RIZZO ASSOCIATES, INC.
ENGINEERS AND ENVIRONMENTAL SCIENTISTS

Phase I — Initial Site Investigation and Tier Classification

MBTA Everett Shops
80 Broadway
Everett, Massachusetts
DEP Site Number 3-0312

Submitted to:
Massachusetts Bay Transportation Authority

Prepared by:
Rizzo Associates, Inc.

December 31, 1996

RIZZO ASSOCIATES, INC.

ENGINEERS AND ENVIRONMENTAL SCIENTISTS

237 West Central Street Natick MA [illegible]

December 31, 1996

Mr. Andrew D. Brennan
Manager of Environmental Affairs
Massachusetts Bay Transportation Authority
10 Park Plaza
Boston, MA 02116-3974

Re: Phase I — Initial Site Investigation and Tier Classification
MBTA Everett Shops
80 Broadway
Everett, Massachusetts
DEP Site Number 3-0312

Dear Mr. Brennan:

Rizzo Associates, Inc. is pleased to submit this Phase I — Initial Site Investigation report for the referenced Massachusetts Bay Transportation Authority facility. This facility was first listed by the Massachusetts Department of Environmental Protection (DEP) as Site Number 3-0312 in 1987, following detection of metals and semi-volatile organic compounds in the surficial soil. The Tier Classification and LSP Evaluation Opinion for the Site are due on December 31, 1996. The Tier Classification form and LSP Evaluation Opinion for this Site are also included in this submittal.

Originals of the required forms are attached to the front of this report. Copies of these forms are included in Appendix A.

We appreciate the opportunity to provide these services to you. Please contact us if you have any questions or comments concerning this investigation.

Very truly yours,

William C. Phelps
Geologist

Richard J. Hughto, Ph.D., P.E., L.S.P
Executive Vice President

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Executive Summary

At the request of the Massachusetts Bay Transportation Authority (MBTA), Rizzo Associates, Inc. has prepared this Phase I — Initial Site Investigation Report to summarize investigations and response actions following identification of a release to the environment of oil and/or hazardous materials (OHM) at the MBTA facility located at 80 Broadway in Everett, Massachusetts. Information in this document is presented in the standard format required by the Massachusetts Contingency Plan (MCP) to facilitate Tier Classification of the Disposal Site and review of documentation by the Massachusetts Department of Environmental Protection (DEP).

Disposal Site Description

The facility consists of an approximately 20-acre parcel of land located at the intersection of Broadway and Chemical Lane in Everett, Massachusetts. The property serves as the repair facility for MBTA buses and subway drive components and as a central warehouse collectively known as the Everett Shops. The facility is improved by three large industrial buildings: the Bus Overhaul Shop, the Central Stores Building, and the Main Repair Shop. The surrounding properties are zoned for a variety of commercial and industrial uses; however, much of the land abutting the Site is undeveloped. The only exceptions include an automobile dealership and McDonald's restaurant located east of the Site and a bolt manufacturer which abuts the Site to the north. A few multi-family residential properties are located approximately 500 feet southeast of the Site. The residential population within one-half mile of the facility is estimated at 3,082 persons. The Franklin School, located approximately one-tenth of a mile southeast of the facility, is the only institution we identified within 500 feet.

Based on the identified extent of contamination, the Disposal Site appears to encompass the entire 80 Broadway property and is herein referred to as "the Site." The Site is currently listed by the DEP under Site Number 3-0312.

Environmental Resource Areas

The Site is located approximately than 1,500 feet northwest of the confluence of the Mystic and Malden Rivers, which ultimately discharge into Boston Inner Harbor. No Areas of Critical Environmental Concern or protected open space are known to exist within 500 feet of the Site. According to the Everett Water and Sewer Department, no private water supply wells are within 500 feet of the Site.

Hydrogeologic Characteristics

Based on observations made during the subsurface investigation at the Site, subsurface materials appear to consist of sandy fill materials overlying shallow off-shore sediments including silt and clay. The shallow groundwater at the Site is expected to occur within the fill materials, with the deeper silt and clay acting as a semi-confining layer. The surficial sediments are underlain by bedrock identified as the Cambridge Argillite. The depth to bedrock at the Site is unknown; no bedrock outcrops were identified at the Site and refusal was not encountered during the subsurface investigations. The bedrock is expected to have a broad range of low to high permeability.

Groundwater at the Site has been measured at depths from 3 to 10 feet below the ground surface. Based on observations made during this investigation, the direction of groundwater flow appears to be to the south.

Disposal Site History

The Site History was established using standard records research and information provided by the MBTA. Historical information was also obtained from a review of previous environmental assessments of the Site, Sanborn fire insurance maps, and city of Everett municipal records.

The Site has been owned and operated by the MBTA as a maintenance facility since the 1920s. Street cars, buses, support vehicles, and trains have historically been serviced, repaired, and decommissioned at the Site. Support services for the maintenance activities included a warehouse and large wood and paint shops. Hazardous materials historically used at the property likely included grease, oil, solvents,

paint, various lubricants, and antifreeze. Diesel fuel, various lubricants, and waste oil have historically been stored in underground storage tanks at the Site.

In 1981, a sample of an unknown substance collected from beneath the Bus Overhaul Shop was submitted to Briggs Associates for testing as part of the expansion of the Bus Overhaul Shop. The results of the testing indicated that the material was nonhazardous. In 1982, the Department of Environmental Quality Engineering (DEQE, now the DEP) issued a letter to the MBTA demanding that discharges of solvents to the floor drains at the facility stop immediately. No additional information regarding this issue was available from the DEP or MBTA.

Certified Engineering and Testing Company, Inc. (Certified) performed a subsurface investigation at the Site in 1987 including the advancement of approximately 40 shallow borings at the Site. One soil sample from each boring was submitted for laboratory analysis. Results of the analysis indicated the presence of high concentrations of metals and semi-volatile compounds in many of the samples submitted. Some volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) were also identified in the soil samples.

Compliance History and Environmental Permits

Based on the results of the Certified's investigation, the DEP listed the Site in 1987 as a Location to Be Investigated and assigned Site number 3-0312.

The Site is listed as a Very Small Quantity Generator of hazardous waste by the DEP and EPA. According to the Massachusetts Department of Public Safety, 9 active and 3 closed USTs are currently at the Site. We found no other environmental permits issued for the Site.

Nature and Extent of Contamination

The nature and extent of the contamination at the Site have not been fully defined. However, based on the results of recent subsurface investigations, metals, petroleum hydrocarbons, and VOCs have been identified in the soil and groundwater at various monitoring points across the Site. The vertical extent of contamination is likely limited by

the poorly permeable and dense nature of the native clay and silt encountered approximately 10 feet below the ground surface. The horizontal extent of contamination appears to extend to or beyond the property boundaries.

The sources of the contamination at the Site are likely related to the historic use of the property as a maintenance facility. Further, fill materials encountered at the Site, including ash, cinders, and boiler slag, may account for the elevated concentrations of metals and semi-volatiles identified at the Site. DEP records also document several small spills of oil and hazardous materials (OHM) at the Site during the past 15 years.

Migration Pathways and Exposure Potential

Oil and hazardous materials at the Site have been identified in soil and groundwater. Drainage gravel in the basement of the Main Repair Shop was observed to be saturated with what appeared to be hydraulic oil. Although the potential for direct human contact is possible, it is considered unlikely since this portion of the building is not normally occupied by MBTA personnel. Surficial soils contaminated with metals, petroleum hydrocarbons, and some VOCs were also identified at multiple locations across the Site. Direct contact with these soils is considered unlikely since the majority of the Site either is occupied by the footprint of the buildings, or is paved with concrete or asphalt.

Groundwater at the Site is not used as a source of drinking water and therefore is not considered as a potential source of exposure. Further, the observed concentrations of dissolved-phase contamination have been below the Method 1 GW-2 standards and, as a result, are not considered as a potential source of indoor air contamination.

Wetlands and surface water are located within 1,500 feet of the Site and represent potential discharge points of groundwater at the Site. Based on the concentrations of dissolved-phase contaminants observed in the downgradient wells at the Site, however, the contamination identified at the Site is expected to dilute and disperse prior to discharge to these environments. Further, the concentrations of contaminants identified in the groundwater are below the Method 1 GW-3 standards and therefore are not considered to be a potential source of surface water contamination. Based on the historic nature of the release and the

currently identified extent of contamination, there is no evidence at this time that a condition of Substantial Release Migration is present.

Evaluation for the Need for Immediate Response Actions

The identified contamination at the Site is likely the result of fill materials placed at the property and its historic use as maintenance facility. No conditions suggesting Imminent Hazards or releases or threats of releases requiring 2-hour or 72-hour notifications to the DEP have been identified. In addition, no conditions of Substantial Release Migration have been identified. Therefore, Immediate Response Actions are not warranted at this time.

Tier Classification Submittals

We completed a Numerical Ranking System (NRS) Scoresheet for the facility. The NRS score is 286, and the Disposal Site does not meet any of the Tier I Inclusionary Criteria specified in 310 CMR 40.0520(2). Therefore, we have prepared a Tier II Classification submittal for the Site for submittal to the DEP.

Public Involvement Activities

In compliance with the MCP, Public Involvement Activities were completed for this Tier II Site. Notification letters were submitted to local municipal offices and a legal notice was published in the *Boston Globe* newspaper.

1.0 Introduction

At the request of the Massachusetts Bay Transportation Authority (MBTA), Rizzo Associates, Inc. has prepared this Phase I — Initial Site Investigation report. This document summarizes investigations and response actions following identification of a release to the environment of oil and/or hazardous material (OHM) at the MBTA facility located at 80 Broadway in Everett, Massachusetts. Information in this document is presented in the standard format required by the Massachusetts Contingency Plan (MCP) to facilitate Tier Classification of the Disposal Site and review of documentation by the Massachusetts Department of Environmental Protection (DEP). A summary of the Tier Classification, and copies of the Tier II Classification and Phase I Completion Statement Transmittal Forms, the Numerical Ranking System Scoresheet, and LSP Evaluation Opinion Form are appended.

1.1 Document Organization

This document includes sections presenting the relevant information specified by the MCP, 310 CMR 40.0480, as well as the Tier Classification scoring. Backup documentation from other studies is referenced in the text as needed, and if that documentation has not been previously submitted to DEP, it is appended to this report. The following sections are included:

Section 2	General Site Information
Section 3	Disposal Site Boundaries
Section 4	Disposal Site History
Section 5	Disposal Site Physical Characteristics
Section 6	Nature and Extent of Contamination
Section 7	Migration Pathways and Exposure Potential
Section 8	Evaluation of the Need for Immediate Response Actions
Section 9	Conclusions
Section 10	Tier Classification Summary
Section 11	Public Involvement Notifications

1.2 Abbreviations

The following abbreviations are used in this repo t:

AST	aboveground storage tank
DEP	Massachusetts Department of Envi onmental Protection
EPA	Environmental Protection Agency
LSP	Licensed Site Professional
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MCP	Massachusetts Contingency Plan
NRS	Numerical Ranking System
NGVD	National Geodetic Vertical Datum
OHM	oil and/or hazardous materials
PCB	polychlorinated biphenyl compoun l
Phase I	Phase I — Initial Site Investigatio Report
TCE	trichloroethene
TPH	total petroleum hydrocarbons
USGS	United States Geological Survey
UST	underground storage tank
UTM	Universal Transverse Mercator
VOC	volatile organic compound

2.0 General Site Information

The Site location and the characteristics of the s rrounding area are presented in this section.

2.1 Site Number

In September 1987, Certified Engineering and T sting Company, Inc. (Certified) performed an environmental study of he Site including the advancement of approximately 40 shallow borings at the Site and the submittal of approximately 40 soil samples for laboratory analysis. The results of the analyses indicated the presence of elevated levels of metals, volatile and semi-volatile organic compounds, petroleum hydrocarbons, and PCBs. As a result, the Site was listed in 1987 as a

Location to Be Investigated by the DEP and was assigned Site Number 3-0312.

2.2 Disposal Site Locus Map

The geographical location of the Disposal Site is shown on Figure 1. The facility is identified by the City of Everett Assessor's Office as Map H4, Lot 1, located at 80 Broadway in Everett, Massachusetts. Figure 3 shows the Site in more detail and indicates the sampling locations in section 3.

The Disposal Site has the following coordinates:

Latitude	42°	23′	48″
Longitude	71°	03′	53″

UTM Coordinates	46	95	750m North
	03	29	910m East

2.3 Human Population in the Vicinity of the Disposal Site

To evaluate the potential for human exposure to contamination identified at the Site, we conducted research into population density and land uses within both a 500-foot and one-half-mile radius form the boundaries of the Site.

Based on the results of the subsurface investigations conducted at the Site, the property boundary of the facility defines the Disposal Site (herein referred to as "the Site"). According to MBTA personnel, approximately 250 workers are currently employed at the Site. The residential population within one-half mile of the facility is estimated at 3,082 persons. This estimate is based on New England DataMap Technology Corporation's Environmental FirstSearch on-line databases, which estimates the population based on Census Bureau population blocks which intersect the specified radius around the facility. This estimate may be higher than the actual population within the specified radius based on the location of and amount of property occupied by the Mystic River and vacant land located in the Site vicinity.

2.4 Land Uses Surrounding the Disposal Site

The property on which the Disposal Site is located is in a primarily commercial and industrial district of Everett, Massachusetts. The Site is abutted to the north by a bolt manufacturer, and to the northeast by a McDonald's restaurant and a car dealership. The remainder of the properties that abut the Site are undeveloped, vacant land. The land located west of the Site was previously operated by the Monsanto Chemical Company. A Boston Edison power generating station and some multi-family residences are located across Broadway, south of the Site.

2.5 Institutions Within 500 Feet of the Disposal Site

Based on Site reconnaissance observations and a review of standard record sources, we identified one institution within 500 feet of the Site; the Franklin School is located less than one-tenth of a mile southeast. We identified no other institutions within the specified radius. The MCP definition of institutions includes hospitals, health care facilities, orphanages, nursing homes, convalescent homes, educational facilities, correctional facilities, or other such facilities that provide overnight housing.

2.6 Natural Resource Areas

Standard record sources were consulted to identify natural resource areas within 500 feet of the Site, including surface waters, protected drinking water supply sources, Sole Source Aquifers, protected open space, fish habitats, and habitats of Species of Special Concern or Threatened or Endangered Species. A Massachusetts Geographical Information System (GIS) Site Scoring Map was obtained for the Site to identify natural resource areas in the vicinity and is include as Figure 2.

Surface Waters. The confluence of the Mystic and Malden Rivers is located approximately 1,500 feet southwest of the Site. These rivers eventually discharge into Boston Inner Harbor, located southeast of the Site. No other surface water features were identified in the Site vicinity.

Drinking Water. Drinking water for the Site is supplied by the city of Everett. We identified no private water supply wells at or within

0 2000 Feet

Quadrangle Location

Base Map: USGS Topographic Map
Boston North, MA Quadrangle
Map Printed, 1978; Map Edited, 1985

MBTA Everett Shops
80 Broadway
Everett, Massachusetts

RIZZO ASSOCIATES, INC

Project Locus Map

Figure 1

SITE NAME:

EVERETT MAINTENANCE FACILITY
PARCEL D AND PARCEL F
30 BROADWAY
EVERETT, MA
4695750n 329910ew

May 28, 1996

SCALE 1:15000

The information shown on this map is the best available at the date of printing. Please refer to the data source description document.

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

- Potentially Productive Medium Yield Aquifer
- Potentially Productive High Yield Aquifer
- NOT Potentially Productive Medium Yield Aquifer
- NOT Potentially Productive High Yield Aquifer
- EPA Designated Sole Source Aquifers
- DEP Approved Wellhead Protection Area - ZONE II
- Interim Wellhead Protection Area
- Public Surface Water Supply
- Lakes, Ponds, Other Fresh Water Features
- Bays, Estuaries, Other Salt Water Features
- Fresh Water Non-Forested Wetlands
- Salt Water Wetlands
- State, Federal, Municipal, Nonprofit and Private Open Space and Recreational Facilities
- Areas of Critical Environmental Concern
- DEP Permitted Solid Waste Facilities
- NHESP Estimated Habitats of Rare Wetlands Wildlife 1995 - for use with Wetlands Protection Act ONLY

- State, U.S., Interstate Routemarkers
- Interstate Highway
- U.S. Highway
- State Highway
- Other Roads
- Municipal Boundary
- County Boundary
- Train
- Powerline
- Pipeline
- Aqueduct
- Major Drainage Basin
- Sub Drainage Basin
- Zone of Contribution
- Public Water Supply - Groundwater
- Public Water Supply - Surface Water
- Non Community Public Water Supply
- Certified Vernal Pools

Figure 2
MassGIS Map

500 feet of the Site. Water for the city of Everett is supplied by the Massachusetts Water Resources Authority (MWRA) from reservoirs in central Massachusetts.

Areas of Critical Environmental Concern and Other Protected Resources. Based on a review of the MassGIS map, no Areas of Critical Environmental Concern or other protected resources were identified within 500 feet of the Site. In addition, the Site is not located within a Sole Source or Potentially Productive Aquifer. The closest potential fish habitats are the Mystic and Malden Rivers, located southwest of the Site.

3.0 Disposal Site Boundaries

The Site, as currently defined, is shown on Figure 3. Based on the results of the subsurface investigations performed at the facility to date, the Disposal Site encompasses the entire 80 Broadway property.

3.1 Structures

The Site property is improved by three principal buildings: the Bus Overhaul Shop, the Central Stores Building, and the Main Repair Shop. The following summarizes the important details of each building:

Bus Overhaul Shop. This building occupies the southwestern portion of the Site and is used for general maintenance, major repair, and body work for the fleet of MBTA buses which serve Everett. The two-story steel and masonry building also houses general administrative office and storage space. Several large hydraulic lifts are located in the southwestern portion of the building.

Central Stores Building. This building serves as the main distribution facility for many of the items used by the MBTA maintenance personnel. The building also houses a wood working shop and additional administrative offices.

Main Repair Shop. The Main Repair Shop is the largest of the three main buildings at the Site and is used to refurbish the electrical motors and drivegear for the subway cars. A steam degreasing station is located on the southern end of the building. Several hydraulic lifts are located

adjacent to the degreasing station. Large annealing ovens and dip tanks, used to harden metal components, are located in the central portion of the building. Large metal lathes and milling equipment occupy much of the remainder of the building. A compressor building which generates compressed air for the entire facility is located adjacent to the degreasing station.

Additional Site buildings. Three additional buildings occupy the Site: a metal storage shed located southeast of the Main Repair Shop, an additional storage building located northwest of the Main Repair Shop, and a guard shack located at the entrance to the Site on Chemical Lane. Two hazardous waste sheds are located at the Site: one is located adjacent to the Bus Overhaul Shop and the other is located on the far northeastern portion of the Site. Decommissioned bus engines and various subway parts are stored on a concrete pad located adjacent to the northeastern hazardous waste shed.

The remainder of the Site not occupied by buildings is paved with asphalt and serves primarily as parking and access for the Site.

3.2 Wastewater Systems

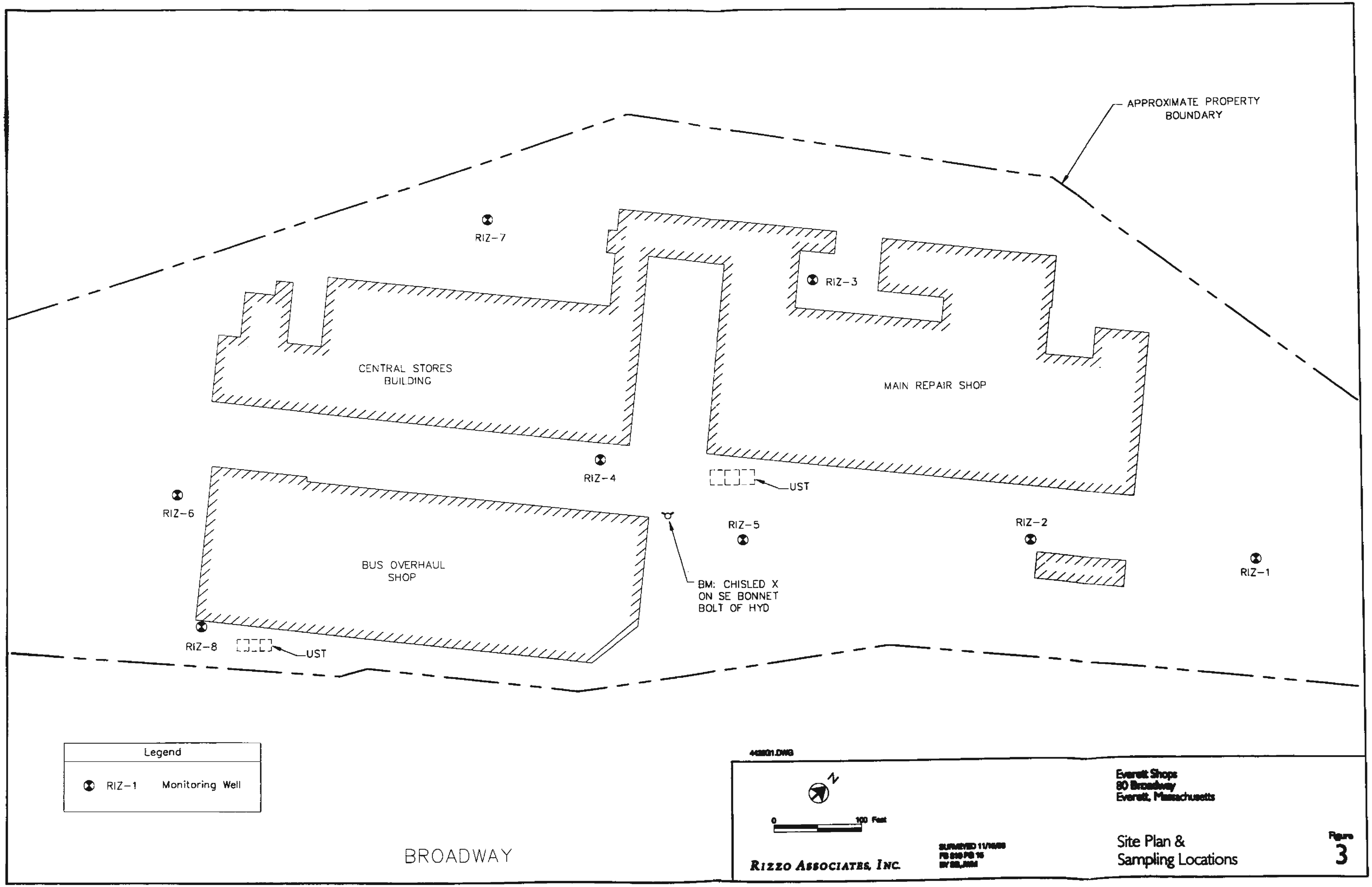
According to utility plans provided by the MBTA, sanitary wastewater discharges to the municipal sewer system. The wastewater treatment plant serving Everett is located at Deer Island in Winthrop.

3.3 Undeveloped Areas

All portions of the Site either are occupied by buildings or are covered by asphalt pavement. The northern portion of the Site is used to store various recycled vehicles used for parts by the MBTA.

3.4 Vehicular Access

Vehicular access to the Site is via Chemical Lane, which is located directly off Broadway. The entire Site is fenced, and the only regular access is via a gate off Chemical Lane. "No trespassing" signs are posted at the entrance to the facility.



Rizzo Associates, Inc.

Everett Shops
80 Broadway
Everett, Massachusetts

Site Plan &
Sampling Locations

Figure
3

3.5 Stormwater Catchment Systems

According to drainage utility plans provided by the MBTA, catchbasins in the parking lot and other paved areas of the Site ultimately discharge to the Mystic River, located southwest of the Site. No floor drains are known to discharge to this drainage system.

3.6 Utility Lines

The facility is served by municipal water and sewer, natural gas, electricity, and telephone services. The building is heated using natural gas, which fires a central heating plant. The heating plant generates high pressure steam, which is then distributed to each main building via overhead piping. All utilities, including electricity and telephone, enter the Site via underground conduits from Broadway.

3.7 Subsurface Sampling and Monitoring Points

In 1981 Briggs Associates analyzed a sample of unknown material collected from an excavation adjacent to the Bus Overhaul Shop. Briggs' analyses concluded that the material was nonhazardous.

Initial subsurface investigation of the Site was performed by Certified in 1987. Forty shallow borings were advanced at the Site; however, no groundwater monitoring wells were installed. Laboratory analysis of soil samples collected during the soil boring advancement indicated the presence of chlorinated solvents, petroleum hydrocarbons, PCBs, and metals in varying concentrations.

Rizzo Associates' October 1996 subsurface investigations included the installation and sampling of eight groundwater monitoring wells. One soil sample from each soil boring and groundwater samples from seven of the eight wells were submitted for laboratory analysis. In addition, one sample of oil observed to be pooling in the basement of the Main Repair Shop was collected and submitted for analysis. The results of the sampling are summarized in Section 6.0.

4.0 Disposal Site History

The history of development and use of the Site was constructed from standard records research and information provided by the MBTA. Historical information was also obtained from previous environmental assessments, Sanborn fire insurance maps, and city of Everett municipal records.

4.1 Site Owners and Operations History

Table 1 presents a summary of site ownership and use as identified during this investigation.

Table 1 Site Owners and Operations History

Dates of Ownership	Owner	Operations
1920s to Present	Massachusetts Bay Transportation Authority	MBTA Everett Shops (Maintenance Facility)
Late 1800s to @ 1920	Unknown (Small portions served residential uses; the remainder was undeveloped)	Residential/undeveloped

4.2 Release History

The data previously submitted to DEP has not been resubmitted with this package, but is referenced as documentation for data cited in this report. Based on information available in the DEP files, previous reports and documents submitted to DEP include the following:

DEP and MBTA correspondence letters include the following:

- Letter regarding Dumping of Hazardous Chemicals (into) Mystic River, DEP to MBTA, March 26, 1996.
- DEQE *Oil and Hazardous Material Spill/Release Incident Inspection Report*, May 8, 1987.
- Briggs Associates, Inc. *Analysis Results of Unknown Material*, Briggs to MBTA, January 12, 1981.

Initial environmental testing at the Site was performed in 1981 when a sample of unknown material, apparently obtained during site work for an addition to the Bus Overhaul Shop, was submitted to Briggs, who concluded that the material was nonhazardous.

Certified performed a subsurface investigation at the Site in 1987 which included the advancement of approximately 40 shallow borings at the Site. One soil sample from each boring was submitted to a laboratory for analyses for volatile and semi-volatile organic compounds, metals, sulfate, PCBs, and pH. The results of the testing indicated that soils at the Site were contaminated with varying concentrations of the requested analytes. Certified did not install any groundwater monitoring wells as part of its investigation. Metals, including lead and mercury, were the most widely spread contaminants identified at the Site. Certified also identified a release of hydraulic oil that occurred in the basement of the Main Repair Shop. Reportedly, damaged seals on the lifts allowed quantities of hydraulic oil to leak into the basement. Saturated soil and puddles of oil were observed in the basement of the Main Repair Shop during Certified's inspection of the Site. Certified concluded that additional assessment of the property was warranted, including the installation and sampling of groundwater monitoring wells.

In 1991, several buried drums of hazardous materials were identified on a small piece of land located on the property boundary between the former Monsanto property and the Site. Reportedly, the drums were removed by Monsanto, who ultimately took responsibility for the cleanup.

Based on information obtained from physical explorations, the contaminants identified at the Site are likely attributable to the historic use of the property as a maintenance facility and the presence of fill materials at the Site. The OHM detected at the Site include chlorinated solvents, petroleum hydrocarbons, PCBs, and metals. Earliest maps of the area indicate that prior to development, the Site was saltwater marsh land. The Site was later filled to produce the current grade, and these fill materials may represent a potential source of the contamination, primarily the semi-volatiles and metals, observed at the Site. Maintenance operations have included the storage and use of large quantities of OHM at the Site and likely represent the source of the TPH and VOCs identified in the soil and groundwater.

4.3 Oil and Hazardous Materials Use, Storage, and Disposal History

As expected for a vehicle maintenance facility of this size, significant quantities of OHM have been historically used at the property. Large quantities of grease, oil and other lubricants, solvents, cleaners, coolants, paints, antifreeze, and waste fluids have been stored at multiple locations throughout the facility. Regulatory records indicate that USTs were installed at the Site as early as 1939 and likely have been used to store petroleum-related products since that time. Currently, the tanks are used to store transmission fluid, bulk motor oil, antifreeze, and diesel fuel. An additional 500-gallon diesel fuel UST and two 20,000-gallon USTs are also located at the Site but are reportedly not currently in use. Waste oil generated at the Site is stored in two locations prior to disposal. Waste oil generated in the Main Repair Shop is pumped to a large aboveground storage tank (AST) located outside the southern end of the building. Waste oil generated in the Bus Overhaul Shop is stored in a UST located in the parking area south of the building.

4.4 Environmental Permits and Compliance History

The facility, specifically the Bus Overhaul Shop, is listed as a Very Small Quantity Generator of hazardous waste under EPA ID MAD981205537. The facility is also listed with the Massachusetts Department of Public Safety as maintaining nine active and three closed USTs. We identified no other environmental permits issued for the Site.

Numerous small spills of oil and hazardous materials have been documented at the Site during the past 15 years. In general, the spills occurred from aboveground storage tanks at the property and did not result in soil contamination. In each case, the spill investigation is closed, and no further investigation is required by the DEP.

5.0 Disposal Site Physical Characteristics

The hydrogeologic and physical characteristics of the Site have been estimated or defined during the previous assessment by Certified and the recent investigation conducted by Rizzo Associates, and through a

review of published United States Geological Survey (USGS) maps. Delineated hydrogeologic characteristics are summarized below to provide a context for the discussion.

5.1 Topography and Surface Features

The Site is located approximately 10 feet above the National Geodetic Vertical Datum (NGVD) and is essentially level. Some small variations in topography are present at the Site and are related to drainage of the parking areas. The areas of the Site not occupied by buildings are covered with asphalt pavement.

5.2 Surficial Geology

Based on the results of the subsurface investigations performed at the Site, subsurface materials appear to consist of artificial fill overlying marine sediments. Artificial fill observed at the Site generally comprised a mixture of ash, cinders, brick and concrete debris, gravel, and medium sand. Thickness of the fill at the Site generally ranges between 5 and 10 feet. Below approximately 10 feet, materials consisted of fine sand and silt, which graded to silt and clay with depth. Dense clay was encountered in the borings at depths below 15 feet.

5.3 Bedrock Geology

No evidence of bedrock was encountered during the installation of the monitoring wells at the Site. No bedrock outcrops were observed at the Site or on abutting properties. Based on a review of available USGS information, bedrock at the Site is expected to be a member of the Cambridge Argillite, characterized by gray argillite and minor quartzite and rare sandstone and conglomerates.

5.4 Hydrogeology

The elevations of the newly installed groundwater monitoring wells were surveyed relative to an arbitrary 101.47-foot benchmark established on the bonnet nut of a fire hydrant located adjacent to the Bus Overhaul Shop on November 15, 1996. Groundwater levels were gauged at the Site concurrent with the collection of groundwater samples on

October 11, 1996. Figure 4 shows the inferred po entiometric surface map from the survey. Groundwater at the Site has been gauged between 3 and 10 feet below the ground surface. Based on the results of the survey, groundwater appears to be flowing to the south, toward Broadway.

6.0 Nature and Extent of Contamination

The nature and extent of contamination are estimated based on the results of the subsurface investigations. This section includes a summary of the results of the recent subsurface investigation by Rizzo Associates, followed by a comparison of detected concentrations of OHM with current MCP Reportable Concentrations, a discussion of the nature of the release(s) as implied by field and analytical results, and an estimation of the extent of contamination.

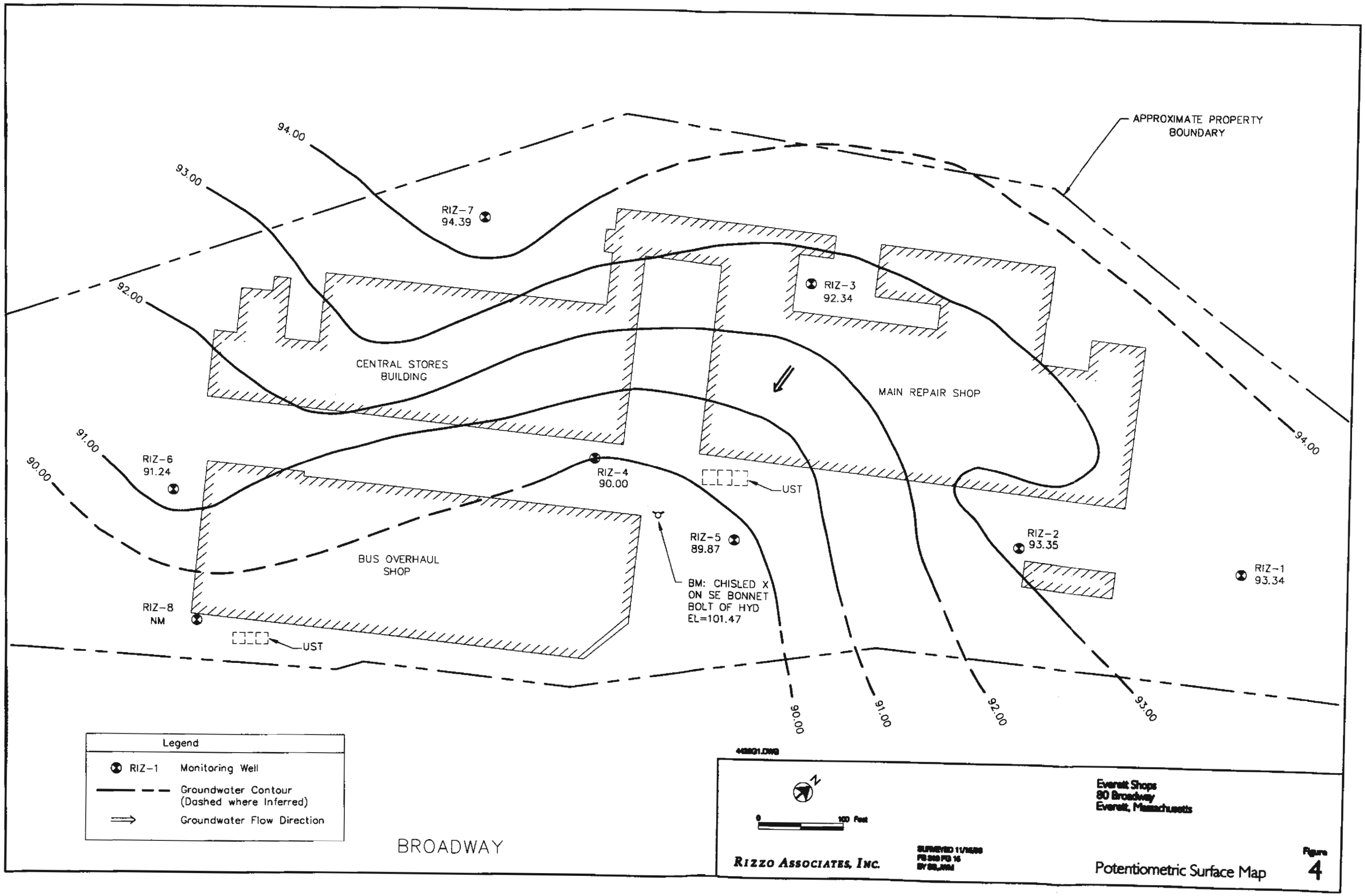
6.1 Recent Subsurface Investigation, Rizzo Associates, October 1996

On October 4–6, 1996, Earth Exploration of Hopkinton, Massachusetts advanced a total of eight soil borings at the Site. Each of the soil borings was completed as a groundwater monitoring well, designated as RIZ-1 through RIZ-8. Drilling locations are shown on Figure 3 in section 3.0. The soil borings were advanced using steam-cleaned, 4.25-inch inside-diameter, hollow stem augers following the standard procedures in Appendix C. Boring logs are included as Appendix D.

6.1.1 Soil Borings

The soil boring locations were selected to further assess the areas of contamination identified by Certified in 1987 and to provide coverage for the Site. The following summarizes the rationale for the individual soil boring locations:

- RIZ-1 was installed on the far northeastern portion of the Site and was intended to provide coverage for the Site
- RIZ-2 was installed east of the Main Repair Shop and was intended to monitor groundwater conditions downgradient from the building.


APPROXIMATE PROPERTY BOUNDARY
94.00
93.00
92.00
91.00
90.00
RIZ-7
94.39
RIZ-3
92.34
CENTRAL STORES BUILDING
MAIN REPAIR SHOP
UST
RIZ-6
91.24
RIZ-4
90.00
RIZ-5
89.87
RIZ-2
93.35
RIZ-1
93.34
BUS OVERHAUL SHOP
BM: CHISLED X ON SE BONNET BOLT OF HYD EL=101.47
RIZ-8
NM
UST
Legend
RIZ-1 Monitoring Well
Groundwater Contour (Dashed where Inferred)
Groundwater Flow Direction
BROADWAY
0
100 Feet
RIZZO ASSOCIATES, INC.
Everett Shops
80 Broadway
Everett, Massachusetts
Potentiometric Surface Map
Figure
4

- RIZ-3 was installed in an alcove between the Main Repair Shop and the Central Stores Building, in an area used to store virgin oils and hazardous materials. This location was selected to assess potential releases from the materials stored in the alcove.

- RIZ-4 was installed off the northeast corner of the Central Stores Building and was intended to assess potential releases from the large waste oil AST and USTs in the general area.

- RIZ-5 was installed in the parking lot east of the Bus Overhaul Shop and was intended to assess documented releases of hydraulic fluid in the Main Repair Shop, located upgradient from the boring location.

- RIZ-6 was installed southwest of the Bus Overhaul Shop, adjacent to the waste oil UST, and was intended to monitor subsurface conditions adjacent to the UST.

- RIZ-7 was installed west of the Central Stores building and was intended to monitor subsurface conditions on the upgradient portion of the Site.

- RIZ-8 was installed off the southern corner of the Bus Overhaul Shop, adjacent to the transmission UST, and was intended to assess potential releases from the UST.

Sample Collection. With the exception of RIZ-1, which was sampled continuously, soil samples were collected at 5-foot intervals during drilling using a 2-inch by 24-inch steel split-spoon sampling device. The samples were inspected and characterized, and a portion of each sample was sealed in an 8-ounce jar for field screening. Samples were field screened using a photoionization detector (PID) with an 11.7 eV lamp following standard procedures in Appendix C. The PID was calibrated to an isobutylene standard prior to screening. The PID yields positive responses in the presence of VOCs with an ionization potential less than 11.7 eV. No elevated PID responses were encountered during the screening of the soil samples.

One soil sample from each of the soil borings was placed in laboratory prepared glassware, kept cool, and picked up at Rizzo Associates on October 7, 1994 by a courier from AMRO Laboratories under chain of custody. All of the soil samples submitted for analysis were analyzed

for VOCs by EPA Method 8260, for the 13 total priority pollutant metals, and for TPH by EPA Method 8100M. In addition, the samples collected from RIZ-1 and RIZ-4 were also analyzed for PCBs by EPA Method 8080.

6.1.2 Groundwater Monitoring Wells

Monitoring wells were installed in RIZ-1 through RIZ-8. The monitoring wells were constructed of 0.010-inch machine-slotted, 2-inch-diameter PVC well screen and solid riser. The annular space around the well screen was filled with graded filter sand to at least one foot above the top of the well screen. About one foot of bentonite clay was placed over the filter sand to form a seal preventing vertical infiltration of surface water into the well. Flush-mounted road boxes were set in concrete to protect the well.

On October 11, 1996, Rizzo Associates personnel measured the depth to water in the eight newly installed groundwater monitoring wells using an electronic water level meter. The depth to water ranged from 3 to 10 feet below the ground surface across the Site. During gauging it was noted that the native fill placed around RIZ-6 had settled and the road box was loose. Additional filter sand was placed above the native fill and the road box was re-set in concrete. RIZ-8 was observed to be dry at the time the wells were gauged.

Sample Collection. A dedicated, disposable polyethylene bailer was used to purge the seven new wells (RIZ-8 was dry) and to collect laboratory samples following the standard procedure in Appendix C. In addition, we collected a duplicate groundwater sample from RIZ-7. The monitoring wells were purged by removing a minimum of three well volumes or until purged dry. Specific conductance and pH were measured at the conclusion of purging; results are summarized in Table 2.

Groundwater samples were collected and transferred directly from the bailer to laboratory prepared glassware. The samples were analyzed for TPH by EPA Method 8100M, for the 13 priority pollutant metal, and for VOCs by EPA Method 8260. The samples were kept cool and stored until picked up at Rizzo Associates by a courier from AMRO Labs, a laboratory certified in Massachusetts for analysis of these compounds. A trip blank was transported with the laboratory vial in the cooler to test

Table 2 **Field Measurements of pH, Temperature, and Specific Conductance — October 11, 1996**

Well I.D.	pH	Temperature (°C)	Specific Conductance (μmhos)	Amount Purged (gallons)	Observations
RIZ-1	6.5	17	900	Purged dry	Clear, no sheen/odor
RIZ-2	7.0	17	3,300	4.5	Brown/silty, no sheen/odor
RIZ-3	7.0	15.5	3,300	4.0	Dark brown/silty, slight sheen/odor
RIZ-4	7.0	16	1,050	Purged dry	Black/gray, silty, light sheen
RIZ-5	7.0	16	1,550	Purged dry	Gray/silty, no sheen/odor
RIZ-6	7.0	18	4,700	Purged dry	Black/silty, no sheen/odor
RIZ-7	7.0	17	60,000	6.0	Dark brown/silty, no sheen/odor

for possible cross-contamination introduced during sample transportation; samples were transported under chain of custody. No strong odors were observed during the sampling; however, light sheens were observed during the purging of RIZ-3 and RIZ-4. The elevated specific conductance readings observed in RIZ-7 may be related to brackish water infiltration from the salt marsh located north of the Site.

6.2 Laboratory Results

The results of the soil and groundwater analyses are discussed below. In general, the highest concentrations of OHM were detected in the soil at the Site. Below reportable concentrations of dissolved phase contaminants were identified in the groundwater. Results of the analyses of the duplicate sample collected from RIZ-7 were in agreement (both results were non-detect for all target compounds). Tables 3 and 4 summarize the positive laboratory analytical results for the groundwater and soil samples collected at the Site. Laboratory certificates of analysis are included as Appendix E.

Table 3 Positive Analytical Results for Groundwater — October 1996

								Reportable Concentrations	
Well I.D.:	**RIZ-1**	**RIZ-2**	**RIZ-3**	**RIZ-4**	**RIZ-5**	**RIZ-6**	**RIZ-7**	**GW-1**	**GW-2**
Volatile Organic Compounds (µg/L)									
Trichloroethene	<2.0	<2.0	3.5	<2.0	<2.0	<2.0	< 2.0	5	300
Napthalene	<2.0	<2.0	<2.0	97	<2.0	<2.0	< 2.0	20	6,000
Total Petroleum Hydrocarbons (mg/L)									
All Target Compounds	ND	ND	ND	ND	ND	ND	ND	1	50
13 Priority Pollutant Metals (mg/L)									
Arsenic	0.017	0.013	<0.010	<0.010	<0.010	0.015	0.015	0.05	0.4
Antimony	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	< 0.005	0.06	0.3
Copper	<0.03	<0.03	<0.03	0.32	<0.03	<0.03	0.03	NE	NE
Zinc	<0.05	<0.05	<0.05	0.42	<0.05	<0.05	< 0.05	0.9	0.9

ND - Not detected
NE - No Standard Established

6.3 Comparison to MCP Reportable Concentrations

For comparison to MCP Reportable Concentrations for purposes of Site scoring, we present a discussion of the rationale for selection of appropriate Reportable Concentration (RC) thresholds. A Massachusetts GIS Site Scoring Map was obtained to identify natural resource areas in the vicinity of the Disposal Site. A copy of the map is provided as Figure 2. For the disposal site, we have determined that the appropriate groundwater classification is GW-2 because the Disposal Site is not located within a potentially productive aquifer or within the protected zone for a public water supply. In addition, according to the Everett Water and Sewer Commission, no private wells are known to be located in the vicinity of the Disposal Site area, which is served by municipal water supplies. Soil classification at the Site is influenced by residences located across Broadway which are within 500 feet of the eastern portions of the Site. Consequently, soils collected from soil borings RIZ-1, RIZ-2, RIZ-4, RIZ-5, and RIZ-6 are classified as S-1, all other soils are classified as S-2.

Table 4 **Positive Analytical Results for Soil — October 1996**

									Reportable Concentrations	
Well I.D.:	**RIZ-1**	**RIZ-2**	**RIZ-3**	**RIZ-4**	**RIZ-5**	**RIZ-6**	**RIZ-7**	**RIZ-8**	**RCS-1**	**RCS-2**
Volatile Organic Compounds (µg/kg)										
Trichloroethene	<30	<29	**1,400**	**610**	<24	<27	<27	<28	400	20,000
Napthalene	<30	<29	<30	77	140	180	160	<28	4,000	1,000,000
Toluene	<30	<29	57	<26	<24	<27	<27	<28	90,000	500,000
4-Isopropyltoluene	<30	<29	<30	<26	47	<27	<27	<28	NE	NE
Total Petroleum Hydrocarbons (mg/kg)										
Motor/Hydraulic Oil	<56	110	320	460	230	310	480	230	500	2,500
RCRA 8 Metals (mg/kg)										
Antimony	<2.2	<2.3	18	<2.2	<2.4	<2.7	3.9	<2.6	10	40
Arsenic	<12	<14	27	<5.4	<5.3	<5.3	**64**	<15	30	30
Beryllium	<0.12	<0.14	0.21	0.36	<0.12	<0.13	<0.56	<0.15	0.7	0.8
Cadmium	<2.4	<2.8	17	<2.7	3.4	3.0	5.2	7.0	30	80
Chromium	15	13	89	9.3	16	11	15	48	1,000	2,500
Copper	8.3	5.5	1,800	43	37	67	91	33	NE	NE
Lead	14	23	**52000**	74	120	130	**1,300**	28	300	600
Nickel	9.4	12	39	11	22	15	10	35	300	700
Mercury	<0.050	<0.050	2.13	0.279	0.096	0.111	0.368	<0.050	10	60
Zinc	21	96	**5,800**	57	43	110	120	85	2,500	2,500

Bold compounds exceed applicable reportable concentrations
NE No Standard Established

Reportable Concentrations (RCs) for lead, zinc, and trichloroethene (TCE) in RIZ-3; TCE in RIZ-4; and arsenic, lead, and zinc in RIZ-7 were exceeded in Site soils. None of the compounds detected in the groundwater exceed even the most stringent groundwater classification, GW-1.

6.4 Maximum Concentration of OHM in Soil and Groundwater

The primary contaminant in soil at the Site appears to be lead. Concentrations of lead in the soil at the Site ranged from 14 mg/kg in

RIZ-1 to 52,000 mg/kg in RIZ-3. Detectable concentrations of TPH in the soil, tentatively identified as motor oil/hydraulic oil, ranged from 110 mg/kg in RIZ-1 to 480 mg/kg in RIZ-7. TPH were detected in seven of the eight soil samples submitted for analysis. Trichloroethylene (TCE) was detected in RIZ-4 at a concentration of 610 µg/kg and in RIZ-3 at 1,400 µg/kg. Napthalene was detected in 4 of the 7 groundwater samples collected at the Site at concentrations up to 180 µg/L.

Maximum concentrations of OHM in groundwater included dissolved copper at 0.32 µg/L and naphthalene at 97 µg/L. TPH were not detected in the groundwater samples submitted for analysis.

6.5 Nature of Contamination

The most widespread contaminants at the Site appear to be metals, which have been identified in the soil and groundwater at the Site. Based on information obtained from subsurface investigations and historical sources, the presence of OHM at the Site appears to be related to the presence of fill materials and the historic use of the Site as a large-scale maintenance facility. Reportedly, large portions of the Site were previously unpaved and small leaks from equipment or small spills likely contributed to the TPH identified at the facility. Pools of hydraulic oil and oil-saturated gravel have been identified in the basement of the Main Repair Shop. These releases are the result of leaking seals on hydraulic lifts located in the southeastern portion of the Main Repair Shop. Reportedly, the seals have been repaired and the oil observed in the basement represents residual contamination.

Groundwater contaminants at the Site are primarily dissolved metals including arsenic, copper, and zinc, and are likely the result of the leaching of soil contaminants at the Site. Below reportable concentrations of napthalene and TCE were the only two VOCs identified in the groundwater samples, and are likely the result of maintenance activities at the Site.

6.6 Estimated Horizontal and Vertical Extent of Contamination

The horizontal and vertical extent of contamination at the Disposal Site has not been fully characterized during this study, but will be discussed to the extent it has been defined.

Based on the results of the subsurface investigations at the Site, the highest levels of contaminants appear to be located on the western portions of the property, north and immediately west of the Main Repair Shop, with the highest concentrations of OHM encountered in samples collected from RIZ-3. Lesser concentrations of contaminants were identified on the northeastern and southern portions of the Site. Further subsurface study of the Site would be required to define the horizontal extent of the contamination.

The oil contamination identified in the basement of the Main Repair Shop may extend beneath the foundation of the building. However, only low concentrations of TPH were identified in the soils outside of the building, indicating that the oil contamination has not migrated substantially beyond the building footprint. Further, no evidence of the hydraulic oil was identified in the groundwater samples collected from wells installed downgradent from the Main Repair Shop.

Low levels of contaminants were identified in all of the wells at the Site; and therefore, the horizontal extent of groundwater contamination at the Site has not been fully defined. Based on observations made during the installation of the soil borings, the shallow groundwater at the Site is likely limited to the fill materials. As discussed above, below approximately 10 feet the presence of dense clay and silt limit the vertical migration of groundwater contamination.

7.0 Migration Pathways and Exposure Potential

This section includes an evaluation of known conditions at the Disposal Site with respect to migration pathways and exposure potential. Migration can occur through groundwater transport and air dispersion.

7.1 Potential for Human Exposure

Soils and drainage gravel in the basement of the Main Repair Shop were observed to be saturated with what appeared to be hydraulic oil. There is a high potential for direct human contact in this area; however, this portion of the building is not normally occupied by on-site workers, and the potential for exposure is limited.

High levels of contamination, primarily lead, have been identified in the near-surface soils at the Site; however, the entire Site either is covered by the footprint of the buildings or is paved with asphalt or concrete. Therefore, direct human contact is unlikely. Potential future operations at the facility are not expected to involve the disturbance of the identified contaminated soils.

Groundwater at the Site is not used as a source of drinking water and therefore is not considered to be a potential exposure pathway. Further, the VOCs identified in the groundwater are below the Method 1 GW-1 standards and are therefore not considered to be a potential source of indoor air contamination.

7.2 Potential for Exposure to Environmental Receptors

Wetlands and surface water are located within 1,500 feet of the Disposal Site; however, the highest levels of contamination have been identified immediately adjacent to the Site buildings. Further, the poorly permeable nature of the fill materials likely limit the extent to which contamination has migrated off-site. In addition, the concentrations of contaminants in the groundwater are below the Method 1 GW-3 standards and therefore are not considered a potential source of surface water contamination. Based on the historic nature of the release and the currently identified extent of contamination, there is no evidence at this time that a condition of a Substantial Release Migration is present at the Disposal Site.

8.0 Evaluation of the Need for Immediate Response Actions

Subsurface investigations at the Disposal Site have identified reportable concentrations of arsenic, lead, zinc, and TCE at the Site. However, these contaminants were previously reported to the DEP as a result of the 1987 Certified investigation at the Site and therefore do not require reporting to the DEP. No conditions suggesting Imminent Hazards or releases or threats of releases requiring 2-hour or 72-hour notification to DEP have been identified; therefore, Immediate Response Actions are not necessary at this time.

9.0 Conclusions

Based on the data obtained during studies to date, additional investigations or response actions are needed to fulfill MCP requirements. These actions are likely to include the following:

- Define the degree and extent of contamination at the Disposal Site by the installation and sampling of additional soil borings/monitoring wells.
- Evaluate potential remediation options for the hydraulic oil contamination identified in the basement of the Main Repair Shop.
- Evaluate the need for remediation at the Site and/or the possibility of implementation of an Activity and Use Limitation at the Disposal Site.
- Investigate the current suite of USTs located at the Site.

10.0 Tier Classification Summary

Using information provided in the reports of record, we completed a Numerical Ranking System (NRS) Scoresheet (Appendix A). The NRS score is 286, and the Disposal Site does not meet the Tier I Inclusionary Criteria contained in 310 CMR 0520(2) of being located within the Interim Wellhead Protection Area for public water supply wells or does

not require an Immediate Response Action. Therefore, we have prepared a Tier Classification for a Tier II Site.

Copies of the NRS Scoresheet, Tier Classification Transmittal Form (BWSC-107A), Phase I Completion Statement (BWSC-108), and Licensed Site Professional Evaluation Opinion Transmittal Form (BWSC-110) are in Appendix A. With the exception of the NRS Scoresheet, signed original copies of the forms are attached to the cover of this report for transmittal to DEP.

11.0 Public Involvement Notifications

In compliance with the MCP, Public Involvement Activities have been completed for this Tier II Site as follows:

- Notification letters, dated December 20, 1996 of the application for the Initial Site Investigation and Tier II Classification were submitted to the city of Everett Mayor's Office and Board of Health.
- A legal notice of the application for the Initial Site Investigation and Tier II Classification was published in the *Boston Globe* and the *Environmental Monitor*.

Copies of the public involvement filings are in Appendix B.

Appendix A

Tier Classification Submittals

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-110

LICENSED SITE PROFESSIONAL (LSP) EVALUATION OPINION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number: 3 - 0312

A. SITE OR LOCATION TO BE INVESTIGATED (LTBI) INFORMATION:

Provide the following information as it appears on the Transition List of Confirmed Disposal Sites and Locations To Be Investigated.

Site or LTBI Name: MBTA Everett Shops

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Site Status: (check one) [X] Location To Be Investigated [ ] Unclassified Disposal Site [ ] Non-Priority Disposal Site without a Waiver

Date First Listed in Above Category: January 15, 1987

Related Release Tracking Numbers that this LSP Evaluation Opinion Addresses: None

B. LSP EVALUATION OF SITE OR LOCATION TO BE INVESTIGATED: (check one of the following)

[ ] Check here if this location is NOT a Site where a Release of Oil(s) or Hazardous Material(s) occurred that is subject to the notification requirements of 310 CMR 40.0300, and no further response actions are required.

[ ] Check here if a Release of Oil(s) and Hazardous Material(s) subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, but Response Actions completed prior to the date of this LSP Evaluation Opinion meet the requirements of a Class A or Class B Response Action Outcome.

If this LSP Evaluation Opinion is checked, you must meet all appropriate Response Action Outcome requirements described at 310 CMR 40.1000. You must include with this submittal documentation equivalent to a Response Action Outcome, including all supporting materials.

Indicate the class of the equivalent Response Action Outcome:

( ) Class A-1 ( ) Class A-2 ( ) Class A-3 ( ) Class B-1 ( ) Class B-2

You may choose to submit a completed Response Action Outcome Statement (BWSC-104) and supporting documentation in lieu of an LSP Evaluation Opinion, provided that you make the submittal prior to the LSP Evaluation Opinion deadline.

[X] Check here if a Release subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, and further Response Actions are necessary, pursuant to 310 CMR 40.0000.

If this option is checked you must make one of the following submittals by the applicable LSP Evaluation Opinion deadline: (i) provide a Tier Classification Submittal Transmittal Form (BWSC-107) and, if necessary, a Tier I Permit Application; (ii) provide a Response Action Outcome Statement (BWSC-104); (iii) or provide a Downgradient Property Status Submittal (BWSC-104).

[ ] Check here if this location is a Site that is Adequately Regulated, pursuant to 310 CMR 40.0110. Specify which other regulatory authority applies:

( ) Response Actions at this Site, which are being conducted as a HSWA Corrective Action, are Adequately Regulated, pursuant to 310 CMR 40.0112.

( ) Response Actions at this Site, which is a 21C facility under the RCRA Authorized State Hazardous Waste Program, are Adequately Regulated under M.G.L. c. 21C and 310 CMR 30.000, pursuant to 310 CMR 40.0113.

( ) Response Actions at this Site, which is a Solid Waste Management facility, are Adequately Regulated under M.G.L. c. 21H, M.G.L. c. 111, § 150A and/or 310 CMR 19.000, pursuant to 310 CMR 40.0114.

You must attach all supporting documentation for the LSP Evaluation Opinion indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

D. LSP OPINION:

I 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this LSP Evaluation Opinion was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the response action(s) upon which this opinion is based, if any, were reasonable and appropriate to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000.

I 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.

SECTION D IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-110

LICENSED SITE PROFESSIONAL (LSP) EVALUATION OPINION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number: 3 - 0312

D. LSP OPINION: (continued)

☐ Check here if the Response Action(s) on which this opinion is based, if any, is (are) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If this box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, P.E., Ph.D., L.S.P. LSP #: 2261 Stamp:

Telephone: (508) 651-3401 Ext.:

FAX: (optional) (508) 651-1189

Signature:

Date:

E. PERSON SUBMITTING LSP EVALUATION OPINION:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617) 222-3126 Ext.: FAX: (optional)

F. RELATIONSHIP TO SITE OR LOCATION TO BE INVESTIGATED OF PERSON SUBMITTING LSP EVALUATION OPINION: (check one)

☒ RP or PRP Specify: ☒ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting LSP Evaluation Opinion Specify Relationship:

G. CERTIFICATION OF PERSON SUBMITTING LSP EVALUATION OPINION:

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: (signature) Title: Manager of Environmental Affairs

For: Massachusetts Bay Transportation Authority Date:
(print name of person or entity recorded in Section E)

Enter address of the person providing certification, if different from address recorded in Section E:

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITONAL COMPLIANCE FEES.

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Shops

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Related Release Tracking Numbers that this Form Addresses: None

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☒ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☒ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **final Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **final Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

○ Active Operation and Maintenance ○ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

○ Active Operation and Maintenance ○ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *if Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, P.E., Ph.D., L.S.P. LSP #: 2261 Stamp:

Telephone: (508) 651-3401 Ext.: 346

FAX: (optional) (508) 651-1189

Signature: _____

Date: _____

COMMONWEALTH OF MASSACHUSETTS
RICHARD J HUGHTO
No. 2261
REGISTERED LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617)222-3126 Ext.: _____ FAX: (optional) _____

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☒ RP or PRP Specify: ⊗ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: Manager of Environmental Affairs
(signature)

For: Massachusetts Bay Transportation Authority Date: 12/23/96
(print name of person or entity recorded in Section H)

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-107A

TIER CLASSIFICATION, TIER II EXTENSION & TIER II TRANSFER TRANSMITTAL FORM

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number: 3 - 0312

A. DISPOSAL SITE LOCATION:

Disposal Site Name: MBTA Everett Shops

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Related Release Tracking Numbers That This Submittal Will Address:

B. THIS FORM IS BEING USED TO: (check all that apply)

___ Submit a new or revised **Tier Classification Submittal for a Tier I Site**, including a Numerical Ranking Scoresheet (complete Sections A, B, C, I, J, K and L).

X Submit a new or revised **Tier Classification Submittal for a Tier II Site**, including a Numerical Ranking Scoresheet (complete Sections A, B, C, F, G, I, J, K and L).

___ Submit a **Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site** and rescoring is not required at this time (complete Sections A, B, J, K and L). If this submittal is for a Tier I Site, you must also submit a Minor Permit Modification Transmittal Form (BWSC-109).

List Additional Release Tracking Number(s):

X Submit a **Phase I Completion Statement supporting a Tier Classification Submittal** (complete Sections A, B, I, J, K and L).

___ Submit a **Tier II Extension Submittal** for Response Actions at a Tier II Site (complete Sections A, B, D, F, G, I, J, K and L).

___ Submit a **Tier II Extension Submittal for Response Actions taken after expiration of a Waiver**, pursuant to 310 CMR 40.0630(4) (complete Sections A, B, D, F, J, K and L, and also complete Sections G and I *or* Section H).*

___ Submit a **Tier II Transfer Submittal** for a change in person(s) undertaking Response Actions at a Tier II Site (complete Sections A, B, E, F, G, I, J, K, L, M, N and O).

___ Submit a **Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Waiver Site,** pursuant to 310 CMR 40.0630(6) (complete Sections A, B, E, F, J, K, L, M, N and O, and also complete Sections G and I *or* Section H).*

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.
***NOTE: The Waiver expires on the effective date of this submittal and all further Response Actions must be taken as a Tier II Site.**

C. TIER CLASSIFICATION SUBMITTAL:

Numerical Ranking Score for Disposal Site: (from Numerical Ranking Scoresheet) 246

Proposed Tier Classification of Disposal Site: (check one) ☐ Tier IA ☐ Tier IB ☐ Tier IC X Tier II

Check which, if any, of the Tier I inclusionary criteria are met by the Disposal Site, pursuant to 310 CMR 40.0520:

___ Groundwater is located within an Interim Wellhead Protection Area or a Zone II, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.

___ An Imminent Hazard is present at the time of Tier Classification.

___ Check here if this Tier Classification revises a previous submittal for this Disposal Site. You must include a revised Numerical Ranking Scoresheet with this submittal. If a Tier I Permit has been issued, you may also need to submit a Major Permit Modification Application (BWSC 10).

If incorporating additional Release(s) into the Disposal Site, list Release Tracking Number(s):

D. TIER II EXTENSION SUBMITTAL REQUIREMENTS:

State the expiration date of the Tier II Classification or Waiver for the Disposal Site, whichever is applicable:

Attach a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site. A Tier II Extension is effective for a period of one year beyond the current expiration date of the Tier II Classification or Waiver.

E. TIER II TRANSFER SUBMITTAL REQUIREMENTS:

State the proposed effective date of the change in person(s) undertaking Response Actions at the Disposal Site:

Attach a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions. All Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.

TIER CLASSIFICATION, TIER II EXTENSION & TIER II TRANSFER TRANSMITTAL FORM

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

3 - 0312

F. DISPOSAL SITE COMPLIANCE HISTORY SUMMARY:

- If providing either a **Tier Classification Submittal for a Tier II Site** or a **Tier II Extension Submittal for a Waiver Site**, the person named in **Section J** must provide a Compliance History.
- If providing a **Tier II Extension Submittal for a Tier II Site**, the person named in **Section J** must update their Compliance History since the effective date of the Tier II Classification.
- If providing a **Tier II Transfer Submittal for a Tier II or Waiver Site**, the person named in **Section M** must provide a Compliance History.

Compliance History for (provide only one name per History): MBTA Everett Shops

☐ Check here if there has been no change to the Compliance History of the person named above (Extension Submittal for a Tier II Site ONLY).

List all permits or licenses that have been issued by the Department that are relevant to this Disposal Site:

PROGRAM:	PERMIT NUMBER:	PERMIT CATEGORY:	FACILITY ID:
Air Quality			
Hazardous Waste (M.G.L. c. 21C)	N/A	RCRA	MAD981205537
Solid Waste			
Industrial Wastewater Management			
Water Supply			
Water Pollution Control/Surface Water			
Water Pollution Control/Groundwater			
Water Pollution Control/Sewer Connection			
Wetland & Waterways			

List all other Federal, state or local permits, licenses, certifications, registrations, variances, or approvals that are relevant to this Disposal Site:

ISSUING AUTHORITY OR PROGRAM, OR DOCUMENTATION TYPE:	IDENTIFICATION NUMBER:	DATE ISSUED:

If needed, attach to this Transmittal Form a statement further describing the Compliance History of this Disposal Site. This statement must describe the compliance history of the person named above with the following:

(1) DEP regulations; and
(2) other laws for the protection of health, safety, public welfare and the environment administered or enforced by any other government agency.

Such a statement should identify information such as:

(1) actions relevant to the Disposal Site taken by the Department to enforce its requirements including, but not limited to, a Notice of Noncompliance (NON), Notice of Intent to Assess Civil Administrative Penalty (PAN), Notice of Intent to Take Response Action (NORA), and an administrative enforcement order;
(2) administrative consent orders;
(3) judicial consent judgements;
(4) similar administrative actions taken by other Federal, state or local agencies;
(5) civil or criminal actions relevant to the Disposal Site brought on behalf of the DEP or other Federal, state, or local agencies; and
(6) any additional relevant information.

For each action identified, provide the following information:

(1) name of the issuing authority, type of action, identification number and date issued;
(2) description of noncompliance cited;
(3) current status of the matter; and
(4) final disposition, if any.

TIER CLASSIFICATION, TIER II EXTENSION & TIER II TRANSFER TRANSMITTAL FORM

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number
3 - 0312

G. CERTIFICATION OF ABILITY AND WILLINGNESS:

> If providing either a **Tier II Classification Submittal** or a **Tier II Extension Submittal**, the person who signs this certification **MUST** be the person named in **Section J**, or that person's agent.
> If providing a **Tier II Transfer Submittal**, the person who signs this certification **MUST** be the person named in **Section M**, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: Manager of Environmental Affairs
(signature)

For: Massachusetts Bay Transportation Authority Date: 12 23 96
(print name of person or entity recorded in Section J or M, as appropriate)

If you are submitting either a Tier II Extension Submittal for a Waiver Site or a Tier II Transfer Submittal for a Waiver Site, you may choose to sign the alternative Ability and Willingness Certification found in Section H in place of providing the certification in Section G and the LSP Opinion in Section I.

H. ALTERNATIVE CERTIFICATION OF ABILITY AND WILLINGNESS:

> If providing a **Tier II Extension Submittal for a Waiver Site**, the person who signs this certification **MUST** be the person named in **Section J**, or that person's agent
> If providing a **Tier II Transfer Submittal for a Waiver Site**, the person who signs this certification **MUST** be the person named in **Section M**, or that person's agent.

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the Consultant-of-Record for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section J or M, as appropriate)

I. LSP OPINION:

I 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *if Section B of this form indicates that a **Tier I or Tier II Classification Submittal** which relies upon a previously submitted Phase I Completion Statement is being submitted*, this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> *if Section B of this form indicates that a **Phase I Completion Statement** or a **Tier I or Tier II Classification Submittal** which does not rely upon a previously submitted Phase I Completion Statement is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

SECTION I IS CONTINUED ON THE NEXT PAGE

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-107A

TIER CLASSIFICATION, TIER II EXTENSION & TIER II TRANSFER TRANSMITTAL FORM

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

Release Tracking Number

3 - 0312

I. LSP OPINION: (continued)

> *If Section B of this form indicates that a Tier II Extension Submittal or a Tier II Transfer Submittal is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, P.E., Ph.D., L.S.P. LSP #: 2261 Stamp:

Telephone: (508) 651-3401 Ext.: 346

FAX: (optional) (508) 651-1189

Signature: [signature]

Date:

J. PERSON MAKING SUBMITTAL:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617) 222-3126 Ext.: FAX: (optional)

K. RELATIONSHIP TO DISPOSAL SITE OF PERSON MAKING SUBMITTAL: (check one)

☒ RP or PRP Specify: ⊗ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Making Submittal Specify Relationship:

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [signature] Title: Manager of Environmental Affairs
(signature)

For: Massachusetts Bay Transportation Authority Date: 12/23/96
(print name of person or entity recorded in Section J)

Enter address of the person providing certification(s), including Ability and Willingness Certification where applicable, if different from address recorded in Section J:

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Waste Site Cleanup

NUMERICAL RANKING SYSTEM SCORESHEET
(310 CMR 40.1511)

CLASSIFICATION SUBMITTAL	
Initial Submittal	Re-Classification
[X]	[ ]

DISPOSAL SITE SCORE					
II	III	IV	V	VI	TOTAL
80	111	35	20	0	246

Disposal Site Tier Classification	I			(II)
Permit Category (Tier I Only)	A	B	C	

I. DISPOSAL SITE INFORMATION

DEP Release Tracking Number(s)	
DEP Disposal Site Number(s)	3-0312

UTM Coordinates	N: 46 95 750m
	E: 03 29 910m

Disposal Site Name	MBTA Everett Shops
Disposal Site Address	80 Broadway
City:	Everett Zip: 02149

	Yes	No
Is the Disposal Site classified Tier I because it is located within the boundaries of a Zone II or Interim Wellhead Protection Area and groundwater concentrations equal or exceed RCGW-1 at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)1.?	[ ]	[X]
Is the Disposal Site classified Tier I because an Imminent Hazard is present at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)2.?	[ ]	[X]

I attest under the pains and penalties of perjury that I have personally completed this Numerical Ranking System Scoresheet, and have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, and in my professional opinion and judgment based upon: (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this Scoresheet was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000. I 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.

Licensed Site Professional Signature	LSP Registration Number	Date
	2261	

LSP Name (Printed)	Company Name	Telephone Number
Richard J. Hughto, P.E., Ph.D., L.S.P.	Rizzo Associates, Inc.	(508) 651-3401

Massachusetts Bay Transportation Authority
Responsible Party, Potentially Responsible Party, or Other Person who will provide certification in accordance with 310 CMR 40.0009.

40.1511 (Continued)

II. EXPOSURE PATHWAYS

II. EXPOSURE PATHWAYS *Score according to 40.1512 - Exposure Pathway Designation Criteria*				
MEDIA	*DESIGNATION*			
	NONE *or* NOT APPLICABLE	EVIDENCE OF CONTAMINATION	POTENTIAL EXPOSURE PATHWAY	LIKELY OR CONFIRMED EXPOSURE PATHWAY
A. SOIL (Includes Sediment)	0	(15)	10	150
B. GROUNDWATER	(0)	20	10	150
C. SURFACE WATER (Includes Wetlands)	(0)	20	10	150
D. AIR	0	(15)	10	200

Note: Score only the highest value for each media, i.e., score None or Not Applicable *or* Evidence of Contamination *or* Potential Exposure Pathway *or* Likely or Confirmed Exposure Pathway.

II. (A - D)	*Summary Rationale for Section II A - D Values and Phase I Report References*
	A.) Evidence of surficial soil contamination at the property; however, contaminated areas are beneath pavement or in restricted areas. (Phase 1; Page 23). B.) Groundwater contamination identified does not exceed RCs. (Phase 1; Page 23). C.) Surface waters were not tested and are not expected to have been impacted significantly. (Phase 1, Page 28 D.) Hydraulic oil saturated gravel and a petroleum odor were noted in the basement of the main repair shop. (Phase 1; Page 28).

II.E. OHM SOURCES			
Number of OHM Sources	1 0	2 25	(≥ 3) (50)

SECTION II SCORE (A. + B. + C. + D. + E.)					
A.	B.	C.	D.	E.	TOTAL: (15 - 700)
15	0	0	15	50	80

Check here if Section VI has been used to amend the score for this Section of the NRS.	☐

40.1511 (Continued)

III. DISPOSAL SITE CHARACTERISTICS

III.A. OHM TOXICITY SCORE

Highest OHM Toxicity Score From Table III.A. or Worksheet III.A.1. on Following Pages.

OHM Scored:	Toxicity Score (1 - 80)
Lead	
Concentration and Media: 52,000 Mg/Kg ; soil	50

III.B. MULTIPLE OHMs

More Than One OHM With an OHM Toxicity Score of ≥ 30	No	Yes
	(0)	30

III.C. OHM MOBILITY and PERSISTENCE

Score according to 40.1514 - OHM Mobility and Persistence

OHM Scored:	Score (0 - 50)
Trichloroethene	45

III.D. DISPOSAL SITE HYDROGEOLOGY

Score according to 40.1515 - Soil Permeability

DEPTH TO GROUNDWATER (in feet)	SOIL PERMEABILITY		
	Low	Medium	High
> 25	2	4	8
10.1 - 25	4	8	12
5.1 - 10	8	12	16
0 - 5	12	(16)	20

SECTION III SCORE (A + B + C + D)

A.	B.	C.	D.	TOTAL: (3. - 180)
50	0	45	16	111

Check here if Section VI has been used to amend the score for this Section of the NRS. ☐

40.1511 (Continued)

Table III.A.	OHM TOXICITY SCORE						
OHM	*CONCENTRATION* (soil/sediment: µg/g; surface/groundwater µg/l)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 / NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
Arsenic	20	30	40	50	60		
Benzene	15	25	35	45	55	65	75
Bis(2-ethylhexyl)phthalate	10	20	30	40	50	60	70
Cadmium	10	20	30	40	50		
Carbon Tetrachloride	20	30	40	50	60	70	80
Chlorobenzene	5	15	25	35	45	55	65
Chromium III	1	10	20	30	40		
Chromium VI	10	20	30	40	50		
Coal Tar	5	15	25	35	45	55	65
Cyanide	5	15	25	35	45		
1,1 Dichloroethane	10	20	30	40	50	60	70
1,2 Dichloroethane	10	20	30	40	50	60	70
Ethylbenzene	5	15	25	35	45	55	65
Ethylene Dibromide	20	30	40	50	60	70	80
#2 Fuel Oil (virgin product)	5	15	25	35	45	55	65
Gasoline (virgin product)	10	20	30	40	50	60	70
Lead	20	30	40	50	60		
Mercury	20	30	40	50	60	70	80
Methylene Chloride	10	20	30	40	50	60	70
Methyl Ethyl Ketone	5	15	25	35	45	55	65
Methyl Tert Butyl Ether	10	20	30	40	50	60	70
Nickel	5	15	25	35	45		
Phenol	0	10	20	30	40	50	60
PAHs	10	20	30	40	50	60	70
PCBs	20	30	40	50	60	70	80
Tetrachloroethylene	10	20	30	40	50	60	70
Toluene	1	10	20	30	40	50	60
1,1,1 Trichloroethane	5	15	25	35	45	55	65

Table III.A.	OHM TOXICITY SCORE						
OHM	*CONCENTRATION* (soil/sediment: µg/g; surface/groundwater µg/l)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vinyl Chloride	15	25	35	45	55	65	75
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Zinc	1	10	20	30	40		

40.1511 (Continued)

Use Worksheet III.A.1. to determine the OHM Toxicity Score for OHM not listed in Table III.A. See 40.1513 for Human Health-Based Toxicity Values for each OHM.

Worksheet III.A.1	OHM TOXICITY SCORE						
HUMAN HEALTH-BASED TOXICITY VALUE	*CONCENTRATION* Use ug/g for Soil and ug/l for Surface Water and Groundwater						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL - 0.5"	NAPL 0.5" - 12"	NAPL > 12"
< 5	1	10	20	30	40	50	60
5 - 19	5	15	25	35	45	55	65
20 - 29	10	20	30	40	50	60	70
30 - 39	15	25	35	45	55	65	75
40 - 50	20	30	40	50	60	70	80

III.A.1. *OHM and Concentrations Used in Section III.A.1.*

OHM	Human Health-Based Toxicity Value	Concentration (Soil - ug/g)	Concentration (Water - ug/l)	OHM Toxicity Score
Naphthalene	18			

40.1511 (Continued)

IV. HUMAN POPULATION AND LAND USES

IV.A.	HUMAN POPULATION			
Residential Population Within ½ Mile	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15
Institutions Within 500 feet	None 0		One or More 10	
On-Site Workers	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15

IV.B.	AQUIFERS	
Sole Source Aquifer Name: Not applicable	No 0	Yes 25
Potentially Productive Aquifer	No 0	Medium or High 15

IV.C.	WATER USE				
Proximity of Disposal Site to Public Drinking Water Supply Source	Not Applicable (NA) 0			Zone A 20	Zone II, IWPA, or SW Intake ≤ 400' 50
Persons Served by Public Drinking Water Supply	NA 0	25 - 999 5	1,000 - 4,999 10	5,000 - 49,999 20	≥ 50,000 25
Private Water Supplies Within 500 Feet	None 0		Commercial Industrial 10	Agriculture Residential (Not Ingested) 15	Drinking Food Processing 25
Alternative Public Water Supply Available (Viable Public Water Supply in Disposal Site Community *and* Public Water Connection ≤ 500 Feet from Site)	Yes 0		No 25		

SECTION IV SCORE (A + B + C)			
A.	B.	C.	TOTAL (0 - 205)
35	0	0	35

Check here if Section VI has been used to amend the score for this Section of the NRS. ☐

40.1511 (Continued)

V. ECOLOGICAL POPULATION

V.A. ENVIRONMENTAL RESOURCE AREAS			
RESOURCE	*LOCATION*		
Area of Critical Environmental Concern	> 500' from Site (0)	≤ 500' from Site 20	On-Site 30
Species of Special Concern, Threatened or Endangered Species Habitat	> 500' from Site (0)	On-Site or ≤ 500' from Habitat 30	
Wetlands, Certified Vernal Pool, or Outstanding Resource Water	> 100' from Site 0	≤ 100' from Site (20)	On-Site 30
Fish Habitat	> 500' from Site (0)	≤ 500' from Site 20	On-Site 30
Protected Open Space (Local/State/Federal/Trustee)	> 500' from Site (0)	≤ 500' from Site 20	On-Site 30

SCORE SECTION V.B. *ONLY* IF SECTION V.A. SCORE IS ≥ 30.

V.B. ENVIRONMENTAL TOXICITY SCORE	
Highest Environmental Toxicity Score From Table V.B. or Worksheet V.B.1. on Following Pages.	
OHM Scored: Not applicable Concentration and Media:	Toxicity Score (1 - 35) 0

SECTION V. SCORE (A. + B.)		
A.	B.	TOTAL: (0 - 185)
20	0	20

Check here if Section VI has been used to amend the score for this Section of the NRS. ☐

40.1511 (Continued)

Table V.B.	ENVIRONMENTAL TOXICITY SCORE				
OHM	*CONCENTRATION* (soil/sediment: µg/g; surface/groundwater µg/l)				
	< 1	1 - 99	100 - 999	1,000 - 9,999	≥ 10,000
Arsenic	5	10	15	20	25
Benzene	0	1	5	10	15
Bis(2-ethylhexyl)phthalate *	5	10	15	20	25
Cadmium	10	15	20	25	30
Carbon Tetrachloride	0	1	5	10	15
Chlorobenzene *	5	10	15	20	25
Chromium III	1	5	10	15	20
Chromium VI	5	10	15	20	25
Coal Tar *	5	10	15	20	25
Cyanide	5	10	15	20	25
1,1 Dichloroethane *	5	10	15	20	25
1,2 Dichloroethane	0	1	5	10	15
Ethylbenzene	0	1	5	10	15
Ethylene Dibromide *	5	10	15	20	25
#2 Fuel Oil (virgin product) *	1	5	10	15	20
Gasoline (virgin product) *	5	10	15	20	25
Lead	5	10	15	20	25
Mercury	15	20	25	30	35
Methylene Chloride *	5	10	15	20	25
Methyl Ethyl Ketone *	5	10	15	20	25
Methyl Tert Butyl Ether *	1	5	10	15	20
Nickel	1	5	10	15	20
Phenol	0	1	5	10	15
PAHs *	5	10	15	20	25
PCBs	15	20	25	30	35
Tetrachloroethylene	0	1	5	10	15
Toluene *	0	1	5	10	15
1,1,1 Trichloroethane	0	1	5	10	15
Trichloroethylene	0	1	5	10	15

Table V.B.	ENVIRONMENTAL TOXICITY SCORE				
OHM	*CONCENTRATION* (soil/sediment: µg/g; surface/gro			undwater µg/l)	
	< 1	1 - 99	100 - 999	1,00 0 - 9,999	≥ 10,000
Vinyl Chloride *	5	10	15	20	25
Xylenes *	5	10	15	20	25
Zinc	1	5	10	15	20

* Scores derived by default methods 40.1516(2).

40.1511 (Continued)

Use Worksheet V.B.1. to determine Environmental Toxicity Scores for OHM not listed in Table V.B. See 40.1516 for Environmental Toxicity Values for each OHM.

Worksheet V.B.1	ENVIRONMENTAL TOXICITY SCORE				
ENVIRONMENTAL TOXICITY VALUE	*CONCENTRATION* Use µg/g for Soil and µg/l for Surface Water or Groundwater				
	< 1	1 - 99	100 - 999	1,000 - 9,900	≥ 10,000
10	0	1	5	10	15
20	1	5	10	15	20
30	5	10	15	20	25
40	10	15	20	25	30
50	15	20	25	30	35

V.B.1.	*OHM and Concentrations Used in Section V.B.1.*			
OHM	Environmental Toxicity Value	Concentration (Soil - µg/g)	Concentration (Water - µg/l)	Environmental Toxicity Score

40.1511 (Continued) VI. MITIGATING DISPOSAL SITE-SPECIFIC CONDITIONS

VI.	MITIGATING DISPOSAL SITE-SPECIFIC CONDITIONS

Disposal site-specific conditions that warrant amending the site score. Changes directly related to NRS Sections or Subsection scores may not reduce the score more than the relevant subsection value assigned for the disposal site in that subsection. Section VI must reference specific pages of the Phase I. Section VI may not exceed ± 50 Points and may be scored only in 5-point increments. Attach additional pages as necessary.

Not applicable

Disposal Site Score Amendment (Not to Exceed ± 50 Points)	Score
	0

Statement of Limitations and Conditions

Attachment to Opinion of Massachusetts Licensed Site Professional

Rizzo Associates, Inc.

Name of Licensed Site Professional:	Richard J. Hughto
LSP Registration Number:	2261
Date of Opinion:	December 26, 1996
Client to Whom Opinion was Rendered:	Massachusetts Bay Transpotation Authority
Date of Agreement between Rizzo Associates and Client pursuant to which Opinion was Rendered:	September 17, 1996
Response Tracking No./Site No.:	3-0312

This Statement of Limitations and Conditions is an integral part of, and is incorporated by reference into, the Opinion of Massachusetts Licensed Site Professional referenced above.

Limitations

1. Purpose of Opinion

A. This Opinion is being provided in compliance with the requirements set forth in the Massachusetts Contingency Plan ("MCP"), 310 CMR 40.0000 et seq. Specifically, the LSP has prepared this Opinion at the request of the Client identified above as part of a Response Action Outcome Statement. This stated purpose has been a significant factor in determining the scope and level of services required to render this Opinion.

B. Should the purpose for which this Opinion is to be used change, this Opinion shall no longer be valid.

2. General

A. This Opinion was prepared for the sole and exclusive use of the Client, subject to the provisions of the MCP. No other party is entitled to rely in any way on the conclusions, observations, specifications, or data contained herein without the express written consent of Rizzo Associates, Inc. and the LSP who rendered this opinion. Any use of this Opinion by anyone other than Client, or any use of this Opinion by Client or others for any purpose other than the stated purpose set forth above, without the LSP's review and the written authorization of Rizzo Associates, Inc. and the LSP, shall be at the user's sole risk, and neither Rizzo Associates, Inc. nor the LSP shall have any liability or responsibility therefor.

B. This Opinion was prepared pursuant to an Agreement between Rizzo Associates, Inc. and the Client referenced above which defines the scope of work and sets out agreements regarding waivers of consequential damages, limitations on liability, and other important conditions and restrictions pursuant to which the Opinion is rendered. All uses of the Opinion are subject to and deemed acceptance of the conditions and restrictions contained in such Agreement. A copy of the Agreement or relevant excerpts from the Agreement will be made available upon requests to any authorized person seeking to use the Opinion.

3. Scope of Services

The observations and conclusions described in this Opinion are based solely on the Services provided pursuant to the Agreement with the Client and any approved additional services authorized by Client. Without limitation of any other applicable limitations or conditions, neither Rizzo Associates, Inc. nor the LSP shall be liable for the existence of any condition, the discovery of which would have required the performance of services not authorized under the Agreement. To the best of the knowledge and belief of Rizzo Associates, Inc. and the LSP who signed this Opinion, no inquiry of an attorney-at-law having being made, no laws, regulations, orders, permits or approvals are applicable to the response actions to which this opinion relates except, if and to the extent applicable, M.G.L. c. 21A, Sections 19-19J, 309 CMR, M.G.L. c 21 E and 310 CMR

40.0000. Accordingly, this opinion is not intended to and does not address compliance with any other laws, regulation, orders, permits or approvals.

4. Changed Circumstances

The passage of time may result in changes in technology, economic conditions or regulatory standards, manifestations of latent conditions, or the occurrence of future events which would render this Opinion inaccurate or otherwise inapplicable. Neither Rizzo Associates, Inc. nor the LSP shall be liable or responsible for the consequences of any such changed circumstances or conditions on the accuracy of this Opinion. In addition, under no circumstances shall the Client nor any other person or entity rely on the information or conclusions contained in this Opinion after six months from its date of submission without the express written consent of Rizzo Associates, Inc. and the LSP. Reliance on the Opinion after such period of time shall be at the user's sole risk.

5. Should Rizzo Associates, Inc. or the LSP be required or requested to review or authorize others to use this Opinion after its date of submission, Rizzo Associates, Inc. shall be entitled to additional compensation at then existing rates or such other terms as may be agreed upon between Rizzo Associates, Inc. and the Client. Nothing herein contained shall be deemed to require Rizzo Associates, Inc. or the LSP to undertake any such review or authorize others to use this Opinion.

6. The conclusions stated in this Opinion are based upon:

   1. Visual inspection of existing physical conditions;

   2. Review and interpretation of site history and site useage which was made available or obtained within the scope of work authorized by the client;

   3. Information provided by the Client;

   4. Information and/or analyses for designated substances or parameters provided by an independent testing service or laboratory on a limited number of samples;

5. A limited n mber of subsurface exploratior s made on dates indicated in dc cumentation supporting this Op nion.

upon which the LSP has relied and presumed accurate, and upon which the LSI is entitled to reasonably rely. The LSP was not authorized and did not attempt to independent y verify the accuracy or completene:s of information or materials re ceived from the Client and/or from la oratories and other third partie s during the performance o its services. Neither Rizzo As ociates, Inc. nor the LSP shall be l able for any condition, informa ion, or conclusion, the discovery of w hich required information not a vailable to the LSP or for independer t investigation of information p ovided to the LSP by the Client and/or independent thirc parties.

7. This Opinion is rendered for the limited purpc se stated above, and is not and should not be deemed to be an opinio n concerning the compliance of any past or present owner or oj erator of the site with any federal, state or local law or regulation. **N o warranty or guarantee, w hether express or implied, s made by this opinion, and any implied warranties of n erchantability or fitness for a particular purpose are expr essly disclaimed.** Without limiting the generality of the foregoir g, no warranty or guarantee is m ade that all contamination at a site or sources or contamination has been detected or identified, that any action or recommended action will achieve all of its obj ectives, or that this Opinion or any action as to which this Opinio n relates will be upheld by any audit conducted by the DEP or any other party.

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Appendix B

Public Involvement Filings

RIZZO ASSOCIATES, INC.

235 West Central Street, Natick, MA 01760 (508) 651-34[illegible] FAX (508) 651-[illegible]

December 18, 1996

Debra Rosati
Health Department
484 Broadway
Everett, MA 02149

Re: DEP Release Tracking Number 3-0312
MBTA Everett Shops
80 Broadway
Everett, Massachusetts

Dear Ms. Rosati:

On behalf of the Massachusetts Bay Transportation Authority (MBTA), owner of the referenced property, Rizzo Associates, Inc. is providing this notification that the MBTA has filed a Tier II Classification Submittal with the Department of Environmental Protection (DEP) on December 31, 1996 in relation to the referenced facility (the Site). A Phase I - Initial Site Investigation Report will also be submitted to the DEP on that date. The submission of the Tier Classification and Phase I report is required in accordance with the Massachusetts Contingency Plan (MCP). This notification is being made in accordance with the public notice requirements set forth in the MCP (310 CMR 40.1403[6]). A copy of the legal notice that will be published in the Boston Globe on December 31, 1996 is attached to this letter.

Please contact the undersigned if you have any questions.

Very truly yours,

Richard J. Hughto, Ph.D., P.E., L.S.P.
Executive Vice President, Principal

C: Andrew Brennan, MBTA
Debra Darby, MBTA
DEP, BWSC, Northeast Regional Office

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RIZZO ASSOCIATES, INC.

235 West Central Street, Natick, MA 01760 (508) 651-3401 FAX (508) 651-1133

December 18, 1996

Mr. Jonathan McCarthy
Mayor's Office
484 Broadway
Everett, MA 02149

Re: DEP Release Tracking Number 3-0312
MBTA Everett Shops
80 Broadway
Everett, Massachusetts

Dear Mayor McCarthy:

On behalf of the Massachusetts Bay Transportation Authority (MBTA), owner of the referenced property, Rizzo Associates, Inc. is providing this notification that the MBTA has filed a Tier II Classification Submittal with the Department of Environmental Protection (DEP) on December 31, 1996 in relation to the referenced facility (the Site). A Phase I - Initial Site Investigation Report will also be submitted to the DEP on that date. The submission of the Tier Classification and Phase I report is required in accordance with the Massachusetts Contingency Plan (MCP). This notification is being made in accordance with the public notice requirements set forth in the MCP (310 CMR 40.1403[6]). A copy of the legal notice that will be published in the Boston Globe on December 31, 1996 is attached to this letter.

Please contact the undersigned if you have any questions.

Very truly yours,

Richard J. Hughto, Ph.D., P.E., L.S.P.
Executive Vice President, Principal

C: Andrew Brennan, MBTA
Debra Darby, MBTA
DEP, BWSC, Northeast Regional Office

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Notice of Initial Site Investigation and Tier II Classification

MBTA Everett Shops, 80 Broadway
Everett, Massachusetts
Release Tracking Number 3-0312

Pursuant to the Massachusetts Contingency Plan (310 CMR 40.0480), an Initial Site Investigation has been performed at the above referenced location. A release of oil and/or hazardous materials has occurred at this location which is a disposal site (as defined by M.G.L.c. 21E, Section 2). This site has been classified as Tier II, pursuant to 310 CMR 40.0400. Response Actions at this Site will be conducted by the Massachusetts Bay Transportation Authority who has employed Richard J. Hughto, LSP, Rizzo Associates, Inc. to manage response actions in accordance with the Massachusetts Contingency Plan.

M.G.L. c. 21E and the Massachusetts Contingency Plan provide additional opportunities for public notice of and involvement in decisions regarding response actions at disposal sites: 1) The Chief Municipal Officer and Board of Health of the community in which the site is located will be notified of major milestones and events, pursuant to 310 CMR 40.1403; and 2) Upon receipt of a petition from ten or more residents of the municipality in which the disposal site is located, or of a municipality potentially affected by a disposal site, a plan for involving the public in decisions regarding response action at the site will be prepared and implemented, pursuant to 310 CMR 40.1405.

To obtain more information on this disposal site and the opportunities for public involvement during its remediation, please contact:

Richard J. Hughto, Ph.D, P.E., L.S.P.
Rizzo Associates, Inc.
235 West Central Street
Natick, Massachusetts 01760
508-651-3401

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Appendix C

Standard Operating Protocols

Standard Operating Protocol for Decontaminating Sampling Equipment

Whenever possible, sampling equipment will be dedicated to each sampling location or disposable equipment will be used. When this is not possible, field decontamination of the equipment will occur prior to the collection of samples for chemical analysis. The method of choice for decontamination is that which most fully removes site contaminants from the sampling equipment with the least interference to the ultimate chemical analysis. Do not use fluids that have been stored in plastic bottles to decontaminate field equipment. Deionized water and methanol used for decontamination should be stored in nalgene or teflon bottles.

Equipment used to collect samples for chemical analysis will be decontaminated as follows:

1. Wash equipment with a nonphosphate detergent solution (e.g., Alconox) and a brush.

2. Rinse thoroughly with tap water.

3. Rinse with reagent grade methanol.

4. Rinse the equipment thoroughly with deionized water.

5. Equipment that is stored or transported will be kept in a dedicated plastic bag or wrapped in aluminum foil to prevent contamination prior to use.

6. When collecting water samples, rinse the equipment three times with the media being sampled before collecting the sample.

Steam cleaning is another acceptable technique for field decontamination.

Decontamination procedures will be recorded in the field book or on the field report form. These entries will include the date, time, location, personnel, equipment, and specific procedures used for the decontamination of field equipment and the source of all fluids, including water, used in the procedure. Deviations from the standard protocols will also be noted in the field log.

Waste water and methanol solutions generated during decontamination procedures will be discharged on-site, provided that the pH is between 2 and 12.

Last updated 4/17/92

Standard Operating Protocol for Completing Soil Borings and Monitoring Well Borings in Unconsolidated Surficial Deposits

1. All drilling is inspected continuously by a staff geologist or inspector. The geologist or inspector is familiar with the particular drilling program, and is responsible for ensuring that established procedures are followed. The geologist or inspector has the authority to modify the program and/or procedures when warranted by unanticipated field conditions.

2. The geologist or inspector is responsible for maintaining field notes and for keeping a well log independent of the driller.

3. All drilling equipment is steam-cleaned prior to each use. Steam cleaning is performed on the augers and/or casing, drilling rods, samplers, auger forks, lifting hooks, and other equipment needed for establishing the well. The working end of the drill rig is steam-cleaned, and the rig is generally inspected by the geologist or inspector for evidence of leaks (i.e., gasoline or diesel fuel and hydraulic fluid). Finally, well construction materials, including casing, screens, protective risers, and/or road boxes, are also steam-cleaned prior to use.

4. Soil samples are collected at five-foot intervals unless otherwise specified, and/or at changes in strata, utilizing a clean split-spoon sampler. These soil samples are used for characterizing the physical nature of the subsurface sediments and may be collected for laboratory analyses. Similarly, spoon samples may be screened in the field for contamination utilizing appropriate field analytical devices.

5. Sediments collected from the sampler or brought to the surface by the drilling process are left on-site, unless there are specific instructions to the contrary. Sediments will be screened using a photoionization detector (PID) or a flame ionization detector (FID), and the results of that screening will be used to determine the disposal method for the soil. Soils exhibiting detector responses of greater then 10 ppm will be placed in drums or will be stockpiled on and covered with polyethylene sheeting. Soils exhibiting responses of less than 10 ppm will be placed in an unlined stockpile on the site.

6. When installing a groundwater monitoring well, the well screen is set at a depth whereby it intercepts the surface of the water table, unless otherwise specified. The screen is set to extend above the highest anticipated groundwater levels to a maximum of within two feet of the land surface. The annular space between the wall of the bore hole and the screen is then packed with clean silica sand to a level one foot above the screen (to allow for settling), and then with a minimum one-foot bentonite seal. The method of backfilling the bore hole above the bentonite seal will be left to the discretion of the site geologist or inspector. If the bore hole creates the potential for migration of contaminants into previously uncontaminated deposits, the bore hole will be filled with a portland cement and bentonite slurry. If migration of contaminants is not a concern, then the well will be backfilled with the drill cuttings if detector responses are less than 10 ppm, or with clean backfill material if detector responses are greater than 10 ppm. The final one foot is filled with cement, into which is set a protective riser with locking cap or a road box.

Last updated 4/17/92

Standard Operating Protocol for Sampling Monitoring Wells

Discussion

To obtain a representative sample of groundwater, it must be understood that the water within the well casing and in close proximity to the well is generally not representative of the groundwater quality at that sampling site. Therefore, the well will be pumped or bailed until it is thoroughly flushed of standing water and contains water from the aquifer. Wells may be purged and sampled with a pump from the ground surface, with a submersible pump or with a bailer, depending on the specific needs of the sampling program. Bailers are generally preferred for collecting samples where volatile stripping is of concern. Pumps are useful for purging large volumes of water from deep wells or when a sample from a discrete depth below the water surface is desired. Refer to DEP Policy #WSC-310-91 to chose the appropriate method for purging and sampling a well and operate sampling equipment according to manufacturer's directions.

Procedures for Purging and Sampling

1. Using clean, noncontaminating equipment (i.e., an electronic level indicator [avoid indicating paste]), determine and record in the field logbook the water level in the well, then calculate the fluid volume in the casing.

   The volume of water in the well can be calculated using the following equation:

$$v = \frac{(\pi r^2 h)}{c}$$

where:

v = one well volume of water (gallons)
π = 3.14
r = the radius of the well or one half of the diameter (inches)
h = the height of the water column in the well (inches)
c = 231 cubic inches per gallon; constant to convert cubic inches to gallons

2. Use a pump or bailer to begin flushing the well. Periodically during the purging of the well, measure and record the pH, temperature, and specific conductivity of the water being removed.

3. Avoid contamination and do not allow sampling equipment or the bailer line to contact the ground while sampling.

4. Continue purging the well until the following is achieved:

   a. a minimum of three casing volumes have been removed from the well, and pH, temperature, and conductivity have stabilized; or
   b. five well volumes have been removed; or
   c. the well is evacuated to dryness

   Three times the well volume (gallons) in a 2-inch-diameter well is approximately one half the height of the water column measured in feet.

5. After water pH, temperature, and specific conductance have stabilized, allow the water level to return to a sufficient level to collect a complete sample and proceed with the sample collection as described below.

6. Select sample bottles and preservative as required by the analysis. Sample bottles containing preservative may be obtained from the laboratory, or samples may be preserved in the field. Samples for metals analysis that require field filtering will be collected in a transfer vessel and then filtered into a preserved container.

7. When transferring the sample in the bailer to the sample container, tip the bailer to allow a slow discharge from the bailer top to flow gently down the side of the sample bottle with minimum entry turbulence.

8. When collecting a sample with a pump, the flow rate of the pump should be low so as to minimize disturbing the sample.

9. In order to compare analytical data for a given well over time, the same purging and sampling method should be used consistently at a given well.

10. Check that a teflon liner is present in the cap, if required. Secure the cap tightly.

11. Label the sample bottle with an appropriate label and waterproof ink. Record the sample number, location, well purging information, the temperature, pH, specific conductivity, and deviations from protocol and relevant observations, such as colors, odors, or sheens, in the field logbook. Complete the chain of custody. Samples will be stored in a cooler until they are delivered to the laboratory.

12. Discard disposable bailers after use in one well. If reusable bailers are used, clean and store each bailer according to the *Standard Operating Protocol for Decontaminating Sampling Equipment.*

13. Tubing used with a pump may be discarded after each well or cleaned by pumping the decontamination fluids through the tubing according to the Standard Operating Procedure for Decontaminating Field Equipment.

Adapted from:

Standard References for Monitoring Wells, The Massachusetts Department of Environmental Protection #WSC-310-91.

Last updated 4/17/92

Standard Operating Protocol for Soil Sampling Using a Hand Auger

Discussion

This system consists of an auger bit, a series of extension rods, and a T-handle. The auger is used to bore a hole to the desired depth. Soil samples can be recovered directly from the auger flights or from the bucket when a bucket auger is used. When sampling from the flights, it should be understood that this technique does not provide an undisturbed sample, and the actual depth from which the sample is collected is usually not known. The length of the bucket is about 16 inches, so penetration and sampling can be done at a maximum of 16-inch increments when using the bucket auger. Consequently, discrete samples can be collected with fairly reasonable accuracy.

Uses

The system can be used in a wide variety of soil conditions. It can be used to sample both from the surface and from below the ground. The presence of rock layers, large cobbles, or collapse of the bore hole, however, usually prohibits sampling at depths in excess of two meters.

Procedures for Use

1. Make sure all equipment is cleaned according to proper cleaning procedures.

2. Prepare the auger using the necessary bits and extensions. When using the bucket auger, attach the bucket auger to one end of the extension rod and the T-handle to the other end.

3. Clear the area to be sampled of any surface debris. It may be advisable to remove the first 8 to 15 centimeters (cm) of surface soil for an area approximately 15 cm in radius around the drilling location.

4. Begin drilling by rotating the handle clockwise, while applying a downward pressure. When the desired depth is reached, carefully

remove the auger from the boring so as not to scrape the bore hole sides. When using a bucket auger, remove the auger from the hole at increments of approximately 16 inches or less and clean out the soil in the bucket. Attach extension rods as needed to reach the desired depth.

5. After reaching the desired depth for sampling, gradually force the auger into the soil to be sampled. Care should be taken to avoid scraping the bore hole sides.

6. When the desired depth of sampling has been reached, carefully remove the auger so as not to scrape the bore hole sides or to accumulate soil during retrieval of the sample.

7. Carefully remove the sample from the auger and place it in a stainless steel bowl. Homogenize the sample thoroughly with a stainless steel or teflon spatula and transfer to sample jars. Collect samples for volatile organic analysis directly from the auger into the sample vials to minimize the loss of target analytes from sample handling.

8. Label the sample jars and document the sample location, depth, and field conditions in the field log, and complete the chain of custody. Store samples for laboratory analysis in a cooler with ice packs.

9. Properly clean all equipment according to the *Standard Operating Protocol for Decontaminating Sampling Equipment* after use.

Adapted from:

deVera, E.R., B.P. Simmons, R.D. Stephens, and D.L. Storm, "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-80-018, January 1980.

Last updated 4/17/92

Standard Operating Protocol for Jar Headspace Screening

The following procedures will be used to screen soil samples for volatile organic compounds with a portable photoionization detector (PID) or a flame ionization detector (FID).

1. Half-fill a clean glass 8-ounce jar with the sample to be analyzed. Quickly cover the open top with a sheet of clean aluminum foil and apply the screw cap to tightly seal the jar.

2. Vigorously shake the jar for 10 seconds both at the beginning and end of the headspace development period. Allow the jar to stand 10 minutes for headspace development. When ambient temperatures are below 32°F (0°C), allow the samples to stand in a heated vehicle or building.

3. After the headspace development period, remove screw lid to expose the foil seal. Puncture the foil seal with an instrument sampling probe, to a point about one-half of the headspace depth. Do not allow water droplets or soil particulates to touch the instrument probe.

4. Observe the instrument response and record the highest meter response as the jar headspace concentration. The maximum response should occur from two to five seconds after the probe is inserted into the jar. The meter response may be erratic when the concentration of organic vapor is high or if there is excessive moisture in the sample. The experience and judgement of the instrument operator must be used to determine the validity of the headspace measurement.

5. Benzene or an equivalent compound will be used to calibrate the field screening instrument. Jar headspace sample results will be reported as "total organic vapors" in ppm (v/v). Instruments will be operated, maintained, and calibrated in accordance with the manufacturer's specifications. A calibration and maintenance log is kept at Rizzo Associates' office for each instrument. The daily calibration data are transcribed to the field log for each day that the instrument is used. Some samples may be collected and analyzed in duplicate to measure sample variability.

Last updated 4/17/92

Standard Operating Protocol for Collecting Sediment Samples

Sediment samples are collected according to the following procedures:

1. Open scoops (stainless steel spoons and augers) will generally be used to sample in quiescent waters, and closed samplers (shelby tube, split-spoons) will be used in moving waters to prevent the loss of fine particles.

2. Drive a precleaned sample coring device with a straight vertical entry, to ensure collection of a representative cross section, into the water sediments.

3. Remove the sampling device from the sediments, and homogenize the sample using a stainless steel or teflon spoon and a stainless steel bowl. Samples for volatile organic compounds analysis will not be homogenized or mixed.

4. Place the samples into sample containers, label the containers, and complete the field record and the chain of custody.

Last updated 4/17/92

Standard Operating Protocol for Soil Sampling with a Spade and Scoop

Discussion

The simplest, most direct method of collecting soil samples is with a spade and scoop. Remove the top cover of soil to the required depth with a lawn or garden spade and then use a smaller stainless steel scoop to collect the sample.

Uses

This method can be used in most soil types but is limited to sampling near the surface. Samples from depths greater than 50 cm are extremely labor intensive in most soil types. Very accurate, representative samples can be collected with this procedure. Use a flat, pointed mason trowel to cut a block of the desired soil when undisturbed profiles are required. A stainless steel scoop or lab spoon can be used in most other applications. Avoid the use of devices plated with chrome or other materials that may contaminate samples for laboratory analysis.

Procedures for Use

1. Prior to initiating any work, the Field Technician and the Project Manager will review the Health and Safety Plan developed for the specific site activities. The indicated measures of the Plan should be enacted prior to initiation of the sampling activities. Concerns not addressed in the Health and Safety Plan document are to be brought immediately to the attention of the Health and Safety Officer.

2. Carefully remove the top layer of soil to the desired sample depth with a shovel or spade.

3. Use a stainless steel scoop or trowel to remove and discard the layer of soil that was in contact with the shovel.

4. Collect the sample and transfer it to an appropriate sample bottle with a stainless steel spoon or equivalent.

5. Check that a teflon liner is present in the cap, if required. Secure the cap tightly.

6. Label the sample jar and document the sample location, depth and field conditions in the field log. Complete the chain-of-custody. Store samples for laboratory analysis in a cooler.

7. Decontaminate equipment after use and between sample locations according to the *Standard Operating Protocol for Decontaminating Sampling Equipment.*

Adapted from:

Characterization of Hazardous Waste Sites – A Methods Manual: Volume II Available Sampling Methods, Second Edition, EPA-600/14-84-076, December 1984.

Last updated 4/17/92

Standard Operating Protocol for Collecting In Situ Groundwater Samples from Active Domestic Water Supply Wells

Discussion

Groundwater quality samples collected in conjunction with hazardous waste Site assessments and groundwater quality investigations are typically collected from monitoring wells installed in the immediate vicinity of suspected releases of contaminants. Samples collected from these wells are analyzed to identify the composition and concentration of compounds present in the vicinity of the respective well locations. Because some hazardous compounds dissolve and/or migrate readily with the groundwater, drinking water supply wells located downgradient from the contamination source may be adversely impacted by these migrating contaminants.

Groundwater quality samples, therefore, should be collected and analyzed for these hazardous constituents to ensure that the drinking water supply has not been contaminated. Drinking water wells which are not located immediately downgradient from the contamination source should also be monitored because pumping of these wells can alter the well. Review of available surficial and bedrock geology data may indicate which nearby wells are most likely to be impacted from any releases.

There are several advantages to incorporating existing water supply wells into a groundwater quality investigation:

- No drilling and well installation costs are incurred in providing another sampling/data point.
- Groundwater samples collected from a water supply well (in production) represent groundwater from a larger portion of the aquifer than a non-production monitoring well.
- Because domestic wells tend to be installed in deeper formations, analysis of these samples can provide information regarding the vertical migration of denser contaminants (sinkers), and early

identification of potential health risks from contaminated groundwater supplies.

The use of domestic groundwater wells for groundwater monitoring requires the collection of pertinent well installation and production data. The well construction logs for the well, in addition to the drillers' logs, should be studied to determine the subsurface conditions in the vicinity of the water supply well. This data is required to compare the groundwater analysis results with data obtained from the monitoring wells. The installation and construction data should identify the well construction details, the locations of confining strata, and the composition of the aquifer that is being tapped.

Quality Assurance/Quality Control Considerations for Sample Collection

Prior to collecting water samples from a domestic distribution system, an appropriate sampling point should be selected. This sampling point should consist of an easily accessible fixture where water flow can be easily regulated. This fixture should also be located as close to the well head as possible to minimize the escape or introduction of contaminants from the distribution system. The sampling fixture location should precede any water conditioning devices, filtering units, or storage tanks.

To ensure that a sample representative of the in-situ groundwater quality is collected, a sufficient quantity of water should be purged from the well to remove any water which has been stagnant in the well or a holding tank. Water remaining in the distribution system during low or non-production periods is more likely to contain metals which have leached from the piping and pumping fixtures. Although the contamination of drinking water with dissolved metals from the distribution system is significant from a human health prospective, such contamination would not be representative of the water quality of the aquifer. If the sampling period is scheduled immediately after high production periods for the well, representative samples can be collected without purging the well casing and distribution system.

Procedure

1. Locate the most appropriate sampling point to collect the tap water samples. Samples should be collected from an easily accessible fixture which will produce a minimum of turbulence and exposure to the atmosphere. This is especially important if the sample is to be analyzed for volatile organic compounds. If a faucet is selected as the sampling locations, screens or tap filters should be removed prior to sample collection. The exact location of the sampling point and the reasons for selecting this location should be recorded in the log book.

2. Open the sampling fixture and allow the water to run freely for approximately one minute. The length of time that the fixture is allowed to run prior to sampling will be directly related to the purpose of the sampling. For example, if in-situ groundwater conditions are the purpose of the sampling work, the fixture should be allowed to run until the stagnant water has been purged from the well system. Conversely, if the sampling program is intended to identify contaminants that may be introduced from the pumping and distribution system, a minimum amount of water should be purged from the system prior to sample collection.

3. Monitor the temperature, pH, and specific conductance of the water purging from the system. Record the initial and final parameters, noting any significant changes in the log book. Samples being collected to assess in-situ groundwater conditions should be collected after these measurements stabilize over three consecutive samples.

4. Collect the sample directly into the appropriate sampling container taking care to minimize agitation of the sample. Container selection should be confirmed with the laboratory to ensure proper sample preservation.

5. Store the samples in an ice cooler and transport to the laboratory as soon as practicable.

Adapted from:

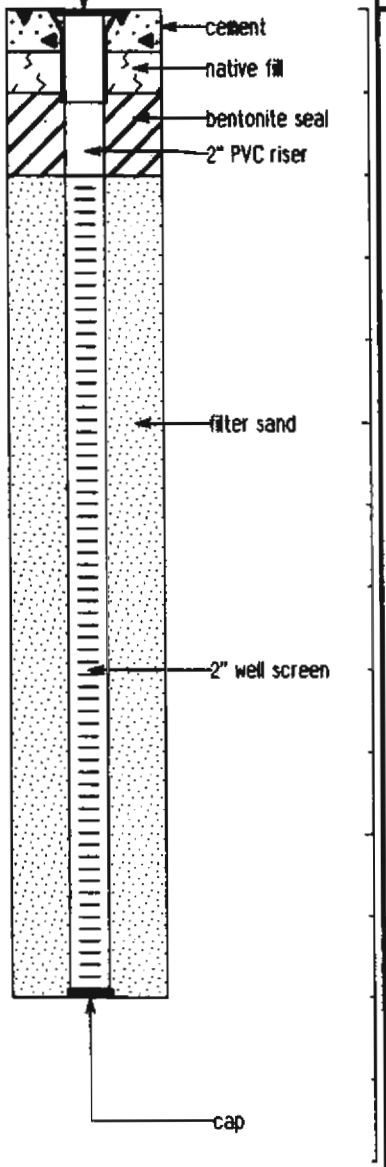
Characterization of Hazardous Waste Sites — A Methods Manual: Volume II, Available Sampling Methods, Second Edition EPA-600/14-84-076, December 1984.

EPA Groundwater Handbook — Groundwater Sampling, First Edition ISBN: 0-86587-761-0, January 1989.

Last updated 4/17/92

Appendix D

Soil Boring Logs



RIZ-1

Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
58	15/24"	NM				Dense tan/black/brown fine-coarse SAND, trace fine GRAVEL, some brick fill, dry, no odor.
42						
47						
56						Red brick fill to 3' then red/brown fine-medium (+)SAND, trace SILT and fine GRAVEL, moist, no odor.
39	16/24"	NM				
65						
95						
11						Brown/gray fine-coarse (+) SAND, transitions to black/blue SILT and CLAY, trace GRAVEL, moist, no odor.
8	24/24"	NM				
2			5			▽ Water table at 5.4 feet
3						
8						Dense/stiff blue CLAY and SILT, some intebedded medium SAND, damp, no odor
37	24/24"	NM				
34						
39						
14						Dense/v. stiff gray/tan CLAY, trace SILT, well sorted, moist, no odor
18	24/24"	NM				
38						
34						
3			10			Dense olive CLAY, very stiff, some rust mottling, damp, no odor.
8	10/24"	NM				
22						
24						
						End of boring at 12 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-1

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

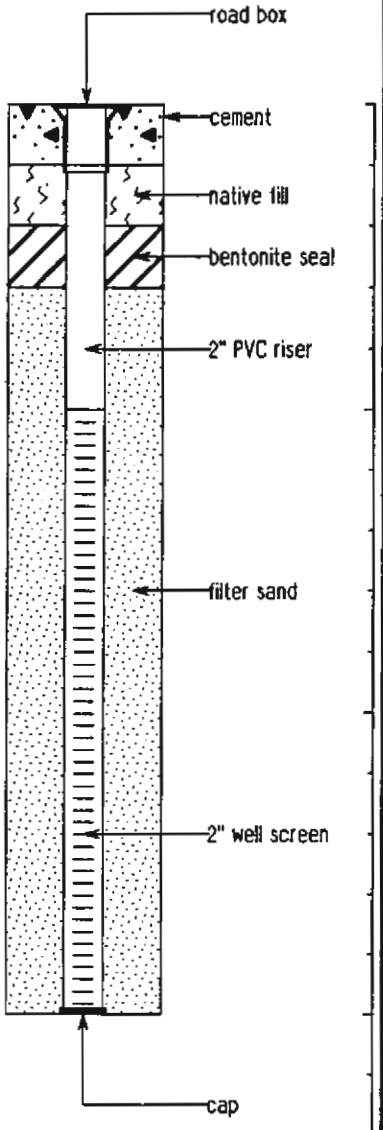
Well Location: Located on the northeastern portion of the Site, near the large concrete parts storage pad.

Rizzo Associates, Inc.
Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

Installation Date: 10/4/96 | Depth of Boring: 12
Inspector: W. Phelps | Depth to Water: 5.40
Contractor: EarthEx | Surface Elev.: NA
Drilling Method: HSA | PID used: OVM

RIZ-2

Well Construction



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
35 34 7	10/24"					Brown/black/tan fine-coarse (+) SAND, some medium-coarse (+) GRAVEL, trace SILT, poorly sorted, moist, no odor.
3 2 2 3	18/24"	NM	5			Tan medium-coarse (+) SAND to black PEAT and SILT to GRAY medium SAND, no gravel, moist, no color.
						▽ Water table at 6 feet
	15/24"	NM	10			Olive/gray CLAY and SILT, dense, well sorted, stiff, dry, no odor
3 4 4 5	24/24"	NM	15			Olive CLAY, no grit, moist, cohesive, no odor
						End of Boring at 17 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-2

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

Well Location: Adjacent to the metal storage shed located east of the Main Repair Shop.

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

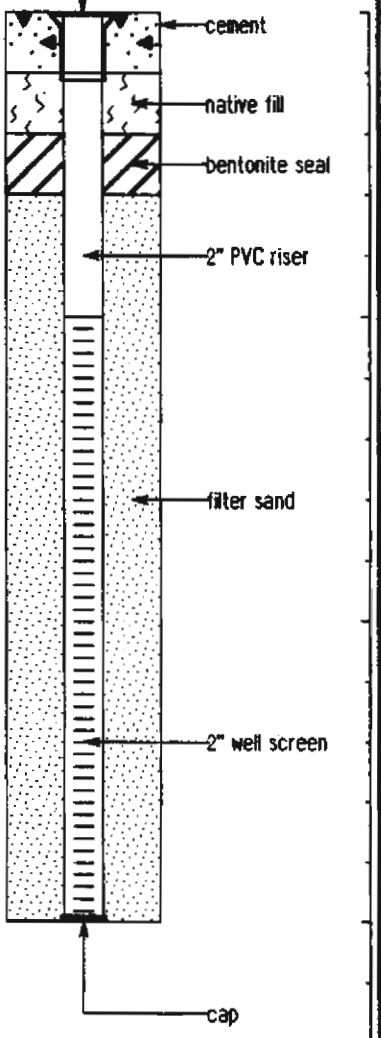
Installation Date: 10/4/96 | Depth of Boring: 17

Inspector: W. Phelps | Depth to Water: 6.02

Contractor: Redwing | Surface Elev.: NA

Drilling Method: HSA | PID used: HNu

RIZ-3



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
29 56 18	15/24"	NM				Brown/black/rust medium SAND and FILL (ash, cinders, slag), dry no odor
4 3 3 3	8/24"	NM	5			Black cinders, ash, and slag, medium-coarse (+) SAND, dry, no odor. ▽ Water table at 7 feet
14 3 3 3	8/24"	NM	10			Black medium-coarse (+) SAND, some fine GRAVEL, trace SILT, saturated no odor
9 11 18 20	18/24"	NM	15			Gray/olive CLAY, trace SILT, wet, no odor
						End of Boring at 17 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-3

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

Well Location: Adjacent to virgin drum storage alcove

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

Installation Date: 10/5/96 | Depth of Boring: 17

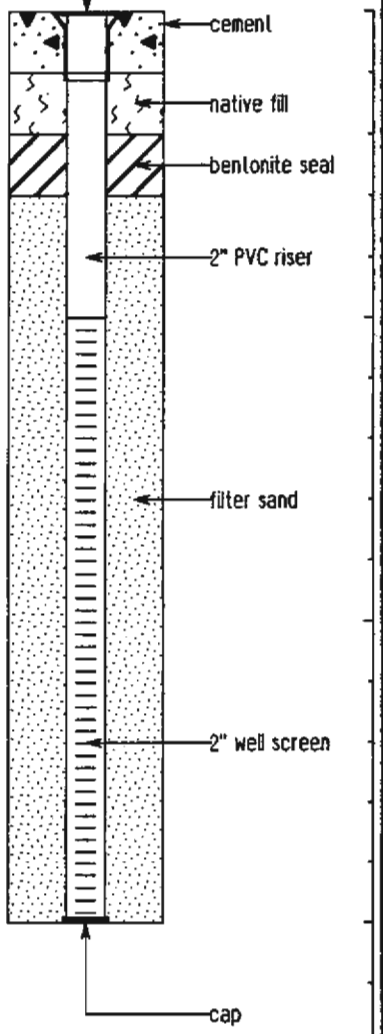
Inspector: W. Phelps | Depth to Water: 7.08

Contractor: Redwing | Surface Elev.: NA

Drilling Method: HSA | PID used: HNu

RIZ-4

Well Construction



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
62 67 75	18/24"	NM				Tan fine-coarse (+) SAND, some fine-medium (+) GRAVEL, trace COBBLES, dry, no odor
12 10 8 6	11/24"	NM	5			Tan fine-coarse (+) SAND and GRAVEL, to black ash, cinders, and slag dry, no odor
1 1 1 1	3/24"	NM	10			▽ Water table at 9.7 feet.
7 9 11 8	12/24"	NM	15			Black coarse SAND, some fine GRAVEL, saturated, no odor. Gray/olive CLAY, trace SILT, wet, no odor End of Boring at 17 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-4

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

Well Location: Off the northeast corner of the Central Stores Building.

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

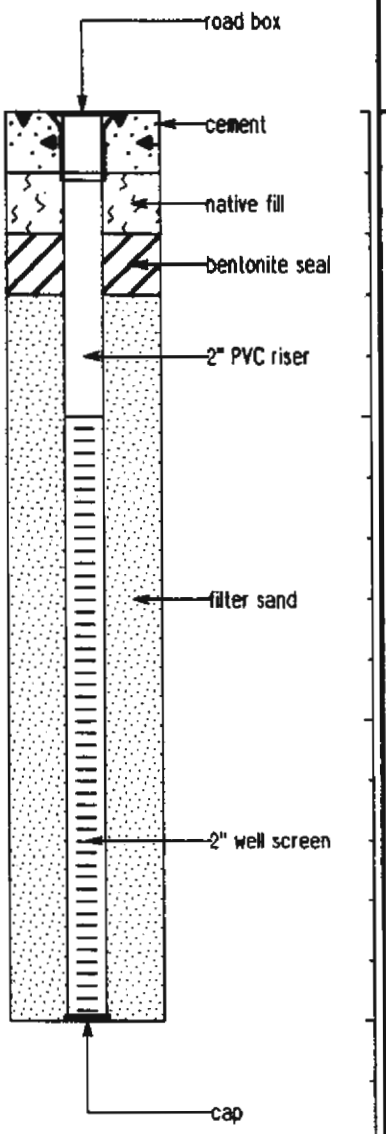
Installation Date: 10/5/96 | Depth of Boring: 17

Inspector: W. Phelps | Depth to Water: 9.74

Contractor: EarthEx | Surface Elev.: NA

Drilling Method: HSA | PID used: HNu

RIZ-5



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
24 23 8	12/24"	NM				Black/brown/tank medium (+)-coarse SAND and GRAVEL, some ASH, dry, no no odor
4 4 2 7	15/24"	NM	5			Black/brown fine (+)-coarse SAND, some medium GRAVEL, trace SILT, saturated, no odor.
14 5 8 14	14/24"	NM	10			▽ Water table at 10 feet. Brown/rust medium (+)-coarse SAND, some medium GRAVEL, trace SILT, wet no odor
15 65 85 2	10/24"	NM	15			Gray medium (+)-coarse SAND, trace fine GRAVEL, becomes finer SILT then CLAY with depth, wet, no odor End of Boring at 17 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-5

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

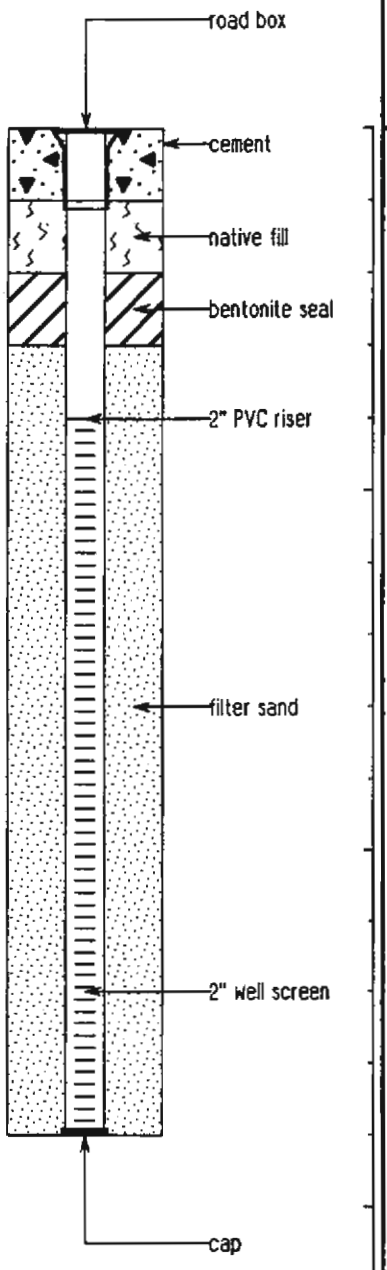
Well Location: In the parking lot southeast of the Main Repair Shops.

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

Installation Date: 10/5/96	Depth of Boring: 17
Inspector: W. Phelps	Depth to Water: 10.10
Contractor: EarthEx	Surface Elev.: NA
Drilling Method: HSA	PID used: HNu

RIZ-6



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
35 18 16	20/24"					Tan medium (+)-coarse SAND, some medium GRAVEL, transitions to black ash ash, cinders, and slag, dry, no odor.
8 7 5 5	10/24"	ND	5			Black ash and cinders, some brick fill, moist, no odor ▽ Water table at 7.98 feet
1 1 1 15	20/24"	ND	10			Gray SILT and SAND, grades to silty CLAY, moist, no odor
			15			End of Boring at 14 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-6

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

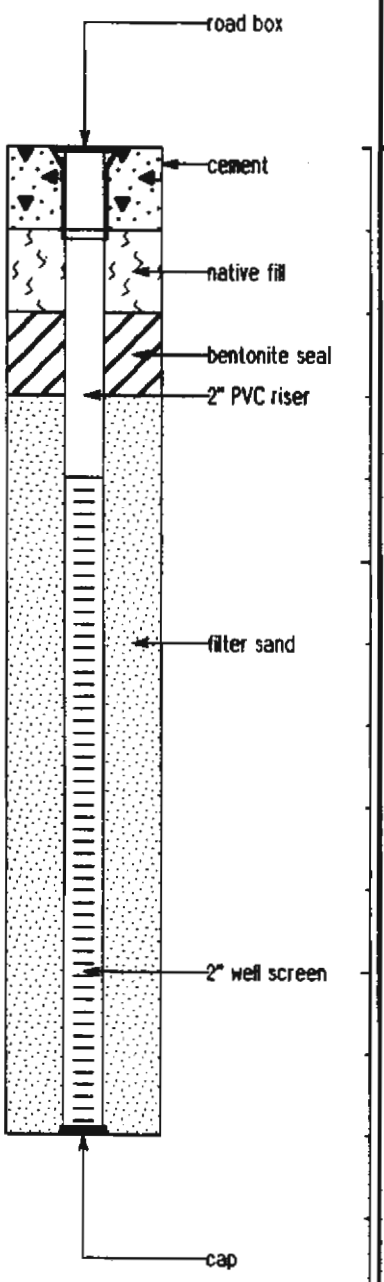
Well Location: Off the southern end of the Bus Overhaul Shop, adjacent to the waste oil UST

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

Installation Date: 10/8/96	Depth of Boring: 14
Inspector: W. Phelps	Depth to Water: 7.98
Contractor: EarthEx	Surface Elev.: NA
Drilling Method: HSA	PID used: HNu

RIZ-7



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
17 15 14	18/24"	NM				Tan/black/brown medium (+)-coarse SAND and ash, cinders and slag, trace GRAVEL, dry, no odor
						▽ Water table at 3.01 feet
3 2 3 1	15/24"	NM	5			Black/brown medium (+)-coarse SAND, ash, cinders, and slag, to silty CLAY at the tip of the spoon, wet, no odor
11 16 27 40	20/24"	NM	10			Olive/gray silty CLAY, trace roots, stiff, moist, no odor
						End of Boring at 12 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-7

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

Well Location: West of the Central Stores Building, in the parking lot

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

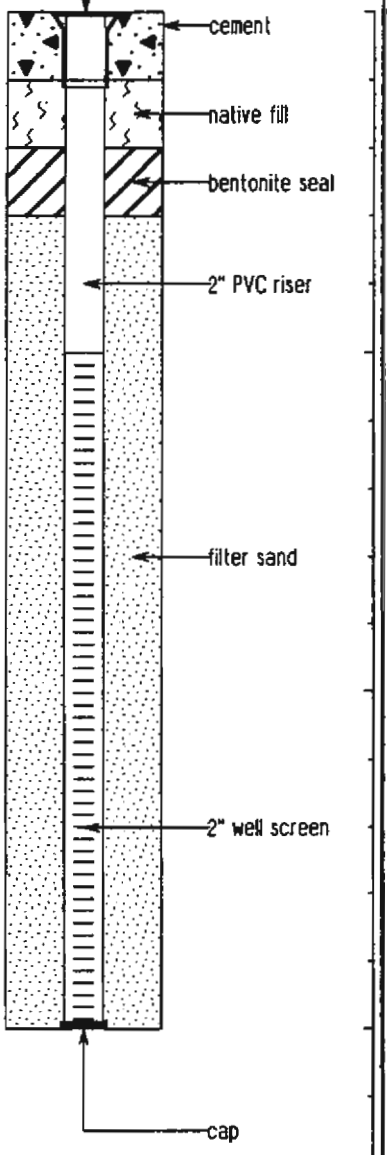
Installation Date: 10/8/96 | Depth of Boring: 12

Inspector: W. Phelps | Depth to Water: 3.01

Contractor: EarthEx | Surface Elev.: NA

Drilling Method: HSA | PID used: HNu

RIZ-8



Blow Counts	Recov/Advance	PID (ppm)	Depth (ft)	Sample Interval	Graphic Log	Materials Description
2 5 8	3/24"	NM				Brown/black medium SAND and SILT, dry, no odor
3 5 10 20	20/24"	NM	5			Gray medium (+)-coarse SAND, trace fine GRAVEL, grades to tan clayey SILT, moist, no odor
12 17 25 28	18/24"	NM	10			Olive/gray SILT and CLAY, trace v. fine SAND, dry, no odor
			15			End of Boring at 15 feet

BORING LOG AND WELL CONSTRUCTION FOR WELL RIZ-8

Project: MBTA-Everett | Project Number: 4426-01 | Location: Everett, MA

Well Location: Off the southeast corner of the Bus Overhaul Shop adjacent to the transmission fluid UST

Rizzo Associates, Inc.

Engineers and Environmental Scientists
235 West Central Street, Natick, MA 01760

Installation Date: 10/5/96 | Depth of Boring: 17

Inspector: W. Phelps | Depth to Water: NM

Contractor: EarthEx | Surface Elev.: NA

Drilling Method: HSA | PID used: HNu

Appendix E

Laboratory Certificates of Analysis

AMRO

AMRO Environmental Laboratory Report Page 1 of 4

Client:
Rizzo Associates Inc.
235 West Central St.
Natick, MA 01760

Client Designation:
4426-01 MBTA Everett, MA

Attn: Mr. Andy Brydges

Samples Qty/Type: 8/Solid

AMRO Designation: 14272
Date Sampled: 10/04,07,08/96
Date Rec'vd: 10/08/96
Date Complete: 10/25/96

Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
ME-RIZ1-SS-4-6	14272-01	Total Solids	87.7	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.2	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<12.	mg/Kg	10/18/96	RK	6010
		Beryllium, Total	<0.12	mg/Kg	10/16/96	EL	6010
		Cadmium, Total	<2.4	mg/Kg	10/16/96	EL	6010
		Chromium, Total	15.	mg/Kg	10/16/96	EL	6010
		Copper, Total	8.3	mg/Kg	10/16/96	EL	6010
		Lead, Total	14.	mg/Kg	10/16/96	EL	6010
		Mercury, Total	<0.050	mg/Kg	10/11/96	CO	7471
		Nickel, Total	9.4	mg/Kg	10/16/96	EL	6010
		Selenium, Total	<4.8	mg/Kg	10/16/96	EL	6010
		Silver, Total	<2.2	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<4.8	mg/Kg	10/16/96	EL	6010
		Zinc, Total	21.	mg/Kg	10/16/96	EL	6010
ME-RIZ4-SS-5-7	14272-02	Total Solids	91.1	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.2	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<5.4	mg/Kg	10/17/96	RK	6010
		Beryllium, Total	0.36	mg/Kg	10/16/96	EL	6010
		Cadmium, Total	<2.7	mg/Kg	10/16/96	EL	6010
		Chromium, Total	9.3	mg/Kg	10/16/96	EL	6010
		Copper, Total	43.	mg/Kg	10/16/96	EL	6010
		Lead, Total	74.	mg/Kg	10/16/96	EL	6010
		Mercury, Total	0.279	mg/Kg	10/10/96	RK	7471
		Nickel, Total	11.	mg/Kg	10/16/96	EL	6010

Continued next page . . .

Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
ME-RIZ4-SS-5-7	14272-02	Selenium, Total	<5.4	mg/Kg	10/16/96	EL	6010
		Silver, Total	<2.2	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<5.4	mg/Kg	10/16/96	EL	6010
		Zinc, Total	57.	mg/Kg	10/16/96	EL	6010
ME-RIZ3-SS-5-7	14272-03	Total Solids	85.9	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	18.	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	27.	mg/Kg	10/25/96	EL	6010
		Beryllium, Total	0.21	mg/Kg	10/16/96	EL	6010
		Cadmium, Total	17.	mg/Kg	10/25/96	EL	6010
		Chromium, Total	89.	mg/Kg	10/25/96	EL	6010
		Copper, Total	1,800.	mg/Kg	10/16/96	EL	6010
		Lead, Total	52,000.	mg/Kg	10/16/96	EL	6010
		Mercury, Total	2.13	mg/Kg	10/10/96	RK	7471
		Nickel, Total	39.	mg/Kg	10/25/96	EL	6010
		Selenium, Total	<23.	mg/Kg	10/25/96	EL	6010
		Silver, Total	<2.7	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<4.6	mg/Kg	10/25/96	EL	6010
		Zinc, Total	5,800.	mg/Kg	10/16/96	EL	6010
ME-RIZ2-SS-5-7	14272-04	Total Solids	83.4	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.3	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<14.	mg/Kg	10/18/96	RK	6010
		Beryllium, Total	<0.14	mg/Kg	10/17/96	EL	6010
		Cadmium, Total	<2.8	mg/Kg	10/17/96	TM	6010
		Chromium, Total	13.	mg/Kg	10/17/96	TM	6010
		Copper, Total	5.5	mg/Kg	10/17/96	TM	6010
		Lead, Total	23.	mg/Kg	10/25/96	EL	6010
		Mercury, Total	<0.050	mg/Kg	10/10/96	RK	7471
		Nickel, Total	12.	mg/Kg	10/17/96	TM	6010
		Selenium, Total	<7.1	mg/Kg	10/18/96	RK	7740
		Silver, Total	<2.3	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<14.	mg/Kg	10/25/96	EL	6010
		Zinc, Total	96.	mg/Kg	10/17/96	TM	6010

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Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
ME-RIZ5-SS-5-7	14272-05	Total Solids	90.5	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.4	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<4.9	mg/Kg	10/18/96	RK	6010
		Beryllium, Total	<0.12	mg/Kg	10/17/96	EL	6010
		Cadmium, Total	3.4	mg/Kg	10/17/96	TM	6010
		Chromium, Total	16.	mg/Kg	10/17/96	TM	6010
		Copper, Total	37.	mg/Kg	10/17/96	TM	6010
		Lead, Total	120.	mg/Kg	10/25/96	TM	6010
		Mercury, Total	0.090	mg/Kg	10/10/96	RK	7471
		Nickel, Total	22.	mg/Kg	10/17/96	TM	6010
		Selenium, Total	<6.1	mg/Kg	10/18/96	RK	7740
		Silver, Total	<2.4	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<25.	mg/Kg	10/25/96	EL	6010
		Zinc, Total	43.	mg/Kg	10/17/96	TM	6010
ME-RIZ6-SS-5-7	14272-06	Total Solids	84.5	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.7	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<5.3	mg/Kg	10/17/96	RK	6010
		Beryllium, Total	<0.13	mg/Kg	10/17/96	EL	6010
		Cadmium, Total	3.0	mg/Kg	10/17/96	TM	6010
		Chromium, Total	11.	mg/Kg	10/17/96	TM	6010
		Copper, Total	67.	mg/Kg	10/17/96	TM	6010
		Lead, Total	130.	mg/Kg	10/25/96	EL	6010
		Mercury, Total	0.111	mg/Kg	10/10/96	RK	7471
		Nickel, Total	15.	mg/Kg	10/17/96	TM	6010
		Selenium, Total	<6.6	mg/Kg	10/18/96	RK	7740
		Silver, Total	<2.7	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<26.	mg/Kg	10/25/96	EL	6010
		Zinc, Total	110.	mg/Kg	10/17/96	TM	6010
ME-RIZ7-SS-5-7	14272-07	Total Solids	91.5	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	3.9	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	64.	mg/Kg	10/25/96	EL	6010
		Beryllium, Total	<0.56	mg/Kg	10/25/96	EL	6010
		Cadmium, Total	5.2	mg/Kg	10/17/96	TM	6010
		Chromium, Total	15.	mg/Kg	10/17/96	TM	6010
		Copper, Total	91.	mg/Kg	10/17/96	TM	6010
		Lead, Total	1,300.	mg/Kg	10/17/96	RK	6010
		Mercury, Total	0.368	mg/Kg	10/10/96	RK	7471
		Nickel, Total	10.	mg/Kg	10/17/96	TM	6010
		Selenium, Total	<5.6	mg/Kg	10/18/96	RK	7740
		Silver, Total	<1.9	mg/Kg	10/14/96	EL	6010
		Thallium, Total	<23.	mg/Kg	10/25/96	EL	6010
		Zinc, Total	120.	mg/Kg	10/17/96	TM	6010

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Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
ME-RIZ8-SS-5-7	14272-08	Total Solids	79.6	%	10/09/96	JW	2540G
		Digestion			10/14/96	JW	3050
		Antimony, Total	<2.6	mg/Kg	10/17/96	EL	6010
		Arsenic, Total	<15.	mg/Kg	10/18/96	RK	6010
		Beryllium, Total	<0.15	mg/Kg	10/17/96	EL	6010
		Cadmium, Total	7.0	mg/Kg	10/17/96	TM	6010
		Chromium, Total	48.	mg/Kg	10/17/96	TM	6010
		Copper, Total	33.	mg/Kg	10/17/96	TM	6010
		Lead, Total	28.	mg/Kg	10/25/96	EL	6010
		Mercury, Total	<0.050	mg/Kg	10/10/96	RK	7471
		Nickel, Total	35.	mg/Kg	10/17/96	TM	6010
		Selenium, Total	<7.4	mg/Kg	10/18/96	RK	7740
		Silver, Total	<2.6	mg/Kg	10/25/96	EL	6010
		Thallium, Total	<30.	mg/Kg	10/25/96	EL	6010
		Zinc, Total	85.	mg/Kg	10/17/96	TM	6010

Results are in dry weight.
All analyses performed in accordance with:
USEPA Methods of Chemical Analysis for Water & Waste.
Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992. and USEPA SW846 Manual, 3rd. ed.
The following standard abbreviations and conventions apply throughout all sections:
< = 'Less than' followed by the detection limit.
> = 'Greater than'

Certified by: Paula Benham
Paula Benham

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ1-SS-4-6
AMRO I.D.: 14272-01
Date sampled: 10/04/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/14/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	56
Kerosene	ND	56
Mineral Spirits	ND	56
Fuel Oil #2/Diesel	ND	56
Fuel Oil #4	ND	56
Fuel Oil #6	ND	110
Motor Oil/Hydraulic Oil	ND	56

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 87.7%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by Nancy Stewart
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ4-SS-5-7
AMRO I.D.: 14272-02
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/14/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	52
Kerosene	ND	52
Mineral Spirits	ND	52
Fuel Oil #2/Diesel	ND	52
Fuel Oil #4	ND	52
Fuel Oil #6	ND	100
Motor Oil/Hydraulic Oil	460	52

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 91.1%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ3-SS-5-7
AMRO I.D.: 14272-03
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	53
Kerosene	ND	53
Mineral Spirits	ND	53
Fuel Oil #2/Diesel	ND	53
Fuel Oil #4	ND	53
Fuel Oil #6	ND	110
Motor Oil/Hydraulic Oil	320	53

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 85.9%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by Nancy Stewart
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ2-SS-5-7
AMRO I.D.: 14272-04
Date sampled: 10/04/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	56
Kerosene	ND	56
Mineral Spirits	ND	56
Fuel Oil #2/Diesel	ND	56
Fuel Oil #4	ND	56
Fuel Oil #6	ND	110
Motor Oil/Hydraulic Oil	110	56

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 83.4%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK Approved by Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ5-SS-5-7
AMRO I.D.: 14272-05
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	52
Kerosene	ND	52
Mineral Spirits	ND	52
Fuel Oil #2/Diesel	ND	52
Fuel Oil #4	ND	52
Fuel Oil #6	ND	100
Motor Oil/Hydraulic Oil	230	52

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 90.5%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by: Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ6-SS-5-7
AMRO I.D.: 14272-06
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	56
Kerosene	ND	56
Mineral Spirits	ND	56
Fuel Oil #2/Diesel	ND	56
Fuel Oil #4	ND	56
Fuel Oil #6	ND	110
Motor Oil/Hydraulic Oil	310	56

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 84.5%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ7-SS-5-7
AMRO I.D.: 14272-07
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	53
Kerosene	ND	53
Mineral Spirits	ND	53
Fuel Oil #2/Diesel	ND	53
Fuel Oil #4	ND	53
Fuel Oil #6	ND	110
Motor Oil/Hydraulic Oil	480	53

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 91.5%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by: Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I D.: 4426-01 MBTA Everett, MA
ME-RIZ8-SS-5-7
AMRO I.D.: 14272-08
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/14/96 Date analyzed: 10/15/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	60
Kerosene	ND	60
Mineral Spirits	ND	60
Fuel Oil #2/Diesel	ND	60
Fuel Oil #4	ND	60
Fuel Oil #6	ND	120
Motor Oil/Hydraulic Oil	230	60

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).
Solid Content = 79.6%. Results are in dry weight.

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ1-SS-4-6
AMRO I.D.: 14272-01
Date sampled: 10/04/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/17/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	76
Bromomethane	ND	76
Vinyl Chloride	ND	76
Dichlorodifluoromethane	ND	76
Chloroethane	ND	76
Methylene Chloride	ND	76
Trichlorofluoromethane	ND	30
1,1-Dichloroethene	ND	30
Bromochloromethane	ND	30
1,1-Dichloroethane	ND	30
cis-1,2-Dichloroethene	ND	30
trans-1,2-Dichloroethene	ND	30
Chloroform	ND	30
Dibromomethane	ND	30
1,2-Dichloroethane	ND	30
2,2-Dichloropropane	ND	30
1,1,1-Trichloroethane	ND	30
Carbon Tetrachloride	ND	30
Bromodichloromethane	ND	30
1,2-Dichloropropane	ND	30
1,1-Dichloropropene	ND	30
Trichloroethene	ND	30
Dibromochloromethane	ND	30
1,1,2-Trichloroethane	ND	30
Benzene	ND	30
1,3-Dichloropropane	ND	30
Bromoform	ND	30
1,1,1,2-Tetrachloroethane	ND	30
Tetrachloroethene	ND	30
1,2-Dibromoethane	ND	30
1,1,2,2-Tetrachloroethane	ND	30
Toluene	ND	30
Chlorobenzene	ND	30
Ethylbenzene	ND	30
Bromobenzene	ND	30
Isopropylbenzene	ND	30
Styrene	ND	30
n-Propylbenzene	ND	30

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ-SS-4-6
AMRO I.D.: 14272-01

Test Parameter	Results (ug/kg)	Reporting Limit (ug/kg)
cis-1,3-Dichloropropene	ND	30
trans-1,3-Dichloropropene	ND	30
Xylene (total)	ND	30
1,2-Dibromo-3-chloropropane	ND	30
tert-Butylbenzene	ND	30
2-Chlorotoluene	ND	30
Hexachlorobutadiene	ND	30
4-Chlorotoluene	ND	30
sec-Butylbenzene	ND	30
1,3-Dichlorobenzene	ND	30
1,2-Dichlorobenzene	ND	30
1,4-Dichlorobenzene	ND	30
1,2,3-Trichloropropane	ND	30
n-Butylbenzene	ND	30
4-Isopropyltoluene	ND	30
Naphthalene	ND	30
1,2,4-Trimethylbenzene	ND	30
1,3,5-Trimethylbenzene	ND	30
1,2,3-Trichlorobenzene	ND	30
1,2,4-Trichlorobenzene	ND	30
Methyl-tert-butyl ether (MTBE)	ND	30

Solid Content = 87.7%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by Nancy Stewart
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ4-SS-5-7
AMRO I.D.: 14272-02
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/17/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	66
Bromomethane	ND	66
Vinyl Chloride	ND	66
Dichlorodifluoromethane	ND	66
Chloroethane	ND	66
Methylene Chloride	ND	66
Trichlorofluoromethane	ND	26
1,1-Dichloroethene	ND	26
Bromochloromethane	ND	26
1,1-Dichloroethane	ND	26
cis-1,2-Dichloroethene	ND	26
trans-1,2-Dichloroethene	ND	26
Chloroform	ND	26
Dibromomethane	ND	26
1,2-Dichloroethane	ND	26
2,2-Dichloropropane	ND	26
1,1,1-Trichloroethane	ND	26
Carbon Tetrachloride	ND	26
Bromodichloromethane	ND	26
1,2-Dichloropropane	ND	26
1,1-Dichloropropene	ND	26
Trichloroethene	610	26
Dibromochloromethane	ND	26
1,1,2-Trichloroethane	ND	26
Benzene	ND	26
1,3-Dichloropropane	ND	26
Bromoform	ND	26
1,1,1,2-Tetrachloroethane	ND	26
Tetrachloroethene	ND	26
1,2-Dibromoethane	ND	26
1,1,2,2-Tetrachloroethane	ND	26
Toluene	ND	26
Chlorobenzene	ND	26
Ethylbenzene	ND	26
Bromobenzene	ND	26
Isopropylbenzene	ND	26
Styrene	ND	26
n-Propylbenzene	ND	26

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ4-SS-5-7
AMRO I.D.: 14272-02

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
cis-1,3-Dichloropropene	ND	26
trans-1,3-Dichloropropene	ND	26
Xylene (total)	ND	26
1,2-Dibromo-3-chloropropane	ND	26
tert-Butylbenzene	ND	26
2-Chlorotoluene	ND	26
Hexachlorobutadiene	ND	26
4-Chlorotoluene	ND	26
sec-Butylbenzene	ND	26
1,3-Dichlorobenzene	ND	26
1,2-Dichlorobenzene	ND	26
1,4-Dichlorobenzene	ND	26
1,2,3-Trichloropropane	ND	26
n-Butylbenzene	ND	26
4-Isopropyltoluene	ND	26
Naphthalene	77	26
1,2,4-Trimethylbenzene	ND	26
1,3,5-Trimethylbenzene	ND	26
1,2,3-Trichlorobenzene	ND	26
1,2,4-Trichlorobenzene	ND	26
Methyl-tert-butyl ether (MTBE)	ND	26

Solid Content = 91.1%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ3-SS-5-7
AMRO I.D.: 14272-03
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/17/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	76
Bromomethane	ND	76
Vinyl Chloride	ND	76
Dichlorodifluoromethane	ND	76
Chloroethane	ND	76
Methylene Chloride	ND	76
Trichlorofluoromethane	ND	30
1,1-Dichloroethene	ND	30
Bromochloromethane	ND	30
1,1-Dichloroethane	ND	30
cis-1,2-Dichloroethene	ND	30
trans-1,2-Dichloroethene	ND	30
Chloroform	ND	30
Dibromomethane	ND	30
1,2-Dichloroethane	ND	30
2,2-Dichloropropane	ND	30
1,1,1-Trichloroethane	ND	30
Carbon Tetrachloride	ND	30
Bromodichloromethane	ND	30
1,2-Dichloropropane	ND	30
1,1-Dichloropropene	ND	30
Trichloroethene	1,400	30
Dibromochloromethane	ND	30
1,1,2-Trichloroethane	ND	30
Benzene	ND	30
1,3-Dichloropropane	ND	30
Bromoform	ND	30
1,1,1,2-Tetrachloroethane	ND	30
Tetrachloroethene	ND	30
1,2-Dibromoethane	ND	30
1,1,2,2-Tetrachloroethane	ND	30
Toluene	57	30
Chlorobenzene	ND	30
Ethylbenzene	ND	30
Bromobenzene	ND	30
Isopropylbenzene	ND	30
Styrene	ND	30
n-Propylbenzene	ND	30

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ3-SS-5-7
AMRO I.D.: 14272-03

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
cis-1,3-Dichloropropene	ND	30
trans-1,3-Dichloropropene	ND	30
Xylene (total)	ND	30
1,2-Dibromo-3-chloropropane	ND	30
tert-Butylbenzene	ND	30
2-Chlorotoluene	ND	30
Hexachlorobutadiene	ND	30
4-Chlorotoluene	ND	30
sec-Butylbenzene	ND	30
1,3-Dichlorobenzene	ND	30
1,2-Dichlorobenzene	ND	30
1,4-Dichlorobenzene	ND	30
1,2,3-Trichloropropane	ND	30
n-Butylbenzene	ND	30
4-Isopropyltoluene	ND	30
Naphthalene	ND	30
1,2,4-Trimethylbenzene	ND	30
1,3,5-Trimethylbenzene	ND	30
1,2,3-Trichlorobenzene	ND	30
1,2,4-Trichlorobenzene	ND	30
Methyl-tert-butyl ether (MTBE)	ND	30

Solid Content = 85.9%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ2-SS-5-7
AMRO I.D.: 14272-04
Date sampled: 10/04/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/17/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	73
Bromomethane	ND	73
Vinyl Chloride	ND	73
Dichlorodifluoromethane	ND	73
Chloroethane	ND	73
Methylene Chloride	ND	73
Trichlorofluoromethane	ND	29
1,1-Dichloroethene	ND	29
Bromochloromethane	ND	29
1,1-Dichloroethane	ND	29
cis-1,2-Dichloroethene	ND	29
trans-1,2-Dichloroethene	ND	29
Chloroform	ND	29
Dibromomethane	ND	29
1,2-Dichloroethane	ND	29
2,2-Dichloropropane	ND	29
1,1,1-Trichloroethane	ND	29
Carbon Tetrachloride	ND	29
Bromodichloromethane	ND	29
1,2-Dichloropropane	ND	29
1,1-Dichloropropene	ND	29
Trichloroethene	ND	29
Dibromochloromethane	ND	29
1,1,2-Trichloroethane	ND	29
Benzene	ND	29
1,3-Dichloropropane	ND	29
Bromoform	ND	29
1,1,1,2-Tetrachloroethane	ND	29
Tetrachloroethene	ND	29
1,2-Dibromoethane	ND	29
1,1,2,2-Tetrachloroethane	ND	29
Toluene	ND	29
Chlorobenzene	ND	29
Ethylbenzene	ND	29
Bromobenzene	ND	29
Isopropylbenzene	ND	29
Styrene	ND	29
n-Propylbenzene	ND	29

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ2-SS-5-7
AMRO I.D.: 14272-04

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
cis-1,3-Dichloropropene	ND	29
trans-1,3-Dichloropropene	ND	29
Xylene (total)	ND	29
1,2-Dibromo-3-chloropropane	ND	29
tert-Butylbenzene	ND	29
2-Chlorotoluene	ND	29
Hexachlorobutadiene	ND	29
4-Chlorotoluene	ND	29
sec-Butylbenzene	ND	29
1,3-Dichlorobenzene	ND	29
1,2-Dichlorobenzene	ND	29
1,4-Dichlorobenzene	ND	29
1,2,3-Trichloropropane	ND	29
n-Butylbenzene	ND	29
4-Isopropyltoluene	ND	29
Naphthalene	ND	29
1,2,4-Trimethylbenzene	ND	29
1,3,5-Trimethylbenzene	ND	29
1,2,3-Trichlorobenzene	ND	29
1,2,4-Trichlorobenzene	ND	29
Methyl-tert-butyl ether (MTBE)	ND	29

Solid Content = 83.4%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by Nancy Stewart
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ5-SS-5-7
AMRO I.D.: 14272-05
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	60
Bromomethane	ND	60
Vinyl Chloride	ND	60
Dichlorodifluoromethane	ND	60
Chloroethane	ND	60
Methylene Chloride	ND	60
Trichlorofluoromethane	ND	24
1,1-Dichloroethene	ND	24
Bromochloromethane	ND	24
1,1-Dichloroethane	ND	24
cis-1,2-Dichloroethene	ND	24
trans-1,2-Dichloroethene	ND	24
Chloroform	ND	24
Dibromomethane	ND	24
1,2-Dichloroethane	ND	24
2,2-Dichloropropane	ND	24
1,1,1-Trichloroethane	ND	24
Carbon Tetrachloride	ND	24
Bromodichloromethane	ND	24
1,2-Dichloropropane	ND	24
1,1-Dichloropropene	ND	24
Trichloroethene	ND	24
Dibromochloromethane	ND	24
1,1,2-Trichloroethane	ND	24
Benzene	ND	24
1,3-Dichloropropane	ND	24
Bromoform	ND	24
1,1,1,2-Tetrachloroethane	ND	24
Tetrachloroethene	ND	24
1,2-Dibromoethane	ND	24
1,1,2,2-Tetrachloroethane	ND	24
Toluene	ND	24
Chlorobenzene	ND	24
Ethylbenzene	ND	24
Bromobenzene	ND	24
Isopropylbenzene	ND	24
Styrene	ND	24
n-Propylbenzene	ND	24

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ-SS-5-7
AMRO I.D.: 14272-05

Test Parameter	Results (ug/kg)	Reporting Limit (ug/kg)
cis-1,3-Dichloropropene	ND	24
trans-1,3-Dichloropropene	ND	24
Xylene (total)	ND	24
1,2-Dibromo-3-chloropropane	ND	24
tert-Butylbenzene	ND	24
2-Chlorotoluene	ND	24
Hexachlorobutadiene	ND	24
4-Chlorotoluene	ND	24
sec-Butylbenzene	ND	24
1,3-Dichlorobenzene	ND	24
1,2-Dichlorobenzene	ND	24
1,4-Dichlorobenzene	ND	24
1,2,3-Trichloropropane	ND	24
n-Butylbenzene	ND	24
4-Isopropyltoluene	47	24
Naphthalene	140	24
1,2,4-Trimethylbenzene	ND	24
1,3,5-Trimethylbenzene	ND	24
1,2,3-Trichlorobenzene	ND	24
1,2,4-Trichlorobenzene	ND	24
Methyl-tert-butyl ether (MTBE)	ND	24

Solid Content = 90.5%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by: Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ6-SS-5-7
AMRO I.D.: 14272-06
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	70
Bromomethane	ND	70
Vinyl Chloride	ND	70
Dichlorodifluoromethane	ND	70
Chloroethane	ND	70
Methylene Chloride	ND	70
Trichlorofluoromethane	ND	28
1,1-Dichloroethene	ND	28
Bromochloromethane	ND	28
1,1-Dichloroethane	ND	28
cis-1,2-Dichloroethene	ND	28
trans-1,2-Dichloroethene	ND	28
Chloroform	ND	28
Dibromomethane	ND	28
1,2-Dichloroethane	ND	28
2,2-Dichloropropane	ND	28
1,1,1-Trichloroethane	ND	28
Carbon Tetrachloride	ND	28
Bromodichloromethane	ND	28
1,2-Dichloropropane	ND	28
1,1-Dichloropropene	ND	28
Trichloroethene	ND	28
Dibromochloromethane	ND	28
1,1,2-Trichloroethane	ND	28
Benzene	ND	28
1,3-Dichloropropane	ND	28
Bromoform	ND	28
1,1,1,2-Tetrachloroethane	ND	28
Tetrachloroethene	ND	28
1,2-Dibromoethane	ND	28
1,1,2,2-Tetrachloroethane	ND	28
Toluene	ND	28
Chlorobenzene	ND	28
Ethylbenzene	ND	28
Bromobenzene	ND	28
Isopropylbenzene	ND	28
Styrene	ND	28
n-Propylbenzene	ND	28

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds
Page 2 of 2

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ(-SS-5-7
AMRO I.D.: 14272-06

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
cis-1,3-Dichloropropene	ND	28
trans-1,3-Dichloropropene	ND	28
Xylene (total)	ND	28
1,2-Dibromo-3-chloropropane	ND	28
tert-Butylbenzene	ND	28
2-Chlorotoluene	ND	28
Hexachlorobutadiene	ND	28
4-Chlorotoluene	ND	28
sec-Butylbenzene	ND	28
1,3-Dichlorobenzene	ND	28
1,2-Dichlorobenzene	ND	28
1,4-Dichlorobenzene	ND	28
1,2,3-Trichloropropane	ND	28
n-Butylbenzene	ND	28
4-Isopropyltoluene	ND	28
Naphthalene	180	28
1,2,4-Trimethylbenzene	ND	28
1,3,5-Trimethylbenzene	ND	28
1,2,3-Trichlorobenzene	ND	28
1,2,4-Trichlorobenzene	ND	28
Methyl-tert-butyl ether (MTBE)	ND	28

Solid Content = 84.5%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by Nancy Stewart
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ7-SS-5-7
AMRO I.D.: 14272-07
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	67
Bromomethane	ND	67
Vinyl Chloride	ND	67
Dichlorodifluoromethane	ND	67
Chloroethane	ND	67
Methylene Chloride	ND	67
Trichlorofluoromethane	ND	27
1,1-Dichloroethene	ND	27
Bromochloromethane	ND	27
1,1-Dichloroethane	ND	27
cis-1,2-Dichloroethene	ND	27
trans-1,2-Dichloroethene	ND	27
Chloroform	ND	27
Dibromomethane	ND	27
1,2-Dichloroethane	ND	27
2,2-Dichloropropane	ND	27
1,1,1-Trichloroethane	ND	27
Carbon Tetrachloride	ND	27
Bromodichloromethane	ND	27
1,2-Dichloropropane	ND	27
1,1-Dichloropropene	ND	27
Trichloroethene	ND	27
Dibromochloromethane	ND	27
1,1,2-Trichloroethane	ND	27
Benzene	ND	27
1,3-Dichloropropane	ND	27
Bromoform	ND	27
1,1,1,2-Tetrachloroethane	ND	27
Tetrachloroethene	ND	27
1,2-Dibromoethane	ND	27
1,1,2,2-Tetrachloroethane	ND	27
Toluene	ND	27
Chlorobenzene	ND	27
Ethylbenzene	ND	27
Bromobenzene	ND	27
Isopropylbenzene	ND	27
Styrene	ND	27
n-Propylbenzene	ND	27

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ'-SS-5-7
AMRO I.D.: 14272-07

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
cis-1,3-Dichloropropene	ND	27
trans-1,3-Dichloropropene	ND	27
Xylene (total)	ND	27
1,2-Dibromo-3-chloropropane	ND	27
tert-Butylbenzene	ND	27
2-Chlorotoluene	ND	27
Hexachlorobutadiene	ND	27
4-Chlorotoluene	ND	27
sec-Butylbenzene	ND	27
1,3-Dichlorobenzene	ND	27
1,2-Dichlorobenzene	ND	27
1,4-Dichlorobenzene	ND	27
1,2,3-Trichloropropane	ND	27
n-Butylbenzene	ND	27
4-Isopropyltoluene	ND	27
Naphthalene	160	27
1,2,4-Trimethylbenzene	ND	27
1,3,5-Trimethylbenzene	ND	27
1,2,3-Trichlorobenzene	ND	27
1,2,4-Trichlorobenzene	ND	27
Methyl-tert-butyl ether (MTBE)	ND	27

Solid Content = 91.5%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ8-SS-5-7
AMRO I.D.: 14272-08
Date sampled: 10/08/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/kg)	Reporting Limit(ug/kg)
Chloromethane	ND	70
Bromomethane	ND	70
Vinyl Chloride	ND	70
Dichlorodifluoromethane	ND	70
Chloroethane	ND	70
Methylene Chloride	ND	70
Trichlorofluoromethane	ND	28
1,1-Dichloroethene	ND	28
Bromochloromethane	ND	28
1,1-Dichloroethane	ND	28
cis-1,2-Dichloroethene	ND	28
trans-1,2-Dichloroethene	ND	28
Chloroform	ND	28
Dibromomethane	ND	28
1,2-Dichloroethane	ND	28
2,2-Dichloropropane	ND	28
1,1,1-Trichloroethane	ND	28
Carbon Tetrachloride	ND	28
Bromodichloromethane	ND	28
1,2-Dichloropropane	ND	28
1,1-Dichloropropene	ND	28
Trichloroethene	ND	28
Dibromochloromethane	ND	28
1,1,2-Trichloroethane	ND	28
Benzene	ND	28
1,3-Dichloropropane	ND	28
Bromoform	ND	28
1,1,1,2-Tetrachloroethane	ND	28
Tetrachloroethene	ND	28
1,2-Dibromoethane	ND	28
1,1,2,2-Tetrachloroethane	ND	28
Toluene	ND	28
Chlorobenzene	ND	28
Ethylbenzene	ND	28
Bromobenzene	ND	28
Isopropylbenzene	ND	28
Styrene	ND	28
n-Propylbenzene	ND	28

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: ME-RIZ3-SS-5-7
AMRO I.D.: 14272-08

Test Parameter	Results (ug/kg)	Reporting Limit (ug/kg)
cis-1,3-Dichloropropene	ND	28
trans-1,3-Dichloropropene	ND	28
Xylene (total)	ND	28
1,2-Dibromo-3-chloropropane	ND	28
tert-Butylbenzene	ND	28
2-Chlorotoluene	ND	28
Hexachlorobutadiene	ND	28
4-Chlorotoluene	ND	28
sec-Butylbenzene	ND	28
1,3-Dichlorobenzene	ND	28
1,2-Dichlorobenzene	ND	28
1,4-Dichlorobenzene	ND	28
1,2,3-Trichloropropane	ND	28
n-Butylbenzene	ND	28
4-Isopropyltoluene	ND	28
Naphthalene	ND	28
1,2,4-Trimethylbenzene	ND	28
1,3,5-Trimethylbenzene	ND	28
1,2,3-Trichlorobenzene	ND	28
1,2,4-Trichlorobenzene	ND	28
Methyl-tert-butyl ether (MTBE)	ND	28

Solid Content = 79.6%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by: Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8081
PCB's

Client: Rizzo Associates, Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ1-SS-4-6
AMRO I.D.: 14272-01
Date sampled: 10/04/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/11/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/Kg)	Reporting Limit(ug/Kg)
PCB-1221	ND	41
PCB-1232	ND	41
PCB-1242 (1016)	ND	41
PCB-1248	ND	41
PCB-1254	ND	41
PCB-1260	ND	41

Solid Content = 87.7%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: RF

Approved by Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8081
PCB's

Client: Rizzo Associates, Inc.
Client I.D.: 4426-01 MBTA Everett, MA
ME-RIZ4-SS-5-7
AMRO I.D.: 14272-02
Date sampled: 10/07/96 Date received: 10/08/96
Date prepared: 10/10/96 Date analyzed: 10/11/96
Sample Qty/Type: 1/Solid

Test Parameter	Results (ug/Kg)	Reporting Limit(ug/Kg)
PCB-1221	ND	34
PCB-1232	ND	34
PCB-1242 (1016)	ND	34
PCB-1248	ND	34
PCB-1254	ND	34
PCB-1260	ND	34

Solid Content = 91.1%. Results are in dry weight.
ND = Not Detected at or above the reporting limit.

Analyzed By: RF

Approved by
Nancy Stewart

CHAIN OF CUSTODY RECORD

Rizzo Associates, Inc.
235 West Central Street
Natick, MA 01760
(508) 651-3401
(508) 651-1189 (FAX)

Rizzo Project Number: 4436-01
Rizzo Project Name: MBTA - Everett
Samplers (signatures): [signature]

Lab: AMRO
Lab ID #:
Send report to: Andy Brydges
Turnaround Time: 7-Day

Rizzo Sample Number	Sample Depth	Sample Location	Sample Collected: Date	Sample Collected: Time	Container: #	Container: Type	Container: Preservative	Sample Matrix	Requested Analyses
ME-RIZ1-SS-4-6	4-6	RIZ-1	10/4/96	11:45	2	V, G	none	soil	8260, TPH-8100, Total PP13 Metals, PCBs
ME-RIZ2-SS-5-7	5-7	RIZ-2	10/4/96	14:30	2	V, G	↓	↓	8260, TPH-8100, Total PP13 Metals
ME-RIZ3-SS-5-7	5-7	RIZ-3	10/7/96	10:30	2	V, G			8260, TPH-8100, Total PP13 Metals
ME-RIZ4-SS-5-7	5-7	RIZ-4	10/7/96	12:50	2	V, G			8260, TPH-8100, Total PP13 Metals, PCBs
ME-RIZ5-SS-5-7	5-7	RIZ-5	10/7/96	15:00	2	V, G			8260, TPH-8100, Total PP13 Metals
ME-RIZ6-SS-5-7	5-7	RIZ-6	10/8/96	08:30	2	V, G			8260, TPH 8100, Total PP13 Metals
ME-RIZ7-SS-5-7	5-7	RIZ-7	10/8/96	11:00	2	V, G			8260, TPH-8100, Total PP13 Metals
ME-RIZ8-SS-5-7	5-7	RIZ-8	10/8/96	14:20	2	V, G	↓	↓	8260, TPH 8100, Total PP13 Metals

AMRO# 14272

Relinquished by:	Received by:	Date:	Time:
Bill Phelps-Rizzo Associates	[signature]	10/8/96	17:26
[signature] 10/8/96 19:10	[signature]	10/8/96	19:10

Method of Shipment: AMRO pickup @ Rizzo

WHITE - ANALYTICAL LABORATORY • YELLOW - QC OFFICER • PINK - CHAIN-OF-CUSTODY NOTEBOOK • GOLD - PROJECT FILE

AMRO

AMRO Environmental Laboratory Report Page 1 of 3

Client:
Rizzo Associates Inc.
235 West Central St.
Natick, MA 01760

Client Designation:
4426.01 MBTA-Everett, MA

Attn: Mr. Andy Brydges

Samples Qty/Type: 7/Aqueous

Client P.O.#: 4426.07

AMRO Designation: 14329
Date Sampled: 10/11/96
Date Rec'vd: 10/15/96
Date Complete: 10/28/96
COC #: 16645

Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
RIZ-1	14329-01	Digestion			10/16/96	JW	200
ME-RIZ-1-		Arsenic, D	0.017	mg/L	10/23/96	LS	204.2
GW-101		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	<0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.005	mg/L	10/25/96	CO	239.2
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.025	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7
RIZ-2	14329-02	Digestion			10/16/96	JW	200
ME-RIZ-2-		Arsenic, D	0.013	mg/L	10/23/96	LS	206.2
		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	<0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.050	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7

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Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
RIZ-3	14329-03	Digestion			10/16/96	JW	200
ME-RIZ-3-GW-103		Arsenic, D	<0.010	mg/L	10/23/96	LS	206.2
		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	<0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.025	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7
RIZ-4	14329-04	Digestion			10/16/96	JW	200
ME-RIZ-4-GW-104		Arsenic, D	<0.010	mg/L	10/23/96	LS	206.2
		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	0.32	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.050	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	0.42	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7
RIZ-5	14329-05	Digestion			10/16/96	JW	200
ME-RIZ-5-GW-105		Arsenic, D	<0.010	mg/L	10/23/96	LS	206.2
		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	<0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.050	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7

Continued next page . . .

Sample Identity	AMRO Identity	Test Parameter	Results	Units	Date of Analysis	Run by	EPA Method
RIZ-6	14329-06	Digestion			10/16/96	JW	200
ME-RIZ-6-		Arsenic, D	0.015	mg/L	10/23/96	LS	206.2
GW-106		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	<0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.050	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7
RIZ-7	14329-07	Digestion			10/16/96	JW	200
ME-RIZ-7-		Arsenic, D	0.015	mg/L	10/23/96	LS	206.2
GW-107		Beryllium, D	<0.005	mg/L	10/17/96	EL	200.7
		Cadmium, D	<0.005	mg/L	10/25/96	EL	200.7
		Chromium, D	<0.03	mg/L	10/25/96	EL	200.7
		Copper, D	0.03	mg/L	10/25/96	EL	200.7
		Lead, D	<0.04	mg/L	10/28/96	EL	200.7
		Mercury, D	<0.0005	mg/L	10/16/96	CO	245.1
		Nickel, D	<0.05	mg/L	10/25/95	EL	200.7
		Selenium, D	<0.050	mg/L	10/22/96	RK	270.2
		Thallium, D	<0.02	mg/L	10/28/96	EL	200.7
		Zinc, D	<0.05	mg/L	10/25/96	EL	200.7
		Digestion			10/16/96	JW	3005
		Antimony, D	<0.005	mg/L	10/24/96	CO	204.2
		Silver, D	<0.007	mg/L	10/18/96	TM	200.7

All analyses performed in accordance with:
USEPA Methods of Chemical Analysis for Water & Waste.
Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992. and USEPA SW846 Manual, 3rd. ed.

The following standard abbreviations and conventions apply throughout all sections:

< = 'Less than' followed by the detection limit.
> = 'Greater than'
D = Dissolved

Certified by: Paula Benham
Paula Benham

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-1 ME-RIZ-1-GW-101
AMRO I.D.: 14329-01
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	0.80
Kerosene	ND	0.80
Mineral Spirits	ND	0.80
Fuel Oil #2/Diesel	ND	0.80
Fuel Oil #4	ND	0.80
Fuel Oil #6	ND	1.6
Motor Oil/Hydraulic Oil	ND	0.80

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by

Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-2 ME-RIZ-2-GW-102
AMRO I.D.: 14329-02
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	0.80
Kerosene	ND	0.80
Mineral Spirits	ND	0.80
Fuel Oil #2/Diesel	ND	0.80
Fuel Oil #4	ND	0.80
Fuel Oil #6	ND	1.6
Motor Oil/Hydraulic Oil	ND	0.80

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-3 ME-RIZ-3-GW-103
AMRO I.D.: 14329-03
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	0.60
Kerosene	ND	0.60
Mineral Spirits	ND	0.60
Fuel Oil #2/Diesel	ND	0.60
Fuel Oil #4	ND	0.60
Fuel Oil #6	ND	1.2
Motor Oil/Hydraulic Oil	ND	0.60

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-4 ME-RIZ-4-GW-104
AMRO I.D.: 14329-04
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/18/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	1.4
Kerosene	ND	1.4
Mineral Spirits	ND	1.4
Fuel Oil #2/Diesel	ND	1.4
Fuel Oil #4	ND	1.4
Fuel Oil #6	ND	2.9
Motor Oil/Hydraulic Oil	ND	1.4

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-5 ME-RIZ-5-GW-105
AMRO I.D.: 14329-05
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/19/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	0.80
Kerosene	ND	0.80
Mineral Spirits	ND	0.80
Fuel Oil #2/Diesel	ND	0.80
Fuel Oil #4	ND	0.80
Fuel Oil #6	ND	1.6
Motor Oil/Hydraulic Oil	ND	0.80

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-6 ME-RIZ-6-GW-106
AMRO I.D.: 14329-06
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/16/96 Date analyzed: 10/19/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	1.0
Kerosene	ND	1.0
Mineral Spirits	ND	1.0
Fuel Oil #2/Diesel	ND	1.0
Fuel Oil #4	ND	1.0
Fuel Oil #6	ND	2.0
Motor Oil/Hydraulic Oil	ND	1.0

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates, Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-7 ME-RIZ-7-GW-107
AMRO I.D.: 14329-07
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/15/96 Date analyzed: 10/19/96
Sample Qty/Type: 1/Water

Test Parameter	Results (mg/l)	Reporting Limit(mg/l)
Gasoline	ND	1.0
Kerosene	ND	1.0
Mineral Spirits	ND	1.0
Fuel Oil #2/Diesel	ND	1.0
Fuel Oil #4	ND	1.0
Fuel Oil #6	ND	2.0
Motor Oil/Hydraulic Oil	ND	1.0

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments:

ND = Not Detected at or above the reporting limit.

Analyzed By: JK Approved by Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-1 ME-RIZ-1-GW-101
AMRO I.D.: 14329-01
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-1 ME-RIZ-1-GW-101
AMRO I.D.: 14329-01

Test Parameter	Results (ug/L)	Reporting Limit (ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-2 ME-RIZ-2-GW-102
AMRO I.D.: 14329-02
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-2 ME-RIZ-2-GW-102
AMRO I.D.: 14329-02

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by: Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-3 ME-RIZ-3-GW-103
AMRO I.D.: 14329-03
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	3.5	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

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AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-3 MW-RIZ-3-GW-103
AMRO I.D.: 14329-03

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-4 ME-RIZ-4-GW-104
AMRO I.D.: 14329-04
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

Cont. next page

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-4 ME-RIZ-4-GW-1C4
AMRO I.D.: 14329-04

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-5 ME-RIZ-5-GW-105
AMRO I.D.: 14329-05
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

Cont. next page

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-5 ME-RIZ-5-GW-105
AMRO I.D.: 14329-05

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	97	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-6 ME-RIZ-6-GW-106
AMRO I.D.: 14329-06
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/22/96 Date analyzed: 10/22/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

Cont. next page

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-6 ME-RIZ-6-GW-106
AMRO I.D.: 14329-06

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.
Sample pH > 2

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-7 ME-RIZ-7-GW-107
AMRO I.D.: 14329-07
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/21/96 Date analyzed: 10/21/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

Cont. next page

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-7 ME-RIZ-7-GW-107
AMRO I.D.: 14329-07

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by
Nancy Stewart

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: 4426.01 MBTA-Everett, MA
RIZ-7 ME-RIZ-7D-GW-108 Dup.
AMRO I.D.: 14329-08
Date sampled: 10/11/96 Date received: 10/15/96
Date prepared: 10/22/96 Date analyzed: 10/22/96
Sample Qty/Type: 1/Water

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
Bromochloromethane	ND	2.0
1,1-Dichloroethane	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
Dibromomethane	ND	2.0
1,2-Dichloroethane	ND	2.0
2,2-Dichloropropane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
1,1-Dichloropropene	ND	2.0
Trichloroethene	ND	2.0
Dibromochloromethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Benzene	ND	2.0
1,3-Dichloropropane	ND	2.0
Bromoform	ND	2.0
1,1,1,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
1,2-Dibromoethane	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Toluene	ND	2.0
Chlorobenzene	ND	2.0
Ethylbenzene	ND	2.0
Bromobenzene	ND	2.0
Isopropylbenzene	ND	2.0
Styrene	ND	2.0
n-Propylbenzene	ND	2.0

Cont. next page

AMRO

LABORATORY REPORT

EPA Method 8260
Volatile Organic Compounds

Client: Rizzo Associates Inc.
Client I.D.: RIZ-7 ME-RIZ-7D-GW-108 Dup.
AMRO I.D.: 14329-08

Test Parameter	Results (ug/L)	Reporting Limit(ug/L)
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Xylene (total)	ND	2.0
1,2-Dibromo-3-chloropropane	ND	5.0
tert-Butylbenzene	ND	2.0
2-Chlorotoluene	ND	2.0
Hexachlorobutadiene	ND	2.0
4-Chlorotoluene	ND	2.0
sec-Butylbenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,2,3-Trichloropropane	ND	2.0
n-Butylbenzene	ND	2.0
4-Isopropyltoluene	ND	2.0
Naphthalene	ND	2.0
1,2,4-Trimethylbenzene	ND	2.0
1,3,5-Trimethylbenzene	ND	2.0
1,2,3-Trichlorobenzene	ND	2.0
1,2,4-Trichlorobenzene	ND	2.0
Methyl-tert-butyl ether (MTBE)	ND	2.0

ND = Not Detected at or above the reporting limit.

Analyzed By: SK

Approved by: Nancy Stewart

AMRO Environmental Laboratories Corporation
111 Herrick Street
Merrimack, N.H. 03054
Office: 603-424-2022 Fax: 603-429-8496

16645

CHAIN OF CUSTODY RECORD

Proj. No.	Project Name	Project State
4426.01	MBTA-EVERETT	

Samplers (Signature)

PAGE 1 OF 1

MATRIX: Water - A; Soil/Solid-S; Waste-W; Other-O (Explain)

Sta. No.	Date	Time	Comp	Grab	Station Location	Type Size, & No. of Containers	MATRIX	VOC 8260	TPH 8100	DEX. PP13 METALS				Remarks
R12-1	10/11/96				ME-R12-1-GW-101	2 VOA 1 AMBER 1 PLASTIC	A	X	X	X				
R12-2					ME-R12-2-GW-102			X	X	X				
R12-3					ME-R12-3-GW-103			X	X	X				
R12-4					ME-R12-4-GW-104			X	X	X				
R12-5					ME-R12-5-GW-105			X	X	X				
R12-6					ME-R12-6-GW-106			X	X	X				
R12-7					ME-R12-7-GW-107			X	X	X				
R12-7					ME-R12-7D-GW-108 DUP			X						DUPLICATE

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

PRIORITY TURNAROUND TIME AUTHORIZATION

Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded **T.A.T. AUTHORIZATION NUMBER.**

AUTHORIZATION NO. _____ **T.A.T. authorized by:** _____

Relinquished by (Signature)	Date Time	Received by (Signature)
[signature]	10/11/96 4:45pm	10/15/96 14:38 [signature]
Relinquished by (Signature)	Date Time	Received by (Signature)
Relinquished by (Signature)	Date Time	Received by (Signature)
Relinquished by (Signature) [signature] 10/15/96	Date Time 16:15	Received for Laboratory by: (Signature) [signature]

☐ Fax to (phone)

Results needed T-A.T.'s

PO# 4426.01

AMRO Project No. 1432.9

Seal Intact? Yes No N/A

Send Results to:
ANDY BRIDGES
RIZZO
235 W. CENTRAL ST
NATICK, MA 01760

Remarks

White: Lab copy Yellow: Accompanies report Pink: Client copy

AMRO

LABORATORY REPORT

EPA Method 8081
PCB's in Oil

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett
ME-PRODUCT
AMRO I.D.: 14762-01
Date sampled: 12/04/96 Date received: 12/04/96
Date prepared: 12/10/96 Date analyzed: 12/10/96

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
PCB-1221	ND	5.0
PCB-1232	ND	5.0
PCB-1242 (1016)	ND	5.0
PCB-1248	ND	5.0
PCB-1254	ND	5.0
PCB-1260	ND	5.0

ND = Not Detected at or above the reporting limit.

Analyzed By: RF

Approved by Laurel Hoddard FOR
Nancy Stewart

AMRO

LABORATORY REPORT

Petroleum Hydrocarbons by Gas Chromatography
EPA Method 8100 (Modified)

Client: Rizzo Associates Inc.
Client I.D.: 4426-01 MBTA Everett
ME-PRODUCT
AMRO I.D.: 14762-01
Date sampled: 12/04/96 Date received: 12/04/96
Date prepared: 12/10/96 Date analyzed: 12/11/96
Sample Qty/Type: 1/Product

Test Parameter	Results (mg/kg)	Reporting Limit(mg/kg)
Gasoline	ND	50,000
Kerosene	ND	50,000
Mineral Spirits	ND	50,000
Fuel Oil #2/Diesel	ND	50,000
Fuel Oil #4	ND	50,000
Fuel Oil #6	ND	100,000
Motor Oil/Hydraulic Oil	740,000	50,000

Gasoline results are provided for screening purposes only. The recommended procedure for gasoline analysis is a modified EPA 8015 or 8240 (purge and trap).

Comments: Carbon Range: C17 to C39.

ND = Not Detected at or above the reporting limit.

Analyzed By: JK Approved by Laurel Stoddard FOR Nancy Stewart

CHAIN OF CUSTODY RECORD

Rizzo Associates, Inc.
235 West Central Street
Natick, MA 01760
(508) 651-3401
(508) 651-1189 (FAX)

Rizzo Project Number: 4426-01
Rizzo Project Name: MBTA - Everett
Samplers (signatures): [signatures]

Lab: AMRO
Lab ID #:
Send report to: Andy Bydges
Turnaround Time: 7-Day

Rizzo Sample Number	Sample Depth	Sample Location	Sample Collected Date	Sample Collected Time	Container #	Container Type	Container Preservative	Sample Matrix	Requested Analyses
ME-Product	Surface	Basement	12/4/96	10:30	2	VOA	none	Oil Product	TPH-8100 Fingerprint, PCBs - 8080

AMRO 1762

PLEASE FINGERPRINT PRODUCT ONLY

Relinquished by:	Received by:	Date:	Time:
[signature]			
Andy Bydges - Rizzo Associates	Bob Hawkes	12-4-96	1:20
Bob Hawkes Co	[illegible]	12/4/96	545

Method of Shipment: AMRO pickup @ Rizzo

WHITE - ANALYTICAL LABORATORY • YELLOW - QC OFFICER • PINK - CHAIN-OF-CUSTODY NOTEBOOK • GOLD - PROJECT FILE

zo Associates, Inc.

nvironmental Scientists

SCANNED

ease Abatement Measure
Completion Statement

Everett Maintenance Facility

chusetts

sportation Authority

Inc.

RIZZO ASSOCIATES, INC.
ENGINEERS AND ENVIRONMENTAL SCIENTISTS
AN EMPLOYEE-OWNED COMPANY

February 6, 1999

Mr. Andrew D. Brennan
Director of Environmental Affairs
Massachusetts Bay Transportation Authority
Ten Park Plaza
Boston, MA 02116-3974

Re: Release Abatement Measure Completion Statement
MBTA Everett Maintenance Facility
80 Broadway
Everett, Massachusetts
RTN 3-0312

Dear Mr. Brennan:

In accordance with the requirements of 310 CMR 40.0446, Rizzo Associates, Inc. is submitting this Release Abatement Measure (RAM) Completion Statement to document the completion of the RAM implemented as part of Contract U91CN01, the MBTA Underground Storage Tank Project.

The activities described in the RAM Plan were part of the construction program designed to remove and retrofit the underground storage tanks (USTs) at this location and are not necessarily directly related to Massachusetts Contingency Plan (MCP) activities relative to the referenced tracking number. The purpose of the RAM Plan was to provide materials handling procedures in the event reportable conditions were encountered at the referenced site during the construction activities. This report describes the RAM activities conducted at the Site and documents management of remediation waste generated during the RAM. A copy of the RAM Plan is included with this report.

It should be noted that a Response Action Outcome (RAO) Statement was filed for Release Tracking Number (RTN) 3-0312 in December 1998. New 120-day reportable conditions, different from those that precipitated the issuance of RTN 3-0312, were identified during the current work. Therefore, a Release Notification Form (RNF) will be filed for the new reportable condition and appropriate response actions will be carried out under a new RTN(s).

1.0 Introduction

Under contract to Massachusetts Bay Transportation Authority (MBTA), Rizzo Associates, Inc. has prepared this Release Abatement Measure (RAM) Completion Statement for filing under the Massachusetts Contingency Plan (MCP), for the disposal site identified by the Massachusetts Department of Environmental Protection (DEP) as Release Tracking Number (RTN) 3-0321. This document briefly summarizes the RAM activities and the closure documents required for this Completion Statement. It should be noted that a Response Action Outcome (RAO) Statement was filed for the referenced RTN in December 1998. New 120-day reportable conditions, different from those that precipitated the issuance of RTN 3-0312, were identified during the current work. Therefore, a Release Notification Form (RNF) will be filed for the new reportable condition and appropriate response actions will be carried out under a new RTN(s).

2.0 Summary of the RAM

As part of a system-wide underground storage tank upgrade/removal project, the MBTA retained a contractor to remove the following underground storage tanks (USTs)

EVR01, a 500-gallon diesel fuel UST
EVR04, a 2,000-gallon transmission oil UST
EVR05, a 2,000-gallon motor oil UST
EVR06, a 2,000-gallon antifreeze UST
EVR07, a 1,000-gallon waste oil UST
EVR08, a 500-gallon diesel fuel UST
EVR09, a 1,000-gallon waste oil UST
EVR10, a UST of unknown size and contents
EVR11, a UST of unknown size and contents
EVR12, a UST of unknown size and contents

The contractor was also retained to retrofit two 20,000-gallon heating oil USTs identified as EVR02 and EVR03.

The excavation was done solely for the purpose of removing the referenced UST systems, and was not intended to address specific MCP issues.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-106

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Maintenance Facility

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 0214[illegible]

[X] Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.

Related Release Tracking Numbers That This RAM or URAM Addresses: 3-17554

B. THIS FORM IS BEING USED TO: (check all that apply)

- [ ] Submit a RAM Plan (complete Sections A, B, C, D, E, F, . . K, L and M).
  - [ ] Check here if this RAM Plan is an update or modification of a previously approved written RAM Plan. Date Submitted:
- [ ] Submit a RAM Status Report (complete Sections A, B, C E, J, K, L and M).
- [X] Submit a RAM Completion Statement (complete Sections A, B, C, D, E, G, J, K, L and M).
- [ ] Confirm or Provide URAM Notification (complete Sections A, B, H, K, L and M).
- [ ] Submit a URAM Status Report (complete Sections A, B, C, E, J, K, L and M).
- [ ] Submit a URAM Completion Statement (complete Sections A, B, C, D, E, I, J, K, L and M).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. SITE CONDITIONS:

- [X] Check here if the source of the Release or Threat of Release is known.

If yes, check all sources that apply: [X] UST [X] Pipe/Hose/Line [ ] AST [ ] Drums [ ] Transformer [ ] Boat [ ] Tanker Truck [ ] Vehicle [X] Other Specify: Potential Release from UST

Identify Media and Receptors Affected: (check all that apply) [ ] Air [ ] Groundwater [ ] Surface Water [ ] Sediments [ ] Soil [ ] Wetlands [ ] Storm Drain [ ] Paved Surface [ ] Private Well [ ] Public Water Supply [ ] Zone 2 [ ] Residence [ ] School [ ] Unknown [ ] Other Specify:

Identify Release and/or Threat of Release Conditions at Site: (check all that apply)

[X] 2 and 72 Hour Reporting Condition(s) [ ] 20 Day Reporting Condition(s) [ ] Other Condition(s)

Describe: 2 / 72 hour reporting conditions identified at the site. Conditions being addressed under an on going IRA.

RAMs may be conducted concurrently with an IRA only with written DEP approval
URAMs may not be conducted if any 2 or 72 Hour conditions exist at the site.

Identify Oils and Hazardous Materials Released: (check all that apply) [ ] Oils [ ] Chlorinated Solvents [ ] Heavy Metals [X] Others Specify: Potential petroleum and/or antifreeze release

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

- [ ] Assessment and/or Monitoring Only
- [X] Excavation of Contaminated Soils
  - [X] Re-use, Recycling or Treatment
    - ○ On Site (X) Off Site Est. Vol.: cubic yards
    - Describe:
  - [ ] Store ○ On Site ○ Off Site Est. Vol.: cubic yards
- [ ] Deployment of Absorbant or Containment Materials
- [ ] Temporary Covers or Caps
- [ ] Bioremediation
- [ ] Soil Vapor Extraction
- [ ] Structure Venting System
- [ ] Product or NAPL Recovery

SECTION D IS CONTINUED ON THE NEXT PAGE.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Northeast Regional Office, 205A Lowell Street, Wilmington, MA 01887

ARGEO PAUL CELLUCCI
Governor

JANE SWIFT
Lieutenant Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

MA BAY TRANSPORTATION AUTHORIT
21 ARLINGTON AVE
CHARLESTOWN, MA 02129-0000

Attn: ANDREW BRENNAN

February 24, 2000

RTN: 3-0018140
EVERETT
80 BROADWAY

RE: 310 CMR 40.0000, Notice of Due Date for Tier Classification Submittal.

Dear ANDREW BRENNAN,

On 03/26/1999 the Department of Environmental Protection (DEP) was notified of a release or threat of release of Hazardous Material at 80 BROADWAY, EVERETT. This release constitutes a 120 DY release condition pursuant to 310 CMR 40.0000, the Massachusetts Contingency Plan (MCP), and Chapter 21E of the Massachusetts General Laws.

The purpose of this letter is to remind you that the one year period, following the date of notification, for you to submit either a Response Action Outcome (RAO) Statement, a Downgradient Property Status Submittal or a Tier Classification Submittal is about to expire. This letter describes the significance of this deadline so that you can take appropriate action to minimize your cleanup costs, maintain compliance with the MCP, and avoid possible DEP enforcement action for failing to submit an RAO Statement, a Downgradient Property Status Submittal or a Tier Classification Submittal to DEP.

PLEASE BE ADVISED that, as of the date of this letter, DEP has not received either a RAO Statement, a Downgradient Property Status Submittal or a Tier Classification Submittal for the above listed site. The one year period for submitting one of these documents will expire on 03/26/2000.

The MCP requires, among other provisions, that a location affected by a release (i. e., the site) meet one of the following milestones within one year of notification:

- Conditions at the site meet the requ rements of a Response Action Outc ome, and an RAO Statement and supporting documentation are submitted to the appropriate regio al office. If you submit an RAO Statement more than 120 day s after the date of notification and prior to Tier Classification, you must also pay DEP an RAO Co npliance Fee of $750.00; or

- A Downgradient Property Status i: established for the site, and a D wngradient Property Status Transmittal Form and supporting c ocumentation are submitted to the appropriate regional office. You must also pay DEP a Downgra ient Property Status Compliance F e of $1000.00; or

- The site is Tier Classified as either a Tier I or Tier II site, and a Tier Cl ssification Transmittal Form and supporting documentation are s bmitted to the appropriate regiona office. For Tier I sites, you must also include a Tier I Initial P rmit Application and pay a Permi Application Fee of $3,550; Tier II sites do not require a Perm it and do not pay a Permit Appli ation Fee. If a site is Tier Classified within one year of notifi ation, the DEP will not assess an Annual Compliance Fee for the first year. After Tier Classificat ion, Comprehensive Response Acti ns must then be undertaken to assess and clean up that site.

Please note that if you fail to submit ei her an RAO Statement, a Dow igradient Property Status Submittal or a Tier Classification Submi tal to DEP by 03/26/2000, the ab ve referenced site will be categorically classified as a Tier IB Disposal Site and, if not otherwise exe pt, you will be assessed a Tier IB Annual Compliance Fee for the fi st year, for response actions whi h you carried out.

Licensed Site Professional (LSP):

In order to clean up and/or address a release or threat of release, the services of a Licensed Site Professional (LSP) are required. LSPs are professionals icensed by the Commonwealth of Massachusetts to issue Waste Site Cleanup Activity Opinions in connec tion with response actions at sit s. The MCP requires the preparation of one or more Waste Site Clea up Activity Opinions for every rel ase reported to DEP. For a list of LSP names please contact the Board of Registration at (617) 556-1145.

You and your Licensed Site Professional (SP) may obtain copies of all DE forms and applications by contacting your regional service center at (978) 661-7677 or 7678. You may direct other questions concerning this letter to Lauren Bell at (978) 661-7704.

Very truly yours,

Laurel A. Mackay

Laurel Mackay, Deputy Regic al Director
Northeast Regional Office
Bureau of Waste Site Cleanup

lyrlet 03/10/98

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-104

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0160 (Subpart B), 40.0560 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 0312

A. SITE OR DOWNGRADIENT PROPERTY LOCATION:

Site Name: (optional) MBTA Everett Maintenance Facility

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

[X] Check here if this Site location is Tier Classified. If a Tier I Permit has been issued, state the Permit Number:

Related Release Tracking Numbers that this Form Addresses:

If submitting an RAO Statement, you must document the location of the Site or the location and boundaries of the Disposal Site subject to this Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site. If submitting a Downgradient Property Status Submittal, you must provide a site plan of the property subject to the submittal and, to the extent defined, the Disposal Site.

B. THIS FORM IS BEING USED TO: (check all that apply)

[X] Submit a Response Action Outcome (RAO) Statement (complete Sections A, B, C, D, E, F, H, I, J and L).

[ ] Check here if this is a revised RAO Statement. Date of Prior Submittal:

[ ] Check here if any Response Actions remain to be taken to address conditions associated with any of the Releases whose Release Tracking Numbers are listed above. This RAO Statement will record only an RAO-Partial Statement for those Release Tracking Numbers.

Specify Affected Release Tracking Numbers:

[ ] Submit an optional Phase I Completion Statement supporting an RAO Statement or Downgradient Property Status Submittal (complete Sections A, B, H, I, J, and L).

[ ] Submit a Downgradient Property Status Submittal (complete Sections A, B, G, H, I, J and K).

[ ] Check here if this is a revised Downgradient Property Status Submittal. Date of Prior Submittal:

[ ] Submit a Termination of a Downgradient Property Status Submittal (complete Sections A, B, I, J and L).

[ ] Submit a Periodic Review Opinion evaluating the status of a Temporary Solution (complete Sections A, B, H, I, J and L).

Specify one: [ ] For a Class C RAO [ ] For a Waiver Completion Statement indicating a Temporary Solution

Provide Submittal Date of RAO Statement or Waiver Completion Statement:

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

RECEIVED
DEC 31 1998
DEP/NORTHEAST REGION
WOBURN, MASS.

C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

[X] Assessment and/or Monitoring Only

[ ] Removal of Contaminated Soils

- [ ] Re-use, Recycling or Treatment
  - ○ On Site ○ Off Site Est. Vol.: _____ cubic yards
  - Describe:
- [ ] Landfill ○ Cover ○ Disposal Est. Vol.: _____ cubic yards

[ ] Removal of Drums, Tanks or Containers

Describe:

[ ] Removal of Other Contaminated Media

Specify Type and Volume:

[ ] Other Response Actions

Describe:

[ ] Deployment of Absorbent or Containment Materials

[ ] Temporary Covers or Caps

[ ] Bioremediation

[ ] Soil Vapor Extraction

[ ] Structure Venting System

[ ] Product or NAPL Recovery

[ ] Groundwater Treatment Systems

[ ] Air Sparging

[ ] Temporary Water Supplies

[ ] Temporary Evacuation or Relocation of Residents

[ ] Fencing and Sign Posting

SECTION C IS CONTINUED ON THE NEXT PAGE.

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 0312

C. DESCRIPTION OF RESPONSE ACTIONS: (continued)

☐ Check here if any Response Action(s) that serve as the basis for this RAO Statement involve the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies: _____

D. TRANSPORT OF REMEDIATION WASTE: (If Remediation Waste was sent to an off-site facility answer the following questions)

Name of Facility: _____

Town and State: _____

Quantity of Remediation Waste Transported to Date: _____

E. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the Site or Disposal Site. Select ONLY one Class:

☐ **Class A-1 RAO:** Specify one of the following:

◯ Contamination has been reduced to background levels. ◯ A Threat of Release has been eliminated.

☐ **Class A-2 RAO:** You MUST provide justification that reducing contamination to background levels is infeasible.

☐ **Class A-3 RAO:** You MUST provide both an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to background levels is infeasible.

If applicable, provide the earlier of the AUL expiration date or date the design life of the remedy will end: _____

☒ **Class B-1 RAO:** Specify one of the following:

(X) Contamination is consistent with background levels ◯ Contamination is NOT consistent with background levels.

☐ **Class B-2 RAO:** You MUST provide an implemented AUL.

If applicable, provide the AUL expiration date: _____

☐ **Class C RAO:** ☐ Check here if you will conduct post-RAO Operation, Maintenance and Monitoring at the Site.

Specify One: ◯ Passive Operation and Maintenance ◯ Monitoring Only

◯ Active Operation and Maintenance (defined at 310 CMR 40.0006)

F. RESPONSE ACTION OUTCOME INFORMATION:

☒ If an RAO Compliance Fee is required, check here to certify that the fee has been submitted. You MUST attach a photocopy of the payment.

☐ Check here if submitting one or more AULs. You must attach an AUL Transmittal Form (BWSC-113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for all Class A-3 RAOs and Class B-2 RAOs)

◯ Notice of Activity and Use Limitation ◯ Grant of Environmental Restriction Number of AULs attached: _____

Specify the Risk Characterization Method(s) used to achieve the RAO described above and all Soil and Groundwater Categories applicable to the Site.

More than one Soil Category and more than one Groundwater Category may apply at a Site.
Be sure to check off all APPLICABLE categories, even if more stringent soil and groundwater standards were met.

Risk Characterization Method(s) Used:	☒ Method 1	☐ Method 2	☐ Method 3
Soil Category(ies) Applicable:	☐ S-1	☐ S-2	☐ S-3
Groundwater Category(ies) Applicable:	☐ GW-1	☐ GW-2	☐ GW-3

DEC 3 1 1996 DEP

> **When submitting any Class A-1 RAO or a Class B-1 RAO where contamination is consistent with background levels, do NOT specify a Risk Characterization Method.**

> **When submitting any Class A-2 RAO or a Class B-1 RAO where contamination is NOT consistent with background levels, you cannot use an AUL to maintain a level of no significant risk. Therefore, you must meet S-1 Soil Standards, if using Risk Characterization Method 1.**

Massachusetts Department of Environmental Protection **BWSC-104**
Bureau of Waste Site Cleanup

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 0312

G. DOWNGRADIENT PROPERTY STATUS SUBMITTAL:

☐ If a Downgradient Property Status Submittal Compliance Fee is required, check here to certify that the fee has been submitted. You MUST attach a photocopy of the payment.

☐ Check here if a Release(s) of Oil or Hazardous Material(s), other than that which is the subject of this submittal, has occurred at this property.

Release Tracking Number(s): _____

◯ Check here if the Releases identified above require further Response Actions pursuant to 310 CMR 40.0000.

Required documentation for a Downgradient Property Status Submittal includes, but is not limited to, copies of notices provided to owners and operators of both upgradient and downgradient abutting properties and of any known or suspected source properties.

H. LSP OPINION:

I 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *If Section B indicates that a Downgradient Property Status Submittal is being provided*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in 310 CMR 40.0183(2)(b), and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B indicates that either an RAO Statement, Phase I Completion Statement and/or Periodic Review Opinion is being provided*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

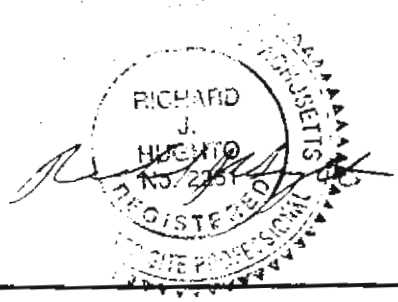
LSP Name: Richard J. Hughto LSP #: 2261 Stamp:

Telephone: (508) 903-2000 Ext.: 2346

FAX: (optional) (508) 903-2001

Signature: _____

Date: 23 DECEMBER 1998



I. PERSON MAKING SUBMITTAL:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Director of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617) 222-3126 Ext.: _____ FAX: (optional) (617) 222-1557

J. RELATIONSHIP TO SITE OF PERSON MAKING SUBMITTAL: (check one)

☒ RP or PRP Specify: ⊗ Owner ◯ Operator ◯ Generator ◯ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting This Form Specify Relationship: _____

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 0312

K. CERTIFICATION OF PERSON SUBMITTING DOWNGRADIENT PROPERTY STATUS SUBMITTAL:

I, _____, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form; (ii) that, based on my inquiry of the/those individual(s) immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge, information and belief, true, accurate and complete; (iii) that, to the best of my knowledge, information and belief, I/the person(s) or entity(ies) on whose behalf this submittal is made satisfy(ies) the criteria in 310 CMR 40.0183(2); (iv) that I/the person(s) or entity(ies) on whose behalf this submittal is made have provided notice in accordance with 310 CMR 40.0183(5); and (v) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: _____
(signature)

For: _____ Date: _____
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

If you are completing only a Downgradient Property Status Submittal, you do not need to complete this section of the form.

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andrew D. Brennan Title: Director of Environmental Affairs
(signature)

For: Andrew D. Brennan Date: December 22, 1998
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

DEP DEC 31 1998

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D-2.

Release Tracking Number: 3 - 18140

A. SITE LOCATION:

Site Name: (optional) Everett Shops

Street: [redacted] Location Aid: MBTA

City/Town: [redacted] ZIP Code: 02149-0000

ORIGINAL

Related Release Tracking Numbers that this Form Addresses: 3-0312 & [redacted]

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☑ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☑ Submit a final **Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

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MAY 30 2003
DEP
NORTHEAST REGIONAL OFFICE

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☑ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome.
(This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

RIZZO ASSOCIATES, INC.

AN EMPLOYEE-OWNED COMPANY
235 West Central Street, Natick, MA 01760-3755 (508) 903-2000 FAX (508) 903 2001

November 23, 1998

Massachusetts Department of Environmental Protection
Northeast Regional Office
205A Lowell Street
Wilmington, MA 01887

Re: Phase II Comprehensive Site Assessment Scope of Work
[redacted] Broadway
[redacted], Massachusetts
DEP RTN 3-0312

Dear Sir or Madam:

Pursuant to 310 CMR 40.0832, Rizzo Associates, Inc. is pleased to submit this Scope of Work to conduct a Phase II Comprehensive Site Assessment (CSA), as required by the Massachusetts Contingency Plan (MCP) at the above-referenced property (the Site) owned by the Massachusetts Bay Transportation Authority (MBTA). The original transmittal form BWSC-108 is included with this document and a copy has been attached. The purpose of the Phase II CSA, as set forth by the MCP is:

- to collect sufficient information to support conclusions regarding the source, nature, extent, and potential impacts of the identified release;
- to evaluate the risk of harm posed by the Disposal Site to health, safety, public welfare, and the environment; and
- to evaluate the need to conduct remedial actions at the Disposal Site.

In 1981, a sample of an unknown substance collected from beneath the Bus Overhaul Shop was submitted to Briggs Associates for testing as part of the expansion of the Bus Overhaul Shop. The results of the testing indicated that the material was nonhazardous. In 1982, the Department of Environmental Quality Engineering (DEQE, now the DEP) issued a letter to the MBTA demanding that discharges of solvents to the floor drains at the facility stop immediately. No additional information regarding this issue was available from the DEP or MBTA.

Certified Engineering and Testing Company, Inc. performed a subsurface investigation at the Site in 1987 including the advancement of approximately 40 shallow borings at the Site. One soil sample from each boring was submitted for laboratory analysis. Results of the analysis indicated the presence of high concentrations of metals and semi-volatile compounds in many of the

samples submitted. Some volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) were also identified in the soil samples.

During an investigation of the Site performed in October 1996, soil and groundwater samples were collected to investigate subsurface conditions. Laboratory analytical results of soil and groundwater samples collected from the vicinity of monitoring well RIZ-3 indicated the presence of metals, primarily lead and arsenic, in excess of the RCS-1 reportable concentrations (RCs). In addition, puddles of hydraulic oil and oil saturated gravel were observed in the basement of the Main Repair Shop. Trichloroethylene was also identified in the soil above RCs. Metals and some volatile organic compounds (VOCs) were identified below reportable concentrations in the groundwater samples collected at the Site. We concluded that further investigation of the nature and extent of the contamination at the Site was warranted. Based on the data obtained during the investigations to date, a Tier II Classification was submitted to the DEP on December 31, 1996.

The next MCP deadline is December 31, 1998. At that time, the Phase II and Phase III (selection of remedial alternative) reports must be submitted to the Department of Environmental Protection if a Response Action Outcome (RAO) has not been achieved.

Phase II CSA Scope of Work

Rizzo Associates will conduct the following tasks to achieve the objectives of the Phase II CSA:

- **Soil Boring Installation.** Prior to performing field work, the site-specific Health and Safety Plan prepared by Rizzo Associates during the previous investigation of the Site will be updated to address Rizzo Associates' staff health and safety issues at the Site.

  Rizzo Associates will install up to 10 shallow borings in the vicinity of RIZ-3 to further assess the nature and extent of metals and VOC contamination in that area. The soil borings will be advanced using a Geoprobe or other similar direct-push sampling device. Soil samples will be collected continuously to the water table during the advancement of the soil borings and will be screened for the presence of VOCs using a photoionization detector (PID). Based on PID screening results and other evidence of contamination, one soil sample from each boring will be submitted for laboratory analysis for VOCs by EPA Method 8260, extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) by DEP Method 1.0, and 13 priority pollutant metals (PP-13). Up to two of the borings will be completed as ¾" diameter microwells.

  In addition to the Geoprobe borings, up to three additional soil borings/monitoring wells will be installed at the Site. The three proposed locations of the borings/wells are upgradient from

RIZ-3, downgradient from RIZ-3, near the southwestern corner of the Main Repair Shop, and downgradient from RIZ-4. Monitoring wells will be advanced approximately 5 to 10 feet into the observed groundwater table at each location. Split spoon samples will be collected continuously and will be examined for evidence of contamination using the PID. One soil sample from each boring will be submitted for VOC, EPH, VPH, and metals analyses.

- **Groundwater Sampling.** Rizzo Associates will purge the existing and newly installed monitoring wells to constant pH and specific conductance or until at least three well volumes have been removed. Following purging, we will collect groundwater samples from the monitoring wells and submit samples to a certified laboratory for analyses. Up to eleven groundwater samples will be collected and submitted for laboratory analyses for EPH, VPH, and dissolved PP-13 metals. In addition, EPA Method 8260 will also analyze ten of the groundwater samples for VOCs.

- **Hydraulic Oil Release Investigation.** Rizzo Associates will investigate the horizontal and vertical extent of the hydraulic oil contamination identified in the basement of the Main Repair Shop. Up to six shallow soil samples will be collected in a grid pattern in the basement using a hand auger or other suitable equipment. Up to six soil samples collected in this area will be analyzed for EPH and total metals.

- **Hydrogeologic Assessment.** The newly installed soil borings and groundwater monitoring wells will be surveyed. Depths to product and groundwater will be measured in the monitoring wells to prepare a potentiometric surface map and to assess the pattern of groundwater flow at the Site.

- **Risk Characterization.** Rizzo Associates will prepare a Public Health and Environmental Risk Characterization in accordance with the MCP, 310 CMR 40.0900. The purpose for a risk characterization is to provide the basis for a decision on whether a condition of No Significant Risk exists at the Site and to support the conclusions of an RAO Statement, if applicable at this time. Commercial and industrial uses of the Disposal Site will be evaluated as current and foreseeable uses.

- **Summary Report.** The results of the field investigation and risk characterization will be used to determine whether an RAO can be achieved for the Site. Based on the outcome of the risk characterization, a summary report will be prepared as either an RAO Statement or a Phase II Comprehensive Site Assessment. A Phase III Remedial Action Plan will also be prepared for the Site, if applicable, as required by the MCP.

If an RAO for the Disposal Site is dependent on the implementation of an AUL, Rizzo Associates will prepare the following documents required by the MCP to implement the AUL: a surveyed plan of the Site, the Notice of AUL (MCP Form 1075), and the AUL Opinion.

LSP Name and License Number

The LSP engaged by the MBTA to oversee Response Actions at the Site is:

Name of Licensed Site Professional: Richard J. Hughto

LSP Registration Number: 2261

Schedule for Implementation

The Scope of Work identified above will be implemented between October and December, 1998 in time for preparation of either an RAO or a Phase II CSA by December 31, 1998.

Please call if you have any questions.

Very truly yours,

Richard J. Hughto, Ph.D., P.E., L.S.P.
Project Director/Executive Vice President

cc: Andrew Brennan, Manager of Environmental Affairs
Debra M. Darby, Site Remediation Specialist

Attachments: Copy of BWSC Transmittal Form 108
Statement of Limitations and Conditions

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Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-106

COPY

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0600 (Subpart H)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Maintenance Facility

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Related Release Tracking Numbers that this Form Addresses:

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☒ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ Submit a Phase I Completion Statement, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☒ Submit a Phase II Scope of Work, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final Phase II Comprehensive Site Report and Completion Statement, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a Phase III Remedial Action Plan and Completion Statement, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a Phase IV Remedy Implementation Plan, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an As-Built Construction Report, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a Phase IV Final Inspection Report and Completion Statement, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic Phase V Inspection & Monitoring Report, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final Phase V Inspection & Monitoring Report and Completion Statement, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> ***If Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted***, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> ***If Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted***, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> ***If Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted***, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

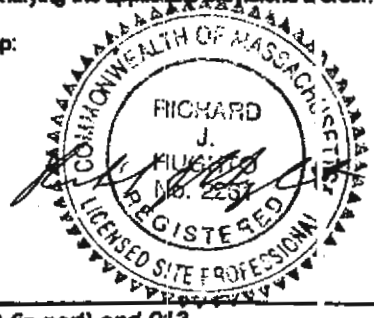
LSP Name: Richard J. Hughto LSP #: 2261 Stamp:

Telephone: 508-903-2000 Ext.: 2346

FAX: (optional) 508-903-2001

Signature:

Date: 25 NOVEMBER 1998



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-108

COPY

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116

Telephone: 617-222-3126 Ext.: _____ FAX: (optional) 617-222-1557

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☒ RP or PRP Specify: ⊗ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andrew D. Brennan (signature) Title: Manager of Environmental Affairs

For: Massachusetts Bay Transportation Authority (print name of person or entity recorded in Section H) Date: 19 OCTOBER 1998

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Statement of Limitations and Conditions

Attachment to Opinion of Massachusetts Licensed Site Professional

Rizzo Associates, Inc.

Name of Licensed Site Professional:	Richard J. Hughto
LSP Registration Number:	2261
Date of Opinion:	November 25, 1998
Client to Whom Opinion was Rendered:	Massachusetts Bay Transportation Authority
Date of Agreement between Rizzo Associates and Client pursuant to which Opinion was Rendered:	Contract No. X2PS83 Task Order Authorization: 10/13/98
Response Tracking No./Site No.:	3-0312

This Statement of Limitations and Conditions is an integral part of, and is incorporated by reference into, the Opinion of Massachusetts Licensed Site Professional referenced above.

Limitations

1. Purpose of Opinion

A. This Opinion is being provided in compliance with the requirements set forth in the Massachusetts Contingency Plan ("MCP"), 310 CMR 40.0000 et seq. Specifically, the LSP has prepared this Opinion at the request of the Client identified above as part of a Phase II Comprehensive Site Assessment Scope of Work. This stated purpose has been a significant factor in determining the scope and level of services required to render this Opinion.

B. Should the purpose for which this Opinion is to be used change, this Opinion shall no longer be valid.

2. General

A. This Opinion was prepared for the sole and exclusive use of the Client, subject to the provisions of the MCP. No other party is entitled to rely in any way on the conclusions, observations, specifications, or data contained herein without the express written consent of Rizzo Associates, Inc. and the LSP who rendered this opinion. Any use of this Opinion by anyone other than Client, or any use of this Opinion by Client or others for any purpose other than the stated purpose set forth above, without the LSP's review and the written authorization of Rizzo Associates, Inc. and the LSP, shall be at the user's sole risk, and neither Rizzo Associates, Inc. nor the LSP shall have any liability or responsibility therefor.

B. This Opinion was prepared pursuant to an Agreement between Rizzo Associates, Inc. and the Client referenced above which defines the scope of work and sets out agreements regarding waivers of consequential damages, limitations on liability, and other important conditions and restrictions pursuant to which the Opinion is rendered. All uses of the Opinion are subject to and deemed acceptance of the conditions and restrictions contained in such Agreement. A copy of the Agreement or relevant excerpts from the Agreement will be made available upon requests to any authorized person seeking to use the Opinion.

3. Scope of Services

The observations and conclusions described in this Opinion are based solely on the Services provided pursuant to the Agreement with the Client and any approved additional services authorized by Client. Without limitation of any other applicable limitations or conditions, neither Rizzo Associates, Inc. nor the LSP shall be liable for the existence of any condition, the discovery of which would have required the performance of services not authorized under the Agreement. To the best of the knowledge and belief of Rizzo Associates, Inc. and the LSP who signed this Opinion, no inquiry of an attorney-at-law having being made, no laws, regulations, orders, permits or approvals are applicable to the response actions to which this opinion relates except, if and to the extent applicable, M.G.L. c. 21A, Sections 19-19J, 309 CMR, M.G.L. c. 21 E and 310 CMR 40.0000. Accordingly, this opinion is not intended to and does not address compliance with any other laws, regulation, orders, permits or approvals.

4. Changed Circumstances

The passage of time may result in changes in technology, economic conditions or regulatory standards, manifestations of latent conditions, or the occurrence of future events which would render this Opinion inaccurate or otherwise inapplicable. Neither Rizzo Associates, Inc. nor the LSP shall be liable or responsible for the consequences of any such changed circumstances or conditions on the accuracy of this Opinion. In addition, under no circumstances shall the Client nor any other person or entity rely on the information or conclusions contained in this Opinion after six months from its date of submission without the express written consent of Rizzo Associates, Inc. and the LSP. Reliance on the Opinion after such period of time shall be at the user's sole risk.

5. Should Rizzo Associates, Inc. or the LSP be required or requested to review or authorize others to use this Opinion after its date of submission, Rizzo Associates, Inc. shall be entitled to additional compensation at then existing rates or such other terms as may be agreed upon between Rizzo Associates, Inc. and the Client. Nothing herein contained shall be deemed to require Rizzo Associates, Inc. or the LSP to undertake any such review or authorize others to use this Opinion.

6. The conclusions stated in this Opinion are based upon:

   - Visual inspection of existing physical conditions;
   - Review and interpretation of site history and site usage information which was made available or obtained within the scope of work authorized by the Client;
   - Information provided by the Client;
   - Information and/or analyses for designated substances or parameters provided by an independent testing service or laboratory on a limited number of samples;
   - A limited number of subsurface explorations made on dates indicated in documentation supporting this Opinion;

   upon which the LSP has relied and presumed accurate, and upon which the LSP is entitled to reasonably rely. The LSP was not authorized and did not attempt to independently verify the accuracy or

completeness of information or materials received from the Client and/or from laboratories and other third parties during the performance of its services. Neither Rizzo Associates, Inc. nor the LSP shall be liable for any condition, information, or conclusion, the discovery of which required information not available to the LSP or for independent investigation of information provided to the LSP by the Client and/or independent third parties.

7. This Opinion is rendered for the limited purpose stated above, and is not and should not be deemed to be an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made by this opinion, and any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. Without limiting the generality of the foregoing, no warranty or guarantee is made that all contamination at a site or sources or contamination has been detected or identified, that any action or recommended action will achieve all of its objectives, or that this Opinion or any action as to which this Opinion relates will be upheld by any audit conducted by the DEP or any other party.

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Massachusetts Department of Environmental Protection **BWSC-104**
Bureau of Waste Site Cleanup

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

J.R.

Release Tracking Number: 3 - 18140

A. SITE OR DOWNGRADIENT PROPERTY LOCATION:

Site Name: (optional) Everett Shops

Street: [redacted] Location Aid: MBTA

City/Town: [redacted] ZIP Code: 02149-0000

☒ Check here if this Site location is Tier Classified.

If a Tier I Permit has been issued, state the Permit Number:

Related Release Tracking Numbers that this Form Addresses: 3-0312 & 3-17554

If submitting an RAO Statement, you must document the location of the Site or the location and boundaries of the Disposal Site subject to this Statement. If submitting an RAO Statement for a PORTION of a Disposal Site, you must document the location and boundaries for both the portion subject to this submittal and, to the extent defined, the entire Disposal Site. If submitting a Downgradient Property Status Submittal, you must provide a site plan of the property subject to the submittal and, to the extent defined, the Disposal Site.

B. THIS FORM IS BEING USED TO: (check all that apply)

☑ Submit a **Response Action Outcome (RAO) Statement** (complete Sections A, B, C, D, E, F, H, I, J and L).

☐ Check here if this is a revised RAO Statement. Date of Prior Submittal:

☐ Check here if any Response Actions remain to be taken to address conditions associated with any of the Releases whose Release Tracking Numbers are listed above. This RAO Statement will record only an RAO-Partial Statement for those Release Tracking Numbers.

Specify Affected Release Tracking Numbers:

☐ Submit an optional **Phase I Completion Statement** supporting an RAO Statement or Downgradient Property Status Submittal (complete Sections A, B, H, I, J, and L).

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☐ Submit a **Downgradient Property Status Submittal** (complete Sections A, B, G, H, I, J and K).

☐ Check here if this is a revised Downgradient Property Status Submittal. Date of Prior Submittal:

☐ Submit a **Termination of a Downgradient Property Status Submittal** (complete Sections A, B, I, J and L).

☐ Submit a **Periodic Review Opinion evaluating the status of a Temporary Solution** (complete Sections A, B, H, I, J and L).

Specify one: ☐ For a Class C RAO ☐ For a Waiver Completion Statement indicating a Temporary Solution

Provide Submittal Date of RAO Statement or Waiver Completion Statement:

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

☑ Assessment and/or Monitoring Only

☐ Removal of Contaminated Soils

☐ Re-use, Recycling or Treatment

○ On Site ○ Off Site Est. Vol.: cubic yards

Describe:

☐ Landfill ○ Cover ○ Disposal Est. Vol.: cubic yards

☑ Removal of Drums, Tanks or Containers

Describe: Two 500-gallon USTs

☐ Removal of Other Contaminated Media

Specify Type and Volume:

☐ Other Response Actions

Describe:

☐ Deployment of Absorbant or Contaminent Materials

☐ Temporary Covers or Caps

☐ Bioremediation

☐ Soil Vapor Extraction

☐ Structure Venting System

☐ Product or NAPL Recovery

☐ Groundwater Treatment Systems

☐ Air Sparging

☐ Temporary Water Supplies

☐ Temporary Evacuation or Relocation of Residents

☐ Fencing and Sign Posting

SECTION C IS CONTINUED ON THE NEXT PAGE.

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 18140

C. DESCRIPTION OF RESPONSE ACTIONS: (continued)

☐ Check here if any Response Action(s) that serve as the basis for this RAO Statement involve the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. TRANSPORT OF REMEDIATION WASTE: (if Remediation Waste was sent to an off-site facility answer the following questions)

Name of Facility: Jones Environmental Services N.E. Inc.

Town and State: Lowell, Massachusetts

Quantity of Remediation Waste Transported to Date: four 55-gallon drums

E. RESPONSE ACTION OUTCOME CLASS:

Specify the Class of Response Action Outcome that applies to the Site or Disposal Site. Select **ONLY** one Class:

☐ **Class A-1 RAO**: Specify one of the following:

○ Contamination has been reduced to background levels. ○ A Threat of Release has been eliminated.

☐ **Class A-2 RAO**: You **MUST** provide justification that reducing contamination to background levels is infeasible

☐ **Class A-3 RAO**: You **MUST** provide both an implemented Activity and Use Limitation (AUL) and justification that reducing contamination to background levels is infeasible.

If applicable, provide the earlier of the AUL expiration date or date the design life of the remedy will end:

☑ **Class B-1 RAO**: Specify one of the following:

○ Contamination is consistent with background levels ☑ Contamination is NOT consistent with background levels

☐ **Class B-2 RAO**: You **MUST** provide an implemented AUL.

If applicable, provide the AUL expiration date :

☐ **Class C RAO**: ☐ Check here if you will conduct post-RAO Operation, Maintenance and Monitoring at the Site

Specify One: ○ Passive Operation and Maintenance ○ Monitoring Only

○ Active Operation and Maintenance (defined at 310 CMR 40.0006)

F. RESPONSE ACTION OUTCOME INFORMATION:

☐ If an RAO Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.

☐ Check here if submitting one or more AULs. You must attach an AUL Transmittal Form (BWSC-113) and a copy of each implemented AUL related to this RAO Statement. Specify the type of AUL(s) below: (required for all Class A-3 RAOs and Class B-2 RAOs)

○ Notice of Activity and Use Limitation ○ Grant of Environmental Restriction Number of AULs attached:

Specify the Risk Characterization Method(s) used to achieve the RAO described above and all Soil and Groundwater Categories applicable to the Site.

More than one Soil Category and more than one Groundwater Category may apply at a Site.
Be sure to check off all APPLICABLE categories, even if more stringent soil and groundwater standards were met.

Risk Characterization Method(s) Used:	☑ Method 1	☐ Method 2	☐ Method 3
Soil Category(ies) Applicable:	☑ S-1	☐ S-2	☑ S-3
Groundwater Category(ies) Applicable:	☐ GW-1	☑ GW-2	☑ GW-3

> When submitting any Class A-1 RAO or a Class B-1 RAO where contamination is consistent with background levels, do NOT specify a Risk Characterization Method.

> When submitting any Class A-2 RAO or a Class B-1 RAO where contamination is NOT consistent with background levels, you cannot use an AUL to maintain a level of no significant risk. Therefore, you must meet S-1 Soil Standards if using Risk Characterization Method 1.

Massachusetts Department of Environmental Protection **BWSC-104**
Bureau of Waste Site Cleanup

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number: 3 - 18140

G. DOWNGRADIENT PROPERTY STATUS SUBMITTAL:

☐ If a Downgradient Property Status Submittal Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.

☐ Check here if a Release(s) of Oil or Hazardous Material(s), other than that which is the subject of this submittal, has occurred at this property.

Release Tracking Number(s): _____

◯ Check here if the Releases identified above require further Response Actions pursuant to 310 CMR 40.0000.

Required documentation for a Downgradient Property Status Submittal includes, but is not limited to, copies of notices provided to owners and operators of both upgradient and downgradient abutting properties and of any known or suspected source properties.

H. LSP OPINION:

I 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *if Section B indicates that a **Downgradient Property Status Submittal** is being provided,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in 310 CMR 40.0183(2)(b), and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that either an **RAO Statement, Phase I Completion Statement and/or Periodic Review Opinion** is being provided,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Timothy O'Brien LSP #: _____ Stamp:

Telephone: 413-525-1198 Ext.: _____

FAX: (optional) _____

Signature: T. O'Brien

Date: 5/02/03

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY J. O'BRIEN
No. 8261
REGISTERED LICENSED SITE PROFESSIONAL

I. PERSON MAKING SUBMITTAL:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Dir. of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-0000

Telephone: 617-222-3126 Ext.: _____ FAX: (optional) 617-222-1557

J. RELATIONSHIP TO SITE OF PERSON MAKING SUBMITTAL: (check one)

☑ RP or PRP Specify: ◉ Owner ◯ Operator ◯ Generator ◯ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting This Form Specify Relationship: _____

RESPONSE ACTION OUTCOME (RAO) STATEMENT & DOWNGRADIENT PROPERTY STATUS TRANSMITTAL FORM

Pursuant to 310 CMR 40.0180 (Subpart B), 40.0580 (Subpart E) & 40.1056 (Subpart J)

Release Tracking Number 3 - 18140

K. CERTIFICATION OF PERSON SUBMITTING DOWNGRADIENT PROPERTY STATUS SUBMITTAL:

I, _____, attest under the pains and penalties of perjury i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form; (ii) that, based on my inquiry of the/those individual(s) immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge, information and belief, true, accurate and complete; (iii) that, to the best of my knowledge, information and belief, I/the person(s) or entity(ies) on whose behalf this submittal is made satisfy(ies) the criteria in 310 CMR 40.0183(2); (iv) that I/the person(s) or entity(ies) on whose behalf this submittal is made have provided notice in accordance with 310 CMR 40.0183(5); and (v) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is/are aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: _____
(signature)

For _____ Date: _____
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street: _____

City/Town: _____ State _____ Zip Code: _____

Telephone: _____ Ext. _____ FAX: (optional) _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

If you are completing only a Downgradient Property Status Submittal, you do not need to complete this section of the form.

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andrew D Brennan Title: Dir. of Environmental Affairs
(signature)

For Mass Bay Transportation Authority Date: 5/15/03
(print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street: _____

City/Town: _____ State _____ Zip Code: _____

Telephone: _____ Ext. _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

WILLIAM F. WELD
Governor

ARGEO PAUL CELLUCCI
Lt. Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner

MBTA
Attn: ANDREW BRENNAN, MANAGER ENV AFF
10 PARK PLAZA
BOSTON, MA 02116-

January 8, 1997

RE: Publication of Tier I Disposal Site for Failure to Take Action
Release Tracking Number: **3-0000312**
Site Information: **MBTA**
80 BROADWAY, EVERETT, MA

Dear Sir or Madam:

The purpose of this letter is to notify you that the Department of Environmental Protection (DEP) is preparing to publish a list of Tier I disposal sites, including "failure to take action" sites. The Tier I site list will include the above referenced property (Property) because either no response actions have been taken at the Property or response actions have not been conducted in compliance with applicable deadlines for conducting such actions. **If appropriate actions are taken by March 14, 1997, the Property will not be included as a "failure to take action" site. If you are a potentially responsible party and take appropriate action you may also avoid other DEP enforcement.**

Information available to the Department indicates that a release of oil and/or hazardous materials may have occurred at the Property. Chapter 21E of the Massachusetts General Laws and the Massachusetts Contingency Plan (the "MCP") govern the work required for assessment and cleanup of releases of oil and/or hazardous materials. Our files indicate that required assessment and cleanup activities at the Property have either not been started or have not been conducted in compliance with response action deadlines. The identification of releases and the initiation of response actions is critical to protecting public health and the environment. Therefore, in addition to publishing a list of Tier I sites, DEP will initiate enforcement against potentially responsible parties for those sites in noncompliance with the provisions of the law.

The Site List
In order to avoid publication of this Property on the Tier I, "Failure to Take Action" list, DEP must receive one of the following documents by March 14, 1997:

A) A Tier Classification Submittal prepared by a Licensed Site Professional (LSP) in accordance with the MCP at 310 CMR 40.0500, and a Tier I Permit application if applicable;
B) A Response Action Outcome (RAO) Statement prepared by an LSP in accordance with 310 CMR 40.1000; or
C) A Downgradient Property Status (DPS) Submittal prepared by an LSP in accordance with 310 CMR 40.0180.

If the above referenced Property was reported to DEP before 10/1/93, the following

documents may be submitted instead of A, B or C above:

1. there has been a reportable release at this site and no response actions are necessary;

2. a reportable release has occurred but previous response actions sufficiently cleaned up the release to achieve a Class A or Class B Response Action Outcome (RAO);

3. the site is adequately regulated by another program in accordance with the MCP at 310 CMR 40.0110; or

E) A statement and supporting documentation in accordance with 310 CMR 40.0610(4) that a report was filed with the Department prior to October 1, 1993, which explicitly concluded that no further remedial actions were necessary.

Enforcement

Regardless of the status of a property on the Tier I site list, responsible parties are required to take actions under MGL Chapter 21E and the MCP. Potentially responsible parties include current owners for any site, as well as past owners where hazardous materials have been released. Please consider carefully the enclosed attachment for information about potentially responsible parties. If you are a potentially responsible party you may be subject to certain enforcement actions for failure to take appropriate action as described above. **The potential for enforcement actions may be avoided if you submit a written statement or notification certified under pains and penalties of perjury, to DEP by February 17, 1997 as follows:**

1) A **written** statement that you do not have nor did you ever have a connection to the Property that makes you a potentially responsible party. Include any information you have regarding those currently connected with the Property;

2) A **written** notification pursuant to 310 CMR 40.0172 asserting and demonstrating that you are financially, legally or technically unable to perform the above response actions, or

3) A **written** statement describing all response actions to date and a schedule for resuming response actions at the Property.

All submittals must be made to the Bureau of Waste Site Cleanup in the DEP Regional Office where the site is located (see attached map). Certain submittals, as indicated above, require you to employ a Licensed Site Professional (LSP) to provide the required information. LSP information and a list of LSPs can be obtained from the LSP Board of Registration at (617) 556-1091. Please note that if you do begin response actions, while you may avoid certain enforcement actions, you will be subject to Annual Compliance Assurance Fees for each year in which response actions have been or are conducted at this Property.

A copy of the MCP may be obtained from the Statehouse Bookstore in Boston by calling (617)727-2834 or in Springfield by calling (413)784-1376. **If you have other questions about the requirements for this Property described above, please call the MCP Help Line at (617) 338-2255 from the 617 area code and outside Massachusetts or (800) 462-0444 from the 413 and 508 area codes.**

Very truly yours,

James C. Colman

James C. Colman, Assistant Commissioner
Bureau of Waste Site Cleanup

Encl.: Attachment
Regional Map

Attachment: Potential Responsible Parties Under MGL Chapter 21E

Under Massachusetts General Law (MGL) Chapter 21E, holds people responsible for ensuring that releases of oil and/or hazardous materials are cleaned up include current owners or operators of a site where a release of oil and/or hazardous materials has occurred, and any person who owned or operated a site at the time hazardous material was stored or disposed of. Potentially responsible parties also include persons who transported, disposed of, stored or treated hazardous material at a site from which there is or has been a release or threat of release of such material, or any persons who otherwise caused or are legally responsible for a release or threat of release of oil or hazardous material at a site.

Liability under Chapter 21E is "strict", meaning it is not based on fault, but solely on a person's status as an owner, operator, generator, transporter or disposer. It is also joint and several, meaning that a responsible party may be liable for all response action costs incurred at the site, regardless of the existence of any other liable parties. Please consult Section 5(a) of MGL Chapter 21E for the complete information regarding your potential liability.

If you are a potentially responsible party and fail to initiate actions required by MGL Chapter 21E and the Massachusetts Contingency Plan (MCP), you may be subject to administrative penalties for failing to conduct response actions in a timely manner. In addition, the Department is authorized by MGL c. 21E to have the work performed by its contractors. In this case, you may be held liable for up to three times DEP's costs for conducting response actions at a property should DEP intervene. By taking such actions yourself, you can avoid liability for response action costs incurred by the Department and its contractors in performing these actions, and any sanctions which may be imposed for failure to perform response actions under the MCP.

Penalties and the response costs of DEP are considered a debt to the Commonwealth. Such debts may be recovered by attaching any monies that are owed to you by the Commonwealth (tax refunds, etc.) or by placing liens on real property owned by you in Massachusetts.

Massachusetts Department of Environmental Protection **BWSC-110**
Bureau of Waste Site Cleanup

LICENSED SITE PROFESSIONAL (LSP) EVALUATION OPINION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number: 3 - 0312

A. SITE OR LOCATION TO BE INVESTIGATED (LTBI) INFORMATION:

Provide the following information as it appears on the Transition List of Confirmed Disposal Sites and Locations To Be Investigated.

Site or LTBI Name: MBTA Everett Shops

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Site Status: (check one) [X] Location To Be Investigated [ ] Unclassified Disposal Site [ ] Non-Priority Disposal Site without a Waiver

Date First Listed in Above Category: January 15, 1987

Related Release Tracking Numbers that this LSP Evaluation Opinion Addresses: None

B. LSP EVALUATION OF SITE OR LOCATION TO BE INVESTIGATED: (check one of the following)

[ ] Check here if this location is NOT a Site where a Release of Oil(s) or Hazardous Material(s) occurred that is subject to the notification requirements of 310 CMR 40.0300, and no further response actions are required.

[ ] Check here if a Release of Oil(s) and Hazardous Material(s) subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, but Response Actions completed prior to the date of this LSP Evaluation Opinion meet the requirements of a Class A or Class B Response Action Outcome.

If this LSP Evaluation Opinion is checked, you must meet all appropriate Response Action Outcome requirements described at 310 CMR 40.1000. You must include with this submittal documentation equivalent to a Response Action Outcome, including all supporting materials.

Indicate the class of the equivalent Response Action Outcome:

( ) Class A-1 ( ) Class A-2 ( ) Class A-3 ( ) Class B-1 ( ) Class B-2

You may choose to submit a completed Response Action Outcome Statement (BWSC-104) and supporting documentation in lieu of an LSP Evaluation Opinion, provided that you make the submittal prior to the LSP Evaluation Opinion deadline.

[X] Check here if a Release subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at this location, and further Response Actions are necessary, pursuant to 310 CMR 40.0000.

If this option is checked you must make one of the following submittals by the applicable LSP Evaluation Opinion deadline: (i) provide a Tier Classification Submittal Transmittal Form (BWSC-107) and, if necessary, a Tier I Permit Application; (ii) provide a Response Action Outcome Statement (BWSC-104); (iii) or provide a Downgradient Property Status Submittal (BWSC-104).

[ ] Check here if this location is a Site that is Adequately Regulated, pursuant to 310 CMR 40.0110. Specify which other regulatory authority applies:

( ) Response Actions at this Site, which are being conducted as a HSWA Corrective Action, are Adequately Regulated, pursuant to 310 CMR 40.0112.

( ) Response Actions at this Site, which is a 21C facility under the RCRA Authorized State Hazardous Waste Program, are Adequately Regulated under M.G.L. c. 21C and 310 CMR 30.000, pursuant to 310 CMR 40.0113.

( ) Response Actions at this Site, which is a Solid Waste Management facility, are Adequately Regulated under M.G.L. c. 21H, M.G.L. c. 111, § 150A and/or 310 CMR 19.000, pursuant to 310 CMR 40.0114.

You must attach all supporting documentation for the LSP Evaluation Opinion indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

D. LSP OPINION:

I 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this LSP Evaluation Opinion was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the response action(s) upon which this opinion is based, if any, were reasonable and appropriate to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000.

I 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.

SECTION D IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection BWSC-110
Bureau of Waste Site Cleanup

LICENSED SITE PROFESSIONAL (LSP) EVALUATION OPINION TRANSMITTAL FORM

Pursuant to 310 CMR 40.0600 (Subpart F)

Release Tracking Number: 3 - 0312

D. LSP OPINION: (continued)

☐ Check here if the Response Action(s) on which this opinion is based, if any, is (are) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If this box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, P.E., Ph.D., L.S.P. LSP #: 2261 Stamp:

Telephone: (508) 651-3401 Ext.:

FAX: (optional) (508) 651-1189

Signature:

Date: 12/[illegible]

E. PERSON SUBMITTING LSP EVALUATION OPINION:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617) 222-3126 Ext.: FAX: (optional)

F. RELATIONSHIP TO SITE OR LOCATION TO BE INVESTIGATED OF PERSON SUBMITTING LSP EVALUATION OPINION: (check one)

☒ RP or PRP Specify: ⊗ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP:

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Submitting LSP Evaluation Opinion Specify Relationship:

G. CERTIFICATION OF PERSON SUBMITTING LSP EVALUATION OPINION:

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andrew D. Brennan Title: Manager of Environmental Affairs
/(signature)

For: Massachusetts Bay Transportation Authority Date: 12/23/93
(print name of person or entity recorded in Section E)

Enter address of the person providing certification, if different from address recorded in Section E:

Street:

City/Town: State: ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITONAL COMPLIANCE FEES.

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Shops

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Related Release Tracking Numbers that this Form Addresses: None

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☒ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☒ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a final **Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of Innovative Technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *If Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, P.E., Ph.D., L.S.P. LSP #: 2261 Stamp:

Telephone: (508) 651-3401 Ext.: 346

FAX: (optional) (508) 651-1189

Signature: [signature]

Date: 12/22/00

COMMONWEALTH OF MASSACHUSETTS RICHARD HUGHTO No. 2261 REGISTERED LICENSED SITE PROFESSIONAL

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (617)222-3126 Ext.: _____ FAX: (optional) _____

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☒ RP or PRP Specify: ⊗ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: A. D. Brennan (signature) Title: Manager of Environmental Affairs

For: Massachusetts Bay Transportation Authority (print name of person or entity recorded in Section H) Date: 12/23/96

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-106

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Maintenance Facility

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

[X] Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.

Related Release Tracking Numbers That This RAM or URAM Addresses: 3-17554

B. THIS FORM IS BEING USED TO: (check all that apply)

- [ ] Submit a RAM Plan (complete Sections A, B, C, D, E, F, J, K, L and M).
  - [ ] Check here if this RAM Plan is an update or modification of a previously approved written RAM Plan. Date Submitted:
- [ ] Submit a RAM Status Report (complete Sections A, B, C, E, J, K, L and M).
- [X] Submit a RAM Completion Statement (complete Sections A, B, C, D, E, G, J, K, L and M).
- [ ] Confirm or Provide URAM Notification (complete Sections A, B, H, K, L and M).
- [ ] Submit a URAM Status Report (complete Sections A, B, C, E, J, K, L and M).
- [ ] Submit a URAM Completion Statement (complete Sections A, B, C, D, E, I, J, K, L and M).

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WOBURN, MASS.

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1406.

C. SITE CONDITIONS:

[X] Check here if the source of the Release or Threat of Release is known.

If yes, check all sources that apply: [X] UST [X] Pipe/Hose/Line [ ] AST [ ] Drums [ ] Transformer [ ] Boat [ ] Tanker Truck [ ] Vehicle [X] Other Specify: Potential Release from UST

Identify Media and Receptors Affected: (check all that apply) [ ] Air [ ] Groundwater [ ] Surface Water [ ] Sediments [ ] Soil [ ] Wetlands [ ] Storm Drain [ ] Paved Surface [ ] Private Well [ ] Public Water Supply [ ] Zone 2 [ ] Residence [ ] School [ ] Unknown [ ] Other Specify:

Identify Release and/or Threat of Release Conditions at Site: (check all that apply)

[X] 2 and 72 Hour Reporting Condition(s) [ ] 120 Day Reporting Condition(s) [ ] Other Condition(s)

Describe: 2 / 72 hour reporting conditions identified at the site. Conditions being addressed under an on going IRA.

RAMs may be conducted concurrently with an IRA only with written DEP approval
URAMs may not be conducted if any 2 or 72 Hour conditions exist at the site.

Identify Oils and Hazardous Materials Released: (check all that apply) [ ] Oils [ ] Chlorinated Solvents [ ] Heavy Metals

[X] Others Specify: Potential petroleum and/or antifreeze release

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

- [ ] Assessment and/or Monitoring Only
- [X] Excavation of Contaminated Soils
  - [X] Re-use, Recycling or Treatment
    - ○ On Site ⊗ Off Site Est. Vol.: _____ cubic yards
    - Describe:
  - [ ] Store ○ On Site ○ Off Site Est. Vol.: _____ cubic yards
- [ ] Deployment of Absorbant or Containment Materials
- [ ] Temporary Covers or Caps
- [ ] Bioremediation
- [ ] Soil Vapor Extraction
- [ ] Structure Venting System
- [ ] Product or NAPL Recovery

SECTION D IS CONTINUED ON THE NEXT PAGE.

Massachusetts Department of Environmental Protection — **BWSC-106**
Bureau of Waste Site Cleanup

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 0312

D. DESCRIPTION OF RESPONSE ACTIONS (continued):

- ☐ Landfill ○ Cover ○ Disposal Est. Vol.: _____ cubic yards
- ☐ Groundwater Treatment Systems
- ☒ Removal of Drums, Tanks or Containers
- ☐ Air Sparging
- Describe: Removal of (2)500 GAL.USTs,(2)1,000GAL.UST, (3)Unknown GAL.USTs,--GAL.UST,--GAL.UST
- ☐ Temporary Water Supplies
- ☐ Removal of Other Contaminated Media
- ☐ Temporary Evacuation or Relocation of Residents
- Specify Type and Volume: _____
- ☐ Fencing and Sign Posting
- ☐ Other Response Actions Describe: _____

See 310 CMR 40.0442 for limitations on the scope and type of RAMs.
See 310 CMR 40.0464 for performance standards for URAMs.

☐ Check here if this RAM or URAM involves the use of Innovative Technologies. DEP is interested in using this information to aid in creating an Innovative Technologies Clearinghouse.

Describe Technologies: _____

E. TRANSPORT OF REMEDIATION WASTE: (If Remediation Waste has been sent to an off-site facility, answer the following questions)

Name of Facility: _____

Town and State: Scituate, MA

Quantity of Remediation Waste Transported to Date: _____

F. RAM PLAN:

☐ Check here if this RAM Plan received previous oral approval from DEP as a continuation of a Limited Removal Action (LRA).

Date of Oral Approval: _____

☐ If a RAM Compliance Fee is required, check here to certify that the fee has been submitted. You MUST attach a photocopy of the payment. See 310 CMR 40.0444(2) to learn when a fee is not required.

☐ Check here if the RAM Plan is proposed for a Transition Site. If this is the case, you may need to attach an LSP Evaluation Opinion prior to undertaking the RAM, if not previously provided. See 310 CMR 40.0600 for further information about Transition Sites.

G. RAM COMPLETION STATEMENT:

☐ If a RAM Compliance Fee is required in connection with submission of the RAM Completion Statement, check here to certify that the fee has been submitted. You MUST attach a photocopy of the payment. You owe this fee when submitting a RAM Completion Statement if you received oral approval of a RAM that continued an LRA, and have NOT previously submitted a RAM Plan and accompanying fee.

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement, you must submit a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the RAM Completion Statement.

H. URAM NOTIFICATION:

Identify Location Type: (check all that apply) ☐ Public Right of Way ☐ Utility Easement ☐ Private Property

Identify Utility Type: (check all that apply) ☒ Sanitary/Combined Sewerage ☐ Water ☐ Drainage ☐ Natural Gas

☐ Telephone ☐ Steam Lines ☐ Telecommunications ☐ Electric ☐ Other Specify: _____

☐ Check here if you provided DEP with previous oral notification of this URAM. Date of Oral Notice: _____

☐ Check here if the property owner was NOT contacted prior to initiation of the URAM. If this is the case, you must attach an explanation of why the owner was not contacted, including the date and time when contact ultimately occurred.

☐ Check here if this URAM will occur in connection with the construction of new public utilities. If this is the case, document the nature and extent of encountered contamination, the scope and expense of necessary mitigation and the benefits and limitations of project alternatives.

With the exception stated below, the person undertaking the URAM must provide the name and license number of an LSP engaged or employed in connection with the URAM:

LSP Name: DEP FEB 8 1999 LSP License Number: _____

LSP information is not required if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by a Hazardous Material or a mixture of a Hazardous Material and Oil.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC-106

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 0312

I. URAM COMPLETION STATEMENT:

☐ Check here if this URAM was limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated by either a Hazardous Material or a mixture of a Hazardous Material and Oil.

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the URAM Completion Statement, you must submit either a Release Abatement Measure (RAM) Plan or a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the URAM Completion Statement.

J. LSP OPINION:

I 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 submitted. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *If Section B of this form indicates that a Release Abatement Measure Plan is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B of this form indicates that a Release Abatement Measure Status Report or a Utility-Related Abatement Measure Status Report is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *If Section B of this form indicates that a Release Abatement Measure Completion Statement or a Utility-Related Abatement Measure Completion Statement is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purpose(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

I 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.

☐ Check here if the response action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If this box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto, Ph.D., P.E. LSP #: 2261 Stamp:

Telephone: (508) 903-2000 Ext.: 2346

FAX: (optional) (508) 903-2001

Signature:

Date: 4 February 1999

COMMONWEALTH OF MASSACHUSETTS RICHARD J. HUGHTO No. 2261 REGISTERED LICENSED SITE PROFESSIONAL

An LSP Opinion is not required for a Utility-Related Abatement Measure Notification.

An LSP Opinion is not required for a URAM Completion Statement if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by Hazardous Material or a mixture of Hazardous Material and Oil.

K. PERSON UNDERTAKING RAM OR URAM:

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Director of Environmental Affairs

Street: Ten Park Plaza

City/Town: Boston State: MA ZIP Code: 02116-3974

Telephone: (508) 222-3126 Ext.: FAX: (optional) (617) 222-1557

☐ Check here if there has been a change in person undertaking the RAM or URAM.

Massachusetts Department of Environmental Protection BWSC-106
Bureau of Waste Site Cleanup

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 0312

L. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RAM or URAM: (check one)

[X] RP or PRP Specify: (X) Owner ( ) Operator ( ) Generator ( ) Transporter Other RP or PRP _____

[ ] Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

[ ] Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

[ ] Any Other Person Undertaking RAM or URAM Specify Relationship: _____

M. CERTIFICATION OF PERSON UNDERTAKING RAM OR URAM:

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andrew D. Brennan (signature) Title: Director of Environmental Affairs

For: Massachusetts Bay Transportation Authority (print name of person or entity recorded in Section K) Date: 31 JANUARY 1995

Enter address of person providing certification, if different from address recorded in Section K:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

DEP FEB 8 1995

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

A. SITE LOCATION:

Site Name: (optional) MBTA Everett Maintenance Facility

Street: 80 Broadway Location Aid:

City/Town: Everett ZIP Code: 02149

Related Release Tracking Numbers that this Form Addresses:

Tier Classification: (check one of the following) ☐ Tier IA ☐ Tier IB ☐ Tier IC ☒ Tier II ☐ Not Tier Classified

If a Tier I Permit has been issued, state the Permit Number:

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484 (complete Sections A, B, C, G, H, I and J).

☒ Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **final Phase II Comprehensive Site Report and Completion Statement**, pursuant to 310 CMR 40.0836 (complete Sections A, B, C, D, G, H, I and J).

☐ Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874 (complete Sections A, B, C, G, H, I and J).

☐ Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **Phase IV Final Inspection Report and Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879 (complete Sections A, B, C, E, G, H, I and J).

☐ Submit a periodic **Phase V Inspection & Monitoring Report**, pursuant to 310 CMR 40.0892 (complete Sections A, B, C, G, H, I and J).

☐ Submit a **final Phase V Inspection & Monitoring Report and Completion Statement**, pursuant to 310 CMR 40.0893 (complete Sections A, B, C, F, G, H, I and J).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RESPONSE ACTIONS:

☐ Check here if any response action(s) that serves as the basis for the Phase submittal(s) involves the use of innovative technologies. (DEP is interested in using this information to create an Innovative Technologies Clearinghouse.)

Describe Technologies:

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D. PHASE II COMPLETION STATEMENT:

Specify the outcome of the Phase II Comprehensive Site Assessment:

☐ Additional Comprehensive Response Actions are necessary at this Site, based on the results of the Phase II Comprehensive Site Assessment.

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class B Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ Rescoring of this Site using the Numerical Ranking System is necessary, based on the results of the final Phase II Report.

E. PHASE IV COMPLETION STATEMENT:

Specify the outcome of Phase IV activities:

☐ Phase V operation, maintenance or monitoring of the Comprehensive Response Action is necessary to achieve a Response Action Outcome. (This site will be subject to a Phase V Operation, Maintenance and Monitoring Annual Compliance Fee.)

☐ The requirements of a Class A Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

SECTION E IS CONTINUED ON THE NEXT PAGE

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

E. PHASE IV COMPLETION STATEMENT: (continued)

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

F. PHASE V COMPLETION STATEMENT:

Specify the outcome of Phase V activities:

☐ The requirements of a Class A Response Action Outcome have been met and a completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. No additional operation, maintenance or monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

☐ The requirements of a Class C Response Action Outcome have been met. Further operation, maintenance or monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement (BWSC-104) will be submitted to DEP.

Indicate whether the operation and maintenance will be Active or Passive. (Active Operation and Maintenance is defined at 310 CMR 40.0006.):

◯ Active Operation and Maintenance ◯ Passive Operation and Maintenance

(Active Operation and Maintenance makes the Site subject to a Post-RAO Class C Active Operation and Maintenance Annual Compliance Fee.)

G. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with the information contained in 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 (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> ***If Section B indicates that a Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement is being submitted***, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> ***If Section B indicates that a Phase II Scope of Work or a Phase IV Remedy Implementation Plan is being submitted***, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> ***If Section B indicates that an As-Built Construction Report or a Phase V Inspection and Monitoring Report is being submitted***, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I 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.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Richard J. Hughto LSP #: 2261 Stamp:

Telephone: 508-903-2000 Ext.: 2346

FAX: (optional) 508-903-2001

Signature:

Date: 25 NOVEMBER 1995

Massachusetts Department of Environmental Protection **BWSC-108**
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number: 3 - 0312

H. PERSON UNDERTAKING RESPONSE ACTION(S):

Name of Organization: Massachusetts Bay Transportation Authority

Name of Contact: Andrew D. Brennan Title: Manager of Environmental Affairs

Street: 10 Park Plaza

City/Town: Boston State: MA ZIP Code: 02116

Telephone: 617-222-3126 Ext.: _____ FAX: (optional) 617-222-1557

☐ Check here if there has been a change in the person undertaking the Response Action.

I. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTION(S): (check one)

☒ RP or PRP Specify: ⓧ Owner ◯ Operator ◯ Generator ◯ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking Response Action Specify Relationship: _____

J. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTION(S):

I, Andrew D. Brennan, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Andr D. B (signature) Title: Manager of Environmental Affairs

For: Massachusetts Bay Transportation Authority Date: 19 OCTOBER 1998
(print name of person or entity recorded in Section H)

Enter address of the person providing certification, if different from address recorded in Section H:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

BWSC Records Retention Check List

Records Storage Center

_____Appendices in support of permanent records:

_____Analytical Data – Type:_____

_____Boring Logs

_____Other

_____Phase III-Comprehensive Remedial Action Alternatives

_____Phase IV-Implementation of Selected Remedial Action

_____Phase V-Operation, Maintenance and/or Monitoring

_____IRA – circle submittal(s): Plan Status Report Completion Report

✓ RAM -- circle submittal(s): Plan Status Report Completion Report

_____ URAM -- circle submittal(s): Plan Status Report Completion Report

✓ Bill of Lading (BOL)

_____Tier 1 Permit – circle submittal(s): Application Extension

✓ Tier Classification – circle submittal(s): Tier Classification Tier II Extension

_____Special Project Designation -- Application

_____Transition Permit

_____Waiver Application

_____Public Involvement Records

BWSC Records Retention Check List

Date File Segregated: 10-27-08 (EF)

DEP Box # 57

SRC Box #

Region: 3 **RTN : 3-0000312** **Notification Date: 1/15/1987**
Closing Action: RAORCD B1 Date: 12/31/1998

Site Name/Location Aid: MBTA
Address: 80 BROADWAY, EVERETT

Permanent Record

_____ Notification Records -- circle document(s): RNF RLF RLFA

✓ Response Action Outcome -- circle type: Class A (Class B)

_____ Activity and Use Limitation RAM-completion statement.

_____ No Further Action (NFA) Submittal

_____ Waiver Completion Statement

_____ LSP Evaluation Opinion – circle type: NDS NFA

_____ Notice of Audit Findings (NOFA)
_____ Level 1
_____ Level 2
_____ Level 3

____ Audit Follow Up Plan and Post Audit Completion Statement

✓ Correspondence – circle document(s): NOR, NORA, NON, PAN, ACOP, UAO,

_____ Other

✓ Phase 1 Initial Site Investigation

✓ Phase II-Comprehensive Site Assessment

[illegible] BALLPOINT PEN AND PRESS HARD

[illegible] 21E Case No. N87-621

SCANNED

[illegible] HAZARDOUS MATERIAL SPILL/RELEASE INCIDENT

INSPECTION REPORT

1. [illegible] ☐ TELEPHONE RESPONSE ☐ FOLLOW-UP RESPONSE ☐

[illegible] Everett

[illegible] MBTA

[illegible] Broadway

4. INCIDENT 1ST REPORTED: Date 5/8/87 Time [illegible] A.M./P.M.

5. INCIDENT OCCURRED: Date 5/?/87 Time ______ A.M./P.M.

[illegible] DEQE:

Mike [illegible] Title [illegible]

MBTA Tel. # [illegible]

[illegible] RELEASED:

Hydraulic Oil/Other [illegible] b. Amount Reported: [illegible] Actual: ______

[illegible] tanker truck vessel railroad

[illegible] below-ground tank pipe hose other

[illegible] Yes ☐ No ☐ e. Drums Retained: Yes ☐ No ☐

[illegible] INCIDENT: Site [illegible] property [illegible] by Dept. [illegible] [illegible] encountered

[illegible] Yes ☑ No ☐ 10. IMPACT TO SURFACE WATERS: Yes ☐ No ☐

[illegible] IDENTIFIED BY DEQE:

[illegible] MBTA Tel. # ______ Agent Anthony [illegible] Tel. # [illegible]

80 Broadway, [illegible]

[illegible] Notice of Responsibility accompanied by Written Synopsis of MGL c. 21E:

[illegible] ☐ Date 5/8/87 Time [illegible] A.M./P.M.

[illegible] actions taken by responsible person: Yes ☑ No ☐

[illegible] hired by responsible person: Certified Eng[illegible]

[illegible] ACTIONS:

[illegible] hired by DEQE: Yes ☐ No ☑

[illegible] on-scene: Date N/A Time ______ A.M./P.M.

[illegible] needed: Yes ☑ No ☐

[illegible] /recommended: Yes ☐ No ☑ (if yes, specify) ______

[illegible] ☐ [illegible] ☑ S.A. report [illegible] to Dept. [illegible] by S.A. [illegible]

[illegible] ACTIONS: [illegible]

[illegible] recommended: Yes ☐ No ☑ Maybe ☐

[illegible] recommended: Yes ☐ No ☐ (if yes, specify) ______

[illegible] ATION:

[illegible] 1st notified: [illegible]

[illegible] employee(s) notified: [illegible]

[illegible] BY DEQE OF SPILL/RELEASE INCIDENT:

______ Name: ______

Report prepared by: [illegible]

Signature Title

[illegible] OFFICE YELLOW/BOSTON OFFICE [illegible]

ANTHONY D. CORTESE, Sc.D.
Commissioner
[redacted]

The Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Metropolitan Boston - Northeast Region
323 - New Boston Street, Woburn, MA 01801

March 26, 1982

MBTA
Main Repair Shop
80 Broadway
Everett, MA 02149

RE: Dumping of Hazardous Chemicals
Mystic River

Attention: Mr. Donald Letson

Dear Mr. Letson,

Following a complaint of Chemical dumping into the floor drains on 1/27/82 in the parts washing room within your repair shop, an engineer from our office investigated this site. It was found that dumping and spilling of degreasing solvent, Permag 64, had been entering the floor drain which eventually enters the Mystic River near Broadway almost across the street from Boston Edison Plant.

We are requiring the immediate cessation of discharge of Hazardous Chemical into waters of the Commonwealth and,in addition washing of the degreased parts requires approval from MDC Sewerage Department if the flow is directed into the sewer system instead of the storm drain.

Please notify this office within 10 days of the receipt of this letter as to the remedial action you intend to take in correcting the situation.

Very truly yours,

Sabin M.Lord
Eastern Regional Engineer

SML/WXC/jb
cc: Bill Slagle, Division of Water Pollution Control, One Winter Street, Boston, MA
cc: Bill Simmons, Emergencry Response Branch, Division of Water Pollution Control, One Winter Street, Boston, MA
cc: Richard Tarbuck, Supt of Safety Program, MBTA, Cabot Transportation Center, 275 Dorchester Ave, South Boston, MA
cc: Noel Baretta, Director, MDC-Sewer Division, 20 Somerset Street, Boston,MA

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

John K. Leary, Jr.
Director of Operations
Transportation Building
Ten Park Plaza
Boston, Massachusetts 02116

May 21, 1987

Mr. Richard Chaplin
Deputy Regional Engineer
Department of Environmental Quality Engineering
5 Commonwealth Avenue
Woburn, MA 01801

RE: Environmental Study, MBTA Facility 3-312
80 Broadway, Everett, MA

Dear Mr. Chalpin:

Certified Engineering and Testing Co., Inc. (CETCO) recently completed an Environmental Study of our Repair Facility at 80 Broadway, Everett, MA. Forty (40) soil borings were executed at various locations on the site and samples were tested for a variety of hazardous substances.

Results of these tests and site inspections indicate that there has been a release of hazardous materials on the property. However, it is CETCO's considered opinion that the hazardous substances detected in the soils on the site do not pose a significant threat to the health of individuals working at or visiting the facility.

The Authority is taking immediate remedial steps recommended by CETCO to repair a hydraulic fluid leak at the facility. A copy of the Environmental Study will be made available to your agency upon request and the Authority will extend its complete cooperation.

The Supplemental Massachusetts Register published January 23, 1987 lists MBTA Facility, 80 Broadway, Everett, MA on List C: Locations to be Investigated.

The Authority's Safety Department has the responsibility for overseeing corrective measures as defined by CETCO. The contact person, under the direction of Barbara J. Benders, Manager of Safety, is:

Michael A. Diggin
Supervisor of Occupational Safety & Health
M.B.T.A. Safety Department
275 Dorchester Avenue
South Boston, MA 02127

Tel. #722-5431

Sincerely,

John K. Leary, Jr.
Director of Operations

JKL/rb

cc: A. E. Bickford
E. J. Rowe
J. F. Fitzgerald
B. J. Benders

PCO #5

BRIGGS

164 Washington Street, Norwell, MA 02061 · Telephone (617) 773-2780

27 November 1981

Peabody Construction Co.
536 Granite Street
Braintree, MA 02184

Attn: Joseph Yee

RE: Unknown Analysis
Project No.: 089-101R (MSTA)

Gentlemen:

The following are results of testing of an unknown material received by this laboratory 9 November 1981.

1. Sample Description:

Sample No.: 1366
Description: Unknown
Source: Peabody Construction

2. Laboratory Results:

Sample No.: 1366

Parameter and Units	Result
Specific Gravity as received	1.556
pH, S.U.	4.3
Moisture content to 105°C, Wt-% based on dry weight	78.98
Loss on Ignition - 200°C	1.35
- 950°C	16.60
Flash Point, PMCC, °F	> 220
Solubility - Water	Suspension
- Benzene	No
- Carbon Tetrachloride	No
- Chloroform	No
- Methanol	Suspension
- Acetone	Suspension

RCRA; EP-Toxicity Extraction;

Contaminent	Result, mg/l	Maximum Allowable
D004 Arsenic	< 0.03	5.0
D005 Barium	0.16	100.0
D006 Cadmium	< 0.01	1.0
D007 Chromium	< 0.01	5.0
D008 Lead	< 0.03	5.0
D009 Mercury	< 0.03	0.2
D010 Selenium	< 0.03	1.0
D011 Silver	< 0.01	5.0

3. Discussion:

The sample tested appears to be non-hazardous under the above criteria and test results.

Yours very truly,

R. Wayne Crandlemere, C.P.C.
Chief Chemist
Vice President

RWC/gm

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

Pls file Everett

JAN 22 Recd

EVERETT RENOVATION PROJECT -
Everett Shops
80 Broadway
Everett, Massachusetts 02149

TO: Commonwealth of Massachusetts
Dept. of Environmental Quality Engineering
323 New Boston Street, Woburn, MA 01801
ATTENTION: Mr. Edward H. MacDonald

DATE: January 12, 1982
PROJECT: Contract No. 087-101R

Transmitted herewith:	X
Per your request:	
For your information:	X
Approved:	
Approved as noted:	
For your use:	
For your review/comments/approval:	
Returned for correction and resubmittal:	

Copies	Dwg. No.	Description
1 ea.		Attached Test Report from Briggs for the material removed from the south end of the existing Bus Overhaul Shop (New Addition) as per our previous discussion.

G.H. Smith, Jr.
Project Manager - Everett Renovation Project

THE immediate cessation of

We are requiring ~~[illegible]~~ the discharge

of hazardous chemical into waters of the Commonw

and in ~~[illegible]~~; ~~[illegible]~~ washing of the

degreased parts requires ~~you would~~ Require approval, if from MDC sewerage

~~[illegible]~~ into the sewer system

instead of the storm drain.

~~please notify this office within 10 days of the receipt~~

We expect a response from you within

~~[illegible]~~ as to the remedial action you intend to

15 days

take in correcting this situation.

VTY

Sabin Lord

SML/mac

CC. Bill Slagle WPC

Bill Simmons WPC

Richard Tarbuck Sup. of Safety Program, MBTA,

Cabot Transportation Center

275 Dorchester Ave

South Boston MA 722-5431

[illegible] - MDC Sewer Div [illegible] St. Boston

3/22/82

MBTA
Main Repair Shop
80 Broadway
Everette, Ma 02149

Re: Dumping of Haz Chemicals —
Mystic R.

Attn: Mr Donald Letson,

Following a complaint of Chemical Dumping into the floor drains on 1/27/82 in the Parts Washing Room [redacted] your Repear Shop, an engineer from our office investiged [redacted] our site. It was found ~~due to excess odor of chemical in your building~~ that dumping and spilling of degreasing Solvent, Perma-64, had been entering the floor drain [redacted] which eventualy enters the Mystic River near ~~the Boston Edison plant~~ Broadway almost accross the Street from Boston Edison Plant.