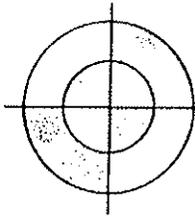


Subsurface Exploration Program

343-349 Summer Street
Somerville, MA

Project #702-238
(September 23, 2002)



IES, INC.

ENVIRONMENTAL CONSULTANTS

265 MEDFORD ST. • SOMERVILLE, MA 02143

(617) 623-8880 • FAX # (617) 629-2920

WWW.IESINC-ENVIRONMENTAL.COM

IESINC@AOL.COM

Direct Dial Numbers

David P. Borans: (617) 776-8549
Cosmo D. Capobianco: (617) 623-8883
Daniel G. Jaffe: (617) 776-2715

Kerry R. Asetta: (617) 776-0578
David Brincheiro: (617) 776-1950
Christopher D. Buchanan: (617) 776-0829
John R. DiPietro: (617) 623-6204
Matthew P. Kennedy: (860) 724-3273
Kevin G. Schwabe: (860) 724-4420
Kevin W. Taylor: (860) 724-3117
Drew Wollman: (617) 623-6204
D. Barry Woodworth, Jr.: (617) 623-5168

September 23, 2002

Mr. Terry Morris
Emerald Development
103 Morse Street
Watertown, MA 02172

Re: IES Project No. 702-238
Subsurface Exploration Program
343-349 Summer Street
Somerville, MA

Dear Mr. Morris:

As requested, and in accordance with the Terms of our Contract, this Subsurface Exploration Program was performed at the above referenced site. The purpose of this investigation was to determine if a release occurred at the site from the potential on-site and off-site sources of contamination previously identified in a "Preliminary Site Assessment" (PSA) performed at the site by IES in April of 2002 (Project No. 702-238). Additional information regarding the site's historical use, as well as the on-site and off-site sources of contamination are included in the aforementioned PSA.

A. Introduction

According to the USGS Boston North, MA Quadrangle Map, the site is situated approximately 26 feet (8 meters) above mean sea level, as shown in **Figure 1, Attachment "A"** of this Report. The site is also identified on the City of Somerville Assessor's Map #25, as Lots #33, #34 and #35, as shown in **Figure 2, Attachment "A"**.

The site consists of three, contiguous, irregularly shaped parcels of land, located at 343, 345 and 349 Summer Street, in Somerville, MA. The site comprises a total area of 16,799 square feet of land, and is currently occupied by a small concrete foundation capped with a steel grate, which is used as an MBTA underground venting system (see Photograph #1 in **Attachment "A"**). It should be noted that the MBTA Red Line subway train currently runs underneath the subject site.

In the late 1800's and early 1900's, the site was occupied by a "milk lab" and a "wagon shed". In 1917, a 40-car repair garage was constructed at the site (at 349 Summer Street), with an addition to the garage in the 1920's (at 345 Summer Street). Two residences were



also constructed in the 1920's on the southwestern portion of the site, near Summer Street. These structures remained at the site until 1979, when they were razed for construction of the Red Line subway system located underneath the site.

The site is abutted to the northeast by Summer Street, and the area further to the northeast is occupied by residential dwellings located along Summer Street and Elston Street. The area to the northeast of the site has been occupied by residential dwellings since the area was developed in the early 1900's.

The site is abutted to the southeast by Summer Street, and the area further to the southeast is also occupied by residential dwellings located along Summer Street (see Photograph #2 in **Attachment "A"**). The area to the southeast of the site has been occupied by residential dwellings since the area was developed in the early 1900's.

The site is abutted to the south by a social club and associated parking lot (Veterans of Foreign Wars) at 355 Summer Street. The area further to the south of the site is occupied by a bank (Winter Hill Bank) (see Photograph #3 in **Attachment "A"**). The area abutting the site to the south has been occupied by the VFW since at least the 1960's, and the area further to the south has been occupied by a bank since the early 1900's.

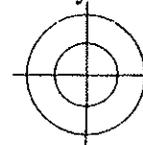
The site is abutted to the northwest by residential properties located along Summer Street and Hawthorne Street (see Photograph #4 in **Attachment "A"**), and the area further to the northwest is also occupied by residential dwellings. The area to the northwest of the site has been occupied by residential dwellings since the area was developed in the early 1900's.

The remaining properties further to the northeast and beyond the abutting residence are occupied by residential properties, and these properties have occupied this area since at least the early 1900's.

B. Potential Sources of Contamination

Potential on-site sources of contamination identified in the April of 2002 PSA included that fact that the site was occupied by a 40-car repair garage from approximately 1917 until 1979. In addition, a permit was issued for the site in 1979 for the removal of a 4,000-gallon gasoline UST. No additional information was available regarding the removal of the tank, such as confirmatory analytical work indicating the absence of contamination from the tank. According to records on file at the City Clerks office, a permit was issued to Mr. Edward Kendall for a 500-gallon UST. The permit was renewed every year until 1978, one year prior to when the buildings at the site were razed. Automotive related fluids were most likely used during the site's use as an automotive repair facility from approximately the 1920's until 1979. Finally, permits issued for the site revealed that fuel oil was stored in 275-gallon above ground tanks located in the basements of the residential dwellings at the site.

Potential off-site sources of contamination identified in the April of 2002 PSA included the spill at 371 Summer Street (N85-0866), which is located approximately 150 feet to the



I E S, INC.

northwest of the site. This spill involved the release of 200-300 gallons of #2 fuel oil on November 13, 1985. No additional information was available at the DEP regarding this spill at that time, and therefore, due to the proximity and unknown nature of this release, it was considered to pose a potential threat of contamination to the subject site. In addition, due to the proximity and presence of gasoline contamination in the groundwater at the property located at 201-203 Elm Street (RTN 3-0149), which is located approximately 400 feet to the northwest of the site, it was also considered to pose a potential threat of contamination to the subject site. Finally, due to the proximity of the USTs located at 355, 371, and 377-379 Summer Street, as well as 187 Elm Street, they were considered to pose a potential threat of contamination to the subject site.

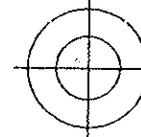
Additional information regarding the subject site and nearby properties is contained in the aforementioned PSA report.

C. Subsurface Investigation

In order to determine if a release has occurred the site, a subsurface soil and groundwater sampling and analysis program was conducted at the site by IES, Inc. on September 9, 2002. This program consisted of the advancement of four test borings (B-1 through B-4), and the installation of three monitoring wells in borings MW-1 through MW-3. Boring B-1 was advanced on the northern portion of the site, to the north of the MBTA vent shaft; Boring B-2 was advanced on the northwestern portion of the site, south of the residential dwelling abutting the site to the west; Boring B-3 was advanced on the southwestern portion of the site, to the southwest of the vent shaft; and Boring B-4 was advanced on the western portion of the site, to the south of the residential dwelling abutting the site to the west. Due to the location of the vent shaft and the subway located beneath the site, the available areas for boring advancement were limited, however, the borings were advanced at various locations in order to determine if the site has been impacted by a release. In addition, due to the fact that the site was developed with the subway system and vent shaft located beneath the site, a substantial amount of soil was removed from the eastern and southeastern portions of the property. Therefore, the presence of contamination in those areas is considered unlikely. The locations of the test borings and monitoring wells at the site are shown in Figure 3 in Attachment "A".

The test-boring contractor (Carr-Dee Corp., of Medford, MA) was contracted separately by the client, and IES was present to observe the testing program and to collect necessary soil and groundwater samples from the three newly installed monitoring wells. The borings were advanced utilizing a 4.25-inch diameter hollow-stem auger. A split spoon sampler was utilized to collect samples at five-foot depths, and all sampling equipment was then decontaminated with clean water and detergent prior to the collection of the next sample. Each sample removed from the split-spoon sampler was placed into pre-cleaned 8 oz. jars for headspace screening.

The soil samples obtained from the site were screened with a Thermo Environmental Model 580B Organic Vapor Meter (OVM) to detect the presence of Volatile Organic Compounds



IES, INC.

(VOC's) in the soil headspace. The results of the soil sample screening did not reveal the presence of VOC's above background (1 ppm). As a result, no soil samples were submitted for laboratory analysis.

The results of the soil sample screening program performed by IES are summarized in the following Table 1, and test boring logs are included in Attachment "B" of this report.

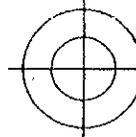
Table 1
Soil Sample Screening Results

| BORING # | SAMPLE # | SAMPLE DEPTH (FT) | HEADSPACE READING (PPM) |
|--|----------|-------------------|-------------------------|
| B-1 | S-1 | 0-2 | 0 |
| | S-2 | 5-7 | 0 |
| | S-3 | 10-12 | 0 |
| | S-4 | 15-17 | 0 |
| B-2 | S-1 | 0-2 | 0 |
| | S-2 | 5-7 | 0 |
| | S-3 | 10-12 | 0 |
| | S-4 | 15-17 | 0 |
| B-3 | S-1 | 0-2 | 0 |
| | S-2 | 5-7 | 0 |
| | S-3 | 10-12 | 0 |
| | S-4 | 15-17 | 0 |
| B-4 | S-1 | 0-2 | 0 |
| | S-2 | 5-7 | 0 |
| Notes: <u>Parameters for Soil Sample Screening</u> | | | |
| 1. Thermo Environmental Organic Vapor Meter (Model 580B) | | | |
| 2. Utilizing 10.2 Electron Volt PID Lamp | | | |
| 3. Span Calibrated for Benzene (as required by the DEP) | | | |
| 4. Background at 1 ppm | | | |

For notification purposes the soil samples obtained from the site are classified as RCS-1 since they satisfy one or more of the following criteria: the samples were collected from within 500 feet of 1. a residential dwelling, residentially zoned property, school, playground, recreational area, or park; or 2. within the geographic boundaries of a groundwater resource area categorized as RCGW-1 [310 CMR 40.0362(1)(a)].

D. Groundwater Sampling & Analysis

On September 11, 2002, the three monitoring wells at the site (MW-1 through MW-3) were purged of approximately three volumes of standing water to ensure that the samples were representative of the aquifer. At the time of the sampling, monitoring well MW-1 was dry, and therefore, no groundwater sample was collected from that well. It should be noted that groundwater was encountered during boring advancement in that well, as well as in the remaining two wells installed at the site. Therefore, it appears that the lack of groundwater



IES, INC.

recharge to that well may be the result of incorrect construction during the completion of that well.

The groundwater samples obtained from the remaining two monitoring wells (MW-2 and MW-3) were obtained with dedicated, disposable PVC bailers, preserved according to EPA guidelines published in 40 CMR 136, and forwarded to Con-Test Analytical Laboratories, Inc. of East Longmeadow, MA. Field blanks were also submitted for analysis to provide quality control data.

The groundwater samples were tested for Extractable Petroleum Hydrocarbons (EPH), Volatile Petroleum Hydrocarbons (VPH), Volatile Organic Compounds (VOCs) via EPA Method 8260, and dissolved RCRA 8 metals, in order to detect any contamination from the historical use of the site as an automobile repair facility, and any contamination that may have migrated to the site from an off-site source.

The results of the laboratory testing revealed Chloroform at 1.8 ug/l and Methyl Tert Butyl Ether (MTBE) at 8.7 ug/l in monitoring well MW-2, which are below their respective Reporting Concentrations (RCGW-2) of 400 ug/l and 50,000 ug/l respectively. MTBE was also detected in MW-3 at 2.8 ug/l, which is also below the RCGW-2 Standard of 50,000 ug/l.

Laboratory results also revealed EPH fractions C₁₉-C₃₆ Aliphatics in monitoring well MW-3 at 442 ug/l, which is also well below the RCGW-2 Standard of 20,000 ug/l. Finally, Barium (at 0.0478) and Cadmium (at 0.0047 mg/l) were detected in MW-2, as well as Barium in monitoring well MW-3 at 0.0665 mg/l. These levels are well below their respective RCGW-2 Standards of 30,000 mg/l for Barium and 10 mg/l for Cadmium. The remaining contaminants were not detected above laboratory detection limits.

Laboratory reports and chains-of-custody are included in **Attachment "C"** of this report.

E. Conclusions & Recommendations

In September of 2002 IES conducted a Subsurface Exploration Program at the subject site. This program included the advancement of four test borings (B-1 through B-4) the installation of three monitoring wells in three of the four borings (MW-1 through MW-3), soil sample screening, and laboratory testing of two groundwater samples for the presence of EPH, VPH, VOCs, and dissolved RCRA 8 metals.

The results of this testing program revealed the presence of Chloroform, MTBE, Barium, and Cadmium in groundwater samples obtained from the two monitoring wells sampled at the site. However, the levels reported are well below their respective reportable concentrations. The remaining contaminants were not detected above laboratory detection limits.

Based on the contents of this report, the interpretation of the data above, and the interpretation of the remainder of the information detailed in this report, as well as the April of 2002 "Preliminary Site Assessment" report, the subject site, at this time, is considered to

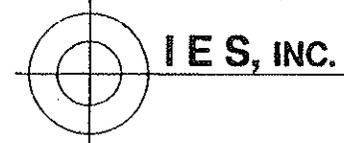


exhibit a release which is below the Department of Environmental Protection's "Reportable Concentrations", as defined in the Massachusetts Contingency Plan (310 CMR 40.0300), and therefore, DEP notification is NOT required at this time, in accordance with 310 CMR.

Furthermore, if additional data becomes available, or related quantitative or qualitative analysis is performed, IES should review the material to determine if the conclusions in this report should be modified.

Should have any questions regarding this report, please do not hesitate to call our office.

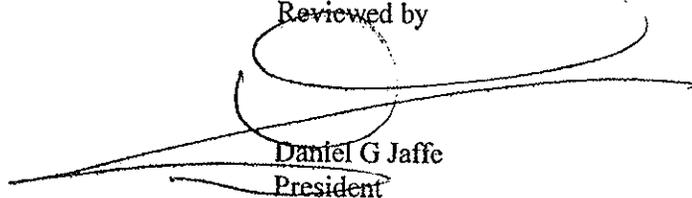
Respectfully submitted,

IES, Inc



David Brincheiro
Senior Hydrogeologist

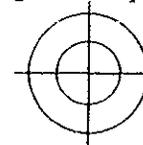
Reviewed by



Daniel G Jaffe
President

LIMITATIONS

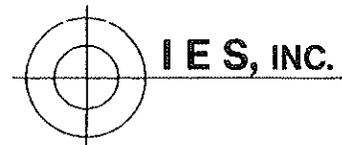
1. The information gathered for the purpose of preparing this report from the Sub-Surface Informational Surveys, Inc. report was taken at face value. IES, Inc. will not be liable for any errors and/or omissions that you may incur from any assumptions, procedures and/or conclusions that are not accurate and were based on faulty facts taken from the report produced by Sub-Surface Informational Surveys, Inc.,
2. The purpose of this Subsurface Exploration Program is to delineate the extent of contamination at the subject site. The information obtained from sub-contractors, personal interviews, public records, and maps is subject to the personal recollection of those persons interviewed, and the availability and accuracy of the records on file with the State and municipal agencies. IES not be responsible for errors resulting from incorrect information provided by these sources.
3. This report was designed to assess the physical characteristics of the Site with regard to the likelihood of a release or threat of release of oil or hazardous materials and no attempt was made to investigate the regulatory compliance of the Site regarding Federal, State, or Local Laws and Regulations.
4. Our conclusions are based on the contents of this report and are a result of the interpretation of the existing data that was compiled.
5. If additional historical or analytical data becomes available, IES shall reserve the right to review this material to determine if the conclusions in this report are to be modified or updated.
6. IES has not made any attempt to definitively determine any impact that any release or threat of release, from the subject site, has on any surrounding properties nor has IES made any attempt to definitively determine any impact that any release or threat of release, from any surrounding properties, has on this subject site, therefore, if determination of said impacts are required by the Client, and in-depth subsurface exploration program must be undertaken and IES further recommends consultation with an attorney be initiated to determine the potential for liabilities.
7. Any laboratory analysis of samples collected by IES, at or beneath the site, was completed by independent laboratories. Unless otherwise noted in this Report, IES has accepted their data at face value without additional verification. No warranty the analytical results or procedures is expressed or implied by IES. Laboratory analyses are limited to those discussed in the report unless otherwise specified.
8. This Report is only a Subsurface Exploration Program, and additional work may be required, as defined in the Massachusetts Contingency Plan (MCP 310 CMR 40.0480), in order to complete a Phase I-Initial Site Investigation Report (Phase I



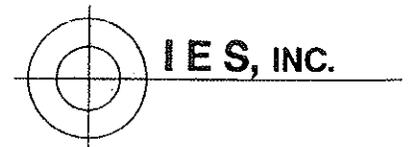
IES, INC.

Report), and should you desire to proceed with a Phase I Report, a more detailed description of this additional work will be forwarded to you in a subsequent Proposal.

9. IES's completion of this project was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. IES observed a degree of care and skill generally exercised by other consultants under similar circumstances and conditions. IES's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of this project. No other warranty, expressed or implied, is made. IES does not and can not represent that the sites does not contain any hazardous substances, contaminants, pollutants, petroleum hydrocarbons, or any other latent conditions beyond that observed by IES during the course of this Project. The conclusions presented in this Report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of the described services or the time and budgetary constraints imposed by the Client.



ATTACHMENT "A"
FIGURES & PHOTOGRAPHS





SITE LOCATION
 LATITUDE/LONGITUDE
 42° 23' 36.10"
 71° 07' 09"
 UTM COORDINATES
 4 695 426 m N
 325 578 m E

**USGS BOSTON NORTH, MA
 QUADRANGLE**

**343-349 SUMMER STREET
 SOMERVILLE, MA**

IES PROJECT # 702-238

APPROXIMATE SCALE

1,140 FT 0 2,280 FT



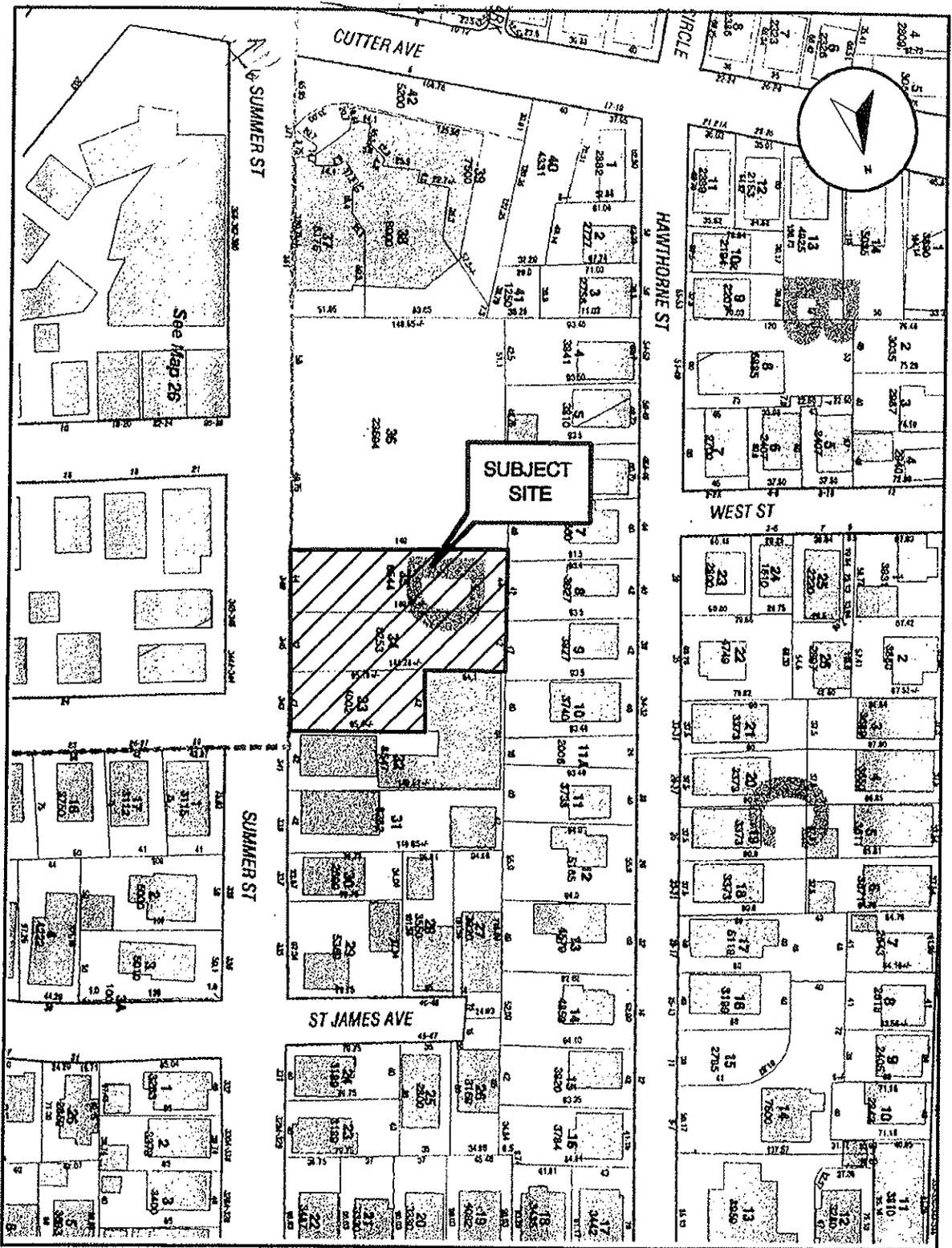
CONTOUR INTERVAL 10 FEET

DATUM MEAN SEA LEVEL

FIGURE 1



IES, INC.
 ENVIRONMENTAL CONSULTANTS

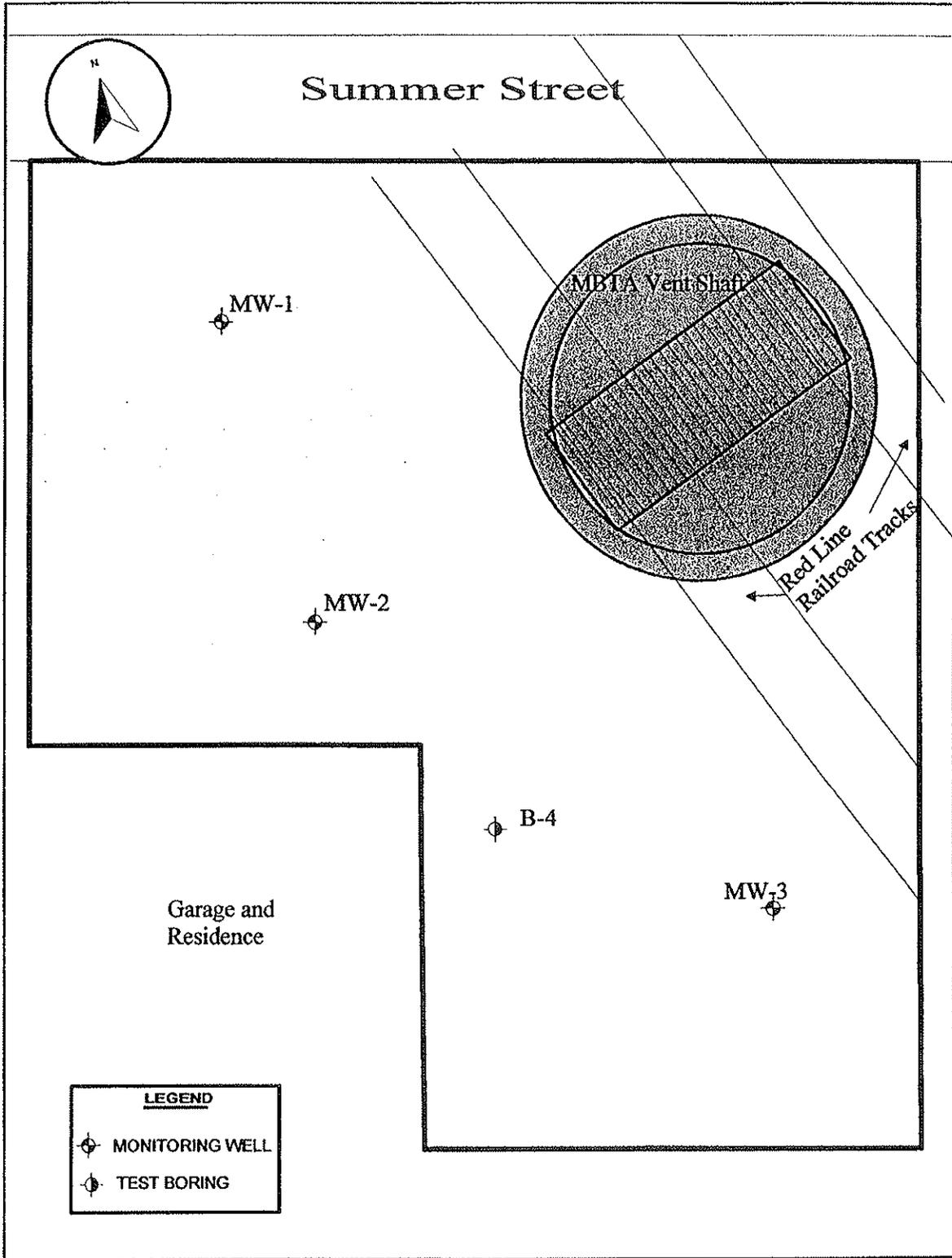


CITY OF SOMERVILLE
 ASSESSOR'S PLAN #25
 343-349 SUMMER STREET
 SOMERVILLE, MA
 IES PROJECT # 702-238

APPROXIMATE SCALE

50 0 100 FT

FIGURE 2
 IES, INC
 ENVIRONMENTAL CONSULTANTS



SITE PLAN
 343 SUMMER STREET, SOMERVILLE, MA
 IES PROJECT # 702-238
 SEPTEMBER 23, 2002

APPROXIMATE SCALE
 10 0 20 FT

FIGURE 3
 IES, INC.
 ENVIRONMENTAL CONSULTANTS



Photograph #1 - View of Subject Site



Photograph #2 - View of Northeasterly Abutters



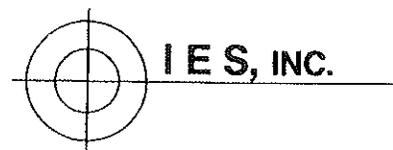
Photograph #3 - View of Southeasterly Abutters



Photograph #4 - View of Northwesterly Abutters



ATTACHMENT "B"
TEST BORING LOGS



Since 1951



37 Linden Street • P.O. Box 67 • Medford, MA 02155-0001 • Telephone (781) 391-4500 • Fax (781) 395-3231

September 18, 2002

Emerald Development Group, Inc.
103 Morse Street
Watertown, MA 02472

Attention: Mr. Rick Perini

Enclosed are the results of subsurface investigation and installation of monitoring wells, remainder of soil samples accompanying, made at the site of 343-345-349 Summer Street, Somerville, MA.

We shall this date mail copies of reports to the following:

McPhail Associates, Inc.
30 Norfolk street
Cambridge, MA 02139

Attention: Mr. Robert C. Hoyler P.E.

LeMessurier Consultants
675 Massachusetts Avenue
Cambridge, MA 02139

Attention: Mr. William D. Lovallo, P.E.

IES, Inc.
265 Medford Street
Somerville, MA 02143

Attention: Mr. Dave Brincherio

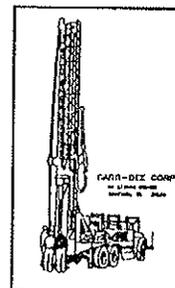
In making inquiries, please make reference to our Job No. 200-138.

Very truly yours,

CARR-DEE CORP.

Henry J. De Simone
Henry J. De Simone
Principal

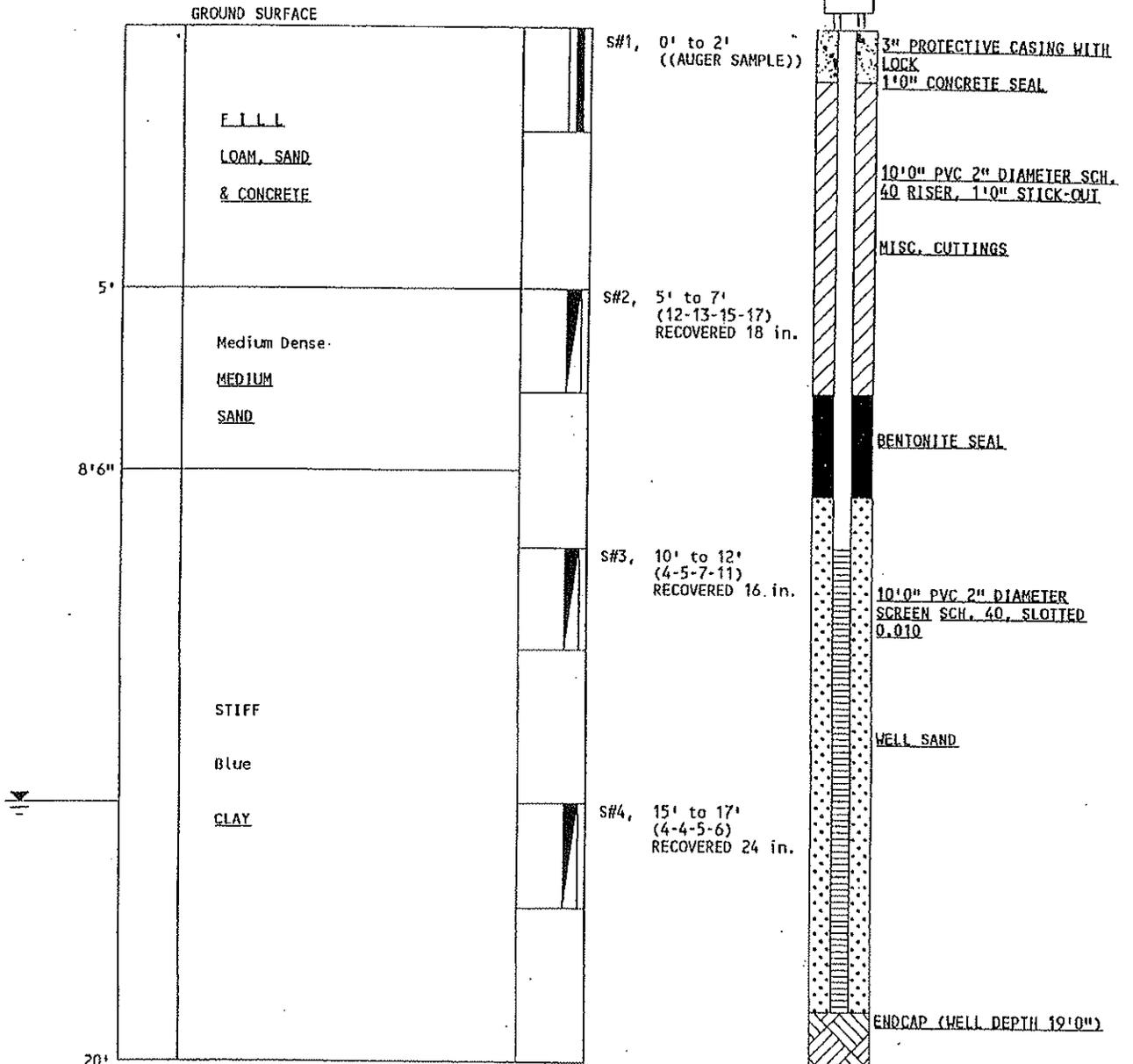
HJD/mh



CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = .3 ft.

BORING B-1



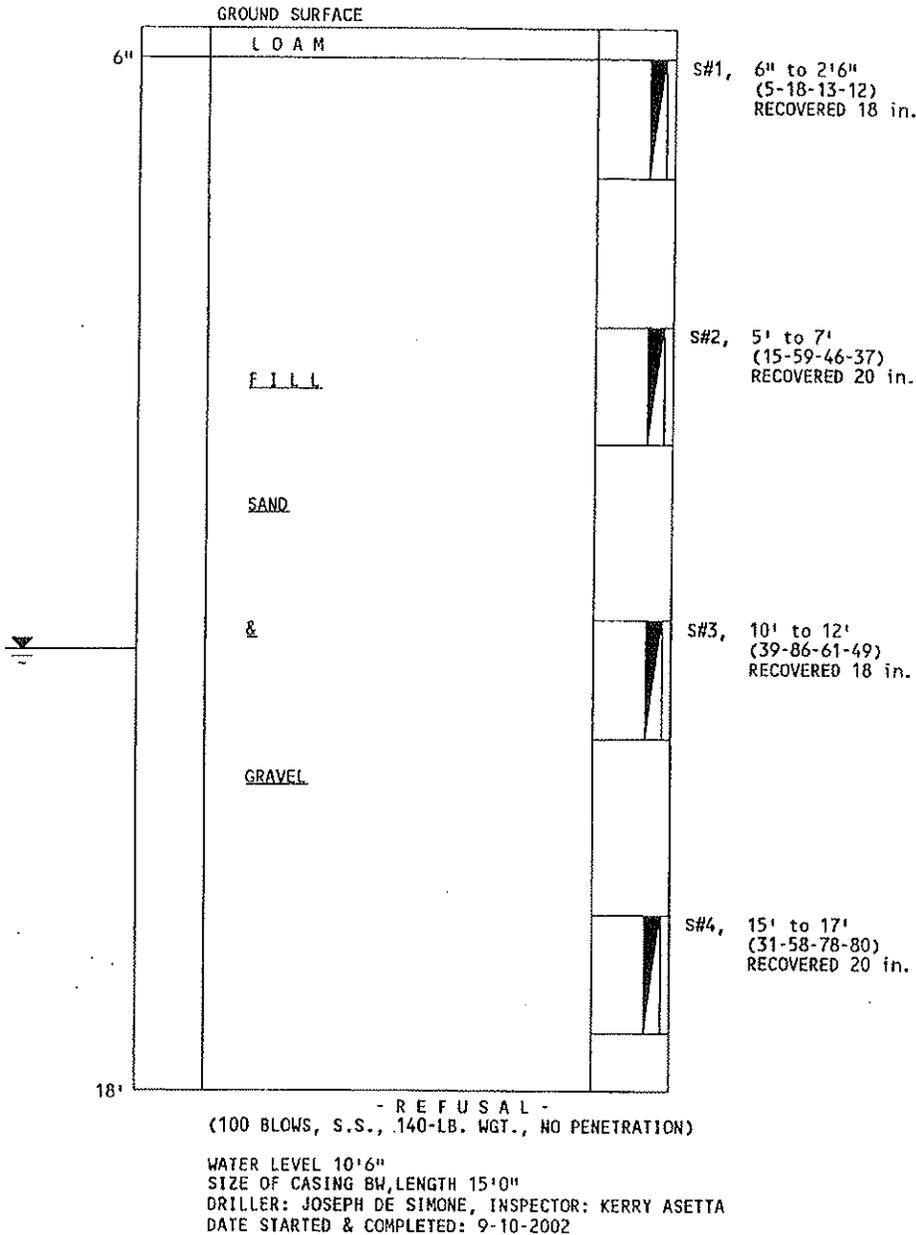
WATER LEVEL 15'
 SIZE OF AUGERS 3-3/4" I.D., LENGTH 20'0"
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: KERRY ASETTA
 DATE STARTED & COMPLETED: 9-9-2002

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 3 ft.

BORING B-1A



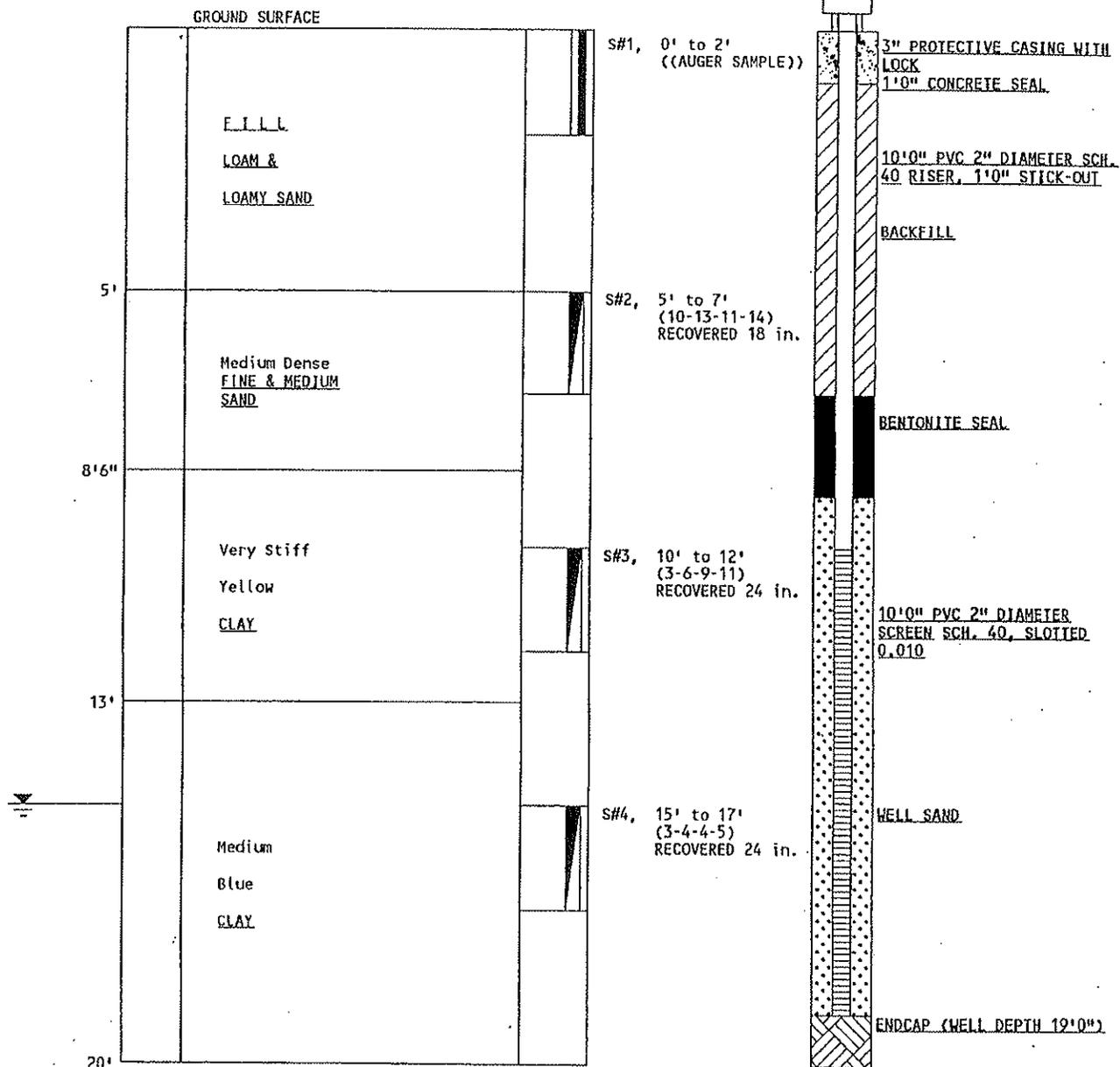
All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 3 ft.

MONITORING WELL

BORING B-2

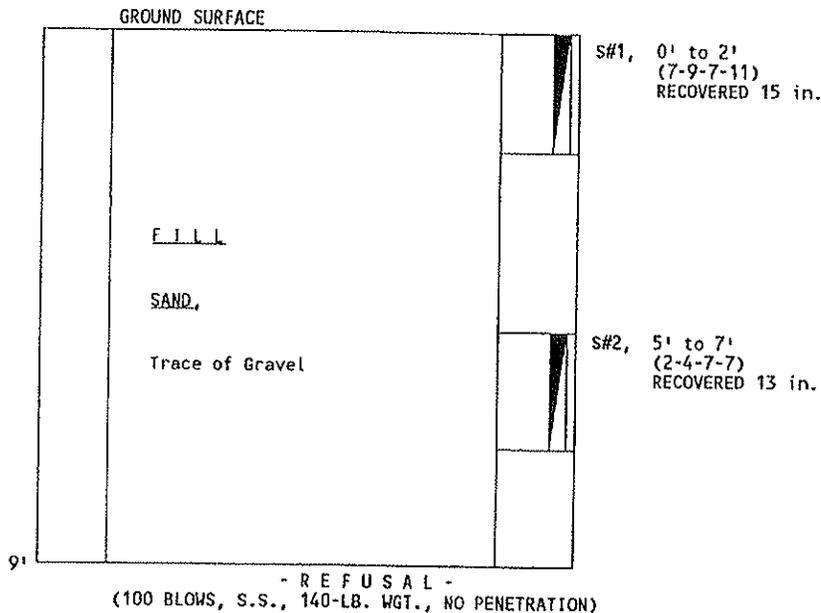


All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 3 ft.

BORING B-2A



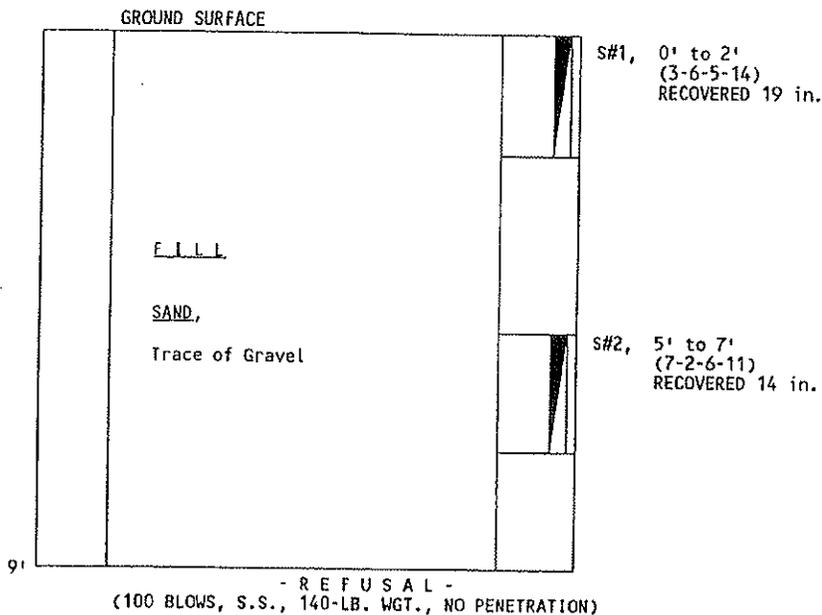
NO WATER ENCOUNTERED
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: KERRY ASETTA
 DATE STARTED & COMPLETED: 9-10-2002

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 3 ft.

BORING B-2B



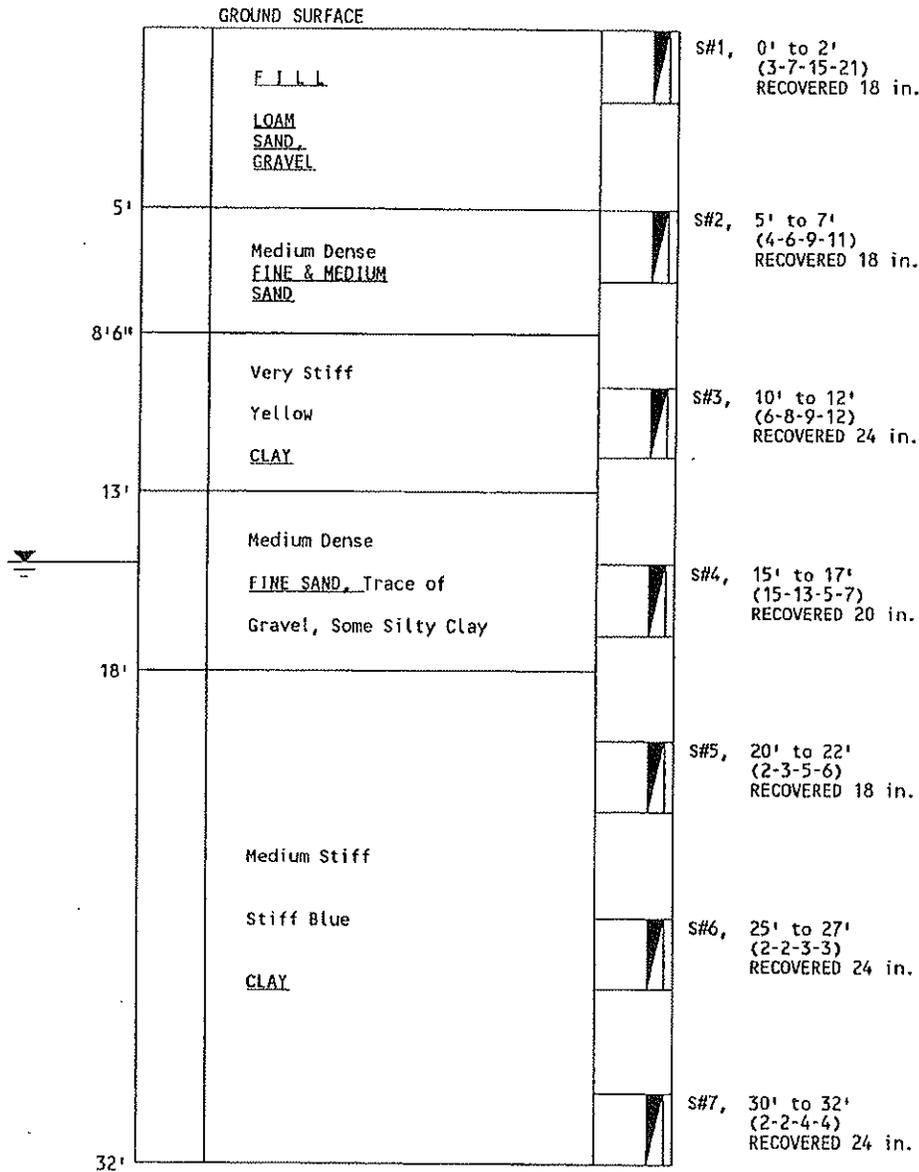
NOTE: THIS BORING WAS MADE 1'0" CLOSER TOWARDS VENT SHAFT FROM ORIGINAL LOCATION NO. 2A.

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches(±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 5 ft.

BORING B-3



WATER LEVEL 15'
 SIZE OF AUGERS 3-3/4" I.D., LENGTH 5'0"
 SIZE OF CASING NW, LENGTH 20'0"
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: JOHN SCHROEDER
 DATE STARTED & COMPLETED: 9-9-2002, 9-10-2002

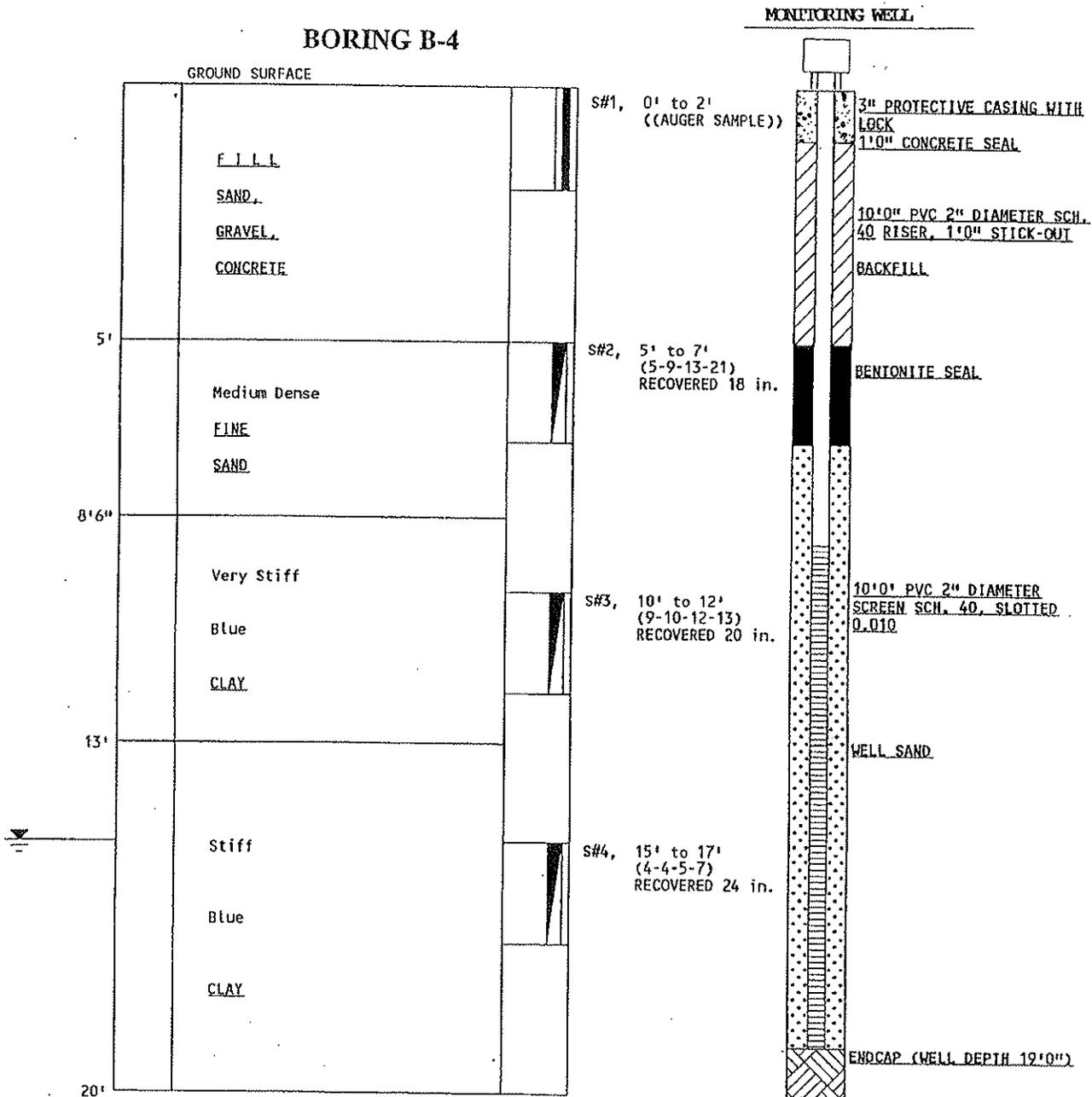
2A.

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = .3 ft.

BORING B-4



SIZE OF AUGERS 3-3/4" I.D., LENGTH 20'0"
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: KERRY ASETTA
 DATE STARTED & COMPLETED: 9-9-2002

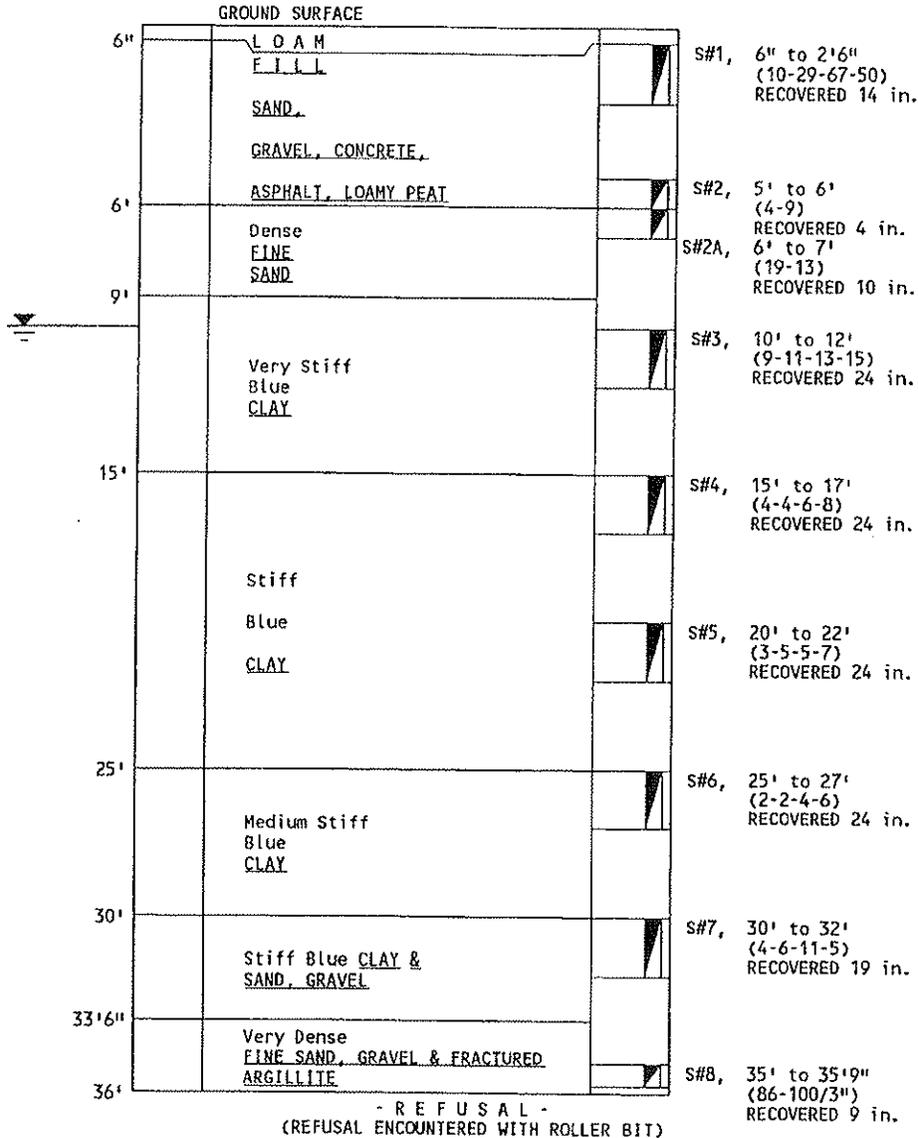
2A.

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches(±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = 6 ft.

BORING B-4A



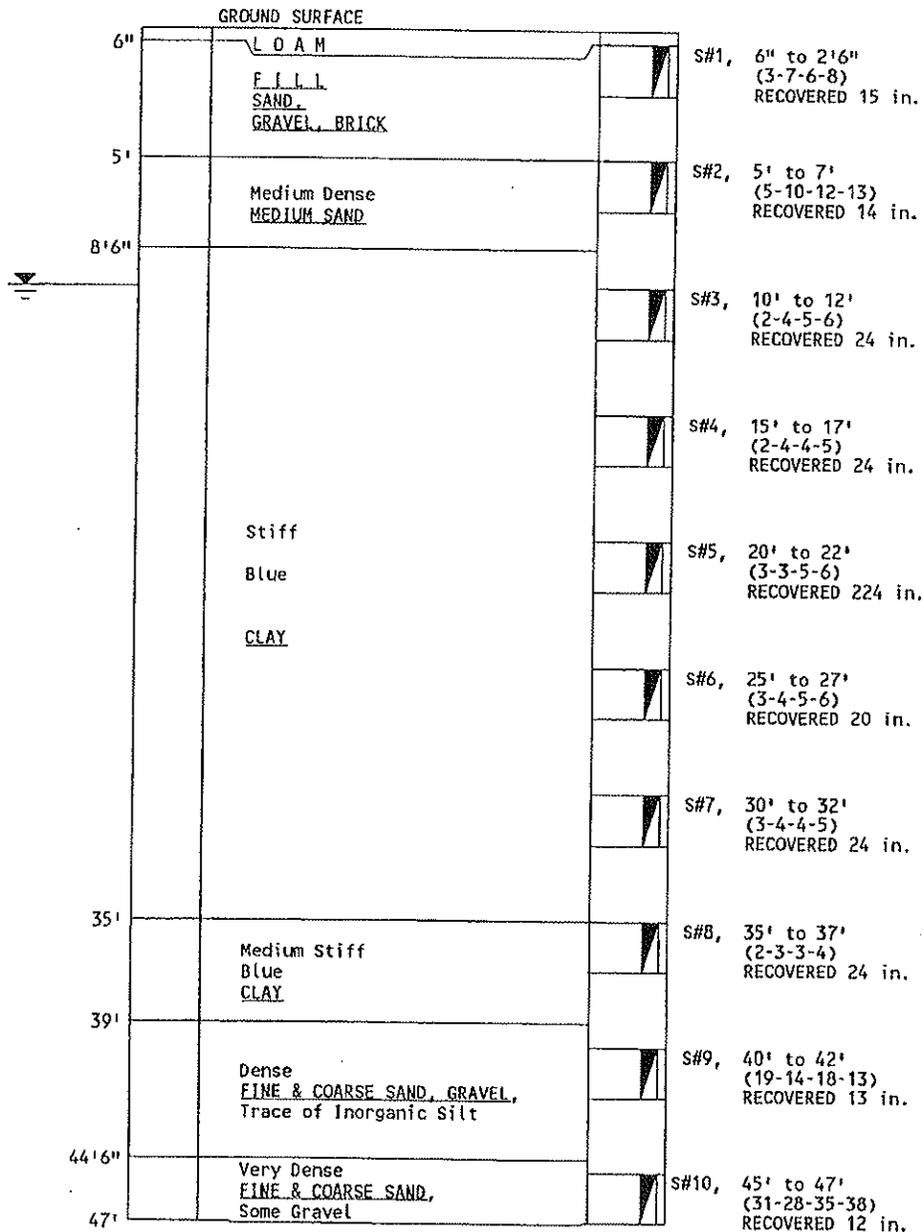
WATER LEVEL 10'
 SIZE OF CASING NW, LENGTH 15'0"
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: KERRY ASETTA
 DATE STARTED & COMPLETED: 9-11-2002

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (617) 391-4500
 To: EMERALD DEVELOPMENT GROUP, INC., WATERTOWN, MA Date: 9-16-2002 Job No.: 2002-138
 Location: 343-345-349 SUMMER STREET, SOMERVILLE, MA Scale: 1 in. = .7 ft.

BORING B-6

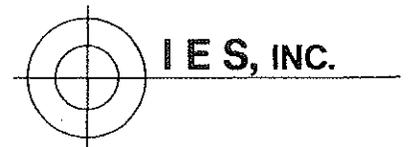


WATER LEVEL 10'
 SIZE OF CASING NW, LENGTH 15'0"
 DRILLER: JOSEPH DE SIMONE, INSPECTOR: KERRY ASETTA
 DATE STARTED & COMPLETED: 9-10-2002, 9-11-2002

2A.

All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (±). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (±).

ATTACHMENT "C"
LABORATORY RESULTS





39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

REPORT DATE 9/20/02

IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143
ATTN: DAVID BRINCHEIRO

CONTRACT NUMBER:
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMS-66277

JOB NUMBER: 702-238

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 343-347 SUMMER STREET

| FIELD SAMPLE # | LAB ID | MATRIX | SAMPLE DESCRIPTION | TEST |
|----------------|----------|------------|--------------------|------------------|
| BLANK | 02B24264 | GRND WATER | NOT SPECIFIED | eph - water |
| BLANK | 02B24264 | GRND WATER | NOT SPECIFIED | vph ms nt water |
| BLANK | 02B24267 | GRND WATER | NOT SPECIFIED | 8260 water |
| BLANK | 02B24267 | GRND WATER | NOT SPECIFIED | metals-8rcra dis |
| MW-2 | 02B24262 | GRND WATER | NOT SPECIFIED | eph - water |
| MW-2 | 02B24262 | GRND WATER | NOT SPECIFIED | vph ms nt water |
| MW-2 | 02B24265 | GRND WATER | NOT SPECIFIED | 8260 water |
| MW-2 | 02B24265 | GRND WATER | NOT SPECIFIED | metals-8rcra dis |
| MW-3 | 02B24263 | GRND WATER | NOT SPECIFIED | eph - water |
| MW-3 | 02B24263 | GRND WATER | NOT SPECIFIED | vph ms nt water |
| MW-3 | 02B24266 | GRND WATER | NOT SPECIFIED | 8260 water |
| MW-3 | 02B24266 | GRND WATER | NOT SPECIFIED | metals-8rcra dis |

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations :

| | |
|----------------------|---------------------------------|
| AIHA 100033 | AIHA ELLAP (LEAD) 100033 |
| MASSACHUSETTS MA0100 | NEW HAMPSHIRE 2516 |
| CONNECTICUT PH-0567 | VERMONT DOH (LEAD) No. LL015036 |
| NEW YORK ELAP 10899 | RHODE ISLAND (LIC. No. 112) |

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Edward Denson 9/20/02
SIGNATURE DATE

Tod Kopyscinski
Director of Operations

Sondra S. Kocot
Quality Control Coordinator

Edward Denson
Technical Director



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

DAVID BRINCHEIRO
 IES - SOMERVILLE
 265 MEDFORD STREET - SUITE 312
 SOMERVILLE, MA 02143

9/20/02
 Page 4 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
 Date Received: 9/12/02
 Field Sample #: MW-2

LIMS-BAT #: LIMS-66277
 Job Number: 702-238

Sample ID: 02B24265
 Sampled: 9/11/02
 NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/ F |
|-----------------------------|-------|---------|---------------|---------|------|------------|----|------|
| | | | | | | Lo | Hi | |
| Acetone | ug/l | ND | 09/18/02 | MFF | 50.0 | | | |
| Acrolein | ug/l | ND | 09/18/02 | MFF | 20.0 | | | |
| Acrylonitrile | ug/l | ND | 09/18/02 | MFF | 7.6 | | | |
| Benzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| Bromobenzene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| Bromochloromethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| Bromodichloromethane | ug/l | ND | 09/18/02 | MFF | 0.4 | | | |
| Bromomethane | ug/l | ND | 09/18/02 | MFF | 1.2 | | | |
| Bromofom | ug/l | ND | 09/18/02 | MFF | 1.2 | | | |
| 2-Butanone (MEK) | ug/l | ND | 09/18/02 | MFF | 12.0 | | | |
| n-Butylbenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| sec-Butylbenzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| tert-Butylbenzene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Carbon Disulfide | ug/l | ND | 09/18/02 | MFF | 3.0 | | | |
| Carbon Tetrachloride | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| Chlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| Chlorodibromomethane | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| Chloroethane | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| 2-Chloroethylvinylether | ug/l | ND | 09/18/02 | MFF | 9.6 | | | |
| Chloroform | ug/l | 1.8 | 09/18/02 | MFF | 0.8 | | | |
| Chloromethane | ug/l | ND | 09/18/02 | MFF | 1.2 | | | |
| 2-Chlorotoluene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| 4-Chlorotoluene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| 1,2-Dibromo-3-Chloropropane | ug/l | ND | 09/18/02 | MFF | 1.6 | | | |
| 1,2-Dibromoethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| Dibromomethane | ug/l | ND | 09/18/02 | MFF | 1.1 | | | |
| 1,2-Dichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| 1,3-Dichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| 1,4-Dichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| cis-1,4-Dichloro-2-Butene | ug/l | ND | 09/18/02 | MFF | 2.4 | | | |

RL = Reporting Limit
 ND = Not Detected
 NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
 IES - SOMERVILLE
 265 MEDFORD STREET - SUITE 312
 SOMERVILLE, MA 02143

9/20/02
 Page 5 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
 Date Received: 9/12/02
 Field Sample #: MW-2

LIMS-BAT #: LIMS-66277
 Job Number: 702-238

Sample ID: 02B24265
 Sampled: 9/11/02
 NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/ F |
|-----------------------------|-------|---------|---------------|---------|-----|------------|----|------|
| | | | | | | Lo | Hi | |
| trans-1,4-Dichloro-2-Butene | ug/l | ND | 09/18/02 | MFF | 2.1 | | | |
| Dichlorodifluoromethane | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| 1,1-Dichloroethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2-Dichloroethane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| cis-1,2-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| trans-1,2-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| 1,2-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| 1,3-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| 2,2-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 1.4 | | | |
| cis-1,3-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| trans-1,3-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 0.4 | | | |
| Diethyl Ether | ug/l | ND | 09/18/02 | MFF | 2.0 | | | |
| Ethyl Benzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| Ethyl Methacrylate | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Hexachlorobutadiene | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| 2-Hexanone | ug/l | ND | 09/18/02 | MFF | 9.7 | | | |
| Iodomethane | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Isopropylbenzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| p-Isopropyltoluene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| MTBE | ug/l | 8.7 | 09/18/02 | MFF | 0.8 | | | |
| Methylene Chloride | ug/l | ND | 09/18/02 | MFF | 3.0 | | | |
| MIBK | ug/l | ND | 09/18/02 | MFF | 8.8 | | | |
| Naphthalene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| n-Propylbenzene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Styrene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,1,1,2-Tetrachloroethane | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| 1,1,2,2-Tetrachloroethane | ug/l | ND | 09/18/02 | MFF | 1.4 | | | |
| Tetrachloroethylene | ug/l | ND | 09/18/02 | MFF | 0.4 | | | |

RL = Reporting Limit
 ND = Not Detected
 NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO

IES - SOMERVILLE

265 MEDFORD STREET - SUITE 312

SOMERVILLE, MA 02143

9/20/02

Page 6 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET

Date Received: 9/12/02

Field Sample #: MW-2

LIMS-BAT #: LIMS-86277

Job Number: 702-238

Sample ID: 02B24265

Sampled: 9/11/02

NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/F |
|------------------------|-------|---------|---------------|---------|------|------------|----|-----|
| | | | | | | Lo | Hi | |
| Tetrahydrofuran | ug/l | ND | 09/18/02 | MFF | 5.0 | | | |
| Toluene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,3-Trichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,4-Trichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,1,1-Trichloroethane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1,2-Trichloroethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| Trichloroethylene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| Trichlorofluoromethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,3-Trichloropropane | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| 1,2,4-Trimethylbenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,3,5-Trimethylbenzene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| Vinyl Acetate | ug/l | ND | 09/18/02 | MFF | 16.4 | | | |
| Vinyl Chloride | ug/l | ND | 09/18/02 | MFF | 0.3 | | | |
| m + p Xylene | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| o-Xylene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |

Analytical Method:

SW846 8260

SAMPLES ARE CONCENTRATED BY PURGE & TRAP, FOLLOWED BY GC/MS TARGET COMPOUND ANALYSIS.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

DAVID BRINCHEIRO
 IES - SOMERVILLE
 265 MEDFORD STREET - SUITE 312
 SOMERVILLE, MA 02143

9/20/02
 Page 8 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
 Date Received: 9/12/02
 Field Sample #: MW-3

LIMS-BAT #: LIMS-66277
 Job Number: 702-238

Sample ID: 02B24266
 Sampled: 9/11/02
 NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/F |
|-----------------------------|-------|---------|---------------|---------|-----|------------|----|-----|
| | | | | | | Lo | Hi | |
| trans-1,4-Dichloro-2-Butene | ug/l | ND | 09/18/02 | MFF | 2.1 | | | |
| Dichlorodifluoromethane | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| 1,1-Dichloroethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2-Dichloroethane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| cis-1,2-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| trans-1,2-Dichloroethylene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| 1,2-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| 1,3-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| 2,2-Dichloropropane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 1.4 | | | |
| cis-1,3-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| trans-1,3-Dichloropropene | ug/l | ND | 09/18/02 | MFF | 0.4 | | | |
| Diethyl Ether | ug/l | ND | 09/18/02 | MFF | 2.0 | | | |
| Ethyl Benzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| Ethyl Methacrylate | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Hexachlorobutadiene | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| 2-Hexanone | ug/l | ND | 09/18/02 | MFF | 9.7 | | | |
| Iodomethane | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Isopropylbenzene | ug/l | ND | 09/18/02 | MFF | 0.6 | | | |
| p-Isopropyltoluene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| MTBE | ug/l | 2.8 | 09/18/02 | MFF | 0.8 | | | |
| Methylene Chloride | ug/l | ND | 09/18/02 | MFF | 3.0 | | | |
| MIBK | ug/l | ND | 09/18/02 | MFF | 8.8 | | | |
| Naphthalene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| n-Propylbenzene | ug/l | ND | 09/18/02 | MFF | 0.8 | | | |
| Styrene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,1,1,2-Tetrachloroethane | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |
| 1,1,2,2-Tetrachloroethane | ug/l | ND | 09/18/02 | MFF | 1.4 | | | |
| Tetrachloroethylene | ug/l | ND | 09/18/02 | MFF | 0.4 | | | |

RL = Reporting Limit
 ND = Not Detected
 NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO

IES - SOMERVILLE

265 MEDFORD STREET - SUITE 312

SOMERVILLE, MA 02143

9/20/02

Page 9 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET

Date Received: 9/12/02

Field Sample #: MW-3

LIMS-BAT #: LIMS-66277

Job Number: 702-238

Sample ID: 02B24266

Sampled: 9/11/02
NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/ F |
|------------------------|-------|---------|---------------|---------|------|------------|----|------|
| | | | | | | Lo | Hi | |
| Tetrahydrofuran | ug/l | ND | 09/18/02 | MFF | 5.0 | | | |
| Toluene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,3-Trichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,4-Trichlorobenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,1,1-Trichloroethane | ug/l | ND | 09/18/02 | MFF | 0.9 | | | |
| 1,1,2-Trichloroethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| Trichloroethylene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| Trichlorofluoromethane | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,2,3-Trichloropropane | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| 1,2,4-Trimethylbenzene | ug/l | ND | 09/18/02 | MFF | 0.7 | | | |
| 1,3,5-Trimethylbenzene | ug/l | ND | 09/18/02 | MFF | 1.0 | | | |
| Vinyl Acetate | ug/l | ND | 09/18/02 | MFF | 16.4 | | | |
| Vinyl Chloride | ug/l | ND | 09/18/02 | MFF | 0.3 | | | |
| m + p Xylene | ug/l | ND | 09/18/02 | MFF | 1.3 | | | |
| o-Xylene | ug/l | ND | 09/18/02 | MFF | 0.5 | | | |

Analytical Method:

SW846 8260

SAMPLES ARE CONCENTRATED BY PURGE & TRAP, FOLLOWED BY GC/MS TARGET COMPOUND ANALYSIS.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

9/20/02
Page 11 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
Date Received: 9/12/02
Field Sample #: BLANK

LIMS-BAT #: LIMS-66277
Job Number: 702-238

Analytical Method:
MADEP-EPH-98-1 REVISION 0

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL).
SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE, EXCHANGED INTO HEXANE AND
CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS
BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C10-C22
AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND
C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND
CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE. SUMMED RANGES
ARE CORRECTED FOR LABORATORY METHOD BLANK.

REPORTED DETECTION LIMITS (MDL) ARE THE REPORTING LIMITS (RL) CALCULATED
ACCORDING TO THE METHOD.

SIGNIFICANT MODIFICATIONS ARE LIMITED TO THE SUBTRACTION OF METHOD BLANK
FROM THE SUMMED RANGES.

WERE ALL QA/QC PROCEDURES REQUIRED BY THE METHOD FOLLOWED?

YES NO

WERE ALL PERFORMANCE/ACCEPTANCE STANDARDS FOR REQUIRED QA/QC PROCEDURES
ACHIEVED?

YES NO

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR
ACCEPTANCE CRITERIA ARE DETAILED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or
regulatory level for comparison with data to
determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

DAVID BRINCHEIRO

IES - SOMERVILLE

265 MEDFORD STREET - SUITE 312

SOMERVILLE, MA 02143

Purchase Order No.:

9/20/02

Page 13 of 22

Project Location: 343-347 SUMMER STREET

Date Received: 9/12/02

Field Sample #: MW-2

LIMS-BAT #: LIMS-66277

Job Number: 702-238

Analytical Method:

MADEP-EPH-98-1 REVISION 0

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL).
SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE, EXCHANGED INTO HEXANE AND
CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS
BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C10-C22
AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND
C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND
CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE. SUMMED RANGES
ARE CORRECTED FOR LABORATORY METHOD BLANK.

REPORTED DETECTION LIMITS (MDL) ARE THE REPORTING LIMITS (RL) CALCULATED
ACCORDING TO THE METHOD.

SIGNIFICANT MODIFICATIONS ARE LIMITED TO THE SUBTRACTION OF METHOD BLANK
FROM THE SUMMED RANGES.

WERE ALL QA/QC PROCEDURES REQUIRED BY THE METHOD FOLLOWED?

YES NO

WERE ALL PERFORMANCE/ACCEPTANCE STANDARDS FOR REQUIRED QA/QC PROCEDURES
ACHIEVED?

YES NO

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR
ACCEPTANCE CRITERIA ARE DETAILED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or
regulatory level for comparison with data to
determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
 IES - SOMERVILLE
 265 MEDFORD STREET - SUITE 312
 SOMERVILLE, MA 02143

9/20/02
 Page 14 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
 Date Received: 9/12/02
 Field Sample #: MW-3

LIMS-BAT #: LIMS-66277
 Job Number: 702-238

Sample ID: 02B24263
 Sampled: 9/11/02
 NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/ F |
|--------------------------|-------|-----------|---------------|---------|------|------------|----|------|
| | | | | | | Lo | Hi | |
| C9-C18 Aliphatics | ug/l | ND | 09/17/02 | MDT | 144. | | | |
| C19-C36 Aliphatics | ug/l | 442. | 09/17/02 | MDT | 84.0 | | | |
| C11-C22 Aromatics | ug/l | ND | 09/17/02 | MDT | 48.0 | | | |
| Acenaphthene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Acenaphthylene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Anthracene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Benzo(a)anthracene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Benzo(a)pyrene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Benzo(b)fluoranthene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Benzo(g,h,i)perylene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Benzo(k)fluoranthene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Chrysene | ug/l | ND | 09/17/02 | MDT | 10.8 | | | |
| Dibenzo(a,h)anthracene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Fluoranthene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Fluorene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| 2-Methylnaphthalene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Naphthalene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Phenanthrene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Pyrene | ug/l | ND | 09/17/02 | MDT | 5.0 | | | |
| Date Extracted EPH Water | | 9/13/2002 | 09/17/02 | MDT | | | | |

RL = Reporting Limit
 ND = Not Detected
 NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

9/20/02
Page 16 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
Date Received: 9/12/02
Field Sample #: MW-3

LIMS-BAT #: LIMS-66277
Job Number: 702-238

Analytical Method:
MADEP-EPH-98-1 REVISION 0

SAMPLES ARE PRESERVED TO pH < 2.0 WITH HYDROCHLORIC ACID (HCL).
SAMPLES ARE EXTRACTED WITH METHYLENE CHLORIDE, EXCHANGED INTO HEXANE AND
CONCENTRATED. ALIPHATIC AND AROMATIC FRACTIONS ARE SEPARATED. ANALYSIS IS
BY GAS CHROMATOGRAPHY WITH FLAME IONIZATION DETECTION. PAH AND C10-C22
AROMATICS ARE DETERMINED IN THE METHYLENE CHLORIDE FRACTION. C9-C18 AND
C19-C36 ALIPHATICS ARE DETERMINED IN THE HEXANE FRACTION. TARGET COMPOUND
CONTRIBUTIONS ARE SUBTRACTED FROM THE SUMMED AROMATIC RANGE. SUMMED RANGES
ARE CORRECTED FOR LABORATORY METHOD BLANK.

REPORTED DETECTION LIMITS (MDL) ARE THE REPORTING LIMITS (RL) CALCULATED
ACCORDING TO THE METHOD.

SIGNIFICANT MODIFICATIONS ARE LIMITED TO THE SUBTRACTION OF METHOD BLANK
FROM THE SUMMED RANGES.

WERE ALL QA/QC PROCEDURES REQUIRED BY THE METHOD FOLLOWED?

YES NO

WERE ALL PERFORMANCE/ACCEPTANCE STANDARDS FOR REQUIRED QA/QC PROCEDURES
ACHIEVED?

YES NO

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR
ACCEPTANCE CRITERIA ARE DETAILED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit
ND = Not Detected
NM = Not Measured

SPEC LIMIT = a client specified recommended or
regulatory level for comparison with data to
determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

9/20/02
Page 18 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
Date Received: 9/12/02

LIMS-BAT #: LIMS-66277
Job Number: 702-238

Analytical Method: Dissolved Arsenic
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Barium
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Cadmium
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Chromium
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Lead
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Mercury
EPA 245.1
COLD VAPOR TECHNIQUE (FLAMELESS ABSORPTION AT 254 NM)

Analytical Method: Dissolved Selenium
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

Analytical Method: Dissolved Silver
EPA 200.7
Inductively Coupled Plasma Emission Spectroscopy

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

9/20/02
Page 19 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET

LIMS-BAT #: LIMS-66277

Date Received: 9/12/02

Job Number: 702-238

Field Sample #: BLANK

Sample ID : 02B24264

Sampled : 9/11/02
NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/ F |
|-------------------|-------|---------|---------------|---------|------|------------|----|------|
| | | | | | | Lo | Hi | |
| C5-C8 Aliphatics | ug/l | ND | 09/19/02 | BGL | 69.0 | | | |
| C9-C12 Aliphatics | ug/l | ND | 09/19/02 | BGL | 34.0 | | | |
| C9-C10 Aromatics | ug/l | ND | 09/19/02 | BGL | 20.0 | | | |

Analytical Method:

MODIFIED MADEP-VPH-98-1 REVISION 0

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH MASS SPECTROMETER DETECTION. TARGET COMPOUND CONTRIBUTIONS ARE NOT SUBTRACTED FROM THE SUMMED RANGES. SUMMED RANGES ARE CORRECTED FOR LABORATORY METHOD BLANK. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

REPORTED DETECTION LIMITS (MDL) ARE THE REPORTING LIMITS (RL) CALCULATED ACCORDING TO THE METHOD.

THE ONLY SIGNIFICANT MODIFICATION TO THE METHOD IS THAT THE ANALYSIS WAS PERFORMED BY GC/MS INSTEAD OF BY GC/PID AND GC/FID. THE ALIPHATIC RANGES WERE QUANTITATED BY SUMMING THE TOTAL ION CHROMATOGRAM RESPONSE OVER THE APPROPRIATE RETENTION TIME RANGES. THE C9-C10 AROMATIC RANGE WAS QUANTITATED BY SUMMING THE RESPONSES FROM IONS 91, 105, AND 119 OVER THE APPROPRIATE RETENTION TIME RANGES.

WERE ALL QA/QC PROCEDURES REQUIRED BY THE METHOD FOLLOWED?

YES NO

WERE ALL PERFORMANCE/ACCEPTANCE STANDARDS FOR REQUIRED QA/QC PROCEDURES ACHIEVED?

YES NO

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

9/20/02
Page 21 of 22

Purchase Order No.:

Project Location: 343-347 SUMMER STREET
Date Received: 9/12/02
Field Sample #: MW-3

LIMS-BAT #: LIMS-66277
Job Number: 702-238

Sample ID : 02B24263
Sampled : 9/11/02
NOT SPECIFIED

Sample Matrix: GRND WATER

| | Units | Results | Date Analyzed | Analyst | RL | SPEC Limit | | P/F |
|-------------------|-------|---------|---------------|---------|------|------------|----|-----|
| | | | | | | Lo | Hi | |
| C5-C8 Aliphatics | ug/l | ND | 09/19/02 | BGL | 69.0 | | | |
| C9-C12 Aliphatics | ug/l | ND | 09/19/02 | BGL | 34.0 | | | |
| C9-C10 Aromatics | ug/l | ND | 09/19/02 | BGL | 20.0 | | | |

Analytical Method:

MODIFIED MADEP-VPH-98-1 REVISION 0

SAMPLES ARE CONCENTRATED BY PURGE AND TRAP, FOLLOWED BY GAS CHROMATOGRAPHY ANALYSIS WITH MASS SPECTROMETER DETECTION. TARGET COMPOUND CONTRIBUTIONS ARE NOT SUBTRACTED FROM THE SUMMED RANGES. SUMMED RANGES ARE CORRECTED FOR LABORATORY METHOD BLANK. C9-C12 ALIPHATIC HYDROCARBONS EXCLUDE THE CONCENTRATION OF C9-C10 AROMATIC HYDROCARBONS.

REPORTED DETECTION LIMITS (MDL) ARE THE REPORTING LIMITS (RL) CALCULATED ACCORDING TO THE METHOD.

THE ONLY SIGNIFICANT MODIFICATION TO THE METHOD IS THAT THE ANALYSIS WAS PERFORMED BY GC/MS INSTEAD OF BY GC/PID AND GC/FID. THE ALIPHATIC RANGES WERE QUANTITATED BY SUMMING THE TOTAL ION CHROMATOGRAM RESPONSE OVER THE APPROPRIATE RETENTION TIME RANGES. THE C9-C10 AROMATIC RANGE WAS QUANTITATED BY SUMMING THE RESPONSES FROM IONS 91, 105, AND 119 OVER THE APPROPRIATE RETENTION TIME RANGES.

WERE ALL QA/QC PROCEDURES REQUIRED BY THE METHOD FOLLOWED?

YES NO

WERE ALL PERFORMANCE/ACCEPTANCE STANDARDS FOR REQUIRED QA/QC PROCEDURES ACHIEVED?

YES NO

DETAILS OF ANY NON-CONFORMANCE WITH QA/QC REQUIREMENTS, PERFORMANCE, OR ACCEPTANCE CRITERIA ARE LISTED IN THE NOTES SECTION OF THIS REPORT.

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

DAVID BRINCHEIRO
IES - SOMERVILLE
265 MEDFORD STREET - SUITE 312
SOMERVILLE, MA 02143

Purchase Order No.:

9/20/02
Page 22 of 22

Project Location: 343-347 SUMMER STREET
Date Received: 9/12/02

LIMS-BAT #: LIMS-66277
Job Number: 702-238

** END OF REPORT **

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or
regulatory level for comparison with data to
determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat # : LIMS-66277

Page 1 of 9

QC Batch Number: BATCH-4714

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------|--------------------------|----------------------|--------|-------|--------|
| 02B24262 | 2,5-Dibromotoluene (FID) | Sur. Recovery FID/MS | 81.0 | % | 70-130 |
| 02B24263 | 2,5-Dibromotoluene (FID) | Sur. Recovery FID/MS | 76.8 | % | 70-130 |
| 02B24264 | 2,5-Dibromotoluene (FID) | Sur. Recovery FID/MS | 74.8 | % | 70-130 |
| BLANK-44565 | Benzene | Blank | <3.0 | ug/l | |
| | Ethyl Benzene | Blank | <3.0 | ug/l | |
| | Naphthalene | Blank | <10.0 | ug/l | |
| | Toluene | Blank | <3.0 | ug/l | |
| | o-Xylene | Blank | <3.0 | ug/l | |
| | m/p-Xylene | Blank | <3.0 | ug/l | |
| | C5-C8 Aliphatics | Blank | 142.0 | ug/l | |
| | C9-C12 Aliphatics | Blank | 116.0 | ug/l | |
| | C9-C10 Aromatics | Blank | <20.0 | ug/l | |
| | MTBE | Blank | <3.0 | ug/l | |



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat # : LIMS-66277

Page 2 of 9

QC Batch Number: GC/FID-7310

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|----------------------|------------------------|----------------------|---------------------|-------|--------|
| 02B24262 | 2-Fluorobiphenyl | Surrogate Recovery | 52.0 | % | 40-140 |
| | 2-Bromonaphthalene | Surrogate Recovery | 53.0 | % | 40-140 |
| | Chlorooctadecane | Sur. Recovery | 85.5 | % | 40-140 |
| | Terphenyl | Sur. Recovery | 62.0 | % | 40-140 |
| 02B24263 | 2-Fluorobiphenyl | Surrogate Recovery | 75.0 | % | 40-140 |
| | 2-Bromonaphthalene | Surrogate Recovery | 83.0 | % | 40-140 |
| | Chlorooctadecane | Sur. Recovery | 99.0 | % | 40-140 |
| | Terphenyl | Sur. Recovery | 75.0 | % | 40-140 |
| 02B24264 | 2-Fluorobiphenyl | Surrogate Recovery | 78.0 | % | 40-140 |
| | 2-Bromonaphthalene | Surrogate Recovery | 71.0 | % | 40-140 |
| | Chlorooctadecane | Sur. Recovery | 89.5 | % | 40-140 |
| | Terphenyl | Sur. Recovery | 67.0 | % | 40-140 |
| BLANK-44559 | Naphthalene | Blank | <5.0 | ug/l | |
| | Acenaphthene | Blank | <5.0 | ug/l | |
| | Acenaphthylene | Blank | <5.0 | ug/l | |
| | Anthracene | Blank | <5.0 | ug/l | |
| | Benzo(a)anthracene | Blank | <5.0 | ug/l | |
| | Benzo(a)pyrene | Blank | <5.0 | ug/l | |
| | Benzo(b)fluoranthene | Blank | <5.0 | ug/l | |
| | Benzo(g,h,i)perylene | Blank | <5.0 | ug/l | |
| | Chrysene | Blank | <10.8 | ug/l | |
| | Dibenzo(a,h)anthracene | Blank | <5.0 | ug/l | |
| | Fluoranthene | Blank | <5.0 | ug/l | |
| | Fluorene | Blank | <5.0 | ug/l | |
| | Indeno(1,2,3-cd)pyrene | Blank | <5.0 | ug/l | |
| | 2-Methylnaphthalene | Blank | <5.0 | ug/l | |
| | Phenanthrene | Blank | <5.0 | ug/l | |
| | Pyrene | Blank | <5.0 | ug/l | |
| | Benzo(k)fluoranthene | Blank | <5.0 | ug/l | |
| | C9-C18 Aliphatics | Blank | <144. | ug/l | |
| | C19-C36 Aliphatics | Blank | <84.0 | ug/l | |
| | C11-C22 Aromatics | Blank | <48.0 | ug/l | |
| ortho Terphenyl ug/l | Blank | 23.4 | ug/l | | |
| LFBANK-22118 | Naphthalene | Lab Fort Blank Amt. | 40.0 | ug/l | |
| | | Lab Fort Blk. Found | 24.8 | ug/l | |
| | | Lab Fort Blk. % Rec. | 62.0 | % | 40-140 |
| | | Acenaphthene | Lab Fort Blank Amt. | 40.0 | ug/l |
| | | Lab Fort Blk. Found | 31.4 | ug/l | |
| | | Lab Fort Blk. % Rec. | 78.5 | % | 40-140 |



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat # : LIMS-66277

Page 3 of 9

QC Batch Number: GC/FID-7310

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|---------------|------------|----------------------|--------|-------|--------|
| LFBLANK-22118 | Anthracene | Lab Fort Blank Amt. | 40.0 | ug/l | |
| | | Lab Fort Blk. Found | 38.8 | ug/l | |
| | | Lab Fort Blk. % Rec. | 97.0 | % | 40-140 |
| | Chrysene | Lab Fort Blank Amt. | 40.0 | ug/l | |
| | | Lab Fort Blk. Found | 36.4 | ug/l | |
| | | Lab Fort Blk. % Rec. | 91.0 | % | 40-140 |
| | Pyrene | Lab Fort Blank Amt. | 40.0 | ug/l | |
| | | Lab Fort Blk. Found | 37.8 | ug/l | |
| | | Lab Fort Blk. % Rec. | 94.5 | % | 40-140 |



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates
Standard Reference Materials and Duplicates
Method Blanks

Report Date: 9/20/02

Lims Bat # : LIMS-66277

Page 4 of 9

QC Batch Number: GCMS/VOL-7674

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------------------|----------------------------|--------------------|--------|-------|--------|
| 02B24265 | 1,2-Dichloroethane-d4 | Surrogate Recovery | 123.4 | % | 70-130 |
| | Toluene-d8 | Surrogate Recovery | 100.4 | % | 70-130 |
| | Bromofluorobenzene | Surrogate Recovery | 91.1 | % | 70-130 |
| 02B24266 | 1,2-Dichloroethane-d4 | Surrogate Recovery | 124.8 | % | 70-130 |
| | Toluene-d8 | Surrogate Recovery | 100.9 | % | 70-130 |
| | Bromofluorobenzene | Surrogate Recovery | 94.7 | % | 70-130 |
| 02B24267 | 1,2-Dichloroethane-d4 | Surrogate Recovery | 127.1 | % | 70-130 |
| | Toluene-d8 | Surrogate Recovery | 104.8 | % | 70-130 |
| | Bromofluorobenzene | Surrogate Recovery | 91.0 | % | 70-130 |
| BLANK-44561 | Acetone | Blank | <50.0 | ug/l | |
| | Benzene | Blank | <0.6 | ug/l | |
| | Carbon Tetrachloride | Blank | <0.5 | ug/l | |
| | Chloroform | Blank | <0.8 | ug/l | |
| | 1,2-Dichloroethane | Blank | <0.9 | ug/l | |
| | 1,4-Dichlorobenzene | Blank | <0.8 | ug/l | |
| | Ethyl Benzene | Blank | <0.6 | ug/l | |
| | 2-Butanone (MEK) | Blank | <12.0 | ug/l | |
| | MIBK | Blank | <8.8 | ug/l | |
| | Naphthalene | Blank | <1.0 | ug/l | |
| | Styrene | Blank | <0.7 | ug/l | |
| | Tetrachloroethylene | Blank | <0.4 | ug/l | |
| | Toluene | Blank | <0.7 | ug/l | |
| | 1,1,1-Trichloroethane | Blank | <0.9 | ug/l | |
| | Trichloroethylene | Blank | <1.0 | ug/l | |
| | Trichlorofluoromethane | Blank | <0.7 | ug/l | |
| | o-Xylene | Blank | <0.5 | ug/l | |
| | m + p Xylene | Blank | <1.3 | ug/l | |
| | 1,2-Dichlorobenzene | Blank | <0.8 | ug/l | |
| | 1,3-Dichlorobenzene | Blank | <0.6 | ug/l | |
| | 1,1-Dichloroethane | Blank | <0.7 | ug/l | |
| | 1,1-Dichloroethylene | Blank | <0.6 | ug/l | |
| | MTBE | Blank | <0.8 | ug/l | |
| | trans-1,2-Dichloroethylene | Blank | <0.8 | ug/l | |
| | Vinyl Chloride | Blank | <0.3 | ug/l | |
| | Methylene Chloride | Blank | 5.0 | ug/l | |
| | Chlorobenzene | Blank | <0.6 | ug/l | |
| Chloromethane | Blank | <1.2 | ug/l | | |
| Bromomethane | Blank | <1.2 | ug/l | | |
| Chloroethane | Blank | <0.8 | ug/l | | |
| cis-1,3-Dichloropropene | Blank | <0.5 | ug/l | | |



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat #: LIMS-66277

Page 5 of 9

QC Batch Number: GCMS/VOL-7674

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------|-----------------------------|-------------|--------|-------|--------|
| BLANK-44561 | trans-1,3-Dichloropropene | Blank | <0.4 | ug/l | |
| | Chlorodibromomethane | Blank | <0.5 | ug/l | |
| | 1,1,2-Trichloroethane | Blank | <0.7 | ug/l | |
| | 2-Chloroethylvinylether | Blank | <9.6 | ug/l | |
| | Bromoform | Blank | <1.2 | ug/l | |
| | 1,1,2,2-Tetrachloroethane | Blank | <1.4 | ug/l | |
| | 2-Chlorotoluene | Blank | <0.6 | ug/l | |
| | Hexachlorobutadiene | Blank | <1.3 | ug/l | |
| | Isopropylbenzene | Blank | <0.6 | ug/l | |
| | p-Isopropyltoluene | Blank | <0.7 | ug/l | |
| | n-Propylbenzene | Blank | <0.8 | ug/l | |
| | sec-Butylbenzene | Blank | <0.6 | ug/l | |
| | tert-Butylbenzene | Blank | <0.8 | ug/l | |
| | 1,2,3-Trichlorobenzene | Blank | <0.7 | ug/l | |
| | 1,2,4-Trichlorobenzene | Blank | <0.7 | ug/l | |
| | 1,2,4-Trimethylbenzene | Blank | <0.7 | ug/l | |
| | 1,3,5-Trimethylbenzene | Blank | <1.0 | ug/l | |
| | Dibromomethane | Blank | <1.1 | ug/l | |
| | cis-1,2-Dichloroethylene | Blank | <0.5 | ug/l | |
| | 4-Chlorotoluene | Blank | <0.6 | ug/l | |
| | 1,1-Dichloropropene | Blank | <1.4 | ug/l | |
| | 1,2-Dichloropropane | Blank | <0.6 | ug/l | |
| | 1,3-Dichloropropane | Blank | <0.5 | ug/l | |
| | 2,2-Dichloropropane | Blank | <0.9 | ug/l | |
| | 1,1,1,2-Tetrachloroethane | Blank | <0.5 | ug/l | |
| | 1,2,3-Trichloropropane | Blank | <1.3 | ug/l | |
| | n-Butylbenzene | Blank | <0.7 | ug/l | |
| | Dichlorodifluoromethane | Blank | <1.0 | ug/l | |
| | Bromochloromethane | Blank | <0.7 | ug/l | |
| | Bromobenzene | Blank | <0.5 | ug/l | |
| | Iodomethane | Blank | <0.8 | ug/l | |
| | Acrolein | Blank | <20.0 | ug/l | |
| | Acrylonitrile | Blank | <7.6 | ug/l | |
| | Carbon Disulfide | Blank | <3.0 | ug/l | |
| | Vinyl Acetate | Blank | <16.4 | ug/l | |
| | 2-Hexanone | Blank | <9.7 | ug/l | |
| | trans-1,4-Dichloro-2-Butene | Blank | <2.1 | ug/l | |
| | Ethyl Methacrylate | Blank | <0.8 | ug/l | |
| | cis-1,4-Dichloro-2-Butene | Blank | <2.4 | ug/l | |
| | Diethyl Ether | Blank | <2.0 | ug/l | |
| | Bromodichloromethane | Blank | <0.4 | ug/l | |
| | 1,2-Dibromo-3-Chloropropane | Blank | <1.6 | ug/l | |
| | 1,2-Dibromoethane | Blank | <0.7 | ug/l | |



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat #: LIMS-66277

Page 6 of 9

QC Batch Number: GCMS/VOL-7674

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------|-----------------|-------------|--------|-------|--------|
| BLANK-44561 | Tetrahydrofuran | Blank | <5.0 | ug/l | |



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.
Sample Matrix Spikes and Matrix Spike Duplicates

BATCH QC: Lab fortified Blanks and Duplicates
Standard Reference Materials and Duplicates
Method Blanks

Report Date: 9/20/02

Lims Bat #: LIMS-66277

Page 7 of 9

QC Batch Number: HG-3174

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------|-------------------|----------------------|----------|-------|--------|
| 02B24267 | Dissolved Mercury | Sample Amount | <0.00004 | mg/l | |
| | | Matrix Spk Amt Added | 0.00200 | mg/l | |
| | | MS Amt Measured | 0.00198 | mg/l | |
| | | Matrix Spike % Rec. | 99.00000 | % | 75-125 |
| BLANK-44502 | Dissolved Mercury | Blank | <0.00004 | mg/l | |



39 Spruce Street * 2nd Floor * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat # : LIMS-66277

Page 8 of 9

QC Batch Number: ICP-7472

| Sample Id | Analysis | QC Analysis | Values | Units | Limits |
|-------------|--------------------|-------------|---------|-------|--------|
| BLANK-44538 | Dissolved Silver | Blank | <0.0050 | mg/l | |
| | Dissolved Arsenic | Blank | <0.05 | mg/l | |
| | Dissolved Barium | Blank | 0.0014 | mg/l | |
| | Dissolved Cadmium | Blank | <0.0010 | mg/l | |
| | Dissolved Chromium | Blank | <0.004 | mg/l | |
| | Dissolved Lead | Blank | <0.02 | mg/l | |
| | Dissolved Selenium | Blank | <0.05 | mg/l | |



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 9/20/02

Lims Bat #: LIMS-66277

Page 9 of 9

QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

| | |
|-----------------------|--|
| QC BATCH NUMBER | This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data. |
| LIMITS | Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined. |
| Sample Amount | Amount of analyte found in a sample. |
| Blank | Method Blank that has been taken through all the steps of the analysis. |
| LFBLANK | Laboratory Fortified Blank (a control sample) |
| STDADD | Standard Added (a laboratory control sample) |
| Matrix Spk Amt Added | Amount of analyte spiked into a sample |
| MS Amt Measured | Amount of analyte found including amount that was spiked |
| Matrix Spike % Rec. | % Recovery of spiked amount in sample. |
| Duplicate Value | The result from the Duplicate analysis of the sample. |
| Duplicate RPD | The Relative Percent Difference between two Duplicate Analyses. |
| Surrogate Recovery | The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods. |
| Sur. Recovery (ELCD) | Surrogate Recovery on the Electrolytic Conductivity Detector. |
| Sur. Recovery (PID) | Surrogate Recovery on the Photoionization Detector. |
| Standard Measured | Amount measured for a laboratory control sample |
| Standard Amt Added | Known value for a laboratory control sample |
| Standard % Recovery | % recovered for a laboratory control sample with a known value. |
| Lab Fort Blank Amt | Laboratory Fortified Blank Amount Added |
| Lab Fort Blk. Found | Laboratory Fortified Blank Amount Found |
| Lab Fort Blk % Rec | Laboratory Fortified Blank % Recovered |
| Dup Lab Fort Bl Amt | Duplicate Laboratory Fortified Blank Amount Added |
| Dup Lab Fort Bl Fnd | Duplicate Laboratory Fortified Blank Amount Found |
| Dup Lab Fort Bl % Rec | Duplicate Laboratory Fortified Blank % Recovery |
| Lab Fort Blank Range | Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate). |
| Lab Fort Bl. Av. Rec. | Laboratory Fortified Blank Average Recovery |
| Duplicate Sample Amt | Sample Value for Duplicate used with Matrix Spike Duplicate |
| MSD Amount Added | Matrix Spike Duplicate Amount Added (Spiked) |
| MSD Amt Measured | Matrix Spike Duplicate Amount Measured |
| MSD % Recovery | Matrix Spike Duplicate % Recovery |
| MSD Range | Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries |

