0.61	0.61	D	29	39	54	37		Very dense light brown coarse to fine SAND, little medium gravel, trace silt, wet
		7.62-8.23	7	0.61	0.41	D	10	10	17	19		Same as D6, except medium dense
		9.14-9.75	8	0.61	0.41	D	15	13	19	20		Same as D7
10											109.00	-GLACIOFLUVIAL DEPOSITS-
											9.75	Bottom of Exploration at 9.75 m.
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**9.1**	**9.75** m	**-** m
			No. of Samples	
			8D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S204-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S204-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230654.36**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283388.96**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.9**	Utilized						X		X					
Date Started: **19 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **19 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **1.52** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.30	D	2	1	2	2	0.15	-TOPSOIL-
		0.61-1.22	2	0.61	0.30	D	3	1	2	2		Very loose brown fine SAND, little silt, trace coarse sand
		1.52-2.13	3	0.61	0.23	D	4	3	3	1	117.80	Very loose brown coarse to fine SAND, trace fine gravel Loose brown coarse to fine SAND, trace silt, fine gravel
		2.13-2.74	4	0.61	0.41	D	1	1	13	26	2.13 117.03	-FILL-
		3.05-3.45	5	0.40	0.23	D	19	32	100/.1		2.90 115.93	Medium dense black laminated organic SILT, some coarse to fine sand and gravel layers -ALLUVIAL DEPOSITS-
5		4.57-5.18	6	0.61	0.33	D	15	20	17	17	4.00	Very dense brown coarse to fine GRAVEL, trace silt, coarse to fine sand Dense brown fine SAND and SILT
		6.10-6.71	7	0.61	0.15	D	17	17	23	20	113.83 6.10 113.22	Dense light brown coarse to fine SAND, little medium to fine gravel, trace silt -GLACIOFLUVIAL DEPOSITS-
											6.71	Bottom of Exploration at 6.71 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.71** m	**-** m
			No. of Samples	
			7D	

NOTES: **Case mounted Mobile Drill B-47 rope and cat head to drive safety hammer. Borehole backfilled upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S204-2**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1227-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230820.20**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283316.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **117.1**	Utilized						X		X					
Date Started: **16 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **16 April 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.96** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											0.18	-BITUMINOUS CONCRETE-
		0.30-0.91	1	0.61	0.17	D	12	21	22	23		Dense brown coarse to fine SAND, some coarse to fine gravel, little silt, asphalt, odor, moist
		0.91-1.52	2	0.61	0.20	D	20	32	53	33		Very dense brown coarse to fine SAND,little coarse to fine gravel, silt, asphalt, odor, moist
		1.52-2.13	3	0.61	0.20	D	88	42	21	24		Same as D2
		2.13-2.74	4	0.61	0.25	D	12	12	10	11		Medium dense light brown coarse to fine SAND, little silt, moist
		3.05-3.66	5	0.61	0.02	D	6	7	16	21	113.39	Medium dense brown coarse to fine SAND, little silt, wet
		3.66-4.27	6	0.61	0.00	D	15	16	25	40	3.66	-FILL-
5		4.57-5.18	7	0.61	0.45	D	12	24	27	27		No Recovery Very dense orange brown coarse to fine SAND, trace silt, fine gravel, wet
		6.10-6.71	8	0.61	0.61	D	6	14	28	57	110.34	Dense orange brown coarse to fine SAND, trace silt, wet
											6.71	-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 6.71 m.
10												
15												

Casing			Meters of	
Size	From	To	Earth	Rock
HSA	**0.0**	**6.1**	**6.71** m	**-** m
			No. of Samples	
			8D	

NOTES: **Truck mounted Mobile Drill B-53 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1227-1**
Sheet **1** of **1**

R. Posa	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1227-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
S. Poff	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230778.40**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283325.40**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **118.0**	Utilized						X		X					
Date Started: **5 April 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **5 April 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.70** m after **0.25**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.30	1	0.30	0.10	D	2	17	100/0.00		0.08	-TOPSOIL- Verydense light brown coarse to fine SAND, little fine gravel, silt, trace roots, moist
		1.52-2.13	2	0.61	0.48	D	14	15	13	12	116.32	Auger refusal at 1.0 m.
		2.13-2.74	3	0.61	0.15	D	10	11	12	14	1.68 / 1.76 / 1.93	Medium dense light brown coarse to fine SAND, some fine gravel, little silt, trace wood, moist; 3 in. ORGANICS layer (wood), organic odor
		3.05-3.66	4	0.61	0.20	D	10	11	7	12	114.49	Medium dense gray coarse to fine GRAVEL and coarse to fine SAND, little silt, trace fuel oil odor (weathered)
		3.66-4.27	5	0.61	0.08	D	8	11	20	17	3.51 / 113.79	Medium dense dark brown to black coarse to fine SAND and coarse to fine GRAVEL, little silt, brick, trace coal, ash, glass, concrete, wood, organic odor, moist
5		4.57-4.57	6	0.00	0.00	D	9	100/0.00			4.21 / 4.27	-FILL-
		6.10-6.71	7	0.61	0.38	D	14	17	21	18		Dense gray brown coarse to fine SAND and SILT, little fine gravel, with cobbles, wet
												Dense light brown to orange brown coarse to fine GRAVEL and coarse to fine SAND, little silt, wet
		7.62-7.72	8	0.10	0.08	D	100/0.10				110.28 / 7.72	Note: Auger through boulder 4.41 to 4.88 m. No recovery, on boulder; Dense brown coarse to fine SAND and SILT, some coarse to fine gravel, wet; Very dense brown coarse to fine GRAVEL and coarse to fine SAND, some silt, wet
10												Note: Split spoon refusal @ 7.72 m. on probable boulder
												-GLACIOFLUVIAL DEPOSITS-
												Bottom of Exploration at 7.72 m.
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**7.6**	**7.72** m	**-** m
			No. of Samples	
			8D	

NOTES: **Case mounted Mobile Drill 580 with cat head to drive safety hammer.**
Borehole backfilled with upon completion

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1227-2**
Sheet **1** of **1**

M. Jennette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S1227-3**
DRILLER	STATE OF CONNECTICUT	Line & Station
C. White	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230732.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283347.50**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **119.5**	Utilized						X		X					X
Date Started: **22 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **22 March 2001**	Size I.D. (mm)	60	76	100	64		108		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **NO** m after	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
												-ASPHALT AND ROADSTONE-
		0.30-0.91	1	0.61	0.18	D	18	25	26	100	0.23	Very dense coarse to fine SAND, some medium to fine gravel, cobbles
		1.22-1.83	2	0.61	0.15	D	23	16	19	25	117.90	
											1.60	
		1.83-1.98	3	0.15	0.00	D	100				1.83	Dense coarse to fine SAND, some medium to fine gravel
												-FILL-
											115.80	No recovery, boulder
		3.70-5.22	1	1.52	1.46	C		[RQD = 96%]			3.70	Auger refusal at 3.05 m. Roller bit to 3.7 m.
												-GLACIOFLUVIAL DEPOSITS-
5											114.30	Very hard, fresh, gray, pink and white, coarse to fine grained granitic GNEISS. Foliation is moderately dipping to high angle, extremely close. Joints are moderately dipping to high angle, close to moderate, rough, stepped to undulating, discolored, open
											5.20	-BEDROCK-
												Bottom of Exploration at 5.22 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**3.1**	**3.70** m	**1.52** m
NX	**3.7**	**5.2**	No. of Samples	
			3D,1C	

NOTES: **Truck mounted Mobile Drill B-52 with wire winch to drive safety hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S1227-3**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S3727-1**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230933.70**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283165.10**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

		Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **113.9**	Utilized						X		X					
Date Started: **20 March 2001**	Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**	Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations	Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **2.44** m after **0**	Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after														

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.36	D	4	7	7	5		Medium dense brown coarse to fine SAND, trace fine gravel, silt
		0.61-1.22	2	0.61	0.30	D	6	5	6	9		Medium dense brown coarse to fine SAND, trace coarse gravel, silt
											112.68 / 1.22	-FILL-
		1.52-2.13	3	0.61	0.41	D	5	5	20	22	111.77 / 2.13	Medium dense brown coarse to fine SAND, little coarse to fine gravel
		2.13-2.74	4	0.61	0.36	D	25	32	41	50		Very dense brown coarse to fine SAND and medium to fine GRAVEL, trace silt with cobbles
		3.05-3.28	5	0.23	0.15	D	22	50/.08				Very dense brown coarse to fine GRAVEL and coarse to fine SAND, trace silt with cobbles
5		4.57-5.18	6	0.61	0.41	D	25	38	44	50		Same as D5
											108.72 / 5.18	-GLACIOFLUVIAL DEPOSITS- Bottom of Exploration at 5.18 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.6**	**5.18** m	**-** m
			No. of Samples	
			6D	

NOTES: **Track mounted CME-45C with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S3727-1**
Sheet **1** of **1**

J. Ouellette	SM - 001 - M REV. 1/94 BORING REPORT	Hole No. **S3727-2**
DRILLER	STATE OF CONNECTICUT	Line & Station
P. Carrera	DEPARTMENT OF TRANSPORTATION	Offset
INSPECTOR	TOWN: **Waterbury, CT**	N. Coordinate **230913.90**
Haley & Aldrich, Inc.	PROJECT NAME: **Reconstruction of I-84**	E. Coordinate **283195.60**
SOILS ENGINEER	PROJECT NUMBER: **State: 151-273/H&A: 91313-102**	**Berger, Lehman Associates, P.C.**
	BORING CONTRACTOR: **General Borings, Inc.**	PRIME DESIGNER

			Casing				Auger		Mud	Sampler		Core Barrel			
Surface Elevation: **114.7**		Utilized						X		X					
Date Started: **20 March 2001**		Type	BW	NW	HW	Pipe	Solid	Hollow		SS		B(st)	B(dt)	NX(st)	NX(dt)
Date Finished: **20 March 2001**		Size I.D. (mm)	60	76	100	64		83		35		35	35	55	55
Groundwater Observations		Hammer (kg)	136	136	136	136			Bit	63.5		Type		Diamond	
@ **3.05** m after **0**		Fall (m)	0.6	0.6	0.6	0.6				0.76		of bit		Carbide	
@ m after															

DEPTH	Casing blows per half meter	SAMPLE DEPTH IN METERS FROM - TO	NO.	PEN. m	REC m	Type	BLOWS PER 0.15 METERS ON SAMPLER 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	STRATA CHANGE ELEV./DEPTH (m)	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.00-0.61	1	0.61	0.13	D	3	7	3	3		Medium dense gray to black coarse to fine SAND and coarse to fine GRAVEL, with concrete, brick
		0.61-1.22	2	0.61	0.05	D	7	3	4	7		D2 same as D1 except loose
		1.52-2.13	3	0.61	0.43	D	5	3	3	5		-FILL- Loose brown coarse to fine SAND
		2.13-2.74	4	0.61	0.51	D	5	3	7	7	112.27	
											2.43 111.65	Medium dense brown coarse to fine SAND, trace fine gravel, silt
		3.05-3.66	5	0.61	0.46	D	14	17	23	38	3.05 110.74	Dense olive brown coarse to fine SAND, little silt, trace fine gravel, wood with cobbles
											3.96	-GLACIOFLUVIAL DEPOSITS-
5												Bottom of Exploration at 3.96 m.
10												
15												

Casing Size	From	To	Meters of Earth	Rock
HSA	**0.0**	**4.0**	**3.96** m	**-** m
			No. of Samples	
			5D	

NOTES: **Track mounted CME C-45 with automatic hammer. Borehole backfilled with drill cuttings upon completion**

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test SS=Split Spoon
PROPORTIONS USED: Trace=1-10% Little=10-20%, Some=20-35%, And=35-50%

Hole No. **S3727-2**
Sheet **1** of **1**

Driller: E. DelPriore	**Connecticut DOT Boring Report**	Hole No.: S111-101
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231355.113
Start Date: 2-25-09	Route No.: Interstate 84	Easting: 285157.785
Finish Date: 2-25-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 145.350

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	5 8 21 18	0.61	0.25			TOPSOIL SUBSOIL	Black to dark brown fine SAND, some silt, with roots (0 to 0.15 m) Medium dense orange-brown coarse to fine SAND and SILT, little gravel, trace roots, no odor, moist (below 0.15 m)	145
1	S-2	12 13 11 4	0.61	0.3				S2: Similar to S1 below 0.15 m	144
2	S-3	13 52 44 57	0.61	0.46			GLACIO-FLUVIAL DEPOSITS	Very dense light brown coarse to fine SAND, some medium to fine GRAVEL, little silt, no odor, wet Note: Cobbles and boulders from approximately 2.28 to 2.74 m. Auger refusal at 2.74 m and cored through cobbles/boulders to 3.05 m	143
3	C-1		1.22	1.22	100	2 2 2 2	BEDROCK	GNEISS: Dark gray to light gray banded, medium to coarse grained poorly foliated (undulating to contorted), moderately fractured (single high angle fracture at 3.75 m), fresh, very to extremely strong	142
4	C-2		1.52	1.34	88	2 2 2 3 2		Similar to C1	141
5									140
6								END OF BORING 5.79 m	139
7									138
8									137
9									136
10									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 3.05 m Rock: 2.74 m		
No. of Soil Samples: 3 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller: E. DelPriore	**Connecticut DOT Boring Report**	Hole No.: S111-102
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231357.158
Start Date: 2-24-09	Route No.: Interstate 84	Easting: 285203.307
Finish Date: 2-24-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 146.026

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	12 17 23 21	0.61	0.30			TOPSOIL GLACIO-FLUVIAL DEPOSITS	Medium dense dark brown fine SAND with roots, some silt, trace coarse sand, trace gravel, no odor, dry (0 to 0.08 m) Dense brown fine SAND and SILT, some coarse to fine gravel, trace coarse sand, roots, no odor, moist (below 0.08 m)	146
1									145
	S-2	100/.13	0.13	0.08				Very dense brown coarse to fine SAND, trace gravel, trace silt, no odor (gravel lodged in spoon tip) Note: Numerous cobbles and boulders from approximately 1.52 to 3.05 m. Auger refusal at 3.05 m	
2									144
3								Note: Cored boulders from approximately 3.05 to 4.57 m	143
4									142
	C-1		1.52	0.94		3.5 4 4.5 4 4	BEDROCK	Hornblende GNEISS: Light gray coarse to medium-grained, medium thick foliation, intensely fractured, moderately weathered, very strong	
5									141
6									140
	C-2		1.52	1.52		4 4 4 4 4		Similar to C1, except light gray to dark gray, grading to medium grained hornblende-biotite GNEISS at approximately 7.04 m, highly to moderately fractured (horizontal to high angle), fresh, very strong	
7									139
8								END OF BORING 7.62 m	138
9									137
10									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 4.57 m Rock: 3.05 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 2 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller:	E. DelPriore	**Connecticut DOT Boring Report**		Hole No.:	S111-103
Inspector:	C. Albers/S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231351.133
Start Date:	2-24-09	Route No.:	Interstate 84	Easting:	285259.733
Finish Date:	2-24-09	Bridge No.:	Revised Retaining Wall 111	Surface Elevation:	146.589

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	SAMPLES: Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	17 26 13 11	0.61	0.30			FILL	Dense dark brown FINE SAND and SILT, trace coarse sand, trace gravel, no odor, dry	
	S-2	34 100/.15	0.3	0.15			GLACIO-FLUVIAL DEPOSITS	Very dense light brown coarse to fine SAND and coarse to fine GRAVEL, little silt, no odor, dry	146
1								Note: Auger refusal at 1.37 m. Cored cobbles and boulders from approximately 1.37 to 2.28 m	145
2								Note: Advanced auger through cobbles and boulders from approximately 2.28 to 3.05 m	144
3	S-3	18 25 47 100	0.61	0.30				Very dense light brown coarse to fine SAND, some coarse to fine gravel, some silt, no odor, moist	143
								Note: Auger refusal at 4.12 m	
4	C-1		1.52	1.52		4.5	BEDROCK	GNEISS: Light gray to dark gray, medium grained with occasional coarse-grained seams along foliation, medium thick, foliation (moderately dipping), highly to moderately fractured, fresh, very strong	
						6			142
5						4.5			
						5			
						4			141
6								END OF BORING 5.64 m	

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 4.12 m Rock: 1.52 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 2 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: S111-104
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231339.711
Start Date: 3-4-09	Route No.: Interstate 84	Easting: 285306.152
Finish Date: 3-4-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 146.638

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: NX
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	11 100/.13	0.28	0.18			TOPSOIL FILL GLACIO-FLUVIAL DEPOSITS	Medium dense dark brown FINE SAND and SILT, some roots, humus, trace coarse sand, gravel, organic odor, dry (0 to 0.08 m) Medium dense red-brown to brown FINE SAND, little silt, trace coarse sand, fine gravel, no odor, moist (0.08 to 0.23 m) Very dense light brown coarse to fine SAND, little silt, trace medium to fine gravel, coarse sand, no odor, moist (below 0.23 m) Note: Cobbles and boulders from approximately 0.28 to 1.37 m S3: Very dense light brown to tan coarse to fine SAND and coarse to fine GRAVEL, trace silt, no odor, dry S4: Similar to S3, except light brown	146
1	S-2	50/0	0.0	0.0					
	S-3	24 32 32 47	0.61	0.3					145
2	S-4	50 32 33 26	0.61	0.36					144
3	S-5	12 50/.08	0.23	0.10				Similar to S4 Note: Auger refusal at 3.35 m	
	C-1		1.53	1.52	82	3 3 3 3 4	BEDROCK	GNEISS: light gray to gray, medium-grained, laminated planar foliation, moderately fractured (horizontal to moderately dipping), slightly weathered to fresh, very strong	143
4									142
5	C-2		1.52	1.52	54	3 4 4 4 4		GNEISS: Gray to black and white banded, medium to coarse-grained, planar to contorted foliation, highly to moderately fractured (horizontal to moderately dipping), fresh, very to extremely strong	141
6									
								END OF BORING 6.4 m	140
7									139
8									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 3.35 m Rock: 3.05 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 5 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller:	J. Casson	**Connecticut DOT Boring Report**		Hole No.:	S111-105
Inspector:	C. Albers/S. Poff	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231346.402
Start Date:	2-24-09	Route No.:	Interstate 84	Easting:	285363.265
Finish Date:	2-24-09	Bridge No.:	Revised Retaining Wall 111	Surface Elevation:	140.133
Project Description:	I-84 Reconstruction				
Casing Size/Type:	83 mm / HSA	Sampler Type/Size:	SS / 35 mm	Core Barrel Type:	NX
Hammer Wt.: -	Fall: -	Hammer Wt. (Kg):	63.5	Fall:	0.76 m
Groundwater Observations:					

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Core Time min per 0.3 m	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	1 5 32 61	0.61	0.33			TOPSOIL FILL	Loose dark brown FINE SAND and SILT, with roots/humus, organic odor, dry (0 to 0.13 m) Very dense brown coarse to fine SAND, some coarse to fine gravel, little silt, no odor, moist (0.13 to 0.61 m)	140
	S-2	100/.05	0.05	0.0			GLACIO-FLUVIAL DEPOSITS	S2: No recovery Note: Cobbles from approximately 0.61 to 0.91 m	
1									139
	S-3	22 56 45 100/0	0.46	0.25				Very dense yellow-brown to light brown coarse to fine SAND, some coarse to fine gravel, some silt, no odor, wet	
2								Note: Cobbles and boulders from approximately 1.98 to 2.74 m. Auger refusal at 2.74 m. Offset 2.14 m southeast with auger refusal at 2.74 m	138
	C-1	2 2 3 2	1.52	1.52	38	2 2 3 2 3	BEDROCK	GNEISS: Gray to green-gray, medium to fine grained with occasional medium to coarse grained veins, poorly-foliated, highly fractured (horizontal to low angle), fresh, strong to very strong; coarse grained veins appear to be secondary intrusions, undulating to contorted; fractures are discolored to fresh, except one at 4.12 m is decomposed and moderately dipping	
3									137
4									136
								END OF BORING 4.27 m	
5									135
6									

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 2.74 m Rock: 1.52 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
No. of Soil Samples: 3 No. of Core Runs: 1		SM-001-M REV. 1/02

Driller: J. Casson	**Connecticut DOT Boring Report**	Hole No.: S111-106
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231314.331
Start Date: 2-23-09	Route No.: Interstate 84	Easting: 285406.148
Finish Date: 2-23-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 147.599

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @0.15 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0	S-1	1 1 6 10	0.61	0.36		TOPSOIL FILL	Very loose dark brown FINE SAND and SILT, with organic matter, no odor, moist (0 to 0.15 m)	
	S-2	13 20 31 14	0.61	0.36			Dense brown coarse to fine SAND, little silt, trace fine gravel, no odor, wet (below 0.15 m) S2: Dense gray coarse to fine SAND, some silt, trace fine gravel, no odor, wet	147
1								
	S-3	15 49 79 32	0.61	0.41			Very dense coarse to fine SAND and coarse to fine GRAVEL, trace silt, trace wood fibers, no odor, moist (1.2 to 1.7 m)	146
2	S-4	100/.03	0.03	0.0			Very dense coarse to fine SAND and medium to fine GRAVEL, little silt, few roots, no odor, wet (below 1.7 m) S4: No recovery	145
						ORGANIC DEPOSITS		
3	S-5	9 6 3 14	0.61	0.25			Note: Cored through boulder from approximately 2.13 to 2.49 m S5: Stiff dark brown ORGANIC SILT with organic matter, trace coarse to fine sand, no odor, wet (below 3.05 m)	
	S-6	6 6 12 11	0.61	0.25				144
4							Very stiff dark brown SILT and ORGANIC SILT, little coarse to fine sand, no odor, wet	
	S-7	9 12 19 21	0.61	0.36		GLACIO-FLUVIAL DEPOSITS	Dense yellow-brown to orange-brown SILT and FINE SAND, trace fine gravel, trace coarse sand, laminated, no odor, wet, with occasional seams of clayey silt	143
5	S-8	13 14 27 25	0.61	0.46			S8: Similar to S7	142
6	S-9	11 10 18 21	0.61	0.56			Similar to S7, except little coarse sand, little medium to fine gravel	
								141
7								
	S-10	8 17 25 100/.05	0.52	0.28			Similar to S9, stratified	140
8								
								139
9								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 2
Earth: 10.67 m Rock: 0 m		
No. of Soil Samples: 11 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: J. Casson	**Connecticut DOT Boring Report**	Hole No.: S111-106
Inspector: C. Albers/S. Poff	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231314.331
Start Date: 2-23-09	Route No.: Interstate 84	Easting: 285406.148
Finish Date: 2-23-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 147.599

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @0.15 m

Depth (m)	SAMPLES: Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
9	S-11	58 34 48 63	0.61	0.46		GLACIO-FLUVIAL DEPOSITS *(con't)*	Very dense brown to orange-brown coarse to fine SAND, little gravel, little silt, no odor, wet	138
10							Possible weathered bedrock from approximately 10.52 to 10.67 m	137
11							END OF BORING 10.67 m	136
12								135
13								134
14								133
15								132
16								131
17								130
18								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 2 of 2
Earth: 10.67 m Rock: 0 m		
No. of Soil Samples: 11 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	E. DelPriore	**Connecticut DOT Boring Report**		Hole No.:	S111-107
Inspector:	J. Charter	Town:	Waterbury, Connecticut	Stat./Offset:	
Engineer:	Haley & Aldrich, Inc.	Project No.:	151-273, 151-307	Northing:	231300.051
Start Date:	2-27-09	Route No.:	Interstate 84	Easting:	285452.529
Finish Date:	2-27-09	Bridge No.:	Revised Retaining Wall 111	Surface Elevation:	147.756

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations: @5.61 m

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0						BITUMINOUS CONCRETE	Bituminous Concrete (0 to 0.3 m)	
	S-1	10 12 13 15	0.61	0.15		FILL	Medium dense dark brown coarse to fine SAND, little gravel and silt, no odor, dry	147
1	S-2	16 24 17 15	0.61	0.10		GLACIO-FLUVIAL DEPOSITS	Dense light brown coarse to fine SAND, little gravel and silt, no odor, dry	
	S-3	17 23 28 41	0.61	0.46			Very dense brown coarse to fine SAND, some gravel, little silt, no odor, moist	146
2	S-4	100/.15	0.14	0.10			Very dense brown coarse to fine SAND, some gravel, little silt, no odor, dry Note: Advanced auger to 3.05 m, occasional cobbles	145
3	S-5	16 25 38 11	0.61	0.10			Similar to S4	
	S-6	100/.1	0.1	0.0			No recovery Note: Cobbles and boulders from approximately 3.76 to 5.03 m	144
4	S-7	100/.15	0.15	0.08			Boulder fragment	143
5								
							Note: Drill action suggests change in material at approximately 5.64 ft	142
6	S-8	19 22 18 24	0.61	0.46			Dense brown coarse to fine SAND, some silt, little gravel, no odor, wet	
								141
7							Note: Boulder from approximately 7.01 to 7.47 m	
	S-9	13 28 45 100/.03	0.61	0.46			Similar to S8	140
8								
								139
9								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 9.75 m Rock: 0 m	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 2
No. of Soil Samples: 10 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: E. DelPriore	**Connecticut DOT Boring Report**	Hole No.: S111-107
Inspector: J. Charter	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231300.051
Start Date: 2-27-09	Route No.: Interstate 84	Easting: 285452.529
Finish Date: 2-27-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 147.756
Project Description: I-84 Reconstruction		
Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	
Groundwater Observations: @5.61 m		

Depth (m)	SAMPLES: Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
9	S-10	53 67 25 22	0.61	0.46		GLACIAL TILL	Very dense gray-brown coarse to fine SAND and coarse to fine GRAVEL, little silt, with cobbles, no odor, wet	138
10							END OF BORING 9.75 m	
11								137
12								136
13								135
14								134
15								133
16								132
17								131
18								130

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 2 of 2
Earth: 9.75 m Rock: 0 m		
No. of Soil Samples: 10 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: R. Posa	**Connecticut DOT Boring Report**	Hole No.: S111-108
Inspector: J. Charter	Town: Waterbury, Connecticut	Stat./Offset:
Engineer: Haley & Aldrich, Inc.	Project No.: 151-273, 151-307	Northing: 231273.595
Start Date: 2-27-09	Route No.: Interstate 84	Easting: 285517.723
Finish Date: 2-27-09	Bridge No.: Revised Retaining Wall 111	Surface Elevation: 147.986

Project Description: I-84 Reconstruction

Casing Size/Type: 83 mm / HSA	Sampler Type/Size: SS / 35 mm	Core Barrel Type: n/a
Hammer Wt.: - Fall: -	Hammer Wt. (Kg): 63.5 Fall: 0.76 m	

Groundwater Observations:

Depth (m)	Sample Type/No.	Blows on Sampler per 0.3 m	Pen. (m)	Rec. (m)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (m)
0						BITUMINOUS CONCRETE	Bituminous Concrete (0 to 0.23 m)	
	S-1	10 26 25 15	0.61	0.38		FILL	Dense red-brown coarse to fine SAND, little gravel, trace silt, no odor, dry (0.23 to 0.61 m)	
1	S-2	17 20 17 10	0.61	0.20		GLACIO-FLUVIAL DEPOSITS	Dense light brown to tan coarse to fine SAND, little silt, trace medium to fine gravel, no odor, dry (below 0.61m)	147
	S-3	9 10 9 9	0.58	0.38			S2: Dense light brown coarse to fine SAND, little gravel and silt, no odor, dry	
2	S-4	100/.15	0.3	0.05			S3: Medium dense brown coarse to fine SAND, some medium to fine gravel, little silt, trace coarse gravel, no odor, dry S4: Cobble fragments	146
3	S-5	17 24 19 20	0.61	0.23			Similar to S3, except dense	145
	S-6	12 16 48 29	0.61	0.41			Very dense brown coarse to fine SAND, some coarse to fine gravel, trace silt, with cobbles, no odor, dry	
4	S-7	100/.15	0.15	0.05			Similar to S6 Note: Numerous cobbles from approximately 4.57 to 5.94 m	144
5								143
6	S-8	14 21 29 16	0.61	0.38			Very dense brown coarse to fine SAND, some coarse to fine gravel, some silt, no odor, wet	142
7								141
	S-9	23 86 29 15	0.61				Very dense brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, no odor, wet	
8								140
							END OF BORING 8.23 m	
9								139
10								138

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Haley & Aldrich Project No. 91313-111	Sheet 1 of 1
Earth: 8.23 m Rock: 0 m		
No. of Soil Samples: 9 No. of Core Runs: 0		SM-001-M REV. 1/02

APPENDIX B

Logs of Recent Test Pits

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-1

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 159.1	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP R. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			158.4 0.7	Orange-brown SILT and fine SAND, little coarse sand, gravel, trace cobbles, boulders -GLACIAL TILL- Bottom of Exploration at 0.66 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE	
LENGTH: METERS	WIDTH: METERS
BOULDERS	
0.30 m TO 0.61 m DIAMETER: 3 (number)	VOLUME: .12 (cu. m)
OVER 0.61 m DIAMETER: - (number)	VOLUME: - (cu. m)

SUMMARY	
DEPTH (m)	0.7
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-2**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	159.8
CONTRACTOR	NJL Corp	DATE	April 24, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown SILT and fine SAND, little coarse sand, gravel, trace cobbles, boulders	
			159.2 0.7	-GLACIAL TILL-	
				Bottom of Exploration at 0.66 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .10 (cu. m)

OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)

SUMMARY

DEPTH (m)	0.7
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-3

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 161.7	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown SILT and fine SAND, little coarse sand, gravel, trace cobbles, boulders -GLACIAL TILL-	
			160.5 1.2	Bottom of Exploration at 1.17 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE			
LENGTH:	METERS	WIDTH:	METERS
BOULDERS			
0.30 m TO 0.61 m DIAMETER:	4 (number)	VOLUME:	.20 (cu. m)
OVER 0.61 m DIAMETER:	2 (number)	VOLUME:	.26 (cu. m)

SUMMARY	
DEPTH (m)	1.2
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-4

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 162.3	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			161.4	Light brown fine SAND and coarse to fine GRAVEL, little coarse sand, trace silt, boulders, cobbles	
			0.9 161.0	Light brown SILT and fine SAND, some coarse to fine gravel, trace coarse sand, cobbles	
			1.3	-GLACIAL TILL-	
				Bottom of Exploration at 1.30 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 6 (number) VOLUME: .31 (cu. m)

OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)

SUMMARY

DEPTH (m)	1.3
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. TP-5

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	162.7
CONTRACTOR	NJL Corp	DATE	April 24, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			162.0	Brown SILT and fine SAND, little gravel, boulders	
			0.7	Orange-brown fine SAND and SILT, little coarse to fine gravel, coarse sand, trace cobbles	
			161.7	-GLACIAL TILL-	
			1.0	Bottom of Exploration at 1.04 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 4 (number) VOLUME: .16 (cu. m)

OVER 0.61 m DIAMETER: 2 (number) VOLUME: .16 (cu. m)

SUMMARY

DEPTH (m)	1.0
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-6

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 163.4	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Light brown coarse to fine SAND and coarse to fine GRAVEL, trace silt, cobble with roots to 0.25 m.	
			162.6 0.8	-GLACIAL TILL- Bottom of Exploration at 0.81 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	0.8
NE			BOULDERS	JAR SAMPLES	-
			0.30 m.TO 0.61 m DIAMETER: - VOLUME: -	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: - VOLUME: - (number) (cu. m)	WATER LEVEL (m)	NE
* AFTER COMPLETED					

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. TP-7

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	163.4
CONTRACTOR	NJL Corp	DATE	April 24, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			162.9	Light brown coarse to fine SAND, little silt, gravel with roots	
			0.5	Orange-brown fine SAND, some silt, little coarse sand, coarse to fine gravel, boulders with roots	
			162.7	-GLACIAL TILL-	
			0.7	Bottom of Exploration at 0.74 on bucket refusal	

WATER LEVEL FROM GROUND SURFACE

DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 6 (number) VOLUME: .30 (cu. m)

OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)

SUMMARY

DEPTH (m)	0.7
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-8

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 164.0	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			163.8	Brown coarse to fine SAND and GRAVEL, little cobbles, trace silt	
			0.3		
			163.7	ASPHALT	
			0.3		
			163.3	-FILL-	
			0.7	Same as above	
			163.3	Black fine SAND and SILT	
			0.8	Orange-brown fine SAND, some silt, little coarse sand, coarse to fine gravel	
			162.8		
			1.2	Light brown coarse to fine SAND, little silt, gravel, trace boulders	
			162.6		
			1.4	-GLACIAL TILL-	
				Bottom of Exploration at 1.42 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	1.4
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 5 VOLUME: .18	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)	WATER LEVEL (m)	NE

* AFTER COMPLETED

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-9

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION	164.6
CONTRACTOR	NJL Corp	DATE	April 24, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown coarse to fine SAND, some silt, little gravel, cobbles, trace boulders with roots to 0.91 m.	
			163.6		
			1.0	Light brown coarse to fine SAND and GRAVEL, little cobbles, trace boulders	
			163.3		
			1.3	-GLACIAL TILL-	
				Bottom of Exploration at 1.32 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .24 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .20 (cu. m)

SUMMARY	
DEPTH (m)	1.3
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-10

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 165.3	
CONTRACTOR	NJL Corp	DATE April 24, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			164.7	Orange-brown coarse to fine SAND, some silt, little gravel, cobbles, trace boulders	
			0.6	Black fine SAND and SILT	
			164.7	-GLACIAL TILL-	
			0.7	Gray and white GNEISS	
			163.9	-WEATHERED BEDROCK-	
			1.4	Bottom of Exploration at 1.40 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .26 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .20 (cu. m)

SUMMARY	
DEPTH (m)	1.4
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-11**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	166.0
CONTRACTOR	NJL Corp	DATE	April 24, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Brown fine SAND and SILT, little cobbles, coarse to fine gravel, trace boulders, coarse sand with roots	
			165.0 / 1.0	-GLACIAL TILL-	
			164.6 / 1.4	Gray and white GNEISS	
				-WEATHERED BEDROCK-	
				Bottom of Exploration at 1.42 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE

DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 2 (number) VOLUME: .20 (cu. m)

OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)

SUMMARY

DEPTH (m)	1.4
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-12

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 166.3	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some gravel, trace coarse sand with roots	
			165.2 / 1.1	Light brown coarse to fine SAND and GRAVEL some cobbles, trace boulders	
			164.6 / 1.7	-GLACIAL TILL-	
			164.4 / 1.9	Gray and white GNEISS	
				-WEATHERED BEDROCK-	
				Bottom of Exploration at 1.88 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .29 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .30 (cu. m)

SUMMARY	
DEPTH (m)	1.9
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-13**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	166.5
CONTRACTOR	NJL Corp	DATE	April 23, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0					
			166.1	Brown fine SAND, some gravel, little coarse sand, silt, cobbles, trace boulders	
			0.5	Black fine SAND and SILT	
			166.0	Brown fine SAND, some gravel, little coarse sand, silt, cobble, trace boulders	
			0.5		
			165.0	-GLACIAL TILL-	
			1.5	Bottom of Exploration at 1.52 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE

DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 4 VOLUME: .43

OVER 0.61 m DIAMETER: - (number) VOLUME: - (cu. m)

SUMMARY

DEPTH (m)	1.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-14

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 166.9	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Brown coarse to fine SAND, some coarse to fine gravel, little cobbles, boulders	
				-GLACIAL TILL-	
			165.0 / 1.9	Bottom of Exploration at 1.90 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 6 (number) VOLUME: .30 (cu. m)

OVER 0.61 m DIAMETER: 2 (number) VOLUME: .37 (cu. m)

SUMMARY	
DEPTH (m)	1.9
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-15

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 167.0	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown SILT, some fine sand, little coarse to fine gravel, coarse sand, cobbles, trace boulders with roots	
			166.1 / 0.9	Light brown coarse to fine SAND and coarse to fine GRAVEL, little cobbles, trace boulders, silt	
				-GLACIAL TILL-	
			164.0 / 3.1	Bottom of Exploration at 3.05 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE	
LENGTH: METERS	WIDTH: METERS
BOULDERS	
0.30 m TO 0.61 m DIAMETER: 2 (number)	VOLUME: .10 (cu. m)
OVER 0.61 m DIAMETER: 4 (number)	VOLUME: .57 (cu. m)

SUMMARY	
DEPTH (m)	0.9
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-16

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 167.0	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown SILT, some fine sand, little coarse to fine gravel, coarse sand, cobbles, trace boulders with roots to 0.81 m. -GLACIAL TILL-	
			165.8 1.3	Gray and white GNEISS -WEATHERED BEDROCK-	
2			165.0 2.1	Bottom of Exploration at 2.06 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	2.1
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 4 (number) VOLUME: .70 (cu. m)	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: 2 (number) VOLUME: .94 (cu. m)	WATER LEVEL (m)	NE
* AFTER COMPLETED					

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-17

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 166.5	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some coarse to fine gravel, little coarse sand, trace cobbles -GLACIAL TILL-	Bedrock in the western wall at .53 m.
			165.3 1.2	Bottom of Exploration at 1.24 m. on bucket refusal	Bedrock in the eastern wall at 1.24 m.

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE	
LENGTH: METERS	WIDTH: METERS
BOULDERS	
0.30 m TO 0.61 m DIAMETER: 3 (number)	VOLUME: .11 (cu. m)
OVER 0.61 m DIAMETER: 1 (number)	VOLUME: .07 (cu. m)

SUMMARY	
DEPTH (m)	1.2
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-18

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 166.1	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some coarse to fine gravel, little coarse sand, trace cobbles	
			165.1 / 0.9	Light brown coarse to fine SAND and coarse to fine GRAVEL, little cobbles, trace boulders, silt	
2				-GLACIAL TILL-	
			163.6 / 2.5	Bottom of Exploration at 2.46 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .35 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .10 (cu. m)

SUMMARY	
DEPTH (m)	2.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-19

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 165.4	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some coarse to fine gravel, trace cobbles, boulders with roots -GLACIAL TILL-	
			164.2 / 1.2	Bottom of Exploration at 1.17 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .13 (cu. m)

OVER 0.61 m DIAMETER: 2 (number) VOLUME: .10 (cu. m)

SUMMARY	
DEPTH (m)	1.2
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-20

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 164.8	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			164.3 / 0.5	Orange-brown fine SAND and SILT, some coarse to fine gravel, trace cobbles, boulders with roots to 0.76 m.	
			164.3 / 0.5	Black fine SAND and SILT	Bedrock in west wall of Test Pit at 0.76 m. Bedrock in east wall of Test Pit at 0.91 m.
			164.1 / 0.8	Same as above -GLACIAL TILL-	
			163.4 / 1.4	Gray and white GNEISS -WEATHERED BEDROCK-	
				Bottom of Exploration at 1.42 m. on bucket refusal on bedrock	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER:	4 (number)	VOLUME:	.23 (cu. m)
OVER 0.61 m DIAMETER:	1 (number)	VOLUME:	.20 (cu. m)

SUMMARY

DEPTH (m)	1.4
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-21

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 164.2	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some coarse to fine gravel, little cobbles, boulders with roots to 0.53 m. -GLACIAL TILL-	
			163.1 / 1.1	Bottom of Exploration at 1.09 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 7 (number) VOLUME: .50 (cu. m)

OVER 0.61 m DIAMETER: 2 (number) VOLUME: .21 (cu. m)

SUMMARY

DEPTH (m)	1.1
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-22

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 163.4	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and coarse to fine GRAVEL, little coarse sand, cobbles, trace boulders, silt with roots to 1.3 m. -GLACIAL TILL-	Bedrock in test pit slopes at ~30 degrees from the surface of western wall to the bottom of test pit
			161.7 / 1.7	Bottom of Exploration at 1.73 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 3 (number) VOLUME: .17 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .20 (cu. m)

SUMMARY	
DEPTH (m)	1.7
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-23

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 162.7	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some coarse to fine gravel, little cobbles, boulders with roots to 0.61 m. -GLACIAL TILL-	
			161.4 / 1.3	Gray and white GNEISS	
			161.3 / 1.5	-WEATHERED BEDROCK-	
				Bottom of Exploration at 1.45 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 6 (number) VOLUME: .45 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .15 (cu. m)

SUMMARY	
DEPTH (m)	1.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-24

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 161.6	
CONTRACTOR	NJL Corp.	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			161.0	Orange-brown fine SAND and SILT, some coarse to fine gravel, trace cobbles, boulder, silt with roots to 0.66 m.	
			0.7	Light brown coarse to fine SAND and coarse to fine GRAVEL, some cobbles, trace boulders, silt	
			160.3 1.3	-GLACIAL TILL-	
				Bottom of Exploration at 1.32 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	1.3
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 4 VOLUME: .35	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: 1 VOLUME: .15 (number) (cu. m)	WATER LEVEL (m)	NE
* AFTER COMPLETED					

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-25

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 161.0	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange to dark brown fine SAND and SILT, little coarse sand, coarse to fine gravel, trace cobbles with roots to 0.86 m.	
			160.2 0.9	Light brown coarse to fine SAND and coarse to fine GRAVEL, some cobbles, trace boulders, silt	
			159.5 1.5	-GLACIAL TILL- Bottom of Exploration at 1.52 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	1.5
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 4 VOLUME: .35	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: 1 (number) VOLUME: .20 (cu. m)	WATER LEVEL (m)	NE

* AFTER COMPLETED

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-26

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 160.6	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0					
			159.9 0.6	Orange-brown fine SAND and SILT, little coarse to fine gravel, cobbles, grace boulders with roots to 0.51 m.	
			159.1 1.5	Light brown coarse to fine SAND and coarse to fine GRAVEL, little cobbles, boulders, trace silt -GLACIAL TILL- Bottom of Exploration at 1.45 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE			
LENGTH:	METERS	WIDTH:	METERS
BOULDERS			
0.30 m TO 0.61 m DIAMETER:	3 (number)	VOLUME:	.30 (cu. m)
OVER 0.61 m DIAMETER:	1 (number)	VOLUME:	.14 (cu. m)

SUMMARY	
DEPTH (m)	1.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. TP-27

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	159.6
CONTRACTOR	NJL Corp	DATE	April 23, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Orange-brown fine SAND and SILT, some cobbles, little boulders with roots to 0.81 m.	
			158.6 / 0.9		
			158.1 / 1.5	Light brown coarse to fine SAND and coarse to fine GRAVEL, little cobbles, boulders, trace silt	
				-GLACIAL TILL-	
				Bottom of Exploration at 1.47 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 4 (number) VOLUME: .21 (cu. m)

OVER 0.61 m DIAMETER: 2 (number) VOLUME: .41 (cu. m)

SUMMARY

DEPTH (m)	1.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-28

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 158.0	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			157.7	Brown fine SAND, some boulders, cobbles, little coarse to fine gravel, trace silt with roots	
			0.3	-TOPSOIL-	
			157.1	Same as above without roots	
			0.9	-GLACIAL TILL-	
				Bottom of Exploration at 0.91 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 6 (number) VOLUME: .40 (cu. m)

OVER 0.61 m DIAMETER: 3 (number) VOLUME: .45 (cu. m)

SUMMARY	
DEPTH (m)	0.9
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-29

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 156.0	
CONTRACTOR	NJL Corp	DATE April 23, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0				Brown fine SAND and BOULDERS, little cobbles, trace coarse to fine gravel, silt with numbers boulders and common roots	
			155.4 / 0.6	-TOPSOIL-	
				Same as above without roots	
			154.4 / 1.6	-GLACIAL TILL-	
				Bottom of Exploration at 1.57 m. on bucket refusal on bedrock	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE	
LENGTH: METERS	WIDTH: METERS
BOULDERS	
0.30 m TO 0.61 m DIAMETER: 11 (number)	VOLUME: .63 (cu. m)
OVER 0.61 m DIAMETER: 7 (number)	VOLUME: 1.27 (cu. m)

SUMMARY	
DEPTH (m)	1.6
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-30**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	154.4
CONTRACTOR	NJL Corp	DATE	April 23, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			153.9 / 0.5	Brown fine SAND and COBBLES, some boulders, trace coarse to fine gravel, silt with roots to 0.51 m. -TOPSOIL-	
			152.8 / 1.6	Same as above without roots -GLACIAL TILL- Bottom of Exploration at 1.62 m. on bucket refusal on bedrock	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 10 (number) VOLUME: .52 (cu. m)

OVER 0.61 m DIAMETER: 5 (number) VOLUME: .78 (cu. m)

SUMMARY

DEPTH (m)	1.6
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-31

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 114.5	
CONTRACTOR	NJL Corp	DATE May 1, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			114.4	-TOPSOIL-	
			0.2	Brown coarse to fine SAND and GRAVEL, little cobbles, trace boulders, silt with bricks to 0.3 m.	No wall encountered
2				-FILL-	
			110.9		
			3.6	Bottom of Exploration at 3.6 m. on bucket refusal	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	3.6
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 17 (number) VOLUME: 10 (cu. m)	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: 2 (number) VOLUME: 2.6 (cu. m)	WATER LEVEL (m)	NE
* AFTER COMPLETED					

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-32**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	114.3
CONTRACTOR	NJL Corp	DATE	May 1, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			114.1	-TOPSOIL-	
			0.2	Brown coarse to fine SAND and coarse to fine GRAVEL, some cobbles, trace boulders, silt	No wall encountered
2				-FILL-	
			110.8		
			3.5	Bottom of Exploration at 3.5 m.	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 15 (number) VOLUME: 2.5 (cu. m)

OVER 0.61 m DIAMETER: 5 (number) VOLUME: 1.03 (cu. m)

SUMMARY

DEPTH (m)	3.5
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-33**

PROJECT	Reconstruction of I-84	File No.	91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan
CLIENT	Berger, Lehman Associates, PC	ELEVATION	114.4
CONTRACTOR	NJL Corp	DATE	May 1, 2001
EQUIPMENT USED	CAT E120 B	H&A REP	P. Carrera

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			114.2	-TOPSOIL-	
			0.3	Brown coarse to fine SAND, some coarse to fine gravel, cobbles, little boulders, trace silt	No wall encountered
2					
			111.6	-FILL-	
			2.9	Bottom of Exploration at 2.85 m.	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: METERS WIDTH: METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 25 (number) VOLUME: 1. (cu. m)

OVER 0.61 m DIAMETER: 5 (number) VOLUME: .52 (cu. m)

SUMMARY

DEPTH (m)	2.9
JAR SAMPLES	-
BAG SAMPLES	-
WATER LEVEL (m)	NE

HAR_HATP 91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-34

PROJECT	Reconstruction of I-84	File No. 91313-100	
LOCATION	Waterbury, Connecticut	LOCATION See Plan	
CLIENT	Berger, Lehman Associates, PC	ELEVATION 114.4	
CONTRACTOR	NJL Corp	DATE May 1, 2001	
EQUIPMENT USED	CAT E120 B	H&A REP P. Carrera	

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			114.3	-TOPSOIL-	
			0.2	Brown coarse to fine SAND, some gravel, cobbles, trace boulders, silt	No wall encountered
2				-FILL-	
			111.8		
			2.6	Bottom of Exploration at 2.6 m.	

WATER LEVEL FROM GROUND SURFACE			APPROXIMATE PIT DIMENSIONS AT SURFACE	SUMMARY	
DATE	TIME* (hours)	DEPTH (m)	LENGTH: METERS WIDTH: METERS	DEPTH (m)	2.6
NE			BOULDERS	JAR SAMPLES	-
			0.30 m TO 0.61 m DIAMETER: 9 VOLUME: .61	BAG SAMPLES	-
			OVER 0.61 m DIAMETER: 3 VOLUME: .40 (number) (cu. m)	WATER LEVEL (m)	NE
* AFTER COMPLETED					

HAR_HATP 91313-100

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. TP-204-1

PROJECT	Reconstruction I-84	File No.	State:151-273/ H&A:91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan N230666.016 E283392.327
CLIENT	Berger, Lehman Associates, PC	ELEVATION	
CONTRACTOR	General Borings	DATE	December 7, 2000
EQUIPMENT USED	Komatsu PC 200 LC	H&A REP	S. Brousseau

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0					
			0.1	Bituminous Concrete (at west end of test pit, 2.49 m.) & brown fine SAND, some silt, trace coarse to medium sand and fine gravel, with few roots (Topsoil at east end of test pit, 1.98 m.)	
			0.7	Brown coarse to fine SAND, little coarse to fine gravel, trace silt, with few cobbles and boulders	
			1.0	Gray brown coarse to fine SAND, some silt, little fine gravel, trace coarse to medium gravel, with few cobbles -FILL-	Top of utility located 1.02 m. below ground surface at west end of test pit
				Bottom of Exploration at 1.02 m.	
				Note: Test pit was backfilled with original material upon completion	Top of utility chamber located 0.76 m. below ground surface at east end of test pit. Gas utility was observed running north to south on top of chamber

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: 4.47 METERS WIDTH: 1.12 METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 0 VOLUME: 0

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .06 (cu. m)

SUMMARY	
DEPTH (m)	1.0
JAR SAMPLES	0
BAG SAMPLES	0
WATER LEVEL (m)	

HAR_HATP Slide:151-273/H&A:91313-100

HALEY & ALDRICH	Hartford, Connecticut	TEST PIT REPORT	TEST PIT NO. TP-204-2

PROJECT	Reconstruction I-84	File No.	State:151-273/ H&A:91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan N230654.648 E283389.124
CLIENT	Berger, Lehman Associates, PC	ELEVATION	
CONTRACTOR	General Borings	DATE	December 7, 2000
EQUIPMENT USED	Komatsu PC 200 LC	H&A REP	S. Brousseau

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			0.1	Dark brown fine SAND, some silt, trace coarse sand, with common roots -TOPSOIL-	Top of utility located 0.79 m. below ground surface
			1.3	Brown coarse to fine SAND, little coarse to fine gravel, and silt, with few cobbles and boulders and very few fragments of asphalt and concrete (1 boulder size piece of concrete) -FILL-	
				Bottom of Exploration at 1.32 m. Note: Test pit was backfilled with original material upon completion	

WATER LEVEL FROM GROUND SURFACE		
DATE	TIME* (hours)	DEPTH (m)
NE		
* AFTER COMPLETED		

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: 3.56 METERS WIDTH: 1.78 METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER:	1 (number)	VOLUME:	.06 (cu. m)
OVER 0.61 m DIAMETER:	2 (number)	VOLUME:	.017 (cu. m)

SUMMARY

DEPTH (m)	1.3
JAR SAMPLES	0
BAG SAMPLES	0
WATER LEVEL (m)	NE

HALEY & ALDRICH

Hartford, Connecticut

TEST PIT REPORT

TEST PIT NO. **TP-204-3**

PROJECT	Reconstruction I-84	File No.	State:151-273/ H&A:91313-100
LOCATION	Waterbury, Connecticut	LOCATION	See Plan N230643.433 E283384.287
CLIENT	Berger, Lehman Associates, PC	ELEVATION	
CONTRACTOR	General Borings	DATE	December 7, 2000
EQUIPMENT USED	Komatsu PC 200 LC	H&A REP	S. Brousseau

DEPTH (M)	SAMPLE NUMBER	SAMPLE DEPTH RANGE	ELEV./ DEPTH (M)	VISUAL DESCRIPTION	REMARKS
0			0.1	Dark brown fine SAND, some silt, trace coarse sand, with common roots -TOPSOIL-	Top of utility located 0.91 m. below ground surface
			1.2	Brown coarse to fine SAND, little coarse to fine gravel, trace silt, with few cobbles and boulders -FILL-	
				Bottom of Exploration at 1.22 m. Note: Test pit was backfilled with original material upon completion	Utility inlet located south of test pit. Concrete pipe dimensions: I.D.= 1.37 m. O.D. = 1.63 m.

WATER LEVEL FROM GROUND SURFACE

DATE	TIME* (hours)	DEPTH (m)
NE		

* AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH: 3.66 METERS WIDTH: 1.96 METERS

BOULDERS

0.30 m TO 0.61 m DIAMETER: 1 (number) VOLUME: .05 (cu. m)

OVER 0.61 m DIAMETER: 1 (number) VOLUME: .11 (cu. m)

SUMMARY

DEPTH (m)	1.2
JAR SAMPLES	0
BAG SAMPLES	0
WATER LEVEL (m)	NE

APPENDIX C

Observation Well Installation Reports & Measured Water Levels

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-21A-OW

Boring No. R-21A-OW

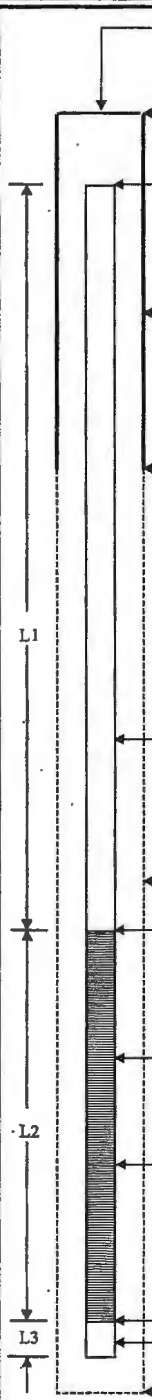
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	J. Miller
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/20/2001
DRILLER	E. Del Priore	WATER LEVEL	0.61 m.

Ground El.	109.1 m.	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	BENTONITE CHIPS
0.61	
1.20	DRILL CUTTINGS
GLACIOLFLUVIAL DEPOSITS	
3.7 m	3.7 m

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Steel Stand Pipe	
Height of top of guard pipe above ground surface	0.74	m
Height of top of riser pipe above ground surface	0.64	m
Type of protective casing:	Steel Stand Pipe	
Length	0.61	m
Inside Diameter	0.100	m
Depth of bottom of roadway box	0.48	m

Type of Seals	Top of Seal (m)	Thickness (m)
Bentonite	0.0	0.61
Drill Cuttings	0.61	3.09

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	0.70	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.010	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Drill Cuttings	
Depth of bottom of well screen	3.70	m
Bottom of Silt trap	--	m
Depth of bottom of borehole	3.70	m

1.2454 m	+	3.05 m	+	0.08 m	=	4.25 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-21A

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	20-Apr-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	109.74		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
20-Apr-01	–	0	0.61	109.13		JM
1-May-01	1600		Well damaged			PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-30A-OW

Boring No. R-30A-OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	J. Miller
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/17/2001
DRILLER	M. Jennett	WATER LEVEL	5.2 m.

Ground El. 116.41 m

El. Datum NGVD-29

Location See Plan

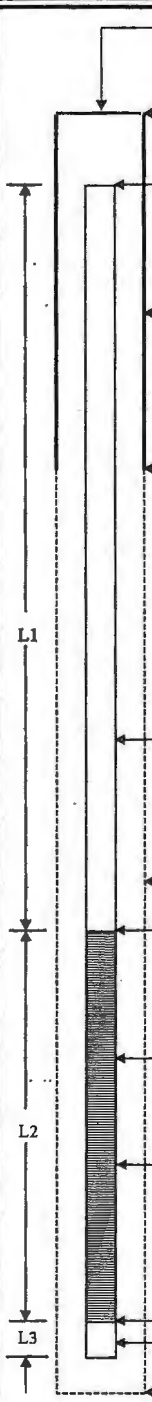
☐ Guard Pipe

☑ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
BITUMINOUS CONCRETE	CONCRETE
0.30	
	0.61
	DRILL CUTTINGS
FILL	
	3.30
	#2 WELL SAND
5.20	
GLACIOLFLUVIAL DEPOSITS	
6.25	6.1 m

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Roadway Box	
Height of top of roadway box above ground surface	0.00	m
Depth of top of riser pipe below ground surface	0.05	m
Type of protective casing:	Concrete	
Length	0.61	m
Inside Diameter	-	m
Depth of bottom of roadway box	1.22	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.61
Drill Cuttings	0.61	2.69
Sand	3.3	2.80

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	3.00	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	#2 Well Sand	
Depth of bottom of well screen	6.10	m
Bottom of Silt trap	--	m
Depth of bottom of borehole	6.10	m

Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length
3.1 m	+	3.00 m	+	-- m	=	6.10 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-30 A

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	17-Apr-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	116.36		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point	Elevation of Water	Remarks	Read By
17-Apr-01	-	0	5.20	111.16		JM
14-Jun-01	-	58	5.91	110.45		DT

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-42

Boring No. R-42

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	M Shepard
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	2/27/2001
DRILLER	E. Del Priore	WATER LEVEL	

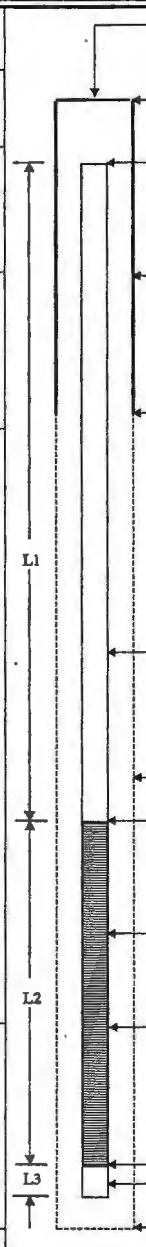
Ground El. 146.98 m
El. Datum NGVD-29

Location See Plan

☑ Guard Pipe
☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	CONCRETE (0.46)
	DRILL CUTTINGS (0.76)
	BENTONITE (1.22)
(1.5)	FILTER SAND
(6.71) GLACIOFLUVIAL DEPOSITS	
	(4.96) BOREHOLE COLLAPSE
(6.72) BEDROCK	
(12.80)	(6.86)

(Bottom of Exploration)
(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard above ground surface	0.00	m
Height of top of riser pipe below ground surface	0.20	m
Type of protective casing:	Steel Guard Pipe	
Length	1.22	m
Inside Diameter	0.095	m
Depth of bottom of guard pipe	1.22	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete		
Bentonite Seal		

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser		
Diameter of borehole	0.10	m
Depth to top of well screen	0.10	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	6.86	m
Bottom of Silt trap	6.86	m
Depth of bottom of borehole	12.80	m

Riser Pay Length (L1)	+	Length of screen (L2)	Length of silt trap (L3)	=	Pay length
0.30 m	+	6.76 m	0.00 m	=	7.06 m

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-42

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	27-Feb-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	146.78		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
21-May-01	1320	83	4.37	142.41		PAC
9-Jun-01	1440	102	4.40	142.38		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-52 OW

Boring No. R-52 OW

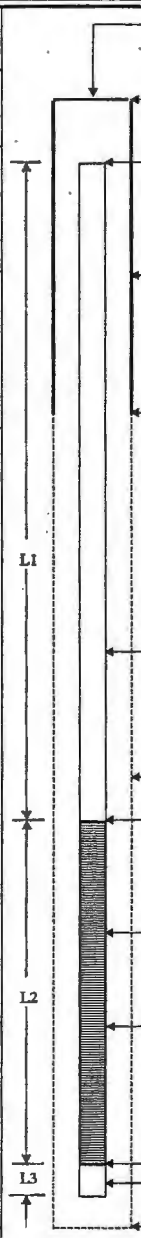
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	20 Mar. 01
DRILLER	E. Del Priore	WATER LEVEL	1.22

Ground El.	130.55 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	CONCRETE
0.61	0.30
GLACIAL TILL	DRILL CUTTINGS
	4.21
2.50	
	BENTONITE
	4.82
	FILTER SAND
BEDROCK	
	DRILL CUTTINGS
9.30	9.30

(Bottom of Exploration)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard above ground surface	0.76	m
Height of top of riser pipe above ground surface	0.67	m
Type of protective casing:	Steel Guard Pipe	
Length	1.22	m
Inside Diameter	0.095	m
Depth of bottom of guard pipe	0.46	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.30
Bentonite Seal	4.21	0.61

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	5.43	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	8.48	m
Bottom of Silt trap	8.54	m
Depth of bottom of borehole	9.30	m

6.10 m	+	3.05 m		0.05 m	=	9.20 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-52

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	20-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	131.15		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
1-May-01	1330	42	2.73	128.42		PAC
9-Jun-01	1430	81	2.23	128.92		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-70-OW

Boring No. R-70-OW

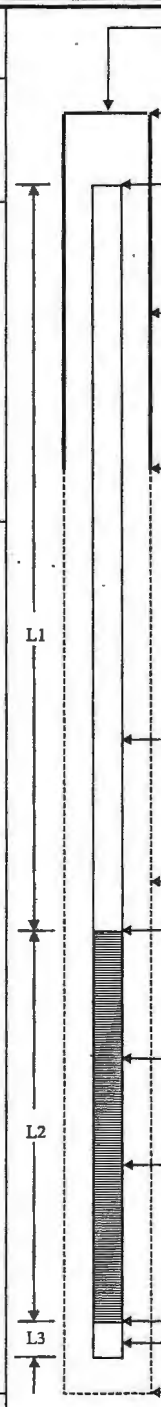
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	J. Miller
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/10/2001
DRILLER	J. Douellette	WATER LEVEL	2.74 m.

Ground El.	119.0 m	Location	See Plan	☐ Guard Pipe
El. Datum	NGVD-29			☑ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
TOP SOIL	
0.10	CONCRETE
	0.61
	DRILL CUTTINGS
	1.80
FILL	
	#2 WELL SAND
3.05	
GLACIOLFLUVIAL DEPOSITS	
3.66 m	3.66 m

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Roadway Box	
Height of top of roadway box above ground surface	0.00	m
Height of top of riser pipe below ground surface	0.05	m
Type of protective casing:	Roadway Box	
Length	0.25	m
Inside Diameter	-	m
Depth of bottom of roadway box	0.25	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.61
Drill Cuttings	0.61	1.19
Sand	1.8	1.86

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	0.60	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	#2 Well Sand	
Depth of bottom of well screen	3.66	m
Bottom of Silt trap	--	m
Depth of bottom of borehole	3.66	m

Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length
0.66 m	+	3.00 m	+	-- m	=	3.66 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-70

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE INSTALLED	10-Apr-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	118.95		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
14-Jun-01	940	65	2.52	116.43		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-81 OW

Boring No. R-81 OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/23/2001
DRILLER	J.Muccino	WATER LEVEL	

Ground El. 138.6 m

El. Datum NGVD-29

Location See Plan

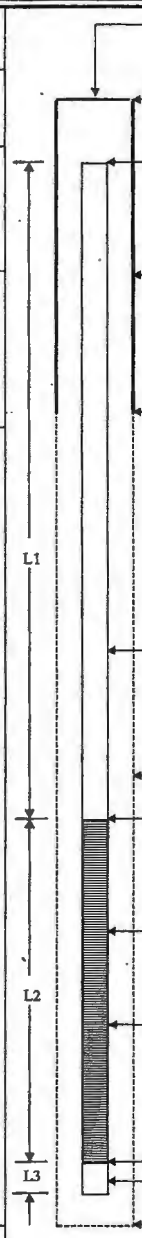
☐ Guard Pipe

☑ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
ASPHALT	
0.1	CONCRETE
	0.30
FILL	DRILL CUTTINGS
3.50	
	3.91
	BENTONITE
	4.52
GLACIAL TILL	FILTER SAND
8.23	8.23

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Roadway box	
Height of top of roadway box above ground surface	0.00	m
Depth of top of riser pipe below ground surface	0.09	m
Type of protective casing:	Roadway box	
Length	0.30	m
Inside Diameter	0.100	m
Depth of bottom of roadway box	0.30	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.30
Bentonite Seal	3.91	0.61

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	5.13	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	8.18	m
Bottom of Silt trap	8.23	m
Depth of bottom of borehole	8.23	m

5.22 m	+	3.05 m		0.05 m	=	8.32 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-81

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	23-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	138.51		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
23-Mar-01		0	1.68	136.83		PAC
21-May-01	1335	59	0.97	137.54		PAC
9-Jun-01	1540	78	1.13	137.38		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R-89OW

Boring No. R-89OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/8/2001
DRILLER	E. Del Priore	WATER LEVEL	

Ground El. 135.7 m
El. Datum NGVD-29

Location See Plan

☑ Guard Pipe
☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
TOP SOIL	
0.2	CONCRETE
FILL	0.30
1.00	
	BENTONITE
	0.85
GLACIOFLUVIAL DEPOSITS	
	FILTER SAND
	4.96
	BOREHOLE COLLAPSE
3.05	3.05

(Bottom of Exiperation)

(Numbers refer to depth from ground surface in meter)

(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard pipe above ground surface	0.77	m
Height of top of riser pipe above ground surface	0.74	m
Type of protective casing:	Steel Guard Pipe	
Length	1.22	m
Inside Diameter	0.095	m
Depth of bottom of roadway box	0.45	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.30
Bentonite Seal	0.30	0.55

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.15	m
Depth to top of well screen	1.48	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	3.00	m
Bottom of Silt trap	3.05	m
Depth of bottom of borehole	3.05	m

Riser Pay Length (L1)	+	Length of screen (L2)	Length of silt trap (L3)	=	Pay length
2.22 m	+	1.52 m	0.05 m	=	3.79 m

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R-89

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	4/8/2001
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	136.44		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
8-Apr-01	-	0	0.45	135.99		PAC
21-May-01	1700	43	1.04	135.40		PAC
9-Jun-01	1555	62	1.34	135.10		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. R94 OW

Boring No. R94 OW

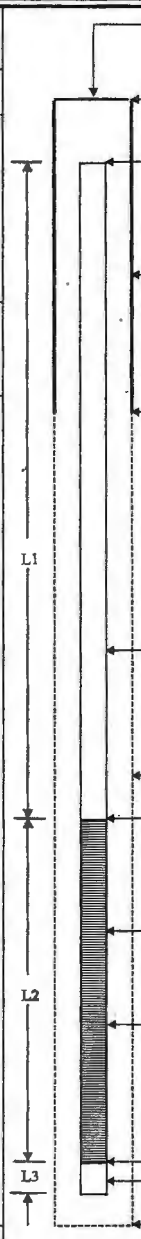
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates, P.C.	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/3/2001
DRILLER	R. Posa	WATER LEVEL	

Ground El.	139.84 m	Location	See Plan	☑	Guard Pipe
El. Datum	NGVD-29			☐	Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	CONCRETE
0.3	0.30
	DRILL CUTTINGS
	1.83
	BENTONITE
	2.14
GLACIOFLUVIAL DEPOSITS	
	FILTER SAND
7.62	6.10

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of guard pipe above ground surface	0.98	m
Height of riser pipe above ground surface	0.96	m
Type of protective casing:	Guard Pipe	
Length	1.52	m
Inside Diameter	10	cm
Depth of bottom of roadway box	0.54	m

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	0.0	0.3
Bentonite	1.83	0.61

Type of riser pipe:	Sch. 40 PVC	
Inside diameter of riser pipe	5.0	cm
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	8.8	cm
Depth to top of well screen	3.05	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	6.10	m
Bottom of Silt trap	6.10	m
Depth of bottom of borehole	7.62	m

4.01 m	+	3.1 m	+	0.0 m	=	7.06 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

R94 OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	3-Apr-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	140.8		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
3-Apr-01	-	0	3.05	137.75		PAC
21-May-01	1350	48	3.77	137.03		PAC
9-Jun-01	1530	67	3.82	136.98		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S104-2-OW

Boring No. S104-2-OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/19/2001
DRILLER	R. Posa	WATER LEVEL	11.44 m.

Ground El.	123.9 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	CONCRETE
	0.30
FILL	DRILL CUTTINGS & FILTER SAND
7.00	
GLACIOFLUVIAL DEPOSIT	11.89
	BENTONITE
12.19	
GLACIAL TILL	12.34
	FILTER SAND
	16.15
	COLLAPSED BOREHOLE
17.06	17.06

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)

(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard pipe above ground surface	0.80	m
Height of top of riser pipe above ground surface	0.75	m
Type of protective casing:	Guard Pipe	
Length	1.83	m
Inside Diameter	10.00	cm
Depth of bottom of guard pipe	0.42	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.36
Bentonite Seal	11.89	0.45

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings & Filter Sand	
Diameter of borehole	10.00	cm
Depth to top of well screen	13.05	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	16.10	m
Bottom of Silt trap	16.15	m
Depth of bottom of borehole	17.06	m

13.7 m	+	3.05 m	+	0.05 m	=	16.80 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S104-2

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	19-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	124.65		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
1-May-01	1235	43	11.44	113.21		PAC
9-Jun-01	1045	82	11.60	113.05		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S104-4OW

Boring No. S104-4OW

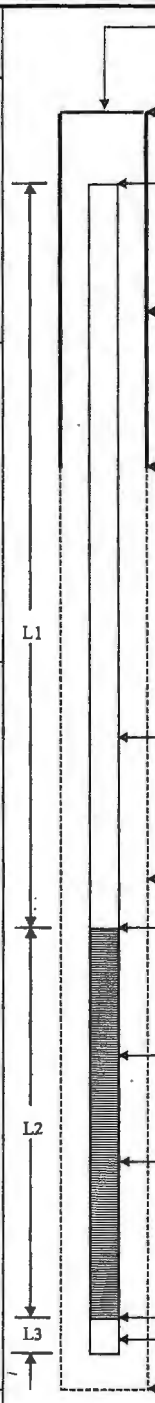
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Dehman Associates, P.C.	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/15/2001
DRILLER	J. Ouellette	WATER LEVEL	

Ground El.	119.92 m	Location	See Plan	☑	Guard Pipe
El. Datum	NGVD-29			☐	Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	BENTONITE (1.52 – 4.0); FILTER SAND AND DRILL CUTTINGS
GLACIOFLUVIAL DEPOSITS (4.6 – 13.72)	FILTER SAND
GLACIOFLUVIAL DEPOSITS (13.72 – 14.78)	
BEDROCK (14.78 – 15.69)	

15.69 (Bottom of Exploration)

(Numbers refer to depth from ground surface in feet)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of guard pipe above ground surface	1.40	m
Height of riser pipe above ground surface	1.37	m
Type of protective casing:	Guard Pipe	
Length	1.52	m
Inside Diameter	0.10	cm
Depth of bottom of roadway box	0.12	m

Type of Seals	Top of Seal (ft)	Thickness (ft)
Concrete	-	-
Bentonite	0.0	1.52

Type of riser pipe:	Sch. 40 PVC	
Inside diameter of riser pipe	5.0	cm
Type of backfill around riser		
Diameter of borehole	8.8	cm
Depth to top of well screen	9.22	m
Type of screen	Slotted PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	12.27	m
Bottom of Silt trap	12.33	m
Depth of bottom of borehole	15.69	m

Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length
7.85 m	+	3.1 m	+	0.1 m	=	10.96 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S104-4

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	15-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	121.29		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
1-May-01	1230	47	12.23	109.06		PAC
9-Jun-01	1055	86	Dry	Below 105.6		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S106-3-OW

Boring No. S106-3-OW

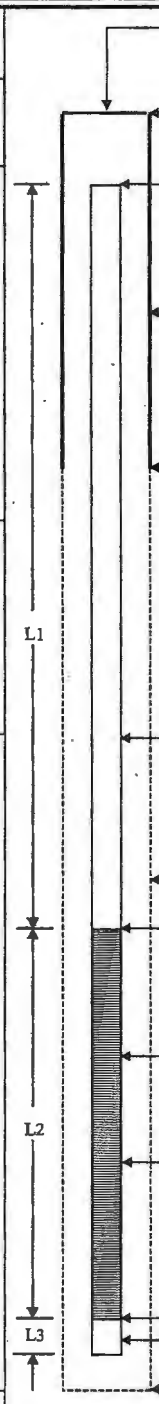
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	C. White
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/26/2001
DRILLER	J. Doullete	WATER LEVEL	

Ground El.	137.66 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	CONCRETE
0.60	0.61
GLACIOFLUVIAL DEPOSITS	SAND
	3.81
	BENTONITE
	4.42
	SAND
8.23	8.23

(Bottom of Exlporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Stand Pipe
Height of top of guard pipe above ground surface	0.74 m
Height of top of riser pipe above ground surface	0.66 m
Type of protective casing:	Stand Pipe
Length	1.20 m
Inside Diameter	0.10 m. x 0.10 m.
Depth of bottom of stand pipe	0.46 m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.61
Sand	0.61	3.20
Bentonite Seal	3.8	0.6
Sand	4.4	3.8

Type of riser pipe:	Schedule 40 PVC
Inside diameter of riser pipe	0.05 m
Type of backfill around riser	Bentonite/Sand
Diameter of borehole	0.08 m
Depth to top of well screen	5.03 m
Type of screen	Slotted PVC
Screen gauge or size of openings	0.02 cm
Diameter of screen	5.0 cm
Type of backfill around screen	Sand
Depth of bottom of well screen	8.08 m
Bottom of Silt trap	8.23 m
Depth of bottom of borehole	8.23 m

Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length
5.69 m	+	3.05 m	+	0.15 m	=	8.89 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S106-3

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	26-Mar-01
CONTRACTOR	General Borings, Inc.		

REFERENCE ELEVATION 137.66

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
21-May-01	1520	56	Dry at 8.23	Below 129.4		PAC
9-Jun-01	1420	75	Dry at 8.23	Below 129.4		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S106-4-OW

Boring No. S106-4-OW

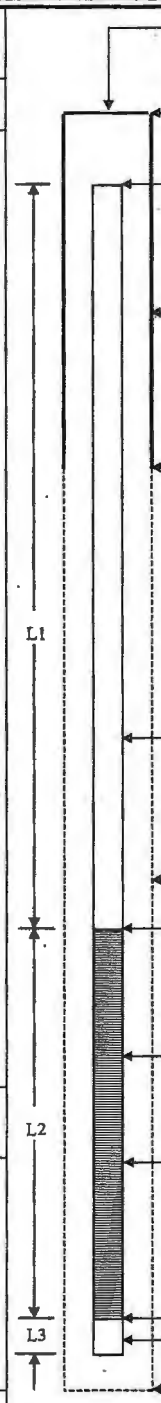
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	C. White
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/14/2001
DRILLER	E. Del Priore	WATER LEVEL	

Ground El.	152.82 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	CONCRETE
	0.61
FILL	
3.97	
	SAND
GLACIALFLUVIAL DEPOSIT	
	26.08
	BENTONITE
	26.69
	SAND
30.71	30.71

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Stand Pipe	
Height of top of guard pipe above ground surface	0.69	m
Height of top of riser pipe above ground surface	0.50	m
Type of protective casing:	Stand Pipe	
Length	1.20	m
Inside Diameter	0.10 m. x 0.10 m.	m
Depth of bottom of stand pipe	0.51	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.61
Sand	0.61	25.47
Bentonite Seal	26.1	0.61
Sand	4.4	3.81

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Bentonite/Sand	
Diameter of borehole	0.076	m
Depth to top of well screen	27.30	m
Type of screen	Slotted PVC	
Screen gauge or size of openings	0.02	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Sand	
Depth of bottom of well screen	30.35	m
Bottom of Silt trap	30.50	m
Depth of bottom of borehole	30.71	m

30.85 m	+	3.05 m	+	0.15 m	=	34.05 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S106-4

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	14-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	153.32		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
21-May-01	1435	68.0	24.70	128.62	Drilling mud on probe	PAC
11-Jun-01	930	89.0	24.70	128.62	Drilling mud on probe	SJB

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S106-6-OW

Boring No. S106-6-OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	C. White
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/14/2001
DRILLER	R. Posa	WATER LEVEL	

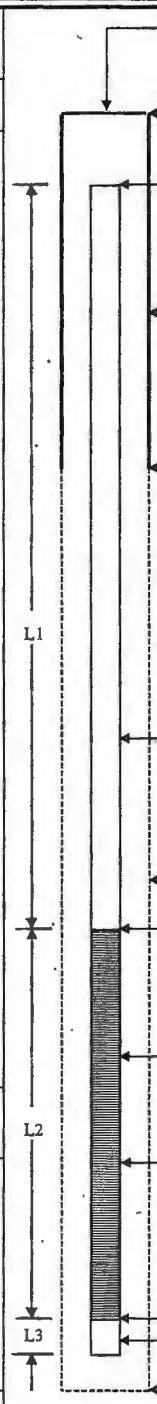
Ground El.	147.77 m	Location	See Plan
El. Datum	NGVD-29		

☑ Guard Pipe
☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	CONCRETE
FILL	0.61
0.80	
GLACIALFLUVIAL DEPOSIT	SAND
	26.98
	BENTONITE
	27.59
	SAND
30.90	
ROCK	
31.40	31.40

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Stand Pipe	
Height of top of guard pipe above ground surface	0.86	m
Height of top of riser pipe above ground surface	0.74	m
Type of protective casing:	Stand Pipe	
Length	1.20	m
Inside Diameter	0.10 m. x 0.10 m.	m
Depth of bottom of stand pipe	0.51	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.00	0.61
Sand	0.61	25.47
Bentonite Seal	26.98	0.61
Sand	27.59	3.81

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Bentonite/Sand	
Diameter of borehole	0.076	m
Depth to top of well screen	28.20	m
Type of screen	Slotted PVC	
Screen gauge or size of openings	0.02	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Sand	
Depth of bottom of well screen	31.25	m
Bottom of Silt trap	31.40	m
Depth of bottom of borehole	31.40	m

28.94 m	+	3.05 m	+	0.15 m	=	32.14 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S106-6

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	14-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	148.51		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
21-May-01	1415	68	23.27	125.24		PAC
11-Jun-01	910	89	22.39	126.12		SJB

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S110-4-OW

Boring No. S110-4-OW

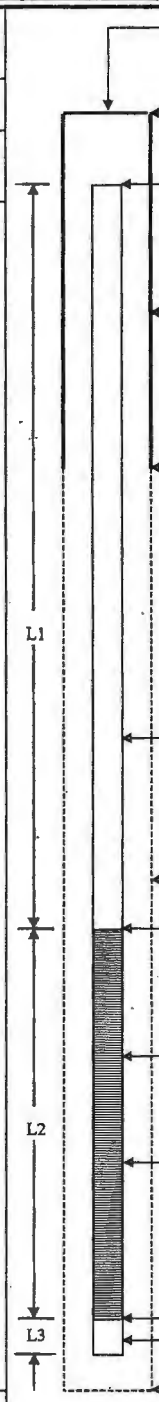
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	4/10/2001
DRILLER	R. Posa	WATER LEVEL	

Ground El.	140.5 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
TOPSOIL	CONCRETE
0.15	0.15
FILL	BENTONITE
	0.38
1.98	
GLACIALFLUVIAL DEPOSIT	FILTER SAND
3.81	3.81

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Locking Steel Flap	
Height of top of guard pipe above ground surface	0.80	m
Height of top of riser pipe above ground surface	0.66	m
Type of protective casing:	Guard Pipe	
Length	1.83	m
Inside Diameter	10.0	cm
Depth of bottom of stand pipe	0.42	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.15	0.15
Bentonite Seal	0.15	0.23

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Filter Sand	
Diameter of borehole	0.150	m
Depth to top of well screen	0.71	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.02	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	3.76	m
Bottom of Silt trap	3.81	m
Depth of bottom of borehole	3.81	m

Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length
1.37 m	+	3.10 m	+	0.00 m	=	4.47 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S110-4

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	10-Apr-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	141.19		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
10-Apr-01	-	0	3.05	138.14		PAC
11-Jun-01	1020	62	4.13	137.06		SJB

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S112-3 OW

Boring No. S112-3 OW

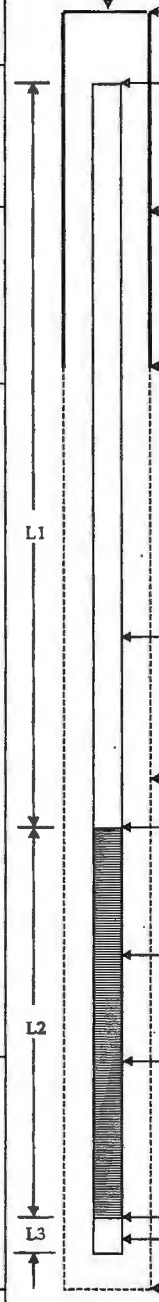
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	S. Poff
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	2/27/2001
DRILLER	R. Posa	WATER LEVEL	

Ground El.	133.4 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
TOP SOIL	
0.4	CONCRETE
	0.46
FILL	DRILL CUTTINGS
	0.76
0.91	BENTONITE
	1.22
GLACIAL TILL	FILTER SAND
	4.96
5.33	BOREHOLE COLLAPSE
BEDROCK	
6.86	6.86

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard above ground surface	0.62	m
Height of top of riser pipe above ground surface	0.54	m
Type of protective casing:	Steel Guard Pipe	
Length	1.22	m
Inside Diameter	0.095	m
Depth of bottom of roadway box	0.60	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.46
Bentonite Seal	0.76	0.46

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	1.83	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	4.88	m
Bottom of Silt trap	4.96	m
Depth of bottom of borehole	6.86	m

Riser Pay Length (L1)	+	Length of screen (L2)		Length of silt trap (L3)	=	Pay length
2.37 m	+	3.05 m		0.08 m	=	5.50 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S112-3

PROJECT	Reconstruction of I-84	**H&A FILE NO.**	91313-100
LOCATION	Waterbury, Connecticut	**PROJECT MGR.**	N. Whetten
CLIENT	Berger, Lehman Associates	**DATE**	27-Feb-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	133.94		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
27-Feb-01	1630	0	2.46	130.94	from ground suface	SP
21-May-01	1115	83	3.30	130.64	from top of PVC	PAC
9-Jun-01	1030	102	3.22	130.72	from top of PVC	PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S112-4 OW

Boring No. S112-4 OW

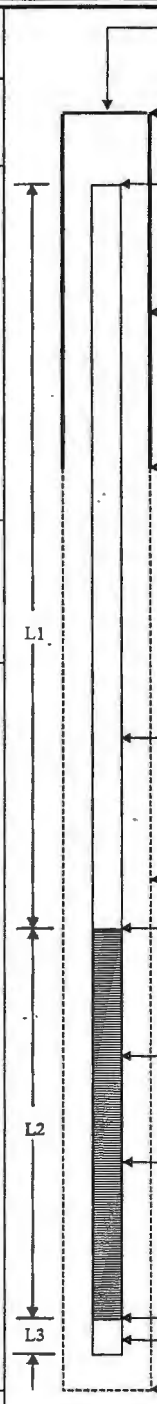
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	S. Poff
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	2/26/2001
DRILLER	R. Posa	WATER LEVEL	

Ground El.	129.63 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
TOP SOIL	
0.05	CONCRETE
	0.46
FILL	DRILL CUTTINGS
2.13	
GLACIALFLUVIAL DEPOSIT	
3.05	3.05
	BENTONITE
GLACIAL TILL	3.51
4.11	
BEDROCK	FILTER SAND
7.16	7.16

(Bottom of Exiporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Guard Pipe	
Height of top of guard above ground surface	0.79	m
Height of top of riser pipe above ground surface	0.53	m
Type of protective casing:	Steel Guard Pipe	
Length	1.22	m
Inside Diameter	0.095	m
Depth of bottom of roadway box	0.43	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.46
Bentonite Seal	3.05	0.46

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	m
Type of backfill around riser	Drill Cuttings	
Diameter of borehole	0.10	m
Depth to top of well screen	4.11	m
Type of screen	Sch. 40 PVC	
Screen gauge or size of openings	0.025	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	7.16	m
Bottom of Silt trap	7.16	m
Depth of bottom of borehole	7.16	m

Riser Pay Length (L1)	+	Length of screen (L2)	+	Length of silt trap (L3)	=	Pay length
4.64 m	+	3.05 m	+	0.00 m	=	7.69 m

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S112-4

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	DATE	26-Feb-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	129.63		

DESCRIPTION OF REFERENCE POINT ☐ PVC ☐ Roadway / Casing ☑ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
27-Feb-01	1630	1	5.20	124.43		SP

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S119-2 OW

Boring No. S119-2

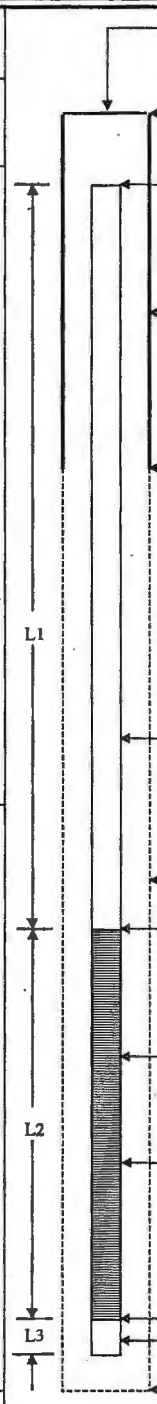
PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/2/2001
DRILLER	J. Oullette	WATER LEVEL	

Ground El.	126.92 m	Location	See Plan	☑ Guard Pipe
El. Datum	NGVD-29			☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	CONCRETE
	0.3
FILL	
2.44	
GLACIALFLUVIAL DEPOSITS	DRILL CUTTINGS
	3.05
	FILTER SAND
9.3	9.1

(Bottom of Exlporation)

(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Locking Cap	
Height of top of pipe above ground surface	0.78	m
Height of top of riser pipe above ground surface	0.76	m
Type of protective casing:	Guard Pipe	
Length	1.5	m
Inside Diameter	9.5	cm
Depth of bottom of roadway box	0.52	m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.3

Type of riser pipe:	Schedule 40 PVC	
Inside diameter of riser pipe	0.05	cm
Type of backfill around riser	Filter Sand & Drill Cuttings	
Diameter of borehole	19.0	cm
Depth to top of well screen	5.99	m
Type of screen	Schedule 40 PVC	
Screen gauge or size of openings	0.25	cm
Diameter of screen	5.0	cm
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	9.12	m
Bottom of Silt trap	9.14	m
Depth of bottom of borehole	9.33	m

6.75 m	+	3.13 m	+	0.2 m	=	9.82 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

Form # 3010

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S119-2

PROJECT	Reconstruction of I-84	**H&A FILE NO.**	91313-100
LOCATION	Waterbury, Connecticut	**PROJECT MGR.**	N. Whetten
CLIENT	Berger, Lehman Associates	**DATE**	2-Mar-01
CONTRACTOR	General Borings, Inc.		

REFERENCE ELEVATION 127.68

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
2-Mar-01	-	0	Dry at 9.14	Below 118.54		PAC
1-May-01	1710	60	Dry at 9.14	Below 118.54		PAC
9-Jun-01	1410	99	Dry at 9.14	Below 118.54		PAC

HALEY & ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No. S119-3 OW

Boring No. S119-3 OW

PROJECT	Reconstruction of I-84	H&A FILE NO.	91313-100
LOCATION	Waterbury, Connecticut	PROJECT MGR.	N. Whetten
CLIENT	Berger, Lehman Associates	FIELD REP.	P. Carrera
CONTRACTOR	General Borings, Inc.	DATE INSTALLED	3/21/2001
DRILLER	J. Oullette	WATER LEVEL	

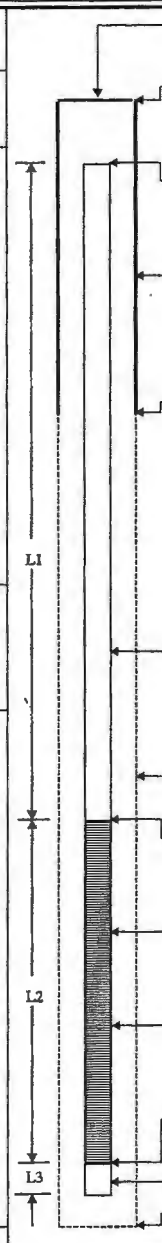
Ground El. 125.71 m
El. Datum NGVD-29

Location See Plan

☑ Guard Pipe
☐ Roadway Box

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
FILL	CONCRETE 0.3
3.05	
GLACIALFLUVIAL DEPOSITS	DRILL CUTTINGS
	4.88
	Bentonite
	5.49
	FILTER SAND
9.75	9.75

(Bottom of Exiperation)
(Numbers refer to depth from ground surface in meter)



(Not to Scale)

Type of protective cover/lock	Locking Cap
Height of top of pipe above ground surface	0.45 m
Height of top of riser pipe above ground surface	0.01 m
Type of protective casing:	Guard Pipe
Length	1.5 m
Inside Diameter	9.5 cm
Depth of bottom of roadway box	1.05 m

Type of Seals	Top of Seal (m)	Thickness (m)
Concrete	0.0	0.3
Bentonite	4.9	0.6

Type of riser pipe:	Schedule 40 PVC
Inside diameter of riser pipe	0.05 cm
Type of backfill around riser	Filter Sand & Drill Cuttings
Diameter of borehole	19.0 cm
Depth to top of well screen	6.10 m
Type of screen	Schedule 40 PVC
Screen gauge or size of openings	0.25 cm
Diameter of screen	5.0 cm
Type of backfill around screen	Filter Sand
Depth of bottom of well screen	9.14 m
Bottom of Silt trap	-- m
Depth of bottom of borehole	9.75 m

6.11 m	+	3.04 m	+	0.0 m	=	9.15 m
Riser Pay Length (L1)		Length of screen (L2)		Length of silt trap (L3)		Pay length

COMMENTS:

HALEY & ALDRICH

GROUNDWATER MONITORING REPORT

OW/PZ NO.

S119-3

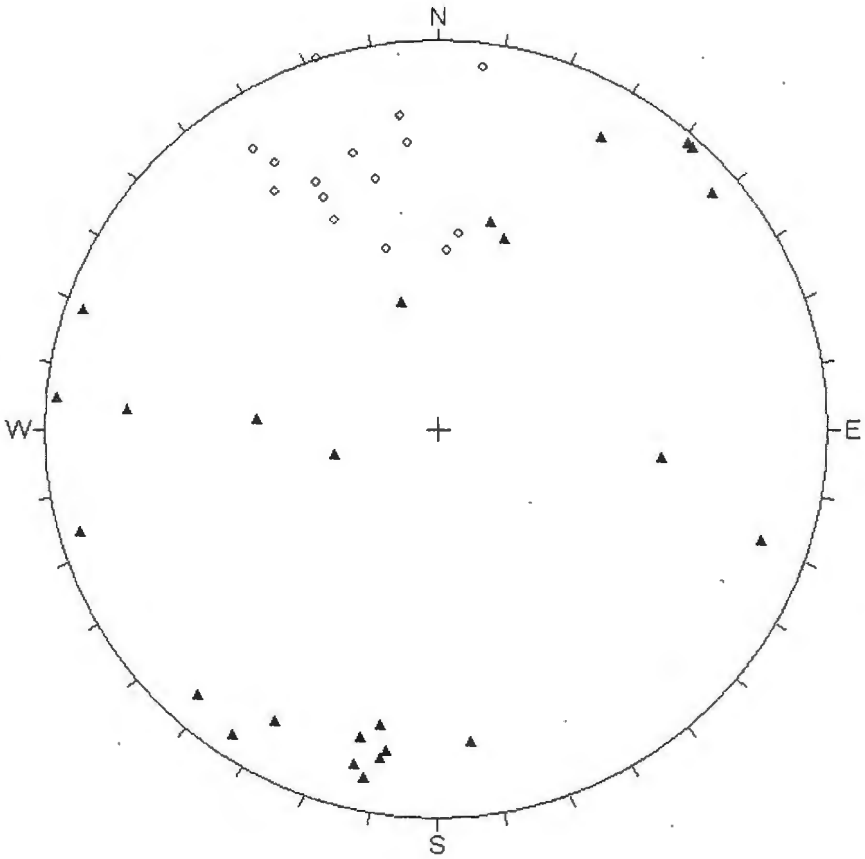
PROJECT	Reconstruction of I-84	**H&A FILE NO.**	91313-100
LOCATION	Waterbury, Connecticut	**PROJECT MGR.**	N. Whetten
CLIENT	Berger, Lehman Associates	**DATE**	21-Mar-01
CONTRACTOR	General Borings, Inc.		
REFERENCE ELEVATION	126.37		

DESCRIPTION OF REFERENCE POINT ☑ PVC ☐ Roadway / Casing ☐ Ground Surface ☐ Other:

Date	Time (military)	Elapsed Time (days)	Depth of Water Below Reference Point (m)	Elevation of Water	Remarks	Read By
21-Mar-01	-	0	3.66	122.71		PAC
1-May-01	1415	41	1.46	124.91		PAC
9-Jun-01	1430	80	1.18	125.19		PAC

APPENDIX D

Summary of Bedrock Geologic Data



FEATURE

◇ Foliation Joint [15]

▲ Joint [25]

Equal Area
Lower Hemisphere
40 Poles
40 Entries

Haley & Aldrich, Inc.

STEREONET
QUARRY BEHIND
HARDING FERRY RD

Location: Stop #1, behind gas station, waterbury, CT

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
2	Joint	9	72	10	10+	?	P	S	SW	
2	Foliation Joint	186	42	>10	?	?	U	R	SW	
2	Foliation Joint	166	56	>10	?	?	U	R	SW	
2	Joint	109	85	0.5 - 10+	1-10+	R	P/U	S	SW	
2	Joint	10	74	0.5 - 10+	1-10+	R	P/U	S	SW	
2	Foliation Joint	183	38	0.5 - 10+	1-10+	R	P/U	S	SW	
3	Foliation Joint	164	40	>10	>3	?	U	S/R	SW	
4	Foliation Joint	154	56	2 - 10	>15	?	P/U	S/R	SW	
4	Foliation Joint	146	63	2 - 10	>15	?	P/U	S/R	SW	
4	Foliation Joint	163	63	2 - 10	>15	?	P/U	S/R	SW	
4	Foliation Joint	154	60	2 - 10	>15	?	P/U	S/R	SW	
4	Foliation Joint	147	75	2 - 10	>15	?	P/U	S/R	SW	
4	Foliation Joint	149	69	2 - 10	>15	?	P/U	S/R	SW	
4	Joint	354	69	>20	>4	?	P	S	SW	
4	Joint	12	80	>20	>4	?	P	S	SW	
4	Joint	42	80	>20	1	HAJ	P	R	SW	
4	Joint	199	43	>15	>5	?	P	R	SW	Dips into face
4	Joint	164	28	>15	>5	?	P	R	SW	
4	Joint	209	75	>10	>10	?	P	S/R	SW	
4	Foliation Joint	154	50	2 - 10	>15	?	P/U	S/R	SW	
4	Joint	14	77	>20	>4	?	P	S	SW	
4	Joint	29	74	>20	>4	?	P	S	SW	
4	Joint	289	76	1-10+	?	R	P/U	S	SW	
4	Joint	194	46	>15.	>5	?	P	R	SW	
4	Joint	277	48	5 - 20+	>4	?	P/U	R	SW	
4	Joint	229	82	1 - 20+	>10	?	P/U	R	SW	

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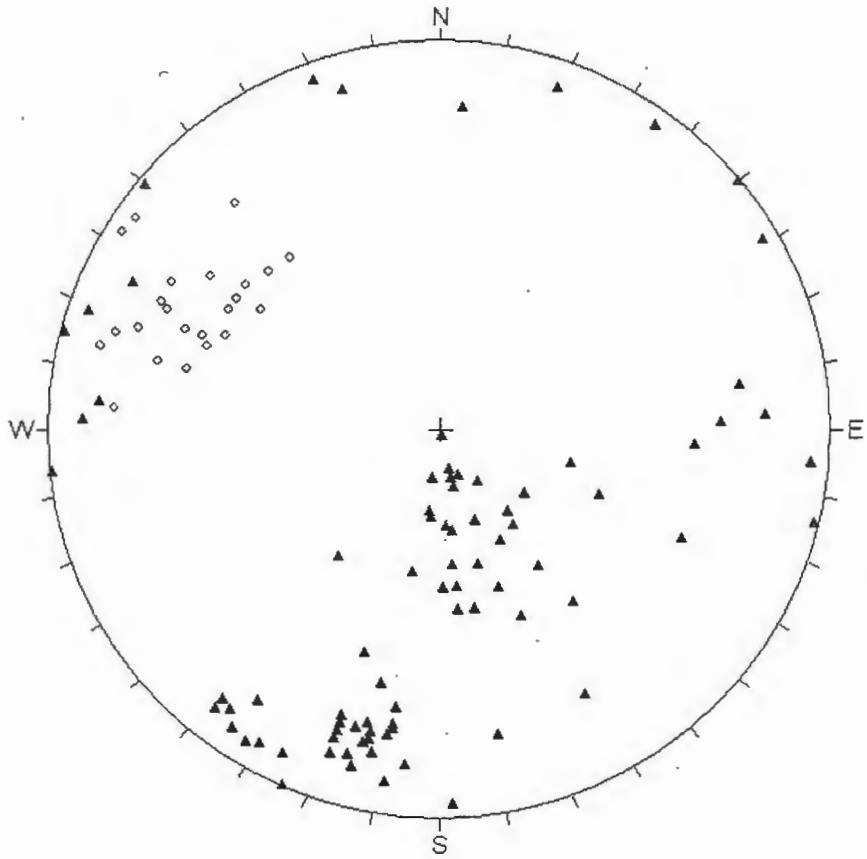
Harper Rock 1 of 2

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
4	Joint	221	87	1 - 20+	>10	?	P/U	R	SW	
4	Joint	222	87	1 - 20+	>10	?	P/U	R	SW	
4	Joint	34	83	1 - 20+	>10	?	P/U	R	SW	
4	Foliation Joint	174	63	2 - 10	>15	?	P/U	S/R	SW	
5	Foliation Joint	162	90	2 - 15	>15	?	P	R	SW	Outcrop 25 - 30' high
5	Foliation Joint	173	70	2 - 15	>15	?	P	R	SW	
5	Foliation Joint	187	83	2 - 15	>15	?	P	R	SW	
5	Joint	95	87	1 - 5	>10	HAJ	P	R	SW	Pervasive
5	Joint	74	84	1 - 5	>10	HAJ	P	R	SW	Pervasive
5	Joint	94	68	1 - 5	>10	HAJ	P	R	SW	Pervasive
5	Joint	77	22	?	>3	HAJ	P	S	SW	
5	Joint	14	70	2 - 20	>10	?	P	S	SW	
5	Joint	11	66	2 - 20	>10	?	P	S	SW	
5	Joint	94	38	1 - 5	>10	HAJ	P	R	SW	



FEATURE

◇ Foliation Joint [23]

▲ Joint [85]

Equal Area
Lower Hemisphere
108 Poles
108 Entries

Haley & Aldrich, Inc

STEREONET
ICING STUDY AREA

Location: Stop #3, below condominiums, waterbury, CT

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
1	Joint	13	68	1 - 4	>10	?	P	S	SW	Forms slope face
1	Joint	84	89	>20	>10	?	U	R	SW	
1	Joint	347	10	3 - 10	1 - 30+	R	U	R	SW	Out of face
1	Joint	354	33	3 - 10	1 - 30+	R	U	R	SW	Out of face
1	Foliation Joint	133	50	?	2	R	U	R	SW	Steep into face
1	Joint	346	8	3 - 10	1 - 30+	R	U	R	SW	Out of face
1	Joint	267	72	15+	>15	LAJ	P	R	SW	
1	Joint	339	35	3 - 10	1 - 30+	R	U	R	SW	
1	Joint	6	75	1 - 4	>10	?	P	S	SW	Forms slope face
2	Joint	10	68	1 - 3	1 - 30+	?	P	S/R	SW	Forms slope face
2	Foliation Joint	104	56	<1 - 15+	15	R	U	R	SW	Into Face
2	Foliation Joint	110	53	<1 - 15+	15	R	U	R	SW	Into Face
2	Joint	346	12	2- 10	>20	R	U	R	SW	Out of face
2	Joint	11	30	2- 10	>20	R	U	R	SW	Out of face
2	Joint	13	70	1 - 3	1 - 30+	?	P	S/R	SW	Forms slope face
2	Joint	331	66	1 - 20+	3+	?	U	R	SW	Infrequent
2	Foliation Joint	114	50	<1 - 15+	15	R	U	R	SW	
2	Joint	105	89	0.5 - 15+	10	LAJ	P/U	R	SW	
2	Joint	109	84	0.5 - 15+	10	LAJ	P/U	R	SW	
3	Joint	19	50	1 - 15	20	R	P	S	SW	
3	Joint	32	83	0.3 - 15	5	R	P	S	SW	
3	Joint	39	80	0.3 - 15	5	R	P	S	SW	
3	Joint	344	29	1 - 6	>20	U	U	R	SW	Out of face
3	Joint	356	20	1 - 6	>20	U	U	R	SW	Out of face
3	Joint	261	66	2 - 20+	5	LAJ	U	R	SW	
3	Joint	92	80	2 - 20+	5	LAJ	U	R	SW	

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
3	Foliation Joint	124	46	1 - 15'	8	R	U	S/R	SW	Into Face
3	Joint	275	84	>15	8	LAJ	P	R	SW	
4	Joint	14	71	0.5 - 3	5 - 20+	?	P	S	SW	Wet. Forming face
4	Joint	13	56	0.5 - 3	5 - 20+	?	P	S	SW	Wet. Forming face
4	Joint	19	66	0.5 - 3	5 - 20+	?	P	S	SW	Wet. Forming face
4	Foliation Joint	109	70	>20	>15	?	P/U	S/R	SW	
4	Foliation Joint	127	52	>20	>15	?	P/U	S/R	SW	
4	Foliation Joint	122	85	>20	>15	?	P/U	S/R	SW	
4	Joint	184	72	3 - 15'	2 - 5	R	P/U	R	SW	
4	Joint	268	61	3 - 15'	2 - 5	R	P/U	R	SW	
5	Joint	15	78	0.5 - 3	1 - 20+	?	P	S	SW	
5	Joint	12	73	0.5 - 3	1 - 20+	?	P	S	SW	
5	Joint	358	85	0.5 - 3	1 - 20+	?	P	S	SW	
5	Joint	215	85	>30	10	LAJ	P	S	SW	
5	Joint	355	28	1 - 15	5 - 30+	HAJ	P/U	R	SW	
5	Joint	337	10	1 - 15	5 - 30+	HAJ	P/U	R	SW	
5	Foliation Joint	94	72	2 - 20'	1 - 15'	LAJ	P	S/R	SW	
5	Foliation Joint	124	60	2 - 20'	1 - 15'	LAJ	P	S/R	SW	
5	Foliation Joint	104	78	2 - 20'	1 - 15'	LAJ	P	S/R	SW	
5	Joint	292	36	>40	>10	?	U	R	SW	
6	Joint	160	85	>40	>10	?	U	R	SW	
6	Foliation Joint	115	67	>15	10	?	U	R	SW	
6	Joint	16	75	3 - 5	>20	?	P	S	SW	Forming face
6	Joint	13	56	3 - 5	>20	?	P	S	SW	Forming face
6	Joint	30	81	>30	3	HAJ	P	S	SW	Infrequent
6	Joint	284	88	15+	5	R	U	R	SW	Infrequent
6	Joint	95	76	15+	5	R	U	R	SW	

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
6	Joint	24	89	>30	3	HAJ	P	S	SW	
6	Joint	349	38	1 - 20	1 - 30+	HAJ	U	S/R	SW	Out of face
6	Joint	353	21	1 - 20	1 - 30+	HAJ	U	S/R	SW	Out of face
6	Joint	322	46	>20	>5	?	P/U	S/R	SW	
6	Joint	354	38	1 - 20	1 - 30+	HAJ	U	S/R	SW	
6	Joint	336	43	1 - 20	1 - 30+	HAJ	U	S/R	SW	
6	Joint	35	82	>30	3	HAJ	P	S	SW	
6	Joint	294	57	>30	2	R	U	R	SW	
6	Foliation Joint	139	49	0.5 - 3	6	HAJ	U	R	SW	
6	Foliation Joint	119	67	0.5 - 3	6	HAJ	U	R	SW	
7	Joint	19	68	0.5 - 3	?	?	P	S	SW	Forming face
7	Joint	14	66	0.5 - 3	?	?	P	S	SW	Forming face
7	Joint	9	65	0.5 - 3	?	?	P	S	SW	Forming face
7	Joint	34	72	0.5 - 5	5 - 30+	?	P	S	SW	
7	Joint	39	77	0.5 - 5	5 - 30+	?	P	S	SW	
7	Joint	37	78	0.5 - 5	5 - 30+	?	P	S	SW	
7	Foliation Joint	104	63	5 - 10	10+	R/LAJ	P	R	SW	Into Face
7	Foliation Joint	112	55	5 - 10	10+	R/LAJ	P	R	SW	Into Face
7	Foliation Joint	112	59	5 - 10	10+	R/LAJ	P	R	SW	Into Face
7	Joint	9	10	2 - 15	5 - 30+	HAJ/R	U	R	SW	Out of face
7	Joint	8	17	2 - 15	5 - 30+	HAJ/R	U	R	SW	Out of face
7	Joint	39	34	2 - 15	5 - 30+	HAJ/R	U	R	SW	Out of face
7	Joint	273	55	1 - 20	1 - 15+	HAJ	P/U	S/R	SW	
7	Joint	324	35	>30	2	R	U	R	SW	
7	Foliation Joint	120	52	5 - 10	10+	R/LAJ	P	R	SW	Into Face
7	Joint	19	70	0.5 - 3	>10	?	P	S	SW	
8	Joint	9	61	0.5 - 3	>10	?	P	S	SW	

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Icing 3015

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
8	Joint	26	81	>10	3	LAJ	P	S	SW	
8	Joint	6	18	1 - 5	3 - 30	R	U	R	SW	Out of face
8	Joint	116	76	1 - 15	1 - 3	R/LAJ	P	R	SW	
8	Joint	130	88	1 - 15	1 - 3	R/LAJ	P	R	SW	
8	Joint	331	26	1 - 5	3 - 30	R	U	R	SW	
8	Joint	339	20	1 - 5	3 - 30	R	U	R	SW	
9	Joint	9	66	0.5 - 5	>15	?	P	S	SW	Forming face
9	Foliation Joint	125	84	2 - 20+	6	HAJ	P	R	SW	Infrequent
9	Joint	199	82	>30	10	LAJ	P	S	SW	
9	Joint	322	25	1 - 5	3 - 30	R	U	R	SW	
9	Foliation Joint	123	52	2 - 20+	6	HAJ	P	R	SW	Infrequent
9	Joint	164	80	>30	10	LAJ	P	S	SW	
9	Joint	359	33	1 - 5	3 - 30	R	U	R	SW	
9	Joint	19	76	2 - 5	1 - 15	LAJ	P	S	SW	Forming face
9	Joint	16	68	2 - 5	1 - 15	LAJ	P	S	SW	Forming face
9	Joint	322	13	0.5 - 5	5 - 10+	HAJ	P	R	SW	Out of face
9	Joint	306	22	0.5 - 5	5 - 10+	HAJ	P	R	SW	Out of face
9	Foliation Joint	138	67	2 - 20+	6	HAJ	P	R	SW	Infrequent
10	Joint	9	80	2 - 5	1 - 15	LAJ	P	S	SW	Forming face
10	Joint	239	85	>10	3	LAJ	P	S	SW	
10	Joint	349	68	>30	?	?	U	R	SW	
10	Joint	284	28	0.5 - 5	5 - 10+	HAJ	P	R	SW	
10	Joint	338	1	0.5 - 5	5 - 10+	HAJ	P	R	SW	
10	Foliation Joint	114	65	2 - 20+	6	HAJ	P	R	SW	Infrequent
10	Joint	230	89	>30	?	?	U	R	SW	
11	Foliation Joint	107	75	2 - 20+	6	HAJ	P	R	SW	
11	Joint	19	72	2 - 5	1 - 15	LAJ	P	S	SW	Forming face

Station No.	Feature	Dip Direction	Dip Angle	Spacing (ft)	Extent (ft.)	Termination	Plane	Rough	Surface Condition	Comments
11	Joint	320	22	0.5 - 5	5 - 10+	HAJ	P	R	SW	Pervasive

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Page 5 of 5

SUMMARY OF FIELD ABBREVIATIONS

WALL CONDITION (WEATHERING)

Term	Abbreviation	Description
Fresh	F	No visible sign of rock material weathering: perhaps slight discoloration on major discontinuity surfaces.
Slightly Weathered	SW	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discolored by weathering and may be somewhat weaker externally than in its fresh condition.
Moderately Weathered	MW	Less than half of the rock material is decomposed and/or disintigrated to soil. Fresh or discolored rock is present either as a continuous framework or as corestones.
Highly Weathered	HW	More than half of the rock material is decomposed and/or disintigrated to a soil. Fresh or discolored rock is present either as a discontinuous framework or as corestones.
Completely Weathered	CW	All rock material is decomposed and/or disintegrated to soil. The original rock mass structure is still largely intact.

TERMINATION

Term	Abbreviation
Low Angle Joint	LAJ
High Angle Joint	HAJ
Rock	R

INTERMEDIATE ROUGHNESS

Term	Abbreviation
Planar	P
Undulating	U
Planar to Undulating	P-U
Planar & Stepped	P/St

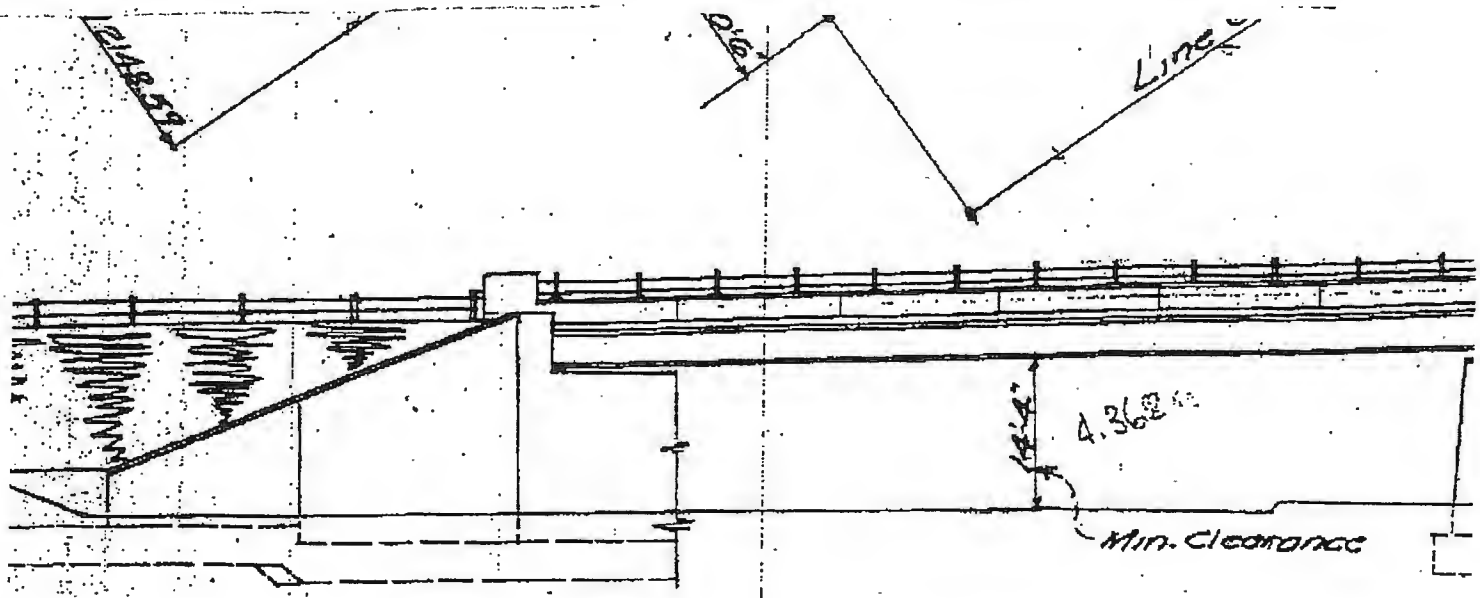
SMALL SCALE ROUGHNESS

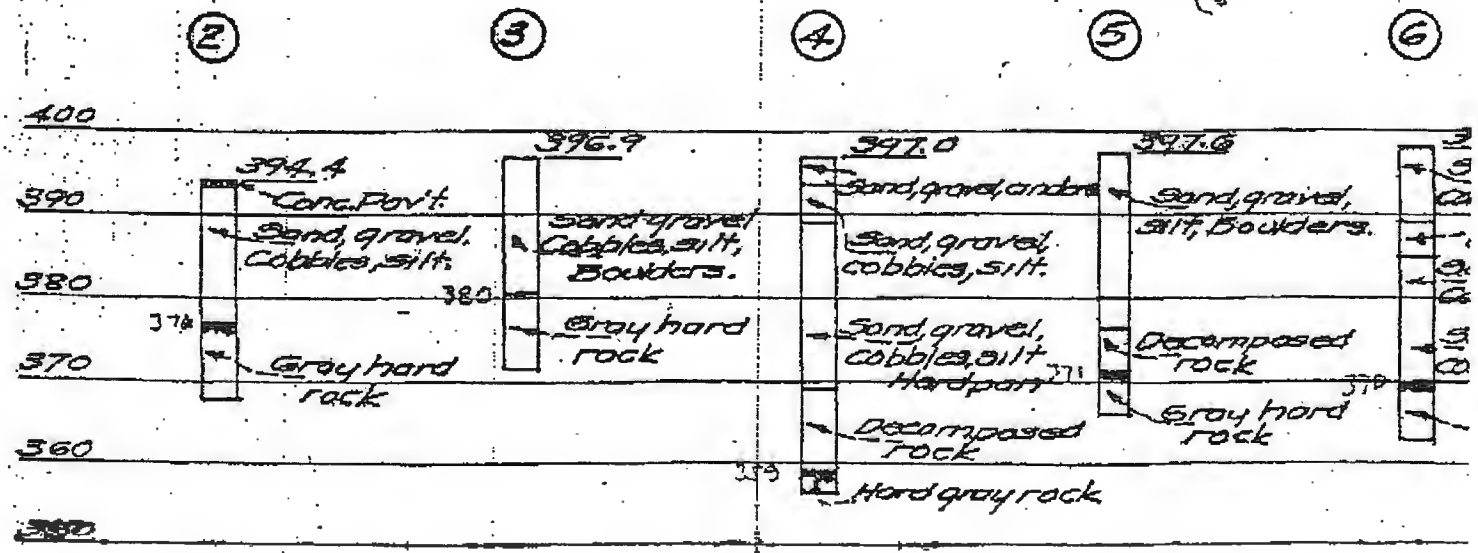
Term	Abbreviation
Smooth	S
Rough	R
Smooth to Rough	S-R
Slickensided	K

APPENDIX E

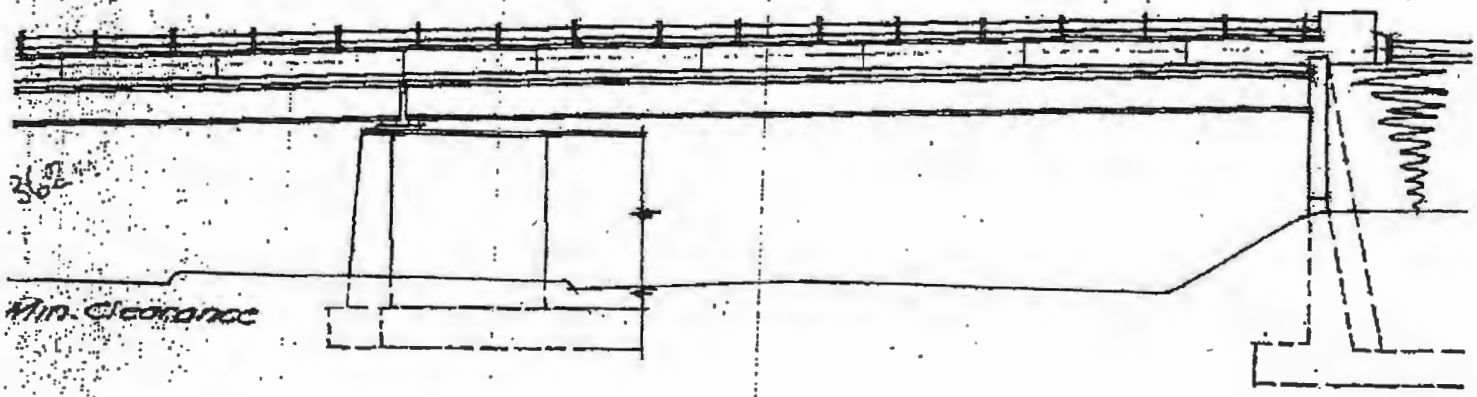
Logs of Previous Test Borings

HAMILTON AVENUE BRIDGE OVER I-84
(APPROX. PROJECT STA. EB 1+360)


Line
4.362
Min. Clearance

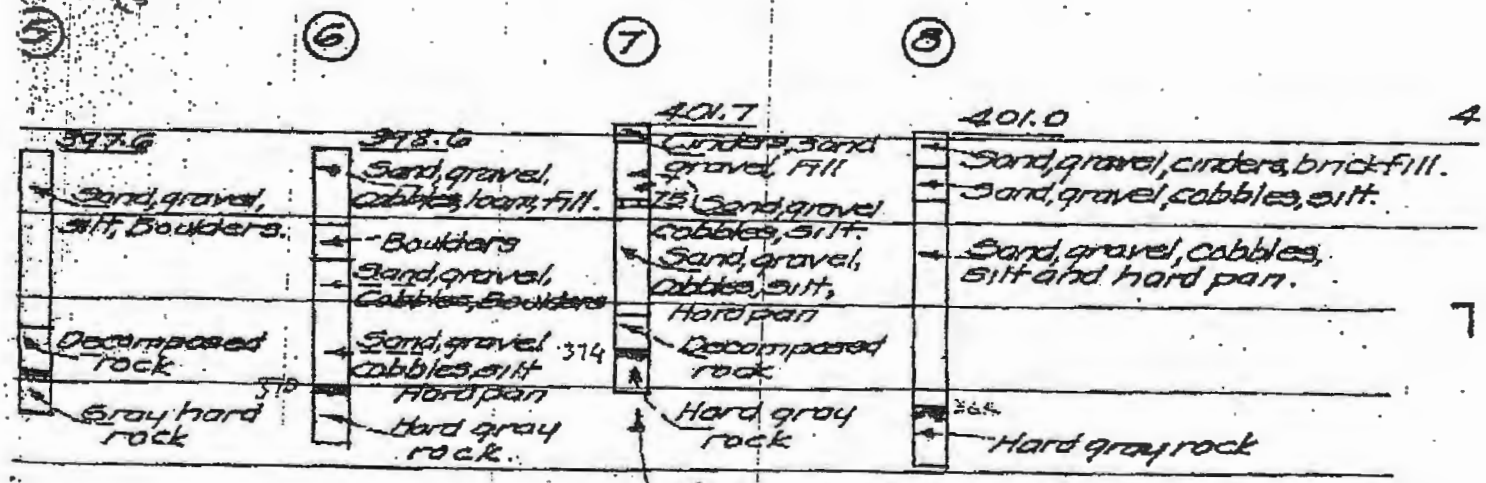

2
3
4
5
6
400
390
380
370
360
394.4
Conc. Pav't.
Sand, gravel, Cobbles, silt.
Gray hard rock
396.9
Sand, gravel, Cobbles, silt, Boulders.
Gray hard rock
397.0
Sand, gravel, cobbles, silt.
Sand, gravel, cobbles, silt, Hardpan
Decomposed rock
Hard gray rock
397.6
Sand, gravel, silt, Boulders.
Decomposed rock
Gray hard rock

BORINGS



ELEVATION

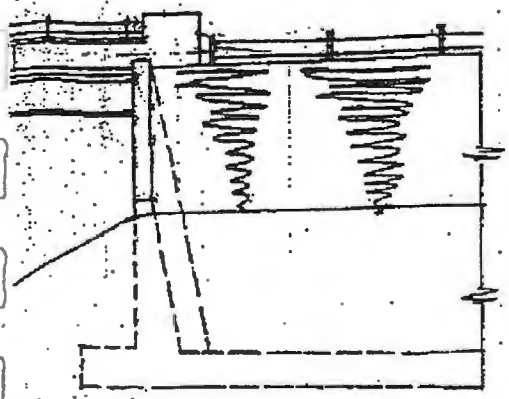
Scale 1/16" - 1'0"



* The number opposite the strata is the number of blows needed to drive a 2½" sampler pipe 12" with a 300# hammer falling 2 feet.

RINGS

TOTAL P.04

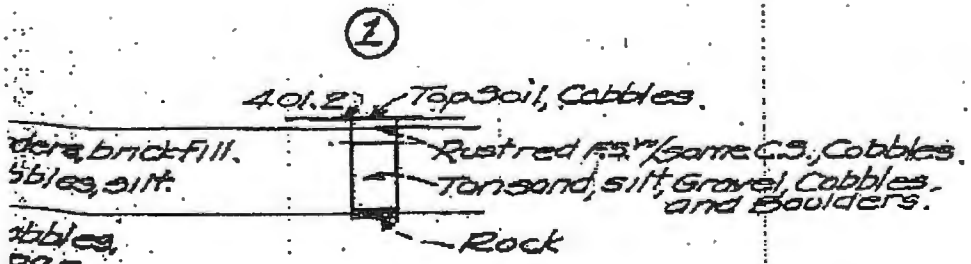


Structure Depth

0.177 Slab
0.076 Bit Conc. Overlay
0.933 W= 3.00
0.023 Conc. Pl.
1.209 m
use 1.210 m

NOTES

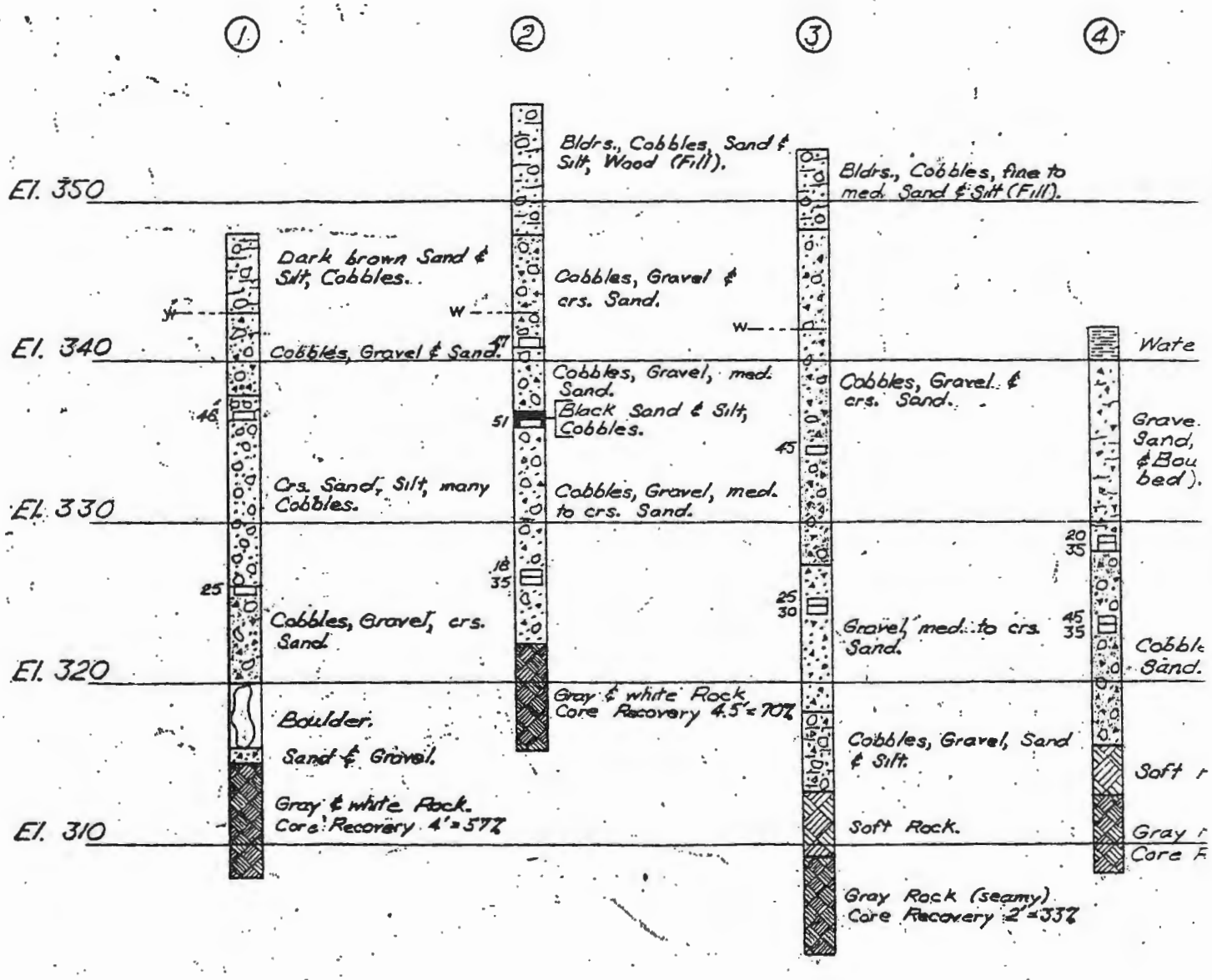
Specificatio
Form 808 #
Loading H20
Class A Conc
Shapes & Plat
Item Struct.
conforming to
Structural Si
to receive one
iron oxide ex
in contact w
to be welde
Field paint to
and shade a
All exposed
unless other
Tar paper on
in the unit
See Special P
Quantities g
should be c
before sub.
The cost of
12" Water Ma
and insulat.
bid for "12"
See Specia
12" Water Ma



TEST PIT

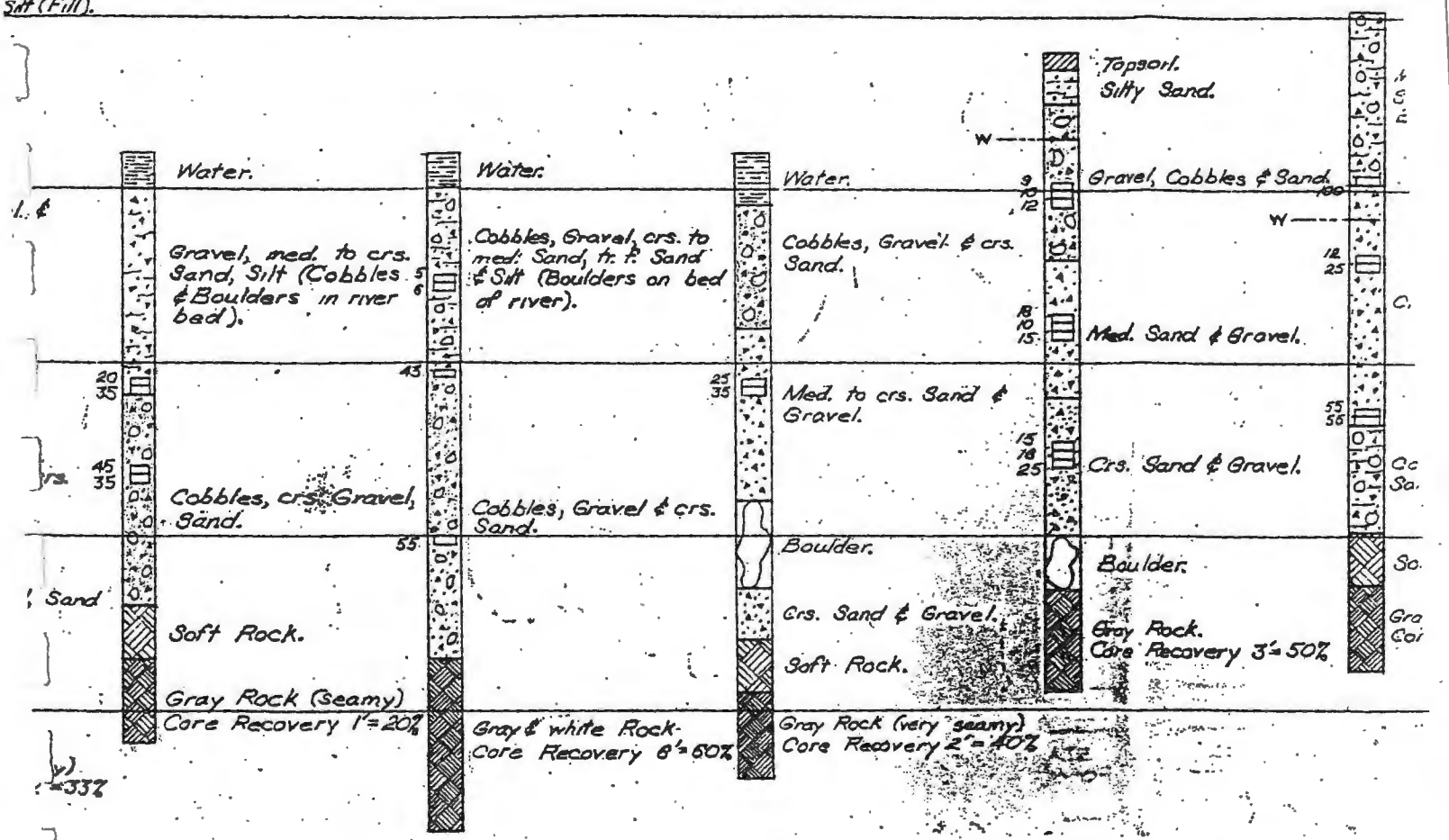
7671 Date 2/2/00 # of pages 2

I-84 BRIDGE OVER MAD RIVER
(APPROX. PROJECT STA. EB 1+860)


1
2
3
4
El. 350
El. 340
El. 330
El. 320
El. 310
Bldrs., Cobbles, Sand & Silt, Wood (Fill).
Bldrs., Cobbles, fine to med. Sand & Silt (Fill).
Dark brown Sand & Silt, Cobbles.
Cobbles, Gravel & crs. Sand.
W
W
Cobbles, Gravel & Sand.
47
Cobbles, Gravel, med. Sand.
Cobbles, Gravel & crs. Sand.
Wate
46
51
Black Sand & Silt, Cobbles.
45
Grave Sand, & Bou bed).
Crs. Sand, Silt, many Cobbles.
Cobbles, Gravel, med. to crs. Sand.
20
35
18
35
25
25
30
45
35
Cobbles, Gravel, crs. Sand.
Gravel, med. to crs. Sand.
Cobble Sand.
Gray & white Rock. Core Recovery 4.5' = 70%
Boulder.
Sand & Gravel.
Cobbles, Gravel, Sand & Silt.
Soft r
Gray & white Rock. Core Recovery 4' = 57%
Soft Rock.
Gray r
Core R
Gray Rock (seamy) Core Recovery 2' = 33%

ELEVATION

Scale: 1"=20'

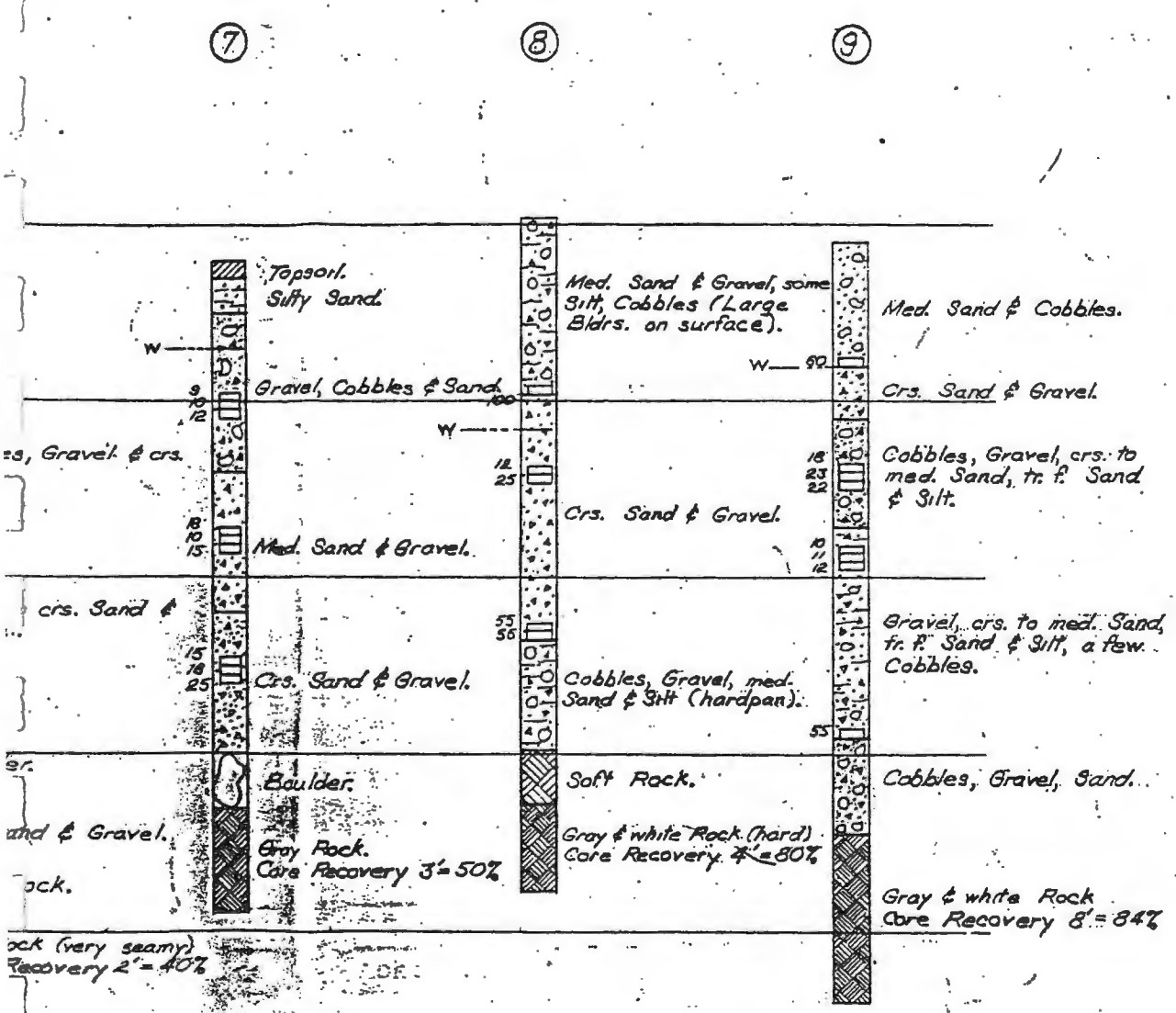


BORINGS

Scale 1"=10'-0" Vert.

Note: The numbers opposite the strata in the number of blows required to dr 2½" sampler pipe 6" with a 300 lb. h falling 2'-0".

W ——— Indicates ground water level.



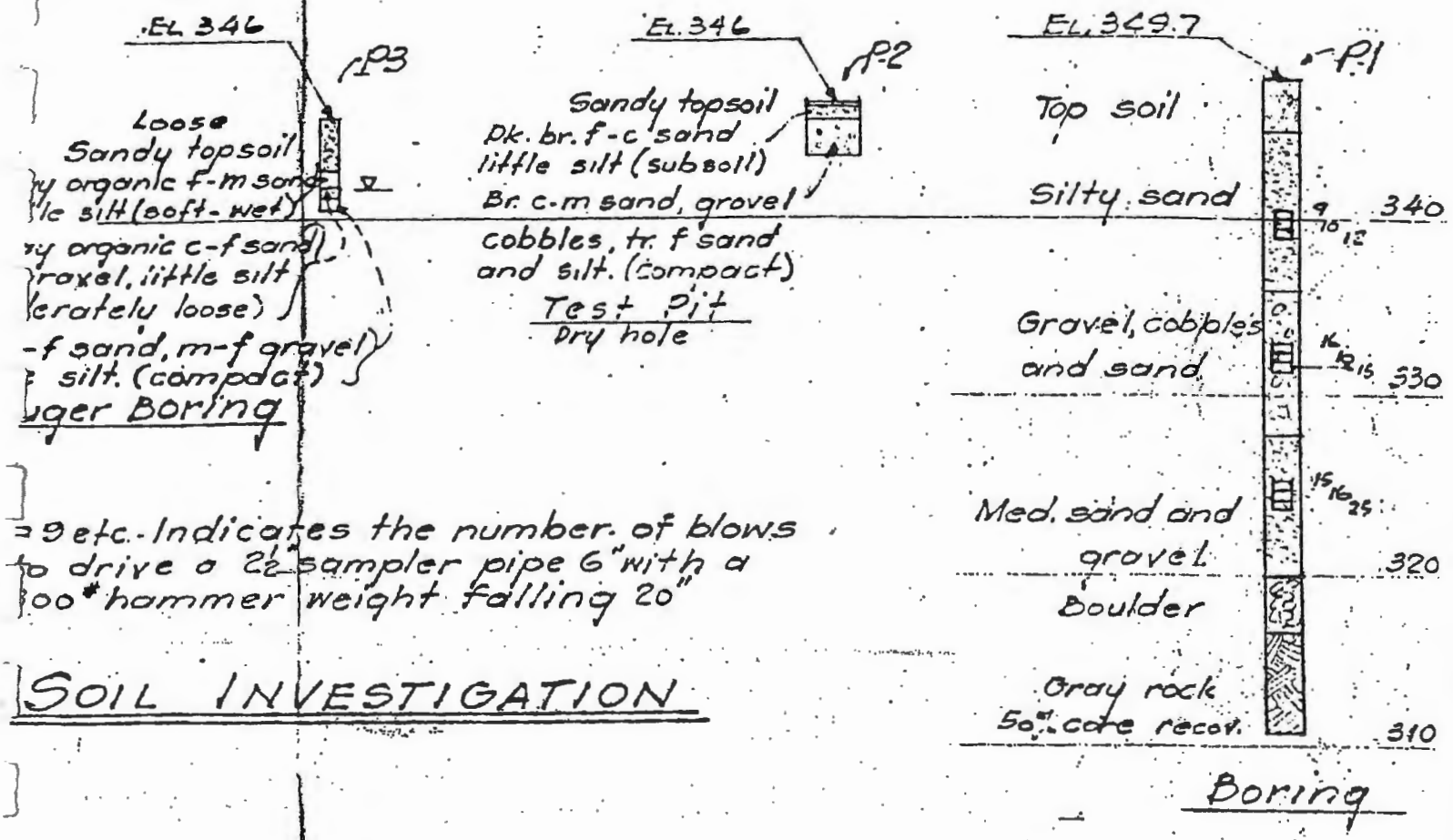
umbers opposite the strata indicate
umber of blows required to drive a
ampler pipe 6" with a 300lb. hammer
2'-0".
ates ground water level.

Original ground or fill

Engineer, interfere with pile driving shall be removed where ordered by the Engineer. Excavation required to remove such large rocks and boulders will be paid for as "Unclassified Excavation."

PEDESTRIAN BRIDGE OVER MAD RIVER
(APPROX. PROJECT STA. EB 1+880)

STEEL DETAILS
1/2" = 1'-0"



= 9 etc. - Indicates the number of blows to drive a 2½" sampler pipe 6" with a 300# hammer weight falling 20"

SOIL INVESTIGATION

ENERAL NOTES

Conn. State Highway Dept. - Form 808.
S and Special Provisions.

tions: A.A.S.H.O.-1953, as supplemented by
icut State Highway Department "Standard
etails for Contracting Engineers, Dated Feb. 1955.
d 85 lbs. per sq. ft.

e shall be used throughout. See Special Provisions
Seal.

shall be beveled 1" x 1" unless otherwise dimensioned.

cost of furnishing and placing 2 layers of 3 ply tar
at backwalls shall be included in item for Class "A" Concrete.

hop and field painting of Structural Steel and
Bridge Rail see Special Provisions.

approximate only and do not relieve the Contractor
... them in preparing his bid

SCOVILL POND SEDIMENT/SOIL EVALUATION
(APPROX. PROJECT STA. EB 2+040)

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMDHA101

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HA	--	--	RIG TYPE --
INSIDE DIAMETER (IN)	2	--	--	BIT TYPE --
HAMMER WEIGHT (LB)	--	--	-	DRILL MUD --
HAMMER FALL (IN)	--	--	-	OTHER

ELEVATION 369.5 Approx.
DATUM
START 25 June 1997
FINISH 25 June 1997
DRILLER C. Harriman
H & A REP C. Harriman

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0			S1 12	0.0 1.0	369.0	Dark brown loamy SILT -TOPSOIL/FILL-
					0.5 368.5	Brown fine sandy SILT, trace gravel -LOESS-
					1.0	Refusal on cobble or boulder at 1.0 ft.
5						
10						
15						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		NOT ENCOUNTERED			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	1.0
BEDROCK CORED (LIN FT)	--
SAMPLES	1

BORING NO. EMDHA101

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMDHA102

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HA	--	--	RIG TYPE --
INSIDE DIAMETER (IN)	2	--	--	BIT TYPE --
HAMMER WEIGHT (LB)	--	--	-	DRILL MUD --
HAMMER FALL (IN)	--	--	-	OTHER

ELEVATION 370.0 Approx.
DATUM
START 25 June 1997
FINISH 25 June 1997
DRILLER C. Harriman
H & A REP C. Harriman

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0			S1	0.0	369.7	Dark brown loamy SILT
			12	1.0	0.3	-TOPSOIL-
					369.2	Brown fine sandy SILT, trace gravel
					0.8	-LOESS-
					369.0	Brown silty medium to fine SAND, little gravel
					1.0	-GLACIOFLUVIAL DEPOSIT-
						Refusal on cobble or boulder at 1.0 ft.
5						
10						
15						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		NOT ENCOUNTERED			

SAMPLE IDENTIFICATION

C	ROCK CORE
T	THIN WALL TUBE
U	UNDISTURBED SAMPLE
S	SPLIT SPOON
D	DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	1.0
BEDROCK CORED (LIN FT)	--
SAMPLES	1

BORING NO. EMDHA102

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMDHA103

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HA	--	--	RIG TYPE --
INSIDE DIAMETER (IN)	2	--	--	BIT TYPE --
HAMMER WEIGHT (LB)	--	--	-	DRILL MUD --
HAMMER FALL (IN)	--	--	-	OTHER

ELEVATION 369.0 Approx.
DATUM
START 25 June 1997
FINISH 25 June 1997
DRILLER C. Harriman
H & A REP C. Harriman

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0			S1 12	0.0 1.0	368.7 0.3	Dark brown loamy SILT -TOPSOIL-
					368.0 1.0	Brown fine sandy SILT -LOESS-
						Refusal on cobble or boulder at 1.0 ft.
5						
10						
15						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		NOT ENCOUNTERED			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	1.0
BEDROCK CORED (LIN FT)	--
SAMPLES	1

BORING NO. EMDHA103

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMDHA104

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HA	--	--	RIG TYPE --
INSIDE DIAMETER (IN)	2	--	--	BIT TYPE --
HAMMER WEIGHT (LB)	--	--	-	DRILL MUD --
HAMMER FALL (IN)	--	--	-	OTHER

ELEVATION 369.0 Approx.
DATUM
START 25 June 1997
FINISH 25 June 1997
DRILLER C. Harriman
H & A REP C. Harriman

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0			S1 12	0.0 1.0	368.7 0.3	Dark brown loamy SILT -TOPSOIL-
					368.0 1.0	Brown fine sandy SILT -LOESS-
						Refusal on cobble or boulder at 1.0 ft.
5						
10						
15						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		NOT ENCOUNTERED			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	1.0
BEDROCK CORED (LIN FT)	--
SAMPLES	1

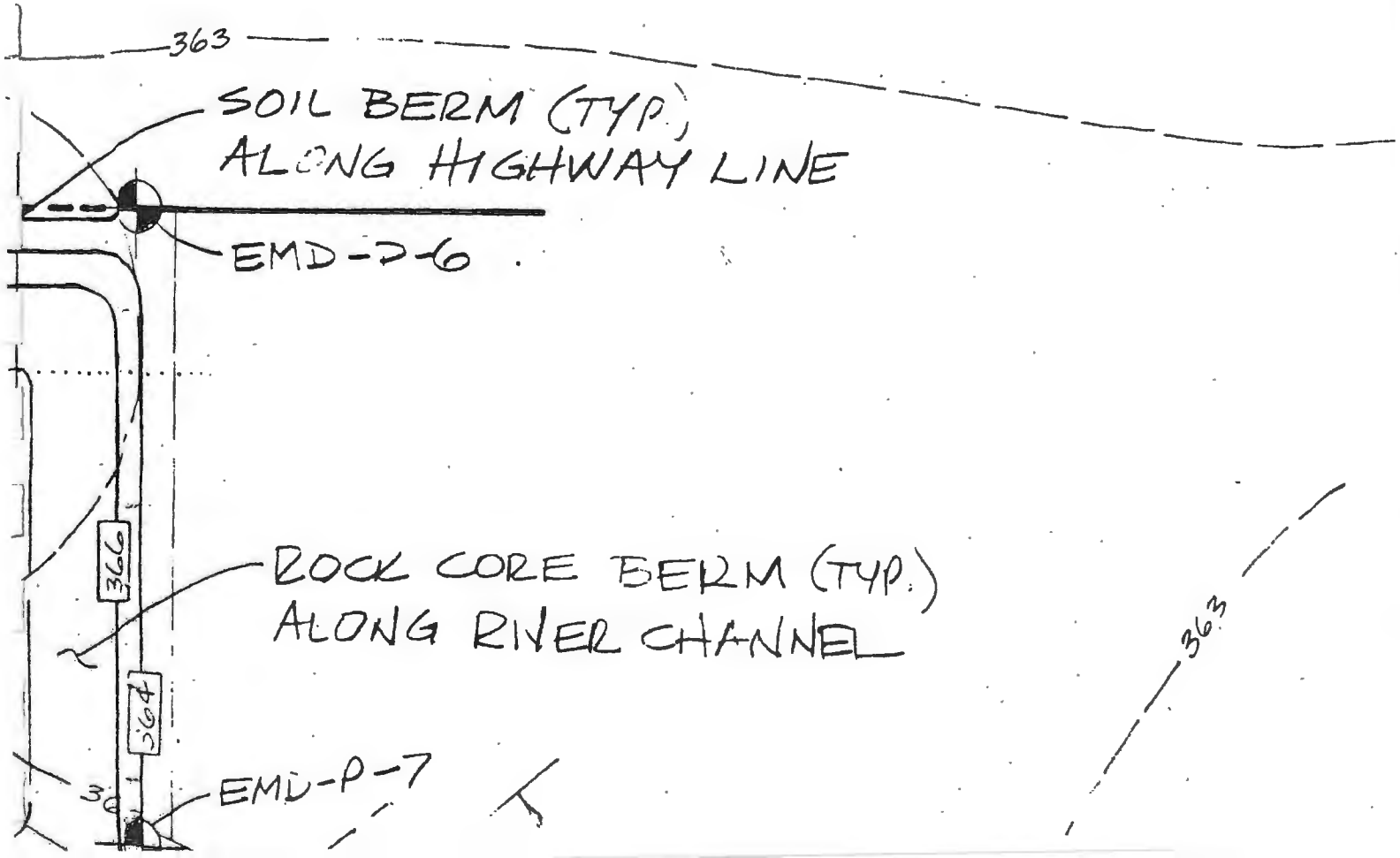
BORING NO. EMDHA104

SCOVILL POND CHANNEL EXCAVATION
(APPROX. PROJECT STA EB 2+180)

PROBE RESULTS

(PROBES TAKEN AUG. 28, 1997 BY HALEY & ALDRICH)

EXPLORATION NUMBER	ELEV. OF MUD LINE (FT.)	THICKNESS OF SOFT SEDIMENT (FT.)	ELEV. AT TOP OF GRANULAR MATERIAL (FT.)
EMD-P-1	363.5	2.5	361.0
EMD-P-2	363.7	2.5	361.2
EMD-P-3	362.7	4.0	358.7
EMD-P-4	362.8	4.0	358.8
EMD-P-5	362.7	6.0	356.7
EMD-P-6	364.0	7.0	357.0
EMD-P-7	364.0	6.0	358.0
EMD-P-8	364.0	6.0	358.0
EMD-P-9	363.5	7.0	356.5
EMD-P-10	363.0	7.0	356.0
EMD-P-11	364.0	6.0	358.0



SCOVILL POND SEDIMENT/SOIL EVALUATION
(APPROX. PROJECT STA. EB 2+190)

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B101

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 361.5 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1	0.0		Very loose black brown sandy SILT, and peat [STL]
			3	4.0		
		WOR/24	S2	4.0		Very loose black brown silty SAND, trace organics
5			2	6.0		
					355.5	
		1	S3	6.0	6.0	Very loose gray brown coarse to fine SAND, little silt, few organic lenses [STL]
		2	8	8.0		
		1				-ALLUVIAL DEPOSITS-
		1			353.5	
					8.0	Bottom of Exploration at 8.0 ft.
10						Depth of water = 8.0 ft.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION
C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	8.0
BEDROCK CORED (LIN FT)	--
SAMPLES	3S

BORING NO. EMD-B101

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B102

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 363.5 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1	0.0		Very loose black brown silty fine SAND, and peat, decaying leaves
			3	4.0		
		WOR/24	S2	4.0		Very loose gray brown medium to fine SAND, little silt
5			2	6.0		
		WOR/24	S3	6.0		Very loose gray brown silty fine SAND, trace organics [STL]
			10	8.0		
		WOH/12	S4	8.0		Same as S3
			4	10.0		
		1 4			353.5	-ALLUVIAL DEPOSITS-
10					10.0	Bottom of Exploration at 10.0 ft.
						Depth of water = 6.0 ft.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION
C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	10.0
BEDROCK CORED (LIN FT)	--
SAMPLES	4S

BORING NO. EMD-B102

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B103

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 361.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1 4	0.0 4.0		Black brown silty medium to fine SAND, few leaves [STL]
		WOR/24	S2 12	4.0 6.0		Black brown silty medium to fine SAND [STL]
5					355.0	
		WOR/24	S3 8	6.0 8.0	6.0	Gray brown coarse to fine SAND, little silt, few roots and organic lenses
					353.0	-ALLUVIAL DEPOSITS-
					8.0	Bottom of Exploration at 8.0 ft.
10						Depth of water = 8.5 ft.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION
C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	8.0
BEDROCK CORED (LIN FT)	--
SAMPLES	3S

BORING NO. EMD-B103

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B104

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 362.5 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1 3	0.0 4.0		Black brown silty fine SAND, decomposed leaf layer [STL]
		WOR/24	S2 10	4.0 6.0		Gray brown silty medium to fine SAND, few organic lenses [STL]
5		WOR/24	S3 8	6.0 8.0		Gray brown medium to fine SAND, some silt
					354.5 8.0	-ALLUVIAL DEPOSITS-
						Bottom of Exploration at 8.0 ft.
10						Depth of water = 7.0 ft.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	8.0
BEDROCK CORED (LIN FT)	--
SAMPLES	3S

BORING NO. EMD-B104

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B105

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 363.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1 3	0.0 4.0		Black brown silty fine SAND, PEAT and decaying leaves
		WOH/18	S2 12	4.0 6.0		Black brown sandy SILT [STL]
5		10			357.0	-ALLUVIAL DEPOSITS-
					6.0	Bottom of Exploration at 6.0 ft.
						Depth of water = 6.5 ft.
10						
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	6.0
BEDROCK CORED (LIN FT)	--
SAMPLES	2S

BORING NO. EMD-B105

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B106

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 362.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/48	S1 8	0.0 4.0		Black gray brown silty medium to fine SAND, little silt, few decaying leaves [STL]
		WOR/24	S2 3	4.0 6.0		Gray brown medium to fine SAND, little silt
5					356.0 6.0	-ALLUVIAL DEPOSITS-
						Bottom of Exploration at 6.0 ft.
						Depth of water = 7.5 ft.
10						
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION
C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	6.0
BEDROCK CORED (LIN FT)	--
SAMPLES	2S

BORING NO. EMD-B106

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B107

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 362.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/24	S1 0	0.0 2.0		No recovery
		WOR/24	S2 2	2.0 4.0		Very loose black brown silty medium to fine SAND, some peat [STL]
		WOR/24	S3 0	4.0 6.0		No recovery
5					356.0	-ALLUVIAL DEPOSITS-
					6.0	Bottom of Exploration at 6.0 ft.
						Made several attempts to obtain samples, no success
10						Depth of water = 7.5 ft.
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	6.0
BEDROCK CORED (LIN FT)	--
SAMPLES	1S

BORING NO. EMD-B107

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B108

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 362.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/24	S1 2	0.0 2.0		Very loose black brown silty fine SAND, and peat [STL]
		WRO/24	S2 2	2.0 4.0		Very loose gray brown silty coarse to fine SAND
		4 1 1/12	S3 10	4.0 6.0		Same as S3
5					356.0 6.0	-ALLUVIAL DEPOSITS-
						Bottom of Exploration at 6.0 ft.
						Depth of water = 7.5 ft.
10						
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION
C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	6.0
BEDROCK CORED (LIN FT)	--
SAMPLES	3S

BORING NO. EMD-B108

HALEY & ALDRICH, INC.
GLASTONBURY
CONNECTICUT

TEST BORING REPORT

BORING NO. EMD-B109

PROJECT SCOVILL POND NO. 2, SEDIMENT/SOIL EVALUATION, WATERBURY, CT.
CLIENT GGP BRASS MILL, INC.
CONTRACTOR GENERAL BORING CONTRACTORS, INC.

FILE NO. 90668-070
SHEET NO. 1 of 1
LOCATION See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	--	SS	--
INSIDE DIAMETER (IN)	--	1 3/8	--
HAMMER WEIGHT (LB)	--	140	-
HAMMER FALL (IN)	--	30	-

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE Diedrich D-25
BIT TYPE --
DRILL MUD --
OTHER WOR=weight of drill rods; WOH=weight of hammer; STL=sent to laboratory for analyses

ELEVATION 364.0 approx.
DATUM
START 19 June 1997
FINISH 19 June 1997
DRILLER D. Tuciello
H & A REP V. Mondo

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0		WOR/24	S1	0.0		Very loose gray brown silty fine SAND, some peat and decomposed leaves
			3	2.0		
		WOR/24	S2	2.0		No recovery
			2	4.0		
		WOR/24	S3	4.0		Very loose gray brown silty fine SAND, trace clay
5			12	6.0		
					358.0	-ALLUVIAL DEPOSITS-
					6.0	Bottom of Exploration at 6.0 ft.
						Depth of water = 5.5 ft.
10						
15						
20						
25						

WATER LEVEL DATA

DATE	TIME	ELAPSED TIME (HR)	DEPTH (FT) TO: BOTTOM OF CASING	BOTTOM OF HOLE	WATER
		Not Encountered			

SAMPLE IDENTIFICATION

C ROCK CORE
T THIN WALL TUBE
U UNDISTURBED SAMPLE
S SPLIT SPOON
D DISTURBED SAMPLE

SUMMARY

OVERBURDEN (LIN FT)	6.0
BEDROCK CORED (LIN FT)	--
SAMPLES	2S

BORING NO. EMD-B109

CLIENT: Haley & Aldrich, Inc.	**General Borings, Inc.** P.O. BOX 7135 PROSPECT, CT 06712	SHEET 1 OF 1 HOLE NO. EMD-B110
GBI JOB NO. 215-97	PROJECT NAME Waterbury Pond	LINE
FOREMAN-DRILLER E.P. K.B.	LOCATION Harpers Ferry Road	STATION
INSPECTOR C.H.	Waterbury, CT	OFFSET

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR.		Start	Finish
AT____ FT. AFTER ____ HOURS	TYPE	Hand	Hammer		DATE	8/28	8/28/97
	SIZE I.D.				SURFACE ELEV.		
AT____ FT. AFTER ____ HOURS	HAMMER WT.		LBS.	BIT	GROUND WATER ELEV.		
	HAMMER FALL						

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO.	TYPE	PEN	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER (FORCE ON TUBE) 0-6	6-12	12-18	CORING TIME PER FT. (MIN.)	MOIST DENSITY OR CONSIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
													Water 6.0'
													Push 20" recovery 13" of Sediment.
5													
10													
15													
20													
25													
30													
35													
40													

TYPE OF SAMPLES:
D = DRY W = WASHED C = CORED A = AUGER SS = SPLIT SPOON
UB = UNDISTURBED BALL CHECK UP = UNDISTURBED PISTON VT = VANE SPOON
PROPORTIONS USED TRACE = 0-10% LITTLE = 10-20% SOME = 20-35%, AND = 35-50%

CLIENT: Haley & Aldrich, Inc.	**General Borings, Inc.** P.O. BOX 7135 PROSPECT, CT 06712	SHEET 1 OF 1 HOLE NO. EMD-B-111
GBI JOB NO. 215-97	PROJECT NAME Waterbury Pond	LINE
FOREMAN-DRILLER E.P. K.B.	LOCATION Harpers Ferry Road	STATION
INSPECTOR C.H.	Waterbury, CT	OFFSET

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR.		Start	Finish
AT____FT. AFTER____HOURS	TYPE	Hand	Hammer		DATE	8/28	8/28/97
	SIZE I.D.				SURFACE ELEV.		
AT____FT. AFTER____HOURS	HAMMER WT.		LBS.	BIT	GROUND WATER ELEV.		
	HAMMER FALL						

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO.	TYPE	PEN	REC.	DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER (FORCE ON TUBE) 0-6	6-12	12-18	CORING TIME PER FT. (MIN.)	MOIST DENSITY OR CONSIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
													Water 6.0'
													Push 18" Recovery 12" Sediment
5													
10													
15													
20													
25													
30													
35													
40													

TYPE OF SAMPLES:
D=DRY W=WASHED C=CORED A=AUGER SS=SPLIT SPOON
UB=UNDISTURBED BALL CHECK UP=UNDISTURBED PISTON VT=VANE SPOON
PROPORTIONS USED TRACE=0-10% LITTLE=10-20% SOME=20-35%, AND=35-50%

CLIENT: Haley & Aldrich, Inc.	**General Borings, Inc.** P.O. BOX 7135 PROSPECT, CT 06712	SHEET 1 OF 1 HOLE NO. EMD-B-112
GBI JOB NO. 215-97	PROJECT NAME Waterbury Pond	LINE
FOREMAN-DRILLER E.P. K.B.	LOCATION Harpers Ferry Road	STATION
INSPECTOR C.H.	Waterbury, CT	OFFSET

GROUND WATER OBSERVATIONS
AT _____ FT. AFTER _____ HOURS
AT _____ FT. AFTER _____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE	Hand Hammer		
SIZE I.D.			
HAMMER WT.		LBS.	BIT
HAMMER FALL			

	Start	Finish
DATE	8/28	8/28/97
SURFACE ELEV.		
GROUND WATER ELEV.		

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE TYPE	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER (FORCE ON TUBE) 0-6	6-12	12-18	CORING TIME PER FT. (MIN.)	MOIST DENSITY OR CONSIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
													Water 6.0'
													Push 18" Recovery 12" Sediment
5													
10													
15													
20													
25													
30													
35													
40													

TYPE OF SAMPLES:
D = DRY W = WASHED C = CORED A = AUGER SS = SPLIT SPOON
UB = UNDISTURBED BALL CHECK UP = UNDISTURBED PISTON VT = VANE SPOON
PROPORTIONS USED TRACE = 0-10% LITTLE = 10-20% SOME = 20-35%, AND = 35-50%

RELOCATION OF I-84 EXIT RAMP 25 STUDY
(APPROX. PROJECT STA. EB 2+400)

Gary Hill BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Michelle Jackson INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

SURFACE ELEV. 378.9		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-1	
DATE FINISHED 10/8/91	TYPE		HW	D	NX	LINE & STATION 109+38 I84 Exit Ramp	
GROUND WATER OBSERVATIONS	SIZE I.D.		4"	1-3/8"	1-5/8"	OFFSET 18R	
9 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,346	
FT. AFTER HRS.	HAMMER FALL		24	30"	Carbide	E. COORDINATE 528,692	

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOILS REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	2	0-2.0'	1	24	15	D	2	3	4		1) Brown fine-coarse SAND, trace fine-medium gravel. Dry/Loose
	2						5				
	15										
	20										
	20	5.0'-7.0'	2	24	6	D	10	8	6		2) Brown fine-medium SAND, trace fine-medium gravel. Wet/Medium (FILL)
	13						8				
	16										
	16										
	15									9.0'	
10	10	10.0'-12.0'	3	24	18	D	5	3	2		3) Brown fine SAND, trace organic silt, wood and gravel. Wet/Loose
	4						2				
	4										
	4									13.0'	
	10										
	20	15.0'-17.0'	4	24	18	D	20	20	55		4) Brown fine-coarse SAND, little fine-medium gravel. Wet/Very Dense
	91						71				
	131										
	114										
	60										
20	97	20.0'-21.0'	5	12	7	D	20	100/6"			5) Brown fine SAND, little silt, trace fine-medium gravel. Wet/Very Dense.
										21.0'	
									5		Run#1-Cored Rock 21.0'-26.0'
									5		Recovered 57" gray GNEISS.
									6		RQD = 95%
									6		
		21.0'-26.0'	1	60	57	C			6	26.0'	
											END OF BORING 26.0'
35											

FROM GROUND SURFACE TO 20 FEET USED 4 INCH CASING THEN – INCH CASING FOR – FEET

FOOTAGE IN EARTH 21' FOOTAGE IN ROCK 5' NO. OF SAMPLES 5 HOLE NO. B-1

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Gary Hill BORING CREW LEADER Chris Harriman INSPECTOR	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1 LOCATION See Figure 2 General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	TOWN Waterbury PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

SURFACE ELEV. 379.0		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-2	
DATE FINISHED 10/8/91	TYPE		NW HW	D	NX	LINE & STATION 109+54 I84 Exit Ram	
GROUND WATER OBSERVATIONS	SIZE I.D.		3" 4"	1-3/8"	1-5/8"	OFFSET 10 L	
AT 8 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,366	
AT FT. AFTER HRS.	HAMMER FALL		24"	30"	Carbide	E. COORDINATE 528,718	

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	20	0'-2.0'	1	24	18	D	2	23	23	.2'	3" Topsoil
	37						7				1) Tan fine-coarse SAND, trace silt, trace fine-coarse gravel. Dry/Dense
	40										
	26										
5	30	5.0'-7.0'	2	24	18	D	15	12	10		2) Tan fine-coarse SAND, little coarse-fine gravel. Wet/Medium (FILL)
	20						11				
	24										
	26									8.0'	
	60										3) Brown fine-coarse SAND, trace silt, trace fine-medium gravel. Wet/Very Dense
10	100	10.0'-12.0'	3	24	15	D	42	39	19		
	65						15				HW Refusal @ 18'; Rollerbit to 19.5'; Spun NW to 21.5'.
	50										
	42										
	37										
15	50	15.0'-17.0'	4	24	10	D	30	75	30		4) Brown fine-coarse SAND and GRAVEL Wet/Very Dense
	43						19				
	96										
	300										
20											
										21.5'	
									5		Run#1-Cored Rock 21.5'-25.5' Recovered 48" gray GNEISS. RQD=95%
									6		
									7		
25		21.5'-25.5'	1	48	48	C			8	25.5'	
		25.5'-26.5'	2	12	7	C			7	26.5'	Run#2-Cored Rock 25.5'-26.5' Recovered 7" gray GNEISS, RQD=50%
											END OF BORING 26.5'
30											
35											

FROM GROUND SURFACE TO 18 FEET USED 4 INCH CASING THEN 3 INCH CASING FOR 3.5 FEET

FOOTAGE IN EARTH 21.5' FOOTAGE IN ROCK 5' NO. OF SAMPLES 4 HOLE NO. B-2

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER Chris Harriman Sheila Gleason INSPECTOR	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 2 LOCATION See Figure 2 General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	TOWN Waterbury PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

SURFACE ELEV. 370.3		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-3
DATE FINISHED 10/7/91	TYPE		HW	D	NO	LINE & STATION 107+48 I84 Exit Ramp
GROUND WATER OBSERVATIONS	SIZE I.D.		4	1-3/8"	2-1/8"	OFFSET 16 L
AT 1 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,433
AT 2 FT. AFTER 60 HRS.	HAMMER FALL		24"	30"	Diamond	E. COORDINATE 528,521

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	P	0'-2.0'	1	24	6	D	1	1	1/12"		1) Tan-brown fine-coarse SAND, trace little pebbles. Wet/Very Loose
	U	2.0'-4.0'	2	24	6	D	1	1	1		
	S						1				2) (same as S-1) Wet/Very Loose
	H	4.0'-6.0'	3	24	10	D	1	1/12"			
5	↓									5.5'	3) Tan-brown fine-coarse SAND, trace little pebbles, last 2" organic silt Wet/Very Loose
	WOH	6.0'-8.0'	4	24	7	D	8	4	3		
	5						3				
	18	8.0'-10.0'	5	24	12	D	5	1	11		4) Black fine-medium SAND, trace fin medium gravel, trace silt. Slight oil odor. Wet/Loose
	24						34				
10	31	10.0'-12.0'	6	24	12	D	23	21	18	10.0'	
	52						17				5) Black fine-medium SAND, trace medium gravel, layers of organic sil Moderate oil odor. Wet/Medium/Dense
	64										
	34										
	52										
15	135	15.0'-17.0'	7	24	12	D	20	21	24		6) Brown fine-coarse SAND, with fine-medium gravel. Wet/Dense
	57						20				
	57										
	63										7) Tan-brown fine-coarse SAND, with fine-medium gravel. Wet/Dense
	82										
20	89	20.0'-22.0'	8	24	12	D	12	10	14		
	45						18				8) Brown very fine SAND, little silt Wet/Medium
	63										
	90										
	104										
25	181	25.0'-27.0'	9	24	18	D	11	19	14		9) Red-brown fine-medium SAND, with fine gravel, trace silt. Wet/Dense
	69						17				
	70										
	86										
	100										
30	85	30.0'-32.0'	10	24	10	D	15	19	29		10) Brown-black-red fine-medium SAND, trace gravel, little silt. Wet/Dense
	66						39				
	100										
	137										
	144										
35	200	35.0'-37.0'	11	24	24	D	11	17	15		11) Brown fine-medium SAND, trace fin gravel. Wet/Dense
	84						11				12) Brown fine SAND, with fine-medium GRAVEL, some silt, trace weathered rock. Wet/Very Dense
	104										
	84										
	90										
	100	40.0'-42.0'	12	24	7	D	30	36	60	63	

FROM GROUND SURFACE TO 50 FEET USED 4 INCH CASING THEN 3 INCH CASING FOR 9 FEET

FOOTAGE IN EARTH 59' FOOTAGE IN ROCK 8.5 NO. OF SAMPLES 14 HOLE NO. B-3

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER Chris Harriman Sheila Gleason INSPECTOR	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 2 OF 2 LOCATION See Figure 2 General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	TOWN Waterbury PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

SURFACE ELEV. 370.3		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-3
DATE FINISHED 10/7/91	TYPE		HW	D	NQ	LINE & STATION 107+48 I84 Exit Ramp
GROUND WATER OBSERVATIONS	SIZE I.D.		4	1-3/8"	2-1/8"	OFFSET 16 L
1 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,433
2 FT. AFTER 60 HRS.	HAMMER FALL		24"	30"	Diamond	E. COORDINATE 528,521

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
134	40.0-42.0	12	24	7	D	30	36	60		Note: Hit Boulder at 45.1' Cored to 46.0'-48.0'.
180						63				
240										1' Boulder
323										
260	45.0'-45.0'		0	0	D	100/0"			45.1'	
106	46.0'-48.0'	13	24	7	D	9	11	13	46.1'	13) Brown fine-medium SAND, with fine-medium gravel. Wet/Medium
118						24				
124										
141									50.0'	Split Spoon refused at 50.0'
241	50.0'-50.0'		0	0	D	100/0"			50.7'	Roller Bit to 51.0' Started to core at 51.0' Cored through boulder 8" Roller Bit ahead to 55.0'
	55.0'-55.08'	14	1	1	D	100/0"				Note: Could not drive 4" pipe down put 3" in the hole spinning down to 55.0'.
										14) Piece of fractured BOULDER.
									59.0'	
								7		Note: Roller Bit from 55.0'-57.0' Spun 3" Casing to 59.0' cleaned out hole to 59.5' Started coring at 59.5'.
								9		
								11		
	59.5'-63.5'	1	48	41	C			11		Run#1-Cored Rock 59.5'-63.5' Recovered 41" gray-white GNEISS, some fractured layers. RQD=33%
								9		
								8.5		
								10		
	63.5'-67.5'	2	48	48	C			16	67.5'	Run#2-Cored Rock 63.5'-67.5 Recovered 48" RQD=80%
										END OF BORING 67.5'

FROM GROUND SURFACE TO 50 FEET USED 4 INCH CASING THEN 3 INCH CASING FOR 9 FEET

FOOTAGE IN EARTH 59. FOOTAGE IN ROCK 8.5' NO. OF SAMPLES 14 HOLE NO. B-3

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 2
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp	A-N Consulting Engineers DESIGN ENGINEER
	PROJECT NO. 151-207	

LOCATION

SURFACE ELEV. 370.4		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-4
DATE FINISHED 10/1/91	TYPE		NW	D	NQ	LINE & STATION 107+37 I84 Exit Ramp
GROUND WATER OBSERVATIONS	SIZE I.D.		3	1-3/8"	2-1/8"	OFFSET 11 R
1 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,409
FT. AFTER HRS.	HAMMER FALL		24"	30"	Diamond	E. COORDINATE 528,505

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	P	0'-2.0'		24	0	D	2	2	1	1	0-2.0' Brown fine-coarse SAND and fine-coarse GRAVEL.
	U	2.0'-4.0'	1	24	10	D	1	1	1		
	S						1				1) Brown fine-coarse SAND, some fine medium gravel. Wet/Very Loose
	H										
	1	5.0'-7.0'	2	24	15	D	2	2	2		
	6						2			6.5'	2) (same as S-1) Wet/Very Loose
	6										Bottom 6" Dark gray organic SILT, trace peat.
	6										
	7									9.0'	
10	24	10.0'-12.0'	3	24	16	D	44	27	36		3) Brown coarse-fine SAND, some gravel. Wet/Very Dense
	40						25				
	64										
	128										
	42										
	34	15.0'-17.0'	4	24	19	D	18	12	22		4) Brown-gray fine-coarse SAND, trace silt. Wet/Dense
	18						18				
	30										Note: Cored small boulders and cobbles 3'-5'
	32										
	26										
20	29	20.0'-22.0'	5	24	24	D	9	12	16		5) Brown fine-medium SAND, trace silt. Wet/Medium/Dense
	25						23				
	30										
	55										
	69										
	79	25.0'-27.0'	6	24	24	D	26	17	18		6) Brown fine-coarse SAND, trace fine gravel. Wet/Dense
	30						21				
	22										Note: Running sand at 30'
	46										
	57										
	56	30.0'-32.0'	7	24	24	D	8	10	15		7) Brown medium-fine SAND. Wet/Mediu Dense
	27						33				
	76										
	94										
	103										
35	80	35.0'-37.0'	8	24	24	D	9	9	21		8) Brown fine-medium SAND. Wet/Medium/Dense
	30						27				
	64										
	94										
	101										
	115	40.0'-42.0'	9	24	24	D	10	18	24	29	9) (same as S-8) Wet/Dense

FROM GROUND SURFACE TO 45 FEET USED 3 INCH CASING THEN - INCH CASING FOR - FEET

FOOTAGE IN EARTH 47 FOOTAGE IN ROCK 0 NO. OF SAMPLES 10 HOLE NO. B-4

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 2 OF 2
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp	A-N Consulting Engineers DESIGN ENGINEER
	PROJECT NO. 151-207	

LOCATION

		AUGER	CASING	SAMPLER	CORE BAR	
SURFACE ELEV. 370.4						HOLE NO. B-4
DATE FINISHED 10/1/91	TYPE		NW	D	NQ	LINE & STATION 107+37 I84 Exit Ramp
GROUND WATER OBSERVATIONS	SIZE I.D.		3½"	1-3/8"	2-1/8"	OFFSET 11 R
1 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,409
FT. AFTER HRS.	HAMMER FALL		24"	30"	Diamond	E. COORDINATE 528,505

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
86	40.0-42.0	9	24	24	D	10	18	24		
124						29				
129									43.0'	
210										10) Gray-brown fine SAND and SILT, little coarse-fine gravel, trace medium-coarse sand. Wet/Very Dense
284	45.0'-47.0'	10	24	6	D	31	24	37		
						39			47.0'	
										END OF BORING 47.0' Soil
										Note: Casing drilled off hole moved hole 5' West B-4A

FROM GROUND SURFACE TO 45 FEET USED 3 INCH CASING THEN – INCH CASING FOR – FEET

FOOTAGE IN EARTH 47' FOOTAGE IN ROCK 0' NO. OF SAMPLES 10 HOLE NO. B-4

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1 LOCATION See Figure 2
Sheila Gleason INSPECTOR	TOWN Waterbury	General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

:ATION

		AUGER	CASING	SAMPLER	CORE BAR	
FACE ELEV. 370.4						HOLE NO. B-4A & 4B
E FINISHED 10/8/91	TYPE		NW	D	NQ	LINE & STATION 107+37 I84 Exit Ra
GROUND WATER OBSERVATIONS	SIZE I.D.		3	1-3/8"	2-1/8"	OFFSET 11 R
1 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,409
FT. AFTER HRS.	HAMMER FALL		24"	30"	Diamond	E. COORDINATE 528,505

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
										B-4A Casing refused at 13' moved 2' South 46.0'-48.0'
										B-4B Advanced Casing to 45.5'
									45.5'	Roller Bit 45.5'-46.0'
										Cored 46.0'-48.0'
								5		Boulder 45.5'-48.0'
	46.0'-48.0'	1	24	17	C			2	48.0'	
	49.0'-49.08'	1	19	15	D				49.5'	1) Brown fine-medium SAND, little silt, trace medium-fine gravel, trace weathered gravel.
								12		
								13.5		Note: Sample at 47.5' 6" Wash in hole.
								10	54.3'	
								8		
	49.5'-56.0'	2	78	32	C			15.5	56.0'	Casing refused at 49.5' Cored from 49.5'-56.0' Boulder from 49.5'-54.3' Sand and gravel 54.25'-56.0'
								7		
								9		
								9		
								16		Removed casing drive shoe bent spun casing back down hole to 56.0'
	56.0'-61.0'	3	60	53	C			10	61.0'	Run#1-Cored Rock 56.0'-61.0' Recovered 53" gray-white GNEISS RQD=85%
										END OF BORING 61.0'
										Note: Water varies with pond elevatior

M GROUND SURFACE TO 56 FEET USED 3 INCH CASING THEN INCH CASING FOR FEET

TAGE IN EARTH 69' FOOTAGE IN ROCK 5' Boulder 7.3' NO. OF SAMPLES 1 HOLE NO. B4A&4B

IPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

'TORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

FORM SM-1 REV. 8/83

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BORING REPORT

BORING CREW LEADER: Sheila Gleason		SHEET 1 OF 1
INSPECTOR: Haley & Aldrich, Inc.	TOWN Waterbury	LOCATION See Figure 2
SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp	BORING CONTRACTOR: General Borings, Inc.
	PROJECT NO. 151-207	DESIGN ENGINEER: A-N Consulting Engineers

LOCATION

		AUGER	CASING	SAMPLER	CORE BAR	
SURFACE ELEV. 367.6						HOLE NO. B-5
DATE FINISHED 9/25/91	TYPE		NW	D		LINE & STATION 106+46 I84 Exit Ramp
GROUND WATER OBSERVATIONS	SIZE I.D.		3"	1-3/8"		OFFSET 9 L
AT * FT. AFTER HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,444
AT FT. AFTER HRS.	HAMMER FALL		24"	30"		E. COORDINATE 528,417

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	WOH	0'-2.0'	1	24	6	D	WOH	18"	6		1) Brown-black fine SAND and SILT, trace miscellaneous vegetation. Wet Very Loose
	1	2.0'-4.0'	2	24	7	D	2	3	5		2) Gray-black-brown fine-coarse SAND and SILT. Wet/Loose
	1						4				
	1/12	4.0'-6.0'	3	24	10	D	3	2	6		
5							1				
	1	6.0'-8.0'	4	24	12	D	9	30	34	6.0'	
	3						54				
	9	8.0'-10.0'	5	24	10	D	22	29	29		3) Gray-brown fine SAND, little silt, trace vegetation. Wet/Loose.
	29						25				
10	47										4) Gray-brown fine-coarse SAND and fine-coarse GRAVEL, trace silt. Wet/Very Dense
	45										
	41										
	45	13.0'-15.0'	6	24	15	D	10	9	10	12.5'	5) (same as S-4) Wet/Very Dense
							10				
15		15.0'-17.0'	7	24	10	D	6	47	53		6) Brown fine-medium SAND. Wet/Medium
							61				7) Brown fine SAND, some weathered gravel, trace silt. Wet/Very Dense
										17.0'	
											END OF BORING 17.0' Soil
20											Note: Moved boring 6 times Refusal at 2.0' on spoon each time.
25											*Boring drilled from barge, water 2.0 ft deep on 9/25/91.
30											Water Boring 2.0'

FROM GROUND SURFACE TO 13 FEET USED 8 INCH CASING THEN - INCH CASING FOR - FEET

FOOTAGE IN EARTH 29.0' FOOTAGE IN ROCK 0 NO. OF SAMPLES 7 HOLE NO. B-5

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Daniel Tuccillo, Jr. BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION SEE FIGURE 2
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp	General Borings BORING CONTRACTOR
	PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

SURFACE ELEV. 367.8		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-6	
DATE FINISHED 9/26/91	TYPE		NW	D		LINE & STATION 105+53 I84 Exit Ramp	
GROUND WATER OBSERVATIONS	SIZE I.D.		3"	1 3/8"		OFFSET 2 L	
* FT AFTER HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257.444	
FT AFTER HRS.	HAMMER FALL		24"	30"		E. COORDINATE 528.324	

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
WOH	0'-2.0'	1	24	24	D	W	OH/	24"		1) Gray-black SILT and fine SAND, trace vegetation. Wet/Very Soft
WOH	2.0'-4.0'	2	24	19	D	W	OH/	12"		
WOH						1				
WOH	4.0'-6.0'	3	24	24	D	2	4	5	4.0'	2) Brown SILT and fine SAND, trace medium-coarse sand. Wet/Very Soft
4						9				
16	6.0'-7.3'	4	16	16	D	14	25	100/3"	5.5'	3) Brown fine SAND, some silt, trace medium sand. Wet/Loose
61										
	8.0'-8.0'		0	0	D	50/0"			8.5'	4) Brown fine-medium SAND, some silt trace medium-coarse sand, trace fine medium gravel. Wet/Very Dense

Note: Roller Bit through small cobbles at 7.3'
7.3'-8.0' Sand and Gravel.
8.0'-8.5' Boulder?
Roller Bit refused at 8.5'
END OF BORING 8.5' Soil

*Boring drilled from barge, water 1.8 ft deep on 9/26/91.

FROM GROUND SURFACE TO 8.0 FEET USED 3 INCH CASING THEN - INCH CASING FOR - FEET

FOOTAGE IN EARTH 8.5' FOOTAGE IN ROCK 0 NO. OF SAMPLES 4 HOLE NO. B-6

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

aniel Tuccillo, Jr. BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

ATION

		AUGER	CASING	SAMPLER	CORE BAR	
ACE ELEV. 367.5						HOLE NO. B-7
FINISHED 9/24/91	TYPE		NW	D		LINE & STATION 104+13 I84 ExitRamp
GROUND WATER OBSERVATIONS	SIZE I.D.		3"	1-3/8"		OFFSET 8 R
* FT. AFTER HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,446
FT. AFTER HRS.	HAMMER FALL		24"	30"		E. COORDINATE 528,184

ASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
WOC	0-2.0'	1	24	7	D	WOH/	24"			1) Gray-brown SILT and fine SAND, little organic material. Wet/Very Soft
	2.0'-4.0'	2	24	10	D	WOH/	24"		2.3'	
	4.0'-6.0'	3	24	18	D	2	14	7		2) Top 4" (same as S-1)
						15			4.5'	Bottom 6" Brown fine SAND and SILT, trace organic material. Wet/Very Soft
3	6.0'-7.4'	4	17	17	D	25	48	100/5"		
34										3) Brown fine SAND, some silt, trace fine gravel. Wet/Medium
45	8.0'-8.3'	5	3	3	D	100/3"				
174										4) Brown fine-medium SAND, little silt, little fine-coarse gravel. Wet/Very Dense
21										
35										
27										
42	13.0'-13.0'		0	0	D	50/0"			13.5'	5) Brown-gray fine SAND, little silt trace fractured rock. Wet/Very Dense

Note: Casing refused at 9.0'
Rollr Bit ahead of casing from 9.0'-13.0'
Drilled some small boulders and cobbles from 9.0'-13.0'
Split Spoon refused at 13.0'
Roller Bit refused at 13.5'

END OF BORING 13.5' Soil

*Boring drilled from barge, water 2.1 ft deep on 9/24/91.

M GROUND SURFACE TO 13 FEET USED 3 INCH CASING THEN – INCH CASING FOR – FEET

TAGE IN EARTH 13.5' FOOTAGE IN ROCK 0 NO. OF SAMPLES 3 HOLE NO. B-7

IPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

aniel Tuccillo, Jr BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1 LOCATION See Figure 2
Sheila Gleason INSPECTOR	TOWN Waterbury	General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

ATION

			AUGER	CASING	SAMPLER	CORE BAR	
ACE ELEV. 366.0							HOLE NO. B-8
E FINISHED 9/24/91		TYPE		NW	D		LINE & STATION 102+68 I84 Exit Ramp
GROUND WATER OBSERVATIONS		SIZE I.D.		3"	1-3/8"		OFFSET 28 R
* FT. AFTER HRS.		HAMMER WT.		300	140	BIT	N. COORDINATE 257,439
FT. AFTER HRS.		HAMMER FALL		24"	30"		E. COORDINATE 528,039

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
WOC	0'-2.0'	1	24	5	D	WOH	/24"			1) Gray-brown SILT, trace fine sand and peat. Wet/Very Soft
	2.0'-4.0'	2	24	5	D	WOH	/12"			
								1/12"		
	4.0'-6.0'	3	24	14	D	WOH	/12"	1	4.0'	2) Gray brown SILT, some wood, little peat. Wet/Very Soft
WOH						3				
	6.0'-7.8'	4	21	18	D	9	24	36	100/3" 6.5'	3) Brown fine SAND and SILT. Wet/Very Loose
3	8.0'-10.0'	5	24	18	D	31	40	38	41	4) Brown fine SAND and SILT, trace fine-medium gravel, trace medium-coarse sand. Wet/Very Dense
45										
50										
82										5) Brown fine SAND, trace silt, trace fine gravel. Wet/Very Dense
85									12.0'	
43	13.0'-15.0'	6	24	12	D	21	25	25	27	6) Gray-brown fine-medium SAND, littl silt, trace fine gravel. Wet/Very Dens
									15.0'	END OF BORING 15.0' Soil
										*Boring drilled from barge, water 3.6 ft deep on 9/24/91.
										Water Boring 3.6

M GROUND SURFACE TO 13.0 FEET USED 3 INCH CASING THEN – INCH CASING FOR – FEET

TAGE IN EARTH 15' FOOTAGE IN ROCK 0 NO. OF SAMPLES 6 HOLE NO. B-8

MPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Erik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Michell Jackson INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

		AUGER	CASING	SAMPLER	CORE BAR	
UR FACE ELEV. 379.5						HOLE NO. B-9
ATE FINISHED 10/8/91	TYPE	HA		D		LINE & STATION 101+24 I84 Exit Rar
GROUND WATER OBSERVATIONS	SIZE I.D.	3 3/4"		1-3/8"		OFFSET 0
T 10.5 FT. AFTER 0 HRS.	HAMMER WT.			140	BIT	N. COORDINATE 257,478
T FT. AFTER HRS.	HAMMER FALL			30"		E. COORDINATE 527,897

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
											4" Blacktop
										2.0'	3" Process Gravel.
											Note: Augered through small boulder.
5		7.0'-7.0'		24	0	D	12	9	13	8 5.0'	from 2.0'-5.0'
		7.0'-8.0'	1	12	6	D	18	100/6"			1) Brown fine-coarse SAND and GRAVE.
										7.0'	little silt. Moist/Very Dense
											Note: Augered through small boulder.
10		12.0'-12.0'		24	0	D	12	5	5	10.0'	and cobbles from 7.0'-10.0'
							11				
		12.0'-12.2'		1	0	D	100/0"				Note: Augered through small boulder
										12.5'	and cobbles from 10.0'-12.5'
											END OF BORING 12.5' Soil
15											
20											
25											
30											
35											

FROM GROUND SURFACE TO 12.0 FEET USED 3 3/4 INCH CASING THEN - INCH CASING FOR - FEET

FOOTAGE IN EARTH 12.5' FOOTAGE IN ROCK 0 NO. OF SAMPLES 1 HOLE NO. B-9

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

rik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
ichelle Jackson INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

ATION

			AUGER	CASING	SAMPLER	CORE BAR	
ACE ELEV. 379.5							HOLE NO. B-9A, 9B
FINISHED 10/8/91		TYPE	HA		D		LINE & STATION 101+24 I84 Exit Ramp
ROUND WATER OBSERVATIONS		SIZE I.D.	3 3/4"		1-3/8"		OFFSET 0
13 FT. AFTER 0 HRS.		HAMMER WT.			140	BIT	N. COORDINATE 257,478
FT. AFTER HRS.		HAMMER FALL			30"		E. COORDINATE 527,897

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
										B-4A 5.0' West of B-9 Note: Augered through small boulders and cobbles from 2.0'-10.0'
									4.0'	Auger refused at 11.5'
										END OF BORING 11.5' Soil
										B-9B 5.0' East of B-9 Note: Augered through boulders and cobbles from 4.0'-13.0'.
										-FILL-
									13.0'	
	15.0'-17.0'	1	24	18	D	18	32	36		1) Brown fine-coarse SAND and fine-coarse GRAVEL, some silt, trace weathered rock. Wet/Very Dense
						74				
										Native soil at 13.0'
										Plug broke in hole at 20.0'
									20.0'	
										END OF BORING 20.0' Soil

A GROUND SURFACE TO 20.0 FEET USED 3 3/4 INCH CASING THEN -- INCH CASING FOR -- FEET

TAGE IN EARTH 31.5' FOOTAGE IN ROCK 0 NO. OF SAMPLES 1 HOLE NO. B-9A, 9B

PLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Erik CalPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

		AUGER	CASING	SAMPLER	CORE BAR	
ATION						
FACE ELEV. 401 approx.						HOLE NO. B-10
E FINISHED 9/26/91	TYPE	HA	NW	D-	NX	LINE & STATION 306+96 H.F. Road
GROUND WATER OBSERVATIONS	SIZE I.D.	2¼"	3"	1-3/8"	1 5/8	OFFSET 12 L
None FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,402
FT. AFTER HRS.	HAMMER FALL		24"	30"	Carbide	E. COORDINATE 528,824

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-5	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	.5'-2.5'	1	24	16	D	9	18	36	.33'	4" Blacktop
52						40			.5'	2" Gravel
75										
107										
142	5.0'-7.0'	2	24	18	D	15	28	39		1) Tan-brown fine-coarse SAND, some fine-coarse gravel, trace silt. Dry/Dense
						50				2) Tan fine-coarse SAND, some fine-medium gravel, little silt. Dry/Very Dense
										Note: Drove casing from .5'-5.0' Spun HA (2¼") from 5.0'-10.0'
	10.0'-12.0'	3	24	20	D	21	23	18		
						11				3) Tan-brown fine-medium SAND, some fine-coarse gravel, little silt. Dry/Dense
	15.0'-17.0'	4	24	16	D	18	23	50		4) (same as S-3) Dry/Very Dense
						19				Note: 17.0'-19.0' Cobbles and boulders.
	20.0'-22.0'	5	24	14	D	30	37	34		5) (same as S-3) Dry/Very Dense
						42				-FILL-
	25.0'-27.0'	6	24	16	D	29	24	39	25.0'	
						42				6) Tan-brown fine-medium SAND, some coarse gravel, cobbles and boulders, trace silt. Moist/Very Dense
	30.0'-32.0'	7	24	12	D	19	26	38		7) (same as S-6) Wet/Very Dense
						46				Auger refused at 33.0'
									33.0'	
								12		Run#1-Cored Rock 33.0'-38.0'
								11		Recovered 36" GNEISS.
								10		
								14		RQD 55%
	33.0'-38.0'	1	60	36	C			11	38.0'	
										END OF BORING 38.0'

GROUND SURFACE TO 5.0 FEET USED 3.0 INCH CASING THEN 2¼ INCH CASING FOR 28.0 FEET

TAGE IN EARTH 33.0' FOOTAGE IN ROCK 5' NO. OF SAMPLES 7 HOLE NO. B-10

LE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

rik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 2
heila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

ATION

		AUGER	CASING	SAMPLER	CORE BAR	
ACE ELEV. 394.5						HOLE NO. B-11
FINISHED 9/26/91	TYPE	HA	HW	D	NX	LINE & STATION 308+55 H.F. Road
ROUND WATER OBSERVATIONS	SIZE I.D.	3 3/4"	4"	1-3/8"	1 5/8"	OFFSET 11 L
5 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,537
FT. AFTER HRS.	HAMMER FALL		24"	30"	Carbide	E. COORDINATE 529,906

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	1.0'-3.0'	1	24	18	D	69	51	30	7'	8" Blackrop
						27			1.0'	4" Gravel
									2.5'	1) Brown-gray fine-coarse SAND and fine-coarse GRAVEL, little silt. Dry/Very Dense -FILL-
	5.0'-7.0'	2	24	16	D	17	14	11	5.0'	
						15				2) Brown-tan fine-medium SAND, littl fine-coarse gravel, little coarse sand, trace silt. Dry/Medium-Dense
	10.0'-12.0'	3	24	18	D	25	29	32		Note: Augered through cobbles and boulders from 2.5'-5.0'
						18				3) Brown-tan fine-coarse SAND, some fine-medium gravel, little silt, trace coarse gravel. Dry/Very Dense
	15.0'-17.0'	4	24	8	D	19	28	33		
						41			16.0'	4) Brown fine-coarse SAND, little silt, trace fine gravel. Dry/Very Dense
	20.0'-22.0'	5	24	12	D	23	14	18	20.0'	Note: Augered through boulders and cobbles from 16.0'-20.0'
						18				
	22.0'-24.0'	6	24	7	D	15	15	22		5) Gray fine-medium SAND, some fine-coarse gravel, some silt. (sample has oil odor) Moist/Dense
						47				
	25.0'-27.0'	7	24	12	D	8	12	6	25.5'	
						8				6) Gray-black fine-coarse SAND and fine-coarse GRAVEL, some silt. (minor oil odor) (FILL) Moist/Dens
	30.0'-30.5'	8	6	6	D	100/6"				7) Brown fine-coarse SAND, some silt, trace roots, trace fine grave Moist/Medium-Dense
										8) Rock fragements and gray fine SAND and SILT. Wet/Very Dense
	35.0'-37.0'		24	0	D	11	15	13		
						10				
										9) Brown fine-coarse SAND, little silt, trace fine gravel. Wet/ Medium-Dense
	40.0'-42.0'	9	24	4	D	6	8	7	12	

M GROUND SURFACE TO 45 FEET USED 3 3/4 INCH CASING THEN 4 INCH CASING FOR 25.5 FEET

TAGE IN EARTH 70.5 FOOTAGE IN ROCK 5 NO. OF SAMPLES 13 HOLE NO. B-11

PLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Erik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 2 OF 2
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

CATION

FACE ELEV. 394.5		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-11
E FINISHED 9/26/91	TYPE	HA	HW	D	NX	LINE & STATION 308+55 H.F. Road
GROUND WATER OBSERVATIONS	SIZE I.D.	3 3/4"	4"	1-3/8"	1 5/8"	OFFSET 11 L
25 FT. AFTER 0 HRS.	HAMMER WT.		300	140	BIT	N. COORDINATE 257,537
FT. AFTER HRS.	HAMMER FALL		24"	30"	Carbide	E. COORDINATE 529,906

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
										Ran Augers to 45.0' 2' of running sand came inside the augers out to 45.0'
										Drove 4"HW casing from 45.0' on Pulled 3 3/4" HA out.
	45.0'-47.0'	10	24	16	D	17	19	21		
102						20				
115										10) Brown-tan fine-medium SAND, some fine-coarse gravel, some silt. Wet/Dense
58										
62										
50	50.0'-52.0'	11	24	12	D	14	20	23		11) (same as S-10) Wet/Dense
121						18				
105										
135										
121										
123	55.0'-57.0'		24	0	D	37	62	79		2 Attempts to obtain sample No recovery Very Dense
118						100/6"				
214										
171										
203										
229	60.0'-60.5'	12	6	6	D	100/6"				12) Tan-brown fine SAND and GRAVEL, some silt. Wet/Very Dense
140										
162										
173										
169										
248									65.0'	
123										
175										
332										
470										
	70.0'-70.3'	13	4	4	D	100/4"				
								5½	70.5'	13) Tan-gray fine-coarse SAND and GRAVEL, some silt, trace weathered rock. Wet/Very Dense
								5		
								6½		
								5		Run#1-Cored Rock 70.5'-75.5'
	70.5'-75.5'	1	60	60	C			7	75.5'	Recovered 60" gray-white GRANITIC GNEISS. RQD=45%
										END OF BORING 75.5'

M GROUND SURFACE TO 45.0 FEET USED 3 3/4 INCH CASING THEN 4 INCH CASING FOR 25.5 FEET

OTAGE IN EARTH 70.5' FOOTAGE IN ROCK 5' NO. OF SAMPLES 13 HOLE NO. B-11

PLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Eric DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Chris Harriman INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION							
R FACE ELEV. 402.7		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-12	
DATE FINISHED 10/7/91	TYPE	HA		D		LINE & STATION 306+75 H.F. Road	
GROUND WATER OBSERVATIONS	SIZE I.D.	3 3/4"		1-3/8"		OFFSET 19 R	
None FT. AFTER 0 HRS.	HAMMER WT.			140	BIT	N. COORDINATE 257,367	
FT. AFTER HRS.	HAMMER FALL			30"		E. COORDINATE 528,840	

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
		.5'-2.5'	1	24	12	D	13	17	18	.4'	4" Blacktop
							22				1) Brown fine-medium SAND, some fine coarse gravel, little silt. Dry/ Dense -FILL-
5		5.0'-7.0'	2	24	16	D	2	2	1		
							3				2) Brown fine-coarse SAND, some fine-medium gravel, little silt, fill Dry/Very Loose
10		10.0'-12.0'	3	24	12	D	12	21	27		3) Brown fine-coarse SAND, little silt, trace fine-medium gravel. Dry/ Dense
							33			11.0'	
											Note: Augered through small boulders from 1.5'-9.0'
5		15.0'-17.0'	4	24	16	D	30	57	62		4) Brown fine-coarse SAND, some fine-coarse gravel, little silt. Dry/Very Dense
							84				
20		20.0'-22.0'	5	24	12	D	24	36	28		5) Brown fine-coarse SAND, little silt, little fine-medium gravel. Dry/Very Dense
							42			22.0'	
											END OF BORING 22.0' Soil
25											
30											
35											

FROM GROUND SURFACE TO 20 FEET USED 3 3/4 INCH CASING THEN -- INCH CASING FOR -- FEET

FOOTAGE IN EARTH 22.0' FOOTAGE IN ROCK 0 NO. OF SAMPLES 5 HOLE NO. B-12

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

ik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
eila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
aley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp	General Borings, Inc. BORING CONTRACTOR
	PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

TION

			AUGER	CASING	SAMPLER	CORE BAR	
CE ELEV. 404.2							HOLE NO. B-14
INISHED 9/21/91		TYPE	HA	—	D		LINE & STATION 202+43 Reidville Dr
OUND WATER OBSERVATIONS		SIZE I.D.	2¼	2½"	1-3/8"		OFFSET 9 L
one FT. AFTER 0 HRS.		HAMMER WT.			140	BIT	N. COORDINATE 257,253
FT. AFTER HRS.		HAMMER FALL			30"		E. COORDINATE 529,026

SING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	.3'-1.0'	1	9	9	D	10	100/3"		.3'	3" Blacktop
	3.0'-5.0'	2	24	18	D	25 74	83	78	3.0'	1) Tan fine-medium SAND, some fine-coarse gravel, trace silt. Dry/Very Dense Note: Augered through small boulders and cobbles from 1'-3'. -FILL-
	5.0'-7.0'	3	24	19	D	36 70	58	59		
	7.0'-9.0'	4	24	18	D	67 45	70	90		2) Brown fine-coarse SAND and fine-coarse GRAVEL, little silt.
	10.0'-12.0'	5	24	16	D	16 15	12	16	10.0'	3) Brown fine-coarse SAND, little fine-medium gravel, little silt. Dry Very Dense 4) Gray fine-medium SAND and fine-coarse GRAVEL, trace silt. Dry/Very Dense
	15.0'-17.0'	6	24	18	D	9 11	15	14	17.0'	5) Brown-tan fine-coarse SAND, trace fine gravel, little silt. Dry/Medium-Dense 6) Tan-gray fine-medium SAND, some silt, trace fine gravel. Moist/Medium END OF BORING 17.0' Soil

GROUND SURFACE TO FEET USED INCH CASING THEN INCH CASING FOR FEET

AGE IN EARTH 17' FOOTAGE IN ROCK 0 NO. OF SAMPLES 6 HOLE NO. B-14

E TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

ORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Erik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

CATION

			AUGER	CASING	SAMPLER	CORE BAR	
FACE ELEV. 407.8							HOLE NO. B-15
E FINISHED 9/30/91		TYPE	HA	--	D		LINE & STATION 304+87 H.F. Road
GROUND WATER OBSERVATIONS		SIZE I.D.	3 3/4"		1-3/8"		OFFSET 35 R
None FT. AFTER 0 HRS.		HAMMER WT.			140	BIT	N. COORDINATE 257,211
FT. AFTER HRS.		HAMMER FALL			30"		E. COORDINATE 528,719

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	.5'-2.5'	1	24	16	D	14	9	16	27 .3'	4" Blacktop
	2.5'-4.5'	2	24	12	D	18	9	13		1) Brown-orange fine-coarse SAND and fine-medium GRAVEL, little silt, trace coarse gravel, blacktop. -FILL- Dry/Medium-Dense
						18				
	5.0'-7.0'	3	24	12	D	37	15	18	5.0'	
						19				
									7.0'	2) Tan-orange fine-coarse SAND, some fine-medium gravel, trace silt, trace coarse gravel. Dry/Medium-Dense
									9.0'	
	10.0'-12.0'	4	24	16	D	28	45	33		3) Tan-brown fine-medium SAND, little silt, little coarse SAND, trace fine gravel.
						32				
	14.0'-16.5'	5	19	16	D	16	18	63	100/1"	4) Gray-brown fine-coarse GRAVEL and fine-coarse SAND, little silt. Dry/ Very Dense.
						100/1"			15.0'	
										Note: Augered through boulders and cobbles from 7'-9'
	20.0'-22.0'	6	24	18	D	7	19	21		5) Tan-brown fine-coarse SAND, trace silt, trace fine gravel. Dry/Very Dense
						16				
5									25.0'	6) Tan-brown fine-coarse SAND, trace silt, trace fine gravel. Dry/Dense
										Augered to 25.0'
										END OF BORING 25.0' Soil

OM GROUND SURFACE TO 25.0 FEET USED 3 3/4" INCH CASING THEN - INCH CASING FOR - FEET

OTAGE IN EARTH 25.0' FOOTAGE IN ROCK 0 NO. OF SAMPLES 6 HOLE NO. B-15

PLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

OPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

Erik DelPriore BORING CREW LEADER	FORM SM-1 REV. 8/83 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS BORING REPORT	SHEET 1 OF 1
Sheila Gleason INSPECTOR	TOWN Waterbury	LOCATION See Figure 2
		General Borings, Inc. BORING CONTRACTOR
Haley & Aldrich, Inc. SOILS ENGINEER	PROJECT NAME Relocation I-84 Exit Ramp PROJECT NO. 151-207	A-N Consulting Engineers DESIGN ENGINEER

LOCATION

FACE ELEV. 408.0		AUGER	CASING	SAMPLER	CORE BAR	HOLE NO. B-16,16A	
E FINISHED 9/30/91	TYPE	HA		D		LINE & STATION 303+93 H.F. Road	
GROUND WATER OBSERVATIONS	SIZE I.D.	3 3/4"		1-3/8"		OFFSET 32 R	
None FT. AFTER 0 HRS.	HAMMER WT.			140	BIT	N. COORDINATE 257,160	
FT. AFTER HRS.	HAMMER FALL			30"		E. COORDINATE 528,630	

CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	0'-2.0'	1	24	8	D	2	3	2	.5'	6" Topsoil
						2				1) Brown fine-medium SAND, some silt, trace vegetation. Dry/Loose.
	5.0'-5.8'	2	9	8	D	28	100/	3"	5.5'	2) Tan-brown fine-coarse SAND, some silt, trace fine gravel. Moist/ Very Dense PROBABLE FILL
	10.0'-12.0'	3	24	10	D	10	11	9		3) Tan fine-medium SAND, little silt. Dry/Medium-Dense Note: Auger refused at 5.0' Moved hole 5.0' Northeast.
						16				
	13.0'-15.0'	4	24	4	D	11	17	18	15.0'	4) (same as S-3) Dry/Dense
						20				END OF BORING 15.0' Soil

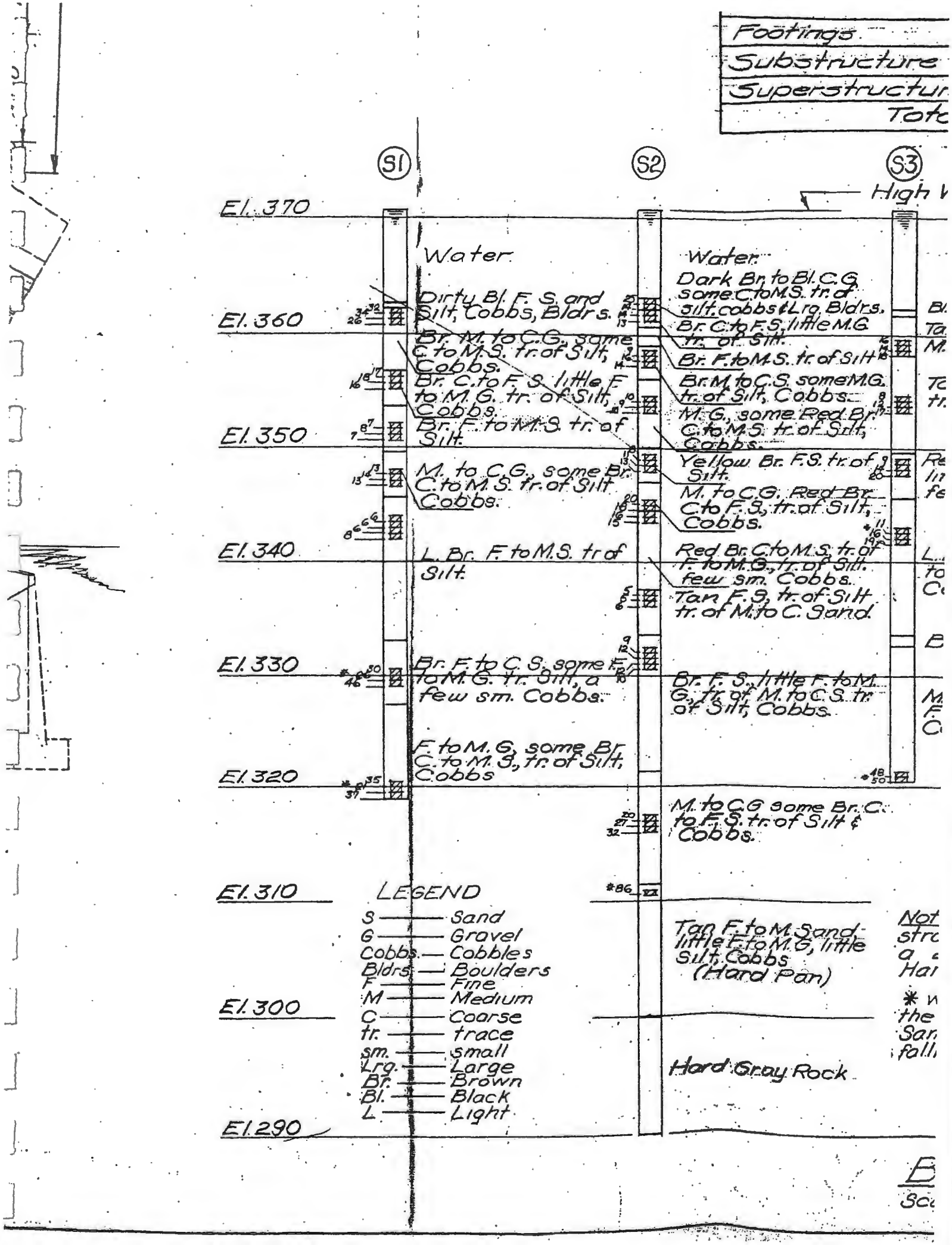
FROM GROUND SURFACE TO 13.0 FEET USED 3 3/4 INCH CASING THEN -- INCH CASING FOR -- FEET

FOOTAGE IN EARTH 20.0' FOOTAGE IN ROCK 0 NO. OF SAMPLES 4 HOLE NO. B-16,16A

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

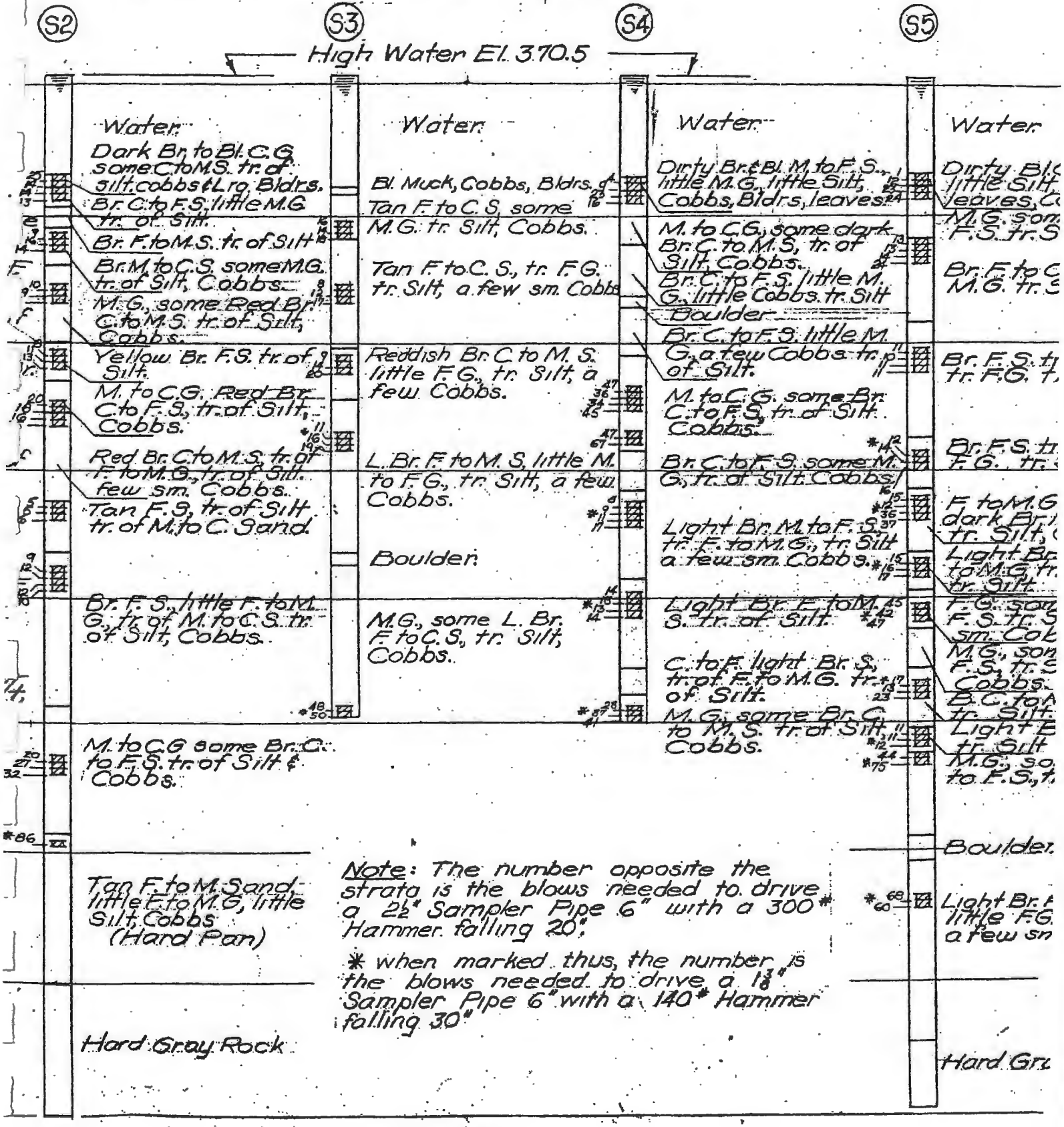
PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

I-84 BRIDGE OVER SCOVILL POND
(APPROX. PROJECT STA. EB 2+460)


Footings
Substructure
Superstructur
Tot
S1
S2
S3
High
El. 370
El. 360
El. 350
El. 340
El. 330
El. 320
El. 310
El. 300
El. 290
Water
Dirty Bl. F. S. and Silt, Cobbs, Bldrs.
Br. M. to C.G. some C. to M.S. tr. of Silt, Cobbs.
Br. C. to F.S. little F. to M.G. tr. of Silt, Cobbs.
Br. F. to M.S. tr. of Silt.
M. to C.G. some Br. C. to M.S. tr. of Silt Cobbs.
L. Br. F. to M.S. tr of Silt.
Br. F. to C.S. some F. to M.G. tr. Silt, a few sm. Cobbs.
F. to M.G. some Br. C. to M.S. tr. of Silt, Cobbs
Water
Dark Br. to Bl. C.G. some C. to M.S. tr. of silt, cobbs & Lrg. Bldrs.
Br. C. to F.S. little M.G. tr. of Silt.
Br. F. to M.S. tr. of Silt
Br. M. to C.S. some M.G. tr. of Silt, Cobbs.
M.G., some Red Br. C. to M.S. tr. of Silt, Cobbs.
Yellow Br. F.S. tr. of Silt.
M. to C.G. Red Br. C. to F.S. tr. of Silt, Cobbs.
Red Br. C. to M.S. tr. of F. to M.G., tr. of Silt. few sm. Cobbs.
Tan F.S. tr. of Silt tr. of M. to C. Sand.
Br. F.S. little F. to M.G., tr. of M. to C.S. tr. of Silt, Cobbs.
M. to C.G some Br. C. to F.S. tr. of Silt & Cobbs.
Tan F. to M. Sand little F. to M.G. little Silt, Cobbs (Hard Pan)
Hard Gray Rock
LEGEND
S — Sand
G — Gravel
Cobbs. — Cobbles
Bldrs. — Boulders
F — Fine
M — Medium
C — Coarse
tr. — trace
sm. — small
Lrg. — Large
Br. — Brown
Bl. — Black
L — Light

Footings	372	CY
Substructure	549	CY
Superstructure	154	CY
Total	1075	CY

Struct



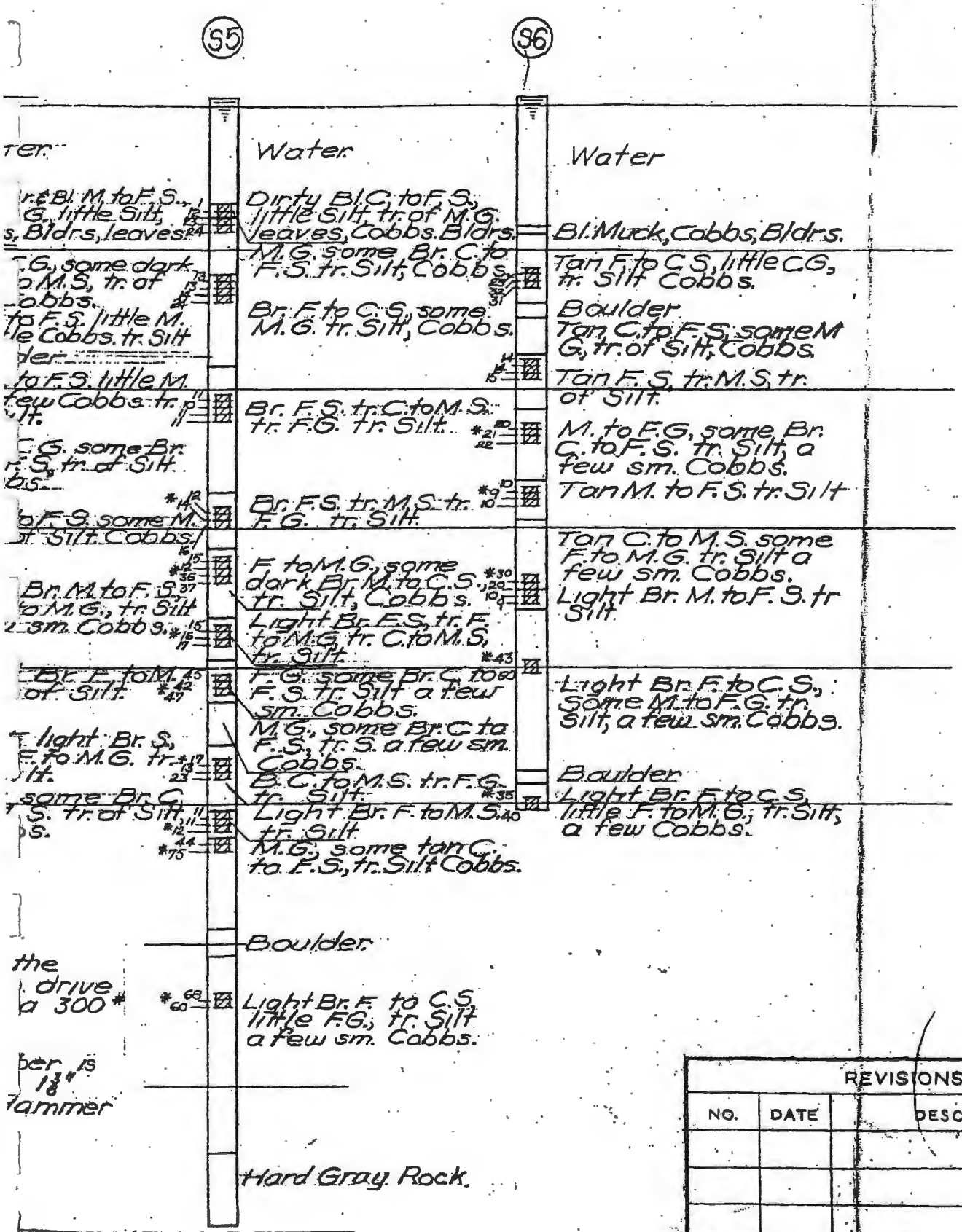
Note: The number opposite the strata is the blows needed to drive a 2½" Sampler Pipe 6" with a 300# Hammer falling 20".

* when marked thus, the number is the blows needed to drive a 1⅜" Sampler Pipe 6" with a 140# Hammer falling 30"

BORINGS

Scale: 1" = 10'-0"

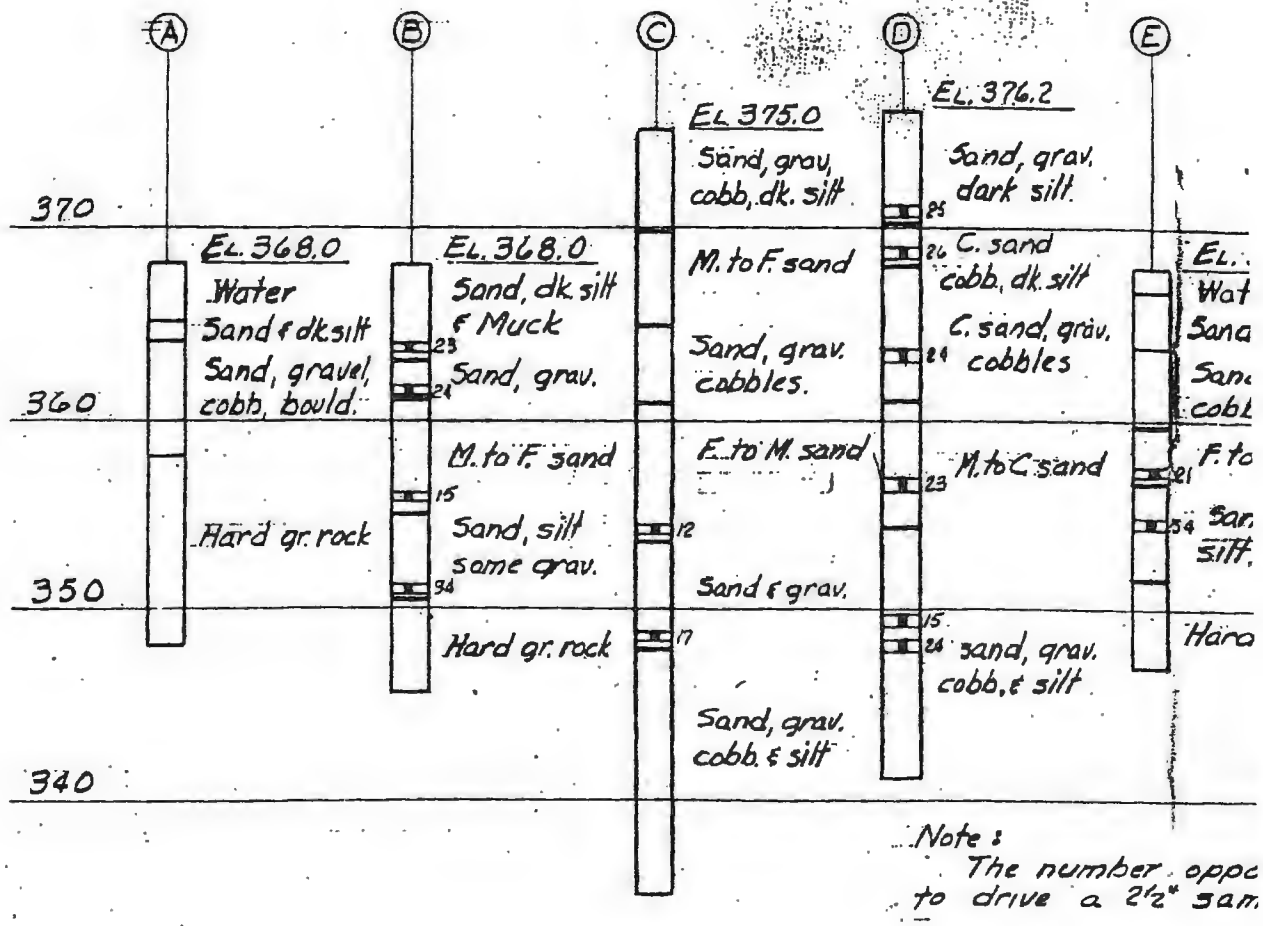
See Special Provisions.
Structural Steel shall conform to the requirements for Bearing Plates.



REVISIONS		
NO.	DATE	DESCRIPTION

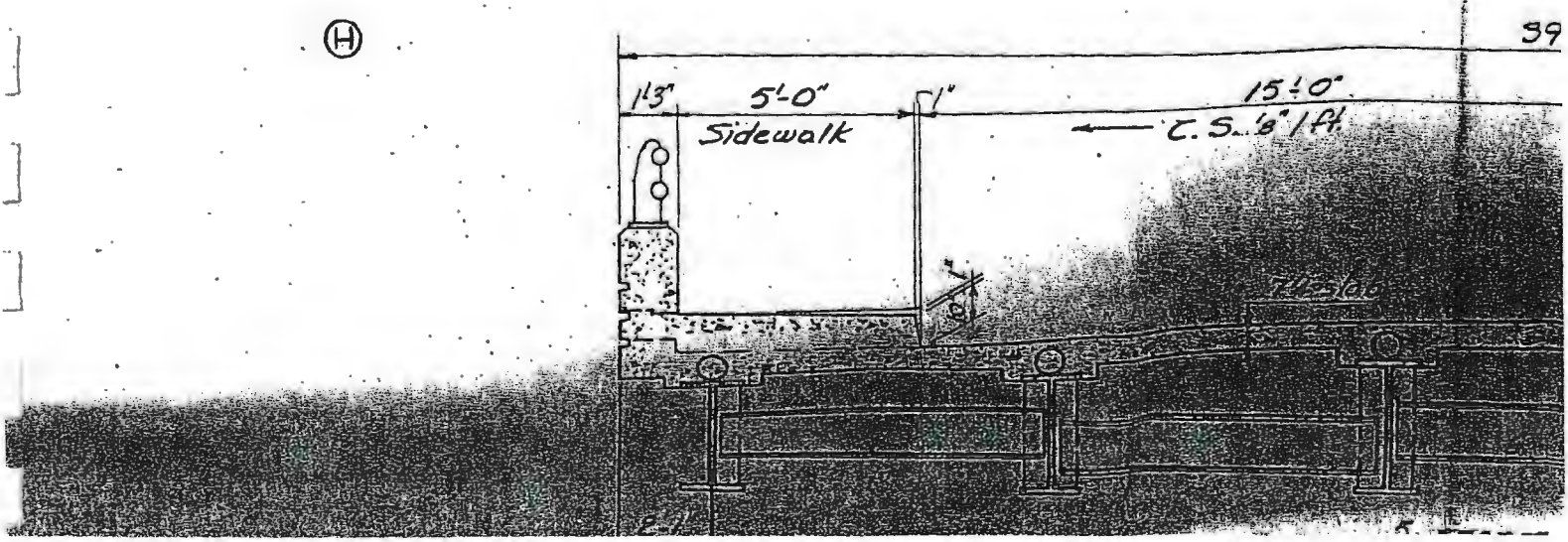
WATERBURY EXPRESSWAY UNDER HARPERS FERRY ROAD
(APPROX. PROJECT STA. EB 2+540)

PUB. RC
DIV. N
1

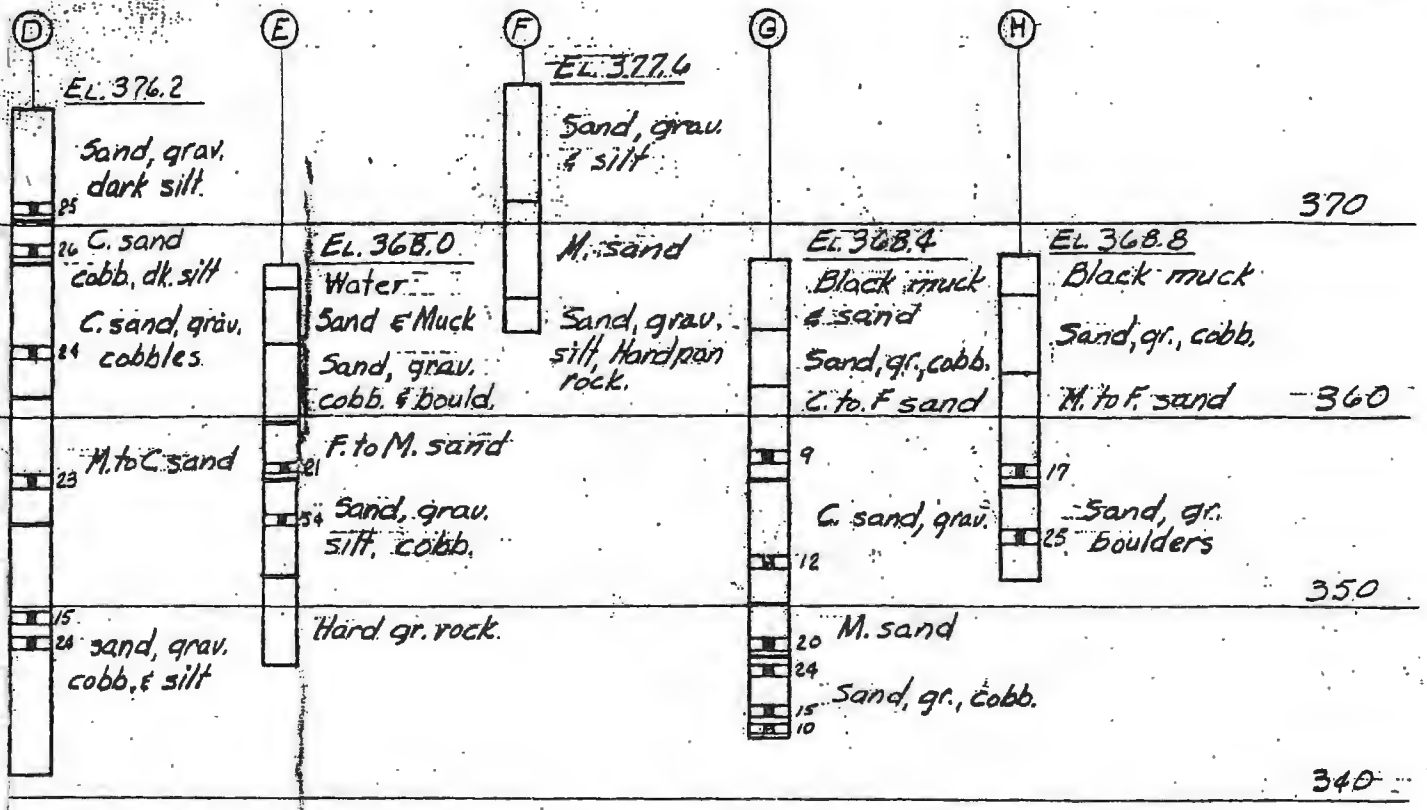


utter
1. 393.47

BORINGS

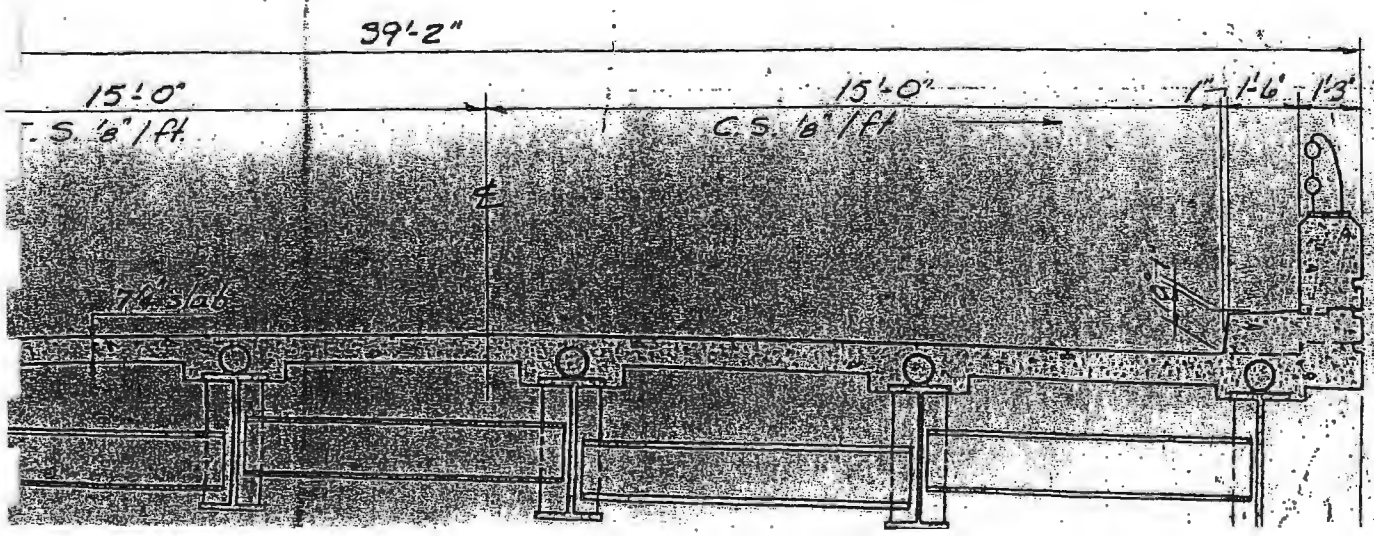


PUB. ROAD DIV. NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.
1	CONN.	Waterbury	I-138(9)	182-20	1958		46

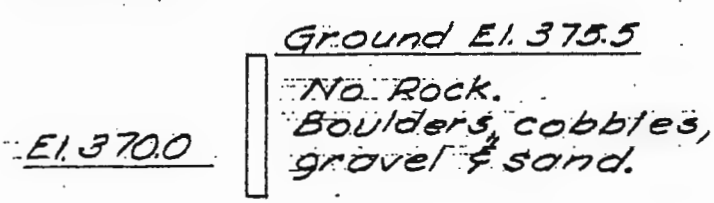


Note:
The number opposite the strata indicates the number of blows needed to drive a 2½" sampler pipe 1'-0" with a 300 lb. hammer falling 2'-0".

BORINGS

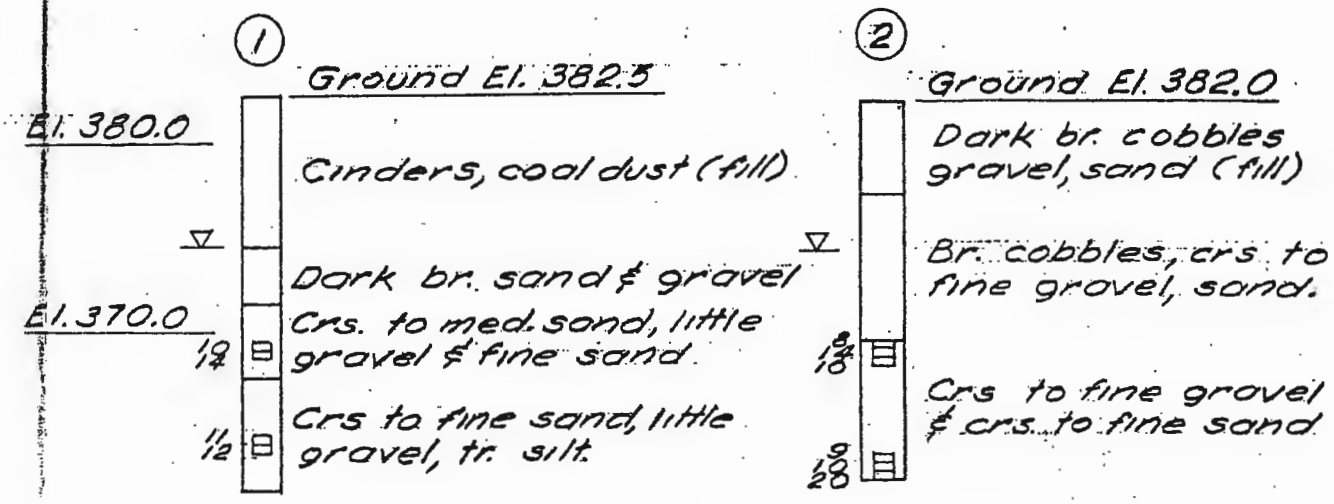


RELOCATION OF ROUTE U.S. 6 OVER BEAVER POND BROOK
(APPROX. PROJECT STA. EB 2+720)



SIONS SUBMITTED THIS SHEET

BAR SOUNDING



estimated Bridge

10 a indicates the number of blows required to drive a 2½" sampler pipe 6" with a 300# hammer falling 20"

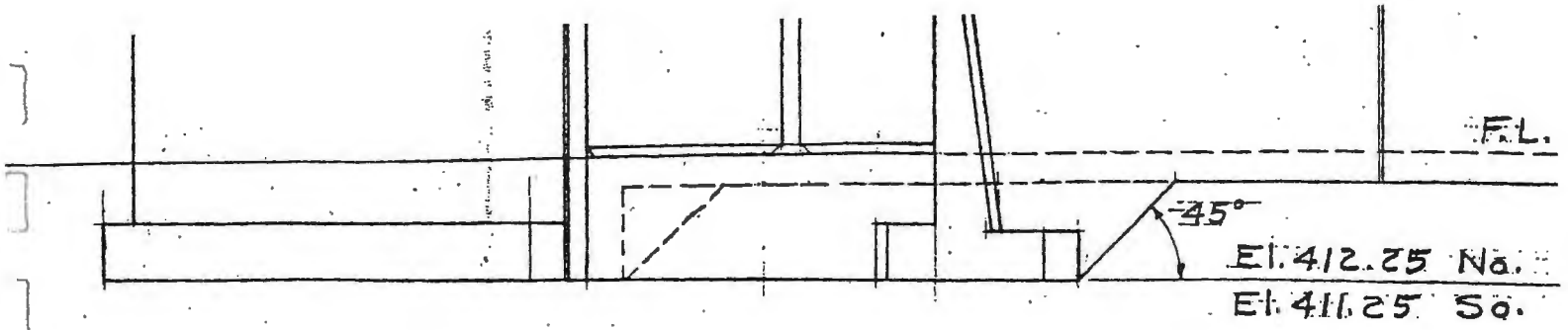
BORINGS

QUANTITIES		
Structure Excavation (Comp.)	c.y.	2 100
Class "A" Concrete	c.y.	620
½" Prem. Bit. Jt. Filler for Bridges	s.f.	400
Deformed Steel Bars	lb.	91,000
Dampproofing	s.y.	860
Pervious Structure Backfill	c.y.	1120
Riprap	Ton	80

El. 385.0

CONCRETE DISTRIBUTION		
Substructure	[illegible]	c.y.
Footing	[illegible]	c.y.

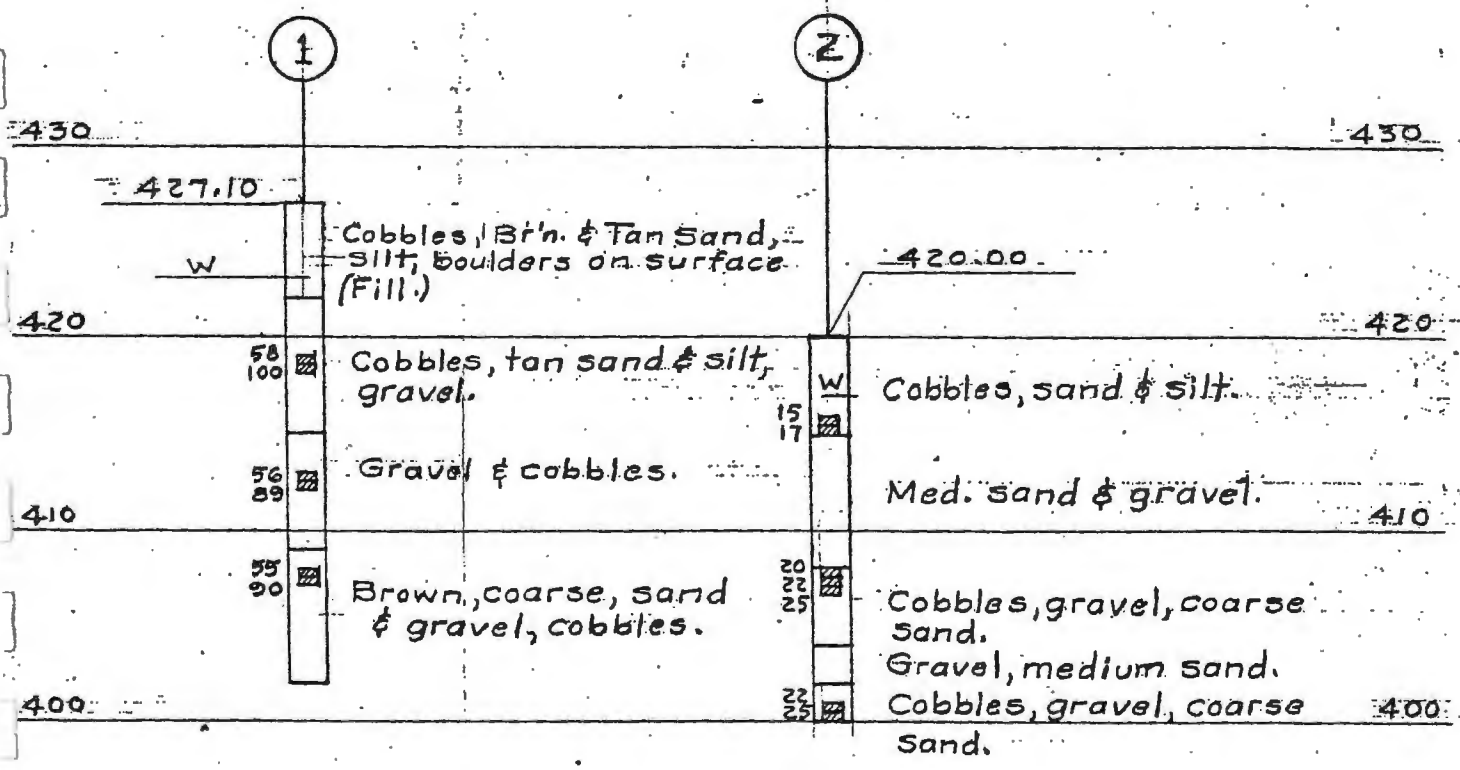
WATERBURY EXPRESSWAY OVER BEAVER POND BROOK
(APPROX. PROJECT STA. EB 3+400)



HALF ELE

SCALE 1/8" =

BORINGS

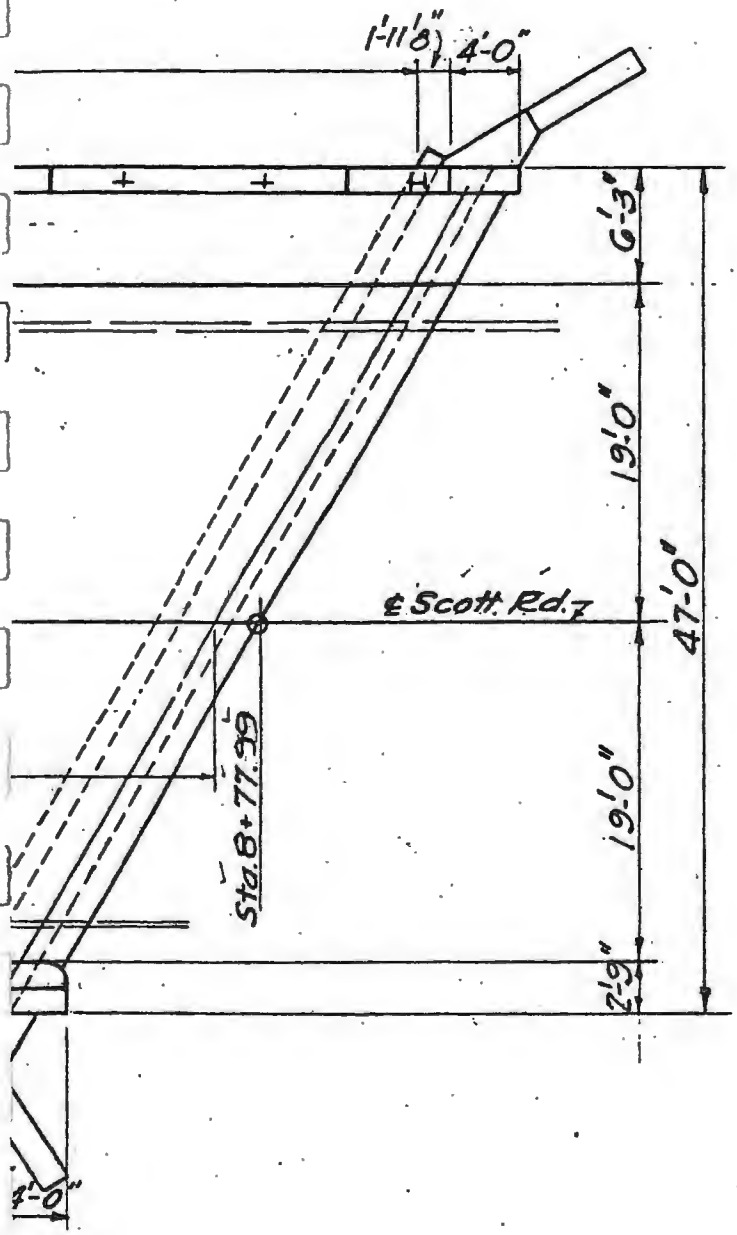


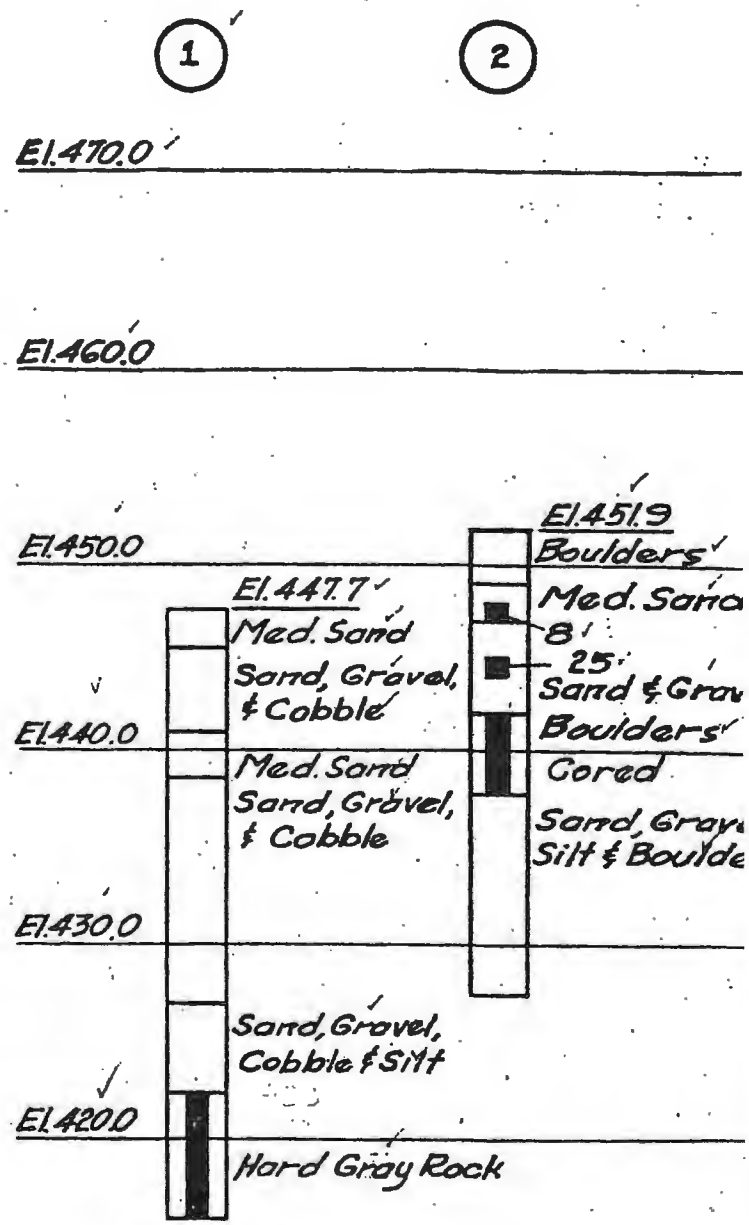
The number opposite the symbol (▨) indicates the number of blows on a 2½" Sampler Pipe by a 300# hammer falling an average of 1'-8" for a penetration of 6".

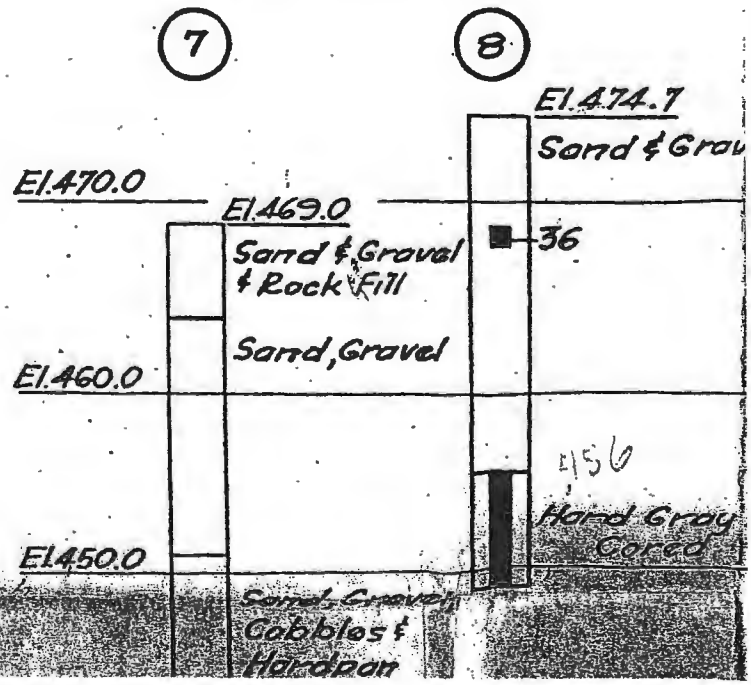
[redacted]

SCOTT ROAD OVER WATERBURY EXPRESSWAY
(APPROX. PROJECT STA. EB 3+880)

SUBMITTED SHEET #1

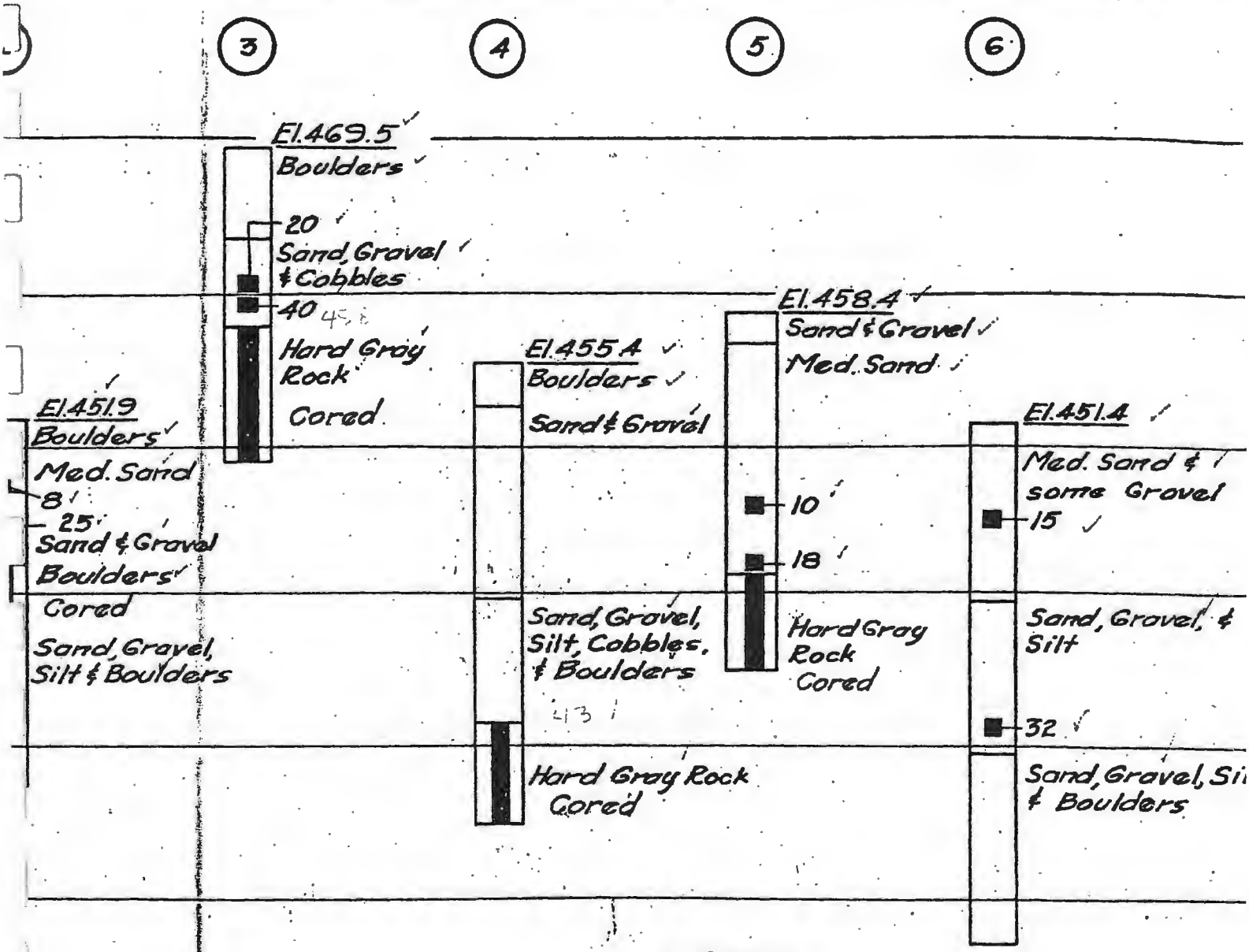






FORM NO. ENG. 15 B

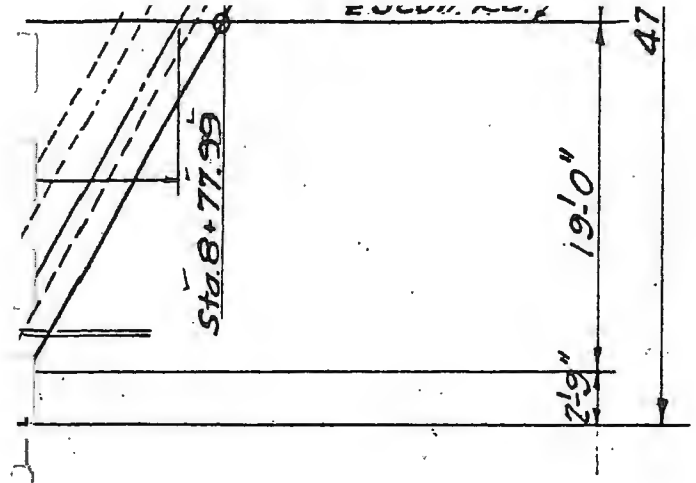
FED. ROAD DIV. NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJECT NO.	YEAR	ROUTE NO.	SHEET NO.
1	CONN.	WATERBURY	I-138(9)	182-20	1958		53

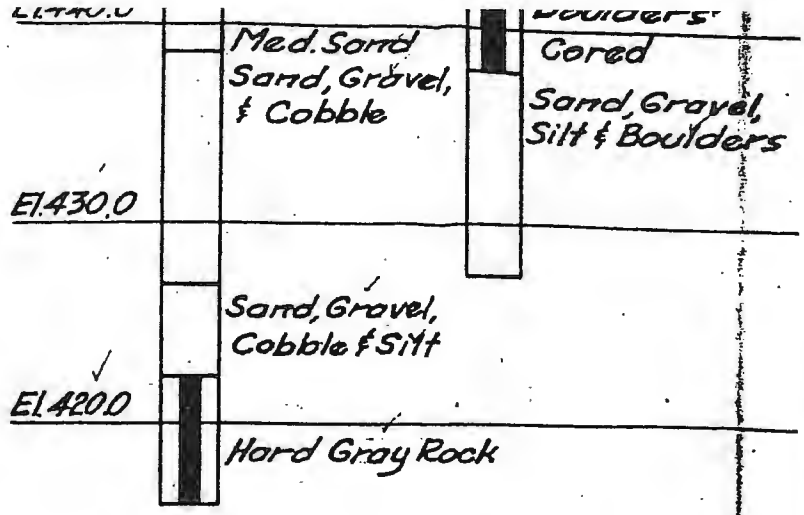


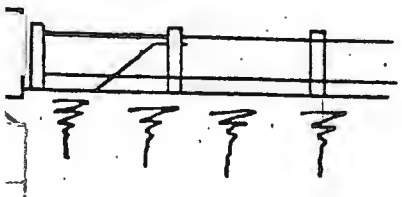
NOTES

Specifications: Conn. State Hwy. Dept. Form 808 Jan. 195
Design Specifications: (See below) and Special Provision
Designed for H20-S16-44 Loading.
Class "A" Concrete to be used thruout except for Class
Concrete used in Cast-in-Place Concrete Piles. See Specia
Provisions.
All corners or exposed edges of concrete to be beveled
1" x 1" unless otherwise dimensioned.
Exposed surfaces of steel including Metal Bridge Rail
to be painted one shop coat and first field coat of Red Lead
Ready-Mixed Paint. No shop paint for contact or field welding or
surfaces in contact with concrete. Field paint to
be two additional coats of a color and shade as directed by
Engineer in the Field. See Special Provisions
Item of Structure Excavation (Complete) is computed from groun
conditions after normal roadway grading has been
made
Composite Construction. No temporary intermediate supports shall be u
during construction

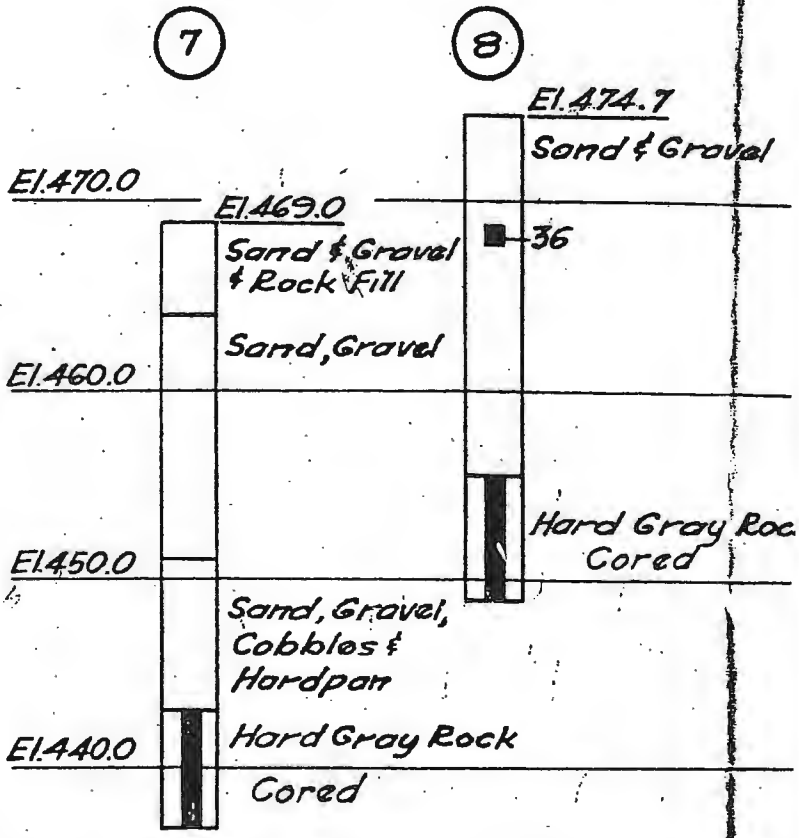
El.474.7
Sand & Gravel
36
Hard Gray Rock
Cored







El. 456.5



Note: No. of blows required to drive a 2'
pipe 12" using a 300# hammer fallin

BORINGS

driven to Elev 436,
whatever greater
ecessary to develop
stance

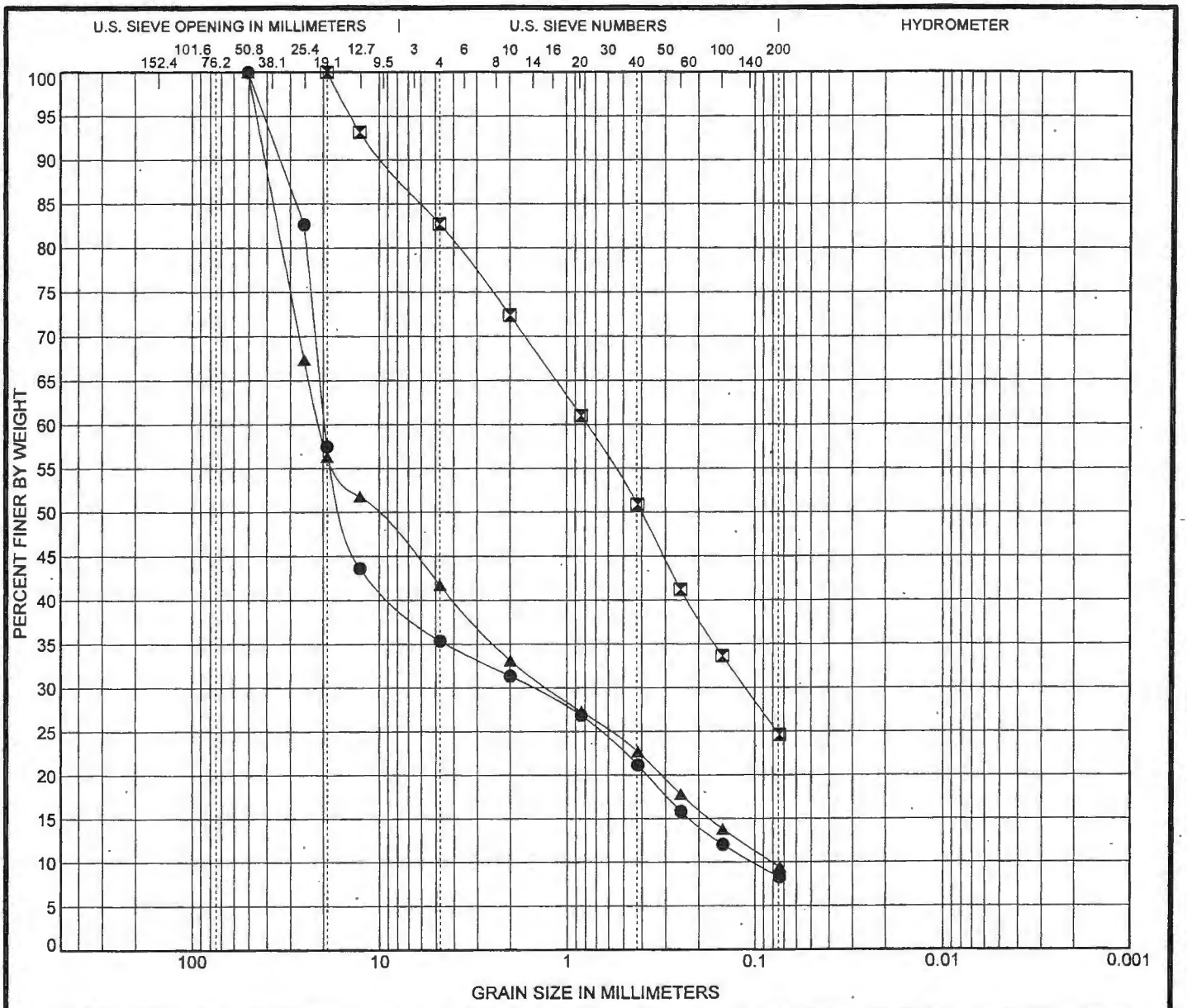
QUANTITIES

~~Structure Excavation (Complete)~~	~~[illegible]~~
Pile Loading Test	one
Cast-in-Place Conc. Piles	680
Structure Excavation (Complete)	750
Test Pile (Cast in Pl. Concr.) 50' Lgth.	one
Class "A" Concrete	599
½" Premld. Bit. Jt. Filler for Bridges	80
Deformed Steel Bars	90030
* Alt. "A" Spiral Shear Connector Bars	3935
Structural Steel	298000

Waterbury Expressway

APPENDIX F

Laboratory Test Results



	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	17.3	41.5	9.8	10.2	12.9	8.3	
⊠	0.0	0.0	9.9	17.7	21.5	26.3	24.6	
▲	0.0	32.6	18.5	15.7	10.5	13.2	9.5	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S1 3-1	D2	1.52-2.13				5.0	1.19	192.62
⊠	S1 3-5	D1	0-0.61				17.1		
▲	S1 3-7	D2	3.05-3.66				4.4	0.93	260.05

Sample Description

●	Coarse to fine GRAVEL, some coarse to fine sand, trace silt - GLACIOFLUVIAL
⊠	Coarse to fine SAND, some silt, little fine gravel - FILL
▲	Coarse to fine GRAVEL, some coarse to fine sand, trace silt - GLACIOFLUVIAL

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

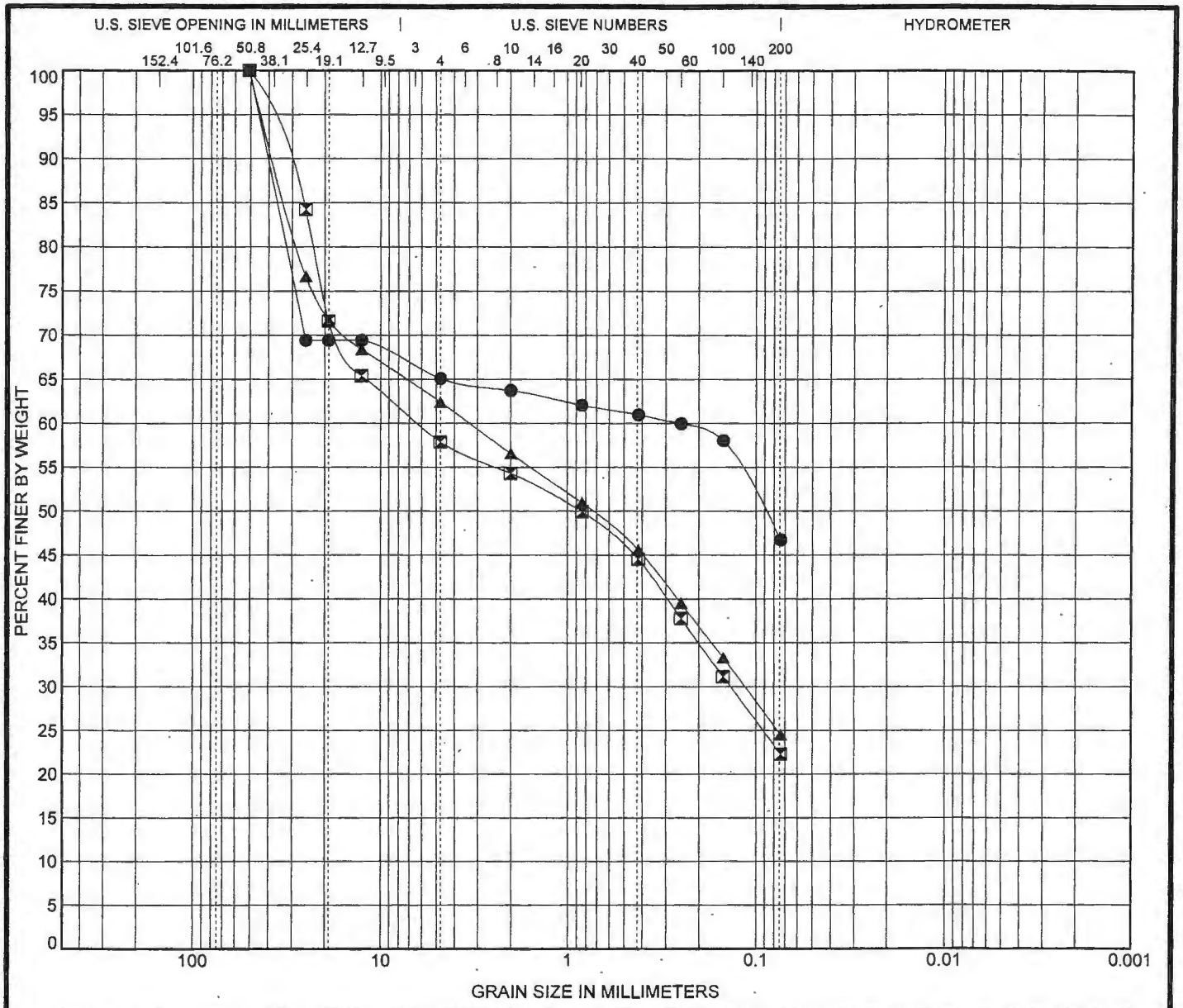
U.S. Interstate Route 84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

GRAIN SIZE DISTRIBUTION

Date: 4/16/2001

File No.: 91313-100

CONN DOT SIEVE 91313SA.GPJ US_LAB.GDT 3/6/02



	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	30.6	1.3	4.4	2.8	14.3	46.7	
⊠	0.0	15.8	21.1	8.9	9.7	22.2	22.3	
▲	0.0	23.3	10.0	10.1	11.0	21.1	24.5	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S2-1	D3	3.05-3.66				18.8		
⊠	S2-1	D5	6.1-6.71				7.6		
▲	S2-4	D5	6.1-6.71				8.7		

Sample Description

●	Light brown SILT and GRAVEL, little coarse to fine sand - FILL
⊠	Light brown coarse to fine GRAVEL, some coarse to fine sand, some silt - GLACIAL TILL
▲	Light brown coarse to fine GRAVEL, some coarse to fine sand, some silt - GLACIAL TILL

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

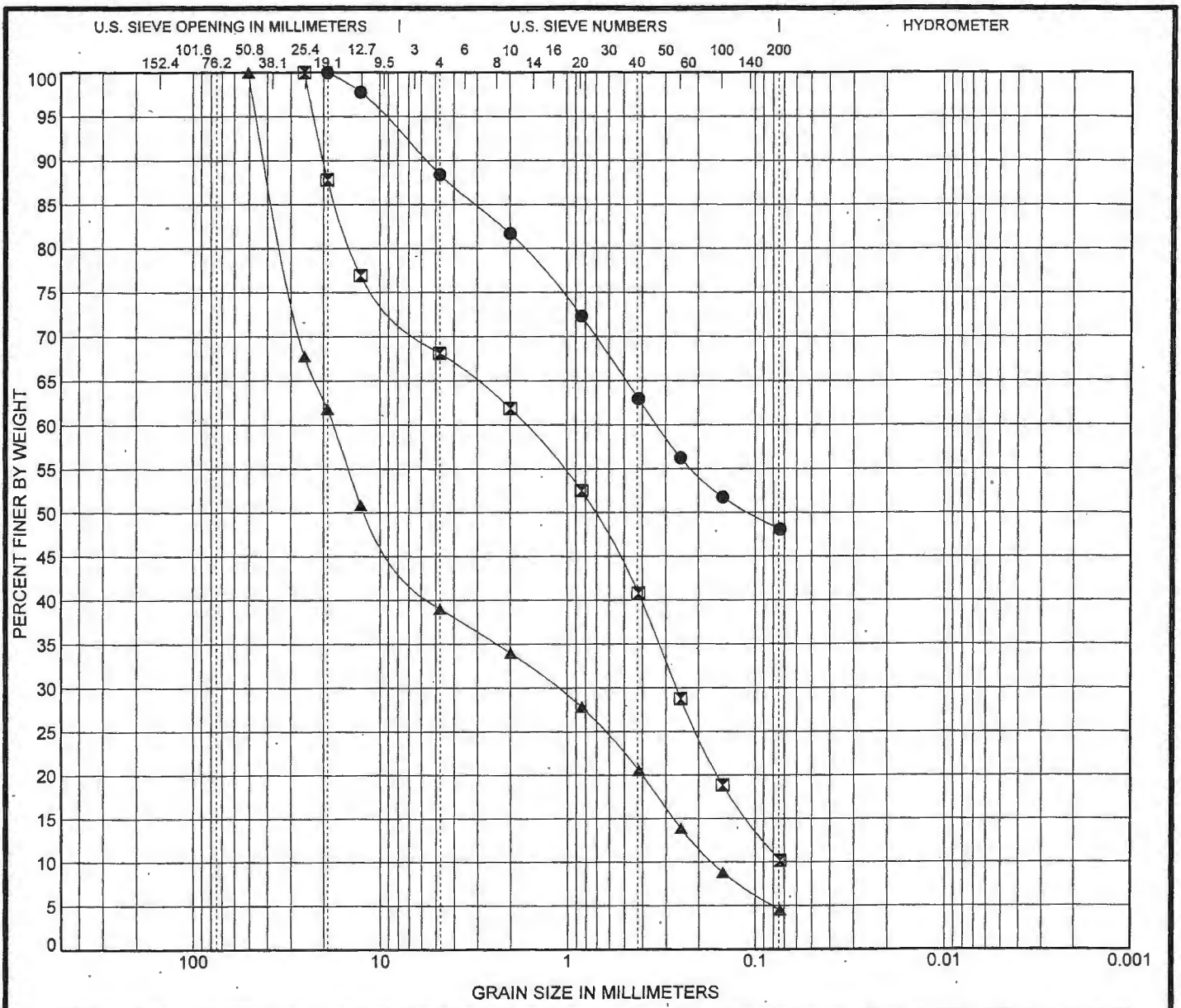
I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

GRAIN SIZE DISTRIBUTION

Date: 2/11/2002

File No.: 91313-100

CONN DOT SIEVE 91313S.GPJ US LAB.GDT 3/6/02



	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	5.0	13.3	18.7	14.9	48.1	
⊠	0.0	0.0	25.7	12.4	21.1	30.6	10.2	
▲	0.0	32.2	20.4	13.4	13.4	16.0	4.5	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S4-2	D1	0.0-0.61				6.2		
⊠	S4-3	D1	0.0-0.61				6.3		
▲	S4-7	D2	1.52-2.13				4.9	0.44	106.24

	Sample Description
●	Coarse to fine SAND, some gravel, little silt - FILL
⊠	Coarse to fine SAND, little gravel, trace silt - FILL
▲	Coarse to fine GRAVEL, some sand, trace silt - FILL

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

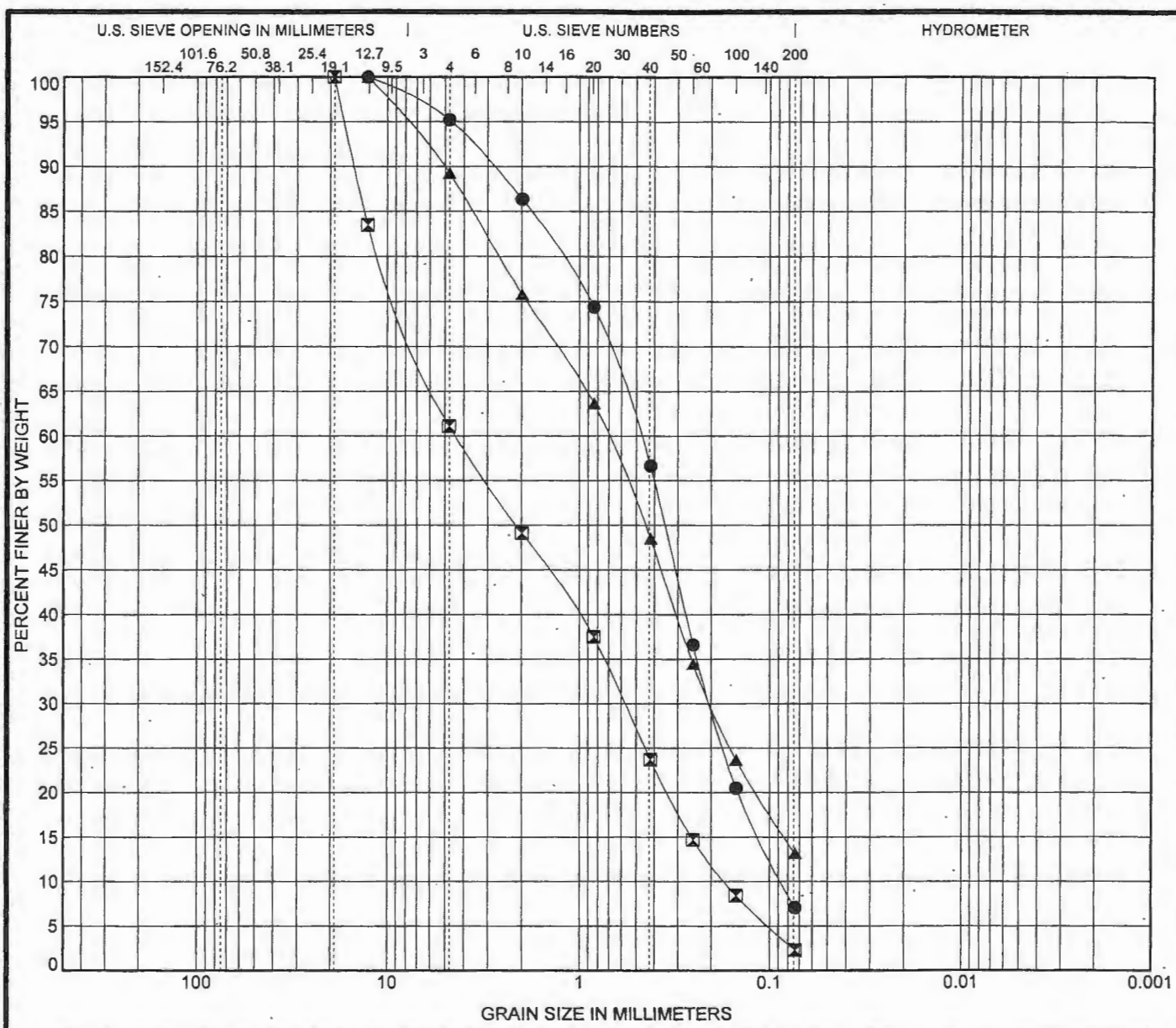
U.S. Interstate Route 84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

GRAIN SIZE DISTRIBUTION

Date: 4/16/2001

File No.: 91313-100

CONN DOT SIEVE 91313SA.GPJ US LAB.GDT 3/6/02



	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	1.4	12.2	29.7	49.5	7.1	
⊠	0.0	0.0	23.1	27.8	25.4	21.4	2.3	
▲	0.0	0.0	3.2	21.0	27.3	35.3	13.2	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S5-1	D1	0-0.61	NP	NP	NP	14.41	0.99	5.56
⊠	S5-2	D5	3.1 - 3.5	NP	NP	NP	12.34	0.45	25.94
▲	S5-3	D2	0.91-1.52	NP	NP	NP	18.82		

Sample Description

●	Red brown coarse to fine SAND, little fine gravel, trace silt - FILL
⊠	Gray brown medium to fine GRAVEL and coarse to fine SAND (GLACIOFLUVIAL)
▲	Brown coarse to fine SAND, some medium to fine Gravel, little silt - FILL

Remarks:

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U.S. Interstate Route 84 Reconstruction
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State Project No.: 151-273

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File No.: 91313-100

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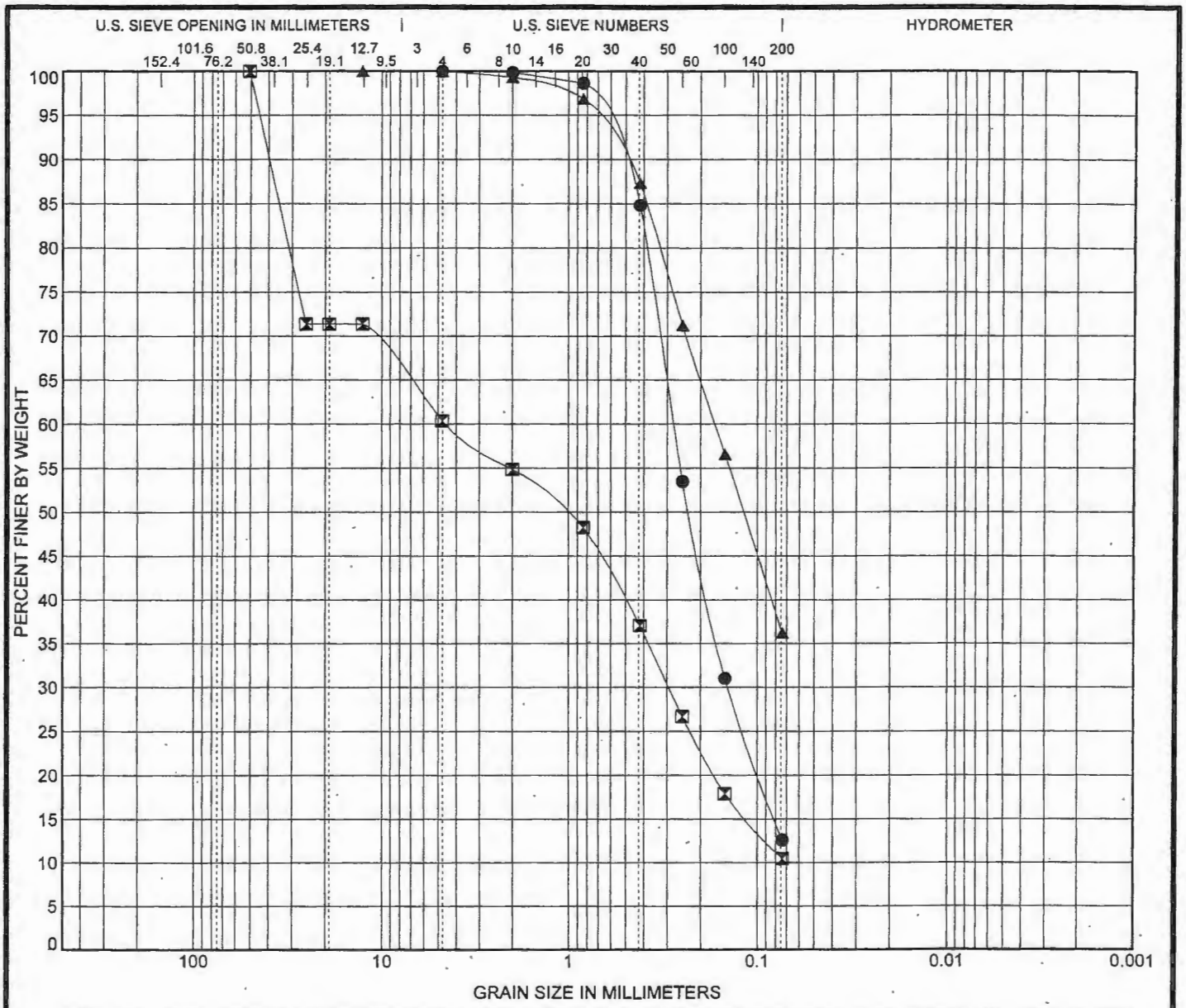

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	0.0	0.1	15.0	72.2	12.6	
⊠	0.0	28.6	3.3	13.3	17.8	26.6	10.5	
▲	0.0	0.0	0.0	0.7	11.9	51.1	36.2	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S6-2	D4	1.83-2.44				27.86		
⊠	S6-3	D4	1.52-2.13				14.62		
▲	S6-5	D3	1.22-1.83				38.17		

Sample Description

●	Brown coarse to fine SAND, little silt - FILL
⊠	Gray fine SAND, little gravel, trace silt - ALLUVIAL
▲	Gray coarse to fine SAND and SILT - GLACIOFLUVIAL DEPOSITS

Remarks:

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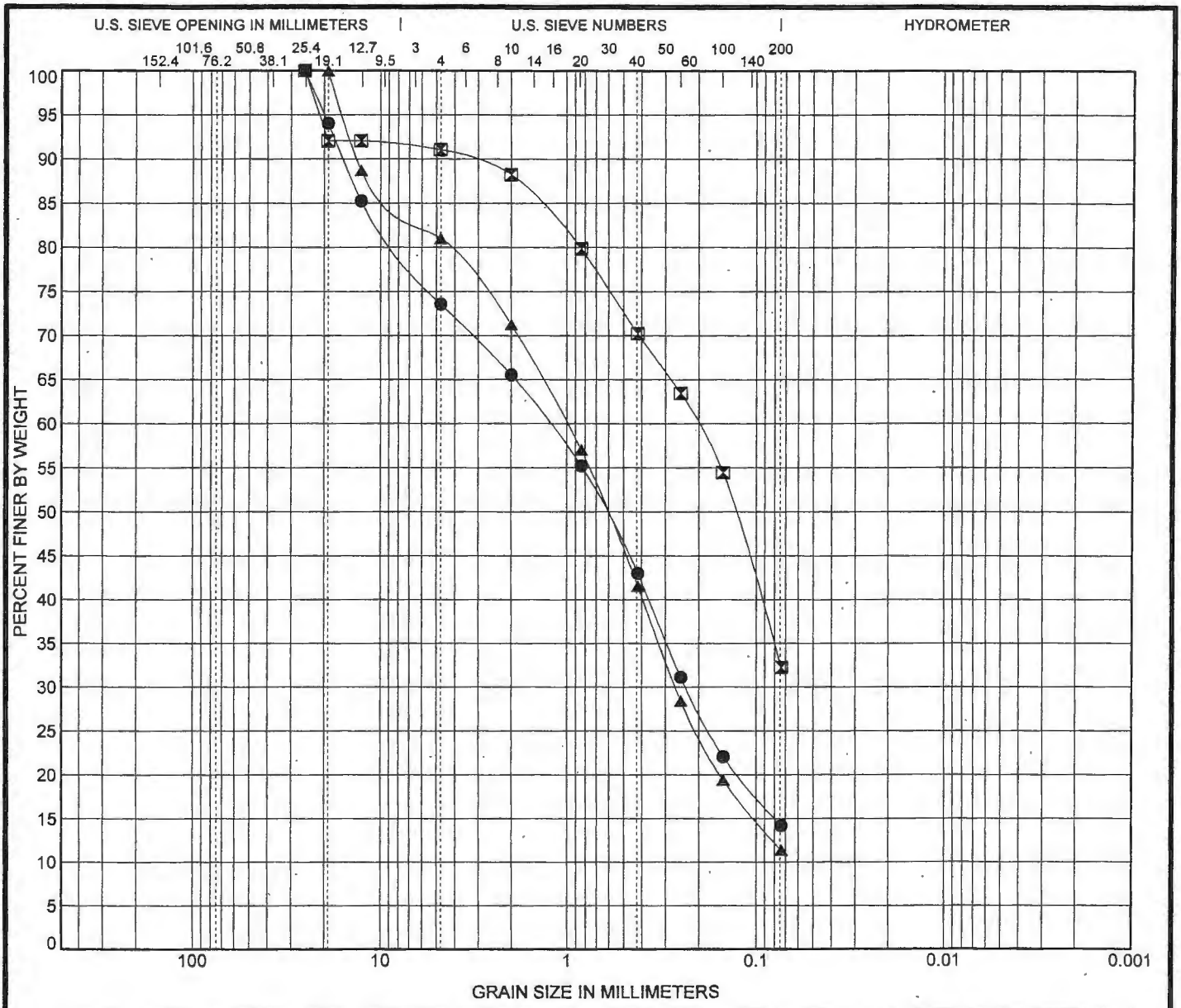

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	18.2	16.3	22.5	28.8	14.2	
⊠	0.0	0.0	8.2	3.5	18.0	38.0	32.2	
▲	0.0	0.0	13.6	15.2	29.7	30.2	11.4	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S7-1	D2	1.52-2.13				11.0		
⊠	S7-4	D3	3.05-3.66				17.3		
▲	S7-5	D3	3.05-3.66				6.5		

Sample Description

●	Coarse to fine SAND, some medium to fine gravel, little silt - FILL
⊠	Coarse to fine SAND, little silt, trace gravel - FILL
▲	Coarse to fine SAND, little gravel, little silt - GLACIAL TILL

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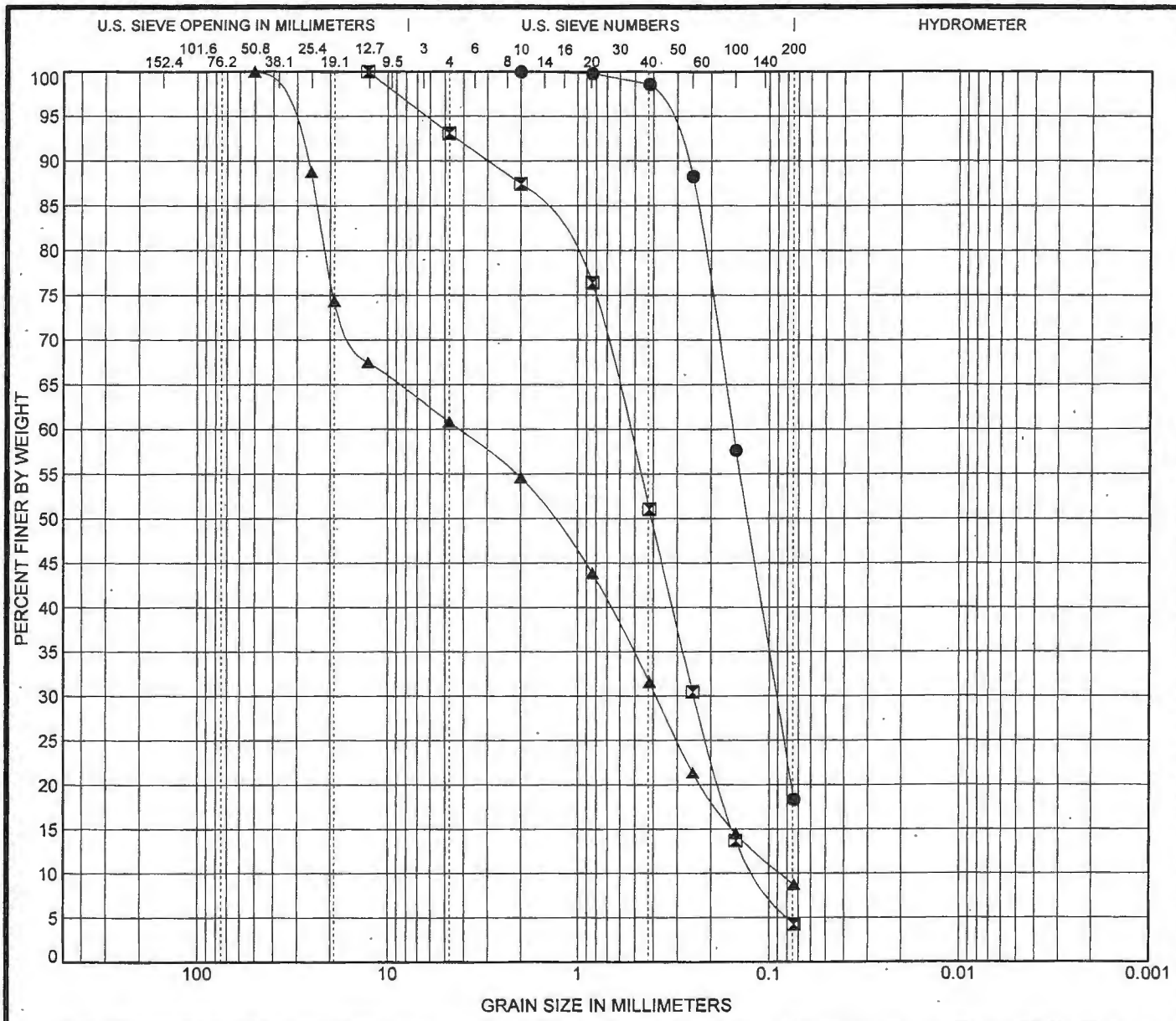

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	0.0	0.0	1.4	80.3	18.3	
⊠	0.0	0.0	2.0	10.5	36.4	46.8	4.3	
▲	0.0	11.2	23.3	10.9	23.1	22.8	8.8	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S7-3	D5	6.1				6.71		
⊠	S7-6	D6	7.62-8.23				17.7	1.00	4.74
▲	S8-1	D2	1.52-2.13				5.8	0.41	49.30

	Sample Description
●	Brown fine SAND, little silt
⊠	Brown coarse to fine SAND, trace fine gravel
▲	Coarse to fine SAND and GRAVEL, trace silt - FILL

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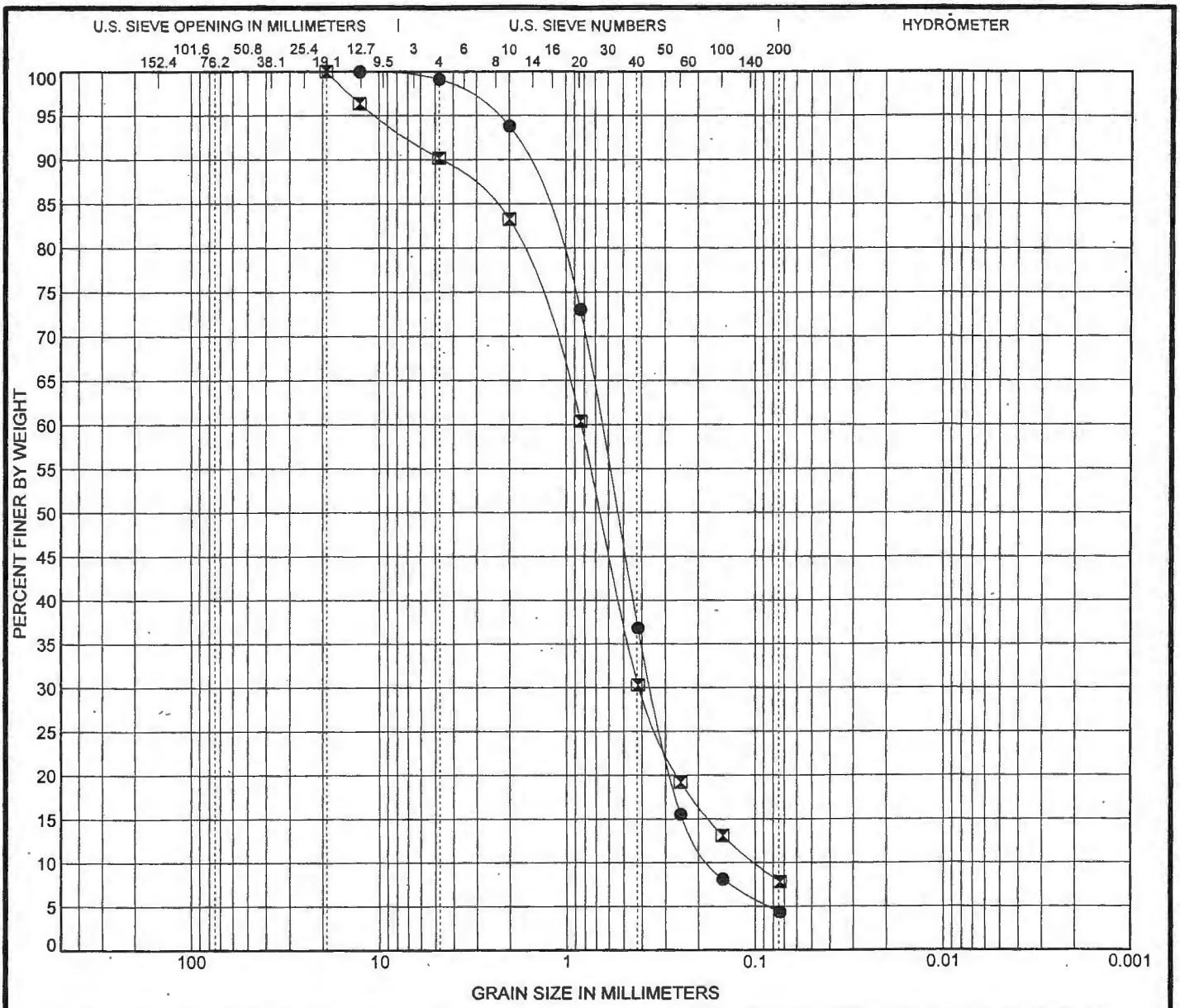

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	0.3	5.9	57.0	32.5	4.4	
⊠	0.0	0.0	5.5	11.3	53.0	22.5	7.8	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S8-2	D3	3.05-3.66				21	1.14	3.86
⊠	S8-4	D2	1.52-1.97				9.6	2.09	8.43

	Sample Description
●	Coarse to fine SAND, trace silt, trace gravel - GLACIOFLUVIAL
⊠	Coarse to fine SAND, trace gravel, trace silt - FILL

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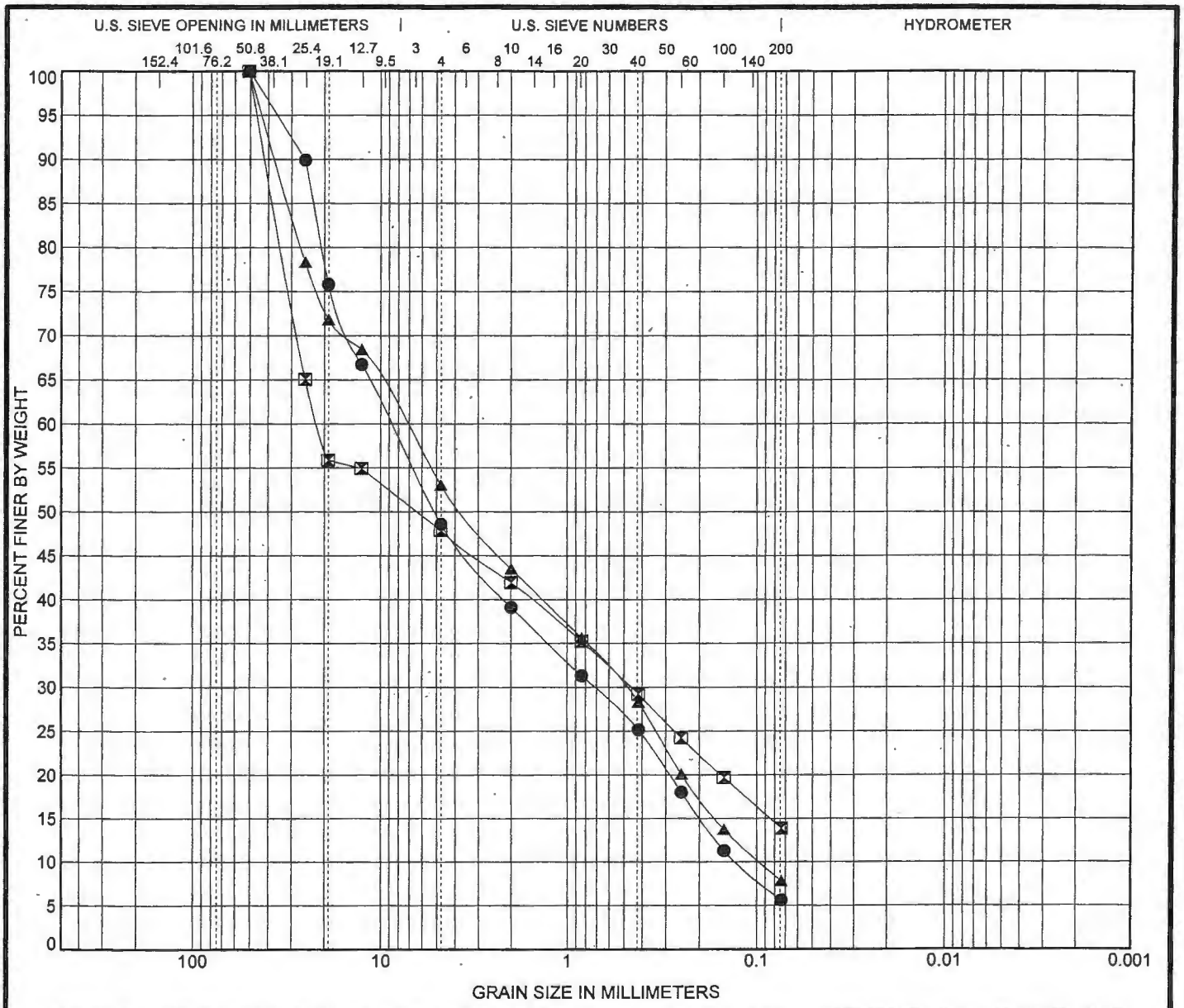

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	10.1	28.6	22.2	14.0	19.5	5.6	
⊠	0.0	35.0	12.2	10.9	12.7	15.4	13.9	
▲	0.0	21.7	14.5	20.4	15.2	20.5	7.9	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S9-2	D2	1.52-2.13				4.1	0.47	69.52
⊠	S9-3	D2	1.52-1.72				5.3		
▲	S9-4	D3	3.05-3.66				6.4	0.34	77.59

	Sample Description
●	Coarse to fine GRAVEL and SAND, trace silt - FILL
⊠	Coarse to fine GRAVEL, some medium to fine sand, little silt - FILL
▲	Coarse to fine SAND and GRAVEL, trace silt - GLACIOFLUVIAL

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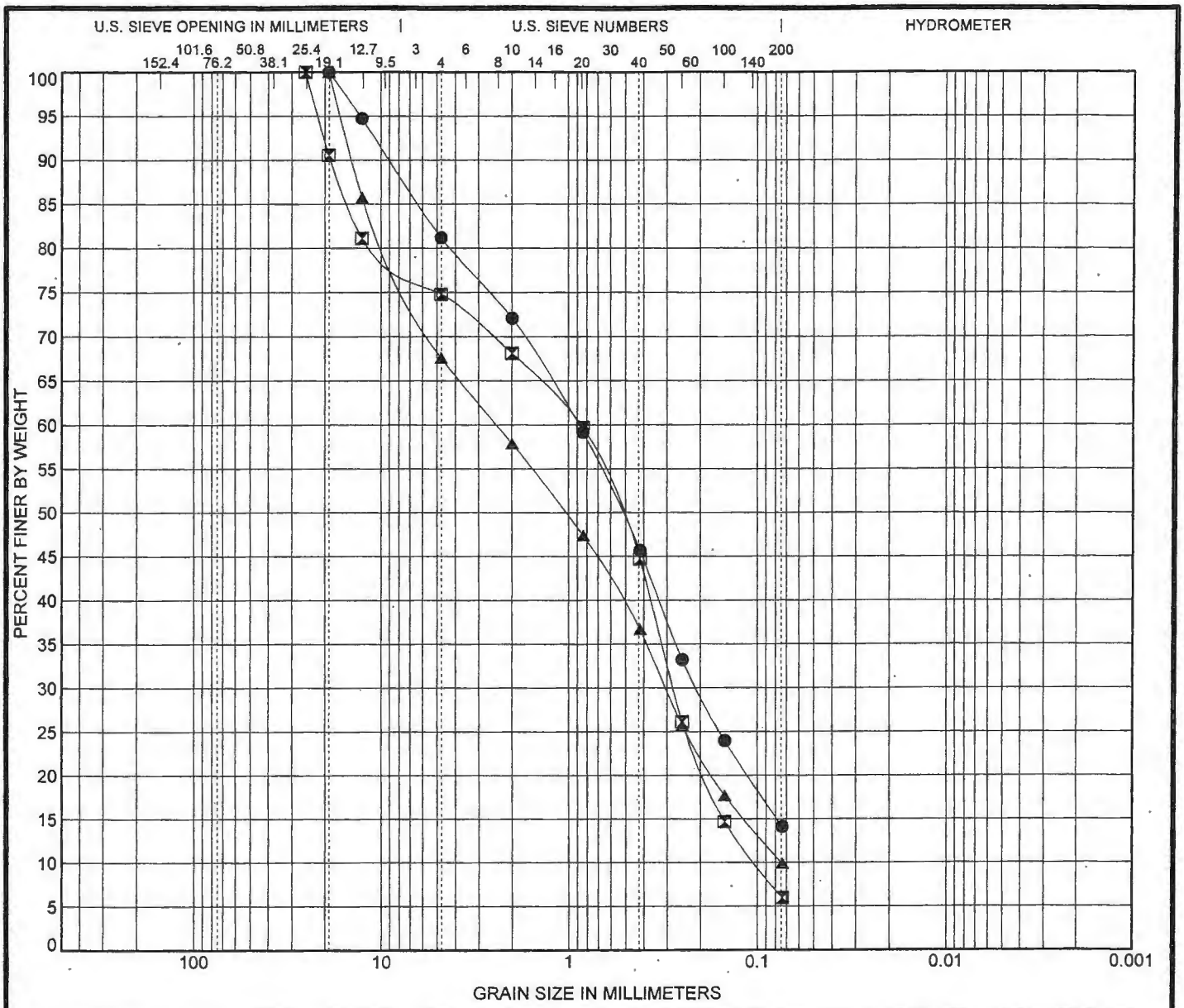

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	9.3	18.6	26.4	31.6	14.1	
⊠	0.0	0.0	20.8	11.1	23.4	38.7	6.0	
▲	0.0	0.0	19.6	22.5	21.2	26.8	9.9	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S10-2	D4	4.57-4.72				14.86		
⊠	S10-4	D1	0-0.6				9.61	0.88	8.45
▲	S10-4	D5	3.05-3.66				8.06	0.52	32.35

Sample Description

●	Grey-Brown, coarse to fine SAND, some medium to fine gravel, little silt (GLACIOFLUVIAL)
⊠	Medium Brown coarse to fine SAND, some medium to fine gravel, trace silt (FILL)
▲	Light Brown coarse to fine SAND and medium to fine GRAVEL, little silt (GLACIOFLUVIAL)

Remarks:

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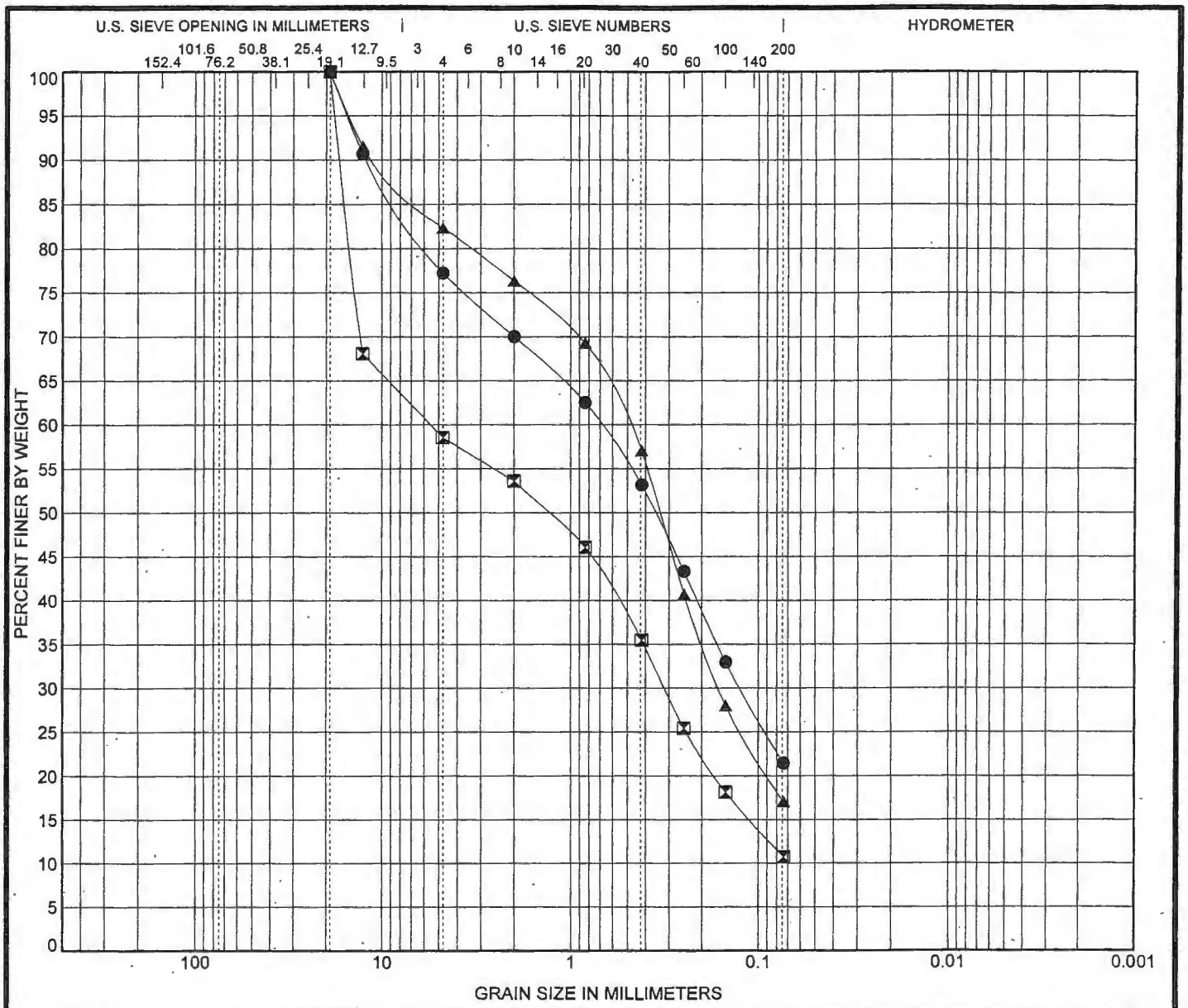

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	13.3	16.7	16.9	31.7	21.5	
⊠	0.0	0.0	34.7	11.7	18.1	24.7	10.7	
▲	0.0	0.0	11.2	12.5	19.3	40.0	17.1	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S101-2	D3	3.05-3.66				14.49		
⊠	S101-4	D4	1.52-2.13				9.21		
▲	S102-1	D5	3.66-4.27				10.50		

Sample Description

●	Brown coarse to fine SAND, some silt, some medium to fine gravel (FILL)
⊠	Gray-brown medium to fine GRAVEL and coarse to fine SAND, little silt (FILL)
▲	Red-brown fine SAND, little coarse sand, little medium to fine gravel, little silt (GLACIOFLUVIAL)

Remarks:

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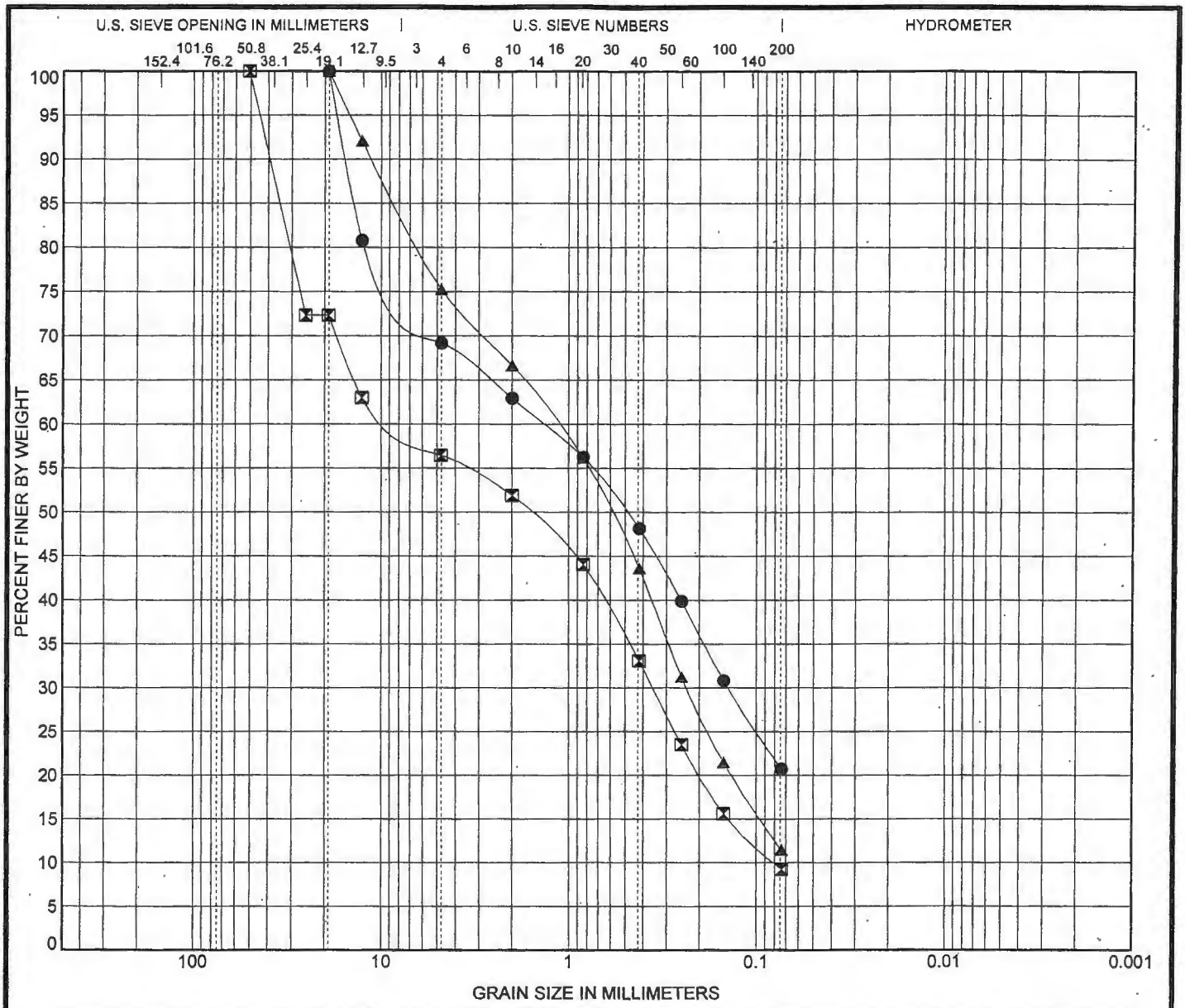

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	22.6	14.4	14.8	27.4	20.7	
⊠	0.0	27.7	11.3	9.2	18.8	23.8	9.3	
▲	0.0	0.0	12.9	20.5	23.0	32.2	11.4	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S103-1	D4	4.57-5.18				9.07		
⊠	S103-3	D2	.61-1.22				9.61	0.19	101.03
▲	S104-1	S3	1.52-2.13				7.77		

	Sample Description
●	Light brown coarse to fine SAND and medium to fine GRAVEL, some silt (GLACIAL TILL)
⊠	Brown coarse to fine GRAVEL and coarse to fine SAND, trace silt (FILL)
▲	Gray-brown coarse to fine SAND, some medium to fine gravel, little silt (FILL)

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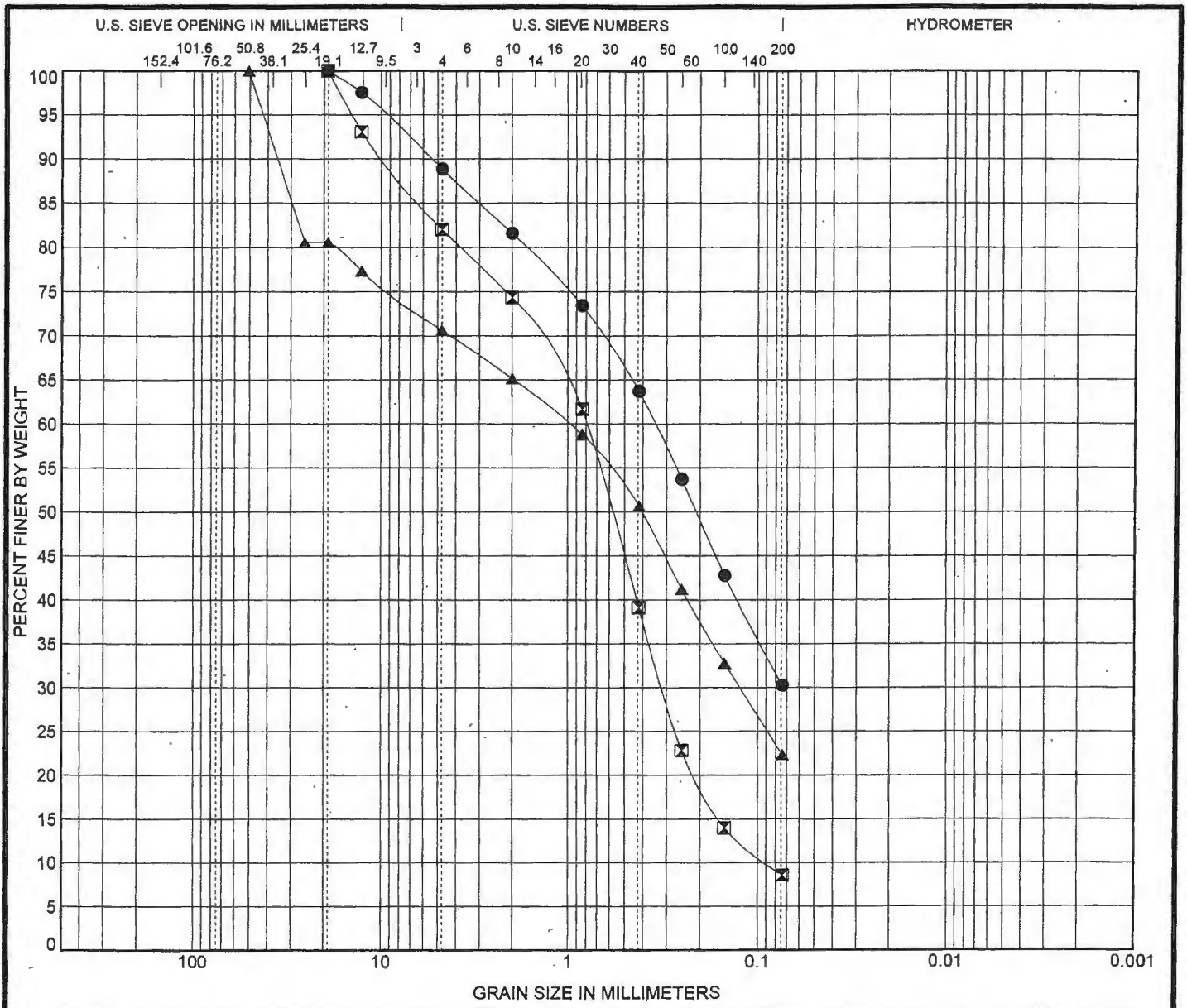

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	5.0	13.4	17.9	33.5	30.2	
⊠	0.0	0.0	10.2	15.5	35.3	30.5	8.6	
▲	0.0	19.4	5.2	10.2	14.5	28.3	22.3	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S104-1	S8	9.14-9.60				10.53		
⊠	S104-2	S12	10.67-11.07				11.07	1.39	8.97
▲	S105-1	S5	3.05-3.43				10.34		

	Sample Description
●	Brown coarse to fine SAND, some silt, little fine gravel, trace medium gravel (GLACIAL TILL)
⊠	Brown coarse to fine SAND, some medium to fine gravel, trace silt (GLACIOFLUVIAL)
▲	Gray-brown coarse to fine SAND, some medium to fine gravel, some silt (GLACIOFLUVIAL)

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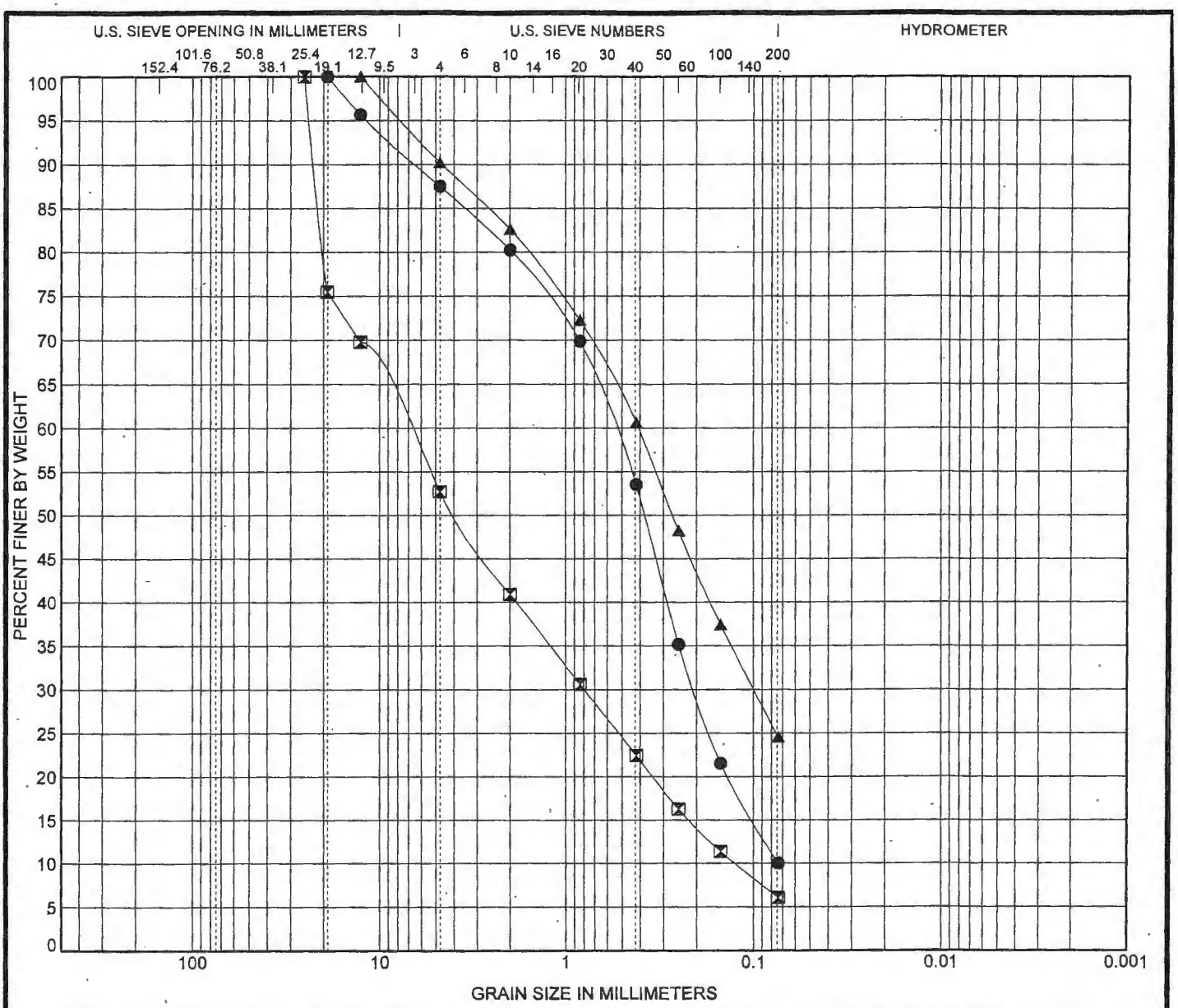

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	6.7	13.0	26.7	43.5	10.0	
⊠	0.0	0.0	35.3	23.9	18.4	16.4	6.1	
▲	0.0	0.0	2.9	14.5	22.0	36.1	24.6	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S107-3	D1	0-.61				8.06		
⊠	S107-3	D6	3.66-4.11				5.46	0.71	58.28
▲	S108-1	D2	0.61-1.22				12.54		

	Sample Description
●	Brown coarse to fine SAND, little gravel, trace silt
⊠	Orange brown medium to fine GRAVEL, some coarse to fine sand, trace silt
▲	Brown coarse to fine SAND, some silt, little gravel -FILL-

Remarks:

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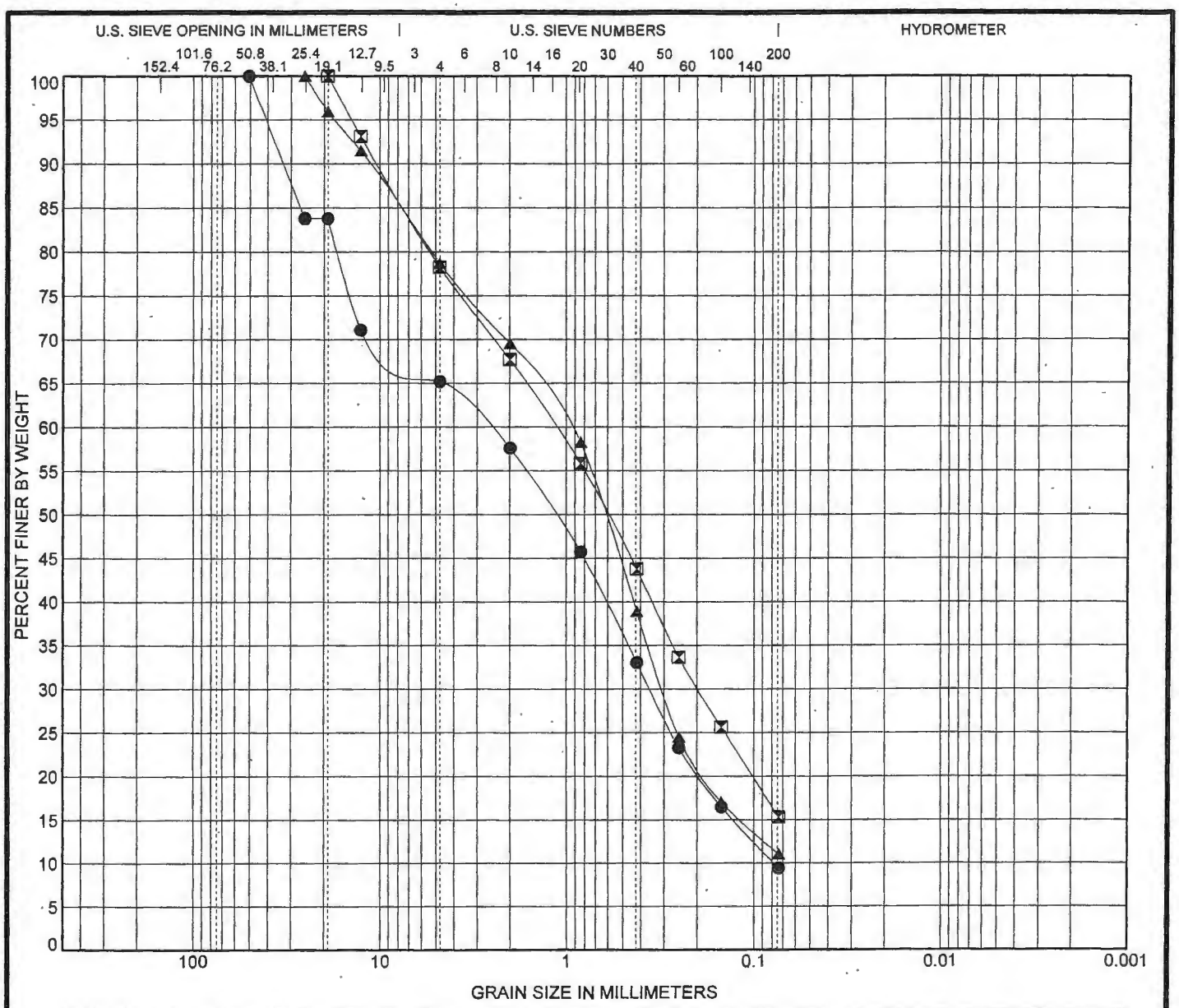

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	16.2	14.5	11.8	24.6	23.6	9.4	
⊠	0.0	0.0	11.3	21.0	23.9	28.4	15.3	
▲	0.0	0.0	12.3	18.2	30.7	27.8	11.1	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S108-2	D4	3.05-3.66				9.32	0.62	33.66
⊠	S109-1	D3	2.13-2.74				17.36		
▲	S109-2	D2	1.52-2.13				4.39		

Sample Description

●	Brown coarse to fine SAND and coarse to fine GRAVEL, some silt -GLACIOFLUVIAL DEPOSITS-
⊠	Brown coarse to fine SAND, some medium to fine gravel, little silt -ALLUVIAL DEPOSITS-
▲	Orange-brown coarse to fine SAND, some medium to fine gravel, little silt -GLACIOFLUVIAL DEPOSITS-

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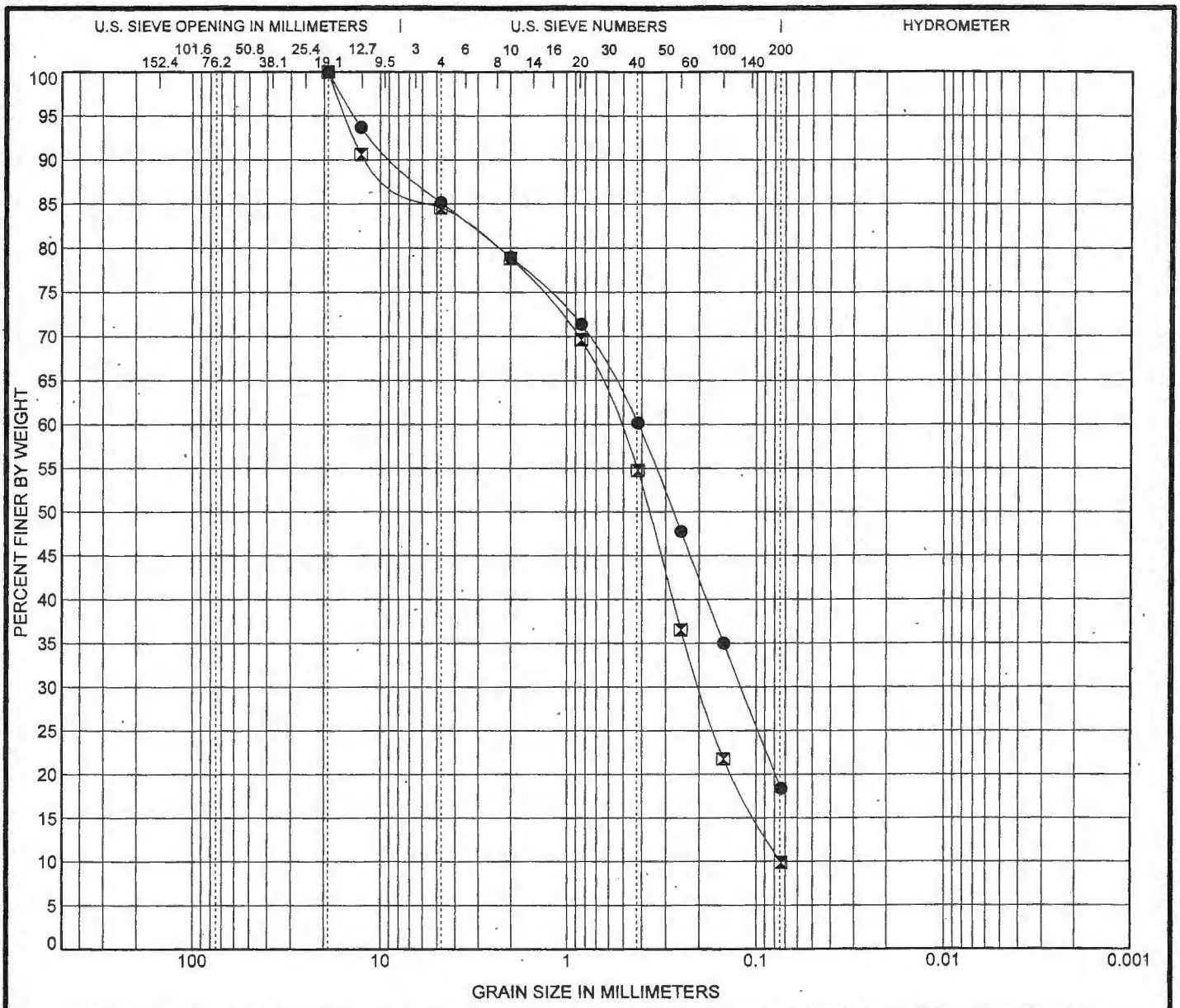

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	8.8	12.2	18.8	41.8	18.4	
⊠	0.0	0.0	11.2	10.0	24.1	44.9	9.9	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S111-1-OW	D2	1.52-2.13				8.3		
⊠	S111-2	D2	1.52-2.13				10.8	0.99	7.21

Sample Description

●	Light brown coarse to fine SAND, some medium to fine gravel, little silt - Fill
⊠	Yellow-brown coarse to fine SAND, some medium to fine gravel, trace silt - Fill

Remarks:

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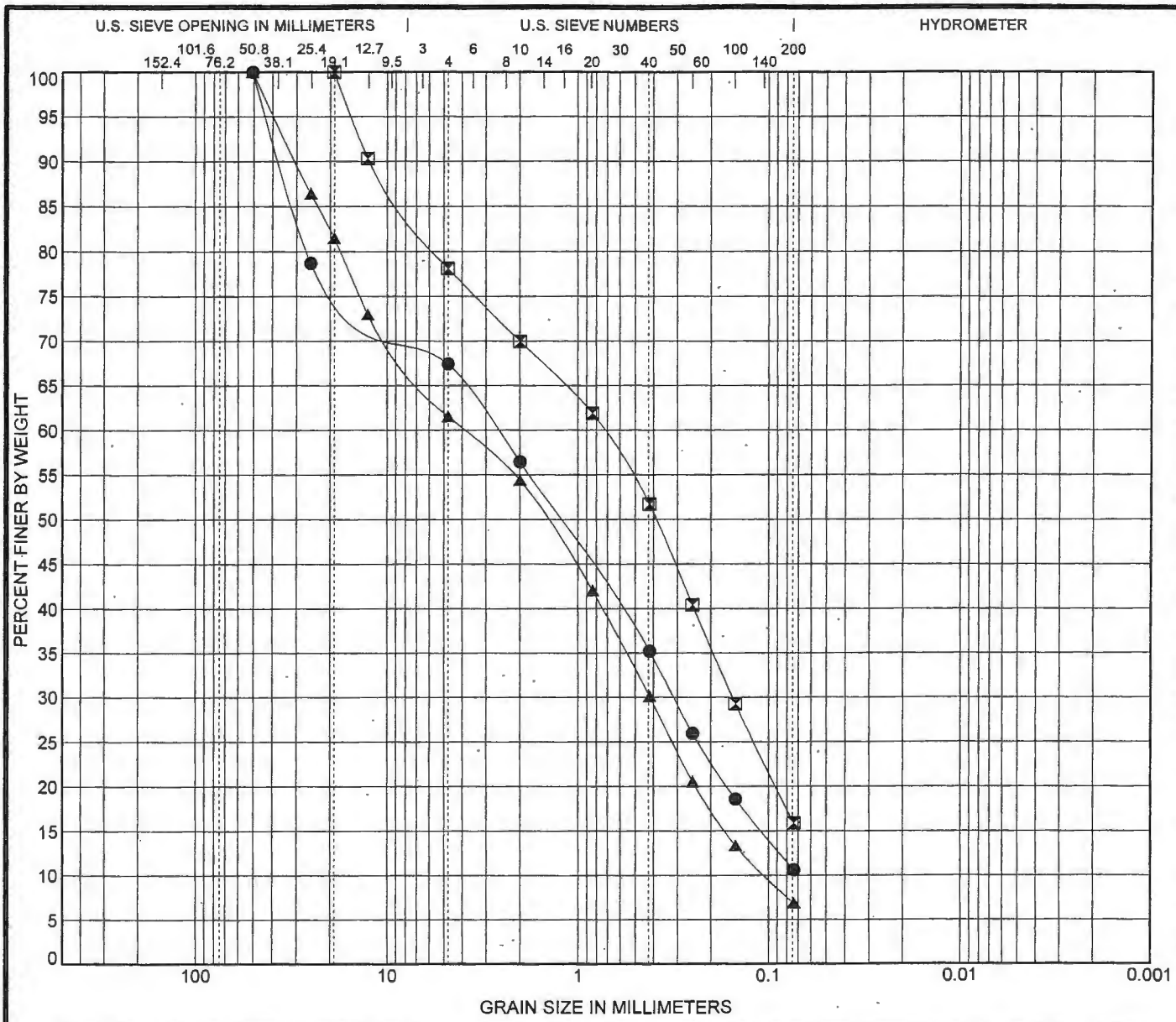

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	21.3	6.6	15.6	21.3	24.6	10.6	
⊠	0.0	0.0	13.3	16.7	18.3	35.8	15.9	
▲	0.0	13.5	16.8	15.2	24.3	23.2	6.9	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S110-2	D5	3.05-3.66				9.83		
⊠	S110-3	D3	1.52-2.13				9.30		
▲	S111-1A	D4	4.57-5.18				9.16	0.43	38.19

Sample Description

●	Brown coarse to fine SAND and GRAVEL, little silt -GLACIOFLUVIAL DEPOSITS-
⊠	Brown coarse to fine SAND, some gravel, little silt -FILL-
▲	Brown coarse to fine SAND and medium to fine GRAVEL, trace silt -GLACIOFLUVIAL DEPOSITS-

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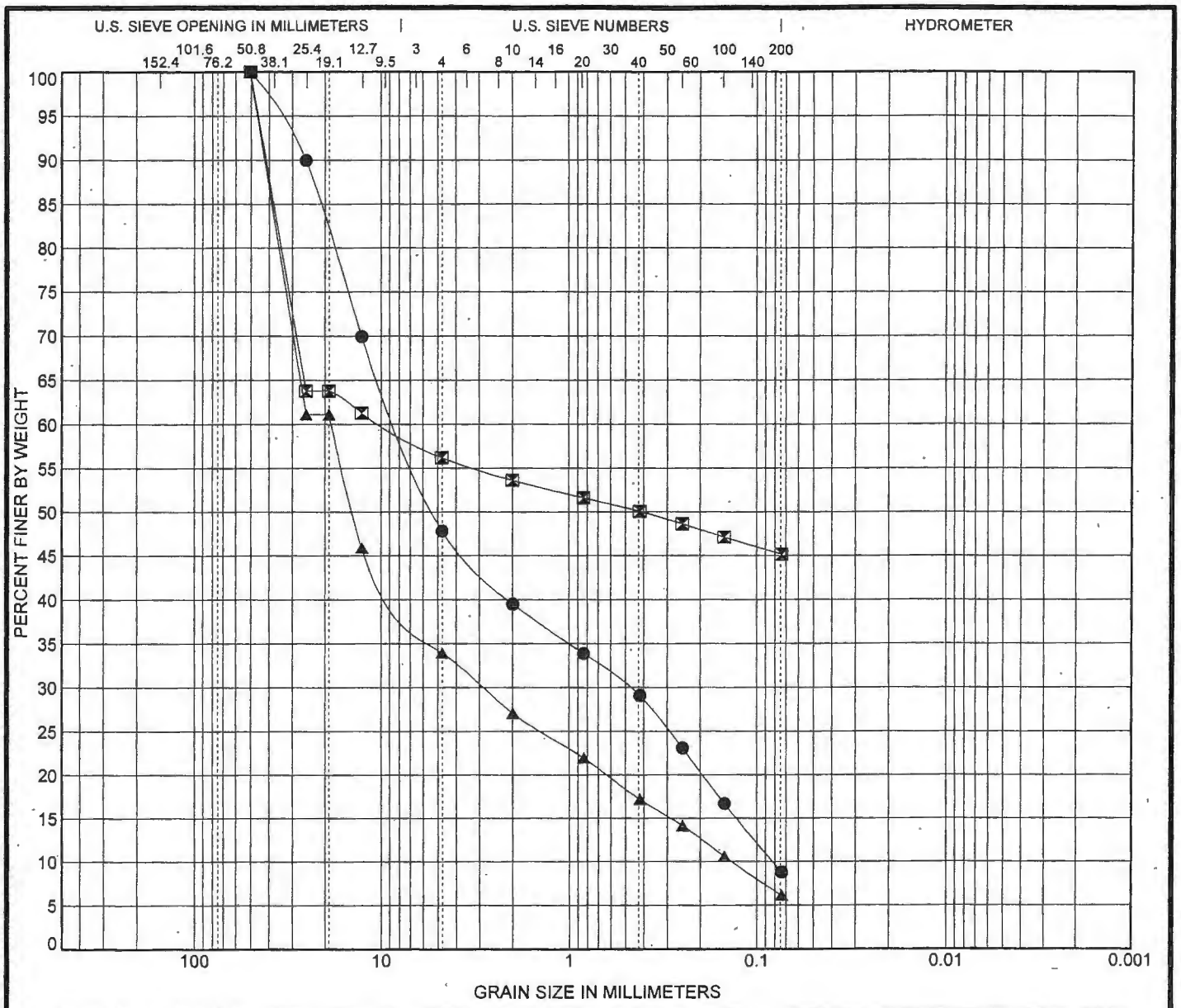

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	10.0	26.6	23.9	10.4	20.3	8.8	
⊠	0.0	36.2	4.0	6.1	3.6	4.9	45.2	
▲	0.0	38.9	18.8	15.3	9.9	11.0	6.2	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S111-2	D3	3.05-3.66				3.25	0.34	99.27
⊠	S112-1	S3	1.52-1.83				11.56		
▲	S112-2	D2	0.61-1.22				6.68	3.33	136.80

	Sample Description
●	Brown coarse to fine GRAVEL, some coarse to fine sand, trace silt -FILL-
⊠	Light Brown coarse to fine GRAVEL, and SILT, trace sand
▲	Coarse to fine GRAVEL, some coarse to fine sand, trace silt (GLACIOFLUVIAL)

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

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Date: 2/11/2002

File No.: 91313-100

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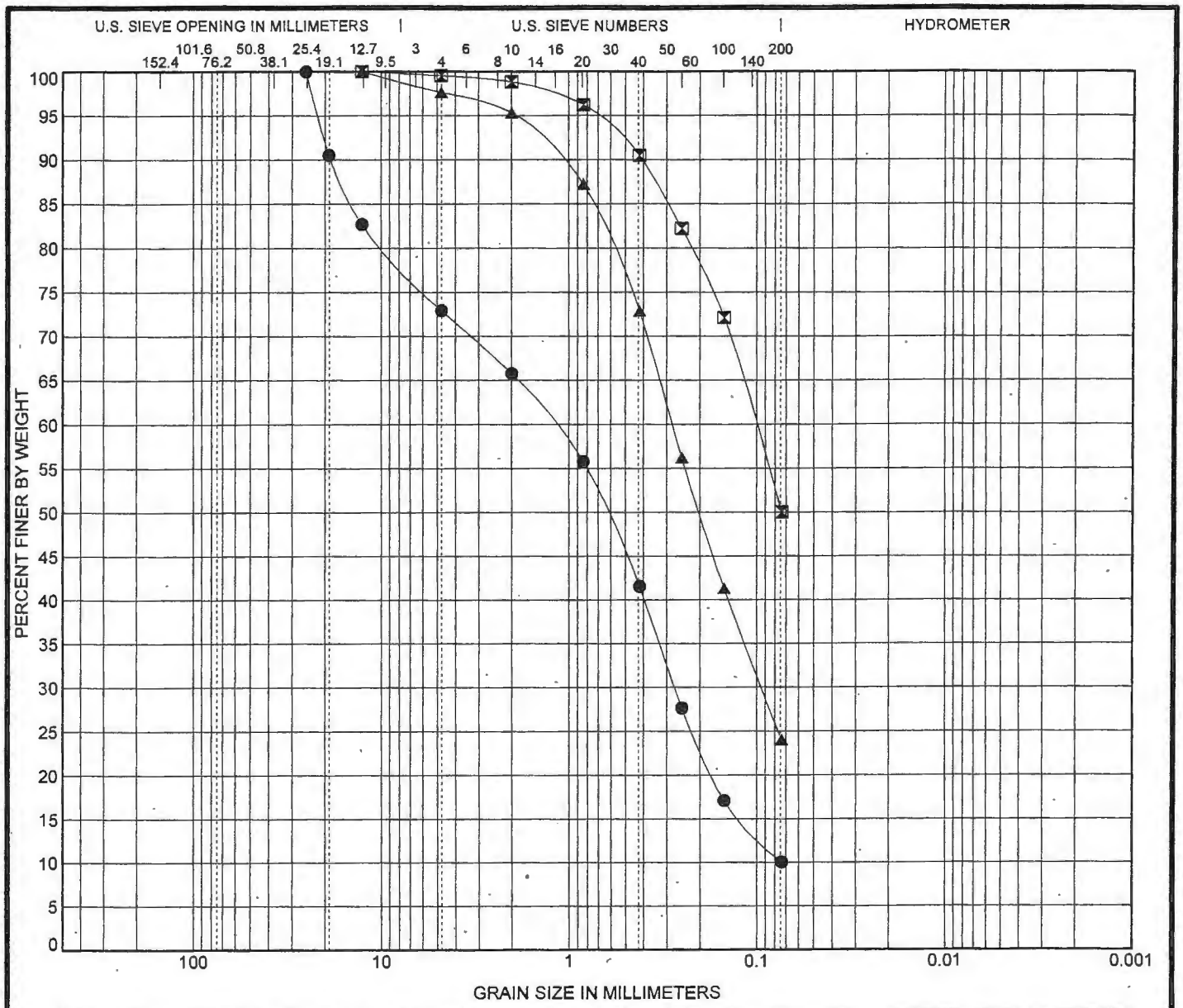

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	20.2	14.1	24.2	31.5	10.1	
⊠	0.0	0.0	0.1	1.0	8.4	40.5	50.0	
▲	0.0	0.0	0.7	4.0	22.4	48.9	24.0	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S113-1	D2	0.61-1.22				7.5		
⊠	S116-1	D2	1.52-1.87				6.38		
▲	S116-1	D4	3.66-4.27				11.2		

Sample Description

●	Coarse to fine SAND, some medium to fine gravel, little silt (FILL)
⊠	Light brown SILT and fine SAND, trace coarse sand, trace fine gravel (FILL)
▲	Fine SAND, some silt, some coarse sand, trace fine gravel (GLACIOFLUVIAL)

Remarks:

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I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

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Date: 2/11/2002

File No.: 91313-100

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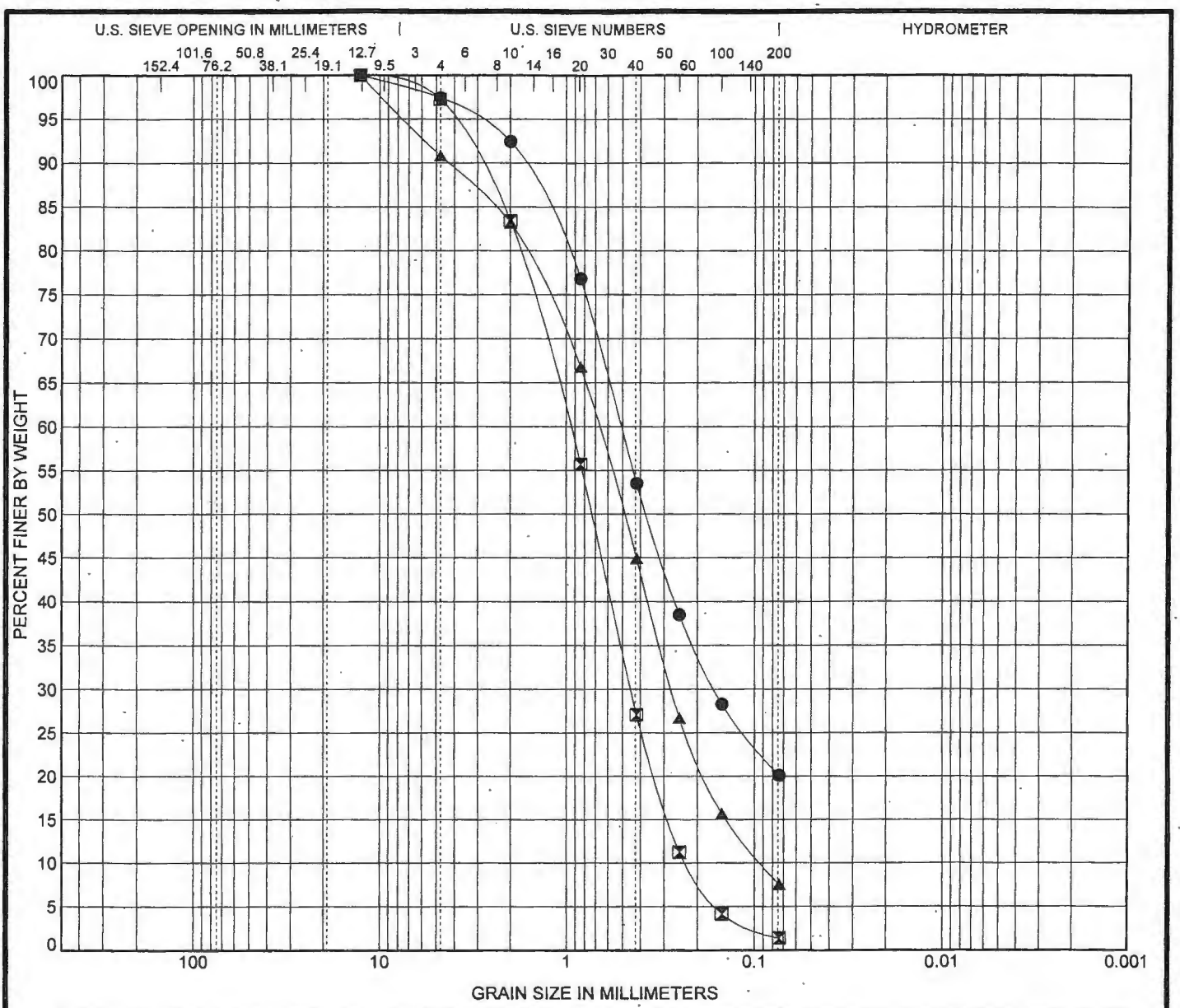

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	0.8	6.8	38.9	33.4	20.1	
⊠	0.0	0.0	0.8	15.8	56.3	25.7	1.4	
▲	0.0	0.0	2.7	14.2	38.2	37.4	7.6	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S119-3	D2	0.61-1.22				18.3		
⊠	S119-4	D4	3.05-3.66				17.8	0.93	4.22
▲	S122-2	D3	1.52-2.13				4.34	1.22	7.42

Sample Description

●	Coarse to fine SAND, some silt, trace fine gravel (FILL)
⊠	Coarse to fine SAND, little fine gravel, trace silt (GLACIOFLUVIAL)
▲	Coarse to fine SAND, little fine gravel, trace silt, trace medium gravel (FILL)

Remarks:

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Waterbury, Connecticut
State Project No.: 151-273

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Date: 2/11/2002

File No.: 91313-100

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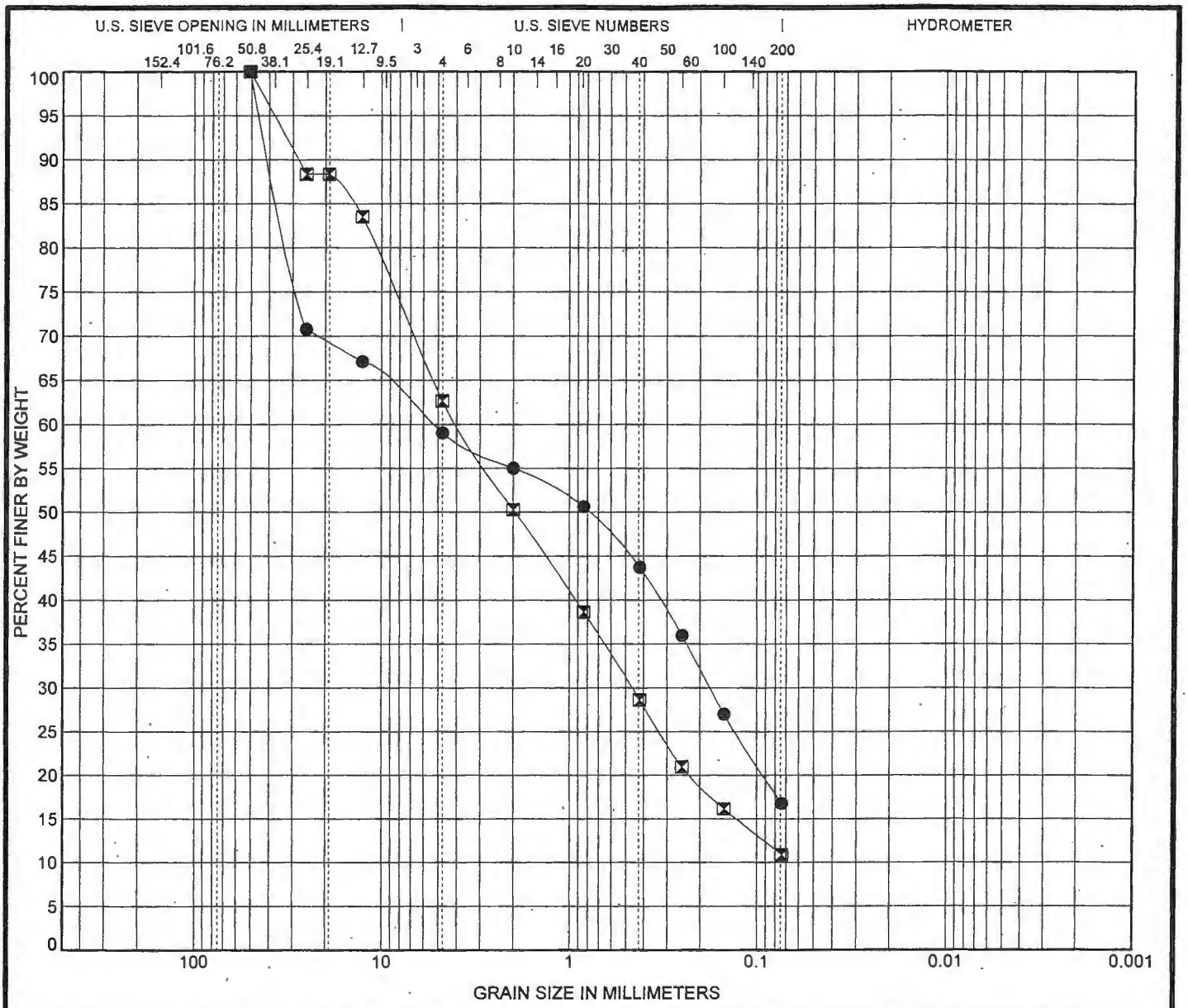


	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	29.2	6.1	9.7	11.3	27.0	16.8	
⊠	0.0	11.6	11.0	27.1	21.7	17.7	10.9	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S120-1	D2	1.52-1.98				6.7		
⊠	S120-2	D1	.15-.76				3.1		

	Sample Description
●	Light brown coarse to fine SAND and GRAVEL, little silt - Fill
⊠	Red-brown coarse to fine GRAVEL and SAND, little silt - Fill

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

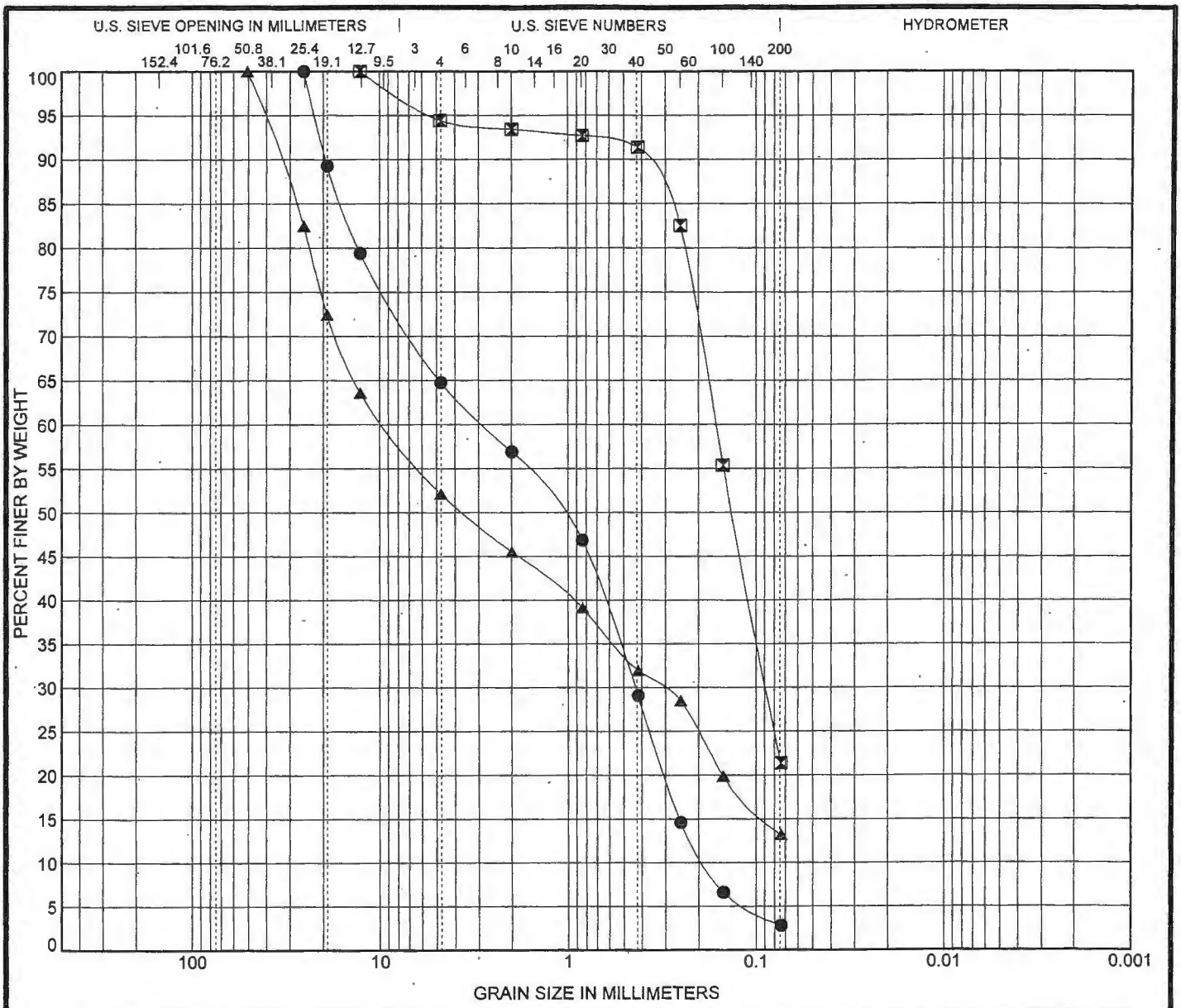
U.S. Interstate Route 84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

GRAIN SIZE DISTRIBUTION

Date: 4/16/2001

File No.: 91313-100

CONN DOT SIEVE 91313SA.GPJ US_LAB.GDT 3/6/02



	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	24.9	18.2	27.8	26.3	2.8	
⊠	0.0	0.0	1.7	4.9	2.0	70.0	21.4	
▲	0.0	17.5	22.3	14.7	13.6	18.8	13.2	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S122-2	D4	2.13-2.74				4.09	0.36	15.18
⊠	S124-1	D3	3.05-3.51				17.8		
▲	S124-2	D2	0.91-1.52				16.66		

Sample Description

●	Light brown coarse to fine SAND and medium to fine GRAVEL, trace silt (FILL)
⊠	Fine SAND, some silt, trace medium to fine gravel, trace coarse sand (GLACIOFLUVIAL)
▲	Light brown coarse to fine GRAVEL, some medium to fine sand, little silt (FILL)

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

GRAIN SIZE DISTRIBUTION

Date: 2/11/2002

File No.: 91313-100

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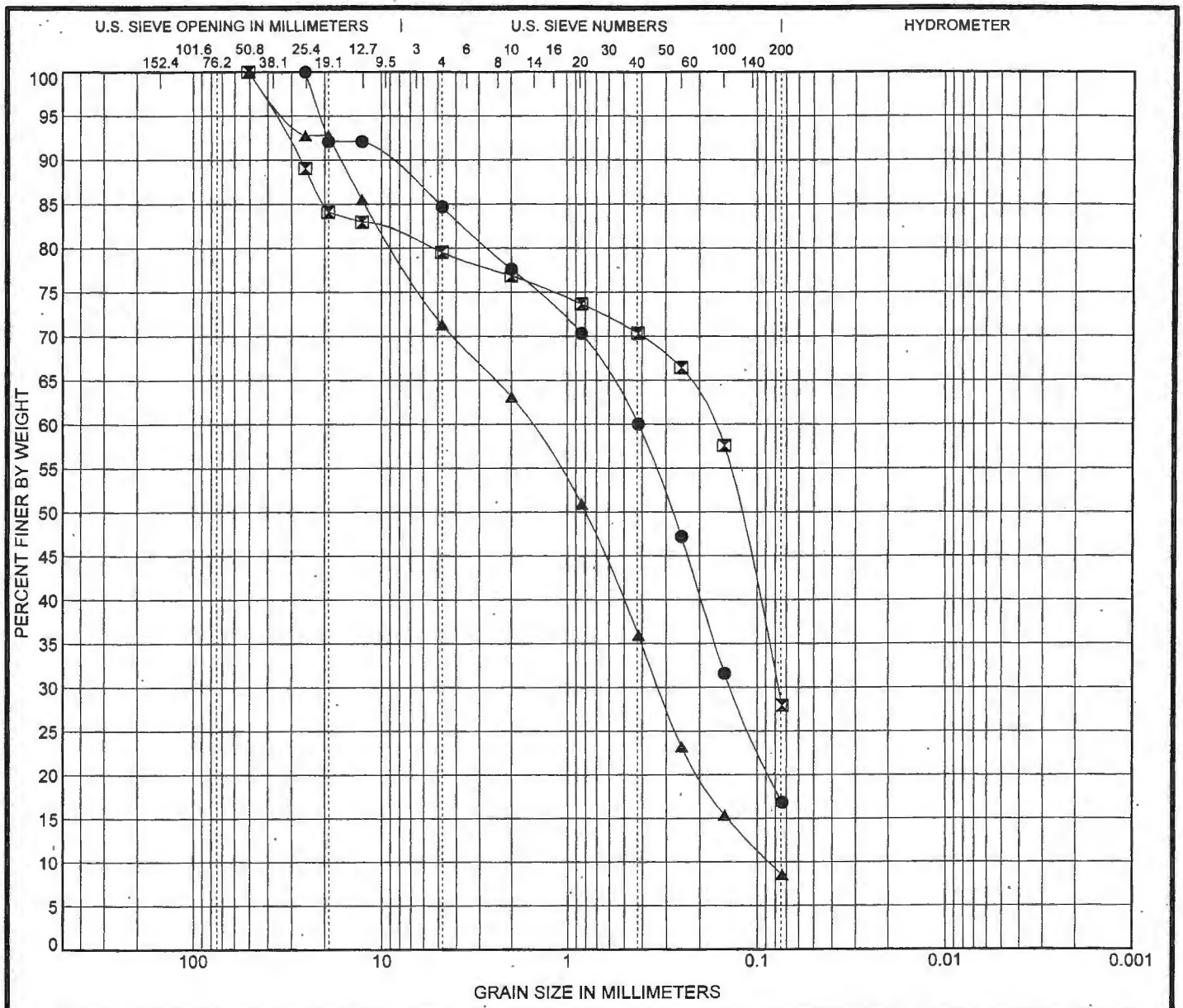

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	10.1	12.3	17.6	43.2	16.8	
⊠	0.0	11.0	7.1	5.1	6.5	42.4	27.9	
▲	0.0	7.2	11.4	18.2	27.2	27.4	8.6	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S125-01	S4	3.05-3.66				12.8		
⊠	S125-1	D2	0.76-1.37				10.96		
▲	S203A-1	S2	0.61-1.22				0.49	0.79	18.66

Sample Description

●	Light Brown coarse to fine SAND, some medium to fine gravel, little silt. (Glaciofluvial)
⊠	Light brown fine SAND, some silt, some coarse to fine gravel, trace coarse sand (FILL)
▲	Brown coarse to fine SAND, and coarse to fine GRAVEL, trace silt. (FILL)

Remarks:

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I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

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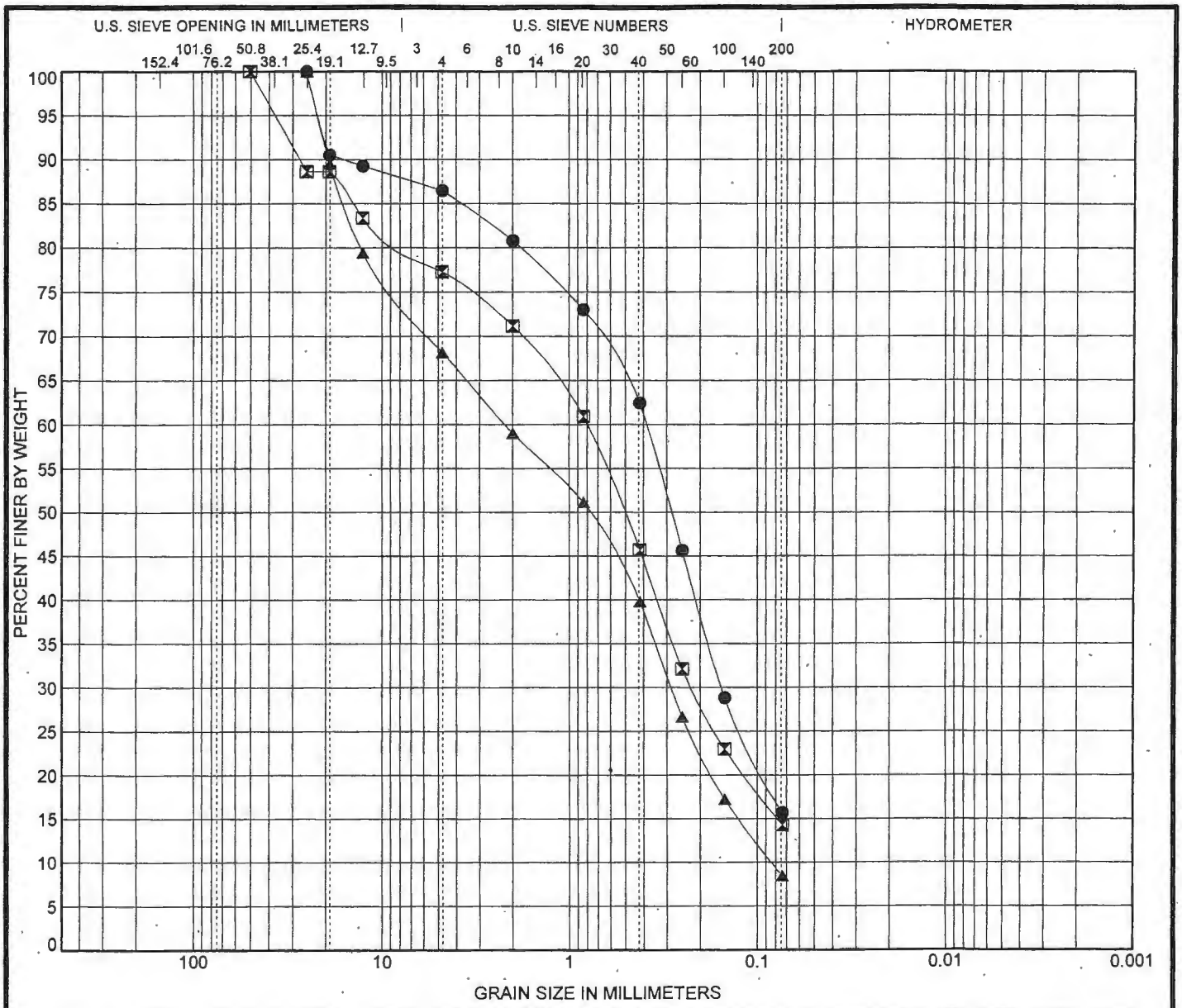

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	0.0	11.6	7.6	18.4	46.7	15.7	
⊠	0.0	11.4	7.1	10.4	25.5	31.4	14.3	
▲	0.0	0.0	23.9	17.1	19.2	31.3	8.5	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S203A-1	S6	4.57-5.18				13.21		
⊠	S203B-1	S1	0.3-0.91				7.48		
▲	S203B-1	S8	9.14-9.75				9.15	0.44	26.28

Sample Description

●	Light Brown coarse to fine SAND, little medium to fine gravel, little silt. (GLACIOFLUVIAL)
⊠	Brown coarse to fine SAND, some coarse to fine gravel, little silt. (FILL)
▲	Brown coarse to fine SAND, and medium to fine GRAVEL, trace silt. (GLACIOFLUVIAL)

Remarks:

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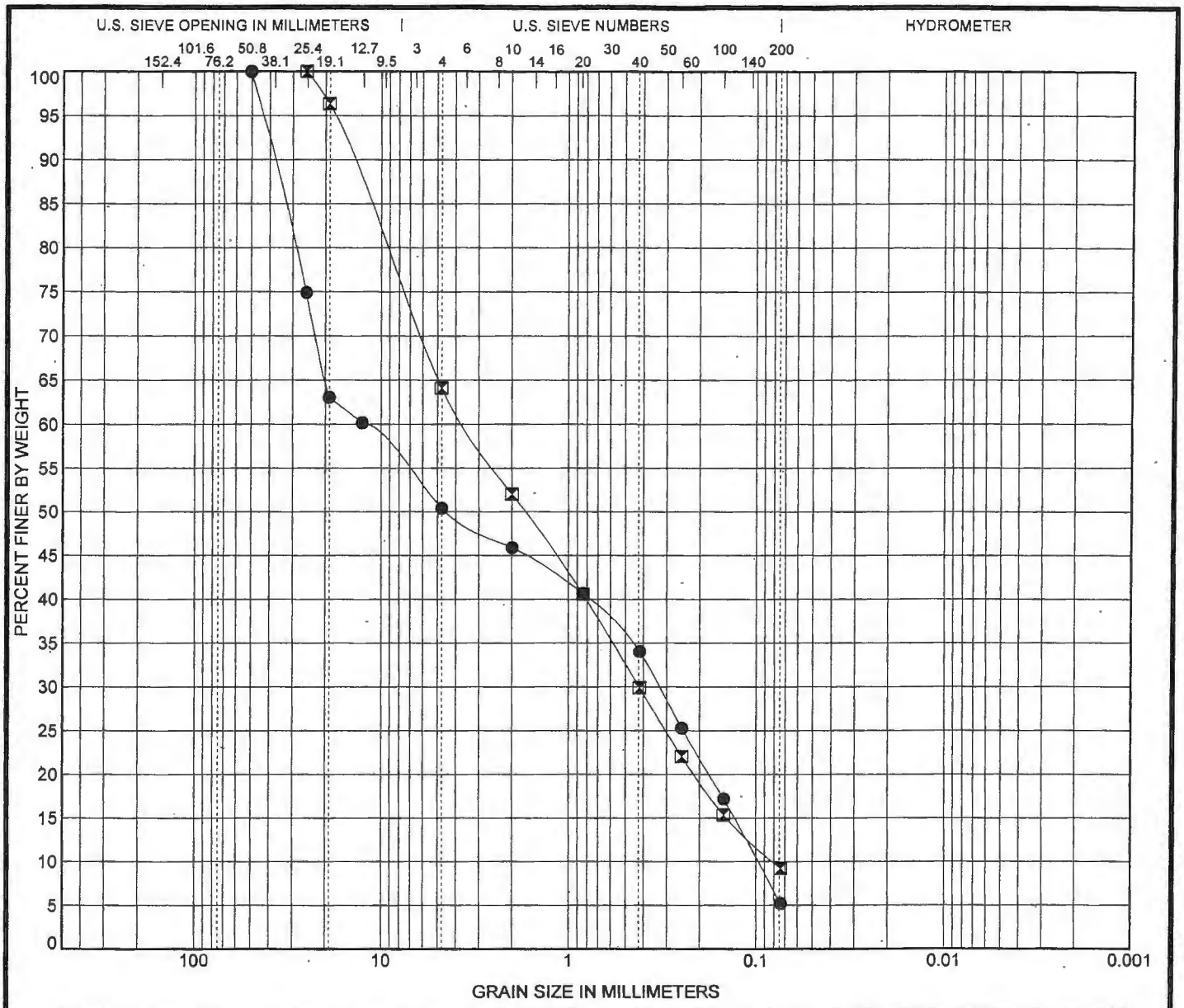

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	25.1	17.6	11.4	11.9	28.8	5.2	
⊠	0.0	0.0	19.8	28.1	22.1	20.7	9.2	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S204-1	S2	0.6-1.22				3.77	0.09	127.54
⊠	S204-1	S5	4.57-5.18				5.19	0.62	43.80

Sample Description

●	Brown coarse to fine SAND and coarse to fine GRAVEL, trace silt. (FILL)
⊠	Brown coarse to fine SAND and medium to fine GRAVEL, trace silt. (GLACIOFLUVIAL DEPOSIT)

Remarks:

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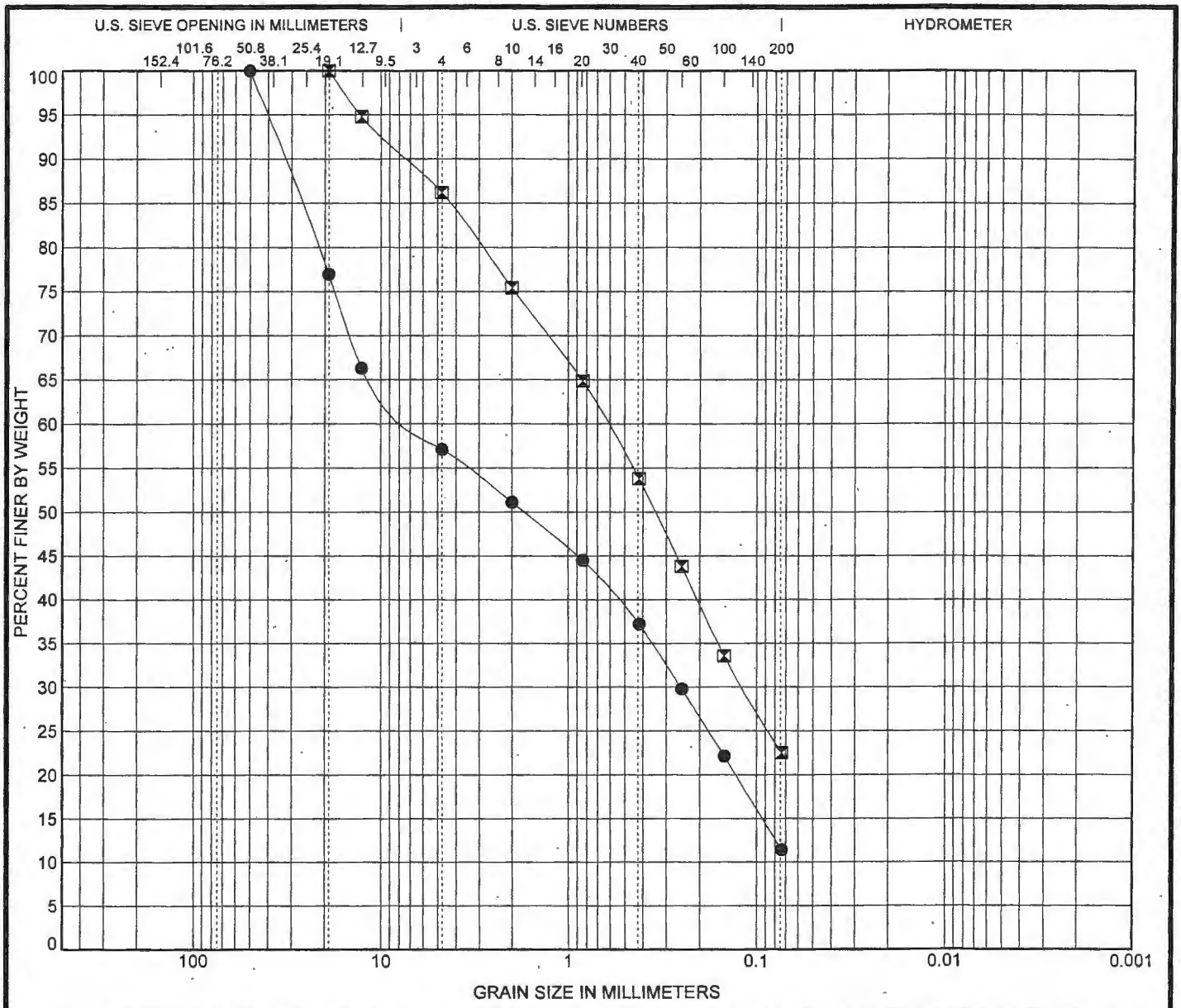

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	16.3	20.1	12.5	13.9	25.8	11.4	
⊠	0.0	0.0	7.7	16.8	21.6	31.3	22.5	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S1227-1	S3	1.52-2.13				5.59		
⊠	S1227-2	S7	6.10-6.71				17.65		

Sample Description

● Gray-brown coarse to fine SAND and coarse to fine GRAVEL, little silt. (FILL)

⊠ Brown coarse to fine SAND and coarse to fine GRAVEL, little silt. (GLACIOFLUVIAL DEPOSIT)

Remarks:

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I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

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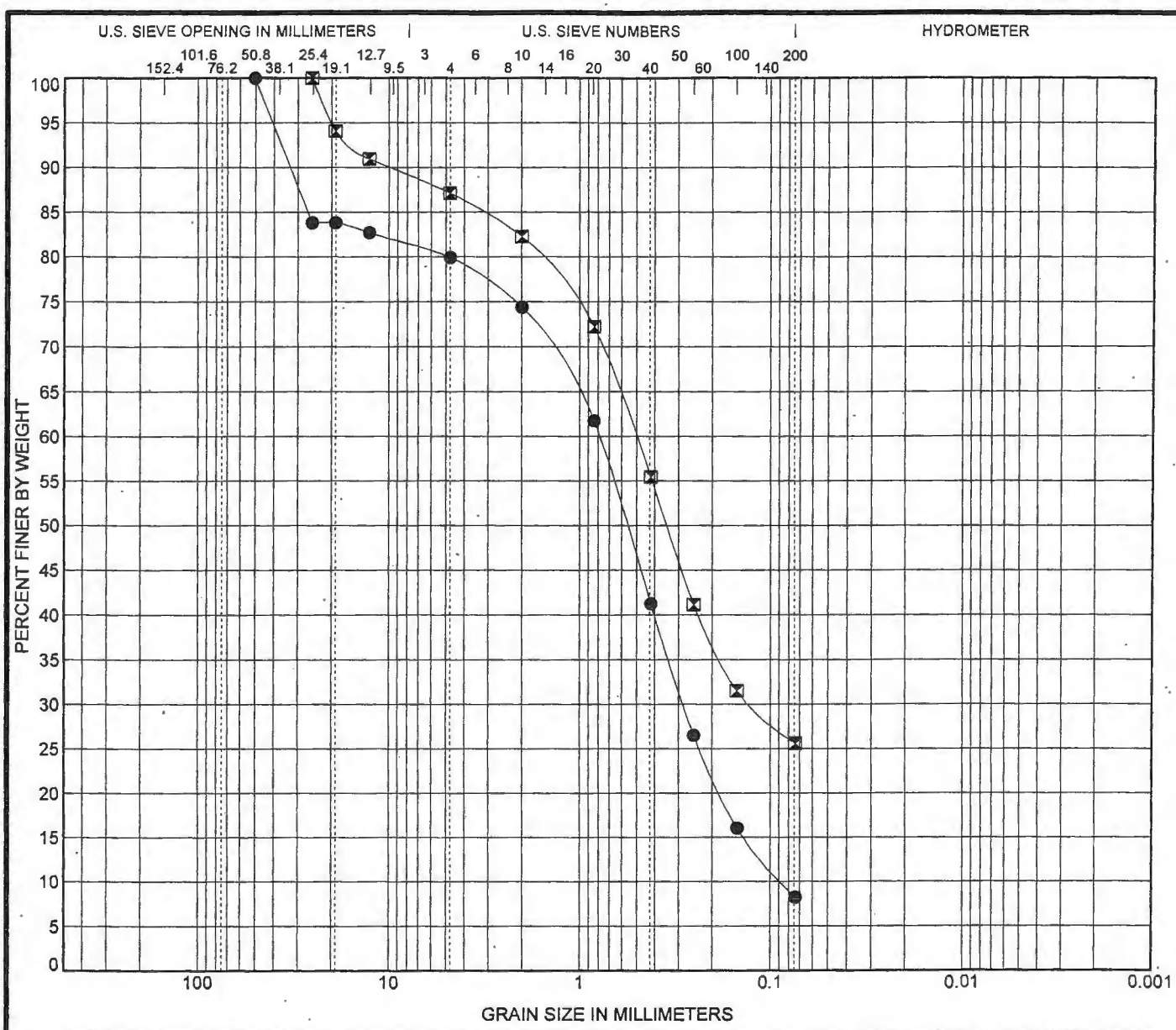

	COBBLES	% GRAVEL			% SAND		% FINES	
		COARSE	MEDIUM	FINE	COARSE	FINE	% SILT	% CLAY
●	0.0	16.2	1.9	7.5	33.2	33.0	8.2	
⊠	0.0	0.0	10.2	7.5	26.8	29.9	25.6	

	Expl. No.	Sample No.	Depth (m)	LL	PL	PI	Water Content (%)	Cc	Cu
●	S3727-1	S2	0.61-1.22				8.73	1.17	9.14
⊠	S3727-2	S4	2.13-2.74				9.95		

Sample Description

●	Brown coarse to fine SAND and coarse to fine GRAVEL, trace silt (FILL)
⊠	Brown coarse to fine SAND, some silt, little gravel. (GLACIOFLUVIAL DEPOSIT)

Remarks:

HALEY & ALDRICH
Glastonbury, Connecticut

I-84 Reconstruction
Waterbury, Connecticut
State Project No.: 151-273

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HALEY & ALDRICH, INC.
Geotechnical Engineers &
Environmental Consultants

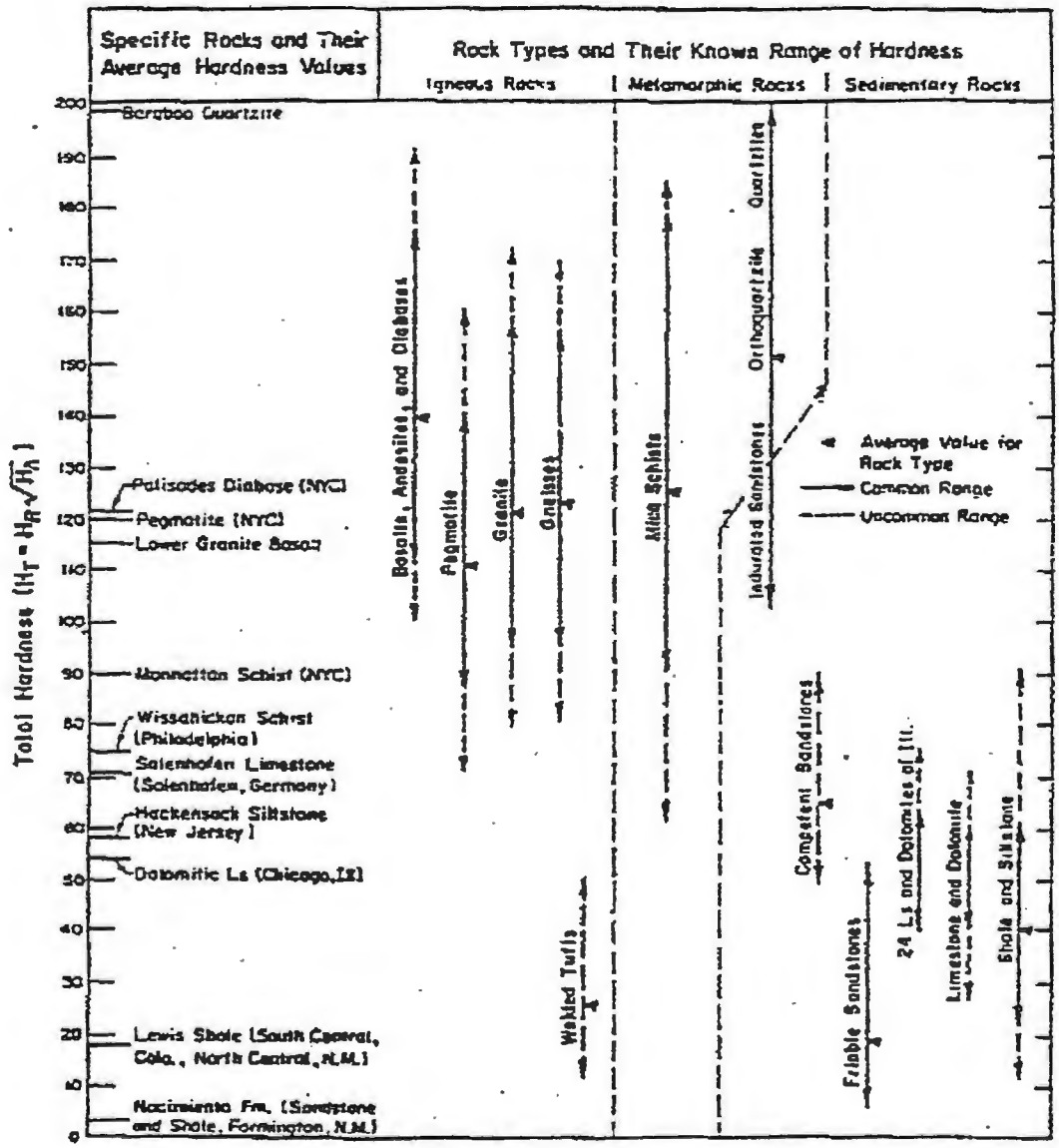
GEOTECHNICAL LABORATORY ROCK TEST RESULTS

I-84 Widening, Waterbury,C, State Proj No. 151-273
Waterbury, CT

File No. 91313-100

Boring No.	Sample No.	Test	Description	Depth (ft)	Test Number	Hardness Shore Hs	Hardness Schmidt Hr	Hardness Taber Abrasion Ha	Hardness Total Hardness Ht	Unit Weight (pcf)	Unconf. Compr. Strength (psi)	Tan Mod @ 50% Ult Str (10^6 psi)	Remarks
S1,3-3	C02	Total Hardness		4.6 to 4.9		61.1	39.9	8.306	114.9				ALL DEPTHS IN METERS
		Unconfined Compression - Modulus		4.6 to 4.9	UCR001					163.4	22130.0	7.09	
S1,3-4	C01	Total Hardness		4.1 to 4.5		76.0	46.9	12.195	163.7				
		Unconfined Compression - Modulus		4.1 to 4.5	UCR002					165.4	30777.0	8.34	
S1,3-5	C02	Taber Abrasion		6.8 to 7.0				8.421					
		Unconfined Compression - Modulus		6.8 to 7.0	UCR003					167.6	20434.0	7.70	
	C03	Total Hardness		7.4 to 7.5		51.0	38.3	8.421	111.0				
S7-3	C01	Total Hardness		15.2 to 15.5		34.1	27.0	4.659	58.4				
		Unconfined Compression - Modulus		15.2 to 15.5	UCR004					177.6	9180.0	2.87	
S7-4	C02	Total Hardness		18.9 to 19.3		24.0	29.4	2.206	43.7				
		Unconfined Compression - Modulus		18.9 to 19.3	UCR005					182.2	8884.0	4.46	
S9-3	C01	Unconfined Compression - Modulus		4.5 to 4.6	UCR006					164.7	18501.0	7.45	
		Total Hardness		4.7 to 4.9		48.9	36.6	4.867	80.9				
	C02	Total Hardness		5.9 to 6.3		56.2	40.1	4.039	80.5				
		Unconfined Compression - Modulus		5.9 to 6.3	UCR007					178.5	12468.0	4.81	

FIGURE I-1: Range of H_T for Common Rock Types Bored by TBMs (Tarkoy, 1975a)



(FROM TARKOY, P.J., SEE REFERENCES)

APPENDIX G

As-Built Plan Limits and Cross-Section of Contaminated Fill Berm, and Chemical Test Data

TABLE I

SUMMARY OF RESULTS OF SEDIMENT AND SOIL ANALYSES - SCOVILL POND NO. 2
EAST BRASS MILL DAM
WATERBURY, CONNECTICUT

SAMPLE LOCATION	EMD-B-101	EMD-B-101	EMD-B-102	EMD-B-103	EMD-B-103	EMD-B-104	EMD-B-104	INDUSTRIAL RISK-BASED DIRECT EXPOSURE CRITERIA FOR SOIL (3)	REGULATORY LEVEL FOR TOXICITY + CHARACTERISTIC HAZARDOUS WASTE (4)	APPLICABLE CLEAN-UP POLLUTANT MOBILITY CRITERIA FOR SOIL (3)
SAMPLE NUMBER	S1	S3	S3	S1	S2	S1	S2			
SAMPLE DEPTH	0-4 FT	6-8 FT	6-8 FT	0-4 FT	4-6 FT	0-4 FT	4-6 FT			
SAMPLE TYPE	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT			
PARAMETER (ppm) (1,2)										
VOLATILE ORGANIC SUBSTANCES	NA (2)	ND (2)	NA	NA	ND	NA	ND	–	–	–
SEMI-VOLATILE SUBSTANCES	NA	ND		NA	ND	NA	ND			
Acenaphthylene			1.000					2500	NH (2)	84
Anthracene			0.750					2500	NH	400
Benzo(a)anthracene			2.300					7.8	NH	1
Benzo(a)pyrene			2.800					1	NH	1
Benzo(b)fluoranthene			3.400					7.8	NH	1
Benzo(k)fluoranthene			2.300					78	NH	1
Benzo(ghi)perylene			1.100					NP (2)	NH	NP
Chrysene			3.600					NP	NH	NP
Dibenzo(a,h)anthracene			0.390					NP	NH	NP
Fluoranthene			6.900					2500	NH	56
Fluorene			0.490					2500	NH	56
Ideno(1,2,3-cd)pyrene			1.100					NP	NH	NP
Phenanthrene			4.600					2500	NH	40
Pyrene			6.500					2500	NH	40
INORGANIC SUBSTANCES (TCLP)	NA		NA	NA		NA				
Lead		0.330			0.227		0.204	1000	5.0	0.15
Cadmium		0.030			0.020		0.025	1000	1.0	0.05
Barium		0.57			0.88		0.81	140000	100.0	10
Copper		0.13			ND<0.05		ND<0.05	76000	NH	13
Nickel		0.09			0.48		0.43	7500	NH	1.0
Zinc		2.7			5.1		5.2	610000	NH	50
TOTAL PCB	NA	ND<0.001	NA	NA	ND<0.001	NA	ND<0.001	10	NH	0.005
INORGANIC SUBSTANCES (SPLP)	NA		NA	NA		NA				
Lead		ND<0.013			ND<0.013		ND<0.013	1000	5.0	0.15
Cadmium		ND<0.005			ND<0.005		ND<0.005	1000	1.0	0.05
Barium		NA			NA		NA	140000	100.0	10
Copper		NA			NA		NA	76000	NH	13
Nickel		NA			NA		NA	7500	NH	1.0
Zinc		NA			NA		NA	610000	NH	50
TOTAL PCB	NA	NA	NA	NA	NA	NA	NA	10	NH	0.005
TOTAL PETROLEUM HYDROCARBONS	250	780	510	470	NA	500	1100	2500	NH	2500
FLASHPOINT	NA	ND	NA	NA	ND	NA	ND	NP	<140 F	NP
REACTIVE CYANIDE	NA	ND<5.0	NA	NA	ND<5.0	NA	ND<5.0	NP	250	NP
REACTIVE SULFIDE	NA	ND<20	NA	NA	ND<20	NA	ND<20	NP	500	NP
pH	NA	6.54	NA	NA	6.46	NA	6.41	NP	<2 OR >12.5	NP

TABLE I

SUMMARY OF RESULTS OF SEDIMENT AND SOIL ANALYSES - SCOVILL POND NO. 2
EAST BRASS MILL DAM
WATERBURY, CONNECTICUT

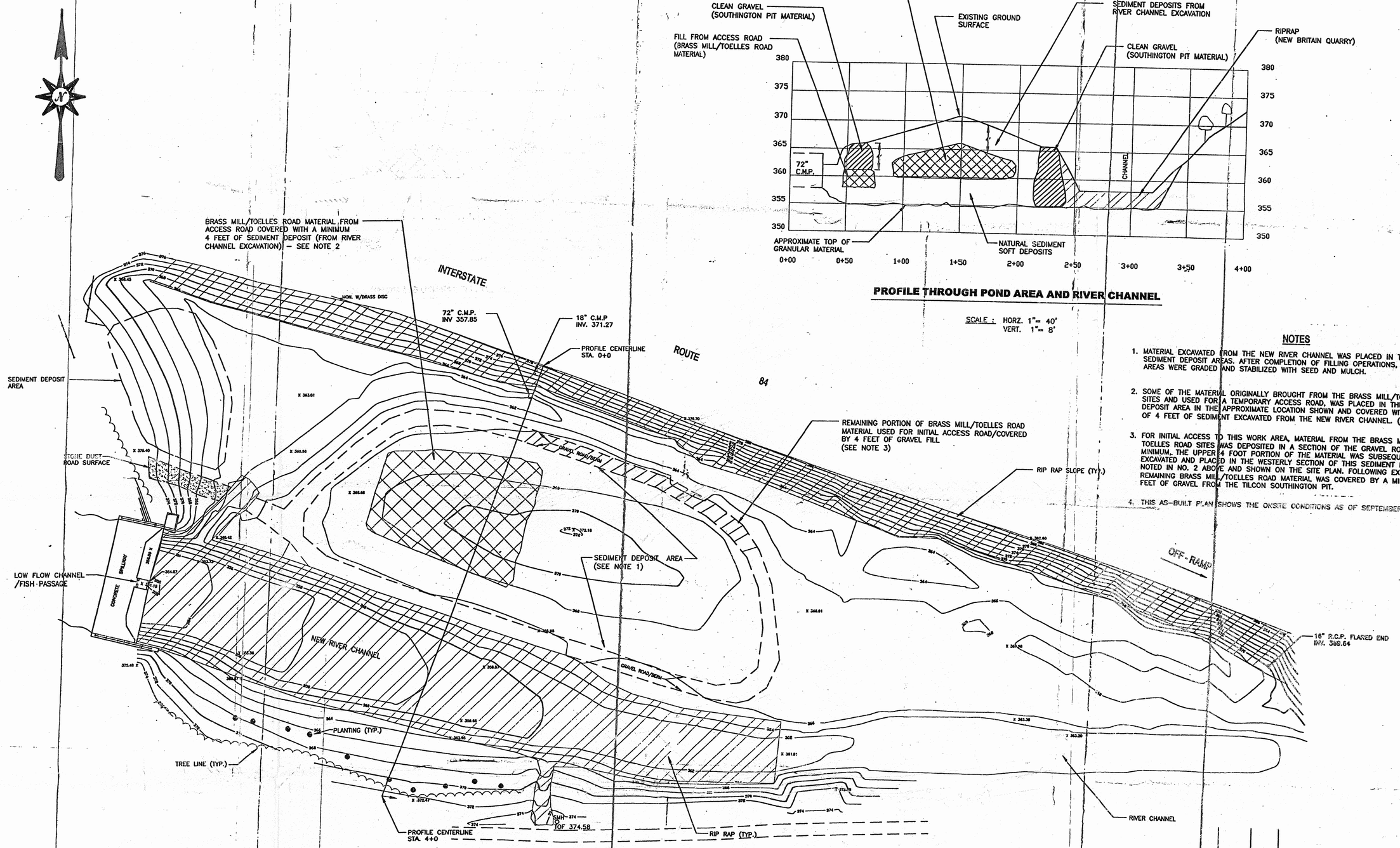
SAMPLE LOCATION	EMD-B-105	EMD-B-106	EMD-B-107	EMD-B-108	EMD-HA-101	EMD-HA-102	EMD-HA-103	EMD-HA-104	INDUSTRIAL RISK-BASED DIRECT EXPOSURE CRITERIA FOR SOIL (3)	REGULATORY LEVEL FOR TOXICITY CHARACTERISTIC HAZARDOUS WASTE (4)	APPLICABLE CLEAN-UP POLLUTANT MOBILITY CRITERIA FOR SOIL (3)
SAMPLE NUMBER	S2	S1	S2	S1	S1	S1	S1	S1			
SAMPLE DEPTH	4-6 FT	0-4 FT	2-4 FT	0-2 FT	0-1 FT	0-1 FT	0-1 FT	0-1 FT			
SAMPLE TYPE	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SOIL	SOIL	SOIL	SOIL			
PARAMETER (ppm) (1,2)											
VOLATILE ORGANIC SUBSTANCES	ND (2)	NA	NA	NA	NA	NA	NA	NA	–	–	–
SEMI-VOLATILE SUBSTANCES	ND		NA								
Acenaphthylene		0.450		0.490	ND<0.200	ND<0.200	ND<0.200	ND<0.200	2500	NH (2)	84
Anthracene		0.500		0.530	ND<0.200	ND<0.200	ND<0.200	ND<0.200	2500	NH	400
Benzo(a)anthracene		**1.600**		**2.100**	ND<0.200	ND<0.200	ND<0.200	ND<0.200	7.8	NH	1
Benzo(a)pyrene		**1.800**		**2.600**	ND<0.200	ND<0.200	ND<0.200	ND<0.200	1	NH	1
Benzo(b)fluoranthene		**2.300**		**3.600**	ND<0.200	ND<0.200	ND<0.200	ND<0.200	7.8	NH	1
Benzo(k)fluoranthene		**1.800**		**2.800**	ND<0.200	ND<0.200	ND<0.200	ND<0.200	78	NH	1
Benzo(ghi)perylene		0.730		0.830	ND<0.200	ND<0.200	ND<0.200	ND<0.200	NP (2)	NH	NP
Chrysene		2.100		2.900	ND<0.200	ND<0.200	ND<0.200	ND<0.200	NP	NH	NP
Dibenzo(a,h)anthracene		0.250		0.290	ND<0.200	ND<0.200	ND<0.200	ND<0.200	NP	NH	NP
Fluoranthene		4.600		5.900	0.230	ND<0.200	ND<0.200	ND<0.200	2500	NH	56
Fluorene		0.230		0.240	ND<0.200	ND<0.200	ND<0.200	ND<0.200	2500	NH	56
Ideno(1,2,3-cd)pyrene		0.700		0.790	ND<0.200	ND<0.200	ND<0.200	ND<0.200	NP	NH	NP
Phenanthrene		2.600		2.800	ND<0.200	ND<0.200	ND<0.200	ND<0.200	2500	NH	40
Pyrene		3.700		5.000	0.260	ND<0.200	ND<0.200	ND<0.200	2500	NH	40
INORGANIC SUBSTANCES (TCLP)		NA	NA	NA	NA	NA	NA	NA			
Lead	**0.226**								1000	5.0	0.15
Cadmium	**0.06**								1000	1.0	0.05
Barium	0.84								140000	100.0	10
Copper	ND<0.05								76000	NH	13
Nickel	0.33								7500	NH	1.0
Zinc	0.54								610000	NH	50
TOTAL PCB	ND<0.001	NA	NA	NA	ND<0.001	NA	NA	NA	10	NH	0.005
INORGANIC SUBSTANCES (SPLP)		NA	NA	NA		NA	NA	NA			
Lead	ND<0.013				ND<0.013				1000	5.0	0.15
Cadmium	ND<0.005				ND<0.005				1000	1.0	0.05
Barium	NA (2)				0.29				140000	100.0	10
Copper	NA				NA				76000	NH	13
Nickel	NA				NA				7500	NH	1.0
Zinc	NA				NA				610000	NH	50
TOTAL PCB	NA	NA	NA	NA	NA	NA	NA	NA	10	NH	0.005
TOTAL PETROLEUM HYDROCARBONS	920	400	560	460	150	80	92	80	2500	NH	2500
FLASHPOINT	ND	NA	NA	NA	NA	NA	NA	NA	NP	<140 F	NP
REACTIVE CYANIDE	ND<5.0	NA	NA	NA	NA	NA	NA	NA	NP	250	NP
REACTIVE SULFIDE	160	NA	NA	NA	NA	NA	NA	NA	NP	500	NP
pH	6.61	NA	NA	NA	NA	NA	NA	NA	NP	<2 OR >12.5	NP

NOTES:

1. Test parameters included: Hazardous waste characterization by TCLP; TPH IR by EPA Method 418.1; PAH by EPA Method 8270; SPLP metals/PCBs;
2. Definitions: NA = Not analyzed; ND = Not detected; NH = Nonhazardous by characteristic; NP = Not published; ppm = parts-per-million
3. From Connecticut DEP Remedial Standard Regulations for concentrations in soil.
4. From 40 CFR ch. 1, Section 261.24, Table I - Maximum Concentration of Contaminants for the Toxicity Characteristic.
5. Bold numbers indicate exceedance of regulatory criteria.

PROFILE THROUGH POND AREA AND RIVER CHANNEL

SCALE : HORZ. 1"= 40'
VERT. 1"= 8'



SITE PLAN

0' 40' 80' 120'

NOTES

1. MATERIAL EXCAVATED FROM THE NEW RIVER CHANNEL WAS PLACED IN THE SEDIMENT DEPOSIT AREAS. AFTER COMPLETION OF FILLING OPERATIONS, THE AREAS WERE GRADED AND STABILIZED WITH SEED AND MULCH.
2. SOME OF THE MATERIAL ORIGINALLY BROUGHT FROM THE BRASS MILL/TOELLES ROAD SITES AND USED FOR A TEMPORARY ACCESS ROAD, WAS PLACED IN THE SEDIMENT DEPOSIT AREA IN THE APPROXIMATE LOCATION SHOWN AND COVERED WITH A MINIMUM OF 4 FEET OF SEDIMENT EXCAVATED FROM THE NEW RIVER CHANNEL. (SEE PROFILE)
3. FOR INITIAL ACCESS TO THIS WORK AREA, MATERIAL FROM THE BRASS MILL/TOELLES ROAD SITES WAS DEPOSITED IN A SECTION OF THE GRAVEL ROAD/BERM. AT A MINIMUM, THE UPPER 4 FOOT PORTION OF THE MATERIAL WAS SUBSEQUENTLY EXCAVATED AND PLACED IN THE WESTERLY SECTION OF THIS SEDIMENT DEPOSIT AREA AS NOTED IN NO. 2 ABOVE AND SHOWN ON THE SITE PLAN. FOLLOWING EXCAVATION, THE REMAINING BRASS MILL/TOELLES ROAD MATERIAL WAS COVERED BY A MINIMUM OF 4 FEET OF GRAVEL FROM THE TILCON SOUTHINGTON PIT.
4. THIS AS-BUILT PLAN SHOWS THE ONSITE CONDITIONS AS OF SEPTEMBER 26, 1998.

I HEREBY DECLARE THAT THE DEMOLITION OF THE SPILLWAY, THE PLACEMENT OF THE SEDIMENT DEPOSITS AND THE EXCAVATION OF THE RIVER CHANNEL, AS SHOWN HEREON BY THE AS-BUILT SURVEY, ARE IN GENERAL CONFORMANCE WITH PLANS ENTITLED "SPILLWAY BREACH, EAST BRASS MILL DAM, WATERBURY, CONNECTICUT", DATED 10-31-94, WITH THE LATEST REVISION DATED 6-24-98. THE MAJOR DEVIATION THEREFROM (AS APPROVED BY DEP AT THE TIME OF CONSTRUCTION) IS THE CHANGE IN DIRECTION OF THE EASTERLY END OF THE NEW CHANNEL AND ALIGNMENT OF THE SEDIMENT DEPOSIT AREA TO CONFORM TO THE EXISTING ALIGNMENT OF THE RIVER.

KARL F. ACIMOVIC, P.E. #13032

STATE OF CONNECTICUT KARL F. ACIMOVIC #13032 LICENSED PROFESSIONAL ENGINEER

THE CONTOURS AS SHOWN ON THIS PLAN ARE IN CONFORMANCE WITH CLASS T-2 AND THE BASE LINES USED FOR THE HORIZONTAL CONTROL SURVEY CONFORM TO CLASS A-2 AS DEFINED BY THE MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, AS PREPARED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYS, INC. ON SEPTEMBER 26, 1996.

I HEREBY DECLARE THAT THIS MAP IS SUBSTANTIALLY CORRECT.

KARL F. ACIMOVIC, L.S. #13032

STATE OF CONNECTICUT KARL F. ACIMOVIC #13032 REGISTERED LAND SURVEYOR

DATE	BY	REVISION

AS - BUILT SITE PLAN
SPILLWAY BREACH & CHANNEL EXCAVATION
PREPARED FOR
GENERAL GROWTH PROPERTIES
WATERBURY, CONNECTICUT
DECEMBER 24, 1998

KARL F. ACIMOVIC, P.E. & L.S.
CONSULTING ENGINEER

SURVEY BY: KFA, RLV	DATE: 9-26-98	SCALE: AS NOTED	
BASE PLAN BY: RLV	DATE: 10-12-98	DWG. NO. 97011-1	
DESIGN BY: KFA	DATE: 12-23-98	SHEET 1 OF 1	

Thu Dec 24 11:41:29 1998

APPENDIX H

2009 Boring Location Plans

TABLE II
Subsurface Exploration Program
I-84, Waterbury, Cheshire and Southington
Project No. 151-273 and 151-307

Boring Location No.	Old Location No.	**Existing Roadway Location**	**Northing**	**Easting**	**Notes**
R301	1	I-84 WB	231,510	281,763	Overhead Sign Location No.1-Boring relocated to top of slope
R302	2	I-84 EB	231,352	281,784	Overhead Sign Location No.2
R303	3	I-84 WB infield of exit WB 23 off	231,145	282,079	VMS Loacation No. 1
R304	4	I-84 EB	230,909	282,656	Overhead Sign Location No.3
R305	5	I-84 EB	230,882	282,652	Overhead Sign Location No.3
MW-1	6	Former City Mill Pond	230,939	282,783	Boring and Monitoring Well - Right of Entry Permit Required
MW-2	7	Former City Mill Pond	231,002	282,796	Boring and Monitoring Well - Right of Entry Permit Required
MW-3	8	Former City Mill Pond	231,028	282,733	Boring and Monitoring Well - Right of Entry Permit Required
MW-4	9	Former City Mill Pond	231,080	282,771	Boring and Monitoring Well - Right of Entry Permit Required
MW-5	10	Former City Mill Pond	231,119	282,714	Boring and Monitoring Well - Right of Entry Permit Required
R306	11	Reidville Drive	230,810	283,209	Overhead Sign Location No.4
R307	12	I-84 EB	230,794	283,886	Overhead Sign Location No.5
R308	13	I-84 EB	230,951	284,333	Overhead Sign Location No.6
R309	14	I-84 EB	231,238	284,939	Overhead Sign Location No.7
S111-101	15	I-84 WB	231,355	285,158	Revised Retaining Wall 111
S111-102	16	I-84 WB	231,358	285,209	Revised Retaining Wall 111
S111-103	17	I-84 WB	231,357	285,260	Revised Retaining Wall 111
S111-104	18	I-84 WB	231,352	285,310	Revised Retaining Wall 111
S111-105	19	I-84 WB	231,343	285,361	Revised Retaining Wall 111
S111-106	20	I-84 WB	231,329	285,410	Revised Retaining Wall 111
S111-107	21	I-84 WB	231,311	285,457	Revised Retaining Wall 111
S111-108	22	I-84 WB	231,281	285,522	Revised Retaining Wall 111
R310	23	I-84 WB Approx. 560 m east of Austin Road	230,712	286,485	VMS Location No. 2
R311	24	I-84 EB Approx. 1275 m east of Waterbury Road	231,614	288,959	VMS Location No. 3
R312	25	I-691 WB Approx. 244 m east of Route 10	-	-	Boring at 4' from edge of pavement VMS Location No. 4
R313	26	I-84 WB Approx. 50 m east of Prospect Street	-	-	Boring at 4' from edge of pavement VMS Location No. 5

Located Borings

301,	231505.204,	281757.407,	117.603,	BOR1 / R301
302,	231351.697,	281785.214,	119.071,	BOR2 / R302
303,	231144.567,	282082.943,	116.439,	BOR3 / R303
304,	230904.609,	282649.497,	114.117,	BOR4 / R304
305,	230882.704,	282650.922,	113.258,	BOR5 / R305
306,	230939.544,	282783.218,	109.855,	BOR6 / MW-1
307,	231000.207,	282794.583,	111.377,	BOR7 / MW-2
308,	231026.059,	282730.787,	110.836,	BOR8 / MW-3
309,	231079.859,	282769.773,	112.708,	BOR9 / MW-4
310,	231117.800,	282714.541,	111.666,	BOR10 / MW-5
311,	230821.400,	283216.494,	123.095,	BOR11 / R306
312,	230792.036,	283887.624,	130.400,	BOR12 / R307
313,	230953.130,	284331.572,	134.872,	BOR13 / R308
314,	231246.033,	284936.413,	141.748,	BOR14 / R309
315,	231355.113,	285157.785,	145.350,	BOR15 / S111-101
316,	231357.158,	285203.307,	146.026,	BOR16 / S111-102
317,	231351.133,	285259.733,	146.589,	BOR17 / S111-103
318,	231339.711,	285306.152,	146.638,	BOR18 / S111-104
319,	231346.402,	285363.265,	140.133,	BOR19a / S111-105a
419,	231345.368,	285364.642,	140.085,	BOR19b / S111-105b
320,	231314.331,	285406.148,	147.599,	BOR20 / S111-106
321,	231300.051,	285452.529,	147.756,	BOR21 / S111-107
322,	231273.595,	285517.723,	147.986,	BOR22 / S111-108
323,	230709.894,	286483.978,	162.788,	BOR23 / R310
324,	231615.999,	288956.931,	119.323,	BOR24 / R311
541,	232924.032,	292890.821,	52.027,	BOR25 / R312
326,	236675.483,	292012.902,	52.583,	BOR26 / R313

Profile @ Boring 3 / R303

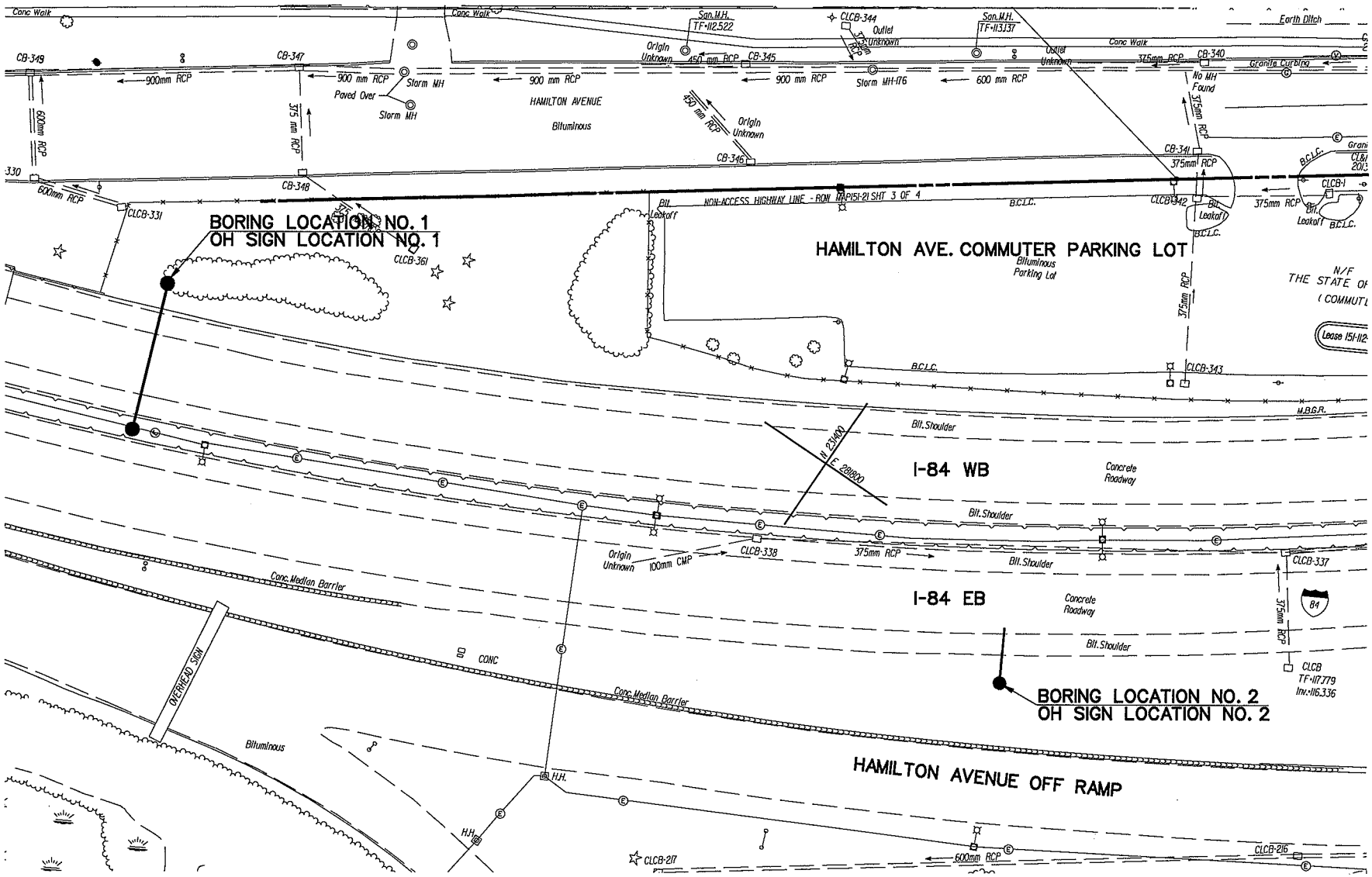
501,	231126.910,	282072.331,	114.666,	ER
502,	231127.528,	282072.702,	114.671,	Y
503,	231130.686,	282074.600,	114.630,	SS
504,	231133.831,	282076.490,	114.623,	W
505,	231136.685,	282078.206,	114.540,	ER
506,	231143.760,	282082.459,	116.244,	EPS
507,	231148.620,	282085.380,	116.936,	BC
508,	231148.718,	282085.439,	116.774,	BL

Profile @ Boring 23 / R310

521,	230695.713,	286475.518,	162.755,	ER
522,	230698.811,	286477.367,	162.943,	Y
523,	230708.184,	286482.960,	162.879,	W
524,	230711.388,	286484.869,	162.728,	ER
525,	230712.999,	286485.829,	162.561,	EPS
526,	230714.227,	286486.561,	162.074,	SS
-527,	230701.934,	286479.208,	162.988,	SS
-530,	230705.101,	286481.047,	162.945,	SS

Profile @ Boring 24 / R311

510,	231626.955,	288944.575,	119.257,	ER
511,	231624.538,	288947.300,	119.443,	Y
512,	231617.221,	288955.551,	119.406,	W
513,	231614.843,	288958.234,	119.251,	ER
514,	231613.556,	288959.686,	119.020,	EPS
515,	231612.991,	288960.324,	118.518,	SS
-516,	231622.140,	288950.025,	119.506,	SS



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REV:

I-84 SUBSURFACE PROGRAM
WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 1 AND 2

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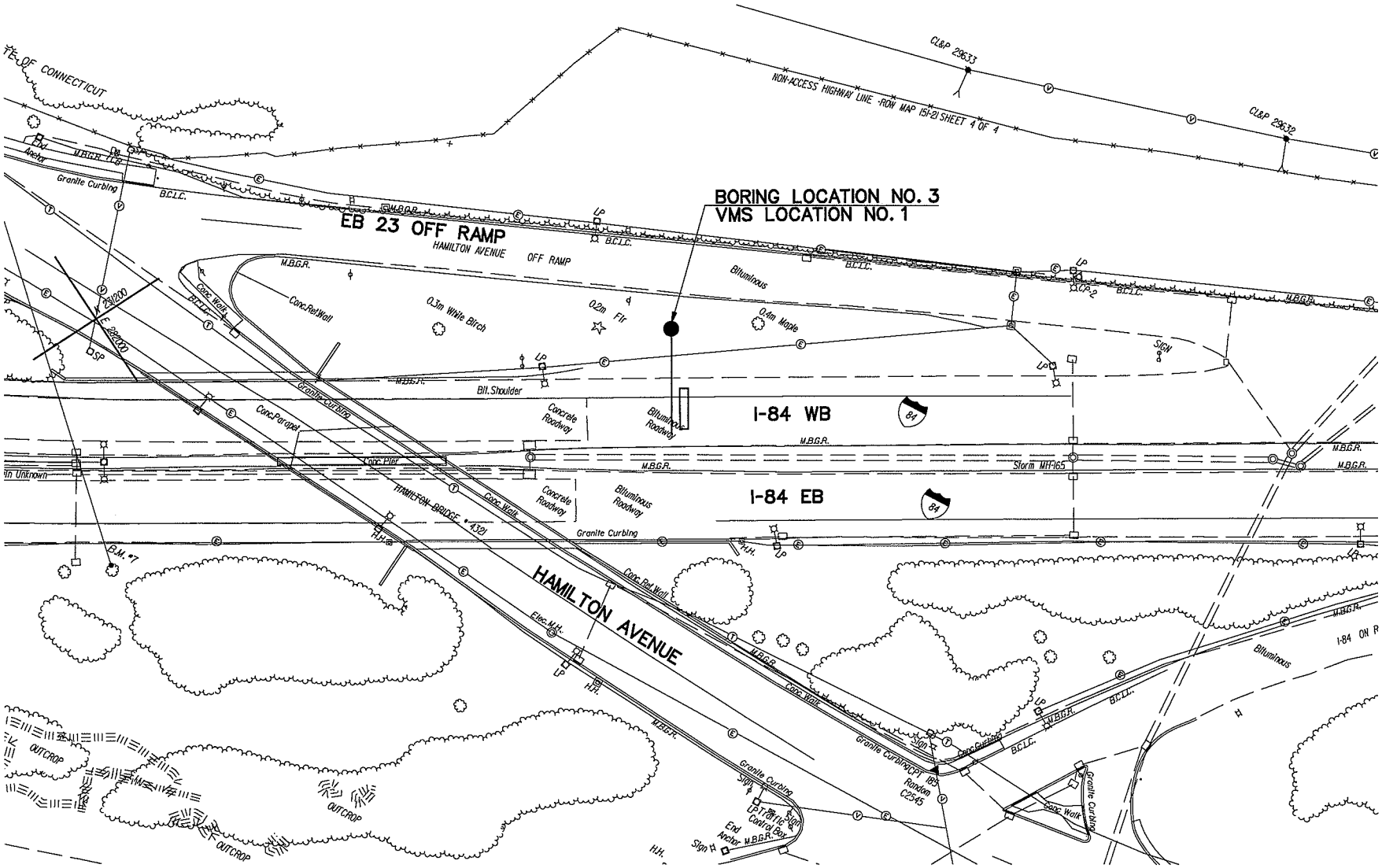
10/1/2008



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CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 3

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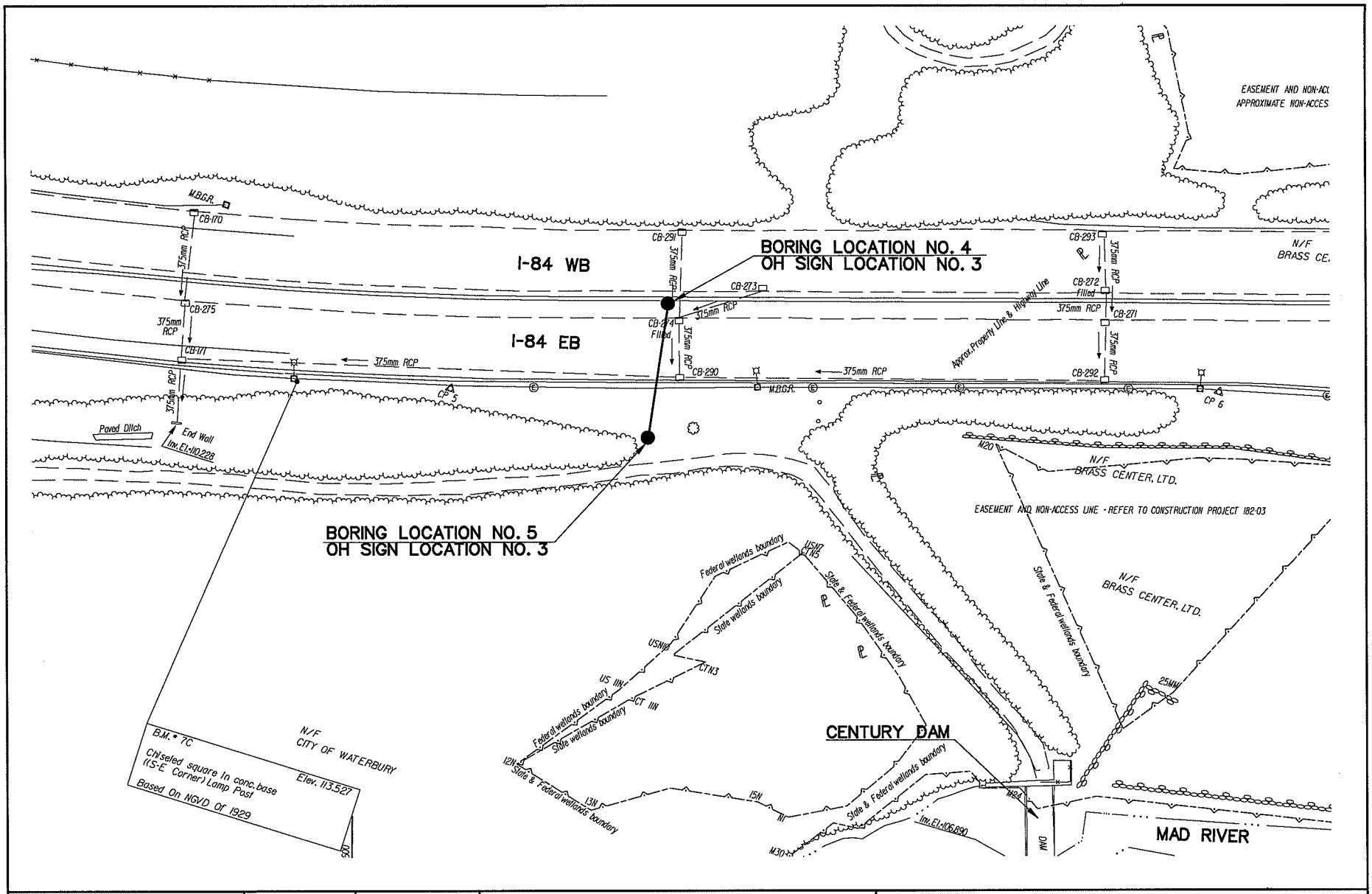

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PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 4 AND 5

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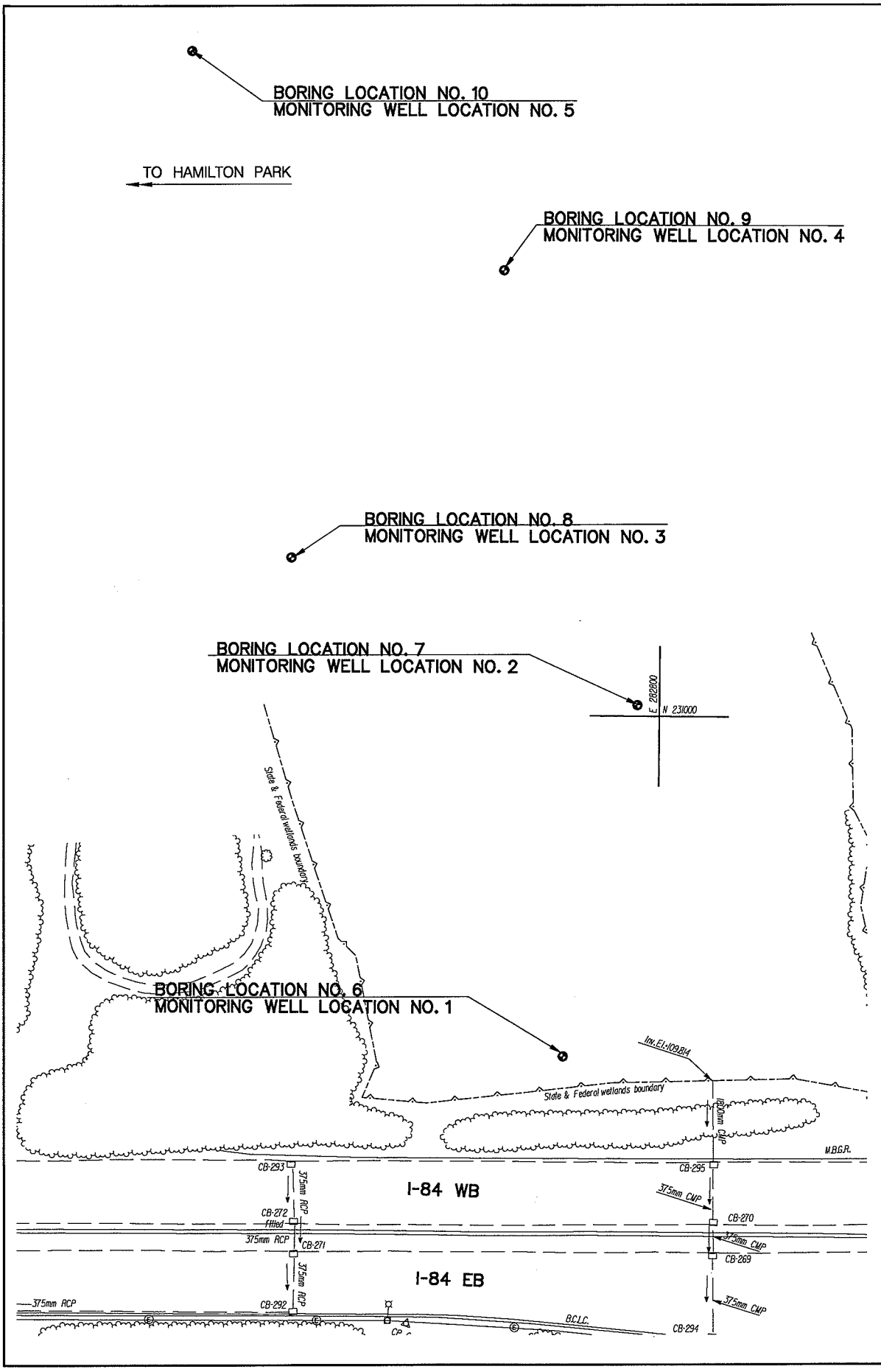

BORING LOCATION NO. 6 THRU 10

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CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

DATE: 4/08
REV:

SCALE IN METERS
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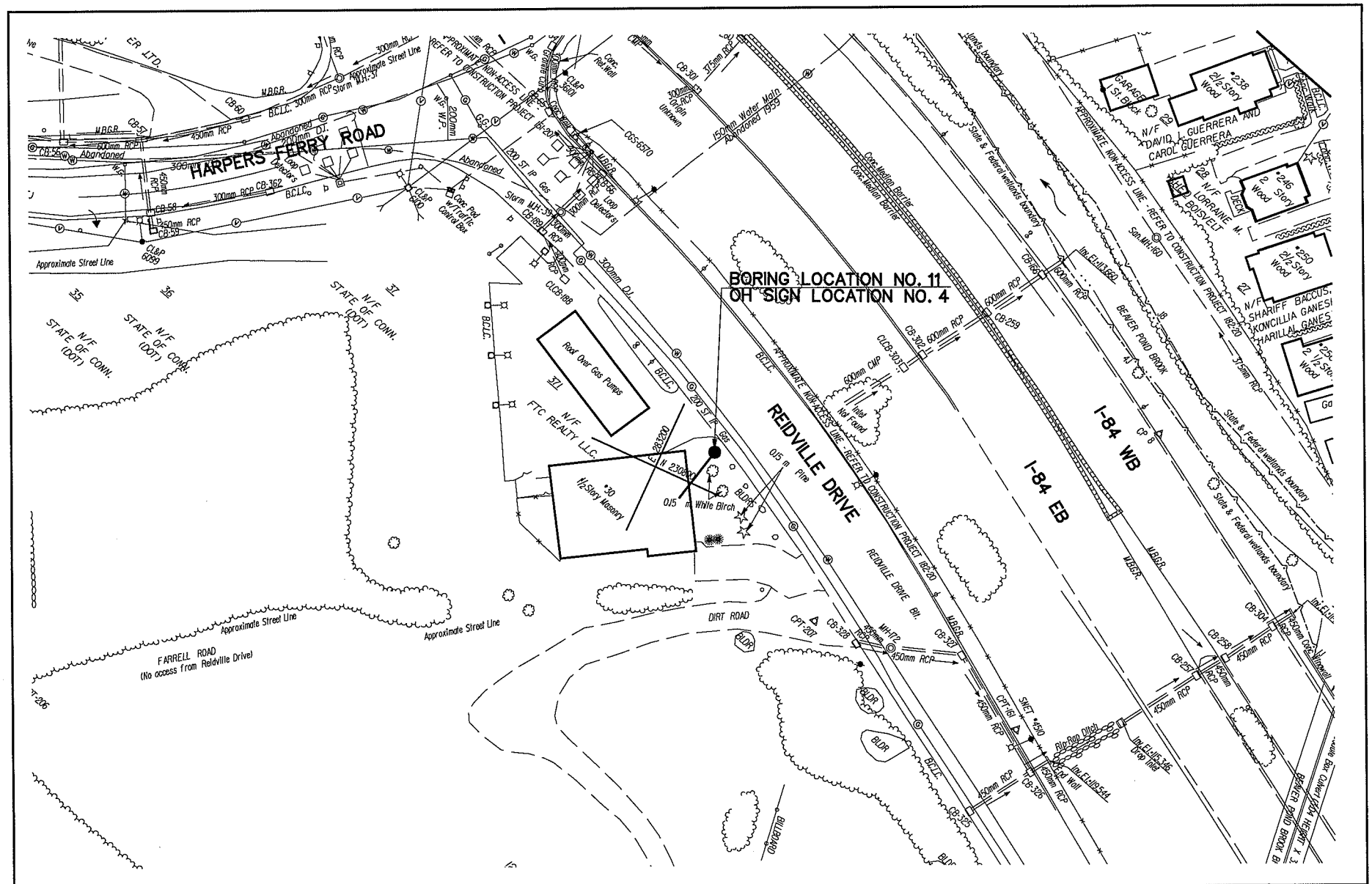

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PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 11

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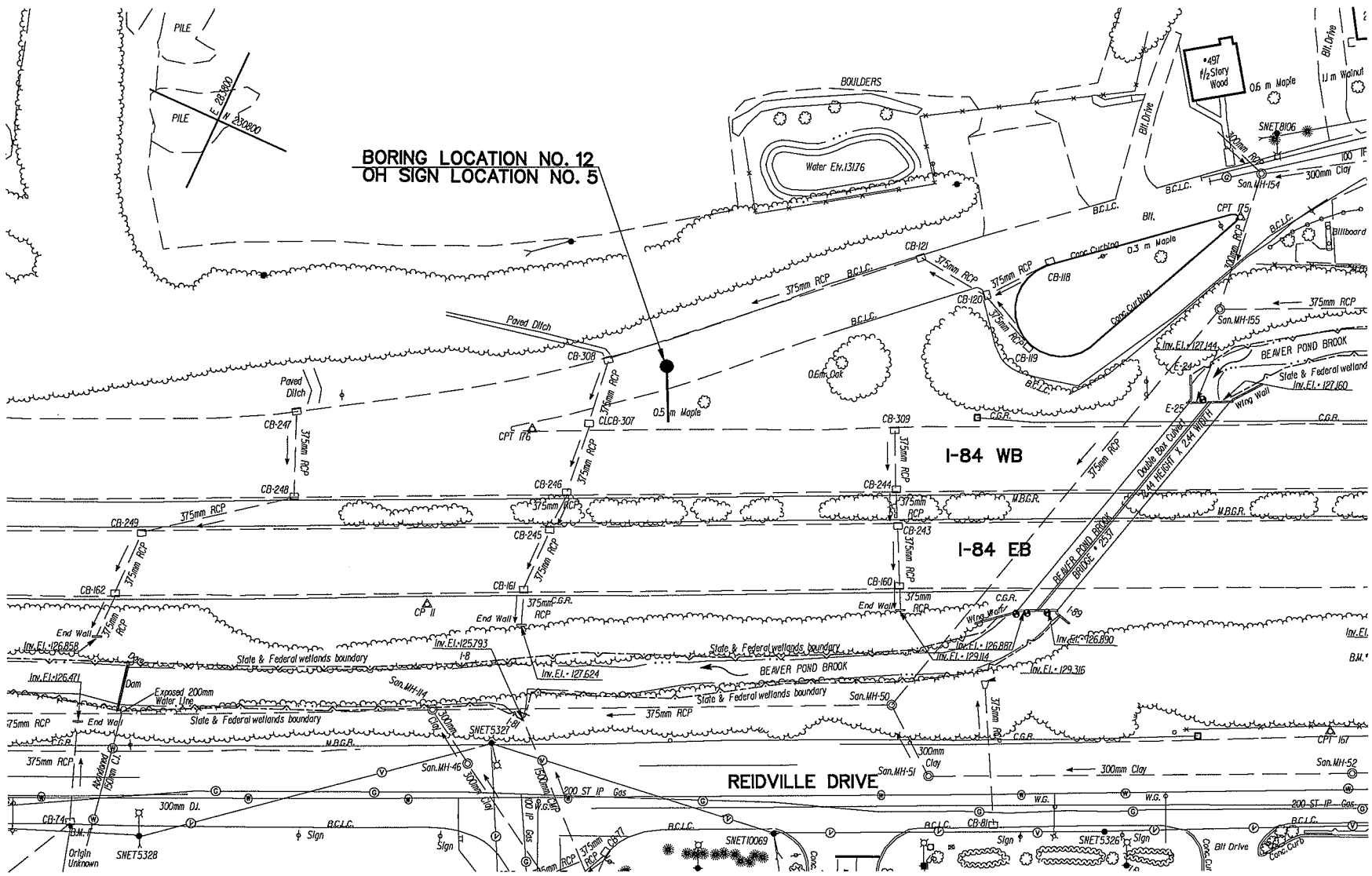
10/2008



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PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO.12

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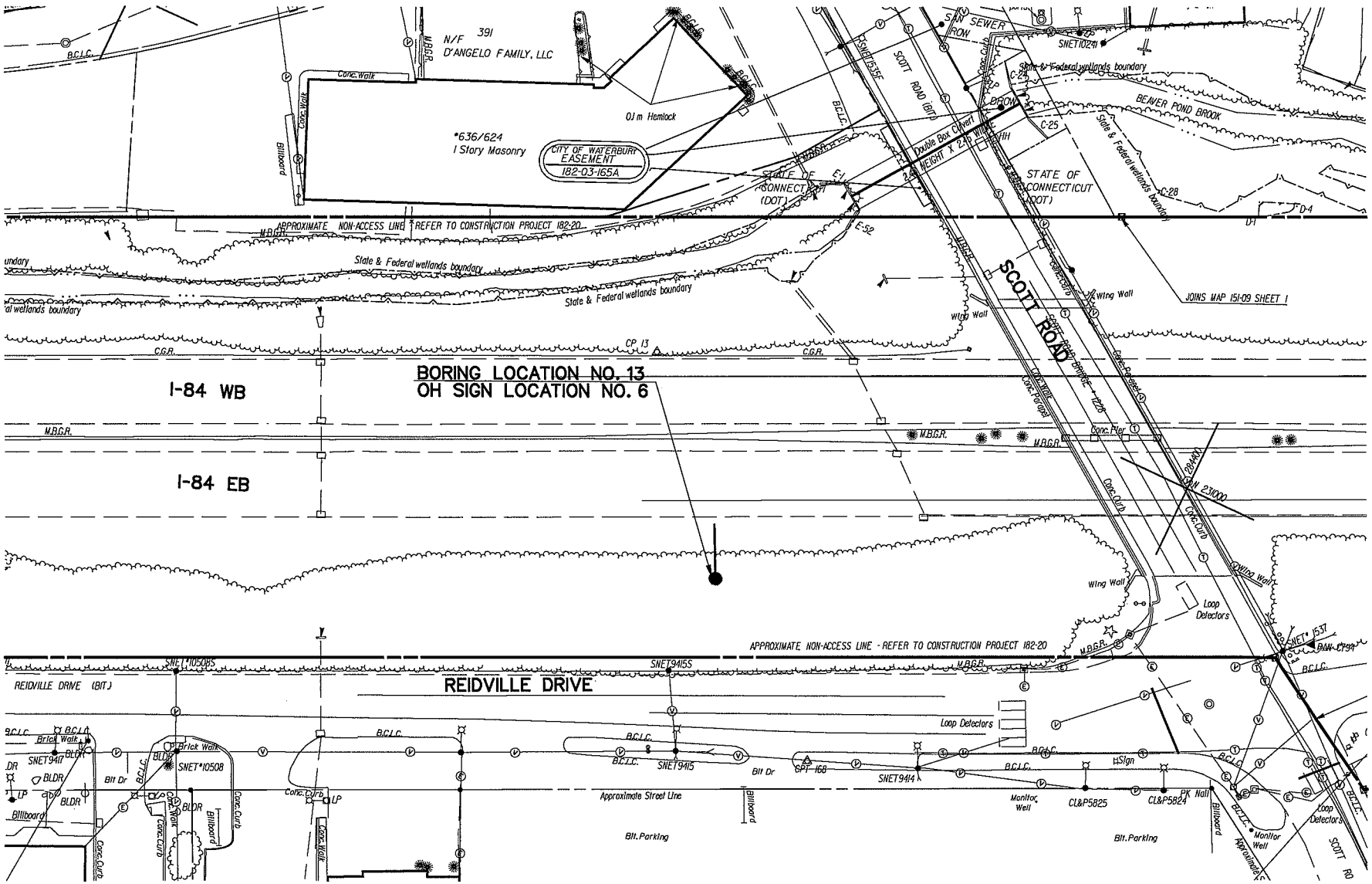

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DATE: 4/08
REV:

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WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 13

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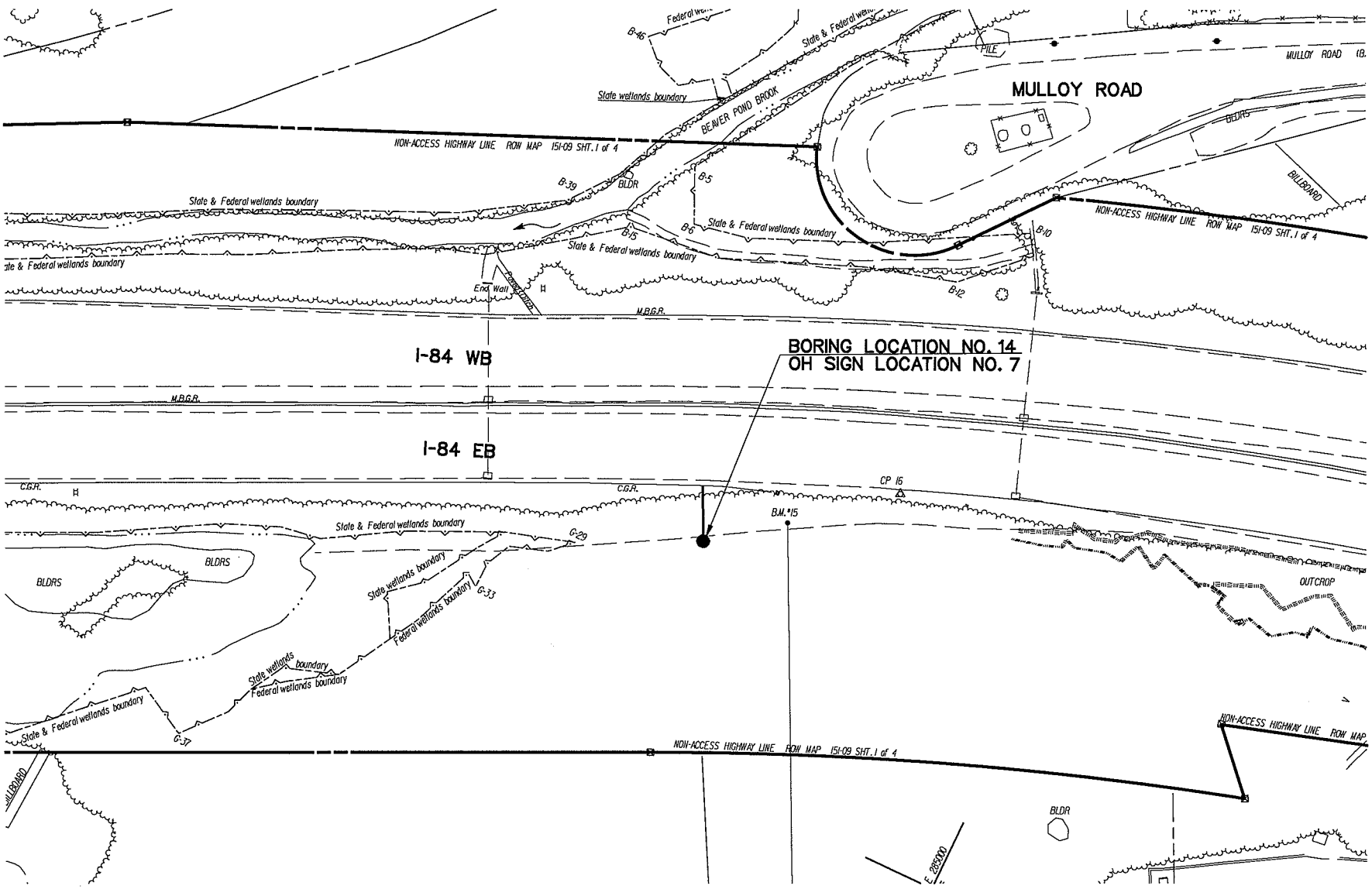
10/4/2008



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DATE: 4/08
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WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 14

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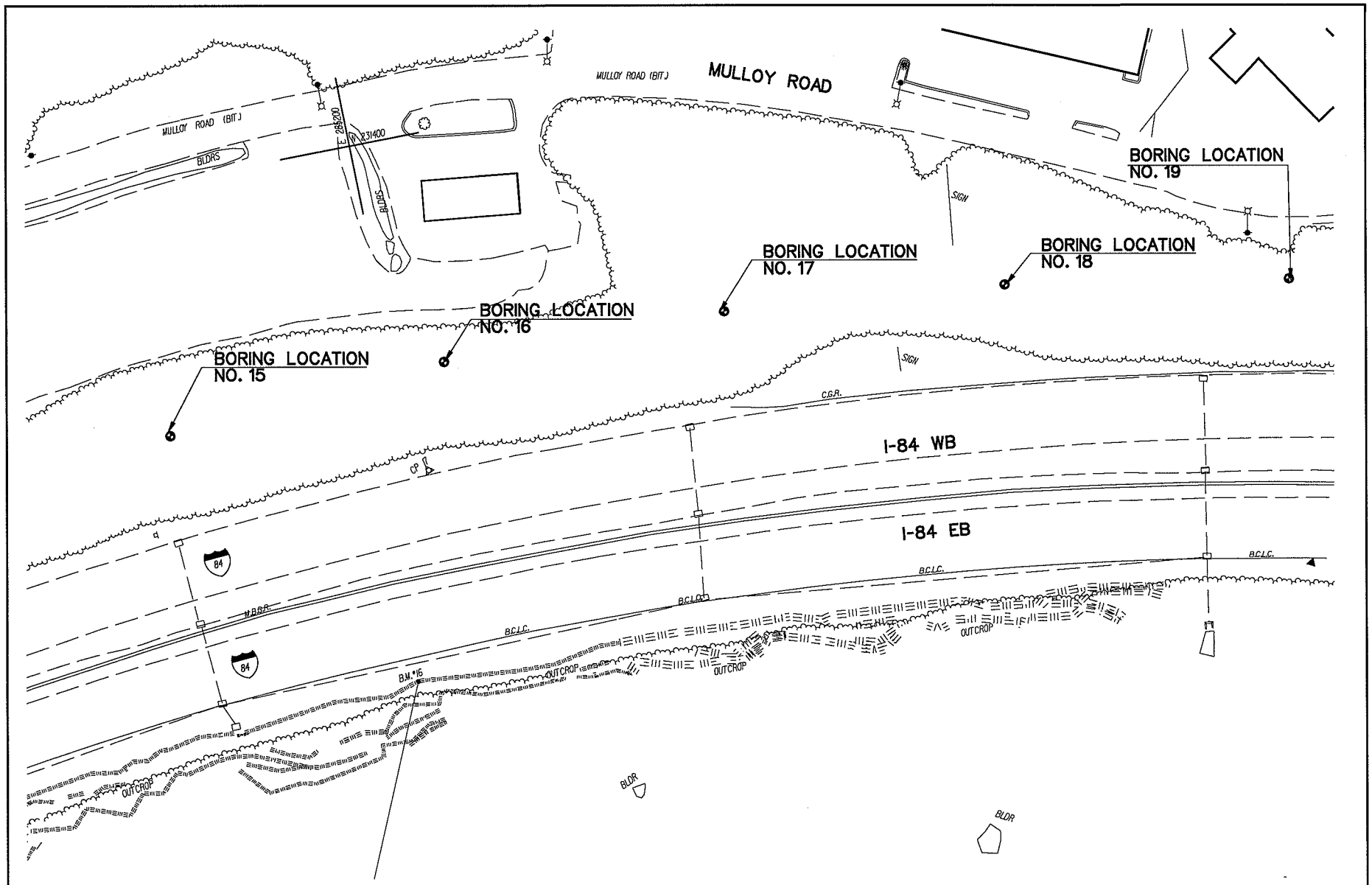

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CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 15 THRU 19

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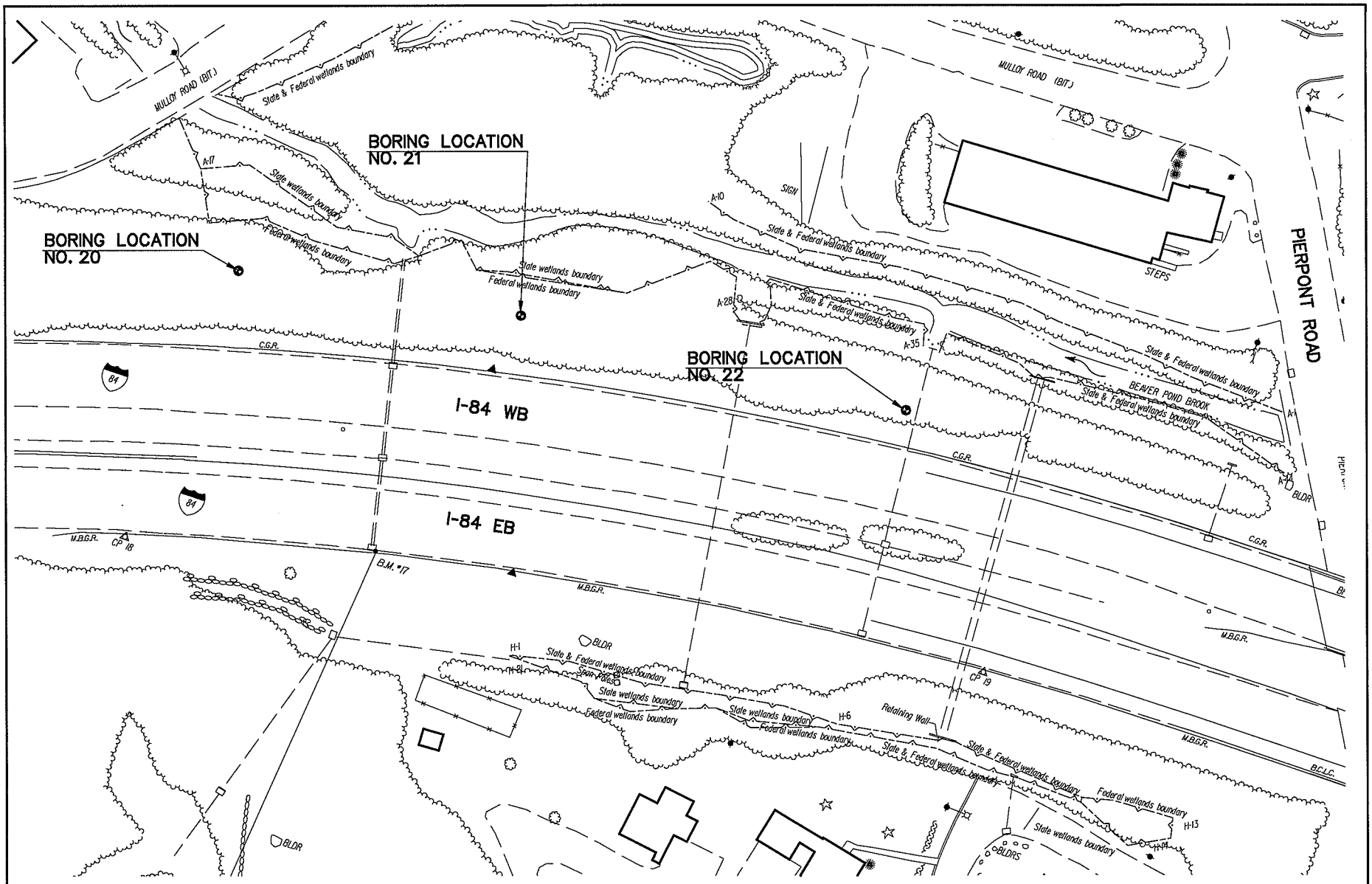

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REV:

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WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 20 THRU 22

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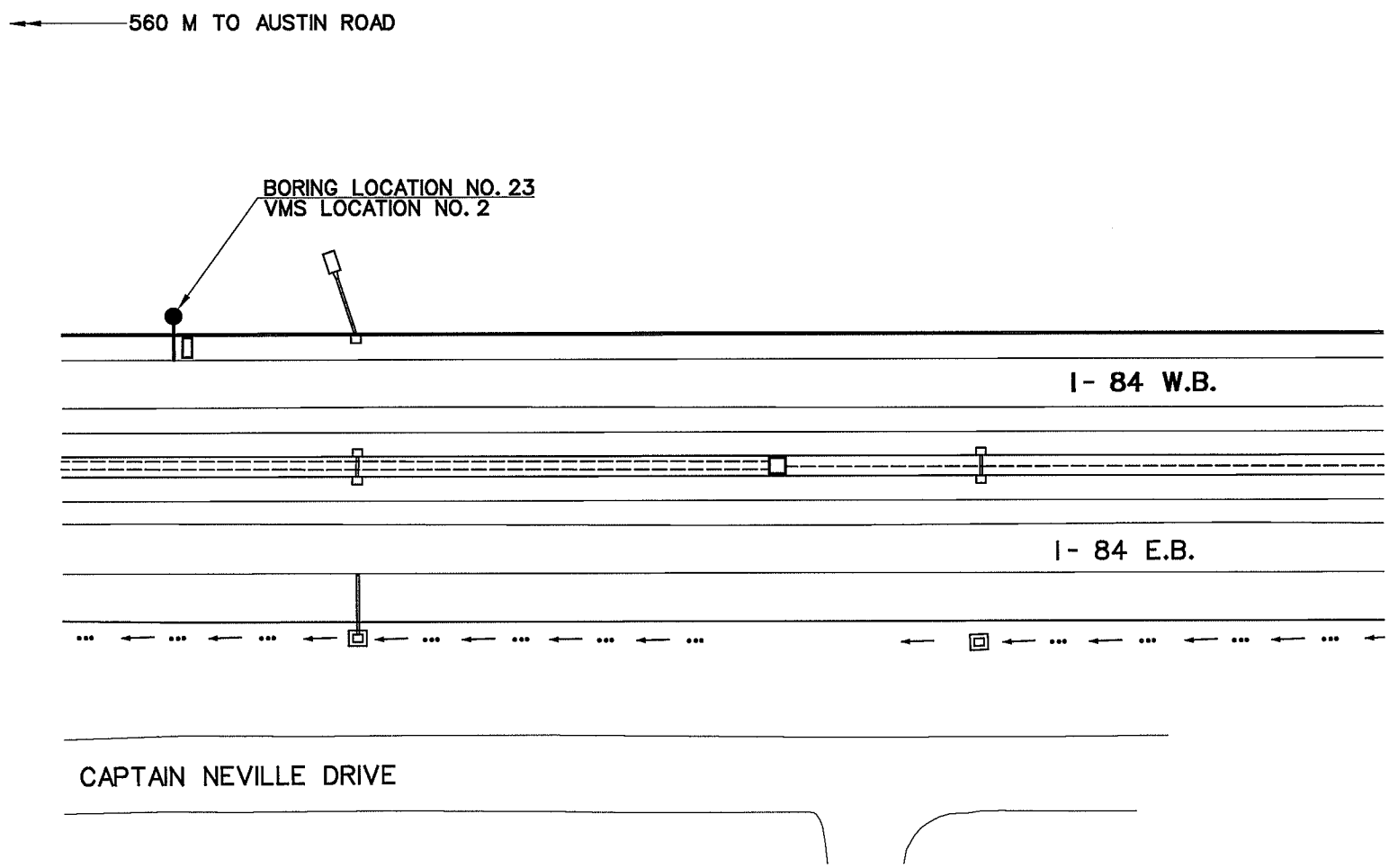
10/9/2008



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CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 23

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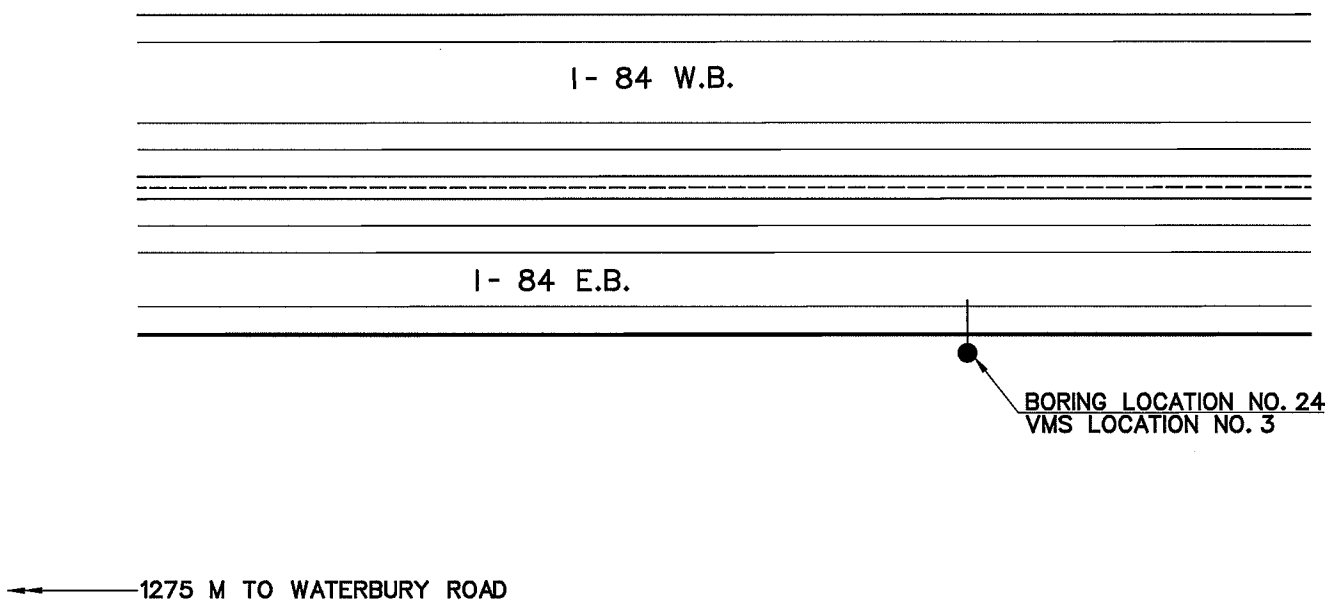

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WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 24

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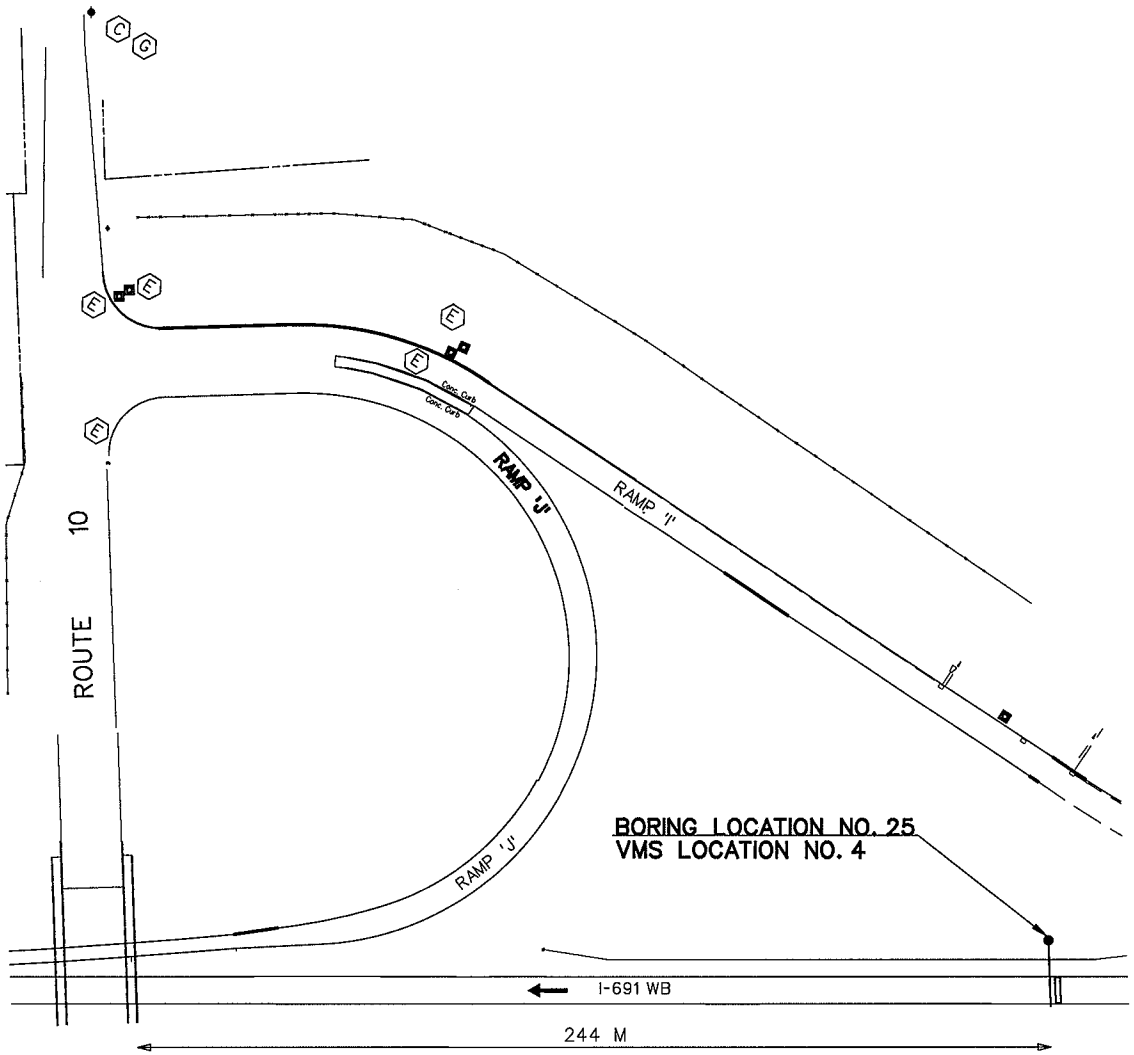
10/12008



SCALE IN METERS

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SCALE 1:1000

DATE: 4/08
REV:

I-84 SUBSURFACE PROGRAM
WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 25

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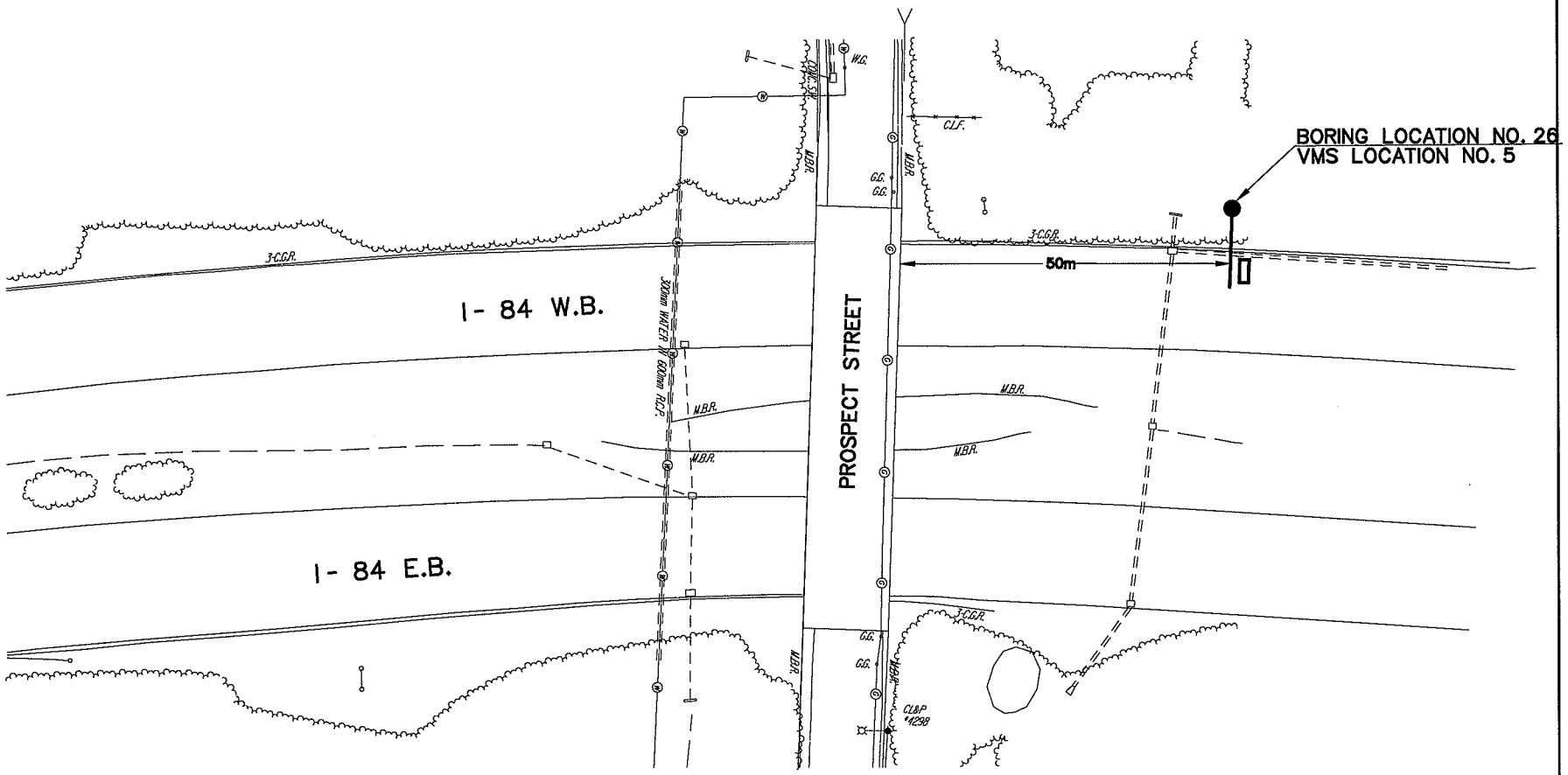
10/2008



SCALE IN METERS

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SCALE 1:1000

DATE: 4/08
REV:

I-84 SUBSURFACE PROGRAM
WATERBURY, CHESHIRE, CT
CONNECTICUT DEPARTMENT OF TRANSPORTATION
PROJECT NO. 151-273 AND 151-307

BORING LOCATION NO. 26

...\boring location 26.dgn
10/2008