PHASE I ENVIRONMENTAL SITE ASSESSMENT 60 TO 70 CROSS STREET EAST SOMERVILLE, MASSACHUSETTS

PREPARED FOR: Criterion Developmen

Criterion Development Company LLC Waltham, Massachusetts

PREPARED BY:

GZA GeoEnvironmental, Inc. Norwood, Massachusetts

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Engineers and Scientists

December 7, 2012 File No. 171422.00

Ms. Heather Boujoulian Criterion Development Company LLC 1601 Trapelo Road, Suite 280 Waltham, Massachusetts 02451

Re: Phase I Environmental Site Assessment

60 to 70 Cross Street East Somerville, Massachusetts

Dear Ms. Boujoulian:

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In accordance with our proposal dated July 20, 2012, GZA GeoEnvironmental, Inc. (GZA) is pleased to provide the attached Phase I Environmental Site Assessment Report for the 60 to 70 Cross Street East property located in Somerville, Massachusetts. This report has been prepared in general accordance with the guidelines described in ASTM Standard Practice E 1527-05 for Phase I Site Assessments and with our signed contract. This report is subject to the Limitations in Section 13.00 and the Limitations and Terms and Conditions in Appendix A.

This report is based on our review of available historical and environmental records, visual observations of the surface of the subject site and adjoining properties; and personal interviews with available persons having knowledge of the property. Section 12.00 of the report, our Findings and Conclusions, is considered an Executive Summary, and should be reviewed in conjunction with the entire report.

If you need any additional information, please contact any of the undersigned at (781) 278-3700.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

David E. Leone

Senior Project Manager

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Senior Principal/Environmental Professional

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1.00 INTRODUCTION

1.10 PROJECT AUTHORIZATION



This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by GZA GeoEnvironmental, Inc. (GZA) for Criterion Development Company LLC (Client) for the property at 60 to 70 Cross Street East in Somerville, Massachusetts (Site). The Site visit portion of this environmental site assessment of the property was conducted on October 1, 2012. Authorization to proceed on this project was granted in accordance with GZA's signed proposal dated July 20, 2012.

1.20 PROJECT OBJECTIVES

The objectives of this Phase I ESA were:

- to render an opinion as to whether surficial or historical evidence indicates the presence
 of Recognized Environmental Conditions (RECs) which could result in hazardous
 substances or petroleum products in the environment, as defined in the American Society
 for Testing and Materials (ASTM) Standard Practice E 1527-05 for Phase I ESAs;
- to permit the User of this assessment to satisfy one of the requirements to qualify for certain Landowner Liability Protections under CERCLA; and
- to evaluate the quality of soil at the Site through laboratory analysis of soil samples obtained during a concurrent geotechnical study.

As defined by ASTM Method E 1527-05, the term Recognized Environmental Condition means "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions under compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

1.30 SCOPE OF SERVICES

GZA's assessment of the Site was completed in general accordance with the ASTM Method E 1527-05 and GZA's proposal for services. We understand that this assessment is not funded with a Federal Grant awarded under the U.S. EPA Brownfield Assessment and Characterization Program. GZA's scope of services consisted of the following activities:

• a review of federal and state regulatory agency databases identified by ASTM for the Site and a selected radius around the Site:

- contact with local environmental regulatory agencies to inquire about environmental conditions at the Site and in its vicinity;
- a review of the Site history through available ASTM Standard Historical Sources;
- a review of prior studies prepared by GZA and others;
- a Site reconnaissance to make surficial observations for evidence of RECs;
- a vicinity reconnaissance of properties within ¼-mile of the Site;
- a review of adjoining properties to identify the potential use of hazardous materials;
- a review of the information provided as part of "User's Responsibilities" described in ASTM 1527-05:
- the analyses of soil collected at the Site as part of a concurrent GZA geotechnical study;
 and
- the preparation of this report of our findings.

Omissions from the ASTM standard included:

- ASTM identifies a title search for environmental liens as a User Responsibility and recommends that the User provide it to the Environmental Professional for review. The Client did not provide a title search for our review. In GZA's opinion this is not considered a significant data gap; and
- No Key Site Manager was available to be interviewed regarding the current and past Site usage. Based on the current Site conditions (refer to Section 2.00) and information provided by historical sources (refer to Section 4.00), in GZA's opinion this is not considered a significant data gap.

This report presents GZA's field observations, results, and opinions. This report is subject to modification if subsequent information is developed by GZA or any other party. This report is subject to the limitations presented in Section 13.00 and Appendix A.

2.00 BACKGROUND SITE INFORMATION

The following information was obtained during GZA's Site reconnaissance, from municipal records reviewed, and from interviews with people knowledgeable about the Site. Photographs depicting Site conditions at the time of GZA's assessment are presented in Appendix B. Additional information on Site use and area observations and activity at the Site is contained in Sections 6.00 and 7.00.



2.10 SITE LOCATION

The Site (60 to 70 Cross Street East) is located in a residential, retail and commercial area of Somerville. The Site is located approximately 800 feet southeast of the Route 93 and Route 28 interchange. A Locus Plan is attached as Figure 1.



Historical sources (refer to Section 4.00) also identify the Site as 100 Garfield Street, 260 Mystic Avenue and 44 to 46 Cross Street East.

2.20 SITE DESCRIPTION AND USE

According to municipal records reviewed, the Site is approximately 63,717 square feet in size and identified as three contiguous lots (Lot 1 to Lot 3) within Block A on Somerville Assessor's Map 89. Assessor's Office personnel indicated that the Site is a portion of a larger property identified as 771 McGrath Highway, which is occupied by a Stop & Shop supermarket and associated paved parking areas that adjoin the Site to the northwest.

The northeastern portion of the Site is identified as 70 Cross Street East and is improved by a landscaped grass area. The southwestern portion of the Site is identified as 60 Cross Street East and is improved by a paved parking area and a landscaped grass area along Cross Street East. No buildings are located at the Site. A Site Plan provided by the Client is attached as Figure 2.

2.30 ADJOINING PROPERTIES USE

The Site is adjoined:

- to the northwest by a Stop & Shop supermarket and associated paved parking areas;
- to the northeast by Mystic Avenue, beyond which is an on-ramp for Route 93;
- to the southeast by Cross Street East, beyond which are residences, a basketball court and a playground; and
- to the southwest by a graphics business (Quality Graphics Inc., 11 Blakeley Avenue) and a building (38 to 40 Cross Street East) which appeared vacant. No signage was observed identifying the building's occupant, but on-line sources identify the occupant as a metal fabrication company (Tresfort Metal Works).

2.40 AREA USE

The general area surrounding the Site consists of residential, retail and commercial properties. No obvious manufacturing facilities were observed within 500 feet of the Site.

2.50 SITE UTILITIES

No buildings or obvious utilities were observed at the Site, except for manhole covers associated with the stormwater drainage system, and likely underground electrical wiring associated with lights in the parking lot.

3.00 ENVIRONMENTAL SETTING



The following subsections provide information regarding the general physiographic and hydrologic conditions in the area of the Site. Subsurface information was provided during GZA's geotechnical study performed concurrently and prepared separately, and based on prior GZA subsurface studies (refer to Section 5.00).

3.10 REGIONAL PHYSIOGRAPHY

Based on a review of the U.S. Geological Survey (USGS) topographic map (Boston North Quadrangle, 1987), the Site's elevation is approximately 6 meters (approximately 20 feet) relative to the National Geodetic Vertical Datum (NGVD). An Existing Conditions Plan provided by Client depicts Site elevations ranging from approximately 18 to 22 feet, relative to the City of Somerville, Massachusetts Datum. The Site's topography is relatively flat with a slight slope generally to the east. The Mystic River is located approximately 2,600 feet east of the Site.

3.20 GROUNDWATER CONDITIONS

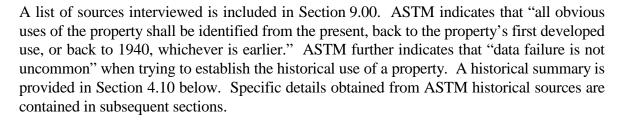
Based on field data collected as part of GZA's geotechnical study, depth to groundwater at the Site ranges from approximately 4 to 6 feet below the ground surface. Groundwater flow measurements conducted by GZA as part of prior studies completed at the Site indicated a relatively flat groundwater surface with no apparent local dominant flow direction. Based on field observations and regional topography, GZA anticipates regional groundwater flow to be generally to the northeast toward the Mystic River. It should be noted that localized flow directions in the area of the Site may also vary as a result of underground utilities, underground structures, or heterogeneous subsurface conditions. Subsequent references to upgradient and downgradient properties are based on the anticipated easterly direction of local groundwater flow.

3.30 SOIL AND ROCK CONDITIONS

Subsurface conditions at the Site generally consist of a shallow layer of fill material ranging from 1 to 13 feet thick, underlain by an intermittent layer of organic soils, underlain by natural clay and silt deposits. Possible bedrock was encountered in three borings at depths ranging from approximately 29 to 34 feet below ground surface, and glacial till was observed in two borings at depths ranging from 23 feet to 37 feet. A subsurface profile developed during our concurrent geotechnical study is included as Figure 3.

4.00 HISTORICAL USE INFORMATION

The Site history was developed from ASTM Standard Historical Sources and available files at the City of Somerville Assessor's Office, Building Department and public library, and from a review of prior studies prepared by GZA (refer to Section 5.00).





4.10 SITE AND AREA HISTORY SUMMARY

Information reviewed during the course of this study indicates that the Site was vacant land until the mid-1920s when the southwestern portion of the Site, identified as 60 Cross Street East, was developed to be used for truck/vehicle storage and repair. In the 1930s, the northeastern portion of the Site, identified as 70 Cross Street East, was developed to be used as an auto repair shop or contractor's yard which included buildings for lumber storage, auto spray painting and pipe storage. Residences located in the northern portion of the 70 Cross Street East portion were razed during the development of Mystic Avenue. Other Site uses included a moving business, a trucking company, a crane yard and a scrap metal business. In 2003, all prior buildings at the Site were razed for the development of the adjoining Stop & Shop supermarket, and the Site was developed to its current conditions. Adjoining properties have historically been residences, a crane yard, an auto repair business and other light manufacturing businesses.

4.20 CITY DIRECTORIES REVIEW

Available City Directories dated 1900 to 1940 were reviewed at five-year intervals at the public library. GZA also reviewed the City Directories for 100 Garfield Street, 260 Mystic Avenue and 44 to 46 Cross Street East. No information was provided for these addresses.

The information obtained from the City Directories is summarized in the following sections.

4.20.1 60 Cross Street East

The City Directories dated 1900 through 1925 did not list the 60 Cross Street East property. The 1925 City Directory identified the 60 Cross Street East property as an auto repair shop. City Directories dated 1930 to 1940 identified the occupant of 60 Cross Street East property as C.E. Hall and Sons, a trucking company. The 1940 City Directory also identified Crane Service and Equipment Company as an occupant.

4.20.2 70 Cross Street East

The 1900 City Directory did not list the 70 Cross Street East property. The City Directories dated 1905 through 1925 listed the 70 Cross Street East property as either residential or vacant. The remaining directories, dated 1930 to 1940, identified the 70 Cross Street East property as an auto repair shop.

Historical maps (refer to Section 4.50) indicate that the 70 Cross Street East residences were located in an area which is currently located within Mystic Avenue. During the construction of Mystic Avenue, the residences were razed.

4.20.3 Adjoining Properties



Adjoining properties during this time period were occupied by residences and light manufacturing facilities.

4.30 HISTORIC TOPOGRAPHIC MAP REVIEW

Historical topographic maps dated 1946 and 1987 were reviewed online at the University of New Hampshire Historic USGS Maps of New England website (http://docs.unh.edu/nhtopos/nhtopos.htm) or in GZA's in-house records. Due to the Site's densely developed urban setting, individual buildings are not depicted at the Site or on abutting properties.

4.40 AERIAL PHOTOGRAPH REVIEW

No aerial photographs were available at the municipal offices visited. GZA reviewed aerial photographs dated 1955, 1969, 1971, 1978, 1992, 2001, and 2005 online at www.historicaerials.com.

4.40.1 Site

The photographs dated 1955 to 2001 show the Site occupied almost entirely by the footprint of several industrial-style buildings and associated parking areas. These buildings consisted of concrete or brick construction and shared common walls. The 2005 photograph shows Site conditions similar to current conditions.

4.40.2 Adjoining Properties

The photographs dated 1955 to 2001 show adjoining properties primarily as residential property to the southeast, with industrial-style buildings to the southwest and northwest. The 2005 photograph shows conditions at these adjoining properties similar to current conditions.

Route 93 and the adjoining on-ramp are not shown in photographs dated 1955 and 1969; this area appeared to be occupied with industrial-style buildings. The 1971 photograph shows what appears to be the initial construction of the on-ramp. The remaining photographs dated 1978 to 2005 show the on-ramp and Route 93.

4.50 HISTORIC ATLAS REVIEW

GZA was provided with Sanborn Historical Maps dated 1900, 1933, 1950, 1989 and 1991 from Environmental Data Resources (EDR). A summary of the Sanborn Maps is discussed in the following sections. Refer to Appendix C for copies of the Sanborn Maps.

4.50.1 Site



The 1900 map shows the site as vacant land. The northeastern 70 Cross Street east portion of the Site and the southwestern 60 Cross Street East portion were separated by Edmonton Street and the Site was bounded to the northwest by Garfield Street. Edmonton Street and this portion of Garfield Street no longer exist. The location of Edmonton Street is now part of the 70 Cross Street portion of the Site, and the noted portion of Garfield Street has been incorporated into the parking lot for the Stop & Shop.

The 1933 and 1950 maps show the northeastern portion of the Site occupied by a "contractor's yard" which included buildings for lumber storage, auto spray painting and pipe storage. The southwestern portion of the Site was shown as improved by several interconnected buildings occupied by "C.E. Hall and Sons Inc." Building areas are identified as "garage" and "repair shop."

The 1989 and 1990 maps show Site conditions similar to those shown on the 1950 map. No occupants or site uses are identified.

4.50.2 Adjoining Properties

Adjoining properties during this time period were occupied by residences and a playground to the southeast; by the remainder of the C.E. Hall and Sons Inc. facility to the southwest; by a crane company, auto repair business or dwelling to the northwest; and by dwellings to the northeast.

The northeast-adjoining Route 93 on-ramp was not shown on maps dated 1900 to 1950; the ramp was shown on maps dated 1989 and 1990.

A building identified as "Somerville Lumber Company" is shown on the 1989 and 1990 maps in the area of the existing Stop & Shop Supermarket building. Map notations indicate that this building was constructed in 1975.

4.60 TITLE SEARCH

No title information was provided by the Client as part of the User's Responsibilities. The completion of a title search was not included in the scope of this assessment. ASTM identifies a title search as a User Responsibility. The title search is a historical source reviewed to identify history of use of the Site and environmental liens and Activity and Use Limitations (AULs). A limited AUL review conducted by FirstSearch (refer to Section 8.00) identified two current AULs associated with the study Site. Refer to Section 5.00 for additional information regarding the AULs for the Site.

4.70 BUILDING DEPARTMENT RECORDS

According to a review of Building Department records, all prior buildings at the Site were razed in 2003 for the development of the adjoining Stop & Shop supermarket. No

information was available during our review pertaining to the construction, use or occupants of prior Site buildings.

4.80 PROPERTY TAX FILES



Information on file at the Somerville Assessor's Office indicates that the Site is currently owned by Grand Panjandrum Realty Corp, which purchased the Site in 1997 from Somerville Lumber and Supply. No information on prior ownership or dates of purchase was available at the time of GZA's visit.

4.90 OTHER HISTORICAL SOURCES

Information reviewed as part of GZA's prior studies indicated:

- the 60 Cross Street East portion of the Site was occupied by a moving company (Simpson Brothers Moving) in the late 1950s and early 1960s, and by a scrap metal company (Guber & Sherman, Inc.) from the 1980s through the 1990s;
- the 70 Cross Street East portion of the Site was used for lumber storage by Somerville Lumber and Supply from the 1980s through the 1990s; and
- the Site was also identified as 100 Garfield Street, 260 Mystic Avenue and 44 to 46 Cross Street East, or was included as a portion of larger properties including these addresses.

5.00 PREVIOUS SITE INVESTIGATIONS

The 60 and 70 Cross Street East parcels have had an extensive history of oil and/or hazardous materials use, and each has been the subject of multiple environmental studies which were conducted by GZA and others. The following sections briefly summarize these studies, and document the current regulatory status of these properties with respect to the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000).

5.10 60 CROSS STREET EAST PARCEL

The 60 Cross Street East parcel includes the southwestern portion of the Site, and is predominantly paved. The 60 Cross Street East parcel has been used historically for a variety of commercial or industrial purposes including truck/vehicle repair, warehousing and scrap metal storage. Contamination was identified in soil and groundwater at the property during a 1998 GZA study, and subsequently several different consultants have been retained by the former property owner to perform additional investigation and remediation. The Site is referred to by the Massachusetts Department of Environmental Protection (MassDEP) as Release Tracking Number (RTN) 3-18193.

Site contaminants included petroleum hydrocarbons, volatile organic compounds (VOCs) and metals (most notably lead). The sources of the release were attributed to former USTs, historic operations at the property, and the presence of urban fill. In 2002, approximately

100 tons of impacted soil, and 1,687 gallons of groundwater containing "small globs of oil," were removed from the Site for disposal or recycling. Between 2003 and 2005, several USTs were removed from the Site prior to and during redevelopment associated with the Stop & Shop complex located to the northwest. The USTs ranged in size from 500 to 2,500 gallons.



During the removal of one 2,500-gallon UST, field screening conditions required additional notification to MassDEP. This resulted in MassDEP assigning a second RTN (3-23551) to the Site; this RTN was later linked to 3-18193. The UST and approximately 118 tons of impacted soil were disposed of off-Site. An additional approximately 2,800 tons of soil were disposed of off-Site as part of the redevelopment activities conducted under a Release Abatement Measure (RAM) Plan.

Residual soil and groundwater analytical data was used to support a Method 3 Risk Characterization under the MCP. The Risk Characterization indicated that a Condition of No Significant Risk had been achieved for the property, based on the application of an Activity and Use Limitation (AUL). The AUL for the Site restricts its use for residential purposes, schools, daycares or other recreational uses, and for growing produce. Additionally, the AUL requires that access to soils at the property be restricted by pavement or building cover.

A Class A-3 RAO was submitted for the property in 2004, indicating regulatory closure with respect to the MCP. Pertinent sections of the RAO, including the AUL, are attached in Appendix D.

5.20 70 CROSS STREET EAST PARCEL

The 70 Cross Street East parcel, which comprises the northeastern portion of the Site, was formerly occupied by a crane service company from 1952 until 1986. Prior reports indicated that activities at the property included "significant historical use of USTs." MassDEP has identified this property as RTN 3-0658.

The environmental assessment of this parcel began in 1986, in support of the purchase of the property by Somerville Lumber. Petroleum hydrocarbons, metals and volatile organic compounds (VOCs) were detected in shallow soil and/or groundwater at the parcel. The occurrence of these contaminants was attributed to the former use of the Site, including the presence of four former USTs. On-Site tanks included a 5,000-gallon gasoline UST, a 5,000-gallon diesel UST, a 2,000-gallon No. 2 heating oil UST, and a 1,000-gallon waste oil UST. These tanks were installed in the late 1950s, and removed in 1989; the tanks were noted to be in poor condition during removal, and separate phase product was observed on the water table during the excavation. The free product appeared to have been contained in shallow soils by the natural clay layer beneath the property.

GZA conducted additional assessment of the property starting in 1995. Our activities included the review of previous studies and the performance of subsurface investigations to further define the nature and extent of any residual contamination in soil and groundwater Our subsurface investigations included a soil gas survey, the installation of several soil

borings and monitoring wells, and the collection and laboratory analysis of soil and groundwater. These analytical results were used as the basis for a Method 3 Risk Characterization under the MCP, which indicated that a Condition of No Significant Risk had been achieved for the property.



This conclusion was based on the application of an AUL for a portion of the property where residual contamination remained. This AUL area consisted of an approximately 60 by 60 foot area in the northeastern portion of the 70 Cross Street East parcel, under the current landscaped area. The AUL prohibited the use of the site for residential purposes (including single or multiple family homes and apartment complexes), or for playgrounds, parks or daycare centers. Furthermore, the AUL required that the paved surfaces and other groundcover be maintained to restrict access to underlying soils, and that any future landscaped areas include a minimum of three feet of clean fill at the surface. (At the time of the AUL, the current landscaped area did not exist.)

A Class A-3 Response Action Outcome Statement was filed for the Site in 1997, indicating regulatory closure with respect to the MCP. Pertinent portions of the RAO are included in Appendix E. In 2002, an Amendment and Ratification to the AUL was filed clarifying the location of the AUL area.

In 2003 the Site was redeveloped as part of the aforementioned Stop & Shop Supermarket complex. Redevelopment activities specific to 70 Cross Street East included the creation of the paved parking area and the landscaped area. The Site was redeveloped along with the northwesterly adjoining properties located across the former extensions of Garfield Avenue and Kensington Avenue. These properties and streets are now part of the supermarket complex and parking lot areas.

The additional work at the 70 Cross Street East parcel included the excavation of shallow soil in the AUL area to install clean fill in accordance with the requirements of the AUL. The excavation was approximately 60 feet by 60 feet and was performed to a depth of 3 feet bgs. A poly layer was placed at the bottom of the excavation to prevent worker exposure to underlying soils; the poly layer was then covered with clean borrow.

Following redevelopment activities, a new Class A-3 RAO, incorporating the parcels that had been developed for Stop & Shop, including the 70 Cross Street East parcel but not 60 Cross Street East, was submitted in 2005 under RTN 3-15727. This RTN covers the properties to the northeast of the Site which were associated with the former Somerville Lumber operations. The previously existing AUL on the 70 Cross Street East parcel was terminated and a new AUL was filed for the entire Stop & Shop property, including the 70 Cross Street East parcel. This new AUL restricts the use of the Site for single or multiple family residential homes and structures and for growing produce, and requires maintenance of the pavement, building and landscaped areas to restrict access to underlying soils. For landscaped areas for recreational purposes, a minimum of 18 inches of clean fill must be installed, with a marker layer below the fill. Pertinent portions of the 2005 RAO, including the AUL, are included in Appendix F.

6.00 SITE RECONNAISSANCE



The purpose of GZA's Site reconnaissance was to make surficial observations for evidence of RECs which could result in the presence of oil or hazardous materials (OHM) in the environment. GZA Assistant Project Manager Dean Giuliano visited the Site on October 1, 2012; he was unaccompanied during the Site visit. Observations were documented and pertinent features or areas of environmental concern were photographed and are referenced in the text. Selected photographs are included in Appendix B, and Figure 2 depicts pertinent Site features. A summary of each area assessed is presented below.

6.10 EXTERIOR OBSERVATIONS

The Site was visually assessed for RECs. The Site consists of paved parking and landscaped areas. No buildings are located at the Site.

6.10.1 Underground Storage Tanks (USTs)

No evidence (fill or vent pipes, patched pavement, etc.) was observed to suggest the presence of USTs at the Site.

Fire Department records indicate the Site previously contained numerous USTs which have since been removed. Refer to Section 8.30.1 for additional information.

6.10.2 Above Ground Storage Tanks (ASTs)

No ASTs were observed on the exterior portion of the study Site.

6.10.3 Hazardous Substances or Petroleum Products Use

No storage, use, or surficial evidence of the disposal of chemicals, hazardous substances, or petroleum products was observed on the exterior of the Site.

6.10.4 Staining

No surficial staining, other than typical parking lot staining on asphalt, was observed during GZA's reconnaissance.

6.10.5 Electrical Transformers/Equipment

No pole-mounted or pad mounted transformers were observed at the Site.

6.10.6 Drywells and Sumps

No surficial evidence of exterior drywells or sumps was observed during GZA's Site reconnaissance.

6.10.7 Pits, Ponds, and Lagoons

No surficial evidence of pits, ponds, or lagoons was observed during GZA's Site reconnaissance.

GZN

6.10.8 Wells

No evidence of a potable drinking water wells was observed at the Site.

Several groundwater monitoring wells had been installed at the Site as part of prior GZA studies (refer to Section 5.00). No monitoring wells were observed at the time of GZA's recent visit. GZA assumes that these monitoring wells were destroyed during the 2003 redevelopment activities.

Subsequent to our October 1st Site visit, two groundwater monitoring wells were installed as part of a geotechnical study being conducted by GZA concurrently with this ESA.

6.10.9 Solid Waste

No solid waste is currently generated at the Site. No solid waste containers were observed. No evidence of solid waste disposal was observed at the Site.

6.10.10 Process Wastewater

No surficial evidence of on-Site process wastewater disposal was observed.

6.10.11 Septic System

No evidence (manhole covers or vent pipe) of a septic system was observed.

6.10.12 Stressed Vegetation

No stressed vegetation was observed at the Site.

6.10.13 Soil/Water Sampling

Groundwater and soil analyses were conducted as part of prior studies (refer to Section 5.00). Additional analyses of soil samples were conducted as part of GZA's geotechnical study at the Site performed concurrently with this ESA; refer to Section 9.00 for a discussion of analytical results. GZA's geotechnical report will be submitted under separate cover.

6.10.14 Oil/Water Separators

No evidence of an oil/water separator was observed at the Site.

6.10.15 Surface Water Runoff



Surface runoff is expected to follow the Site's topography and flow into catch basins located in the paved parking areas, or to infiltrate into the soil in unpaved areas. The catch basins appear to discharge into an on-Site drainage system which, according to plans provided by the Client, discharges to the municipal drainage system.

6.10.16 Other Observations

No other significant exterior observations were made.

6.20 INTERIOR OBSERVATIONS

No buildings are located at the Site.

7.00 VICINITY RECONNAISSANCE

As part of GZA's site assessment, a reconnaissance of the properties adjoining the Site, as well as the vicinity within a ¼-mile radius of the Site, was conducted from public properties. The results of GZA's vicinity reconnaissance are presented below.

7.10 HAZARDOUS MATERIAL USE AT ADJOINING PROPERTIES

Adjoining properties are occupied by residences, a playground, a basketball court, a graphics company, a metal fabrication company and a supermarket. Oil and hazardous materials may be used and stored at the adjoining metal fabrication company. The Stop & Shop supermarket is identified as a generator of hazardous waste (refer to Section 8.10). Other than the possible storage of oil for heating purposes, GZA does not expect that significant amounts of oil and hazardous materials are used or stored on the remaining adjoining properties.

7.20 HAZARDOUS MATERIAL USE AT VICINITY PROPERTIES

The area within the vicinity of the study Site consists of residential, retail and commercial properties. Gasoline stations and an automobile dealership are located on McGrath Highway approximately 300 to 800 feet west and southwest of the Site. Based on their distance from the Site, as well as a review of documentation concerning historic releases at these properties, it is GZA's opinion that the gasoline stations and automobile dealerships are unlikely to have impacted the soil or groundwater at the Site. Other than the possible storage of oil for heating purposes, GZA does not expect that significant amounts of oil and hazardous materials are used or stored on the remaining area properties.



8.00 REGULATORY DATABASE REVIEW

The following section is based on public information obtained from various federal, state, and local agencies that maintain environmental regulatory databases. These databases provide information about the regulatory status of a property and incidents involving use, storage, spillage, or transportation of oil or hazardous materials. Information was gathered by GZA personnel and FirstSearch Environmental Information (FirstSearch) on September 4, 2012. Non-geocoded sites, sites for which there was insufficient information to allow the mapping software to plot a location, were also reviewed. Federal and state regulatory information is presented in Appendix G. A discussion of the reviewed information is presented in the following sections.

8.10 FEDERAL AGENCY DATABASES

Ten federal databases were provided by FirstSearch and reviewed by GZA. These reports and the search distances used to review these databases are presented below.

Database	Radius Searched	Hits Within Radius Searched
	12 111 1 11	Kaurus Searcheu
National Priorities List (NPL)	1 Mile	0
Federal Deleted NPL Sites List (Delisted NPL)	⅓ Mile	0
The NPL, or Superfund sites list, is EPA's database of		
active/deleted confirmed uncontrolled or abandoned		
hazardous waste sites identified for priority remedial actions		
under the Superfund program.		
Comprehensive Environmental Response, Compensation,	½ Mile	0
and Liability Information System (CERCLIS)		
The CERCLIS database is a compilation by EPA of the sites		
that EPA has investigated or is currently investigating for a		
release or threatened release of hazardous substances.		



	Radius	Hits Within
Database	Searched	Radius Searched
Federal CERCLIS NFRAP LIST (NFRAP)	½ Mile	1
The CERCLIS No Further Remedial Actions Planned		
(NFRAP) database is EPA's sites that an assessment has		
been completed and no further steps will be taken to list the		
site on EPA's NPL		
Resource Conservation and Recovery Act (RCRA)	Site and adjoining	1
Generator Database	properties	
EPA's RCRA program identifies hazardous waste generators		
and tracks hazardous waste from the point of generation to		
the point of disposal.		
RCRA Treatment, Storage and Disposal (TSD) Facility	½ Mile	0
Database		
The RCRA TSD Facilities database is a compilation by EPA		
of reporting facilities that store, treat or dispose of hazardous		
waste.	4.3.511	
RCRA Corrective Action Database (CORRACTS)	1 Mile	2
The RCRA CORRACTS list is EPA's list of treatment,		
storage, or disposal facilities subject to corrective action		
under RCRA.	G! I	
Emergency Response Notification System (ERNS)	Site only	0
The ERNS list is a national database used to collect		
information on reported releases of oil and hazardous		
substances. The database contains information from spill		
reports made to federal authorities including the EPA, U.S.		
Coast Guard, National Response Center, and Department of		
Transportation. Federal Institutional/Engineering Controls Registries	Site Only	0
(FIECR)	Site Only	U
The FIECR is a national database identifying sites where		
Federal Institutional/Engineering Controls have been		
employed.		
Federal Brownfield Sites	½ Mile	0

The Site is not identified on any of the federal databases reviewed within their respective search radii. No NPL, Delisted NPL, CERCLIS, Brownfield, ERNs or FIECR sites, or RCRA TSD facilities, were identified within their respective search radii. An adjoining property identified as a generator of hazardous waste, and a CERCLIS NFRAP site and RCRA CORRACTS sites identified within the search distance, are discussed in the following sections.

8.10.1 RCRA Generator

The northwest adjoining Stop & Shop supermarket is identified as a very small quantity generator of hazardous waste, producing less than 100 kilograms per month. The FirstSearch report does not identify any RCRA violations issued to the Stop & Shop supermarket. No information was available regarding the hazardous materials generated at the supermarket; however, typical hazardous materials generated as such facilities include damaged or returned household chemicals or small quantities of waste oils.

8.10.2 CERCLIS NFRAP Site

A CERCLIS No Further Remedial Action Planned (NFRAP) site (former Cambridge Machine Products, 100 Foley Street) is located approximately ½ mile northeast and cross-

gradient of the Site. Based on the distance from the Site, the anticipated hydraulic gradient, and the regulatory status, in GZA's opinion the former Cambridge Machine Products property is unlikely to have impacted the soil or groundwater at the Site.

8.10.3 RCRA CORRACTS Sites



Two RCRA CORRACTs sites (General Electric, 3960 Mystic Valley Parkway, Medford; and Sithe New England, 173 Alford Street, Everett) are located greater than ¾ mile to the northwest and northeast, respectively, and cross-gradient of the Site. Based on their distance from the Site and the anticipated hydraulic gradient, in GZA's opinion the two RCRA CORRACTS sites are unlikely to have impacted the soil or groundwater at the Site.

8.20 STATE AGENCY DATABASE REVIEW

Ten state databases were provided by FirstSearch and reviewed by GZA. These reports and the search distances used to review these databases are presented below. It should be noted that the Massachusetts Department of Environmental Protection (MassDEP) does not maintain a "Leaking Underground Storage Tank" (LUST) list. FirstSearch has developed a LUST database by compiling tank leak sites identified within the "Spills/Standard Release Tracking" and "Hazardous Waste Disposal Sites" lists.

	Radius	Hits Within		
Database	Searched	Radius Searched		
State/Tribal List of Hazardous Waste Disposal Sites The State List of Hazardous Waste Disposal Sites includes the former List of Confirmed Disposal Sites and Locations to be Investigated (L.T.B.I.) (final addendum April 1995), and properties reported to MassDEP after October 1, 1993 which have been Tier Classified with respect to the discovery,	1 Mile	149		
release or threat of release of oil and/or hazardous materials in accordance with the MCP.				
Pre/Post 1990 Spills Database and Standard Release Tracking Database The Pre/Post 1990 Spills Database and the Standard Release Tracking Database constitute the state's list of oil/hazardous material releases that have been reported to MassDEP before/after 1990 and have not been Tier Classified.	½ Mile	135		
List of Registered Underground Storage Tanks The State/tribal List of Underground Storage Tanks includes existing and former USTs that have been reported to the Massachusetts Department of Public Safety (DPS).	Site and adjoining properties	0		
Leaking Underground Storage Tanks A LUST database by compiling tank leak sites identified within the "Spills/Standard Release Tracking" and "Hazardous Waste Disposal Sites" lists.	½ mile	35		
List of Active Landfills The State/Tribal List of Active Landfills is compiled by MassDEP and is a list of active solid waste landfills and transfer stations located within Massachusetts.	½ Mile	0		
Institutional Controls Registries Engineering Controls Registries The State/Tribal List of sites receiving an Activity Control Limitation (AUL) status.	Site only	2		
Brownfield Sites The state/tribal list identifying Brownfield sites	½ Mile	0		

Database	Radius Searched	Hits Within Radius Searched
State and Tribal Voluntary Cleanup Sites	½ Mile	0
Tribal Lands The state/tribal list identifying areas with boundaries of sites in the Commonwealth of Massachusetts by treaty, statute and/or executive/court order, recognized by the federal Government as territory in which American Indian tribes have primary government authority	Site only	0



No registered USTs, active solid waste landfills, Brownfield sites, voluntary cleanup sites, or tribal lands were identified within their respective search radii. Reported releases have been identified at the Site, at an adjoining property and at area properties, and the Site is identified twice as having an Institutional Control. These findings are discussed below.

8.20.1 Site

The Site (60 and 70 Cross Street East) is identified several times as a state-listed site or a state-reported spill. A discussion of the previous environmental assessment of the Site is presented above in Section 5.00.

8.20.2 Adjoining Properties

In 1995, petroleum was detected in the soil and groundwater at the northwest adjoining and upgradient former 250 Mystic Avenue property, currently the adjoining paved parking area associated with the Stop & Shop supermarket. Remediation of this property was conducted during the 2003 redevelopment of the current Stop & Shop parcel. The RAO for this Site includes the 70 Cross Street East parcel, as discussed in Section 5.00. Based on GZA's understanding of conditions at this property, the petroleum release at the former 250 Mystic Avenue property is unlikely to have impacted the soil or groundwater at the Site.

8.20.3 Area Properties

Several petroleum releases due to leaking USTs are identified at the former Somerville Lumber property, currently occupied by the Stop & Shop supermarket building located approximately 250-feet northwest of the Site. Each of these releases has a regulatory status of Closed, or an RAO has been submitted.

In 2007, gasoline was released from a leaking UST at the 16 Garfield Street property located approximately 200 feet west and upgradient of the site. An RAO has been submitted for this release.

In 1993, a leaking transformer was detected along Blakeley Avenue approximately 250 feet west and upgradient of the site. This release has a regulatory status of Closed.

Several releases of gasoline from leaking USTs have occurred at the Hess Station property located approximately 300 feet west and potentially upgradient of the site at 709 McGrath Highway. All releases have been linked to the main RTN 3-0856 for that site-



except for one (RTN 3-29472). A Class A-2 RAO was submitted for RTN 3-0856 in May 2008. GZA reviewed a copy of the 2008 RAO available through the MassDEP online database. The report indicates that localized groundwater flow direction at the Hess Station is not in the direction of the Site, and that significant off-property impacts were not reported. No information was available for RTN-29472, and it does not appear on the MassDEP online database, suggesting that it may have been retracted. Based on this information, it is GZA's opinion that conditions at the 709 McGrath Highway Hess Station are unlikely to impact soil and/or groundwater at the Site.

Based on their distance from the Site, direction, anticipated hydraulic gradient, and/or regulatory status, the remaining area sites are considered unlikely to impact the soil or groundwater conditions at the study Site.

8.30 LOCAL REGULATORY AGENCIES

To obtain information concerning the possible release of hazardous material or oil at the Site, GZA contacted the Somerville Fire Department and Health Department to obtain information on past or current USTs, or on any reported releases of OHM at the Site.

8.30.1 Fire Department

According to Fire Department records reviewed, no information was found pertaining to existing USTs located at the Site.

Fire Department records indicated that between 1989 and 1990 a total of twelve USTs, ranging in capacity from 500 to 10,000 gallons and containing waste oil, fuel oil, diesel fuel or gasoline, were either removed from the Site or filled with slurry. Fire Department records provided no information pertaining to contamination noted during the removals. GZA notes that additional USTs were removed between 2003 and 2005 as part of the redevelopment of the property (refer to Section 5.00). Fire Department records note the removal of a 3,000-gallon UST previously filled with slurry and removed in 2003, but provide no information pertaining to contamination noted during the 2003 removal. No information pertaining to the 2005 tank removal was noted in the Fire Department records reviewed.

8.30.2 Health Department

Health Department records reviewed did not indicate that any spills or releases of oil or hazardous materials have been reported at the Site. No information was observed in the Health Department records concerning the assessment or remediation activities discussed in Section 5.00.

9.00 SOIL SAMPLING AND ANALYSES



As part of a geotechnical study being conducted concurrently with this ESA, four soil borings (GZ-201 through GZ-204) were installed at the Site. Boring logs from these borings are included as Appendix H, and boring locations are depicted on the attached Site Plan. A representative sample of shallow soil from each boring was submitted to ESS Laboratory (ESS) of Cranston, Rhode Island for disposal precharacterization analysis. The analytical parameters included VOCs by EPA Method 8260, semi-VOCs by EPA Method 8270, total petroleum hydrocarbons (TPH) by EPA Method 8100, polychlorinated biphenyls (PCBs) by EPA Method 8082, arsenic, cadmium, chromium, hexavalent chromium, lead, TCLP lead, mercury, pH, flashpoint, reactivity, and/or oxidation/reduction potential.

Analytical results are summarized on Table 1 and laboratory reports are included in Appendix I. No compounds were detected above their respective MCP Reportable Concentration except for the polynuclear aromatic hydrocarbon (PAH) phenanthrene, which was detected in the sample from GZ-204 at a concentration of 13 milligrams per kilogram (mg/kg), slightly above the MCP Reportable Concentration for Soil Categorized as RCS-1 (residential standard). These results are consistent with levels previously observed at the Site, and in GZA's opinion do not constitute a new reportable condition with respect to the MCP. Boring GZ-204 was located in the landscaped area at the northern end of the Site.

Results of the analyses were compared to MassDEP Policy #COMM-97-001: Reuse & Disposal of Contaminated Soil at Massachusetts Landfills. The results for all samples except GZ-204 were below the acceptance criteria for in-state lined and unlined landfills. The toxicity characteristic leaching potential (TCLP) lead value reported for GZ-204 was 1.56 milligrams per liter (mg/L), and Massachusetts landfills are not authorized to accept soils with detectable TCLP lead. Based on this data, excess soils characterized by the samples from GZ-201 through GZ-203 can be disposed of at in-state lined or unlined landfills, but excess soils generated in the area of GZ-204 will require disposal at an out-of-state facility, resulting in additional costs.

10.00 INTERVIEWS

During the course of this assessment, GZA contacted personnel at the Somerville Assessor's Office, Building Department, Fire Department and Health Department and public library. The information provided by each is discussed and referenced in the text.

11.00 USER RESPONSIBILITIES

GZA requested information from the Client regarding title information, environmental liens, Activity and Use Limitations, and specialized knowledge or commonly known information

regarding the Site and, if applicable, the reason for a significantly discounted purchase price. The User Questionnaire is attached in Appendix J.

12.00 FINDINGS AND CONCLUSIONS



A Phase I ESA following the general guidance of the Phase I ASTM E 1527-05 Standard Practice has been conducted at the 60 and 70 Cross Street East property in Somerville, Massachusetts. The study included a Site reconnaissance; a review of Site history; a review of previous studies prepared by GZA; a review of local, state, and federal regulatory records; a review of information provided by the Client; interviews with persons and agencies familiar with the Site; and analyses of soil collected at the Site. No chemical testing of groundwater was completed as part of this study.

12.10 FINDINGS

The findings below are based on the work conducted for this assessment.

- 1. The Site (60 and 70 Cross Street East) is located in a residential, retail and commercial area of Somerville. Historical sources also identify the Site as 100 Garfield Street, 260 Mystic Avenue and 44 to 46 Cross Street East. The 63,717-square foot study Site is identified as three contiguous lots (Lot 1 to Lot 3) within Block A on Somerville's Assessor's Map 89. Assessor's Office personnel indicated that the Site is within a larger property identified as 771 McGrath Highway, which is occupied by a Stop & Shop supermarket and associated paved parking areas that adjoin the Site to the northwest.
- 2. The northeastern portion of the Site is improved by a landscaped grass area. The southwestern portion of the Site is improved by a paved parking area and a landscaped grass area along Cross Street East. No buildings or obvious utilities were observed at the Site, except for manhole covers associated with the stormwater drainage system, and likely underground electrical wiring associated with lights in the parking lot.
- 3. Information reviewed during the course of this study indicates that the Site was vacant land until the mid 1920s when the southern portion of the Site, identified as 60 Cross Street East, was developed to be used for truck/vehicle storage and repair. In the 1930s, the northern portion of the Site, identified as 70 Cross Street East, was developed to be used as an auto repair shop or contractor's yard which included buildings for lumber storage, auto spraying and pipe storage. Residences located in the northern portion of the 70 Cross Street East portion were razed during the development of Mystic Avenue. Other Site uses included a moving business, a trucking company, a crane yard and a scrap metal business. In 2003, all prior buildings at the Site were razed for the development of the adjoining Stop & Shop supermarket, and the Site was developed to its current conditions. Adjoining properties have historically been residences, a crane yard, an auto repair business and other light manufacturing businesses.



- 4. Multiple releases of oil and/or hazardous materials have occurred at the 60 and 70 Cross Street East parcels. The releases have been associated with the former usage of these properties, including the presence of former USTs. Soil and groundwater remediation has been conducted at each property, along with several rounds of assessment activities. Residual contamination remains at both properties; however, each property has reached regulatory closure with respect to the MCP. The properties both have AULs in place which limit certain future activities and require the maintenance of barriers, such as landscaping or pavement, to limit access to underlying soils.
- 5. No evidence was observed at the Site suggesting the presence of additional USTs. No information was found within the Fire Department records pertaining to remaining USTs located at the Site.
- 6. State-listed sites and reported spills were identified in the area of the Site. However, based on their distance, direction, anticipated hydraulic gradient and/or regulatory status, these sites are considered unlikely to have impacted the soil or groundwater conditions at the Site.
- 7. No significant oil and hazardous materials use or storage, or the generation or storage of hazardous waste, was observed at the Site. No evidence of septic systems or staining was observed at the Site.
- 8. Shallow soil samples were collected from four soil borings and submitted for chemical analysis for a range of parameters. Analytical results indicated contaminant concentrations consistent with or below concentrations of contaminants previously detected at the Site.

12.20 CONCLUSIONS AND OPINIONS

Based on the findings presented above, it is GZA's opinion that we have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 at the 60 and 70 Cross Street East property in Somerville, Massachusetts. Any exceptions to, or deletions from, this practice are described in Section 1.00 of this report. This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the property.

A Historic REC (HREC) was identified at the Site: both the 60 and 70 Cross Street East properties have been the location of the historic release of oil and/or hazardous materials. The sources of these releases include USTs, prior Site usage and urban fill. Several rounds of assessment and remediation have been conducted at each parcel, and RAOs, indicating regulatory closure with respect to the MCP, have been submitted for each parcel. The RAOs rely on separate AULs, which specify restrictions on the use of each parcel in order to limit exposure to contaminated soils.

12.30 CONSIDERATIONS FOR FUTURE DEVELOPOMENT

Although it is outside the scope of a typical ESA, GZA understands that Client has requested a discussion of the findings of our ESA as they relate to future development considerations. GZA understands that current plans call for the construction of a four-story wood framed multi-family apartment building above a one-story concrete garage. The garage slab will be at about existing grades on the northeastern end of the Site, but may be a few feet below existing grades on the southwestern end of the Site.



The current AULs in place for the Site restrict the use of the property for residential purposes. Both AULs would need to be amended to allow for the proposed development. GZA recommends that the existing AULs be terminated, and that a new AUL be filed. This would also necessitate re-filing the AUL for the Stop & Shop parcel, as that AUL currently extends onto the 70 Cross Street East parcel. The new AUL would still restrict the use of the Site for growing food crops or for single-family residential use, and would require maintenance of one or more barriers to restrict access by future site occupants to impacted soils at the Site. The AUL would need to be supported by a revised risk characterization demonstrating that a condition of No Significant Risk could be maintained for future Site occupants.

Soil excavation at the Site would require the submittal of a Release Abatement Measure (RAM) Plan to MassDEP for the management of contaminated soils. The RAM plan would outline the extent of proposed excavation, plans for environmental monitoring, and soil and groundwater management procedures. In addition, excavation work would require a Soil Management Plan and a Health and Safety Plan. Excess soils generated during construction would incur additional costs for disposal.

13.00 LIMITATIONS

GZA's site assessment was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and GZA observed the degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GZA'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 the ESA. No other warranty, express or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil or other latent condition beyond that observed by GZA during its site assessment. This report is also subject to the specific limitations contained in Appendix A.

This study and report have been prepared on behalf of and for the exclusive use of Criterion Development Company LLC, CPC-T, LC, CDP Development Company, LLC, Criterion Property Company, L.P., (collectively, "Criterion") and any entity that acquires ownership in the Site provided such entity is owned or controlled by or in partnership with Criterion, and any lender to or equity partner with such entities with respect to the Site.

This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor relied on by any other party in whole or in part, without the prior written consent of GZA. However, GZA acknowledges and agrees that the Report may be conveyed to the Buyer associated with the proximate sale of the Site to the extent set forth in our signed proposal dated July 20, 2012. Client acknowledges and agrees that reliance upon the report and the findings in the report by any other party, or for any other purpose, shall be at that party's sole risk and without any liability to GZA.



14.00 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare, to the best of my professional knowledge and belief, that I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 12; that I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property; and that I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

The signature of the Environmental Professional is contained on the cover page of this report. Environmental Professional Qualifications are attached in Appendix K.

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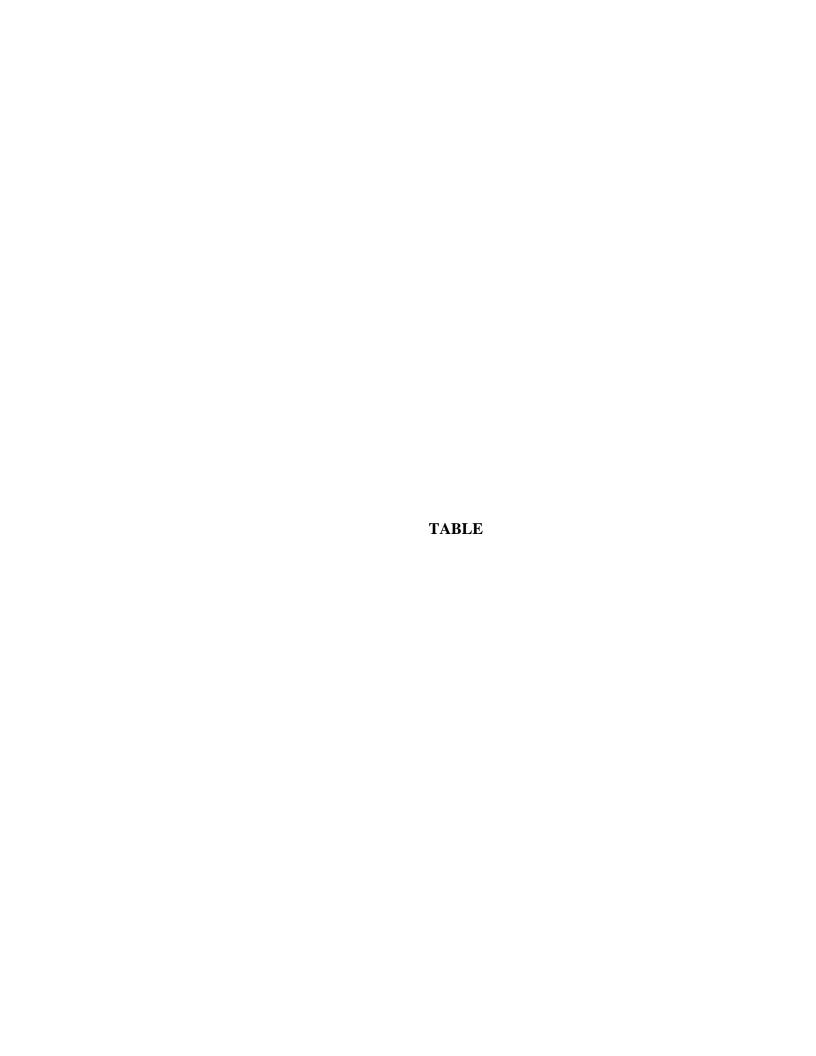
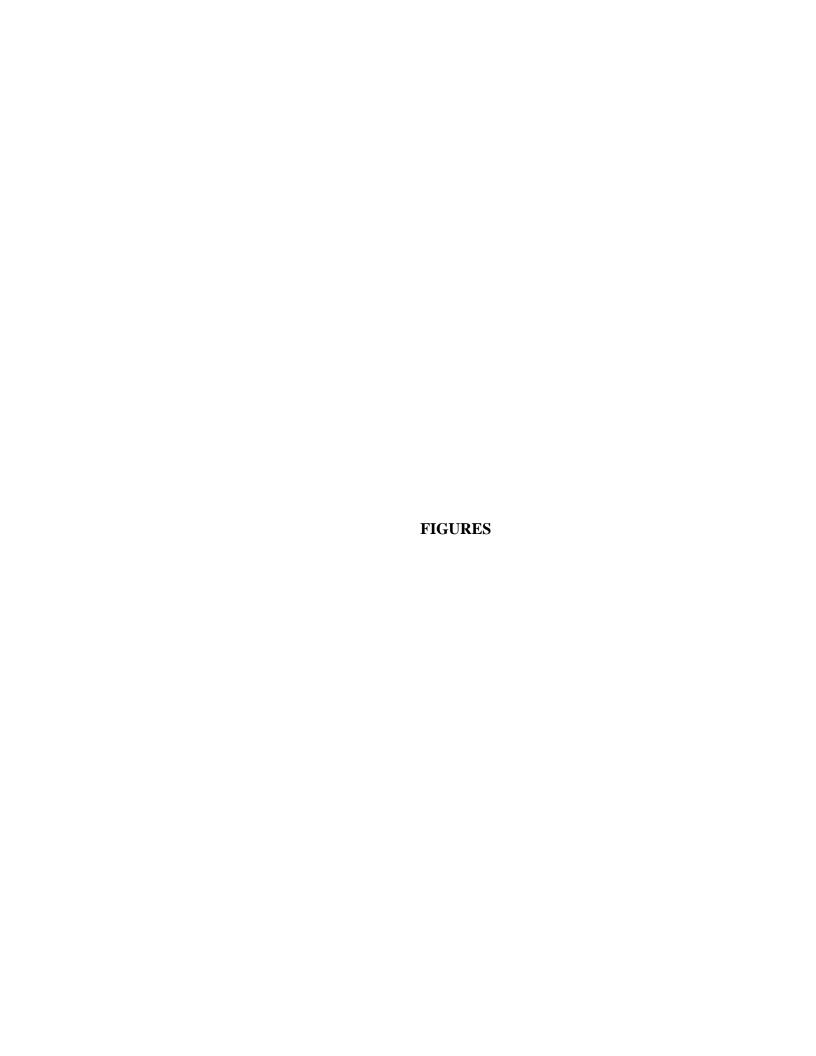
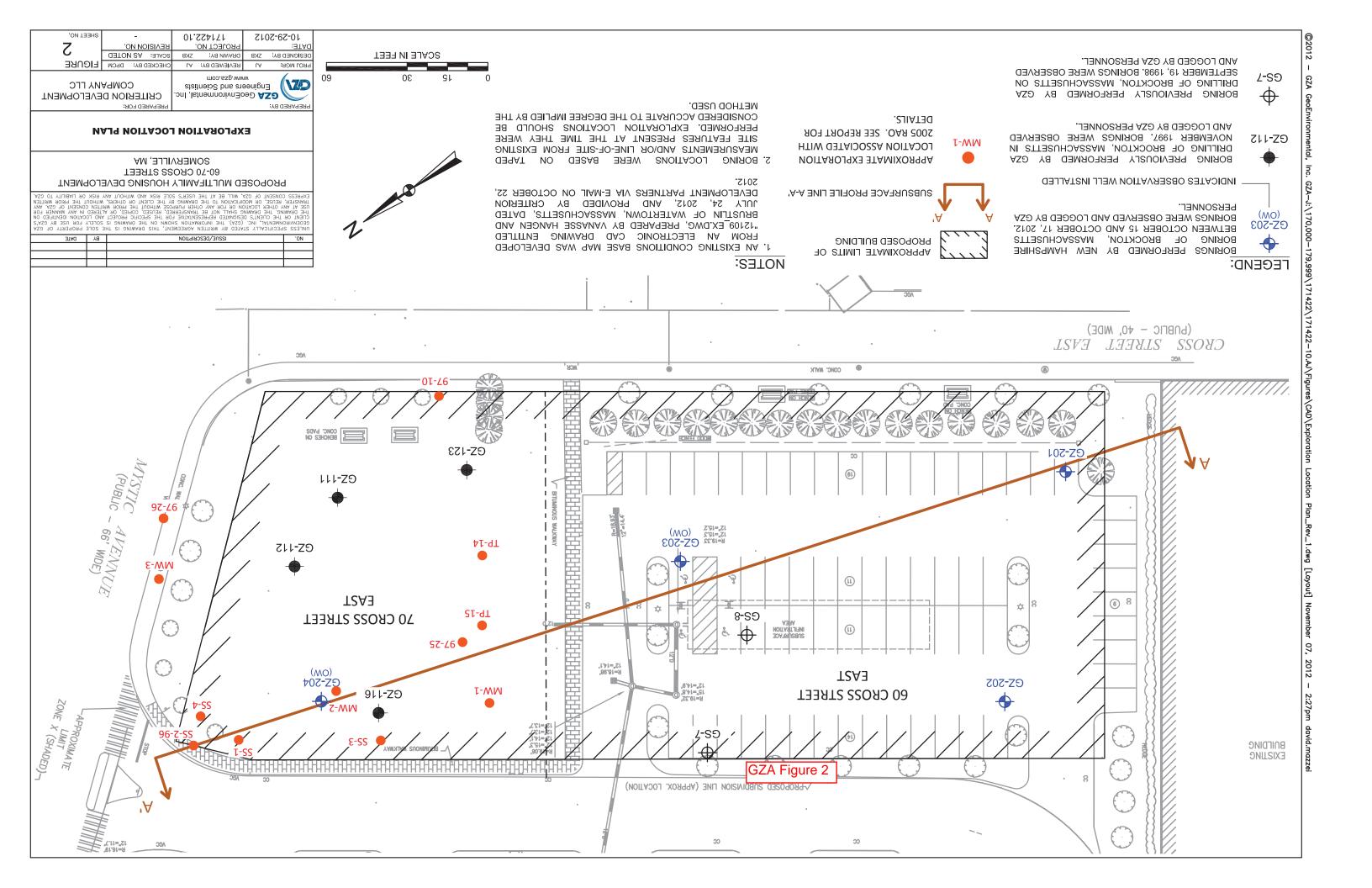


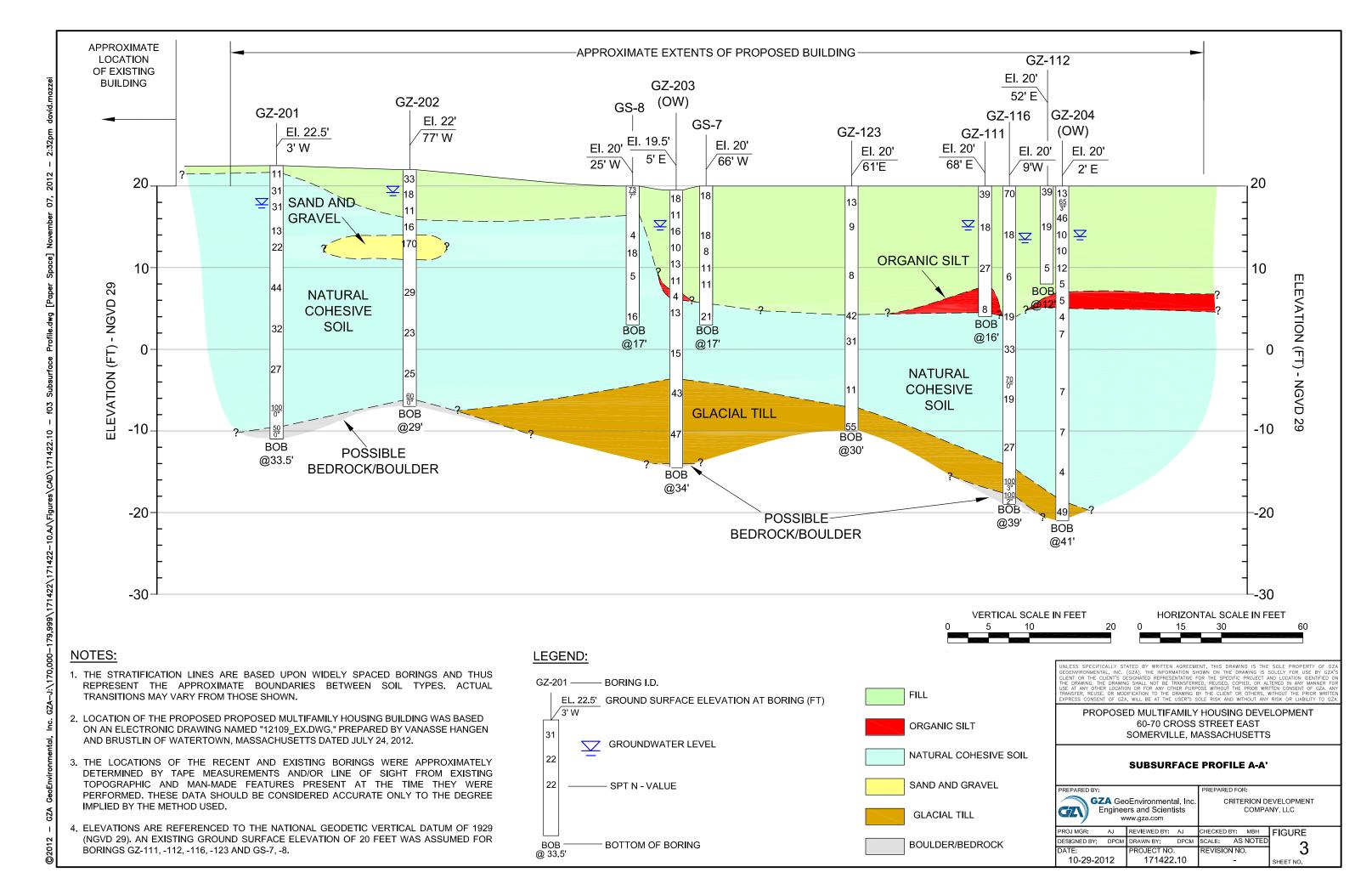
TABLE 1
SOIL ANALYTICAL RESULTS
60 and 70 Cross Street East
Somerville, Massachusetts

	Sample Name:	GZ-201	GZ-202	GZ-203	GZ-204	МСР		-97 Landfill Reuse
	Sample Date:	1ft-6ft 10/15/2012	1ft-6ft 10/15/2012	1ft-6ft 10/16/2012	2ft-7ft 10/17/2012	RCS-1	Lined	nits Unlined
	•							
Analyte	Units							
Metals								
Arsenic	mg/kg	5	5.9	3.5	4.3	20	40	40
Cadmium	mg/kg	< 0.54	0.9	< 0.46	<0.57	2	80	30
Chromium	mg/kg	22.7	47.4	19.4	49.4	1000	1000	1000
Hexavalent Chromium	mg/kg		<4		<4	30		
Lead	mg/kg	8.2	113	16.5	208	300	2000	1000
TCLP Lead	mg/L		0.854		1.56		ND	ND
Mercury	mg/kg	<0.035	0.503	0.079	1.03	20	10	10
Total VOCs	mg/kg	0.3711	ND	0.0761	0.3417		10	4
1,2,4-Trimethylbenzene	mg/kg	0.0564	< 0.033	<0.0304	<0.0346	1000		
2-Chlorotoluene	mg/kg	<0.0382	< 0.033	< 0.0304	0.0692	100		
Benzene	mg/kg	<0.0382	< 0.033	< 0.0304	0.0856	2		
Naphthalene	mg/kg	0.153	< 0.0659	0.0761	0.148	4		
Toluene	mg/kg	0.0507	< 0.033	<0.0304	0.0389	30		
Xylene P,M	mg/kg	0.111	< 0.0659	<0.0609	<0.0692	300		
Total PCBs	mg/kg	ND	ND	ND	0.129	2	<2	<2
Aroclor 1254	mg/kg	<0.0591	<0.0533	<0.0544	0.129	2		
TPH	mg/kg	109	926	150	1300	1000	5000	2500
Total SVOCs	mg/kg	ND	6.64	2.923	35.15		100	100
Benzo(a)pyrene	mg/kg	<0.205	1.13	0.336	<3.93	2		
Chrysene	mg/kg	< 0.205	1.22	0.39	4.11	70		
Fluoranthene	mg/kg	< 0.408	2.19	0.856	9.8	1000		
Phenanthrene	mg/kg	< 0.408	<1.76	0.573	13	10		
Pyrene	mg/kg	<0.408	2.1	0.768	8.24	1000		
Classical Chemistry								
Conductivity	umhos/cm	233	327	174	221		8000	4000
pH		7.31	8.09	8.51	8.93			
Flashpoint	°F	>200	>200	>200	>200			
Reactive Cyanide	mg/kg	<2	<2	<2	<2			
Reactive Sulfide	mg/kg	<2	<2	<2	4.5			
Redox Potential	mv	123	82	194	118			

VOC samples taken as grab samples from noted intervals, with the exception of GZ-203, which was a grab obtained from GZ-203 2ft-4ft, and GZ-204 which was a grab obtained from 3ft-5ft. Only detected analytes shown.







APPENDIX A

LIMITATIONS/TERMS AND CONDITIONS



PHASE I ENVIRONMENTAL SITE ASSESSMENT LIMITATIONS

Use of Report

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of Criterion Development Company LLC for the stated purpose(s) and location(s) identified in the Report. However, GZA acknowledges and agrees that the Report may be conveyed to the buyer associated with the proximate Sale of the subject location(s) to the extent set forth in our signed proposal dated July 20, 2012 Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

Standard of Care

- 2. Our findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
- 3. Our services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

Uncertainty not Eliminated

4. No environmental site assessment can eliminate the uncertainty of the possible presence of Recognized Environmental Conditions (RECs). This report was prepared to help reduce, not to eliminate, such uncertainties.

Limits to Observations

5. As indicated in the Report, we made observations for evidence of RECs at the Site and for conditions at adjoining properties that could result in RECs at the Site. Observations were made of the Site and of structures on the Site as indicated within the report. Where access to portions of the Site or to structures on the Site was unavailable or limited, GZA renders no opinion as to the presence of hazardous substances, hazardous wastes, or petroleum products, or to the presence of indirect evidence relating

April 2012

to these materials, in that portion of the Site or structure. In addition, GZA renders no opinion as to the presence of hazardous substances, hazardous wastes, or petroleum products, or to the presence of indirect evidence relating to these materials, where direct observation of the interior walls, floor, or ceiling of a structure on the Site was obstructed by objects or coverings on or over these surfaces. Our opinions are necessarily based on these limited observations. Additionally, some activities or events of potential interest, at the Site or on adjoining properties, may have been transient and not observable at the time of our visit.

Reliance on Information from Others

6. We relied upon information made available by Federal, state and local authorities, the Key Site Manager, and others. We did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

Additional Information

7. Additional opinions or information regarding RECs may be developed by the lender, seller, buyer, or other parties. Such additional opinions or information may not fully support the opinions provided in this report. In the event such additional opinions or information is developed, we recommend that we be retained, in a timely manner, to review this material. This will provide us the opportunity to evaluate and modify, as necessary, the opinions provided in the Report

Compliance with Regulations and Codes

8. Our services were performed to render an opinion on the presence of RECs. Unless specifically addressed within the Report, we rendered no opinion on the compliance of Site conditions or activities with local, state, or Federal codes or regulations.

Shelf Life

9. The opinions expressed in this Report are based on conditions observed during the course of our work on this Site; these conditions may change over time. ASTM Guidance (see ASTM 1527-05) states that observations and opinions are only valid for 180 days. After 180 days, an update of portions of the Report may be necessary.



TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES INCLUDING SITE INVESTIGATION, REMEDIATION, GEOTECHNICAL, CONSTRUCTION, AND TESTING

© 2008 by GZA GeoEnvironmental, Inc.

Client ("You"): Criterion Development Company LLC

Proposal No: 01.P000269.13

Site: 60-70 Cross Street East, Somerville, MA

These Terms and Conditions, together with GZA's Proposal, make up the Agreement between GZA and you, Client, named above.

BEFORE SIGNING THE PROPOSAL, BE SURE YOU READ AND UNDERSTAND THE PARAGRAPHS ENTITLED "INDEMNIFICATION" AND "LIMITATION OF REMEDIES" WHICH DEAL WITH THE ALLOCATION OF RISK BETWEEN YOU AND GZA.

1. Services. GZA will perform the services set forth in its Proposal and any amendments or change orders authorized by you. Any request or direction from you that would require extra work or additional time for performance or would result in an increase in GZA's costs will be the subject of a negotiated amendment or change order.

2. Standard of Care; Warranties.

- a. GZA will perform the services with the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time under similar conditions in the same or similar locality.
- b. GZA warrants that its construction services will be of good quality, free of faults and defects and in conformance with the Proposal.
- c. EXCEPT AS SET FORTH IN SUBSECTIONS 2a AND 2b, ABOVE, NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTY OF MARKETABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS MADE OR INTENDED BY GZA'S PROPOSAL OR BY ANY OF GZA'S ORAL OR WRITTEN REPORTS.
- d. GZA assigns to you any manufacturers' warranties of equipment or materials purchased from others, to the extent they are assignable, and your sole recourse will be against the manufacturer. Full risk of loss of materials and equipment will pass to you upon delivery to the Site, and you will be responsible for insuring and otherwise protecting them against theft and damage.

3. Payment.

- a. Except as otherwise stated in the Proposal, you will compensate GZA for the services at the rates set forth in the applicable Proposal, amendment or change order; reimburse its expenses, which will include a communication fee calculated as a percentage of labor invoiced; and pay any sales or similar taxes thereon.
- b. Any retainer specified in GZA's Proposal shall be due prior to the start of services and will be applied to the final invoice for services.
- c. GZA will submit invoices periodically, and payment will be due within 30 days from invoice date. Overdue payments will bear interest at 1½ percent per month or, if lower, the maximum lawful rate. GZA may terminate its services upon 10 days' written notice anytime your payment is overdue on this or any other project and you will pay for all services through termination, plus termination costs. You will reimburse GZA's costs of collecting overdue invoices, including reasonable attorneys' fees.

4. Your Responsibilities.

- a. Except as otherwise agreed, you will secure the approvals, permits, licenses and consents necessary for performance of the services. If you are the owner or operator of the Site, you will provide GZA with all documents, plans, information concerning underground structures (including but not limited to utilities, conduits, pipes, and tanks), information related to hazardous materials or other environmental or geotechnical conditions at the Site and other information that may be pertinent to the services or, if you are not the owner or operator of the Site, you agree to make reasonable efforts to obtain these same documents and provide them to GZA. Unless otherwise indicated in writing, GZA will be entitled to rely on documents and information you provide.
- b. If you use the services of a construction manager at the Site, you agree to use best and reasonable efforts to include in your agreement(s) with the construction contractor provisions obligating the latter:
 - (i) to indemnify and hold harmless, to the fullest extent permitted by law, you and GZA, its officers, employees and principals, for or on account of any claims, liabilities, costs and expenses, including attorneys' fees, arising out of or relating to the design or implementation of construction means, methods, procedures, techniques, and sequences of construction, including safety precautions or programs, of the contractor, or any of its subcontractors or any engineer engaged by it;

- (ii) to name you and GZA as additional insureds under general liability and builder's risk insurance coverages maintained by the contractor, or any of its subcontractors; and
- (iii) to require that all of its subcontractors agree and be bound to the obligations set forth in (i) and (ii) above.
- c. In the event that you are unable to secure such provisions in the agreement(s) with the construction contractor, you shall promptly notify GZA and GZA shall have the opportunity to negotiate with you reasonable substitute risk allocation and insurance indemnities and protections.
- 5. Right of Entry; Site Restoration. You grant GZA and its subcontractor(s) permission to enter the Site to perform the services. If you do not own the Site, you represent and warrant that the owner has granted permission for GZA to enter the Site and perform the services; you will provide reasonable verification on request; and you will indemnify GZA for any claims by the Site owner related to alleged trespass by GZA or its subcontractors. GZA will exercise reasonable care to limit damage to landscaping, paving, systems and structures at the Site that may occur and you agree to compensate GZA for any restoration it is asked to perform, unless otherwise indicated in the Proposal.
- 6. Underground Facilities. GZA's only responsibility under this Section will be to provide proper notification to the applicable state utility "Call-Before-You-Dig" program. You further agree to assume responsibility for and to defend, indemnify and hold harmless GZA with respect to personal injury and property damages due to GZA's interference with subterranean structures including but not limited to utilities, conduits, pipes, and tanks:
 - (i) that are not correctly shown on any plans and information you or governmental authorities provide to GZA; or
 - (ii) that are not correctly marked by the appropriate utility.
- 7. Reliance. The services, information, and other data furnished by you shall be at your expense, and GZA may rely upon all information and data that you furnish, including the accuracy and completeness thereof. You acknowledge that the quality of the services provided by GZA is directly related to the accuracy and completeness of the information and data that you furnish to GZA. GZA's REPORTS ARE PREPARED FOR AND MADE AVAILABLE FOR YOUR SOLE USE. YOU ACKNOWLEDGE AND AGREE THAT USE OF OR RELIANCE UPON THE REPORT OR THE FINDINGS IN THE REPORT BY ANY OTHER PARTY, OR FOR ANY OTHER PROJECT OR PURPOSE, SHALL BE AT YOUR OR SUCH OTHER PARTY'S SOLE RISK AND WITHOUT ANY LIABILITY TO GZA.
- 8. Lab Tests and Samples. GZA is entitled to rely on the results of laboratory tests using generally accepted methodologies. GZA may dispose of samples in accordance with applicable laws 30 days after submitting test results to you unless you request in writing for them to be returned to you or to be held longer, in which case you will compensate GZA for storage and/or shipping beyond 30 days.
- 9. GZA Professionals. GZA employees or consultants may act as licensed, certified or registered professionals (including but not limited to Professional Engineers, Licensed Site or Environmental Professionals, or Certified Industrial Hygienists collectively referred to in this section as "GZA Professionals") whose duties may include the rendering of independent professional opinions. You acknowledge that a federal, state or local agency or other third party may audit the services of GZA or other contractor/consultant(s), which audit may require additional services, even though GZA and such GZA Professionals have each performed such services in accordance with the standard of care set forth herein. You agree to compensate GZA for all services performed in response to such an audit, or to meet additional requirements resulting from such an audit, at the rates set forth in the applicable Proposal, amendment or change order.
- 10. Hazardous Materials; GZA "Not a Generator". Before any hazardous or contaminated materials are removed from the Site, you will sign manifests naming you as the generator of the waste (or, if you are not the generator, you will arrange for the generator to sign). You will select the treatment or disposal facility to which any waste is taken. GZA will not be the generator or owner of, nor will it possess, take title to, or assume legal liability for any hazardous or contaminated materials at or removed from the Site. GZA will not have responsibility for or control of the Site or of operations or activities at the Site other than its own. GZA will not undertake, arrange for or control the handling, treatment, storage, removal, shipment, transportation or disposal of any hazardous or contaminated materials at or removed from the Site, other than any laboratory samples it collects or tests. You agree to defend, indemnify and hold GZA harmless for any costs or liability incurred by GZA in defense of or in payment for any legal actions in which it is alleged that GZA is the owner, generator, treater, storer or disposer of hazardous waste.
- 11. Limits on GZA's Responsibility. GZA will not be responsible for the acts or omissions of contractors or others at the Site, except for its own subcontractors and employees. GZA will not supervise, direct or assume control over or the authority to stop any contractor's work, nor shall GZA's professional activities nor the presence of GZA or its employees and subcontractors be construed to imply that GZA has authority over or responsibility for the means, methods, techniques, sequences or procedures of construction, for work site health or safety precautions or programs, or for any failure of contractors to comply with contracts, plans, specifications or laws. Any opinions by GZA of probable costs of labor, materials, equipment or services to be furnished by others are strictly estimates and are not a guarantee that actual costs will be consistent with the estimates.

12. Changed Conditions.

- a. You recognize the uncertainties related to environmental and geotechnical services, which often require a phased or exploratory approach, with the need for additional services becoming apparent during the initial services. You also recognize that actual conditions encountered may vary significantly from those anticipated, that laws and regulations are subject to change, and that the requirements of regulatory authorities are often unpredictable.
- b. If changed or unanticipated conditions or delays make additional services necessary or result in additional costs or time for performance, GZA will notify you and the parties will negotiate appropriate changes to the scope of services, compensation and schedule.
- c. If no agreement can be reached, GZA will be entitled to terminate its services and to be equitably compensated for the services already performed. GZA will not be responsible for delays or failures to perform due to weather, labor disputes, intervention by or inability to get approvals from public authorities, acts or omissions on your part, or any other causes beyond GZA's reasonable control, and you will compensate GZA for any resulting increase in its costs.
- 13. Documents and Information. All documents, data, calculations and work papers prepared or furnished by GZA are instruments of service and will remain GZA's property. Designs, reports, data and other work product delivered to you are for your use only, for the limited purposes disclosed to GZA. Any delayed use, use at another site, use on another project, or use by a third party will be at the user's sole risk, and without any liability to GZA. Any technology, methodology or technical information learned or developed by GZA will remain its property. Provided GZA is not in default under this Agreement, GZA's designs will not be used to complete this project by others, except by written agreement relating to use, liability and compensation.
- 14. Electronic Media. In accepting and utilizing any drawings, reports and data on any form of electronic media generated by GZA, you covenant and agree that all such electronic files are instruments of service of GZA, who shall be deemed the author and shall retain all common law, statutory law and other rights, including copyrights. In the event of a conflict between the signed documents prepared by GZA and electronic files, the signed documents shall govern. You agree not to reuse these electronic files, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Any transfer of these electronic files to others or reuse or modifications to such files by you without the prior written consent of GZA will be at the user's sole risk and without any liability to GZA.
- 15. Confidentiality; Subpoenas. Information about this Agreement and GZA's services and information you provide to GZA regarding your business and the Site, other than information available to the public and information acquired from third parties, will be maintained in confidence and will not be disclosed to others without your consent, except as GZA reasonably believes is necessary: (a) to perform its services; (b) to comply with professional standards to protect public health, safety and the environment; and (c) to comply with laws and court orders. GZA will make reasonable efforts to give you prior notice of any disclosure under (b) or (c) above. Information available to the public and information acquired from third parties will not be considered confidential. You will reimburse GZA for responding to any subpoena or governmental inquiry or audit related to the services, at the rates set forth in the applicable Proposal, amendment or change order.
- 16. Insurance. During performance of the services, GZA will maintain workers compensation, commercial general liability, automobile liability, and professional liability/contractor's pollution liability insurance. GZA will furnish you certificates of such insurance on request.
- 17. Indemnification. You agree to hold harmless, indemnify, and defend GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") against all claims, suits, fines and penalties, including mandated cleanup costs and attorneys' fees and other costs of settlement and defense, which claims, suits, fines, penalties or costs arise out of or are related to this Agreement or the services, except to the extent they are caused by GZA's negligence or willful misconduct.

18. Limitation of Remedies.

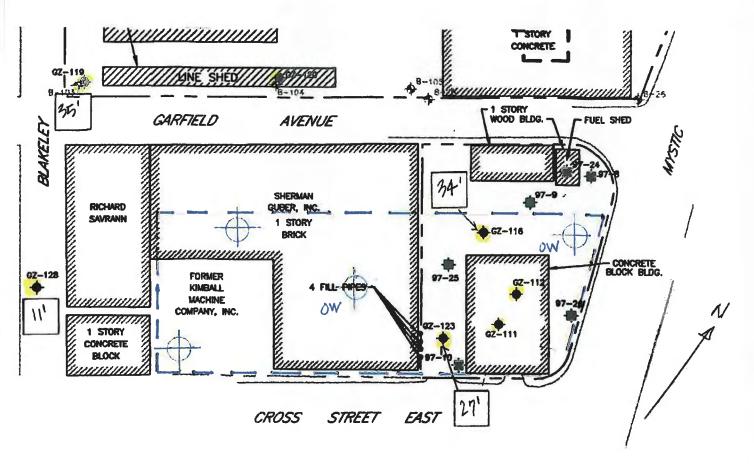
- a. To the fullest extent permitted by law and notwithstanding anything else in this Agreement to the contrary, the aggregate liability of GZA and its affiliates and subcontractors and their employees, officers, directors and agents (collectively referred to in this paragraph as "GZA") for all claims arising out of this Agreement or the services is limited to \$50,000 or, if greater, 10% of the compensation received by GZA under this Agreement.
- b. You may elect to increase the limit of liability by paying an additional fee, such fee to be negotiated prior to the execution of this Agreement.
- c. Any claim will be deemed waived unless received by GZA within one year of substantial completion of the services.
- d. GZA will not be liable for lost profits, loss of use of property, delays, or other special, indirect, incidental, consequential, punitive, exemplary or multiple damages.
- e. GZA will not be liable to you or the Site owner for injuries or deaths suffered by GZA's or its subcontractors' employees.
- f. You will look solely to GZA for your remedy for any claim arising out of or relating to this Agreement, including any claim arising out of or relating to alleged negligence or errors or omissions of any GZA principal, officer, employee or agent.

19. Disputes.

- a. All disputes between you and GZA shall be subject to non-binding mediation.
- b. Either party may demand mediation by serving a written notice stating the essential nature of the dispute, the amount of time or money claimed, and requiring that the matter be mediated within forty-five (45) days of service of notice.
- c. The mediation shall be administered by the American Arbitration Association in accordance with its most recent Construction Mediation Rules, or by such other person or organization as the parties may agree upon.
- d. No action or suit may be commenced unless mediation has occurred but did not resolve the dispute, or unless a statute of limitation period would expire if suit were not filed prior to such forty-five (45) days after service of notice.

20. Miscellaneous.

- a. Massachusetts law shall govern this Agreement.
- b. The above terms and conditions regarding Limitation of Remedies and Indemnification shall survive the completion of the services under this Agreement and the termination of the contract for any cause.
- c. Any amendment to these Terms and Conditions must be in writing and signed by both parties.
- d. Having received these Terms and Conditions, your oral authorization to commence services, your actions, or your use of the Report or Work Product constitutes your acceptance of them.
- e. This Agreement supersedes any contract terms, purchase orders or other documents issued by you.
- f. Neither party may assign or transfer this Agreement or any rights or duties hereunder without the written consent of the other party.
- g. Your failure or the failure of your successors or assigns to receive payment or reimbursement from any other party for any reason whatsoever shall not absolve you, your successors or assigns of any obligation to pay any sum to GZA under this agreement.
- h. These Terms and Conditions shall govern over any inconsistent terms in GZA's Proposal.
- i. The provisions of this Agreement are severable; if any provision is unenforceable it shall be appropriately limited and given effect to the extent it is enforceable.
- j. The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.



NOTES

LEGEND



PREVIOUS BORING LOCATION



APPROXIMATE DEPTH TO GLACIAL TILL IN PREVIOUS BORING



PROPOSED BORING LOCATION



INDICATES PROPOSED OBSERVATION WELL

APPROX. LOCATION OF PROPOSED BUILDING

- 1. PROPOSED EXPLORATION LOCATIONS ARE APPROXIMATE AND MAY VARY BASED ON ACCESSIBILITY AND KNOWN UTILITY LOCATIONS.
- 2. SOIL SAMPLE IN UPPER 5 FEET OF FILL TO BE COLLECTED FOR ENVIRONMENTAL ANALYSES

80'

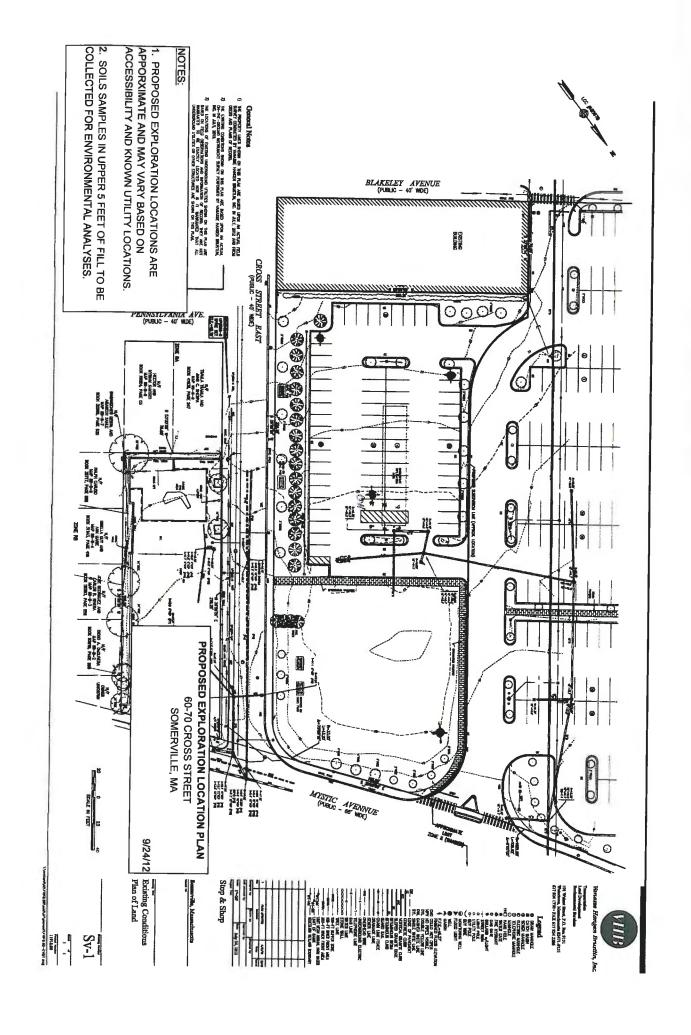
APPROX SCALE

SKETCH PROPOSED EXPLORATION LOCATION PLAN

60-70 CROSS STREET

GZA File No.01.p000243.13

JULY 20, 2012



APPENDIX B

PHOTOGRAPHS

Phase I Environmental Site Assessment

60 and 70 Cross Street East Somerville, Massachusetts

File No. 01.171422.00



North portion of Site



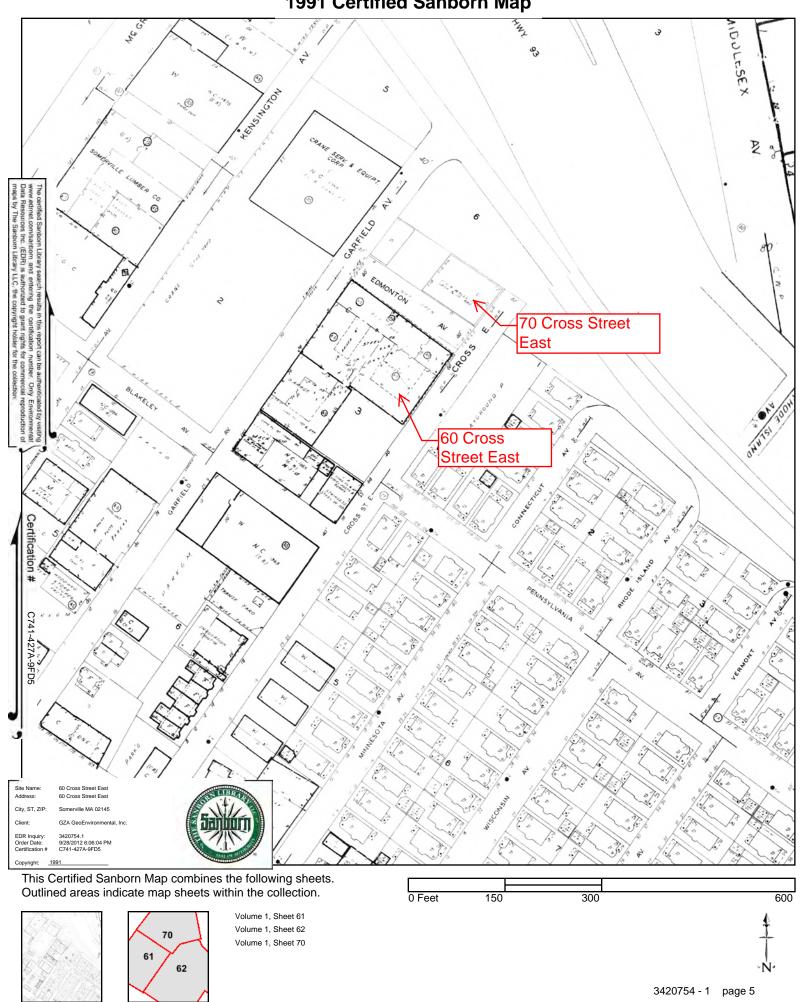
South portion of Site

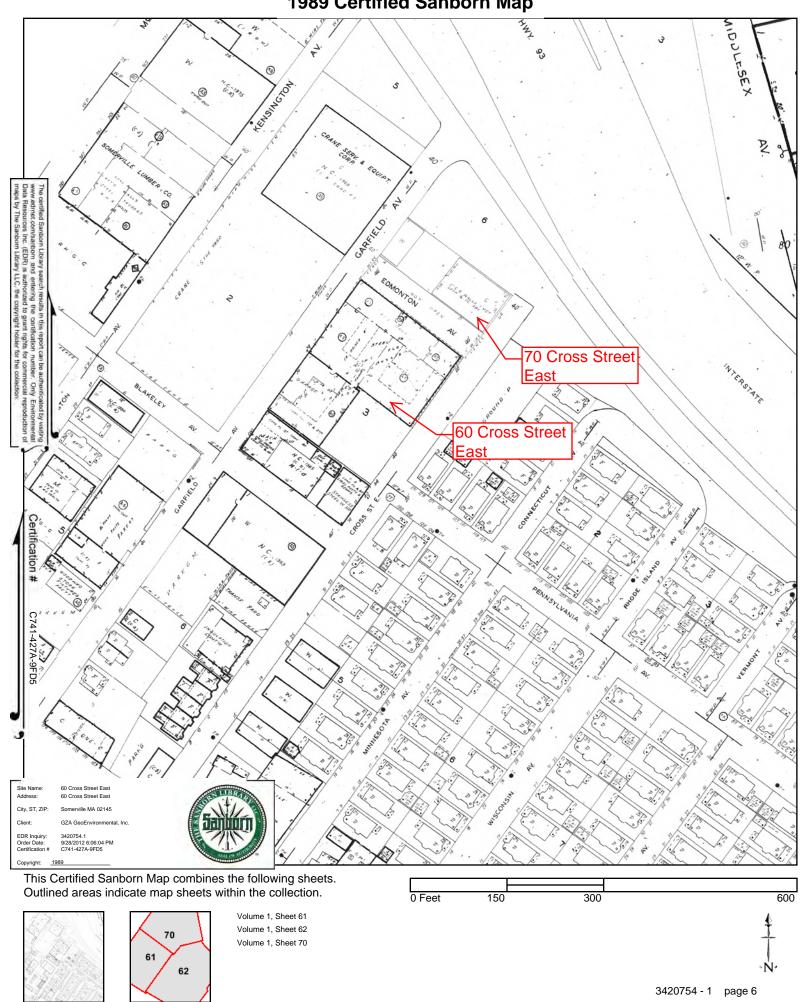


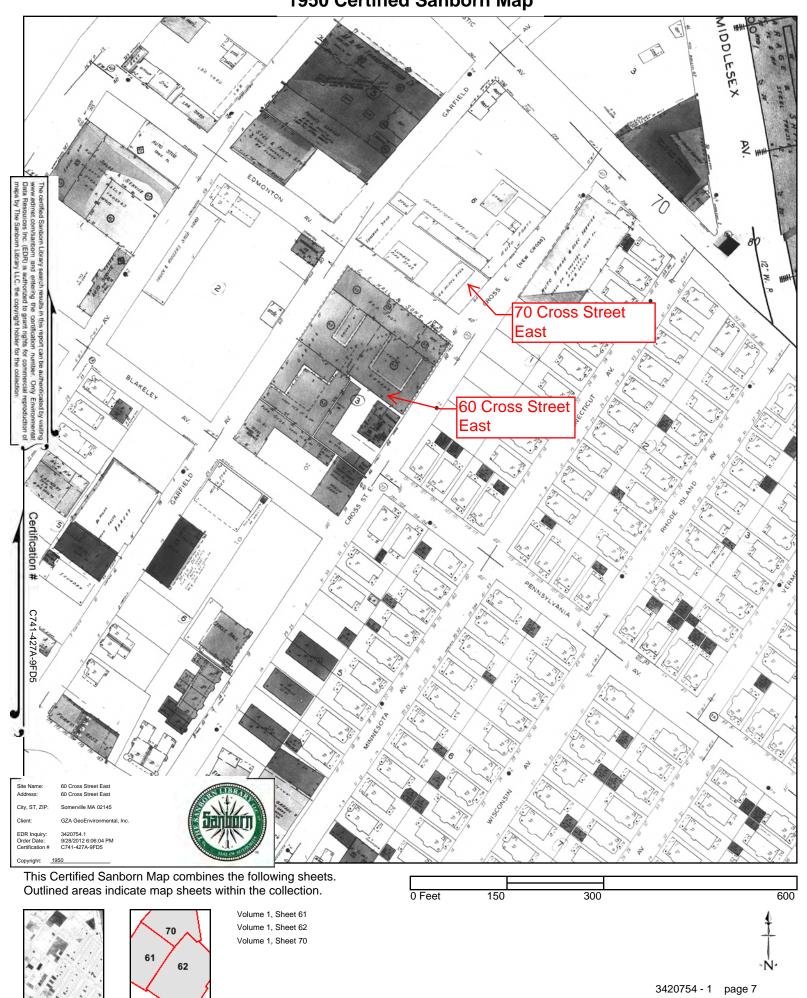
Grass area along Cross Street East

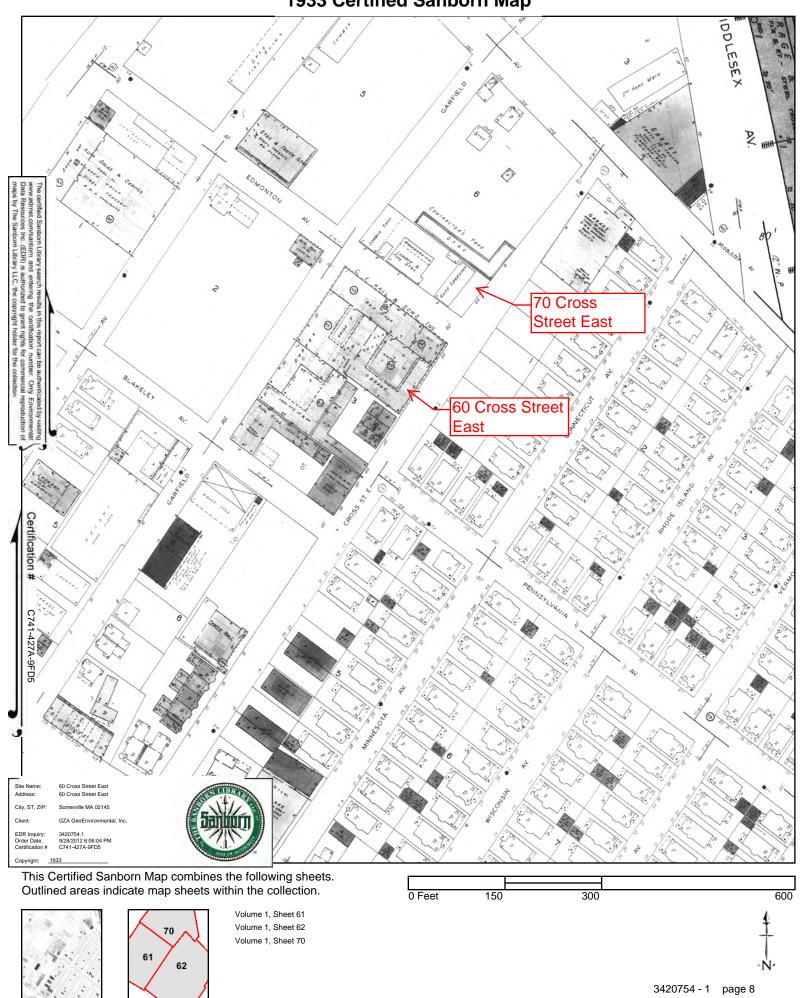
APPENDIX C

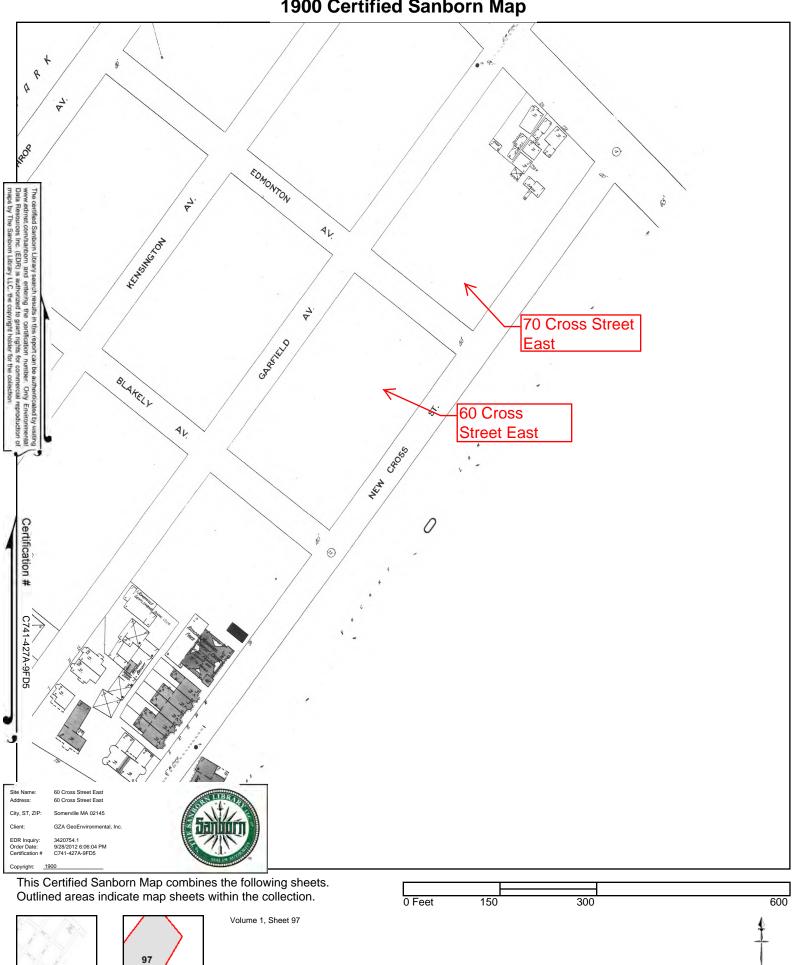
HISTORIC SANBORN MAPS











3420754 - 1 page 9

APPENDIX D

GEC'S 2004 CLASS A-3 RAO TEXT AND SELECT EXCERPTS

CLASS A-3 RESPONSE ACTION OUTCOME, INCLUDING RELEASE ABATEMENT MEASURE COMPLETION REPORT AND METHOD 3 RISK CHARACTERIZATION

FOR

GUBER & SHERMAN DISPOSAL SITE 60 CROSS STREET EAST SOMERVILLE, MASSACHUSETTS

MADEP RTN 3-18193

August 20, 2004

Prepared For: Guber & Sherman, Inc. 144 Beacon Street Boston, MA 02133

Submitted to:

Massachusetts Department of Environmental Protection Northeast Regional Office One Winter Street Boston, Massachusetts 02108

GEC Goldman Environmental Consultants, Inc.

60 Brooks Drive Braintree, MA 02184-3839 781-356-9140 FAX 781-356-9147 www.goldmanenvironmental.com

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APPENDICES

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Appendix E: Boring Logs / Well Construction Diagrams

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Appendix G: Toxicology Summary

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Appendix I: Updated Risk Characterization

1.0 INTRODUCTION

During February 2003, Goldman Environmental Consultants, Inc. (GEC) was retained by Guber & Sherman, Inc. (GSI), of Boston, Massachusetts, to conduct response actions in accordance with M.G.L. Chapter 21E and the Massachusetts Contingency Plan [(MCP) 310 CMR 40.0000], at 60 Cross Street East, located in Somerville, Massachusetts. Hereinaster this location, assigned Release Tracking Number (RTN) 3-18193, will be referred to as the Site or Disposal Site.

The Site is located in a mixed commercial / residential area, and is situated between Cross Street East to the south and Garfield Street to the north. It was used for a variety of commercial or industrial purposes, including truck / vehicle repair, warehousing, and scrap metal storage. From 1980 to 1998, GSI operated the Site as a scrap metal yard, and currently is responsible for conducting response actions. The Site has been vacant since 1998. The current owner is Grand Panjandrum Realty Co., Inc. The Site Locus and Site Plan are provided as Figures 1 and 2, respectively.

In 1998, a release of oil or hazardous materials (OHM) was identified at the Site during subsurface investigations conducted by GZA GeoEnvironmental, Inc. (GZA), on behalf of a prospective buyer of the property. The release was reported to the Massachusetts Department of Environmental Protection (MADEP) on April 12, 1999, by GSI, the potentially responsible party. A Phase I Environmental Site Assessment, including a Numerical Ranking System Scoresheet and Tier Classification documentation, was prepared by TGG Environmental Inc. (TGGE) and submitted to the MADEP in April 2000. The Licensed Site Professional (LSP) during this period was Carl Shapiro of TGGE. The Site was classified as Tier II.

FSL Associates, Inc. (FSL), with Byron Hugh Willis as LSP, prepared and submitted a Remedial Abatement Measure (RAM) Plan, dated September 10, 2001, to the MADEP. The RAM Plan provided details on the following planned work: (1) subsurface assessment activities, including a ground penetrating radar (GPR) survey; (2) a preliminary Method 3 Risk Characterization; and (3) as necessary and appropriate, the excavation and disposal of up to 500 cubic yards of contaminated soil. FSL prepared and submitted three RAM Status Reports during the period February 8, 2002 to February 8, 2003.

In February 2003, GEC took over response actions at the Site, including the completion of site assessment activities and a Method 3 Risk Characterization undertaken as part of the RAM. The current LSP is Samuel W. Butcher of GEC.

Pursuant to 310 CMR 40.1000, this report constitutes a Class A-3 Response Action Outcome report, including a RAM Completion Report and a Method 3 Risk Characterization. BWSC Transmittal forms for the completion of the RAM and Class A-3 RAO are included as Appendix A. The Activity and Use Limitation (AUL) forms, including LSP Opinion, are provided in Appendix B. A copy of the public notification letters are provided in Appendix C. This report has been prepared in accordance with the provisions of M.G.L. Chapter 21E and the Massachusetts Contingency Plan (MCP) [310 CMR 40.0000].

The results of the investigations, remediation and response actions conducted at the Site are documented herein and are based on the following:

- response actions conducted either by GEC or other consultants, including the
 excavation and disposal of contaminated soil, the installation of monitoring
 wells, and the sampling and analysis of soil, groundwater and indoor air to
 determine the extent of contamination;
- previously documented Site usage and activity information;
- a Method 3 Risk Characterization conducted to evaluate the risk of harm to health, safety, public welfare, and the environment;
- an LSP Opinion regarding the completion of the RAM and achievement of a Class A-3 RAO.

2.0 RELEASE ABATEMENT MEASURE COMPLETION REPORT

2.1 Description of Release, Conditions and Surrounding Receptors

Description of Release

In a draft Phase II Environmental Site Assessment report, dated January 1999, GZA GeoEnvironmental, Inc. (GZA) reported on the results of their field investigations conducted on behalf of a prospective buyer of the property. In its draft report, GZA concluded that VPH, EPH, VOCs and RCRA 8 metals were present in soils at levels exceeding the applicable Reportable Concentrations. No exceedences of groundwater Reportable Concentrations were identified.

On April 12, 1999, Guber & Sherman, Inc. submitted a Release Notification Form to the MADEP. The MADEP issued a Notice of Responsibility to Guber & Sherman, Inc., dated June 25, 1999.

Information on the source and nature of the release are provided in Section 3.1.

Site Conditions and Surrounding Receptors

Until recently the 34,000 square foot subject property was occupied by a vacant, two-story, brick-faced warehouse building, originally constructed in 1910. The Site

building occupied nearly the entire property. Until 1998, the property was used for a variety of commercial or industrial purposes, including truck / vehicle repair, warehousing, and scrap metal storage. From 1980 to 1998, the Site was operated as a scrap metal yard. The Site has been vacant since 1998 and, as part of a larger redevelopment project was recently redeveloped into a paved parking area to provide access to a regional shopping center. The construction of a grocery store is planned for neighboring properties in the near future. It is assumed that the future use of the property will be either commercial or industrial. No sensitive uses, such as residences, schools, playgrounds, parks, or institutions, are presumed to occur in the future although, as will be described in the following paragraphs, some portions of the property may be landscaped. Levels of OHM in soil, groundwater and indoor air are described in Section 3.1.

Receptors have been identified based on a conservative estimate of potential exposures considering existing and foreseeable land uses, human populations in the study area, nearby drinking water sources, and recreation / open spaces proximal to the Site. Information regarding Site and vicinity land and water use, human populations, and environmental resources were initially provided in TGGE's Phase I Report and Numerical Ranking System Scoresheet, and are summarized below.

Existing and Foreseeable Land Uses: The area surrounding the Site consists of mixed commercial, industrial and residential properties. The Hanscom School is located approximately one-quarter mile south of the Site. No known institutions as defined in 310 CMR 40.0006, (i.e., any publicly or privately owned hospital, healthcare facility, orphanage, nursing home, convalescent home, educational facility or correctional facility) are located within 500 feet of the Site. Based on the DataMap Technology Corporation Environmental FirstSearch Report, provided in the Phase I report, a population of 16,150 resides within the U. S. census tracts located within one-half mile of the property.

Human Population in the Study Area: The following human populations exist at or in the vicinity of the Site, or are presumed to exist at or in the vicinity of the Site in the future:

Human Populations at the Site:

- (1) Future on-Site adult workers at 60 Cross Street East;
- (2) Current and future on-Site adult and child visitors present for short periods of time while shopping, conducting business, or as trespassers;
- (3) Future construction workers, if construction requiring excavation or grading were to occur; and
- (4) Future utility workers, if subsurface utility lines are repaired or installed at the Site

Human Populations in the Study Area:

- (1) Nearby residents; and
- (2) Nearby adult workers.

Drinking Water Resources: Current and Potential Drinking Water Source Areas are considered drinking water resources. Current Drinking Water Source Areas consist of groundwater located within Sole Source Aquifers, Zone II areas, Interim Wellhead Protection Areas (IWPA), public wells, Zone A of Class A surface waters, and within 500 feet of a private water supply well. Potential Drinking Water Source Areas consist of groundwater located within 500 feet or more from a public water supply distribution pipeline, within an area designated by a municipality specifically for the protection of groundwater, and within a Potentially Productive Aquifer that has not been excluded as a Non-Potential Drinking Water Source Area.

The Mystic River is located approximately one-half mile northeast of the Site. According to 314 CMR 4.05 to 4.06, the portion of the Mystic River, located nearest the Site, is a Class B Warm Water inland surface water designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Therefore, it is not intended as a source of public drinking water.

The Site is not located within an Interim Well Head Protection Area or Zone II of a public water supply well, or within a Potentially Productive Aquifer. There are no known private water supply wells located within one-half mile of the Site. The Site and vicinity are supplied with municipal water provided by the Massachusetts Water Resource Authority (MWRA). Therefore, interception of OHM by water supply wells or water intakes, and the subsequent ingestion by human receptors is not considered an exposure pathway for any human population.

Recreational Facilities, Open Spaces and Environmental Resource Areas: Recreational facilities and open spaces include, without limitation, parks, reserves, conservation lands, playgrounds, and ball fields. Environmental resource areas include state, federal, municipal, non-profit, and private open spaces, fresh water and salt water wetlands, vernal pools, Areas of Critical Environmental Concern (ACECs), Sole Source Aquifers (SSAs), fish habitats, and habitats of Species of Special Concern or Threatened or Endangered Species. No fresh water wetlands, vernal pools, ACECs, SSAs, or special habitats are located within 500 feet of the Site. According to a review of the Environmental FirstSearch Report, there are two open spaces located within 1/4-mile of the Site. The Harris Street Park and Foss Park are located approximately 250 feet east and 550 feet northwest of the Site, respectively. The closest portion of a third open space, i.e., the Mystic River Reservation, is located approximately one-third mile northeast of the Site. There is no mechanism for these open spaces to be impacted by the release at the Site. Therefore, there is no pathway for exposure to site-related OHM from the use of these open spaces. A small, entirely paved playground is located immediately south of the Site across Cross Street East.

According to 314 CMR 4.05 to 4.06, the portion of the Mystic River, located closest to the River, is a Class B Warm Water inland surface water designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Based on conservative estimates of dilution and dispersion between the Site and the nearest surface water body and considering the distance between the Site and the Mystic River, GEC concludes that it is unlikely that contaminants from the Site will impact the surface water, sediment, fish or other biota of the Mystic River.

2.2 Description of RAM, including Summary of Investigatory and Monitoring Data

Summary of Prior RAM Activities

On September 10, 2001, a RAM Plan was submitted to MADEP detailing plans to conduct investigations, and, if necessary, to excavate and dispose of up to 500 cubic yards of contaminated soil. According to FSL, the objective of the RAM was the following: "to identify the extent and degree of contamination in soils and groundwater at the property, locate and remove all on-Site sources of petroleum contaminants, determine the extent of soil excavation necessary to achieve a condition of No Significant Risk, and perform the necessary soil excavation." In the RAM Plan, FSL provided plans to conduct the following work: (1) assess the extent of soil contamination by performing soil test borings at locations of known soil contamination; (2) collect and analyze soil

samples for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), volatile organic compounds (VOCs) and RCRA 8 metals; (3) install up to three test borings in the vicinity of monitoring well GS-7, complete one as a monitoring well, and collect and analyze a groundwater sample for VPH, EPH and VOCs; (4) perform a preliminary Method 3 Risk Characterization to determine what additional remediation measures are necessary to achieve a condition of No Significant Risk of Harm for the Site; (5) conduct a ground penetrating radar (GPR) survey to detect other potential sources of release; and (6) as necessary and appropriate, excavate and dispose of up to 500 cubic yards of contaminated soil.

FSL conducted RAM activities during the period October 2001 to September 2002. These activities are described in detail by FSL in a series of three RAM Status Reports, dated February 8, 2002, August 8, 2002, and February 8, 2003.

During the period October 22, 2001 to February 8, 2002, FSL conducted the following activities: (1) the advancement of 16 soil borings and collection of soil samples for analysis of VPH and target analytes, EPH and target analytes, VOCs via USEPA Method 8260, and RCRA 8 metals; (2) the collection and analysis of four indoor air samples for air petroleum hydrocarbon (APH) contaminants; and (3) a preliminary Method 3 Risk Characterization. Based on the results of the soil analyses, FSL planned soil excavation from two areas of the Site.

During the period February 8 to August 8, 2002, FSL continued assessment activities and initiated soil excavation. On February 14, 2002, groundwater samples were collected from three monitoring wells that would later be destroyed during soil excavation. The groundwater samples were analyzed for VPH and target analytes, EPH and target analytes, and RCRA 8 metals. Exploratory test pitting / soil excavation occurred in three phases during this period. Excavation at Area A was conducted at the location of FSL-11 and B-111. During the first soil excavation phase, on February 15, 2002, 450 gallons of water containing small globs of oil were pumped from Excavation A, and disposed by All State Power Vac, Inc., of Northboro, Massachusetts, a Licensed Hazardous Waste Hauler. Area B excavation was conducted at FSL-5, and was terminated after the first phase, during February 2002. Based on the visual observation of asphalt paving material in Area B, and the analytical results indicating an unusually high polycyclic aromatic hydrocarbons (PAH) level for a petroleum release, FSL attributed the high PAH levels to the asphalt from a roadway. During the second phase (April 8 to 10, 2002), the excavation at Area A was enlarged and extended into a new area, designated C. Additional excavation was presumably deemed warranted based on the visual presence of suspect contaminated soil though documentation to this effect was

not provided. During the last soil excavation phase on May 6 to 7, 2002, 1,327 gallons of water containing small globs of oil were pumped from Excavation A and C, and disposed by All State Power Vac, Inc. Soil excavation of Areas A and C continued until May 7, 2002. Excavated soil from all three phases was stockpiled on poly sheeting inside the unoccupied warehouse. During the excavation process, confirmatory soil samples were collected from the sidewalls and floor of the excavations for laboratory analysis. During February 2002, two water samples were collected from the excavation in Area A for laboratory analysis.

The final RAM Status report by FSL covered the period August 8, 2002 to February 8, 2003. On August 19, 2002, a composite of four soil samples collected from the stockpile was submitted to GeoLabs, Inc. of Braintree, Massachusetts, for laboratory analysis of recycling parameters. The laboratory results of the sample indicated the stockpiled soil was acceptable for recycling. On September 5, 2002, 99.58 tons (or approximately 66 cubic yards) of excavated soil was transported under a Bill-of-Lading to Aggregate Industries of Stoughton, Massachusetts for recycling at their asphalt batching facility.

Summaries of the analytical data and groundwater gauging are provided in Tables 1.1 to 1.5 for groundwater, Tables 2.1 to 2.5 for soil, and Table 3.1 and 3.2 for indoor air. Sampling locations are depicted in Figure 2.

RAM Activities Conducted by GEC

As part of the RAM, GEC initiated investigations in order to obtain sufficient data to support a Method 3 Risk Characterization; and to conduct the Method 3 Risk Characterization to determine if additional soil excavation and disposal was necessary or if a condition of No Significant Risk of harm had been achieved at the Site. The field investigations, described below, entailed the following activities: soil boring with the collection and analysis of soil samples; the installation of two monitoring wells; the survey and gauging of groundwater elevation; and the collection and analysis of groundwater samples. GEC also reviewed laboratory data associated with the disposal of soil excavated as part of the Site redevelopment to determine, in part, whether there was evidence of CVOCs in soil across the Site or whether the presence of these contaminants was a localized phenomena as determined by FSL. Based on this review GEC determined that the presence of CVOCs was not wide-spread. These investigations were conducted in accordance with GEC's Site Health and Safety Plan and GEC's Standard Operating Procedures and Quality Assurance / Quality Control Protocols, attached as Appendix D. The Method 3 Risk Characterization is presented in Section 3.0.

Soil Boring and Sampling: On April 8, 2003, GeoLogic, Inc., under the supervision of GEC, installed seven soil borings on Site within the Site building. Borings were advanced using a track-mounted pneumatic GeoProbe® system. Soil samples were collected in four-foot sections by advancing the probe, lined with an expandable acetate sleeve, to the desired depth, retrieving the probe and removing the sleeve from the probe. A new, clean, acetate sleeve was used for each sample collected. Refer to Figure 2 for boring locations.

Subsurface features and characteristics exposed during the subsurface investigation were documented by GEC and soil-boring logs are included as Appendix E. Soil samples were screened with a photoionization detector (PID) fitted with a 10.2 eV lamp for Total Ionizable Compounds (TICs).

During boring installation, samples from borings were collected at various intervals according to a specific work plan created for the Site in order to complete a Risk Characterization. The table below details the total depth of each boring, the depth at which each sample was collected from and the analyses conducted for each sample, and the TIC concentrations measured in the field. The samples were placed on ice and submitted under chain of custody for various laboratory analyses at Groundwater Analytical, a state-certified laboratory located in Buzzards Bay, Massachusetts. Summaries of soil analytical data are attached as Tables 2.1 through 2.5. Laboratory analytical data is included as Appendix F.

Boring and Soil Sample Identification	Sample Depth (feet)	Analysis Conducted	TIC Concentration [parts per million (ppm)]
B-1	S-1, 0-4	Sample not analyzed	0
(total depth: 12 feet)	S-2, 4-8	Sample collected from 6-8 feet; analyzed for EPH, chlorinated VOCs, and lead	40
	S-3, 8-12	Sample not analyzed	10.2
B-2	S-1, 0-4	Sample not analyzed	1.9
(total depth: 12 feet)	S-2, 4-8	Sample not analyzed	42.7
	S-3, 8-12	Sample collected from 8-10 feet; analyzed for EPH and lead	130 (peaked at 210)
B-4 (total depth: 5 feet)	S-1, 0-3	Sample collected from 1-3 feet; analyzed for lead	7.8
	S-2, 3-5	Sample collected from 3-5 feet; analyzed for EPH and chlorinated VOCs	0.1
B-5 (total depth: 6 feet)	S-1, 0-3	Sample collected from 1-3 feet; analyzed for lead	17
	S-2, 3-6	Sample collected from 4-6 feet; analyzed for EPH	37.2
B-6 S-1, 0-3 Sample collected from 1-3 feet; analyzed (total depth: 3 feet) for EPH		3.5	
B-7 (total depth: 3 feet)	S-1, 0-3	Sample collected from 1-3 feet; analyzed for EPH	3.7

B-8	S-1, 0-3	Sample collected from 1-3 feet; analyzed	21.1
(total depth: 3 feet)		for EPH	

Subsurface soils encountered in borings consisted primarily of fine to coarse sands, clay and traces of silt. Coarse gravel and pebbles were observed in all borings except B-8 and these materials were integrated into the fill material which was consisted of significant percentages of silt and clay. Clay was observed at various depths in all borings except B-6. GEC observed evidence of fill material, including brick fragments, throughout B-2. Coal and coal ash was observed in borings B-2, B-4, and B-5. Water saturated soil, presumed to be groundwater was encountered at depths of five feet at B-1 and six feet at B-2 during boring installation. GEC did not advance the other borings deep enough to encounter groundwater.

Groundwater Monitoring Well Installation: Upon penetrating the water table in borings B-1 and B-2, GEC installed a 1-inch I.D. Schedule 40 PVC monitoring well consisting of ten feet of ten-slot (0.010" slots) screen and varying lengths of solid PVC riser pipe to the ground surface. B-1 was designated monitoring well GEC-1, and B-2 was designated monitoring well GEC-2. No glues or solvents were employed in the construction of the wells. Each well was constructed with a natural sand filter surrounding the screen, a bentonite pellet seal, and a flush-mount casing held in-place by a concrete collar.

Groundwater Sampling, Gauging and Elevation Survey: On April 4, 2003, groundwater samples were collected from the newly installed monitoring wells and five existing wells (i.e., GS-2, GS-4, GS-7, GS-8 and GS-9) and submitted to Groundwater Analytical for laboratory analysis. The following table indicates each monitoring well and the analysis performed for the sample collected from the well. Turbidity was also measured in each groundwater sample. GEC did not collect a sample from monitoring well GEC-1 as measurable product was observed in the well. Approximately one eighthinch of product was measured in the monitoring well on April 7, 2003 and again on May 13, 2003.

Monitoring Well Identification	VOCs via USEPA 8260B	Dissolved Lead	EPH Deluxe
· GEC-1			
GEC-2		x	X
GS-2		X	
GS-4	X	X	
GS-7	X	X	
GS-8		X	
GS-9		X	

During the groundwater sampling round, GEC gauged the depth to groundwater in each monitoring well for use in determining seasonal water table fluctuations and to elucidate the direction of groundwater flow.

Prior to collecting groundwater samples, the depth to groundwater was gauged in each well. The depth ranged from 3.57 feet below grade in GS-1 to 6.14 feet below grade in GS-4. Refer to Table 1.1 for groundwater gauging data. A minimum of three times the volume of groundwater in each well was purged prior to sampling. Odors were observed in the groundwater purged from monitoring wells GS-7, GS-8, GS-9, and GEC-2, and as noted above measurable product was observed in GEC-1. A sample from each well was preserved, placed on ice, and transported under chain of custody to Groundwater Analytical Laboratories for the above noted analyses. Refer to Tables 1.2 though 1.5 for summaries of groundwater analytical data.

On April 7, 2003, GEC personnel gauged the newly installed wells and the existing wells that could be located, and conducted a rod-and-level survey of the monitoring wells to obtain the direction of groundwater flow. A benchmark of 100.00 feet was established within the central portion of the building on a support beam situated west of GS-8.

Survey and depth to the water table were measured from the top of each PVC riser, prior to well purging and sampling. Survey and depth to water measurements were used to establish groundwater flow direction. GEC was unable to determine a definitive groundwater direction due to variable groundwater elevations. Variation in groundwater elevation may be due to the presence of subsurface structures in an urban location and / or the presence of clay and peat in the soils of the Site. Both situations can complicate the interpretation of local groundwater flow direction. Based on our understanding of local groundwater conditions, as compared to abutting properties, GEC believes the general direction of groundwater flow is toward the northeast and toward the Mystic River.

UST Closure and Soil Excavation Activities: As documented in GEC's various Modification Plans, RAM activities were anticipated following the demolition of the Site building including the soil excavation associated with the removal underground storage tanks. GEC and GZA both completed UST removal activities as the two firms were closely coordinating response actions and Site redevelopment. In some instances, GEC oversaw and directed UST removal activities and in some instances GZA directed activities with GEC's LSP directing response actions to the extent that such response actions were necessary. Regardless of which firm coordinated the removal, the

Somerville Fire Department was notified of Site conditions and all applicable permits were obtained and notices were provided.

UST #1 was situated immediately outside the southeastern wall of the former building foundation. This UST was removed by GEC prior to Site redevelopment and no evidence of a release of tank contents was noted. On November 21, 2003, GZA and GEC conducted oversight of the removal of an approximately 1,000 gallon UST (UST#2). During excavation activities a third, approximately 500-gallon UST (UST#3) was discovered. UST #2 was filled with water and UST #3 was partially filled with concrete. Based on records on file and documents provided to GEC, both of these storage tanks had been closed in place in accordance with applicable Fire Prevention regulations and as such the removal of these closed USTs did not constitute response actions but rather were considered part of the Site development activities. Regardless, permits were obtained for the removal of both USTs by GZA.

In January, 2004, GEC prepared to excavate a limited volume of contaminated soil in accordance with the provisions of the RAM Modification, which was encountered during Site development. During initial excavation, GEC discovered UST #4, a 2,500 gallon tank, located proximal to the former boiler room basement. On January 28, 2004, GEC conducted oversight of the removal of the UST at which point holes were noted in the bottom of the tank and visual evidence of contaminated soil was noted within the UST grave. These observations triggered a 72-hour reporting obligation to the MADEP. MADEP assigned RTN 3-23551 and response actions including the excavation of contaminated soil and UST removal were completed in accordance with the provisions for an Immediate Response Action. Finally, UST #5, located in the northeast corner of the property was discovered and removed during the installation of a water service associated with redevelopment. No evidence of a release of tank contents was noted.

In accordance with the RAM Modification approximately 2,800 cubic yards of material was excavated and removed from the Site for off-Site disposal. As described in the RAM Modification, much of the soil removed was deemed structurally unsuitable for construction owing to the high percentages of fines and to the urban nature of the fill. All material disposed off-Site was characterized for disposal criteria as was residual fill material left on the Site.

UST #1 was removed as part of UST closure activities and no evidence of a release of tank contents was noted. UST #2 and UST #3 had been closed in place in accordance with applicable regulations and GZA obtained additional permits for the removal of these tanks during redevelopment. UST #4 was discovered during Site redevelopment and was removed as part of an in accordance with the provisions for an

IRA. Finally, UST #5 was discovered in the northeast corner of the property and was removed in accordance with UST removal regulations. No evidence of UST leakage was noted associated with this tank. None of the USTs were removed in the pretext of completing RAM activities.

2.3 LSP Opinion Regarding RAM Completion

This LSP Evaluation Opinion was prepared by Samuel W. Butcher (L.S.P. #9185) and Goldman Environmental Consultants, Inc. of Braintree, Massachusetts, for the disposal Site located at 60 Cross Street East in Somerville, Massachusetts. This Opinion was prepared on behalf of Guber & Sherman, Inc, the prior Site owner and operator.

Findings, Conclusions, and Objectives

Elements of the RAM were conducted by FSL during the period October 2001 to February 2003. An LSP employed by GEC assumed responsibility for the Site in February 2003. Therefore, the findings, conclusions and evaluation of the RAM objectives provided herein rely mostly on information and data provided by FSL.

The objectives of the RAM were described by FSL as follows: (1) to identify the extent and degree of contaminants in soils and groundwater at the property; (2) locate and remove all on-Site sources of petroleum contaminants; (3) determine the extent of soil excavation necessary to achieve a condition of No Significant Risk; and (4) perform the necessary soil excavation. FSL proposed the following tasks to achieve these objectives: (1) assess the extent of soil contamination by performing soil test borings at locations of known soil contamination; (2) collect and analyze soil samples for Volatile Petroleum Hydrocarbons (VPH), Extractable Petroleum Hydrocarbons (EPH), volatile organic compounds (VOCs) and RCRA 8 metals; (3) install up to three test borings in the vicinity of monitoring well GS-7, complete one as a monitoring well, and collect and analyze a groundwater sample for VPH, EPH and VOCs; (4) perform a preliminary Method 3 Risk Characterization to determine what additional remediation measures are necessary to achieve a condition of No Significant Risk of Harm for the Site; (5) conduct a ground penetrating radar (GPR) survey to detect other potential sources of release; and (6) as necessary and appropriate, excavate and dispose of up to 500 cubic yards of contaminated soil. The original RAM was modified to include the excavation of contaminated soil during Site development. The volume, as documented in MADEP submittals eventually exceeded approximately 2,800 cubic yards of soil.

Sufficient soil and groundwater data were collected before and after the soil excavation to characterize Site conditions, to identify soil volumes for excavation, and to determine when sufficient soil excavation had been completed

Additional assessment activities, such as indoor air, soil and groundwater sampling and analysis, were added to the RAM via FSL's status reports. GEC conducted a Method 3 Risk Characterization to determine if continued soil excavation were necessary or if a condition of No Significant Risk of harm had been achieved for the Site. The Method 3 Risk Characterization, documented in Section 3.0, resulted in a finding that a condition of No Significant Risk of harm to safety, health, welfare and the environment had been achieved for current and future conditions. Therefore, the objectives of the soil excavation program were met.

The FSL's RAM Plan did not contain a provision for the pumping and disposal of contaminated groundwater during the RAM. GEC has no knowledge regarding whether FSL modified the RAM Plan or otherwise notified the MADEP prior to conducting this activity. However, the activity itself may not have been anticipated and appears to have been conducted appropriately.

The GPR survey was proposed by FSL to determine whether other potential sources of release (such as abandoned USTs) might exist at the Site. This task was not completed for two reasons: (1) a number of test borings have been advanced in the locations of the suspect UST locations, and no USTs were encountered; and (2) razing of the Site building has been completed and significant areas of the Site have been excavated or otherwise investigated during the development of the property.

Management of Remedial Waste

Oily groundwater and contaminated soils were generated as remedial waste during the RAM. As documented below, all remedial wastes were appropriately disposed or recycled.

A total of 1,687 gallons of oily groundwater pumped from the excavations in Areas A and C were transported under a Hazardous Waste Manifests by All State Power Vac, Inc. to Zecco, Inc., of Northboro, Massachusetts. The oily groundwater was transported on the days generated: 450 gallons on February 15, 2002; 908 gallons on May 6, 2002; and 329 gallons on May 7, 2002. Copies of the Hazardous Waste Manifests are provided in Appendix A of FSL's second RAM status report, dated August 8, 2002.

During the period February through May 2002, a total of 99.58 tons of contaminated soils were excavated from the Site, and stockpiled on poly sheeting inside the warehouse. On August 19, 2002, a composite of four samples collected from the stockpile was submitted to GeoLabs, Inc. of Braintree, Massachusetts for analysis of recycling parameters. The soil was found suitable for recycling at an asphalt plant. On September 5, 2002, the stockpiled soil was transported under a Bill of Lading by Murphy and Sons Trucking to Aggregate Industries, in Stoughton, Massachusetts, for recycling. The Bill of Lading, receipt, and laboratory report are provided in FSL's third RAM status report, dated February 8, 2003. Since that time and as part of the Site development work, an additional approximately 2,800 cubic yards (4,186 tons) of material has been removed and properly disposed. All Bill of Lading documentation is attached.

Description of On-going Activities

With the completion of assessment activities in April 2003 and the completion of the Risk Characterization, provided in Section 3.0, there are no additional activities related to the RAM to be conducted at the Site. All remedial actions related to the RAM have been terminated.

Conclusion

Based on the information available to GEC, the RAM was conducted in accordance with the requirements and procedures set forth in 310 CMR 40.0440 and the RAM Plan, with the possible exceptions provided above. The RAM Plan was presumptively approved in October 2001. GEC knows of no approval conditions that were specified by MADEP. This RAM Completion Report was prepared in accordance with the requirements set forth in 310 CMR 40.00446. The completed Release Abatement Measure (RAM) Transmittal Form (BWSC-106), indicating RAM completion, is provided as Appendix A.

3.0 IMMEDIATE RESPONSE ACTION ACTIVITIES

Included in the paragraphs below is a summary of information previously forwarded to MADEP as an IRA Completion Report. As documented in GEC's RAM Modification Plan, RAM activities were anticipated following the demolition of the Site building, including potential soil excavation associated with the removal of an underground storage tank (UST #1) situated on the southeastern wall of the former building foundation. These activities were to be conducted in coordination with Site development work being conducted at this and several other nearby parcels. On November 21, 2003, GEC conducted oversight of the removal of an approximately 1,000-gallon UST (UST #2). During excavation activities the presence of a third, approximately 500-gallon UST (UST #3), was confirmed. UST #2 was filled with water, and UST #3 was filled with concrete. Based on records on file and documents provided to GEC, both of these storage tanks had been closed in place in accordance with applicable Fire Prevention regulations. Both of these tanks were removed by GZA Environmental, Inc. (GZA), representative for the developer.

In January 2004, GEC prepared to excavate a limited volume of contaminated soil in accordance with the provisions of the RAM Plan Modification, which was encountered during development activities. During initial excavation, GEC discovered a fourth UST (UST #4) located proximal to the former boiler room basement This UST had a capacity

of approximately 2,500 gallons. On January 28, 2004, GEC conducted oversight of the removal of the UST at which point holes were noted in the bottom of the tank and visual evidence of contaminated soil was noted within the UST grave. These observations triggered a 72-hour reporting obligation to the MADEP, in accordance with 310 CMR 40.0313(2). GEC made oral notification of the release to the MADEP, who assigned a Release Tracking Number (RTN 3-23551) to the release and approved the excavation of up to 100 cubic yards of contaminated soil under an Immediate Response Action (IRA).

3.1 Description of Release

The release was discovered at approximately 9:30 a.m. on January 28, 2004, during tank removal activities. Based on the nature of the release, GEC determined that the Site conditions met notification requirements of a 72-hour release (headspace concentration exceeded 100 parts per million). GEC notified MADEP of Site conditions at 10:06 a.m. In accordance with 310 CMR 40.313(2), MADEP assigned RTN 3-23551 to the Site based on the discovery of a "release to the environmental indicated by the presence of oil and/or hazardous material within ten feet of the exterior wall of an underground storage tank". MADEP orally approved an IRA Plan and approved the excavation of up to 100 cubic yards of contaminated soil.

3.2 IRA Activities

On January 28, 2004, Bond Brothers, under the supervision and direction of GEC, excavated approximately 60 cubic yards of petroleum-contaminated soil using a Volvo EW170 excavator, following the removal of the UST. Soil samples collected from the floor and sidewalls of the excavation were screened using a Thermoelectron 580 photoionization detector (PID) equipped with an 11.7 eV lamp, using the standard MADEP jar-headspace method. Although sidewall samples exhibited elevated headspace screening results, GEC excavated only those soils that appeared to be heavily contaminated. Excavation activities were terminated until laboratory analysis confirmed the levels of contamination. The final excavation measured approximately 10-12 feet wide, 10 feet deep, and 20 feet long. Based on these dimensions approximately 79 cubic yards of petroleum-contaminated soil were excavated. These soils were stockpiled west of the excavation and covered with polyethylene sheeting in preparation for off-Site disposal.

Upon completion of the soil excavation activities, GEC collected five confirmatory soil samples from the floor and sidewalls of the excavation. These samples were submitted to Groundwater Analytical (GWA), a state-certified laboratory, for laboratory analysis of VPH, including target PAHs, and EPH, including target VOCs via MADEP Method 98-1. Refer to Tables 2.1-2.5 for a summary of laboratory analytical data and Appendix F for the laboratory certificates of analysis.

Soil Analytical Results

Elevated concentrations of petroleum hydrocarbons, PAHs, and VOCs were detected in each of the samples submitted for analysis, some of which exceeded applicable soils standards. GEC incorporated these results with the Updated Risk Assessment that is attached as Attachment 2. This Risk Assessment concludes there is no significant risk at this disposal site.

Management of Remediation Waste

A total of 118.24 tons (approximately 79 cubic yards) of soil contaminated by the #2 fuel oil release were excavated and stockpiled on-Site. On March 11, 2004, oil-contaminated soils were transported under Bill of Lading (BOL) documentation by EQ Northeast of Wrentham, Massachusetts to Aggregate Industries of Stoughton, Massachusetts.

Statement of Findings and Conclusions

Based on our investigation and assessment the goals of the IRA have been met and the IRA conditions eliminated pursuant to 310 CMR 40.0427(1). Although laboratory analyses of confirmatory samples indicate remaining soil within the tank grave exceeds Method 1 soil standards these concentrations are consistent with those detected across the Site and were incorporated into the Method 3 Risk Characterization

4.0 METHOD 3 RISK CHARACTERIZATION

NOTE: The risk characterization provided below was prepared in February 2004. Due to the dynamic conditions at the Site associated with development the risk characterization was updated to reflect current conditions. The updated risk characterization, provided as Appendix I should be considered a supplement to the information provided below.

The following Risk Characterization was prepared in accordance with the 1993 MCP, as revised [310 CMR 40.0900], and guidance provided by MADEP in *Guidance*

AUL Area	Acceptable Uses and Activities
Entire	Manufacturing, industrial, and commercial uses
60 Cross Street	The construction and excavation related to construction, including the
East Property	demolition and / or reconstruction of site buildings and the repair or
1	replacement of pavement and sidewalks, subject to any relevant obligations
	listed below.
ľ	If a landscaped area is constructed, it shall be constructed as follows depending
1	on the land use and associated activities:
i	Landscaped areas used as aesthetic enhancements within and around
	paved areas and around buildings shall require no special construction
	provisions.
	- Landscaped areas created for recreational purposes (e.g., picnic or play
	areas) shall include a minimum of eighteen inches of clean fill and/or
	topsoil above underlying site soil. A marker layer consisting of filer fabric
	or similar geotextile shall be placed below the clean soil horizon and above
	the underlying soil. The integrity of the eighteen-inch clean soil horizon
	shall be maintained during future activities so long as the use remains
1	recreational.
	The installation or repair of underground utilities, subject to any relevant
	obligations listed below.
	Permitted uses and uses authorized by the Zoning Ordinances of the City of
	Somerville, provided that said uses do not result in the unacceptable uses and
	activities described below.
Ī	Such other activities or uses which, in the Opinion of an LSP, will present no
	greater risk of harm to health, safety, public welfare or the environment than
	the activities and uses described above.

	AUL Area	Unacceptable Uses and Activities
-	Entire 60	Residential use, children's school, children's day care, playground and other
4	Cross Street	active recreational uses and institutions, subject to any relevant obligations and
-	East Property	listed below and unless constructed in accordance with the provisions for
1		landscaped areas above.
-1		Gardening or other agricultural uses which utilize these soils for the cultivation
l		of edible plants

s must remain covered by pavement, building, or similar device to inhibit osure to these soils, except during construction, utility or other soil urbance project. struction, non-emergency utility repair work, and other soil disturbance ects must be conducted in accordance with a site-specific health and safety
urbance project. struction, non-emergency utility repair work, and other soil disturbance
struction, non-emergency utility repair work, and other soil disturbance
o , , ,
a, and a site-specific soil management plan approved by a Licensed Site ressional.
owing excavation conducted during a construction, utility or other soil urbance project, excavated soils must be removed from the site in ordance with pertinent regulations, or graded and recovered by pavement, ding or similar device prior to the completion of the project. ground covering, i.e., pavement, building or similar device, must be odically inspected and maintained to ensure that exposure to these soils
g

5.0 CLASS A-3 RESPONSE ACTION OUTCOME

Based on the investigation documented herein as well as information obtained from previous investigations, Goldman Environmental Consultants, Inc. makes the following conclusions relative to the subject disposal Site:

5.1 LSP Opinion regarding Completion of Class A-3 Response Action Outcome

This LSP Opinion was prepared by Samuel W. Butcher (L.S.P. #9185) and Goldman Environmental Consultants, Inc. of Braintree, Massachusetts, for the disposal Site located at 60 Cross Street East in Somerville, Massachusetts. This Opinion was prepared on behalf of Guber & Sherman, Inc, the prior Site owner and operator.

This LSP Opinion presents the facts pertaining to the environmental condition of the disposal site identified as RTN 3-18193, and located in its entirety on the property addressed as 60 Cross Street East in Somerville, Massachusetts, necessary to issue a Class A-3 Response Action Outcome Statement (RAO) consistent with the Massachusetts Contingency Plan (MCP). Utilizing the findings presented in this report, the following RAO criteria have been evaluated: 1) achievement of a condition of No Significant Risk of harm to health, safety, public welfare, and the environment; 2) elimination or control of sources of OHM; and 3) evaluation of the feasibility of achieving background.

Elimination of Sources of Contamination

The on-site source(s) of release are not definitively known for the Site. At Areas A and C, the source may have been releases to a floor drain near or at sampling location B-111. This floor drain was removed during the RAM, and the grossly contaminated soils were excavated and removed from the Site. The OHM present in the remainder of the Site is likely attributable to the presence of coal ash in the fill, and historic releases at the Site from former USTs and other site activities. Underground storage tanks were historically located beneath the building.

Based on the results of groundwater and indoor air analyses, residual levels of soil contamination remaining at the Site are unlikely to significantly impact indoor air or groundwater. Free-phase petroleum product was observed in one well in the immediate vicinity of Areas A and C. However, most of the free-phase product is likely held in place by the clays, organic silts and peat commonly found at the Site. The excavation of soil contamination and removal of cily water from the excavations likely reduced the amount of free-phase product present in the subsurface. The remaining amount of free-phase product is unlikely to significantly impact local groundwater.

As a result of the foregoing, all former sources of contamination have been eliminated from the Site.

No Significant Risk of Harm

To characterize risk of harm to health, public welfare, and the environment GEC conducted a Method 3 Risk Characterization, as documented in Section 4.0. In addition, a separate characterization of risk of harm to safety was conducted. Based on the Risk Characterization, a condition of No Significant Risk of harm to safety, health, public welfare, and the environment has been achieved at the site for current conditions and for foreseeable future uses that are restricted by the implementation of a Notice of Activity and Use Limitation (AUL). In addition, no substantial hazards remain at the site. A substantial hazard means a hazard which would pose a significant risk of harm to safety, health, public welfare, and the environment if it continued to be present for several years. Limitations on future activities and uses of the Site were assumed while conducting the Risk Characterization; therefore, an AUL is needed for the Site.

Activity and Use Limitations

Assumptions were used to narrow the scope of exposure for the disposal Site. The disposal Site boundaries correspond to the property boundaries, as depicted in Figure 2. The AUL area encompasses the entire disposal Site and property. The assumptions

used to narrow the scope of exposure for the Risk Characterization are identified below. These assumptions mean that an AUL must be prepared and filed with the County Land Court and / or County Registry of Deeds in order for the Risk Characterization findings to be valid.

The unacceptable and acceptable uses and activities, and the obligations for the AUL area are provided below.

AUI. Area	Acceptable Uses and Activities
AUL Area Entire 60 Cross Street East Property	Acceptable Uses and Activities Manufacturing, industrial, and commercial uses The construction and excavation related to construction, including the demolition and / or reconstruction of site buildings and the repair or replacement of pavement and sidewalks, subject to any relevant obligations listed below. If a landscaped area is constructed, it shall be constructed as follows depending on the land use and associated activities: - Landscaped areas used as aesthetic enhancements within and around paved areas and around buildings shall require no special construction provisions. - Landscaped areas created for recreational purposes (e.g., picnic or play areas) shall include a minimum of eighteen inches of clean fill and/or topsoil above underlying site soil. A marker layer consisting of filer fabric or similar geotextile shall be placed below the clean soil horizon and above the underlying soil. The integrity of the eighteen-inch clean soil horizon shall be maintained during future activities so long as the use remains recreational. The installation or repair of underground utilities, subject to any relevant obligations listed below. Permitted uses and uses authorized by the Zoning Ordinances of the City of Somerville, provided that said uses do not result in the unacceptable uses and activities described below.
	Such other activities or uses which, in the Opinion of an LSP, will present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses described above.

AUL Area	Unacceptable Uses and Activities
Entire 60	Residential use, children's school, children's day care, playground and other
Cross Street	active recreational uses and institutions, subject to any relevant obligations and
East Property	listed below and unless constructed in accordance with the provisions for
	landscaped areas above.
	Gardening or other agricultural uses which utilize these soils for the cultivation
	of edible plants.

AUL Area	Obligations
Entire 60 Cross Street East property	Soils must remain covered by pavement, building, or similar device to inhibit exposure to these soils, except during construction, utility or other soil disturbance project.
	Construction, non-emergency utility repair work, and other soil disturbance projects must be conducted in accordance with a site-specific health and safety plan, and a site-specific soil management plan approved by a Licensed Site Professional.
	Following excavation conducted during a construction, utility or other soil disturbance project, excavated soils must be removed from the site in accordance with pertinent regulations, or graded and recovered by pavement, building or similar device prior to the completion of the project.
	The ground covering, i.e., pavement, building or similar device, must be periodically inspected and maintained to ensure that exposure to these soils does not occur under typical conditions when soil disturbance projects are not conducted.

Permanent Solution

A Permanent Solution has been achieved at the site in that no uncontrolled source of contamination remains at the site, and the remedial response actions (i.e., soil excavation and off-site recycling; and oily water removal and off-site disposition) conducted to date has resulted in a condition of No Significant Risk of harm to health, safety, public welfare, and the environment.

Feasibility of Achieving Background Conditions

A feasibility evaluation was conducted pursuant to 310 CMR 40.1020 demonstrating that it is not feasible to reduce the concentrations of OHM to levels which approach background conditions.

Based on the information collected during the field investigations, the residual soil contamination on-Site is primarily related to PAHs, EPH, VPH and metals. In general, the PAH contamination in soil is pervasive throughout the site, and appears to be related to historic site operations and use and storage of coal. Coal ash was observed in the soils of the property. The contamination appears to exist to a depth of at least 15 feet below grade. Groundwater contamination appears to be comprised of low levels of EPH, PAHs, and VOCs and does not appear to be migrating significantly in subsurface media.

The most likely form of soil remediation to achieve background conditions would consist of removal of soils with concentrations of OHM above background. Concentrations of OHM in soils do not pose a risk of harm to health, safety, public welfare, or the environment under current or potentially foreseeable future conditions with the imposition of an AUL. To remove volumes of soil to achieve background is not

reasonably feasible given the time and expense that available remediation would require and the insignificant impact such remediation would have on the residual risk associated with this contamination. Approximately 2,800 cubic yards of contaminated soil was excavated to facilitate redevelopment of the Site. This does not include limited soil removal activities conducted by FSL within the building prior to building demolition. In order to achieve background conditions, GEC conservatively estimates that an additional 5,000 cubic yards of soil would have to be excavated. The cost associated with the proper disposal of 2,800 cubic yards of soil was approximately \$80,000. GEC estimates that the cost to excavate and remove the additional 5,000 cubic yards of soil would be approximately \$175,000. GEC concludes that the incremental cost of conducting the remedial action alternative (i.e., soil excavation) is substantial and disproportionate to the incremental benefit of risk reduction, environmental restoration, and monetary and non-pecuniary values.

Based on the results of the risk characterization, concentrations of OHM in groundwater do not pose a risk of harm to health, safety, welfare, or the environment under current or foreseeable future conditions. Given the presence of clays and silts in the subsurface, it is unlikely that groundwater contamination could be remediated to background concentrations through either a pump and treat system, by air sparging, or by other traditional methods. These systems, though successful in eliminating high levels of contamination, have been shown to have difficulty in reducing groundwater contaminant concentrations to below detectable levels, especially in dense soils. Such systems typically need to be maintained for a number of years without significantly reducing residual contamination. Given the foregoing, it is not deemed to be economically feasible to conduct additional response actions to reduce OHM concentrations in groundwater to background.

Applicable and Suitably Analogous Standards

Levels of OHM in soils and groundwater at the disposal site do not exceed applicable Upper Concentration Limits. In addition, Class A requirements include meeting applicable or suitably analogous standards, where the groundwater is categorized GW-1. The groundwater is not categorized GW-1 at this Site, therefore, the Massachusetts Drinking Water Quality standards are not applicable or suitably analogous standards (ASAS) for this Site.

Response Action Outcome

Based on the information included in this report, response actions taken at disposal site RTN 3-18193, located in its entirety on the property identified as 60 Cross

Street East in Somerville, Massachusetts, and completed prior to the date of this report meet the requirements of a Class A-3 Response Action Outcome as specified in 310 CMR 40.1056. The following Class A-3 criteria have been met: a Permanent Solution has been achieved; the levels of OHM in the environment exceed background conditions; and an AUL is required to maintain a level of No Significant Risk of harm. Concentrations of soil and groundwater contaminants are below the applicable Upper Concentration Limits. The AUL was filed at the Middlesex (south) County Registry of Deeds on August 20, 2004. A copy of the AUL forms, including LSP Opinion, is provided in Appendix B.

As a result of the information presented in the foregoing discussion, the site has met the requirements of a Class A-3 Response Action Outcome. No further response actions are recommended for this disposal site. A copy of the Response Action Outcome Statement Transmittal (BWSC-104) form is provided in Appendix A.

Public Involvement Activities

In accordance with 310 CMR 40.1403 (3)(f) and (7)(a), the Mayor's Office and the Health Department have been provided a notification regarding the availability of this Response Action Outcome Statement. The notification indicates that the Response Action Outcome and supporting documentation can be reviewed at MADEP's Northeast Regional Office in Salem, Massachusetts. In addition, a copy of the recorded AUL has been provided to the afore-mentioned officials, plus to the Zoning Official and Building Code Enforcement Officer. In accordance with 310 CMR 40.1403 (7)(b), a legal notice has been published in the *Somerville Journal* on August 26, 2004, informing the public of the registering or recording of the AUL for the property. Copies of these correspondences and public notice are provided in Appendix C.

6.0 WARRANTY

The conclusions and recommendations contained in this report are based on the information available to GEC and upon the current regulatory climate as of August 2004. The conclusions and recommendations may require revision if future regulatory changes occur. GEC provides no warranties on information provided by third parties and contained herein. Data compiled was in accordance with GEC's existing procedures and consistent with the MCP, and should not be construed beyond its limitations. Any interpretations or use of this report other than those expressed herein are not warranted.

The use, partial use, or duplication of this report without the written consent of Goldman Environmental Consultants, Inc. is strictly prohibited. This report is subject to GEC's Contract for Consulting Services with the client.

Respectfully submitted, Goldman Environmental Consultants, Inc.

Prepared by:

Catherine M. Dunning

Environmental Scientist

Prepared by:

aste Site Program

Reviewed and Amoro

Vice President, Operations

1202-3010 RAO document -FINAL

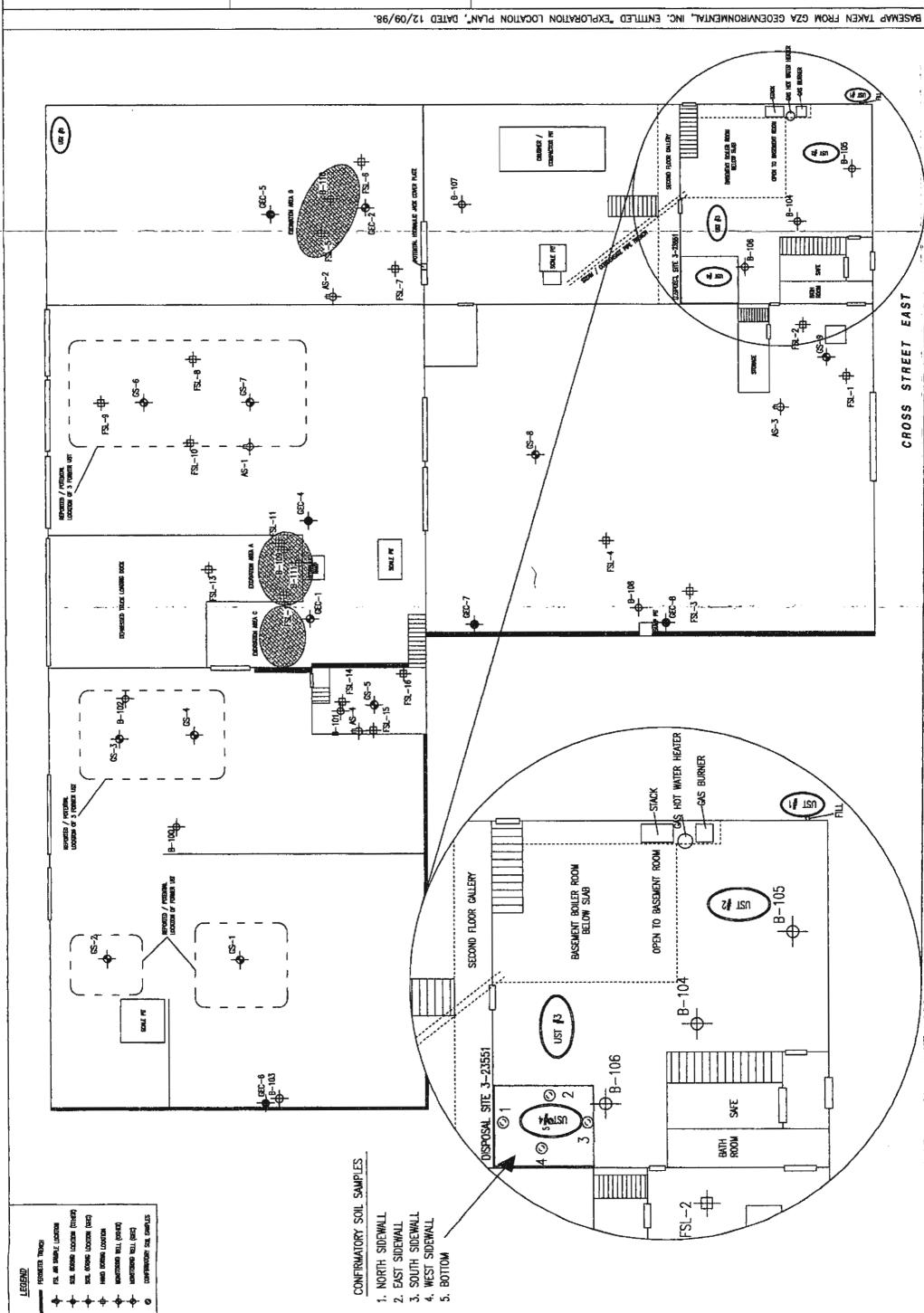


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CEC Life Number 080604A CEC Project Number 1202-3010 Somerville, Massachusetts 60 Cross Street East Guber & Sherman

1:100 N SCYTE HICHEE 3

Site Plan Of Former Building



SUMMARY OF GROUNDWATER ANALYTICAL DATA: VOLATILE PETROLEUM HYDROCARBONS (VPH) 60 Cross Surest East Somerville, MA (unit, parts per billion, ppb)

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ŀ	RDL	0.20	5.0	Ŋ	5.0	0.20	5.0	S	S	5.0	0.20	5.0	0.20	5.0	5.0	5.0	5.0	NG	Ö		99	8	990
Xylenes		£	8	1.42	Š	Ş	Š	122	28	123	Š	g	0.36	Ö.	19.69	89.3	2,299	009	570		10,0	6,0	50,000
_	RDL	0.20	_	NG		NG		Š	Š		0.20		NG								(S	NS	(S
1,2,4	TMB	ΩŽ	Ϋ́	0.79	NA A	0.63	Ϋ́Z	71	001	Ϋ́	g	NA	4.	Z A	N.	Y.	NA	ΝĀ	Y.		_	_	_
	RDL	0.20	5.0	SN	5.0	Š	5.0	Š	NG	5.0	NG	5.0	SNG	5.0	5.0	5.0	5.0	Š	SN		8	8	8
Toluene		ð	Q	1.7	S.	0.30	ĝ	75	5.3	S	2.1	QN	1.2	Q.	QN	8.29	7.5	33	47		0:1	6.0	50,000
	RDL	Ŋ	5.0	0.50	5.0	0.50	5.0	NG	DN	5.0	NG	5.0	Ö	5.0	20	20	20	S	Ŋ				
Naphthalene		0.1	QN	ON	QN	QN	ΔN	91	6.6	ND	0.73	ND	9.7	ND	QN	ND	23.3	23	91		20	900'9	6,000
	RDL	0.1	5.0	1.0	5.0	1.0	5.0	0.50	0.50	5.0	0.1	5.0	1.0	5.0	5.0	5.0	5.0	10.0	10.0		_	8	8
MTBE		QN	N	ND	ND	æ	ND	QN	QN	ΩN	QN	ND	Q	ND	ND	ND	26.5	Q	Q		7	20,000	20,0
_	RDL	0.20	5.0	NG	5.0	0.20	5.0	NG	0.1	5.0	0.20	5.0	0.20	5.0	9.0	5.0	5.0	S	ND		_	8	0
Ethyl-	benzene	£	£	0.22	Q	£	Ð	16	S	Q	Ð	Ð	£	£	ND	58.2	317	99	130		200	30,000	4,00
-	RDL	0.20	5.0	0.20	5.0	NG.	5.0	NG	9N	5.0	0.20	\$.0	0.20	5.0	5.0	5.0	5.0	2.5	2.5			0	
Benzene		QN	S	QN	QN	0.97	Q.	110	81	39	QN	£	g	Q	5.23	32	ON	2	e e		ς.	2,000	7,00
	ZQ.	9 S	75	ŊĊ	25	Ž	25	NG	S	25	Š	22	ÿ	25	55	55	550	NG	NG			_	_
C9-C10	Aromatics	27	Q	23	S	93	Ę	200	350	360	2.9	2	£	Q	451	455	922	190	170		200	5,000	4,000
	RDL	Ü	25	NG NG	25	Ü	25	Ŋ	Š	25	ŊĊ	25	Š	ฆ	15	15	150	NG	Š			_	_
C9-C12	RDL Aliphatics	34	£	70	£	35	욧	47	21	1,300	=	38	54	£	318	259	QQ.	630	630		, 4,00	000,1	4,00
_	RDL	S	25	ŊĊ	75	Š	75	ŊŊ	Ď	75	0.50	75	Š	75	40	40	40	ŊĊ	NG			_	_
CS-C8	Aliphatics	3.5	Q	9.4	S	16	Q.	31	290	590	2	£	13	Ð	251	265	57.2	099	1,500		400	1,000	4,00
		GZA	GZA	GZA	GZA	QZV	GZA	GZA	GZA	GZA	CZA	QZA	GZA	GZA	FSL	FSL	FSL	GZA	GZA		GW-1	GW-2	GW-3
Sample Analytical Consultant	Method	MADEP	MA VPH	MADEP	MA VPH	MADEP	MA VPH	MADEP	MADEP	MA VPH	MADEP	MA VPH	MADEP	MA VPH	MADEP	MADEP	MADEP	MADEP	MADEP				
Sample	Date	9/24/98	3/22/00	9/24/98	3/22/00	9/24/98	3/22/00	9/24/98	9/24/98	3/22/00	9/24/98	3/22/00	9/24/98	3/22/00	2/14/02	2/14/02	2/14/02	20/51/7	2/21/02	ards			
Sample	Identification	GS-1		GS-2		GS-4		GS-6	GS-7		GS-8		GS-9		FSL-5*	CS-7	FSL-11*	EXC. A*		Method 1 Standards			

* Soils from this area excavated during the Remedial Abatement Measure

Notes: GZA= GZA Environmental FSL* FSL Associates

ND* Not Detected RDL* Reported Detection Limit

NG* Not Given

NA* Not Analyzed NS= No Standard MADEP= MADEP Method

Prepared by: UB Reviewed by: KD Revised: 5/5/03

TABLE 1.3 SUMMARY OF GROUNDWATER ANALYTICAL DATA: TOTAL METALS

(unit, parts per billion, ppb) 60 Cross Street Somerville, MA

Sample	Sample	Analytical	Consultant Arsenic	Arsenic		Barium		Cadmium	Ť	Chromium	Lead	p	Mercury		Selenium		Silver	
Identification	Date	Method			RDL		RDL		RDL	RDL)[RDL	_	RDL		RDL		RDL
		/19/2/0902/0109					Г		r		L		_					
GS-1	9/24/98	0/24/98 7470/7421/7740	GZA	5.0	S	65	ŊĊ	Q	3.0				S	0.20	QN	5.0	S	7.0
	3/22/00	200.7/245.1	GZA	R	15	232	5.0	Q	5.0	26 5.0	0 30	01	QN	0.40	QN	15	Š	10
CiS-2	3/22/00	200.7/245.1	GZA	QN	15	112	5.0	QN	5.0		\vdash		QX	0.40	S	1.5	S	0
	4/4/03	6010B	GEC	NA		Ϋ́		Y V		NA	Ž		NA		NA		Ϋ́	
		/19/2/090//0109									\vdash							
GS-4	9/24/98	9/24/98 7470/7421/7740	GZA	0.9	ŊĊ	150	8	ΩN	3.0				£	0.20	Q	5.0	S	7.0
	3/22/00	200.7/245.1	GZA	61	15	69	5.0	ΩN	5.0	8.5 5.0	0 116	9	9.0	0.40	ΩN	15	S	01
	4/4/03	6010B	GEC	NA		ΝA		Ϋ́Z		NA	Ę		AN		ΥA		NA	
		/19/1/090//0109							-									
CS-7	9/24/98	9/24/98 7470/7421/7740	GZA	31	ŊĠ	107	SZ	QN	3.0				Š	0.20	ND	5.0	S	7.0
	3/22/00	200.7/245.1	GZA	32	15	442	5.0	g	5.0	99 5.0	_		-:	0.40	S	20	Š	2
	4/4/03	6010B	GEC	NA		NA V		AN		NA A	불		A'N		NA NA		Y Z	
GS-8	3/22/00	200.7/245.1	GZA	£	15	425	5.0	£	5.0	87 5.0	0 192	2 10	g	0.40	£	15	£	10
	4/4/03	6010B	GEC	NA		NA		NA		NA	Z		NA V		NA		Ϋ́ V	
		/19/2/090//0109									L.							
GS-9	9/24/98	9/24/98 7470/7421/7740	GZA	0.9	SZ	75	Š	£	3.0				g	0.20	Ŝ	5.0	Ş	7.0
	3/22/00	200.7/245.1	GZA	20	15	455	5.0	Ð	5.0	168 5.	5.0 67	7 10	6.0	0.40	2	15	S	01
	4/4/03	6010B	GEC	NA		NA		NA		NA	ΩÑ	_	NA		NA		Y.	
FSL-11**	2/14/02	6010B/245.1	FSL	ND	50	31.5	30	QN	5.0	ND 6	QN 09	0 10	ND	1.0	ND	50	QN	7.0
FSL-5**	2/14/02	6010B/245.1	FSL	ND	20	54.6	30	ND	5.0	ND 6	60 13.7	7 10	ΩN	1.0	ND	20	ND	7.0
CS-7	2/14/02	6010B/245.1	FSL	Q	20	88.1	30	QN	5.0	ND 6	09 ND	01 0	QN	1.0	QV.	50	ΩZ.	7.0
GEC-2	4/4/03	6010B	GEC	NA		NA		NA		NA	*Q	3* 5	NA		NA		ΑN	

ND= Not Detected

** Soils from this area excavated during the Remedial Abatement Measure NS $\approx No$ Standard

NG= Not Given

RDL = Reported Detection Limit

NA= Not Analyzed

GZA= GZA Environmental

FSL= FSL Associates

GEC= Goldman Environmental Consultants, Inc. *= Sample analyzed for Dissolved Lead

SUMMARY OF GROUNDWATER ANALYTICAL DATA: POLYCYCLIC AROMATIC HYDROCARBONS (PAH'S) 60 Cross Speet East Somerville, MA (write, ports per billion, ppb) TABLE 1.4

	Ţ							-	-	-		F		,	_	_		-	_	اح.
	<u>8</u>	2	5.0	2	5.0	2	5.0	오	2	5.0	1.0	'Ω	5.0	2	5.0	1.0	1.0	15	15	0.10
Benzo(a)	anthracene	Ω	Q	Ω	Q	QN	Q	ΩN	£	Q	Ŷ	QN	Q	ą	S	ND	3.12	ND	QN	0.20
	RDL	2	5.0	01	5.0	0	5.0	SZ	10	5.0	1.0	9	5.0	01	5.0	1.0	1.0	15	15	0.50
Anthracene		ΩN	QN	ΩN	ΩN	ΩN	ΩN	53.9	ΩN	ND	ND	ND	ND	QN	ND	6.71	23.9	ND	QN	0.90
_	RDL	01	5.0	01	5.0	0	5.0	ŅĞ	10	5.0	0.1	10	5.0	10	5.0	0.1	1.0	15	15	0.50
Acenaphthylene		QV.	ON	S	QN	QN	QN	54	Q.	Q	QN	QN	QZ.	QN	Ð	QN.	QV	ND	QN	ND
	RDL	10	5.0	01	5.0	01	5.0	NG	10	5.0	0.1	10	5.0	10	5.0	1.0	1.0	15	15	0.50
Acenaphthene		QN	QN	QN	QN	QN	ND	150	QN	QN	ND	QN	ΩN	QN	QN	10.4	31.3	ND	Q	5.3
	RDL	100	200	NG	200	8	200	NG	Ü	200	100	200	200	SNG	200	500	500	S	S	160
C11-C22 Aromatic	Hydrocarbons	QN	QN	300	QN	QN.	QN	330	520	1,900	Q	Q.	QN	140	860	12700	21700	17,000	9,400	2,200
	RDL	20	200	901	200	95	200	9 N	ÿ	200	8	8	200	90	200	1000	200	NG	NG	200
C19-C36 Aliphatic	Hydrocarbons	QN	QV	QN					110						1,600	21,000	15,800	23,000	11,000	1,800
	RDL	20	200	20	200	20	200	50	ŊQ	200	100	100	200	20	200	1000	2500	NG	NG	95 95
Sample Analytical Consultant C9-C18 Aliphatic	Hydrocarbons	QN	ON	Q.	ND	Ð	ND	QN.	57	3,900	QN	QN	ND	QX	1,300	18,900	29,600	7,100	4,500	4,000
Consultant		GZA	TGG	GZA	TGG	CZA	TGG	GZA	GZA	TGG	FSL	CZA	TGG	GZA	TGG	FSL	FSL	GZA	PZS	GEC
Analytical	Method	MADEP	98-1	MADEP	98-1	MADEP	1-86	MADEP [MADEP	98-1	98-1	MADEP	98-1	MADEP	1-86	98-1	98-1	1-86	₹ -	8270C
Sample	Date	86/57/6	3/22/00	86/57/6	3/22/00	9/24/98	3/22/00	9/24/98	86/47/6	3/22/00	2/14/02	9/24/98	3/22/00	9/24/98	3/22/00	2/14/02	2/14/02	2/15/02	2/21/02	4/4/0,3
Sample	Identification	GS-1		GS-2		GS-4		9-SD	CS-7			CS-8		GS-9		FSL-11*	FS1,-5*	EXC. A*	EXC. A*	GIC:2

ND= Not Defected
NA= Not Analyzed
NG= Not Given

NS = No Standard RDL = Reported Detection Limit GZA= (37A Environmental

FSL= FSL Associates

GEC= (Johlman Environmental Consultancs, Inc.

Soils from this area excavated during the
Remedial Abatement Measure

SUMMARY OF GROUNDWATER ANALYTICAL DATA: POLYCYCLIC AROMATIC HYDROCARBONS (PAH'S) 60 Gross Street Ban Somerville, MA (tunits, part per billion, ppb) TABLE 1.4

		_		,				_			_			_			_			-
	RDL L	으	5.0	2	5.0	2	5.0	2	2	5.0	1.0	2	5.0	2	5.0	2	2	13	15	0.50
Fluoranthene		ΩÑ	Q	£	Ω	CZ	QX	ΩN	ΝD	NO	ΩN	ΩN	Q	QN	QN	2.71	9.53	QN	QN	080
	RDL	0	5.0	01	5.0	2	5.0	Š	01	5.0	1.0	2	5.0	01	5.0	1.0	0.1	15	15	0.50
Fhuorene		Q	Ω	Q.	Z	Ω	ΩN	160	QN	QX	S	S	Q	윤	Q	23.6	9.69	QN	QN	6.7
F	RDL	2	5.0	2	5.0	오	5.0	2	2	5.0	8.0	2	5.0	2	5.0	8.0	8.0	15	15	0.10
Dibenzo(a,h)	anthracene	QN	Q	Ð	Q	Ą	8	Q.	QN	£	£	Ð	Ð	QN QN	QX	QN	QN	QN	ŪΝ	MD
	RDL	91	5.0	2	5.0	2	5.0	2	2	5.0	0.1	2	5.0	2	5.0	0.1	0.1	15	15	0.10
Chrysene		ΔN	QN	ND	ΩN	QN	QN	ΩN	QN	Q	Q	S	Ω	ð	Q	QN	3.54	ND	QN	0.20
	RDL	2	5.0	2	5.0	2	5.0	9	10	5.0	1.5	2	5.0	01	5.0	1.5	1.5	15	15	0.10
Benzo(g,h,L)	perylene	QN	ND	Ą	õ	22	ΩX	ΩÑ	ΝD	ΩŽ	Ω	Q.	QN	ND	Q	QX	Q	ND	ND	ND
Г	RDL	10	5.0	01	5.0	2	5.0	10	10	5.0	0.12	2	5.0	10	5.0	0.12	0.12	15	15	01.0
Benzo(k)	fluoranthene	QN	QN	QN	ND	Ð	QN	QN	ND CN	Š	£	QN QN	QN	QN	ND	ON.	ND	ND	ND	QN
	RDI,	10	5.0	2	5.0	2	5.0	10	2	5.0	1.0	2	5.0	2	5.0	1.0	1.0	15	15	0.10
Benzo(b)	fluoranthene	ND	QV.	QN	QV	Q.	S	QN	£	£	ΩN	Q	Ð	£	Q	ΩN	ON	QN	QN	0.20
	RDL	10	5.0	10	5.0	01	9.0	10	10	5.0	80.0	01	5.0	10	5.0	80.0	0.08	15	15	0.10
Benzo(a)	pyrene	Æ	Ω	Ŕ	æ	£	g	QN	S	£	S	Œ	Q.	ND	ND	ND	ND	S.	ND	0.10
Sample Analytical Consultant Benzo(a)		GZA	TGG	GZA	TGG	GZA	7GG	GZA	GZA	1 66	FSL	GZA	TGG	GZA	700	FSL	FSL	GZA	GZA	GEC
Analytical	Method	MADEP	98-1	MADEP	98-1	MADEP	98-1	MADEP	MADEP	98-1	1-86	MADEP	98-1	MADEP	98-1	1-86	98-1	98-1	98-1	8270C
Sample	Date	86/57/6	3/22/00	86/52/6	3/22/00	86/47/6	3/22/00	9/24/98	86/47/6	3/22/00	2/14/02	86/57/6	3/22/00	86/57/6	3/22/00	2/14/02	2/14/02	2/15/02	2/21/02	4/4/03
Sample	Identification	I-S5		GS-2		GS-4		GS-6	CS-7			GS-8		6-SD		FSL-11*	FSL,-5*	EXC. A*	EXC. A*	GEC-2

Notes:

, L E .

ND= Not Detected NA= Not Analyzed NG= Not Given

NS = No Standard

RDL = Reported Detection Limit

GZA= GZA Environmental

GEC* Goldman Environmental Consultants, Inc. FSL-FSL Associates

Soils from this area excavated during the

Remedial Abatement Measure

TABLE 1.4 SUMMARY OF GROUNDWATER ANALYTICAL DATA: POLYCYCLIC AROMATIC HYDROCARBONS (PAH'S) 60 COVS Street East Somerville, MA [units, parts per billion, pob)

Sample	Sample An		Consultant	alytical Consultant Indeno(1,2,3-c,d)		1-Methyl	H	2-Methyl	F	Naphthalene	٦	Phenanthrene		Pyrene	
Identification	Date	Method		pyrene	RDL	naphthalene R	RDL	naphthalene R	RDL	≅	RDL		RDL	,	RDL
GS-1	86/57/6	Σ	GZA	QN	91		10		0		2	QN	2	QN	2
	3/22/00		TGG	Q.	5.0	Y.			5.0	ND	0.	QV.	5.0	QX	5.0
GS-2	9/25/98	2	GZA	S	0		NG		2		01	N ON	10	ND	10
	3/22/00		TGG	QN	5.0	NA			5.0		0.0	ND	5.0	Q	5.0
GS-4	9/24/98	Σ	GZA	QN	01	QN	10	Ð	2	£	0.	ΔN	10	S	10
	3/22/00		TGG	Q	5.0		-		5.0		0.0	Ω	5.0	Q	5.0
6S-6	9/24/98	2	GZĄ	QN.	10		NG NG		10		0.2	48.9	Š	Ω	οI
GS-7	9/24/98	MADEP	GZA	Q.	10		Š		01		Ş	QZ QZ	2	£	10
	3/22/00	98-1	TGG	g	5.0	Ϋ́Z	_		5.0		0.0	8.3	5.0	S	5.0
	2/14/02	98-1	FSL	Q	0.24				0:1		0.	QV QV	0.1	Q	1.5
GS-8	9/24/98	2	GZA	Ð	01		10		0		91	QZ QZ	01	S	0
	3/22/00	98-1	TGG	Q	5.0		5.0		5.0		2.0	Q.	5.0	£	5.0
CS-9	9/24/98	2	GZA	Q	0		10		10		2	S	10	£	10
	3/22/00	98-1	TGG	Q.	5.0		5.0		5.0		5.0	Q	5.0	<u>Q</u>	5.0
FS1-11*	2/14/02	98-1	FSI,	ND	0.24	NA	\exists		1.0		9.	47.5	1.0	4.66	1.5
FSL-5*	2/14/02	98-1	FSL	QQ	0.24	NA	П	495	5.0		1.0	174	1.0	17.3	1.5
EXC. A*	2/12/02	98-1	GZA	ND	15	NA		33	NG	16 N	Š	ND	15	QZ	15
EXC. A*	2/21/02	98-1	GZA	ND	15	NA	-	50	Š		NG	ax	15	Q	15
GEC-2	4/4/03	8270C	GEC	QN	0.10	NA	H		0.50		0.50	9.5	0.50	0.70	0.50

Notes

ND= Not Detected NA= Not Analyzed NG= Not Given

NS = No Standard

RDL- Reported Detection Limit GZA- GZA Environmental

FSL= FSL Associates GEC= Goldman Environmental Consultants, Inc.

* Soils from this area excavated during the

Remedial Abatement Measure

SUMMARY OF GROUNDWATER ANALYTICAL DATA:
VOLATILE ORGANIC COMPOUNDS (VOC'S)
60 Cous Marce Essa
Somewille, MA
(mix, part per billion, ppb)

Sample	Sample	Sample Analytical	Consultant	Benzene	n-Buty		sec-Butyl	Γ	Chloro	Γ	1,2- Dichloro	Γ	1.3-Dichloro	占	.4-Dichloro	ľ	cls-1,2-	Γ	Ethyl	Γ
Identification	Date	Method		RDL.	L benzene	e RDL	benzene	RDL	реплепе	KDL	benzene	RDI,	benzene	RDL.	benzene	KDL	DCE	RD1.	benzene	RDL
L-S:J	86/52/6	8260B	GZA				٧N	_	QN	01	¥z		NA		×X		GN	υI	QN	5.0
	3/22/00	8260B	TGG			1.0	N	0.1	QN	0.1	Ω	0.1	Q	1.0	ND	0.1	QN	0.1	ĝ	0.1
(18-2	9/24/98	8260B	PZ5				V.		Q.	01	٧Z		Ϋ́	-	٧Z		NO.	2	S	5.0
	3/22/00	8260B	TGG			1.0	ΩN	1.0	QN	0.1	Q.	0.1	ND	0.1	QZ	0.1	Q	1.0	QN	1.0
4-S()	1724/98	8260B	CZA				NA		GN	01	٧×	Γ	NA		Ϋ́		Q	10	ď	5.0
	3/22/00	8260B	756			2.0	Š	2.0	£	2.0	Ω	5.0	S	2.0	8	2.0	15	2.0	Ñ	2.0
	4/4/03	82608	GEC		_		×		Q	0.50	42		٧X		Ϋ́Z		01	0.5	2	0.5
9.89	4/24/98	8260B	OZA.				ΝA		ND	-01	٧×	Г	Y.		NA		QN	01	QN.	5.0
(S-7	4/24/98	8260B	CZA	ND 5.0	NA		ΝA		QN	10	VN		V.		ΝA		QN	01	QV	5.0
	3/22/00	8260B	1 66		_	20	51	5.0	\$2	2.0	8.2	2.0	2.6	2.0	7.2	2.0	3.1	5.0	4.3	2.0
	4/4/03	8260B	OEC				٨		43	2.5	¥Z,		ν.	_	٧V		3.0	2.5	2.0	2.5
GS-7 DUP.	4/4/03	8260B	CEC				ΑN		43	2.5	ΥX		NA	_	ΥN		3.0	2.5	5.0	2.5
8-SD	9/24/98	8260B	GZA		L		ΝA		ND	01	NA		N.A		NA A		ΝD	2	Ð	5.0
	3/22/00	\$260B	756			2.0	Q.	2.0	NO.	2.0	g	2.0	ND	2.0	QN	2.0	Q.	2.0	g	2.0
GS-9	9/24/98	8260B	GZA				¥		æ	0	ž	_	٧X	_	٨X		ND	10	£	5.0
	3/22/00	8260B	755			2.0	QN	2.0	S	2.0	Q	2.0	QN	2.0	ND	2.0	Ñ	2.0	2	2.0

NDTES.

ND- Not Detected

NA- Not Detected

NA- Not Jacob

NS- No Standard

NS- No Standard

RDI- Reported Detector Limit

RXOB- USEPA Method 8XOB

GZA- GZA Boritzonneral

FSL + FSL Associates

TGA- TGG Environmental loc.

GGC- Colchum Environmental loc.

DGE- Colchum Environmental Loc.

DGE- Colchum Environmental Loc.

MTBE- Methylvert benylverteer

TMB- Trimethylbeatetee

TABLE 1.5 SUMMARY OF GROUNDWATER ANALYTICAL DATA: VOLATILE ORGANIC COMPOUNDS (VOC'S) 60 Coust Steel East Somewrike, MA (will, parts per billion, ppb)

	_	_	_	_	~	_	_	u^	17	(2		40	· C	6	0	0	-
~	RDL	5.0	1.0	5.0	Σ.	3.	2.0	0.5	ž	Q.	7.	2.5	7	33	2.1		2.0
Xylenes		ΩN	Š	ď	Q.	L				L.		_	64		Q	Q	Z
	RDL	01	2.0	10	2.0	10	4.0	0.5	10	61	4.0	2.5	2.5	01	4.0	2	4.0
Vinyl	Chloride	Ω	Q	QN	Q	ND	Ŷ	5.0	QN	S.	2	ND	ND.	QN	OZ.	ΩŽ	
	RDL	Г	1.0		1.0		2.0				2.0				5.0		2.0
13,5-TMB		ΑX	Q	ΑN	QN	٧¥	Ŝ	Y.V	٧¥	A.Y.	8.1	NA	NA	ΝA	QN	ΝĀ	ΩŽ
-	RDL		1.0		1.0		2.0				2.0				2.0		2.0
1,2,4-TMB		Ϋ́	Q.	٧V	QN	NA	Š	٧×	ΨN	¥N.	180	NA	٨¥	NA	Q	ž	g
	RDL	5.0	0.1	9.0	0.1	5.0	2.0	0.5	Ż	ĎΖ	2.0	2.5	2.5	5.0	2.0	5.0	5.0
Toluene	į	ΩN	Š	ΩN	Q	Ð	Ð	S	7.7	9.0	3.4	9	ß	Q	Q	ND	
	RDL		9.7		1.0		2.0				2.0				2.0		2.0
n-Propyt	benzene	٧×	Ž	Ϋ́	S					Ϋ́Z				_		¥ Z	ΩŽ
	RDL	30	0:	õ	0.1	30	2.0	0.50	2	g.	2.0	2.5	2.5	33	2.0	ድ	2.0
MTBE		ΔZ	2	S	g	Q	Ñ	£	Š	57	S	Q	GN	QN	g	S	S
	RDL		0,		0.1		20	_			2.0				2.0		2.0
Isopropyl	benzene	ž	Š	٧	QN	Ϋ́	Š	ž	Ϋ́	ž	78	NA.	NA	Ϋ́Z	Š	٧X	QN
Consultant		6ZA	100	VZ9	700	QZA	700	CEC	GZA	dZA	55	CEC	OEC	CZA	156	GZA	166
Analytical	Method	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B
Sample	Date	9/24/98	3/22/00	9/24/98	3/22/00	9/24/98	3/22/00	4/4/03	9/24/98	9/24/98	3/22/00	4/4/03	4/4/03	9/24/98	3/22/00	9/24/98	3/27/00
Sample	Identification	1-83		GS-2		GS-4			9-SD	CS-7			GS-7 DUP.	CS-8		GS-9	

NOTES: NO - Not Detected NA - Not Analyzed

NKI - Nat Given
NN - Na Standard
RTH - Reported Detection Limit
RIZOHI- USEPA Method \$260B
(12A - 07A Enviconmental

FSI.- FSL Associates

FGF - FGG Environmental Inc.

FFF - Colcium Environmental Consultation, Inc.

FFF - Dichlorocheme

MTHE: Methylere-busylecher

TMB- TrimeDylbenzore

TMB- TrimeDylbenzore

SUMMARY OF SOIL ANALYSES: VOLATILE PETROLEUM HYDROCARBONS (VPH)
60 Cross Street East
Somerville, MA
(unit, parts per million, ppm) TABLE 2.1

Sample	Sample		Analytical	Sample Analytical Consultant	83 83		C9-C12		C9-C10	F	Sthyl-	Napl	Naphthalene	Toluen	ene	1.2.4-Trimethy	nethyl	Xvlene	2
Identification	Date	Depth	Method		Aliphatics	RDL	Allphatics	RDL A	Aromatics B	RDL b	benzene R	RDL	CS.		RDL				RDI
GS-2 (S-3)	9/19/98	7-9'	MADEP	GZA	0.79	NG	17	NG		NG	ľ			ı	l		Ì	퇶	l
GS4(S-3)	86/61/6	9-11.	MADEP	GZA	14	NG	27	ŊĊ		NG	_	_						_	
GS-5 (S-2)	86/61/6	-9-4	MADEP	ΥZS	3.3	Š	11	ŊĊ		SG	_	_					-		
GS-6 (S-3)	86/81/6	7-9	MADEP	GZA	180	Š	44	Š		SC									
GS-7 (AUGER)	86/81/6	10-15	MADEP	GZA	6.9	Š	30	ÿ		SC	_	_						_	_
GS-9 (S-3)	86/81/6	5-7	MADEP	GZA	01	Š	8	Đ.	46	ŊĊ	ND 0.	0.050	4.10 NG	QX	0.050	50 0.61	S S	0.64	SN
FSL-3	10/22/01	24,	MADEP	FSL	29.5	1.5	28.8	0.50		0.50								_	
FSL-4	10/22/01	24,	MADEP	FSL	25.4	1.5	23.6	0.50		0.50								Ä	
FSL-5	10/22/01	*	MADEP	FSL	67.5	1.5	28.7	0.50		0.50								0.70	
FSL-6	10/22/01	.01-9	MADEP	FSL	20.7	1.5	12.2	0.50		0.50								Z	
FSL-7	10/22/01	6-12,	MADEP	FSL	38.5	1.5	43.5	0.50		05.0								N	
FSL-8	10/22/01	4-6	MADEP	FSL	Ę	1.5	ΩŽ	0.50		05.0								Z	
FSL-9	10/22/01	4-6	MADEP	FSL	123	1.5	11.8	0.50		05.0				_				5.1.	
FSL-10	10/25/01	4-6	MADEP	FSL	30.8	1.5	13	0.50		05.0								Z	
FSL-11*	10/22/01	.9	MADEP	FSL	78	1.5	ΩŽ	0.50		0.50									
FSL-12*	10/22/01	-6-	MADEP	FSL	1.19	1.5	2.71	0.50		0.50								1:1	
FSL-13		4-6		FSL	2.57	1.5	1.63	0.50		05.0								1.0	
EXCAVA-A NS*		2/21/02 composite		GZA	4.7	Š	40	SN		S				_				3.4	
EXCAVA-A ES*	2/21/02	2/21/02 composite		GZA	10	ŠČ	190	SN		S								26.4	
EXCAVA-A-SS* 2/21/02 composite	2/21/02	composite		CZA	3.0	ž	12	NG.		S				_				18	
EXCAVA-A-WS* 2/21/02 composite	2/21/02	composite	MADEP	GZA	6.1	Š	110	NG		SN				_	_			6.7	

Notes RDL» Reported Detection Limit ND= Not Detected

NG= Not Given

NS=No Standard Month Determination of Extractable Petroleum Hydrocarbons

GZA= GZA Environmental FSL= FSL Associates ** Sample excavated and removed from the Site during the Remedial Abatement Measure.

TABLE 2.2 SUMMARY OF SOIL ANALYTICAL DATA: TOTAL PETROLEUM HYDROCARBONS (TPH)

60 Cross Street East Somerville, MA (unit, parts per million, ppm)

Sample Identification	Sample Date	Sample Depth	Analytical Method	Consultant	Total Petroleum Hydrocarbons	RDL
B-100, S-3	12/1/98	4-6'	8100	GZA	ND	10
B-101, S-1	12/1/98	0.5-2'	8100	GZA	2,200	10
B-102, S-1	12/1/98	0.5-2'	8100	GZA	250	10
B-103, S-1	12/1/98	0.5-2'	8100	GZA	1,500	10
B-104, S-1	12/1/98	0.5-2'	8100	GZA	49	10
B-105, S-1	12/2/98	0.5-2'	8100	GZA	610	10
B-106, S-3	12/2/98	4-6'	8100	GZA	42	10
B-107, S-3	12/2/98	4-6'	8100	GZA	340	10
B-108, S-2	12/2/98	2-4'	8100	GZA	4,200	100
B-109, S-2*	12/2/98	2-4'	8100	GZA	2,700	100
B-110, S-1*	12/2/98	0.5-2'	8100	GZA	1,900	10
B-111, S-1*	12/2/98	3-5'	8100	GZA	71,000	10

Notes:

ND= Not Detected

RDL= Reported Detection Limit

8100= US EPA Method 8100

Sample collected from B-102 identified as 130 ppm of #2 fuel oil/diesel fuel, 120 ppm unidentified All other samples unidentifiable

Prepared by: LB Reviewed by: KD Revised: 5/5/03

^{*} Sample excavated and removed from the Site during the Remedial Abatement Measure.

60 Cross Street Somerville, MA (unit, parts per million, ppm)

F 6 1	- L		1	la 1: .	00.040.411.1.41		040 044 AR L -I				1	
Sample Identification	Sample Date	Sample Depth	Analytical Method	Consultant	C9-C18 Aliphatic Hydrocarbons	RDL	C19-C36 Aliphatic Hydrocarbons	RDL	C11-C22 Aromatic Hydrocarbons	RDL	Acenaphthene	RDI
GS-1, S-3	9/19/98	7.7.9'	MADEP	GZA	66	NG	30	ŃG	32	NG	ND	0.30
GS-2, S-3	9/19/98	7.9'	MADEP	GZA	ND ND	1.0	ND	1.0	ND	2.0	ND	0.30
GS-4, S-3	9/19/98	9-11	MADEP	GZA	31	NG	120	NG	24	NG	ND	0.30
GS-5, S-2	9/19/98	4-6'	MADEP	GZA	1,300	NG	3,400	NG	1,800	NG	ND	0.90
GS-6, S-3	9/19/98	7-9'	MADEP	GZA	550	NG	630	NG	440	NG	3.2	NG
GS-6, S-4	9/19/98	9-10'	MADEP	GZA	1,300	NG	2,400	NG	1,500	NG	5.3	NG
GS-7(AUGER)	9/19/98	10-15'	MADEP	GZA	170	NG	150	NG	37	NG	ND	0.30
GS-9, S-3	9/19/98	5-7'	MADEP	GZA	760	NG	770	ΝG	1,100	NG	1.1	NG
FSL-1	10/22/01	4-8"	98-1/8270	FSL	1,360	100	516	50	714	01	ND	0.10
FSL-2	10/22/01	4-8'	98-1/8270	FSL	640	50	726	50	319	10	ND	0.10
FSL-3	10/22/01	2-4'	98-1/8270	FSL	214	10	82	10	158	10	ND	0.10
F\$L-4	10/22/01	2-4'	98-1/8270	FSL	422	50	130	10	365	10	ND	0.10
FSL-5*	10/22/01	6-8'	98-1/8270	FSL	306	10	325	10	1,800	50	4.22	0.50
FSL-6	10/22/01	6-10'	98-1/8270	FSL	327	50	747	50	829	50	ND	0.10
FSL-7	10/22/01	6-12'	98-1/8270	FSL	906	50	357	10	289	10	ND	0.10
FSL-8	10/22/01	4-6'	98-1/8270	FSL	50.1	10	412	10	113	10	ND	0.10
FSL-9	10/22/01	4-6'	98-1/8270	FSL	719	50	4,870	250	670	10	ND	0.10
FSL-10	10/22/01	4-6	98-1/8270	FSL	117	10	634	50	96.9	10	ND	0.10
FSL-11*	10/22/01	4-6'	98-1/8270	FSL	7,870	100	3,040	100	1,910	50	0.395	0.10
FSL-12*	10/22/01	4-6'	98-1/8270	FSL	28.6	10	203	10	98.7	10	ND	0.10
FSL-13	10/22/01	4-6'	98-1/8270	FSL	14.9	10	49.9	10	74,7	10	ND	0.10
FSL-14	10/22/01	0-2'	98-1/8270	FSL	687	10	774	LO	875	10	0.291	0.10
FSL-15	10/22/01	0-2'	98-1/8270	FSL	504	. 10	1,170	10	1,077	10	0.308	0.10
FSL-16	10/22/01	0-2'	98-1/8270	FSL	786	50	4,470	100	1,630	50	ND	0.10
EXC. B EXC. B	2/15/02 2/15/02	0-4' 4-8'	98-1/8270	FSL	ND	10	10.2	10	36.8	10	0.243	0.10
EXC. B	2/15/02	BOTTOM	98-1/8270 98-1/8270	FSL FSL	50.1 170	30 10	917 68.4	30 10	2,750 58	150	3.31	0.75
EXC. B	2/15/02	NU4	MADEP	GZA	38	NG	560	NG	540	10 NG	ND ND	0.10
EXC. B	2/15/02	NL4	MADEP	GZA	ND	2,0	ND	2.0	ND	2.0	ND ND	0.30
EXC. B	2/15/02	F8	MADEP	GZA	67	NG	99	NG	70	NG	ND	0.30
TB-A	2/19/02	8-12*	98-1/8270	FSL	36.4	10	33.5	10	23,1	10	ND	0.10
ТВ-В	2/19/02	8-12	98-1/8270	FSL	ND	10	24.5	10	12.3	10	ND	0.10
TB-D*	2/19/02	8-12'	98-1/8270	FSL	902	50	1,250	50	1020	50	ND	0.10
EXC. A*	2/21/02	NO WALL	MADEP	GZA	100	NG	290	NG .	130	NG	ND	0.30
EXC. A*	2/21/02	EA WALL	MADEP	GZA	1,800	NG	3,400	NG	1,400	NG	ND	0.60
EXC. A*	2/21/02	SO WALL	MADEP	GZA	30	NG	100	NG	56	NG	ND	0.30
EXC. A*	2/21/02	WE WALL	MADEP	GZA	630	NG	1,300	NG	610	NÇ	ND	0.60
EXC. C 12:00*	4/12/02	8-12'	98-1/8270	FSL	80.5	10	227	10	132	10	ND	0.10
EXC. C 3:00*	4/12/02	8-121	98-1/8270	FSL	2,000	100	5,040	250	14,100	10	ND	0.10
EXC. C 6:00*	4/12/02	8-121	98-1/8270	FSL	218	10	338	10	402	10	ND	0.10
EXC. C 9:00*	4/12/02	8-12'	98-1/8270	FSL	972	50	324	10	437	10	0.469	0.10
EXC. C*	4/12/02	BOTTOM	98-1/8270	FSL	53.1	10	56.9	10	41.3	10	ND	0.10
EXC. A*	4/12/02	BOTTOM	98-1/8270	FSL	1,140	50	2,300	100	1,130	50	ND	0.50
EXC. A	5/6/02	NO WALL	98-1/8270	FSL	348	10	1,050	50	433	10	ND	0.10
EXC. A	5/6/02	EA WALL	98-1/8270	FSL	627	50	1,350	50	1,300	50	0,271	0.10
EXC. A	5/6/02	BOTTOM	98-1/8270	FSL	320	10	465	10	606	10	ND	0.10
EXC. C	5/6/02	SE WALL	98-1/8270	FSL	ND	10	20	10	ND	10	ND	0.10
EXC. C	5/6/02	SW WALL	98-1/8270	FSL	1,390	50	1,240	50	1,640	50	0.505	0.10
EXC. C	5/6/02	NW WALL	98-1/8270	FSL	2,820	100	2,430	100	2,600	50	ND	0.10
EXC. C	5/6/02	N BOTTOM	98-1/8270	FSL	ND	10	21.8	10	11.8	10	ND	0.10
EXC. C	5/6/02	S BOTTOM	98-1/8270	FSL	29.8	10	116	10	63.9	10	ND	0.10
B-1	3/26/03	6-8'	MADEP	GEC	200	40	620	40	300	40	ND	0.67
B-2	3/26/03	.8-10"	MADEP	GEC	930	36	330	36	390	36	ND	0.60
B-4	3/26/03	3-5'	MADEP	GEC	ND	33	46	33	74	33	1.1	0.55
B-5	3/26/03	5-7'	MADEP	GEC	150	34	320	34	240	34	0.64	0.57
B-6	3/26/03	1-3'	MADEP	GEC	88	35	110	35	76	35	ND	0.58
B-7	3/26/03	1-3'	MADEP	GEC	470	40	2,600	40	1,800	40	ND	0.66
B-8	3/26/03	1-31	MADEP	GEC	190	37	100	37	130	37	ND	0.61

Notes:

ND= Not Detected

RDL= Reported Detection Limit
MADEP= Method for the Determination of Extractable Hydrocarbons

GZA= GZA Environmental

FSL= FSL Associates

OEC= Goldman Environmental Consultants, Inc.

NA=Not Analyzed

NG= Not Given

NS= No Standard

* Sample excavated and removed from the Site during the

Remedial Abatement Measure.

60 Cross Street Somerville, MA (unit, parts per million, ppm)

	1 11 11 11 11 11 11	T	T								I			
Sample	Sample	Sample	Analytical	Consultant	Acenaphthylene		Anthracen		Benzo(a)		Benzo(a)		Benzo(b)	
Identification	Date	Depth	Method			RDL		RDL	anthracene		. pyrene	RDL	fluoranthene	RDL
GS-1, S-3	9/19/98	7-7.9	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	, ND	0.30	ND	0.30
GS-2, S-3	9/19/98	7-9'	MADEP	GZA	ND	0.30	ND	0.30	ND_	0.30	: ND	0.30	ND	0.30
GS-4, S-3	9/19/98	9-11'	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	, ND	0.30	ND	0.30
GS-5, S-2	9/19/98	4-6'	MADEP	GZA	ND	0.90	ND	0.90	ND	0.90	, ND	0.90	ND	0.90
G\$-6, S-3	9/19/98	7-9'	MADEP	GZA	ND	0.90	ND	0.90	ND	0.90	' ND	0.90	ND	0.90
GS-6, S-4	9/19/98	9-10"	MADEP	GZA	ND	0.75	ND	0.75	ND	0.75	, ND	0.75	ND ND	0.75
GS-7(AUGER)	9/19/98	10-15	MADEP	GZA GZA	ND ND	0.30	ND ND	0.30	ND ND	0.30	. ND	0.60	ND	0.60
GS-9, S-3	9/19/98	5-7' 4-8'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	. ND	0.10	ND	0.15
FŞL-I FŞL-2	10/22/01	4-8	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	ND	0.10	ND	0.15
FSL-3	10/22/01	2-4'	98-1/8270	FSL	ND	0.050	-ND	0.050	ND	0.10	i ND	01.0	0.328	0.15
FSL-4	10/22/01	2-4'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	. ND	0.10	ND	0.15
FSL-5*	10/22/01	6-8'	98-1/8270	FSL	5.84	0.25	41.2	0.25	46.8	0.50	40.6	0.50	26	0.75
FSL-6	10/22/01	6-10'	98-1/8270	FSL	ND	0.050	0.526	0.050	0.442	0.10	. 0.347	0.10	0.281	0.15
FSL-7	10/22/01	6-12'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	. ND	0.10	ND	0.15
FSL-8	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.050	0.305	01.0	0.252	0.10	0.35	0.15
FSL-9	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	0.384	0.050	0.036	0.10	0.344	0.10	0.304	0.15
F\$L-10	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	. ND	0.10	ND	0.15
FSL-11*	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	0.472	0.050	ND	0.10	ND	0.10	ND	0.15
FSL-12*	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	ND	0.10	ND ND	0.15
FSL-13	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	. ND	0.10	ND	0.15
FSL-14	10/22/01	0-2'	98-1/8270	FSL	ND	0.050	0.344	0.050	ND	0.10	ND	0.10	ND	0.15
FSL-15	10/22/01	0-2'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	: ND	0.10	ND	0.15
FSL-16	10/22/01	0-2'	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	ND	0.10	ND	0.15
EXC. B	2/15/02	0-4'	98-1/8270	FSL	ND	0.050	0.493	0.050	1.23	0.10	1.05	0.10	0.634	0.15
EXC. B	2/15/02	4-8"	98-1/8270	FSL	ND ND	0.375	18.7	0.375	38.2	0.75	35.9	0.75	21	1.125
EXC. B	2/15/02	BOTTOM	98-1/8270	FSL	ND	0.050	ND_	0.050	ND ND	0.10	ND ND	0.10	ND ND	0.15
EXC. B	2/15/02	NU4	MADEP	GZA	ND ND	0.30	ND ND	0.30	ND ND	0.30	! ND	0.30	ND ND	0.30
EXC. B	2/15/02	NL4	MADEP	GZA GZA	ND ND	0.30	ND ND	0.30	ND	0.30	ND	0.30	ND ND	0.30
EXC. B	2/15/02 2/19/02	F8 8-12'	MADEP		ND ND	0.050	ND	0.050	ND ND	0.10	ND	0.10	ND	0.15
TB-A TB-B	2/19/02	8-12'	98-1/8270 98-1/8270	FSL FSL	ND	0.050	ND	0.050		0.10	' ND	0.10	ND	0.15
TB-D*	2/19/02	8-12'	98-1/8270	FSL	ND	0.050	0.473	0.050	ND	0.10	0.334	0.20	ND	0.15
EXC. A*	2/21/02	NO WALL	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	' ND	0.30	ND	0.30
EXC. A*	2/21/02	EA WALL	MADEP	GZA	ND	0.60	ND	0.60	ND	0.60	ND	0.60	ND	0.60
EXC. A*	2/21/02	SO WALL	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	: ND	0.30	ND	0.30
EXC. A*	2/21/02	WE WALL	MADEP	GZA	ND	0.60	ND	0.60	ND	0.60	ND	0.60	ND	0.60
EXC. C 12:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.050	NĐ	0.050	ND	0.10	ND	0.10	ND	0.15
EXC. C 3:00*	4/12/02	8-12"	98-1/8270	FSL	ND	0.050	ND	0.050	ND	0.10	' ND	0.10	ND	0.15
EXC. C 6:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.050	ND	0.050		0.10	ND	0.10	ND	0.15
EXC, C 9:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.050	0,464	0.050		0.10	. ND	0.10	ND	0.15
EXC. C*	4/12/02	BOTTOM	98-1/8270	FSL	ND	0.050	ND	0.050		0.10	ND	0.10	ND	0.15
EXC. A*	4/12/02	BOTTOM	98-1/8270	FSL	ND _	0.25	ND	0.25		0.50	ND	0.50	ND	0.75
EXC. A	5/6/02	NO WALL	98-1/8270	FSL	ND	0.050	ND _	0.050		0.10	! ND	0.10	ND	0.15
EXC. A	5/6/02	EA WALL	98-1/8270	FSL	ND	0.050	0.249	0.050		0.10	ND ND	0.10	ND ND	0.15
EXC. A	5/6/02	воттом	98-1/8270	FSL	ND	0.050	ND	0.050		0.10	· ND	0.10	ND ND	0.15
EXC. C	5/6/02	SE WALL	98-1/8270	FSL	ND	0.050	ND 1.10	0.050		0.10	2.26	0.10	1.91	0.15
EXC. C	5/6/02	SW WALL	98-1/8270	FSL FSL	ND ND	0.050	1.19 ND	0.050		0.10	ND	0.10	ND ND	0.15
EXC. C	5/6/02	NW WALL N BOTTOM	98-1/8270 98-1/8270	FSL	ND ND	0.050	ND	0.050		0.10	ND	0.10	ND	0.15
EXC. C	5/6/02	S BOTTOM	98-1/8270	FSL	ND	0.050	ND	0.050		0.10	ND	0.10	ND	0.15
B-1	3/26/03	6-8°	MADEP	GEC	ND	0.67	ND	0.67		0.67	. ND	0.67	ND	0.67
		8-10'	MADEP	GEC	ND ND	0.60	ND	0.60		0.60	ND	0.60	ND	0.60
B-2	3/26/03	3-5'	MADEP	GEC	ND	0.55	3.0	0.55		0.55	2.2	0.55	2.8	0.55
B-4			MADEP	GEC	ND '	0.57	0.62	0.57		0.57	. 1.7	0.57	2.2	0.57
B-5	3/26/03	5-7' 1-3'	MADEP	GEC	ND	0.58	ND	0.58		0.58	ND	0.58	ND ND	0.58
B-6				GEC	ND ND	0.66	ND	0.66		0.66	. ND	0.66	ND	0.66
B-7 B-8	3/26/03	1-3' 1-3'	MADEP MADEP	GEC	ND	0.61	ND ND	0.61		0.61	ND	0.61	ND	0.61
D-0	3120/US	1-3	MADEL	UEC	710	0.01		0.01	110	t]		2121		,,,,,

Notes:

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RDL« Reported Detection Limit

MADEP= Method for the Determination of Extractable Hydrocurbons

GZA= GZA Environmental

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* Sample excavated and removed from the Site during the

Remedial Abatement Measure.

Prepared by: LB Reviewed by: KD Revised: 5/12/03

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60 Cross Street Somerville, MA (unit, parts per million, ppm)

Sample	Sample	Sample	Analytical	Consultant	Benzo(g,h,i)		Benzo(k)		Chrysene	,	Dibenzo(a,h)		Fluoranthen	
Identification	Date	Depth	Method	Consultant	perylene	RDL	fluoranthene	RDI.	Cili ysede	RDL	anthracene	RDL	riuoraataea	re RDi
GS-1, S-3	9/19/98	7-7.9'	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-2, S-3	9/19/98	7-9'	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-4, S-3	9/19/98	9-11'	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-5, S-2	9/19/98	4-6'	MADEP	GZA	ND	0.90	ND	0.90	ND	0.90	ND	0.90	ND	0.9
GS-6, S-3	9/19/98	7-9'	MADEP	GZA	ND	0.90	ND	0.90	ND	0.90	ND	0.90	3.6	NO
GS-6, S-4	9/19/98	9-10'	MADEP	GZA	ND	0.75	ND	0.75	ND	0.75	ND	0.75	3.6	NC
GS-7(AUGER)	9/19/98	10-15	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.3
GS-9, S-3	9/19/98	5-7	MADEP	GZA	ND	0.60	ND	0.60	ND	0.60	ND	0.60	ND	0.6
FSL-1	10/22/01	4-8'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
FSL-2	10/22/01	4-8'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
F\$L-3	10/22/01	2-4'	98-1/8270	FSL	ND	0.10	ND	0.10	0.317	0.10	ND	0.10	0.8	0.2
FSL-4	10/22/01	2-4'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.2
FSL-5*	10/22/01	6-8'	98-1/8270	FSL	13.4	0.50	33.9	0.50	42.7	0.50	2.22	0.50	125	1.0
FSL-6	10/22/01	6-10	98-1/8270	FSL	ND	0.10	0,453	0.10	0.498	0.10	ND	0.10	1.1	0.20
FSL-7	10/22/01	6-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
FSL-8	10/22/01	4-6'	98-1/8270	FSL	0.232	01.0	0.307	0.10	0.391	0.10	ND	0.10	0.248	0.20
FSL-9	10/22/01	4-6'	98-1/8270	FSL	ND	0.10	0.369	0.10	0.555	0.10	ND	0.10	0.892	0.20
FSL-10	10/22/01	4-6	98-1/8270	FSL	ND	0.10	ND	0.10	0.25	0.10	ND	0.10	0.443	0.20
FSL-11*	10/22/01	4-6'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	NĐ	0.10	0.307	0.20
FSL-12*	10/22/01	4-6'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
FSL-13	10/22/01	4-6'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
FSL-14	10/22/01	0-2	98-1/8270	FSL	ND	0.10	ND	0.10	0.327	0.10	ND	0.10	0.552	0.20
FSL-15	10/22/01	0-2'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.313	0.20
FSL-16	10/22/01	0-2'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. B	2/15/02	0-4	98-1/8270	FSL	0.684	0.10	0.964	0.15	1.3	0.10	ND	0.10	3.01	0.20
EXC. B	2/15/02	4-8'	98-1/8270	FSL	19.2	0.75	25.5	0.75	34.8	0.75	2.35	0.75	96.6	1.50
EXC. B	2/15/02	воттом	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. B	2/15/02	NU4	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	0.38	NG
EXC. B	2/15/02	NL4	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	NĐ	0.30	ND	0.30
EXC. B	2/15/02	F8	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
TB-A	2/19/02	8-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
TB-B	2/19/02	8-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.528	0.20
TB-D*	2/19/02	8-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. A*	2/21/02	NO WALL	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
EXC. A*-	2/21/02	EA WALL	MADEP	GZA	ND	0.60	ND	0.60	ND	0.60	ND	0.60	ND	0.60
EXC. A*	2/21/02	SO WALL	MADEP	GZA	ND	0.30	ND	0.30	NĐ	0.30	ND	0.30	ND	0.30
EXC. A*	2/21/02	WE WALL	MADEP	GZA	ND	0.60	ND	0.60	ND	0.60	ND	0.60	ND _	0.60
EXC. C 12:00*	4/12/02	8-12"	98-1/8270	F\$L	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. C 3:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.10	0.253	0.10	ND	0.10	ND	0.10	NĐ	0.20
EXC. C 6:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. C 9:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.20
EXC. C*	4/12/02	BOTTOM	98-1/8270	FSL	ND	0.10		0.10	ND	0.10	ND	0.10	ND	0.20
EXC. A*	4/12/02	BOTTOM	98-1/8270	FSL	ND	0.50		0.50	ND	0.50	ND ND	0.50	NĐ	1.0
EXC. A	5/6/02	NO WALL	98-1/8270	FSL	ND	0.10		0.10	ND	0.10	ND	0.10	ND	0.20
EXC. A EXC. A	5/6/02 5/6/02	EA WALL BOTTOM	98-1/8270	FSL	ND	0.10		0.10	ND	0.10	ND ND	0.10	ND	0.20
EXC. C	5/6/02		98-1/8270	FSL	ND	0.10		0.10	ND	0.10	ND	0.10	ND	0.20
EXC. C	5/6/02	SE WALL SW WALL	98-1/8270 98-1/8270	FSL FSL		0.10		0.10	ND 3.2	0.10	ND ND	0.10	ND	0.20
EXC. C		NW WALL		FSL		0.10		0.10	2.3	01.0	ND ND	0.10	4.41	0.20
EXC. C	5/6/02 5/6/02	N BOTTOM	98-1/8270	-		01.0		0.10	ND	0.10	ND	0.10	. ND	0.20
EXC. C			98-1/8270	FSL		0.10		0.10	ND	0.10	ND ND	0.10	ND ND	0.20
	5/6/02	S BOTTOM	98-1/8270	FSL		0.10		01.0	ND	0.10	ND	0.10	ND	0.20
B-1	3/26/03	6-8'	MADEP	GEC		0.67		0.67	ND	0.67	ND	0.67	ND	0.67
B-2	3/26/03	8-10"	MADEP	GEC		0.60		0.60	ND	0.60	ND	0.60	ND	0.60
B-4	3/26/03	3-5'	MADEP	GEC		0.55		0.55	2.9	0.55	ND	0.55	7.3	0.55
B-5	3/26/03	5-7'	MADEP	GEC		0.57		0.57	1.7	0.57	ND	0.57	3.4	0.57
B-6	3/26/03	1-3'	MADEP	GEC		0.58		0.58	ND	0.58	ND	0.58	ND	0.58
B-7	3/26/03	1-3'	MADEP	GEC		0.66		0.66	ND	0.66	ND	0.66	ND	0.66
B-8	3/26/03	1-3'	MADEP	GEC	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61

Notes:

ND= Not Detected

RDL= Reported Detection Limit
MADEP= Method for the Determination of Extractable Hydrocarbons

GZA= GZA Environmental

FSL= FSL Associates

GEC= Goldman Environmental Consultants, Inc.

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* Sample excavated and removed from the Site during the

Remedial Abatement Measure.

60 Cross Street Somerville, MA (unit, parts per million, ppm)

Sample	Sample	Sample	Analytical	Consultant	Fluorene		Indeno(1,2,3-cd)	1-Methyl-		2-Methyl-		Naphthalene	
Identification	Date	Depth	Method	,		RDL	pyrene	RDL	naphthalene	RDL	naphthalene	RDL		RDL
GS-1, S-3	9/19/98	7-7.9	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-2, S-3	9/19/98	7-9"	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-4, S-3	9/19/98	9-11'	MADEP	GZA	ND	0.30	ND	0.30	ND	0.30	ND	0.30	ND	0.30
GS-5, S-2	9/19/98	4-6'	MADEP	GZA	ND	0.90	ND	0.90	ND	0.90	ND	0.90	ND	0.90
GS-6, S-3	9/19/98	7-9'	MADEP	GZA	3.2	NG	ND	0.90	4.9	NG	4.0	NG	1.1	NG
GS-6, S-4	9/19/98	9-10'	MADEP	GZA	6.5	NG	ND	0.75	13	NG	12	NG	5.3	NG
GS-7(AUGER)	9/19/98	10-15'	MADEP	GZA	ND	0.30	ND	0.30	0.80	NG	0.79	NG	ND	0.30
GS-9, S-3	9/19/98	5-7'	MADEP	GZA .	ND	0.60	ND	0.60	8.6	NĢ	2.5	NG	0.95	NG
FSL-1	10/22/01	4-8"	98-1/8270	FSL	ND	0.025	ND	0.050	NA		ND	0.050	ND	0.050
FSL-2	10/22/01	4-8'	98-1/8270	FSL	ND	0.025	ND	0.050	NA		. ND	0.050	ND	0.050
FSL-3	10/22/01	2-4'	98-1/8270	FSL	ND	0.025	ND	0.050	NA		ND	0.050	ND	0,050
FSL-4	10/22/01	2-4'	98-1/8270	FSL	ND	0.025	ND	0.050	NA		0.605	0.050	ND	0.050
FSL-5*	10/22/01	6-8'	98-1/8270	FSL	16.5	0.125	13.3	8.25	NA.		ND_	0.25	1.63	0.25
FSL-6	10/22/01	6-10'	98-1/8270	FSL	0.249	0.025	ND _	0.050	NA		ND	0.050	ND	0.050
FSL-7	10/22/01	6-12'	98-1/8270	FSL	ND	0.025	ND	0.050	NA_		ND	0.050	ND	0.050
FSL-8	10/22/01	4.6'	98-1/8270	FSL	ND	0.25	ND	0.050	NA		ND	0.050	ND	0.050
FSL-9	10/22/01	4-6'	98-1/8270	FSL	0.299	0.025	ND_	0.050	NA		2.13	0.050	0.576	0.050
FSL-11*	10/22/01	4-6' 4-6'	98-1/8270 98-1/8270	FSL FSL	ND 1.03	0.025 0.025	ND ND	0.050 0.050	NA NA		ND 4.71	0.050	ND ND	0.050
					ND	0.025	ND ND	0.050	NA NA		ND	0.050	ND-	0.050
FSL-12* FSL-13	10/22/01 10/22/01	4-6' 4-6'	98-1/8270 98-1/8270	FSL FSL	ND	0.025	ND	0.050	NA NA	-	. ND	0.050	ND	0.050
FSL-14	10/22/01	0-2'	98-1/8270	FSL	0.686	0.025	ND ND	0.050	NA NA	-	ND	0.050	ND ND	0.050
FSL-15	10/22/01	0-2'	98-1/8270	FSL	0,544	0.025	ND	0.050	NA NA	-	. ND	0.050	ND	0.050
FSL-16	10/22/01	0-2'	98-1/8270	FSL	1.05	0.025	ND	0.050	NA.		, ND	0.050	ND	0.050
EXC. B	2/15/02	0-4'	98-1/8270	FSL	ND	0.025	0.525	0.050	NA NA	\dashv	. ND	0.050	ND	0.050
EXC. B	2/15/02	4-8'	98-1/8270 98-1/8270	FSL	4.36	0.188	15.9	0.375	NA NA		ND	0.375	ND	0.375
EXC. B	2/15/02	воттом	98-1/8270	FSL	ND	0.025	ND	0.050	NA	\neg	0.557	0.050	ND	0.050
EXC. B	2/15/02	NU4	MADEP	GZA	ND	0.30	ND	0.30	NA	[ND	0.30	ND	0.30
EXC. B	2/15/02	NL4	MADEP	GZA	ND	0.30	ND	0.30	NA		ND	0.30	ND	0.30
EXC. B	2/15/02	F8	MADEP	GZA	ND	0.30	ND	0.30	NA	\neg	: ND	0.30	ND	0.30
TB-A	2/19/02	8-12'	98-1/8270	FSL	ND	0.025	ND	0.050	NA		. ND	0.050	ND	0.050
ТВ-В	2/19/02	8-12'	98-1/8270	FSL	ND	0.025	ND	0.050	NA		ND	0.050	ND	0.050
TB-D*	2/19/02	8-12'	98-1/8270	FSL	1.28	0.025	ND	0.050	NA		5.36	0.050	ND	0.050
EXC. A*	2/21/02	NO WALL	MADEP	GZA	ND	0.30	ND	0.30	NA		0.30	NG	0.30	NG
EXC. A*	2/21/02	EA WALL	MADEP	GZA	ND	0.60	ND	0.60	NA		' 4.8	NG	4.1	NG
EXC. A*	2/21/02	SO WALL	MADEP	GZA	ND	0.30	ND	0.30	NA		ND	0.30	ND	0.30
EXC. A*	2/21/02	WE WALL	MADEP	GZA	ND	0.60	ND	0.60	NA		0.87	NG	1.8	NG
EXC. C 12:00*	4/12/02	8-12'	98-1/8270	FSL		0.025	ND	0.050	NA		. ND	0.050	ND	0.050
EXC. C 3:00*	4/12/02	8-12'	98-1/8270	FSL		0.025	ND	0.050	NA		2.61	0.050	0.738	0.050
EXC. C 6:00*	4/12/02	8-12°	98-1/8270	FSL		0.025	ND	0.050	NA NA		ND	0.050	ND	0.050
EXC. C 9:00*	4/12/02	8-12'	98-1/3270	FSL		0.025	ND	0.050	NA		ND	0.050	ND	0.050
EXC. C*	4/12/02	BOTTOM	98-1/3270	FSL		0.025	ND	0.050	NA NA	\rightarrow	ND	0.050	ND	0.050
EXC. A*	4/12/02	BOTTOM	98-1/3270	FSL		0.125	ND	0.25	NA		0.315	0.25	ND ND	0.25 0.050
EXC. A	5/6/02	NO WALL	98-1/3270	FSL		0.025	ND	0.050	NA.		ND	0.050		0.050
EXC. A EXC. A	5/6/02 5/6/02	EA WALL BOTTOM	98-1/8270 98-1/8270	FSL FSL		0.025	ND ND	0.050	NA NA	-	0.268	0.050		0.050
		SE WALL	98-1/8270	FSL		0.025	ND ND	0.050	NA NA	-+	ND	0.050		0.050
EXC. C	5/6/02 5/6/02	SW WALL	98-1/8270	FSL		0.025	1.13	0.050	NA NA	-		0.050		0.050
EXC. C	5/6/02	NW WALL	98-1/8270	FSL		0.025	ND	0.050	NA NA	\dashv		0.050		0.050
EXC. C	5/6/02	N BOTTOM	98-1/8270	FSL		0.025	ND ND	0.050	NA NA	\dashv		0.050		0.050
EXC. C	5/6/02	S BOTTOM	98-1/8270	FSL		0.025	ND	0.050	NA	\dashv		0.050		0.050
B-1	3/26/03	6-8'	MADEP	GEC	0.83	0.67	ND	0.67	NA	\dashv	ND	0.67	ND	0.67
B-2	3/26/03	8-10'	MADEP	GEC	ND	0.60	ND ND	0.60	NA NA	$\overline{}$	1.3	0.60	0.81	0.60
B-4	3/26/03	3-5'	MADEP	GEC	2.0	0.55	1.2	0.55	NA NA		0.99	0.55	1.4	0.55
						$\overline{}$		0.57	NA NA	-+	ND	0.57	ND	0.57
B-5	3/26/03	5-7'	MADEP	GEC	0.99 ND	0.57	.1 NED	0.58		\rightarrow		0.58	ND ND	0.58
B-6	3/26/03	1-31	MADEP	GEC			ND		NA NA	-	ND	0.58	ND ND	0.58
B-7	3/26/03	1-31	MADEP	GEC	ND ND	0.66	ND ND	0.66	NA NA	-+	ND ND	0.66	ND D	0.61
B-8	3/26/03	1-3'	MADEP	GEC	מא	0.61	עא	0.61	NA		. ND	0.01	מא	0.01

Notes:

ND≖ Not Detected

RDL= Reported Detection Limit

MADEP= Method for the Determination of Extractable Hydrocarbons

GZA= GZA Environmental

FSL. FSL Associates

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* Sample excavated and removed from the Site during the

Remedial Abatement Measure.

Prepared by: LB Reviewed by: KD Revised: 5/12/03

Page 4 of 5

60 Cross Street Somerville, MA (unit, parts per million, ppm)

Sample	Sample	Sample	Analytical	Consultant	Phenanthrene		Ругеп	
Identification	Date	Depth	Method			RDL	1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	RD
GS-1, S-3	9/19/98	7-7.9	MADEP	GZA	ND	0.30	ND	0.30
GS-2, S-3	9/19/98	7-9'	MADEP	GZA	ND	0.30	ND	0.30
GS-4, S-3	9/19/98	9-11'	MADEP	GZA	ND	0.30	ND	0.30
GS-5, S-2	9/19/98	4-6'	MADEP	GZA	ND	0.90	ND	0.90
GS-6, S-3	9/19/98	7-9	MADEP	GZA	6.1	NG	4.2	0.90
GS-6, S-4	9/19/98	9-10'	MADEP	GZA	14	NG	4.5	NG
GS-7(AUGER)	9/19/98	10-15'	MADEP	GZA	ND	0.30	ND	0.30
GS-9, S-3	9/19/98	5-7'	MADEP	GZA	2.7	NG	ND	0.60
FSL-1	10/22/01	4-8'	98-1/8270	FSL	I. 4	0.050	ND	0.20
FSL-2	10/22/01	4-8'	98-1/8270	FSL	0.499	0.050	ND	0.20
FSL-3	10/22/01	2-4'	98-1/8270	FSL	0.406	0.050	0.722	0.20
FSL-4	10/22/01	2-4'	98-1/8270	FSL	0.706	0.050	ND	0.20
FSL-5*	10/22/01	6-8'	98-1/8270	FSL	126	0.25	113	1.0
FSL-6	10/22/01	6-10'	98-1/8270	FSL	1.5	0.050	1.14	0.20
FSL-7	10/22/01	6-12'	98-1/8270	FSL	0.9	0.050	ND	0.20
FSL-8 FSL-9	10/22/01	4-6' 4-6'	98-1/8270 98-1/8270	FSL FSL	ND 1.4	0.050	0.32	0.20
FSL-10	10/22/01	4-6	98-1/8270	FSL	0.428	0.050	0.413	0.20
FSL-10*	10/22/01	4-6'	98-1/8270	FSL	2.87	0.050	0.607	0.20
FSL-12*	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.20
FSL-13	10/22/01	4-6'	98-1/8270	FSL	ND	0.050	ND	0.20
FSL-14	10/22/01	0-2'	98-1/8270	FSL	1.36	0.050	0.701	0.20
FSL-15	10/22/01	0-2'	98-1/8270	FSL	1.23	0.050	0.29	0.20
FSL-16	10/22/01	0-2"	98-1/8270	FSL	0.312	0.050	0.408	0.20
EXC. B	2/15/02	0-4'	98-1/8270	FSL	2.17	0.050	2.33	0.20
EXC. B	2/15/02	4-8'	98-1/8270	FSL	74.2	0.375	86.6	1.5
EXC. B	2/15/02	воттом	98-1/8270	FSL	0.288	0.050	ND	0.20
EXC. B	2/15/02	NU4	MADEP	GZA	0.30	NG	ND	0.30
EXC. B	_ 2/15/02	NL4	MADEP	GZA	ND	0.30	ND	0.30
EXC. B	2/15/02	F8	MADEP	GZA	ND	0.30	ND	0.30
TB-A	2/19/02	8-12'	98-1/8270	FSL.	ND	0.050	ND	0.20
TB-B	2/19/02	8-12"	98-1/8270	FSL	0.381	0.050	0.441	0.20
TB-D*	2/19/02	8-12*	98-1/8270	FSL	3.12	0.050	0.334	0.20
EXC. A*	2/21/02	NO WALL	MADEP	GZA	ND	0.30	ND	0.30
EXC. A*	2/21/02	EA WALL	MADEP	GZA	ND	0.60	ND	0.60
EXC. A*	2/21/02	SO WALL	MADEP	GZA	ND	0.30	ND	0.30
EXC. A*	2/21/02	WE WALL	MADEP	GZA	ND	0.60	ND	0.60
EXC. C 12:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.050	ND	0.20
EXC. C 3:00*	4/12/02	8-12'	98-1/8270	FSI.	0.5	0.050	0.49	0.20
EXC. C 6:00*	4/12/02	8-12'	98-1/8270	FSL	ND	0.050	ND	0.20
EXC. C*	4/12/02	8-12'	98-1/8270	FSL	2.11	0.050	0.279	0.20
EXC. A*	4/12/02	BOTTOM	98-1/8270 98-1/8270	FSL FSL	ND 0.626	0.050	ND	0.20
EXC. A	5/6/02	NO WALL	98-1/8270	FSL	0.369	0.050	ND ND	0.20
EXC. A	5/6/02	EA WALL	98-1/8270	FSL	I.48	0.050	0.276	0.20
EXC. A	5/6/02	BOTTOM	98-1/8270	FSL	0.431	0.050	ND	0.20
EXC. C	5/6/02	SE WALL	98-1/8270	FSL	ND ND	0.050	ND	0.20
EXC. C	5/6/02	SW WALL	98-1/8270	FSL	3.33	0.050	4.28	0.20
EXC. C	5/6/02	NW WALL	98-1/8270	FSL	ND ND	0.050	ND	0.20
EXC. C	5/6/02	N BOTTOM	98-1/8270	FSL	ND ND	0.050	ND	0.20
EXC. C	5/6/02	S BOTTOM	98-1/8270	FSL	ND	0.050	ND	0.20
B-1	3/26/03	6-8'	MADEP	GEC	ND	0.67	ND	0.67
B-2	3/26/03	8-10'	MADEP	GEC	1.3	0.60	ND	0.60
B-4	3/26/03	3-5'	MADEP	GEC	1.3	0.55	5.6	0.55
B-5	3/26/03	5-7'	MADEP	GEC	3.7	$\overline{}$		
B-6		1-3'		_		0.57	2.7	0.57
	3/26/03		MADEP	GEC	ND	0.58	ND	0.58
B-7	3/26/03	1-3'	MADEP	GEC	ND ND	0.66	ND ND	0.66
B-8	3/26/03	I-3'	MADEP	GEC	ND	0.61	ND	0.61

Notes:

ND= Not Detected

RDL= Reported Detection Limit

MADEP= Method for the Determination of Extractable Hydrocarbons

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* Sample excavated and removed from the Site during the

Remedial Abatement Measure.

TABLE 2.4 SUMMARY OF SOIL ANALYTICAL DATA: METALS 60 Cross Street Somerville, MA (will, port) per million, ppm)

	7.7.9' 4-6' 0-2' 1-3' 4-8' 6-8'	6010B/7471A	GZA	2	17.3	ĺ	ł		I		į	1	1000	ŀ	Ī		
	4-6 0-27 1-32 4-83 6-83					₹	92	2	0.34	23.3	Ž	2	0.0324	13.2	SN	CN	\$ 58
- 	0-2' 1-3' 4-8' 6-8'	6010B/7471A	GZA	QN	9.61	48.8	ž	Ð	0.38	24.4	Š	0.103	S	40.6	ŊĠ.	Q	631
- - - - - -	-1. 19. 4. 4. 90. 90. 90. 90.	6010B/7471A	GZA	QN	16.3	45.1	NG	QN	0.32	18.5	Š	0.13	Ŋ	3	Σ	£	5.25
- - - - - -	20 gd gd	6010B/7471A	GZA	QN	17.8		NG	QN	0.34	22.1	ž	0.742	Š	1,470	Š	g	5.74
 	4 -8. 9 -9.	6010B/7471A	FLS	6.67	3.3	30.8	1.98	ND	0.46	20.8	3.96	2	0.020	10.7	86.1	4.49	0.33
- - - - - - - - - - 	.89	6010B/7471A	FLS	3.74	3.3	32.8	1.98	ð	0.46	16.9	3.96	Q	0.020	7.8	86	5.25	0.33
1		6010B/7471A	FLS	5	33		1.98	QN	0.46	21.7	3.96	0.842	0.020	15	2	8 4	3
	6-10	6010B/7471A	FLS	5.13	3,3		86.1	Q	0.46	28.9	3.96	0.531	0.00	4	8	18,9	1
П	6-12	6010B/7471A	FLS	3.45	33	l	86	£	0.46	21.5	3.06	0.087	0.00	9	80	6.73	2
t	.9	6010B/7471A	FSL	5.42	17		86	ę	0.46	38.4	1 96	0.00	0.00	14.7	00	0.72	0.66
FSL-12* 10/22/01	.9	6010B/7471A	FSL	£	17	ſ	86	S	0.46	37.8	3 96	0 158	0.020	=	00	1 17	1
T	4-6	6010B/7471A	FST	4.46	333		8	Q.	0.46	24.4	3.06	CN.	0.020	100	1 08	5.07	
B-100, S-3 12/1/98	4-6	6010B/7471A	GZA	4.56	0.50	l	0.0	4.3	0.10	22.2	0.10	£	0.10	19	010	S	9
	0.5-2	6010B/7471A	GZA	4.71	0.50		0.0	4.4	0.10	19.7	0.10	QN	010	\$6.6	0.10	0.10	0 0
B-102, S-1 12/1/98	0.5-2"	6010B/7471A	GZA	2.7	0.50		0.10	2.2	0.10	10.8	0.10	0.14	0.10	132	010	Œ.	9
B-103, S-1 12/1/98	0.5-2'	6010B/7471A	QZA	4.96	05.0	ı	0.0	2.7	0.10	12.1	0.10	0.17	0.10	25	0.10	£	01.0
\exists	0.5-2	6010B/7471A	GZA	4.95	0.50		0.10	7	01.0	20	01.0	L	01.0	127	0.10	Q.	0.15
+	0.5-2	6010B/7471A	GZA	90.6	0.50		0.10	3.5	0.10	14.2	0.10		0.10	117	01.0	ŝ	0.20
\dashv	194	6010B/7471A	GZA	4.08	0.50		0.10	4.3	01.0	24.8	0.10	Š	0.10	13	01.0	ŝ	0.10
+	4-6'	6010B/7471A	QZV	3.82	0.50		0.10	4.1	0.10	21.6	0.10		0.10	9.68	0.10	QN	0.10
4	2-4	6010B/7471A	CZA	5.46	0.50		0.10	3.8	0.10	22.5	0.10		0.10	99	01.0	QN	0.10
\dashv	2-4.	6010B/7471A	GZA	5.	0.50		0.10	3.7	0.10	26.1	0.10		0.10	5.7	01.0	ίN	0.10
\dashv	0.5-2'	6010B/7471A	CZA	3.99	0.50	107	0.10	77	9.30	Ξ	0.10		0.10	116	0.10	QN.	0.10
	1	6010B/7471A	CZA	9.46	0.50		릵	22,1	0.10	192	0.10	1,6	0.10	2,910	0.10	8.1	0.10
EXC. B 2/15/02		6010B/7471A	GZA	5.8	0.060	46	86:1	QN	0.46	16.6	3.96	_	0.020	303	1.98	5.66	0.33
\top	4	6010B/7471A	GZA	3.7	0900	79.4	86:1	Q	0.46	9.22	3.96	┙	0.020	57.5	1.98	10.7	0.66
EXC. B 2/15/02	BOTTOM	6010B/7471A	╛	3.85	0.060	84.2	86	Q	0.46	26.6	3.96	0.395	0.020	-0 -	1.98	7.8	5
1	NU4	6010B/7471A	\perp	=	2	2450	S.	2.83	Š	36.2	Š	7	NG	1,610	ŊĊ	QN	1.42
7	Ž	6010B/7471A	╛	6.49	Ş	62.7	S _Z	0.807	ğ	7.71	SZ.	0.568	Š	208	SZ	Q	-
+	æ	6010B/7471A	dZA	5.96	ğ	319	Š	1.17	S	24.4	SN	0.353	NG	149	ŊĊ	ΟN	
+	NO WALL	6010B/7471A		4.94	S.	47.8	Š	Q	0.25	19.7	NC	0.0423	Š.	23,3	Š	QN	5.
EXC. A* 2/21/02	EA WALL	6010B/7471A	GZA	3.95	ည် ရ	31.2	2	0.378	NG.	16.3	S	1	Š	91.6	ğ	ĝ	- 3
$^{+}$	+	╈	1	3.2	2 2	87.8	2 2	9.770	ي و	577	2	2	0.0337	10.7	NC NC	9	1.37
╁	+	┰		4.0	0 060	5,99	2 2	S	0 46	\perp	3 96	_	0000	170	2 8	2 2	5 2
EXC. A 5/6/02	EA WALL	6010B/7471A		451	0.060		1.98	S	0.46	L	3.96		0.020	7	1.98	901	33
EXC. A 5/6/02	SO WALL	6010B/7471A	L	4.06	090'0		1.98	QN	0.46	19.2	3.96	L	0.020	89.6	1.98	-2	0.33
\dashv	BOTTOM	6010B/7471A		3.73	0.060	75.5	1.98	Ð	0.46		3.96	L	0.020	13.2	1.98	14.6	0.33
-	SE WALL	6010B/7471A		2.57	090.0		1.98	QN	0.46	42.5	3.96	L	0.020	12.4	1.98	13.9	0.33
Н	SW WALL	6010B/7471A		7.16	0.060		1.98	QN	0.46	L	3.96	0.4	0.020	245	1.98	10.6	0.33
	NW WALL	_		3.8	090.0	1.96	1.98	QN	0.46	31	3.96		0.020	669	1.98	6.93	0.33
\dashv	NO BOTTOM	$\overline{}$		2.72	090.0]	1.98	ND.	0.46	46.8	3.96		0.020.	14.2	1.98		.0.33
EXC. C 5/6/02	SO BOTTOM	8	╛	3.72	0.060		1.98	QV	0,46		3.96	QN	0.020	11.4	1.98	11.3	0.33
	4	6010B	GBC	Ϋ́		NA		NA		ΝΑ		NA		2,	14	Ϋ́	
1		6010B	SEC	ΝĀ		ΝA	7	ž		Ϋ́		Ϋ́		490	12	ΑN	
B-4 3/26/03		6010B	SEC	ž		¥		NA NA		Ϋ́		ΑĀ		120	Ξ	Ν Α	
B-5 3/26/03	1-3,	6010B	GEC	NA.		NA		NA		٧V		Ϋ́		330	Ξ	Ϋ́	

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ND= Not Detected RDL+ Reported Detection Limis GEC+ Go
NA= Not Analyzed 60108 US EPA Method 60108 GZA+ GZ
NG= Not Given 7471A= US EPA Method 7471A (mercury) FSL+ FSL
** Sample exceivated and removed from the Site during the Remedial Abatement Measure.

GEC= Goldman Environmental Consultants, Inc. GZA= CZA Environmental FSL= FSL Associates

TABLE 25
SUMMARY OF ANALYTICAL SOIL ANALYSES;
VOLATTILE ORGANIC COMPOUNDS (VOC'S)
Of Cross Street Bast
Sceneville, MA
(only port of million, ppm)

Г	ROL.	Γ	Γ	Г	Τ	ì	Τ	T	Ţ	Ī	Г	Γ	Γ	Ą	ş	9	3	8	3	¥0	0.040	0.040	0.040	0.040	0.40	0	0.10	9	i	Τ
opyt														0.040	l.,	l														
p-Isopropyt		ž	Y.	ž	ž	ž	ž	ž	ž	ž	ž	X	Ϋ́Z	S	Ľ		Ĺ	L		Z Q		Ĺ		Ĺ	L	S	9	QX	ž	2
	RDL													0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	0	0.10	01.0		
D-Propyl-	реп2еве	NA	Ϋ́	Y.	ž	AN	ž	¥z	ž	ž	ž	Ϋ́	××	9	S	Q.	Ð	£	QV	ĝ	S	0.30	3.8	960	2	9.39	QN	QN	×	ΝA
	e RDL													0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	97	0.10	010		
o-Butyl-	benzene	ž	X	ž	ž	ž	ž	ž	ž	ž	ž	ž	ž	QN	S	٥	Q	L	L	S	ą	=	ş	0.08	L	2.17	Q	ŝ	ž	ž
ڀ	RDL													0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0,040	0.40	2	1.0	9		
Naphthalene		٨X	Ϋ́	Ϋ́	٧×	Ą	×	N.	×	¥	Š	ΥV	NA	£	9200	0.20	8.	0.27	0.075	QX	ē	81.0	1.2	0.12	17	ĝ	QN	S	Ϋ́	¥
Ž	RDL	l		-	-	-	-	-	_			-		0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	0.1	0.10	0.60		-
sopropyl	benzene	Ϋ́	Ϋ́	ž	A'A	ž	¥ Z	ž	۲ ۲	ž	Ϋ́Z	¥.	¥Z.	£	Q	Ω	0.065	ΩŽ	ND	QN	ND	0.17	1.8	S	9.5	2.58	Ş	£	¥	ž
Ī	RDL	0.0050	0.0050	0.0050	0.0050	0.0050	SN SN	S	0.0050	0.0050	ŊŊ	NG	NG	0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	9.	0.10	01.0		r
Ethyl-	benzene	QN	ΝΩ	Š	ΩN	ΩŽ	0.14	0.015	Ω.	S.	0.026	0.075	0.012	Q	ND	660.0	0.39	QN	QN	Q	ON	Q	6.5	91.0	9.8	18.1	ND	0.269	Ϋ́	Ϋ́
	RDL b	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	ш	0.010	0.010	_		0100	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	1.0	01.0	0.10	0.070	0.057
1,1 - DCE		QN	QN	ΩŽ	ΝĐ	ND	S	QN	Ñ	æ	QN	£	Q	S	S	ez.	QN	GN	ND	QN	QN	Q	0.14	ND	ND	ND	ND	QN	ND	QN
1	RDL	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.040	0.040	0.010	0,040	0.040	0,040	0.040	0.040	0.040	0.040	0.040	0.40	0.20	0.020	0.020	0.070	0.057
1.2- DCA		ΩŅ	ND	ę	ND	QN	Q.	Q	Ę	Š	ę	Š	Ž	ND	£	Q.	£	QN	Q	Q	g	윈	1.7	Q	ND	Q	ND	QN	ND	Q
	RDL	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.0	0.040	0.040	0.40	1.0	0.10	01.0	0.070	0.057
1,1- DCA	ı	Q	£	Q	Q	g	ΩÑ	ę	£	Š	Q	Q	S	Q	Q	g	Q	£	Ω	£	Ð	£	Q	ND	46	3.13	ND	æ	ND	S.
	RDL	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.040	0.040	0.010	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.40	1.0	0.10	0.10	0.35	0.28
Chloroethane		Đ.	ΩN	Q.	ΩN	S	£	Ę	£	£	£	£	g	Q	Q.	Q Z	Ð	Q	Q	Ð	Ę	윈	0.30	Q	ΝD	Q	S	Ð	QN	QN
ð	E.	0.0000	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.040	0.040	0.010	0.040	0.040	0.040	0,040	90.0	0.040	0.040	0.040	0.400	1.0	1.0	0.1		
zene	- 1		- 1	ND 0.0	ND 0.0		ND 0.0			- 1	0.0 Q	- 1	- 1); Q		0.20			1	1	Ì		ł		5 6			2	NA	{A
Consultant Benzene	┨		+			-	H	+	1	\dashv	+	+	1	_	\dashv	1	+	\dashv		┨	\dashv	\dashv	-	-	+		-		Н	NA .
Consu	_1		_	A GZA	Ц	N GZA	Ц	_	4	_	A GZA	_	_	GZA	GZA	GZA	YZ9	CZA	CZY	GZA	25	QZV	CZ	GZA	GZA	FST	FSI	FSL	ag B	GEC
Analytical	Method	GC SCREEN	GCSCREEN	OC SCREEN	GC SCREEN	GC SCREEN	GC SCREEN	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	8260	624	179	624	802139	80218						
_	7	~~1				٦	П	П	Т	7		7	П	-	_	-	4	4		4	-	+	4		4	_		- -	-	
•,	7	\dashv	4	8 9-11.	°	_	4	-1		4	4	4	_	8 4-6	-	4	8 0.5-Z	4	4	4	4	4	4	8 0.5-2	3-5	- - -	4	01 4-6'	.8-9	3 3.5
٠,	_	8/16/8	86/61/6	86/61/6	9/19/98	86/61/6	86/61/6	8/16/8	9/19/98	86/61/6	9/19/98	86/1/6	9/19/98	12/1/98	12/1/98	12/1/98	12/1/98	-	-+	12/2/98	12/2/9	-1	┥	12/2/98	-	10/22/0	10/22/01	10/22/01	3/26/0	3/26/03
Sample	Identification	GS-2, S-3	GS-3, 5-1	GS-4, S-3	GS-5, S-1	GS-5, S-2	GS-6, S-3	GS-6, ST	GS-7, S-1	GS-8, S-2	GS-9, S-1	GS-9, S-3	GS-9, S-4	B-100, S-3	B-101, S-1	B-102, S-1	B-103, S-1	B-104, S-1	B-105, S-1*	B-106, S-3	B-107, S-3	B-108, S-2	B-109, S-2*	B-110, S-1*	B-111, S-1*	FSL-11*	FSL-12*	FSL-13	£	B-4
Ś	튑	ő	ځ	ర	র্ভ	త	ੱ	اث	Ğ	ő	త	٥	ర	ė	æ	ф	æ	æ	픠	ద	æ	삐	ā	ā	표	띡	4	"		ا

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Notes	Ş	Ž

11.1.4. Trichloroethane
11.1.1. Trichloroethane
11.1.4. Dechloroethane
12.1.1. Universchane
12.1.1. Trianschoroethane
12.1. Trianschoroethane
12.1. Trianschylbenzane
12.2.4. Trianschylbenzane
(12.4.4.12.4. Enviroamental NA=Not Analyzed
NS=No Standard
RDL—Reported Detection Lima
8021B=US-19FA Method N021B
8260 = US-19FA Method X200
FSL—FSL Assexiato

GEC-Goldman favonamental ("involunts, Inc.
" Sample excavated and removed from the Site during the
Remedial Abateures Messare.

TABLE 2.5
SUMMARY OF ANALYTICAL SOIL ANALYSES:
VOLATILE ORGANIC COMPOUNDS (VOC'S)
O Cross Street East
Somerville, MA
(will, port per willion, ppm)

Sample Analytic	Analytical Consultant PCE	PCE	sec-Batyl-	Ŧ	TCE	1,1,1-TCA		1,2,4-TMB	=	1,3,5-TMB	Toluene		Xylence	Γ
Method		RDL	benzene	RDL	RDL		RDL	-	KDL.	RDL		RDL	,	RDL
GC SCREEN GZA	4	ND 0,010	NA	z	ND 0.010	QN	0.010	NA		ΥY	QN	0.0050	0.16	Ŋ
GC SCREEN GZA		ND 0.010	NA	Z	ND 0.010	QN	0.010	Ϋ́Z	-	Ϋ́N	Ş	0.0050	Ę	0.0050
	П	ND 0.010	AN	Z	ND 0.010	QN	0.010	٧V		AN	QN	0.0050	0.219	NG NG
GC SCREEN GZA		ND 0.010	NA.	2	סוסס כוא	QV.	0.00	N.4.		NA	£	0,0050	0.060	NG
			NA	Z	ND 0.010	Š	0.010	Y.	_	NA	Q	0.0050	QN	0.0050
GC SCREEN GZA	- 1	ND 0.010	NA	Z	ND 0.010		0.010	NA		NA	Q	0.0050	3.2	Š
				Z			0.010	V.	Н	NA	Q	0.0050	0.28	NG
EEN GZA		ND 0.010		Ž	ND 0.010	æ	0.010	ΥV	Н	NA	Ŕ	0.0050	0.054	ÿ
GC SCREEN GZA		ND 0.010		Z	(D 0.010		0.010	Y.	T	NA	S	0.0050	Ŕ	0.0050
Ш		ND 0.010		_	ND 0,010		0.010	NA		NA	ND	0.0050	0.626	SNG
GC SCREEN GZA		ND 0.010	NA	_	ND 0.010	QN	0.010	NA	Н	Ν¥	ND	0.0050	2.17	NG
		ND 0.010	NA	_	JD 0.010	ND	0.010	NA.		NA	Q	0.0050	0.209	NG
8260 GZA		ND 0.040	QN	0.040 N	ND 0,040		0.040		0.040	ND 0.040	ON O	0.040	Ð	0.040
8260 GZA		ND 0.040	0,13	0.040	ND 0.040	Q	0.040	Q	0.040	ND 0.040	ON O	0,040	Ð	0.040
!	\neg		g	0.010 N	ND 0.010		0.010		0.010	0.084 0.010	0.089	0.010	0.34	0.010
-	\neg	. 1	0.12	0.040 N			0.040	1.7	0.040	0.61 0.040	0.42	0.040	1.9	0.040
8260 GZA			QN		ND 0.040	QN	0.040	QN	0.040	ND 0.040		0.040	ND	0.040
-		ND 0.040	QN	0.040 N	VD 0.040		0.040		0.040		ON ON	0.040	Ð	0.040
8260 GZA			₽	0.040			0.040	QN	0.040	ND 0.040		0.040	Ω	0.040
8260 GZA		- 1	£	0.040	ND 0.040		0.040	Q	0.040	ND 0.040	QN 01	0.040	Ð	0.040
		ND 0.040	0.44	0.040 N	ND 0.040		0.040	QN	0.040		Ш	0.040	ΩN	0.040
			0.33	0.040		22	0.040		0.040	1		0.040	24	0.040
8260 GZA		0.58 0.040	Q	0.040 P	ND 0.040		0.040	0.60	0.040	0.31 0.040	00 VD	0.040	-1	0.040
8260 GZA	ı 1	8.9 0.40		0.40	1.7 0.40	Ц	0.40	58	0.40	35 0.40	_	0.40	65	0.40
624 F	FSL	ND 1.0	ND	1.0	ND 1.0	7.96	1.0	25.7	0.1	15.1 1.0	QV O	0.1	85.1	1.0
624 FSL	IJ	ND 0.10	ND	0.10	ND 0.10	QN	0.10	0.16	0.10	ND 0.10	QV 0	0.10	0.161	0.10
	. 1	O1.0	Q	0.10	ND 0.10		0.10	0,32	0.10	ND 0.10	ξ.	0.10	1.29	0.10
		¥z	NA	-		4	0.070	ΑN		A'N	ΝA		YN.	
8021B GEC		٧×	NA	~	ND 0,057	ND /	0.057	NA	П	NA	NA		NA	

ND= Not Detected NA= Not Analyzed NS= No Standard

TCA=Trichlorochlant
TCE=Trichlorochlant
DCA=Dichlorochlane
DCE=Dichlorochlane
PCE=Tetrachlorochlane
TMB=Trimethylbenzme
GZA=GZA_Environmental

RDL-- Reported Detection Limit DCE-- Dichlore-there 78021B-- US EPA Method 8021B PCE-- Tetrachloro-ctbe Redo = US EPA Method 8200 TMB-- Trimethylbena. FSL-- FSL Associations.

FSL-- FSL Associations.

GCC-- Goldman Environmental Consultants, Inc.

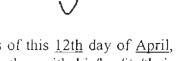
* Sample recurrent Association Measure.



Form 1075

NOTICE OF ACTIVITY AND USE LIMITATION M.G.L. c. 21E, § 6 and 310 CMR 40.0000

Disposal Site Name: <u>Guber & Sherman</u> DEP Release Tracking No.(s): <u>3-18193</u>



This Notice of Activity and Use Limitation ("Notice") is made as of this 12th day of April, 2004, by Grand Panjandrum Realty Co., Inc. of Quincy, Massachusetts, together with his/her/its/their successors and assigns (collectively "Owner").

WITNESSETH:

WHEREAS, Grand Panjandrum Realty Co., Inc., is the owner in fee simple of that certain parcel of land located in Somerville, Middlesex County, Massachusetts with the buildings and improvements thereon, pursuant to Middlesex South County Registry of Deeds in Book 35160, Page 437;

WHEREAS, said parcel of land, which is more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property") is subject to this Notice of Activity and Use Limitation. The Property is shown on Middlesex South County Registry of Deeds in Plan Book 229, Plans 5 and 23;

WHEREAS, the Property comprises all of a disposal site as the result of a release of oil and/or hazardous material. Exhibit B is a sketch plan showing the relationship of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Disposal Site in accordance with M.G.L. c. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or (b) the restriction of certain activities occurring in, on, through, over or under the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion"), dated June 18, 2004, (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a
condition of No Significant Risk to health, safety, public welfare or the environment
exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any
of the following activities and uses occur on the Property:

mail to: Joshua Alper Sherin and Wodgen, LLP 101 Federal Street

- i. Manufacturing, industrial, or commercial uses;
- ii. The construction and excavation related to construction, including the demolition and / or construction of Property buildings and the repair or replacement of pavement and sidewalks, subject to any relevant condition or obligation listed below;
- iii. If a landscaped area is constructed, it shall be constructed as follows depending on the land use and associated activities:
 - a. Landscaped areas used as aesthetic enhancements within and around paved areas and around buildings shall require no special construction provisions.
 - b. Landscaped areas created for recreational purposes (e.g. picnic or play areas) shall include a minimum of eighteen inches of clean fill and/or topsoil above the underlying site soil. A marker layer consisting of filter fabric or similar geotextile shall be placed below the clean soil horizon and above the underlying site soil. The integrity of the eighteen-inch clean soil horizon shall be maintained during future activities so long as the use remains recreational.
- iv. The installation or repair of underground utilities, subject to any relevant condition or obligation listed below;
- v. Permitted uses and uses authorized by the Zoning Ordinance of the City of Somerville, provided that said uses do not result in the inconsistent uses and activities described below;
- vi. Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and
- vii. Such other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with the AUL.
- 2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:
 - i. Residential use, children's school, children's day care, institutions, playground and other active recreational uses unless constructed in accordance with paragraph 1 (iii)(b) above; and
 - ii. Gardening or other agricultural uses which utilize the soils of the Property for the cultivation of edible plants.

- 3. Obligations and Conditions Set Forth in the AUL Opinion. If applicable, obligations and/or conditions to be undertaken and/or maintained at the Property to maintain a condition of No Significant Risk as set forth in the AUL Opinion shall include the following
 - i. Soils of the Property must remain covered by pavement, landscaping, building foundation or similar permanent barrier to inhibit exposure to these soils, except during construction, utility or other soil disturbance project;
 - ii. Construction, non-emergency utility repair work, and other soil disturbance projects must be conducted in accordance with a site-specific soil management plan approved by a Licensed Site Professional. This includes excavations below the marker layer in landscaped areas, but does not include surficial excavations within the clean soil horizon above the marker layer;
 - iii. Following excavation conducted during a construction, utility or other soil disturbance project, excavated soils must be removed from the Property in accordance with pertinent regulations, or graded and recovered by pavement, a building foundation or similar permanent barrier prior to the completion of the project. If excavations are done in landscaped areas below the marker layer, site soils must be returned below this layer or disposed off-site in accordance with pertinent regulations and the marker layer must be replaced prior to restoring the landscaped area; and
 - iv. The ground covering, i.e., pavement, building foundation or similar permanent barrier, must be periodically inspected and maintained to ensure that exposure to these soils does not occur under typical conditions when soil disturbance projects are not being conducted. For the purposes of this AUL, significant degradation requiring maintenance will be deemed present if an area greater than one square foot (in total area across the surface) is observed over which the paved surface has broken away exposing the granular sub-base and/or underlying soil. Note: In many instances, there may be safety and/or aesthetic reasons to repair/replace the paved surface prior to reaching the exposure standards identified within the AUL.
- 4. <u>Proposed Changes in Activities and Uses</u>. Any proposed changes in activities and uses at the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 *et seq.*, as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare or the environment. Any and all requirements set forth-in the Opinion to-meet the objective of this Notice shall be satisfied before any such activity or use is commenced.
- 5. Violation of a Response Action Outcome. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 et seq., and without additional response actions, if

necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 et seq., the owner or operator of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. <u>Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer.</u> This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned LSP, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

WITNESS the execution hereof under seal this _______ day of August ______.

20.64

Grand Panjandrum Realty

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Hereunto Duly

COMMONWEALTH OF MASSACHUSETTS

Nortolk	, SS	August 17, 2004
		he above-named Anthony A. Lolayolpe and acknowledged the
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		Jaia M. Seli Notary Public: Tara M. Smith
		My Commission Expires: August
The u	indersigned LSP herel	y certifies that [he][she] executed the aforesaid Activity and Use
		whibit C and made a part hereof and that in [his][her] Opinion this
	•	Use Limitation is consistent with the terms set forth in said
Activity and Use I	Limitation Opinion.	\mathcal{A}
Date: 8/12/09	<u> </u>	5///
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EXHIBIT A

Description of Property Boundaries

A certain parcel of land on Cross Street East in the City of Somerville, Middlesex County, in the Commonwealth of Massachusetts, bounded and described as follows:

SOUTHEASTERLY: by Cross Street, one hundred an

by Cross Street, one hundred and thirty (130) feet, more or

less,

SOUTHWESTERLY: by lot lettered C in said Block, ninety-five (95) feet;

SOUTHEASTERLY: again by the remaining portion of said lot lettered C being

land conveyed to Old Colony Trust Company, Trustee to Fred L. Harris, by deed recorded with said Deeds in Book

4066, Page 37, one hundred (100) feet;

SOUTHWESTERLY: again by lot lettered E on said plan, recorded in Plan Book

229, ninety-five (95) feet;

NORTHWESTERLY: by Garfield Avenue, two hundred thirty (230) feet, more or

less; and

NORTHEASTERLY: by the former line of Edmonton Avenue, but now by

registered parcel in Land Court Case No. 18957 described as the second parcel in the copy of Land Court decree dated September 28, 1949, and issued to the C. & H. Co., from the Middlesex South District Certificate of Title No. 68062 in registration Book 443, Page 281, one hundred eighty-

nine and 72/100 (189.72) feet.

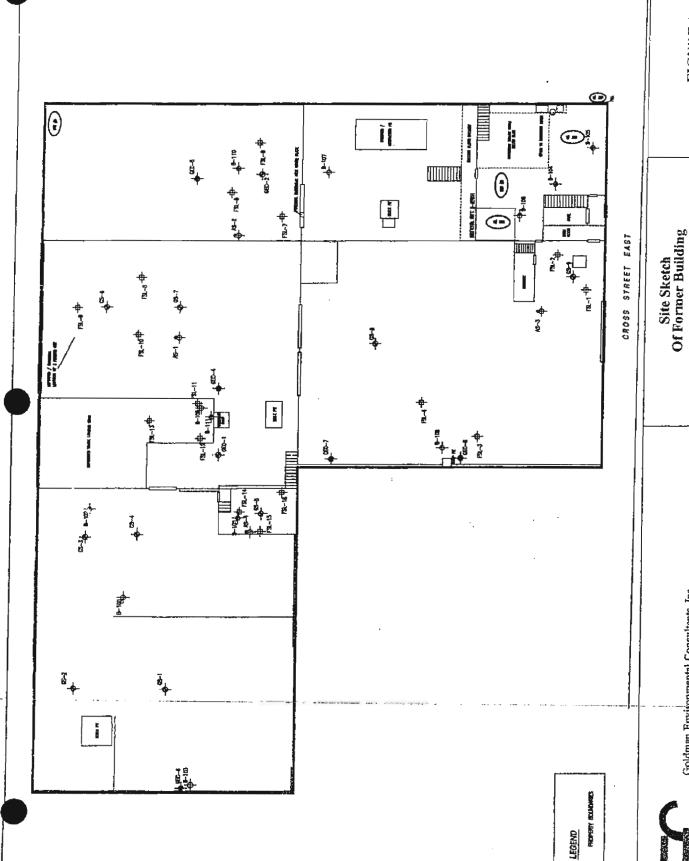


FIGURE 1

Guber & Sherman 60 Cross Street East Somerville, Massachusetts

GEC Project Number 1202-3010 GEC File Number 080604B

SCALE 1:200'

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Goldman Environmental Consultants, Inc. 60 Brooks Drive Braintree, MA 02184 (781) 356-9140 Fax: (781) 356-9147 www.GoldmanEnvironmental.com

EXHIBIT C ACTIVITY AND USE LIMITATION OPINION

Guber & Sherman 60 Cross Street East Somerville, Massachusetts RTN: 3-18193

June 18, 2004

1.0 INTRODUCTION

This Activity and Use Limitation (AUL) Opinion was prepared by Samuel W. Butcher (L.S.P. #9185) and Goldman Environmental Consultants, Inc. (GEC) of Braintree, Massachusetts for the property located at 60 Cross Street East in Somerville, Massachusetts (Release Tracking Number (RTN): 3-18193). This property is currently owned by the Grand Panjandrum Realty Co., Inc. This document was prepared in accordance with 310 CMR 40.1074. As required, this AUL Opinion: 1) outlines the reason why implementation of an AUL is appropriate to maintain a level of No Significant Risk of harm to health, safety, public welfare and the environment on the subject site; 2) provides a description of restricted activities at the site; 3) identifies acceptable activities at the site; and 4) identifies any conditions or obligations for the site in order to maintain a level of No Significant Risk of harm. This opinion also briefly summarizes the findings of the Risk Characterization.

This Opinion is also intended to serve as part of the information supporting the Class A-3 Response Action Outcome Statement issued by GEC and as an attachment to the Notice of Activity and Use Limitation to be recorded in the chain of title of the subject property. This AUL Opinion relies primarily on information and data contained in GEC's reports, Updated Method 3 Risk Characterization, in Support of a Class A-3 Response Action Outcome and Class A-3 Response Action Outcome, including Release Abatement Measure Completion Report and Method 3 Risk Characterization, prepared for the site in accordance with the Massachusetts Contingency Plan (MCP).

2.0 SITE BACKGROUND

The subject property is located in a mixed commercial / residential area, and is situated between Cross Street East to the south and Garfield Street to the north. It was used for a variety of commercial or industrial purposes, including truck / vehicle repair, warehousing, and scrap metal storage. From 1980 to 1998, Guber & Sherman, Inc. operated a scrap metal vard at the property. The property has been vacant since 1998.

In 1998, a release of oil or hazardous materials (OHM) was identified at the Site during subsurface investigations conducted by GZA GeoEnvironmental, Inc. (GZA), on behalf of a prospective buyer of the property. GZA concluded that petroleum hydrocarbons, volatile organic compounds, and RCRA 8 metals were present in soils at levels exceeding the applicable Reportable Concentrations. The release was reported to

the Massachusetts Department of Environmental Protection (MA DEP) on April 12, 1999, by Guber & Sherman, Inc., the potentially responsible party. A Phase I Environmental Site Assessment, including a Numerical Ranking System Scoresheet and Tier Classification documentation, was prepared by TGG Environmental Inc. (TGGE) and submitted to the MA DEP in April 2000. The Licensed Site Professional (LSP) during this period was Carl Shapiro of TGGE. The Site was classified as Tier II.

FSL Associates, Inc. (FSL), with Byron Hugh Willis as LSP, prepared and submitted a Remedial Abatement Measure (RAM) Plan, dated September 10, 2001, to the MA DEP. The RAM Plan provided details on the following planned work: (1) subsurface assessment activities, including a ground penetrating radar (GPR) survey; (2) a preliminary Method 3 Risk Characterization; and (3) as necessary and appropriate, the excavation and disposal of up to 500 cubic yards of contaminated soil. FSL prepared and submitted three RAM Status Reports during the period February 8, 2002 to February 8, 2003.

In February 2003, GEC took over response actions at the Site, including the completion of site assessment activities and a Method 3 Risk Characterization undertaken as part of the RAM. Subsequent to the Method 3 Risk Characterization, a release associated with an underground storage tank (UST) was discovered at the Site. An Immediate Response Action (IRA) was conducted, which entailed the excavation and off-site disposition of petroleum-contaminated soil. Following the completion of excavation, soil sampling and analysis indicated the continued presence of petroleum-contaminated soil in the excavation pit. The new soil data is incorporated into the Method 3 Risk Characterization by updating the original risk characterization. The update did not replace the original risk characterization in its entirety, but rather only those portions of the original risk characterization relying on the soil exposure point concentrations for the construction and utility exposure zones.

Based on the results of the original and updated Method 3 Risk Characterizations, a conclusion was made that a condition of No Significant Risk of harm to health, safety, public welfare and the environment had been achieved, assuming the implementation of an Activity and Use Limitation. The current LSP is Samuel W. Butcher of GEC.

3.0 RISK CHARACTERIZATION CONCLUSIONS

The results of the Risk Characterization are one of the bases for a decision regarding the necessity for a remedial action and for selecting an appropriate Response Action Outcome for the disposal site pursuant to 310 CMR 40.1000. A Method 3 Risk Characterization was conducted to evaluate the risks of harm to health, welfare and the environment associated with OHM at the disposal site. Risk of harm to safety was evaluated separately as described in 310-GMR 40.0900. A summary of the Risk Characterization's conclusions and any assumptions made, which would affect this AUL, is provided below.

3.1 RISK OF HARM TO SAFETY

Potential safety hazards, such as the presence of physical dangers and flammable or corrosive conditions, were evaluated and it was determined that a condition of No Significant Risk of harm to safety exists at this site. This determination was made without any assumptions regarding limits or restrictions on future uses or activities at the site.

3.2 RISK OF HARM TO HEALTH

Risk of harm to human health was characterized for the site using a Method 3 Risk Characterization. Assumptions limiting future activities at, and uses of, the Site were considered during the course of the risk characterization, and are identified in Sections 6.0 to 8.0, below. Exposure to soils was presumed to occur to each receptor only during a six-month soil disturbance project. Otherwise, an assumption was made that the soils remained covered by a permanent barrier. No gardening of edible produce or single-family residential use was presumed to occur.

Human receptors identified for the human health risk characterization consisted of the following: (1) future on-site adult workers; (2) future on-site construction workers; (3) on-site utility workers; (4) current and future on-site adult and child visitors; (5) current and future nearby adult workers, and; (6) current and future nearby adult and child residents. Risks to nearby adult workers and nearby adult and child residents are believed to be adequately represented by future on-site workers and current and future on-site visitors, including children, which are the more sensitive receptors due to the presumed relative levels of exposure. Therefore, risk estimates were calculated for on-site workers, construction workers, utility workers, and visitors.

No total cumulative hazard index (HI) for any receptor exceeds the MADEP noncancer risk limit, no total cumulative excess lifetime cancer risk (ELCR) for any receptor is greater than the MADEP's cancer risk limit, and no applicable or suitably analogous public health standards have been exceeded. As a result, no significant risk of harm to human health for current and reasonably foreseeable conditions has been achieved for the Site. The implementation of an Activity and Use Limitation is necessary to make these findings valid.

3.3 RISK OF HARM TO PUBLIC WELFARE

Site conditions were evaluated to determine if a significant adverse impact to public health may be experienced by a community in the vicinity of the Site. No nuisance conditions, loss of property value, or unilateral restriction of the use of another persons property exists for the subject-Site.—In addition, no monetary or non-pecuniary costs were identified, which are not otherwise considered in the characterization of risk of harm to health, safety, and the environment but which may accrue due to the degradation of public or private resources directly attributable to the release of OHM.

No soil or groundwater concentrations for any exposure point exceeded the applicable Upper Concentrations Limit. A level of No Significant Risk of harm to public

welfare has been achieved for current and future conditions, without any assumptions limiting future activity or use of the property.

3.4 RISK OF HARM TO THE ENVIRONMENT

A Method 3 Environmental Risk Characterization was conducted in accordance with 310 CMR 40.0995. This characterization was conducted for all current and reasonably foreseeable site activities and uses. Typically, an Environmental Risk Characterization entails a Stage I Environmental Screening and a comparison of OHM concentrations to Upper Concentration Limits provided at 310 CMR 40.0996. Because no environmental receptors were identified for the Disposal Site, the Stage I Environmental Screening was not conducted.

The risk of harm to the environment was characterized by comparing the concentration of each OHM to the Upper Concentration Limits (UCLs) in soil and groundwater, as described in 310 CMR 40.0996. For each OHM, no soil or groundwater exposure point concentration exceeded its applicable UCL. The presence of non-aqueous phase liquid (NAPL) having a thickness equal to or greater than one-half inch in any environmental media is considered a level that exceeds UCLs. Following the completion of soil excavation during the RAM, the maximum thickness of the free phase product detected in any monitoring well was one-eighth inch. Based on the foregoing, site conditions do not exceed the UCL for NAPL.

The Method 3 Environmental Risk Characterization had a finding that No Significant Risk of harm to environmental receptors, biota and habitats had been achieved at the disposal Site. No limits on future activities and uses of the Site were assumed during the Environmental Risk Characterization.

3.5 CONCLUSIONS OF RISK CHARACTERIZATION

A level of No Significant Risk of harm exists for safety. In addition, a level of No Significant Risk of harm to health, public welfare, and the environment has been achieved for current and reasonably foreseeable conditions. Limits on future activities and uses of the Site were assumed during this risk characterization. Acceptable and inconsistent activities and uses, and obligations and conditions are identified in Sections 6.0 to 8.0, below. An Activity and Use Limitation must be implemented in order for these findings to be valid.

4.0 DESCRIPTION OF AUL AREA

The property wherein the AUL will lie is addressed as 60 Cross Street East in Somerville, Massachusetts. The Universal Transverse Mercator (UTM) coordinates are 422326 meters north and 710504 meters east. The subject property consists of one parcel comprising approximately 34,000 square feet. The AUL Area encompasses the entire property. The subject Property is located in a mixed commercial / residential area, and is situated between Cross Street East to the south and Garfield Street to the north.

5.0 REASONS FOR UTILIZING AUL

The AUL described in this opinion has been selected for implementation because it will not impact or restrict the present and long-term expected use of the site. The data summarized in the reports identified in Section 1.0 show that the remaining contaminants that trigger the AUL are located throughout the Property. A feasibility evaluation was conducted for the Site, pursuant to 310 CMR 40.1020, demonstrating that, to the extent possible, concentrations of OHM have been reduced to levels which approach background conditions and which achieve a condition of No Significant Risk of Harm to health, safety, public welfare, of the environment.

The most likely form of soil remediation to achieve background conditions would consist of additional soil removal throughout the entire Property. Although concentrations of OHM detected at the Property exceed background, in GEC's opinion the cost of reducing the residual levels of contamination to background would not be justified by the minor benefits.

Due to the location of the property in an urban setting, the historic use of coal and coal ash at the Property, and Site operations, the levels of PAHs and metals in the soils of the Property are significant, and exceed published background concentrations. However, in areas of the Property, the presence of PAHs and metals may be attributable to background conditions even though the levels of these OHM exceed published background conditions.

Concentrations of OHM in the soils of the Site <u>do not</u> pose a risk of harm to human health, safety, public welfare, or the environment under current or foreseeable future conditions. To remove additional volumes of soil to achieve background is not economically feasible given the time and expense that available remediation would require, and the insignificant impact such remediation would have on the residual risk associated with this contamination.

6.0 ACCEPTABLE ACTIVITIES AND USES FOR AUL AREA

In the opinion of the LSP, there exists for any foreseeable time a condition of No Significant Risk of harm for certain activities. These activities include any manufacturing, industrial, or commercial use. Specifically, the acceptable activities and uses for the Property include the following:

- (a) Manufacturing, industrial and commercial uses;
- (b) The construction and excavation related to construction, including the demolition and / or reconstruction of site buildings and repair or replacement of pavement and sidewalks, subject to any relevant conditions or obligations-listed in Section 8.0, below:
- (c) If a landscaped area is constructed, it shall be constructed as follows depending on the land use and associated activities:
 - i. Landscaped areas used as aesthetic enhancements within and around paved areas and around buildings shall require no special construction provisions.
 - ii. Landscaped areas created for recreational purposes (e.g. picnic or play areas)

shall include a minimum of eighteen inches of clean fill and/or topsoil above the underlying site soil. A marker layer consisting of filter fabric or similar geotextile shall be placed below the clean soil horizon and above the underlying site soil. The integrity of the eighteen inch clean soil horizon shall be maintained during future activities so long as the use remains recreational.

- (d) The installation or repair of underground utilities, subject to any relevant conditions or obligations listed in Section 8.0, below;
- (e) Permitted uses and uses authorized by the Zoning Ordinances of the City of Somerville, provided that said uses do not include inconsistent uses identified in Section 7.0, below;
- (f) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and
- (g) Such other activities and uses not identified in Section 7.0 as being Activities and Uses Inconsistent with the AUL.

7.0 INCONSISTENT ACTIVITIES AND USES FOR AUL AREA

Inconsistent activities and uses for the Property are those which may result in a condition of Significant Risk of Harm if allowed to occur. The inconsistent activities and uses are identified below.

- (a) Residential use, children's school, children's day care, institutions, playground and other active recreational uses unless constructed in a manner consistent with paragraph 6 (c)(ii) above; and
- (b) Gardening or other agricultural use which utilizes these soils for the cultivation of edible plants.

8.0 OBLIGATIONS AND CONDITIONS FOR AUL AREA

There are obligations and conditions that must be undertaken or maintained at the Property in order to maintain a condition of No Significant Risk of harm at the site. These obligations and conditions include the following:

(a) Soils must remain covered by pavement, landscaping, building foundations, or similar barriers to inhibit exposure to these soils, except during construction, utility or other soil disturbance project;

- (b) Construction, non-emergency utility repair work, and other soil disturbance projects must be conducted in accordance with a site-specific Soil Management Plan approved by a Licensed Site Professional. This includes excavations below the marker layer in landscaped areas, but does not include surficial excavations within the clean soil horizon above the marker layer;
- (c) Following excavation conducted during a construction, utility or other soil disturbance project, excavated site soils must be removed from the site in accordance with pertinent regulations, or returned to the same location prior to the completion of the project. If excavations are done in landscaped areas below the marker layer, site soils must be returned below this layer or disposed off-site in accordance with pertinent regulations, and the marker layer replaced prior to restoring the landscaped area; and
- (d) The ground covering, i.e., pavement, building foundation or similar barrier, must be periodically inspected and maintained to ensure that exposure to these soils does not occur under typical conditions when soils disturbance projects are not conducted.

For the purposes of this AUL, significant degradation requiring maintenance will be deemed present if an area greater than 1 square foot (in total area across the surface) is observed over which the paved surface has broken away exposing the granular sub-base and/or underlying soil.

Note: In many instances, there may be safety and/or aesthetic reasons to repair/replace the paved surface prior to reaching the exposure standards identified within this AUL.

9.0 CONCLUSIONS

Based on the conclusions of the Risk Characterization referenced in this AUL Opinion, and the implementation of the AUL discussed above, it is the opinion of the LSP that a condition of No Significant Risk of harm and a Permanent Solution have been achieved at the site. This determination qualifies the site for a Class A-3 Response Action Outcome Statement in accordance with 310 CMR 40.1046.

Respectfully submitted,

Samuel W. Butcher, L.S.P. #9185

Date: 8/14/04

APPENDIX E

GZA'S 1997 CLASS A-3 RAO TEXT AND SELECT EXCERPTS

NIA

PHASE II COMPREHENSIVE SITE ASSESSMENT 70 CROSS STREET SOMERVILLE, MASSACHUSETTS DEP RTN 3-0658

A-3 RAO

PREPARED FOR: Payless Cashways, Inc. Kansas City, Missouri

PREPARED BY: GZA GeoEnvironmental, Inc. Newton Upper Falls, Massachusetts

August 1997 File No. 13307.33

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GZA GeoEnvironmental, Inc.

Engineers and Scientists

August 14, 1997 File No. 13307.33-C,PC

Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup 10 Commerce Way Woburn, Massachusetts 01801

Re:

Phase II - Comprehensive Site Assessment

Response Action Outcome Statement

70 Cross Street

Somerville, Massachusetts

Release Tracking Number 3-0658

Dear Sir/Madam:

On behalf of Payless Cashways, Inc., the site owner, GZA GeoEnvironmental, Inc. (GZA) has prepared this Phase II Comprehensive Site Assessment Report and Response Action Outcome (RAO) Statement for the above referenced site in Somerville, Massachusetts.

Phase II activities documented herein were conducted in accordance with our July 1996 Phase II Scope of Work. This report is intended to address the requirements of a Phase II study as outlined in the Massachusetts Contingency Plan (310 CMR 40.0830 et seq.). Based on the results of this Phase II Report, it has been determined that the site meets the requirements for a Class A-3 RAO.

The original MCP Transmittal Forms associated with this submittal, including (1) a Comprehensive Response Action Transmittal Form (BWSC-108: Phase II Completion Statement), (2) an Activity and Use Limitation Transmittal Form (BWSC-113: and a certified copy of the AUL filing), and (3) a Response Action Outcome Statement Transmittal Form (BWSC-104), have been submitted separately, but concurrent with this report. Copies of these forms are presented in Appendix D of this report for easy reference.

Consultant/Reviewer

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

John W. O'Neill, Jr.

Project Manager

Michael M. Shaw, LSP Associate Principal

Attachment: Report

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A Subsidiary of GZA GeoEnvironmental Technologies, Inc.

320 Needham Street

Newton Upper Falls Massachusetts 02164

617-969-0050 FAX 617-965-7769

An Equal Opportunity Employer M/F/V/H

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1.00 INTRODUCTION



GZA GeoEnvironmental, Inc. (GZA) has prepared this Phase II - Comprehensive Site Assessment Report and Response Action Outcome (RAO) Statement for the Somerville Lumber property at 70 Cross Street East in Somerville, Massachusetts (Site) on behalf of Payless Cashways, Inc., the site owner. The investigation work described herein was completed in accordance with our July 1996 Phase II Scope of Work which was submitted to the Massachusetts Department of Environmental Protection (DEP). Our Phase II study and this report are intended to comply with the requirements of 310 CMR 40.0834 which outlines the purpose and scope of a Phase II - Comprehensive Site Assessment under the current Massachusetts Contingency Plan (MCP). This report also contains information supporting a Class A-3 RAO.

GZA completed a Supplemental Phase I - Initial Site Investigation of the 70 Cross Street East property in August 1995 along with a Numerical Ranking System Scoresheet, a Tier Classification Transmittal Form, a Phase I Completion Statement, and an LSP Evaluation Opinion. These documents were submitted to the DEP in July 1995. The NRS scoring indicated a Tier Classification of Tier II for the 70 Cross Street East property.

This report and the work described herein are subject to the Limitations contained in Appendix A.

1.10 PHASE II OBJECTIVES

The purpose of a Phase II study, as defined under the MCP, is to further characterize the type, quantity, and extent of oil and hazardous materials (OHM) in soil, groundwater, and surface water; to evaluate the risk to public health and the environment associated with potential exposure to Site OHM; and to provide data necessary to evaluate the need for and appropriate types of remedial actions.

1.20 SCOPE OF WORK

Specific tasks included in our scope were:

- collection and analysis of groundwater samples from all existing monitoring wells;
- analytical testing of soil and groundwater for PAHs consistent with the evolving TPH standards;
- completion of a public health and environmental risk characterization to evaluate
 the level of human health and ecological risk potentially associated with exposure
 to chemical constituents present at or from the site,

- assessment of whether this site has achieved RAO Status, and
- preparation of this Phase II report.

2.00 BACKGROUND



The following sections provide a summary of background information regarding the 70 Cross Street East Somerville Lumber facility located in Somerville, Massachusetts.

2.10 SITE DESCRIPTION

Somerville Lumber's Somerville facility is comprised of three adjacent parcels located near the intersection of Route 28 (the McGrath Highway) and Interstate 93 in a mixed commercial/industrial and residential section of Somerville, Massachusetts. The 70 Cross Street East property is the easternmost parcel of the three and is located between Garfield Avenue and Cross Street East (Figure 1). Mystic Avenue and Interstate 93 are located to the north, a recreation park is located to the east, Guber and Sherman, Inc., a metals manufacturing firm is located to the south, and Garfield Avenue and the remainder of the Somerville Lumber facility are located to the west of the site. The Mystic River is located approximately 2,300 feet north of the site; the nearest residential property is located approximately 250 feet southwest of the site.

The 70 Cross Street East property is occupied by two single-story wood buildings and one two-story concrete block building. The area between the buildings is paved. This parcel is currently utilized by Somerville Lumber as a lumber warehouse/receiving facility. A The site is currently serviced by electric and gas. There are currently no USTs located on the site property.

The site previously contained four USTs: a 5,000 gallon gasoline underground storage tank (UST), a 5,000 gallon diesel UST, a 2,000 gallon No. 2 heating oil UST, and a 1,000 gallon waste oil UST. All four tanks were removed from the site in August 1989 (See Section 2.40 Previous Studies: ATEC 1990). According to ATEC's January 1990 report, the four USTs were approximately 30 years old and were in poor condition. The USTs were formerly used and operated by Wellington Service Corporation, the previous site owner, and were abandoned in 1986 when Somerville Lumber acquired the site.

2.20 SITE HISTORY

The site is currently owned and operated by Payless Cashways, Inc. The 70 Cross Street East property was purchased from Wellington Service Corporation, a crane service company, by Payless Cashways/Somerville Lumber, Inc. in 1986. Somerville Lumber, an

independent company, was purchased by Payless Chashways, Inc. of Kansas City, Missouri in 1984.

2.30 SITE TOPOGRAPHY, DRAINAGE AND GROUNDWATER FLOW

The study site slopes gently to the northeast towards Mystic Avenue. Based on the USGS Boston North topographic map, the average elevation of the site is approximately 6 meters above mean sea level. Drainage at the site is controlled by storm drains located in the streets adjacent to the property.

As characterized in GZA's Supplemental Phase I report, the groundwater table is relatively flat under the site; flow is likely controlled by local utilities rather than more regional natural hydrogeologic controls (i.e. the Mystic River.)

2.40 PREVIOUS STUDIES

Real Estate Pre-Transaction Report (Geisser, 1986): The Geisser "21E Certification Report" was conducted primarily in support of Somerville Lumber's purchase of the property in 1986. Work completed included the installation of two monitoring wells, collection and analysis of soil and groundwater samples and preparation of a brief report. Groundwater and soil samples were collected from each monitoring well location and composited for analysis. The composite groundwater and soil samples were analyzed for EP Toxicity metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), VOCs, PCBs, and oil and grease. Analytical results for the composite soil sample indicated that no VOCs or PCBs were detected above the method detection limit and oil and grease was detected at 44,000 ppm. Analytical results of the composite groundwater sample indicated the presence of low levels of several VOCs (trichloroethene at 6 parts per billion (ppb), chlorobenzene at 25 ppb, and benzene at 5 ppb.) PCBs were not detected above the method detection limit in the composite groundwater sample. Results for the EP Toxicity tests for soil and groundwater were not included with the report provided, and it is unclear whether or not the analysis was performed. The report concluded that "there are no set standards, but it is our experience that the results fall within acceptable limits."

Real Estate Pre-Transaction Report (BCM, 1989): BCM Engineers, Inc. completed an "Environmental Assessment" of the entire three parcel Somerville Lumber facility in March 1989. The work was completed in order to "identify any adverse environmental conditions, suspect activities, and potential hazardous wastes or materials on or in the vicinity of this site." Work completed as part of this assessment included a review of available state, local, and federal databases; a property history; interviews with employees; a review or available information concerning previous reports conducted at the property; completion of a soil vapor survey on the 70 Cross Street East parcel; and preparation of a report documenting the results. The soil vapor survey, conducted in the vicinity of the four USTs at the 70 Cross Street East property indicated soil gas concentrations above 10,000 ppm total volatile organic

compounds for each of the five soil gas points analyzed. BCM recommended that " a subsurface investigation should be performed to more thoroughly assess this property."

Preliminary Site Assessment and Phase I Limited Site Investigation (ATEC, 1990): A "Preliminary Site Assessment and Phase I Limited Site Investigation" was completed by ATEC Environmental Consultants of Plymouth, Massachusetts on the Site property in January 1990. Work documented in the report includes the completion of a Preliminary Site Assessment, a Phase I Investigation, and a Short Term Measure (involving the removal of the four USTs; see below.)

The scope of services for the Preliminary Site Assessment included a field reconnaissance, interviews with knowledgeable personnel, a review of available records at state and local agencies, and the review of existing plans, reports, and documents concerning the property history. Information obtained during the Preliminary Site Assessment indicated that the property was formerly operated by a crane service company from 1952 to 1986, and that their activities included "significant historical use of USTs." File review information indicated that several MCP sites were located in the area of the property and may potentially impact the site. Based on these results, ATEC recommended the completion of a Phase I investigation.

The scope of services for the Phase I Investigation included the installation of four monitoring wells, collection and analysis of groundwater and soil samples, and the completion of a Preliminary Environmental Site Assessment Form. Work completed as part of the Phase I indicated soil and groundwater contamination, apparently caused by the USTs on the 70 Cross Street East property. Three soil samples collected from test borings MW-1 through MW-3 were analyzed for VOCs, TPH, and metals. TPH concentrations ranged from 75 ppm at MW-1 to 440 ppm at MW-3. VOCs detected included ethylbenzene at a concentration of 0.024 ppm in soil sample MW-2A and chlorobenzene at concentrations of 0.057 ppm and 0.022 ppm in MW-2A and MW-3A, respectively. Low levels of arsenic, barium, chromium, lead, and mercury were detected in all three soil samples. Groundwater samples were collected from each of the four monitoring wells and analyzed for TPH, VOCs, and metals. TPH was only detected in monitoring well MW-4 at a concentration of 5 ppm. VOC results indicated detectable levels of several compounds in groundwater associated with petroleum products in monitoring wells MW-1 through MW-3. concentration was 8 ppm of chlorobenzene detected in monitoring well MW-3. RCRA-8 metals including arsenic, chromium, lead, and barium were detected in monitoring wells MW-1 through MW-4. The highest concentration detected was for lead at 0.042 ppm in MW-3 and 0.04 ppm in MW-1. The report concluded that the Phase I Report, along with the Interim Site Classification Form, should be filed with the DEP.

Short Term Measure (ATEC, 1990): The scope of services for the Short Term Measure (STM) included the removal of four USTs located at the 70 Cross Street East property. Tanks removed included a 5,000 gallon gasoline UST, a 5,000 gallon diesel UST, a 2,000 gallon No. 2 heating oil UST, and a 1,000 gallon waste oil UST. According to the report, the

four USTs were approximately 30 years old and were formerly used and operated by Wellington Service Corporation, a crane service company, who owned the property prior to 1986. The tanks were removed in August 1989.

The report indicates that the tanks were in poor condition and that contaminated soils (based on olfactory observations) and free floating product ("which was contained by a clay layer") were observed during the excavation. The report indicates that "field screening of samples, obtained from the excavation, with the HNu photoionization detector revealed levels from 0 ppm to 10 ppm." One soil sample was collected from the excavation and analyzed for VOCs and TPH. Results indicated that no VOCs were present above the method detection limit and 700 ppm of TPH was detected.

Supplemental Phase I Initial Site Investigation (GZA, 1995): GZA conducted a Supplemental Phase I - Initial Site Investigation of the 70 Cross Street East property in July 1995 which included a review of previous studies and performance of a limited subsurface investigation to determine the nature and extent of any residual contamination in soil and groundwater. The scope of services for this report included a soil gas survey, four soil borings and soil sampling, three checkwell installations, and groundwater sampling and analysis.

In total, 16 soil gas samples were collected as part of the soil gas survey and analyzed in the field for VOCs via GC Screening techniques. Aromatic VOCs associated with petroleum hydrocarbons were detected in twelve of the sixteen samples analyzed. Detected VOCs included methyl-tert-butyl ether (MTBE), benzene, toluene, ethylbenzene, and xylene. Total VOC concentrations ranged from 0.34 ppm in SG-13 to 28.9 ppm in SG-2; the highest concentrations were detected within and southwest of the former tank excavation.

Nine soil samples were collected during test boring activities and analyzed for volatile petroleum hydrocarbons (VPH), TPH, VOCs, and RCRA-8 metals. Concentrations of VPH ranged from 0.18 ppm to 410 ppm in soil samples collected from test borings SS-1 through SS-4. The highest concentration was detected southwest of the tank excavation. Concentrations of TPH ranged from not detected to 850 ppm. The highest concentration was detected within the tank excavation. Concentrations of VOCs ranged from not detected to 2.97 ppm, with the highest concentrations detected south of the tank excavation. VOCs detected included benzene, toluene, ethlybenzene, xylene, and chlorobenzene. Low levels of the RCRA-8 metals chromium, lead, and barium were detected in soil samples SS-2, S-2 and SS-4, S-2 (both 4-6 foot samples).

Groundwater samples were collected at seven monitoring points across the site and were at analyzed for VPH, TPH, VOCs, and RCRA-8 metals. VPH concentrations ranged from 0.019 ppm to 16 ppm with the highest levels detected north of the tank excavation. Concentrations of VOCs ranged from not detected to 2.1 ppm with the highest concentration detected southwest of the tank excavation. VOCs detected include benzene, toluene, ethylbenzene, xylene, chlorobenzene, and dichlorobenzene. Chlorobenzene was detected at a concentration of 2.1 ppm in monitoring well MW-3 and 0.87 ppm in monitoring well MW-2,



which are above the MCP Method 1 GW-3 standard of 0.5 ppm for this compound. All other VOC concentrations were below the appropriate MCP Method 1 GW-3 standards. Low levels of arsenic, chromium, lead, and barium were detected in monitoring wells MW-1 through MW-4 and CW-1.

Tier Classification (GZA, 1995): A Numerical Ranking System (NRS) Scoresheet was completed as part of the Supplemental Phase I study. The NRS scoring indicated a Tier Classification of Tier II for the 70 Cross Street Property.

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3.00 FIELD EXPLORATIONS

GZA completed field work for the Phase II study in November 1996. The work was completed in general accordance with our July 24, 1996 Phase II Scope of Work, which was submitted to the DEP in accordance with the MCP. Our field program included groundwater sampling and analysis and shallow soil sampling and analysis. Exploration locations are shown on Figure 2. The following sections describe the field program.

3.10 GROUNDWATER SAMPLING AND ANALYSIS

On August 14 and 15, 1996 groundwater samples were collected from MW-1, MW-2, MW-4, and CW-3. No sample was collected from CW-1 because it had been destroyed. On August 30, 1996 a groundwater sample was collected from MW-3, which had been covered by pallets of lumber on the previous visit. In addition, an attempt was made to sample CW-2, but it did not recharge in a reasonable amount of time after the standing water in the well was purged. A sample was collected from MW-A¹ in place of CW-2.

Prior to GZA's sample collection, three times the initial volume of water was evacuated from each well to enable acquisition of a representative sample of formation water. Wells were allowed to recharge prior to sampling. All samples were kept in an ice-packed cooler and were delivered to GZA's ECL following chain-of-custody protocols. All groundwater samples were analyzed for volatile organic compounds (VOCs) via EPA Method 8020 and total petroleum hydrocarbons (TPH) via EPA Method 8015. Samples MW-1, MW-2, and MW-3 were also analyzed for TPH via EPA Method 8100, polyaromatic hydrocarbons (PAHs) via EPA Method 8270, and arsenic, chromium, lead, barium, and mercury. Samples destined for metals analysis were filtered and acid-preserved in the field. A summary of groundwater analyses for target compounds with at least one detection is included in Table 1; laboratory data sheets are included in Appendix B.

3.20 SOIL SAMPLING AND ANALYSIS

During completion of the Phase II Investigation, a monitoring well was found in the vicinity of CW-2. This well had not been encountered during previous investigations and is believed to be from the work completed by ATEC in 1990 and improperly located on plans from ATEC's work provided to GZA.

On August 30, 1996 shallow soil samples were collected from two locations (SS-1 and SS-2). Continuous samples were collected using a 2-inch-diameter split spoon that was hand driven to depths of 4 feet. On November 1, 1996 a 0 to 2 foot sample was collected from SS-1A, located adjacent to SS-1. Samples were stored in an ice-packed cooler and transported to GZA's ECL following chain-of-custody protocols. All samples were analyzed for TPH via EPA Method 8100 and PAHs via EPA Method 8270.

A summary of soil analyses for target compounds with at least one detection is included in Table 2; laboratory data sheets for soil analyses are included in Appendix C.

4.00 HYDROGEOLOGIC CONDITIONS

This section describes the regional and site hydrogeologic conditions which govern contaminant migration at the site. Site and regional hydrogeology have been characterized using information gathered during our Phase I and II studies as well as data from previous studies of the site and surrounding areas.

4.10 SITE GEOLOGY

Subsurface conditions in the site area are characterized by approximately 3 to 4 feet of granular fill materials underlain by silty clay deposits. The granular fill materials are comprised primarily of sand with varying amounts of gravel and silt and trace amounts of brick, concrete, wood, and asphalt. The silty clay deposits contain trace amounts of gravel and brick. A fibrous peat layer was observed within the silty clay deposits in ATEC's test borings MW-1 and MW-2. The clay unit is believed to be part of the "Boston blue clay" unit that exists throughout much of the surrounding Boston Basin and has been reported by others to be more than 30 feet thick in certain locations. The bottom of the clay unit was not encountered during any of the subsurface explorations completed at the site. The clay layer is viewed as a barrier to vertical migration of any contaminated groundwater and thus the practical bottom to the study area.

4.20 SITE HYDROGEOLOGY

The hydrogeology of the Site appears to be largely controlled by the configuration of the overburden deposits and local topographic/drainage patterns. Groundwater flow patterns and hydraulic properties are discussed in the following sections.

4.21 Groundwater Flow Patterns and Direction

Regional groundwater flow in the area of the site is to the northeast, with the Mystic River as the primary discharge point. Localized flow within the Site is likely

influenced by local heterogeneous subsurface materials resulting from past filling operations, irregular topography, and underground utilities. Data was also collected on several other dates as indicated on Table 3 and this information indicates similar trends. Overall, the data reveals a relatively flat groundwater surface with no apparent (local) dominant flow direction.

4.22 Hydraulic Properties

The primary hydraulic properties relevant to groundwater flow at the Site include: hydraulic gradient (i), hydraulic conductivity (K), and porosity. Hydraulic gradient, which is the slope of the groundwater potentiometric surface (i.e., the change in groundwater elevation over a change in distance), is unitless. Hydraulic conductivity, which measures the efficiency with which water moves through an aquifer material, is a function of both the fluid (water) and the soil matrix through which it flows, and is measured in distance per unit time, most commonly feet per day. Porosity, which is the ratio between the relative volume of void space to the total soil volume, is measured in percent.

Hydraulic gradient is typically calculated as the slope of the potentiometric surface of the groundwater as represented by contours of water table elevation. Based on groundwater elevation measurements taken on August 30, 1996, the horizontal hydraulic gradient at the site is estimated to range from 0.004 to 0.005 feet/feet. An average hydraulic gradient of 0.004 feet/feet for the site will be used in subsequent calculations. Hydraulic conductivity for the fill was estimated to be 1 feet/day. This estimate is based on published hydraulic conductivity values for similar soil types.

The porosity of soils is the measure of the relative volume of void space; this property is used in estimating groundwater pore velocities. Porosity has relatively minor variability compared to other hydraulic parameters, with soil porosities typically ranging between 25 and 55 percent (0.25 and 0.55). It should be noted that the porosity values may not reflect the actual pore space available for groundwater flow. Under field conditions, a percentage of the water in pore spaces is tightly held to the surface of soil grains by surface tension, thus reducing the active pore spaces. Effective porosity is the ratio of void space through which groundwater flow can occur to the total volume of soil. Based on the grain size characteristics of soils from the Site and inferred relative densities from Standard Penetration Test blow counts, we have estimated an effective porosity of approximately 0.3 for the sand deposits at the Site.

4.23 Groundwater Flow Rates

The estimation of the quantity of groundwater flow through a site is an important component of any hydrogeologic study, and directly impacts the assessment of possible chemical migration and the estimated impacts to downgradient receptors. For this study, the total groundwater flux through the shallow overburden soils at the Site was estimated using a form of Darcy's Law which is based on site-specific hydraulic properties. Darcy's Equation for fluid flow through a porous medium is:

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$$Q = KiA$$

where:

 $Q = flow rate (feet^3/day)$

K = aquifer hydraulic conductivity (feet/day)

hydraulic gradient (feet/feet)

A = aquifer area through which flow occurs (feet²)

The hydraulic conductivity assumed for this analysis was based on literature values of similar soil types² (1 feet/day). The average hydraulic gradient measured at the Site (0.004 as outlined above) was used in the computations. To calculate the cross-sectional area for groundwater flow we assumed a saturated thickness of 10 feet (which represents the approximate thickness of material at the site saturated with contaminated groundwater) and an estimated flow width of 160 feet which is the approximate width of the disposal site. These assumptions yield an estimated value of approximately 6.4 feet³/day or approximately 0.03 gallons per minute (gpm).

Another form of Darcy's Law can be used to estimate the average rate of groundwater transport, referred to as transport or seepage velocity. The equation is:

$$V = Ki/n$$

where:

V = transport velocity
K = hydraulic conductivity
i = hydraulic gradient
n = effective porosity

Using the values outlined above, the groundwater transport velocity is estimated to be about 0.01 feet/day (5 feet/year). Note that contaminant transport rates would be lower than this estimated value due to the effects of retardation.

Freeze, R.A. and J.A. Cherry. 1979 Groundwater. Prentice-Hall, Inc. 604 pp. Fetter, C.W. 1980 Applied Hydrogeology. Charles E. Merrill Publishing Company. 488 pp.

5.00 NATURE AND EXTENT OF CONTAMINATION



This section summarizes the nature and extent of contaminants detected at the Site. Contaminant distribution is influenced by factors such as the physical and chemical properties of the constituents, the nature and location of sources, and site characteristics such as geology, hydrology and topography. The types and properties of chemicals detected at the Site are discussed below, followed by a summary of their distribution within environmental media and an assessment of potential migration.

5.10 CONSTITUENT TYPES AND PROPERTIES

To evaluate the fate and transport of chemicals in the environment, it is important to identify the physical and chemical properties which influence these processes. General definitions of physical properties are discussed below, followed by a description of the characteristics of certain constituent classes.

5.11 Physical Properties

Physical properties of chemical compounds are important factors in evaluating their environmental distribution and movement. The properties (as defined below) of a given chemical represent behavior of a pure compound under laboratory conditions. These data are used in conjunction with information on environmental conditions to evaluate the fate of environmental contaminants. Selected physical properties are defined below:

- Specific Gravity: The specific gravity of a chemical is the ratio of the mass of a given volume of the chemical to an equal volume of water at a specified temperature, usually 4 or 20 degrees centigrade. As such, specific gravity is a relative measure of density. Compounds with specific gravities of greater than 1.0, if they are relatively immiscible with water, will separate as a sinking phase. Immiscible compounds with specific gravities less than 1.0 will tend to float on water.
- Water Solubility: The solubility of a chemical in water is the maximum amount of chemical that will dissolve in pure water at a specified temperature and pressure. Water solubility is a general predictor of a chemical's potential mobility and distribution in the environment. Chemicals with moderate to high solubility (greater than 100 mg/l) can leach rapidly from soils into groundwater, and once there are generally mobile.
- <u>Vapor Pressure</u>: The vapor pressure of a liquid or solid is a relative measure of its volatility in its pure state. This value expresses the pressure of the gas phase of the compound in equilibrium with the liquid or solid phase of a compound at a given temperature. This pressure is directly proportional to the compound concentration in air. Vapor pressure is important in evaluating the migration of chemicals to air from other environmental media, but factors such as temperature, wind speed, water solubility, and

degree of adsorption also play key roles. Chemicals with vapor pressures greater than 10 mm mercury are considered to be highly volatile.

- Henry's Law Constant: Henry's Law Constant is another measure of chemical volatility. It is expressed as the ratio of the concentration (partial pressure) of a chemical in air to the chemical's concentration in solution, taking into account not only vapor pressure, but also solubility and molecular weight. The higher the Henry's Law Constant value, the greater the rate of volatilization. Chemicals with low Henry's Law Constants are more likely to remain in soils and be subject to other transport processes. In general, compounds with values below 10⁻⁵ (atm-m³/mol) would not be highly volatile and would have a greater potential for movement into groundwater.
- Organic Carbon Partition Coefficient (Koc): This value is a measure of the relative sorption potential for organic compounds. The Koc indicates the tendency of an organic chemical to be adsorbed onto soils and sediments. This value is expressed as the ratio of the amount of chemical adsorbed per unit weight of organic carbon to the chemical's concentration in solution at equilibrium. A chemical with high Koc (greater than 1,000 ml/g) may exhibit a high sorption potential in soils and is less likely to leach into groundwater and will tend to migrate slowly. Koc values of less than 100 ml/g indicate that the chemical may have a high potential to leach into groundwater and migrate with groundwater flow.

5.12 Constituent Types

Four major classes of chemicals were detected at the site: VOCs, SVOCs, PHCs, and metals. The individual characteristics of these four groups of compounds are described below. Table 4 provides a summary of the chemical properties of the compounds detected at the site.

5.12.1 Volatile Organic Compounds

VOCs are termed "volatile" because of their tendency to vaporize at environmental temperatures and pressures. The VOCs observed in the study area include members of two subclasses: aromatic compounds and chlorinated compounds.

Volatile aromatic compounds detected in samples include benzene, toluene, ethylbenzene and xylenes (collectively known as BTEX). These constituents are common components of petroleum products (gasoline, lubrication and fuel oil, etc.), paints, paint thinners, adhesives, and industrial solvents. Aromatic hydrocarbons are generally less dense than water and, thus, would tend to "float" on the water table as LNAPL once their solubility is exceeded. Such high concentrations of aromatic hydrocarbons have not been observed at the site. Aromatic hydrocarbons have moderate solubility values with the exception of benzene, which has a relatively high solubility value. Volatilization may play a significant role in the transport of this chemical class, as Henry's Law Constants range around 10⁻³ atm-

m³/mol and vapor pressures range from 10 to 100 mm Hg. Aromatic hydrocarbons display a moderate degree of adsorption to particulate surfaces (Koc = 100 - 1,000 ml/g); benzene has the lowest Koc (83 ml/g) and ethylbenzene the highest (1,000 ml/g). Therefore, most compounds in this sub-class have the potential to leach from soils and to migrate via surface water or groundwater.

Volatile chlorinated compounds are typically denser than water, and thus, would tend to "sink" below the surface of the water table once their solubility is exceeded. Such high concentrations of chlorinated VOCs have not been observed at the site. Many of these compounds are widely used as degreasing agents in industry. Aqueous solubility values for chlorinated compounds are high (generally greater than 1,000 mg/l). Koc values for the compounds range from about 3 to 160 ml/g, and vapor pressures range from 10 to 1,000 mm Hg. Adsorption to particulate matter is moderate, at best. Therefore, this subclass has the potential for migration in water. With Henry's Law Constants ranging from 10^{-2} to 10^{-4} , volatilization is an important transport process for surficial constituents. Chlorobenzene is the only chlorinated compound detected at the site.

5.12.2 Semivolatile Organic Compounds (SVOCs)

SVOCs detected at the site include the polynuclear aromatic hydrocarbons (PAHs) 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, anthracene, benzo[a]anthracene. benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]pervlene. benzo[k]fluoranthene, chrysene, fluoranthene. fluorene. indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene. PAHs may be constituents of fuel oils, or lubricants, and are byproducts of internal combustion engines and coal burning. PAHs are also commonly found as components of urban fill material. Their behavior is variable and dependent on the number of rings in the molecular structure. Vapor pressures range from 10^{-2} to 10^{-7} mm Hg and Henry's Law Constants range from 10⁻⁴ to 10⁻⁵ atm-M³/mol. Water solubility is typically relatively low, and decreases with the number of rings. Because of the relatively high Koc value, adsorption to organic particulate matter is an important factor in environmental transport of these compounds; their affinity for organic matter generally increases as the number of rings increases. Atmospheric transport of PAHs is possible. This generally occurs by adsorption onto wind-blown particulate matter, but some of the PAHs with relatively low molecular weights display limited volatility.

5.12.3 Petroleum Hydrocarbons

In addition to the aromatic and SVOC compounds described above, PHCs are also common constituents of gasoline and fuel oils. PHCs include primarily alkanes, alkenes, and cylco alkanes. Most of these compounds are not on the list of standard analytes for laboratory testing so their concentrations are not reported. In total, these constituents comprise the majority of hydrocarbons in gasoline and fuel oils. They are less dense than water and relatively insoluble. Lower molecular weight PHCs are relatively

volatile and are not strongly sorbed to soils. Heavier PHCs often exhibit high Koc values indicating a strong tendency toward adsorption to organic matter in soil.

5.12.4 Metals

Metals detected at the site include arsenic, barium, chromium, lead, and mercury. Since most metals are naturally occurring elements, soils and groundwater will contain natural background concentrations of these constituents. Establishment of site-specific background levels is complicated by the inherent variability in subsurface materials.

Physical and chemical properties affecting the distribution and transport of metals are variable among the individual metals species. Many metals are relatively insoluble in groundwater and show little environmental mobility. Their solubility and mobility are affected by a variety of factors including the pH, redox potential of the solution, the presence of other chemical species, and the valence state of the constituent in question. However, metals are typically more soluble in acidic environments.

5.20 DISTRIBUTION OF CONTAMINANTS

Available data on site operations and information regarding the distribution of chemical constituents in soil and groundwater indicates that contaminants reported at the site likely originated from the USTs formerly located on the property. Given that the USTs have been removed, the source of contamination are likely historical. A discussion of the overall distribution of contaminants (based on Phase I and II data) is presented below. Summary data for groundwater and soil are presented in Tables 1 and 2, respectively.

5.21 Soil

During completion of GZA's Supplemental Phase I and Phase II Investigations a total of fourteen soil samples were collected and analyzed for a combination of VOCs TPH and PAHs. Nine samples were analyzed for VOCs via EPA Method 8020, six samples were analyzed for volatile hydrocarbons (TVH) via EPA Method 8015, five samples were analyzed for PAHs via EPA Method 8270, five samples were analyzed for metals, and ten samples were analyzed for TPH via Modified EPA Method 8100.

VOCs were detected in six of nine soil samples from the site at relatively low concentrations (with total VOC concentrations ranging between 0.02 to 3.0 mg/kg). The highest concentrations were detected in SS-4, S-2 (located within the area of the former UST) and SS-2, S-2 (located southwest of the area of the former UST). Specific constituents detected included benzene, ethylbenzene, toluene m & p xylenes and chlorobenzene.

Total volatile hydrocarbons were detected in all six of the samples analyzed with concentrations between 0.018 ppm (SS-1, S-1) and 410 ppm (SS-2, S-2) and averaging approximately 108 ppm.

PAHs were detected in three of the five samples analyzed with the maximum concentrations for most of the PAHs being detected in sample SS-1 located in the western corner of the area formerly occupied by the UST.

TPH was detected in seven of the ten samples analyzed with concentrations ranging between 48 ppm (SS-1 0'-2') and 2,100 ppm (SS-2 2'-4') and averaging approximately 530 ppm.

Selected soil samples were analyzed for arsenic, barium, chromium, lead and mercury. Arsenic was detected in three of five samples with concentrations up to 6.5 ppm, barium was detected in five of five samples with concentrations up to 47.6 ppm, chromium was detected in five of five samples analyzed with concentrations up to 21.2 ppm, lead was detected in five of five samples with concentrations up to 225 ppm, and mercury was detected in three of three samples analyzed with concentrations up to 2.11 ppm. All of these concentrations are within the background levels reported in literature for the Eastern United States.³ These background concentrations are 73 ppm for arsenic, 1,500 ppm for barium, 1,000 for chromium, 300 ppm for lead and 3.4 ppm for mercury.

Based on the analytical results of the soil samples collected, it is apparent that residual soil contamination at the site is relatively minor in magnitude and is limited to the area of the former UST which was formerly located between the two main buildings on the property (See Figure 2).

5.22 Groundwater

During completion of GZA's Phase I and Phase II Investigation, we collected a total of 17 groundwater samples from the eight monitoring wells at the site. Groundwater samples were analyzed for VOCs via EPA Method 8020 (seventeen samples), PAHs via EPA Method 8270 (three samples), TVH via EPA Method 8015 (seventeen samples), TPH via modified EPA Method 8100 (eight samples) and metals via standard EPA methodologies (eight samples). The analytical results indicated low levels of contamination in each of the monitoring wells installed within the Site and do not indicate the presence of a distinct plume.

VOCs were detected in fifteen of seventeen groundwater samples collected from the site at relatively low concentrations (with total VOC concentrations ranging between 0.0013 ppm top 9.86 ppm. The highest concentrations of VOCs were detected in a sample collected from MW-3 located adjacent to the area where the USTs were formerly located. The VOCs detected and concentrations are presented on Table 1. TVHs were detected in thirteen of seventeen samples analyzed with detected concentrations ranging between 0.01 to 16 ppm with an average of 2.1 ppm. Two of the PAHs analyzed for were detected at two locations

[&]quot;Element Concentrations in Soils and other Surficial Materials of the Conterminous United States", (USGS Paper 1270, 1984). Data for Eastern United States

(MW-1 located east of the former UST area and MW-3 located southwest of the former UST area). Concentrations of the two PAHs detected (1-methylnaphthalene and 2-methylnaphthalene) were low and ranged up to 0.075 ppm. TPH was detected in four of the eight samples analyzed with detected concentrations averaging 2.4 ppm and ranging between 0.25 and 5 ppm. Metals detected in groundwater samples collected from the site include arsenic (up to 0.041 ppm), barium (up to 0.2 ppm), chromium (up to 0.03 ppm) and lead (up to 0.042 ppm).



5.30 BACKGROUND LEVELS

PHC, BTEX and metals can be found in soils and groundwater due to sources which fall within the definition of "background" within the MCP (e.g., due to fill materials containing coal or wood ash or petroleum residues incidental to normal operation of motor vehicles). For the purposes of this study, however, and due to the lack of available definitive evidence to the contrary, we have conservatively assumed that "background" levels for these contaminants would be generally below detection limits at the 70 Cross Street Site. The one exception to this is for metals in soil. As indicated above, we have used published USGS information for average metals concentrations in soils in the Eastern United States as a benchmark for assessing potential soil impacts at the site.

5.40 MIGRATION PATHWAYS AND FATE OF CONTAMINANTS

Contaminants released to the environment may migrate via a variety of transport mechanisms through various media (air, soil, groundwater, and surface water) potentially affecting environmental or human receptors. Thus, the evaluation of the migration potential and ultimate fate of chemicals represents a key element of the Phase II investigation. At the 70 Cross Street East site, migration through groundwater has been identified as the principal transport mechanism for site contaminants. The following sections discuss migration pathways, and general and chemical-specific transport and attenuation mechanisms for constituents detected during the investigation, focusing primarily on groundwater related factors.

5.41 Migration Pathways

The primary transport pathway at the site is groundwater flow. Regionally, groundwater in the site area flows to the northeast, with the Mystic River as the primary discharge point. Migration through the soil is also a potential transport route; however,

5.42 Transport Mechanisms

Chemical constituents can enter the groundwater flow regime via percolation of discharged liquids, or the infiltration of precipitation through contaminated soil. Once chemicals enter the groundwater they can be transported by two mechanisms: advection and dispersion.

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Advection involves the transport of dissolved constituents by the bulk motion of groundwater flow. Absent attenuation mechanisms (discussed below), dissolved constituents can be assumed to flow in the direction of groundwater flow at an average rate equal to the groundwater pore (transport) velocity. Two types of dispersion, chemical and mechanical, act to spread chemicals in groundwater. Transport via chemical diffusion is an extremely slow process driven by concentration gradients. Mechanical dispersion is governed by soil characteristics described by dispersion coefficients. Generally, chemical migration via dispersion can be considered limited in comparison to advective transport. Therefore, for the purpose of evaluating contaminant transport at the site, dispersion was considered to be negligible and only advection was considered as the governing transport mechanism.

5.43 Attenuation Mechanisms

There are a number of processes which operate to reduce chemical concentrations in the groundwater as it migrates through the subsurface. These include dispersion, which acts as a dilution process to reduce chemical levels (and which has been considered negligible as described above), as well as adsorption, biodegredation, and volatilization.

Adsorption is the temporary or permanent immobilization of constituents by attachment to solid substrates. Adsorption is generally the most significant attenuation mechanism for metals and high molecular weight organic compounds migrating through soils. Primary adsorption sites include organic matter, which is present at variable levels within essentially all soils, and colloidal particles. The magnitude and rate of adsorption is a function of the chemical nature of the constituents, the nature and availability of the solid substrate, and the concentration of the constituent. Biodegredation is the transformation of organic compounds by microorganisms present in the soils. The rates and by-products of biodegredation can be highly variable depending upon the nature of chemicals present, the species of microorganisms, availability of nutrients, and general groundwater chemistry. Volatilization is the transformation of a chemical from the solid or liquid phase to the gaseous state, thus reducing chemical concentrations in the source material.

5.44 Site-Specific Migration Issues

Petroleum constituents found in groundwater within the Site will migrate to some extent with groundwater flow. The rate of contaminant migration will be controlled by groundwater transport velocities (see Section 4.23) and adsorption effects.

For the VOCs of concern at the Site, adsorption will reduce the transport velocity of the contaminants relative to groundwater pore velocities. This reduction, often termed a retardation factor, is a function of soil organic carbon content, contaminant properties, and physical characteristics of the soil mass. For the BTEX compounds in sand and gravel strata, retardation factors are generally low to moderate in magnitude, ranging from about 1.5 (where the contaminant takes 50 percent longer to reach a given distance) to 4.5 (where it

takes about 350% longer). Retardation factors for heavier weight petroleum constituents, including PAHs, are significantly longer. Even if we ignore adsorption effects, the estimated travel time to the Mystic River is over 450 years, base on a travel distance of 2,300 feet and a groundwater pore velocity of 5 feet/year.

During the time it takes the contaminants to reach the Mystic River, Site contaminants will be subject to biodegradation. Numerous recent studies indicate that biodegradation of aromatic hydrocarbons by naturally occurring microbes can attenuate concentrations to the point where no significant migration occurs beyond the source area. This process, sometimes termed "intrinsic bioremediation", has been endorsed by a number of regulatory agencies as a viable remedial alternative at petroleum sites. For the 70 Cross Street Site, the effects of natural attenuation will reduce concentrations of petroleum constituents over time and limit any off-site impacts.

5.45 Estimating Contaminant Concentrations at Possible Receptors

While the above analysis (Section 5.44) is qualitatively sound, the quantitative variability of the above discussed mechanisms is significant. As such, and given the difficulty of numerically predicting the magnitude of attenuation effects on the compounds observed at the Site, these processes were not considered in predicting concentrations at potential receptors. Therefore, the projected chemical concentrations estimated at the potential receptors presented herein are considered to be conservative, i.e. an overestimate of the chemical concentrations which would actually be expected.

The potential receptor for contaminants migrating in groundwater at the Site is the Mystic River. To evaluate potential impacts on the river from groundwater flowing from the Site, a mass balance approach was employed. This approach conservatively projected contaminant concentrations in the river based on flow estimates determined from a tidal study completed on the site. As indicated above, attenuation mechanisms were ignored in this analysis, as a conservative measure.

The mass balance approach for estimating concentrations at the Brook reduces to the following equation.

$$C_R = \frac{(Q_S \times C_S)}{Q_R}$$

Where:

 C_R = Concentration at receptor (Mystic River).

 Q_S = Groundwater flow rate at the site.

 C_S = Average concentration in source area.

 Q_R = Receptor (River) flow

The ratio of source concentration to receptor concentration, often termed the dilution factor, would be represented by:

$$\frac{C_S}{C_R} = \frac{Q_R}{Q_S}$$

This method is also conservative because it does not take into consideration, dilution due to infiltration which occurs between the site and the river, which may be substantial due to the distance to the river. Site/source flow was calculated to be approximately 96 ft³/day (0.48 gpm) in Section 4.33. The flow in the Mystic River was estimated based on 69 ft³/sec. This flow rate was estimated based on a drainage area for the Mystic River of 62.7 square miles (mi²) (conservatively estimated from the USGS Boston North Topographic Quadrangle) and an average flow rate factor of 1.1 cubic feet per second per square mile (cfs/mi²) (based on USGS hydrologic information for the Mystic/Malden river system). As a conservative step, we only used one half of the estimated flow in the Mystic River or 34 ft³/sec (48,960 ft³/day). These estimates yield a conservative dilution factor of approximately 510 for average source area concentrations.

6.00 RISK CHARACTERIZATION

GZA GeoEnvironmental, Inc., (GZA) has completed a characterization of the risk of harm to health, safety, public welfare, and the environment associated with potential exposures to oil and/or hazardous material (OHM) present in soil and groundwater at the Somerville Lumber (referred to as the "Site") located at 70 Cross Street, Somerville, Massachusetts. The Site boundaries are shown in Figure 1 of this report. The primary OHMs at the Site are petroleum-related compounds and volatile organic compounds associated with previous underground storage tanks which reportedly contained gasoline, diesel, fuel oil No. 2, and waste oil. In accordance with the Massachusetts Contingency Plan (MCP-310 CMR 40.0900), this evaluation characterized risks under current and reasonably foreseeable Site activities and uses. The results of the risk characterization were used to establish whether a condition of no significant risk has been achieved at the Site. This risk characterization is subject to the limitations included in Appendix A.

6.10 METHODOLOGY

The current MCP describes two basic approaches (a chemical-specific approach and a cumulative risk approach) and three methods (Method 1, Method 2, and Method 3) for performance of risk characterizations. Subpart I of the MCP (310 CMR 40.0900) describes the procedures, criteria, and standards for the characterization of the risk of harm to health, safety, public welfare, and the environment.

GZA conducted a Method 3 Risk Characterization for the Site based on soil and groundwater data collected in 1989, 1995 and 1996. A Method 3 Risk Characterization consists of comparison of site-specific information to a Cumulative Cancer Risk Limit of one-in-one hundred thousand (1 x 10⁻⁵); a Cumulative Noncancer Risk Limit (or Hazard Index [HI]) equal to one; and promulgated health, safety, public welfare, and environmental standards, described in 310 CMR 40.0990 through 310 CMR 40.0999.

A Method 3 Risk Characterization consists of the following components which are described below: hazard identification, exposure assessment, dose-response assessment, human health risk characterization, safety and public welfare risk characterization, and environmental risk characterization.

6.11 Hazard Identification

The hazard identification summarizes the nature and distribution of OHM at the Site based on observations of the Site and analytical data gathered between June 1991 and October 1996. Additionally, toxicity profiles for contaminants detected in soil and groundwater were developed or compiled. Based on this information, we selected contaminants of concern (COCs) for quantitative evaluation.

6.12 Exposure Assessment

The exposure assessment portion of the Method 3 Risk Characterization includes categorization of soil and groundwater. The criteria for classification are based on Site characteristics, Site activities and uses, potential receptors, exposure points, and exposure pathways. The soil and groundwater categories determined for the Site are considered to be general indicators of exposure potential for a Method 3 Risk Characterization. Exposure profiles, which provide a description of how exposure takes place at a site, were developed for each of the receptors identified for all current and foreseeable uses of the Site.

6.13 Dose-Response Assessment

The dose-response assessment describes the observed effects in humans and/or laboratory animals associated with particular exposures (or doses) of contaminants. This information was gathered from published literature describing epidemiologic or toxicologic studies involving a particular contaminant.

6.14 Human Health Risk Characterization

The human health risk characterization considers site, receptor, and exposure information for all current and foreseeable future site activities and use. Cumulative noncancer and cancer risks are calculated for each receptor and compared to applicable risk

management criteria. In addition, estimated exposure point concentrations are compared to all applicable or suitably analogous health standards.

6.15 Safety Risk Characterization

The risk of harm to safety is characterized by comparing current and reasonably foreseeable conditions at the disposal Site and in the surrounding environment to applicable or suitably analogous safety standards. Release-related conditions at the Site are considered to determine whether the Site poses a threat of physical harm or bodily injury to people.

6.16 Public Welfare Risk Characterization

The public welfare risk characterization considers factors including the existence of nuisance conditions, unilateral restrictions of the use of another person's property, and any non-pecuniary costs which may accrue due to the degradation of public or private resources directly attributable to the release of oil or hazardous material. Additionally, the risk of harm to public welfare is characterized by comparing concentrations of contaminants present in soil and groundwater to the Upper Concentration Limits (UCLs) listed in 310 CMR 40.0996(4). UCLs in soil and groundwater are concentrations of contaminants which, if exceeded, indicate the potential for significant risk of harm to public welfare and the environment under future conditions.

6.17 Environmental Risk Characterization

The risk of harm to the environment is generally characterized through the assessment of biota and habitats at and in the vicinity of the Site, using a one or two stage approach. In Stage I, the objective is to identify whether significant risk of harm to Site biota and habitats may occur due to the presence of OHM as described in 310 CMR 40.0995(3). If there is a potential for adverse effects to ecological receptors, a more detailed Stage II assessment is required as described in 310 CMR 40.0995(4). For this Site, the Stage I environmental screening did not identify current or potential exposure to environmental receptors. Therefore, only a Stage I assessment was performed.

6.20 HAZARD IDENTIFICATION

A detailed description of the nature and distribution of OHM in soil and groundwater at the site is presented in the main body of this report. A summary of the data, considered part of the risk characterization, is provided below. The risk characterization is based on soil and groundwater analytical data gathered during the remedial investigation conducted on the property.

6.21 Nature And Distribution Of Contaminants

The contaminants identified in soil at the Site are petroleum hydrocarbons (PHCs) (reported as total petroleum hydrocarbons (TPH) and Volatile Hydrocarbons), polycyclic

aromatic hydrocarbons (PAHs), volatile organic compounds (VOC), and metals. All of these soil samples collected are in areas that are currently under pavement. In groundwater, the primary contaminants are the same as those in soil, with the exception of PAHs. Sections 6.21.1 and 6.21.2 provide a summary of the soil and groundwater data considered as part of the risk characterization.

6.21.1 Soil

Soil samples were collected at three different times, in 1989, 1995, and 1996. The data are summarized in Table 5.

The samples collected in 1989 and 1995 were analyzed for five VOC: benzene, chlorobenzene, ethyl benzene, toluene, and m- and p-xylenes; Total Volatile Hydrocarbons (Method 8015); four metals: arsenic, barium, total chromium, lead, and mercury; and Total Petroleum Hydrocarbons (TPH). Samples were collected at seven locations: MW-1A, MW-2A, MW-3A, (at depths of 0 - 1.5 ft); SS-1 (at 0 - 1 ft); SS-2 (at 0 - 2 ft and 4-6 ft); SS-3 (at 8-10 ft); and SS-4 (at 4-6 ft). The concentrations of VOCs are all relatively low, with the maximum concentration being 0.95 ppm for ethyl benzene. The maximum concentrations for the individual VOC are from SS-2 and SS-4 at the 4 - 6 ft interval. The Total Volatile Hydrocarbon data includes benzene, ethyl benzene, toluene, and xylenes (BTEX). The Total Volatile Hydrocarbon data were corrected to account for the BTEX compounds and the maximum concentration is 408 ppm from SS-2 at the 4 - 6 ft interval. Metals were not analyzed for ins samples collected from locations SS-1 and SS-3. The maximum concentrations of arsenic and chromium are from MW-2A and are 6.5 ppm and 21.2 ppm, respectively. The maximum concentrations of lead and mercury are found at MW-3A at 525 ppm and 2.11 ppm, respectively. The maximum concentration of barium, 48.6 ppm, is at SS-4.

The samples collected in 1996 were only analyzed for PAHs and TPH. The locations sampled in August include SS-1 and SS-2 at the 0 - 2 ft and 2 - 4 ft intervals and in November the SS-1 location at 0 - 2 ft was re-sampled. At locations SS-1, 2 - 4 ft and SS-2, 0 - 2 ft all analytes were below method detection limits. It is assumed that these locations represent clean fill put in place when the underground storage tanks were removed and thus are not included in the calculation of the exposure point concentrations. Four PAHs, 1- and 2-methylnapthalene, acenapthalene, and fluorene, have their maximum concentrations at SS-2, 2 - 4 ft; the highest concentrations for the remaining PAHs are found at SS-1, 0 - 2 ft. TPH is the one analyte for which data are available from all sampling dates. Concentrations ranged from 48 ppm at SS-1, 0 - 2 ft to 2100 ppm at SS-2, 2 - 4 ft.

6.21.2 Groundwater

Groundwater data were collected in 1989, 1995, and again in 1996 at five monitoring wells (MW-1 through MW-4 and MW-A and at three Checkwells (CW-1

through CW-3). The analytes included VOCs, Total Volatile Hydrocarbons, Semi-Volatile Hydrocarbons (SVOC), TPH, and metals. VOCs are the only analytes for which data were generated in all groundwater samples.

The data, summarized in Table 6, indicate that of the nine VOCs detected at the site, chlorobenzene and ethyl benzene were detected the most frequently (6 out of 8 samples) with maximum concentrations of 1.9 ppm at MW-3 for chlorobenzene and 0.052 at CW-2 for ethyl benzene. The Total Volatile Hydrocarbon data were corrected for the BTEX compounds in the same manner as the soils data. The maximum concentration is 15.9 ppm from CW-2. Two SVOCs were detected in only three samples, 1- and 2-methylnapthalene. 1-Methylnapthene is present at higher concentrations. TPH is at or above the method detection limit in three out of five samples, and is generally low for nonpotable groundwater. Four metals were analyzed: arsenic, barium, chromium, and lead. Arsenic was detected most frequently (five out of five) and at the highest concentration, 0.029 ppm at MW-4. Barium and chromium were detected in four out of five samples with maximum concentrations of 0.043 and 0.008 ppm, respectively (both at MW-4). Lead was only detected once, in MW-1 at 0.002 ppm.

6.22 Selection Of Contaminants Of Concern

COCs are those chemicals which are both identified at the Site and are associated with a release of OHM. Unless specific justification can be provided for eliminating a chemical from the risk characterization, all chemicals detected at a site are considered to be COCs and are carried through the risk characterization process.

Chemicals may be eliminated from the list of COCs if they are present at low frequency of detection and in low concentrations; if they are present at levels which are consistent with "background" concentrations for the area and there is no evidence that these chemicals are related to activities at the site; or if the chemicals are field or laboratory contaminants. In the present case, no detected compounds were eliminated as COCs in soil or groundwater based on these criteria.

6.23 Toxicity Profiles

Toxicity profiles for the identified COCs were developed or compiled for the contaminants detected in Site soil and groundwater. The toxicity profiles provide summaries of information on mechanisms of toxic action, acute and chronic noncarcinogenic effects, and potential carcinogenicity from human and animal studies, as well as data on chemical and physical properties, and transport and fate processes. Toxicity profiles are presented within Appendix E. These profiles provide general information and do not relate directly to potential effects associated with exposures at the Site.

6.30 EXPOSURE ASSESSMENT

The purpose of the exposure assessment is to provide an estimate of the representative concentrations of OHM which a receptor may contact at the Site over a period of time. This is accomplished through identification and assessment of Site characteristics, Site activities and uses, potential receptors, exposure points, exposure pathways, and exposure point concentrations (EPCs), and uptake (through ingestion, direct contact, inhalation, etc.) by receptors. In addition, the MCP requires categorization of soil and groundwater at the study Site based on receptors and exposure potential. The following sections describe each of the steps involved in this component of the Method 3 Risk Characterization.

6.31 Site Description

The Somerville Lumber facility is comprised of three adjacent parcels located near the intersection of Route 28 (the McGrath Highway) and Interstate 93 in a mixed commercial/industrial portion of Somerville. The 70 Cross Street East property is the eastern most parcel of the three and is located between Garfield Avenue and Cross Street. Mystic Avenue and Interstate 93 are located to the north, a recreation park is locate to the east, Guber and Sherman, Inc., a metals manufacturing firm is to the south and Garfield Avenue and the remainder of the Somerville Lumber facility are located to the west of the site. The Mystic River is located approximately 2,300 feet north of the site; the closest residential property is approximately 250 ft southwest of the site.

The property includes two single-story wood buildings and one two-story concrete block building. These buildings are used for storage of merchandise and are not considered occupied as defined in the MCP (310 CMR 40.0900) The remainder of the property is paved except for a small strip of landscaping along Mystic Avenue. This parcel is currently utilized by Somerville Lumber as a warehouse/receiving facility; it is entirely surrounded by a chain link fence with a guard shack. No other structures are within the disposal site. The property is serviced by public water and sewer and is heated by oil.

As described in Section 4.00 of this report, regional groundwater is believed to be to the east toward the Mystic River. Based on the groundwater elevation survey completed at the property, however, local groundwater flow patterns appear to be somewhat more complex, presumably due to the urban nature of the local environment. Based on this inferred flow direction, the site is hydrologically upgradient of the Mystic River. Depth to groundwater at the site ranges from 5 to 7 feet below ground surface.

Electrical lines traverse the property and the disposal site underground as shown on Figure 2. This utility corridor is located approximately three feet below ground surface, above the water table. Water lines are also underground, along Mystic Avenue. Telephone lines are overhead.

6.32 Current And Future Site Use

The Site is currently used as a lumber warehouse/receiving area. In the future, we have assumed the Site will remain commercial/industrial. An Activity and Use Limitation (AUL) will be implemented at the Site, as described further Appendix D. In accordance with the MCP (310 CMR 40.0923(3)(b)), we have excluded evaluation of activities and uses restricted by the AUL. Specifically, the AUL is designed to prohibit use of the site for: (1) residential usages including single or multiple family homes; apartment complexes; commercial usage while site is unpaved; etc. and (2) playgrounds, parks and daycare centers.

A Notice of AUL, reflecting these assumptions, has been recorded with the County Registry of Deeds and is included in Appendix D.

6.33 Soil And Groundwater Categorization

As required by the MCP (310 CMR 40.0993(2)), we identified soil and groundwater categories applicable to the Site. These categories, defined in 310 CMR 40.0932 and 40.0933, are considered to be general indicators of exposure potential for a Method 3 Risk Characterization.

6.33.1 Identification of Applicable Groundwater Categories

The MCP identifies three different groundwater categories (GW-1, GW-2 and GW-3) which correspond to the potential for three different types of exposures. Site, receptor, and exposure information were used in conjunction with the criteria outlined in 310 CMR 40.0932 to determine the appropriate groundwater category. Groundwater at all sites is considered a potential source of discharge to surface water and, at a minimum, is classified as Category GW-3. However, if groundwater represents a potential source of drinking water or a potential source of vapors to indoor air, it may also be classified as Category GW-1 and/or GW-2.

Based on a review of the Massachusetts GIS Priority Resources Map for the Boston North Quadrangle, the Site is not within a Zone II, Interim Wellhead Protection Area, or Potentially Productive Aquifer, nor is the Site located within the Zone A of a Class A Surface Water Body. There are no public or private water supplies located in the vicinity of the Site. Furthermore, groundwater is not located 500 feet or more from a public water system distribution pipeline; Somerville receives its water from the MWRA. Based on this information, the Site does not meet any of the criteria for classification of groundwater as GW-1.

Groundwater in portions of the site meets the criteria for classification as Category GW-2 since it is within 30 feet of an occupied building (while the on-site buildings are not considered to be "occupied" as defined under the MCP, the abutting

facility is considered occupied) and the average annual depth to groundwater at the site is 15 feet or less.

In summary, Site groundwater is classified as Category GW-2 and GW-3.

6.33.2 Identification of Applicable Soil Categories

As required by the MCP (310 CMR 40.0933), soil was classified according to the potential for exposure to soil. Category S-1 soils are associated with the highest potential for exposure while Category S-3 soils are associated with the lowest potential for exposure. Potential for exposure to contaminants in soil is described in terms of a receptor's frequency and intensity of Site use and the accessibility of soil. Soil was classified considering both current and reasonably foreseeable Site activities and uses.

6.33.3 Frequency and Intensity of Use

Frequency of use describes how often a receptor makes use of, or has access to, the Site. Intensity of use describes the nature of Site activities and uses which could potentially result in exposure to the receptor. Frequency and intensity of use are described as either high or low. The following paragraphs characterize frequency and intensity of use for both current and future Site use.

According to the MCP, frequency of use is defined as high if adults reside or work at the Site on a continuing basis (i.e., full days or shifts of eight or more hours per day on a continuing basis). Since adult employees work in Site buildings, their frequency of use is considered to be high. Since their activities at the Site are unlikely to disturb soil (if it were exposed), their intensity of Site use may be considered low. The frequency of site use for utility workers or site redevelopment workers is expected to be low because installation, repair and excavation of utilities or redevelopment is typically of short duration. Intensity of use would be classified as high for these receptors because the activities in which they would be involved have the potential to disturb soil. For children and adults living nearby and frequenting the site as customers, frequency of site use is expected to be low because, although the site is open to the general public, the stock area is not likely to be visited on a regular basis by anyone but employees of Somerville Lumber. Trespassers are considered a potentially exposed population during future site redevelopment work, however, currently as the site is fenced and guarded they are not considered an exposed population.

6.33.4 Accessibility

As indicated in the MCP, soil shall be characterized as "accessible" if it is located at a depth of 0 to 3 feet and is unpaved, and as "potentially accessible" if it is located at a depth of 0 to 15 feet below a paved surface. Soil at depths greater than 15 feet below ground surface and soil which is covered completely by a building or other permanent structure which does not have earthen floors is characterized as "isolated". Currently, the entire Site is paved, covered by buildings, or covered by small landscaped islands. An AUL will be implemented at the Site to ensure that these conditions remain after any future redevelopment. Site soil is therefore classified as potentially accessible or isolated under both current and future Site use.

This information and the Soil Category Selection Matrix presented in Table 40.0933(9) of the MCP were used to classify Site soil under current and future use. Based on the frequency and intensity of Site use and the accessibility of soil, soil is characterized as Category S-3 under current Site use. For a Method 3 Risk Characterization, this soil category is considered to be a general indicator of low exposure potential. Based on the continued use of the site as a commercial facility, frequency and intensity of site use and the accessibility of soil will remain the same in the future. Therefore, under future conditions, soil at the site may also be characterized as Category S-3.

In summary, site soil is classified as Category S-3 under current and anticipated future conditions, and groundwater is classified as Categories GW-2 and GW-3.

6.40 POTENTIAL HUMAN RECEPTORS, EXPOSURE POINTS, AND EXPOSURE PATHWAYS

Based on the nature and distribution of contaminants in soil and groundwater and the Site characteristics, activities and uses discussed above, we identified potential human receptors who are likely to be exposed to contaminants based on their presence at or near the Site. For each identified receptor at each exposure point, all probable exposure pathways were identified based on Site activities and use and the presence of contaminants in various media. Only complete exposure pathways were quantitatively evaluated as part of the human health risk characterization. A complete exposure pathway consists of the following elements:

- a source and mechanism of chemical release;
- a retention or transport medium;
- a point of potential human contact (exposure point); and
- an exposure route.

Prior to the selection of exposure scenarios to be evaluated, we performed a screening analysis of potential exposures for identified receptors. We eliminated scenarios if: (1) the

potential magnitude of exposure was very low, (2) the exposure from one route was less significant than that from another involving the same medium at the same exposure point, and (3) the probability of exposure occurring was very low and the risks associated with the occurrence were not high (U.S. Environmental Protection Agency [EPA], December 1989). Our screening analysis and exposure profiles are summarized in Table 7.

As indicated in Section 6.32, the Site is in a mixed commercial/industrial and residential area. As noted above, the AUL to be filed for this Site prohibits residential use of the Site.

During Site redevelopment or utility repair activities, construction/utility workers may be exposed to contaminants in surficial and subsurface soil, and groundwater. We evaluated dermal contact, and incidental ingestion exposure to soil. Since groundwater is at approximately five to seven feet below ground surface, workers may be exposed via dermal contact, incidental ingestion, and inhalation of VOC during subsurface work.

Local residents who trespass on the Site during future site redevelopment work may be exposed to COCs in surficial or subsurface soils via dermal contact or incidental ingestion. Residents living near the Site may be exposed to fugitive dust via inhalation during the duration of the on-site construction activities that mechanically disturb the soils. However these exposures are considered insignificant given the small area of contaminated soil.

Employees working at the Site cannot be exposed to Site COCs through direct contact with surficial soils because the entire Site is currently paved or covered by buildings. Since there are only low levels of VOCs detected in the groundwater and the buildings are used as warehouses, vapor intrusion into the on-site buildings is also not considered a significant source for an exposure pathway for employees.

6.50 CALCULATION OF EXPOSURE DOSE

The general equations used to estimate Average Daily Exposure (ADE), Lifetime Average Daily Exposure (LADE), Average Daily Dose (ADD), and Lifetime Average Daily Dose (LADD) are:

ADE (or LADE) = Exposure point concentration * Fraction of time exposed during averaging period

ADD (or LADD) = Total amount of OHM contacted/ingested * Absorption Adjustment
Factor

Body weight * Averaging Period

The ADD/LADD equation was used to evaluate the risk of harm to health for dermal contact and incidental ingestion exposures to COCs in soil by utility and site

6 month period of Site redevelopment work (or approximately 130 events over 182 days). To evaluate dermal contact with groundwater, we assumed that workers would encounter groundwater for one-quarter of the 6 month redevelopment (or 32 days over 182 days).

6.51.3 Local Resident/Trespasser

Exposure to a local resident/trespasser is assumed to occur only if the Site is redeveloped in the future. During Site redevelopment, both surficial and subsurface soils that are currently inaccessible could be brought to the surface. We conservatively assumed the trespasser would be exposed to soil contaminants via dermal contact with arms, hands, and lower legs; and via incidental ingestion of soils at the rate of 100 milligrams per day (mg/day) per DEP. We assumed that, during the 6 month (or 182 days) of Site redevelopment, the local resident would trespass on the Site for 2 days per week during school months and 5 days per week during summer months (or approximately 87 days over 182 days).

6.52 Chemical-Specific Exposure Parameters

Chemical-specific exposure parameters include soil and volatile EPCs and AAFs. Each of these is discussed below.

6.52.1 Exposure Point Concentrations

Arithmetic average concentrations, that provide an estimate of the concentration which a receptor can potentially contact at an exposure point over the period of exposure, were used to represent EPCs. EPCs may be developed using monitoring data gathered during the Site investigation or through the use of fate and transport models.

Soil

For soil direct contact pathways (incidental ingestion and dermal contact), the EPCs

were set equal to the arithmetic mean of concentrations measured in soil samples listed below. There are insufficient data to separate the soil data for individual receptors.

The sample locations used to calculate the EPCs in soil are as follows:

- PAHs: SS-1A (0 2 ft), SS-1 (0 2 ft), and SS-2 (2 4 ft);
- VOC: SS-1, SS-2, SS-3, SS-4, MW-1A, MW-2A, and MW-3A;
- Total Volatile Hydrocarbons: SS-1, SS-2, SS-3, and SS-4;
- Metals: SS-2, SS-4, MW-1A, MW-2A, and MW-3A; and
- TPH: SS-1A, SS-1, SS-2, SS-4, MW-1A, MW-2A, and MW-3A.

⁶ We examined a 6 year old child based on DEP guidance which indicates that this age would have the highest exposure rate (in milligrams per kilogram per day) over a one year subchronic period.

Groundwater

All groundwater locations were used to calculate the EPC in this media for direct contact as well as for inhalation of VOC in trench air. The model used to calculate ambient air concentrations is discussed in detail in Appendix F. Table 12 summarizes the input parameters for this model and the predicted concentrations.

The EPC are summarized in Table 13 by environmental medium (i.e., soil, groundwater, and ambient trench air) for each receptor.

6.60 DOSE-RESPONSE ASSESSMENT

The dose-response portion of the risk assessment provides information which relates exposure to contaminants to anticipated health effects. Toxicity information is used to quantitatively characterize the relationship between the dose of a contaminant and the incidence of adverse health effects in an exposed population. Data obtained from published literature describing epidemiologic or toxicologic studies involving a particular contaminant was used when available. The U.S. EPA has published contaminant-specific Reference Doses (RfDs) and RfCs for threshold effects and Cancer Slope Factors (CSFs) and unit risks for non-threshold effects. The values were developed to assess exposures through the ingestion and inhalation routes. No values have been established for direct contact exposures; however, it is standard practice to use values derived for ingestion to evaluate direct (dermal) contact exposures.

Toxicity values for the evaluation of potential exposures via the identified exposure routes were obtained from: (1) U.S. EPA, Integrated Risk Information System (IRIS) (an on-line database which is updated monthly), (2) U.S. EPA Health Effects Assessment Summary Tables (HEAST), or (3) Massachusetts DEP, Office of Research and Standards (ORS), Documentation of the Risk Assessment Shortform-Residential Scenario, Appendix D (U.S. EPA, June 1995, U.S. EPA, March 1994, Massachusetts DEP, October 1992).

Due to the variability associated with TPH composition, U.S. EPA has not derived dose-response values for this class of contaminant. However, in an effort to determine a quantitative method for TPH evaluation, MADEP (August 1994) published information on toxic effects for whole products as well as components and proposed alternate RfDs for some TPH components. These elements, as they pertain to the Site, are discussed in Section 6.43. In addition, U.S. EPA's relative potencies for carcinogenic PAH's are described in Section 6.44. In Sections 6.45 and 6.46, respectively, contaminant absorption adjustment factors and skin permeability coefficients used in the risk characterization are presented.

6.61 Noncarcinogenic Effects

For noncarcinogenic health effects, it is believed that a threshold level exists at or below which no adverse health effects would be expected. This dose or threshold is called a No-Observed-Adverse-Effect Level (NOAEL). The lowest dose at which an adverse effect occurs is identified as a Lowest Observed Adverse Effect Level (LOAEL). EPA generates dose-response values for noncarcinogenic effects, or RfDs, by applying uncertainty factors to a NOAEL or LOAEL obtained from studies of dose-response relationships. The purpose of these uncertainty factors is to establish exposure levels that are protective of human health, even for sensitive subpopulations. Uncertainty factors of 10 are used as appropriate to account for interspecies variability between humans and other mammals used in dose-response studies; use of a NOAEL derived from a subchronic rather than a chronic study; uncertainty when extrapolating from LOAELs to NOAELs; and variation in the general population which is intended to protect sensitive subpopulations (elderly, children). A modifying factor (MF) is an additional uncertainty factor that allows for "professional judgment", relative to confidence in the studies, in the estimation of allowable levels. The default MF is 1.

The chronic (oral) RfD and (inhalation) RfC, which may incorporate MFs and uncertainty factors, are conservative estimates of ADE levels for humans, below which no adverse noncarcinogenic health effects are expected to occur over long periods of exposure. The units of the RfD are mg/kg-day (mg chemical/kg body weight per day). The units of the RfC are mg/m³ (mg chemical/m³ volume of air). The subchronic RfD and RfC are calculated in a manner analogous to the chronic benchmarks; however, they are designed to be protective of shorter duration exposures (generally defined as representing exposures lasting from several days to less than 7 years).

Noncarcinogenic dose-response information for contaminants detected in Site soil and groundwater is provided in Tables 14 and 15, for oral (and dermal) and inhalation exposure routes, respectively.

6.62 Carcinogenic Effects

For carcinogenic effects, the dose-response curve indicates the relationship between the dose and the probability of developing cancer. In contrast to the dose-response assessment of noncarcinogenic effects, carcinogens are assumed to act without a threshold. For carcinogenic substances, it is assumed that there is some level of cancer risk associated with every non-zero dose. The dose-response assessment for contaminants suspected to be human carcinogens includes a weight-of-evidence classification and an (oral) CSF or (inhalation) unit risk. The weight-of-evidence classification indicates the likelihood that a compound is a human carcinogen based on the quality of evidence from human and animal studies and other supportive information such as mutagenic effects or structure-activity data. CSFs and unit risks are a measure of the cancer-causing potency of a substance in humans.

the linearized multistage model (for animal data) to extrapolate from high experimental doses to low environmental doses. The dose-response curve indicates the relationship between the dose of a particular chemical and the probability of obtaining cancer over a lifetime. The U.S. EPA utilizes the 95 percent upper confidence limit of the slope of the dose-response curve from the multistage model, expressed in (mg/kg-day)⁻¹. Use of a CSF assumes that the calculated dose received is expressed as a lifetime average.

CSFs are derived by the U.S. EPA's Carcinogen Assessment Group (CAG) using

The Unit Risk is the upper 95 percent Confidence Limit of the mean incremental lifetime cancer risk estimated to result from lifetime exposure to an agent if it is in the air at a concentration of 1 ug/m³ or in the drinking water at a concentration of 1 ug/l. These values are used in lieu of a CSF when an estimate of a lifetime average concentration of a contaminant is available.

Carcinogenic dose-response information for compounds detected in Site soil and groundwater is provided in Table 16.

6.63 Dose-Response Values Used For TPH

Dose-response information is not currently available from EPA for PHC mixtures (i.e., whole products); however, DEP's Interim Final Petroleum Report contains proposed alternate RfDs for fractions of PHCs based on both compound class (i.e., alkanes, cycloalkanes, alkenes, or aromatics) and length of carbon chain. Therefore, to evaluate potential risks associated with exposure to these contaminants, TPH detected in Site soil (in this case, assumed to be diesel/fuel oil No. 2 based on site history) was broken down based on the composition of the whole product. Following DEP's guidance, we used pyrene to evaluate the aromatic/alkene fraction of diesel/fuel oil No. 2 (60% of the TPH). For the alkane fraction, n-nonane was used to represent the C9 to C18 category included in the mixture assumed for diesel/fuel oil No. 2 (40% of the TPH).

6.64 Relative Potencies For Carcinogenic PAHs

Carcinogenic PAHs were identified as COCs in soil and groundwater at the site. Accordingly, relative potency values published by USEPA were used to calculate B(a)P-equivalent concentrations for each carcinogenic PAH. The approach and relative potency values used to calculate B(a)P-equivalent concentrations for carcinogenic PAHs is presented below.

In 1993, USEPA formally adopted provisional guidance for estimating cancer risks associated with PAHs. MADEP recommends use of USEPA's relative potency values for carcinogenic PAHs pending publication of MADEP recommended values.

Seven PAHs have been classified by USEPA as Group B2: Probable Human Carcinogens. These include: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Exposure of laboratory animals to these PAHs has been associated with local and systemic carcinogenic effects following various routes of administration. Many of these studies; however, do not provide a suitable basis for development of dose-response criteria for the following reasons:

- studies do not provide dose-response data;
- · studies utilized only 1 dose level;
- studies utilized a non-oral exposure route (e.g., skin painting); and/or
- · sample size is too small.

No oral carcinogenicity bioassays have been performed for benzo(b)fluoranthene, benzo(k)fluoranthene, chyrsene, and indeno(1,2,3-cd)pyrene. A suitable oral cancer bioassay has been performed by Neal and Rigdon (1967) for B(a)P. USEPA used this study to derive a cancer slope factor of 8.3 mg/kg-day-1 for B(a)P, the only PAH for which a cancer slope factor has been derived.

GZA used the relative potency approach developed by Clement Associates (1988) and recommended by USEPA (1993) to evaluate potential risks posed by carcinogenic PAHs in site media. This approach consists of applying a numerical estimate of the relative carcinogenic potency of a specific PAH to that of B(a)P (or relative potency value) to the concentration of that PAH in a given medium to calculate a B(a)P-equivalent concentration; this B(a)P-equivalent concentration is adopted as the EPC.

Clement Associates (1988) used relative potency data from studies generally not considered suitable for direct quantitative risk estimation (such as skin painting bioassays). Clement Associates utilized only those data sets wherein B(a)P was tested concurrently with one or more PAH. This was done to account for inter-laboratory variations, varying susceptibility to carcinogenic activity of different test animals, varying metabolic capacity of these animals, and differences in protocols and endpoints measured. Thus for each study considered, a comparison was made between B(a)P activity and the activity of a particular PAH in the same study.

In the Clement Associates report (1988), all risk estimates were generated using the two-stage carcinogenesis model, with comparisons being made between the low dose terms or maximum likelihood estimates (MLE), not the upperbound (high doses). The observation of either a papilloma or carcinoma served as evidence of at least once transformation or stage. To derive relative potency values, it was assumed that B(a)P and the other carcinogenic PAHs have similar dose-response curves, but that a proportionately larger concentration of the non-B(a)P PAHs were required to induce the same response. The relative potency is then simply the ratio of estimated transition rates, with that of B(a)P assumed to be 1.

Benzo(k)fluoranthene Chrysene Indeno(1,2,3-cd)pyrene	0.1 0.01 0.01 0.1
Notes:	

- Relative Potency Values are from Massachusetts DEP Guidance for Disposal Site Risk Characterization - In Support of the Massachusetts Contingency Plan, Interim final Policy WSC/ORS-95-141, July 1995.
- Relative Potency Values were obtained from Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards, Guidance for Disposal Site Risk Characterization In Support of the Massachusetts Contingency Plan Interim Fig. 1.0.1



6.65 Absorption Adjustment Factors

Contaminant and media-specific AAFs were applied to calculated ADDs (subchronic and lifetime) to make them compatible with the relevant dose-response criteria used in the risk characterization. AAFs are necessary to account for differences in the absorption of a chemical in a given environmental medium relative to that used in the dose-response study. Absorption differences can result from matrix attenuation effects as well as differences in the route of administration (e.g., oral versus dermal exposures).

Additionally, AAFs may be used to convert an exposure dose to an absorbed dose in cases where a dose-response value is based on an absorbed dose. Finally, for dermal exposure to water, an absorbed dose is calculated, and the AAF may be used to convert the dose-response value to an absorbed dose, if necessary.

GZA used AAFs derived by Massachusetts DEP (1992) when available. Additionally, we calculated AAFs for all relevant exposure pathways, for all contaminants without DEP derived values. Refer to Table 15 for a summary of contaminant-specific AAFs used to calculate ADDs and LADDs.

6.66 Skin Permeability Coefficients

The skin permeability coefficient (Kp) is a key parameter in estimating dermal absorption of chemicals in water. Kp (cm/hour) represents the permeability of a chemical from an unspecified (aqueous) vehicle (in this case, groundwater) through the skin. Experimentally measured or estimated values of Kp were used for contaminants in aqueous media. These values were incorporated into the exposure factors calculated for dermal absorption of groundwater by utility workers and site redevelopment workers. Refer to Table 18 for a summary of COC-specific Kp values used in the calculation of ADDs and LADDs.

6.70 HUMAN HEALTH RISK CHARACTERIZATION

The risk characterization for the Site focused on reasonably conservative scenarios for current and foreseeable future exposures under current conditions of contaminant distribution. For each identified human receptor (i.e., the utility worker, site redevelopment worker, and local resident/trespasser), cumulative cancer and noncancer risks were calculated. To evaluate potential noncancer effects, hazard quotients (HQs) were calculated by comparing estimated ADDs or ADEs to RfDs or RfCs, respectively. To evaluate potential cancer effects, incremental probabilities (increased probability relative to background probability) that an individual will develop cancer over a lifetime of exposure were estimated by applying CSFs or unit risks to LADDs or LADEs.

6.71 Calculation Of Risk Estimates

Section 6.51.1 briefly describes the methodology used to calculate HI and ELCR estimates which are used to evaluate noncarcinogenic and carcinogenic risks. Risk estimates are presented in Sections 6.51.2 and 6.51.3, respectively.

6.71.1 Methodology

To evaluate noncarcinogenic risks, an HQ was calculated. The HQ, a ratio of the receptor's quantified exposure to the "acceptable" level of exposure, provides a general indication of whether exposures are likely to result in adverse health effects, but does not represent the severity of effects associated with an exposure. To evaluate the noncarcinogenic effects for each oil and hazardous material, the estimated ADD or ADE was divided by the appropriate RfD or RfC to yield an HQ:

$$HQ_{oral}$$
 and $HQ_{dermal} = ADD$ (mg/kg-day)/RfD (mg/kg-day)
 $HQ_{inhalation} = ADE$ (mg/m³)/RfC (mg/m³)

For multiple chemical exposures, HQs were summed across all contaminants to yield an HI for an individual exposure pathway. A cumulative HI was derived by summing the HIs for each exposure pathway for each receptor. A cumulative HI equal to 1.0, the Cumulative Noncancer Risk Limit, indicates that a receptor's exposure is equal to the "acceptable" exposure level and it is considered unlikely that adverse health effects would occur. However, a cumulative HI greater than 1.0 does not imply that health impacts would necessarily be expected. The appropriateness of the exposure assumptions and the basis of the toxicity values used in calculation of the risk must also be considered.⁷

Carcinogenic risks were evaluated as probabilities. The ELCR estimate is considered to be an upper bound probability of the likelihood of developing cancer as a result of exposure to individual chemicals. To assess excess lifetime cancer risks, the LADDs or LADEs were multiplied by their respective CSFs or unit risks to yield a contaminant-specific lifetime cancer risk estimate:

For multiple chemical exposures, contaminant-specific cancer risk estimates for specific exposure pathways were summed to yield a pathway-specific cancer risk

⁷ This approach assumes that toxic effects by different chemicals are additive. Consequently, the application of this approach to a mixture of compounds that are not expected to induce the same type of effects or which affect different systems or organs could overestimate the probable risk. Therefore, if the HI for an individual exposure pathway (i.e., the approach which assumes complete additivity of effects) exceeded 1.0, then HIs can be segregated by toxicity endpoint.

estimate. A cumulative receptor cancer risk was calculated by summing pathway-specific risk estimates.⁸

The calculated cumulative receptor cancer risk estimates were compared to the Cumulative Cancer Risk Limit of 1 x 10⁻⁵ specified in the MCP. This level represents an incremental probability of one per 100,000 of an individual developing cancer over their lifetime.

6.71.2 Risk Estimates

Table 19 summarizes the cumulative total hazard indices and risk estimates for all pathways. For all receptors and exposure routes the non-carcinogenic hazard indices and the ECLRs are well below MADEP acceptable limits of 1.0 and 1×10^{-5} , respectively. The maximum hazard index is 0.57 for the site redevelopment worker and the maximum ECLR is 2×10^{-6} for both the redevelopment worker and the local resident/trespasser. The contaminant specific risk estimates for the utility worker are shown in Tables 20 - 23. The contaminant specific risk estimates for the site redevelopment worker are presented in Tables 24 - 26; the local resident/trespasser risk estimates are presented in Tables 27 - 28.

6.72 Identification Of Applicable Or Suitably Analogous Public Health Standards

Since the Site is currently serviced by municipal water supply and does not meet the criteria for classification as GW-1 groundwater, Massachusetts Drinking Water Standards and Guidelines were not identified as applicable standards for the purpose of this assessment.

As the Mystic River is 2,300 feet north of the site of the Site, we did identify water quality benchmarks for the protection of human health with respect to fish ingestion as applicable criteria for the purpose of this assessment. Table 28 presents the comparison of estimated surface water concentrations to ambient water quality criteria (AWQC) for protection of human health with respect to fish consumption in the Malden River (or where not available, the AWQC for fish and water consumption).

There are no exceedences of the AWQC for fish consumption (or fish and water consumption).

6.80 SAFETY AND PUBLIC WELFARE RISK CHARACTERIZATION

As required by the MCP, we evaluated the risk of harm to safety and public welfare posed by the Site.

⁸ The summation assumes that individual intakes are small. It also assumes independence of action by the compounds involved (i.e., there are no synergistic or antagonistic interactions, and all chemicals have the same toxicological mechanism and endpoint).

6.81 Risk Of Harm To Safety

The MCP requires a characterization of risk of harm to safety; however, DEP has issued only limited policy and guidance for this component of the risk characterization. The regulations list the following as examples of potential safety hazards: the presence of rusted or corroded drums or containers, open pits, lagoons, or other dangerous structures; any threat of fire or explosion, including the presence of explosive vapors resulting from a release of OHM; and any uncontained materials which exhibit the characteristics of corrosivity, reactivity, or flammability described in 310 CMR 40.0347. No such safety hazards were identified at the study Site, nor are they anticipated to occur in the future. Therefore, a condition of No Significant Risk of harm to safety exists the 70 Cross Street Somerville Lumber site.

6.82 Risk Of Harm To Public Welfare

The risk of harm to public welfare considers the existence of nuisance conditions, loss of another person's property and any nonpecuniary costs which may accrue due to the degradation of public or private resources directly attributable to the release of OHM. The risk of harm to public welfare is also characterized by comparing arithmetic mean concentrations of contaminants in soil and groundwater to Upper Concentration Limits (UCLs) listed in 310 CMR 40.0996(4) (refer to Table 29).

None of the arithmetic mean concentrations in soil or groundwater exceed their applicable UCLs; therefore, a level of No Significant Risk of harm to public welfare is achieved for the

6.90 ENVIRONMENTAL RISK CHARACTERIZATION

GZA assessed the need to evaluate potential impacts to biota and habitats in the vicinity of the Site. The Site is paved and/covered with buildings, under such conditions there is no complete exposure pathway between Site related contaminants and possible terrestial environmental receptors. The Mystic River, the presumed point of groundwater discharge, is 2,300 feet away and has substantial dilution capacity. Given the relatively low levels of COC in groundwater and the attenuation afforded by the distance and size of the Mystic River, it is concluded that this pathway represents an insignificant potential risk. Therefore, it is our opinion that a condition of No Significant Risk of harm to the environment exists at the Site.

6.100 UNCERTAINTIES ANALYSIS

The findings of the risk characterization are dependent on a number of factors including, but not limited to, the representation and quality of the data collected to describe Site conditions, the nature and extent of contaminants, and the assumptions made to evaluate potential risks for receptors who may be exposed to contaminants in Site media.

Uncertainty may be introduced in each component of the risk characterization process. Although the magnitude of uncertainty has not been quantified for this Site, the primary sources of uncertainty in the hazard identification, exposure assessment, dose-response assessment, and risk characterization are qualitatively discussed below.

6.101 Hazard Identification

The risk characterization for the Site was based on soil analytical data from samples collected from August 1989 to November 1996; and groundwater analytical data from samples collected in August 1989 to August 1996. Analytical data for certain samples or sampling rounds was selected to characterize potential risks for identified receptors under current and reasonably foreseeable Site activities and uses. However, where sampling data did not provide a complete characterization of the nature and extent of contamination, reasonable assumptions were made to estimate the levels of contaminants likely to be present in Site media. For example, ambient air concentrations from the volatilization of contaminants in groundwater were modeled.

6.102 Exposure Assessment

Estimation of EPCs (including calculation of arithmetic mean concentrations and derivation of EPCs based on exposure models), characterization of current and reasonably foreseeable Site activities and uses, and calculation of ADDs and ADEs contribute most to the uncertainty introduced in the exposure assessment component of the risk characterization.

EPCs for dermal contact and incidental ingestion of soil and for inhalation VOC in groundwater exposures were based on arithmetic mean concentrations of contaminants in soil and groundwater. Similarly, EPCs for dermal contact with groundwater were calculated.

EPCs for potential inhalation exposures to VOC in groundwater were modeled by first predicting an emission rate for each compound from the surface of the water and then assuming a theoretical box would encompass the area were a utility worker or site redevelopment worker would be exposed. A box model assumption is the most conservative approach to estimating ambient air concentrations.

Uncertainty associated with evaluation of potential risks for exposure to TPH in soil is linked to the use of reference compounds to represent a "subgroup" or range of PHCs, assumptions made regarding the toxicity of compounds in a subgroup relative to the toxicity of a reference compound, and assumptions regarding the composition of PHCs identified during chemical analysis of soil samples in the laboratory.

Health-protective exposure assumptions based on either site-specific information or conservative default values provided in Massachusetts DEP or EPA guidance were used to quantitatively evaluate potential risks posed by the Site.

6.103 Dose-Response Assessment

The primary sources of uncertainty associated with the toxicity values used to quantify risks include: (1) extrapolation of dose-response information from effects observed at high doses to predict adverse effects at low levels anticipated for human exposure to environmental contaminants, (2) use of toxicity information compiled from short-term exposure studies to predict the effects associated with long-term exposures (and vice-versa), (3) use of dose-response information from animal studies to predict likely effects in humans, and (4) use of toxicity information based on homogeneous animal populations or healthy human populations to predict the effects that are likely to be observed in the general population (including sensitive subgroups).

The dose-response values used in the calculation of noncancer HIs and cancer risk estimates (ELCRs) are conservative values. Since RfDs and RfCs are derived using a number of safety factors and are developed to protect sensitive populations, the actual dose or concentration associated with a health effect is likely to be higher than the dose or concentration established by EPA or the Massachusetts DEP for most groups in the general population. In addition, the CSFs and unit risks are derived based on the upper 95 percent confidence limit and assume that no threshold level exists for exposure to carcinogens. To be conservative, when no subchronic dose-response value was available, the chronic value was used. Although no values have been established for dermal contact exposures, it is standard practice to use values derived from studies based on oral exposures to evaluate dermal contact exposures. This technique is health protective since it has been demonstrated that the most significant exposures for most contaminants occur via the oral and inhalation route.

Dose-response values for reference compounds selected by DEP to represent certain fractions (i.e., alkanes, aromatics, alkenes) of a PHC mixture (in this case, assumed to be diesel or fuel oil No. 2) were used to assess potential risks associated with exposure to PHCs. The alternate RfDs for pyrene and n-nonane, presented in DEP's Interim Final Petroleum Report were used as conservative surrogates for the aromatic/alkene and alkane fractions of diesel or fuel oil No. 2, respectively.

6.104 Risk Characterization

Sources of uncertainty introduced in the risk characterization include: (1) the equal weight given to Group A, B1, B2, and C carcinogens in the calculation of ELCR estimates, (2) the equal weight given to contaminants whose RfDs have different confidence levels in estimating noncarcinogenic HIs, and (3) the assumption of simple additivity of the effects of different contaminants.

6.200 RISK CHARACTERIZATION CONCLUSIONS

The conclusions reached in this assessment are summarized below.

6.201 Human Health

The Massachusetts Contingency Plan indicates that a condition of no significant risk of harm to human health exists or has been achieved if:

- no Exposure Point Concentration of oil and/or hazard material is greater than an applicable or suitably analogous public health standard;
- no Cumulative Receptor Cancer Risk calculated is greater than the Cumulative Cancer Risk Limit; and
- no Cumulative Receptor Noncancer Risk is greater than the Cumulative Receptor Noncancer Risk Limit.

The Cumulative Receptor Cancer Risks were compared to a Cumulative Cancer Risk Limit, which is an ELCR equal to one in one hundred thousand. Cumulative Receptor Noncancer Risks were compared to a Cumulative Noncancer Risk Limit which is an HI equal to one. For the Somerville Lumber site at 70 Cross Street, GZA quantitatively evaluated three receptors; the utility worker, the site redevelopment worker, and the local resident/trespasser. The risks to both of these receptors are below DEP's noncancer risk limit of 1.0 and carcinogenic risk limit of 1×10^{-5} . Under assumptions which include continued use of the Site for non-residential purposes, as defined in the AUL, a condition of No Significant Risk of harm to health has been achieved at the Site.

6.202 Safety And Public Welfare

Based on observations made and information collected during environmental investigations of the Site, Site conditions do not pose a threat of physical harm or bodily injury to people. Additionally, no community in the vicinity of the Site experiences adverse impacts to public welfare and arithmetic mean concentrations of contaminants in soil do not exceed UCLs. Furthermore, GZA did not identify Site conditions which may pose a risk to public safety. Therefore, a condition of No Significant Risk of harm to safety and public welfare has been achieved at the Somerville Lumber 70 Cross Street site.

6.203 Environmental

Since the site and surrounding area is highly developed, and since the site is entirely paved or covered with buildings, eliminating any potential for wildlife exposure to site

soils, a complete exposure pathway between soil contaminants and terrestrial receptor organisms does not exist.

The distance to the nearest surface water body, the Mystic River, and its capacity for dilution will provide ample attenuation of COC in groundwater. Therefore, a condition of No Significant Risk of harm to the environment is said to exist at the site.

GZ

7.00 ACTIVITY AND USE LIMITATION (AUL)

As noted in Section 7.00, an AUL has been implemented at the site to "lock in" the activity and use assumptions upon which the Phase II Risk Characterization is based. Specifically, the AUL is designed to prohibit use of the site for: (1) residential usages including single or multiple family homes; apartment complexes; commercial usage while site is unpaved; etc. and (2) playgrounds, parks and daycare centers.

A Certified Copy of the Notice of AUL Form 1075 and AUL Opinion, as well as the associated MCP transmittal forms (BWSC-113 and BWSC-114), are presented in Appendix D.

8.00 DOCUMENTATION OF RESPONSE ACTION OUTCOME

Based on the results of the above Phase II work and the associated risk characterization for the site which demonstrated that a condition of no significant risk exists at the site, an assessment of whether the site has achieved Response Action Outcome status was performed. The results of this assessment (as documented below) indicate that the site meets the requirements for a Class A-3 RAO. Primary factors in the selection of this particular classification include: demonstration that the site poses no significant risk to public health, welfare, safety and the environment; use of an AUL to "lock-in" risk characterization exposure assumptions; no active or uncontrolled sources; no UCL exceedance; and the execution of prior remedial site work (an STM in 1990). Key elements of this assessment are further described below.

8.10 DISPOSAL SITE SOURCE CONTROL

Potential past sources of contamination at the site include fill used to grade the site prior to historical development, incidental spillage associated with prior use of the site as a storage area for heavy equipment, and the primary potential source, the former USTs removed from the site in 1990. The site is presently paved and is used for warehouse storage. No USTs currently exist on the site, and an AUL has been place over the former UST are requiring that the area remain paved and/or covered by a building. No active or

uncontrolled sources of contamination were identified at the disposal site during completion of the present phase of work.

8.20 SUPPORTING INFORMATION - CONCLUSION OF NO SIGNIFICANT RISK

Information supporting the conclusion that a level of no significant risk (NSR) has been achieved and that no substantial hazards remain at the site is provided in Section 6.00 of this report. A summary of the data used to reach the conclusion of NSR is provided in Tables 1 and 2.

8.30 FEASIBILITY EVALUATION

Although the TPH and VOC EPCs in the site's soil and groundwater do not present a significant risk, the levels of OHM at the site have not been reduced to background concentrations. Residual contamination exists at the site in the form of low levels of VOCs and TPH in groundwater and PAHs and TPH in soil. Although TPH and VOCs, which are indicator parameters of petroleum products potentially historically used and released at the site, were detected in most soil samples collected, they have not been considered the results of exempt "background" sources.

Given that background levels have not been achieved, the feasibility evaluation outlined in 310 CMR 40.0860 is required. Feasibility is broadly defined in terms of five specific criteria:

- a. technological feasibility
- b. cost-benefit analysis
- availability of individuals with appropriate expertise
- d. availability of off-site land disposal facilities
- e. site access/control constraints (for off-site sources of OHM)

For the disposal site located at 70 Cross Street item "b" is the relevant parameter in this feasibility evaluation. Item "b" incorporates three main issues:

- 1. incremental cost of remedial action relative to incremental benefits of risk reduction, environmental restoration and "monetary and nonpecuniary values";
- 2. control of risks to health, safety, public welfare and the environment posed by implementation of the remedial action; and
 - destruction of wetlands or wildlife habitat.

With respect to the cost-benefit analysis of additional soil remediation to background levels, benefits would be limited. As previously described in this report, the remediation work (i.e. UST removal) conduction in 1990 has already resulted in a condition of NSR.



Further remediation would not provide significant benefits relative to risk reduction. Given that the site is situated in a highly developed urban area, benefits associated with "environmental restoration" which would result from further remediation are negligible. The costs to implement the most likely technically feasible remedial alternative (soil excavation) would be significant. Based on our experience in similar sites, we estimate that the cost to excavate soil to (or near) background levels would be about \$20,000 to \$40,000. This would include excavation of up to 200 cubic yards of soils, off-site disposal, backfilling of the excavation and associated site repair. These costs would clearly be disproportionate to the marginal incremental benefit which further remediation might provide.

With respect to the cost-benefit analysis of groundwater remediation to background levels, benefits would also be very limited. Concentrations detected in groundwater at the site are very low and in a limited area. The design, construction and operation/maintenance of a groundwater system to remediate groundwater contamination detected at the disposal site would cost approximately \$100,000 for the first five years. These costs would clearly be disproportionate to the marginal incremental benefit which further remediation might provide.

It should be noted that the residual contaminants in soil and groundwater at the site will be subject to various natural attenuation mechanisms. These mechanisms, including biodegradation and volatilization will ultimately reduce residual contaminant concentrations to levels approaching background concentrations over time. Active remediation alternatives would only marginally accelerate these natural attenuation processes.

Based on these considerations, it is our opinion that restoration of soil and groundwater at the site to background concentrations is not feasible in accordance with 310 CMR 40.0860.

8.40 REQUIREMENTS FOR OPERATION/MAINTENANCE OR MONITORING

Since remedial actions performed at the site (UST removal) have resulted in a permanent solution, operation/maintenance or monitoring activities are not required to confirm or maintain the conditions at the site upon which the RAO is based.

A copy of the RAO statement documenting achievement of a Class A-3 RAO for the 70 Cross Street site is attached is Appendix D.

9.00 FINDINGS AND CONCLUSIONS



GZA conducted a Phase II Investigation and a Method 3 Risk Characterization for the 70 Cross Street site in Somerville, Massachusetts. These investigations have resulted in achievement of a level of NSR as defined in the MCP (310 CMR 40.0988(2)), with the implementation of an AUL. In addition, we have concluded that restoration of soils at the site to background conditions is not feasible in accordance with the MCP and that no substantial hazards remain at the site. Therefore, the site has achieved a Class A-3 RAO.

gzama/jobs:13307.ZSL/13307-33.jwo/reports/zsl33ph2.DOC

TABLES

TABLE 1

GROUNDWATER ANALYTICAL TEST RESULTS Somerville, Massachusetts Results are in mg/L (ppm) Somerville Lumber

DUP OF MW-

0.001 0.001 0.001 000 Sample MDL Sample MDI MW-A 8/30/96 2 2 0.0031 0.001 0.037 0.001 0.0038 0.001 0.00 0.001 0.0 CW-3 7/14/95 0.0022 0.026 0.003 9.0 4 Sample | MDL 0.001 0.001 0.001 0.001 0.001 CW-3 \$/15/96 ND ND 0.0021 ND ND 0.082 2 2 Sample MDL Sample MDL Sample MDL 0.025 0.025 0.025 0.025 0.025 0.025 0.0 0.025 CW-2 7/14/95 O.029 œ 0.001 BMQL 0.001 BMQL 0.001 0.001 0.003 0.003 0.00 0.0 CW-1 7/14/95 0.0097 0.0019 ND 0.0038 0.0018 0.005 ND ND 19.9 0.001 0.001 0.001 MW4 8/16/89 22222222 0.007 0.002 0.008 n 0.029 0.005 ND 0.003 0.006 0.003 ND 0.003 Sumple | MDL Sample | MDL 0.001 0.25 0.0 MW4 7/14/95 2222 610.0 22 6.72 £ ₽ N 0.016 BMQL 0.001 0.001 MW-4 &14/96 QN ND 0.001 0.001 Sample MDL 0.001 0.001 0.00 MW-3 8/16/89 0.067 0.04 8 8 0.051 S <u>-</u>. 0.025 0.042 윈 Sample MDL 0.003 0.05 0.05 0.05 0.05 0.05 0.05 0.0 0.005 MW-3 7/14/95 N 0.041 0000 2 2 96'9 0.001 Sample MDL Sample MDL 0.001 0.001 0.003 MW-3 8/30/96 0.045 0.045 ND 0.036 0.012 0.34 0.001 MW-2 8/16/89 0.002 0.17 ND ND ND ND 문 문 문 0.03 0.024 Š 0.003 Sample MDL BMQL 9001 BMQL 0.003 0.0 0.0 MW-2 7/14/95 0.016 000 001 001 001 001 001 001 0.041 0.011 0.91 ND Ø 6.85 0.00 0.001 Sample MDL 0.00 0.001 0.007 0.01 0.003 MW-2 8/15/96 5 5 S S 5 5 2 2 0.016 25 2 2 3.8 8.0 0.001 Sample MDL 0.00 MW-1 8/16/89 O O O O O 22 0.014 ND Ω 0.02 0.024 0.002 0.0078 0.002 0.0023 0.002 0.011 0.002 0.25 0.002 0,002 0.003 0.003 Sample | MDL | Sample | MDL 0.0 MW-1 7/14/95 0.011 0.25 ND 0.002 ON ON 0.82 0.00 0.00 0.003 6.76 0.001 0.001 0.001 0.001 0.01 MW-1 8/14/96 2222222 0.075 0.011 0.67 2 0.001 1000 0,001 1000 0.25 0.007 umple MDL 000 MW-1 8/14/96 0.07 0.5 0000 QN QN 2.8 otal Petroleum Hychrocarbors (8100) 'oladic Organic Compounds (8020) otal Volatile Hydrocarbons (8015) mi-Votatile Organic Compounds 2-Dichlorobenzene 4-Dichlorobenzene -Methylnaphthalene 3-Dichlorobenzene Methylnaphthalene pecific Conductivity cals

ND = Not Detected

BMQL = Beneath Method Quantitation Limits

2. Blanks Indicate Not Analyzed.

Only compounds with at least one detection are listed.
 Votatile Organic Compounds were analyzed via EPA Method 8020.

Fotal Petroleum Hydrocarbons were analyzed via EPA Method 8100. Total Volatile Hydrocarbons were analyzed via EPA Method 8015. Metals were analyzed via EPA Metbods 6010, 7060 and 7421.

pH was analyzed via EPA Method 150.1.

Specific Conductivity was analyzed via EPA Method 120.1.

Samples were collected by GZA on 7/14/95.

Samples were collected by ATEC on 8/16/89

6. The MCP Method I Standards presented in the last two columns of the table are for general comparison purposes only. A Method 1 Risk Characterization has not been performed as part of this Supplemental Phase 1 Site Investigation.

7. Shades values exceeded one or more of the MCP Method I Standards presented in the last two columns of the table,

TABLE 2

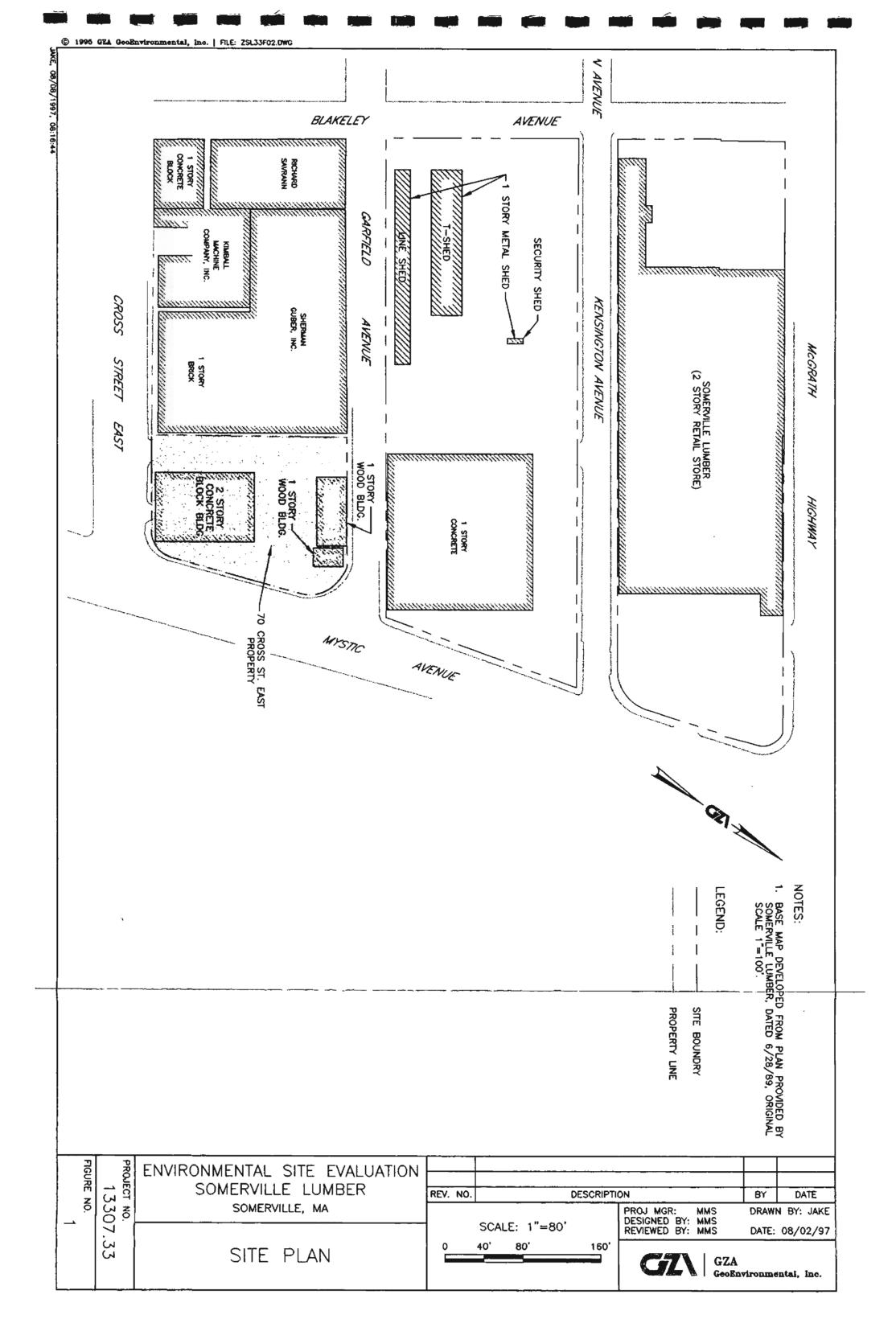
SOIL ANALYTICAL TEST RESULTS
Somerville Lumber
Somerville, Massachusetts
Results are in mg/kg (ppm)

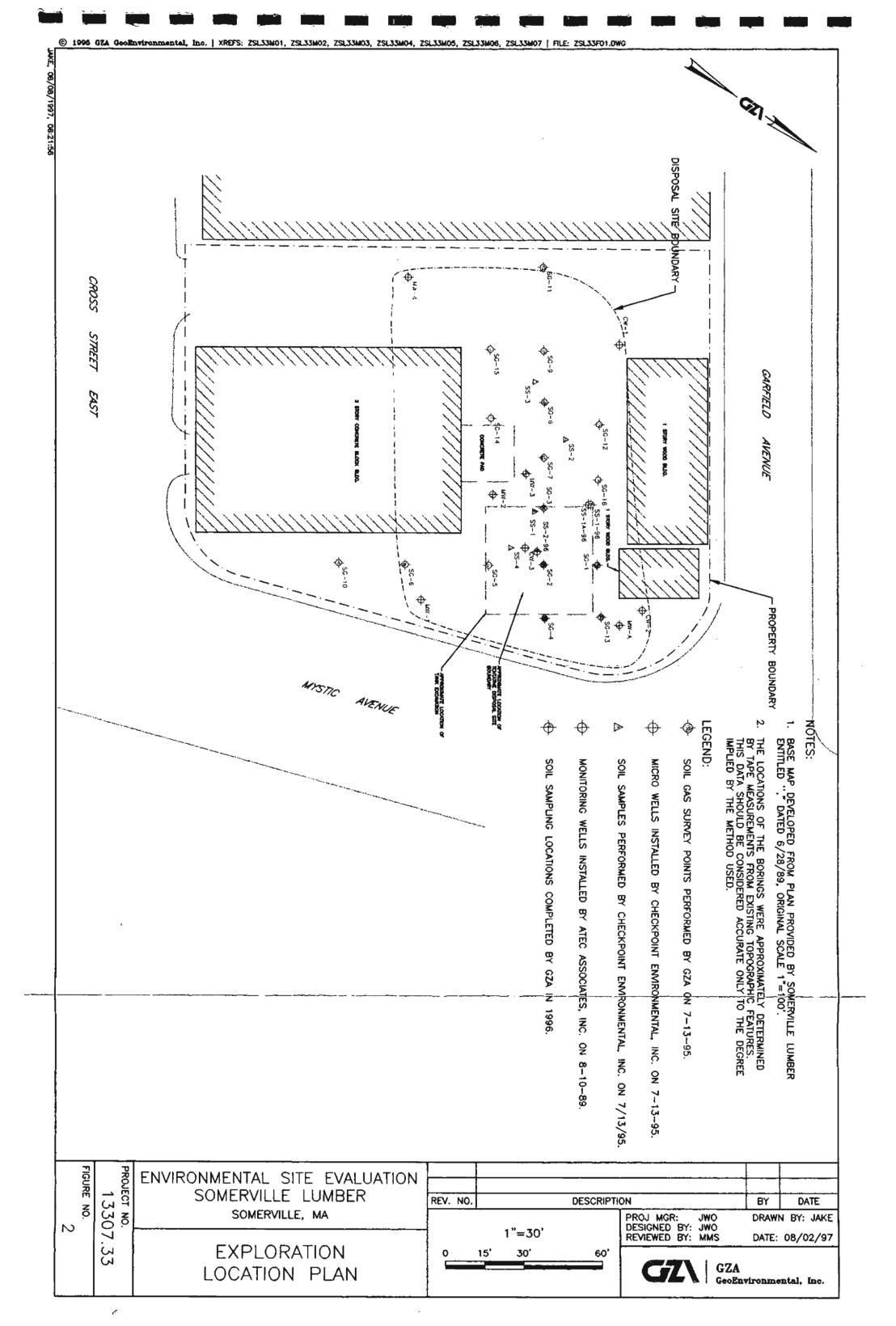
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m & p-Xylenes											Н	0.001 0.0036	036 0.001	1.3	0.05	0.015	Н	ND.	100.0	-	Н	ND 0.	0.02 ND	0.02	Ñ.	0.05
Tolucne									H		ND ON	0.001 0.00	0.0049 0.001	1 0.52	0.05	0.015	0.002	Н	0.001	0.44	0.05	H	0.02	0.02	Н	Н
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Benzo [k] Fluorambene	3.1		8.4		Ş	0.33	ð	\dashv	\dashv	99.0	+	-		\downarrow				+	+	+	1	-	_			
Chrysene	3.8		6.7		£	033	£	+	+	99:0	+	1	4	_			\int		+	+	1	1				
Fluoranthene	9.9		23		Ð	0.33	£	+	0.84	+	+	+	+	_		4			+	+	+	1	-		4	
Fluorene	훘	99.0	0.73		£	0.33	┪	\dashv	┽	+	+	+	+	4					+		+	1	1			
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Notes:

ND * Not Detected

10. To a recovered Method Quantitation Limits
1. Blanks indicate Not Analyzed.
2. Blanks indicate Not Analyzed.
3. Only compounds with at keast one detection are listed.
4. Volaile Organic Compounds were analyzed via EPA Method 8020.
Total Volaile Hydrocarbons were analyzed via EPA Method 8015.
Total Petroleum Hydrocarbons were analyzed via EPA Method 8106.
Metals were analyzed via EPA Method 6010, 7060 and 7421.
pH was malyzed via EPA Method 150.1.
Specific Conductivity was analyzed via EPA Method 120.1.
Specific Conductivity was analyzed via EPA Method 120.1.
Samples were collected by ATEC on 810099.
Samples were collected by ATEC on 810099.
6. The MCP Method 1 Standards presented in the last two columns of the table are for general comparison purposes only.
A Method 1 Risk Characterization has not been performed as part of this Supplemental Phase 1 Site Investigation.





APPENDIX F

GZA'S 2005 CLASS A-3 RAO TEXT AND SELECT EXCERPTS



No.

PHASE IV FINAL ROSPECTION REPORT AND COMPLETION STATISMENT RESPOND ACTION OFFECINE STATEMENT FORMER 2006 RIVELE LUMBER FACILITY SOMERVILLE, MASSACHIOSETTS RESS, 1972 and 1-16-10.

OR BUILDING STREET

PREPARED FOR Grand Parjundrum Realty Company, Inc. Change, Massachusetts

RECEN

PREPARED BV. GZA Geofgevironmental, Inc. Norwood, Mustdebauerte

April 2004 File No. 15095 oil.

Copyrights 2005 GZA Grad avinomental, Im-



April 22, 2005 File No. 15096.60-C,PC



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup Northeast Regional Office One Winter Street Boston, Massachusetts 02108

One Edgewater Drive Norwood Massachusetts 02062 781-278-3700 FAX 781-278-5701 www.gza.com Phase IV Final Inspection Report, Phase IV Completion Statement and Response Action Outcome Statement

Former Somerville Lumber Facility Somerville, Massachusetts

RTNs 3-15737, 3-16643 and 3-23667

Dear Sir/Madam:

Re:

On behalf of Grand Panjandrum Realty Company, Inc. (GPRC), GZA GeoEnvironmental, Inc. (GZA) is submitting this Phase IV Final Inspection Report, Phase IV Completion Statement and Response Action Outcome Statement for the Former Somerville Lumber facility in Somerville, Massachusetts. This report has been prepared in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 et seq.

Phase IV remedial activities have been completed at the site and results of a Method 3 risk characterization indicate that a Condition of No Significant Risk of harm to human health, safety, public welfare, and the environment has been achieved. This conclusion relies on the implementation/recording of a Notice of Activity and Use Limitation (AUL) on the Site. The AUL was recorded on April 15, 2005. Based on the activities completed and results obtained, it is the LSP's opinion that the requirements for a Class A-3 Response Action Outcome (RAO) have been met.

Appropriate MCP transmittal forms with original signatures are being submitted separately but concurrently with this document: for convenience, copies of the signed forms are included in Appendix B. A copy of the recorded AUL is included in Appendix D.

Appendix B: Copy of MCP Transmittal Forms

- BWSC 108
- BWSC 113
- BWSC 104

Appendix D: AUL Form 1075

AUL Opinion, BWSC 113A and Other Exhibits

Please feel free to contact the undersigned at (781) 278-3800 if you have any questions or comments concerning this submittal.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Michael M. Shaw, LSP

Principal

cc:

Albert J. Ricciardelli Consultant/Reviewer

Karen Stromberg, DEP Northeast Regional Office

Walter Steinkrauss, GPRC Ron Ruth, Sherin and Lodgen

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APPENDIX H

1.00 INTRODUCTION



GZA GeoEnvironmental, Inc. (GZA) is submitting this Phase IV Final Inspection Report (FIR) and Completion Statement and Response Action Outcome (RAO) Statement for the Disposal Site (Site) located at the intersection of Route 28 (McGrath Highway) and Mystic Avenue in Somerville, Massachusetts. The Site formerly served as a Somerville Lumber facility and was comprised of three adjacent parcels transected by two roads (Kensington Avenue and Garfield Street). The Site was recently redeveloped and the transecting roads were closed and incorporated into the current, contiguous area of land. GZA has completed this submittal on behalf of Grand Panjandrum Realty Company, Inc. (GPRC) of Quincy, Massachusetts. The Massachusetts Department of Environmental Protection (DEP) Primary Release Tracking Number (RTN) for the Site is 3-15727. Also linked to the Site are RTNs 3-16643 and 3-23667. This report and the work described herein are subject to the Limitations contained in Appendix A. Original signed BWSC Transmittal Forms are affixed to this report and copies are included in Appendix B for convenience.

1.10 PROJECT OBJECTIVES

This report has been developed to satisfy Massachusetts Contingency Plan (MCP) requirements for a Phase IV FIR and Completion Statement and a RAO Statement.

This Phase IV FIR and Completion Statement were prepared in accordance with the requirements of MCP 310 CMR 40.0878 and 40.0879, respectively. These follow the completion and inspection of the Comprehensive Remedial Action at the Site proposed by the Phase IV Remedy Implementation Plan (RIP), submitted by GZA in October, 2003. The Comprehensive Remedial Action involved excavation and off-site disposal of impacted soil in the northeast corner of the Site; excavation within a pre-existing AUL area; removal of six inactive underground storage tanks (USTs) encountered at the Site; and management and off-site disposal of impacted soil encountered during the redevelopment project.

The RAO Statement was prepared in accordance with the MCP requirements of 310 CMR 40.1056 and documents achievement of a Class A-3 RAO for the Site. Following the completion of the Comprehensive Remedial Action, GZA incorporated recent data into a Method 3 Risk Characterization in order to demonstrate that a condition of No Significant Risk (NSR) exists at the Site. The Method 3 Risk Characterization is included in Appendix C. An Activity and Use Limitation (AUL), restricting future Site uses, is necessary to maintain a level of NSR. The AUL documentation is presented in Appendix D.

2.00 BACKGROUND

This section provides a description of Site conditions and summarizes historical information on the Site. Further information on Site history and background was previously provided in greater detail in the Phase II Comprehensive Site Assessment, the Phase III Feasibility Report, and the Phase IV RIP that were prepared by GZA on behalf of GPRC.



2.10 SITE DESCRIPTION

The Site is located at the intersection of Route 28 (McGrath Highway) and Mystic Avenue in a mixed commercial/industrial and residential section of Somerville, Massachusetts. Route 28 (McGrath Highway) adjoins the Site to the north, beyond which is Foss Park; Mystic Avenue and Interstate 93 adjoin the Site to the east; Cross Street and the former Guber and Sherman Property adjoin the Site to the south, beyond which is a playground and residential properties; and Blakeley Street adjoins the Site to the west, beyond which are a Merit gasoline station and commercial/industrial and residential properties.

The Site formerly served as a Somerville Lumber facility (pre-1997) and was comprised of three adjacent parcels. The parcels were transected by Kensington Avenue and Garfield Street between Blakely Street and Mystic Avenue. During recent redevelopment activities, the two transecting roads were closed and incorporated into the redevelopment project resulting in the current, contiguous area of land. In addition, during the redevelopment of the Site, the former Guber and Sherman property was purchased and incorporated into the redevelopment. While part of the redevelopment, the former Guber and Sherman property was remediated and closed separately (RTN 3-18193 and 3-23551) and is not part of this filing.

A Site Locus Plan is attached as Figure 1. Pertinent features of the Site before and after the re-development project are depicted on Figures 2 and 3, respectively.

2.10.1 779 Mc Grath Highway

The 779 McGrath Highway parcel consisted of approximately 2.3 acres of land and formerly had a two-story concrete block retail/warehouse building that was used as the main indoor retail portion of a former Somerville Lumber facility. The eastern and westernmost portions of the parcel were covered in bituminous asphalt and were formerly used for parking and outdoor storage.

2.10.2 250 Mystic Avenue

The 250 Mystic Avenue parcel consisted of approximately 2.5 acres of land and formerly had a large concrete block building, two open structures (canopies) used for lumber storage, and a guard shack. The remainder of the parcel was covered in bituminous asphalt and was formerly used for parking and outdoor storage.

2.10.3 70 Cross Street

The 70 Cross Street parcel consisted of approximately 0.6 acres of land and formerly had a large open concrete block building and the foundation remains and building footprints of two former wood structures. The remainder of the parcel was covered in bituminous asphalt.



Based on a review of the U.S. Geological Survey (USGS) Topographic Map for the Boston North, Massachusetts Quadrangle, dated 1988, the Site is relatively flat with elevation ranging from approximately 6 to 9 feet above the National Geodetic Vertical Datum (NGVD) across the Site. The Mystic River is located approximately 2,300 feet northeast of the Site. Drainage at the Site is controlled by storm drains located within the Site's bituminous asphalt areas and adjoining streets.

2.20 SITE GEOLOGY

Based on the review of previous on-Site studies, subsurface conditions consist of approximately 3 to 18.5 feet of granular urban fill underlain by silt and clay deposits. The urban fill material is comprised primarily of sand and gravel with variable amounts of silt and clay and trace amounts of brick, concrete, wood, ash and cinders. The underlying silt and clay layers consist of trace amounts of sand and gravel. Glacial till was encountered below the silt and clay unit at various locations throughout the study Site. The silt and clay layers are believed to act as a barrier to vertical migration of any contaminated groundwater and thus the practical bottom to the study area.

2.30 HYDROGEOLOGY

The hydrogeology of the Site appears to be largely controlled by the configuration of the overburden deposits, underground utilities, and local topographic/drainage patterns. Regional groundwater flow in the area of the Site is to the east toward the Mystic River, the primary groundwater discharge point. Localized flow within the Site area is likely influenced by local heterogeneous subsurface materials resulting from past filling operations, irregular topography, and underground utilities. Overall, the groundwater data reveals a variable groundwater surface with a northeasterly component on the northern portion of the Site and a southwesterly component on the southern portion of the 70 Cross Street East parcel. Based on data from the adjoining Guber and Sherman property groundwater in this area appears to shift to a more northerly direction as it moves west.

2.40 SITE MCP HISTORY



A number of environmental studies have been completed at the three-parcel Site. Previous studies addressed specific issues at the Site such as tank removals and localized soil contamination encountered as part of construction activities. The studies performed prior to 1997 are summarized in the Phase III Remedial Action Plan (RAP) or Feasibility Study for the Site. These earlier studies primarily focus on the identification and closure of two localized release areas on the 70 Cross Street East parcel and the 250 Mystic Avenue parcel by Payless Cashways, the former owner of Somerville Lumber. Summarized below are the reports associated with the RTNs 3-15727, 3-16643 and 3-23667 that are the subject of this submittal performed on behalf of GPRC beginning in the fall of 1997.

2.40.1 Environmental Site Assessment (1997)

As part of an environmental site assessment performed in the fall of 1997 on behalf of GPRC involving the entire three-parcel property, a soil sample was collected from adjacent to one of the three USTs identified on the southwestern portion of the 779 McGrath Highway parcel that yielded a headspace reading of 407 ppm. This sample was collected from greater than 2 feet bgs and within 10 feet of the exterior wall of the UST and, as such, qualified as a release, which required notification to the DEP within 72 hours. The DEP was notified on November 19, 1997. Release Tracking Number 3-15727 was assigned to the Site, and verbal permission to perform an Immediate Response Action (IRA) was granted. The scope of the IRA was subsequently expanded through the submission of an IRA Plan in February 1998.

2.40.2 Release Notification Form (1998)

GPRC purchased the Site from Payless Cashways in December 1997. On March 26, 1998, GPRC submitted a Release Notification Form to the DEP in response to elevated levels of total petroleum hydrocarbons (TPH) and select polycyclic aromatic hydrocarbons (PAHs) and metals in soil, and TPH in groundwater at select locations across the three parcel site. These exceedances triggered a 120-day notification requirement and were identified as part of environmental site assessment activities conducted during the latter part of 1997. The site was assigned RTN 3-16643.

2.40.3 Immediate Response Action (1998)

As described above, GZA developed an IRA plan for the southwestern portion of the 779 McGrath Highway parcel after the 72-hour DEP notification requirement was triggered by the elevated photo-ionization detector (PID) reading for a soil sample collected during excavation of test pits near USTs. GZA completed the IRA in September 1998. Confirmatory test pit soil samples collected from the three tank excavations revealed that the IRA was successful in removing the majority of the impacted soil.

2.40.4 Phase I Initial Site Investigation (1998)

In November 1998, GZA completed a Phase I Initial Site Investigation and Tier Classification of the southwestern portion of the 779 McGrath Highway parcel (RTN 3-15727). GZA concluded that the primary environmental effects at the site appeared to be related to the three former USTs. The site was classified as Tier II.



2.40.5 Phase I Initial Site Investigation (1999)

In April 1999, GZA completed a Phase I Initial Site Investigation and Tier Classification for the remaining impacts on the three-parcel property that comprised the Former Somerville Lumber Facility (DEP RTN 3-16643). The three-parcel property was classified as Tier II.

On January 8, 1999, this Site area was designated as a Public Involvement Plan (PIP) site in response to the filing of a citizen petition.

2.40.6 Phase II Comprehensive Site Assessment (2001)

In June 2001, GZA completed a Phase II Comprehensive Site Assessment for the Site (RTNs 3-15727 and 3-16643). GZA completed a field exploration, sampling and analytical program to assess the extent of the oil and/or hazardous material contamination in the soil and groundwater at the Site. PAH and extractable petroleum hydrocarbon (EPH) levels and various metals were detected above Method 1 standards in fill material (0-9 feet) at select locations across the Site. PAH and EPH levels were detected above the Method 1 standards in Site groundwater at 2 of 23 sampling locations. The source of PAHs, petroleum constituents, and metals were found to be associated with historical Site usage (i.e., incidental releases, spills), former on-site USTs, and the presence of ash and cinders within the fill material. Uncontrolled sources within the Disposal Site were not identified during the Phase II work.

A Method 3 Risk Characterization was performed by GZA as part of the Phase II Report. Based on the human health risk characterization, a condition of No Significant Risk did not exist at the Site due to potential risk to future construction/utility workers from elevated lead and PAH concentrations in the northeastern portion of the 779 McGrath highway property. The report concluded that a Permanent Solution under the MCP had not been achieved.

2.40.7 Phase III Remedial Action Plan (2001)

In July 2001, GZA completed a Phase III Remedial Action Plan for the Site for the purpose of identifying, evaluating and selecting a remedial action alternative which would likely achieve a level of No Significant Risk (NSR) at the Site. Under the selected



Remedial Action Alternative (RAA), lead- and PAH-impacted soil would be designated for excavation and disposal off-site at an approved landfill or recycled on or off-site so that residual average concentrations no longer presented a potential significant risk to the identified future construction/utility worker receptors. The disposed soil would be replaced with either clean borrow or excess soil excavated from other portions at the Site provided concentrations of lead and petroleum constituents were comparable to (or lower than) residual concentrations. An AUL would be implemented to restrict future Site use to commercial use and the selected RAA would result in the attainment of a Class A-3 RAO.

2.40.8 Phase IV Remedy Implementation Plan (2003)

In September 2003, GZA completed a Phase IV RIP for the purpose of documenting the design and implementation of the RAA selected by the Phase III Feasibility Study. The RIP described the excavation and off-site disposal and/or recycling of impacted soils in the northeastern corner of the Site. The RIP also included plans for addressing inactive USTs and/or impacted soil and groundwater encountered during site redevelopment activities. Additionally, the RIP provided for the implementation of the AUL to restrict future Site use.

2.50 CONTAMINATION TARGETED BY PHASE IV ACTIVITIES

The following sections briefly describe the identified contamination and associated risk that was targeted during the Phase IV activities. A more complete description was provided in the previously prepared Phase IV RIP. In addition to contaminants in soil and groundwater, one UST was identified for removal in the Phase IV RIP. The Phase IV RIP also anticipated that other USTs would potentially be uncovered in the process of demolition and redevelopment activities.

2.50.1 Contaminant Types

The main contaminants that had been detected at the Site include petroleum compounds, PAHs, metals, and to a lesser extent, VOCs.

PAHs may be constituents of fuel oils or lubricants, and are byproducts of internal combustion engines and coal burning. It has been our experience at similar sites that PAHs are also commonly found in urban fill material that contains coal or ash fragments. Petroleum compounds are a large complex family of compounds with widely varying chemical properties. The main petroleum products present at the Site appear to be fuel oils.

Eight metals have been identified in the soil and groundwater at the Site. The metals detected at the Site occur naturally in soils at varying concentrations. They also have numerous uses in industrial processes and in certain household products.

The main VOCs found in groundwater at the Site were aromatic compounds (benzene, toluene, ethyl benzene and xylenes: BTEX). The BTEX compounds are common

constituents of light petroleum products.

2.50.2 Impacted Soil Northeast Corner of Site



GZA's June 2001 Phase II Method 3 Risk Characterization concluded that a condition of No Significant Risk had not yet been achieved at the Site due to potential risk to future construction/utility workers from elevated lead and PAH concentrations in the northeastern corner of the Site. The primary environmental effects on this portion of the Site appeared to be related to historical releases from a former petroleum service station formerly located within this area of the Site as well as the presence of ash and cinders within the fill material. Elevated levels of lead were found in three soil samples from test pits excavated during Phase II investigation activities. The concentrations of lead detected in the soil samples were 910 mg/kg, 748 mg/kg and 19,000 mg/kg. One of the three concentrations exceeded the MCP upper concentration level of 6,000 mg/kg.

Elevated levels of PAHs were found in soil samples, and several individual samples exceeded one or more of the MCP upper concentration limits for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. However, average residual levels of these PAHs were below the relevant upper concentration limits.

For the Phase IV RIP, the Phase II Method 3 Risk Characterization was reviewed and updated to include the most recent MADEP guidance regarding exposure factors and toxicity information for constituents detected at the Site. In the Phase II Risk Characterization, both non-cancer and lifetime MCP risk estimates for the construction/utility worker receptor groups were exceeded due to elevated levels of lead and benzo (a) pyrene. The non-cancer risk estimates driven by lead did not change significantly since the risk indices associated with this parameter did not change. However, MADEP guidance regarding lifetime cancer risks associated with exposure to benzo (a) pyrene in soil changed significantly. As described in the Phase IV RIP, benzo (a) pyrene was no longer considered a risk driver following the update of the Method 3 Risk Characterization. This was confirmed with additional PAH sampling during the Phase IV characterization activities discussed in Section 4.10.1.

2.50.3 Site -wide Contamination

Soils across the Site are impacted with low to moderate residual levels of petroleum constituents and PAHs. These soils were not identified during Phase II activities to present a potential significant risk to construction/utility workers or to the public. Work planned for the Site included re-grading of the soil surface, removal of old foundations and limited excavation for utilities and new foundations. The Phase IV RIP provided that any impacted soils encountered during redevelopment activities, would be separately stockpiled and designated for appropriate testing. In addition, the Phase IV provided that any groundwater encountered would be managed in accordance with 310 CMR 40.0045 (4) and (6), depending on the conditions.

3.00 PHASE IV DOCUMENTATION

This section provides documentation of the remedial activities conducted as part of the Comprehensive Remedial Action at the Site and documents that the requirements for a Phase IV Final Inspection Report and Completion Statement have been met in accordance with 310 CMR 40.0878 and 40.0879.



3.10 REMEDIAL ACTIVITIES CONDUCTED

Remedial activities included the excavation and off-site disposal of impacted soil in the northeast corner of the Site, excavation within a pre-existing AUL area, removal of six inactive USTs encountered at the Site, and management and off-site disposal of impacted soil encountered during the redevelopment project. All excavation and stockpile maintenance was performed in accordance with 310 CMR 40.036, the Phase IV RIP, local permits and OSHA requirements and prudent construction methods were employed to monitor and control dust generation at the site (i.e., water spraying). Groundwater management activities during redevelopment did not require groundwater extraction and discharge utilizing a NPDES Emergency Discharge Permit as provided for in the Phase IV RIP.

3.10.1 Removal of Impacted Soil in the Northeast Corner of Site

As discussed above, the elevated concentrations of lead identified in the soil in the northeastern corner of the Site (779 McGrath Highway parcel) were a primary risk-driver that had to be addressed to attain site closure under the MCP. Prior to commencement of soil removal activities in the northeast corner, the impacted area was further delineated. Excavation and sampling of test pits TP-10 through TP-19 was performed on October 9, 2003. The shallow test pits were excavated to a depth of 4' and were approximately 4' wide by 4' long. Consistent with earlier elevated detections of lead, samples were collected at depths of approximately 2' bgs and 4' bgs. Excavated material was replaced following sample collection in the order in which it was removed. The locations of the test pits are shown on Figure 2.

The analytical results from TP-10 through TP-19 combined with Phase II data for TP-1 through TP-9 indicated that a lead "hot spot" area was present at a depth of 2'-4' bgs in the area depicted on Figure 2. The results indicated that soil from 0'-2' bgs could be stockpiled and replaced but soil from 2'-4' bgs needed to be removed. Additionally, the test pit samples were used to confirm that PAHs, particularly benzo (a) pyrene, were not a risk driver. Results from TP-10 through TP-19 are summarized in Table 1 and analytical data is included in Appendix E.

Excavation of the lead "hot spot" was initiated on October 17, 2003 and completed on October 24, 2004. On October 17, 2003, soil from 0'-2' bgs was excavated and stockpiled for reuse. On October 20, 2003, soil from 2'-4' bgs was excavated and stockpiled and confirmatory samples were collected from the bottom and sidewalls of the

GZN

excavation. Based on these results, additional soil was excavated and stockpiled on October 24, 2003 and additional confirmation samples were taken. Confirmatory sampling results are summarized in Table 2 and analytical results are included in Appendix E. Final confirmatory results for lead taken from excavation sidewalls and bottom were below the MCP upper concentration limit of 6,000 mg/kg, ranging from 15 mg/kg to 930 mg/kg. Results of the confirmatory sampling are further addressed in the Method Risk 3 Risk Characterization in Appendix C.

Stockpiled soil taken from the "hot spot" was sampled, analyzed and profiled according to the acceptance criteria of the receiving facility on October 23, 2003. TCLP results indicated that leachable lead was present at concentrations ranging from 4.92 mg/L to 26.5 mg/L (greater than the 5 mg/L allowable limit for the receiving facility). As such, on November 7, 2003, stockpiled soil was treated on-site with approximately 800 gallons of proprietary solution. Additional TCLP samples taken following treatment indicated that leachable lead was not present above a detection limit of 0.020 mg/L. Stockpiled soil was transported off-site on November 18, 2003 for thermal processing by Environmental Soil Management Inc.. A total of 274.01 tons of soil went to the Environmental Soil Management receiving facility in Louden, NH. The Bill of Lading and associated documentation was transmitted to the MADEP on January 7, 2004. The waste characterization samples, including the TCLP samples prior to and following on-site treatment, are included in Appendix E.

In accordance with the Phase IV RIP, during the performance of excavation and soil handling activities in the northeast corner of the Site, air monitoring was conducted with a PID equipped with a 10.6 eV lamp. Particulate (dust) monitoring was conducted downwind of the work zone, at the Site perimeter, using a real-time aerosol meter (MIE personal DataRAM Model pDM 1000 aerosol meter equipped with a 10 μ m filter). No PID readings were recorded and dust levels did not exceed the action level of 5 mg/m3.

Stockpiled soil from 0'-2' bgs, suitable for reuse and clean borrow were used to backfill the excavated area.

3.10.2 Excavation of Pre -existing AUL Area

Excavation of shallow soil within the pre-existing AUL area in the southeast corner adjacent to Mystic Avenue (70 Cross Street parcel) was performed on October 16, 2003. The excavation was approximately 60' by 60' and was performed to a depth of 3' bgs. A poly layer was placed at the bottom of the excavation to prevent worker exposure to underlying soils. The poly layer was then covered with clean borrow. On October 17, 2003, backfilling was completed. The stockpiled soil was sampled and characterized as "reusable soil." This soil was used to backfill portions of the excavated area in the northeastern corner of the Site (see Section 3.10.1). Analytical results for this soil is summarized in Table 3 and included in Appendix F.

3.10.3 UST Removals



The Phase IV RIP indicated that one 2,000-gallon UST was present on the 250 Mystic Avenue parcel of the Site. During demolition activities two additional USTs were encountered on the 250 Mystic Avenue parcel and three additional USTs were encountered on the 779 McGrath Highway parcel. UST removal activities included excavation, removal of any liquids from within tanks, cleaning of tanks, and confirmatory sampling. The locations of the former tanks and confirmatory samples are shown on Figure 2. Confirmatory analytical results are included in Appendix G and were incorporated in the Method 3 Risk Characterization.

Soils removed from UST excavations were temporarily stockpiled on poly-sheeting and were replaced following visual and olfactory observations and PID screening. Tanks, any liquids collected from within tanks, and oily waste generated during cleaning were characterized and transported off-site for appropriate disposal. Permits obtained from the Somerville Fire Department and disposal documentation are included in Appendix G.

250 Mystic Avenue

On October 16, 2003, the previously identified 2,000-gallon tank from the 250 Mystic Avenue parcel was removed and cleaned. The tank was not in good condition and holes in sides and bottom of tank were identified. A thin layer (less than 1/8") of product was found to be floating on the water surface in the tank grave. A vacuum truck removed approximately 1,500 gallons of oil and oily-water from the excavation. Soils in the area of the tank appeared to be of low to moderate permeability, and visible impacts appeared to be confined to the immediate tank area. Confirmatory samples were collected from the tank grave prior to backfilling with reusable excavated material and clean borrow. Test pitting activities were performed in the area of the tank excavation on October 24, 2003 to obtain additional confirmatory samples. The tank was transported to James C. Grant Co. in Readville, MA and the liquid waste was transported to Murphy's Waste Oil Services in Woburn, MA on October 16, 2004. A 55-gallon drum of oily waste material generated during tank cleaning activities was later transported to General Chemical Corporation in Framingham, MA.

The release of oil and oily water during the UST removal on October 16, 2003 triggered a "120 day" notification requirement under 310 CMR 40.0315. As such, a Release Notification Form (RNF) was sent to the DEP on February 9, 2004. At the request of the DEP, the RNF was resent on March 3, 2004 and was received on March 11, 2004. The DEP responded on March 25, 2004 and assigned RTN 3-23667 to the release. Activities completed during tank removal, eliminated substantial hazards posed by the release and data obtained from the confirmatory samples was incorporated into the Method 3 Risk Characterization. A Tier Classification Transmittal Form (BWSC-107) providing notice that this RTN is being linked to the Site (RTNs 3-15727 and 3-16643) is included in Appendix B.



On January 7, 2004, a 1,000-gallon UST was encountered during demolition activities. No liquids were identified within the tank but the tank did have some silt/sludge at the bottom. On January 14, 2004, the tank was removed, cleaned and transported to James C. Grant Co. in Readville, MA. The tank appeared to be in good condition with no holes and there were no obvious signs of impacted soil. During the UST removal activities a hydraulic piston base structure, approximately 5' long and 10" in diameter, was encountered. The fluid was drained from the piston into a 55-gallon drum. Confirmatory samples were collected prior to backfilling with excavated material and clean borrow. The two 55-gallon drums of oily solids and waste oil generated from tank cleaning and piston activities were later transported to General Chemical Corporation in Framingham, MA.

On February 24, 2004, a 1,500-gallon UST was discovered during demolition activities. Oily sludge was present at the bottom of the tank. On February 25, 2004, the tank was removed and cleaned. The UST was corroded and there were holes in the tank but there were no obvious signs of impacted soil and all PID readings were non-detect. 50 cubic yards of soil from around the tank were stockpiled separately pending results of laboratory analytical. Confirmatory samples were collected from the excavation sidewalls and bottom prior to backfilling with excavated material and clean borrow material. Following laboratory analysis, the stockpiled soil was reused on-Site. The tank was transported to James C. Grant Co. in Readville, MA for off-site disposal February 25, 2004. A 55-gallon drum with the oily sludge material generated during tank cleaning activities was later transported to General Chemical Corporation in Framingham, MA.

779 McGrath Highway

On November 19, 2003, a 500-gallon tank and a 1,000-gallon tank were discovered during demolition activities. Oily sludge was present within the 500-gallon tank. On November 21, 2003, both tanks were removed and cleaned. The 500-gallon tank appeared to be in good condition with no holes and there were no obvious signs of impacted soil. Confirmatory samples were collected prior to backfilling with excavated material and clean borrow. Similarly, the 1,000-gallon tank appeared to be in good condition with no holes and no obvious signs of impact to the bedding sands surrounding the tank. Beyond the bedding sands, the tank was surrounded on its sides and bottom by concrete walls. The tank was found empty. The 500-gallon tank was transported to James C. Grant Co. in Readville, MA for off-site disposal on November 24, 2003. The 1,000-gallon tank was transported to James C. Grant Co. in Readville, MA for off-site disposal on November 26, 2003. Two 55-gallon drums of oily waste material generated during tank cleaning activities were later transported to General Chemical Corporation in Framingham, MA.

On March 17, 2004, a 275-gallon UST was discovered during demolition activities. The tank was torn during utility excavation work. Liquid was identified within the bottom of the tank. On March 18, 2004, the liquid was removed from the tank and the tank was removed and cleaned. The tanks appeared to be in good

condition with no holes other than the tear caused during excavation and there were no obvious signs of impacted soil. Confirmatory samples were collected prior to backfilling with excavated material and clean borrow. The tank was transported on March 18, 2004 to James C. Grant Co. in Readville, MA for off-site disposal. Two 55-gallon drums of the waste liquids generated were later transported to General Chemical Corporation in Framingham, MA.



3.10.4 General Soil Manageme nt During Construction

Excavation activities associated with construction included work on all three parcels (779 McGrath Highway, 250 Mystic Avenue, 70 Cross Street) as well as the two streets (Garfield and Kensington), which formerly bisected the Site. Excavation was performed in conjunction with the demolition and removal of old utilities and old foundations and the installation of new utilities and foundations. Since the new foundations were constructed on piles, foundation excavation work was at a relatively shallow depth.

Field assessment of soils during excavations was performed through visual and olfactory observations. No impacts were detected during general earthwork activities that appeared to reflect impacts greater than those characterized previously at the Site. Excavated materials were stockpiled in accordance with 310 CMR 40.0036 and the Phase IV RIP. Soils designated for disposal off-site were analyzed for the following parameters at frequencies consistent with the receiving facilities criteria:

- VOCs (EPA Method 8260)
- PAHs (EPA Method 8270 PAHs only)
- Total petroleum hydrocarbons (EPA Method 8100)
- PCBs (EPA Method 8081)
- pH, flashpoint, reactivity via EPA Methods
- RCRA-8 Metals

A total of 4,845 tons of soil was shipped off site to the Page Street Landfill in Stoughton, MA as a result of the excavation activities. Soil generated during the period from March 1, 2004 to May 10, 2004 (1,917 tons) was loaded and transported off-site to the Page Street Landfill on May 13, 2004 by Synergy Transportation of Newton MA and Charter Environmental Inc. (Charter) of Wilmington, MA. The Bill of Lading (BOL) and documentation for this shipment was transmitted to the DEP on July 8, 2004. Soil generated during the period from May 14, 2004 to July 20, 2004 (2,928 tons) was loaded and transported off-site by Charter on June 4, June 7 and August 5, 2004. BOL and documentation for these shipments was transmitted to the DEP on October 14, 2004. The waste characterization data is summarized in Table 4 and analytical data is included in Appendix H.

Site re-grading was performed at the Site as part of construction activities. The grade of the Site was raised using fill material from off-site sources, re-usable soil on-site and crushed concrete from demolition activities.

3.20 PHASE IV FINAL INSPECTION AND COMPLETION STATEMENT



The Comprehensive Remedial Action has been completed in accordance with applicable requirements of 310 CMR 40.0870, and the Phase IV RIP. The Phase IV RIP also provided for the preparation and submittal of an AUL. Notice of the AUL was made to property interests holder on December 7, 2004 and the final AUL was filed on April 15, 2005. A copy of the AUL along with a copy of the legal notice, and a copy of the notice to city officials is included in Appendix D. No further activities will be conducted as part of the implementation of the Comprehensive Remedial Action.

A Comprehensive Response Action Transmittal Form (BWSC-108), documenting that Phase IV Final Inspection Report and Completion Statement requirements have been met, pursuant to 310 CMR 40.0878 and 40.0879, is affixed to this report and a copy is included in Appendix B. This statement is signed and stamped by Michael Shaw LSP #8926.

4.00 RESPONSE ACTION OUTCOME DOCUMENTATION

This section provides documentation pertaining to the RAO warranted by the completion of the Comprehensive Remedial Action.



4.10 RESPONSE ACTION OUTCOME CATEGORY

In accordance with the MCP, the requirements of a Class A-3 RAO have been satisfied. A Class A-3 RAO is appropriate for the Site because:

- a Permanent Solution has been achieved;
- the level of oil and hazardous material in the environment has not been reduced to background and it has been determined that it would not be feasible to remediate the Site to background concentrations;
- an AUL pursuant to 310 CMR 40.1012 is necessary to maintain a level of No Significant Risk; and
- oil and hazardous materials at the disposal site do not exceed any UCLs.

4.20 DOCUMENTATION OF RESPONSE ACTION OUTCOME

This section documents achievement of a Class A-3 RAO for the Site in accordance with the MCP requirements of 310 CMR 40.1056.

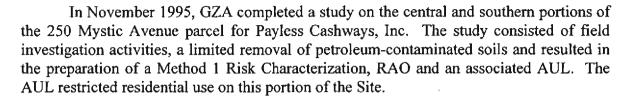
4.20.1 Disposal Site Boundaries

RAO and AUL boundaries are depicted on Figure 2 and Figure 3. Please note that during the redevelopment of the Site, the former Guber and Sherman property was purchased and incorporated into the redevelopment. The former Guber and Sherman property was remediated and closed separately under RTNs 3-18193 and 3-23551 and is not part of this RAO filing.

4.20.2 Release Site Source Control

Removing contaminated soils and USTs has eliminated uncontrolled sources within the Site boundary. No other active sources of contamination have been identified at the Site.

4.20.3 Other Response Action Outcome Statements for the Site



In August 1997, GZA completed a study on the 70 Cross Street parcel. This study consisted of Phase II field activities, an RAO and an associated AUL. This AUL also restricted residential use.

These previously-filed RAO Statements are described further in GZA's 2001 Phase II – Comprehensive Site Assessment. The current RAO Statement incorporates these portions of the Site. Statements of Termination were submitted for the pre-existing AULs on April 15, 2005 concurrent with the filing/recording of the new AUL for the entire Site area, including the former localized AUL areas, as depicted on Figure 2.

4.20.4 Conclusion that a Level of No Significant Risk Exists at the Site

GZA completed a characterization of the risk of harm to health, safety, public welfare, and the environment associated with potential exposures to oil and/or hazardous materials (OHM) detected in soil and groundwater at the Site. The Method 3 Risk Characterization was performed in accordance with 310 CMR 40.0900 and DEP guidance. The risk characterization calculated risks for facility worker, construction/utility workers and adjacent residents who may be exposed to fugitive dust during construction activities at the Site. The risk characterization concluded that a condition of NSR of harm to human health, safety, public welfare and the environment exists with the implementation of an AUL that restricts future redevelopment of the Site for residential purposes. The full text of the risk characterization is presented as Appendix C and the results are summarized below.

Human Health Risk Characterization

The MCP indicates that a condition of NSR of harm to human health exists or has been achieved if no Cumulative Receptor Non-cancer Risk is greater than 1.0; no Cumulative Receptor Cancer Risk calculated is greater than 1 x 10-5; and no Exposure Point Concentration (EPC) of OHM is greater than an applicable or suitably analogous public health standard. GZA calculated Cancer and Non-cancer Risks for facility worker, construction/utility workers, and off-Site residents. Calculated risks did not exceed applicable MCP risk limits, and no EPCs exceeded applicable public health standards. Accordingly, a condition of NSR of harm to human health exists at the Site.





Based on observations made and information collected during environmental investigations of the Site, conditions that are related to a release of OHM do not currently and will not in the foreseeable future pose a threat of physical harm or bodily injury to people. Therefore, a condition of NSR of harm to safety exists at the Site.

Public Welfare Characterization

Based on observations made and information collected during environmental investigations of the Site, no community in the vicinity of the Site experiences adverse impacts to public welfare under current or anticipated future conditions. In addition, average and hot spot concentrations of constituents of concern in soil and groundwater do not exceed their applicable UCLs. Therefore, a condition of NSR to public welfare exists at the Site.

Environmental Risk Characterization

Based on the Stage I Environmental Screening conducted, conditions at the Site do not represent significant exposures for environmental receptors, and a Stage II Environmental Risk characterization is not required. Based on the conservative comparisons made as part of the characterization of risk of harm to the environment, a condition of NSR to the environment exists at the Site.

4.20.5 Infeasibility of Achieving Background Levels

Although a condition of NSR exists at the Site, the levels of OHM have not been reduced to background concentrations. Residual concentrations exist at the Site in the form of VOCs, petroleum hydrocarbons, PAHs, and metals in groundwater and soils. Given that attainment of background levels has not been demonstrated, the feasibility evaluation outlined in 310 CMR 40.0860 is required. This evaluation has been conducted in accordance with the guidance contained in DEP's recently issued "Conducting Feasibility Evaluations under the MCP" Policy (Policy #WSC-04-160).

Feasibility is broadly defined in terms of five specific criteria:

- a. technological feasibility;
- b. cost-benefit analysis;
- c. availability of individuals with appropriate expertise;
- d. availability of off-site land disposal facilities; and
- e. site access/control constraints (for off-property sources of OHM).



Items "a", "c", and "d" do not affect the feasibility of performing cleanup to background levels at the Site, since the appropriate technology, expertise, and land disposal facilities required for the work are available. Furthermore, item "e" is not applicable since uncontrolled off-Site sources of contamination have not constrained remedial actions at the Site.



For the subject Site, item "b" is the main parameter in this feasibility evaluation, which makes cleanup to background concentrations at the subject Site infeasible. Item "b" incorporates three main issues:

- 1. The incremental costs of remedial action relative to the incremental benefits of risk reduction, environmental restoration and "monetary and non-pecuniary values";
- 2. The control of risks to health, safety, public welfare and the environment posed by implementation of the remedial action; and
- 3. The destruction of wetlands or wildlife habitat.

Given that the Site is situated in a highly developed industrial area, benefits, which would result from further remediation, are negligible. The MCP at 40.0860 does not quantify when an incremental cost of conducting the remedial action is "substantial and disproportionate" to the incremental benefit. However, according to Policy #WSC-04-160 in cases where it is not feasible to achieve background conditions, when the additional costs to remediate beyond NSR are equal to or less than 20 percent of the cost to remediate to NSR it is considered feasible to conduct remedial actions to approach background conditions.

The residual concentrations of constituents in soil at the Site could be addressed by further excavation and off-Site disposal. This approach would be technically feasible, but would entail massive excavation around the Site area and the additional expense would be considerable. Actual costs for performing soil removal to reduce or approach background have not been evaluated in detail; however, these costs for the over 5-acre Site could easily exceed \$2,000,000 (well in excess of the remedial costs to date to achieve NSR) in design, contracting, consulting, analytical, excavation, transport and disposal costs. This estimate far exceeds the threshold amount of 20 percent of the cost to remediate to NSR. Additionally, soils at the Site are classified as S-2/S-3. MADEP Policy #WSC-04-160 classifies the lead, benzo(a) pyrene and several other metals and PAHs present at the Site as "Persistent Contaminants" (Table 9-2, List of Persistent Contaminants). Pursuant to Policy #WSC-04-160, "It is DEP's position that achieving or approaching background can be deemed infeasible for persistent contaminants in soil located in areas with lower exposure potential (i.e., S-2 and S-3 soil categories)." The policy also provides that "For Sites for which there are multiple (co-located) contaminants, if it is determined to be infeasible to achieve or approach background for any one of the co-located contaminants, then it is unnecessary to evaluate the feasibility of achieving or approaching background for the remaining co-located contaminants."



Options for reducing residual groundwater concentrations to background levels would be limited given the nature of the constituents. Groundwater extraction and treatment would be technically feasible for approaching background levels; however, numerous studies by the United States Environmental Protection Agency (USEPA) and various other researchers have indicated that "pump and treat" systems are not capable of attaining background concentrations within reasonable time periods. Further groundwater remediation would not provide significant benefits relative to risk reduction given the Site's location in the urbanized area. Actual costs for performing groundwater extraction and treatment to approach background have not been evaluated in detail; however, these costs could easily exceed \$900,000 in design, contracting, consulting, analytical, construction and operation costs. Costs to construct the treatment system are estimated to be between \$500,000 and \$700,000. Operation of the treatment system is estimated to exceed \$900,000 within the first five years.

It should be noted that some of the residual constituent concentrations at the Site will be subject to various natural attenuation mechanisms. These mechanisms, including biodegradation, volatilization, and adsorption, will ultimately reduce residual contaminant concentrations in soil and groundwater to levels approaching background concentrations over time. Active remediation alternatives would only accelerate these natural attenuation processes.

Based on these considerations, it is GZA's opinion that further reduction of residual contamination levels in soil and groundwater at the Site to background concentrations is not feasible in accordance with 310 CMR 40.0860.

4.20.6 Requirement for Operation/Maintenance or Monitoring

Remedial actions performed at the Site have resulted in a Permanent Solution. Other than the obligations and conditions specified in the AUL, no other operation/maintenance or monitoring activities are required to maintain a condition of NSR at the Site.

The AUL provides that a condition of NSR to health, safety, public welfare or the environment exists for the foreseeable period of time for any of the following activities and/or uses:

- retail establishments, office buildings, warehouses, parking lots, landscaping and any other activities associated with commercial and manufacturing/industrial use;
- medical facilities, playgrounds, parks and hotels/motels so long as they are constructed in a manner consistent with the conditions and obligations listed in the AUL;
- subsurface activities associated with utility work or future construction of

buildings and other improvements to support permitted uses of the Site, provided such uses comply with the conditions and obligations listed in the AUL;

- all other lawfully-permitted uses and activities not prohibited by the obligations listed in the AUL; and
- other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in the AUL.

The AUL indicates that activities and uses that may result in a significant risk of harm to human health, safety, public welfare or the environment or in a substantial hazard, include:

- use of the soil at the Property for growing fruits or vegetables for human consumption;
- single or multiple family residential homes and structures; and
- playgrounds, parks, and other such uses where a child may engage in high frequency and high intensity activities that result in direct contact with site soil and which are not constructed in accordance with the conditions and obligations of the AUL.

The copy of the AUL and related documentation is provided in Appendix D.

4.30 RESPONSE ACTION OUTCOME COMPLETION STATEMENT

An RAO Transmittal Form for the Site, which documents that a Class A-3 RAO has been achieved is included as Appendix B. This statement is signed and stamped by Michael Shaw LSP No. #8926.

5.00 PUBLIC INVOLVEMENT REQUIREMENTS

In accordance with Minimum Public Involvement Activities in Response Actions (310 CMR 40.1403) outlined in the MCP, a notice of the availability of this report will be submitted to the Chief Municipal Officer and municipal Board of Health (BOH), and a copy of the AUL will be transmitted to the Chief Municipal Officer, the BOH, the Zoning Official and Building Code Enforcement Official for the City of Somerville.

In addition, in accordance with the Site-specific Public Involvement Plan (PIP), this report was made available at the Somerville Public Libraries, local resident Mr. Michael Cassesso and the Department of Environmental Protection's Northeast Regional Office. A copy of the draft report was submitted for public comment in accordance with the PIP on March 1, 2005.



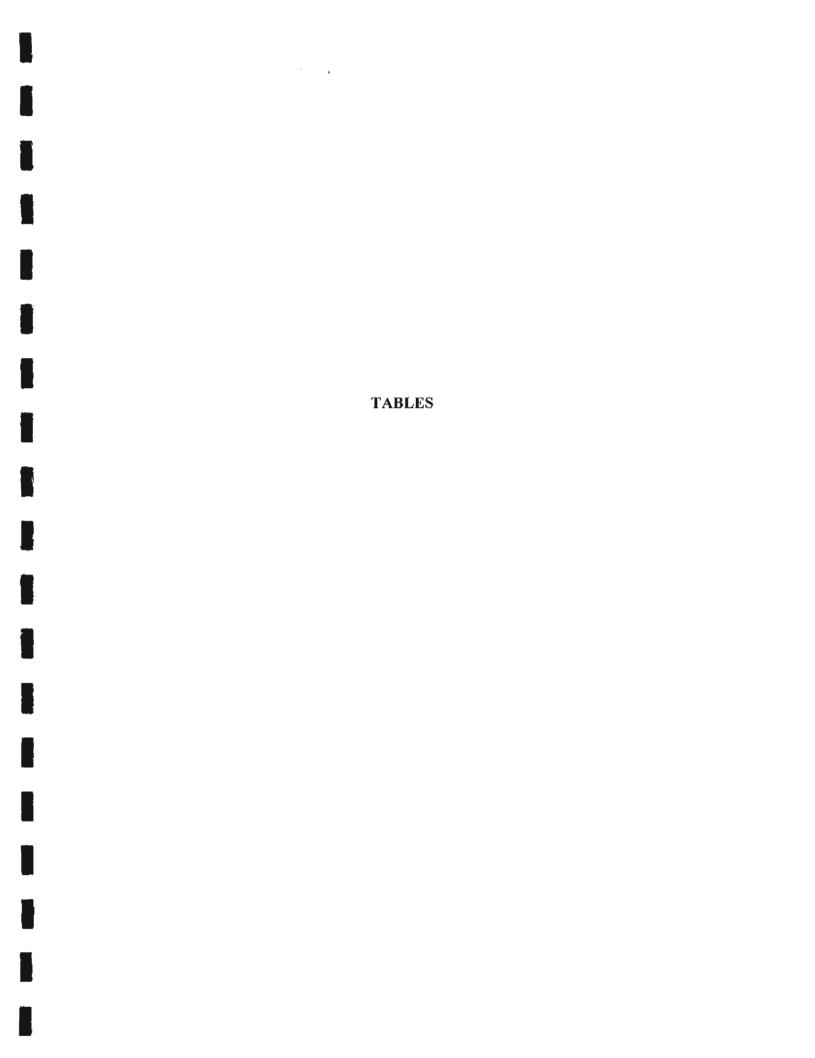


TABLE 1
TEST PIT SOIL SAMPLING RESULTS
NORTHEAST CORNER (779 MCGRATH HIGHWAY PARCEL)
LEAD HOT SPOT EXCAVATION

	3,8iu 🦫	P. A. P. C.	003 55	*Limit.	mg/kg.			1.13		1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		-
	34.TP-14-3'9in.	39"AF	34:10/9/2003 × ₹	Result	mg/kg			1450		0.9	2.5	3.1	9.9	5.4	29	17	92	65	82	34	22	24	25	15	v	14	9.98	
	_	10	003	Simt.	mg/kg	-		1.05																				
-	12.8 FP 14.2.8	2. A.	£10/9/2	Result	mg/kg -		-	612	_	<u> </u>		!			_	-	_		<u>.</u>				-	_	~	_	89.9	
		Charles Services	.003	Limit	mg/Kg)			1.26															•		-			
	18. FEC-41.	公主人、女権などの	10/01	Result	mg/kg ³⁵			4790																			76.4	_
		THE PARTY OF THE P	FF-10/9/2003 24 1 10/9/2003 15 110/9/2003 15 1	Result Pumit of Result Fumity Result Result Aumit Result Aumit Pumit Presult Pumit	gygz i nigko i nigkosi mgkgs mgkgs imgkgs mgkgs i mgkgs mgkgs sngkgs sngkgs sngkgs mgkgs mgkg			1.03		3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		_
	25.191.38	4.00 S-2.43 C. 100	\$7.10/97	Result	mg/kg «			210		7.1	>	9.6	11	13	88	42	130	120	65	160	140	150	130	66	18	68	86.1	
	36.JP-12-4/38	· 大学	2003	Climit*	mg/kg			1.18																				
	是此""	PARTIES AND ADDRESS OF THE PARTIES AND ADDRESS O		Result	.mg/kg*			418							•		·		•								73.3	
1000	2-2	*	2003	*Limit?	mg/kg			1.09																		·		
	参 型2-75-11-36。	。[2] 第2 [2]			mg/kg			1270																			88.1	
	114 44	第四次	2003	Simil?	mg/kg:			1.01		0.66	0.66	0.66	99'0	0.66	0.66	0.66	0.66	0.66	0.66	99.0	0.66	99.0	0.66	0.66	0.66	0.66		
	J. T.	19.5% F. C.	10/0	Result	mg/kg			824		>	>	>	97.0	٧	9.7	2.7	12	12	5.9	5.5	3.6	4.5	4.5	3.2	>	3.2	82.3	
	11.2	2. 小系統	/2003 #*	SEIMIT	mg/kg*			1.08																				
	STATE OF	18.	\$ \$10/g	Result	mg/kg			802					-														90.1	
	0-3'8in ?	3.8" S.	1/2003 ¢	Limit	mg/kg.			1.02																				
	TE TE	S. Viers	1015 E	Result	e mg/kg			983																			89	
	-10.2	2.15	9/2003	a Limit	mg/kg			1.03	_																			
	11. 💸 - O	S (8	e 💸 10/	Resul	- mg/kg			276																			86.7	
	Sample	imple (bgs	Tec- *Dat		8																							
	是一个	epth of Sa	本の かける	大方 大	W. S. W.														•		ne	ne		eue	ene	a		
	41-31-55-128-313-3-315-10-85-10-85-10-315-315-10-338	到 5 % D	307	3.3.3.3	The Co.		PA 6010)		3270)	6	ohthalene	rlene	ine		ne		je.		nthracene		luoranthe	uoranthe	yrene	3-cd] Pyn	h] Anthrac	i] Perylen	SOLID	
	1. 2.72	全地等的是一个Depth of Sample (bgs) 医一类之一,但对于阿拉克30。在中国条件是了一种特殊	2005年 1985年 1985年 1985年 1985年 1985 1985 1985 1985 1985 1985 1985 1985	である。	The second of th	Parameters	METALS (EPA 6010)	Lead	PAH (EPA 8270)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo [a] Anthracene	Chrysene	Benzo [b] Fluoranthene	Benzo [k] Fluoranthene	Benzo [a] Pyrene	Indeno [1,2,3-cd] Pyrene	Dibenzo [a,h] Anthracene	Benzo [g,h,i] Perylene	PERCENT SOLID	
	AF L	E.	3	5	1	امّ	Σ	يّ	a.	Z	5	ď	Κ	正	۵	₹	Œ	<u>(ā.</u>	ď	O	ď	ď	ď	드	Ω	ď	۵	

4. 大大	小面公	303		mg/kg-			1.12																			
25-TR-19-478-2	74.4	× 10/9/2003 ×	Result Light	mg/kg			26.0															-				88.2
2.	20.00	303 m.C	Umit	ng/kg			1.08		99.0	99:0	99.0	99.0	99.0	99.0	99'0	99.0	99.0	99'0	99.0	99'0	99'0	99'0	99.0	99.0	99.0	
7-19-21-Y	。1 7 李和金	**: 10/9/2003 ***	Security 1	Fmg/kg * Tmg/kg .	_	_	2,15		1.2	.v.	6,1	0.85	1,9	28	12	9	41	25	41	33	32	39	21	5.0	17	87.4
50	14	0032	Limit	mg/kgr H			1.13																			
24.8 TP-18-4"	P. 15.	10/9/2	Result	по/Кд 📑			200																			78.5
2 0		海上10,9/2003 亚、松、10,9/2003末	PRESON SCHOOL RESON COMMITTENDE FUTURE	ring/kg img/kg			1.06																	-		
(V) (JIP-18-21%)	L # . # Z . #	10,972	Result, 18	mg/kg			220												_	-				•		68
4.25	13		Limit	ng/kgr			1.23		99'0	99.0	99.0	99'0	99.0	99.0	99:0	99.0	99.0	0.66	99.0	99.0	99.0	99:0	99.0	0.66	0.66	
	S. T.	- 10/9/2003 F	Result P.Limit Result Limit	img/kg = mg/kg = mg/kg/²			5140		1.0	>	0.74	1.5	1.5	17	5.7	18	19	8.6	10	6.4	7.5	8.8	6.2	1.3	5.4	8.08
6	1		Limit	ng/kg - II			1.09	_	_			_														
140 TP 17-2	2.5	= 10/9/2003 =	Result	mg/kg			214										_									88.8
1		3: €		g/kg			1.31								-											
TP'46-	4.8	02/6/01	Result	ng/kg			2540																			75.1
-2155	2 23 24	£00	Limit	mg/kg: ⊡			1.11																			
. FTP.1	海利1200年	76/01/3/	Result	mg/kg			302																			87.9
A.K.	15-35-3	603	2 mits	mg/kg			1.25																			
XTP.1	1.	7/6/01	Result	mg/kg			3070				_															75.9
52.	1	** £00	Stimit.	mg/kg			1.08											_								
SE IR	7	76/01	Result	mg/kg			029										-	-								88.2
mple ID	le (bgs)	Date		3-1-7		_																				
S. s. Sa	n of Samp																							a		
STREET WAS Sample ID WITH 152 WITH 154 WITH 1525	The second of Sample (bgs)		A Mark A Mark A Mark A Mark A Meson A Selection A Meson A Mark A Mar	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg m		6010)		(0.		alene	a							racene		anthene	anthene	ne	ndeno [1,2,3-cd] Pyrene	Dibenzo [a,h] Anthracene	erylene	rID
***	1000	本の意		1	Parameters	METALS (EPA 6010)		PAH (EPA 8270)	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	∍ne	Phenanthrene	Anthracene	Fluoranthene	Ę.	Benzo [a] Anthracene	eue	Benzo [b] Fluoranthene	Benzo [k] Fluoranthene	Benzo [a] Pyrene	o [1,2,3-c	zo [a,h] A	Benzo [g,h,i] Perylene	PERCENT SOLID
1		***		1. S. C. S.	Paran	META	Lead	PAH (Napht	2-Met	Acena	Acena	Fluorene	Phene	Anthra	Fluora	Pyrene	Benzo	Chrysene	Benzo	Benzo	Benzo	Inden	Diben	Benzo	PERC

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TABLE 2
CONFIRMATORY SAMPLING RESULTS
NORTHEAST CORNER (779 MCGRATH HIGHWAY PARCEL)
LEAD HOT SPOT EXCAVATION

と対象ははおりないであることがあっ	CONTRACT SPECIAL CONTRACT	TRANSPICEDATEDATEDATEDATEDATEDATEDATEDATEDATEDAT
域的代表。例如		Lead (EPA 6010)
Sample ID, 4	∵″∌Date	mg/kg
TP-17B	10/20/2003	7800
TP-17SW	10/20/2003	930
TP-13SW	10/20/2003	490
TP-13B	10/20/2003	410
TP-14SW	10/20/2003	2700
TP-15B	10/20/2003	2300
TP-16B	10/20/2003	2700
TP-14B	10/20/2003	3500
TP-14SW	10/24/2003	710
TP-14B	10/24/2003	14
TP-15B	10/24/2003	60
TP-17B	10/24/2003	58
TP-16B	10/24/2003	15

Note: Samples in bold were excavated on 10/24/2003 and additional confirmatory samples replaced these results. B Indicates confirmatory sample from bottom of excavation area. SW Indicates confirmatory sample from sidewall of excavation area.

G:\15096.15K\15096-65.STP\15096.60 - RAO & Phase IV final\[Tables.xls]Table 2

TABLE 3
STOCKPILE SOIL SAMPLING RESULTS
EXCAVATION OF PRE-EXISTING AUL AREA
SOUTHEAST CORNER (70 CROSS STREET PARCEL)
EXCAVATION

Sample	SS	M. C.	SS	25	SS	3:20 5	SS	4.5	S	35	SS:35:43	96	- 2SS-	7. Just 18
Parameters (Parameters Result)	10/16 Result	/2003	2003 - 10/16/2003 - 10/16/2003 - 1 Résult Résult Imit	2003	70/16/ Result	2003 Imit	10/16/ Result	2003	10/16 Result	/2003*	10/16	2003	(10/16/2003 10/16/2003* 10/16/2003 Regult Nimit Result Init Result Init	2003 ··
VOLATILE ORGANICS (C. 1)	.>mg/kg′	(mdd)	mg/kg:(ppm) = #mg/kg:(ppm)	ppm) - 3	mg/kg.((mdd	≪mg/kg (ppm)	.(шdd)	mg/kg (ppm)	(maa)	ma/ka (ppm)	(maa)	ma/ka (ppm)	(maa
Chlorobenzene	0.24	0.10												
1,1,1,2-Tetrachloroethane	~	0.10												
1,2,4-Trimethylbenzene	0.10	0.10												
1,2-Dichlorobenzene	1.1	0.10												
Naphthalene	0.29	0.10												
1,2,3-Trichlorobenzene	v	0.10												
POLYCHLORINATED BIPHENYLS														
Aroclor 1268											v	0.10		
Aroclor 1262											v	0.10		
Aroclor 1260											v	0.10		
Aroclor 1254											v	0.10		
Aroclor 1248											v	0.10		
Aroclor 1242/1016											v	0.10		
Aroclor 1232											v	0.10		
Aroclor 1221											v	0.10		
POLYNUCLEAR AROMATIC HYDROC														
Fluoranthene													0.70	99.0
TOTAL PETROLEUM HYDROCARBON														
Hydrocarbon Content			180	100	180	50	670	100	390	20				
RCRA METALS														
Silver													v	0.620
Arsenic													11.7	1.24
Barium													154	0.620
Cadmium													v	0.620
Chromium													21.1	0.620
Mercury													1.24	0.0156
Lead													541	1.24
Selenium													٧.	3.10
PERCENT SOLID			89.3		88.5		85		90.5		91		9.08	

Note: Analytes not detected during waste characterization sampling not included. G:\t15096.15K\t15096-65.STP\t15096.0 - RAO & Phase IV final\text{Tables.xis}\text{Table 2}

TABLE 4
STOCKPILE SOIL SAMPLING RESULTS
GENERAL SOIL MANAGEMENT DURING CONSTRUCTION

2004 25 27 Limit	0.25		0.40	0.66	99.0	99.0	99.0	99.0	0.66	99.0	0.66	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0		50	3.00	9	0.430	0.490	0.490	0.490	0.0267	0.981	2.45	0.020					_
Result	٧		v	٧	1.1	٧	3.0	6.7	6.1	8.5		4.7	2.7	٧	9.4	15	1.3	1.3	0.91	<u>Ç</u>	12	0.68		1100	198	,	5 33	86.6	v	19.3	0.398	109	v	0.316		94.7			
5/6/2004 Result :: Limit																								960 50												%68			
2 1 3 3		+																						20							_					8			_
F 5/6/20 Result		-					~ -		,					_					, -		_	_	_	1100	.		_		-	—	_	_		i	_	91%			_
5/6/2004 Result Limit									*****															2000 50		•	**	,,		•		•				%68			-
4 §																	•							20	1											-			-
5/6/20 Result																								780												%06			
2004 Limit																								20	_														-
Result																								480												95%			_
6/2004 ult :: IIII																								20												%			
> . 5/ it. Resi	ç	,		(0	"	(0	<u></u>		<u></u>			<u> </u>	<u></u>		·		<u> </u>	<u>~</u>	<u></u>		<u>~</u>	~		840	_				_		_			5		%06			_
6/2004 Iff : Lim	0.170	5	0.400	0.6	99.0		99.0							0.66		0.66			0.66		0.66				1.0							0.5				٠		1.0	0
Resu	·		v		٧			2.50				_	_									\dashv		610	380			80.9						5 0.713		86%	>200	v	
3/2004* Italiani	0.180	5	0.400	,	_	·	•	1.70		•	`		•	•	•	•	•	•	•		1.70			20	1.0		2000					0.5			:			1.0	000
Resu	٧	_	v				٧	1.70	v	1.70	<u> </u>	v	٧	v	v	2.9	v	٧	٧	1.70	2.9	٧		410	270			86.3	0.544	29.7	0.43	120	_	0.384		%06	>200	v	
/2004	0 190	3	0.400	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70		α	1.0					0.5				0.015				1.0	0
Z 5/6 Result	0.33	 	v	V	٧	٧	2.30	7.00	9.00	7.30	2.40	3.80	5.70	٧	٧	13.0	v	2.50	v	9.20	12.0	٧		099	370		621	101.0	0.801	16.4	0.42	254	٧	0.587		91%	>200	v	,
2004 -	0 180	8	0.400	1.70	0.33	0.33	1.70	1.70	1.70	1.70	0.33	1.70	1.70	0.33	0.33	1.70	0.33	0.33	0.33	1.70	1.70	1.70		20	0.1	9	5 -	0.5	0.5	0.5	0.10	0.5	2.5	0.015				1.0	ć
Result	٧	<u>.</u>	٧	0.54	1.10	0.410	4.10	8.50	6.80	7.90	1.40	4.00	6.40	0.49	0.820	17.0	1,600	1.60	0.570	18.00	17.0	٧		290	370		6.55	8.96	0.752	15.3	0.45	260	٧	0.534		93%	>200	v	,
	ma/ka (nom)	HENYLS	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	mg/kg (ppm)	ROCARBON	mg/kg (ppm)	m2/cm	(2000)	ma/ka (nom)	ma/ka (ppm)	mg/kg (ppm)	mg/L (ppm)	mg/L (ppm)	%	deg F	mg/kg (ppm)	(/ /				
Parameters	VOLATILE ORGANICS	POLYCHLORINATED BIPHENYLS	Aroclor 1260 n SEMI-VOLATILE ORGANICS	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo [a] Anthracene	Benzo [a] Pyrene	Benzo [b] Fluoranthene	Benzo [g,h,i] Perylene	Benzo [k] Fluoranthene	Chrysene	Dibenzo [a,h] Anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno [1,2,3-cd] Pyrene	Naphthalene	Phenanthrene	Pyrene	Carbazole	TOTAL PETROLEUM HYDROCARBON	Hydrocarbon Content	Conductivity	RCRA METALS	Arsenic	Barium	Cadmium	Chromium	Mercury	Lead	Selenium	TCLP Lead	Lead	PERCENT SOLID	Flashpoint	Reactive Sulfide	Dogodine Ottonida
	EPA 8260	EPA 8082	EPA 8270																				Mod. EPA 8100			EPA 6010					EPA 7471A			EPA 1311/6010	EPA 1311/6010		EPA 1010	EPA 7.3.4	407

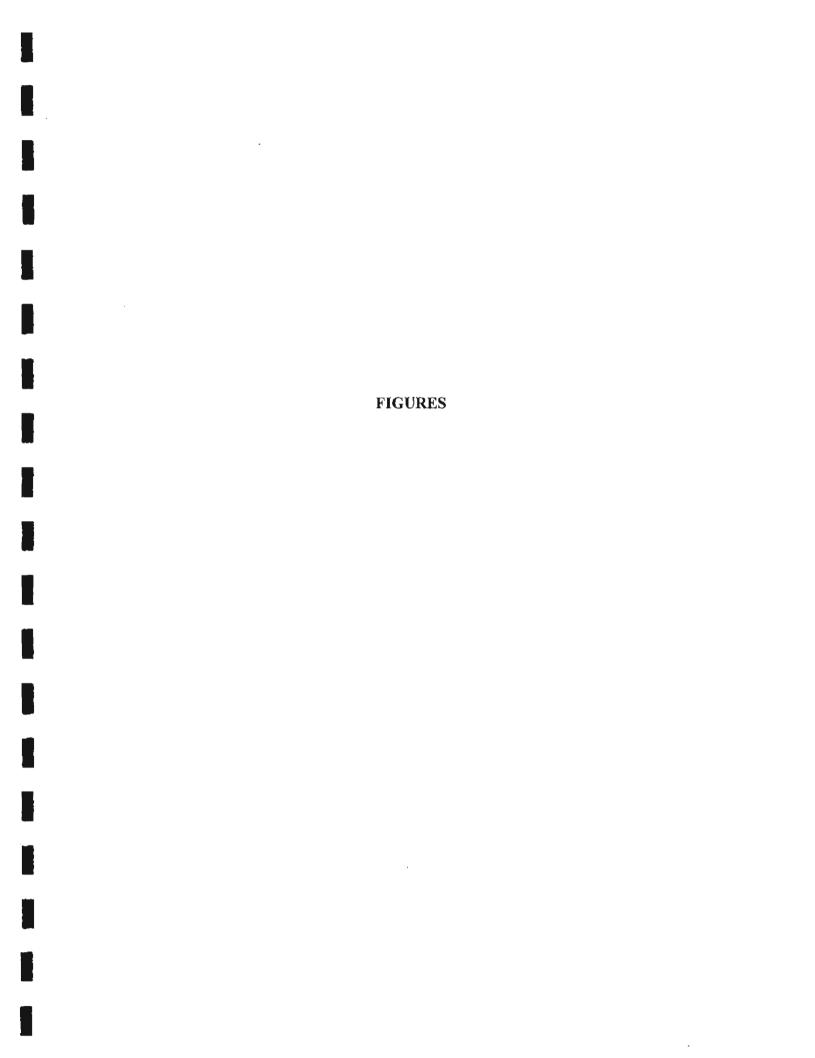
Note: Analytes not detected during waste characterization sampling not included.

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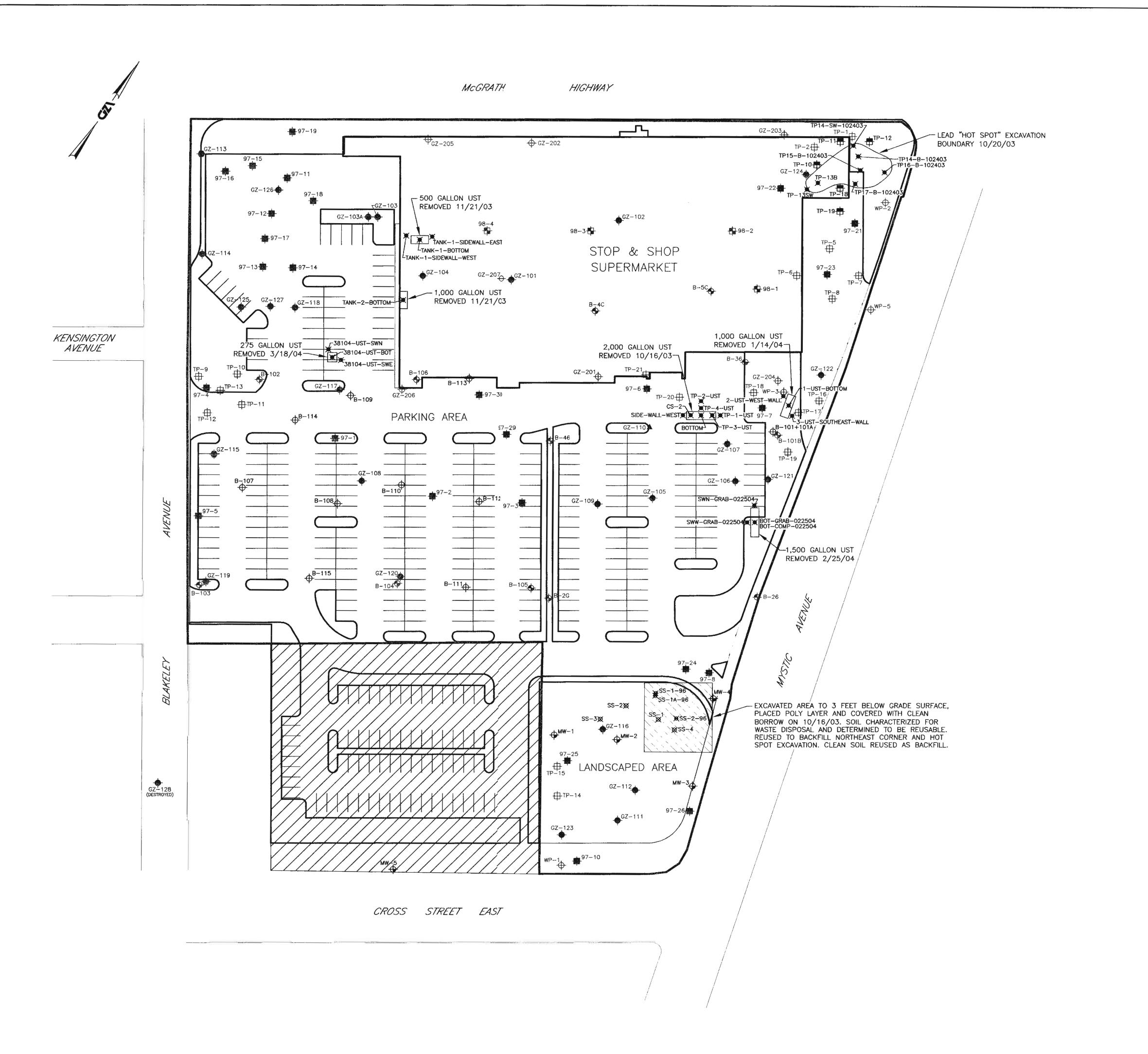
TABLE 4
STOCKPILE SOIL SAMPLING RESULTS
GENERAL SOIL MANAGEMENT DURING CONSTRUCTION

2002 2004 1.mit																									20																\top	-
SP.08 28/19 Result																•									240													91.6				
SP_08190433 2.8/fg/2004 Resulf £ Limit																									250 50													91.7				
* (SP-081904.2* ***********************************		< 0.07								.,	•																	•	•									91.7				-
A STATE OF THE STA	_	+	0 00 0		0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33					0.523	1.05	0.523	0.523	0.523	0.0287	1.05	2.61	=	=		80	ζ, ζ ζ	= - - -	-
. SP. 081904-1 iv. 8/19/2004 Result: Limit			0.067		٧	v	0.35	0.91	3.3	2.5	2.3	0.84	2.1	2.7	v	v	5.8	V	0.92	٧	3.0	5.3	v			926		v		_				58.2	v		į	92.9	>200	v v	V 0	17.0
4			0 100		0.33	0.33	0.33						•									_	0.330					0.518	1.05	0.700	0.700	0.700	0.0287	1.05	2.59							_
^r r, SP_072004 * °7/20/2004 'Resolf' \∞£ur			٧		٧	v	0.52	1.10	4.50	4.30	4.00	0.99	3.40	4.70	0.43	v	8.5	0.460	1.50	v	2.80	8.8	0.33		009	186		v	6.14	20.8	v	17.5	0.253	88.9	v							
			0 0 0		0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33					0.526	1.05	0.526	0.526	0.528	0.0287	1.05	2.63							
SP_07 7720 Result			v	a de la constanta de la consta	٧	٧	v	0.42	96'0	0.95	9.76	0.50	98.0	0.97	v	v	1.8	v	0.57	٧	1.20	1.7	v		170	177		v	4.56	0.44	v	12.3	0.160	8.48	v							
72004-2- 0/2004 JH.* Eimit		0.02																																								
4 SP.0		> /(_		_				1	_
P-072004 7/20/2004 esulte 1 in		< 0.07																																								
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Note: Analytes not detected during waste characterization same G:\t15096.15K\t5096.65.STP\t5096.60 - RAO & Phase IV final







GZA-G.\15096.15K\15096-65.STP\15096.60 - RAO & PHASE IV FINAL\FIG3:DWG [CURRENT SITE] April 19, 2005 - 4:16pm REN

LEGEND

TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES OF HINGHAM MASSACHUSETTS ON MARCH 22 AND 23, 2000. OBSERVED BY GZA PERSONNEL.

BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON, MASSACHUSETTS BETWEEN SEPTEMBER 17 AND 25, 1998. OBSERVED BY GZA PERSONNEL.

TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES, INC. OF HINGHAM, MASSACHUSETTS ON SEPTEMBER 17, 18, AND 21, 1998. OBSERVED BY GZA PERSONNEL.

BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON MASSACHUSETTS BETWEEN NOVEMBER 15 AND 17, 1997. MONITORING WELL INSTALLED.

TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES, INC. OF HINGHAM, MASSACHUSETTS BETWEEN NOVEMBER 14 AND 24, 1997. OBSERVED BY GZA PERSONNEL.

HAND AUGURED TEST PROBE PERFORMED BY GZA PERSONNEL ON NOVEMBER 18, 1997.

BORINGS PERFORMED BY CARR-DEE DRILLING CORP. OF MEDFORD, MASSACHUSETTS BETWEEN NOVEMBER 17 AND 21, 1997. OBSERVED BY GZA PERSONNEL. MONITORING WELL INSTALLED.

BORINGS PERFORMED BY GEOLOGIC INC. OF WATERTOWN, MASSACHUSETTS BETWEEN JANUARY 18 AND 21, 1988. OBSERVED BY HALEY & ALDRICH PERSONNEL.

BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON.
MASSACHUSETTS BETWEEN SEPTEMBER 19 AND 20, 1998.
OBSERVED BY GZA PERSONNEL.

DBORINGS PERFORMED BY DEMETER, INC. ON DECEMBER 1 AND 2,

1998. OBSERVED BY GZA PERSONNEL; BORING LOGS DENOTED B-100 THROUGH B-112.

OBSERVATION WELLS INSTALLED BY GZA DRILLING, INC. OF

OBSERVATION WELLS INSTALLED BY GZA DRILLING, INC. OF BROCKTON, MASSACHUSETTS ON MARCH 10, 2000.
OBSERVED BY GZA PERSONNEL.

MW−1 EXISTING WELLS BY OTHERS

SOIL SAMPLE PERFORMED BY CHECKPOINT ENVIRONMENTAL, INC. ON JULY 13, 1995.

)€(SS-1-96 SOIL SAMPLING LOCATIONS COMPLETED BY GZA IN 1996.

TP-13B SOIL SAMPLE TAKEN BETWEEN OCTOBER 2003 AND MARCH 2004 DURING PHASE IV REMEDIAL ACTIONS.

PRE-EXISTING AUL AREAS

AREA INCLUDED IN REDEV

AREA INCLUDED IN REDEVELOPMENT, BUT NOT AS PART OF THIS RAO/AUL SUBMITTAL. SEPERATE AUL AND/OR RAO PREVIOUSLY FILED BY OTHERS.

NOTES:

 THE BASE MAP WAS DEVELOPED FROM PLAN PROVIDED BY SOMERVILLE LUMBER DATED JUNE 28, 1989, ORIGINAL SCALE 1"=100".

2. THE LOCATIONS OF THE BORINGS, TEST PITS AND SOIL SAMPLES WERE APPROXIMATELY DETERMINED BY TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC AND MAN-MADE FEATURES. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

THE PREVIOUS LOCALIZED AUL AREAS WERE RECENTLY TERMINATED AS PART OF INSTITUTING THE SITE—WIDE AUL.

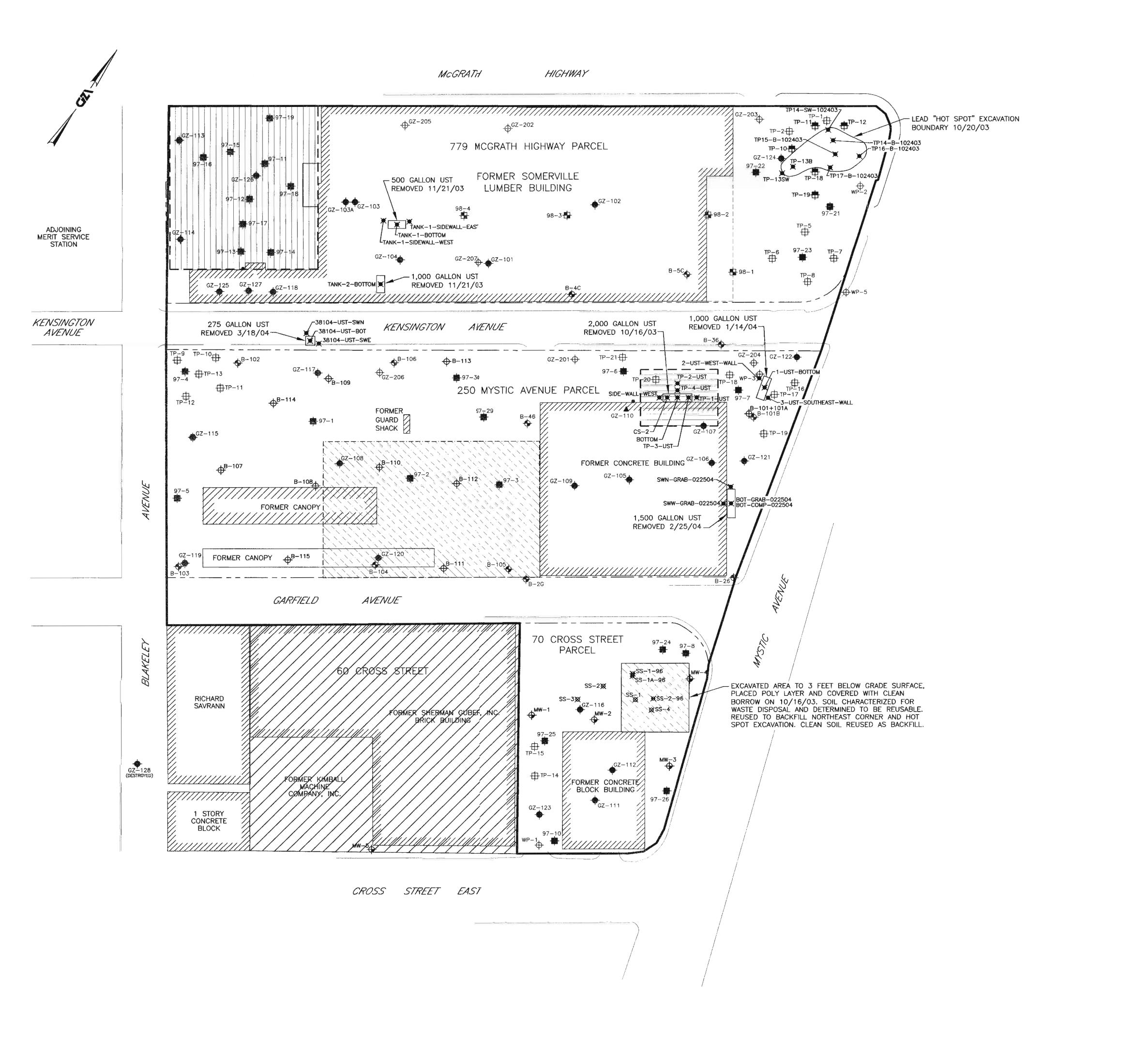
RESPONSE ACTION OUTCOME STATEMENT FORMER SOMERVILLE LUMBER FACILITY SOMERVILLE, MASSACHUSETTS
CURRENT SITE FEATURES, AUL/RAO BOUNDARII AND EXPLORATION LOCATION PLAN

15096.60

FIGURE NO.

"THIS DRAWING HAS BEEN PREPARED IN ELECTRONIC FORMAT. CLIENT MAY BE PROMIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA FOR HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO THIS PROJECT. DUE TO THE POTENTIAL THAT THE MAGNETIC INFORMATION MAY BE WODIFIED UNINTENTIONALLY OR OTHERWISE, GZA GEDENMINONMENTAL, INC. ("GZA") MAY REMOVE ALL INDICATION OF THE DOCUMENT'S, AUTHORSHIP ON THE MAGNETIC MEDIA PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPLICE CATIONS SHALL BE THE COLLY RECORD COPIES OF GZA'S WORK PROMUCT

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:\15096.15K\15096-65.STP\15096.60 - RAO & PHASE IV FINAL\FIG2.DWG [FORMER SITE] April 20, 2005 - 10:34am REN

<u>LEGEND</u>

- TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES OF HINGHAM MASSACHUSETTS ON MARCH 22 AND 23, 2000. OBSERVED BY GZA PERSONNEL
- BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON, MASSACHUSETTS BETWEEN SEPTEMBER 17 AND 25, 1998. OBSERVED BY GZA PERSONNEL.
- 1 TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES, INC. OF HINGHAM, MASSACHUSETTS ON SEPTEMBER 17, 18, AND 21, 1998. OBSERVED BY GZA PERSONNEL.
- BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON MASSACHUSETTS BETWEEN NOVEMBER 15 AND 17, 1997. SELECT MONITORING WELLS INSTALLED.
- 97-8 TEST PITS EXCAVATED BY NORTHEAST TANK SERVICES, INC. OF HINGHAM, MASSACHUSETTS BETWEEN NOVEMBER 14 AND 24, 1997. OBSERVED BY GZA PERSONNEL.
- GZ-110 HAND AUGURED TEST PROBE PERFORMED BY GZA PERSONNEL ON NOVEMBER 18, 1997.
- GZ-113 BORINGS PERFORMED BY CARR-DEE DRILLING CORP. OF MEDFORD, MASSACHUSETTS BETWEEN NOVEMBER 17 AND 21, 1997.

OBSERVED BY GZA PERSONNEL. MONITORING WELL INSTALLED.

- B-101B BORINGS PERFORMED BY GEOLOGIC INC. OF WATERTOWN, MASSACHUSETTS BETWEEN JANUARY 18 AND 21, 1988. OBSERVED BY HALEY & ALDRICH PERSONNEL.
- BORINGS PERFORMED BY GZA DRILLING, INC. OF BROCKTON. MASSACHUSETTS BETWEEN SEPTEMBER 19 AND 20, 1998. OBSERVED BY GZA PERSONNEL
- ABG-100 BORINGS PERFORMED BY DEMETER, INC. ON DECEMBER 1 AND 2, 1998. OBSERVED BY GZA PERSONNEL; BORING LOGS DENOTED
- B-100 THROUGH B-112. OBSERVATION WELLS INSTALLED BY GZA DRILLING, INC. OF
- BROCKTON, MASSACHUSETTS ON MARCH 10, 2000. OBSERVED BY GZA PERSONNEL.
- EXISTING WELLS BY OTHERS
- SOIL SAMPLE PERFORMED BY CHECKPOINT ENVIRONMENTAL, INC. ON JULY 13, 1995.
- ¥SS-1-96 SOIL SAMPLING LOCATIONS COMPLETED BY GZA IN 1996.
- TP-13B SOIL SAMPLE TAKEN BETWEEN OCTOBER 2003 AND MARCH 2004 DURING PHASE IV REMEDIAL ACTIONS.

AUL AND RAO BOUNDARY

PRE-EXISTING	AUL AREAS
 PRE-EXISTING	PARCEL BOUNDARIES

l								
LOCALIZED	AREA	RTN	SOUTHWEST	AREA	(3-16643:	SEE	NOTES	BELOW)

LOCALIZED AREA RTN NORTHERN AREA (3-23667: SEE NOTES BELOW)

 _ _		

PRE-EXISTING AUL AREA (3-10846 AND 3-658)





THIS RAO/AUL SUBMITTAL. SEPERATE AUL AND RAO PREVIOUSLY FILED BY OTHERS.

NOTES:

- 1. THE BASE MAP WAS DEVELOPED FROM PLAN PROVIDED BY SOMERVILLE LUMBER DATED JUNE 28, 1989, ORIGINAL SCALE 1"=100'.
- 2. THE LOCATIONS OF THE BORINGS, TEST PITS AND SOIL SAMPLES WERE APPROXIMATELY DETERMINED BY TAPE MEASUREMENTS FROM EXISTING TOPOGRAPHIC AND MAN-MADE FEATURES. THIS DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
- 3. THE PREVIOUS LOCALIZED AUL AREAS WERE RECENTLY TERMINATED AS PART OF INSTITUTING THE SITE-WIDE AUL.
- 4. LIST OF PROPERTY RELEASE TRACKING NUMBERS (RTN's)
- 3-15727: PROPERTY-WIDE RTN OPENED AS A RESULT OF DUE DILIGENCE RELATED INVESTIGATIONS DURING THE LATTER PART OF 1997 ASSOCIATED WITH THE SALE OF THE PROPERTY, SERVES AS THE PRIMARY SITE RTN.
- 3-16643: LOCALIZED RTN IN THE SOUTHWESTERN END OF THE 779 McGRATH HIGHWAY PARCEL OPENED AS A RESULT OF A 72-HOUR UST RELATED CONDITION IDENTIFIED DURING DUE DILIGENCE RELATED INVESTIGATIONS DURING THE LATTER PART OF 1997. LINKED TO 3-1527.
- 3.-23667: RTN IN THE NORTHERN CORNER OF THE 250 MYSTIC AVE. PARCEL OPENED DURING PHASE IV REMEDATION ACTIVES IN 2004 DUE TO UST-RELATED IMPACTS. LINKED TO 3-15727.
- 3-10846: LOCALIZED RTN IN SOUTHEASTERN PORTION OF THE 250 MYSTIC AVE.. PARCEL FOR WHICH A RAO A-3 WAS PREVIOUSLY FILED.
- 3-658: LOCALIZED RTN IN THE NORTHERN PORTION OF THE 70 CROSS STREET EAST PARCEL FOR WHICH A RAO A-3 WAS PREVIOUSLY FILED.

SCALE: 1" = 40 FEET 0 20' 40' 80'	C7A Communication of the	Engineers and Scientists ONE EDGEWATER DRIVE	NORWGOD, MA 02062 / PH.(781) 278-3700
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PONSE SH <u>04</u> $\mathbf{\Sigma}$ 2 0

PROJECT NO. 15096.60

FIGURE NO.

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MAY BE PROVIDED COPIES OF DRAWINGS AND SPECIFICATIONS ON MAGNETIC MEDIA F(2 HIS/HER INFORMATION AND USE FOR SPECIFIC APPLICATION TO HIS PROJECT. DUE TO THE POTENTIAL THAT THE MACNETIC INFORMATION MAY BE MODIFIED UNINTENTIONALLY OR OTHERWISE, GZA CYGENVIRONMENTAL, INC. ("GZA") MAY PEMOVE ALL INDICATION OF THE DOCUMENTS AUTHORSHIP ON THE MAGNETIC METIA PRINTED REPRESENTATIONS OF THE DRAWINGS AND SPECIFICATIONS SHALL BE THE DNLY RECORD COPIES OF GZA'S WORK PRODUCT

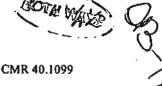
ANY USE OF THIS DOCUMENT PRODUCED FROM MAGNETIC MEDIA WITHOUT VERFECATION OR ADAPTATION BY EAS FOR THE SPECIFIC USE INTENDED WILL SET HE RECIPIENT'S SOLE RESPONSIBILITY AND WITHOUT RISK OR LIABILITY TO GZA GEOERWIRONMENTAL, INC. BY ACCEPTING THIS DOCUMEN IN MAGNETIC MEDIA FORMAT, CLIENT AGREES TO INDEMNIFY AND JOID HARMLESS GZA GEOERWIRONMENTAL, INC. TROM ALL CLAIMS FOR PAMAGES, LOSSES AND EXPENSES ARISING GY OF OR RESULTING FROM THE USE OR MISUSE OF THIS ELECTRONIC DOCUMENT."

APPENDIX D
ACTIVITY USE AND LIMITATION

Bk: 44998 Pa: 503



44998 Pg: 503 Page: 1 of 18 04/15/2005 09:25 AM



FORM 1075

310 CMR 40.1099

Form 1075

NOTICE OF ACTIVITY AND USE LIMITATION M.G.L. c. 21E, §6 and 310 CMR 40,0000

Disposal Site Name: Former Somerville Lumber Facility, Boston, Massachusetts DEP Release Tracking No.(s): 3-15727, 3-16643, 3-23667, 3-658, 3-10846

This Notice of Activity and Use Limitation ("Notice") is made as of this 28th day of March, 2005 by Grand Panjandrum Realty Company, Inc., having an address of 1385 Hancock Street, Quincy, Massachusetts, together with its successors and assigns CK= GRAND BNJANDOWN REALTY CO. (collectively "Owner").

WITNESSETH:

WHEREAS, Grand Panjandrum Realty Company, Inc., is the owner in fee simple of those certain parcels of land located in Somerville, Middlesex County, Massachusetts, with buildings and improvements thereon (the "Property") by deed recorded with the Middlesex South Registry of Deeds in Book 28016, Page 408 and Certificate of Title No. 211261 and Certificate of Title No. 210353 filed with the Middlesex South Registry District of the Land Court.

WHEREAS, the Property is more particularly bounded and described in Exhibit A attached hereto and made a part hereof. The Property is shown as follows:

Recorded with the Middlesex Registry of Deeds as:

Those certain parcels of land shown on the plan entitled "Plan of Land in Filed with the Middlesex South Registry of Deeds

Lot B on Land Court Plan No. 9494A; 2112Col.

Lot A on Land Court Plan No. 9494A; Somerville, Massachusetts, Prepared for Stop and Shop, Inc., prepared by Vanasse Hangen Brustlin, Inc., dated March 30, 2005 and recorded immediately

- Lot 1 on Land Court Plan No. 18957B;

The language in this form is part of a promulgated regulation and cannot be modified in any way unless so noted (within brackets) in the form itself. PERCIVED FOR REGISTRATION 00053271.DOC / 3

DY THE COURT

FORM 1075 310 CMR 40.1099

• Lot 3 on Land Court Plan No. 18957C; and 2 10356

Lot 4 on Land Court Plan No. 18957C.

WHEREAS, all of the Property is subject to this Notice of Activity and Use Limitation Property. The AUL Area comprises part of a disposal site as the result of a release of oil and/or hazardous material. Exhibit B is a sketch plan showing the relationship of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site (to the extent such boundaries have been established) Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Disposal Site in accordance with M.G.L. C. 21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or groundwater and/or (b) the restriction of certain activities occurring in, on, through over or under the Property. The basis for such restrictions is set forth in an Activity and Use Limitation Opinion ("AUL Opinion"), dated Mach 25, 2005 (which is attached hereto as Exhibit C and made a part hereof);

NOW, THEREFORE, notice is hereby given that the activity and use limitations set forth in said AUL Opinion are as follows:

- 1. Activities and Uses Consistent with the AUL Opinion. The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur on the Property:
 - Permitted site activities and uses include retail establishments, office buildings, warehouses, parking lots, landscaping and any other activities associated with commercial and manufacturing/industrial use;
 - (ii) Permitted site activities and uses also include medical facilities, playgrounds, parks and hotels/motels so long as they are constructed in a manner consistent with the conditions and obligations listed below.
 - Subsurface activities associated with utility work or future construction of buildings and other improvements to support permitted uses of the Site, provided such uses comply with Paragraph 3 below;

The language in this form is part of a promulgated regulation and cannot be modified in any way unless so noted (within brackets) in the form itself.

00053271.DOC / 3

Bk: 44998 Pg: 505

FORM 1075 310 CMR 40.1099

(iv) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph; and

- (v) Such other activities and uses not identified in Paragraph 2 as being Activities and Uses Inconsistent with the AUL.
- 2. Activities and Uses Inconsistent with the AUL Opinion. Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard, are as follows:
 - (i) Use of the soil at the Property for growing fruits or vegetables for human consumption;
 - (ii) Single or multiple family residential homes and structures;
 - (iii) Playgrounds, parks, and other such uses where a child may engage in high frequency and high intensity activities that result in direct contact with site soil (i.e., not constructed in accordance with the conditions and obligations below); AND
 - (iv) Any activity or use which, in the Opinion of an LSP, is reasonably likely to create a Significant Risk of harm to health, safety, public welfare or the environment.
- 3. Obligations and Conditions Set Forth in the AUL Opinion. If applicable, obligations and/or conditions to be undertaken and/or maintained at the Property to maintain a condition of No Significant Risk set forth in the AUL Opinion shall include the following:
 - (i) The ground surface of the Property must be covered by buildings, pavement (i.e., concrete, asphalt, or stone and/or brick), and/or landscaped areas, except during construction, utility maintenance or other finite soil disturbance project;
 - (ii) The integrity of all paved surfaces at the Property must be maintained so as to limit direct contact with underlying site soils. For the purposes of this AUL, significant degradation of the paved surface requiring maintenance will be deemed present if an area greater than 1 contiguous square foot is observed over which the paved surface has broken away exposing the granular sub-base and/or underlying soil.

The language in this form is part of a promulgated regulation and cannot be modified in any way unless so noted (within brackets) in the form itself. 00053271.DOC/3

FORM 1075 310 CMR 40.1099

In the special case that a paved surface is used within a playground or other play area to serve as the protective barrier preventing contact with the underlying site soil, significant degradation requiring maintenance will be deemed present if any portion of the surface has broken away exposing the granular sub-base and/or underlying soil.

Note: The above integrity standards are intended to mitigate environmental exposure to subsurface soils. Other maintenance may be appropriate for public safety considerations.

- (iii) The removal of site soils from the Property must be conducted under the oversight of an LSP;
- (iv) If a construction activity is conducted involving the excavation of more than 100 cubic yards of Site soil, the excavation of site soils below the water table and/or the stockpiling of Site soils on site for more than 14 days, such work must be completed under the oversight of an LSP and in accordance with a site-specific health and safety plan and soil management plan prepared specifically for the activity;
- (v) If a landscaped area is constructed, it shall be constructed as set forth below, depending on the land use and associated activities as follows:
 - Landscaped areas used as aesthetic enhancements within and around paved areas and around buildings shall require no special construction provisions;
 - 2. Landscaped areas created for recreational purposes (e.g., picnic or play areas) shall include a minimum of eighteen inches of clean fill and/or topsoil above the underlying site soil. A marker layer consisting of filter fabric or similar geotextile shall be placed below the clean soil horizon and above the underlying site soil. The integrity of the eighteen-inch clean soil horizon and marker layer shall be maintained during future activities so long as the use remains recreational.
- 4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Property that may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by an LSP who shall render an Opinion, in accordance with 310 CMR 40.1080 et seq., as to whether the proposed changes will present a significant risk of harm to health, safety, public welfare or the environment. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

FORM 1075 310 CMR 40.1099

5. Violation of a Response Action Outcome. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by an LSP in accordance with 310 CMR 40.1080 et seq., and without additional response actions, if necessary, to achieve or maintain a condition of No Significant Risk or to eliminate substantial hazards.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by an LSP in accordance with 310 CMR 40.1080 et seq., the owner or operator of the Property subject to this Notice at the time that the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. <u>Incorporation into Deeds, Mortgages, Leases, and Instruments of Transfer.</u> This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed.

Owner hereby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned LSP, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

Bk: 44998 Pg: 508

FORM 1075

310 CMR 40.1099

April 21, 2011

WITNESS the execution hereof under seal this <u>Asm</u> day of <u>Mark</u>, 2005.

Grand Panjandrum Realty Company, Inc.

ak

Name: Righard J. Picariello Title: Executive Vice President

COMMONWEALTH OF MASSACHUSETTS

NORFIK		MABCK 28 , 2005
E. V. P.	of Grand Panjandr	above named Bichard J. Piensella , um Realty Company, Inc., and acknowledged the act and deed and the free act and deed of Grand
	ealty Company, Inc., befo	
		Notary Public: My Commission Expires:
		JOANNE REYNOLDS Notery Public Gommonwealth of Massachusetts My Commission Evoiree

FORM 1075

310 CMR 40.1099

The undersigned LSP hereby certifies that he executed the aforesaid Activity and Use Limitation Opinion attached hereto as Exhibit C and made a part hereof and that in his Opinion this Confirmatory Notice of Activity and Use Limitation is consistent with the terms set forth in said Activity and Use Limitation Opinion.

Michaelm Show

COMMONWEALTH OF PENNSYVANIA

Then personally appeared the above named Michael M. Showand acknowledged the foregoing instrument to be his free act and deed before me,

Notary Public:

My Commission Expires:

Upon recording, return to:

Peter A. Spellios, Esquire Sherin and Lodgen LLP 101 Federal Street Boston, MA 02110

NOTARIAL SEAL DONNA THOMAS, NOTARY PUBLIC UPPER DUBLIN TWP., COUNTY OF MONTGOMERY MY COMMISSION ENERGY OF TOBER 14, 2006



The language in this form is part of a promulgated regulation and cannot be modified in any way unless so noted (within brackets) in the form itself. 00053271.DOC / 3

FORM 1075 310 CMR 40.1099

Exhibit A Legal Description

A CERTAIN PARCEL OF LAND SITUATED AT THE INTERSECTION OF MCGRATH HIGHWAY AND MYSTIC AVENUE IN THE CITY OF SOMERVILLE, COUNTY OF MIDDLESEX, COMMONWEALTH OF MASSACHUSETTS, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWESTERN MOST CORNER OF THE PARCEL AT THE INTERSECTION OF MCGRATH HIGHWAY AND BLAKELEY AVENUE, PROCEEDING NORTHEASTERLY ALONG MCGRATH HIGHWAY N 37°01'16" E A DISTANCE OF SIX HUNDRED TEN AND SIX HUNDRETHS FEET (610.06') TO A POINT; THENCE

BY A CURVE TO THE RIGHT HAVING A RADIUS OF TWENTY THREE FEET (23.00') AND AN ARC LENGTH OF TWENTY-NINE AND EIGHTY-ONE HUNDRETHS FEET (29.81') TO A POINT; THENCE

S 35°50'00" E A DISTANCE OF FIFTY-FIVE AND SIXTEEN HUNDREDTHS FEET (55.16') TO A POINT; THENCE

BY A CURVE TO THE RIGHT HAVING A RADIUS OF ONE THOUSAND NINE HUNDRED SEVENTY-NINE FEET (1979.00') AND AN ARC LENGTH OF ONE HUNDRED THIRTY-TWO AND FORTY-ONE HUNDRETHS FEET (132.41') TO A POINT; THENCE

S 32°00'00" E A DISTANCE OF TWO HUDRED THREE AND TWENTY-THREE HUNDREDTHS FEET (203.23") TO A POINT; THENCE

BY A CURVE TO THE LEFT HAVING A RADIUS OF ONE THOUSAND TWENTY-ONE FEET (1021.00') AND AN ARC LENGTH OF ONE HUNDRED SIX AND NINTY-ONE HUNDRETHS FEET (106.91') TO A POINT; THENCE

S 38°00'00" E A DISTANCE OF ONE HUNDRED EIGHT AND SIXTY HUNDREDTHS FEET (108.60') TO A POINT; THENCE

310 CMR 40.1099

BY A CURVE TO THE RIGHT HAVING A RADIUS OF THIRTY-THREE FEET
(33.00') AND AN ARC LENGTH OF FORTY-THREE AND
TWENTY HUNDRETHS FEET (43.20') TO A POINT; THENCE

S 36°59'51" W A DISTANCE OF NINTY-FOUR AND TWENTY-ONE

HUNDREDTHS FEET (94.21') TO A POINT, THENCE

N 53°00'09" W A DISTANCE OF ONE HUNDRED EIGHTY NINE AND

N 53°00'09" W A DISTANCE OF ONE HUNDRED EIGHTY NINE AND SEVENTY-TWO HUNDREDTHS FEET (189.72') TO A POINT, THENCE

S 37°00'41" W A DISTANCE OF TWO HUNDRED THIRTY AND NO HUNDREDTHS FEET (299.91') TO A POINT, THENCE

S 37°00'41" W A DISTANCE OF SEVENTY AND NO HUNDREDTHS FEET (70.00') TO A POINT, THENCE

N 53°00'04" W A DISTANCE OF FOUR HUNDRED THIRTY-FOUR AND SIXTY-THREE HUNDREDTHS FEET (434.63') TO THE POINT OF BEGINNING.

FORM 1075

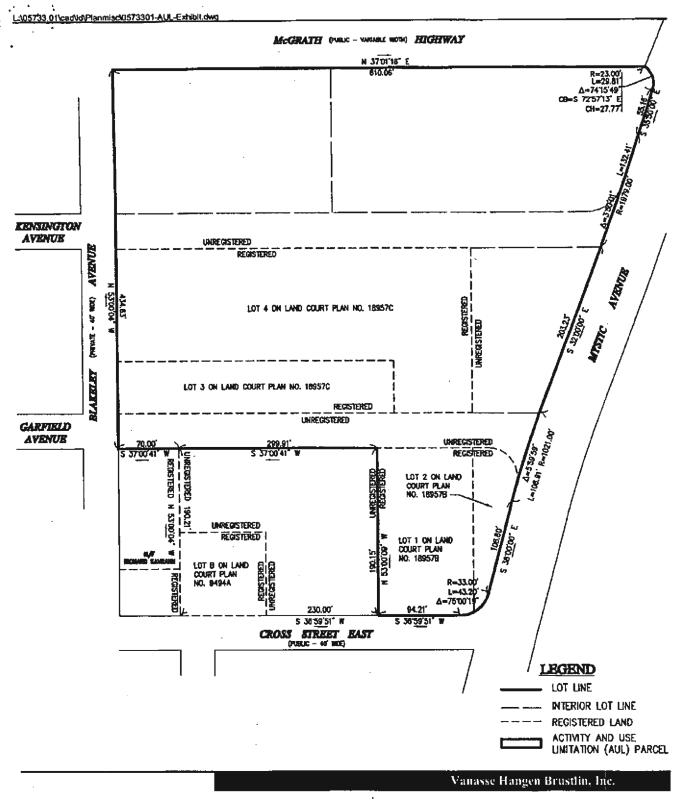
FORM 1075

310 CMR 40.1099

Exhibit B AUL Sketch

See behind

Bk: 44998 Pg: 513



SKETCH PLAN

EXHIBIT B MARCH 24, 2005

ACTIVITY AND USE LIMITATION

0 50 100 Feet

FORM 1075

310 CMR 40.1099

Exhibit C AUL Opinion

See behind

Bk: 44998 Pg: 515

EXHIBIT C

ACTIVITY AND USE LIMITATION OPINION

In accordance with the requirements of 310 CMR 40.1074, this Activity and Use Limitation (AUL) Opinion has been prepared to support a Notice of Activity and Use Limitation for the Disposal Site (Site) as defined in Exhibit A attached hereto (covering RTNs 3-15727 (Primary), 3-16643, 3-23667, 3-658 (replacing former AUL) and 3-10846 (replacing former AUL)).

Site Description

The Site is located at the intersection of Route 28 (McGrath Highway) and Mystic Avenue in a mixed commercial/industrial and residential section of Somerville, Massachusetts. Route 28 (McGrath Highway) adjoins the Site to the north, beyond which is Foss Park; Mystic Avenue and Interstate 93 adjoin the Site to the east; Cross Street and the former Guber and Sherman Property adjoin the Site to the south, beyond which is a playground and residential properties; and Blakeley Street adjoins the Site to the west, beyond which are a Merit gasoline station and commercial/industrial and residential properties.

The Site formerly served as a Somerville Lumber facility (pre-1997) and was comprised of three adjacent parcels. During recent redevelopment activities, the two transecting roads (Kensington Avenue and Garfield Street between Blakely Street and Mystic Avenue) were closed and incorporated into the redevelopment project resulting in the current, contiguous area of land. In addition, during the redevelopment of the Site, the former Guber and Sherman property was purchased and incorporated into the redevelopment. While part of the redevelopment, this parcel was remediated and closed separately (RTN 3-18193 and 3-23551) and is not part of this AUL Filing.

Based on a review of on-Site studies, subsurface conditions consist of approximately 3 to 18.5 feet of granular urban fill underlain by silt and clay deposits. The urban fill material is comprised primarily of sand, silt and gravel with lesser amounts of brick, concrete, wood, ash and/or cinders. The underlying silt and clay layers consist of trace amounts of sand and gravel. Glacial till was encountered below the silt and clay unit at various locations throughout the Site.

Based on a review of the U.S. Geological Survey (USGS) Topographic Map for the Boston North, Massachusetts Quadrangle, dated 1988, the Site is relatively flat with elevation ranging from approximately 6 to 9 feet above the National Geodetic Vertical Datum (NGVD) throughout the Site. The Mystic River is located approximately 2,300 feet northeast of the Site. Drainage at the Site is controlled by storm drains located within the Site's bituminous asphalt areas and adjoining streets.

Property History

The Site and adjoining areas were developed around the turn of the century and utilized for residential purposes. At that time, the Site was split approximately in half by Edmonton Avenue, which ran east of, and parallel to, Blakeley Avenue. By the early 1900s, commercial properties began to dominate the Site and adjoining areas. The Site was occupied by such businesses as automobile sales, gasoline filling stations, a plumbing supply store, a truck stop, a contractor's yard, and a lumber storage facility. By the mid to late 1900s, the Site usage changed as it became occupied by a lumberyard (later to evolve into the Somerville Lumber Company), Crane Service and Equipment Corporation, and warehouse storage space. By 1990, the Somerville Lumber Facility occupied all three parcels currently comprising the Disposal Site. Somerville Lumber terminated their occupancy in 1997. The Site has been recently (2003/2004) remediated and redeveloped into an urban retail store (food), with surrounding parking and landscaped areas.

Release History and Site Conditions

Impacts to soil and groundwater were initially identified on a portion of a Site back in 1988. Between 1988 and 2004, various studies and remedial activities were conducted to address site conditions encountered as a result of Site development and/or real estate due diligence activities. Petroleum storage and usage, vehicle/equipment repair and urban fill appear to be the primary historical sources of impact at the Site. A more complete history of environmental activities at the Site is presented in the Phase IV Final Inspection Report and RAO Statement (GZA, 2005).

The main constituent types detected at the Site are petroleum compounds, polycyclic aromatic hydrocarbons (PAHs), select metals, and to a lesser extent, volatile organic compounds (VOCs). Site constituents were generally detected at low to moderate levels in fill materials across the Site at depths ranging primarily from 0 to 9 feet below ground surface. Site constituents were generally not detected above Method 1 Standards in Site groundwater.

Site Risk Characterization and Reason for Activity and Use Limitation

To evaluate potential Site risks of harm to health, safety, public welfare and the environment, a Method 3 Risk Characterization was performed.

The following human receptors and exposure pathways were evaluated as part of the human health risk characterization:

- Store employees and facility workers: inhalation of fugitive dust, and inhalation of volatile constituents that could migrate into indoor air;
- Construction/utility workers: dermal contact with and incidental ingestion of soil, inhalation of fugitive dust, and the inhalation of volatile constituents that could be present in ambient air (localized in trenches only); and

Off-Site Residents: inhalation of fugitive dust.

These receptors were identified based on the characteristics of the Site and the surrounding properties as well as the current and likely future foreseeable use of the Site. Risks were not quantified for other potential current or future receptors, including trespassers, customers and/or visitors since the Site-related risks for these groups are less than those for the receptors that were evaluated.

Results of the human health component of the Method 3 Risk Characterization indicate that the Cumulative Noncancer and Cancer Risks estimates for the human receptors identified above, do not exceed the Massachusetts DEP Cumulative Noncancer and Cancer Risk Limits of 1.0 and 1 x 10⁻⁵, respectively. Thus, under the assumptions of the risk characterization, the Site has achieved a condition of No Significant Risk of harm to health. However, since the risk characterization relies on the assumption that the Site will not be used for residential purposes and that steps will be taken to eliminate the potential for children to contact Site soil with high frequency and intensity, an AUL is required to formalize these assumptions.

Results of the safety, public welfare and environmental risk characterizations also indicate that a level of No Significant Risk has been achieved. None of the constituents detected at the Site are present at concentrations above their applicable Upper Concentration Limits (UCLs) and no community in the vicinity of the Site experiences adverse impacts to public welfare under current conditions.

Therefore, with the implementation of the AUL described herein, a Class A-3 Response Action Outcome (RAO) will be achieved for the Site.

Permitted Activities and Uses

The AUL Opinion provides that a condition of No Significant Risk to health, safety, public welfare or the environment exists for any foreseeable period of time (pursuant to 310 CMR 40.0000) so long as any of the following activities and uses occur:

3

- Permitted site activities and uses include retail establishments, office buildings, warehouses, parking lots, landscaping and any other activities associated with commercial and manufacturing/industrial use;
- (ii) Permitted site activities and uses also include medical facilities, playgrounds, parks and hotels/motels so long as they are constructed in a manner consistent with the conditions and obligations listed below;
- (iii) Subsurface activities associated with utility work or future construction of buildings and other improvements to support

permitted uses of the Site, provided such uses comply with the Obligations and Conditions of this AUL Opinion;

- (iv) All other lawfully-permitted uses and activities not prohibited by the section titled Activities and Uses Inconsistent with AUL Opinion below; and
- (v) Such other activities or uses which, in the Opinion of an LSP, shall present no greater risk of harm to health, safety, public welfare or the environment than the activities and uses set forth in this Paragraph.

Activities and Uses Inconsistent with AUL Opinion

Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, as delineated on the attached Exhibit A, may result in a significant risk of harm to human health, safety, public welfare or the environment or in a substantial hazard, are as follows:

- (i) Use of the soil at the Property for growing fruits or vegetables for human consumption;
- (ii) Single or multiple family residential homes and structures; and
- (iii) Playgrounds, parks, and other such uses where a child may engage in high frequency and high intensity activities that result in direct contact with site soil (i.e., not constructed in accordance with the conditions and obligations below).

Obligations and Conditions

Obligations and/or conditions to be undertaken and/or maintained at the Property in order that a condition of No Significant Risk shall be maintained include the following:

- (i) The ground surface of the Property must be covered by buildings, pavement (i.e., concrete, asphalt, or stone and/or brick), and/or landscaped areas, except during construction, utility maintenance or other finite soil disturbance project;
- (ii) The integrity of all paved surfaces at the Property must be maintained so as to limit direct contact with underlying site soils. For the purposes of this AUL, significant degradation of the paved surface requiring maintenance will be deemed present if an area greater than 1 contiguous square foot is observed over which the

paved surface has broken away exposing the granular sub-base and/or underlying soil.

In the special case that a paved surface is used within a playground or other play area to serve as the protective barrier preventing contact with the underlying site soil, significant degradation requiring maintenance will be deemed present if any portion of the surface has broken away exposing the granular sub-base and/or underlying soil.

Note: The above integrity standards are intended to mitigate environmental exposure to subsurface soils. Other maintenance may be appropriate for public safety considerations.

- (iii) The removal of site soils from the Property must be conducted under the oversight of an LSP;
- (iv) If a construction activity is conducted involving the excavation of more than 100 cubic yards of Site soil, the excavation of site soils below the water table and/or the stockpiling of Site soils on site for more than 14 days, such work must be completed under the oversight of an LSP and in accordance with a site-specific health and safety plan and soil management plan prepared specifically for the activity;
- (v) If a landscaped area is constructed, it shall be constructed as set forth below, depending on the land use and associated activities as follows:
 - a) Landscaped areas used as aesthetic enhancements within and around paved areas and around buildings shall require no special construction provisions;
 - b) Landscaped areas created for recreational purposes (e.g., picnic or play areas) shall include a minimum of eighteen inches of clean fill and/or topsoil above the underlying site soil. A marker layer consisting of filter fabric or similar geotextile shall be placed below the clean soil horizon and above the underlying site soil. The integrity of the eighteen-inch clean soil horizon and marker layer shall be maintained during future activities so long as the use remains recreational.

Bk: 44998 Pg: 520

Michael M. Show
LSP Signature

03/25/2005

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Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

Release Tracking Number 15727

A. DISPOSAL SITE LOCATION:
1. Disposal Site Name: Former Somerville Lumber Facility
2. Street Address: 779 McGrath Highway
3. City/Town: Somerville 4. ZIP Code: 02145-2122
B. THIS FORM IS BEING USED TO: (check one)
1. Provide the LSP Opinion for a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1074.
Provide the LSP Opinion for an Evaluation of Changes in Land Uses/Activities and/or Site Conditions after a Response Action Outcome Statement, pursuant to 310 CMR 40.1080. Include BWSC113A as an attachment to BWSC113. Section A and C do not need to be completed.
3. Provide the LSP Opinion for an Amended Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1081(4).
4. Provide the LSP Opinion for a Partial Termination of a Notice of Activity and Use Limitation, pursuant to 310 CMR 40.1083(3).
5. Provide the LSP Opinion for a Termination of a Notice of Activity and Use Limitation , pursuant to 310 CMR 40.1083(1)(d).
6. Provide the LSP Opinion for a Grant of Environmental Restriction , pursuant to 310 CMR 40.1071.
7. Provide the LSP Opinion for an Amendment of a Grant of Environmental Restriction, pursuant to 310 CMR 40.1081(3).
8. Provide the LSP Opinion for a Partial Release of a Grant of Environmental Restriction, pursuant to 310 CMR 40.1083(2).
9. Provide the LSP Opinion for a Release of a Grant of Environmental Restriction, pursuant to 310 CMR 40.1083(1)(c).
10. Provide the LSP Opinion for a Confirmatory Activity and Use Limitation, pursuant to 310 CMR 40.1085(4).
(Unless otherwise noted above, all sections of this form (BWSC113A) must be completely filled out, printed, stamped, signed with black ink and attached as an exhibit to the AUL Document to be recorded and/or registered with the Registry of Deeds and/or Land Registration Office.)
C. AUL INFORMATION:
Is the address of the property subject to AUL different from the disposal site address listed above?
a. No b. Yes If yes, then fill out address section below.
2. Street Address:
3. City/Town: 4. ZIP Code:



Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup

BWSC113A

ACTIVITY & USE LIMITATION (AUL) OPINION FORM

Release Tracking Number

15727

Pursuant to 310 CMR 40.1056 & 40.1070 - 40.1084 (Subpart J)

D. LSP SIGNATURE AND STAMP:

l attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

- > if Section B indicates that a Notice of Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40,0000 and (ii) complies with 310 CMR 40,1074;
- > if Section B indicates that an Evaluation of Changes in Land Uses/Activities andlor Site Conditions after a Response Action Outcome Statement is being submitted, this evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40,0000 and (ii) complies with 310 CMR 40,1080;
- > if Section B indicates that an Amended Notice of Activity and Use Limitation or Amendment to a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 40.1081;
- > if Section B indicates that a Termination or a Partial Termination of a Notice of Activity and Use Limitation, or a Release or Partial Release of a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1083;
- > If Section B indicates that a Grant of Environmental Restriction is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1071;
- If Section B indicates that a Confirmatory Activity and Use Limitation is being registered and/or recorded, the Activity and Use Limitation that is the subject of this submittal (i) is being provided in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (ii) complies with 310 CMR 40.1085(4);

am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1.	. LSP#: <u>89</u>	26					
2.	. First Name:	Michael		_ 3. Last Name:	Shaw		
4,	. Telephone:	(215) 591-3800	5. Ext.:	3620 6. FAX:	(215) 591-38	10	
ŀ		Nichael	_				03/25/2005 mm/dd/yyyy
9.	. LSP Stamp:	MANAGA	7				mm/dd/yyyy



NOTICE OF AN ACTIVITY AND USE LIMITATION

FORMER SOMERVILLE LUMBER PROPERTY 779 MCGRATH HIGHWAY SOMERVILLE, MASSACHUSETTS RELEASE TRACKING NUMBERS 3-15737, 3-16643, 3-23667, 3-10846 AND 3-658

Pursuant to the Massachusetts Contingency Plan (310 CMR 40.1073), a Notice of Activity and Use Limitation on the above disposal site has been recorded and/or registered with the Middlesex County Registry of Deeds and the Middlesex South Registry District of the Land Court on April 15, 2005.

The Notice of Activity and Use Limitation will limit the following site activities and uses on the above property:

- Single and multiple family homes and structures;
- Use of the soil at the property for growing fruits and vegetables for human consumption.
- Playgrounds, parks and other such uses where a child may engage in high frequency and high intensity activities that result in direct contact with the soil and which are not constructed in accordance with the conditions and obligations of the AUL.

Any person interested in obtaining additional information or reviewing the **Notice of Activity and Use Limitation** and the disposal site file may contact Michael Shaw, GZA GeoEnvironmental, Inc., One Edgewater Drive, Norwood, Massachusetts 02062 at (781) 278-3700.

APPENDIX G

DATABASE REPORT

FirstSearch Technology Corporation

Environmental FirstSearchTM **Report**

Target Property:

60 CROSS ST

SOMERVILLE MA 02145

Job Number: 13-269

PREPARED FOR:

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

09-28-12



Tel: (781) 551-0470

Fax: (781) 551-0471

Target Site: 60 CROSS ST

SOMERVILLE MA 02145

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
N. I.		00.20.12	1.00			0	0			
NPL	Y	09-20-12	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	09-20-12	0.50	0	0	0	0	-	0	0
CERCLIS	Y	08-01-12	0.50	0	0	0	0	-	2	2
NFRAP	Y	08-01-12	0.50	0	0	0	1	-	1	2
RCRA COR ACT	Y	07-10-12	1.00	0	0	0	0	2	0	2
RCRA TSD	Y	07-10-12	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	07-10-12	0.25	0	2	4	-	-	2	8
Federal Brownfield	Y	07-15-12	0.50	0	0	1	1	-	6	8
ERNS	Y	07-05-12	0.25	0	1	6	-	-	18	25
Tribal Lands	Y	12-15-08	1.00	0	0	0	0	0	4	4
State/Tribal Sites	Y	09-11-12	1.00	0	9	6	22	112	31	180
State Spills 90	Y	09-11-12	0.50	0	21	27	67	-	74	189
State Spills 80	Y	03-10-98	0.50	0	4	4	12	-	30	50
State/Tribal SWL	Y	04-01-11	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	09-11-12	0.50	0	10	8	17	-	3	38
State/Tribal UST/AST	Y	09-14-12	0.25	0	1	4	-	-	0	5
State/Tribal EC	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal IC	Y	09-11-12	0.25	0	5	4	-	-	0	9
State/Tribal VCP	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	01-02-12	0.50	0	0	0	0	-	0	0
Federal IC/EC	Y	09-18-12	0.50	0	0	0	0	-	0	0
- TOTALS -				0	53	64	120	114	171	522

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch Site Information Report

Request Date:09-28-12Search Type:COORDRequestor Name:Dean GiulianoJob Number:13-269

Standard: AAI

Target Site: 60 CROSS ST

SOMERVILLE MA 02145

Demographics

Sites: 522 Non-Geocoded: 171 Population: 29647

Radon: 0.9 PCI/L

Site Location

	<u>Degrees (Decimal)</u>	Degrees (Min/Sec)		<u>UTMs</u>
Longitude:	-71.084755	-71:5:5	Easting:	328396.837
Latitude:	42.390481	42:23:26	Northing:	4695023.485
Elevation:	20		Zone:	19

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes:	1 Mile(s)	Services:

Code	City Name	ST Dist/Dir Sel
02129	CHARLESTOWN	MA 0.47 SE Y
02143	SOMERVILLE	MA 0.48 SW Y
02149	EVERETT	MA 0.57 NE Y
02155	MEDFORD	MA 0.63 NE N

Requested?	Date
No	
	No No No No No

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID_
78	NFRAP	CAMBRIDGE MACHINED PRODUCTS (F MAD055509103/NFRAP-N	100 FOLEY ST SOMERVILLE MA 02145	0.43 NE	- 6	1	1
172	RCRACOR	GENERAL ELECTRIC PRS MAD060094760/CA	3960 MYSTIC VALLEY PKY MEDFORD MA 02155	0.98 NW	- 3	3	2
127	RCRACOR	SITHE NEW ENGLAND MAD000842401/CA	173 ALFORD ST EVERETT MA 02149	0.82 NE	- 2	5	3
11	RCRAGN	A and A LIMOUSINE RENTING INC MAD982755563/VGN	161 BROADWAY SOMERVILLE MA 02145	0.13 SW	+ 1	N/A	4
18	RCRAGN	CUMBERLAND FARMS 118602 MAC300003050/SGN	202 BROADWAY SOMERVILLE MA 02145	0.18 SW	0	N/A	5
8	RCRAGN	HESS CORPORATION 21521 MAD982196875/VGN	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	N/A	6
31	RCRAGN	KMART 3486 MAD985275254/LGN	77 MIDDLESEX AVE SOMERVILLE MA 02145	0.22 NE	- 3	N/A	7
31	RCRAGN	PENSKE AUTO CENTER MA5000002907/VGN	77 B MIDDLESEX AVE SOMERVILLE MA 02145	0.22 NE	- 3	N/A	8
6	RCRAGN	SUPER STOP and SHOP MV6176661024/VSQG-FED	274 MYSTIC AVE SOMERVILLE MA 02145	0.10 NE	- 2	7	9
32	ERNS	MDC LATTA MEMORIAL POOL 425687/FIXED FACILITY	FOSS PARK SOMERVILLE MA 02145	0.22 NW	- 1	N/A	10
8	ERNS	MERIT OIL OF MASSACHUSETTS INC 232884/FIXED FACILITY	709 MCGRATH HIGHWAY-MERIT S SOMERVILLE MA 02145	0.12 SW	- 2	N/A	11
13	ERNS	UNKNOWN 596736/UNKNOWN (NRC)	I-93 and MCGRATH HWY SOMERVILLE MA 02145	0.15 NW	- 2	N/A	12
33	ERNS	UNKNOWN 460667/FIXED FACILITY	47 FOLEY ST., MERRI GAS CO. SOMERVILLE MA 02145	0.22 NE	N/A	N/A	13
38	ERNS	UNKNOWN L60114/UNKNOWN	SOMERVILLE MA 02145	0.24 NE	- 4	N/A	14
33	ERNS	UNKNOWN X60163/FIX FAC	SOMERVILLE MA 02145	0.22 NE	- 4	N/A	15
32	ERNS	P40204/FIX FAC	FOSS PARK SOMERVILLE MA 02145	0.22 NW	- 1	N/A	16
127	STATE	115 KV SWITCHYARD 3-0020199/RAO	173 ALFORD ST EVERETT MA 02149	0.82 NE	- 2	N/A	17
57	STATE	19328 510E 4695 784N 3-0021217/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	18
157	STATE	480 RUTHERFORD AVE 3-0028573/RAO	480 RUTHERFORD AVE CHARLESTOWN MA 02129	0.93 SE	- 10	N/A	19
100	STATE	50 TUFTS ST and PROP ACROSS TH 3-0023246/REMOPS	50 TUFTS ST SOMERVILLE MA 02145	0.58 SW	+ 1	N/A	20
91	STATE	AMELIA EARHART DAM 3-0019806/RAO	FOLEY ST SOMERVILLE MA 02145	0.51 NE	- 15	N/A	21

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID_
91	STATE	AMELIA EARHART DAM 3-0019826/RAO	FOLEY ST SOMERVILLE MA 02145	0.51 NE	- 15	N/A	22
162	STATE	AMERICAN ELECTROPLATING 3-0002312/RAO	26 CHESTNUT ST SOMERVILLE MA 02143	0.95 SW	- 9	N/A	23
173	STATE	AMI LEASING 3-0018163/RAONR	407 MYSTIC AVE MEDFORD MA 02155	0.98 NW	0	N/A	24
55	STATE	ASHTON FUELS 3-0012318/RAO	55 ASHTON AVE SOMERVILLE MA 02145	0.33 SE	+ 2	N/A	25
57	STATE	ASSEMBLY SQUARE 3-0028753/TIERII	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	26
23	STATE	ASSEMBLY SQUARE 3-0025033/RAO	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	27
74	STATE	ASSEMBLY SQUARE 3-0011886/RAO	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	28
74	STATE	ASSEMBLY SQUARE DRIVE 3-0021377/RAONR	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	29
57	STATE	ASSEMBLY SQUARE MALL 3-0019913/TIER1D	MIDDLESEX SOMERVILLE MA 02145	0.34 NE	- 4	N/A	30
57	STATE	ASSEMBLY SQUARE MALL 3-0028904/TIERII	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	31
149	STATE	BandM RAILROAD YARD 8 3-0004222/RAO	INNER BELT RD SOMERVILLE MA 02143	0.89 SE	- 5	N/A	32
68	STATE	BandM YARD 21 3-0004082/TIERII	FOLEY and TENNEY ST SOMERVILLE MA 02145	0.39 NE	- 8	N/A	33
98	STATE	BECO CABLE 3-0004533/RAO	ARLINGTON and DORRANCE AVE CHARLESTOWN MA 02129	0.55 SE	- 5	N/A	34
139	STATE	BETWEEN FREMONT AND MORELAND S 3-0019516/RAO	682 THRU 708 MYSTIC AVE SOMERVILLE MA 02145	0.85 NW	0	N/A	35
8	STATE	BLAKELY AVE 3-0014626/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	9	36
158	STATE	BOSTON EDISON CO 3-0002946/RAO	10 BOW PL SOMERVILLE MA 02143	0.93 SW	+ 1	N/A	37
147	STATE	BOSTON EDISON GARAGE 3-0003364/RAO	101 LINWOOD ST SOMERVILLE MA 02143	0.88 SW	- 10	N/A	38
125	STATE	BOSTON FIRE STATION 3-0004731/TIERII	525 MAIN ST CHARLESTOWN MA 02129	0.81 SE	- 6	N/A	39
144	STATE	BOSTON/EVERETT CITY LINE ON MY 3-0025988/RAO	180 ALFORD ST CHARLESTOWN MA 02129	0.87 NE	0	N/A	40
122	STATE	BOYS AND GIRLS CLUB 3-0027899/TIERII	181 WASHINGTON ST SOMERVILLE MA 02143	0.79 SW	+ 5	N/A	41

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID_
66	STATE	BROADWAY BRAKE 3-0012964/RAO	45 BROADWAY SOMERVILLE MA 02145	0.38 SE	+ 19	N/A	42
127	STATE	CABLE OIL SPILL 3-0001178/RAO	200 ALFORD ST EVERETT MA 02149	0.82 NE	- 2	N/A	43
105	STATE	CHARLESTOWN BUS GARAGE 3-0017483/RAO	21 ARLINGTON AVE CHARLESTOWN MA 02129	0.62 SE	- 7	N/A	44
118	STATE	COMMERCIAL PLASTICS 3-0022511/RAO	352 MCGRATH HWY SOMERVILLE MA 02143	0.74 SW	0	N/A	45
23	STATE	COMMERCIAL PROPERTY 3-0003937/LSPNFA	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	46
67	STATE	COMMERCIAL PROPERTY 3-0004253/RAO	15 N UNION ST SOMERVILLE MA 02145	0.38 SE	+ 3	N/A	47
110	STATE	COMMERCIAL PROPERTY 3-0003987/RAO	66 CAMBRIDGE ST CHARLESTOWN MA 02129	0.67 SE	- 3	N/A	48
152	STATE	COMMUNITY DEVELOPMENT PARCEL 3-0027194/RAO	112 CENTRAL ST SOMERVILLE MA 02143	0.90 SW	+ 21	N/A	49
30	STATE	CUMBERLAND FARMS GULF 3-0003722/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	50
128	STATE	CUMMINGS SCHOOL and PLAYGROUND 3-0026494/RAO	42 PRESCOTT ST SOMERVILLE MA 02143	0.82 SW	+ 34	N/A	51
53	STATE	DRAW SEVEN PARK 3-0003908/DPS	FOLEY ST SOMERVILLE MA 02145	0.32 NE	- 6	N/A	52
123	STATE	EVERETT STAGING YARD 3-0013341/TIERII	ALFORD ST EVERETT MA 02149	0.79 NE	- 4	N/A	53
92	STATE	FEDERAL METAL FINISHING 3-0000244/RAO	18 DORRANCE ST CHARLESTOWN MA 02129	0.51 SE	- 1	N/A	54
92	STATE	FEDERAL METAL FINISHING INC 3-0016986/RAONR	18 DORRANCE ST CHARLESTOWN MA 02129	0.51 SE	- 1	N/A	55
72	STATE	FIRST NATL GASOLINE STA FMR 3-0002140/WCSPRM	MYSTIC AVE SOMERVILLE MA 02145	0.40 SE	+ 2	N/A	56
163	STATE	FMR KILEY BARREL 3-0018513/RAONR	20 PROSPECT ST SOMERVILLE MA 02143	0.95 SW	- 10	N/A	57
140	STATE	FORMER DISTRICT COURT 3-0026241/RAO	19 WALNUT ST SOMERVILLE MA 02143	0.85 SW	+ 19	N/A	58
163	STATE	FORMER KILEY BARREL COMPANY SI 3-0028464/RAONR	20 PROSPECT ST SOMERVILLE MA 02143	0.95 SW	- 10	N/A	59
163	STATE	FORMER KILEY BARREL SITE 3-0028512/TIERII	20 PROSPECT ST SOMERVILLE MA 02143	0.95 SW	- 10	N/A	60
84	STATE	FORMER ST. POLYCARP PARISH 3-0025982/RAO	100 TEMPLE ST SOMERVILLE MA 02145	0.47 NW	0	N/A	61

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
95	STATE	FRANKLIN ST 3-0018255/RAO	9 PALMER AVE SOMERVILLE MA 02145	0.54 SW	- 3	N/A	62
107	STATE	GASOLINE STATION 3-0028903/RAO	360 MEDFORD ST SOMERVILLE MA 02145	0.63 SW	+ 14	N/A	63
172	STATE	GENERAL ELECTRIC FACILITY 3-0000371/RAO	3960 MYSTIC VALLEY PKY MEDFORD MA 02155	0.98 NW	- 3	N/A	64
148	STATE	H P HOOD 3-0000815/RAO	500 RUTHERFORD CHR AVE CHARLESTOWN MA 02129	0.88 SE	- 12	N/A	65
14	STATE	HADDAD SERVICE STATION 3-0004191/TIERII	205 BROADWAY SOMERVILLE MA 02145	0.15 SW	- 2	N/A	66
104	STATE	HESS STATION 21308 3-0025094/RAO	123 CAMBRIDGE ST CHARLESTOWN MA 02129	0.61 SE	- 4	N/A	67
8	STATE	HESS STATION 21521 FMR MERIT S 3-0000856/RAO	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	12	68
115	STATE	HIGH SCHOOL 3-0026487/RAO	81 HIGHLAND AVE SOMERVILLE MA 02143	0.72 SW	+ 85	N/A	69
108	STATE	HOLIDAY INN 3-0003133/WCSPRM	30 WASHINGTON ST SOMERVILLE MA 02143	0.63 SE	- 7	N/A	70
69	STATE	HOMEOWNER 3-0025510/RAO	56 DERBY ST SOMERVILLE MA 02145	0.39 NW	0	N/A	71
116	STATE	HYDRAMATIC SALES 3-0011444/RAO	4 JOY ST SOMERVILLE MA 02143	0.72 SW	- 10	N/A	72
126	STATE	INDEPENDANT ELECTRIC SUPPLY 3-0020363/RAO	41 INNER BELT RD SOMERVILLE MA 02143	0.81 SE	- 2	N/A	73
94	STATE	INDUSTRIAL PROPERTY 3-0004193/RAO	100 WALNUT ST SOMERVILLE MA 02143	0.53 SW	+ 12	N/A	74
135	STATE	JandR AUTOMOTIVE 3-0003944/RAO	112 HIGHLAND ST SOMERVILLE MA 02143	0.83 SW	+ 83	N/A	75
163	STATE	KILEY BARREL FMR 3-0002849/TIER1B	20 PROSPECT ST SOMERVILLE MA 02143	0.95 SW	- 10	N/A	76
124	STATE	LOCAL 25 3-0002746/RAO	544 MAIN ST CHARLESTOWN MA 02129	0.79 SE	- 8	N/A	77
174	STATE	MBTA 3-0002526/RAO	30 BROADWAY EVERETT MA 02149	0.99 NE	0	N/A	78
113	STATE	MBTA MYSTIC JUNCTION 3-0018503/RAO	WASHINGTON NEAR JOY ST SOMERVILLE MA 02143	0.71 SW	- 7	N/A	79
175	STATE	MBTA WELLINGTON STA FACILITY P 3-0026620/RAO	37 REVERE BEACH PKY MEDFORD MA 02155	0.99 NE	+ 11	N/A	80
105	STATE	MBTA YARD 3-0021255/RAO	21 ARLINGTON AVE CHARLESTOWN MA 02129	0.62 SE	- 7	N/A	81

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
54	STATE	MCGRATH AUTO BODY SHOP 3-0004542/RAO	42 DANA ST SOMERVILLE MA 02145	0.32 SW	+ 13	N/A	82
166	STATE	MDC PROPERTY 3-0004389/RAO	WELLINGTON (RTES 28and16) C MEDFORD MA 02155	0.97 NE	- 5	N/A	83
161	STATE	MEDFORD STREET INTERSECTION 3-0024787/RAO	180 SOMERVILLE AVE SOMERVILLE MA 02143	0.94 SW	- 10	N/A	84
8	STATE	MERIT 3-0015862/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	15	85
145	STATE	MERRIAM ST FMR EMERGENCY GENE 3-0018329/RAONR	220 WASHINGTON ST SOMERVILLE MA 02143	0.87 SW	- 3	N/A	86
145	STATE	MERRIAM ST FMR UST NEXT TO BL 3-0018328/RAONR	220 WASHINGTON ST SOMERVILLE MA 02143	0.87 SW	- 3	N/A	87
145	STATE	MERRIAM ST FMR UST NEXT TO SOM 3-0018323/RAO	220 WASHINGTON ST SOMERVILLE MA 02143	0.87 SW	- 3	N/A	88
40	STATE	MWRA CSO ESMNT BTN ASSMBLY SQ 3-0015525/URAM	137 MIDDLESEX AVE SOMERVILLE MA 02145	0.27 NE	- 2	N/A	89
129	STATE	MYSTIC CENTER DEVELOPMENT 3-0002955/RAO	451 ,461,495 FELLSWAY MEDFORD MA 02155	0.82 NE	- 3	N/A	90
142	STATE	MYSTIC STA TRANSFORMERS 3 AND 3-0029680/TIERII	173 ALFORD ST CHARLESTOWN MA 02129	0.86 NE	0	N/A	91
127	STATE	MYSTIC STATION 3-0012140/RAO	176 ALFORD ST EVERETT MA 02149	0.82 NE	- 2	N/A	92
96	STATE	MYSTIC VIEW APARTMENTS 3-0003091/RAO	30 MEMORIAL DR SOMERVILLE MA 02145	0.54 NW	+ 4	N/A	93
9	STATE	NEAR MYSTIC AVE INTERSECTION 3-0016643/RAONR	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	18	94
102	STATE	NEAR RTE 38 3-0016780/RAO	32 SHORE DR SOMERVILLE MA 02145	0.59 NW	- 3	N/A	95
136	STATE	NEW CHARLESTOWN PUMP STATION 3-0002530/WCSPRM	ALFORD CHR ST CHARLESTOWN MA 02129	0.83 NE	0	N/A	96
153	STATE	NEW ENGLAND TELEPHONE 3-0004347/RAO	21 3RD AVE SOMERVILLE MA 02143	0.90 SE	- 10	N/A	97
150	STATE	NEW ENGLAND TELEPHONE 3-0004584/RAO	111 CENTRAL ST SOMERVILLE MA 02143	0.89 SW	+ 20	N/A	98
130	STATE	NO LOCATION AID 3-0021316/RAO	86 JOY ST SOMERVILLE MA 02143	0.82 SW	- 8	N/A	99
8	STATE	NO LOCATION AID 3-0015170/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	21	100
8	STATE	NO LOCATION AID 3-0014215/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	24	101

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
116	STATE	NO LOCATION AID 3-0013082/RAONR	4 JOY ST SOMERVILLE MA 02143	0.72 SW	- 10	N/A	102
172	STATE	NO LOCATION AID 3-0019409/RAONR	3960 MYSTIC VALLEY PKY MEDFORD MA 02155	0.98 NW	- 3	N/A	103
100	STATE	NO LOCATION AID 3-0024376/RAONR	50 TUFTS ST SOMERVILLE MA 02145	0.58 SW	+ 1	N/A	104
164	STATE	NO LOCATION AID 3-0022337/RAO	30 ALLEN ST SOMERVILLE MA 02143	0.96 SW	- 12	N/A	105
80	STATE	NO LOCATION AID 3-0013764/RAO	28 MARSHALL ST SOMERVILLE MA 02145	0.44 NW	+ 14	N/A	106
130	STATE	NO LOCATION AID 3-0024366/RAO	86 JOY ST SOMERVILLE MA 02143	0.82 SW	- 8	N/A	107
176	STATE	NO LOCATION AID 3-0029452/RAO	26 BENNETT ST SOMERVILLE MA 02143	1.00 SW	- 9	N/A	108
106	STATE	NO LOCATION AID 3-0021242/RAO	38 FERWICK ST SOMERVILLE MA 02145	0.62 NW	+ 51	N/A	109
121	STATE	NO LOCATION AID 3-0027087/TIER1D	179 WASHINGTON ST SOMERVILLE MA 02143	0.78 SW	+ 5	N/A	110
173	STATE	NO LOCATION AID 3-0022908/RAO	407 MYSTIC AVE MEDFORD MA 02155	0.98 NW	0	N/A	111
154	STATE	NO LOCATION AID 3-0021497/RAO	1 SUMMER ST SOMERVILLE MA 02143	0.90 SW	+ 8	N/A	112
159	STATE	NO LOCATION AID 3-0017933/RAO	65 \2 BOW ST SOMERVILLE MA 02143	0.93 SW	+ 4	N/A	113
119	STATE	NO LOCATION AID 3-0020161/RAO	188 CENTRAL ST SOMERVILLE MA 02145	0.77 NW	+ 96	N/A	114
160	STATE	NO LOCATION AID 3-0019957/RAO	73 SUMMER ST SOMERVILLE MA 02143	0.93 SW	+ 19	N/A	115
167	STATE	NO LOCATION AID 3-0025003/RAO	38 GLENWOOD RD SOMERVILLE MA 02145	0.97 NW	+ 46	N/A	116
1	STATE	NO LOCATION AID 3-0018193/RAO	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	27	117
29	STATE	NO LOCATION AID 3-0017628/RAO	844 TO 846 MCGRATH HWY SOMERVILLE MA 02145	0.20 NE	- 3	N/A	118
168	STATE	NO LOCATION AID 3-0017975/RAO	12 DEXTER ST EVERETT MA 02149	0.97 NE	0	N/A	119
168	STATE	NO LOCATION AID 3-0017935/RAO	12 DEXTER ST EVERETT MA 02149	0.97 NE	0	N/A	120
101	STATE	NO LOCATION AID 3-0024529/RAO	40 BRIGHTON ST CHARLESTOWN MA 02129	0.58 SE	- 3	N/A	121

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
151	STATE	NO LOCATION AID 3-0020300/URAM	50 INNER BELT RD SOMERVILLE MA 02143	0.89 SE	- 3	N/A	122
127	STATE	NO LOCATION AID 3-0019849/RAO	173 ALFORD ST EVERETT MA 02149	0.82 NE	- 2	N/A	123
131	STATE	NO LOCATION AID 3-0028062/TIERII	500 MAIN ST CHARLESTOWN MA 02129	0.82 SE	- 2	N/A	124
137	STATE	NO LOCATION AID 3-0020074/DEPMOU	50 BUNKER HILL INDUSTRIAL P CHARLESTOWN MA 02129	0.83 SE	- 12	N/A	125
100	STATE	OFFICE PORTION OF BUILDING 3-0024358/RAONR	50 TUFTS ST SOMERVILLE MA 02145	0.58 SW	+ 1	N/A	126
132	STATE	PATS AUTO BODY 3-0002665/DEPNFA	306 MCGRATH HWY SOMERVILLE MA 02143	0.82 SW	- 4	N/A	127
133	STATE	PATS AUTOMOTIVE 3-0002732/LSPNFA	161 LINWOOD SOMERVILLE MA 02143	0.82 SW	- 10	N/A	128
9	STATE	PAYLESS CASHWAYS INC 3-0015727/RAO	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	30	129
75	STATE	PEARL STREET AUTO SALES 3-0026091/RAO	180 PEARL ST SOMERVILLE MA 02145	0.42 SW	+ 9	N/A	130
173	STATE	PENSKE TRUCK LEASING FAC./FMR 3-0018081/RAO	407 MYSTIC AVE MEDFORD MA 02155	0.98 NW	0	N/A	131
173	STATE	PENSKE TRUCK LEASING FAC./FMR 3-0025815/RAONR	407 MYSTIC AVE MEDFORD MA 02155	0.98 NW	0	N/A	132
103	STATE	PROPERTY 3-0003191/RAO	345 MEDFORD ST SOMERVILLE MA 02145	0.60 SW	+ 15	N/A	133
177	STATE	PROPERTY 3-0003198/RAO	77 MEDFORD ST SOMERVILLE MA 02143	1.00 SW	- 10	N/A	134
169	STATE	PROPERTY 3-0003600/RAO	55 BOW ST SOMERVILLE MA 02143	0.97 SW	- 2	N/A	135
165	STATE	PROPERTY 3-0000943/DEPNFA	436 MAIN ST CHARLESTOWN MA 02129	0.96 SE	- 10	N/A	136
168	STATE	PROPERTY 3-0001830/RAO	12 DEXTER ST EVERETT MA 02149	0.97 NE	0	N/A	137
156	STATE	PROSPECT ST 3-0020453/RAO	269 SOMERVILLE AVE SOMERVILLE MA 02143	0.92 SW	- 9	N/A	138
143	STATE	PUBLIC SAFETY BUILDING 3-0028863/TIERII	220 WASHINGTON ST SOMERVILLE MA 02143	0.86 SW	- 2	N/A	139
117	STATE	RYAN FIELD 3-0002910/RAO	ALFORD CHR ST CHARLESTOWN MA 02129	0.73 SE	- 9	N/A	140
93	STATE	SO OF EXIT 29 3-0014823/RAO	RTE 93N CHARLESTOWN MA 02129	0.51 SE	- 2	N/A	141

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
60	STATE	SOMERVILLE COURTHOUSE 3-0013016/RAO	175 FELLSWAY SOMERVILLE MA 02145	0.35 NW	0	N/A	142
10	STATE	SOMERVILLE MARGINAL CSO FACILI 3-0015340/RAO	271 MYSTIC AVE SOMERVILLE MA 02145	0.12 NE	- 1	33	143
114	STATE	SOMERVILLE PUBLIC LIBRARY 3-0027659/TIERII	79 HIGHLAND AVE SOMERVILLE MA 02143	0.71 SW	+ 85	N/A	144
147	STATE	SOMERVILLE SERVICE CENTER 3-0002914/DEPNFA	101 LINWOOD ST SOMERVILLE MA 02143	0.88 SW	- 10	N/A	145
155	STATE	SOMERVILLE SMELTING CO 3-0013471/RAO	14 CHESTNUT ST SOMERVILLE MA 02143	0.90 SW	- 10	N/A	146
111	STATE	SOUTH ALFORD ST AND MYSTIC RIV 3-0011213/RAO	ALFORD CHR ST CHARLESTOWN MA 02129	0.70 SE	- 8	N/A	147
141	STATE	STATION LANDING HEALTH CLUB AN 3-0026436/RAO	RTE 28 MEDFORD MA 02155	0.85 NE	+ 2	N/A	148
45	STATE	SUNOCO GASOLINE STATION 3-0004820/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	149
109	STATE	SUNOCO SERVICE STATION 3-0017921/RAO	434 MCGRATH HWY SOMERVILLE MA 02143	0.63 SW	+ 32	N/A	150
45	STATE	SUNOCO SERVICE STATION 3-0012319/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	151
109	STATE	SUNOCO STATION 3-0004701/RAO	434 MCGRATH HWY SOMERVILLE MA 02143	0.63 SW	+ 32	N/A	152
134	STATE	SWEETHEART CUP COMPANY 3-0003626/PENNFA	30 INNERBELT RD SOMERVILLE MA 02143	0.82 SE	- 10	N/A	153
170	STATE	TEXACO SERVICE STATION 3-0001958/RAO	525 FELLSWAY MEDFORD MA 02155	0.97 NE	+ 1	N/A	154
107	STATE	TONYS GAS 3-0015184/RAO	360 MEDFORD ST SOMERVILLE MA 02145	0.63 SW	+ 14	N/A	155
138	STATE	UHAUL 3-0013535/RAO	151 LINWOOD ST SOMERVILLE MA 02143	0.83 SW	- 10	N/A	156
171	STATE	UNAS 3-0022153/RAO	29 ALLEN ST SOMERVILLE MA 02143	0.97 SW	- 11	N/A	157
146	STATE	UNION SERVICE STATION 3-0004258/DEPNDS	231 WASHINGTON ST SOMERVILLE MA 02143	0.87 SW	+ 1	N/A	158
24	STATE	UNITED TRUCK LEASING 3-0002891/RAO	845 MCGRATH HWY SOMERVILLE MA 02145	0.19 NE	- 3	N/A	159
97	STATE	VACANT LOT 3-0004031/RAO	299 MEDFORD ST SOMERVILLE MA 02143	0.54 SW	+ 8	N/A	160
99	STATE	VACANT LOT 3-0004116/TIER1D	24 MYRTLE ST SOMERVILLE MA 02143	0.56 SE	- 3	N/A	161

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
153	STATE	VERIZON GARAGE FACILITY 3-0024054/RAO	21 3RD AVE SOMERVILLE MA 02143	0.90 SE	- 10	N/A	162
120	STATE	WBT LIMOUSINE 3-0002672/TIER1D	182 WASHINGTON ST SOMERVILLE MA 02143	0.77 SW	+ 1	N/A	163
112	STATE	WHITMORE WRIGHT 3-0000040/PENNFA	62 ALFORD CHR ST CHARLESTOWN MA 02129	0.70 SE	- 4	N/A	164
58	STATE	WINTER HILL YACHT CLUB 3-0029665/RAO	130 FOLEY ST SOMERVILLE MA 02145	0.34 NE	- 7	N/A	165
19	SPILLS	130 BROADWAY 3-0028392/RAO	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	166
57	SPILLS	19328 510E 4695 784N 3-0021217/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	167
70	SPILLS	2 GS RESTARAUNT 3-0011015/RAO	39 BROADWAY SOMERVILLE MA 02145	0.39 SE	+ 18	N/A	168
85	SPILLS	8-18 BROADWAY 3-0030155/URAM	8-18 BROADWAY SOMERVILLE MA 02145	0.47 SE	+ 10	N/A	169
55	SPILLS	ASHTON FUEL N92-0983/CLOSED	55 MYSTIC AVE SOMERVILLE MA 02145	0.33 SE	+ 2	N/A	170
55	SPILLS	ASHTON FUELS 3-0012318/RAO	55 MYSTIC AVE SOMERVILLE MA 02145	0.33 SE	+ 2	N/A	171
74	SPILLS	ASSEMBLY SQUARE 3-0011886/RAO	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	172
57	SPILLS	ASSEMBLY SQUARE 3-0028753/TIERII	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	173
23	SPILLS	ASSEMBLY SQUARE 3-0025033/RAO	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	174
74	SPILLS	ASSEMBLY SQUARE DRIVE 3-0021377/RAONR	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	175
57	SPILLS	ASSEMBLY SQUARE MALL 3-0014763/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	176
57	SPILLS	ASSEMBLY SQUARE MALL 3-0024952/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	177
57	SPILLS	ASSEMBLY SQUARE MALL 3-0028904/TIERII	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	178
57	SPILLS	ASSEMBLY SQUARE MALL 3-0019913/RETRACTED	MIDDLESEX SOMERVILLE MA 02145	0.34 NE	- 4	N/A	179
63	SPILLS	AT MARSHALL ST 3-0018407/DPS	296 TO 308 BROADWAY SOMERVILLE MA 02145	0.37 NW	+ 3	N/A	180
20	SPILLS	AT RT 28 RAMP 3-0013985/RAO	NORTH RT 93 SOMERVILLE MA 02145	0.18 NW	- 2	N/A	181

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
76	SPILLS	AT TEMPLE STREET 3-0014854/RAO	422 MYSTIC AVE SOMERVILLE MA 02145	0.42 NW	+ 4	N/A	182
68	SPILLS	BandM YARD 21 3-0004082/TIERII	FOLEY and TENNEY ST SOMERVILLE MA 02145	0.39 NE	- 8	N/A	183
44	SPILLS	BECO POLE 549 N91-0993/CLOSED	12 MONTGOMERY AVE SOMERVILLE MA 02145	0.28 SW	- 2	N/A	184
16	SPILLS	BLACK OIL N92-1117/CLOSED	NEW RD/MYSTIC AVE SOMERVILLE MA 02145	0.16 SE	- 1	N/A	185
8	SPILLS	BLAKELY AVE 3-0014626/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	36	186
3	SPILLS	BOSTON EDISON N93-0823/CLOSED	BLACKLEY ST SOMERVILLE MA 02145	0.06 SW	- 2	38	187
62	SPILLS	BROADWAY BRAKE N90-1657/CLOSED	50 BROADWAY AVE SOMERVILLE MA 02145	0.36 SE	+ 19	N/A	188
66	SPILLS	BROADWAY BRAKE 3-0012964/RAO	45 BROADWAY SOMERVILLE MA 02145	0.38 SE	+ 19	N/A	189
78	SPILLS	CAMBRIDGE MACHINED PRODUCTS 3-0000434/RAO	100 FOLEY ST SOMERVILLE MA 02145	0.43 NE	- 6	N/A	190
78	SPILLS	CAMBRIDGE METAL PLATING N91-0688/CLOSED	100 FOLEY ST SOMERVILLE MA 02145	0.43 NE	- 6	N/A	191
64	SPILLS	CENTRAL STEEL 3-0019163/RAO	99 FOLEY ST SOMERVILLE MA 02145	0.37 NE	- 8	N/A	192
64	SPILLS	CENTRAL STEEL 3-0019164/RAO	99 FOLEY ST SOMERVILLE MA 02145	0.37 NE	- 8	N/A	193
46	SPILLS	CHROME PLATING FACILITY FMR 3-0000673/RAO	46 CROSS ST SOMERVILLE MA 02145	0.29 SW	+ 7	N/A	194
23	SPILLS	COMMERCIAL PROPERTY 3-0003937/LSPNFA	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	195
67	SPILLS	COMMERCIAL PROPERTY 3-0004253/RAO	15 N UNION ST SOMERVILLE MA 02145	0.38 SE	+ 3	N/A	196
74	SPILLS	COMMERCIAL PROPERTY 3-0028153/RAONR	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	197
30	SPILLS	CUMBERLAND FARMS 3-0011462/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	198
30	SPILLS	CUMBERLAND FARMS 3-0022508/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	199
30	SPILLS	CUMBERLAND FARMS GULF 3-0003722/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	200
53	SPILLS	DRAW SEVEN PARK 3-0003908/DPS	FOLEY ST SOMERVILLE MA 02145	0.32 NE	- 6	N/A	201

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID_
38	SPILLS	DUMPING N92-1313/CLOSED	FOLEY ST SOMERVILLE MA 02145	0.24 NE	- 4	N/A	202
34	SPILLS	EDGERLY EDUCATIONAL CENTER N92-1053/CLOSED	8 BONAIR ST SOMERVILLE MA 02145	0.22 SW	+ 2	N/A	203
72	SPILLS	FIRST NATL GASOLINE STA FMR 3-0002140/WCSPRM	MYSTIC AVE SOMERVILLE MA 02145	0.40 SE	+ 2	N/A	204
84	SPILLS	FMR SAINT POLYCARP CHURCH 3-0027500/RAONR	100 TEMPLE ST SOMERVILLE MA 02145	0.47 NW	0	N/A	205
57	SPILLS	FORMER EDSEL MANUFACTURING FAC 3-0030834/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	206
71	SPILLS	FORMER GASOLINE STATION 3-0030424/UNCLSS	38 BROADWAY SOMERVILLE MA 02145	0.39 SE	+ 17	N/A	207
84	SPILLS	FORMER ST. POLYCARP PARISH 3-0025982/RAO	100 TEMPLE ST SOMERVILLE MA 02145	0.47 NW	0	N/A	208
1	SPILLS	FORMERLY GUBER and SHERMAN 3-0023551/RAONR	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	40	209
41	SPILLS	FUMES IN SEWER N92-0672/CLOSED	MONTGOMERY/MELVIN SOMERVILLE MA 02145	0.27 SW	- 1	N/A	210
74	SPILLS	GARRITY OIL N92-0768/CLOSED	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	211
74	SPILLS	GARRITY OIL 3-0000951/DEPNFA	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	212
14	SPILLS	GAS STATION N92-0775/CLOSED	205 BROADWAY SOMERVILLE MA 02145	0.15 SW	- 2	N/A	213
2	SPILLS	GAS UST UTM N 4695139 UTM E 3-0027249/RAO	16 GARFIELD AVE SOMERVILLE MA 02145	0.05 SW	- 2	42	214
30	SPILLS	GASOLINE PIPE LEAK N91-1011/CLOSED	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	215
56	SPILLS	GREEN CAB CO. 3-0028781/RAO	85 FOLEY ST SOMERVILLE MA 02145	0.33 NE	- 6	N/A	216
56	SPILLS	GREEN CAB COMPANY 3-0028785/UNCLSS	85 FOLEY ST SOMERVILLE MA 02145	0.33 NE	- 6	N/A	217
14	SPILLS	HADDAD SERVICE STATION 3-0004191/TIERII	205 BROADWAY SOMERVILLE MA 02145	0.15 SW	- 2	N/A	218
8	SPILLS	HESS GAS STATION 3-0023387/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	44	219
8	SPILLS	HESS GASOLINE STATION 21521 3-0029472/UNCLSS	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	46	220
8	SPILLS	HESS STATION 21521 3-0021399/RAO	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	48	221

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
8	SPILLS	HESS STATION 21521 FMR MERIT S 3-0000856/RAO	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	50	222
42	SPILLS	HK PORTER 3-0000649/RAO	74 FOLEY ST SOMERVILLE MA 02145	0.27 NE	- 4	N/A	223
51	SPILLS	HOME DEPOT N92-1221/CLOSED	ASSEMBLE SQUARE MALL SOMERVILLE MA 02145	0.31 SE	- 4	N/A	224
51	SPILLS	HOME DEPOT SITE N92-1334/CLOSED	MYSTIC and NEW AVE SOMERVILLE MA 02145	0.31 SE	- 4	N/A	225
69	SPILLS	HOMEOWNER 3-0025510/RAO	56 DERBY ST SOMERVILLE MA 02145	0.39 NW	0	N/A	226
25	SPILLS	INTERSECTION 3-0027009/RAO	STATE HIGHWAY 28 and STATE SOMERVILLE MA 02145	0.19 NW	- 2	N/A	227
81	SPILLS	INTERSECTION WITH JAQUES ST 3-0025252/RAO	65 TEMPLE ST SOMERVILLE MA 02145	0.45 NW	+ 17	N/A	228
39	SPILLS	LATTA BROTHERS MEMORIAL POOL 3-0015604/RAO	251 BROADWAY SOMERVILLE MA 02145	0.24 NW	- 1	N/A	229
17	SPILLS	LOCANN GLASS 3-0015825/RAO	693 MCGRATH AKA OBRIEN HWY SOMERVILLE MA 02145	0.16 SW	- 2	N/A	230
35	SPILLS	MA HWY DEPT FACILITY 80 3-0013515/RAO	MYSTIC (UNDER RTE 93) AVE SOMERVILLE MA 02145	0.22 SE	0	N/A	231
54	SPILLS	MCGRATH AUTO BODY SHOP 3-0004542/RAO	42 DANA ST SOMERVILLE MA 02145	0.32 SW	+ 13	N/A	232
54	SPILLS	MCGRATH AUTO REPAIR N92-1367/CLOSED	42 DANA ST SOMERVILLE MA 02145	0.32 SW	+ 13	N/A	233
8	SPILLS	MERIT 3-0015862/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	53	234
73	SPILLS	MULTI-FAMILY RESIDENTIAL PROPE 3-0029022/RAO	88 PEARL ST SOMERVILLE MA 02145	0.40 SW	+ 21	N/A	235
12	SPILLS	MV ACCIDENT N93-0297/CLOSED	MCGRATH HWY/MYSTIC AVE SOMERVILLE MA 02145	0.13 NW	- 2	N/A	236
40	SPILLS	MWRA CSO ESMNT BTN ASSMBLY SQ 3-0015525/URAM	137 MIDDLESEX AVE SOMERVILLE MA 02145	0.27 NE	- 2	N/A	237
21	SPILLS	MWRA DRAIN 3-0010663/RAO	RTE 28/BROADWAY SOMERVILLE MA 02145	0.18 SW	- 1	N/A	238
9	SPILLS	NEAR MYSTIC AVE INTERSECTION 3-0016643/RAONR	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	56	239
47	SPILLS	NO LOCATION 3-0026651/RAO	9 MONTGOMERY AVE SOMERVILLE MA 02145	0.29 SW	- 2	N/A	240
23	SPILLS	NO LOCATION AID 3-0028311/RAONR	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	241

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
82	SPILLS	NO LOCATION AID 3-0023253/RETRACTED	46 PEARL ST SOMERVILLE MA 02145	0.46 SE	+ 22	N/A	242
36	SPILLS	NO LOCATION AID 3-0022857/RAO	105 BROADWAY SOMERVILLE MA 02145	0.22 SE	+ 15	N/A	243
5	SPILLS	NO LOCATION AID 3-0023667/RAONR	250 MYSTIC AVE SOMERVILLE MA 02145	0.08 NE	- 1	59	244
29	SPILLS	NO LOCATION AID 3-0017628/RAO	844 MCGRATH HWY SOMERVILLE MA 02145	0.20 NE	- 3	N/A	245
1	SPILLS	NO LOCATION AID 3-0018193/RAO	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	61	246
19	SPILLS	NO LOCATION AID 3-0029021/RAO	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	247
19	SPILLS	NO LOCATION AID 3-0028420/RAO	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	248
8	SPILLS	NO LOCATION AID 3-0023363/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	64	249
8	SPILLS	NO LOCATION AID 3-0023292/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	67	250
8	SPILLS	NO LOCATION AID 3-0021247/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	70	251
8	SPILLS	NO LOCATION AID 3-0015170/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	72	252
8	SPILLS	NO LOCATION AID 3-0014215/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	75	253
86	SPILLS	NO LOCATION AID 3-0022627/RAO	41 GILMAN ST SOMERVILLE MA 02145	0.48 SW	+ 8	N/A	254
89	SPILLS	NO LOCATION AID 3-0010466/RAO	103 GILMAN SOMERVILLE MA 02145	0.50 SW	+ 9	N/A	255
80	SPILLS	NO LOCATION AID 3-0013764/RAO	28 MARSHALL ST SOMERVILLE MA 02145	0.44 NW	+ 14	N/A	256
64	SPILLS	NO LOCATION AID 3-0018995/RAO	99 FOLEY ST SOMERVILLE MA 02145	0.37 NE	- 8	N/A	257
59	SPILLS	OIL FUMES N92-0165/CLOSED	56 BROADWAY SOMERVILLE MA 02145	0.34 SE	+ 22	N/A	258
9	SPILLS	PAYLESS CASHWAYS INC 3-0015727/RAO	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	78	259
75	SPILLS	PEARL STREET AUTO SALES 3-0026091/RAO	180 PEARL ST SOMERVILLE MA 02145	0.42 SW	+ 9	N/A	260
82	SPILLS	PROPERTY 3-0029675/UNCLSS	46 PEARL ST SOMERVILLE MA 02145	0.46 SE	+ 22	N/A	261

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
90	SPILLS	RESIDENTIAL N92-0018/CLOSED	319 BROADWAY SOMERVILLE MA 02145	0.50 NW	+ 33	N/A	262
48	SPILLS	RESIDENTIAL N92-1214/CLOSED	OTIS ST SOMERVILLE MA 02145	0.29 SW	+ 5	N/A	263
26	SPILLS	RESIDENTIAL N92-0680/CLOSED	MACARTHUR 8, 11, ST SOMERVILLE MA 02145	0.19 SW	- 1	N/A	264
60	SPILLS	SOMERVILLE COURTHOUSE 3-0013016/RAO	FELLSWAY ST SOMERVILLE MA 02145	0.35 NW	0	N/A	265
4	SPILLS	SOMERVILLE LUMBER 3-0000658/RAO	260 MYSTIC AVE/AKA 70 CROSS SOMERVILLE MA 02145	0.06 NE	0	81	266
5	SPILLS	SOMERVILLE LUMBER CRANE BLDG 3-0010846/RAO	250 MYSTIC AVE SOMERVILLE MA 02145	0.08 NE	- 1	84	267
10	SPILLS	SOMERVILLE MARGINAL CSO FACILI 3-0015340/RAO	271 MYSTIC AVE SOMERVILLE MA 02145	0.12 NE	- 1	87	268
45	SPILLS	SUNOCO GASOLINE STATION 3-0004820/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	269
45	SPILLS	SUNOCO SERVICE STATION 3-0012319/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	270
79	SPILLS	TAN TRAN RESIDENCE 3-0021261/RAO	10 LINCOLN AVE SOMERVILLE MA 02145	0.43 SE	+ 18	N/A	271
67	SPILLS	TANK PULL N92-0625/CLOSED	15 N UNION ST SOMERVILLE MA 02145	0.38 SE	+ 3	N/A	272
24	SPILLS	UNITED TRUCK LEASING 3-0002891/RAO	845 MCGRATH HWY SOMERVILLE MA 02145	0.19 NE	- 3	N/A	273
45	SPILLS	WALNUT ST 3-0022432/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	274
54	SPILLS	WASTE OIL DUMPING N92-0080/CLOSED	42 DANA ST SOMERVILLE MA 02145	0.32 SW	+ 13	N/A	275
43	SPILLS	WHEATLAND ST 3-0020034/RAO	MYSTIC AVE SOMERVILLE MA 02145	0.27 NW	- 3	N/A	276
58	SPILLS	WINTER HILL YACHT CLUB 3-0029665/RAO	130 FOLEY ST SOMERVILLE MA 02145	0.34 NE	- 7	N/A	277
24	SPILLS	N90-0506/CLOSED	845 MCGRATH HWY SOMERVILLE MA 02145	0.19 NE	- 3	N/A	278
50	SPILLS	N93-0449/CLOSED	250 BROADWAY SOMERVILLE MA 02145	0.30 NW	0	N/A	279
88	SPILLS	N90-1054/CLOSED	SHERMAN ST CHARLESTOWN MA 02129	0.49 SE	+ 1	N/A	280
77	SPILLS80	BOSTON EDISON CO N89-1109/CLOSED	41 FRANKLIN ST SOMERVILLE MA 02145	0.42 SE	+ 22	N/A	281

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
62	SPILLS80	BROADWAY BRAKE N88-1388/CLOSED	50 BROADWAY ST SOMERVILLE MA 02145	0.36 SE	+ 19	N/A	282
74	SPILLS80	GARRITY OIL N87-1133/CLOSED	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	283
52	SPILLS80	POLE 149/10 N87-1017/CLOSED	76 GRANT ST SOMERVILLE MA 02145	0.31 NW	0	N/A	284
7	SPILLS80	SOMERVILLE LUMBER N88-1095/CLOSED	BETWEEN ASSEMBLY SQUARE MAD SOMERVILLE MA 02145	L 0.10 NW	- 2	89	285
1	SPILLS80	SOMERVILLE LUMBER N89-1534/CLOSED	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	90	286
49	SPILLS80	UNITED TRUCK FACILITY N89-0056/CLOSED	BY ASSEMBLY SQUARE MALL SOMERVILLE MA 02145	0.29 NE	- 6	N/A	287
24	SPILLS80	UNITED TRUCK LEASING N89-1250/CLOSED	845 MCGRATH HWY SOMERVILLE MA 02145	0.19 NE	- 3	N/A	288
63	SPILLS80	N88-1183/CLOSED	296 BROADWAY SOMERVILLE MA 02145	0.37 NW	+ 3	N/A	289
87	SPILLS80	N87-0747/CLOSED	TEMPLE/SHERMAN ST CHARLESTOWN MA 02129	0.48 SE	+ 1	N/A	290
61	SPILLS80	N85-0932/CLOSED	54 BROADWAY ST SOMERVILLE MA 02145	0.35 SE	+ 22	N/A	291
38	SPILLS80	N89-1258/CLOSED	FOLEY ST SOMERVILLE MA 02145	0.24 NE	- 4	N/A	292
57	SPILLS80	N83-0253/CLOSED	MIDDLESEX SOMERVILLE MA 02145	0.34 NE	- 4	N/A	293
22	SPILLS80	N87-0785/CLOSED	RTE 93S OFF RT 28 RAMP SOMERVILLE MA 02145	0.18 NW	- 2	N/A	294
9	SPILLS80	N89-0442/CLOSED	ADJ TO 779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	91	295
8	SPILLS80	N87-0838/CLOSED	709 MCGRATH/O BRIEN HWY SOMERVILLE MA 02145	0.12 SW	- 2	92	296
27	SPILLS80	N87-1076/CLOSED	MCGRATH/BROADWAY SOMERVILLE MA 02145	0.19 SW	- 1	N/A	297
74	SPILLS80	N85-0251/CLOSED	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	298
83	SPILLS80	N86-0996/CLOSED	S ROUTE 93 / SOMERVILLE LIN SOMERVILLE MA 02145	0.46 SE	- 10	N/A	299
65	SPILLS80	N81-5143/CLOSED	NO. UNION MANHOLE 20510 ST SOMERVILLE MA 02145	0.37 SE	+ 1	N/A	300
30	UST	CUMBERLAND FARMS 118602 0-010915/IN USE	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	301

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
15	UST	DISILVA TRUCK SERVICE CORP 0-010882/REMOVED	30 MIDDLESEX AVE SOMERVILLE MA 02145	0.15 NE	- 2	N/A	302
11	UST	GARAGE PJ / JOHN S AUTO SALES 0-010894/REMOVED	161 BROADWAY SOMERVILLE MA 02145	0.13 SW	+ 1	N/A	303
14	UST	HADDAD SERVICE CENTER INC 0-010913/REMOVED	205 BROADWAY SOMERVILLE MA 02145	0.15 SW	- 2	N/A	304
8	UST	HESS 21521 0-010914/IN USE	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	N/A	305
55	LUST	ASHTON FUELS 3-0012318/RAO	55 MYSTIC AVE SOMERVILLE MA 02145	0.33 SE	+ 2	N/A	306
57	LUST	ASSEMBLY SQUARE 3-0028753/TIERII	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	307
57	LUST	ASSEMBLY SQUARE MALL 3-0014763/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	308
8	LUST	BLAKELY AVE 3-0014626/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	94	309
66	LUST	BROADWAY BRAKE 3-0012964/RAO	45 BROADWAY SOMERVILLE MA 02145	0.38 SE	+ 19	N/A	310
78	LUST	CAMBRIDGE MACHINED PRODUCTS 3-0000434/RAO	100 FOLEY ST SOMERVILLE MA 02145	0.43 NE	- 6	N/A	311
64	LUST	CENTRAL STEEL 3-0019163/RAO	99 FOLEY ST SOMERVILLE MA 02145	0.37 NE	- 8	N/A	312
64	LUST	CENTRAL STEEL 3-0019164/RAO	99 FOLEY ST SOMERVILLE MA 02145	0.37 NE	- 8	N/A	313
67	LUST	COMMERCIAL PROPERTY 3-0004253/RAO	15 N UNION ST SOMERVILLE MA 02145	0.38 SE	+ 3	N/A	314
74	LUST	COMMERCIAL PROPERTY 3-0028153/RAONR	100 STURTEVANT ST SOMERVILLE MA 02145	0.41 SE	- 2	N/A	315
30	LUST	CUMBERLAND FARMS 3-0011462/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	316
30	LUST	CUMBERLAND FARMS 3-0022508/RAO	212 BROADWAY SOMERVILLE MA 02145	0.21 SW	0	N/A	317
84	LUST	FMR SAINT POLYCARP CHURCH 3-0027500/RAONR	100 TEMPLE ST SOMERVILLE MA 02145	0.47 NW	0	N/A	318
57	LUST	FORMER EDSEL MANUFACTURING FAC 3-0030834/RAO	133 MIDDLESEX AVE SOMERVILLE MA 02145	0.34 NE	- 4	N/A	319
1	LUST	FORMERLY GUBER and SHERMAN 3-0023551/RAONR	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	97	320
2	LUST	GAS UST UTM N 4695139 UTM E 3-0027249/RAO	16 GARFIELD AVE SOMERVILLE MA 02145	0.05 SW	- 2	99	321

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
56	LUST	GREEN CAB CO. 3-0028781/RAO	85 FOLEY ST SOMERVILLE MA 02145	0.33 NE	- 6	N/A	322
14	LUST	HADDAD SERVICE STATION 3-0004191/TIERII	205 BROADWAY SOMERVILLE MA 02145	0.15 SW	- 2	N/A	323
8	LUST	HESS GAS STATION 3-0023387/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	101	324
8	LUST	HESS GASOLINE STATION 21521 3-0029472/UNCLSS	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	103	325
8	LUST	HESS STATION 21521 FMR MERIT S 3-0000856/RAO	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	105	326
42	LUST	HK PORTER 3-0000649/RAO	74 FOLEY ST SOMERVILLE MA 02145	0.27 NE	- 4	N/A	327
28	LUST	INTERSECTION 3-0027009/RAO	STATE HIGHWAY 28 and STATE SOMERVILLE MA 02145	0.19 NW	- 2	N/A	328
39	LUST	LATTA BROTHERS MEMORIAL POOL 3-0015604/RAO	251 BROADWAY SOMERVILLE MA 02145	0.24 NW	- 1	N/A	329
54	LUST	MCGRATH AUTO BODY SHOP 3-0004542/RAO	42 DANA ST SOMERVILLE MA 02145	0.32 SW	+ 13	N/A	330
80	LUST	NO LOCATION AID 3-0013764/RAO	28 MARSHALL ST SOMERVILLE MA 02145	0.44 NW	+ 14	N/A	331
23	LUST	NO LOCATION AID 3-0028311/RAONR	43 FOLEY ST SOMERVILLE MA 02145	0.19 NE	- 3	N/A	332
19	LUST	NO LOCATION AID 3-0028420/RAO	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	333
8	LUST	NO LOCATION AID 3-0023292/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	108	334
8	LUST	NO LOCATION AID 3-0021247/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	111	335
8	LUST	NO LOCATION AID 3-0023363/RAONR	709 MCGRATH HWY SOMERVILLE MA 02145	0.12 SW	- 2	113	336
9	LUST	PAYLESS CASHWAYS INC 3-0015727/RAO	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	116	337
45	LUST	SUNOCO GASOLINE STATION 3-0004820/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	338
45	LUST	SUNOCO SERVICE STATION 3-0012319/RAO	258 BROADWAY SOMERVILLE MA 02145	0.29 NW	- 1	N/A	339
24	LUST	UNITED TRUCK LEASING 3-0002891/RAO	845 MCGRATH HWY SOMERVILLE MA 02145	0.19 NE	- 3	N/A	340
84	FEDBF	FORMER ST. POLYCARP PROPERTY 69598370-38762/EPA BROWNFIELD	100 TEMPLE ST SOMERVILLE MA 02145	0.47 NW	0	N/A	341

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

NON GEOCODED: 171 TOTAL: 522 GEOCODED: 351 SELECTED: 51

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
37	FEDBF	RAIL YARD 21 54062912-17/EPA BROWNFIELD	FOLEY AND ASSEMBLY SQUARE D SOMERVILLE MA 02145	0.23 NE	- 4	N/A	342
19	INSTCONTRO	130 BROADWAY 3-0028392/AUL	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	343
19	INSTCONTRO	NO LOCATION AID 3-0028420/AUL	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	344
19	INSTCONTRO	NO LOCATION AID 3-0029021/AUL	130 BROADWAY SOMERVILLE MA 02145	0.18 SE	+ 8	N/A	345
1	INSTCONTRO	NO LOCATION AID 3-0018193/AUL	60 E CROSS ST SOMERVILLE MA 02145	0.02 SE	0	119	346
29	INSTCONTRO	NO LOCATION AID 3-0017628/AUL	844 MCGRATH HWY SOMERVILLE MA 02145	0.20 NE	- 3	N/A	347
9	INSTCONTRO	PAYLESS CASHWAYS INC 3-0015727/AUL	779 MCGRATH HWY SOMERVILLE MA 02145	0.12 NW	- 2	N/A	348
4	INSTCONTRO	SOMERVILLE LUMBER 3-0000658/AUL	260 MYSTIC AVE SOMERVILLE MA 02145	0.06 NE	0	122	349
5	INSTCONTRO	SOMERVILLE LUMBER CRANE BLDG 3-0010846/AUL	250 MYSTIC AVE SOMERVILLE MA 02145	0.08 NE	- 1	125	350
10	INSTCONTRO	SOMERVILLE MARGINAL CSO FACILI 3-0015340/AUL	271 MYSTIC AVE SOMERVILLE MA 02145	0.12 NE	- 1	N/A	351

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

NON GEOCODED: 171 TOTAL: 522 GEOCODED: 351 SELECTED: 51

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	CERCLIS	KILEY BARREL ALLEN STREET MAN000106119/NOT PROPOSED	ALLEN STREET SOMERVILLE MA 02145	NON GC	N/A	N/A	352
	CERCLIS	CHARLESTOWN SMELTING CO MAN000106102/NOT PROPOSED	235 MEDFORD CHARLESTOWN MA 02129	NON GC	N/A	N/A	353
	NFRAP	LOWNEY WAY MAD000182568/NFRAP-N	LOWNEY WAY CHARLESTOWN MA 02129	NON GC	N/A	N/A	354
	RCRAGN	BED BATH AND BEYOND 0810 MAC300016243/VGN	119 MIDDLESEX AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	355
	RCRAGN	CHRISTMAS TREE SHOPS 7028 MAC300016284/VGN	177 MIDDLESEX AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	356
	ERNS	3 MILES N OF BOSTON NRC-708848/RAILROAD NON-RELEASE	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	357
	ERNS	7 GLENDALE AVE. NRC-922781/FIXED	7 GLENDALE AVE SOMERVILLE MA	NON GC	N/A	N/A	358
	ERNS	AMTRAK 222470/FIXED FACILITY	REPAIR FACILITY SOMERVILLE MA	NON GC	N/A	N/A	359
	ERNS	BALL SQUARE NRC-626703/RAILROAD NON-RELEASE	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	360
	ERNS	BOSTON EDISON 589648/FIXED FACILITY	SOMERVILLE HWY SOMERVILLE MA	NON GC	N/A	N/A	361
	ERNS	BOSTON EDISON 426551/FIXED FACILITY	BOSTON EDISON SUBSTATION 4 SOMERVILLE MA 02145	NON GC	N/A	N/A	362
	ERNS	BOSTON EDISON 240095/FIXED FACILITY	THURSTON ST SOMERVILLE MA 02145	NON GC	N/A	N/A	363
	ERNS	HOME DEPOT 75 MYSTIC AVE. NRC-995210/MOBILE	HOME DEPOT 75 MYSTIC AVE SOMERVILLE MA	NON GC	N/A	N/A	364
	ERNS	JIFFY LUBE OR EXPRESS LUBE 216450/FIXED FACILITY	JIFFY LUBE OR EXPRESS LUBE SOMERVILLE MA	NON GC	N/A	N/A	365
	ERNS	MBTA BOSTON WEST OF PORTER STA NRC-882145/RAILROAD NON-RELEASE	MBTA BOSTON WEST OF PORTER SOMERVILLE MA	NON GC	N/A	N/A	366
	ERNS	PARTNERS HEALTH CARE NRC-651725/FIXED	121 INTERBELT RD SOMERVILLE MA	NON GC	N/A	N/A	367
	ERNS	RIGHT BESIDE CLINTON PLACE ON NRC-718796/RAILROAD	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	368
	ERNS	SOMERVILLE SCHOOL SYSTEM 426648/UNKNOWN (EPA REGIONS	BASEMENT F.A 105 ROOM, E SOMERVILLE MA 02145	NON GC	N/A	N/A	369
	ERNS	TUFTS UNIVERSITY 425457/FIXED FACILITY	3RD FLOOR OF MICHAELS CHEMI SOMERVILLE MA	NON GC	N/A	N/A	370
	ERNS	UNKNOWN 426240/UNKNOWN (EPA REGIONS	(NO ADDRESS WAS GIVEN) SOMERVILLE MA	NON GC	N/A	N/A	371

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	ERNS	UNKNOWN 632340/FIXED FACILITY	27 COLLEGE MANOR NEAR TUFTS SOMERVILLE MA	NON GC	N/A	N/A	372
	ERNS	X41322/UNKNOWN	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	373
	ERNS	NRC-527898/FIXED	SOMERVILLE AVE and DANE ST SOMERVILLE MA	NON GC	N/A	N/A	374
	STATE	FMR SAINT POLYCARP VILLAGE PRO 3-0029857/TIER1D	16 and 16R BUTLER DR SOMERVILLE MA 02145	NON GC	N/A	N/A	375
	STATE	NO LOCATION AID 3-0020204/RAO	WALNUT ST SOMERVILLE MA	NON GC	N/A	N/A	376
	STATE	YARD 21 BETWEEN 85 AND 99 FOLE 3-0028993/TIERII	FOLEY ST SOMERVILLE MA 02145	NON GC	N/A	N/A	377
	STATE	BENEATH I-93, MBTA, NR BHCC GI 3-0029774/TIER1D	0 AUSTIN STREET PARCEL 1790 CHARLESTOWN MA 02129	NON GC	N/A	N/A	378
	STATE	CANA PARCEL 1 3-0019381/RAO	CHELSEA ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	379
	STATE	CANA PILE 3-0016015/DEPMOU	RTE 1 93 RAMP CHARLESTOWN MA 02129	NON GC	N/A	N/A	380
	STATE	MWRA CSO EASEMENT BTN I93 and 3-0015522/URAM	WARREN AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	381
	STATE	PARCEL 4 CHARLESTOWN NAVY YARD 3-0022380/RAO	1ST ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	382
	STATE	RAIL LINE AT EAST END OF STREE 3-0027630/RAO	ROLAND ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	383
	STATE	TUDOR WHARF 3-0020534/RAO	WATER ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	384
	STATE	US NAVY / CHARLESTOWN NAVY YAR 3-0025132/RAO	16TH ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	385
	STATE	MBTA RIGHT OF WAY W-110-1 3-0029540/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	386
	STATE	NO LOCATION AID 3-0028486/RAO	0 HIGHLAND RD SOMERVILLE MA 02143	NON GC	N/A	N/A	387
	STATE	NR COMMUTR RAIL MAINTEN FACIL 3-0029539/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	388
	STATE	NR COMMUTR RAIL MAINTEN FACIL 3-0029541/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	389
	STATE	RAILROAD RIGHT OF WAY 3-0029585/SPECPR	RAILROAD TRACKS NEAR PROSPE SOMERVILLE MA 02143	NON GC	N/A	N/A	390
	STATE	RAILROAD RIGHT OF WAY B-S004-1 3-0029538/SPECPR	RAILROAD TRACKS and WASHING SOMERVILLE MA 02143	NON GC	N/A	N/A	391

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	STATE	RAILROAD RIGHT OF WAY B-S004-4 3-0029537/SPECPR	RAILROAD TRACKS and WASHING SOMERVILLE MA 02143	NON GC	N/A	N/A	392
	STATE	RAILROAD RIGHT OF WAY B-S006-1	RAILROAD TRACKS UNDER WALNU		27/4	27/4	202
		3-0029586/SPECPR	SOMERVILLE MA 02143	NON GC	N/A	N/A	393
	STATE	RAILROAD RIGHT OF WAY B-S007-1	RAILROAD TRACKS UNDER MEDFO	O NON GC	N/A	N/A	394
		3-0029612/SPECPR	SOMERVILLE MA 02143	NON GC	N/A	IV/A	394
	STATE	RAILROAD RIGHT OF WAY B-S008-3 3-0029617/SPECPR	RAILROAD TRACKS UNDER SCHOO SOMERVILLE MA 02143	ONON GC	N/A	N/A	395
	STATE	RAILROAD RIGHT OF WAY B-S042-1 3-0029611/SPECPR	RAILROAD TRACKS and MEDFORD SOMERVILLE MA 02143	NON GC	N/A	N/A	396
	STATE	RAILROAD RIGHT OF WAY NW-7 3-0029616/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	397
	STATE	RAILROAD RIGHT OF WAY S-GS-2 3-0029615/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	398
	STATE	RAILROAD RIGHT OF WAY S-LS-2 3-0029614/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	399
	STATE	RAILROAD RIGHT OF WAY S-LS-4 3-0029613/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	400
	STATE	RAILROAD RIGHT OF WAY W-193-1 3-0029618/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	401
	STATE	BENZOL PLANT FMR 3-0024558/RAO	ROVER ST EVERETT MA 02149	NON GC	N/A	N/A	402
	STATE	NO LOCATION AID 3-0017465/RAO	ROVER ST EVERETT MA 02149	NON GC	N/A	N/A	403
	STATE	NO LOCATION AID 3-0020569/DEF TIER 1B	ROVER ST EVERETT MA 02149	NON GC	N/A	N/A	404
	STATE	NO LOCATION AID 3-0022537/RAO	ROBBINS ST EVERETT MA 02149	NON GC	N/A	N/A	405
	SPILLS	7-ELEVEN 32473 3-0029903/TIERII	582 BROADWAY SOMERVILLE MA 02145	NON GC	N/A	N/A	406
	SPILLS	BECO POLE 222/1 N92-0915/CLOSED	MARSHALL ST SOMERVILLE MA 02145	NON GC	N/A	N/A	407
	SPILLS	BY KENSINGTON RD 3-0017322/RAO	SOUTH RTE 93 SOMERVILLE MA	NON GC	N/A	N/A	408
	SPILLS	FMR SAINT POLYCARP VILLAGE PRO 3-0029857/TIER1D	16 AND 16R BUTLER DR SOMERVILLE MA 02145	NON GC	N/A	N/A	409
	SPILLS	INTER. PEARL STREET AND MCGRAT 3-0028950/URAM	MCGRATH and OBRIEN HWY SOMERVILLE MA	NON GC	N/A	N/A	410
	SPILLS	NO LOCATION AID 3-0027345/URAM	JOSEPHINE and PEARSON AVE SOMERVILLE MA	NON GC	N/A	N/A	411

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	SPILLS	NO LOCATION AID 3-0030938/UNCLSS	50 MIDDLESEX AVE SOMERVILLE MA	NON GC	N/A	N/A	412
	SPILLS	NO LOCATION AID 3-0017823/RAO	SCHOOL ST SOMERVILLE MA 02145	NON GC	N/A	N/A	413
	SPILLS	NO LOCATION AID 3-0015889/RAO	MECHAM ST SOMERVILLE MA 02145	NON GC	N/A	N/A	414
	SPILLS	NO LOCATION AID 3-0026488/RAO	MYSTIC AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	415
	SPILLS	OFF ROUTE 93 NORTHBOUND ON RAM 3-0023687/RAO	MYSTIC AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	416
	SPILLS	PEARL ST AT MCGRATH OBRIEN HWY 3-0029427/URAM	PEARL ST SOMERVILLE MA	NON GC	N/A	N/A	417
	SPILLS	RTE 28 SOUTHBOUND ON RAMP 3-0018988/RAO	MEDFORD ST SOMERVILLE MA 02145	NON GC	N/A	N/A	418
	SPILLS	TUFTS UNIVERSITY 3-0026107/URAM	15 S CAMPUS RD SOMERVILLE MA	NON GC	N/A	N/A	419
	SPILLS	TUFTS UNIVERSITY COHEN AUDITOR 3-0026094/RAO	15 S CAMPUS RD SOMERVILLE MA	NON GC	N/A	N/A	420
	SPILLS	YARD 21 BETWEEN 85 AND 99 FOLE 3-0028993/TIERII	FOLEY ST SOMERVILLE MA 02145	NON GC	N/A	N/A	421
	SPILLS	45 FIRST AVE DEVELOPMENT - NAV 3-0030015/TIER1D	45 1ST AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	422
	SPILLS	ALFORD STREET UNDERPASS - INBO 3-0028466/RAO	MAIN ST and STATE HIGHWAY 9 CHARLESTOWN MA 02129	NON GC	N/A	N/A	423
	SPILLS	ARLINGTON AVENUE 3-0029341/URAM	ARLINGTON AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	424
	SPILLS	BECO 3-0017792/RAO	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	425
	SPILLS	BENEATH I-93, MBTA, NR BHCC GI 3-0029774/TIER1D	0 AUSTIN STREET, PARCEL 179 CHARLESTOWN MA 02129	NON GC	N/A	N/A	426
	SPILLS	BOSTON WATERandSEWER COMM CONT 3-0026117/URAM	ALFORD ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	427
	SPILLS	CANA PARCEL 1 3-0019381/RAO	CHELSEA ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	428
	SPILLS	CANA PILE 3-0016015/DEPMOU	RTE 1 93 RAMP CHARLESTOWN MA 02129	NON GC	N/A	N/A	429
	SPILLS	CANA TUNNEL 3-0022541/RAO	RTE 1 SOUTHBOUND CHARLESTOWN MA 02129	NON GC	N/A	N/A	430
	SPILLS	I-93 ON RAMP 3-0028676/RAO	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	431

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	SPILLS	LOWER AND UPPER DECKS 3-0028585/RAO	I-93 S MM 20 CHARLESTOWN MA 02129	NON GC	N/A	N/A	432
	SPILLS	MASSPORT WHARF 3-0017170/RAO	RTE 1 TOBIN BRIDGE CHARLESTOWN MA 02129	NON GC	N/A	N/A	433
	SPILLS	MWRA CSO EASEMENT BTN I93 and 3-0015522/URAM	WARREN AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	434
	SPILLS	NEAR BLDG 103 3-0018320/RAO	3RD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	435
	SPILLS	NEAR BO SAND and GRAVEL 3-0021443/RAO	RTE 93 SOUTHBOUND CHARLESTOWN MA 02129	NON GC	N/A	N/A	436
	SPILLS	NO LOCATION AID 3-0015085/RAO	ALFORD ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	437
	SPILLS	NO LOCATION AID 3-0021992/RAO	40 INDUSTRIAL PARK DR CHARLESTOWN MA 02129	NON GC	N/A	N/A	438
	SPILLS	NO LOCATION AID 3-0029719/RAO	B ST and CONGRESS ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	439
	SPILLS	NO LOCATION AID 3-0022974/RAO	DEXTER AND RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	440
	SPILLS	NO LOCATION AID 3-0021141/RAO	CONSTITUTION RD CHARLESTOWN MA 02129	NON GC	N/A	N/A	441
	SPILLS	PARCEL 4 CHARLESTOWN NAVY YARD 3-0022380/RAO	1ST ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	442
	SPILLS	PIER 11, PIPELINE STAGING AREA 3-0023087/RAO	PIER 11 CHARLESTOWN MA 02129	NON GC	N/A	N/A	443
	SPILLS	PRISON PT BRIDGE N90-1832/CLOSED	NEAR BUNKER HILL COLLEGE CHARLESTOWN MA 02129	NON GC	N/A	N/A	444
	SPILLS	RAIL LINE AT EAST END OF STREE 3-0027630/RAO	ROLAND ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	445
	SPILLS	ROTARY 3-0021809/RAO	SULLIVAN SQ CHARLESTOWN MA 02129	NON GC	N/A	N/A	446
	SPILLS	RTE 99 S 500 FT BEFORE BUNKER 3-0019333/RAO	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	447
	SPILLS	SHEEN ON RIVER UNDER BRIDGE N93-1085/CLOSED	WATER UNDER CHARLESTOWN BRI CHARLESTOWN MA 02129	INON GC	N/A	N/A	448
	SPILLS	TOBIN BRIDGE 3-0030420/RAO	ROUTE 1 SOUTH CHARLESTOWN MA 02129	NON GC	N/A	N/A	449
	SPILLS	TUDOR WHARF 3-0020534/RAO	WATER ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	450
	SPILLS	US NAVY / CHARLESTOWN NAVY YAR 3-0025132/RAO	PARCELS 6 AND 7 (16TH STREE CHARLESTOWN MA 02129	NON GC	N/A	N/A	451

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	SPILLS	N90-0494/CLOSED	ALFORD ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	452
	SPILLS	50 MIDDLESEX AVE 3-0030445/RAO	50 MIDDLESEX AVE SOMERVILLE MA 02143	NON GC	N/A	N/A	453
	SPILLS	COMMERCIAL FACILITY 3-0029845/RAO	1 BOW ST SOMERVILLE MA 02143	NON GC	N/A	N/A	454
	SPILLS	COMMERCIAL PROPERTY 3-0030848/UNCLSS	40 BENNETT ST SOMERVILLE MA 02143	NON GC	N/A	N/A	455
	SPILLS	COMMERCIAL PROPERTY 3-0030849/UNCLSS	50 PROSPECT ST SOMERVILLE MA 02143	NON GC	N/A	N/A	456
	SPILLS	MAP 96 LOT 38 3-0029911/RAO	56 WEBSTER AVE SOMERVILLE MA 02143	NON GC	N/A	N/A	457
	SPILLS	MBTA GREEN LINE EXTENSION-SOME 3-0030621/SPECPR	RAILROAD RIGHT-OF-WAY (V-12 SOMERVILLE MA 02143	NON GC	N/A	N/A	458
	SPILLS	MBTA RIGHT OF WAY W-110-1 3-0029540/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	459
	SPILLS	NO LOCATION AID 3-0018319/RAO	MYSTIC PKY SOMERVILLE MA 02143	NON GC	N/A	N/A	460
	SPILLS	NO LOCATION AID 3-0020204/RAO	WALNUT ST SOMERVILLE MA 02143	NON GC	N/A	N/A	461
	SPILLS	NO LOCATION AID 3-0028486/RAO	0 HIGHLAND RD SOMERVILLE MA 02143	NON GC	N/A	N/A	462
	SPILLS	NR COMMUTR RAIL MAINTEN FACIL 3-0029539/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	463
	SPILLS	NR COMMUTR RAIL MAINTEN FACIL 3-0029541/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	464
	SPILLS	NSTAR SUBSTATION 402 3-0028185/RAO	PROSPECT ST SOMERVILLE MA 02143	NON GC	N/A	N/A	465
	SPILLS	RAILROAD RIGHT OF WAY 3-0029585/SPECPR	RAILROAD TRACKS NEAR PROSPE SOMERVILLE MA 02143	NON GC	N/A	N/A	466
	SPILLS	RAILROAD RIGHT OF WAY B-S004-1 3-0029538/SPECPR	RAILROAD TRACKS and WASHING SOMERVILLE MA 02143	NON GC	N/A	N/A	467
	SPILLS	RAILROAD RIGHT OF WAY B-S004-4 3-0029537/SPECPR	RAILROAD TRACKS and WASHING SOMERVILLE MA 02143	NON GC	N/A	N/A	468
	SPILLS	RAILROAD RIGHT OF WAY B-S006-1	RAILROAD TRACKS UNDER WALN	U NON GC	N/A	N/A	469
		3-0029586/SPECPR	SOMERVILLE MA 02143		- 11 - 1	- ,,	
	SPILLS	RAILROAD RIGHT OF WAY B-S007-1	RAILROAD TRACKS UNDER MEDFO	O NON GC	N/A	N/A	470
		3-0029612/SPECPR	SOMERVILLE MA 02143				
	SPILLS	RAILROAD RIGHT OF WAY B-S008-3 3-0029617/SPECPR	RAILROAD TRACKS UNDER SCHOO SOMERVILLE MA 02143	ONON GC	N/A	N/A	471

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID_
	SPILLS	RAILROAD RIGHT OF WAY B-S042-1 3-0029611/SPECPR	RAILROAD TRACKS and MEDFORD SOMERVILLE MA 02143	NON GC	N/A	N/A	472
	SPILLS	RAILROAD RIGHT OF WAY NW-7 3-0029616/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	473
	SPILLS	RAILROAD RIGHT OF WAY S-GS-2 3-0029615/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	474
	SPILLS	RAILROAD RIGHT OF WAY S-LS-2 3-0029614/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	475
	SPILLS	RAILROAD RIGHT OF WAY S-LS-4 3-0029613/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	476
	SPILLS	RAILROAD RIGHT OF WAY W-193-1 3-0029618/SPECPR	RAILROAD RIGHT OF WAY SOMERVILLE MA 02143	NON GC	N/A	N/A	477
	SPILLS	RESIDENCE 3-0029879/RAO	45 ELM ST SOMERVILLE MA 02143	NON GC	N/A	N/A	478
	SPILLS	SUBSTATION PNU33 3-0022034/RAO	LINWOOD ST SOMERVILLE MA 02143	NON GC	N/A	N/A	479
	SPILLS80	N87-0156/CLOSED	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	480
	SPILLS80	N83-0319/CLOSED	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	481
	SPILLS80	N84-0172/CLOSED	ALEWIFE BROOK PKY SOMERVILLE MA	NON GC	N/A	N/A	482
	SPILLS80	N85-0349/CLOSED	RTE.93 SOUTH,NEAR EXIT SOMERVILLE MA	NON GC	N/A	N/A	483
	SPILLS80	N86-0599/CLOSED	RTE. 93 SOUTH/OPP. MYSTIC A SOMERVILLE MA	NON GC	N/A	N/A	484
	SPILLS80	N87-0531/CLOSED	CHARLES RIVER BandM SOMERVILLE MA	NON GC	N/A	N/A	485
	SPILLS80	N79-5125	NEAR AMELIA EARHART DR SOMERVILLE MA	NON GC	N/A	N/A	486
	SPILLS80	N86-5019/CLOSED	HIGHLAND AVE SOMERVILLE MA	NON GC	N/A	N/A	487
	SPILLS80	N81-5030/CLOSED	LEWIS HILL SOMERVILLE MA	NON GC	N/A	N/A	488
	SPILLS80	N81-5145/CLOSED	YARD 5 SOMERVILLE MA	NON GC	N/A	N/A	489
	SPILLS80	N87-1123/CLOSED	MYSTIC AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	490
	SPILLS80	N88-1496/CLOSED	MYSTIC HOUSING PROJECT AV SOMERVILLE MA 02145	NON GC	N/A	N/A	491

60 CROSS ST SOMERVILLE MA 02145 **JOB:** 13-269 **Target Property:**

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	SPILLS80	N82-5067/CLOSED	MYSTIC SOMERVILLE MA 02145	NON GC	N/A	N/A	492
	SPILLS80	S88-0374/CLOSED	ACUSHNET AVE SOMERVILLE MA 02145	NON GC	N/A	N/A	493
	SPILLS80	N88-1444/CLOSED	SHORE DR SOMERVILLE MA 02145	NON GC	N/A	N/A	494
	SPILLS80	MandG CONVOY INC N88-1927/CLOSED	S RTE. 93 SULLIVAN CHARLESTOWN MA 02129	NON GC	N/A	N/A	495
	SPILLS80	N87-1659/CLOSED	GILMORE BRIDGE BUNKER HIL CHARLESTOWN MA 02129	NON GC	N/A	N/A	496
	SPILLS80	N89-1084/CLOSED	CITY SQ CHARLESTOWN MA 02129	NON GC	N/A	N/A	497
	SPILLS80	N84-0689	RUTHERFORD and A ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	498
	SPILLS80	N86-0415/CLOSED	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	499
	SPILLS80	N87-1748/CLOSED	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	500
	SPILLS80	N84-0215/CLOSED	E RUTHERFORD (CHARLESTOWN) CHARLESTOWN MA 02129	NON GC	N/A	N/A	501
	SPILLS80	N85-0698/CLOSED	BEHIND REVERE SUGAR (CHARLE CHARLESTOWN MA 02129	NON GC	N/A	N/A	502
	SPILLS80	N86-0879/CLOSED	RTE. 93 SOUTH, MYSTIC BRIDG CHARLESTOWN MA 02129	NON GC	N/A	N/A	503
	SPILLS80	N86-0434/CLOSED	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	504
	SPILLS80	N86-0435/CLOSED	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	505
	SPILLS80	N85-0907/CLOSED	RUTHERFORD AVE CHARLESTOWN MA 02129	NON GC	N/A	N/A	506
	SPILLS80	N84-0661/CLOSED	E RUTHERFORD ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	507
	SPILLS80	N88-0419/CLOSED	ACROSS MORMINAL AND TERM ST CHARLESTOWN MA 02129	NON GC	N/A	N/A	508
	SPILLS80	N85-0093/CLOSED	R.R. TANK CAR WASHINGTON ST SOMERVILLE MA 02143	NON GC	N/A	N/A	509
	LUST	NO LOCATION AID 3-0030938/UNCLSS	50 MIDDLESEX AVE SOMERVILLE MA	NON GC	N/A	N/A	510
	LUST	LOWER AND UPPER DECKS 3-0028585/RAO	I-93 S AT MILE MARKER 20 CHARLESTOWN MA 02129	NON GC	N/A	N/A	511

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

TOTAL: 522 GEOCODED: 351 NON GEOCODED: 171 SELECTED: 51

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.	ID
	LUST	TOBIN BRIDGE 3-0030420/RAO	ROUTE 1 SOUTH CHARLESTOWN MA 02129	NON GC	N/A	N/A	512
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02145	UNKNOWN MA 02145	NON GC	N/A	N/A	513
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02129	UNKNOWN MA 02129	NON GC	N/A	N/A	514
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02143	UNKNOWN MA 02143	NON GC	N/A	N/A	515
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02149	UNKNOWN MA 02149	NON GC	N/A	N/A	516
	FEDBF	BAY STATE 54062912-9/EPA BROWNFIELD	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	517
	FEDBF	KEMP NUTS 54062912-12/EPA BROWNFIELD	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	518
	FEDBF	VERNON STREET 54062912-13/EPA BROWNFIELD	UNKNOWN SOMERVILLE MA	NON GC	N/A	N/A	519
	FEDBF	220 WASHINGTON STREET 12916/EPA BROWNFIELD	220 WASHINGTON ST SOMERVILLE MA 02143	NON GC	N/A	N/A	520
	FEDBF	303 MEDFORD STREET 12925/EPA BROWNFIELD	303 MEDFORD ST SOMERVILLE MA 02143	NON GC	N/A	N/A	521
	FEDBF	CAAS 132942/EPA BROWNFIELD	29 ALLEN ST SOMERVILLE MA 02143	NON GC	N/A	N/A	522

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

	N	FRAP			
SEARCH ID: 1 DIST/DIR	R: 0.43 NE	ELEVATION:	14	MAP ID:	78
NAME: CAMBRIDGE MACHINED PRODUCTION ADDRESS: 100 FOLEY ST SOMERVILLE MA 02143 MIDDLESEX CONTACT: SOURCE: EPA	CTS (FORMER)	REV: ID1: ID2: STATUS: PHONE:	8/1/12 MAD055509103 0100537 NFRAP-N	3	
DESCRIPTION:					
ACTION/QUALITY ARCHIVE SITE	AGENCY/RPS EPA In-House	START/RAA	END 3/26/1990	1	
DISCOVERY	State, Fund Financed		3/31/1985		
PRELIMINARY ASSESSMENT LOW PRIORITY FOR FURTHER ASSESSMENT	State, Fund Financed		3/31/1987		
SITE INSPECTION NFRAP: NO FURTHER REMEDIAL ACTION PLA	State, Fund Financed NNED		3/26/1990	•	

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

RCRACOR

SEARCH ID: 2 **DIST/DIR:** 0.98 NW **ELEVATION:** 17 **MAP ID:** 172

NAME: GENERAL ELECTRIC PRS REV: 7/10/12

ADDRESS: 3960 MYSTIC VALLEY PKY ID1: MAD060094760

MEDFORD MA 02155 ID2:

MIDDLESEX STATUS: CA

CONTACT: PHONE: SOURCE: EPA

SITE INFORMATION

CONTACT INFORMATION: SCOTT TRUHART

3960 MYSTIC VALLEY PKWY MEDFORD MA 021550000

PHONE: 7813935249X5277

OWNER NAME: GENERAL ELECTRIC INTERNATIONAL

OWNER TYPE: P-PRIVATE

OPERATOR: GENERAL ELECTRIC INTERNATIONAL

OPERATOR_TYPE: P-PRIVATE

MAILING ADDRESS: 3960 MYSTIC VALLEY

UNIVERSE INFORMATION:

RECEIVED DATE: 03/01/2012

SUBJECT TO CORRECTIVE ACTION (SUBJCA)

SUBJCA: Y - SUBJECT TO CORRECTIVE ACTION

SUBJCA TSD 3004: N - NO
SUBJCA NON TSD: N - NO
SIGNIFICANT NON-COMPLIANCE(SNC): N - NO

BEGINNING OF THE YEAR SNC:

PERMIT WORKLOAD:
CLOSURE WORKLOAD:
POST CLOSURE WORKLOAD:
PERMITTING /CLOSURE/POST-CLOSURE PROGRESS:
CORRECTIVE ACTION WORKLOAD:
N - NO

GENERATOR STATUS: SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000

KG/MONTH OF HAZARDOUS WASTE

INSTITUTIONAL CONTROL:N-NOENGINEERING CONTROL:NHUMAN EXPOSURE:N-NOGW CONTROLS:N-NOLAND TYPE:P-PRIVATESHORT TERM GEN:NTRANS FACILITY:NREC WASTE FROM OFF SITE:N

IMPORTER ACTIVITY: MIXED WASTE GEN: N - NO N - NO TSD ACTIVITY: TRANS ACTIVITY: N - NO N - NO **ONSITE BURNER EXEMPT:** RECYCLER ACTIVITY: N - NO N - NO FURNACE EXEMPTION: N - NO UNDER INJECT ACTIVITY: N - NO **REC WASTE FROM OFF SITE:** N - NO **UNIV WASTE DEST FAC:** USED OIL PROCESSOR: **USED OIL TRANS:** N - NO N - NO **USED OIL REFINER:** N - NO **USED OIL FUEL BURNER:** N - NO **UO FUEL MARKETER TO BURNER: USED OIL SPEC MARKETER:** N - NO Ν

IMPORTER ACTIVITY:N-NOMIXED WASTE GEN:N-NOTRANS ACTIVITY:N-NOTSD ACTIVITY:N-NORECYCLER ACTIVITY:N-NOONSITE BURNER EXEMPT:N-NO

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

RCRACOR

SEARCH ID: 2 **DIST/DIR:** 0.98 NW **ELEVATION:** 17 **MAP ID:** 172

NAME: GENERAL ELECTRIC PRS REV: 7/10/12

ADDRESS: 3960 MYSTIC VALLEY PKY ID1: MAD060094760

MEDFORD MA 02155 ID2:

MIDDLESEX STATUS: CA

CONTACT: PHONE:

SOURCE: EPA

FURNACE EXEMPTION: **UNDER INJECT ACTIVITY:** N - NO N - NO **REC WASTE FROM OFF SITE:** UNIV WASTE DEST FAC: N - NO Ν **USED OIL TRANS:** N - NO **USED OIL PROCESSOR:** N - NO **USED OIL REFINER: USED OIL FUEL BURNER:** N - NO N - NO UO FUEL MARKETER TO BURNER: Ν **USED OIL SPEC MARKETER:** N - NO

NAIC INFORMATION

811211 - CONSUMER ELECTRONICS REPAIR AND MAINTENANCE

81149 - OTHER PERSONAL AND HOUSEHOLD GOODS REPAIR AND MAINTENANCE

811412 - APPLIANCE REPAIR AND MAINTENANCE

81131 - COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT (EXCEPT AUTOMOTIVE AND ELECTRONIC) REPAIR AND MAINTENANCE

ENFORCEMENT INFORMATION:

AGENCY: STATE **DATE:** 90/10/1990

TYPE: WRITTEN INFORMAL

AGENCY: EPA **DATE:** 90/18/1990

TYPE: WRITTEN INFORMAL

VIOLATION INFORMATION:

 VIOLATION NUMBER:
 1
 RESPONSIBLE:
 S - STATE

 DETERMINED:
 90/09/1990
 DETERMINED BY:
 S - STATE

 CITATION:
 RESOLVED:
 90/14/1990

TYPE: GENERATORS - GENERAL

 VIOLATION NUMBER:
 2
 RESPONSIBLE:
 S - STATE

 DETERMINED:
 90/09/1990
 DETERMINED BY:
 S - STATE

 CITATION:
 RESOLVED:
 90/14/1990

TYPE: LDR - GENERAL

 VIOLATION NUMBER:
 3
 RESPONSIBLE:
 S - STATE

 DETERMINED:
 90/09/1990
 DETERMINED BY:
 S - STATE

 CITATION:
 RESOLVED:
 90/14/1990

TYPE: GENERATORS - GENERAL

 VIOLATION NUMBER:
 4
 RESPONSIBLE:
 S - STATE

 DETERMINED:
 90/17/1990
 DETERMINED BY:
 S - STATE

 CITATION:
 RESOLVED:
 90/14/1990

TYPE: GENERATORS - GENERAL

CORRECTIVE ACTION INFORMATION

CA EVENT: 09/24/2009 CA075ME - CA PRIORITIZATION - FACILITY OR AREA WAS ASSIGNED A MEDIUM

CORRECTIVE ACTION PRIORITY

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

RCRACOR

SEARCH ID: 3 **DIST/DIR:** 0.82 NE **ELEVATION:** 18 **MAP ID:** 127

NAME: SITHE NEW ENGLAND REV: 7/10/12

MAD000842401 ADDRESS: 173 ALFORD ST ID1:

EVERETT MA 02149 ID2:

MIDDLESEX STATUS: CA

CONTACT: PHONE: **SOURCE:** EPA

SITE INFORMATION

OWNER NAME: OWNER TYPE:

OPERATOR: EXELON MYSTIC LLC

OPERATOR_TYPE: P-PRIVATE MAILING ADDRESS: 173 ALFORD ST

BOSTON, MA 021290000

UNIVERSE INFORMATION:

RECEIVED DATE: 03/30/1993

SUBJECT TO CORRECTIVE ACTION (SUBJCA)

SUBJCA: Y - SUBJECT TO CORRECTIVE ACTION

SUBJCA TSD 3004: N-NO SUBJCA NON TSD: N - NO SIGNIFICANT NON-COMPLIANCE(SNC): N - NO

BEGINNING OF THE YEAR SNC:

PERMIT WORKLOAD: CLOSURE WORKLOAD: POST CLOSURE WORKLOAD: PERMITTING /CLOSURE/POST-CLOSURE PROGRESS: L----CORRECTIVE ACTION WORKLOAD: N - NO **GENERATOR STATUS:** Ν

INSTITUTIONAL CONTROL: N-NO **ENGINEERING CONTROL: HUMAN EXPOSURE: GW CONTROLS:** N- NO LAND TYPE: P-PRIVATE SHORT TERM GEN: Ν TRANS FACILITY: REC WASTE FROM OFF SITE: N

IMPORTER ACTIVITY: N - NO MIXED WASTE GEN: N - NO TRANS ACTIVITY: N - NO N - NO TSD ACTIVITY: RECYCLER ACTIVITY: N - NO ONSITE BURNER EXEMPT: N - NO **FURNACE EXEMPTION:** N - NO **UNDER INJECT ACTIVITY:** N - NO UNIV WASTE DEST FAC: REC WASTE FROM OFF SITE: N - NO N **USED OIL TRANS:** N - NO USED OIL PROCESSOR: N - NO **USED OIL REFINER:** N - NO **USED OIL FUEL BURNER:** N - NO **UO FUEL MARKETER TO BURNER:** USED OIL SPEC MARKETER: N - NO Ν

NAIC INFORMATION

ENFORCEMENT INFORMATION:

AGENCY: 84/11/1984 DATE:

EPA TO STATE ADMINISTRATIVE REFERRAL TYPE:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

RCRACOR									
SEARCH ID: 3 DI	ST/DIR: ().82 NE	ELEVATION:	18	MAP ID:	127			
NAME: SITHE NEW ENGLAND ADDRESS: 173 ALFORD ST EVERETT MA 02149 MIDDLESEX CONTACT: SOURCE: EPA			REV: ID1: ID2: STATUS: PHONE:	7/10/12 MAD00084240 CA	1				
AGENCY: TYPE:	STATE WRITTEN I	DATE: NFORMAL		84/10/1984					
AGENCY: TYPE:	STATE WRITTEN II	DATE: NFORMAL		85/23/1985					
AGENCY: TYPE:	STATE WRITTEN II	DATE: NFORMAL		86/12/1986					
AGENCY: TYPE:	STATE WRITTEN I	DATE: NFORMAL		87/13/1987					
AGENCY: TYPE:	STATE WRITTEN I	DATE: NFORMAL		87/17/1987					
AGENCY: TYPE:	STATE WRITTEN I	DATE: NFORMAL		87/13/1987					
AGENCY: TYPE:	STATE WRITTEN II	DATE: NFORMAL		88/14/1988					
AGENCY: TYPE:	STATE WRITTEN II	DATE: NFORMAL		95/28/1995					
VIOLATION INFORMATION:									
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	3 84/30/1984 TSD IS-GRO	RESPONS DETERM RESOLVE DUND-WATER MON	IINED BY: ED:	S - STATE S - STATE 91/27/1991					
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	4 84/30/1984 TSD - CLOS	RESPONS DETERM RESOLV SURE/POST-CLOSU	IINED BY: ED:	S - STATE S - STATE 91/27/1991					
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	5 84/30/1984 TSD - GENE	RESOLV	IINED BY:	S - STATE S - STATE 91/27/1991					
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	6 84/25/1984 TSD - FINA	RESPONS DETERM RESOLVE NCIAL REQUIREME	IINED BY: ED:	S - STATE S - STATE 84/11/1984					
VIOLATION NUMBER: DETERMINED: CITATION: TYPE:	7 85/02/1985 TSD - GENE	RESOLV	IINED BY:	S - STATE S - STATE 85/16/1985					
			-	Continued on ne	xt page -				

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

RCRACOR									
SEARCH :	ID: 3	DIST/DIR: 0.82	2 NE ELEVA	TION:	18	MAP ID:	127		
NAME:	SITHE NEW ENGLA	AND		REV:	7/10/12	2401			
ADDKESS:	173 ALFORD ST EVERETT MA 02149	9		ID1: ID2:	MAD00084	2401			
CONTACT:	MIDDLESEX			STATUS: PHONE:	CA				
SOURCE:	EPA								
VIOLATION		8	RESPONSIBLE:		S - STATE				
DETERMINI CITATION:	ED:	85/02/1985	DETERMINED BY: RESOLVED:		S - STATE 85/16/1985				
TYPE:		TSD - GENERA			83/10/1983				
VIOLATION	NUMBER:	9	RESPONSIBLE:		S - STATE				
DETERMINI		86/26/1986	DETERMINED BY:		S - STATE				
CITATION:		TOD IS CDOLD	RESOLVED:		86/01/1986				
ГҮРЕ:		TSD IS-GROUN	ID-WATER MONITORING						
VIOLATION	NUMBER:	10	RESPONSIBLE:		S - STATE				
DETERMINE	ED:	86/25/1986	DETERMINED BY:		S - STATE				
CITATION: FYPE:		TSD IS-GROUN	RESOLVED: ID-WATER MONITORING		87/17/1987				
VIOI ATION	NUMBED.	11	RESPONSIBLE:		C CTATE				
VIOLATION DETERMINI		11 86/25/1986	DETERMINED BY:		S - STATE S - STATE				
CITATION:			RESOLVED:		87/17/1987				
ГҮРЕ:		TSD - GENERA	L						
VIOLATION	NUMBER:	12	RESPONSIBLE:		S - STATE				
DETERMINI	ED:	86/18/1986	DETERMINED BY:		S - STATE				
CITATION: FYPE:		TSD - GENERA	RESOLVED: L		88/29/1988				
VIOLATION	NIIMRER:	13	RESPONSIBLE:		S - STATE				
DETERMINI		87/13/1987	DETERMINED BY:		S - STATE				
CITATION:			RESOLVED:		87/23/1987				
ГҮРЕ:		TSD IS-GROUN	ID-WATER MONITORING						
VIOLATION	NUMBER:	14	RESPONSIBLE:		S - STATE				
DETERMINI	ED:	88/29/1988	DETERMINED BY:		S - STATE				
CITATION: FYPE:		TSD IS-GROUN	RESOLVED: ID-WATER MONITORING		88/14/1988				
VIOLATION	NIIMRER:	15	RESPONSIBLE:		S - STATE				
DETERMINE		89/13/1989	DETERMINED BY:		S - STATE				
CITATION: FYPE:		TSD - GENERA	RESOLVED:		91/27/1991				
		15D GENERI	L						
VIOLATION		16	RESPONSIBLE:		S - STATE				
DETERMINI CITATION:	չը:	95/28/1995	DETERMINED BY: RESOLVED:		S - STATE 95/28/1995				
ГҮРЕ:		STATE STATU	TE OR REGULATION		. 3. 20. 1770				
VIOLATION	NUMBER:	5001	RESPONSIBLE:		S - STATE				
DETERMINI		84/30/1984	DETERMINED BY:		E - EPA				
CITATION: FYPE:		TSD IS-GROUN	RESOLVED: ID-WATER MONITORING		91/27/1991				
	MANADER				E EDA				
VIOLATION DETERMINE		5002 84/30/1984	RESPONSIBLE: DETERMINED BY:		E - EPA E - EPA				
DETERMINI CITATION:	э р.	0 1 /30/1704	RESOLVED:		91/27/1991				
			- More Details Exist	, r m:		7 1 1 D 1			

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

RCRAGN

SEARCH ID: 9 DIST/DIR: 0.10 NE ELEVATION: 18 MAP ID: 6

NAME: SUPER STOP and SHOP REV: 2/1/12

ADDRESS: 274 MYSTIC AVE ID1: MV6176661024

SOMERVILLE MA 02145 ID2: MA HAZ WASTE GENERATOR

MIDDLESEX STATUS: VSQG-FED

CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF WASTE PREVENTION - HAZARDOUS WASTE GENERATOR

VQG-MA= Very Small Quantity Generator of hazardous waste or waste oil (Less than 220 pounds or 27 gallons/month)

SQN-MA = Small Quantity Generator of waste oil (220 to 2,200 ponds or 27 to 270 gallons/month)

VSQG-FED = very small quantity generator - generates between 0-220 lbs/mo and no acutely hazardous waste, and < 2,200 lbs (250 gals) accumulated on-site (from RCRA)

 $\mathbf{SQG}\text{-}\mathbf{FED}$ - small quantity generator - generates between 220-2,200 lbs/mo or 0-2.2 lbs/mo acutely hazardous waste; and not > 13,200 lbs (1500 gals) accumulated on-site (from RCRA)

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 36 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

709 MCGRATH HWY ID1: 3-00146 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

NAPL .5 INCH

NAPL

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/11/1996

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 36 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

SOMERVILLE MA 02145 ID2: 3-001462

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 2/10/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 36 **ELEVATION: DIST/DIR:** 0.12 SW 18 MAP ID: 8

NAME: BLAKELY AVE REV: 9/11/12 ADDRESS: 709 MCGRATH HWY 3-0014626 ID1:

SOMERVILLE MA 02145 ID2:

STATUS: MIDDLESEX RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 1/19/2004

ACT USE LIMITATION:

RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT **ACT STATUS:**

TIER CLASSIFICATION **ACT TYPE:**

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 68 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS STATION 21521 FMR MERIT STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0000850

SS: 709 MCGRATH HWY ID1: 3-0000856 SOMERVILLE MA 02145 ID2:

STATUS: RAO
CONTACT: PHONE:

CONTACT: PHON SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: 7/15/1992 **CONFIRMED:** 7/15/1992

DELETED: REMOVED:

LTBI: CONFIRMED: BELETED: REMOVED:

LOCATION TYPE: GASSTATION,

SOURCE: UST; UNKNOWN; PIPE;

CATEGORY: NONE

SITE DESCRIPTION: GROUNDWATER RELEASE; GASOLINE PRESENT; CONTAINED IN HOSE OR PIPE; AIR RELEASE; GAS STATION; CONTAINED IN A LUST; PETROLEUM PRESENT; RELEASE TO SOIL; UNKNOWN AS TO WHAT IS CONTAINED IN; V.O.C. S PRESENT;

OTHER CONTAMINATION:

OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:

CHEMICALS

VOCS

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

TS DATE: 8/26/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 4/7/1998

AUL RESTRICTION:

LSP: CHRISTOPHER DEVINE RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 2/18/2000

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 68 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 HESS STATION 21521 FMR MERIT STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-000085

SS: 709 MCGRATH HWY ID1: 3-0000856 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

AUL RESTRICTION: NON

LSP: MATTHEW ROBBINS
RA STATUS: RAO STATEMENT RECEIVED
RAS TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: C - A TEMPORARY SOLUTION, WHICH ENSURES THE ELIMINATION OF ANY SUBSTANTIAL HAZARD, HAS

BEEN ACHIEVED AT THE DISPOSAL SITE.

TS DATE: 3/13/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 1/3/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RAS TYPE: COMPLETION STATEMENT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS:

TS DATE: 9/15/1999

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 2/18/2000

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEIII

RAO CLASS:

TS DATE: 3/12/2001

AUL RESTRICTION:

LSP: SCOTT PARKER

RA STATUS: INSMO RAS TYPE: PHASE 5

RAO CLASS:

TS DATE: 8/30/1996

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: WRITTEN PLAN RECEIVED

RAS TYPE: RELEASE ABATEMENT MEASURE

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 68 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

NAME: HESS STATION 21521 FMR MERIT STATION REV: 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0000856

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

TS DATE: 1/19/1999

AUL RESTRICTION:

LSP: CHRISTOPHER DEVINE

RA STATUS:

RAS TYPE: TIER2EXT

RAO CLASS:

TS DATE: 8/25/1994

AUL RESTRICTION:

LSP:

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

ACT DATE: 7/15/1992

ACT USE LIMITATION:

ACT STATUS: VALID TRANSITION SITE ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 9/22/1992

ACT USE LIMITATION:

ACT STATUS: WAVREC

ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 11/16/1993

 ${\bf ACT\ USE\ LIMITATION:}$

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 2/17/1994

ACT USE LIMITATION:

ACT STATUS: WAIVER SIGNED OR APPROVED ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: WAIVER ACCEPTED ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 85 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME: MERIT REV: 9/11/12 ADDRESS:

709 MCGRATH HWY ID1: 3-0015862 SOMERVILLE MA ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: **SOURCE:** MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: **CONFIRMED: DELETED:** REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: PIPE; CATEGORY: TWO HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE GASOLINE 50 GAL

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

RAO NOT REQUIRED **ACT TYPE:**

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

TIER CLASSIFICATION **ACT TYPE:**

RAO CLASS:

ACT DATE: 12/22/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 12/22/1997

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 85 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 MERIT
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-001586

709 MCGRATH HWY ID1: 3-0015862 SOMERVILLE MA ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 12/29/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 1/22/1998

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: WMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

STATE

DIST/DIR: 0.12 SW SEARCH ID: 85 **ELEVATION:** 18 MAP ID: 8

NAME: MERIT REV: 9/11/12 709 MCGRATH HWY ADDRESS:

ID1: 3-0015862

SOMERVILLE MA ID2: MIDDLESEX STATUS: RAONR

CONTACT: PHONE: MA DEP

SOURCE:

ACT DATE: 3/16/1999 **ACT USE LIMITATION:**

ACT STATUS: TIER 2 CLASSIFICATION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

10/20/2004 **ACT DATE:**

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

TIER 2 EXTENSION **ACT STATUS: ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 94 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-001664

779 MCGRATH HWY ID1: 3-0016643 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

TPH 7670 MG/KG

ALIPHATIC HYDROCARBONS C9 THRU C18 2.3 MG/L

TPH 2.5 MG/L

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 5/1/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0015727

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 94 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-001664

779 MCGRATH HWY ID1: 3-0016643 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS:

ACT DATE: 1/11/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 2/18/1999

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 3/4/1999

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 3/25/1999

ACT USE LIMITATION:

ACT STATUS: PIP MEETING HELD

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 3/26/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: DRAFT PLAN RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 94 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-001664

779 MCGRATH HWY **ID1:** 3-0016643 SOMERVILLE MA 02145 **ID2:**

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/28/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC INVOLVEMENT PETITION RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 12/6/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 1/28/2000

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 4/9/2001

ACT USE LIMITATION:

ACT STATUS: NOTICE OF DELAY IN MEETING RA DEADLINE RECEIVED

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 5/22/2001

ACT USE LIMITATION:

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 100 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME: NO LOCATION AID REV: 9/11/12 709 MCGRATH HWY 3-0015170 ADDRESS: ID1:

SOMERVILLE MA 02145 ID2: MIDDLESEX STATUS: RAONR

CONTACT: PHONE: **SOURCE:** MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: **SOURCE:**

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[A]ANTHRACENE 2.57 PPM BENZO[A]PYRENE 2.62 PPM BENZO[B]FLUORANTHENE 2.01 PPM

INDENO(1,2,3-CD)PYRENE 1.01 PPM

SITE ACTIONS

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 5/19/1997

ACT USE LIMITATION:

REPORTABLE RELEASE UNDER MGL 21E **ACT STATUS:**

RELEASE DISPOSITION **ACT TYPE:**

RAO CLASS:

ACT DATE: 5/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 100 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0015170

709 MCGRATH HWY ID1: 3-0015170 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT DATE: 10/20/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 100 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 8 MAP ID:

NAME: NO LOCATION AID **REV:** 9/11/12 ADDRESS: 709 MCGRATH HWY

3-0015170 ID1: SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 101 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY ID1: 3-001421: SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE:

SITE INFORMATION

MA DEP

SOURCE:

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[B]FLUORANTHENE 5.18 MG/KG BENZO[A]PYRENE 5.06 MG/KG BENZO(K)FLUORANTHENE 2.9 MG/KG INDENO(1,2,3-CD)PYRENE 1.26 MG/KG BENZO[A]ANTHRACENE 4.71 MG/KG

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 8/28/1997

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/19/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 101 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY IDI: 3-001421 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT DATE: 8/19/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 11/1/1996

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 1/3/1997

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

ACT DATE: 3/13/1997

ACT USE LIMITATION:

ACT STATUS: SCOPE OF WORK RECEIVED

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 101 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY ID1: 3-001421: SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 117 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

60 E CROSS ST ID1: 3-0018193 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE:

SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

1,2-DICHLOROETHANE 1.7 PPM

1,1-DICHLOROETHENE .14 PPM

1,1-DICHLOROETHANE 46 PPM 1,1,1-TRICHLOROETHANE 68 PPM

C11 THRU C22 AROMATIC HYDROCARBONS 1800 PPM

1,3,5-TRIMETHYLBENZENE 35 PPM

LEAD 2910 PPM

MERCURY 59.2 PPM

C9 THRU C10 AROMATIC HYDROCARBONS 130 PPM

C9 THRU C18 ALIPHATIC HYDROCARBONS 1300 PPM

NAPHTHALENE 17 PPM

PCE 8.9 PPM

TPH 71000 PPM

BARIUM 2910 PPM

TCE 1.7 PPM

C19 THRU C36 ALIPHATIC HYDROCARBONS 3400 PPM

2-METHYLNAPHTHALENE 12 PPM

SITE ACTIONS

LSP INVOLVED: SAMUEL BUTCHER

LSP INVOLVED: CARL SHAPIRO

LSP INVOLVED: 1978

LSP INVOLVED: BYRON WILLIS

ACT DATE: 4/12/1999

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/12/1999

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 117 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

60 E CROSS ST ID1: 3-00181 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 6/25/1999

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/20/2001

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/15/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/12/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 117 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 1/31/2003

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/27/2003

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: NOTICE OF NON-COMPLIANCE ISSUED ACT TYPE: COMPLIANCE AND ENFORCEMENT

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 129 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

779 MCGRATH HWY ID1: 3-0015727 SOMERVILLE MA ID2:

STATUS: RAO
CONTACT: PHONE:

CONTACT: PHO SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

UNKNOWN CHEMICAL OF TYPE - OIL 400 PPMV

PETROLEUM 407 PPMV

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 1/12/1998

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/13/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 129 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

779 MCGRATH HWY ID1: 3-0015727 SOMERVILLE MA ID2:

CONTACT: RAO PHONE:

SOURCE: MA DEP

ACT DATE: 2/19/1998

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/29/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/11/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/4/1999

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

RAO

SEARCH ID: 129 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

SOMERVILLE MA ID: 3-0015/2

STATUS: CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/1999

ACT USE LIMITATION:

ACT STATUS: PIP MEETING HELD

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: DRAFT PLAN RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/28/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC INVOLVEMENT PETITION RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 143 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME:SOMERVILLE MARGINAL CSO FACILITYREV:9/11/12ADDRESS:271 MYSTIC AVEID1:3-0015340

271 MYSTIC AVE ID1: 3-0015340 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE:

SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[A]ANTHRACENE 1.08 MG/KG BENZO[A]PYRENE 1.04 MG/KG BENZO[B]FLUORANTHENE 1.04 MG/KG

SITE ACTIONS

LSP INVOLVED: WILLIAM SWANSON

TS DATE: 7/28/1998

AUL RESTRICTION:

LSP: WILLIAM SWANSON
RA STATUS: TRANSMITTAL RECEIVED
RAS TYPE: TIER CLASSIFICATION

RAO CLASS:

TS DATE: 7/28/1998

AUL RESTRICTION:

LSP:

RA STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

RAS TYPE: FEND

RAO CLASS:

ACT DATE: 7/24/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/24/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 143 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME:SOMERVILLE MARGINAL CSO FACILITYREV:9/11/12ADDRESS:271 MYSTIC AVEID1:3-0015340

271 MYSTIC AVE ID1: 3-0015340 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/23/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/28/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/28/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/2/2000

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/11/2000

ACT USE LIMITATION:

ACT STATUS: FOLLOW UP OFFICE RESPONSE
ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/13/2000

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

STATE

SEARCH ID: 143 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME: SOMERVILLE MARGINAL CSO FACILITY REV: 9/11/12

 ADDRESS:
 271 MYSTIC AVE
 ID1:
 3-0015340

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 10/13/2000

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/15/2001

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/12/2002

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 186 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

709 MCGRATH HWY IDI: 3-0014626 SOMERVILLE MA 02145 ID2:

STATUS: RAONR PHONE:

CONTACT: I SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

NAPL 7 DIG

NAPL .5 INCH

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/11/1996

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 186 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

SOMERVILLE MA 02145 ID2: 3-0014020

CONTACT: STATUS: RAONR PHONE:

SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 2/10/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 186 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

SOMERVILLE MA 02145 ID2: 3-0014626

STATUS: RAONR CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

60 CROSS ST **Target Property: JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 187 **ELEVATION: DIST/DIR:** 0.06 SW 18 MAP ID: 3

NAME: BOSTON EDISON

REV: ADDRESS: BLACKLEY ST N93-0823 ID1:

SOMERVILLE MA 02145 ID2:

STATUS: CLOSED PHONE:

CONTACT: MOHANTY, N **SOURCE:** MA DEP

CASE CLOSED? YES

SPILL DATE: 19930617 SPILL TIME:

DATE REPORTED: REPORT TIME: 19930617 02:45PM

SPILL NOTIFIER: FRANK/BOSTON EDISON **NOTIFIER PHONE:**

SPILL DESCRIPTION:

INCIDENT: RUPTURE

MATERIAL SPILLED: OTHER MATERIAL

AMT RPTD SPILLED: ACTUAL AMT SPILLED: 1-10 GALLONS ----- GALLONS

SOURCE OF SPILL: TRANSFORMER VIR/WASTE: PET/HAZ: UNKNOWN

PCB LEVEL:

ENVIRONMENTAL IMPACT:

LUST?: NO **SOIL CONTAMINATED?: CONTRACTOR:** NOT USED PREPARE REPORT:

DAYS/CLOSE:

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Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 209 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 FORMERLY GUBER and SHERMAN
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0023551

60 E CROSS ST ID1: 3-00235: SOMERVILLE MA ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: INDUSTRIAL, SOURCE: UST;

CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

2 FUEL OIL 100 PPMV

C5 THRU C8 ALIPHATIC HYDROCARBONS 1200 MG/KG C11 THRU C22 AROMATIC HYDROCARBONS 2500 MG/KG C9 THRU C18 ALIPHATIC HYDROCARBONS 3400 MG/KG C9 THRU C10 AROMATIC HYDROCARBONS 710 MG/KG

SITE ACTIONS

LSP INVOLVED: SAMUEL BUTCHER

ACT DATE: 3/25/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0018193

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION RAO CLASS:

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/28/2004

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 209 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 MAP ID: 1

NAME: FORMERLY GUBER and SHERMAN REV: 9/11/12 ADDRESS:

60 E CROSS ST ID1: 3-0023551

SOMERVILLE MA ID2: MIDDLESEX STATUS: RAONR

CONTACT: PHONE:

RAO CLASS:

SOURCE:

ACT DATE: 1/28/2004

MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 2/20/2004

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED NOTICE OF RESPONSIBILITY **ACT TYPE:**

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED **ACT TYPE:** IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT **ACT STATUS:**

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/6/2004

ACT USE LIMITATION:

REPORTABLE RELEASE UNDER MGL 21E **ACT STATUS:**

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 214 DIST/DIR: 0.05 SW ELEVATION: 18 MAP ID: 2

 NAME:
 GAS UST UTM N 4695139 UTM E 328241
 REV:
 9/11/12

 ADDRESS:
 16 GARFIELD AVE
 ID1:
 3-0027249

16 GARFIELD AVE ID1: 3-0027249 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE 970 PPMV

SITE ACTIONS

LSP INVOLVED: PHILIP MCBAIN

ACT DATE: 11/9/2007

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 11/9/2007

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/15/2008

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/16/2008

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/16/2008

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT ACT TYPE: IMMEDIATE RESPONSE ACTION

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 214 **DIST/DIR:** 0.05 SW **ELEVATION:** 18 MAP ID: 2

NAME: GAS UST UTM N 4695139 UTM E 328241 REV: 9/11/12

3-0027249 **ADDRESS:** 16 GARFIELD AVE ID1: SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE: **SOURCE:** MA DEP

B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK RAO CLASS:

EXISTS.

ACT DATE: 1/25/2008

ACT USE LIMITATION:

CORRESPONDENCE ISSUED **ACT STATUS:** NOTICE OF RESPONSIBILITY ACT TYPE:

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/25/2008

ACT USE LIMITATION:

ACT STATUS: INTERIM DEADLINE LETTER ISSUED **ACT TYPE:** COMPLIANCE AND ENFORCEMENT

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 3/17/2008

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED **ACT TYPE:** IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 3/17/2008

ACT USE LIMITATION:

RAO STATEMENT RECEIVED ACT STATUS: RESPONSE ACTION OUTCOME - RAO **ACT TYPE:**

B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK RAO CLASS:

EXISTS.

ACT DATE: 5/22/2008

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT

ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 219 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS GAS STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023387

709 MCGRATH HWY **ID1:** 3-0023387 SOMERVILLE MA **ID2:**

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

TPH 207 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 1/19/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 219 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS GAS STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023387

SOMERVILLE MA ID2:
STATUS: RAONR

CONTACT: STATUS: PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/21/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/21/2003

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

SPILLS

DIST/DIR: 0.12 SW **SEARCH ID:** 219 **ELEVATION:** 18 MAP ID: 8

NAME: HESS GAS STATION REV: 9/11/12 ADDRESS: 709 MCGRATH HWY

3-0023387 ID1: SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/30/2004

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED **ACT TYPE:** NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 7/14/2004

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL ACT STATUS:

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS SEARCH ID: 220 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 MAP ID: 8 NAME: HESS GASOLINE STATION 21521 **REV:** 10/29/10 ADDRESS: 709 MCGRATH HWY 3-0029472 ID1: SOMERVILLE MA 02145 ID2: MIDDLESEX STATUS: UNCLSS **CONTACT:** PHONE: SOURCE: MA DEP DETAILS NOT AVAILABLE

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAO

SEARCH ID: 221 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 HESS STATION 21521
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0021399

SOMERVILLE MA

IDI: 3-0021399

ID2:

CONTACT: STATUS: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: RESIDNTIAL, COMMERCIAL,

SOURCE: VEHICLE; PIPE;

CATEGORY: TWO HR

SITE DESCRIPTION:

CHEMICALS

DIESEL FUEL GASOLINE 1 GAL

SITE ACTIONS

LSP INVOLVED: GEORGE CAMPBELL

ACT DATE: 1/13/2002

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 1/13/2002

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 1/15/2002

ACT USE LIMITATION:

ACT STATUS: FIELD NOR ISSUED
ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 1/15/2002

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAO

SEARCH ID: 221 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS STATION 21521
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0021399

SOMERVILLE MA

IDI: 3-0021399

ID2:

STATUS:

CONTACT: PHONE:

SOURCE: MA DEP

ACT STATUS: RLFA - INITIAL COMPLIANCE FIELD RESPONSE - ANNOUNCED

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 3/13/2002

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 4/23/2002

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 4/23/2002

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

ACT DATE: 5/13/2002

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A1 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS BEEN REDUCED TO

BACKROUND OR A THREAT OF A RELEASE HAS BEEN ELIMINATED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 222 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 HESS STATION 21521 FMR MERIT STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-000085

709 MCGRATH HWY ID1: 3-0000856 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: 7/15/1992 **CONFIRMED:** 7/15/1992

DELETED: REMOVED:

LTBI: CONFIRMED: BEHOVED:

LOCATION TYPE: GASSTATION,

SOURCE: PIPE; UST; UNKNOWN;

CATEGORY: NONE

SITE DESCRIPTION: GROUNDWATER RELEASE; UNKNOWN AS TO WHAT IS CONTAINED IN; GASOLINE PRESENT; V.O.C. S PRESENT; RELEASE TO SOIL; PETROLEUM PRESENT; CONTAINED IN A LUST; CONTAINED IN HOSE OR PIPE; GAS STATION; AIR RELEASE;

OTHER CONTAMINATION:

OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:

CHEMICALS

VOCS

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

TS DATE: 9/15/1999

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 8/30/1996

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: WRITTEN PLAN RECEIVED
RAS TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

TS DATE: 2/18/2000

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 222 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 MAP ID: 8

NAME: HESS STATION 21521 FMR MERIT STATION REV: 9/11/12

ADDRESS: 709 MCGRATH HWY ID1: 3-0000856 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

AUL RESTRICTION: NON

MATTHEW ROBBINS LSP: **RA STATUS:** RAO STATEMENT RECEIVED RAS TYPE: RESPONSE ACTION OUTCOME - RAO

C - A TEMPORARY SOLUTION, WHICH ENSURES THE ELIMINATION OF ANY SUBSTANTIAL HAZARD, HAS **RAO CLASS:**

BEEN ACHIEVED AT THE DISPOSAL SITE.

3/12/2001 TS DATE:

AUL RESTRICTION:

LSP: SCOTT PARKER

RA STATUS: INSMO **RAS TYPE:** PHASE 5

RAO CLASS:

TS DATE: 1/19/1999

AUL RESTRICTION:

LSP:

CHRISTOPHER DEVINE **RA STATUS:**

RAS TYPE: TIER2EXT

RAO CLASS:

TS DATE: 4/7/1998

AUL RESTRICTION:

CHRISTOPHER DEVINE LSP: **RA STATUS:** SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 8/26/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 1/3/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: COMPLETION STATEMENT RECEIVED RAS TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

TS DATE: 8/25/1994

AUL RESTRICTION:

LSP:

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 222 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

NAME: HESS STATION 21521 FMR MERIT STATION REV: 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0000856

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS:

TS DATE: 3/13/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 2/18/2000

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEIII

RAO CLASS:

ACT DATE: 7/15/1992

ACT USE LIMITATION:

ACT STATUS: VALID TRANSITION SITE ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 9/22/1992

ACT USE LIMITATION:

ACT STATUS: WAVREC

ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 11/16/1993

 ${\bf ACT\ USE\ LIMITATION:}$

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 2/17/1994

ACT USE LIMITATION:

ACT STATUS: WAIVER SIGNED OR APPROVED ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: WAIVER ACCEPTED ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 234 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 MERIT
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-001586

709 MCGRATH HWY ID1: 3-0015862 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: PIPE; CATEGORY: TWO HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE 50 GAL

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 12/22/1997

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 12/22/1997

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 234 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 MERIT
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-001586

ESS: 709 MCGRATH HWY ID1: 3-0015862 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 12/29/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 1/22/1998

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 234 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 MERIT
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-001586

RESS: 709 MCGRATH HWY ID1: 3-0015862 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 239 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-001664:

779 MCGRATH HWY ID1: 3-0016643 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

ALIPHATIC HYDROCARBONS C9 THRU C18 2.3 MG/L

TPH 2.5 MG/L TPH 7670 MG/KG

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 5/1/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0015727

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 239 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0016643

: 7/9 MCGRATH HWY IDI: 3-0016643 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

ACT DATE: 1/11/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 2/18/1999

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 3/4/1999

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 3/25/1999

 ${\bf ACT\ USE\ LIMITATION:}$

ACT STATUS: PIP MEETING HELD

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 3/26/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: DRAFT PLAN RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 239 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 NEAR MYSTIC AVE INTERSECTION
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0016643

7/9 MCGRAIH HW Y IDI: 3-0016643 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: PHASE 1

RAO CLASS:

ACT DATE: 4/28/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC INVOLVEMENT PETITION RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 12/6/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

ACT DATE: 1/28/2000

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 4/9/2001

ACT USE LIMITATION:

ACT STATUS: NOTICE OF DELAY IN MEETING RA DEADLINE RECEIVED

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 5/22/2001

ACT USE LIMITATION:

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 244 **DIST/DIR:** 0.08 NE **ELEVATION:** 19 **MAP ID:** 5

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 250 MYSTIC AVE
 ID1:
 3-0023667

250 MYSTIC AVE ID1: 3-0023667 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

2-METHYLNAPHTHALENE 28 MG/KG

C9 THRU C18 ALIPHATIC HYDROCARBONS 6500 MG/KG C9 THRU C10 AROMATIC HYDROCARBONS 210 MG/KG

NAPHTHALENE 14 MG/KG

C19 THRU C36 ALIPHATIC HYDROCARBONS 2700 MG/KG C11 THRU C22 AROMATIC HYDROCARBONS 2000 MG/KG

SITE ACTIONS

ACT DATE: 3/14/2005

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0015727

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 9/25/2003

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 244 **DIST/DIR:** 0.08 NE **ELEVATION:** 19 **MAP ID:** 5

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 250 MYSTIC AVE
 ID1:
 3-0023667

250 MYSTIC AVE ID1: 3-0023667 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/11/2004

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 3/11/2004

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY RAO CLASS:

ACT DATE: 9/27/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/14/2005

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/14/2005

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/14/2005

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 246 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

60 E CROSS ST ID1: 3-001819 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE:

SOURCE: CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

MERCURY 59.2 PPM

C11 THRU C22 AROMATIC HYDROCARBONS 1800 PPM

1,1,1-TRICHLOROETHANE 68 PPM $\,$

1,1-DICHLOROETHANE 46 PPM

TPH~71000~PPM

1,1-DICHLOROETHENE .14 PPM

1,2-DICHLOROETHANE 1.7 PPM

1,3,5-TRIMETHYLBENZENE 35 PPM

2-METHYLNAPHTHALENE 12 PPM

BARIUM 2910 PPM

C9 THRU C10 AROMATIC HYDROCARBONS 130 PPM

LEAD 2910 PPM

C9 THRU C18 ALIPHATIC HYDROCARBONS 1300 PPM

NAPHTHALENE 17 PPM

TCE 1.7 PPM

C19 THRU C36 ALIPHATIC HYDROCARBONS 3400 PPM

PCE 8.9 PPM

SITE ACTIONS

LSP INVOLVED: SAMUEL BUTCHER

LSP INVOLVED: 1978

LSP INVOLVED: BYRON WILLIS

LSP INVOLVED: CARL SHAPIRO

ACT DATE: 4/12/1999

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/12/1999

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 246 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

60 E CROSS ST ID1: 3-0018 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 6/25/1999

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/20/2001

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/15/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/12/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 246 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 1/31/2003

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/27/2003

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: NOTICE OF NON-COMPLIANCE ISSUED ACT TYPE: COMPLIANCE AND ENFORCEMENT

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 249 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

TPH 2700 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 1/19/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 249 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

SOMERVILLE MA ID2:
STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/12/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/12/2003

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/24/2003

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 1/12/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 249 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

709 MCGRATH HWY **ID1:** 3-0023363 SOMERVILLE MA **ID2:**

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 250 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

709 MCGRATH HWY IDI: 3-0023292 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

2 FUEL OIL 200 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 10/20/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAONR

SEARCH ID: 250 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

SOMERVILLE MA ID2:

STATUS: CONTACT: PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

1 CM P 1 MY

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/21/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/21/2003

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/14/2003

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 12/19/2003

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 12/23/2003

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/11/2004

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 250 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

709 MCGRATH HWY IDI: 3-0023292 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 3/11/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 8/27/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 12/30/2005

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAONR

SEARCH ID: 251 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0021247

7/09 MCGRATH HWY ID1: 3-0021247 SOMERVILLE MA 02143 ID2:

STATUS:

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL, SOURCE: PIPE; UST; CATEGORY: TWO HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE

SITE ACTIONS

LSP INVOLVED: GEORGE CAMPBELL

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 11/13/2001

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/13/2001

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 12/24/2001

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 1/24/2002

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 2/1/2002

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 251 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0021247

SOMERVILLE MA 02143 ID2: 3-0021247

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: WRITTEN APPROVAL OF PLAN ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 4/29/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 9/30/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION RAO CLASS:

ACT DATE: 11/8/2002

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 11/8/2002

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 252 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0015170

NO9 MCGRAIH HWY SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[A]ANTHRACENE 2.57 PPM BENZO[A]PYRENE 2.62 PPM BENZO[B]FLUORANTHENE 2.01 PPM INDENO(1,2,3-CD)PYRENE 1.01 PPM

SITE ACTIONS

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 5/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 5/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 252 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0015170

709 MCGRATH HWY ID1: 3-0015170 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT DATE: 10/20/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 252 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 8 MAP ID:

NAME: NO LOCATION AID **REV:** 9/11/12 ADDRESS: 709 MCGRATH HWY 3-0015170 ID1:

SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: **SOURCE:** MA DEP

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 253 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY ID1: 3-0014215 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LOCATION TYPE: SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[A]PYRENE 5.06 MG/KG INDENO(1,2,3-CD)PYRENE 1.26 MG/KG BENZO[B]FLUORANTHENE 5.18 MG/KG BENZO(K)FLUORANTHENE 2.9 MG/KG BENZO[A]ANTHRACENE 4.71 MG/KG

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/19/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 253 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY IDI: 3-0014215 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 8/19/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 11/1/1996

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 1/3/1997

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

ACT DATE: 3/13/1997

ACT USE LIMITATION:

ACT STATUS: SCOPE OF WORK RECEIVED

ACT TYPE: PHASE 2

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 253 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014215

709 MCGRATH HWY IDI: 3-0014215 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAO

SEARCH ID: 259 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

SOMERVILLE MA ID: 3-0015/2

STATUS: CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

UNKNOWN CHEMICAL OF TYPE - OIL 400 PPMV

PETROLEUM 407 PPMV

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 1/12/1998

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/13/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 259 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

779 MCGRATH HWY ID1: 3-001572 SOMERVILLE MA ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 2/19/1998

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/29/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/11/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 3/4/1999

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

RAO

SEARCH ID: 259 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

779 MCGRATH HWY ID1: 3-0015727 SOMERVILLE MA ID2:

STATUS:

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/1999

ACT USE LIMITATION:

ACT STATUS: PIP MEETING HELD

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: DRAFT PLAN RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/28/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC INVOLVEMENT PETITION RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 266 DIST/DIR: 0.06 NE ELEVATION: 20 MAP ID: 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE/AKA 70 CROSS
 ID1:
 3-000065

260 MYSTIC AVE/AKA 70 CROSS ID1: 3-0000658 SOMERVILLE MA 02143 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

 LTBI:
 10/15/1988
 CONFIRMED:

 DELETED:
 REMOVED:

LOCATION TYPE:

SOURCE:

CATEGORY: NONE

SITE DESCRIPTION:

CHEMICALS

UNKNOWN

SITE ACTIONS

TS DATE: 7/28/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: TRANSMITTAL RECEIVED

RAS TYPE: LSP-FA

RAO CLASS:

TS DATE: 9/4/1997 **AUL RESTRICTION:** NOT

LSP: MICHAEL SHAW

RAS TYPE: RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

TS DATE: 8/1/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS:

RAS TYPE: TIER CLASSIFICATION

RAO CLASS:

TS DATE: 7/31/1996

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 266 DIST/DIR: 0.06 NE ELEVATION: 20 MAP ID: 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE/AKA 70 CROSS
 ID1:
 3-0000658

260 MYSTIC AVE/AKA 70 CROSS ID1: 3-0000658 SOMERVILLE MA 02143 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS:

TS DATE: 8/1/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASE 1

RAO CLASS:

TS DATE: 8/15/1997

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

ACT DATE: 10/15/1988

ACT USE LIMITATION:

ACT STATUS: VALID TRANSITION SITE ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/28/1995

ACT USE LIMITATION:

ACT STATUS: LSP EVALUATION OPINION FURTHER ACTIONS REQUIRED

ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/1/1995

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/1/1995

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/1/1995

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 266 **DIST/DIR:** 0.06 NE **ELEVATION:** 20 **MAP ID:** 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE/AKA 70 CROSS
 ID1:
 3-0000658

260 MYSTIC AVE/AKA 70 CROSS ID1: 3-0000658 SOMERVILLE MA 02143 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 7/31/1996

ACT USE LIMITATION:

ACT STATUS: SCOPE OF WORK RECEIVED

ACT TYPE: PHASE 2

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/15/1997

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 2

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/15/1997

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/4/1997

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 6/28/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN NOTICE OF AUDIT

ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/25/2002

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: RLFA - COMPLIANCE FIELD RESPONSE - UNANNOUNCED

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: AUDIT INSPECTION

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 267 DIST/DIR: 0.08 NE ELEVATION: 19 MAP ID: 5

NAME:SOMERVILLE LUMBER CRANE BLDGREV:9/11/12ADDRESS:250 MYSTIC AVEID1:3-0010846

250 MYSTIC AVE ID1: 3-0010846 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE:

SOURCE: CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

TPH 51000 PPM

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 2/14/1995

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1995

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/28/1995

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 11/13/1995

ACT USE LIMITATION:

ACT STATUS: FEE RECEIVED-FMCRA USE ONLY ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1996

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 267 **DIST/DIR:** 0.08 NE **ELEVATION:** 19 **MAP ID:** 5

 NAME:
 SOMERVILLE LUMBER CRANE BLDG
 REV:
 9/11/12

 ADDRESS:
 250 MYSTIC AVE
 ID1:
 3-0010846

250 MYSTIC AVE ID1: 3-0010846 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1996

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/17/2002

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: AUDIT INSPECTION

ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: RLFA - COMPLIANCE FIELD RESPONSE - UNANNOUNCED

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/9/2004

ACT USE LIMITATION:

ACT STATUS: NOA FINDING - NON - VIOLATIONS WITH FOLLOW-UP ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/9/2005

ACT USE LIMITATION:

ACT STATUS: AUDIT FOLLOW-UP COMPLETION STATEMENT RECEIVED ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED
ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 267 **ELEVATION:** 19 **DIST/DIR:** 0.08 NE MAP ID: 5

NAME: SOMERVILLE LUMBER CRANE BLDG REV: 9/11/12 ADDRESS:

250 MYSTIC AVE 3-0010846 ID1: SOMERVILLE MA 02145 ID2:

STATUS: MIDDLESEX RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT USE LIMITATION:

ACTION STATUS OR AUL TERMINATED **ACT STATUS: ACT TYPE:** ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/28/2005

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED ACT TYPE: ACTIVITY AND USE LIMITATION

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO RAO CLASS:

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 268 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME:SOMERVILLE MARGINAL CSO FACILITYREV:9/11/12ADDRESS:271 MYSTIC AVEID1:3-0015340

271 MYSTIC AVE ID1: 3-0015340 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE:

SOURCE:

CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

BENZO[A]PYRENE 1.04 MG/KG BENZO[B]FLUORANTHENE 1.04 MG/KG BENZO[A]ANTHRACENE 1.08 MG/KG

SITE ACTIONS

LSP INVOLVED: WILLIAM SWANSON

TS DATE: 7/28/1998

AUL RESTRICTION:

LSP: WILLIAM SWANSON
RA STATUS: TRANSMITTAL RECEIVED
RAS TYPE: TIER CLASSIFICATION

RAO CLASS:

TS DATE: 7/28/1998

AUL RESTRICTION:

LSP:

RA STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

RAS TYPE: FEND

RAO CLASS:

ACT DATE: 7/24/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/24/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 268 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME: SOMERVILLE MARGINAL CSO FACILITY REV: 9/11/12 ADDRESS: 271 MYSTIC AVE ID1: 3-001534

: 271 MYSTIC AVE ID1: 3-0015340 SOMERVILLE MA 02145 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/23/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/28/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/28/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/2/2000

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/11/2000

ACT USE LIMITATION:

ACT STATUS: FOLLOW UP OFFICE RESPONSE

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/13/2000

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS

SEARCH ID: 268 **DIST/DIR:** 0.12 NE **ELEVATION:** 19 **MAP ID:** 10

NAME: SOMERVILLE MARGINAL CSO FACILITY REV: 9/11/12

 ADDRESS:
 271 MYSTIC AVE
 ID1:
 3-0015340

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 10/13/2000

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/15/2001

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/12/2002

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS80					
SEARCH ID: 285	DIST/DIR: 0.10 NW	ELEVATION:	18	MAP ID:	7
NAME: SOMERVILLE LUI ADDRESS: BETWEEN ASSEM SOMERVILLE MA CONTACT: GORRASI, M SOURCE:	MBLY SQUARE MALL	REV: ID1: ID2: STATUS: PHONE:	N88-1095 CLOSED		
SPILL DATE: DATE REPORTED: SPILL NOTIFIER:	19880727	SPILL TIME: REPORT TIME: NOTIFIER PHONE:			
INCIDENT: MATERIAL SPILLED: AMT RPTD SPILLED: SOURCE OF SPILL: PET/HAZ: PCB LEVEL:	CHLORINE NONE OTHER SOURCE > HAZARDOUS	ACTUAL AMT SPILLED VIR/WASTE:	: NONE _ VIRGIN		
ENVIRONMENTAL IMPACT: LUST?: CONTRACTOR: DAYS/CLOSE:	NOT USED	SOIL CONTAMINATED? PREPARE REPORT:	:		

REV:

60 CROSS ST **Target Property: JOB:** 13-269

SOMERVILLE MA 02145

SPILLS80

SEARCH ID: 286 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 MAP ID: 1

SOMERVILLE LUMBER NAME:

ADDRESS: 60 E CROSS ST N89-1534 ID1:

SOMERVILLE MA 02145

ID2: STATUS: MIDDLESEX CLOSED

CONTACT: BOYLE, T PHONE:

SOURCE:

SPILL DATE: 19890912 SPILL TIME:

DATE REPORTED: 19890912 REPORT TIME: 03:00PM

SPILL NOTIFIER: PETERS/SOMERVILLE FD NOTIFIER PHONE:

INCIDENT:

MATERIAL SPILLED: MISCELLANEOUS OIL

AMT RPTD SPILLED: UNKNOWN GALLONS **ACTUAL AMT SPILLED:** UNKNOWN GALLONS

SOURCE OF SPILL: PET/HAZ: PETROLEUM VIR/WASTE:

PCB LEVEL:

ENVIRONMENTAL IMPACT: SOIL

SOIL CONTAMINATED?: YES **CONTRACTOR:** NOT USED PREPARE REPORT:

DAYS/CLOSE:

60 CROSS ST **Target Property: JOB:** 13-269

SOMERVILLE MA 02145

SPILLS80 SEARCH ID: 295 **ELEVATION:** 9 **DIST/DIR:** 0.12 NW 18 MAP ID: NAME: REV: ADDRESS: ADJ TO 779 MCGRATH HWY N89-0442 ID1: SOMERVILLE MA 02145 ID2: STATUS: MIDDLESEX CLOSED CONTACT: MACAFEE, K PHONE: **SOURCE:** SPILL DATE: SPILL TIME: DATE REPORTED: 19890327 REPORT TIME: 02:45PM SPILL NOTIFIER: NOTIFIER PHONE: INCIDENT: LEAK MATERIAL SPILLED: DIESEL FUEL AMT RPTD SPILLED: NONE -----**ACTUAL AMT SPILLED:** NONE -----SOURCE OF SPILL: U.S.T. PET/HAZ: PETROLEUM VIR/WASTE: VIRGIN PCB LEVEL: ENVIRONMENTAL IMPACT: SOIL

SOIL CONTAMINATED?: **CONTRACTOR:** NOT USED PREPARE REPORT: DAYS/CLOSE:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

SPILLS80

REV:

SEARCH ID: 296 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME:

ADDRESS: 709 MCGRATH/O BRIEN HWY ID1: N87-0838

SOMERVILLE MA 02145 ID2: STATUS: CLOSED

CONTACT: PENTA, E PHONE:

SOURCE:

SPILL DATE: 19870616 SPILL TIME:
DATE REPORTED: REPORT TIME:
SPILL NOTIFIER: NOTIFIER PHONE:

INCIDENT:

MATERIAL SPILLED: GASOLINE

AMT RPTD SPILLED: UNKNOWN ACTUAL AMT SPILLED:

SOURCE OF SPILL: U.S.T.
PET/HAZ: VIR/WASTE:

PCB LEVEL:

ENVIRONMENTAL IMPACT:

LUST?: SOIL CONTAMINATED?: CONTRACTOR: PREPARE REPORT:

DAYS/CLOSE: 1

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 309 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

709 MCGRATH HWY ID1: 3-0014626 SOMERVILLE MA 02145 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

NAPL

NAPL .5 INCH

SITE ACTIONS

LSP INVOLVED: N/A

ACT DATE: 3/16/1999

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/10/1996

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/11/1996

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 309 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

SOMERVILLE MA 02145 ID2: 3-0014020

CONTACT: STATUS: RAONR PHONE:

SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 2/10/1997

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TRANSITION SITE - OBSOLETE STATUS

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 309 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 BLAKELY AVE
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0014626

SOMERVILLE MA 02145 ID2: 3-0014020

STATUS: RAONR ONTACT: PHONE:

CONTACT: SOURCE: MA DEP

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 320 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 FORMERLY GUBER and SHERMAN
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-002355

60 E CROSS ST ID1: 3-0023551 SOMERVILLE MA ID2:

MIDDLESEX STATUS: RAONR

CONTACT: PHONE:

SITE INFORMATION

MA DEP

SOURCE:

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: INDUSTRIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

C9 THRU C18 ALIPHATIC HYDROCARBONS 3400 MG/KG C9 THRU C10 AROMATIC HYDROCARBONS 710 MG/KG C11 THRU C22 AROMATIC HYDROCARBONS 2500 MG/KG C5 THRU C8 ALIPHATIC HYDROCARBONS 1200 MG/KG 2 FUEL OIL 100 PPMV

2 TOLL OIL TOO TTWI

SITE ACTIONS

LSP INVOLVED: SAMUEL BUTCHER

ACT DATE: 3/25/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0018193

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

A COTE DA POR

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/28/2004

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 320 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 MAP ID: 1

NAME: FORMERLY GUBER and SHERMAN REV: 9/11/12 ADDRESS:

60 E CROSS ST ID1: 3-0023551

SOMERVILLE MA ID2: MIDDLESEX STATUS: RAONR

CONTACT: PHONE:

RAO CLASS:

SOURCE:

ACT DATE: 1/28/2004

MA DEP

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 2/20/2004

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED NOTICE OF RESPONSIBILITY **ACT TYPE:**

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED **ACT TYPE:** IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

3/25/2004 ACT DATE:

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 3/25/2004

ACT USE LIMITATION:

LINKED TO A TIER CLASSIFIED SITE **ACT STATUS:**

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 4/6/2004

ACT USE LIMITATION:

REPORTABLE RELEASE UNDER MGL 21E **ACT STATUS:**

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 321 **DIST/DIR:** 0.05 SW **ELEVATION:** 18 **MAP ID:** 2

 NAME:
 GAS UST UTM N 4695139 UTM E 328241
 REV:
 9/11/12

 ADDRESS:
 16 GARFIELD AVE
 ID1:
 3-0027249

16 GARFIELD AVE ID1: 3-0027249 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE 970 PPMV

SITE ACTIONS

LSP INVOLVED: PHILIP MCBAIN

ACT DATE: 11/9/2007

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 11/9/2007

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/15/2008

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/16/2008

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/16/2008

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 321 **DIST/DIR:** 0.05 SW **ELEVATION:** 18 **MAP ID:** 2

NAME: GAS UST UTM N 4695139 UTM E 328241 REV: 9/11/12

 ADDRESS:
 16 GARFIELD AVE
 ID1:
 3-0027249

 SOMERVILLE MA 02145
 ID2:

MIDDLESEX STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/25/2008

ACT USE LIMITATION:

ACT STATUS: INTERIM DEADLINE LETTER ISSUED ACT TYPE: COMPLIANCE AND ENFORCEMENT

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 1/25/2008

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 3/17/2008

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 3/17/2008

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

ACT DATE: 5/22/2008

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT

ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: B1 - REMEDIAL ACTIONS HAVE NOT BEEN CONDUCTED BECAUSE A LEVEL OF NO SIGNIFICANT RISK

EXISTS.

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 324 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS GAS STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023387

709 MCGRATH HWY IDI: 3-0023387 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

TPH 207 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 1/19/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 324 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS GAS STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023387

SOMERVILLE MA ID2:
STATUS: RAONR

CONTACT: PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/21/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/21/2003

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 1/19/2004

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

LUST

DIST/DIR: 0.12 SW **SEARCH ID:** 324 **ELEVATION:** 18 MAP ID: 8

NAME: HESS GAS STATION REV: 9/11/12 ADDRESS: 709 MCGRATH HWY 3-0023387 ID1:

SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: **SOURCE:**

MA DEP

ACT USE LIMITATION: ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 1/30/2004

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED **ACT TYPE:** NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 7/14/2004

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL ACT STATUS:

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION **ACT TYPE:** TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 325 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS GASOLINE STATION 21521
 REV:
 10/29/10

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0029472

709 MCGRATH HWY ID1: 3-002947 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: UNCLSS

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: UNCLASSIFIED - A release that has not reached its Tier Classification deadline (usually one year after it was reported), and where an RAO

Statement, DPS Submittal, or Tier Classification Submittal has not been received by DEP.

LOCATION TYPE: COMMERCIAL, RESIDNTIAL,

SOURCE: LINE; UST;

SITE DESCRIPTION:

CHEMICALS

GASOLINE .05 GAL/HR

SITE ACTIONS

ACT DATE: 8/26/2010

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 8/26/2010

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 9/14/2010

ACT USE LIMITATION:

ACT STATUS: ISSUED

ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 10/20/2010

ACT USE LIMITATION:

ACT STATUS: SUBMITTAL RETRACTED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 326 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 HESS STATION 21521 FMR MERIT STATION
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-000085

SS: 709 MCGRATH HWY ID1: 3-0000856 SOMERVILLE MA 02145 ID2:

STATUS: RAO CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: BEMOVED:

LTBI: 7/15/1992 **CONFIRMED:** 7/15/1992

DELETED: REMOVED:

LOCATION TYPE: GASSTATION,

SOURCE: UST; UNKNOWN; PIPE;

CATEGORY: NONE

SITE DESCRIPTION: GASOLINE PRESENT; GROUNDWATER RELEASE; CONTAINED IN HOSE OR PIPE; CONTAINED IN A LUST; PETROLEUM PRESENT; AIR RELEASE; GAS STATION; UNKNOWN AS TO WHAT IS CONTAINED IN; V.O.C. S PRESENT;

RELEASE TO SOIL;

OTHER CONTAMINATION:

OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:

CHEMICALS

VOCS

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

TS DATE: 3/12/2001

AUL RESTRICTION:

LSP: SCOTT PARKER

RA STATUS: INSMO **RAS TYPE:** PHASE 5

RAO CLASS:

TS DATE: 8/26/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 3/13/1997

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 326 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME: HESS STATION 21521 FMR MERIT STATION REV: 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0000856

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 8/25/1994

AUL RESTRICTION:

LSP:

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 1/3/1997

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: COMPLETION STATEMENT RECEIVED **RAS TYPE:** RELEASE ABATEMENT MEASURE

RAO CLASS:

TS DATE: 2/18/2000 AUL RESTRICTION: NON

LSP: MATTHEW ROBBINS
RA STATUS: RAO STATEMENT RECEIVED

RAS TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: C - A TEMPORARY SOLUTION, WHICH ENSURES THE ELIMINATION OF ANY SUBSTANTIAL HAZARD, HAS

BEEN ACHIEVED AT THE DISPOSAL SITE.

TS DATE: 2/18/2000

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEIII

RAO CLASS:

TS DATE: 8/30/1996

AUL RESTRICTION:

LSP: JOHN BALCO

RA STATUS: WRITTEN PLAN RECEIVED RAS TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS:

TS DATE: 9/15/1999

AUL RESTRICTION:

LSP: MATTHEW ROBBINS

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 326 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME: HESS STATION 21521 FMR MERIT STATION REV: 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0000856

 SOMERVILLE MA 02145
 ID2:

STATUS: RAO

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

TS DATE: 1/19/1999

AUL RESTRICTION:

LSP: CHRISTOPHER DEVINE

RA STATUS:

RAS TYPE: TIER2EXT

RAO CLASS:

TS DATE: 4/7/1998

AUL RESTRICTION:

LSP: CHRISTOPHER DEVINE
RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

ACT DATE: 7/15/1992

ACT USE LIMITATION:

ACT STATUS: VALID TRANSITION SITE ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 9/22/1992

ACT USE LIMITATION:

ACT STATUS: WAVREC

ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 11/16/1993

 ${\bf ACT\ USE\ LIMITATION:}$

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 2/17/1994

ACT USE LIMITATION:

ACT STATUS: WAIVER SIGNED OR APPROVED ACT TYPE: TRANSITION REGULATIONS

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 334 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

SOMERVILLE MA

IDI: 3-0023292

SOMERVILLE MA

ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

2 FUEL OIL 200 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 10/20/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 334 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

SOMERVILLE MA ID: 3-0023292

CONTACT: STATUS: RAONR PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 10/21/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 10/21/2003

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/14/2003

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 12/19/2003

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 12/23/2003

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/11/2004

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 334 DIST/DIR: 0.12 SW ELEVATION: 18 MAP ID: 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023292

709 MCGRATH HWY IDI: 3-0023292 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 3/11/2004

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 8/27/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 12/30/2005

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

Target Property: 60 CROSS ST JOB: 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 335 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

NAME: NO LOCATION AID REV: 9/11/12 ADDRESS: 709 MCGRATH HWY

3-0021247 ID1: SOMERVILLE MA 02143 ID2:

STATUS: RAONR

CONTACT: PHONE: **SOURCE:** MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: **CONFIRMED:** DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL, **SOURCE:** UST; PIPE; CATEGORY: TWO HR

SITE DESCRIPTION:

CHEMICALS

GASOLINE

SITE ACTIONS

LSP INVOLVED: GEORGE CAMPBELL

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 11/13/2001

ACT USE LIMITATION:

REPORTABLE RELEASE UNDER MGL 21E **ACT STATUS:**

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/13/2001

ACT USE LIMITATION:

IRA ASSESSMENT ONLY **ACT STATUS: ACT TYPE:** IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 12/24/2001

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED NOTICE OF RESPONSIBILITY **ACT TYPE:**

RAO CLASS:

ACT DATE: 1/24/2002

ACT USE LIMITATION:

WRITTEN PLAN RECEIVED **ACT STATUS: ACT TYPE:** IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 2/1/2002

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 335 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0021247

709 MCGRATH HWY ID1: 3-0021247 SOMERVILLE MA 02143 ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS:

ACT DATE: 2/8/2002

ACT USE LIMITATION:

ACT STATUS: WRITTEN APPROVAL OF PLAN ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 4/29/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 9/30/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION RAO CLASS:

ACT DATE: 11/8/2002

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 11/8/2002

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 336 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAONR - Response action outcome not required

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

TPH 2700 PPMV

SITE ACTIONS

LSP INVOLVED: DENNIS TUTTLE

ACT DATE: 1/19/2004

ACT USE LIMITATION:

LSP:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

LINKED SITE ID: 3-0000856

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 3/16/1994

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 8/28/1997

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 2/26/1998

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 4/7/1998

ACT USE LIMITATION:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 336 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

SOMERVILLE MA ID2:
STATUS: RAONR

STATUS: CONTACT: PHONE:

SOURCE: MA DEP

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 3/16/1999

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/12/2003

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS:

ACT DATE: 11/12/2003

ACT USE LIMITATION:

ACT STATUS: ORAL APPROVAL OF PLAN
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 11/24/2003

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS:

ACT DATE: 1/12/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

ACT TYPE: RELEASE NOTIFICATION SUBMITTED THROUGH EDEP

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 336 **DIST/DIR:** 0.12 SW **ELEVATION:** 18 **MAP ID:** 8

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 709 MCGRATH HWY
 ID1:
 3-0023363

709 MCGRATH HWY IDI: 3-0023363 SOMERVILLE MA ID2:

STATUS: RAONR

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

ACT DATE: 1/19/2004

ACT USE LIMITATION:

ACT STATUS: LINKED TO A TIER CLASSIFIED SITE

ACT TYPE: RAO NOT REQUIRED

RAO CLASS:

ACT DATE: 10/20/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

ACT DATE: 11/19/2004

ACT USE LIMITATION:

ACT STATUS: TIER 2 EXTENSION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

RAO

SEARCH ID: 337 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

779 MCGRATH HWY ID1: 3-0015727 SOMERVILLE MA ID2:

STATUS: CONTACT: PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LTBI: CONFIRMED: DELETED: REMOVED:

LOCATION TYPE: COMMERCIAL,

SOURCE: UST; CATEGORY: 72 HR

SITE DESCRIPTION:

CHEMICALS

UNKNOWN CHEMICAL OF TYPE - OIL 400 PPMV

PETROLEUM 407 PPMV

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: IRA ASSESSMENT ONLY
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/19/1997

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

 ${\tt BACKROUND} \ {\tt AND} \ {\tt AN} \ {\tt ACTIVITY} \ {\tt AND} \ {\tt USE} \ {\tt LIMITATION} \ ({\tt AUL}) \ {\tt HAS} \ {\tt BEEN} \ {\tt IMPLEMENTED}$

ACT DATE: 1/12/1998

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/13/1998

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 337 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

SOMERVILLE MA ID: 3-0015/2/

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 2/19/1998

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1998

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/29/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/25/1998

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/11/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/4/1999

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

LUST

SEARCH ID: 337 **DIST/DIR:** 0.12 NW **ELEVATION:** 18 **MAP ID:** 9

 NAME:
 PAYLESS CASHWAYS INC
 REV:
 9/11/12

 ADDRESS:
 779 MCGRATH HWY
 ID1:
 3-0015727

SOMERVILLE MA ID: 3-0015/2/

STATUS: RAO

CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/1999

ACT USE LIMITATION:

ACT STATUS: PIP MEETING HELD

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/26/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC COMMENT PERIOD INITIATED ON SUBMITTAL

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/2/1999

ACT USE LIMITATION:

ACT STATUS: DRAFT PLAN RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/28/1999

ACT USE LIMITATION:

ACT STATUS: PUBLIC INVOLVEMENT PETITION RECEIVED

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/1/1999

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA TIER CLASSIFICATION SUBMITTAL

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 5/26/1999

ACT USE LIMITATION:

ACT STATUS: PIP POSITIVE DESIGNATION LETTER SENT - PIP=Y

ACT TYPE: PUBLIC INVOLVEMENT PETITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 346 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: AUL

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE:

SOURCE: CATEGORY:

120 DY

SITE DESCRIPTION:

CHEMICALS

MERCURY 59.2 PPM

C11 THRU C22 AROMATIC HYDROCARBONS 1800 PPM

1,1,1-TRICHLOROETHANE 68 PPM

1,1-DICHLOROETHANE 46 PPM

1,1-DICHLOROETHENE .14 PPM

1,2-DICHLOROETHANE 1.7 PPM

2-METHYLNAPHTHALENE 12 PPM

BARIUM 2910 PPM

C9 THRU C10 AROMATIC HYDROCARBONS 130 PPM

LEAD 2910 PPM

C9 THRU C18 ALIPHATIC HYDROCARBONS 1300 PPM

NAPHTHALENE 17 PPM

PCE 8.9 PPM

TCE 1.7 PPM

TPH 71000 PPM

C19 THRU C36 ALIPHATIC HYDROCARBONS 3400 PPM

1,3,5-TRIMETHYLBENZENE 35 PPM

SITE ACTIONS

LSP INVOLVED: CARL SHAPIRO

LSP INVOLVED: SAMUEL BUTCHER

LSP INVOLVED: 1978

LSP INVOLVED: BYRON WILLIS

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: NOTICE OF NON-COMPLIANCE ISSUED ACT TYPE: COMPLIANCE AND ENFORCEMENT

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/27/2003

ACT USE LIMITATION:

ACT STATUS: MODIFIED REVISED OR UPDATED PLAN RECEIVED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 346 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

60 E CROSS ST ID1: 3-0018193 SOMERVILLE MA 02145 ID2:

MIDDLESEX STATUS: AUL CONTACT: PHONE:

SOURCE: MA DEP

ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/20/2001

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/31/2003

ACT USE LIMITATION:

ACT STATUS: WRITTEN PLAN RECEIVED
ACT TYPE: IMMEDIATE RESPONSE ACTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/19/2000

ACT USE LIMITATION:

ACT STATUS: TIER 2 CLASSIFICATION ACT TYPE: TIER CLASSIFICATION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 346 **DIST/DIR:** 0.02 SE **ELEVATION:** 20 **MAP ID:** 1

 NAME:
 NO LOCATION AID
 REV:
 9/11/12

 ADDRESS:
 60 E CROSS ST
 ID1:
 3-0018193

SOMERVILLE MA 02145 ID2: 3-00181

MIDDLESEX STATUS: AUL

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 8/26/2004

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED
ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 6/25/1999

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/12/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/26/2004

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/24/2004

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 3/25/2004

ACT USE LIMITATION:

ACT STATUS: RTN LINKED TO TCLASS VIA IRA COMPLETION STATEMENT

ACT TYPE: TIER CLASSIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/12/1999

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/15/2002

ACT USE LIMITATION:

ACT STATUS: STATUS REPORT RECEIVED
ACT TYPE: RELEASE ABATEMENT MEASURE

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 349 **DIST/DIR:** 0.06 NE **ELEVATION:** 20 **MAP ID:** 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE
 ID1:
 3-0000658

260 MYSTIC AVE IDI: 3-0000658 SOMERVILLE MA 02143 ID2:

CONTACT: STATUS: AUL PHONE:

SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

 LTBI:
 10/15/1988
 CONFIRMED:

 DELETED:
 REMOVED:

LOCATION TYPE:

SOURCE:

CATEGORY: NONE

SITE DESCRIPTION:

CHEMICALS

UNKNOWN

SITE ACTIONS

TS DATE: 9/4/1997 **AUL RESTRICTION:** NOT

LSP: MICHAEL SHAW

RAS TYPE: RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

TS DATE: 7/28/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: TRANSMITTAL RECEIVED

RAS TYPE: LSP-FA

RAO CLASS:

TS DATE: 8/1/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS:

RAS TYPE: TIER CLASSIFICATION

RAO CLASS:

TS DATE: 8/1/1995

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASE 1

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 349 DIST/DIR: 0.06 NE ELEVATION: 20 MAP ID: 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE
 ID1:
 3-0000658

260 MYSTIC AVE ID1: 3-0000658 SOMERVILLE MA 02143 ID2:

STATUS: AUL

CONTACT: PHONE: SOURCE: MA DEP

RAO CLASS:

TS DATE: 7/31/1996

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: SCOPE OF WORK RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

TS DATE: 8/15/1997

AUL RESTRICTION:

LSP: MICHAEL SHAW

RA STATUS: COMPLETION STATEMENT RECEIVED

RAS TYPE: PHASEII

RAO CLASS:

ACT DATE: 11/9/2004

ACT USE LIMITATION:

ACT STATUS: NOA FINDING - NON - VIOLATIONS WITH FOLLOW-UP ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: AUDIT INSPECTION

ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

ACT USE LIMITATION:

ACT STATUS: ACTION STATUS OR AUL TERMINATED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/15/1997

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 349 DIST/DIR: 0.06 NE ELEVATION: 20 MAP ID: 4

 NAME:
 SOMERVILLE LUMBER
 REV:
 9/11/12

 ADDRESS:
 260 MYSTIC AVE
 ID1:
 3-000065

260 MYSTIC AVE ID1: 3-0000658 SOMERVILLE MA 02143 ID2:

STATUS: AUL

CONTACT: PHONE:

SOURCE: MA DEP

ACT DATE: 8/1/1995

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 1

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 6/28/1999

ACT USE LIMITATION:

ACT STATUS: WRITTEN NOTICE OF AUDIT

ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 1/25/2002

ACT USE LIMITATION:

ACT STATUS: TECHNICAL SCREEN AUDIT
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/15/1997

ACT USE LIMITATION:

ACT STATUS: COMPLETION STATEMENT RECEIVED

ACT TYPE: PHASE 2

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 9/4/1997

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 10/15/1988

ACT USE LIMITATION:

ACT STATUS: VALID TRANSITION SITE ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: RLFA - COMPLIANCE FIELD RESPONSE - UNANNOUNCED

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 8/1/1995

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED

- More Details Exist For This Site; Max Page Limit Reached -

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 350 **DIST/DIR:** 0.08 NE **ELEVATION:** 19 **MAP ID:** 5

NAME:SOMERVILLE LUMBER CRANE BLDGREV:9/11/12ADDRESS:250 MYSTIC AVEID1:3-0010846

: 250 MYSTIC AVE ID1: 3-0010846 SOMERVILLE MA 02145 ID2:

STATUS: AUL

CONTACT: PHONE: SOURCE: MA DEP

SITE INFORMATION

STATUS: RAO - (Response Action Outcome): a site/release where an RAO statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.

LOCATION TYPE:

SOURCE: CATEGORY: 120 DY

SITE DESCRIPTION:

CHEMICALS

TPH 51000 PPM

SITE ACTIONS

LSP INVOLVED: MICHAEL SHAW

ACT DATE: 2/14/1995

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE DISPOSITION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

ACT USE LIMITATION:

ACT STATUS: ACTION STATUS OR AUL TERMINATED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1995

ACT USE LIMITATION:

ACT STATUS: REPORTABLE RELEASE UNDER MGL 21E

ACT TYPE: RELEASE NOTIFICATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1996

ACT USE LIMITATION:

ACT STATUS: RAO STATEMENT RECEIVED
ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/28/1995

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED ACT TYPE: NOTICE OF RESPONSIBILITY

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 350 **DIST/DIR:** 0.08 NE **ELEVATION:** 19 **MAP ID:** 5

NAME:SOMERVILLE LUMBER CRANE BLDGREV:9/11/12ADDRESS:250 MYSTIC AVEID1:3-001084

250 MYSTIC AVE ID1: 3-0010846 SOMERVILLE MA 02145 ID2:

STATUS: AUL

CONTACT: PHONE:

SOURCE: MA DEP

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/28/2005

ACT USE LIMITATION:

ACT STATUS: LEGAL NOTICE PUBLISHED ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: RLFA - COMPLIANCE FIELD RESPONSE - UNANNOUNCED

ACT TYPE: SITE VISIT OR COMPLIANCE INSPECTION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/13/1995

ACT USE LIMITATION:

ACT STATUS: FEE RECEIVED-FMCRA USE ONLY ACT TYPE: RESPONSE ACTION OUTCOME - RAO

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/9/2005

ACT USE LIMITATION:

ACT STATUS: AUDIT FOLLOW-UP COMPLETION STATEMENT RECEIVED ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS:

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 11/9/2004

ACT USE LIMITATION:

ACT STATUS: NOA FINDING - NON - VIOLATIONS WITH FOLLOW-UP ACT TYPE: AUDIT COMMUNICATION AND CORRESPONDENCE

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 7/27/2004

ACT USE LIMITATION:

ACT STATUS: AUDIT INSPECTION

ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/26/2005

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED
ACT TYPE: ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 2/14/1996

Target Property: 60 CROSS ST **JOB:** 13-269

SOMERVILLE MA 02145

INSTCONTROL

SEARCH ID: 350 **ELEVATION:** 19 **DIST/DIR:** 0.08 NE MAP ID: 5

NAME: SOMERVILLE LUMBER CRANE BLDG REV: 9/11/12 **ADDRESS:** 250 MYSTIC AVE

3-0010846 ID1: SOMERVILLE MA 02145 ID2:

STATUS: AUL

CONTACT: PHONE: SOURCE: MA DEP

ACT USE LIMITATION:

ACT STATUS: TRANSMITTAL RECEIVED **ACT TYPE:** ACTIVITY AND USE LIMITATION

RAO CLASS: A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO

BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED

ACT DATE: 4/17/2002

ACT USE LIMITATION:

ACT STATUS: CORRESPONDENCE ISSUED **ACT TYPE:** NOTICE OF RESPONSIBILITY

A3 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED TO RAO CLASS:

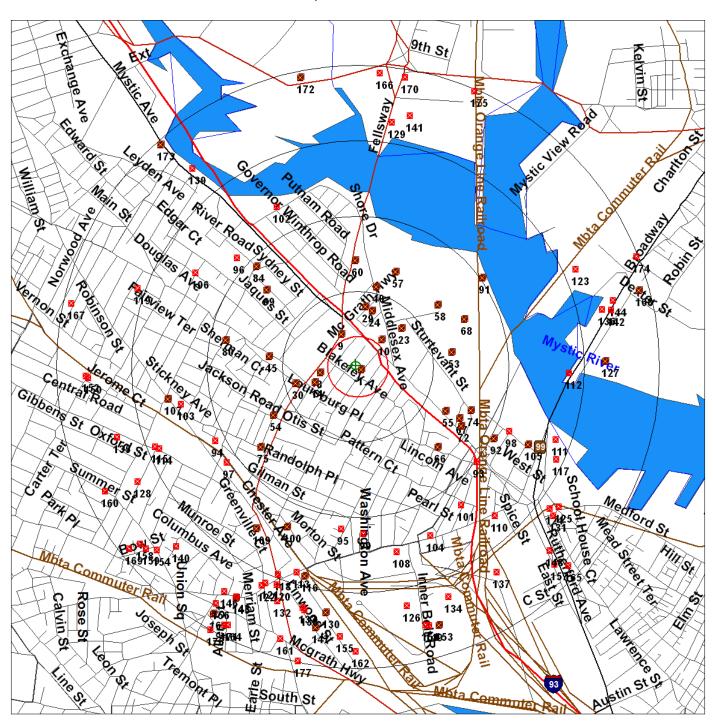
BACKROUND AND AN ACTIVITY AND USE LIMITATION (AUL) HAS BEEN IMPLEMENTED



1 Mile Radius ASTM Map: NPL, RCRACOR, STATE Sites



60 CROSS ST, SOMERVILLE MA 02145



Source: 2005 U.S. Census TIGER Files





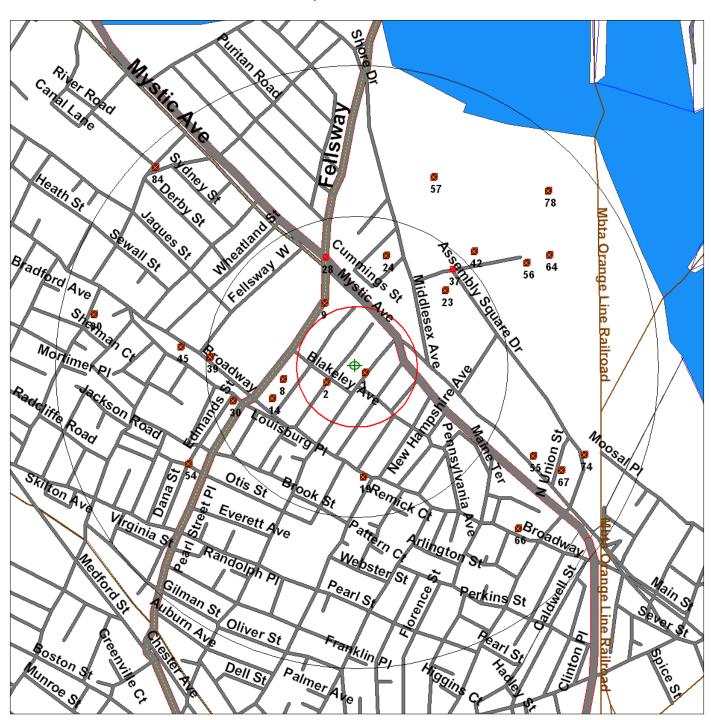




.5 Mile Radius ASTM Map: CERCLIS, RCRATSD, LUST, SWL



60 CROSS ST, SOMERVILLE MA 02145



Source: 2005 U.S. Census TIGER Files





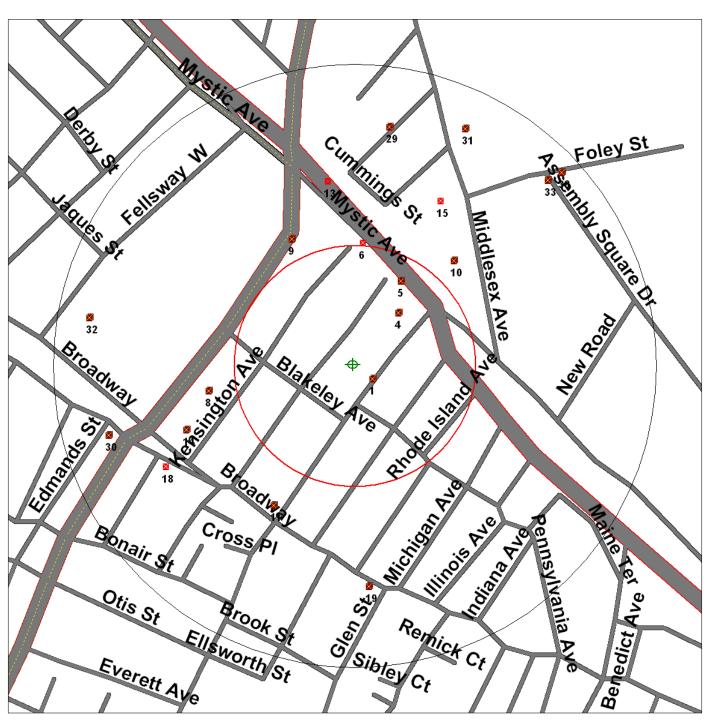




.25 Mile Radius ASTM Map: RCRAGEN, ERNS, UST, FED IC/EC, METH LABS



60 CROSS ST, SOMERVILLE MA 02145



Source: 2005 U.S. Census TIGER Files





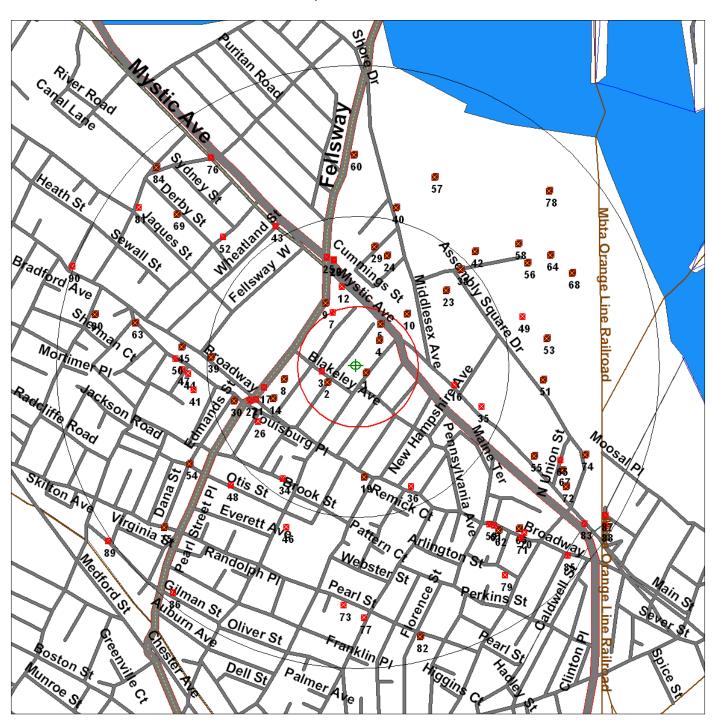




.5 Mile Radius Non-ASTM Map: Spills 90, Spills 80

FIRSTSEARCH

60 CROSS ST, SOMERVILLE MA 02145



Source: 2005 U.S. Census TIGER Files





APPENDIX H

BORING LOGS



Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-201 SHEET: 1 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

Drilling Co.: New Hampshire Boring **Foreman:** Gary Twombley, Jr.

Type of Rig: Truck
Rig Model: CME 75

Boring Location: See Exploration Location Plan Ground Surface Elev. (ft.): 22.5 Final Boring Depth (ft.): 33.5 Date Start - Finish: 10/15/2012 - 10/15/2012

H. Datum:
V. Datum:
NGVD1929

Auger/Casing Type: HW I.D/O.D.(in): 4"/4.5" Hammer Weight (lb.): 300 Hammer Fall (in.): 24 Other:

Logged By: Ron Kubiak

 Sampler Type:
 Split Spoon

 I.D./O.D. (in.):
 1-3/8"/2"

 Sampler Hmr Wt (lb):
 140 lbs

 Sampler Hmr Fall (in):
 30"

 Other:
 3" Split Spoon

Drilling Method: Rotary Wash

 Date
 Time
 Water Depth
 Casing
 Stab. Time

 10/15/12
 1410
 4.8'
 9'
 5 min.

Groundwater Depth (ft.)

Casino Sample Field Stratum Remar Depth Blows Sample Description and Identification Depth Pen. Rec. Blows SPT Test € Description Core (Modified Burmister Procedure) (ft) No. (ft.) (in) (in) (per 6 in.) Value Data Rate ASPHAL 1 0.5 22 0' 0.1 6 S-1A: Medium dense, black/dark-brown, angular FILL S-1A 0.5 - 218 21.5 2 0.3 3 8 GRAVEL, some (+) fine to coarse Sand, little Silt (FILL). S-1B ND 3 2-4 24 9 6 10 S-1B: Stiff, mottled, orange, brown, olive CLAY and SILT, S-2 31 21 20 some fine to coarse Sand. 4 ND S-2: Moist, mottled, orange, brown, olive CLAY and SILT, S-3 14 15 4-6 24 12 5 little fine to medium Sand. 16 20 31 PP = >4.5, >4.5 tsfS-3: Moist, hard, mottled orange, brown, olive CLAY and ND 7-9 22 4 7 SILT, trace fine to medium Sand. PP = 4.0, 4.3 tsf S-4 24 CLAY AND SILT Tv = 1.1, 1.3 tsf6 6 13 S-4: Moist, stiff, olive varved Clayey SILT/CLAY and SILT. ND 6 9 S-5 9-11 24 14 10 PP = 1.8, 2.5, 3.8 tsf, Tv = 0.5, 0.6 tsf 13 13 S-5: Moist, very stiff, olive CLAY and SILT, little (-) fine to medium Sand, trace Gravel. PP= 1.75, >4.5, 3.5 tsf Tv = 0.8, 0.6 tsf8.5 ND 13 20 S-6: Moist, hard, olive SILT and CLAY and fine to coarse S-6 14-16 24 20 15 24 25 SAND. little Gravel. SANDY CLAY ND S-7: Moist, hard, olive SILT and CLAY, some fine to S-7 19-21 24 21 8 12 20 20 34 32 medium/fine to coarse Sand, little Gravel. PP = 4.5, >4.5, >4.5 tsf 22.5' 0.0' ND S-8 24-26 24 24 8 12 S-8: Moist, very stiff, olive CLAY and SILT, little fine to 25 15 16 27 medium Sand, little Gravel. PP = 4.0, 3.3, 3.5 tsf Tv = 1.8. 1.8 tsf CLAY AND SILT ND S-9 29-18 18 10 10 S-9: Moist, very stiff, olive CLAY and SILT, trace to little 30 R 30.5 100 fine to medium Sand. PP = 3.3, 3.3, >4.5 tsf Tv = 1.2, 1.4, 1.4 tsf

Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter (OVM) equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates nothing detected (<0.1 ppmv).
 Used safety hammer to drive split spoon sampler.

3. Open hole advancement with 2" and then 3" split spoon from 0' to 6'; advanced borehole with HW casing from 6' to 9'; open hole advancement from 9' to bottom of boring.

4. PP=Pocket Penetrometer; Tv=Torvane. Pocket penetrometer is an indication of the relative unconfined compressive strength in tons per square foot (tsf). Torvane provides an indication of the relative undrained shear strength in tsf.

5. Very hard drilling from 32' to 33.5' with 700 psi down pressure.

-9.5



Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-201 SHEET: 2 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

Depth Storage No. Depth Fem. Sec. Sec	Danth	Casing		, ,	Şamp	le			Commis Description and Identification	ark	Field	Ę	Stratum	
S-10 33.5 BOLDER OR 33.5 BEDROCK -11.0* S-10 Solo* R S-10: No Recovery Bottom of boring at 33.5 feet.	Deptn (ft)	Blows/ Core	No	Depth	Pen.	Rec.	Blows	SPT	(Modified Burmister Procedure)	e me	Test	(ft.)	Description	∰ (±)
S-10 33.5 0 0 0 500° R S-10: No Recovery 35 _ 40 50 _ 500° R S-10: No Recovery 40 50 _ 500° R S-10: No Recovery 50 6 _ 6 _ 70 _ 70 _ 70 _ 70 _ 70 _ 7	(11)	Rate	110.	(ft.)	(in)	(in)	(per 6 in.)	Value	(Modified Ballimoter Freedadie)	ᇫ	Data			
S-10 33.5 0 0 500° R S-10: No Recovery Bottom of boring at 33.5 feet.	_									5			SIBLE BOULDE BEDROCK	
35 40 40 55 85 85 85 85 85 85 8			S-10	33.5-	0	0	50/0"	P	S-10: No Recovery	6		33.3		-11.0
40_ 45_ 55_	35				•			1						
45 _ 45 _ 50 _ 55 _ 6	_	1							ŭ					
45 _ 45 _ 50 _ 55 _ 6	-													
45 _ 45 _ 50 _ 55 _ 6	-													
45 _ 45 _ 50 _ 55 _ 6	-													
45 _ 45 _ 50 _ 55 _ 6	_													
50	40 _													
50	_													
50														
50	_													
50	-	1												
50	45													
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	-	-												
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	-	1												
60 = 60 = 60 = 60 = 60 = 60 = 60 = 60 =	55 _	-												
60	_	-												
8. Backfilled borehole upon completion. Used drill spoils up to a depth of 17; used filter sand from 0.5 to 17; asphalt patch from 0' to 0.5.	-	-												
80 - 60 - 60 - 60 - 60 - 60 - 60 - 60 -	_													
80 -	_													
65	60 _													
65 - 70 - 8 Backfilled borehole upon completion. Used drill spoils up to a depth of 17; used filter sand from 0.5 to 17; asphalt patch from 0' to 0.5'.														
65]												
65	-	1												
65	-													
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.		-												
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.	65 _	1												
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.	-	-												
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.	_	-												
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.	_	1												
8. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.														
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.	70													
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 17'; used filter sand from 0.5 to 17'; asphalt patch from 0' to 0.5'.		1												
WAR AND THE PROPERTY OF THE PR	6	Backfille	ed horeh	ole upon c	ompleti	on He	ed drill spoils ur	to a de	oth of 17': used filter sand from 0.5 to 17': asphalt natch from 0' to 0.5'			1		
REMARK	ဖြွ	Daoriile		2.0 apoil 0	p.10111	03	- a a.m opolio up		accounter same non-old to 11, approximation not to 0.0.					
NEW TO THE TOTAL THE TOTAL TO T	Å.													
	Σ													
	교													

171422.10 MULTI-FAMILY HOUSING DEV_SOMERVILLE_MA.GPU; STRATUM ONLY W/O SMPL 2PG; 11/7/2012

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-201



Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-202 SHEET: 1 of 1 PROJECT NO: 171422.10 REVIEWED BY: AJ

10/15/2012 - 10/16/2012

Drilling Co.: New Hampshire Boring Foreman: Gary Twombley, Jr.

Type of Rig: Truck Rig Model: CME 75

Drilling Method: Rotary Wash

Boring Location: See Exploration Location Plan Ground Surface Elev. (ft.): 22 Final Boring Depth (ft.): 29

Date Start - Finish:

H. Datum: V. Datum: NGVD1929

Auger/Casing Type: HW I.D/O.D.(in): 4"/4.5" Hammer Weight (lb.): 300 Hammer Fall (in.): 24 Other:

Logged By: Ron Kubiak

Sampler Type: Split Spoon I.D./O.D. (in.): 1-3/8"/2" Sampler Hmr Wt (lb): 140 lbs Sampler Hmr Fall (in): 30" Other: 3" Split Spoon

Casing Stab. Time Date Time Water Depth 10/15/12 1545 4.5 Open Hole 5 min. 10/16/12 4.0' 1005 8' 15 min. 2.8 10/17/12 0730 Out 21 hrs.

Groundwater Depth (ft.)

:						:	3 Spiil Spool 10/17/12 0/30		2.8	Ou	t 21 h	113.
			_				Sample Description and Identification	놑	Field	- ₽	Stratum	· -
Core Rate	No.	Depth (ft.)	Pen. (in)				(Modified Burmister Precedure)		Test Data		Description	Elev.
	S-1 S-2	0.5-2 2-4	18 24	11	12 17 16 10 9 9 7	29 18	S-1: Moist, medium dense, black/dark-brown, fine to coarse SAND and GRAVEL, trace Silt, little Slag, Asphalt. S-2: Moist, medium dense, black/dark-brown, fine to coarse SAND and GRAVEL, trace Silt, little Slag, Asphalt.	1 2 3	ND ND	-0.5 '	FILL	21.5'
	S-3	4-6	24	12	10 7 4 4	11	S-3: Moist, medium dense to loose, black/dark-brown, fine to coarse SAND, some Gravel, little Silt, trace (-)		0.9	6'		16.0'
	S-4	6-8	24	15	11 6 10 25	16	S-4: Moist, very stiff, mottled yellow, olive Silty CLAY. Few pieces of Gravel at bottom of sample.	4		8'	CLAY	14.0'
	S-5	8-10	24	8	40 100 70 86	R	Tv = 1.0, 1.4, 1.5 tsf S-5: Wet, very dense, brown, angular GRAVEL, some fine to coarse Sand, some Clayey Silt.			SILT	Y , SANDY GRA	AVEL
	S-6	14-16	24	16	18 14 15 17	29	S-6: Moist, very stiff, olive CLAY and SILT, little fine to medium Sand. Tv = 1.2, 1.4 tsf		ND			
	S-7	19-21	24	18	10 11 12 16	23	S-7: Moist, very stiff, olive CLAY and SILT, some fine to medium Sand, little (-) Gravel. Tv = 1.1, 1.1, 1.4 tsf		ND	(CLAY AND SIL	г
	S-8	24-26	24	20	11 11 14 17	25	S-8: Moist, very stiff, olive CLAY and SILT, trace to little fine to medium Sand. Tv = 1.0, 1.5, 1.5 tsf		ND			
								5		28' POSS 29'	SIBLE BOULDE BEDROCK	-6.0' R OR -7.0'
	S-9	29-29	0	0	60/0"	R	No Recovery Bottom of boring at 29 feet.	6				
		S-1 S-2 S-3 S-4 S-5 S-6 S-7 S-8 S-8	No. Depth (ft.)	No. Depth Pent Pent	No. Depth Circle Rec. (in) Rec.	No. Depth Pen Rec. Blows (per 6 in.)	No. Depth Pen. Rec. Blows SPT Value	Sample Description and Identification (Modified Burmister Procedure)	Second No. Depth Pen. Rec. (fin) (in) (per 6 in.) Value Sample Description and Identification Equation Recovery Sample Description and Identification Equation Equation	Blows No. Depth Pen Rec. Rec.	Blows No. Depth Pen Rec (it.) (in) (in) (iper 6 in.) Value Sample Description and Identification Section Secti	Casing Casing Core Core No. Depth Pen, Rec. Blows SPT William Section City City

Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter (OVM) equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates nothing detected (<0.1 ppmv).
 Used safety hammer to drive split spoon sampler.

Open hole advancement with 2" and then 3" split spoon from 0' to 6'; advanced borehole with HW casing from 6' to 8'; open hole advancement from 8' to bottom of boring. Tv=Torvane. Torvane provides an indication of the relative undrained shear strength in tons per square foot (tsf). Very hard drilling (750 psi down pressure) from 28' to 29'.

5. Very hard drilling (750 psi down pressure) from 28' to 29'.
6. Backfilled borehole upon completion. Used drill spoils up to a depth of 13'; used filter sand from 0.5' to 13'; asphalt patch from 0' to 0.5'.

REMARKS

171422.10 MULTI-FAMILY HOUSING DEV. SOMERVILLE. MA.GPJ: STRATUM ONLY W/O SMPL 2PG: 11/7/2012

See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-202



GeoEnvironmental, Inc. Engineers and Scientists

Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-203 SHEET: 1 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

Drilling Co.: New Hampshire Boring Foreman: Gary Twombley, Jr.

Type of Rig: Truck Rig Model: CME 75 Drilling Method: Rotary Wash

See Exploration Location Plan Ground Surface Elev. (ft.): 19.5 Final Boring Depth (ft.): 34

Boring Location:

H. Datum: -

V. Datum: NGVD1929

Logged By: Ron Kubiak

> Sampler Type: Split Spoon 1-3/8"/2"

Date Start - Finish: 10/16/2012 - 10/17/2012

Groundwater Depth (ft.) Auger/Casing Type: ⊣W I.D./O.D (in.): I.D./O.D.: Date Time Water Depth Casing Stab. Time 4"/4.5" Sampler Hmr Wt: 140 lbs Hmr Weight (lb.): 300 10/17/12 0740 4.5' 16 hrs Sampler Hmr Fall: 30" Hmr Fall (in.): 10/24/12 24 Well 0725 5.9 7 days 3" Split Spoor

Othe	r:					Other:	3	3" Split Spoon							,
Danth	Casing			Samp					둧	Field	ے	Stratum		Equipm	ent Installed
(ft)	Blows/ Core Rate	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Sample Description Modified Burmister	Remark	Test Data	Deptl (ft)	Stratum Description	Elev.	/	FLUSH MOUNTED ROAD BOX
_		S-1	0.5-2	18	5	15		S-1: Moist, olive-brown, fine to coarse	1	0.8	0.5'	ASPHALT	19.0		Concrete 0-0.5' Bentonite 0.5-1'
_						12 6	27	SAND and GRAVEL, little Silt.	2						2" PVC Riser 0-2'
		S-2	2-4	24	10	4 4		S-2: Moist, medium dense, olive, fine	3	1.9					
_	1					7 12	11	to coarse SAND, some (+) Gravel,	4						
	1	S-3	4-6	24	8	10 9		some Silt/Clayey Silt, trace (-) plastic		0.9					
5 _						7 12	16	fibers.							
_				١.,	_		10	S-3: Wet, very stiff, dark olive-gray,							
		S-4	6-8	24	2	5 4		Clayey SILT, some fine to medium		26		FILL			2" Slotted PVC
]					6 5	10	Sand, some (-) Gravel.							Wellscreen 2-12'
-	1	S-5	8-10	24	4	5 8		S-4: Wet, medium dense, dark		19					
-	1					5 6	13	olive-gray Gravel, some fine to coarse							
10 _	1	0.0	40.40		١,	7.5	'	Sand, some Clayey Silt, trace (-)	_						
_]	S-6	10-12	24	1	7 5		plastic fibers.	5	1					
						6 4	11	S-5: Wet, medium dense, dark							
_	1	S-7A	12-14	24	5	9 2		olive-gray Gravel, some fine to coarse		0.6	12.5'		7.0'		
-	1	S-7B			7	2 4	4	Sand, some Clayey Silt, trace (-)		ND	13.5' O	RGANIC SIL	Γ _{6.0'}		
-	1	S-8	14-16	24	15	3 5		plastic fibers.		0.5					
15 _	1	3-0	14-10	24	13	8 8		S-6: Wet, medium dense, dark		0.5					
						0 0	13	olive-gray Gravel, some fine to coarse							
								Sand, some Clayey Silt, trace (-) plastic fibers.							
- 5 -	1							S-7A: Moist, soft, black Clayey						1	-Filter sand 1-22'
-	1							ORGANIC SILT. Piece of course			C	LAY AND SIL	т		
-	-	S-9	19-21	24	6	3 3		gravel at top of sample.		0.5		EATT THE OIL	•		
20 _	1	3-9	19-21	24	0	12 17		S-7B: Moist, medium stiff CLAY and		0.5					
1						12 17	15	SILT.							
-]							S-8: Moist, stiff, olive CLAY and SILT.							
-	1							Sample was disturbed.							
-	<u> </u> 							S-9: Wet, olive CLAY and SILT. Two			23'		-3.5'		-Bentonite 22-25'
-		C 40	04.00		9	40.40		coarse pieces of Gravel at bottom of							- Bentonite 22-25
25 _		5-10	24-26	24	9	19 18 25 23		sample. Sample disturbed.	6	ND					
5						25 23	43	S-10: Wet, dense, olive,							
- -	1							fractured/angular GRAVEL, some (+)							
-	1							fine to coarse Sand, some (-) Silt.							
-	-										(GLACIAL TILL	-		
-			00.04		10	45 47		0.44 M :	_						
á 30 <u> </u>		S-11	29-31	24	18	15 17		S-11: Moist, hard, olive CLAY and	7	ND					
5						30 34	47	SILT. Tv = 1.9, 1.8 tsf							

- 1. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter (OVM) equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates nothing detected (<0.1 ppmv)
- Used safety hammer to drive split spoon sampler.
 Open hole advancement with 2" and then 3" split spoon from 0' to 6'; advanced borehole with HW casing from 6' to 14'. Open hole advancement from 14' to 19'.
- Petroleum-like odor in Samples S-4 and S-5.
- Lost about 25 gallons of drilling water while cleaning out casing from 10' to 12'. Driller indicated change in stratum at 23'. Hole would not stay open. Advanced borehole with casing from 19' to 29'; open hole advancement from 29' to bottom of
- 7. Tv=Torvane. Torvane provides an indication of the relative undrained shear strength in tons per square foot (tsf).

See log key for explanation of sample descriptions and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-203

10 MULTI-FAMILY HOUSING DEV. SOMERVILLE MA.GPJ; STANDARD BORING W/F W/O SMPL 2PG; 11/7/2012

TEST BORING LOG



GZA GeoEnvironmental, Inc. **Engineers and Scientists**

Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-203 SHEET: 2 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

			rs and Sci				REVIEWED B1.					
Depth	Casing Blows/ Core Rate		Depth	Samp Pen	le Rec	Blows	SPT	Sample Description Modified Burmister	Remark	Field Test	Stratum Stratum Stratum Stratum	Equipment Installed
(ft)	Core Rate	No.	Depth (ft.)	(in)	(in)	Blows (per 6 in.)	Value	Modified Burmister	Rer	Data	De Ele	Equipment Installed
- 35 _ -		S-12	34-34	0	0	50/0"	R	S-12: No Recovery. Bottom of boring at 34 feet.	8 9 10	•	GLACIAL TILL 33.5' -14.0' 34' POSSIBLE BOULDER OR BEDROCK	
40												
45 _ -												
50												
55 _ -												
55 - - - - 60												
-65 -70												
70_	. Driller	indicate	ed change	in stra	atum a	t 31.5' (drill r	ods arin	ding/chattering).				

Driller indicated change in stratum at 31.5' (drill rods grinding/chattering).
 Very hard drilling from 33.5 to 34' (700 psi down pressure).
 The drilling spoils were placed in a 55 gallon-drum (three-quarter full) next to the borehole for off-site disposal.

See log key for explanation of sample descriptions and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-203

REMARKS

TEST BORING LOG



Logged By:

GeoEnvironmental, Inc. Engineers and Scientists

Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-204 SHEET: 1 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

10/17/2012 - 10/17/2012

Drilling Co.: New Hampshire Boring Foreman:

Ron Kubiak

Type of Rig: Truck Rig Model: CME 75 Gary Twombley, Jr. Drilling Method: Rotary Wash

Boring Location: See Exploration Location Plan Ground Surface Elev. (ft.): 20 Final Boring Depth (ft.): 41

Date Start - Finish:

H. Datum: -

V. Datum: NGVD1929

Auger/Casing Type: HW I.D./O.D.: 4"/4.5" Hmr Weight (lb.): 300 Hmr Fall (in.): 24 Other:

Sampler Type: Split Spoon I.D./O.D (in.): 1-3/8"/2" Sampler Hmr Wt: 140 lbs Sampler Hmr Fall: 30" 3" Split Spoon

Groundwater Depth (ft.) Date Time Water Depth Casing Stab. Time 10/24/12 0745 6.2 Well 7 days

Othe				S	1.				╀┯				
Depth	Casing Blows/			Samp		5.	0.5-	Sample Description	a	Field	€ Stratum	.	Equipment Installed
(ft)	Core Rate	No.	(ft.)	(in)	Rec. (in)	Blows (per 6 in.)	SPT Value	Modified Burmister	Remark	Test Data		(#)	FLUSH MOUNTED ROAD BOX
		S-1A	0-2	24	3	3 8		S-1A: Moist, loose, dark-brown, fine	1	ND	0.5' TOPSOIL	19.5	Concrete 0-0.5' Bentonite 0.5-1'
	1	S-1B	1-1		7	5 31	13	to medium SAND and SILT, trace	2	ND			Deritorite 0.5-1
_	1	S-2	2-2.8	12	6	10 65/3"	R	Roots (TOPSOIL)	3	4			
-	1	S-3	3-5	24	12	50 32	Ι Γ	S-1B: Moist, brown, fine to coarse		9			2" PVC Riser 0-4'
-	-				. –	14 12	46	GRAVEL, some fine to coarse Sand,					0-4
5 _	1						40	some Silt. 2" of Asphalt at bottom of					
		S-4	5-7	24	11	6 6		sample.		3			
						4 3	10	S-2: Moist, very dense, brown, fine to			F		
-	1	S-5	7-9	24	0.5	3 6		coarse SAND, some Gravel, little Silt,		1.4	FILL		
-	1					6 6	12	little Brick					
-	-	S-6	9-11	24	0	4 5		S-3: Moist, dense, dark-brown, fine to					2" PVC Well
10 _	1	3-0	9-11	24	0	6 8		coarse SAND, some Gravel, little (+)					Screen 4-14'
]						11	SIIt, trace (-) Brick					
		S-7	11-13	24	4	4 3		S-4: Very moist, stiff, dark-olive CLAY		8			
_	1					2 1	5	and SILT, some (+) fine to medium			13'	7.0'	
-	1	S-8A	13-15	24	6	4 3		Sand, little Gravel, trace Metal	4	5.7	13	7.0	
-	1	S-8B	14-14		12	2 3	5	S-5: Very moist, stiff, dark-olive SILT	-	1.4	ORGANIC SILT/PE	AT	
15 _	4			24	9	2.0		and CLAY, some (+) fine to medium			15'	5.0'	
_	1	S-9	15-17	24	9	2 2		Sand		0.6			2" Solid PVC
						2 3	4	S-6: No Recovery					14-19'
	1	S-10	17-19	24	16	7 3		S-7: Wet, medium stiff, dark-olive		ND			
-	1					4 9	7	Clayey SILT, some fine to coarse					
-	1							Sand, some Gravel, little Organics					[단점 본호]
20 _	-							S-8A: Wet, medium stiff, dark-brown,					
_	1							Clayey ORGANIC SILT					
_								PP = 0.8, 0.5 tsf					
								S-8B: Moist, medium stiff dark-brown,					
_	1							fine-grained and fibrous PEAT					
25	1	S-11	24-26	24	6	2 4		PP = 0.3, 1.0 tsf		ND	CLAY AND SILT		
25 _	1					3 5	7	S-9: 1" of peat over very moist,			CLAY AND SILT		Filter Sand
-	1						'	medium stiff, olive CLAY and SILT,					1-33.5'
_								trace fine to coarse Sand, trace					[발문불발]
								Gravel					
								S-10: Moist, medium stiff, olive CLAY					
30	1	S-12	29-31	24	21	2 3		and SILT		ND			
30 -	†					4 4	7	PP = 0.7, 3.2, 3.0 tsf					
-	+							Tv = 0.5, 1.3, 1.7 tsf					
-	1							S-11: Wet, medium stiff, olive CLAY					
_]							and SILT. Coarse piece of Gravel					
				L				stuck in tip of split spoon. Sample					ri an talani

1. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter (OVM) equipped with a photoionization detector (PID) and 10.6eV lamp. Results in parts per million by volume (ppmv). ND indicates nothing detected (<0.1 ppmv).

REMARKS Used safety hammer to drive split spoon sampler.

Open hole advancement from 0' to 7' using 2" and then 3" split spoon; advanced borehole with HW casing from 7' to 24'; open hole advancement from 24' to bottom of

4. PP=Pocket Penetrometer; Tv=Torvane. Pocket penetrometer is an indication of the relative unconfined compressive strength in tons per square foot (tsf). Torvane provides an indication of the relative undrained shear strength in tsf.

171422.10 MULTI-FAMILY HOUSING DEV. SOMERVILLE. MA. GPJ; STANDARD BORING W/E W/O SMPL 2PG; 11/7/2012

See log key for explanation of sample descriptions and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

Boring No.: GZ-204

TEST BORING LOG

GZA GeoEnvironmental, Inc. Engineers and Scientists

Proposed Multi-Family Housing Development Somerville, Massachusetts

BORING NO.: GZ-204 SHEET: 2 of 2 PROJECT NO: 171422.10 REVIEWED BY: AJ

	Casing Sample Popth Blows/ Donth Box Box Spt Sample Description				Ĭ	Field	_ Stratum					
Jeptn (ft)	Core Rate	No.	Depth (ft.)	(in)	(in)	Blows (per 6 in.)	SPT Value		Remark	Test Data	Stratum Stratum (#) Description (#) (#)	Equipment Installed
35 _		S-13	34-36	24	24	1 1 3 4	4	disturbed. S-12: Moist, medium stiff, olive CLAY and SILT PP = 1.3, 1.8, 1.5 tsf Tv = 0.9, 0.8, 0.8 tsf		ND	CLAY AND SILT 37.5' -17.5'	⋖ −Bentonite 33.5-39'
40 _		S-14	39-41	24	16	12 33 16 10	49	S-13: Moist, soft/medium stiff, olive CLAY and SILT PP = 1.0, 1.1, 1.8 tsf	5	ND	GLACIAL TILL 41' -21.0'	
45 _								Tv = 0.5, 0.5, 0.8 tsf S-14: Wet, very stiff to hard, olive-gray CLAY and SILT, some fine to medium Sand, trace (+) Gravel Bottom of boring at 41 feet.	6			
50 _												
- 55 _ -												
- 60 _ -												
- 65 _ -												
70 _ -												
75 _												
	cobble	/boulde	r. Due to	very s	low ac	dvancement r	ate, the	very difficult drilling (750 psi down pressu boring was terminated at that depth. third full) next to the borehole for off-site			roximately 40' to 40.7', indi	cating a possible
types. /	Actual tra	nsitions	may be gr	adual.	Water I	evel readings	have bee	cedures. Stratification lines represent approxir on made at the times and under the condition onts were made.				Boring No.: GZ-204

APPENDIX I

LABORATORY ANALYTICAL REPORTS

APPENDIX J

USER QUESTIONNAIRE



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

David E Leone GZA GeoEnvironmental, Inc. One Edgewater Drive Norwood, MA 02062

RE: Proposed Multi-Family Housing Development (01.0171422.00)

ESS Laboratory Work Order Number: 1210345

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard Laboratory Director REVIEWED

By ESS Laboratory at 5:40 pm, Oct 23, 2012

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

ESS Laboratory - Hopkinton - Hopkinton,

Volatile Compounds

MA



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

SAMPLE RECEIPT

The following samples were received on October 16, 2012 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for Metals and EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number 1210345-01	SampleName GZ-202 1ft-6ft	Matrix Soil	Analysis 1010, 2580, 6010B, 7.3.3.2, 7.3.4.1, 7471B, 8082A,
			8100M, 8260B, 8270D, 9045, 9050A
1210345-02	GZ-201 1ft-6ft	Soil	1010, 2580, 6010B, 7.3.3.2, 7.3.4.1, 7471B, 8082A,
			8100M, 8260B, 8270D, 9045, 9050A

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

PROJECT NARRATIVE

3050B/6000/7000 Total Metals

CJ21922-BS1 Blank Spike recovery is below lower control limit (B-).

Cadmium (79% @ 80-120%)

5035/8260 Volatile Organic Compounds / Methanol

NJ21802-BS1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (60% @ 70-130%), Chloroethane (62% @ 70-130%)

NJ21802-BSD1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (57% @ 70-130%), Chloroethane (56% @ 70-130%)

8270D Semi-Volatile Organic Compounds

1210345-01 Elevated Method Reporting Limits due to sample matrix (EL).

CVJ0205-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (105% @ 80-120%), Pentachlorophenol (98% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

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CERTIFICATE OF ANALYSIS

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Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

MassDEP Analytical Protocol Certification Form

	MADEP R	TN:				_					
This	form provides of	certifica	ntion for the follow	wing da	nta set: 1210345-01 th	rouş	gh 1210345-02				
Mat	rices: () Groun	nd Wate	er/Surface Water		(X) Soil/Sediment	() Drinking Water	() Air	() Other:		
CA]	M Protocol (che	eck all	that apply below):							
	8260 VOC CAM II A		7470/7471 Hg CAM III B		MassDEP VPH CAM IV A	() 8081 Pesticides CAM V B	()	7196 Hex Cr CAM VI B	() MassDEP APF CAM IX A	I
(X)	8270 SVOC CAM II B	()	7010 Metals CAM III C	(X)	MassDEP EPH CAM IV B	() 8151 Herbicides CAM V C	()	8330 Explosives CAM VIII A	() TO-15 VOC CAM IX B	
(X)	6010 Metals CAM III A	()	6020 Metals CAM III D	(X)	8082 PCB CAM V A	() 6860 Perchlorate CAM VIII B	()	9014 Total Cyanic CAM VI A	de/PAC	
			Affirmative resp	onses	to questions A throi	igh Ì	F are required for P r	esumptiv	e Certainty'statu	S	
A	-						on the Chain-of-Custo l/analyzed within meth		•	Yes (x) No ()
В	•	_					led in the selected CA		~	Yes (x) No ()
С	Were all require			-	cal response actions and ard non-conforman	_	fied in the selected CA	AM protoc	col(s)	Yes (X) No ()
D	Does the labora	tory rep	port comply with	all the	reporting requiremen	ts sp	ecified in the CAM VI		lity	Yes (X) No ()
Е	a. VPH, EPH, A	APH an	d TO-15 only: Wa	is each	*		it significant modifica		Refer	Yes (X) No ()
				-	plete analyte list repo	orted	for each method?			Yes () No ()
F				-	formance standard no sponses to Questions		nformances identified ough E)?	and evalu	ated	Yes (X) No ()
			Responses i	to Que	stions G, H and I bel	ow a	re required for P resui	mptive Ce	rtainty'status		
G	Data User Note:	Data t	hat achieve P resui	mptive		ot ne	in the selected CAM pecessarily meet the data WSC-07-350.	,	·	Yes (X) No ()*	
Н	-	_			n the CAM protocol(s					Yes () No (X)*
I			•	-	list specified in the se					Yes () No (X)*
*All	l negative respo	nses m	ust be addressed	l in an	attached laboratory	, nar	rative.				
I, t	he undersigned	l, attest	under the pains	and p	enalties of perjury t	hat,	based upon my perso	onal inqu	iry of those respo	onsible	

Signature: _____ Date: October 23, 2012
Printed Name: Laurel Stoddard Position: Laboratory Director

for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief,

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accurate and complete.

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids:

92

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry

3050B/6000/7000 Total Metals

Analyte	Results (MRL)	Method	<u>Limit</u>	<u>DF</u>	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	5.9 (2.7)	6010B		1	SVD	10/22/12 18:13	2.03	100	CJ21922
Cadmium	0.90 (0.54)	6010B		1	SVD	10/22/12 18:13	2.03	100	CJ21922
Chromium	47.4 (1.1)	6010B		1	SVD	10/22/12 18:13	2.03	100	CJ21922
Lead	113 (5.4)	6010B		1	SVD	10/22/12 18:13	2.03	100	CJ21922
Mercury	0.503 (0.034)	7471B		1	LLZ	10/23/12 10:37	0.64	40	CJ21924



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92
Initial Volume: 20.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: TAJ

Prepared: 10/18/12 16:30 Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)			<u>Limit</u>	<u>DF</u>	Analyzed	<u>Sequence</u>	Batch
Aroclor 1016	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1221	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1232	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1242	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1248	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1254	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1260	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1262	ND (0.0533)				1	10/19/12 14:32		CJ21735
Aroclor 1268	ND (0.0533)				1	10/19/12 14:32		CJ21735
	%R	Recovery	Qualifier	Limits				

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	69 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	56 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92 Initial Volume: 20.3 Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 11:55

8100M Total Petroleum Hydrocarbons

Analyte Total Petroleum Hydrocarbons	Results (MRL) 926 (53.5)		<u>Limit</u>	<u>DF</u> 5	Analyzed 10/22/12 13:35	Sequence CVJ0240	<u>Batch</u> CJ21719
-	%Recovery	Qualifier	Limits				
Surrogate: O-Terphenyl	92 %		40-140				

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft

Date Sampled: 10/15/12 15:55 Percent Solids: 92

Initial Volume: 15.4 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte 1,1-Biphenyl	Results (MRL) ND (1.76)	<u>Limit</u>	<u>DF</u> 5	Analyzed 10/19/12 4:52	Sequence CVJ0205	Batch CJ21819
1,2,4-Trichlorobenzene	ND (1.76) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819 CJ21819
1,2-Dichlorobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
1,3-Dichlorobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
1,4-Dichlorobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4,5-Trichlorophenol	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4,6-Trichlorophenol	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4-Dichlorophenol	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4-Dimethylphenol	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4-Dinitrophenol	ND (8.84)		5	10/19/12 4:52	CVJ0205	CJ21819
2,4-Dinitrotoluene	ND (0.84) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2,6-Dinitrotoluene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2-Chloronaphthalene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2-Chlorophenol	ND (1.76) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2-Methylnaphthalene	ND (1.76) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2-Methylphenol	ND (1.76) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
2-Nitrophenol	ND (1.76) ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819 CJ21819
3,3'-Dichlorobenzidine			5	10/19/12 4:52	CVJ0205	CJ21819 CJ21819
3+4-Methylphenol	ND (3.53)		5	10/19/12 4:52	CVJ0205	CJ21819 CJ21819
• •	ND (3.53)		5	10/19/12 4.32	CVJ0205	CJ21819 CJ21819
4-Bromophenyl-phenylether	ND (1.76)					
4-Chloroaniline	ND (3.53)		5	10/19/12 4:52	CVJ0205	CJ21819
4-Nitrophenol	ND (8.84)		5	10/19/12 4:52	CVJ0205	CJ21819
Acenaphthene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Acenaphthylene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Acetophenone	ND (3.53)		5	10/19/12 4:52	CVJ0205	CJ21819
Aniline	ND (8.84)		5	10/19/12 4:52	CVJ0205	CJ21819
Anthracene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Azobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Benzo(a)anthracene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Benzo(a)pyrene	1.13 (0.884)		5	10/19/12 4:52	CVJ0205	CJ21819
Benzo(b)fluoranthene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92 Initial Volume: 15.4 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Benzo(g,h,i)perylene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Benzo(k)fluoranthene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
bis(2-Chloroethoxy)methane	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
bis(2-Chloroethyl)ether	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
bis(2-chloroisopropyl)Ether	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
bis(2-Ethylhexyl)phthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Butylbenzylphthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Chrysene	1.22 (0.884)		5	10/19/12 4:52	CVJ0205	CJ21819
Dibenzo(a,h)Anthracene	ND (0.884)		5	10/19/12 4:52	CVJ0205	CJ21819
Dibenzofuran	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Diethylphthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Dimethylphthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Di-n-butylphthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Di-n-octylphthalate	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Fluoranthene	2.19 (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Fluorene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Hexachlorobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Hexachlorobutadiene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Hexachloroethane	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Indeno(1,2,3-cd)Pyrene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Isophorone	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Naphthalene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Nitrobenzene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
N-Nitrosodimethylamine	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Pentachlorophenol	ND (8.84)		5	10/19/12 4:52	CVJ0205	CJ21819
Phenanthrene	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Phenol	ND (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819
Pyrene	2.10 (1.76)		5	10/19/12 4:52	CVJ0205	CJ21819

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92 Initial Volume: 15.4

Extraction Method: 3546

Final Volume: 0.5

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
	%Recovery Qualifier	Limits				
Surrogate: 1,2-Dichlorobenzene-d4	32 %	30-130				
Surrogate: 2,4,6-Tribromophenol	39 %	30-130				
Surrogate: 2-Chlorophenol-d4	33 %	30-130				
Surrogate: 2-Fluorobiphenyl	<i>35</i> %	30-130				
Surrogate: 2-Fluorophenol	31 %	30-130				
Surrogate: Nitrobenzene-d5	29 %	30-130				
Surrogate: Phenol-d6	<i>36</i> %	30-130				
Surrogate: p-Terphenyl-d14	47 %	30-130				

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil

Classical Chemistry

Analyte Conductivity	Results (MRL) WL 327 (5)	Method 9050A	<u>Limit</u>	<u>DF</u>	Analyst EEM	Analyzed 10/17/12 13:30	Units umhos/cm	Batch CJ21712
Corrosivity (pH)	8.09 (N/A)	9045		1	EEM	10/16/12 17:50	S.U.	CJ21640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.7 °C.							
Flashpoint	> 200 (N/A)	1010		1	DPS	10/19/12 13:45	°F	CJ21927
Reactive Cyanide	ND (2.0)	7.3.3.2		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Reactive Sulfide	ND (2.0)	7.3.4.1		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Redox Potential	WL 82 (N/A)	2580		1	EEM	10/16/12 17:50	mv	CJ21641



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft

Date Sampled: 10/15/12 15:55 Percent Solids: 92

Initial Volume: 30.399 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte 1,1,1,2-Tetrachloroethane	Results (MRL) ND (0.0330)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/18/12 14:32	Sequence N2J0015	Batch NJ21802
1,1,1-Trichloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,1,2,2-Tetrachloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,1,2-Trichloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,1-Dichloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,1-Dichloroethene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,1-Dichloropropene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2,3-Trichlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2,3-Trichloropropane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2,4-Trichlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2,4-Trimethylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2-Dibromo-3-Chloropropane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
1,2-Dibromoethane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
1,2-Dichlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2-Dichloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,2-Dichloropropane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,3,5-Trimethylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,3-Dichlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,3-Dichloropropane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,4-Dichlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
1,4-Dioxane	ND (3.30)		1	10/18/12 14:32	N2J0015	NJ21802
2,2-Dichloropropane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
2-Butanone	ND (0.857)		1	10/18/12 14:32	N2J0015	NJ21802
2-Chlorotoluene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
2-Hexanone	ND (0.857)		1	10/18/12 14:32	N2J0015	NJ21802
4-Chlorotoluene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
4-Isopropyltoluene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
4-Methyl-2-Pentanone	ND (0.857)		1	10/18/12 14:32	N2J0015	NJ21802
Acetone	ND (1.65)		1	10/18/12 14:32	N2J0015	NJ21802
Acrolein - Screen	ND (3.30)		1	10/18/12 14:32	N2J0015	NJ21802
Benzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft

Date Sampled: 10/15/12 15:55 Percent Solids: 92

Initial Volume: 30.399 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte Bromobenzene	Results (MRL) ND (0.0330)	<u>Limit</u>	<u>DF</u>	Analyzed 10/18/12 14:32	Sequence N2J0015	Batch NJ21802
Bromochloromethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Bromodichloromethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Bromoform	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Bromomethane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Carbon Disulfide	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Carbon Tetrachloride	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Chlorobenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Chloroethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Chloroform	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Chloromethane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
cis-1,2-Dichloroethene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
cis-1,3-Dichloropropene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Dibromochloromethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Dibromomethane	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Dichlorodifluoromethane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Diethyl Ether	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Di-isopropyl ether	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Ethyl tertiary-butyl ether	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Ethylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Hexachlorobutadiene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Isopropylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Methyl tert-Butyl Ether	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Methylene Chloride	ND (0.165)		1	10/18/12 14:32	N2J0015	NJ21802
Naphthalene	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
n-Butylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
n-Propylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
sec-Butylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Styrene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
tert-Butylbenzene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Tertiary-amyl methyl ether	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92
Initial Volume: 30.399

Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-01

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	Sequence	Batch
Tetrachloroethene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Tetrahydrofuran	ND (3.30)		1	10/18/12 14:32	N2J0015	NJ21802
Toluene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
trans-1,2-Dichloroethene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
trans-1,3-Dichloropropene	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Trichloroethene	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Trichlorofluoromethane	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802
Vinyl Chloride	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Xylene O	ND (0.0330)		1	10/18/12 14:32	N2J0015	NJ21802
Xylene P,M	ND (0.0659)		1	10/18/12 14:32	N2J0015	NJ21802

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	123 %		70-130
Surrogate: 4-Bromofluorobenzene	115 %		70-130
Surrogate: Dibromofluoromethane	116 %		70-130
Surrogate: Toluene-d8	124 %		70-130

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry

3050B/6000/7000 Total Metals

Analyte	Results (MRL)	Method	<u>Limit</u>	<u>DF</u>	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	5.0 (2.7)	6010B		1	SVD	10/22/12 18:17	2.17	100	CJ21922
Cadmium	ND (0.54)	6010B		1	SVD	10/22/12 18:17	2.17	100	CJ21922
Chromium	22.7 (1.1)	6010B		1	SVD	10/22/12 18:17	2.17	100	CJ21922
Lead	8.2 (5.4)	6010B		1	SVD	10/22/12 18:17	2.17	100	CJ21922
Mercury	ND (0.035)	7471B		1	LLZ	10/23/12 10:40	0.67	40	CJ21924



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85 Initial Volume: 19.9

Extraction Method: 3540

Final Volume: 10

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: TAJ

Prepared: 10/18/12 16:30 Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)		<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1221	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1232	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1242	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1248	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1254	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1260	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1262	ND (0.0591)			1	10/19/12 14:49		CJ21735
Aroclor 1268	ND (0.0591)			1	10/19/12 14:49		CJ21735
	%Recover	y Qualifier	Limits				

	MCCOVCIY	Qualifici	Littics
Surrogate: Decachlorobiphenyl	71 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85 Initial Volume: 19.4 Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: ML

Prepared: 10/18/12 11:55

8100M Total Petroleum Hydrocarbons

Analyte Total Petroleum Hydrocarbons	Results (MRL) 109 (12.1)		<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/20/12 14:07	Sequence CVJ0225	<u>Batch</u> CJ21719
	%Recove	ry Qualifier	Limits				
Surrogate: O-Terphenyl	93 %	6	40-140				

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85

Initial Volume: 14.4 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte 1,1-Biphenyl	Results (MRL) ND (0.408)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/19/12 4:19	Sequence CVJ0205	Batch CJ21819
1,2,4-Trichlorobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
1,2-Dichlorobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
1,3-Dichlorobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
1,4-Dichlorobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4,5-Trichlorophenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4,6-Trichlorophenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4-Dichlorophenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4-Dimethylphenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4-Dinitrophenol	ND (2.05)		1	10/19/12 4:19	CVJ0205	CJ21819
2,4-Dinitrotoluene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2,6-Dinitrotoluene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2-Chloronaphthalene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2-Chlorophenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2-Methylnaphthalene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2-Methylphenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
2-Nitrophenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
3,3'-Dichlorobenzidine	ND (0.817)		1	10/19/12 4:19	CVJ0205	CJ21819
3+4-Methylphenol	ND (0.817)		1	10/19/12 4:19	CVJ0205	CJ21819
4-Bromophenyl-phenylether	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
4-Chloroaniline	ND (0.817)		1	10/19/12 4:19	CVJ0205	CJ21819
4-Nitrophenol	ND (2.05)		1	10/19/12 4:19	CVJ0205	CJ21819
Acenaphthene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Acenaphthylene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Acetophenone	ND (0.817)		1	10/19/12 4:19	CVJ0205	CJ21819
Aniline	ND (2.05)		1	10/19/12 4:19	CVJ0205	CJ21819
Anthracene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Azobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Benzo(a)anthracene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Benzo(a)pyrene	ND (0.205)		1	10/19/12 4:19	CVJ0205	CJ21819
Benzo(b)fluoranthene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft

Date Sampled: 10/15/12 10:20 Percent Solids: 85

Initial Volume: 14.4 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Benzo(g,h,i)perylene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Benzo(k)fluoranthene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
bis(2-Chloroethoxy)methane	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
bis(2-Chloroethyl)ether	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
bis(2-chloroisopropyl)Ether	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
bis(2-Ethylhexyl)phthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Butylbenzylphthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Chrysene	ND (0.205)		1	10/19/12 4:19	CVJ0205	CJ21819
Dibenzo(a,h)Anthracene	ND (0.205)		1	10/19/12 4:19	CVJ0205	CJ21819
Dibenzofuran	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Diethylphthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Dimethylphthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Di-n-butylphthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Di-n-octylphthalate	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Fluoranthene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Fluorene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Hexachlorobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Hexachlorobutadiene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Hexachloroethane	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Indeno(1,2,3-cd)Pyrene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Isophorone	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Naphthalene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Nitrobenzene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
N-Nitrosodimethylamine	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Pentachlorophenol	ND (2.05)		1	10/19/12 4:19	CVJ0205	CJ21819
Phenanthrene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Phenol	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819
Pyrene	ND (0.408)		1	10/19/12 4:19	CVJ0205	CJ21819

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85 Initial Volume: 14.4 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
	%Recovery Qualifier	Limits				
Surrogate: 1,2-Dichlorobenzene-d4	65 %	30-130				
Surrogate: 2,4,6-Tribromophenol	86 %	30-130				
Surrogate: 2-Chlorophenol-d4	71 %	30-130				
Surrogate: 2-Fluorobiphenyl	72 %	30-130				
Surrogate: 2-Fluorophenol	68 %	30-130				
Surrogate: Nitrobenzene-d5	64 %	30-130				
Surrogate: Phenol-d6	<i>75 %</i>	30-130				
Surrogate: p-Terphenyl-d14	93 %	30-130				

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft Date Sampled: 10/15/12 10:20

Percent Solids: 85

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil

Classical Chemistry

Analyte Conductivity	Results (MRL) WL 233 (5)	Method 9050A	<u>Limit</u>	<u>DF</u>	Analyst EEM	Analyzed 10/17/12 13:30	Units umhos/cm	<u>Batch</u> CJ21712
Corrosivity (pH)	7.31 (N/A)	9045		1	EEM	10/16/12 17:50	S.U.	CJ21640
Corrosivity (pH) Sample Temp	Soil pH measured	d in water at 20.7 °C.						
Flashpoint	> 200 (N/A)	1010		1	DPS	10/19/12 13:45	°F	CJ21927
Reactive Cyanide	ND (2.0)	7.3.3.2		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Reactive Sulfide	ND (2.0)	7.3.4.1		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Redox Potential	WL 123 (N/A)	2580		1	EEM	10/16/12 17:50	mv	CJ21641



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft

Date Sampled: 10/15/12 10:20

Percent Solids: 85 Initial Volume: 31.995

Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte 1,1,1,2-Tetrachloroethane	Results (MRL) ND (0.0382)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/18/12 15:08	Sequence N2J0015	Batch NJ21802
1,1,1-Trichloroethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,1,2,2-Tetrachloroethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,1,2-Trichloroethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,1-Dichloroethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,1-Dichloroethene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,1-Dichloropropene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2,3-Trichlorobenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2,3-Trichloropropane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2,4-Trichlorobenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2,4-Trimethylbenzene	0.0564 (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2-Dibromo-3-Chloropropane	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
1,2-Dibromoethane	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
1,2-Dichlorobenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,2-Dichloroethane			1	10/18/12 15:08	N2J0015	NJ21802
1,2-Dichloropropane	ND (0.0382) ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
1,3,5-Trimethylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
1,3-Dichlorobenzene			1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
1,3-Dichloropropane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
1,4-Dichlorobenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
<i>'</i>	ND (0.0382)		1			
1,4-Dioxane	ND (3.82)		1	10/18/12 15:08 10/18/12 15:08	N2J0015	NJ21802 NJ21802
2,2-Dichloropropane 2-Butanone	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
	ND (0.994)				N2J0015	
2-Chlorotoluene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
2-Hexanone	ND (0.994)		1	10/18/12 15:08	N2J0015	NJ21802
4-Chlorotoluene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
4-Isopropyltoluene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
4-Methyl-2-Pentanone	ND (0.994)		1	10/18/12 15:08	N2J0015	NJ21802
Acetone	ND (1.91)		1	10/18/12 15:08	N2J0015	NJ21802
Acrolein - Screen	ND (3.82)		1	10/18/12 15:08	N2J0015	NJ21802
Benzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft

Date Sampled: 10/15/12 10:20 Percent Solids: 85

Initial Volume: 31.995 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte Bromobenzene	Results (MRL) ND (0.0382)	<u>Limit</u> <u>l</u>	<u>DF</u>	Analyzed 10/18/12 15:08	Sequence N2J0015	Batch NJ21802
Bromochloromethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Bromodichloromethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Bromoform	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Bromomethane			1	10/18/12 15:08	N2J0015	NJ21802
Carbon Disulfide	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Carbon Tetrachloride	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
Chlorobenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802 NJ21802
	ND (0.0382)		•			
Chloroethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Chloroform	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Chloromethane	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
cis-1,2-Dichloroethene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
cis-1,3-Dichloropropene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Dibromochloromethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Dibromomethane	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Dichlorodifluoromethane	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Diethyl Ether	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Di-isopropyl ether	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Ethyl tertiary-butyl ether	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Ethylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Hexachlorobutadiene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Isopropylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Methyl tert-Butyl Ether	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Methylene Chloride	ND (0.191)		1	10/18/12 15:08	N2J0015	NJ21802
Naphthalene	0.153 (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
n-Butylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
n-Propylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
sec-Butylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Styrene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
tert-Butylbenzene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Tertiary-amyl methyl ether	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
J J J	(0.0700)					

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-201 1ft-6ft

Date Sampled: 10/15/12 10:20

Percent Solids: 85 Initial Volume: 31.995 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210345 ESS Laboratory Sample ID: 1210345-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	Sequence	Batch
Tetrachloroethene	ND (0.0382)	·	1	10/18/12 15:08	N2J0015	NJ21802
Tetrahydrofuran	ND (3.82)		1	10/18/12 15:08	N2J0015	NJ21802
Toluene	0.0507 (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
trans-1,2-Dichloroethene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
trans-1,3-Dichloropropene	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Trichloroethene	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Trichlorofluoromethane	ND (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802
Vinyl Chloride	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Xylene O	ND (0.0382)		1	10/18/12 15:08	N2J0015	NJ21802
Xylene P,M	0.111 (0.0765)		1	10/18/12 15:08	N2J0015	NJ21802

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	126 %		70-130
Surrogate: 4-Bromofluorobenzene	119 %		70-130
Surrogate: Dibromofluoromethane	129 %		70-130
Surrogate: Toluene-d8	130 %		70-130

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
, and yee	vcznir		6000/7000 T			JUNEC	LIIIIG	NI D	LIIIIL	Qualitie
		/								
Batch CJ21922 - 3050B										
Blank										
Arsenic	ND	2.5	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
LCS										
Arsenic	138	9.6	mg/kg wet	168.0		82	80-120			
Cadmium	81.6	1.93	mg/kg wet	103.0		79	80-120			B-
Chromium	101	3.8	mg/kg wet	119.0		85	80-120			
Lead	64.4	19.2	mg/kg wet	76.90		84	80-120			
LCS Dup										
Arsenic	147	9.8	mg/kg wet	168.0		88	80-120	6	20	
Cadmium	88.0	1.97	mg/kg wet	103.0		85	80-120	8	20	
Chromium	110	3.9	mg/kg wet	119.0		92	80-120	8	20	
Lead	69.3	19.6	mg/kg wet	76.90		90	80-120	7	20	
Batch CJ21924 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	24.0	3.19	mg/kg wet	25.10		95	80-120			
LCS Dup										
Mercury	24.2	2.87	mg/kg wet	25.10		96	80-120	0.9	20	
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch CJ21735 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet				<u></u>		<u></u>	
Aroclor 1016 (1)	ND	0.0500	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (2)	ND	0.0500	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (3)	ND	0.0500	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (4)	ND	0.0500	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (5)	ND	0.0500	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1221 (1)	ND	0.0500	mg/kg wet							
Aroclor 1221 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1221 (2)	ND	0.0500	mg/kg wet							

ND

ND

Aroclor 1221 (2) [2C]

Aroclor 1221 (3)

mg/kg wet

mg/kg wet

0.0500

0.0500



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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ21735 - 3540			
Aroclor 1221 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (4)	ND	0.0500	mg/kg wet
Aroclor 1221 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (5)	ND	0.0500	mg/kg wet
Aroclor 1221 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1232 (1)	ND	0.0500	mg/kg wet
Aroclor 1232 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (2)	ND	0.0500	mg/kg wet
Aroclor 1232 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (3)	ND	0.0500	mg/kg wet
Aroclor 1232 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (4)	ND	0.0500	mg/kg wet
Aroclor 1232 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (5)	ND	0.0500	mg/kg wet
Aroclor 1232 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1242 (1)	ND	0.0500	mg/kg wet
Aroclor 1242 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (2)	ND	0.0500	mg/kg wet
Aroclor 1242 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (3)	ND	0.0500	mg/kg wet
Aroclor 1242 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (4)	ND	0.0500	mg/kg wet
Aroclor 1242 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (5)	ND	0.0500	mg/kg wet
Aroclor 1242 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1248 (1)	ND	0.0500	mg/kg wet
Aroclor 1248 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (2)	ND	0.0500	mg/kg wet
Aroclor 1248 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (3)	ND	0.0500	mg/kg wet
Aroclor 1248 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (4)	ND	0.0500	mg/kg wet
Aroclor 1248 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (5)	ND	0.0500	mg/kg wet
Aroclor 1248 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1254 (1)	ND	0.0500	mg/kg wet
Aroclor 1254 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (2)	ND	0.0500	mg/kg wet
Aroclor 1254 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (3)	ND	0.0500	mg/kg wet
Aroclor 1254 (3) [2C]	ND	0.0500	mg/kg wet

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• Service



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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ21735 - 3540							
Aroclor 1254 (4)	ND	0.0500	mg/kg wet				
Aroclor 1254 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1254 (5)	ND	0.0500	mg/kg wet				
Aroclor 1254 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260	ND	0.0500	mg/kg wet				
Aroclor 1260 (1)	ND	0.0500	mg/kg wet				
Aroclor 1260 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (2)	ND	0.0500	mg/kg wet				
Aroclor 1260 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (3)	ND	0.0500	mg/kg wet				
Aroclor 1260 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (4)	ND	0.0500	mg/kg wet				
Aroclor 1260 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (5)	ND	0.0500	mg/kg wet				
Aroclor 1260 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262	ND	0.0500	mg/kg wet				
Aroclor 1262 (1)	ND	0.0500	mg/kg wet				
Aroclor 1262 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (2)	ND	0.0500	mg/kg wet				
Aroclor 1262 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (3)	ND	0.0500	mg/kg wet				
Aroclor 1262 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (4)	ND	0.0500	mg/kg wet				
Aroclor 1262 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (5)	ND	0.0500	mg/kg wet				
Aroclor 1262 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268	ND	0.0500	mg/kg wet				
Aroclor 1268 (1)	ND	0.0500	mg/kg wet				
Aroclor 1268 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (2)	ND	0.0500	mg/kg wet				
Aroclor 1268 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (3)	ND	0.0500	mg/kg wet				
Aroclor 1268 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (4)	ND	0.0500	mg/kg wet				
Aroclor 1268 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (5)	ND	0.0500	mg/kg wet				
Aroclor 1268 (5) [2C]	ND	0.0500	mg/kg wet				
Surrogate: Decachlorobiphenyl	0.0206		mg/kg wet	0.02500	82	30-150	
Surrogate: Decachlorobiphenyl [2C]	0.0199		mg/kg wet	0.02500	80	30-150	
Surrogate: Tetrachloro-m-xylene	0.0200		mg/kg wet	0.02500	80	30-150	
Surrogate: Tetrachloro-m-xylene [2C]	0.0216		mg/kg wet	0.02500	86	30-150	
LCS							
Aroclor 1016	0.440	0.0500	mg/kg wet	0.5000	88	40-140	
Aroclor 1260	0.420	0.0500	mg/kg wet	0.5000	84	40-140	

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Quality

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch CJ21735 - 3540										
Surrogate: Decachlorobiphenyl	0.0220		mg/kg wet	0.02500		88	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0198		mg/kg wet	0.02500		<i>79</i>	30-150			
Surrogate: Tetrachloro-m-xylene	0.0210		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0214		mg/kg wet	0.02500		86	30-150			
LCS Dup										
Aroclor 1016	0.421	0.0500	mg/kg wet	0.5000		84	40-140	4	30	
Aroclor 1260	0.436	0.0500	mg/kg wet	0.5000		87	40-140	4	30	
Surrogate: Decachlorobiphenyl	0.0227		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0204		mg/kg wet	0.02500		81	30-150			
Surrogate: Tetrachloro-m-xylene	0.0196		mg/kg wet	0.02500		<i>78</i>	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0203		mg/kg wet	0.02500		81	30-150			
5		8100M Tot	al Petroleum	Hydroca	rbons					
Batch CJ21719 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	10.0	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	4.39		mg/kg wet	5.000		88	40-140			
ıcs										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Dodecane (C12)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		86	40-140			
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		84	40-140			
Nonadecane (C19)	2.2	0.2	mg/kg wet	2.500		86	40-140			
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		62	30-140			
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		85	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		88	40-140			

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Quality

Dependability

Fax: 401-461-4486 Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source	0/550	%REC		RPD	0 115
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
		8100M Tot	al Petroleum	Hydroca	irbons					
Batch CJ21719 - 3546										
Tetradecane (C14)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Surrogate: O-Terphenyl	4.60		mg/kg wet	5.000		92	40-140			
LCS Dup										
Decane (C10)	1.9	0.2	mg/kg wet	2.500		76	40-140	0.7	25	
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		90	40-140	2	25	
Dodecane (C12)	2.0	0.2	mg/kg wet	2.500		80	40-140	0.2	25	
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		87	40-140	2	25	
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		90	40-140	3	25	
Hexadecane (C16)	2.1	0.2	mg/kg wet	2.500		84	40-140	0.7	25	
Nonadecane (C19)	2.2	0.2	mg/kg wet	2.500		87	40-140	1	25	
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		63	30-140	2	25	
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		90	40-140	3	25	
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		86	40-140	0.8	25	
Fetracosane (C24)	2.3	0.2	mg/kg wet	2.500		90	40-140	2	25	
Fetradecane (C14)	2.0	0.2	mg/kg wet	2.500		81	40-140	0.3	25	
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		90	40-140	3	25	
Surrogate: O-Terphenyl	4.59		mg/kg wet	5.000		92	40-140			

8270D Semi-Volatile Organic Compounds

Batch CJ21819 - 3546			
Blank			
1,1-Biphenyl	ND	0.333	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet
1,2-Dichlorobenzene	ND	0.333	mg/kg wet
1,3-Dichlorobenzene	ND	0.333	mg/kg wet
1,4-Dichlorobenzene	ND	0.333	mg/kg wet
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet
2,4-Dichlorophenol	ND	0.333	mg/kg wet
2,4-Dimethylphenol	ND	0.333	mg/kg wet
2,4-Dinitrophenol	ND	1.67	mg/kg wet
2,4-Dinitrotoluene	ND	0.333	mg/kg wet
2,6-Dinitrotoluene	ND	0.333	mg/kg wet
2-Chloronaphthalene	ND	0.333	mg/kg wet
2-Chlorophenol	ND	0.333	mg/kg wet
2-Methylnaphthalene	ND	0.333	mg/kg wet
2-Methylphenol	ND	0.333	mg/kg wet
2-Nitrophenol	ND	0.333	mg/kg wet
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet
3+4-Methylphenol	ND	0.667	mg/kg wet
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet
4-Chloroaniline	ND	0.667	mg/kg wet

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Dependability ◆ Quality

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Batch CJ21819 - 3546

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D Semi-Volatile Organic Compounds

atch CJ21819 - 3546						
-Nitrophenol	ND	1.67	mg/kg wet			
cenaphthene	ND	0.333	mg/kg wet			
cenaphthylene	ND	0.333	mg/kg wet			
cetophenone	ND	0.667	mg/kg wet			
niline	ND	1.67	mg/kg wet			
nthracene	ND	0.333	mg/kg wet			
zobenzene	ND	0.333	mg/kg wet			
enzo(a)anthracene	ND	0.333	mg/kg wet			
enzo(a)pyrene	ND	0.167	mg/kg wet			
enzo(b)fluoranthene	ND	0.333	mg/kg wet			
enzo(g,h,i)perylene	ND	0.333	mg/kg wet			
enzo(k)fluoranthene	ND	0.333	mg/kg wet			
is(2-Chloroethoxy)methane	ND	0.333	mg/kg wet			
is(2-Chloroethyl)ether	ND	0.333	mg/kg wet			
is(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet			
is(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet			
utylbenzylphthalate	ND	0.333	mg/kg wet			
hrysene	ND	0.167	mg/kg wet			
ibenzo(a,h)Anthracene	ND	0.167	mg/kg wet			
ibenzofuran	ND	0.333	mg/kg wet			
ethylphthalate	ND	0.333	mg/kg wet			
methylphthalate	ND	0.333	mg/kg wet			
-n-butylphthalate	ND	0.333	mg/kg wet			
i-n-octylphthalate	ND	0.333	mg/kg wet			
uoranthene	ND	0.333	mg/kg wet			
uorene	ND	0.333	mg/kg wet			
exachlorobenzene	ND	0.333	mg/kg wet			
exachlorobutadiene	ND	0.333	mg/kg wet			
exachloroethane	ND	0.333	mg/kg wet			
ndeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet			
sophorone	ND	0.333	mg/kg wet			
aphthalene	ND	0.333	mg/kg wet			
itrobenzene	ND	0.333	mg/kg wet			
-Nitrosodimethylamine	ND	0.333	mg/kg wet			
entachlorophenol	ND	1.67	mg/kg wet			
henanthrene	ND	0.333	mg/kg wet			
henol	ND	0.333	mg/kg wet			
yrene	ND	0.333	mg/kg wet			
urrogate: 1,2-Dichlorobenzene-d4	2.43		mg/kg wet	3.333	<i>73</i>	30-130
urrogate: 2,4,6-Tribromophenol	4.05		mg/kg wet	5.000	81	30-130
urrogate: 2-Chlorophenol-d4	3.83		mg/kg wet	5.000	<i>77</i>	30-130
urrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333	74	30-130
urrogate: 2-Fluorophenol	3.77		mg/kg wet	5.000	<i>75</i>	30-130
urrogate: Nitrobenzene-d5	2.43		mg/kg wet	3.333	<i>73</i>	30-130
Eurrogate: Phenol-d6	3.89		mg/kg wet	5.000	<i>78</i>	30-130
	3.29		mg/kg wet	3.333	99	30-130

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D Semi-Volatile Organic Compounds

atch CJ21819 - 3546							
cs							
L-Biphenyl	2.12	0.333	mg/kg wet	3.333	64	40-140	
-Trichlorobenzene	1.88	0.333	mg/kg wet	3.333	56	40-140	
chlorobenzene	1.89	0.333	mg/kg wet	3.333	57	40-140	
chlorobenzene	1.85	0.333	mg/kg wet	3.333	55	40-140	
chlorobenzene	1.85	0.333	mg/kg wet	3.333	56	40-140	
Trichlorophenol	2.78	0.333	mg/kg wet	3.333	83	30-130	
Frichlorophenol	2.45	0.333	mg/kg wet	3.333	73	30-130	
chlorophenol	2.15	0.333	mg/kg wet	3.333	64	30-130	
nethylphenol	2.11	0.333	mg/kg wet	3.333	63	30-130	
itrophenol	2.70	1.67	mg/kg wet	3.333	81	30-130	
trotoluene	2.86	0.333	mg/kg wet	3.333	86	40-140	
trotoluene	2.79	0.333	mg/kg wet	3.333	84	40-140	
naphthalene	2.05	0.333	mg/kg wet	3.333	62	40-140	
phenol	1.91	0.333	mg/kg wet	3.333	57	30-130	
Inaphthalene	2.02	0.333	mg/kg wet	3.333	61	40-140	
rlphenol	1.99	0.333	mg/kg wet	3.333	60	30-130	
henol	1.98	0.333	mg/kg wet	3.333	59	30-130	
chlorobenzidine	2.50	0.667	mg/kg wet	3.333	75	40-140	
ylphenol	4.15	0.667	mg/kg wet	6.667	62	30-130	
henyl-phenylether	2.80	0.333	mg/kg wet	3.333	84	40-140	
niline	1.72	0.667	mg/kg wet	3.333	52	40-140	
enol	2.63	1.67	mg/kg wet	3.333	79	30-130	
nene	2.53	0.333	mg/kg wet	3.333	76	40-140	
nylene	2.15	0.333	mg/kg wet	3.333	64	40-140	
none	1.95	0.667	mg/kg wet	3.333	58	40-140	
	1.46	1.67	mg/kg wet	3.333	44	40-140	
e	3.05	0.333	mg/kg wet	3.333	91	40-140	
ene	2.54	0.333	mg/kg wet	3.333	76	40-140	
)anthracene	3.08	0.333	mg/kg wet	3.333	92	40-140	
pyrene	2.86	0.167	mg/kg wet	3.333	86	40-140	
)fluoranthene	3.20	0.333	mg/kg wet	3.333	96	40-140	
,h,i)perylene	3.09	0.333	mg/kg wet	3.333	93	40-140	
fluoranthene	3.18	0.333	mg/kg wet	3.333	96	40-140	
nloroethoxy)methane	1.96	0.333	mg/kg wet	3.333	59	40-140	
hloroethyl)ether	1.91	0.333	mg/kg wet	3.333	57	40-140	
nloroisopropyl)Ether	1.86	0.333	mg/kg wet	3.333	56	40-140	
thylhexyl)phthalate	2.94	0.333	mg/kg wet	3.333	88	40-140	
nzylphthalate	2.86	0.333	mg/kg wet	3.333	86	40-140	
ne .	3.08	0.167	mg/kg wet	3.333	92	40-140	
o(a,h)Anthracene	3.14	0.167	mg/kg wet	3.333	94	40-140	
ofuran	2.48	0.333	mg/kg wet	3.333	74	40-140	
phthalate	2.84	0.333	mg/kg wet	3.333	85	40-140	
nylphthalate	2.71	0.333	mg/kg wet	3.333	81	40-140	
utylphthalate	2.96	0.333	mg/kg wet	3.333	89	40-140	

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
	8	270D Semi-	Volatile Org	anic Com	pounds					

Di-n-octylphthalate 2.95 0.333 mg/kg wet 3.333 89 40-140 Fluoranthene 2.94 0.333 mg/kg wet 3.333 88 40-140 Fluorene 2.76 0.333 mg/kg wet 3.333 83 40-140 Hexachlorobenzene 2.84 0.333 mg/kg wet 3.333 85 40-140 Hexachlorobutadiene 1.90 0.333 mg/kg wet 3.333 57 40-140 Hexachloroethane 1.84 0.333 mg/kg wet 3.333 55 40-140 Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140 Isophorone 1.93 0.333 mg/kg wet 3.333 58 40-140	
Fluorene 2.76 0.333 mg/kg wet 3.333 83 40-140 Hexachlorobenzene 2.84 0.333 mg/kg wet 3.333 85 40-140 Hexachlorobutadiene 1.90 0.333 mg/kg wet 3.333 57 40-140 Hexachloroethane 1.84 0.333 mg/kg wet 3.333 55 40-140 Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140	
Hexachlorobenzene 2.84 0.333 mg/kg wet 3.333 85 40-140 Hexachlorobutadiene 1.90 0.333 mg/kg wet 3.333 57 40-140 Hexachloroethane 1.84 0.333 mg/kg wet 3.333 55 40-140 Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140	
Hexachlorobutadiene 1.90 0.333 mg/kg wet 3.333 57 40-140 Hexachloroethane 1.84 0.333 mg/kg wet 3.333 55 40-140 Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140	
Hexachloroethane 1.84 0.333 mg/kg wet 3.333 55 40-140 Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140	
Indeno(1,2,3-cd)Pyrene 3.11 0.333 mg/kg wet 3.333 93 40-140	
Isophorone 1.93 0.333 mg/kg wet 3.333 58 40-140	
Naphthalene 1.96 0.333 mg/kg wet 3.333 59 40-140	
Nitrobenzene 1.93 0.333 mg/kg wet 3.333 58 40-140	
N-Nitrosodimethylamine 1.79 0.333 mg/kg wet 3.333 54 40-140	
Pentachlorophenol 2.74 1.67 mg/kg wet 3.333 82 30-130	
Phenanthrene 3.04 0.333 mg/kg wet 3.333 91 40-140	
Phenol 1.95 0.333 mg/kg wet 3.333 59 30-130	
Pyrene 3.12 0.333 mg/kg wet 3.333 94 40-140	
Surrogate: 1,2-Dichlorobenzene-d4 1.88 mg/kg wet 3.333 56 30-130	
Surrogate: 2,4,6-Tribromophenol 4.68 mg/kg wet 5.000 94 30-130	
Surrogate: 2-Chlorophenol-d4 3.00 mg/kg wet 5.000 60 30-130	
Surrogate: 2-Fluorobiphenyl 2.13 mg/kg wet 3.333 64 30-130	
Surrogate: 2-Fluorophenol 2.91 mg/kg wet 5.000 58 30-130	
Surrogate: Nitrobenzene-d5 1.92 mg/kg wet 3.333 58 30-130	
Surrogate: Phenol-d6 3.09 mg/kg wet 5.000 62 30-130	
Surrogate: p-Terphenyl-d14 3.05 mg/kg wet 3.333 91 30-130	
LCS Dup	
1,1-Biphenyl 2.21 0.333 mg/kg wet 3.333 66 40-140 4	30
1,2,4-Trichlorobenzene 1.94 0.333 mg/kg wet 3.333 58 40-140 3	30
1,2-Dichlorobenzene 1.94 0.333 mg/kg wet 3.333 58 40-140 2	30
1,3-Dichlorobenzene 1.89 0.333 mg/kg wet 3.333 57 40-140 2	30
1,4-Dichlorobenzene 1.90 0.333 mg/kg wet 3.333 57 40-140 3	30
2,4,5-Trichlorophenol 2.88 0.333 mg/kg wet 3.333 86 30-130 4	30
2,4,6-Trichlorophenol 2.58 0.333 mg/kg wet 3.333 77 30-130 5	30
2,4-Dichlorophenol 2.27 0.333 mg/kg wet 3.333 68 30-130 5	30
2,4-Dimethylphenol 2.17 0.333 mg/kg wet 3.333 65 30-130 3	30
2,4-Dinitrophenol 2.92 1.67 mg/kg wet 3.333 87 30-130 8	30
2,4-Dinitrotoluene 2.97 0.333 mg/kg wet 3.333 89 40-140 4	30
2,6-Dinitrotoluene 2.90 0.333 mg/kg wet 3.333 87 40-140 4	30
2-Chloronaphthalene 2.14 0.333 mg/kg wet 3.333 64 40-140 4	30
2-Chlorophenol 1.96 0.333 mg/kg wet 3.333 59 30-130 3	30
2-Methylnaphthalene 2.11 0.333 mg/kg wet 3.333 63 40-140 4	30
2-Methylphenol 2.04 0.333 mg/kg wet 3.333 61 30-130 3	30
2-Nitrophenol 2.05 0.333 mg/kg wet 3.333 62 30-130 4	30
3,3'-Dichlorobenzidine 2.58 0.667 mg/kg wet 3.333 77 40-140 3	30
3+4-Methylphenol 4.31 0.667 mg/kg wet 6.667 65 30-130 4	
4-Bromophenyl-phenylether 2.89 0.333 mg/kg wet 3.333 87 40-140 3	
4-Chloroaniline 1.84 0.667 mg/kg wet 3.333 55 40-140 6	30

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Tel: 401-461-7181

Fax: 401-461-4486

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D S	Semi-Vol	atile Or	rganic (Compound	S
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Batch CJ21819 - 3546								
-Nitrophenol	2.69	1.67	mg/kg wet	3.333	81	30-130	2	30
cenaphthene	2.63	0.333	mg/kg wet	3.333	79	40-140	4	30
cenaphthylene	2.23	0.333	mg/kg wet	3.333	67	40-140	4	30
cetophenone	2.00	0.667	mg/kg wet	3.333	60	40-140	3	30
niline	1.53	1.67	mg/kg wet	3.333	46	40-140	5	30
nthracene	3.10	0.333	mg/kg wet	3.333	93	40-140	2	30
zobenzene	2.56	0.333	mg/kg wet	3.333	77	40-140	1	30
enzo(a)anthracene	3.12	0.333	mg/kg wet	3.333	94	40-140	1	30
enzo(a)pyrene	2.92	0.167	mg/kg wet	3.333	88	40-140	2	30
enzo(b)fluoranthene	3.26	0.333	mg/kg wet	3.333	98	40-140	2	30
enzo(g,h,i)perylene	3.18	0.333	mg/kg wet	3.333	95	40-140	3	30
enzo(k)fluoranthene	3.25	0.333	mg/kg wet	3.333	98	40-140	2	30
s(2-Chloroethoxy)methane	2.02	0.333	mg/kg wet	3.333	61	40-140	3	30
s(2-Chloroethyl)ether	1.94	0.333	mg/kg wet	3.333	58	40-140	2	30
s(2-chloroisopropyl)Ether	1.90	0.333	mg/kg wet	3.333	57	40-140	2	30
s(2-Ethylhexyl)phthalate	2.98	0.333	mg/kg wet	3.333	89	40-140	1	30
utylbenzylphthalate	2.89	0.333	mg/kg wet	3.333	87	40-140	0.9	30
nrysene	3.12	0.167	mg/kg wet	3.333	94	40-140	1	30
benzo(a,h)Anthracene	3.23	0.167	mg/kg wet	3.333	97	40-140	3	30
benzofuran	2.58	0.333	mg/kg wet	3.333	77	40-140	4	30
ethylphthalate	2.93	0.333	mg/kg wet	3.333	88	40-140	3	30
methylphthalate	2.79	0.333	mg/kg wet	3.333	84	40-140	3	30
-n-butylphthalate	3.01	0.333	mg/kg wet	3.333	90	40-140	2	30
-n-octylphthalate	3.02	0.333	mg/kg wet	3.333	91	40-140	2	30
uoranthene	2.99	0.333	mg/kg wet	3.333	90	40-140	1	30
uorene	2.85	0.333	mg/kg wet	3.333	85	40-140	3	30
exachlorobenzene	2.88	0.333	mg/kg wet	3.333	86	40-140	1	30
exachlorobutadiene	1.95	0.333	mg/kg wet	3.333	59	40-140	2	30
exachloroethane	1.89	0.333	mg/kg wet	3.333	57	40-140	2	30
deno(1,2,3-cd)Pyrene	3.17	0.333	mg/kg wet	3.333	95	40-140	2	30
ophorone	2.02	0.333	mg/kg wet	3.333	61	40-140	5	30
aphthalene	2.03	0.333	mg/kg wet	3.333	61	40-140	3	30
trobenzene	1.98	0.333	mg/kg wet	3.333	59	40-140	3	30
-Nitrosodimethylamine	1.81	0.333	mg/kg wet	3.333	54	40-140	0.9	30
entachlorophenol	2.89	1.67	mg/kg wet	3.333	87	30-130	5	30
nenanthrene	3.10	0.333	mg/kg wet	3.333	93	40-140	2	30
nenol	2.02	0.333	mg/kg wet	3.333	60	30-130	3	30
rrene	3.14	0.333	mg/kg wet	3.333	94	40-140	0.8	30
urrogate: 1,2-Dichlorobenzene-d4	1.87		mg/kg wet	3.333	56	30-130		
urrogate: 1,2-bichiorobenzene-u-	4.70		mg/kg wet	5.000	94	30-130		
urogate: 2-Chlorophenol-d4	3.02		mg/kg wet	5.000	60	30-130		
urogate: 2-Fluorobiphenyl	2.21		mg/kg wet	3.333	66	30-130		
urrogate: 2-Huorophenol	2.91		mg/kg wet	5.000	<i>58</i>	30-130		
urrogate: Nitrobenzene-d5	1.93		mg/kg wet	3.333	58	30-130		
urrogate: Phenol-d6	3.12		mg/kg wet	5.000	62	30-130		
urrogate: p-Terphenyl-d14	3.04		mg/kg wet	3.333	91	30-130		
_ , , ,	nue, Cranston, RI 029		Геl: 401-461-71			http://www.	EGGT 1	

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The Microbiology Division of Thielsch Engineering, Inc.

98.15-101.85



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Reference Flashpoint

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
		C	lassical Cher	nistry						
Batch CJ21712 - General Preparation										
Blank										
Conductivity	ND	5	umhos/cm							
LCS										
Conductivity	1400		umhos/cm	1412		99	90-110			
Batch CJ21841 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.9	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
Batch CJ21927 - General Preparation										

Quality Control Data

81.00

					Spike	Source		%REC		RPD	
Anal	yte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ21802 - 5035			
Blank			
1,1,1,2-Tetrachloroethane	ND	0.0533	mg/kg wet
1,1,1-Trichloroethane	ND	0.0533	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0533	mg/kg wet
1,1,2-Trichloroethane	ND	0.0533	mg/kg wet
1,1-Dichloroethane	ND	0.0533	mg/kg wet
1,1-Dichloroethene	ND	0.0533	mg/kg wet
1,1-Dichloropropene	ND	0.0533	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,3-Trichloropropane	ND	0.0533	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0533	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.107	mg/kg wet
1,2-Dibromoethane	ND	0.107	mg/kg wet
1,2-Dichlorobenzene	ND	0.0533	mg/kg wet
1,2-Dichloroethane	ND	0.0533	mg/kg wet
1,2-Dichloropropane	ND	0.0533	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0533	mg/kg wet
1,3-Dichlorobenzene	ND	0.0533	mg/kg wet
1,3-Dichloropropane	ND	0.0533	mg/kg wet
1,4-Dichlorobenzene	ND	0.0533	mg/kg wet

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ21802 - 5035			
1,4-Dioxane	ND	5.33	mg/kg wet
2,2-Dichloropropane	ND	0.0533	mg/kg wet
2-Butanone	ND	1.39	mg/kg wet
2-Chlorotoluene	ND	0.0533	mg/kg wet
2-Hexanone	ND	1.39	mg/kg wet
4-Chlorotoluene	ND	0.0533	mg/kg wet
4-Isopropyltoluene	ND	0.0533	mg/kg wet
4-Methyl-2-Pentanone	ND	1.39	mg/kg wet
Acetone	ND	2.67	mg/kg wet
Acrolein - Screen	ND	5.33	mg/kg wet
Benzene	ND	0.0533	mg/kg wet
Bromobenzene	ND	0.0533	mg/kg wet
Bromochloromethane	ND	0.0533	mg/kg wet
Bromodichloromethane	ND	0.0533	mg/kg wet
Bromoform	ND	0.107	mg/kg wet
Bromomethane	ND	0.107	mg/kg wet
Carbon Disulfide	ND	0.107	mg/kg wet
Carbon Tetrachloride	ND	0.0533	mg/kg wet
Chlorobenzene	ND	0.0533	mg/kg wet
Chloroethane	ND	0.0533	mg/kg wet
Chloroform	ND	0.0533	mg/kg wet
Chloromethane	ND	0.107	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0533	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0533	mg/kg wet
Dibromochloromethane	ND	0.0533	mg/kg wet
Dibromomethane	ND	0.0533	mg/kg wet
Dichlorodifluoromethane	ND	0.107	mg/kg wet
Diethyl Ether	ND	0.107	mg/kg wet
Di-isopropyl ether	ND	0.107	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.107	mg/kg wet
Ethylbenzene	ND	0.0533	mg/kg wet
Hexachlorobutadiene	ND	0.0533	mg/kg wet
Isopropylbenzene	ND	0.0533	mg/kg wet
Methyl tert-Butyl Ether	ND	0.0533	mg/kg wet
Methylene Chloride	ND	0.267	mg/kg wet
Naphthalene	ND	0.107	mg/kg wet
n-Butylbenzene	ND	0.0533	mg/kg wet
n-Propylbenzene	ND	0.0533	mg/kg wet
sec-Butylbenzene	ND	0.0533	mg/kg wet
Styrene	ND	0.0533	mg/kg wet
tert-Butylbenzene	ND	0.0533	mg/kg wet
Tertiary-amyl methyl ether	ND	0.107	mg/kg wet
Tetrachloroethene	ND	0.0533	mg/kg wet
Tetrahydrofuran	ND	5.33	mg/kg wet
Toluene	ND	0.0533	mg/kg wet

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Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260	Volatile	Organic	Compounds	/ N	4ethanol
-----------	----------	---------	-----------	-----	----------

Satch NJ21802 - 5035							
rans-1,2-Dichloroethene	ND	0.0533	mg/kg wet				
rans-1,3-Dichloropropene	ND	0.107	mg/kg wet				
richloroethene	ND	0.0533	mg/kg wet				
richlorofluoromethane	ND	0.107	mg/kg wet				
inyl Chloride	ND	0.0533	mg/kg wet				
ylene O	ND	0.0533	mg/kg wet				
ylene P,M	ND	0.107	mg/kg wet				
Surrogate: 1,2-Dichloroethane-d4	1.56		mg/kg wet	1.333	117	70-130	
Surrogate: 4-Bromofluorobenzene	1.50		mg/kg wet	1.333	113	70-130	
Surrogate: Dibromofluoromethane	1.49		mg/kg wet	1.333	112	70-130	
Surrogate: Toluene-d8	1.61		mg/kg wet	1.333	121	70-130	
cs							
,1,1,2-Tetrachloroethane	19.5		ug/L	20.00	98	70-130	
,1,1-Trichloroethane	19.4		ug/L	20.00	97	70-130	
,1,2,2-Tetrachloroethane	20.5		ug/L	20.00	103	70-130	
,1,2-Trichloroethane	19.8		ug/L	20.00	99	70-130	
,1-Dichloroethane	21.7		ug/L	20.00	108	70-130	
,1-Dichloroethene	18.4		ug/L	20.00	92	70-130	
,1-Dichloropropene	21.0		ug/L	20.00	105	70-130	
,2,3-Trichlorobenzene	22.2		ug/L	20.00	111	70-130	
,2,3-Trichloropropane	21.4		ug/L	20.00	107	70-130	
,2,4-Trichlorobenzene	23.0		ug/L	20.00	115	70-130	
,2,4-Trimethylbenzene	21.9		ug/L	20.00	109	70-130	
,2-Dibromo-3-Chloropropane	22.4		ug/L	20.00	112	70-130	
,2-Dibromoethane	21.1		ug/L	20.00	106	70-130	
,2-Dichlorobenzene	21.8		ug/L	20.00	109	70-130	
,2-Dichloroethane	21.3		ug/L	20.00	106	70-130	
,2-Dichloropropane	22.8		ug/L	20.00	114	70-130	
,3,5-Trimethylbenzene	21.8		ug/L	20.00	109	70-130	
,3-Dichlorobenzene	21.8		ug/L	20.00	109	70-130	
,3-Dichloropropane	20.6		ug/L	20.00	103	70-130	
,4-Dichlorobenzene	22.2		ug/L	20.00	111	70-130	
,4-Dioxane	214		ug/L	200.0	107	70-130	
,2-Dichloropropane	20.1		ug/L	20.00	101	70-130	
-Butanone	229		ug/L	200.0	115	70-130	
-Chlorotoluene	21.5		ug/L	20.00	108	70-130	
-Hexanone	219		ug/L	200.0	109	70-130	
-Chlorotoluene	21.2		ug/L	20.00	106	70-130	
-Isopropyltoluene	21.9		ug/L	20.00	110	70-130	
-Methyl-2-Pentanone	232		ug/L	200.0	116	70-130	
cetone	206		ug/L	200.0	103	70-130	
crolein - Screen	190		ug/L	200.0	95	70-130	
enzene	21.7		ug/L	20.00	108	70-130	
romobenzene	21.7		ug/L	20.00	109	70-130	
- OO.O.O	21.7		ug/ L	20.00	103	. 0 130	

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260	Volatile	Organic	Compounds	/ N	1ethanol
-----------	----------	---------	-----------	-----	----------

Batch NJ21802 - 5035								
Bromodichloromethane	20.5	ug/L	20.00	102	70-130			
Bromoform	20.5	ug/L	20.00	102	70-130			
Bromomethane	12.0	ug/L	20.00	60	70-130			B-
Carbon Disulfide	16.8	ug/L	20.00	84	70-130			
Carbon Tetrachloride	20.0	ug/L	20.00	100	70-130			
Chlorobenzene	20.2	ug/L	20.00	101	70-130			
Chloroethane	12.4	ug/L	20.00	62	70-130			B-
Chloroform	20.4	ug/L	20.00	102	70-130			
Chloromethane	22.4	ug/L	20.00	112	70-130			
cis-1,2-Dichloroethene	21.2	ug/L	20.00	106	70-130			
cis-1,3-Dichloropropene	22.1	ug/L	20.00	111	70-130			
Dibromochloromethane	19.5	ug/L	20.00	98	70-130			
Dibromomethane	21.7	ug/L	20.00	109	70-130			
Dichlorodifluoromethane	18.9	ug/L	20.00	94	70-130			
Diethyl Ether	17.2	ug/L	20.00	86	70-130			
Di-isopropyl ether	22.0	ug/L	20.00	110	70-130			
Ethyl tertiary-butyl ether	21.6	ug/L	20.00	108	70-130			
Ethylbenzene	20.3	ug/L	20.00	102	70-130			
Hexachlorobutadiene	21.8	ug/L	20.00	109	70-130			
Isopropylbenzene	21.6	ug/L	20.00	108	70-130			
Methyl tert-Butyl Ether	20.2	ug/L	20.00	101	70-130			
Methylene Chloride	20.7	ug/L	20.00	103	70-130			
Naphthalene	23.6	ug/L	20.00	118	70-130			
n-Butylbenzene	22.5	ug/L	20.00	112	70-130			
n-Propylbenzene	21.6	ug/L	20.00	108	70-130			
sec-Butylbenzene	21.8	ug/L	20.00	109	70-130			
Styrene	22.1	ug/L	20.00	110	70-130			
tert-Butylbenzene	21.3	ug/L	20.00	106	70-130			
Tertiary-amyl methyl ether	21.9	ug/L	20.00	110	70-130			
Tetrachloroethene	19.7	ug/L	20.00	98	70-130			
Tetrahydrofuran	23.3	ug/L	20.00	117	70-130			
Toluene	21.6	ug/L	20.00	108	70-130			
trans-1,2-Dichloroethene	20.6	ug/L	20.00	103	70-130			
trans-1,3-Dichloropropene	19.8	ug/L	20.00	99	70-130			
Trichloroethene	21.6	ug/L	20.00	108	70-130			
Trichlorofluoromethane	15.4	ug/L	20.00	77	70-130			
Vinyl Chloride	20.3	ug/L	20.00	101	70-130			
Xylene O	21.4	ug/L	20.00	107	70-130			
Xylene P,M	40.3	ug/L	40.00	101	70-130			
Surrogate: 1,2-Dichloroethane-d4	1.61	mg/kg wet	1.333	121	70-130			
Surrogate: 4-Bromofluorobenzene	1.64	mg/kg wet	1.333	123	70-130			
Surrogate: Dibromofluoromethane	1.60	mg/kg wet	1.333	120	70-130			
Surrogate: Toluene-d8	1.65	mg/kg wet	1.333	124	70-130			
LCS Dup								
1,1,1,2-Tetrachloroethane	19.2	ug/L	20.00	96	70-130	2	25	
2/2/2/2 10000010100001010	13.2	49/2	20.00	50	, 0 130	_	23	

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic C	Compounds	/ Methanol
------------------------------	-----------	------------

Batch NJ21802 - 5035								
1,1,1-Trichloroethane	19.0	ug/L	20.00	95	70-130	2	25	
1,1,2,2-Tetrachloroethane	19.4	ug/L	20.00	97	70-130	6	25	
1,1,2-Trichloroethane	18.8	ug/L	20.00	94	70-130	5	25	
1,1-Dichloroethane	21.3	ug/L	20.00	106	70-130	2	25	
1,1-Dichloroethene	17.5	ug/L	20.00	87	70-130	5	25	
1,1-Dichloropropene	20.5	ug/L	20.00	103	70-130	2	25	
1,2,3-Trichlorobenzene	21.4	ug/L	20.00	107	70-130	3	25	
1,2,3-Trichloropropane	20.4	ug/L	20.00	102	70-130	5	25	
1,2,4-Trichlorobenzene	22.1	ug/L	20.00	111	70-130	4	25	
1,2,4-Trimethylbenzene	20.8	ug/L	20.00	104	70-130	5	25	
1,2-Dibromo-3-Chloropropane	20.2	ug/L	20.00	101	70-130	11	25	
1,2-Dibromoethane	20.4	ug/L	20.00	102	70-130	4	25	
1,2-Dichlorobenzene	20.9	ug/L	20.00	104	70-130	4	25	
1,2-Dichloroethane	20.3	ug/L	20.00	102	70-130	5	25	
1,2-Dichloropropane	21.9	ug/L	20.00	110	70-130	4	25	
1,3,5-Trimethylbenzene	20.9	ug/L	20.00	104	70-130	4	25	
1,3-Dichlorobenzene	20.8	ug/L	20.00	104	70-130	5	25	
1,3-Dichloropropane	19.9	ug/L	20.00	99	70-130	4	25	
1,4-Dichlorobenzene	20.9	ug/L	20.00	104	70-130	6	25	
1,4-Dioxane	209	ug/L	200.0	105	70-130	3	20	
2,2-Dichloropropane	19.0	ug/L	20.00	95	70-130	6	25	
2-Butanone	219	ug/L	200.0	109	70-130	5	25	
2-Chlorotoluene	20.6	ug/L	20.00	103	70-130	5	25	
2-Hexanone	206	ug/L	200.0	103	70-130	6	25	
4-Chlorotoluene	20.3	ug/L	20.00	102	70-130	4	25	
4-Isopropyltoluene	21.1	ug/L	20.00	106	70-130	4	25	
4-Methyl-2-Pentanone	219	ug/L	200.0	109	70-130	6	25	
Acetone	196	ug/L	200.0	98	70-130	5	25	
Acrolein - Screen	167	ug/L	200.0	84	70-130	13	25	
Benzene	21.0	ug/L	20.00	105	70-130	3	25	
Bromobenzene	20.5	ug/L	20.00	103	70-130	6	25	
Bromochloromethane	20.6	ug/L	20.00	103	70-130	5	25	
Bromodichloromethane	19.7	ug/L	20.00	98	70-130	4	25	
Bromoform	18.9	ug/L	20.00	95	70-130	8	25	
Bromomethane	11.3	ug/L	20.00	57	70-130	6	25	B-
Carbon Disulfide	15.9	ug/L	20.00	79	70-130	6	25	
Carbon Tetrachloride	19.4	ug/L	20.00	97	70-130	3	25	
Chlorobenzene	19.6	ug/L	20.00	98	70-130	3	25	
Chloroethane	11.3	ug/L	20.00	56	70-130	9	25	B-
Chloroform	19.7	ug/L	20.00	98	70-130	4	25	
Chloromethane	22.0	ug/L	20.00	110	70-130	2	25	
cis-1,2-Dichloroethene	20.3	ug/L	20.00	102	70-130	4	25	
cis-1,3-Dichloropropene	21.3	ug/L	20.00	106	70-130	4	25	
Dibromochloromethane	19.0	ug/L	20.00	95	70-130	3	25	
Dibromomethane	21.9	ug/L	20.00	110	70-130	0.9	25	

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Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organ	nic Compounds /	[/] Methanol
--------------------------	-----------------	-----------------------

Batch NJ21802 - 5035						
Dichlorodifluoromethane 18.7	ug/L	20.00	93	70-130	1	25
Diethyl Ether 15.3	ug/L	20.00	77	70-130	12	25
Di-isopropyl ether 21.5	ug/L	20.00	108	70-130	2	25
Ethyl tertiary-butyl ether 20.9	ug/L	20.00	105	70-130	3	25
Ethylbenzene 19.6	ug/L	20.00	98	70-130	4	25
lexachlorobutadiene 21.0	ug/L	20.00	105	70-130	4	25
sopropylbenzene 20.6	ug/L	20.00	103	70-130	5	25
Methyl tert-Butyl Ether 19.9	ug/L	20.00	99	70-130	2	25
Methylene Chloride 19.9	ug/L	20.00	100	70-130	4	25
Naphthalene 22.1	ug/L	20.00	110	70-130	6	25
n-Butylbenzene 21.7	ug/L	20.00	108	70-130	4	25
n-Propylbenzene 20.7	ug/L	20.00	103	70-130	4	25
ec-Butylbenzene 21.0	ug/L	20.00	105	70-130	4	25
Styrene 20.8	ug/L	20.00	104	70-130	6	25
ert-Butylbenzene 20.6	ug/L	20.00	103	70-130	3	25
ertiary-amyl methyl ether 21.2	ug/L	20.00	106	70-130	3	25
etrachloroethene 19.3	ug/L	20.00	97	70-130	2	25
etrahydrofuran 20.6	ug/L	20.00	103	70-130	13	25
Toluene 20.8	ug/L	20.00	104	70-130	4	25
rans-1,2-Dichloroethene 20.2	ug/L	20.00	101	70-130	2	25
rans-1,3-Dichloropropene 18.8	ug/L	20.00	94	70-130	5	25
richloroethene 21.0	ug/L	20.00	105	70-130	3	25
richlorofluoromethane 14.6	ug/L	20.00	73	70-130	5	25
/inyl Chloride 20.0	ug/L	20.00	100	70-130	1	25
(ylene O 20.4	ug/L	20.00	102	70-130	4	25
(ylene P,M 38.9	ug/L	40.00	97	70-130	3	25
Surrogate: 1,2-Dichloroethane-d4 1.55	mg/kg wet	1.333	116	70-130		
Surrogate: 4-Bromofluorobenzene 1.51	mg/kg wet	1.333	113	70-130		
Surrogate: Dibromofluoromethane 1.52	mg/kg wet	1.333	114	70-130		
Surrogate: Toluene-d8 1.57	mg/kg wet	1.333	117	70-130		

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Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210345

	Notes and Definitions
Z-10	Soil pH measured in water at 20.7 °C.
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
B-	Blank Spike recovery is below lower control limit (B-).
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation Detection Limit
DL I/V	Initial Volume
F/V	Final Volume
	Subcontracted analysis; see attached report
§ 1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of surrogates analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
A	Possible and related the constitution of the Co CTV dromatic range.

Results reported as a mathematical average. Avg

NR No Recovery [CALC] Calculated Analyte

SUB Subcontracted analysis; see attached report

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ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water: RI0002 http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

185 Frances Avenue, Cranston, RI 02910-2211

T. 1 . 401 . 461 . T. 101

Fax: 401-461-4486

Service

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID:

ESS Project ID: 12100345
Date Project Due: 10/23/12
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: 4.1		16. Are ESS labels on correct containers?	Yes
Iced With: Ice		17. Were samples received intact?	Yes N
6. Was COC included with samples?	Yes	ESS Sample IDs:	_
7. Was COC signed and dated by client?	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	
18. Was there need to call project manag	er to disc	uss status? If yes, please explain.	
Who was called?:		By whom?	

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative	
1	Yes	4 oz Soil Jar	1	NΡ	
1	Yes	40 ml - VOA	1	MeOH	
1	Yes	8 oz Soil Jar	3	NP	
2	Yes	4 oz Soil Jar	1	NP	
2	Yes	40 ml - VOA	1	MeOH	
2	Yes	8 oz Soil Jar	3	NP	
Completed By:	<u>) </u>	ate/Time: 10	116/12		
Reviewed By:	NK D	ate/Time:	16112		

ESS Laboratory		CHAIN OF CUSTODY	CUSTODY	ESS Lab #		1210345	5	
Division of Thielsch Engineering, Inc.	Turn Time	V Standard Other	er		Reporting Limits	mits -		
106 South Street, Hopkinton, MA 01748	Regulatory State	State MAD RI CT NH NJ NY ME	ME Other		e de la composition della comp	- 23		
Tel. (508) 435-9244 Fax (508) 435-9912 www.esslaboratory.com	MA-MCP	Stris project for any of the following:(please circle) (MA-MCP) Navy USACE CT DEP Ott	rde) Other		Electonic Delive	-xcel	Access PDF	
Co Name Geofe vironmental, Inc.	Project # /1/	171422.00 Project Name 171422.00	Project Name The posed Multi Family Housing Boulesman	1				
Contact Person David F. Leme	Proj. Location		,			780 7808	-	מיני
0	City, State Norwood, MA	79070 _{diz}	# Od	IsnA	the state	7 7 7 8 88 8 1997	hini	. ۱۳۰
		email: davide.	· Jeone b gra	.com	y s		ny pay	19!3 !} !}
Collection Time	Grab -G Matrix Composite-C	Sample ID	Pres Code	Type of Vol of Container	70N HdL = =	7905 1903 1808	לנמו אנמו אנמו	%
1585 hrs	S	62-202 (1-6')	w	AG 862	Z X			X
(1) 10/15/12 1555hrs	2		1	704 8	7			
1	6 5	(2-202 (4-6")	1	VOA 30M	X			
	:							
C) 10/15/12 1020/15	2	G2-201(1-6')	3	AG 802	< X		$\mathbb{X} \times \mathbb{X} \times \mathbb{X}$	M
1/5//01	2	(3-10/(1,-6")	1	707 5	7			
10/15/12	2	(2-201(2,-4")	1	VOA 30ml	<u></u>			
		•						
Notes: 1. Sec attached sheet +	sheet for additional	details on analyses.		:				
2. 20 times rule for 7	TCLP							
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA		Matrix: S-Soil SD-Solid D-Sludge WW	SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter	water SW-Surface Water	DW-Drinking Water	0-Oil W-Wipes F.	-Filter	
Cooler Present Yes No	Internal Use Only		Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct,	4, 4-HNO3, 5-NaOH, 6	-MeOH, 7-Asorbic	Acid, 8-ZnAct, 9-		
Seals Intact Yes No NA:	[] Pickup	Sampled by:	Ron Kubia	K				
Cooler Temperature: 4,7%	[] Technician_	Comments:						
Relinquished by: (Signature, Date & Time)	1845hrs Acceived by: (Signature Pate & Timp	1 19/6/12 11:00	Retingwished by: (Signa)	Jure, Date & Time) 15.	S. 465 Recongress (by: (Signature, Date & T A A A A A A A A A A A A A A A A A A A	Milleln IUD	UES
y: (Signature, Date & Time)	ved by: (Signature, Date & Tif	(A)	Relinquished by: (Signature, Date & Time)	re, Date & Time)	Received by: (eceived by: (Signature, Date & T	ime)	
* By circling MA-MCP, client acknowledges sampels were		Please fax to the laboratory all changes to Chain of Custody	nanges to Chain of C	ustody	1 (White) Lab Copy	ab Copy		

2 (Yellow) Client Receipt

Report Method Blank & Laboratory Control Sample Results

* By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA

Page 43 of 44

Criterion Development Company LLC File No. 01.P000269.13

Please identify (by checking the appropriate box above) any of the Business Environmental Risks that you would like to include with this assessment and GZA will prepare a sitespecific proposal and cost estimate for these evaluations.



Task 2: Collection and Analysis of Soil Samples

Selected soil samples collected during the execution of geotechnical borings at the site will be submitted for chemical analysis for the standard suite of soil disposal analyses. We anticipate submitting one sample from each of the four borings being executed at the site. Since the planned excavation activities will be limited to the top few feet of the site, the samples submitted for analysis will come from this horizon. Each of the four samples will be analyzed for the following:



- Total Petroleum Hydrocarbons (TPH; by modified EPA Method 8100);
- Volatile Organic Compounds (VOCs; by EPA Method 8260);

- RCRA Metals (arsenic, cadmium, chromium, lead and Mercury);
 Polychlorinated Biphenyls (PCBs; by EPA Method 8082);
 Semi-Volatile Organic Compounds (SVOCs; by EPA Method 8270);
 Flashpoint, Conductivity, Reactivity and pH; and

 - Oxidation Reduction Potential

The results of our testing, including the laboratory data and appropriate tables and figures, will be incorporated into the Environmental Site Assessment report.

BASIS OF BILLINGS

Billings for the above described scope of work will be based on the fixed-fee amount of \$8,400, approximately broken down as follows:

<u>Task</u>	Budget
Task 1 – Environmental Site Assessment	\$3,700
Task 2 – Soil Analyses	\$4,700

This fee is based on our understanding of the project as described in the scope of work outlined herein. The budget for this laboratory portion of this task assumes that we will not need to resubmit any samples for further testing. If hexavalent chromium is required, based on initial test results the additional cost is \$55 per sample. If TCLP-lead testing is required, the additional cost is \$85 per sample.

Billings for reimbursable expenses (e.g. printing, courier) will not exceed \$250.



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

David E Leone GZA GeoEnvironmental, Inc. One Edgewater Drive Norwood, MA 02062

RE: Proposed Multi-Family Housing Development (01.0171422.00)

ESS Laboratory Work Order Number: 1210562

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard

Laboratory Director

REVIEWED

By ESS Laboratory at 3:34 pm, Nov 01, 2012

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental. Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

SAMPLE RECEIPT

The following samples were received on October 26, 2012 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Sample 1210562-01 was originally received on October 16, 2012 as ESS Laboratory Sample ID 1210345-01. Sample 1210562-02 was originally received on October 18, 2012 as ESS Laboratory Sample ID 1210393-01.

Lab Number	SampleName	Matrix	Analysis
1210562-01	GZ-202 1ft-6ft	Soil	2580, 7196A, 9045
1210562-02	GZ-204 2ft-7ft	Soil	2580, 7196A, 9045



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Quality

Dependability

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

MassDEP Analytical Protocol Certification Form

	I	MADEP RT	N:				_						
Th	is form	provides ce	ertific	eation for the follo	wing d	ata set: 1210562-01 th	rou	gh 1210562-02					
Ma	atrices:	() Ground	d Wa	ter/Surface Water		(X) Soil/Sediment	() Drinking Water	() Air	() Other:			
C A	AM Pro	otocol (chec	ck all	I that apply below	r):								
) 8260 CAM	VOC) 7470/7471 Hg CAM III B	_	MassDEP VPH CAM IV A	() 8081 Pesticides CAM V B	(X)	7196 Hex Cr CAM VI B	()	MassDEP AP CAM IX A	Н
() 8270 CAM		() 7010 Metals CAM III C	()	MassDEP EPH CAM IV B	() 8151 Herbicides CAM V C	()	8330 Explosives CAM VIII A	()	TO-15 VOC CAM IX B	
() 6010 CAM	Metals III A	() 6020 Metals CAM III D	()	8082 PCB CAM V A	() 6860 Perchlorate CAM VIII B	()	9014 Total Cyanic CAM VI A	de/PA	С	
A	prese	rved (includ	ling t	ived in a condition temperature) in the	consi	stent with those description and prepared an	bed bare	F are required for Proof on the Chain-of-Custod/analyzed within met	ody, prope nod holdii	erly ng times?	S	Yes (X) No ()
В	Were follow	-	al m	ethod(s) and all as	sociate	ed QC requirements sp	ecif	ied in the selected CA	M protoco	ol(s)		Yes (X) No ()
C		-			-	ical response actions s ndard non-conforman	-	ified in the selected Ca	AM proto	col(s)		Yes (X) No ()
D	Does	the laborate	ory re	eport comply with	all the	reporting requiremen	ts sp	ecified in the CAM Virting of Analytical Dat		ality		Yes (X) No ()
Е	a. VP	Н, ЕРН, АГ	PH aı	nd TO-15 only: Wa	as each			ut significant modifica		Refer		Yes () No ()
				* *	-	nplete analyte list repo	ortec	I for each method?				Yes () No ()
F					-	formance standard no sponses to Questions		onformances identified rough E)?	and evalu	uated		Yes (X) No ()
				_				re required for P resu	_				
G	<u>Data</u>	<u>User Note:</u> 1	Data	that achieve P resu	mptive		ot n	in the selected CAM pecessarily meet the data WSC-07-350.	,	·	Yes	(X) No ()*	
Н	_		_			n the CAM protocol(s						Yes (X) No ()*
I		_		_		list specified in the se						Yes (X) No ()*
	Ü	-				attached laboratory		rrative.	wal inau	uim of those vesne	nsihl	a	

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Date: November 01, 2012
Printed Name: Laurel Stoddard Position: Laboratory Director

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: 92

ESS Laboratory Work Order: 1210562 ESS Laboratory Sample ID: 1210562-01

Sample Matrix: Soil

Classical Chemistry

Analyte Corrosivity (pH)	Results (MRL) 8.09 (N/A)	<u>Method</u> 9045	<u>Limit</u>	<u>DF</u>	Analys EEM	<u>Analyzed</u> 10/16/12 17:50	Units S.U.	Batch CJ21640
Corrosivity (pH) Sample Temp	Soil pH measu	red in water at 20.7 °C.						
Eh (ORP)	WL 281 (N/A)	2580		1	EEM	10/16/12 17:50	mv	CJ21641
Hexavalent Chromium	ND (0.4)	7196A		1	EEM	10/31/12 13:15	mg/kg dry	CJ23110



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88

ESS Laboratory Work Order: 1210562 ESS Laboratory Sample ID: 1210562-02

Sample Matrix: Soil

Classical Chemistry

Analyte Corrosivity (pH)	Results (MRL) 7.31 (N/A)	<u>Method</u> 9045	<u>Limit</u>	<u>DF</u>	Analys EEM	<u>Analyzed</u> 10/16/12 17:50	Units S.U.	Batch CJ21640
Corrosivity (pH) Sample Temp	Soil pH measu	red in water at 20.7 °C.						
Eh (ORP)	WL 322 (N/A)	2580		1	EEM	10/16/12 17:50	mv	CJ21641
Hexavalent Chromium	ND (0.4)	7196A		1	EEM	10/31/12 13:15	mg/kg dry	CJ23110



267

BAL Laboratory

The Microbiology Division of Thielsch Engineering, Inc.

102

70.9-129.85



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Hexavalent Chromium

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

10.0

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		C	Classical Chen	nistry						
Batch CJ23110 - General Preparation										
Blank										
Hexavalent Chromium	ND	0.7	mg/kg wet							
LCS										
Hexavalent Chromium	32.7	0.7	mg/kg wet	33.32		98	80-120			
LCS Dup										
Hexavalent Chromium	32.4	0.7	mg/kg wet	33.32		97	80-120	0.8	20	
Reference										

mg/kg wet

261.0



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

Notes and Definitions

Z-10	Soil pH measured in water at 20.7 °C.
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected

D Diluted.

ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference Method Detection Limit MDL MRL Method Reporting Limit LOD Limit of Detection LOQ Limit of Quantitation **Detection Limit** DL Initial Volume I/V F/V Final Volume

Subcontracted analysis; see attached report

Range result excludes concentrations of surrogates and/or internal standards eluting in that range.

2 Range result excludes concentrations of target analytes eluting in that range. 3 Range result excludes the concentration of the C9-C10 aromatic range.

Results reported as a mathematical average. Avg

NR No Recovery

[CALC] Calculated Analyte

SUB Subcontracted analysis; see attached report

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210562

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water: RI0002 http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

185 Frances Avenue, Cranston, RI 02910-2211

T. 1 . 101 . 161 T. 101

Fax: 401-461-4486

Service

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.
Client Project ID:
Shipped/Delivered Via: ESS Courier

ESS Project ID: 12100562
Date Project Due: 11/2/12
Days For Project: 5 Day

Items to be checked upon receipt:

tems to be thethed apon receipt.	
1. Air Bill Manifest Present? * N	o 10. Are the samples properly preserved: Yes
Air No.:	11. Proper sample containers used? Yes
2. Were Custody Seals Present? No	12. Any air bubbles in the VOA vials?
3. Were Custody Seals Intact?	A 13. Holding times exceeded? No
4. Is Radiation count < 100 CPM? Yes	s 14. Sufficient sample volumes? Yes
5. Is a cooler present? Yes	s 15. Any Subcontracting needed? No
Cooler Temp: 4.1	16. Are ESS labels on correct containers? Yes No
Iced With: Icepacks	17. Were samples received intact? Yes/No
6. Was COC included with samples?	s ESS Sample IDs:
7. Was COC signed and dated by client? Ye	s Sub Lab:
8. Does the COC match the sample Ye	s Analysis:
9. Is COC complete and correct? Ye	s TAT:
18. Was there need to call project manager to	discuss status? If yes, please explain.
Who was called?:	By whom?
Sample Number Properly Preserved	· · · · · · · · · · · · · · · · · · ·
1 Yes 2 Yes	4 oz Soil Jar 1 NP 4 oz Soil Jar 1 NP
	$_{\text{re/Time}}$: $10/26/3$
	re/Time:

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7	ESS Laboratory	Division of Thielsch Engineering	106 South Street, Hopkinton, MA	Tel. (508) 435-9244 Fa www.esslaboratory.com	Co. Name Got Nironmental, Inc.	Contact Person David E. Leane	Edgewater Drive	Tel. 781-278-3700	Q Q	<u> </u>	<u> </u>			(A)	4	(d		Notes:		Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA	Cooler Present	Seals Intact	Cooler Temperature:			N M
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collected in accordance with MADEP CAM VIIA

Report Method Blank & Laboratory Control Sample Results

2 (Yellow) Client Receipt

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Tei. (508) 435-9244 Fax (508) 435-9912 www.esslaboratory.com	Fax (508) 435-99		s this project	Is this grotect for any of the following:(please circle) MA-MCP Navy USACE CT DEP Other	ing:(please circl CT DEP O	e) Ither		Ele	Electonic Deliverables	rables Excel	Access PDF	20F	1
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Container Type: P-Poly G-Glass AG-Amber Glass S-Sterlle V-VOA	S-Amber Glass S-Sterile V	-voa		Matrix: S-Soll SD-Sc	olid D-Sludge WW-V	Matrix: S-Soil SD-Solid D-Studge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter	undwater SW-Surfa	ce Water DW-D	rinking Water <	O-Oil W-Wipes	F-Filter		
Cooler Present V	Yes	9 ,	Internal Use	Only	eservation Code:	Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 6-ZnAct, 9.	304, 4-HNO3, 5-P	VaOH, 6-MeOl	1, 7-Asorbic	kold, 8-ZnAct, 9	-6		
Seals Intact Yes	No NA:		[] Pickup	<u>(Ö</u>	Sampled by:	Ron Kubia	ak						
Cooler Temperature: _	2,8,6		[] Technicia	ne	Comments:				,			:	
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By circling MA-MCP, client acknowledges sampels were	ledges sampels were	00 to 500	10 7 77	Please fax to the laboratory all changes to Chain of Custody	boratory all chai	nges to Chain of	Custody		1 (White) Lab Copy	ab Copy			
collected in accordance with MADEP CAM VIIA	IP CAM VIIA	Keport M	ethod Big	Report Method Blank & Laboratory Control Sample Results	atory con	roi Sampie	e Kesuits		2 (Yellow) C	2 (Yellow) Client Receipt	_		



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

David E Leone GZA GeoEnvironmental, Inc. One Edgewater Drive Norwood, MA 02062

RE: Proposed Multi-Family Housing Development (01.0171422.00)

ESS Laboratory Work Order Number: 1210384

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard Laboratory Director REVIEWED

By ESS Laboratory at 5:52 pm, Oct 24, 2012

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

ESS Laboratory - Hopkinton - Hopkinton,

Volatile Compounds

MA



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

SAMPLE RECEIPT

The following samples were received on October 17, 2012 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for Metals and EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1210384-01	GZ-203 1ft-6ft	Soil	1010, 2580, 6010B, 7.3.3.2, 7.3.4.1, 7471B, 8082A,
			8100M, 8270D, 9045, 9050A
1210384-02	GZ-203 2ft-4ft	Soil	8260B



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

PROJECT NARRATIVE

3050B/6000/7000 Total Metals

CJ21922-BS1 Blank Spike recovery is below lower control limit (B-).

Cadmium (79% @ 80-120%)

5035/8260 Volatile Organic Compounds / Methanol

N2J0022-CCV1 Continuing Calibration recovery is above upper control limit (C+).

Chloromethane

N2J0022-CCV1 Continuing Calibration recovery is below lower control limit (C-).

2,2-Dichloropropane

N2J0022-CCV1 The Response Factor (RF) for this analyte did not meet the minimum RF criteria specified in Table 4

of Method 8260C, but was above 0.050. (0.081)

Acetone

NJ22303-BS1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (65% @ 70-130%)

NJ22303-BSD1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (57% @ 70-130%), Chloroethane (66% @ 70-130%)

8270D Semi-Volatile Organic Compounds

CVJ0205-CCV1 <u>Calibration required quadratic regression (Q).</u>

2,4-Dinitrophenol (105% @ 80-120%), Pentachlorophenol (98% @ 80-120%)

CVJ0221-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (102% @ 80-120%), Pentachlorophenol (87% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

MassDEP Analytical Protocol Certification Form

	MADEP R	TN:				_					
This	form provides c	ertifica	ation for the follow	ving da	nta set: 1210384-01 th	rouş	gh 1210384-02				
Mat	rices: () Groun	nd Wate	er/Surface Water		(X) Soil/Sediment	() Drinking Water	() Air	() Other:		
CA]	M Protocol (che	eck all	that apply below):							
	8260 VOC CAM II A		7470/7471 Hg CAM III B		MassDEP VPH CAM IV A	() 8081 Pesticides CAM V B	()	7196 Hex Cr CAM VI B	() MassDEP APH CAM IX A	
(X)	8270 SVOC CAM II B	()	7010 Metals CAM III C	(X)	MassDEP EPH CAM IV B	() 8151 Herbicides CAM V C	()	8330 Explosives CAM VIII A	() TO-15 VOC CAM IX B	
(X)	6010 Metals CAM III A	()	6020 Metals CAM III D	(X)	8082 PCB CAM V A	() 6860 Perchlorate CAM VIII B	()	9014 Total Cyanio CAM VI A	de/PAC	
			Affirmative resp	onses	to questions A throu	igh Ì	F are required for P r	esumptiv	e Certainty'status	s	
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В	•	_					led in the selected CA		-	Yes (X) No ()
С	Were all require			-	cal response actions s	_	fied in the selected CA	AM protoc	col(s)	Yes (X) No ()
D	Does the labora	tory rep	port comply with	all the	reporting requiremen	ts sp	ecified in the CAM VI		lity	Yes (X) No ()
Е	a. VPH, EPH, A	APH an	d TO-15 only: Wa	s each	*		at significant modifica		Refer	Yes (X) No ()
				-	plete analyte list repo	orted	for each method?			Yes () No ()
F	* *			-	formance standard no sponses to Questions A		nformances identified ough E)?	and evalu	ated	Yes (X) No ()
			Responses i	o Que	stions G, H and I belo	ow a	re required for P resui	mptive Ce	rtainty'status		
G	Data User Note:	Data t	hat achieve P resui	nptive		ot ne	in the selected CAM pecessarily meet the data WSC-07-350.	,	·	Yes (X) No ()*	
Н	-	_			n the CAM protocol(s					Yes () No (X)*
I	-		•	-	list specified in the se					Yes () No (X))*
*All	l negative respo	nses m	ust be addressed	l in an	attached laboratory	nar,	rative.				
I, t	he undersigned	, attest	under the pains	and p	enalties of perjury t	hat,	based upon my perso	nal inqu	iry of those respo	nsible	

accurate and complete.

Signature: Date: October 24, 2012

Printed Name: Laurel Stoddard Position: Laboratory Director

for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief,

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft Date Sampled: 10/16/12 11:35

Percent Solids:

91

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry

3050B/6000/7000 Total Metals

Analyte	Results (MRL)	Method	<u>Limit</u>	<u>DF</u>	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	3.5 (2.3)	6010B		1	SVD	10/22/12 19:36	2.38	100	CJ21922
Cadmium	ND (0.46)	6010B		1	SVD	10/22/12 19:36	2.38	100	CJ21922
Chromium	19.4 (0.9)	6010B		1	SVD	10/22/12 19:36	2.38	100	CJ21922
Lead	16.5 (4.6)	6010B		1	SVD	10/22/12 19:36	2.38	100	CJ21922
Mercury	0.079 (0.033)	7471B		1	LLZ	10/23/12 11:31	0.65	40	CJ21924



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft

Date Sampled: 10/16/12 11:35 Percent Solids: 91

Initial Volume: 20.2 Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry Analyst: TAJ

Prepared: 10/18/12 16:30 Cleanup Method: 3665A

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRI	<u>.</u>)		<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1221	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1232	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1242	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1248	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1254	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1260	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1262	ND (0.0544)				1	10/19/12 17:20		CJ21735
Aroclor 1268	ND (0.0544)				1	10/19/12 17:20		CJ21735
-		%Recovery	Qualifier	Limits				
Surrogate: Decachlorobiphenyl		67.0%		20-150				

	Mecovery	Quamer	Littles
Surrogate: Decachlorobiphenyl	67 %		30-150
Surrogate: Decachlorobiphenyl [2C]	73 %		30-150
Surrogate: Tetrachloro-m-xylene	<i>75</i> %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	86 %		30-150



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft Date Sampled: 10/16/12 11:35

Percent Solids: 91 Initial Volume: 19.8 Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry Analyst: ML

Prepared: 10/19/12 12:30

8100M Total Petroleum Hydrocarbons

Analyte Total Petroleum Hydrocarbons	<u>Results (MRL)</u> 150 (11.1)		<u>Limit</u>	<u>DF</u> 1	Analyzed 10/20/12 15:23	Sequence CVJ0225	Batch CJ21906
	%Recovery	Qualifier	Limits				
Surrogate: O-Terphenyl	92 %		40-140				

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft Date Sampled: 10/16/12 11:35

Percent Solids: 91
Initial Volume: 14.1

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
1,2,4-Trichlorobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
1,2-Dichlorobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
1,3-Dichlorobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
1,4-Dichlorobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4,5-Trichlorophenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4,6-Trichlorophenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4-Dichlorophenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4-Dimethylphenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4-Dinitrophenol	ND (1.95)		1	10/20/12 0:05	CVJ0221	CJ21819
2,4-Dinitrotoluene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2,6-Dinitrotoluene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2-Chloronaphthalene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2-Chlorophenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2-Methylnaphthalene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2-Methylphenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
2-Nitrophenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
3,3'-Dichlorobenzidine	ND (0.780)		1	10/20/12 0:05	CVJ0221	CJ21819
3+4-Methylphenol	ND (0.780)		1	10/20/12 0:05	CVJ0221	CJ21819
4-Bromophenyl-phenylether	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
4-Chloroaniline	ND (0.780)		1	10/20/12 0:05	CVJ0221	CJ21819
4-Nitrophenol	ND (1.95)		1	10/20/12 0:05	CVJ0221	CJ21819
Acenaphthene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Acenaphthylene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Acetophenone	ND (0.780)		1	10/20/12 0:05	CVJ0221	CJ21819
Aniline	ND (1.95)		1	10/20/12 0:05	CVJ0221	CJ21819
Anthracene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Azobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Benzo(a)anthracene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Benzo(a)pyrene	0.336 (0.195)		1	10/20/12 0:05	CVJ0221	CJ21819
Benzo(b)fluoranthene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
• •	,					

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft Date Sampled: 10/16/12 11:35

Percent Solids: 91 Initial Volume: 14.1 Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Benzo(g,h,i)perylene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Benzo(k)fluoranthene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
bis(2-Chloroethoxy)methane	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
bis(2-Chloroethyl)ether	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
bis(2-chloroisopropyl)Ether	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
bis(2-Ethylhexyl)phthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Butylbenzylphthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Chrysene	0.390 (0.195)		1	10/20/12 0:05	CVJ0221	CJ21819
Dibenzo(a,h)Anthracene	ND (0.195)		1	10/20/12 0:05	CVJ0221	CJ21819
Dibenzofuran	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Diethylphthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Dimethylphthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Di-n-butylphthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Di-n-octylphthalate	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Fluoranthene	0.856 (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Fluorene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Hexachlorobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Hexachlorobutadiene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Hexachloroethane	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Indeno(1,2,3-cd)Pyrene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Isophorone	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Naphthalene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Nitrobenzene	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
N-Nitrosodimethylamine	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Pentachlorophenol	ND (1.95)		1	10/20/12 0:05	CVJ0221	CJ21819
Phenanthrene	0.573 (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Phenol	ND (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819
Pyrene	0.768 (0.389)		1	10/20/12 0:05	CVJ0221	CJ21819

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft

Date Sampled: 10/16/12 11:35 Percent Solids: 91 Initial Volume: 14.1

Final Volume: 0.5

Extraction Method: 3546

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/18/12 18:10

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
	%Recovery Qualifier	- Limits				
Surrogate: 1,2-Dichlorobenzene-d4	<i>57</i> %	30-130				
Surrogate: 2,4,6-Tribromophenol	89 %	30-130				
Surrogate: 2-Chlorophenol-d4	64 %	30-130				
Surrogate: 2-Fluorobiphenyl	63 %	30-130				
Surrogate: 2-Fluorophenol	61 %	30-130				
Surrogate: Nitrobenzene-d5	<i>56</i> %	30-130				
Surrogate: Phenol-d6	67 %	30-130				
Surrogate: p-Terphenyl-d14	87 %	30-130				

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Dependability • Quality

Fax: 401-461-4486

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 1ft-6ft Date Sampled: 10/16/12 11:35

Percent Solids: 91

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-01

Sample Matrix: Soil

Classical Chemistry

Analyte Conductivity	<u>Results (MRL)</u> WL 174 (5)	Method 9050A	<u>Limit</u>	<u>DF</u>	Analyst EEM	Analyzed 10/23/12 14:35	Units umhos/cm	Batch CJ22308
Corrosivity (pH)	8.51 (N/A)	9045		1	DPS	10/18/12 20:15	S.U.	CJ21838
Corrosivity (pH) Sample Temp	Soil pH measured in v	vater at 21.3 °C.						
Flashpoint	> 200 (N/A)	1010		1	DPS	10/19/12 13:45	°F	CJ21927
Reactive Cyanide	ND (2.0)	7.3.3.2		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Reactive Sulfide	ND (2.0)	7.3.4.1		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Redox Potential	WL 194 (N/A)	2580		1	DPS	10/18/12 20:05	mv	CJ21839



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 2ft-4ft Date Sampled: 10/16/12 11:01

Percent Solids: 91

Initial Volume: 34.494 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	<u>Sequence</u>	Batch
1,1,1,2-Tetrachloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1,1-Trichloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1,2,2-Tetrachloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1,2-Trichloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1-Dichloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1-Dichloroethene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,1-Dichloropropene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2,3-Trichlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2,3-Trichloropropane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2,4-Trichlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2,4-Trimethylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2-Dibromo-3-Chloropropane	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
1,2-Dibromoethane	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
1,2-Dichlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2-Dichloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,2-Dichloropropane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,3,5-Trimethylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,3-Dichlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,3-Dichloropropane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,4-Dichlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
1,4-Dioxane	ND (3.04)		1	10/24/12 3:57	N2J0022	NJ22303
2,2-Dichloropropane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
2-Butanone	ND (0.791)		1	10/24/12 3:57	N2J0022	NJ22303
2-Chlorotoluene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
2-Hexanone	ND (0.791)		1	10/24/12 3:57	N2J0022	NJ22303
4-Chlorotoluene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
4-Isopropyltoluene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
4-Methyl-2-Pentanone	ND (0.791)		1	10/24/12 3:57	N2J0022	NJ22303
Acetone	ND (1.52)		1	10/24/12 3:57	N2J0022	NJ22303
Acrolein - Screen	ND (3.04)		1	10/24/12 3:57	N2J0022	NJ22303
Benzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
	` '					

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Tel: 401-461-7181

Quality

Dependability

Fax: 401-461-4486

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 2ft-4ft

Date Sampled: 10/16/12 11:01 Percent Solids: 91

Initial Volume: 34.494 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte Bromobenzene	Results (MRL) ND (0.0304)	<u>Limit</u>	<u>DF</u>	Analyzed 10/24/12 3:57	Sequence N2J0022	Batch NJ22303
Bromochloromethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Bromodichloromethane	,		1	10/24/12 3:57	N2J0022	NJ22303
Bromoform	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Bromomethane	ND (0.0609)		1	10/24/12 3:57	N2J0022 N2J0022	NJ22303 NJ22303
	ND (0.0609)					
Carbon Disulfide	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Carbon Tetrachloride	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Chlorobenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Chloroethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Chloroform	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Chloromethane	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
cis-1,2-Dichloroethene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
cis-1,3-Dichloropropene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Dibromochloromethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Dibromomethane	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Dichlorodifluoromethane	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Diethyl Ether	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Di-isopropyl ether	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Ethyl tertiary-butyl ether	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Ethylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Hexachlorobutadiene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Isopropylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Methyl tert-Butyl Ether	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Methylene Chloride	ND (0.152)		1	10/24/12 3:57	N2J0022	NJ22303
Naphthalene	0.0761 (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
n-Butylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
n-Propylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
sec-Butylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Styrene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
tert-Butylbenzene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Tertiary-amyl methyl ether	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
- · · · · · · · · · · · · · · · · · · ·	1.2 (0.000)		-			

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-203 2ft-4ft Date Sampled: 10/16/12 11:01

Percent Solids: 91
Initial Volume: 34.494

Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210384 ESS Laboratory Sample ID: 1210384-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Tetrachloroethene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Tetrahydrofuran	ND (3.04)		1	10/24/12 3:57	N2J0022	NJ22303
Toluene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
trans-1,2-Dichloroethene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
trans-1,3-Dichloropropene	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Trichloroethene	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Trichlorofluoromethane	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303
Vinyl Chloride	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Xylene O	ND (0.0304)		1	10/24/12 3:57	N2J0022	NJ22303
Xylene P,M	ND (0.0609)		1	10/24/12 3:57	N2J0022	NJ22303

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	105 %		70-130
Surrogate: 4-Bromofluorobenzene	104 %		70-130
Surrogate: Dibromofluoromethane	116 %		70-130
Surrogate: Toluene-d8	117 %		70-130

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		3050B/	6000/7000 T	otal Met	als					
3atch CJ21922 - 3050B										
Blank										
Arsenic	ND	2.5	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
_ead	ND	5.0	mg/kg wet							
LCS										
Arsenic	138	9.6	mg/kg wet	168.0		82	80-120			
Cadmium	81.6	1.93	mg/kg wet	103.0		79	80-120			B-
Chromium	101	3.8	mg/kg wet	119.0		85	80-120			
Lead	64.4	19.2	mg/kg wet	76.90		84	80-120			
LCS Dup										
Arsenic	147	9.8	mg/kg wet	168.0		88	80-120	6	20	
Cadmium	88.0	1.97	mg/kg wet	103.0		85	80-120	8	20	
Chromium	110	3.9	mg/kg wet	119.0		92	80-120	8	20	
_ead	69.3	19.6	mg/kg wet	76.90		90	80-120	7	20	
Batch CJ21924 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	24.0	3.19	mg/kg wet	25.10		95	80-120			
LCS Dup										
Mercury	24.2	2.87	mg/kg wet	25.10		96	80-120	0.9	20	
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch CJ21735 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1016 (1)	ND	0.0500	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (2)	ND	0.0500	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (3)	ND	0.0500	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (4)	ND	0.0500	mg/kg wet							
Aroclor 1016 (4) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (5)	ND	0.0500	mg/kg wet							
Aroclor 1016 (5) [2C]	ND	0.0500	mg/kg wet							

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Aroclor 1221

Aroclor 1221 (1)

Aroclor 1221 (2)

Aroclor 1221 (3)

Aroclor 1221 (1) [2C]

Aroclor 1221 (2) [2C]

ND

ND

ND

ND

ND

ND

mg/kg wet
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mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

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http://www.ESSLaboratory.com

0.0500

0.0500

0.0500

0.0500

0.0500

0.0500



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ21735 - 3540			
Aroclor 1221 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (4)	ND	0.0500	mg/kg wet
Aroclor 1221 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (5)	ND	0.0500	mg/kg wet
Aroclor 1221 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1232 (1)	ND	0.0500	mg/kg wet
Aroclor 1232 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (2)	ND	0.0500	mg/kg wet
Aroclor 1232 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (3)	ND	0.0500	mg/kg wet
Aroclor 1232 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (4)	ND	0.0500	mg/kg wet
Aroclor 1232 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (5)	ND	0.0500	mg/kg wet
Aroclor 1232 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1242 (1)	ND	0.0500	mg/kg wet
Aroclor 1242 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (2)	ND	0.0500	mg/kg wet
Aroclor 1242 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (3)	ND	0.0500	mg/kg wet
Aroclor 1242 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (4)	ND	0.0500	mg/kg wet
Aroclor 1242 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (5)	ND	0.0500	mg/kg wet
Aroclor 1242 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1248 (1)	ND	0.0500	mg/kg wet
Aroclor 1248 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (2)	ND	0.0500	mg/kg wet
Aroclor 1248 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (3)	ND	0.0500	mg/kg wet
Aroclor 1248 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (4)	ND	0.0500	mg/kg wet
Aroclor 1248 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (5)	ND	0.0500	mg/kg wet
Aroclor 1248 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1254 (1)	ND	0.0500	mg/kg wet
Aroclor 1254 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (2)	ND	0.0500	mg/kg wet
Aroclor 1254 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (3)	ND	0.0500	mg/kg wet
Aroclor 1254 (3) [2C]	ND	0.0500	mg/kg wet

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

										$\overline{}$
				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ21735 - 3540							
Aroclor 1254 (4)	ND	0.0500	mg/kg wet				
Aroclor 1254 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1254 (5)	ND	0.0500	mg/kg wet				
Aroclor 1254 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260	ND	0.0500	mg/kg wet				
Aroclor 1260 (1)	ND	0.0500	mg/kg wet				
Aroclor 1260 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (2)	ND	0.0500	mg/kg wet				
Aroclor 1260 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (3)	ND	0.0500	mg/kg wet				
Aroclor 1260 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (4)	ND	0.0500	mg/kg wet				
Aroclor 1260 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1260 (5)	ND	0.0500	mg/kg wet				
Aroclor 1260 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262	ND	0.0500	mg/kg wet				
Aroclor 1262 (1)	ND	0.0500	mg/kg wet				
Aroclor 1262 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (2)	ND	0.0500	mg/kg wet				
Aroclor 1262 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (3)	ND	0.0500	mg/kg wet				
Aroclor 1262 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (4)	ND	0.0500	mg/kg wet				
Aroclor 1262 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1262 (5)	ND	0.0500	mg/kg wet				
Aroclor 1262 (5) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268	ND	0.0500	mg/kg wet				
Aroclor 1268 (1)	ND	0.0500	mg/kg wet				
Aroclor 1268 (1) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (2)	ND	0.0500	mg/kg wet				
Aroclor 1268 (2) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (3)	ND	0.0500	mg/kg wet				
Aroclor 1268 (3) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (4)	ND	0.0500	mg/kg wet				
Aroclor 1268 (4) [2C]	ND	0.0500	mg/kg wet				
Aroclor 1268 (5)	ND	0.0500	mg/kg wet				
Aroclor 1268 (5) [2C]	ND	0.0500	mg/kg wet				
Surrogate: Decachlorobiphenyl	0.0206		mg/kg wet	0.02500	82	30-150	
Surrogate: Decachlorobiphenyl [2C]	0.0199		mg/kg wet	0.02500	80	30-150	
Surrogate: Tetrachloro-m-xylene	0.0200		mg/kg wet	0.02500	80	30-150	
Surrogate: Tetrachloro-m-xylene [2C]	0.0216		mg/kg wet	0.02500	86	30-150	
LCS							
Aroclor 1016	0.440	0.0500	mg/kg wet	0.5000	88	40-140	
Aroclor 1260	0.420	0.0500	mg/kg wet	0.5000	84	40-140	

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

### 8082A Polychlorinated Biphenyls ### 8082A P	88 79 84 86	30-150 30-150 30-150 30-150			
Surrogate: Decachlorobiphenyl 0.0220 mg/kg wet 0.02500 Surrogate: Decachlorobiphenyl [2C] 0.0198 mg/kg wet 0.02500 Surrogate: Tetrachloro-m-xylene 0.0210 mg/kg wet 0.02500	79 84 86	30-150 30-150			
Surrogate: Decachlorobiphenyl [2C] 0.0198 mg/kg wet 0.02500 Surrogate: Tetrachloro-m-xylene 0.0210 mg/kg wet 0.02500	79 84 86	30-150 30-150			
Surrogate: Decachlorobiphenyl [2C] 0.0198 mg/kg wet 0.02500 Surrogate: Tetrachloro-m-xylene 0.0210 mg/kg wet 0.02500	84 86	30-150			
Surrogate: Tetrachloro-m-xylene 0.0210 mg/kg wet 0.02500	86				
0.0214 malka wat 0.02500		30-150			
Surrogate: Tetrachloro-m-xylene [2C] U.U214 mg/kg wet U.U2500					
LCS Dup					
Aroclor 1016 0.421 0.0500 mg/kg wet 0.5000	84	40-140	4	30	
Aroclor 1260 0.436 0.0500 mg/kg wet 0.5000	87	40-140	4	30	
Surrogate: Decachlorobiphenyl 0.0227 mg/kg wet 0.02500	91	30-150			
Surrogate: Decachlorobiphenyl [2C] 0.0204 mg/kg wet 0.02500	81	30-150			
Surrogate: Tetrachloro-m-xylene 0.0196 mg/kg wet 0.02500	<i>78</i>	30-150			
Surrogate: Tetrachloro-m-xylene [2C] 0.0203 mg/kg wet 0.02500	81	30-150			
8100M Total Petroleum Hydroca	arbons				
Batch CJ21906 - 3546					
Blank					
Decane (C10) ND 0.2 mg/kg wet					
Docosane (C22) ND 0.2 mg/kg wet					
Dodecane (C12) ND 0.2 mg/kg wet					
Eicosane (C20) ND 0.2 mg/kg wet					
Hexacosane (C26) ND 0.2 mg/kg wet					
Hexadecane (C16) ND 0.2 mg/kg wet					
Nonadecane (C19) ND 0.2 mg/kg wet					
Nonane (C9) ND 0.2 mg/kg wet					
Octacosane (C28) ND 0.2 mg/kg wet					
Octadecane (C18) ND 0.2 mg/kg wet					
Tetracosane (C24) ND 0.2 mg/kg wet					
Tetradecane (C14) ND 0.2 mg/kg wet					
Total Petroleum Hydrocarbons ND 10.0 mg/kg wet					
Triacontane (C30) ND 0.2 mg/kg wet					
Surrogate: O-Terphenyl 4.80 mg/kg wet 5.000	96	40-140			
LCS					
Decane (C10) 2.2 0.2 mg/kg wet 2.500	88	40-140			
Docosane (C22) 2.3 0.2 mg/kg wet 2.500	93	40-140			
Dodecane (C12) 2.3 0.2 mg/kg wet 2.500	93	40-140			
Eicosane (C20) 2.3 0.2 mg/kg wet 2.500	92	40-140			
Hexacosane (C26) 2.3 0.2 mg/kg wet 2.500	93	40-140			
Hexadecane (C16) 2.3 0.2 mg/kg wet 2.500	93	40-140			
Nonadecane (C19) 2.4 0.2 mg/kg wet 2.500	97	40-140			
Nonane (C9) 1.9 0.2 mg/kg wet 2.500	74	30-140			
Octacosane (C28) 2.4 0.2 mg/kg wet 2.500	95	40-140			
Octadecane (C18) 2.3 0.2 mg/kg wet 2.500	93	40-140			
Tetracosane (C24) 2.3 0.2 mg/kg wet 2.500	93	40-140			

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

	_ ,			Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
		8100M Tot	tal Petroleum	Hydroca	irbons					
Batch CJ21906 - 3546										
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Surrogate: O-Terphenyl	4.78		mg/kg wet	5.000		96	40-140			
LCS Dup										
Decane (C10)	2.1	0.2	mg/kg wet	2.500		83	40-140	6	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		94	40-140	0.5	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		91	40-140	0.6	25	
Hexacosane (C26)	2.4	0.2	mg/kg wet	2.500		94	40-140	1	25	
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		90	40-140	4	25	
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140	1	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		69	30-140	8	25	
Octacosane (C28)	2.4	0.2	mg/kg wet	2.500		96	40-140	1	25	
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		91	40-140	3	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		94	40-140	1	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		97	40-140	0.9	25	
Surrogate: O-Terphenyl	4.60		mg/kg wet	5.000		92	40-140			

8270D Semi-Volatile Organic Compounds

ND	0.333	mg/kg wet
ND	0.333	mg/kg wet
ND	1.67	mg/kg wet
ND	0.333	mg/kg wet
ND	0.667	mg/kg wet
ND	0.667	mg/kg wet
ND	0.333	mg/kg wet
ND	0.667	mg/kg wet
	ND ND ND ND ND ND ND ND ND ND ND ND ND N	ND 0.333 ND 0.333

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Dependability ◆ Quality

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

ESS Laboratory Work Order: 1210384 Client Project ID: Proposed Multi-Family Housing Development

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D Semi-Volatile Organic Compounds

Batch CJ21819 - 3546						
4-Nitrophenol	ND	1.67	mg/kg wet			
Acenaphthene	ND	0.333	mg/kg wet			
Acenaphthylene	ND	0.333	mg/kg wet			
Acetophenone	ND	0.667	mg/kg wet			
Aniline	ND	1.67	mg/kg wet			
Anthracene	ND	0.333	mg/kg wet			
Azobenzene	ND	0.333	mg/kg wet			
Benzo(a)anthracene	ND	0.333	mg/kg wet			
Benzo(a)pyrene	ND	0.167	mg/kg wet			
Benzo(b)fluoranthene	ND	0.333	mg/kg wet			
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet			
Benzo(k)fluoranthene	ND	0.333	mg/kg wet			
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet			
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet			
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet			
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet			
Butylbenzylphthalate	ND	0.333	mg/kg wet			
Chrysene	ND	0.167	mg/kg wet			
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet			
Dibenzofuran	ND	0.333	mg/kg wet			
Diethylphthalate	ND	0.333	mg/kg wet			
Dimethylphthalate	ND	0.333	mg/kg wet			
Di-n-butylphthalate	ND	0.333	mg/kg wet			
Di-n-octylphthalate	ND	0.333	mg/kg wet			
Fluoranthene	ND	0.333	mg/kg wet			
Fluorene	ND	0.333	mg/kg wet			
Hexachlorobenzene	ND	0.333	mg/kg wet			
Hexachlorobutadiene	ND	0.333	mg/kg wet			
Hexachloroethane	ND	0.333	mg/kg wet			
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet			
Isophorone	ND	0.333	mg/kg wet			
Naphthalene	ND	0.333	mg/kg wet			
Nitrobenzene	ND	0.333	mg/kg wet			
N-Nitrosodimethylamine	ND	0.333	mg/kg wet			
Pentachlorophenol	ND	1.67	mg/kg wet			
Phenanthrene	ND	0.333	mg/kg wet			
Phenol	ND	0.333	mg/kg wet			
Pyrene	ND	0.333	mg/kg wet			
Surrogate: 1,2-Dichlorobenzene-d4	2.43		mg/kg wet	3.333	73	30-130
Surrogate: 2,4,6-Tribromophenol	4.05		mg/kg wet	5.000	81	30-130
Surrogate: 2-Chlorophenol-d4	3.83		mg/kg wet	5.000	77	30-130
Surrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333	74	30-130
Surrogate: 2-Fluorophenol	3.77		mg/kg wet	5.000	<i>75</i>	30-130
Surrogate: Nitrobenzene-d5	2.43		mg/kg wet	3.333	73	30-130
Surrogate: Phenol-d6	3.89		mg/kg wet	5.000	78	30-130
Surrogate: p-Terphenyl-d14	3.29		mg/kg wet	3.333	99	30-130
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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D Semi-Volatile Organic Compounds

atch CJ21819 - 3546							
cs					·		
I-Biphenyl	2.12	0.333	mg/kg wet	3.333	64	40-140	
-Trichlorobenzene	1.88	0.333	mg/kg wet	3.333	56	40-140	
chlorobenzene	1.89	0.333	mg/kg wet	3.333	57	40-140	
chlorobenzene	1.85	0.333	mg/kg wet	3.333	55	40-140	
chlorobenzene	1.85	0.333	mg/kg wet	3.333	56	40-140	
Trichlorophenol	2.78	0.333	mg/kg wet	3.333	83	30-130	
Frichlorophenol	2.45	0.333	mg/kg wet	3.333	73	30-130	
chlorophenol	2.15	0.333	mg/kg wet	3.333	64	30-130	
nethylphenol	2.11	0.333	mg/kg wet	3.333	63	30-130	
itrophenol	2.70	1.67	mg/kg wet	3.333	81	30-130	
trotoluene	2.86	0.333	mg/kg wet	3.333	86	40-140	
itrotoluene	2.79	0.333	mg/kg wet	3.333	84	40-140	
onaphthalene	2.05	0.333	mg/kg wet	3.333	62	40-140	
phenol	1.91	0.333	mg/kg wet	3.333	57	30-130	
Inaphthalene	2.02	0.333	mg/kg wet	3.333	61	40-140	
lphenol	1.99	0.333	mg/kg wet	3.333	60	30-130	
henol	1.98	0.333	mg/kg wet	3.333	59	30-130	
chlorobenzidine	2.50	0.667	mg/kg wet	3.333	75	40-140	
ylphenol	4.15	0.667	mg/kg wet	6.667	62	30-130	
henyl-phenylether	2.80	0.333	mg/kg wet	3.333	84	40-140	
niline	1.72	0.667	mg/kg wet	3.333	52	40-140	
enol	2.63	1.67	mg/kg wet	3.333	79	30-130	
nene	2.53	0.333	mg/kg wet	3.333	76	40-140	
nylene	2.15	0.333	mg/kg wet	3.333	64	40-140	
none	1.95	0.667	mg/kg wet	3.333	58	40-140	
	1.46	1.67	mg/kg wet	3.333	44	40-140	
e	3.05	0.333	mg/kg wet	3.333	91	40-140	
ene	2.54	0.333	mg/kg wet	3.333	76	40-140	
anthracene	3.08	0.333	mg/kg wet	3.333	92	40-140	
)pyrene	2.86	0.167	mg/kg wet	3.333	86	40-140	
)fluoranthene	3.20	0.333	mg/kg wet	3.333	96	40-140	
,h,i)perylene	3.09	0.333	mg/kg wet	3.333	93	40-140	
)fluoranthene	3.18	0.333	mg/kg wet	3.333	96	40-140	
nloroethoxy)methane	1.96	0.333	mg/kg wet	3.333	59	40-140	
hloroethyl)ether	1.91	0.333	mg/kg wet	3.333	57	40-140	
nloroisopropyl)Ether	1.86	0.333	mg/kg wet	3.333	56	40-140	
thylhexyl)phthalate	2.94	0.333	mg/kg wet	3.333	88	40-140	
nzylphthalate	2.86	0.333	mg/kg wet	3.333	86	40-140	
ne	3.08	0.167	mg/kg wet	3.333	92	40-140	
o(a,h)Anthracene	3.14	0.167	mg/kg wet	3.333	94	40-140	
ofuran	2.48	0.333	mg/kg wet	3.333	74	40-140	
ohthalate	2.84	0.333	mg/kg wet	3.333	85	40-140	
ylphthalate	2.71	0.333	mg/kg wet	3.333	81	40-140	
utylphthalate	2.96	0.333	mg/kg wet	3.333	89	40-140	
• •			5, 5				

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifie
	:	8270D Semi	-Volatile Orga	anic Com	pounds					
Batch CJ21819 - 3546										
Di-n-octylphthalate	2.95	0.333	mg/kg wet	3.333		89	40-140			
Fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Fluorene	2.76	0.333	mg/kg wet	3.333		83	40-140			
Hexachlorobenzene	2.84	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobutadiene	1.90	0.333	mg/kg wet	3.333		57	40-140			
lexachloroethane	1.84	0.333	mg/kg wet	3.333		55	40-140			
ndeno(1,2,3-cd)Pyrene	3.11	0.333	mg/kg wet	3.333		93	40-140			
sophorone	1.93	0.333	mg/kg wet	3.333		58	40-140			
laphthalene	1.96	0.333	mg/kg wet	3.333		59	40-140			
Nitrobenzene	1.93	0.333	mg/kg wet	3.333		58	40-140			
I-Nitrosodimethylamine	1.79	0.333	mg/kg wet	3.333		54	40-140			
Pentachlorophenol	2.74	1.67	mg/kg wet	3.333		82	30-130			
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Phenol	1.95	0.333	mg/kg wet	3.333		59	30-130			
Pyrene	3.12	0.333	mg/kg wet	3.333		94	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	1.88		mg/kg wet	3.333		56	30-130			
Surrogate: 2,4,6-Tribromophenol	4.68		mg/kg wet	5.000		94	30-130			
Surrogate: 2-Chlorophenol-d4	3.00		mg/kg wet	5.000		60	30-130			
Surrogate: 2-Fluorobiphenyl	2.13		mg/kg wet	3.333		64	30-130			
Surrogate: 2-Fluorophenol	2.91		mg/kg wet	5.000		58	30-130			
Surrogate: Nitrobenzene-d5	1.92		mg/kg wet	3.333		58	30-130			
Surrogate: Phenol-d6	3.09		mg/kg wet	5.000		62	30-130			
Surrogate: p-Terphenyl-d14	3.05		mg/kg wet	3.333		91	30-130			
.CS Dup										
,1-Biphenyl	2.21	0.333	mg/kg wet	3.333		66	40-140	4	30	
,2,4-Trichlorobenzene	1.94	0.333	mg/kg wet	3.333		58	40-140	3	30	
.,2-Dichlorobenzene	1.94	0.333	mg/kg wet	3.333		58	40-140	2	30	
.,3-Dichlorobenzene	1.89	0.333	mg/kg wet	3.333		57	40-140	2	30	
1,4-Dichlorobenzene	1.90	0.333	mg/kg wet	3.333		57	40-140	3	30	
2,4,5-Trichlorophenol	2.88	0.333	mg/kg wet	3.333		86	30-130	4	30	
2,4,6-Trichlorophenol	2.58	0.333	mg/kg wet	3.333		77	30-130	5	30	
,4-Dichlorophenol	2.27	0.333	mg/kg wet	3.333		68	30-130	5	30	
2,4-Dimethylphenol	2.17	0.333	mg/kg wet	3.333		65	30-130	3	30	
2,4-Dinitrophenol	2.92	1.67	mg/kg wet	3.333		87	30-130	8	30	
,4-Dinitrotoluene	2.97	0.333	mg/kg wet	3.333		89	40-140	4	30	
,6-Dinitrotoluene	2.90	0.333	mg/kg wet	3.333		87	40-140	4	30	
-Chloronaphthalene	2.14	0.333	mg/kg wet	3.333		64	40-140	4	30	
2-Chlorophenol	1.96	0.333	mg/kg wet	3.333		59	30-130	3	30	
?-Methylnaphthalene	2.11	0.333	mg/kg wet	3.333		63	40-140	4	30	
2-Methylphenol	2.04	0.333	mg/kg wet	3.333		61	30-130	3	30	
-Nitrophenol	2.05	0.333	mg/kg wet	3.333		62	30-130	4	30	
,3´-Dichlorobenzidine	2.58	0.667	mg/kg wet	3.333		77	40-140	3	30	
,	2.50	00,		555				-		

185 Frances Avenue, Cranston, RI 02910-2211

4.31

2.89

1.84

3+4-Methylphenol

4-Chloroaniline

4-Bromophenyl-phenylether

Tel: 401-461-7181

mg/kg wet

mg/kg wet

mg/kg wet

6.667

3.333

3.333

Fax: 401-461-4486

65

87

30-130

40-140

40-140

http://www.ESSLaboratory.com

3

0.667

0.333

0.667

30

30

30



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

ESS Laboratory Work Order: 1210384 Client Project ID: Proposed Multi-Family Housing Development

Quality Control Data

Analyte Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
			Spike	Source		%REC		RPD	

82/0D Semi-Vo	latile Organic	Compounds
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Batch CJ21819 - 3546									
4-Nitrophenol	2.69	1.67	mg/kg wet	3.333	81	30-130	2	30	
Acenaphthene	2.63	0.333	mg/kg wet	3.333	79	40-140	4	30	
Acenaphthylene	2.23	0.333	mg/kg wet	3.333	67	40-140	4	30	
Acetophenone	2.00	0.667	mg/kg wet	3.333	60	40-140	3	30	
Aniline	1.53	1.67	mg/kg wet	3.333	46	40-140	5	30	
Anthracene	3.10	0.333	mg/kg wet	3.333	93	40-140	2	30	
Azobenzene	2.56	0.333	mg/kg wet	3.333	77	40-140	1	30	
Benzo(a)anthracene	3.12	0.333	mg/kg wet	3.333	94	40-140	1	30	
Benzo(a)pyrene	2.92	0.167	mg/kg wet	3.333	88	40-140	2	30	
Benzo(b)fluoranthene	3.26	0.333	mg/kg wet	3.333	98	40-140	2	30	
Benzo(g,h,i)perylene	3.18	0.333	mg/kg wet	3.333	95	40-140	3	30	
Benzo(k)fluoranthene	3.25	0.333	mg/kg wet	3.333	98	40-140	2	30	
bis(2-Chloroethoxy)methane	2.02	0.333	mg/kg wet	3.333	61	40-140	3	30	
bis(2-Chloroethyl)ether	1.94	0.333	mg/kg wet	3.333	58	40-140	2	30	
bis(2-chloroisopropyl)Ether	1.90	0.333	mg/kg wet	3.333	57	40-140	2	30	
bis(2-Ethylhexyl)phthalate	2.98	0.333	mg/kg wet	3.333	89	40-140	1	30	
Butylbenzylphthalate	2.89	0.333	mg/kg wet	3.333	87	40-140	0.9	30	
Chrysene	3.12	0.167	mg/kg wet	3.333	94	40-140	1	30	
Dibenzo(a,h)Anthracene	3.23	0.167	mg/kg wet	3.333	97	40-140	3	30	
Dibenzofuran	2.58	0.333	mg/kg wet	3.333	77	40-140	4	30	
Diethylphthalate	2.93	0.333	mg/kg wet	3.333	88	40-140	3	30	
Dimethylphthalate	2.79	0.333	mg/kg wet	3.333	84	40-140	3	30	
Di-n-butylphthalate	3.01	0.333	mg/kg wet	3.333	90	40-140	2	30	
Di-n-octylphthalate	3.02	0.333	mg/kg wet	3.333	91	40-140	2	30	
Fluoranthene	2.99	0.333	mg/kg wet	3.333	90	40-140	1	30	
Fluorene	2.85	0.333	mg/kg wet	3.333	85	40-140	3	30	
Hexachlorobenzene	2.88	0.333	mg/kg wet	3.333	86	40-140	1	30	
Hexachlorobutadiene	1.95	0.333	mg/kg wet	3.333	59	40-140	2	30	
Hexachloroethane	1.89	0.333	mg/kg wet	3.333	57	40-140	2	30	
Indeno(1,2,3-cd)Pyrene	3.17	0.333	mg/kg wet	3.333	95	40-140	2	30	
Isophorone	2.02	0.333	mg/kg wet	3.333	61	40-140	5	30	
Naphthalene	2.03	0.333	mg/kg wet	3.333	61	40-140	3	30	
Nitrobenzene	1.98	0.333	mg/kg wet	3.333	59	40-140	3	30	
N-Nitrosodimethylamine	1.81	0.333	mg/kg wet	3.333	54	40-140	0.9	30	
Pentachlorophenol	2.89	1.67	mg/kg wet	3.333	87	30-130	5	30	
Phenanthrene	3.10	0.333	mg/kg wet	3.333	93	40-140	2	30	
Phenol	2.02	0.333	mg/kg wet	3.333	60	30-130	3	30	
Pyrene	3.14	0.333	mg/kg wet	3.333	94	40-140	0.8	30	
•	1.87	0.333	mg/kg wet	3.333 3.333	56	30-130	0.0	50	
Surrogate: 1,2-Dichlorobenzene-d4	1.87 4.70		mg/kg wet	5.000	94	30-130 30-130			
Surrogate: 2,4,6-Tribromophenol	3.02		mg/kg wet	5.000	60	30-130 30-130			
Surrogate: 2-Chlorophenol-d4	2.21		mg/kg wet	3.333	66	30-130 30-130			
Surrogate: 2-Fluorobiphenyl	2.91		mg/kg wet	5.000	<i>58</i>	30-130 30-130			
Surrogate: 2-Fluorophenol	1.93		mg/kg wet	3.333	<i>58</i>	30-130 30-130			
Surrogate: Nitrobenzene-d5	3.12		mg/kg wet	5.000	62	30-130 30-130			
Surrogate: Phenol-d6	3.04		mg/kg wet	3.333	91	<i>30-130</i>			
Surrogate: p-Terphenyl-d14	enue, Cranston, RI 029	10 2211				http://www	ECCI ab	ntoru acre	
165 Frances Ave	niuc, Ciansion, Ki 029	10-2211	Геl: 401-461-718	ы гах. 401	1-461-4486	<u>πτρ.//www</u>	.LooLau0I	atory.com	

Dependability Quality

Service



The Microbiology Division of Thielsch Engineering, Inc.

0.68-5.41



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

ESS Laboratory Work Order: 1210384 Client Project ID: Proposed Multi-Family Housing Development

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
		Cl	assical Che	mistry						
Batch CJ21841 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							

mg/kg

mg/kg

100.3

10.00

LCS

Reactive Cyanide

Reactive Sulfide

Reference

Bat	ch CJ21927 - General Preparation	

Flashpoint	82	°F	81.00	101	98.15-101.85

2.0

Batch CJ22308 - General Preparation

Blank			
Conductivity	ND	5	umhos/cm

3.9

LCS					
Conductivity	1390	umhos/cm	1412	98	90-110

Quality Control Data

					Spike	Source		%REC		RPD	
Anal	yte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ22303 - 5035			
Blank			
1,1,1,2-Tetrachloroethane	ND	0.0533	mg/kg wet
1,1,1-Trichloroethane	ND	0.0533	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0533	mg/kg wet
1,1,2-Trichloroethane	ND	0.0533	mg/kg wet
1,1-Dichloroethane	ND	0.0533	mg/kg wet
1,1-Dichloroethene	ND	0.0533	mg/kg wet
1,1-Dichloropropene	ND	0.0533	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,3-Trichloropropane	ND	0.0533	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0533	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.107	mg/kg wet
1,2-Dibromoethane	ND	0.107	mg/kg wet
1,2-Dichlorobenzene	ND	0.0533	mg/kg wet
1,2-Dichloroethane	ND	0.0533	mg/kg wet
1,2-Dichloropropane	ND	0.0533	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0533	mg/kg wet
1,3-Dichlorobenzene	ND	0.0533	mg/kg wet
1,3-Dichloropropane	ND	0.0533	mg/kg wet
1,4-Dichlorobenzene	ND	0.0533	mg/kg wet

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ22303 - 5035			
1,4-Dioxane	ND	5.33	mg/kg wet
2,2-Dichloropropane	ND	0.0533	mg/kg wet
2-Butanone	ND	1.39	mg/kg wet
2-Chlorotoluene	ND	0.0533	mg/kg wet
2-Hexanone	ND	1.39	mg/kg wet
4-Chlorotoluene	ND	0.0533	mg/kg wet
4-Isopropyltoluene	ND	0.0533	mg/kg wet
4-Methyl-2-Pentanone	ND	1.39	mg/kg wet
Acetone	ND	2.67	mg/kg wet
Acrolein - Screen	ND	5.33	mg/kg wet
Benzene	ND	0.0533	mg/kg wet
Bromobenzene	ND	0.0533	mg/kg wet
Bromochloromethane	ND	0.0533	mg/kg wet
Bromodichloromethane	ND	0.0533	mg/kg wet
Bromoform	ND	0.107	mg/kg wet
Bromomethane	ND	0.107	mg/kg wet
Carbon Disulfide	ND	0.107	mg/kg wet
Carbon Tetrachloride	ND	0.0533	mg/kg wet
Chlorobenzene	ND	0.0533	mg/kg wet
Chloroethane	ND	0.0533	mg/kg wet
Chloroform	ND	0.0533	mg/kg wet
Chloromethane	ND	0.107	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0533	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0533	mg/kg wet
Dibromochloromethane	ND	0.0533	mg/kg wet
Dibromomethane	ND	0.0533	mg/kg wet
Dichlorodifluoromethane	ND	0.107	mg/kg wet
Diethyl Ether	ND	0.107	mg/kg wet
Di-isopropyl ether	ND	0.107	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.107	mg/kg wet
Ethylbenzene	ND	0.0533	mg/kg wet
Hexachlorobutadiene	ND	0.0533	mg/kg wet
Isopropylbenzene	ND	0.0533	mg/kg wet
Methyl tert-Butyl Ether	ND	0.0533	mg/kg wet
Methylene Chloride	ND	0.267	mg/kg wet
Naphthalene	ND	0.107	mg/kg wet
n-Butylbenzene	ND	0.0533	mg/kg wet
n-Propylbenzene	ND	0.0533	mg/kg wet
sec-Butylbenzene	ND	0.0533	mg/kg wet
Styrene	ND	0.0533	mg/kg wet
tert-Butylbenzene	ND	0.0533	mg/kg wet
Tertiary-amyl methyl ether	ND	0.107	mg/kg wet
Tetrachloroethene	ND	0.0533	mg/kg wet
Tetrahydrofuran	ND	5.33	mg/kg wet
Toluene	ND	0.0533	mg/kg wet

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

	5035	/8260 Volati	le Organic Co	mpounds /	Methanol		
Batch NJ22303 - 5035							
trans-1,2-Dichloroethene	ND	0.0533	mg/kg wet				
trans-1,3-Dichloropropene	ND	0.107	mg/kg wet				
Trichloroethene	ND	0.0533	mg/kg wet				
Trichlorofluoromethane	ND	0.107	mg/kg wet				
Vinyl Chloride	ND	0.0533	mg/kg wet				
Xylene O	ND	0.0533	mg/kg wet				
Xylene P,M	ND	0.107	mg/kg wet				
Surrogate: 1,2-Dichloroethane-d4	1.46		mg/kg wet	1.333	109	70-130	
Surrogate: 4-Bromofluorobenzene	1.35		mg/kg wet	1.333	101	70-130	
Surrogate: Dibromofluoromethane	1.47		mg/kg wet	1.333	110	70-130	
Surrogate: Toluene-d8	1.46		mg/kg wet	1.333	110	70-130	
LCS							
1,1,1,2-Tetrachloroethane	20.1		ug/L	20.00	100	70-130	
1,1,1-Trichloroethane	20.4		ug/L	20.00	102	70-130	
1,1,2,2-Tetrachloroethane	19.2		ug/L	20.00	96	70-130	
1,1,2-Trichloroethane	19.3		ug/L	20.00	97	70-130	
1,1-Dichloroethane	21.8		ug/L	20.00	109	70-130	
1,1-Dichloroethene	18.8		ug/L	20.00	94	70-130	
1,1-Dichloropropene	20.7		ug/L	20.00	104	70-130	
1,2,3-Trichlorobenzene	19.9		ug/L	20.00	99	70-130	
1,2,3-Trichloropropane	19.6		ug/L	20.00	98	70-130	
1,2,4-Trichlorobenzene	20.5		ug/L	20.00	103	70-130	
1,2,4-Trimethylbenzene	22.1		ug/L	20.00	111	70-130	
1,2-Dibromo-3-Chloropropane	18.4		ug/L	20.00	92	70-130	
1,2-Dibromoethane	20.7		ug/L	20.00	104	70-130	
1,2-Dichlorobenzene	20.2		ug/L	20.00	101	70-130	
1,2-Dichloroethane	20.7		ug/L	20.00	104	70-130	
1,2-Dichloropropane	22.0		ug/L	20.00	110	70-130	
1,3,5-Trimethylbenzene	22.4		ug/L	20.00	112	70-130	
1,3-Dichlorobenzene	20.8		ug/L	20.00	104	70-130	
1,3-Dichloropropane	20.6		ug/L	20.00	103	70-130	
1,4-Dichlorobenzene	20.4		ug/L	20.00	102	70-130	
1,4-Dioxane	172		ug/L	200.0	86	70-130	
2,2-Dichloropropane	16.5		ug/L	20.00	82	70-130	
2-Butanone	202		ug/L	200.0	101	70-130	
2-Chlorotoluene	21.8		ug/L	20.00	109	70-130	
2-Hexanone	210		ug/L	200.0	105	70-130	
4-Chlorotoluene	21.6		ug/L	20.00	108	70-130	
4-Isopropyltoluene	22.3		ug/L	20.00	112	70-130	
4-Methyl-2-Pentanone	203		ug/L	200.0	101	70-130	
Acetone	204		ug/L	200.0	102	70-130	
Acrolein - Screen	193		ug/L	200.0	96	70-130	
Benzene	20.8		ug/L	20.00	104	70-130	
Bromobenzene	20.0		ug/L	20.00	100	70-130	

185 Frances Avenue, Cranston, RI 02910-2211

19.5

Bromochloromethane

Tel: 401-461-7181

ug/L

Fax: 401-461-4486

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ22303 - 5035								
Bromodichloromethane	19.2	ug/L	20.00	96	70-130			
Bromoform	16.9	ug/L	20.00	84	70-130			
Bromomethane	13.1	ug/L	20.00	65	70-130			B-
Carbon Disulfide	17.6	ug/L	20.00	88	70-130			
Carbon Tetrachloride	20.6	ug/L	20.00	103	70-130			
Chlorobenzene	21.3	ug/L	20.00	106	70-130			
Chloroethane	14.1	ug/L	20.00	70	70-130			
Chloroform	19.9	ug/L	20.00	100	70-130			
Chloromethane	25.8	ug/L	20.00	129	70-130			
is-1,2-Dichloroethene	20.4	ug/L	20.00	102	70-130			
is-1,3-Dichloropropene	19.2	ug/L	20.00	96	70-130			
Dibromochloromethane	19.3	ug/L	20.00	96	70-130			
Dibromomethane	18.6	ug/L	20.00	93	70-130			
oichlorodifluoromethane	23.1	ug/L	20.00	116	70-130			
Diethyl Ether	16.8	ug/L	20.00	84	70-130			
Di-isopropyl ether	21.0	ug/L	20.00	105	70-130			
thyl tertiary-butyl ether	19.2	ug/L	20.00	96	70-130			
thylbenzene	21.7	ug/L	20.00	108	70-130			
lexachlorobutadiene	21.4	ug/L	20.00	107	70-130			
sopropylbenzene	22.2	ug/L	20.00	111	70-130			
lethyl tert-Butyl Ether	17.3	ug/L	20.00	87	70-130			
lethylene Chloride	19.0	ug/L	20.00	95	70-130			
laphthalene	20.9	ug/L	20.00	104	70-130			
-Butylbenzene	23.2	ug/L	20.00	116	70-130			
-Propylbenzene	22.1	ug/L	20.00	110	70-130			
ec-Butylbenzene	22.9	ug/L	20.00	114	70-130			
tyrene	21.8	ug/L	20.00	109	70-130			
ert-Butylbenzene	22.3	ug/L	20.00	112	70-130			
ertiary-amyl methyl ether	18.1	ug/L	20.00	90	70-130			
etrachloroethene	19.9	ug/L	20.00	99	70-130			
etrahydrofuran	19.6	ug/L	20.00	98	70-130			
oluene	20.5	ug/L	20.00	102	70-130			
rans-1,2-Dichloroethene	19.7	ug/L	20.00	98	70-130			
rans-1,3-Dichloropropene	16.9	ug/L	20.00	84	70-130			
richloroethene	20.5	ug/L	20.00	103	70-130			
richlorofluoromethane	17.4	ug/L	20.00	87	70-130			
inyl Chloride	22.2	ug/L	20.00	111	70-130			
ylene O	21.8	ug/L	20.00	109	70-130			
ylene P,M	43.1	ug/L	40.00	108	70-130			
`urrogate: 1,2-Dichloroethane-d4	<i>1.46</i>	mg/kg wet	1.333	110	70-130			
Surrogate: 4-Bromofluorobenzene	1.46	mg/kg wet	1.333	110	70-130			
Turrogate: Dibromofluoromethane	1.54	mg/kg wet	1.333	116	70-130			
Surrogate: Toluene-d8	1.59	mg/kg wet	1.333	119	70-130			
CS Dup								
1,1,2-Tetrachloroethane	19.6	ug/L	20.00	98	70-130	3	25	
,-,-,	15.0	~g/ =	_5.00	,,	, 0 200	•		

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Quality

Dependability

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Vol	atile Organic	Compounds /	Methanol
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Batch NJ22303 - 5035								
1,1,1-Trichloroethane	18.9	ug/L	20.00	95	70-130	7	25	
1,1,2,2-Tetrachloroethane	18.4	ug/L	20.00	92	70-130	4	25	
1,1,2-Trichloroethane	18.9	ug/L	20.00	94	70-130	2	25	
1,1-Dichloroethane	20.8	ug/L	20.00	104	70-130	5	25	
1,1-Dichloroethene	18.1	ug/L	20.00	90	70-130	4	25	
1,1-Dichloropropene	20.4	ug/L	20.00	102	70-130	2	25	
1,2,3-Trichlorobenzene	18.3	ug/L	20.00	92	70-130	8	25	
1,2,3-Trichloropropane	18.4	ug/L	20.00	92	70-130	6	25	
1,2,4-Trichlorobenzene	19.0	ug/L	20.00	95	70-130	8	25	
1,2,4-Trimethylbenzene	20.3	ug/L	20.00	101	70-130	9	25	
1,2-Dibromo-3-Chloropropane	18.1	ug/L	20.00	91	70-130	1	25	
1,2-Dibromoethane	19.6	ug/L	20.00	98	70-130	6	25	
1,2-Dichlorobenzene	18.8	ug/L	20.00	94	70-130	7	25	
1,2-Dichloroethane	19.7	ug/L	20.00	99	70-130	5	25	
1,2-Dichloropropane	20.5	ug/L	20.00	103	70-130	7	25	
1,3,5-Trimethylbenzene	20.4	ug/L	20.00	102	70-130	9	25	
1,3-Dichlorobenzene	19.4	ug/L	20.00	97	70-130	7	25	
1,3-Dichloropropane	20.2	ug/L	20.00	101	70-130	2	25	
1,4-Dichlorobenzene	19.0	ug/L	20.00	95	70-130	7	25	
1,4-Dioxane	171	ug/L	200.0	86	70-130	0.2	20	
2,2-Dichloropropane	15.3	ug/L	20.00	77	70-130	7	25	
2-Butanone	192	ug/L	200.0	96	70-130	5	25	
2-Chlorotoluene	20.2	ug/L	20.00	101	70-130	8	25	
2-Hexanone	203	ug/L	200.0	101	70-130	4	25	
4-Chlorotoluene	19.8	ug/L	20.00	99	70-130	9	25	
4-Isopropyltoluene	20.7	ug/L	20.00	104	70-130	7	25	
4-Methyl-2-Pentanone	192	ug/L	200.0	96	70-130	5	25	
Acetone	196	ug/L	200.0	98	70-130	4	25	
Acrolein - Screen	176	ug/L	200.0	88	70-130	9	25	
Benzene	19.6	ug/L	20.00	98	70-130	6	25	
Bromobenzene	18.3	ug/L	20.00	91	70-130	9	25	
Bromochloromethane	18.4	ug/L	20.00	92	70-130	6	25	
Bromodichloromethane	18.0	ug/L	20.00	90	70-130	6	25	
Bromoform	16.0	ug/L	20.00	80	70-130	6	25	
Bromomethane	11.4	ug/L	20.00	57	70-130	14	25	B-
Carbon Disulfide	16.6	ug/L	20.00	83	70-130	5	25	
Carbon Tetrachloride	19.1	ug/L	20.00	96	70-130	7	25	
Chlorobenzene	20.5	ug/L	20.00	102	70-130	4	25	
Chloroethane	13.3	ug/L	20.00	66	70-130	6	25	B-
Chloroform	18.5	ug/L	20.00	93	70-130	7	25	
Chloromethane	24.0	ug/L	20.00	120	70-130	7	25	
cis-1,2-Dichloroethene	18.6	ug/L	20.00	93	70-130	10	25	
cis-1,3-Dichloropropene	18.0	ug/L	20.00	90	70-130	6	25	
Dibromochloromethane	18.6	ug/L	20.00	93	70-130	4	25	
Dibromomethane	17.4	ug/L	20.00	87	70-130	7	25	

185 Frances Avenue, Cranston, RI 02910-2211

2211 Tel: 401-461-7181

Dependability

◆ Quality

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic C	Compounds	/ Methanol
------------------------------	-----------	------------

Batch NJ22303 - 5035							
Dichlorodifluoromethane	22.1	ug/L	20.00	110	70-130	5	25
Diethyl Ether	15.1	ug/L	20.00	76	70-130	11	25
Di-isopropyl ether	20.3	ug/L	20.00	102	70-130	3	25
Ethyl tertiary-butyl ether	18.6	ug/L	20.00	93	70-130	3	25
Ethylbenzene	21.2	ug/L	20.00	106	70-130	2	25
Hexachlorobutadiene	20.0	ug/L	20.00	100	70-130	7	25
Isopropylbenzene	20.5	ug/L	20.00	103	70-130	8	25
Methyl tert-Butyl Ether	16.9	ug/L	20.00	84	70-130	3	25
Methylene Chloride	17.8	ug/L	20.00	89	70-130	6	25
Naphthalene	19.3	ug/L	20.00	97	70-130	8	25
n-Butylbenzene	21.4	ug/L	20.00	107	70-130	8	25
n-Propylbenzene	20.6	ug/L	20.00	103	70-130	7	25
sec-Butylbenzene	20.7	ug/L	20.00	103	70-130	10	25
Styrene	19.7	ug/L	20.00	98	70-130	10	25
tert-Butylbenzene	20.5	ug/L	20.00	102	70-130	9	25
Tertiary-amyl methyl ether	17.6	ug/L	20.00	88	70-130	3	25
Tetrachloroethene	19.6	ug/L	20.00	98	70-130	2	25
Tetrahydrofuran	18.8	ug/L	20.00	94	70-130	4	25
Toluene	19.4	ug/L	20.00	97	70-130	6	25
trans-1,2-Dichloroethene	19.2	ug/L	20.00	96	70-130	3	25
trans-1,3-Dichloropropene	16.0	ug/L	20.00	80	70-130	5	25
Trichloroethene	19.4	ug/L	20.00	97	70-130	6	25
Trichlorofluoromethane	16.0	ug/L	20.00	80	70-130	9	25
Vinyl Chloride	20.8	ug/L	20.00	104	70-130	7	25
Xylene O	19.7	ug/L	20.00	98	70-130	10	25
Xylene P,M	41.6	ug/L	40.00	104	70-130	4	25
Surrogate: 1,2-Dichloroethane-d4	1.35	mg/kg wet	1.333	101	70-130		
Surrogate: 4-Bromofluorobenzene	1.33	mg/kg wet	1.333	100	70-130		
Surrogate: Dibromofluoromethane	1.45	mg/kg wet	1.333	108	70-130		
Surrogate: Toluene-d8	1.47	mg/kg wet	1.333	110	70-130		

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Tel: 401-461-7181

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Avg

NR

[CALC] SUB No Recovery Calculated Analyte

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

Notes and Definitions

	Notes and Definitions
Z-10	Soil pH measured in water at 21.3 °C.
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
D	Diluted.
C+	Continuing Calibration recovery is above upper control limit (C+).
C-	Continuing Calibration recovery is below lower control limit (C-).
B-	Blank Spike recovery is below lower control limit (B-).
A2	The Response Factor (RF) for this analyte did not meet the minimum RF criteria specified in Table 4 of Method
	8260C, but was above 0.050. (0.081)
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.

Results reported as a mathematical average.

Subcontracted analysis; see attached report

Fax: 401-461-4486

Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210384

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water: RI0002 http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

185 Frances Avenue, Cranston, RI 02910-2211

T. 1 . 401 . 461 . T. 101

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Service

Sample and Cooler Receipt Checklist

Client:	GZA GeoEnvironmental, Inc.	
Client P	roject ID:	_

ESS Courier Shipped/Delivered Via:

ESS Project ID: 12100384 Date Project Due: 10/24/12 Days For Project: 4 Day

Items to be checked upon receipt:

Completed By:_ Reviewed By:__

1. Air Bill Manifest Present?	* No	10. Are the	samples properly	y preserved:	Yes
Air No.:		11. Proper s	sample container	s used?	Yes
2. Were Custody Seals Present?	No	12. Any air	bubbles in the V	OA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding	times exceeded	?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficie	nt sample volum	es?	Yes
5. Is a cooler present?	Yes	15. Any Sul	bcontracting nee	ded?	No
Cooler Temp: 4.2		16. Are ESS	S labels on correc	ct containers?	VesiNo
Iced With: Icepacks			amples received	intact?	Yes
6. Was COC included with samples?	Yes	ESS Sample	e IDs:	<u> </u>	
7. Was COC signed and dated by client?	Yes	Sub Lab: _			
8. Does the COC match the sample	Yes	Analysis: _			
9. Is COC complete and correct?	Yes	TAT:			
18. Was there need to call project manag	ger to discu	uss status? If	yes, please expl	ain.	
Who was called?:		By whon	า?		
Sample Number Properly Preser	ved Cont	ainer Type	# of Containers	Preservative	
1 Yes 1 Yes 2 Yes	8 oz	Soil Jar Soil Jar al - VOA	1 3 1	NP NP MeOH	

Yes

		1		W		1,045 1,045 1,045	10 5. 5 11:11	76 76	X	X													35.6		İ
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1210384			Excel		180		157 157	973 1975 1898	XXX										il W-Wipes F-F	1, 8-ZnAct, 9		/	De (Signature, Date & Time)	ature, Date & Tii	Copy
72	Reporting Limits	,	Electonic Defiverables	0.	7 9 Z 8	Yd5 Yd5		70X			X								tking Water O-O	7-Asorbic Acic				Received by: (Signature, Date & Time)	1 (White) Lab Copy
ESS Lab #	Ren		Electo		/8 þ	lsnA	201	Vol of Container	802	70%	30ml								Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter	Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-			8146	<u>~</u>	
<u> Ш</u>			_	evelor.			com	Type of Container	46	4	VoA								vater SW-Surfac	I, 4-HNO3, 5-N	メ		Signatufe, Date & Time)	e, Date & Time)	stody
TODY		ler		Housing	0	# Od	2052a.	6# of Containers	W	~	,		3						ter GW-Groundw	-HCI, 3-H2SO4	1 Kubial		And by Signatur	Relifiquished by: (Signature, Date & Time)	Chain of Cu
: CUS	Other	Y ME OUR	airde) Other	1/4 Faceil		2	(e./em	Pres	<u> </u>				na lyse.	_	 				WW-Wastewal	code: 1-NP, 2	ov: Pon,	1	Relinguis	Relifiquis	Please fax to the laboratory all changes to Chain of Custody
CHAIN OF CUSTODY	Standard Of	MA) RI CT NH NJ NY ME Other	ving:(please CT DEP	Project Name Auth Family Housing Develop.	MA	Zip 02062.	email: Lavide./eone	QIe	(17,61)	(,9-1	(2-4')		details on and				-		-Solid D-Sludge	Preservation C	Sampled by:	Comments			laboratory a
CH	Star		s. this project for any of the following:(please circle) Mavy USACE CT DEP Other	171422.00	\%			Sample ID	67-203 (62-203 (2-4')								Matrix: S-Soil SD	Only		_	020/ 1	0301 21	Please fax to the laboratory all changes to Chain of Custody
	Turn Time	Regulatory State	project for a	17/42	Proj. Location			Matrix	\\ \sigma \	igg	5		additiona	a				-		Internal Use Only	[] Pickup	[] Technician	Signature, Date & Time)	~	3
	Tur	Regu	int st MA	Project #	Proj. L	State	- Anna	Grab -G		ا ا ں		•	197	1					-	<u>¥</u>			XQ D	\$\frac{1}{2}	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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, de	Laboratory Division of Thielsch Enaineering, Inc.	Os South Street Honkinton MA 01748	el. (508) 435-9244 Fax (508) 435-9912	o. Name	Cart Geet Avienment	ddress	Cagewal 101-0	ESS Lab ID	╅		36	1	MI. Lac.						V.VOA	Container type report	Seals Intact	Cooler Temperature:	Relinquished by: (Sign	Relinquished by (Sign	7/1

Page 33 of 34

collected in accordance with MADEP CAM VIIA

Please identify (by checking the appropriate box above) any of the Business Environmental Risks that you would like to include with this assessment and GZA will prepare a sitespecific proposal and cost estimate for these evaluations.



Task 2: Collection and Analysis of Soil Samples

Selected soil samples collected during the execution of geotechnical borings at the site will be submitted for chemical analysis for the standard suite of soil disposal analyses. We anticipate submitting one sample from each of the four borings being executed at the site. Since the planned excavation activities will be limited to the top few feet of the site, the samples submitted for analysis will come from this horizon. Each of the four samples will be analyzed for the following:



- Total Petroleum Hydrocarbons (TPH; by modified EPA Method 8100);
- Volatile Organic Compounds (VOCs; by EPA Method 8260);

- RCRA Metals (arsenic, cadmium, chromium, lead and Mercury);
 Polychlorinated Biphenyls (PCBs; by EPA Method 8082);
 Semi-Volatile Organic Compounds (SVOCs; by EPA Method 8270);
 Flashpoint, Conductivity, Reactivity and pH; and
- Oxidation Reduction Potential

The results of our testing, including the laboratory data and appropriate tables and figures. will be incorporated into the Environmental Site Assessment report.

BASIS OF BILLINGS

Billings for the above described scope of work will be based on the fixed-fee amount of \$8,400, approximately broken down as follows:

<u>Task</u>	Budget
Task 1 – Environmental Site Assessment	\$3,700
Task 2 – Soil Analyses	\$4,700

This fee is based on our understanding of the project as described in the scope of work outlined herein. The budget for this laboratory portion of this task assumes that we will not need to resubmit any samples for further testing. If hexavalent chromium is required, based on initial test results the additional cost is \$55 per sample. If TCLP-lead testing is required, the additional cost is \$85 per sample.

Billings for reimbursable expenses (e.g. printing, courier) will not exceed \$250.



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

David E Leone GZA GeoEnvironmental, Inc. One Edgewater Drive Norwood, MA 02062

RE: Proposed Multi-Family Housing Development (01.0171422.00)

ESS Laboratory Work Order Number: 1210393

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 3:43 pm, Oct 26, 2012

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

Subcontracted Analyses

ESS Laboratory - Hopkinton - Hopkinton,

Volatile Compounds

MA



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

SAMPLE RECEIPT

The following samples were received on October 18, 2012 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

Question I: All samples for Metals and EPH were analyzed for a subset of the required MCP list per the client's request.

Lab Number	SampleName	Matrix	Analysis
1210393-01	GZ-204 2ft-7ft	Soil	1010, 1311/6010B, 2580, 6010B, 7.3.3.2, 7.3.4.1,
			7471B, 8082A, 8100M, 8270D, 9045, 9050A
1210393-02	GZ-204 3ft-5ft	Soil	8260B



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

PROJECT NARRATIVE

3050B/6000/7000 Total Metals

CJ21922-BS1 Blank Spike recovery is below lower control limit (B-).

Cadmium (79% @ 80-120%)

5035/8260 Volatile Organic Compounds / Methanol

N2J0026-CCV1 Continuing Calibration recovery is below lower control limit (C-).

Carbon Disulfide

N2J0026-CCV1 The Response Factor (RF) for this analyte did not meet the minimum RF criteria specified in Table 4

of Method 8260C, but was above 0.050. (0.070)

Acetone

NJ22503-BS1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (52% @ 70-130%), Chloroethane (55% @ 70-130%)

NJ22503-BSD1 Blank Spike recovery is below lower control limit (B-).

Bromomethane (54% @ 70-130%), Chloroethane (56% @ 70-130%)

8270D Semi-Volatile Organic Compounds

1210393-01 <u>Elevated Method Reporting Limits due to sample matrix (EL).</u>

CVJ0221-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (102% @ 80-120%), Pentachlorophenol (87% @ 80-120%)

CVJ0231-CCV1 <u>Calibration required quadratic regression (Q).</u>

2,4-Dinitrophenol (105% @ 80-120%), Pentachlorophenol (90% @ 80-120%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

MassDEP Analytical Protocol Certification Form

	MADEP RT	N:				_					
This	s form provides ce	ertifica	ation for the follow	wing da	nta set: 1210393-01 tl	iroug	gh 1210393-02				
Mat	rices: () Ground	d Wate	er/Surface Water		(X) Soil/Sediment	() Drinking Water	() Air	() Other:		-
CA	M Protocol (chec	ck all	that apply below	·):							
()	8260 VOC CAM II A	(X)	7470/7471 Hg CAM III B	()	MassDEP VPH CAM IV A	() 8081 Pesticides CAM V B	()	7196 Hex Cr CAM VI B	() MassDEF CAM IX A	
(X)	8270 SVOC CAM II B	()	7010 Metals CAM III C	(X)	MassDEP EPH CAM IV B	() 8151 Herbicides CAM V C	()	8330 Explosives CAM VIII A	() TO-15 VO CAM IX B	
(X)	6010 Metals CAM III A	()	6020 Metals CAM III D	(X)	8082 PCB CAM V A	() 6860 Perchlorate CAM VIII B	()	9014 Total Cyanio CAM VI A	de/PAC	
A	-	recei	ved in a condition	consis	tent with those descr	ibed	F are required for Property on the Chain-of-Custo /analyzed within methods.	dy, prop	erly	Yes (X)	No ()
В	•	-					ed in the selected CA		~	Yes (X)	No ()
C	Were all required				cal response actions	_	fied in the selected CA	AM proto	ocol(s)	Yes (X)	No ()
D	Does the laborate	ory rep	port comply with	all the	reporting requiremen	ts spe	ecified in the CAM VI		ality	Yes (X)	No ()
Е	a. VPH, EPH, AI	PH an	d TO-15 only: Wa	as each			t significant modifica		Refer	Yes (X)	No ()
				_	plete analyte list rep	orted	for each method?			Yes () 1	No ()
F				-	Formance standard no ponses to Questions		nformances identified ough E)?	and eval	uated	Yes (X)	No ()
			Responses	to Que:	stions G, H and I bel	ow a	re required for P resu	mptive C	ertainty'status		
G	<u>Data User Note:</u>	Data t	hat achieve P resu	mptive		ot ne	n the selected CAM pecessarily meet the date WSC-07-350	,		Yes (X) No ()*
Н	-	_			the CAM protocol(Yes () 1	No (X)*
I	_		_		ist specified in the se					Yes () 1	
*Al	l negative respon	ises m	ust be addressed	d in an	attached laboratory	nar nar	rative.				
	_		_	_			based upon my perso report is, to the best o	_			

Signature: _____ Date: October 26, 2012
Printed Name: Laurel Stoddard Position: Laboratory Director

185 Frances Avenue, Cranston, RI 02910-2211

accurate and complete.

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil

Units: mg/L

TCLP Extraction Date: 10/23/12 18:46

1311/6000/7000 TCLP Metals

TCLP

 Analyte
 Results (MRL)
 Method
 Limit
 DF
 Analyst
 Analyzed
 I/V
 F/V
 Batch

 Lead
 1.56 (0.020)
 1311/6010B
 5
 1
 ICP
 10/25/12 12:34
 50
 50
 CJ22421

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil Units: mg/kg dry

3050B/6000/7000 Total Metals

Analyte	Results (MRL)	Method	<u>Limit</u>	<u>DF</u>	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	4.3 (2.8)	6010B		1	SVD	10/22/12 19:40	2	100	CJ21922
Cadmium	ND (0.57)	6010B		1	SVD	10/22/12 19:40	2	100	CJ21922
Chromium	49.4 (1.1)	6010B		1	SVD	10/22/12 19:40	2	100	CJ21922
Lead	208 (5.7)	6010B		1	SVD	10/22/12 19:40	2	100	CJ21922
Mercury	1.03 (0.176)	7471B		5	LLZ	10/23/12 12:17	0.64	40	CJ21924



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88

Final Volume: 10 Extraction Method: 3540

Initial Volume: 19.9

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01 Sample Matrix: Soil Units: mg/kg dry

Prepared: 10/23/12 16:45 Cleanup Method: 3665A

Analyst: TAJ

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	Limit	<u>DF</u>	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1221	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1232	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1242	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1248	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1254	0.129 (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1260	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1262	ND (0.0571)		1	10/25/12 11:38		CJ22519
Aroclor 1268	ND (0.0571)		1	10/25/12 11:38		CJ22519
	N/ Parameter - Out I/F at	1 to the				

	inccovery	Quanner	Linnes
Surrogate: Decachlorobiphenyl	61 %		30-150
Surrogate: Decachlorobiphenyl [2C]	69 %		30-150
Surrogate: Tetrachloro-m-xylene	62 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	79 %		30-150



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88 Initial Volume: 19.2 Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil Units: mg/kg dry Analyst: ML

Prepared: 10/19/12 12:30

8100M Total Petroleum Hydrocarbons

Analyte Total Petroleum Hydrocarbons	<u>Results (MRL)</u> 1300 (11.8)		<u>Limit</u>	<u>DF</u> 1	Analyzed 10/20/12 16:02	Sequence CVJ0225	Batch CJ21906
	%Recovery	Qualifier	Limits				
Surrogate: O-Terphenyl	73 %		40-140				

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88
Initial Volume: 14.5

Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/19/12 13:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
1,1-Biphenyl	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
1,2,4-Trichlorobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
1,2-Dichlorobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
1,3-Dichlorobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
1,4-Dichlorobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4,5-Trichlorophenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4,6-Trichlorophenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4-Dichlorophenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4-Dimethylphenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4-Dinitrophenol	ND (39.3)		10	10/22/12 11:32	CVJ0231	CJ21932
2,4-Dinitrotoluene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2,6-Dinitrotoluene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2-Chloronaphthalene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2-Chlorophenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2-Methylnaphthalene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2-Methylphenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
2-Nitrophenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
3,3'-Dichlorobenzidine	ND (15.7)		10	10/22/12 11:32	CVJ0231	CJ21932
3+4-Methylphenol	ND (15.7)		10	10/22/12 11:32	CVJ0231	CJ21932
4-Bromophenyl-phenylether	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
4-Chloroaniline	ND (15.7)		10	10/22/12 11:32	CVJ0231	CJ21932
4-Nitrophenol	ND (39.3)		10	10/22/12 11:32	CVJ0231	CJ21932
Acenaphthene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Acenaphthylene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Acetophenone	ND (15.7)		10	10/22/12 11:32	CVJ0231	CJ21932
Aniline	ND (39.3)		10	10/22/12 11:32	CVJ0231	CJ21932
Anthracene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Azobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Benzo(a)anthracene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Benzo(a)pyrene	ND (3.93)		10	10/22/12 11:32	CVJ0231	CJ21932
Benzo(b)fluoranthene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
	(112)					

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Quality

Dependability

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88
Initial Volume: 14.5

Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/19/12 13:00

8270D Semi-Volatile Organic Compounds

Analyte Benzo(g,h,i)perylene	Results (MRL) ND (7.83)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/22/12 11:32	Sequence CVJ0231	Batch CJ21932
Benzo(k)fluoranthene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
bis(2-Chloroethoxy)methane	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
bis(2-Chloroethyl)ether	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
bis(2-chloroisopropyl)Ether	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
bis(2-Ethylhexyl)phthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Butylbenzylphthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Chrysene	4.11 (3.93)		10	10/22/12 11:32	CVJ0231	CJ21932
Dibenzo(a,h)Anthracene	ND (3.93)		10	10/22/12 11:32	CVJ0231	CJ21932
Dibenzofuran	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Diethylphthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Dimethylphthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Di-n-butylphthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Di-n-octylphthalate	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Fluoranthene	9.80 (7.83)		10	10/22/12 11:32	CVJ0231 CVJ0231	CJ21932
Fluorene	,		10	10/22/12 11:32	CVJ0231 CVJ0231	CJ21932 CJ21932
Hexachlorobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231 CVJ0231	CJ21932 CJ21932
Hexachlorobutadiene	ND (7.83)		10	10/22/12 11:32	CVJ0231 CVJ0231	CJ21932 CJ21932
	ND (7.83)					
Hexachloroethane	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Indeno(1,2,3-cd)Pyrene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Isophorone	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Naphthalene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Nitrobenzene	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
N-Nitrosodimethylamine	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Pentachlorophenol	ND (39.3)		10	10/22/12 11:32	CVJ0231	CJ21932
Phenanthrene	13.0 (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Phenol	ND (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932
Pyrene	8.24 (7.83)		10	10/22/12 11:32	CVJ0231	CJ21932



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88
Initial Volume: 14.5

Final Volume: 1

Extraction Method: 3546

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil Units: mg/kg dry Analyst: IBM

Prepared: 10/19/12 13:00

8270D Semi-Volatile Organic Compounds

Analyte	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
	%Recovery Qualifier	Limits				
Surrogate: 1,2-Dichlorobenzene-d4	66 %	30-130				
Surrogate: 2,4,6-Tribromophenol	64 %	30-130				
Surrogate: 2-Chlorophenol-d4	64 %	30-130				
Surrogate: 2-Fluorobiphenyl	80 %	30-130				
Surrogate: 2-Fluorophenol	57 %	30-130				
Surrogate: Nitrobenzene-d5	51 %	30-130				
Surrogate: Phenol-d6	67 %	30-130				
Surrogate: p-Terphenyl-d14	97 %	30-130				

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 2ft-7ft Date Sampled: 10/17/12 13:00

Percent Solids: 88

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-01

Sample Matrix: Soil

Classical Chemistry

Analyte Conductivity	Results (MRL) WL 221 (5)	Method 9050A	<u>Limit</u>	<u>DF</u>	Analyst EEM	Analyzed 10/23/12 14:35	<u>Units</u> umhos/cm	Batch CJ22308
Corrosivity (pH)	8.93 (N/A)	9045		1	DPS	10/18/12 20:15	S.U.	CJ21838
Corrosivity (pH) Sample Temp	Soil pH measured	in water at 21.2 °C.						
Flashpoint	> 200 (N/A)	1010		1	DPS	10/19/12 13:45	°F	CJ21927
Reactive Cyanide	ND (2.0)	7.3.3.2		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Reactive Sulfide	4.5 (2.0)	7.3.4.1		1	DPS	10/18/12 15:50	mg/kg	CJ21841
Redox Potential	WL 118 (N/A)	2580		1	DPS	10/18/12 20:05	mv	CJ21839



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 3ft-5ft

Date Sampled: 10/17/12 12:35 Percent Solids: 88

Initial Volume: 32.724 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte 1,1,1,2-Tetrachloroethane	Results (MRL) ND (0.0346)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/25/12 21:01	Sequence N2J0022	Batch NJ22503
1,1,1-Trichloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,1,2,2-Tetrachloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,1,2-Trichloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,1-Dichloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,1-Dichloroethene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,1-Dichloropropene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2,3-Trichlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2,3-Trichloropropane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2,4-Trichlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2,4-Trimethylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2-Dibromo-3-Chloropropane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
1,2-Dibromoethane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
1,2-Dichlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2-Dichloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,2-Dichloropropane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,3,5-Trimethylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,3-Dichlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,3-Dichloropropane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,4-Dichlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
1,4-Dioxane	ND (3.46)		1	10/25/12 21:01	N2J0022	NJ22503
2,2-Dichloropropane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
2-Butanone	ND (0.900)		1	10/25/12 21:01	N2J0022	NJ22503
2-Chlorotoluene	0.0692 (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
2-Hexanone	ND (0.900)		1	10/25/12 21:01	N2J0022	NJ22503
4-Chlorotoluene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
4-Isopropyltoluene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
4-Methyl-2-Pentanone	ND (0.900)		1	10/25/12 21:01	N2J0022	NJ22503
Acetone	ND (1.73)		1	10/25/12 21:01	N2J0022	NJ22503
Acrolein - Screen	ND (3.46)		1	10/25/12 21:01	N2J0022	NJ22503
Benzene	0.0856 (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 3ft-5ft

Date Sampled: 10/17/12 12:35

Percent Solids: 88 Initial Volume: 32.724 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

Analyte Bromobenzene	Results (MRL) ND (0.0346)	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u> 10/25/12 21:01	Sequence N2J0022	Batch NJ22503
Bromochloromethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Bromodichloromethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Bromoform	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Bromomethane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Carbon Disulfide	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Carbon Tetrachloride	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Chlorobenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Chloroethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Chloroform	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Chloromethane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
cis-1,2-Dichloroethene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
cis-1,3-Dichloropropene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Dibromochloromethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Dibromomethane	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Dichlorodifluoromethane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Diethyl Ether	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Di-isopropyl ether	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Ethyl tertiary-butyl ether	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Ethylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Hexachlorobutadiene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Isopropylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Methyl tert-Butyl Ether	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Methylene Chloride	ND (0.173)		1	10/25/12 21:01	N2J0022	NJ22503
Naphthalene	0.148 (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
n-Butylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
n-Propylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
sec-Butylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Styrene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
tert-Butylbenzene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Tertiary-amyl methyl ether	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-204 3ft-5ft

Date Sampled: 10/17/12 12:35 Percent Solids: 88

Initial Volume: 32.724 Final Volume: 16

Extraction Method: 5035

ESS Laboratory Work Order: 1210393 ESS Laboratory Sample ID: 1210393-02

Sample Matrix: Soil Units: mg/kg dry Analyst: MQS

5035/8260 Volatile Organic Compounds / Methanol

<u>Analyte</u>	Results (MRL)	<u>Limit</u>	<u>DF</u>	Analyzed	Sequence	Batch
Tetrachloroethene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Tetrahydrofuran	ND (3.46)		1	10/25/12 21:01	N2J0022	NJ22503
Toluene	0.0389 (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
trans-1,2-Dichloroethene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
trans-1,3-Dichloropropene	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Trichloroethene	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Trichlorofluoromethane	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503
Vinyl Chloride	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Xylene O	ND (0.0346)		1	10/25/12 21:01	N2J0022	NJ22503
Xylene P,M	ND (0.0692)		1	10/25/12 21:01	N2J0022	NJ22503

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichloroethane-d4	126 %		70-130
Surrogate: 4-Bromofluorobenzene	110 %		70-130
Surrogate: Dibromofluoromethane	122 %		70-130
Surrogate: Toluene-d8	127 %		70-130

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifie
		1311/6	5000/7000 T	CLP Meta	ls					
Batch CJ22421 - 3005A_TCLP										
Blank										
Lead	ND	0.020	mg/L							
			9/ =							
LCS Lead	0.534	0.020	ma/l	0.5000		107	80-120			
	0.554	0.020	mg/L	0.5000		107	00-120			
LCS Dup		0.000		0.5000		404	00.100		20	
Lead	0.522	0.020 3050B /	mg/L 6000/7000 T	0.5000 otal Meta	alc	104	80-120	2	20	
		30300/		- Ctal Fiction						
Batch CJ21922 - 3050B										
Blank										
Arsenic	ND	2.5	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.0	mg/kg wet							
Lead	ND	5.0	mg/kg wet							
LCS										
Arsenic	138	9.6	mg/kg wet	168.0		82	80-120			
Cadmium	81.6	1.93	mg/kg wet	103.0		79	80-120			B-
Chromium	101	3.8	mg/kg wet	119.0		85	80-120			
_ead	64.4	19.2	mg/kg wet	76.90		84	80-120			
LCS Dup										
Arsenic	147	9.8	mg/kg wet	168.0		88	80-120	6	20	
Cadmium	88.0	1.97	mg/kg wet	103.0		85	80-120	8	20	
Chromium	110	3.9	mg/kg wet	119.0		92	80-120	8	20	
Lead	69.3	19.6	mg/kg wet	76.90		90	80-120	7	20	
Batch CJ21924 - 7471A										
Blank										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	24.0	3.19	mg/kg wet	25.10		95	80-120			
LCS Dup										
Mercury	24.2	2.87	mg/kg wet	25.10		96	80-120	0.9	20	
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch CJ22519 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1016 (1)	ND	0.0500	mg/kg wet							
Aroclor 1016 (1) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (2)	ND	0.0500	mg/kg wet							
Aroclor 1016 (2) [2C]	ND	0.0500	mg/kg wet							
Aroclor 1016 (3)	ND	0.0500	mg/kg wet							
Aroclor 1016 (3) [2C]	ND	0.0500	mg/kg wet							

Dependability



The Microbiology Division of Thielsch Engineering, Inc.



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Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ22519 - 3540			
Aroclor 1016 (4)	ND	0.0500	mg/kg wet
Aroclor 1016 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1016 (5)	ND	0.0500	mg/kg wet
Aroclor 1016 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1221 (1)	ND	0.0500	mg/kg wet
Aroclor 1221 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (2)	ND	0.0500	mg/kg wet
Aroclor 1221 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (3)	ND	0.0500	mg/kg wet
Aroclor 1221 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (4)	ND	0.0500	mg/kg wet
Aroclor 1221 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1221 (5)	ND	0.0500	mg/kg wet
Aroclor 1221 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1232 (1)	ND	0.0500	mg/kg wet
Aroclor 1232 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (2)	ND	0.0500	mg/kg wet
Aroclor 1232 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (3)	ND	0.0500	mg/kg wet
Aroclor 1232 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (4)	ND	0.0500	mg/kg wet
Aroclor 1232 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1232 (5)	ND	0.0500	mg/kg wet
Aroclor 1232 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1242 (1)	ND	0.0500	mg/kg wet
Aroclor 1242 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (2)	ND	0.0500	mg/kg wet
Aroclor 1242 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (3)	ND	0.0500	mg/kg wet
Aroclor 1242 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (4)	ND	0.0500	mg/kg wet
Aroclor 1242 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1242 (5)	ND	0.0500	mg/kg wet
Aroclor 1242 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1248 (1)	ND	0.0500	mg/kg wet
Aroclor 1248 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (2)	ND	0.0500	mg/kg wet
Aroclor 1248 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (3)	ND	0.0500	mg/kg wet
Aroclor 1248 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (4)	ND	0.0500	mg/kg wet

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Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8082A Polychlorinated Biphenyls (PCB)

Batch CJ22519 - 3540			
Aroclor 1248 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1248 (5)	ND	0.0500	mg/kg wet
Aroclor 1248 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1254 (1)	ND	0.0500	mg/kg wet
Aroclor 1254 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (2)	ND	0.0500	mg/kg wet
Aroclor 1254 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (3)	ND	0.0500	mg/kg wet
Aroclor 1254 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (4)	ND	0.0500	mg/kg wet
Aroclor 1254 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1254 (5)	ND	0.0500	mg/kg wet
Aroclor 1254 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1260 (1)	ND	0.0500	mg/kg wet
Aroclor 1260 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1260 (2)	ND	0.0500	mg/kg wet
Aroclor 1260 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1260 (3)	ND	0.0500	mg/kg wet
Aroclor 1260 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1260 (4)	ND	0.0500	mg/kg wet
Aroclor 1260 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1260 (5)	ND	0.0500	mg/kg wet
Aroclor 1260 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1262 (1)	ND	0.0500	mg/kg wet
Aroclor 1262 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1262 (2)	ND	0.0500	mg/kg wet
Aroclor 1262 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1262 (3)	ND	0.0500	mg/kg wet
Aroclor 1262 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1262 (4)	ND	0.0500	mg/kg wet
Aroclor 1262 (4) [2C]	ND	0.0500	mg/kg wet
Aroclor 1262 (5)	ND	0.0500	mg/kg wet
Aroclor 1262 (5) [2C]	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet
Aroclor 1268 (1)	ND	0.0500	mg/kg wet
Aroclor 1268 (1) [2C]	ND	0.0500	mg/kg wet
Aroclor 1268 (2)	ND	0.0500	mg/kg wet
Aroclor 1268 (2) [2C]	ND	0.0500	mg/kg wet
Aroclor 1268 (3)	ND	0.0500	mg/kg wet
Aroclor 1268 (3) [2C]	ND	0.0500	mg/kg wet
Aroclor 1268 (4)	ND	0.0500	mg/kg wet
Aroclor 1268 (4) [2C]	ND	0.0500	mg/kg wet

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Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifie
		8082A Poly	chlorinated E	Biphenyls	(PCB)					
Batch CJ22519 - 3540										
Aroclor 1268 (5)	ND	0.0500	mg/kg wet							
Aroclor 1268 (5) [2C]	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0209		mg/kg wet	0.02500		83	30-150			
	0.0230		mg/kg wet	0.02500		92	30-150			
Surrogate: Tetrachloro-m-xylene	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Tetrachloro-m-xylene [2C]			3, 3							
LCS	0.450	0.0500	ma/ka wat	0.5000		00	40.140			
Aroclor 1016	0.450	0.0500	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.428	0.0500	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0211		mg/kg wet	0.02500		84	30-150			
Surrogate: Tetrachloro-m-xylene	0.0216		mg/kg wet	0.02500		86	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0212		mg/kg wet	0.02500		85	30-150			
LCS Dup										
Aroclor 1016	0.420	0.0500	mg/kg wet	0.5000		84	40-140	7	30	
Aroclor 1260	0.395	0.0500	mg/kg wet	0.5000		79	40-140	8	30	
	0.0212		mg/kg wet	0.02500		85	30-150			
Surrogate: Decachlorobiphenyl	0.0193		mg/kg wet	0.02500		<i>77</i>	<i>30-150</i>			
Surrogate: Decachlorobiphenyl [2C]	0.0197		mg/kg wet	0.02500		79	30-150			
Surrogate: Tetrachloro-m-xylene	0.0191		mg/kg wet	0.02500		76	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0131	0100M Tot			uh a n a	,,,	30 100			
		9100M 100	al Petroleum	пушоса	IDONS					
Batch CJ21906 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
	ND ND	0.2 0.2	mg/kg wet							
Docosane (C22)										
Docosane (C22) Dodecane (C12)	ND	0.2	mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20)	ND ND	0.2 0.2	mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26)	ND ND ND	0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16)	ND ND ND ND	0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19)	ND ND ND ND	0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9)	ND ND ND ND ND	0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28)	ND ND ND ND ND	0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18)	ND ND ND ND ND ND ND ND	0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18) Tetracosane (C24)	ND ND ND ND ND ND ND ND ND ND ND	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18) Tetracosane (C24) Tetradecane (C14)	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Decane (C10) Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18) Tetracosane (C24) Tetradecane (C14) Total Petroleum Hydrocarbons Triacontane (C30)	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet							
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18) Tetracosane (C24) Tetradecane (C14) Total Petroleum Hydrocarbons Triacontane (C30)	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet	5.000		96	40-140			
Docosane (C22) Dodecane (C12) Eicosane (C20) Hexacosane (C26) Hexadecane (C16) Nonadecane (C19) Nonane (C9) Octacosane (C28) Octadecane (C18) Tetracosane (C24) Tetradecane (C14) Total Petroleum Hydrocarbons	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2	mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet mg/kg wet	5.000		96	40-140			



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Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifie
		8100M Tot	tal Petroleum	Hydroca	arbons					
Batch CJ21906 - 3546										
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Dodecane (C12)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Hexadecane (C16)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		74	30-140			
Octacosane (C28)	2.4	0.2	mg/kg wet	2.500		95	40-140			
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Surrogate: O-Terphenyl	4.78		mg/kg wet	5.000		96	40-140			
LCS Dup										
Decane (C10)	2.1	0.2	mg/kg wet	2.500		83	40-140	6	25	
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		94	40-140	0.5	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		91	40-140	0.6	25	
Hexacosane (C26)	2.4	0.2	mg/kg wet	2.500		94	40-140	1	25	
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		90	40-140	4	25	
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140	1	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		69	30-140	8	25	
Octacosane (C28)	2.4	0.2	mg/kg wet	2.500		96	40-140	1	25	
Octadecane (C18)	2.3	0.2	mg/kg wet	2.500		91	40-140	3	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		94	40-140	1	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		88	40-140	5	25	
Triacontane (C30)	2.4	0.2	mg/kg wet	2.500		97	40-140	0.9	25	
Surrogate: O-Terphenyl	4.60		mg/kg wet	5.000		92	40-140			
	:	8270D Semi	-Volatile Org	anic Com	pounds					
Batch CJ21932 - 3546										
Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
4.48:11	N.D.	0.222								

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ND

ND

ND

ND

ND

ND

ND

0.333

0.333

0.333

0.333

0.333

1.67

0.333

1,4-Dichlorobenzene

2,4,5-Trichlorophenol

2,4,6-Trichlorophenol

2,4-Dichlorophenol

2,4-Dimethylphenol

2,4-Dinitrophenol

2,4-Dinitrotoluene

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Dependability ◆ Quality

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet

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Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

8270D Semi-Volatile Organic Compounds

Batch CJ21932 - 3546			
2,6-Dinitrotoluene	ND	0.333	mg/kg wet
2-Chloronaphthalene	ND	0.333	mg/kg wet
2-Chlorophenol	ND	0.333	mg/kg wet
2-Methylnaphthalene	ND	0.333	mg/kg wet
2-Methylphenol	ND	0.333	mg/kg wet
2-Nitrophenol	ND	0.333	mg/kg wet
3,3´-Dichlorobenzidine	ND	0.667	mg/kg wet
3+4-Methylphenol	ND	0.667	mg/kg wet
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet
4-Chloroaniline	ND	0.667	mg/kg wet
4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	1.67	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet
Benzo(k)fluoranthene	ND	0.333	mg/kg wet
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet
Butylbenzylphthalate	ND	0.333	mg/kg wet
Chrysene	ND	0.167	mg/kg wet
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet
Dibenzofuran	ND	0.333	mg/kg wet
Diethylphthalate	ND	0.333	mg/kg wet
Dimethylphthalate	ND	0.333	mg/kg wet
Di-n-butylphthalate	ND	0.333	mg/kg wet
Di-n-octylphthalate	ND	0.333	mg/kg wet
Fluoranthene	ND	0.333	mg/kg wet
Fluorene	ND	0.333	mg/kg wet
Hexachlorobenzene	ND	0.333	mg/kg wet
Hexachlorobutadiene	ND	0.333	mg/kg wet
Hexachloroethane	ND	0.333	mg/kg wet
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet
Isophorone	ND	0.333	mg/kg wet
Naphthalene	ND	0.333	mg/kg wet
Nitrobenzene	ND	0.333	mg/kg wet
N-Nitrosodimethylamine	ND	0.333	mg/kg wet
Pentachlorophenol	ND	1.67	mg/kg wet

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD		
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier	

8270D Semi-Volatile	Organic	Compound	IS
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Batch CJ21932 - 3546							
Phenanthrene	ND	0.333	mg/kg wet				
Phenol	ND	0.333	mg/kg wet				
Pyrene	ND	0.333	mg/kg wet				
Surrogate: 1,2-Dichlorobenzene-d4	2.42		mg/kg wet	3.333	<i>73</i>	30-130	
Surrogate: 2,4,6-Tribromophenol	4.09		mg/kg wet	5.000	82	30-130	
Surrogate: 2-Chlorophenol-d4	3.84		mg/kg wet	5.000	<i>77</i>	30-130	
Surrogate: 2-Fluorobiphenyl	2.53		mg/kg wet	3.333	76	30-130	
Surrogate: 2-Fluorophenol	3.78		mg/kg wet	5.000	76	30-130	
Surrogate: Nitrobenzene-d5	2.41		mg/kg wet	3.333	<i>72</i>	30-130	
Surrogate: Phenol-d6	3.95		mg/kg wet	5.000	<i>79</i>	30-130	
Surrogate: p-Terphenyl-d14	3.23		mg/kg wet	3.333	97	30-130	
LCS							
1,1-Biphenyl	2.50	0.333	mg/kg wet	3.333	75	40-140	
1,2,4-Trichlorobenzene	2.47	0.333	mg/kg wet	3.333	74	40-140	
1,2-Dichlorobenzene	2.44	0.333	mg/kg wet	3.333	73	40-140	
1,3-Dichlorobenzene	2.35	0.333	mg/kg wet	3.333	71	40-140	
1,4-Dichlorobenzene	2.38	0.333	mg/kg wet	3.333	71	40-140	
2,4,5-Trichlorophenol	2.95	0.333	mg/kg wet	3.333	88	30-130	
2,4,6-Trichlorophenol	2.69	0.333	mg/kg wet	3.333	81	30-130	
2,4-Dichlorophenol	2.68	0.333	mg/kg wet	3.333	80	30-130	
2,4-Dimethylphenol	2.62	0.333	mg/kg wet	3.333	79	30-130	
2,4-Dinitrophenol	2.71	1.67	mg/kg wet	3.333	81	30-130	
2,4-Dinitrotoluene	3.00	0.333	mg/kg wet	3.333	90	40-140	
2,6-Dinitrotoluene	2.94	0.333	mg/kg wet	3.333	88	40-140	
2-Chloronaphthalene	2.41	0.333	mg/kg wet	3.333	72	40-140	
2-Chlorophenol	2.45	0.333	mg/kg wet	3.333	73	30-130	
2-Methylnaphthalene	2.54	0.333	mg/kg wet	3.333	76	40-140	
2-Methylphenol	2.57	0.333	mg/kg wet	3.333	77	30-130	
2-Nitrophenol	2.61	0.333	mg/kg wet	3.333	78	30-130	
3,3´-Dichlorobenzidine	2.79	0.667	mg/kg wet	3.333	84	40-140	
3+4-Methylphenol	5.17	0.667	mg/kg wet	6.667	78	30-130	
4-Bromophenyl-phenylether	2.94	0.333	mg/kg wet	3.333	88	40-140	
4-Chloroaniline	2.21	0.667	mg/kg wet	3.333	66	40-140	
4-Nitrophenol	2.79	1.67	mg/kg wet	3.333	84	30-130	
Acenaphthene	2.78	0.333	mg/kg wet	3.333	84	40-140	
Acenaphthylene	2.38	0.333	mg/kg wet	3.333	72	40-140	
Acetophenone	2.50	0.667	mg/kg wet	3.333	75	40-140	
Aniline	2.01	1.67	mg/kg wet	3.333	60	40-140	
Anthracene	3.13	0.333	mg/kg wet	3.333	94	40-140	
Azobenzene	2.62	0.333	mg/kg wet	3.333	79	40-140	
Benzo(a)anthracene	3.15	0.333	mg/kg wet	3.333	95	40-140	
Benzo(a)pyrene	2.94	0.167	mg/kg wet	3.333	88	40-140	
Benzo(b)fluoranthene	3.15	0.333	mg/kg wet	3.333	95	40-140	
Benzo(g,h,i)perylene	3.24	0.333	mg/kg wet	3.333	97	40-140	
Benzo(k)fluoranthene	3.37	0.333	mg/kg wet	3.333	101	40-140	
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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifie
	8	3270D Semi	-Volatile Orga	anic Com	pounds					
3atch CJ21932 - 3546										
ois(2-Chloroethoxy)methane	2.52	0.333	mg/kg wet	3.333		76	40-140			
ois(2-Chloroethyl)ether	2.43	0.333	mg/kg wet	3.333		73	40-140			
is(2-chloroisopropyl)Ether	2.41	0.333	mg/kg wet	3.333		72	40-140			
is(2-Ethylhexyl)phthalate	3.02	0.333	mg/kg wet	3.333		91	40-140			
utylbenzylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
hrysene	3.19	0.167	mg/kg wet	3.333		96	40-140			
ibenzo(a,h)Anthracene	3.33	0.167	mg/kg wet	3.333		100	40-140			
ibenzofuran	2.68	0.333	mg/kg wet	3.333		81	40-140			
iethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
imethylphthalate	2.87	0.333	mg/kg wet	3.333		86	40-140			
i-n-butylphthalate	3.03	0.333	mg/kg wet	3.333		91	40-140			
oi-n-octylphthalate	3.01	0.333	mg/kg wet	3.333		90	40-140			
luoranthene	3.01	0.333	mg/kg wet	3.333		90	40-140			
luorene	2.94	0.333	mg/kg wet	3.333		88	40-140			
lexachlorobenzene	2.94	0.333	mg/kg wet	3.333		88	40-140			
lexachlorobutadiene	2.53	0.333	mg/kg wet	3.333		76	40-140			
lexachloroethane	2.36	0.333	mg/kg wet	3.333		71	40-140			
ndeno(1,2,3-cd)Pyrene	3.26	0.333	mg/kg wet	3.333		98	40-140			
sophorone	2.44	0.333	mg/kg wet	3.333		73	40-140			
Iaphthalene	2.55	0.333	mg/kg wet	3.333		76	40-140			
litrobenzene	2.48	0.333	mg/kg wet	3.333		75	40-140			
-Nitrosodimethylamine	2.16	0.333	mg/kg wet	3.333		65	40-140			
entachlorophenol	2.72	1.67	mg/kg wet	3.333		82	30-130			
henanthrene	3.13	0.333	mg/kg wet	3.333		94	40-140			
henol	2.42	0.333	mg/kg wet	3.333		73	30-130			
yrene	3.20	0.333	mg/kg wet	3.333		96	40-140			
	2.38		mg/kg wet	3.333		71	30-130			
Surrogate: 1,2-Dichlorobenzene-d4	4.76		mg/kg wet	5.000		95	30-130			
Surrogate: 2,4,6-Tribromophenol Surrogate: 2-Chlorophenol-d4	3.80		mg/kg wet	5.000		<i>76</i>	30-130			
Surrogate: 2-Fluorobiphenyl	2.50		mg/kg wet	3.333		<i>75</i>	30-130			
Surrogate: 2-Fluorophenol	3.67		mg/kg wet	5.000		73	30-130			
Surrogate: Nitrobenzene-d5	2.47		mg/kg wet	3.333		74	30-130			
Surrogate: Phenol-d6	3.88		mg/kg wet	5.000		<i>78</i>	30-130			
Surrogate: p-Terphenyl-d14	3.09		mg/kg wet	3.333		93	30-130			
.CS Dup			-							
,1-Biphenyl	2.47	0.333	mg/kg wet	3.333		74	40-140	1	30	
,2,4-Trichlorobenzene	2.44	0.333	mg/kg wet	3.333		73	40-140	1	30	
,2-Dichlorobenzene	2.45	0.333	mg/kg wet	3.333		73	40-140	0.2	30	
,3-Dichlorobenzene	2.38	0.333	mg/kg wet	3.333		71	40-140	0.9	30	
,4-Dichlorobenzene	2.41	0.333	mg/kg wet	3.333		72	40-140	1	30	
,4,5-Trichlorophenol	2.94	0.333	mg/kg wet	3.333		88	30-130	0.4	30	
,4,6-Trichlorophenol	2.66	0.333	mg/kg wet	3.333		80	30-130	0.9	30	
,4-Dichlorophenol	2.63	0.333	mg/kg wet	3.333		79	30-130	2	30	
,4-Dimethylphenol	2.58	0.333	mg/kg wet	3.333		79 77	30-130	2	30	
,4-Dinitrophenol	2.79	1.67	mg/kg wet	3.333		84	30-130	3	30	

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD		
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier	

8270D Semi-Volatile	Organic	Compound	IS
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Batch CJ21932 - 3546									
2,4-Dinitrotoluene	2.96	0.333	mg/kg wet	3.333	89	40-140	1	30	
2,6-Dinitrotoluene	2.90	0.333	mg/kg wet	3.333	87	40-140	1	30	
2-Chloronaphthalene	2.41	0.333	mg/kg wet	3.333	72	40-140	0.2	30	
2-Chlorophenol	2.47	0.333	mg/kg wet	3.333	74	30-130	0.9	30	
2-Methylnaphthalene	2.51	0.333	mg/kg wet	3.333	75	40-140	1	30	
2-Methylphenol	2.52	0.333	mg/kg wet	3.333	76	30-130	2	30	
2-Nitrophenol	2.60	0.333	mg/kg wet	3.333	78	30-130	0.6	30	
3,3´-Dichlorobenzidine	2.70	0.667	mg/kg wet	3.333	81	40-140	3	30	
3+4-Methylphenol	5.19	0.667	mg/kg wet	6.667	78	30-130	0.4	30	
4-Bromophenyl-phenylether	2.92	0.333	mg/kg wet	3.333	87	40-140	0.9	30	
4-Chloroaniline	2.15	0.667	mg/kg wet	3.333	64	40-140	3	30	
4-Nitrophenol	2.49	1.67	mg/kg wet	3.333	75	30-130	11	30	
Acenaphthene	2.75	0.333	mg/kg wet	3.333	82	40-140	1	30	
Acenaphthylene	2.35	0.333	mg/kg wet	3.333	71	40-140	1	30	
Acetophenone	2.50	0.667	mg/kg wet	3.333	75	40-140	0.3	30	
Aniline	1.97	1.67	mg/kg wet	3.333	59	40-140	2	30	
Anthracene	3.11	0.333	mg/kg wet	3.333	93	40-140	0.4	30	
Azobenzene	2.60	0.333	mg/kg wet	3.333	78	40-140	1	30	
Benzo(a)anthracene	3.10	0.333	mg/kg wet	3.333	93	40-140	2	30	
Benzo(a)pyrene	2.93	0.167	mg/kg wet	3.333	88	40-140	0.6	30	
Benzo(b)fluoranthene	3.11	0.333	mg/kg wet	3.333	93	40-140	1	30	
Benzo(g,h,i)perylene	3.21	0.333	mg/kg wet	3.333	96	40-140	0.9	30	
Benzo(k)fluoranthene	3.31	0.333	mg/kg wet	3.333	99	40-140	2	30	
bis(2-Chloroethoxy)methane	2.46	0.333	mg/kg wet	3.333	74	40-140	3	30	
bis(2-Chloroethyl)ether	2.43	0.333	mg/kg wet	3.333	73	40-140	0.03	30	
bis(2-chloroisopropyl)Ether	2.40	0.333	mg/kg wet	3.333	72	40-140	0.5	30	
bis(2-Ethylhexyl)phthalate	2.96	0.333	mg/kg wet	3.333	89	40-140	2	30	
Butylbenzylphthalate	2.89	0.333	mg/kg wet	3.333	87	40-140	2	30	
Chrysene	3.14	0.167	mg/kg wet	3.333	94	40-140	1	30	
Dibenzo(a,h)Anthracene	3.27	0.167	mg/kg wet	3.333	98	40-140	2	30	
Dibenzofuran	2.66	0.333	mg/kg wet	3.333	80	40-140	0.7	30	
Diethylphthalate	2.92	0.333	mg/kg wet	3.333	87	40-140	1	30	
Dimethylphthalate	2.81	0.333	mg/kg wet	3.333	84	40-140	2	30	
Di-n-butylphthalate	2.98	0.333	mg/kg wet	3.333	90	40-140	1	30	
Di-n-octylphthalate	2.96	0.333	mg/kg wet	3.333	89	40-140	2	30	
Fluoranthene	2.95	0.333	mg/kg wet	3.333	89	40-140	2	30	
Fluorene	2.90	0.333	mg/kg wet	3.333	87	40-140	1	30	
Hexachlorobenzene	2.93	0.333	mg/kg wet	3.333	88	40-140	0.6	30	
Hexachlorobutadiene	2.52	0.333	mg/kg wet	3.333	75	40-140	0.6	30	
Hexachloroethane	2.39	0.333	mg/kg wet	3.333	72	40-140	1	30	
Indeno(1,2,3-cd)Pyrene	3.22	0.333	mg/kg wet	3.333	97	40-140	1	30	
Isophorone	2.41	0.333	mg/kg wet	3.333	72	40-140	1	30	
Naphthalene	2.52	0.333	mg/kg wet	3.333	76	40-140	1	30	
Nitrobenzene	2.45	0.333	mg/kg wet	3.333	73	40-140	1	30	
N-Nitrosodimethylamine	2.21	0.333	mg/kg wet	3.333	66	40-140	2	30	

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifie
	{	3270D Semi	-Volatile Org	anic Com	pounds					
Batch CJ21932 - 3546										
Pentachlorophenol	2.72	1.67	mg/kg wet	3.333		82	30-130	0.2	30	
Phenanthrene	3.10	0.333	mg/kg wet	3.333		93	40-140	1	30	
Phenol	2.51	0.333	mg/kg wet	3.333		75	30-130	4	30	
Pyrene	3.13	0.333	mg/kg wet	3.333		94	40-140	2	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.34		mg/kg wet	3.333		70	30-130			
Surrogate: 2,4,6-Tribromophenol	4.72		mg/kg wet	5.000		94	30-130			
Surrogate: 2-Chlorophenol-d4	3.74		mg/kg wet	5.000		<i>75</i>	30-130			
Surrogate: 2-Fluorobiphenyl	2.45		mg/kg wet	3.333		73	30-130			
Surrogate: 2-Fluorophenol	3.62		mg/kg wet	5.000		<i>72</i>	30-130			
Surrogate: Nitrobenzene-d5	2.37		mg/kg wet	3.333		71	30-130			
Surrogate: Phenol-d6	<i>3.79</i>		mg/kg wet	5.000		76	30-130			
Surrogate: p-Terphenyl-d14	2.98		mg/kg wet	3.333		89	30-130			
		C	Classical Cher	nistry						
Batch CJ21841 - General Preparation										
Blank										
Reactive Cyanide	ND	2.0	mg/kg							
Reactive Sulfide	ND	2.0	mg/kg							
LCS										
Reactive Cyanide	3.9	2.0	mg/kg	100.3		4	0.68-5.41			
Reactive Sulfide	0.2	2.0	mg/kg	10.00		2	0-44			
Satch CJ21927 - General Preparation										
Reference			05	04.00			00 45 404 05			
Flashpoint	82		°F	81.00		101	98.15-101.85			
Batch CJ22308 - General Preparation										
	N/D									
	ND	5	umhos/cm							
Conductivity							00			
Blank Conductivity LCS				44:5						
Conductivity	1390		umhos/cm	1412	_	98	90-110			
Conductivity	1390	Quali	umhos/cm ty Conti		ıta	98	90-110			
Conductivity LCS Conductivity			ty Cont	rol Da	Source		%REC		RPD	
Conductivity	1390 Result	Quali		rol Da		98 %REC		RPD	RPD Limit	Qualifie

185 Frances Avenue, Cranston, RI 02910-2211

ND

ND

ND

ND

ND

0.0533

0.0533

0.0533

0.0533

0.0533

Blank

1,1,1,2-Tetrachloroethane

1,1,2,2-Tetrachloroethane

1,1,1-Trichloroethane

1,1,2-Trichloroethane

1,1-Dichloroethane

2211 Tel: 401-461-7181
Dependability ◆ Quality

mg/kg wet

mg/kg wet

mg/kg wet

mg/kg wet mg/kg wet

> Fax: 401-461-4486 ◆ Service



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Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ22503 - 5035			
1,1-Dichloroethene	ND	0.0533	mg/kg wet
1,1-Dichloropropene	ND	0.0533	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,3-Trichloropropane	ND	0.0533	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0533	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0533	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.107	mg/kg wet
1,2-Dibromoethane	ND	0.107	mg/kg wet
1,2-Dichlorobenzene	ND	0.0533	mg/kg wet
1,2-Dichloroethane	ND	0.0533	mg/kg wet
1,2-Dichloropropane	ND	0.0533	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0533	mg/kg wet
1,3-Dichlorobenzene	ND	0.0533	mg/kg wet
1,3-Dichloropropane	ND	0.0533	mg/kg wet
1,4-Dichlorobenzene	ND	0.0533	mg/kg wet
1,4-Dioxane	ND	5.33	mg/kg wet
2,2-Dichloropropane	ND	0.0533	mg/kg wet
2-Butanone	ND	1.39	mg/kg wet
2-Chlorotoluene	ND	0.0533	mg/kg wet
2-Hexanone	ND	1.39	mg/kg wet
4-Chlorotoluene	ND	0.0533	mg/kg wet
4-Isopropyltoluene	ND	0.0533	mg/kg wet
4-Methyl-2-Pentanone	ND	1.39	mg/kg wet
Acetone	ND	2.67	mg/kg wet
Acrolein - Screen	ND	5.33	mg/kg wet
Benzene	ND	0.0533	mg/kg wet
Bromobenzene	ND	0.0533	mg/kg wet
Bromochloromethane	ND	0.0533	mg/kg wet
Bromodichloromethane	ND	0.0533	mg/kg wet
Bromoform	ND	0.107	mg/kg wet
Bromomethane	ND	0.107	mg/kg wet
Carbon Disulfide	ND	0.107	mg/kg wet
Carbon Tetrachloride	ND	0.0533	mg/kg wet
Chlorobenzene	ND	0.0533	mg/kg wet
Chloroethane	ND	0.0533	mg/kg wet
Chloroform	ND	0.0533	mg/kg wet
Chloromethane	ND	0.107	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0533	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0533	mg/kg wet
Dibromochloromethane	ND	0.0533	mg/kg wet
Dibromomethane	ND	0.0533	mg/kg wet
Dichlorodifluoromethane	ND	0.107	mg/kg wet
Diethyl Ether	ND	0.107	mg/kg wet
Di-isopropyl ether	ND	0.107	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.107	mg/kg wet

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Batch NJ22503 - 5035

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Metha	5035	8260 Volatile	Organic C	Compounds	/ Methand
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Batch NJ22503 - 5035							
Ethylbenzene	ND	0.0533	mg/kg wet				
Hexachlorobutadiene	ND	0.0533	mg/kg wet				
Isopropylbenzene	ND	0.0533	mg/kg wet				
Methyl tert-Butyl Ether	ND	0.0533	mg/kg wet				
Methylene Chloride	ND	0.267	mg/kg wet				
Naphthalene	ND	0.107	mg/kg wet				
n-Butylbenzene	ND	0.0533	mg/kg wet				
n-Propylbenzene	ND	0.0533	mg/kg wet				
sec-Butylbenzene	ND	0.0533	mg/kg wet				
Styrene	ND	0.0533	mg/kg wet				
tert-Butylbenzene	ND	0.0533	mg/kg wet				
Tertiary-amyl methyl ether	ND	0.107	mg/kg wet				
Tetrachloroethene	ND	0.0533	mg/kg wet				
Tetrahydrofuran	ND	5.33	mg/kg wet				
, Toluene	ND	0.0533	mg/kg wet				
trans-1,2-Dichloroethene	ND	0.0533	mg/kg wet				
trans-1,3-Dichloropropene	ND	0.107	mg/kg wet				
Trichloroethene	ND	0.0533	mg/kg wet				
Trichlorofluoromethane	ND	0.107	mg/kg wet				
Vinyl Chloride	ND	0.0533	mg/kg wet				
Kylene O	ND	0.0533	mg/kg wet				
Kylene P,M	ND	0.107	mg/kg wet				
Surrogate: 1,2-Dichloroethane-d4	1.43		mg/kg wet	1.333	107	70-130	
Surrogate: 4-Bromofluorobenzene	1.37		mg/kg wet	1.333	103	70-130	
Surrogate: Dibromofluoromethane	1.47		mg/kg wet	1.333	110	70-130	
Surrogate: Toluene-d8	1.55		mg/kg wet	1.333	116	70-130	
LCS							
1,1,1,2-Tetrachloroethane	19.6		ug/L	20.00	98	70-130	
I,1,1-Trichloroethane	17.7		ug/L	20.00	88	70-130	
1,1,2,2-Tetrachloroethane	20.4		ug/L	20.00	102	70-130	
1,1,2-Trichloroethane	19.4		ug/L	20.00	97	70-130	
1,1-Dichloroethane	20.1		ug/L	20.00	101	70-130	
1,1-Dichloroethene	16.6		ug/L	20.00	83	70-130	
I,1-Dichloropropene	19.4		ug/L	20.00	97	70-130	
1,2,3-Trichlorobenzene	19.7		ug/L	20.00	98	70-130	
L,2,3-Trichloropropane	19.2		ug/L	20.00	96	70-130	
1,2,4-Trichlorobenzene	20.3		ug/L	20.00	102	70-130	
1,2,4-Trimethylbenzene	20.7		ug/L	20.00	104	70-130	
1,2-Dibromo-3-Chloropropane	18.6		ug/L	20.00	93	70-130	
1,2-Dibromoethane	20.2		ug/L	20.00	101	70-130	
1,2-Dichlorobenzene	19.6		ug/L	20.00	98	70-130	
1,2-Dichloroethane	18.8		ug/L	20.00	94	70-130	
1,2-Dichloropropane	20.5		ug/L	20.00	103	70-130	
I'' DICHOLODI ODGI IC	20.3		ug/L	20.00	103		
1,3,5-Trimethylbenzene	20.7		ug/L	20.00	104	70-130	

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5():	3!	5/	8	32	26	50	۱ (/o	lat	:ile	e (Or	gan	İС	Com	po	unc	is,	/ [۷е	th	an	10	

20.4 19.8 184	ug/L ug/L	20.00	102	70-130	
	ug/L				
184		20.00	99	70-130	
	ug/L	200.0	92	70-130	
16.4	ug/L	20.00	82	70-130	
198	ug/L	200.0	99	70-130	
20.3	ug/L	20.00	102	70-130	
217	ug/L	200.0	108	70-130	
20.2	ug/L	20.00	101	70-130	
21.1	ug/L	20.00	105	70-130	
200	ug/L	200.0	100	70-130	
179	ug/L	200.0	89	70-130	
162	ug/L	200.0	81	70-130	
19.2	ug/L	20.00	96	70-130	
19.2	ug/L	20.00	96	70-130	
18.2	ug/L	20.00	91	70-130	
17.7	ug/L	20.00	88	70-130	
17.0	ug/L	20.00	85	70-130	
10.5	ug/L	20.00	52	70-130	B-
15.4	ug/L	20.00	77	70-130	
18.5	ug/L	20.00	93	70-130	
20.4	ug/L	20.00	102	70-130	
11.0	ug/L	20.00	55	70-130	B-
18.4	ug/L	20.00	92	70-130	
22.1	ug/L	20.00	110	70-130	
18.3		20.00	92	70-130	
18.6		20.00	93	70-130	
18.8		20.00	94	70-130	
17.8		20.00	89	70-130	
20.2		20.00	101	70-130	
14.4		20.00	72	70-130	
			101	70-130	
		20.00	91	70-130	
		20.00	104	70-130	
20.7		20.00	104	70-130	
20.7		20.00	104	70-130	
		20.00	104	70-130	
	20.3 217 20.2 21.1 200 179 162 19.2 19.2 19.2 17.7 17.0 10.5 15.4 18.5 20.4 11.0 18.4 22.1 18.3 18.6 18.8 17.8 20.2 14.4 20.1 18.2 20.7 20.2 20.7 16.6 17.8	20.3 ug/L 217 ug/L 20.2 ug/L 21.1 ug/L 200 ug/L 179 ug/L 162 ug/L 19.2 ug/L 17.4 ug/L 19.2 ug/L 19.3 ug/L 19.4 ug/L 19.2 ug/L 19.3 ug/L 19.4 ug/L 19.5 ug/L 19.6 ug/L 19.2 ug/L 20.3 ug/L 20.4 ug/L 20.5 ug/L 20.6 ug/L 20.7 ug/L 20.8	20.3 ug/L 20.00 217 ug/L 200.0 20.2 ug/L 20.00 21.1 ug/L 20.00 200 ug/L 200.0 179 ug/L 200.0 162 ug/L 20.00 19.2 ug/L 20.00 19.2 ug/L 20.00 18.2 ug/L 20.00 17.7 ug/L 20.00 10.5 ug/L 20.00 10.5 ug/L 20.00 18.4 ug/L 20.00 18.4 ug/L 20.00 18.3 ug/L 20.00 18.4 ug/L 20.00 18.8 ug/L 20.00 18.8 ug/L 20.00 17.8 ug/L 20.00 18.2 ug/L 20.00 20.1 ug/L 20.00 20.2 ug/L 20.00 20.7 ug/L 20.00 20.7 ug/L 20.00 20.7 <td< td=""><td>20.3</td><td> 20.3</td></td<>	20.3	20.3

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2211 Tel: 401-461-7181

Dependability

◆ Quality

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
	5035/	8260 Volatil	e Organic Co	mpounds	s / Metha	nol				
Batch NJ22503 - 5035										
etrahydrofuran	20.8		ug/L	20.00		104	70-130			
oluene	19.0		ug/L	20.00		95	70-130			
rans-1,2-Dichloroethene	18.4		ug/L	20.00		92	70-130			
rans-1,3-Dichloropropene	16.3		ug/L	20.00		82	70-130			
richloroethene	19.0		ug/L	20.00		95	70-130			
richlorofluoromethane	14.2		ug/L	20.00		71	70-130			
inyl Chloride	19.6		ug/L	20.00		98	70-130			
ylene O	20.1		ug/L	20.00		100	70-130			
ylene P,M	41.4		ug/L	40.00		103	70-130			
urrogate: 1,2-Dichloroethane-d4	1.38		mg/kg wet	1.333		104	70-130			
Surrogate: 4-Bromofluorobenzene	1.36		mg/kg wet	1.333		102	70-130			
Surrogate: Dibromofluoromethane	1.39		mg/kg wet	1.333		104	70-130			
Surrogate: Toluene-d8	1.44		mg/kg wet	1.333		108	70-130			
CS Dup										
,1,1,2-Tetrachloroethane	20.1		ug/L	20.00		100	70-130	3	25	
1,1-Trichloroethane	18.6		ug/L	20.00		93	70-130	5	25	
1,2,2-Tetrachloroethane	20.5		ug/L	20.00		103	70-130	0.4	25	
1,2-Trichloroethane	20.1		ug/L	20.00		101	70-130	4	25	
1-Dichloroethane	21.1		ug/L	20.00		106	70-130	5	25	
1-Dichloroethene	17.4		ug/L	20.00		87	70-130	5	25	
1-Dichloropropene	20.4		ug/L	20.00		102	70-130	5	25	
.2,3-Trichlorobenzene	20.4		ug/L	20.00		102	70-130	3	25	
2,3-Trichloropropane	19.0		ug/L	20.00		95	70-130	0.7	25	
2,4-Trichlorobenzene	20.7		ug/L	20.00		103	70-130	2	25	
.2,4-Trimethylbenzene	21.1		ug/L	20.00		105	70-130	2	25	
.2-Dibromo-3-Chloropropane	18.3		ug/L	20.00		91	70-130	2	25	
,2-Dibromoethane	20.8		ug/L	20.00		104	70-130	3	25	
2-Dichlorobenzene	20.0		ug/L	20.00		100	70-130	2	25	
2-Dichloroethane	19.7		ug/L	20.00		99	70-130	4	25	
,2-Dichloropropane	21.7		ug/L	20.00		108	70-130	5	25	
,3,5-Trimethylbenzene	21.3		ug/L	20.00		106	70-130	3	25	
,3-Dichlorobenzene	20.6		ug/L	20.00		103	70-130	3	25	
,3-Dichloropropane	21.3		ug/L	20.00		106	70-130	4	25	
,4-Dichlorobenzene	20.6		ug/L	20.00		103	70-130	4	25	
4-Dioxane	196		ug/L	200.0		98	70-130	6	20	
2-Dichloropropane	16.9		ug/L	20.00		84	70-130	3	25	
Butanone	204		ug/L	200.0		102	70-130	3	25	
-Chlorotoluene	21.1		ug/L	20.00		106	70-130	4	25	
Hexanone	222		ug/L	200.0		111	70-130	3	25	
-Chlorotoluene	20.6		ug/L	20.00		103	70-130	2	25	
-Isopropyltoluene	21.6		ug/L	20.00		103	70-130	2	25	
-Methyl-2-Pentanone	208			200.0		108	70-130	4	25 25	
cetone	192		ug/L	200.0		96		7	25 25	
			ug/L				70-130 70-130			
crolein - Screen enzene	163 20.1		ug/L ug/L	200.0 20.00		81 100	70-130 70-130	0.07 4	25 25	

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

Quality Control Data

				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier

5035/8260 Volatile Organic Compounds / Methanol

Batch NJ22503 - 5035								
Bromobenzene	19.9	ug/L	20.00	99	70-130	3	25	
romochloromethane	19.4	ug/L	20.00	97	70-130	6	25	
omodichloromethane	18.6	ug/L	20.00	93	70-130	5	25	
omoform	17.4	ug/L	20.00	87	70-130	3	25	
omomethane	10.8	ug/L	20.00	54	70-130	3	25	В
arbon Disulfide	16.1	ug/L	20.00	80	70-130	4	25	
arbon Tetrachloride	19.1	ug/L	20.00	96	70-130	3	25	
nlorobenzene	21.7	ug/L	20.00	108	70-130	6	25	
loroethane	11.3	ug/L	20.00	56	70-130	3	25	В
nloroform	19.1	ug/L	20.00	95	70-130	4	25	
loromethane	23.2	ug/L	20.00	116	70-130	5	25	
-1,2-Dichloroethene	19.6	ug/L	20.00	98	70-130	6	25	
-1,3-Dichloropropene	19.6	ug/L	20.00	98	70-130	5	25	
bromochloromethane	19.7	ug/L	20.00	99	70-130	5	25	
bromomethane	18.8	ug/L	20.00	94	70-130	6	25	
chlorodifluoromethane	20.8	ug/L	20.00	104	70-130	3	25	
ethyl Ether	14.6	ug/L	20.00	73	70-130	1	25	
isopropyl ether	21.1	ug/L	20.00	105	70-130	5	25	
nyl tertiary-butyl ether	19.0	ug/L	20.00	95	70-130	5	25	
nylbenzene	21.5	ug/L	20.00	107	70-130	4	25	
xachlorobutadiene	21.0	ug/L	20.00	105	70-130	4	25	
propylbenzene	21.3	ug/L	20.00	106	70-130	3	25	
thyl tert-Butyl Ether	17.5	ug/L	20.00	88	70-130	6	25	
thylene Chloride	18.7	ug/L	20.00	94	70-130	5	25	
phthalene	21.2	ug/L	20.00	106	70-130	3	25	
Butylbenzene	22.5	ug/L	20.00	113	70-130	3	25	
Propylbenzene	21.4	ug/L	20.00	107	70-130	3	25	
c-Butylbenzene	21.8	ug/L	20.00	109	70-130	3	25	
yrene	21.2	ug/L	20.00	106	70-130	4	25	
rt-Butylbenzene	21.0	ug/L	20.00	105	70-130	3	25	
rtiary-amyl methyl ether	18.4	ug/L	20.00	92	70-130	5	25	
trachloroethene	20.4	ug/L	20.00	102	70-130	5	25	
trahydrofuran	22.0	ug/L	20.00	110	70-130	5	25	
luene	20.0	ug/L	20.00	100	70-130	5	25	
ans-1,2-Dichloroethene	19.5	ug/L	20.00	97	70-130	6	25	
ins-1,3-Dichloropropene	16.8	ug/L	20.00	84	70-130	3	25	
chloroethene	20.2	ug/L	20.00	101	70-130	6	25	
chlorofluoromethane	20.2 14.4		20.00	72	70-130	1	25	
cnioronuorometnane nyl Chloride	20.5	ug/L	20.00	102	70-130 70-130	4	25 25	
		ug/L				3	25 25	
lene O	20.7	ug/L	20.00	104	70-130			
rlene P,M	42.6	ug/L	40.00	106	70-130	3	25	
urrogate: 1,2-Dichloroethane-d4	1.41	mg/kg wet	1.333	106	70-130			
urrogate: 4-Bromofluorobenzene	1.42	mg/kg wet	1.333	106	70-130			

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1.51

1.52

Surrogate: Dibromofluoromethane

Surrogate: Toluene-d8

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Dependability

mg/kg wet

mg/kg wet

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113

114

70-130

70-130

1.333

1.333

Quality



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

	Notes and Definitions
Z-10	Soil pH measured in water at 21.2 °C.
WL	Results obtained from a deionized water leach of the sample.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
C-	Continuing Calibration recovery is below lower control limit (C-).
B-	Blank Spike recovery is below lower control limit (B-).
A2	The Response Factor (RF) for this analyte did not meet the minimum RF criteria specified in Table 4 of Method
	8260C, but was above 0.050. (0.070)
>	Greater than.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
Ş	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.

Avg Results reported as a mathematical average. NR No Recovery

Calculated Analyte [CALC]

SUB Subcontracted analysis; see attached report

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CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1210393

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water: RI0002 http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486

Sample and Cooler Receipt Checklist

Client: GZA GeoEnviron	mental, Inc.	
Client Project ID:		
Shipped/Delivered Via:	ESS Courier	ļ

ESS Project ID: 12100393
Date Project Due: 10/25/12
Days For Project: 5 Day

Items to be checked upon receipt:

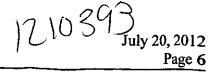
1. Air Bill Manifest Present?	* No	10. Are the samples properly preserved?	Yes
Air No.:		11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact?	N/A	13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: 2.8		16. Are ESS labels on correct containers?	Yes No
Iced With: Ice		17. Were samples received intact?	Yes No
6. Was COC included with samples?	Yes	ESS Sample IDs:	_
7. Was COC signed and dated by client?	Yes	Sub Lab:	·
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	_
18. Was there need to call project manag	er to discu	iss status? If yes, please explain.	
Who was called?:		By whom?	
		By whom?	

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210393						1. 1010	dy.	Flor	\boxtimes									F-Filter	-6		i		& Time)	
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2 (Yellow) Client Receipt

Report Method Blank & Laboratory Control Sample Results

By circling MA-MCP, client acknowledges sampels were collected in accordance with MADEP CAM VIIA



Please identify (by checking the appropriate box above) any of the Business Environmental Risks that you would like to include with this assessment and GZA will prepare a sitespecific proposal and cost estimate for these evaluations.



Task 2: Collection and Analysis of Soil Samples

Selected soil samples collected during the execution of geotechnical borings at the site will be submitted for chemical analysis for the standard suite of soil disposal analyses. We anticipate submitting one sample from each of the four borings being executed at the site. Since the planned excavation activities will be limited to the top few feet of the site, the samples submitted for analysis will come from this horizon. Each of the four samples will be analyzed for the following:

- Total Petroleum Hydrocarbons (TPH; by modified EPA Method 8100);
- Volatile Organic Compounds (VOCs; by EPA Method 8260);
- RCRA Metals (arsenic, cadmium, chromium, lead and Mercury);
 Polychlorinated Biphenyls (PCBs; by EPA Method 8082);
 Semi-Volatile Organic Compounds (SVOCs; by EPA Method 8270);
 Flashpoint, Conductivity, Reactivity and pH; and

 - Oxidation Reduction Potential

The results of our testing, including the laboratory data and appropriate tables and figures, will be incorporated into the Environmental Site Assessment report.

BASIS OF BILLINGS

Billings for the above described scope of work will be based on the fixed-fee amount of \$8,400, approximately broken down as follows:

<u>Task</u>	Budget
Task 1 – Environmental Site Assessment Task 2 – Soil Analyses	\$3,700 \$4,700

This fee is based on our understanding of the project as described in the scope of work outlined herein. The budget for this laboratory portion of this task assumes that we will not need to resubmit any samples for further testing. If hexavalent chromium is required, based on initial test results the additional cost is \$55 per sample. If TCLP-lead testing is required, the additional cost is \$85 per sample.

Billings for reimbursable expenses (e.g. printing, courier) will not exceed \$250.



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

David E Leone GZA GeoEnvironmental, Inc. One Edgewater Drive Norwood, MA 02062

RE: Proposed Multi-Family Housing Development (01.0171422.00)

ESS Laboratory Work Order Number: 1211091

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 3:43 pm, Nov 08, 2012

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibratins, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1211091

SAMPLE RECEIPT

The following samples were received on November 06, 2012 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has performed and reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits ESS Laboratory can provide, upon request, a Data Checker (regulatory standard comparison above regulatory standards. spreadsheet) electronic deliverable which will highlight these exceedances.

For EPH soil samples, the aromatic range results have been corrected for identified cartridge contaminant in accordance with the CAM protocol.

This sample was originally received on October 16, 2012 as ESS Laboratory Sample ID 1210345-01.

Lab Number **SampleName Matrix Analysis** 1311, 1311/6010B 1211091-01 GZ-202 1ft-6ft Soil

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486 Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1211091

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

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The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development

Client Sample ID: GZ-202 1ft-6ft Date Sampled: 10/15/12 15:55

Percent Solids: N/A

ESS Laboratory Work Order: 1211091 ESS Laboratory Sample ID: 1211091-01

Sample Matrix: Soil

Units: mg/L

TCLP Extraction Date:

1311/6000/7000 TCLP Metals

TCLP

 Analyte
 Results (MRL)
 Method
 Limit
 DF
 Analyst
 Analyzed
 I/V
 F/V
 Batch

 Lead
 0.854 (0.020)
 1311/6010B
 5
 1
 LLZ
 11/08/12 10:10
 50
 50
 CK20721

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486 ◆ Service



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1211091

Quality Control Data

Analyte	Result	MRL 1311/6	Units 000/7000 T	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
			· 							
Batch CK20721 - 3005A_TCLP										
Blank										
Lead	ND	0.020	mg/L							
LCS										
Lead	0.523	0.020	mg/L	0.5000		105	80-120			
LCS Dup										
Lead	0.513	0.020	mg/L	0.5000		103	80-120	2	20	



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1211091

Notes and Definitions

U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume

Subcontracted analysis; see attached report

1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.

2 Range result excludes concentrations of target analytes eluting in that range.
3 Range result excludes the concentration of the C9-C10 aromatic range.

Avg Results reported as a mathematical average.

NR No Recovery

[CALC] Calculated Analyte

SUB Subcontracted analysis; see attached report

185 Frances Avenue, Cranston, RI 02910-2211

Tel: 401-461-7181

Fax: 401-461-4486



The Microbiology Division of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: GZA GeoEnvironmental, Inc.

Client Project ID: Proposed Multi-Family Housing Development ESS Laboratory Work Order: 1211091

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

http://www.a2la.org/scopepdf/2864-01.pdf

Rhode Island Potable and Non Potable Water: LAI00179 http://www.health.ri.gov/labs/waterlabs-instate.php

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750 http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water: RI0002 http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002 http://public.dep.state.ma.us/labcert/labcert.aspx

New Hampshire (NELAP accredited) Potable and Non PotableWater, Solid and Hazardous Waste: 2424 http://www4.egov.nh.gov/des/nhelap/namesearch.asp

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313 http://www.wadsworth.org/labcert/elap/comm.html

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301 http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)
http://www.A2LA.org/dirsearchnew/newsearch.cfm

CPSC ID# 1141
Lead Paint, Lead in Children's Metals Jewelry http://www.cpsc.gov/cgi-bin/labapplist.aspx

185 Frances Avenue, Cranston, RI 02910-2211

T. 1 401 461 T101

Fax: 401-461-4486

Sample and Cooler Receipt Checklist

Client: GZA GeoEnvironmental, Inc.

Client Project ID: _

Completed By:

Reviewed By:

Shipped/Delivered Via:

ESS Project ID: <u>12110091</u>

Date Project Due: 11/8/43

Days For Project (2 Day

Items to be checked upon receipt:

	* No	10. Are the samples properly preserved:	Yes
Air No.:	 1	11. Proper sample containers used?	Yes
2. Were Custody Seals Present?	No	12. Any air bubbles in the VOA vials?	N/A
3. Were Custody Seals Intact? N/A		13. Holding times exceeded?	No
4. Is Radiation count < 100 CPM?	Yes	14. Sufficient sample volumes?	Yes
5. Is a cooler present?	Yes	15. Any Subcontracting needed?	No
Cooler Temp: 4.1		16. Are ESS labels on correct containers?	(Yes)No
Iced With: Icepacks		17. Were samples received intact?	YesjiNo
6. Was COC included with samples?	Yes	ESS Sample IDs:	
7. Was COC signed and dated by client? $lacksquare$	Yes	Sub Lab:	
8. Does the COC match the sample	Yes	Analysis:	
9. Is COC complete and correct?	Yes	TAT:	
18. Was there need to call project manager	to discus	ss status? If yes, please explain.	
Be109 OF 121	<u> </u>	5-01	
Who was called?:		By whom?	
Sample Number Properly Preserve	d Contai	iner Type # of Containers Preservative	
1 la Vec	8 07 9	Soil lar 1 NP	

Date/Time:_

Date/Time:_

1210345 (MIM SIM HOL 1211091 1003 Electonic Deliverables Excel Access PDF Mairix: S-Soil SD-Soild D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter Preservation Code: 1-NP, 2-HCI, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-Reporting Limits -ESS Lab# 862 208 70% 30ml 30M Vol of Container sisylsnA VoX Type of Container Vo# Project Name. Havily Housing Borelopmen AG AS B email davide./cone b gra.com Ron Kubiak Containers CHAIN OF CUSTODY ω M Regulatory State MA RI CT NH NJ NY ME Other Pres Code Jathis project for any of the following:(please circle) MA-MCP Navy USACE CT DEP Other Sampled by: Z9020_{diz} 1. See affacked sheet for additional details on analyses. Comments (22-202 (4-6) 62-201 (1'-6' 62-202 (1-6" (22-201(1-6") , 4-, 2)102-29 11:00 62-202 [1,-6" Standard Sample ID Proj. Location Somewille, 17/422.00 Internal Use Only [] Technician Turn Time [] Pickup Matrix 5 S Norwood, MA S 2. 20 Hiner rule 161 TC418 Grab -G Composite-C U U S B S No NA: ontainer Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA Fel. (508) 435-9244 Fax (508) 435-9912 106 South Street, Hopkinton, MA 01748 GZA GEOENVIONMENTALITACI 1545455 booker ogyohrs 1555hrs Collection Time 10/15/12 1555 hrs 10/15/12 1020hrs Division of Thielsch Engineering, Inc. Sontact Person David E. Leme l Edgewater DAVE ESS Laboratory 10/15/12 10/15/12 www.esslaboratory.com 10/12/12 10/15/12 Yes Cooler Temperature: Date **Sooler Present** Seals Intact Notes: | ESS Lab ID onsla S

Page 9 of 9

1 (White) Lab Copy 2 (Yellow) Client Receipt

Report Method Blank & Laboratory Control Sample Results

By direling NA-MCP, client admowledges sampels were collected in accordance with MADEP CAM VIA

Please fax to the laboratory all changes to Chain of Custody

APPENDIX K

ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

Lawrence Feldman, Ph.D., LSP, P.G.

Dr. Feldman, who joined GZA in 1979, is a senior principal with the firm. Following the passage of MGL c. 21E (Massachusetts' "state superfund law") in 1983, Dr. Feldman was one of a small group of attorneys and consultants who initially shaped the site assessment practice in the state. He is a Massachusetts Licensed Site Professional (LSP), and served on the LSP Board of Registration from its formation in 1992 until 2004. He is also registered as a Professional Geologist in the states of New Hampshire and Virginia. He currently sits on the Massachusetts Department of Environmental Protection's Waste Site Cleanup Advisory Committee, and is the president-elect of the LSP Association. Over the past twenty-three years Dr. Feldman has conducted or overseen thousands of environmental site assessments.