# PHASE I ENVIRONMENTAL SITE ASSESSMENT LIMITED PHYSICAL TESTING

5 Bells Neck Road Map 10 Parcel G1 West Harwich, MA 02671 Project #BEA10-10288

**DECEMBER 14, 2010** 

# **BENNETT ENVIRONMENTAL ASSOCIATES, INC.**

LICENSED SITE PROFESSIONALS 💧 ENVIRONMENTAL SCIENTISTS 🍐 GEOLOGISTS 🌡 SANITARIANS

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EMERGENCY SPILL RESPONSE () WASTE SITE CLEANUP () SITE ASSESSMENT () ENVIRONMENTAL PERMITTING () LAND USE PLANNING WATER SUPPLY DEVELOPMENT, OPERATION & MAINTENANCE () WASTEWATER TREATMENT, OPERATION & MAINTENANCE

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#### **DECEMBER 14, 2010**

I certify that this Phase I ESA with Limited Physical Testing was conducted under my direction and supervision. I further certify that I have reviewed and approve this report, and the methods and procedures employed in development of the report conform to industry standards in the market as of this date.

Kara M. Risk, RS Senior Project Manager

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Project Manager

Samantha Farrenkopf Environmental Scientist

Date

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#### **DECEMBER 14, 2010**

Prepared for: Mr. Bob Cafarelli, P.E. Town of Harwich – Engineering Department 732 Main Street Harwich, MA 02645

Prepared by: BENNETT ENVIRONMENTAL ASSOCIATES, INC. 1573 Main Street P.O. Box 1743 Brewster, MA 02631

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#### **1.0** Executive Summary

#### 1.1-1.3 Purpose/Introduction, Scope of Services/Methodology, Findings

This report presents the results of a Phase I - Environmental Site Assessment (ESA) with limited physical testing, which was performed by BENNETT ENVIRONMENTAL ASSOCIATES, INC. (BEA) on behalf of Bob Cafarelli of the Town of Harwich Engineering Department, in substantial compliance with the current E1527 ASTM Standard. The Phase I was completed to identify on-site "Recognized Environmental Conditions" (REC), as well as "Potential Environmental Conditions" (PEC) which, in the opinion of the reviewer, held the potential for impacting on-site soil and/or groundwater with oil and/or hazardous materials (OHM), as subject to notification or remedial response liability pursuant to the MA Contingency Plan (MCP) 310 CMR 40.0000, as enforced by Massachusetts General Law (MGL) Chapter 21E. This work represents "due diligence" by the fiduciary and/or potential property owner to investigate existing environmental liability and is consistent with the standard of care presently employed by environmental professionals.

The investigation has included a review of local records related to the storage, use, disposal, release and/or generation of oil and/or hazardous materials (OHM) at the Subject Property, a review of environmental database information including the MA DEP Searchable Database, interviews with public officials and persons knowledgeable of site history, site reconnaissance and limited physical testing of an existing monitoring well. This information was used in the determination of potential liability for the notification and/or remedial actions for the presence of OHM, as required by 310 CMR 40.0000, pursuant to MGL c. 21E. The findings, herein, represent the current site conditions as of the date of this report, as subject to the Service Constraints attached.

The Subject Property contains 29,600 SF of land area located at 5 Bells Neck Road in West Harwich, MA. The subject 3,508 SF building is currently unoccupied. The property is moderately developed with pavement, limited landscaped curbing and natural vegetation. According to assessor's records, the subject building was constructed in 1900, though interviews with key site manager, Mr. Paul Sweetser, Town Surveyor, indicated that the building was constructed around the 1870s, shortly after Bells Neck Road was laid out in 1863. The subject building was originally constructed and in use as an elementary school until the 1940s. The American Legion began occupation of the building in the 1950s, and donated the building to the Town of Harwich in the 1970s for use as the Harwich Youth Center. The Youth Center operated into the late 1980s and the subject building has been unoccupied since that time.

The first floor of the subject building contains a common room, two bathrooms and a kitchen. The second floor contains a common room and a kitchen. The building's attic was empty at the time of inspection. The shallow crawl space area beneath the building was not able to be fully inspected in review of safety concerns. This is noted as a Limitation to this report. A visual inspection from the exterior did not identify any evidence of OHM storage or release, nor any other RECs or PECs in the crawl space. The subject building is not currently heated, though natural gas heaters were noted overhead in the common rooms and wall-mounted heaters were observed in the kitchens on the first and second stories of the building. The gas meter was observed as removed and the line capped at the time of the site inspection conducted. No evidence of a former heating source has been identified through research, and no overt evidence of aboveground or underground storage tanks was observed. An unidentifiable subsurface metal ring was observed at the exterior of the subject building in close proximity to the existing chimney. The area was excavated with a shovel and it was noted that the ring drops into a large subsurface metal box which appears to extend beneath the adjacent foundation wall. Wherein this object could not be identified, it is noted as a **PEC** for which recommendations are made.

Wherein no municipal sewer is available, the property is understood to be serviced by an on-site septic system though research and interviews conducted were unable to identify a location of the system and no visual evidence of a potential location of the septic system was observed at the time of the site inspection. The Subject Property is serviced by municipal water supply.

Small quantities of standard cleaners and building maintenance products were identified at the Subject Property at the time of inspection, as stored beneath the sink in the kitchen, located on the second story of the subject building. All materials appeared to be properly stored with no evidence of release. No stained surfaces were observed at the time of the inspection.

The Subject Property is located within an area of moderate development with mixed residential and commercial uses. Immediately surrounding properties include the Pinewood Village Condominiums (PVC) and First Baptist Church and cemetery. The presence of a cemetery as a direct upgradient abutter, wherein formaldehyde is used for preservation and metals are known to leach to soils and groundwater, is noted as a **PEC** for which recommendations are made.

Pinewood Village Condominiums, noted as the northern abutter to the Subject Property, was identified as having asserted Downgradient Property Status (DPS) in 1998 for concentrations of chlorinated solvents and total petroleum hydrocarbons (TPH) which exceeded the applicable standards in its non-community public drinking water well. As a copy of this report was not available through the town research conducted, a review of BEAs internal records did produce an excerpt from the DPS report for the PVC. Several potential sources of the impacts were identified in the report including a former gasoline station, a former automotive shop and a former dry cleaner to the south, and the Dennisport Automatic Coin Laundry (DACL) to the southwest. The presence of a DPS property hydrologically downgradient of the Subject Property is noted as a **PEC** for which recommendations are made.

It is noted that the Subject Property is also within an area of a historically documented plume of chlorinated solvents allegedly originating from the Dennisport Automatic Coin Laundry (DACL) [RTN 4-12832] located some 0.40 of a mile southwest and hydrologically upgradient of the Subject Property. As stated, other historic dry cleaning operations in the area have been identified as secondary or contributing sources. DACL had been in use as a laundromat offering dry-cleaning services from 1964 until 1997. Testing of groundwater monitoring wells from 1997 through 2005 showed the migration of the solvent plume from the source area at DACL toward the northeast, encompassing the area of the Subject Property and the northerly abutting Pinewood

Village Condominiums. Subsequent groundwater monitoring conducted in as Phase II activities conducted by Bennett & O'Reilly, Inc in 2005 reported concentrations of VOCs from monitoring wells in the area of the Subject Property as below the reportable limits (BRL) of the analyses, indicating that the plume of chlorinated solvents was attenuating. Plans included in the Phase II Completion Report showed the northeasterly extent of the mapped solvent impacts as some 450' southwest of the Subject Property. This Site remains open with a Class C-1 RAO as a Temporary Solution with an active remedial monitoring plan. The documented historical migration of a solvent plume through the area of the Subject Property is a Historic REC (**HREC**) for which limited groundwater testing was conducted and additional recommendations are made.

Groundwater is estimated at approximately 8' below grade surface (bgs) and regional groundwater contours illustrate a northeasterly flow direction. According to the MA DEP Priority Resource mapping, the Subject Property is located within a mediumyield Potential Drinking Water Source Area (PDWSA). The property is within an Interim Wellhead Protection Area (IWPA) for the non-community public water supply well [#4126002-01G] still shown at Pinewood Village Condominiums. As such, the RCGW-1 Reportable Concentrations are applicable for groundwater quality, as are the GW-1, GW-2 and GW-3 groundwater criteria under Method 1 - Risk Characterization in consideration of routes for potential exposures associated with ingestion and dermal contact. Additionally, based upon site features, the RCS-1 Reportable Concentrations are applicable for soils, while the S-1, S-2, S-3/GW-1, GW-2 and GW-3 soil categories are considered applicable relative to frequency/intensity of use and accessibility in Method 1 - Risk Characterization. This criterion is used to determine notification and/or remedial response liabilities pursuant to 310 CMR 40.0000.

Based on the **HREC**, and in review of the **PECs** identified, BEA sampled the existing monitoring well SAIC-HD-108D, as intermediate to a known source of chlorinated solvents identified as DACL, for VOCs as a preliminary measure in determining the potential for the current presence of impacts originating from an upgradient, off-site source to the Subject Property. The resulting laboratory analysis reported all VOCs as below the reporting limit (BRL), wherein the reporting limit is well below the applicable RCGW-1 Reportable Concentrations and the GW-1 Method 1 - Risk Characterization Standards. While these findings support research indicating that the plume of chlorinated solvents historically documented in the area of the Subject Property has attenuated and is no longer present in the area, additional recommendations for physical testing are made to further qualify potential environmental impacts to the Subject Property.

### 1.4 Conclusions

As such, it is the opinion of BENNETT ENVIRONMENTAL ASSOCIATES, INC., as qualified by the documented research, interviews, site inspection and limited physical testing represented herein, that the Subject Property is categorically **"Medium Risk"**, wherein an off-site issue of environmental concern may adversely impact he value or environmental condition of the Subject Property. As such, it is unknown if the property currently generates responsibility for notification and/or remedial response liability, in accordance with the provisions of 310 CMR 40.0000, as enforced by MGL c. 21E\*\*.

#### 1.5 Recommendations

- Fully investigate and identify the metal object located off the chimney at the exterior of the building.
- A review of the MA DEP records relative to the Pinewood Village Condominium DPS is required in order to fill data gaps wherein the presence and depth of monitoring wells at that location can be verified.
- Subsequent to such research, the sampling of VOCs in select, formerly impacted PVC monitoring wells is recommended to further substantiate the attenuation of the documented chlorinated solvent plume in the area of the Subject Property and absolve issues of potential secondary sources in the area.
- In order to qualify any potential environmental impacts associated with the upgradient cemetery, and in further review of any potential chlorinated solvent impacts to the Subject Property, the installation of a shallow and deep monitoring well couplet is recommended for the sampling of formaldehyde and VOCs.

<sup>\*\*</sup>Massachusetts General Law, Chapter 21E, states that the property owner may be legally and financially liable for the presence of any hazardous material or petroleum product present on their property, in the groundwater beneath their property, or in subsurface materials. The owner of the property on which the release has occurred is legally required to notify the Massachusetts Department of Environmental Protection about the discovery of such materials in excess of the prescribed concentrations or quantities and contract a Licensed Site Professional to supervise remedial response actions.

#### 2.0 Site Description

2.1 Site Location and Legal Description

Site Owner:	Town of Harwich - Selectmen
Date of Ownership:	7/27/94
Site Occupant:	Unoccupied
Previous Owner:	Harwich Post 292 American Legion, Inc. [1/12/46- 6/27/73] Town of Harwich [unknown-1/12/46]
County:	Barnstable
Deed Reference:	Book 9297 Page 33
Assessor's Reference:	Map 10, Parcel G1

#### 2.2 Site and Vicinity Characteristics

The Subject Property contains 29,600 SF of land area located at 5 Bells Neck Road in West Harwich, MA [Refer to Figure 1 and Figure 2]. The subject 3,508 SF building is currently unoccupied. The property is moderately developed with pavement, limited landscaped curbing and natural vegetation.

The Subject Property is located within an area of moderate development with mixed residential and commercial uses. Immediately surrounding properties include a single-family residence, Pinewood Village Condominiums (PVC) and First Baptist Church. PVC, noted as the northern abutter, was identified as having asserted Downgradient Property Status (DPS) in 1998 for concentrations of chlorinated solvents and total petroleum hydrocarbons (TPH) which exceeded the applicable standards in its non-community public drinking water well [Refer to Section 5.2.1 for additional information]. The presence of a DPS property hydrologically downgradient of the Subject Property is noted as a **PEC** for which recommendations are made.

It is noted that the Subject Property was historically located a documented plume of chlorinated solvents allegedly originating from the Dennisport Automatic Coin Laundry (DACL) located some 0.40 of a mile southwest and hydrologically upgradient of the Subject Property [Refer to Section 5.2.1 for additional information]. The historically documented presence of contamination from an off-site source is noted as a **Historical REC (HREC)** for which the physical testing of groundwater was conducted.

Finally, the presence of a cemetery as a direct upgradient abutter, wherein formaldehyde is used for preservation, is noted as a **PEC** for which recommendations are made.

#### 2.3 Site Improvements

#### 2.3.1 Structures & Improvements

According to assessor's records, the subject building was constructed in 1900, though it is noted that 1900 could be a default date entered when the specific construction date is unknown. Interviews with key site manager, Mr. Paul Sweetser, Town Surveyor, indicated that the building was constructed around the 1870s, shortly after Bells Neck Road was laid out in 1863. The subject building was originally constructed as an elementary school in the 1870s and was in use as a school until the 1940s, when a new high school (currently the Harwich Middle School) was constructed in the Town of Harwich. The American Legion began occupation of the building in the 1950s, and donated the building to the Town of Harwich in the 1970s for use as the Harwich Youth Center. The Youth Center operated into the late 1980s and the subject building has been unoccupied since that time.

The first floor of the subject building contains a common room, two bathrooms and a kitchen. The second floor contains a common room and a kitchen. The building's attic was empty at the time of inspection. A crawl space is located beneath the building with no basement area. While this area could not be fully inspected, a visual inspection from the exterior did not identify any evidence of OHM storage or release, nor any other RECs or PECs in the crawl space [Refer to Section 8.0].

#### 2.3.2 Roads

The Subject Property has 157.37' of roadway frontage along Bells Neck Road at the western property line according to a Town of Harwich Topographic Site Plan dated 4/30/07. Approximately half of the Subject Property outside the footprint of the building is paved as a parking, driving and playground area. Some landscaped areas and naturally vegetated areas are located toward the perimeters of the property and between the paved parking and playground.

#### 2.3.3 Heating Source

The subject building is currently vacant and therefore not heated, though overhead and wall-mounted natural gas heaters were observed in the common rooms and kitchens on the first and second stories of the building. The gas meter was observed as removed and the line capped at the time of the site inspection conducted.

No evidence of a former heating source was identified through research and interviews conducted. It is noted that no evidence of aboveground or underground storage tanks were observed at the time of inspection.

#### 2.3.4 Sanitary Sewer Disposal

Wherein the area of the Subject Property is not serviced by municipal sewer, it is understood that the property is serviced by an on-site septic system. Research and interviews conducted were unable to identify any plans, permits or as-built sketch for an on-site septic system, though the key site managers, Paul Sweetser and Bob Cafarelli indicated that they believed the on-site septic system consists of cesspools.

No visual evidence of a potential location of the septic system was observed at the time of the site inspection conducted, though based on the location of the bathrooms within the subject building, the system may be located to the north or east of the building.

2.3.5 Water Supply

The Subject Property is serviced by municipal water supply.

#### 2.4 Information from Site Owner / Operator

An interview was conducted with Mr. Bob Cafarelli, Town Engineer and Mr. Paul Sweetser, Town Surveyor as key site managers. According to Mr. Cafarelli, the southern abutting property, identified as First Baptist Church, filed a Downgradient Property Status (DPS) submittal recently, though he did not have further information about that submittal or access to DPS documents. Both Mr. Cafarelli and Mr. Sweetser reported that no oil and/or hazardous materials (OHM) have ever been stored or released on the property. The key site managers indicated that they believed the property was serviced by cesspools, but were unable to provide further information relative to their location. No further information relative to the Subject Property was provided.

#### 2.5 Present Ownership & Use

The Subject Property is owned by the Town of Harwich - Selectmen. The Subject Property is currently unoccupied.

2.6 Adjoining Properties

North & East: Residential [Pinewood Village Condominiums]

South: Community [First Baptist Church]

West: Residential [Single-family dwelling]

2.7 Environmental Permits and/or Violations

No environmental permits and/or violations were identified as associated with the Subject Property through the research and interviews conducted.

#### 3.0 Site History

#### 3.1 Information from Site Owner / Operator

According to the key site managers, the Subject Property was in use as a school building in the 1920s and 1930s, was vacant for a period of time, and was in use as a Youth Center from the 1960s through the 1990s. It was reported that no oil and/or hazardous materials have ever been stored or released at the Subject Property. The key site managers estimated the construction date of the building to be in the 1870s but did not have any additional historical information about the Subject Property.

#### 3.2 Previous Environmental Reports

No previous environmental reports relative to the Subject Property were identified though the research and interviews conducted.

#### 3.3 Building Department/Code Enforcement Records

Harwich Building Department records include the following:

- 8/1/80 Building Permit for roof shingling
- 3/10/99 Building Permit for electrical work
- 6/16/07 Expired permit for 4 test holes and 2 perc tests

#### 3.4 Title records

No deed restrictions, environmental liens, Environmental Land Use Restrictions nor Activity and Use Limitations were identified for the Subject Property through the research conducted through the Barnstable County Registry of Deeds back to 1954. Data failure was encountered in identifying deeds dating beyond 1946. Regardless, the user should engage a title company or title professional to conduct a comprehensive review.

#### 3.5 Local records

### 3.5.1 Fire Department

Harwich Fire Department records included fire alarm tests and inspections. No records related to OHM or the current or former presence of underground and/or aboveground storage tanks (USTs/ASTs) was on file at the Fire Department for the Subject Property.

The Harwich Fire Department additionally provided records related to the removal of two USTs from nearby properties. These properties were identified as 15 Bells Neck Road to the north of Pinewood Village Condominiums and 60 Route 28. 60 Route 28 appears to refer to the southern abutting First Baptist Church, though that property's address is identified as 62 Route 28 according to Harwich assessor's records. The vessels were identified as a 500-gallon UST and a 1,000-gallon UST, respectively, though the materials stored was not identified

for either vessel. No releases were noted.

Finally, the Harwich Fire Department provided records related to the 1997 identification of volatile organic compounds (VOCs) in a potable well servicing the abutting Pinewood Village Condominiums. For additional information about this Site, identified as RTN 4-13326, refer to Section 5.2.1.

# 3.5.2 Board of Health

Harwich Board of Health records were identical to Harwich Building Department records. It is noted that Board of Health records did not include a sketch of plan of the former septic system to indicate the location of the system nor the system components.

### 3.5.3 Conservation Commission

Harwich Conservation Commission personnel reported that they have no records for the Subject Property.

#### 3.6 Historical Sources

#### 3.6.1 Sanborn Fire Insurance Maps

Environmental FirstSearch provided Sanborn Fire Insurance Maps for the Subject Property and surrounding area. Maps dated 1928, 1945 and 1959 show the southern abutting First Baptist Church and its cemetery as directly abutting the Subject Property. The presence of a historic cemetery directly upgradient of the Subject Property is a **PEC** for which recommendations are made. A Sanborn index map showing the area of the Subject Property is presented from such a distance as to not show details of the Subject Property.

#### 3.6.2 Historic Aerial Photographs

Aerial photographs of the Subject Property and surrounding area were provided by the Cape Cod Conservation District. An aerial photograph dated 1938 shows the Subject Property as developed, as is consistent with information that the subject building was constructed in the 1870s. Much of the surrounding area is also noted as developed, though the resolution of the photograph makes it difficult to distinguish details. Aerial photographs dated 1952 though 1991 show the Subject Property relatively unchanged, wherein the subject building and apparently paved areas of the property are visible. Increased development is noted in the surrounding areas through the time periods.

#### 3.6.2 Historic Topographic Maps

Review of a historical topographic map surveyed in 1940 shows the area of the Subject Property as developed at that time, as is consistent with information that the subject building was constructed in the 1870s [Refer to Figure 3]. Topographic data in the 1939 mapping is consistent with that of 1998.

# 3.6.4 Plan of Land

No plans of land for the Subject Property were identified through the research and interviews conducted.

# 3.6.5 Summary of Historical Sources

Interviews conducted have indicated that the Subject Property was initially developed shortly after the 1863 layout of Bells Neck Road, in the 1870s. The subject building was constructed for use as a school building and remained in that use until the 1940s. The American Legion occupied the building in the 1950s prior to donating the building to the Town of Harwich for use as a Youth Center, which operated from the 1970s through the late 1980s. The building has been unoccupied since that time.

Research and interviews have indicated that there has never been any use, storage, release, disposal and/or generation of OHM on the Subject Property. It should be noted, however, that the property is within a historically documented plume of chlorinated solvent impacts. The known former presence of chlorinated solvents on the Subject Property is a **HREC** for which recommendations are made.

### 4.0 Environmental Setting

4.1 Topography

Topography across the Subject Property is generally flat with an elevation of 13' (+/-).

### 4.2 Hydrology

### 4.2.1 Surface Water

No surface water bodies were identified on the Subject Property. Herring River is located some three-eighths of a mile to the east of the Subject Property, and Nantucket Sound is located some one mile to the south. Several reservoirs and Swan Pond are additionally located within one mile of the Subject Property to the north and northwest, respectively.

No catch basins or other storm water management mechanisms were identified at the Subject Property at the time of the site inspection conducted.

### 4.2.2 Wetlands

No wetland-type vegetation was observed on the Subject Property. The nearest wetlands are associated with the Herring River Marshes, some one-quarter of a mile northeast of the property.

# 4.2.3 Hydrogeology

Groundwater is estimated at approximately 8' below grade surface (bgs). Regional groundwater contours illustrate a northeasterly flow direction [Refer to Figure 4].

According to the MA DEP Priority Resource mapping, the Subject Property is located within a medium-yield Potential Drinking Water Source Area (PDWSA). The property is within an Interim Wellhead Protection Area (IWPA) for the non-community public water supply well [#4126002-01G] still shown at Pinewood Village Condominiums [Refer to Figure 5]. As such, the RCGW-1 Reportable Concentrations are applicable for groundwater quality, as are the GW-1, GW-2 and GW-3 groundwater criteria under Method 1 - Risk Characterization in consideration of routes for potential exposures associated with ingestion and dermal contact. Additionally, based upon site features, the RCS-1 Reportable Concentrations are applicable for soils, while the S-1, S-2, S-3/GW-1, GW-2 and GW-3 soil categories are considered applicable relative to frequency/intensity of use and accessibility in Method 1 - Risk Characterization. This criterion is used to determine notification and/or remedial response liabilities pursuant to 310 CMR 40.0000.

#### 5.0 Records Review

#### 5.1 Federal Records

FirstSearch Technology Corporation provided environmental regulatory database information for the site and surrounding area. The report includes records of hazardous waste permits, state and federal records and reported on-site and/or area contamination. The US EPA database was reviewed independently as a supplement to this search in consideration of the subject and abutting properties. A copy of the database information is presented as Appendix D.

FEDERAL DATABASES	DISTANCE	MAPPABLE SITES				
	(miles)	Total	Site	0 25 mi	25- 5 mi	5-1 mi
National Priority List Sites	1.00	0	0	0	0	0
Delisted National Priority List Sites	0.50	0	0	0	0	NA
CERCLIS Listings	0.50	0	0	0	0	NA
RCRA CORRACTS Facilities	1.00	0	0	0	0	0
RCRA non-CORRACTS TSD	0.50	0	0	0	0	NA
Federal Institutional / Engineering Controls	Site	0	0	NA	NA	NA
RCRA Generator	Site/Adjoining	0	0	0	NA	NA
ERNS	Site	0	0	NA	NA	NA
FINDS	Site	0	0	NA	NA	NA

### 5.1.1 National Priority List Sites

According to FirstSearch, the Subject Property is not listed on the US EPA National Priorities List (NPL), nor is any Site listed within one mile.

#### 5.1.2 Delisted National Priority List Sites

According to FirstSearch, the Subject Property is not listed on the Delisted US EPA NPL, nor is any Site listed within one-half of a mile.

#### 5.1.3 CERCLIS Listings

According to FirstSearch, the Subject Property is not listed in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Sites database, nor is any Site located within one-half of a mile.

#### 5.1.4 RCRA CORRACTS Facilities

According to FirstSearch, the Subject Property is not identified as a RCRA CORRACTS Facility, nor is any property within one mile.

#### 5.1.5 RCRA non-CORRACTS TSD Facilities

According to FirstSearch, the Subject Property is not identified as a RCRA non-CORRACTS TSD Facility, nor is any property within one-half of a mile.

5.1.6 Federal Institutional Controls/Engineering Controls

According to FirstSearch, the Subject Property is not identified as a Federal IC/EC Site.

#### 5.1.7 RCRA Generator

FirstSearch did not identify the Subject Property as a RCRA Generator, nor were any abutting properties identified.

#### 5.1.8 ERNS Sites

According to FirstSearch, the Subject Property has not been identified as an ERNS Site.

#### 5.1.9 FINDS

FirstSearch did not identify the Subject Property as a FINDS Site.

#### 5.2 State Records

FirstSearch provided information regarding pre-1993 Spills as well as Transitions Sites carried through the 1993 revisions to the governing MA Contingency Plan (MCP) 310 CMR 40.0000 and subsequent reportable releases and confirmed disposal sites with assigned Release Tracking Numbers (RTNs) listed with the MA DEP.

STATE DATABASES	DISTANCE (miles)	Total	M Site	IAPPABLE SI 0.25 mi	TES .255 mi.	.5-1 mi.
State/Tribal Listed Sites	1.00	20	0	2	8	10
State/Tribal Registered USTs/ASTs	Site/ Adjoining	0	0	0	NA	NA
State/Tribal LUSTS	0.50	2	0	0	2	NA
State/Tribal Solid Waste Facilities/Landfills	0.50	0	0	0	0	NA
Pre-1993 Spills	0.25	0	0	0	NA	NA
State/Tribal Brownfield Sites	0.50	0	0	0	0	NA
Activity & Use Limitation Sites	Site	0	0	NA	NA	NA
Tribal Lands	1.00	0	0	0	0	0
State/Tribal Engineering Controls	Site	0	0	NA	NA	NA
State/Tribal Institutional Controls	Site	0	0	NA	NA	NA
State/Tribal Voluntary Cleanup Properties	0.50	0	0	0	0	NA

FirstSearch information has been supplemented by the review of the MA DEP Searchable Database and an independent review of MA DEP Archived records in consideration of the subject and abutting properties.

### 5.2.1 State/Tribal Listed Sites

FirstSearch identified twenty Sites located within one mile of the Subject Property. Between one-half mile and one mile of the Subject Property, ten Sites were identified. These include five Sites which have been closed with Class A-1 or A-2 Response Action Outcomes (RAO), as indicating project closure with mitigation of environmental hazards, two Tier II Sites [RTNs 4-21865; 4-21894], one Tier 1D Site [RTN 4-20952], one Site where a Utility Abatement Measure is being conducted [RTN 4-12092] and one Site for which a Waiver Completion Statement has been filed [RTN 4-00827].

Eight Sites were identified between one-quarter and one-half of a mile of the Subject Property. These Sites include five Class A-2 or B-2 RAOs, one Tier 1D Site [RTN 4-19845] and two Sites [RTNs 4-00933; 4-12832] with a Class C-1 RAO, indicating a Temporary Solution where a condition of No Significant Risk has not been achieved. It is noted that the Subject Property is located hydrogeologically downgradient of both of these Sites, one of which is identified as Dennisport Automatic Coin Laundry (DACL) [RTN 4-12832]. This Site involves a release of chlorinated solvents. Further information about this Site is presented below.

Finally, two Sites were identified within one-quarter of a mile of the Subject Property. One such Site has been closed with a Class A-2 RAO. The remaining Site [RTN 4-13326] has Downgradient Property Status (DPS) and is identified as the northern abutting Pinewood Village Condominiums at 9 Bells Neck Road. Additional information about this Site is presented below.

#### RTN 4-12832: Dennisport Coin Laundry, 13 Hall Street - Dennisport, MA

DACL had been in use as a laundromat offering dry-cleaning services from 1964 until 1997. The owner of the laundromat reported that non-contact cooling water from the distiller units was historically discharged to the on-site cesspools at the front (north) of the property, as the likely source of chlorinated solvent contamination. Response actions began in 1997 when a Notice of Responsibility was issued by the MA DEP based on the assertion of DPS by a downgradient property for the presence of volatile organic compounds (VOCs) in groundwater. Testing of groundwater monitoring wells from 1997 through 2005 showed the migration of the solvent plume allegedly originating from the source area on the DACL Site toward the northeast. Laboratory analysis of groundwater from monitoring wells located west (SAIC-HD-108), northeast (SAIC-HD-114 and SAIC-HD-115) and southeast (SAIC-HD-119) of the Subject Property reported concentrations of VOCs greater than the most restrictive GW-1 Method 1 – Risk Characterization standards in testing conducted in 1999-2000, indicating that the plume migrated through the area of the Subject Property [Refer to Table 5 below and Appendix B - Bennett & O'Reilly, Inc Site Plan Sheet 3 of 3 for well Subsequent groundwater monitoring conducted by Bennett & locations]. O'Reilly, Inc. during a Phase II MCP investigation reported concentrations of VOCs from these wells as below the reportable limits (BRL) of the analyses, indicating that the plume of chlorinated solvents was attenuating. Plans included in the Phase II Completion Report dated September 20, 2005 shows the northeasterly extent of the mapped solvent impacts as some 450' southwest of the Subject Property. This Site remains open with a Class C-1 RAO as a Temporary Solution with an active remedial monitoring plan. The documented historical migration of a solvent plume through the area of the Subject Property is a HREC for which recommendations are made.

TABLE 5: VOC ANALYSIS SUMMARY - HISTORIC							
GROUNDWATER							
(May 1992 - July 2005)							
Selected SAIC Groundwater Monitoring Wells							
Monitoring Well RESULTS RESULTS GW-1/GW-2/G							
Location	(µg/L - ppb)	(µg/L - ppb)	Standards				
[screened interval in feet bgs]			310 CMR 40.974(2)				
	[1999-2000]	[8/05]	(ppb)				
SAIC-HD-108(Deep) [50-60' bgs]	(6/4/99)						
Perchloroethylene	690	BRL(<0.5)	5/3,000/5,000				
Trichloroethylene	120	BRL(<0.5)	5/300/20,000				
cis-1,2-Dichloroethylene	120	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	99	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	12	BRL(<0.5)	100/1,000/500				
MTBE	ND	NT	70/50,000/50,000				
SAIC-HD-114 [40-50' bgs]	(5/2/00)						
Perchloroethylene	54	BRL(<0.5)	5/3,000/5,000				
Trichloroethylene	8	BRL(<0.5)	5/300/20,000				
cis-1,2-Dichloroethylene	ND	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	ND	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	ND	BRL(<0.5)	100/1,000/500				
MTBE	ND	NT	70/50,000/50,000				

TABLE 5: VOC ANALYSIS SUMMARY - HISTORIC							
GROUNDWATER							
(May 1992 - July 2005)							
Selected SAIC Groundwater Monitoring Wells							
Monitoring Well	RESULTS	RESULTS	GW-1/GW-2/GW-3				
Location	(µg/L - ppb)	(µg/L - ppb)	Standards				
[screened interval in feet bgs]			310 CMR 40.974(2)				
	[1999-2000]	[8/05]	(ppb)				
SAIC-HD-115 [40-50' bgs]	(5/2/00)						
Perchloroethylene	420	BRL(<0.5)	5/3,000/5,000				
Trichloroethylene	85	BRL(<0.5)	5/300/20,000				
cis-1,2-Dichloroethylene	110	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	ND	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	ND	BRL(<0.5)	100/1,000/500				
MTBE	ND	NT	70/50,000/50,000				
SAIC-HD-116 [40-50' bgs]	(5/3/00)						
Perchloroethylene	83	BRL(<0.5)	5/3,000/5,000				
Trichloroethylene	6	BRL(<0.5)	5/300/20,000				
cis-1,2-Dichloroethylene	6	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	ND	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	ND	BRL(<0.5)	100/1,000/500				
MTBE	190	NT	70/50,000/50,000				
SAIC-HD-119 [40-50' bgs]	(5/4/00)						
Perchloroethylene	76	BRL(<0.5)	5/3,000/5,000				
Trichloroethylene	ND	BRL(<0.5)	5/300/20,000				
cis-1,2-Dichloroethylene	6	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	ND	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	ND	BRL(<0.5)	100/1,000/500				
MTBE	ND	NT	70/50,000/50,000				
SAIC-HD-121 [40-50' bgs]	(5/8/00)						
Perchloroethylene	39	160	5/3,000/5,000				
Trichloroethylene	18	10	5/300/20,000				
cis-1,2-Dichloroethylene	22	BRL(<0.5)	70/30,000/50,000				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20,000/50,000				
1,2-Dichlorobenzene	ND	BRL(<0.5)	600/10,000/8,000				
Chlorobenzene	ND	BRL(<0.5)	100/1,000/500				
MTBE	ND	NT	70/50,000/50,000				

**Bold** text indicates results that exceed applicable groundwater category(s) Shaded areas designates appropriate groundwater category(s)

BRL=Below Reporting Limits / NA=Not Applicable / NT=Not Tested

#### <u>RTN 4-13326: Pinewood Village Condominiums, 9 Bells Neck Road – West</u> <u>Harwich, MA</u>

On September 11, 1997 a "Do Not Use Order" was issued to the Pinewood Village Condominiums (PVC) by the MA DEP for the reported concentrations of multiple volatile organic compounds (VOCs) which exceeded the allowable Massachusetts Contaminant Level (MCL) for drinking water in their non-community public water supply well. On September 18, 1997 a Notice of Responsibility (NOR) was issued to the Site and Key Environmental Services, Inc. (KES) was engaged to complete the required Immediate Response Action (IRA) investigation. KES stated testing of soil at the Site identified concentrations of total petroleum hydrocarbons (TPH), lead and methylene chloride below the RCS-1 Reportable Concentration standards. Analysis of onsite groundwater from four monitoring wells installed as part of the IRA reported concentration standards in all monitoring wells, while TPH was reported as greater than the RCGW-1 standards in MW-1, -2 and -3. The findings of the IRA

resulted in the filing of a Downgradient Property Status submittal on 2/16/98. While a copy of this report was not available through the town research conducted, a review of BEAs internal records did produce some information relative to the DPS for the Pinewood Village Condominiums [Refer to Appendix B]. Several potential sources of the impacts were identified in the DPS report including a former gasoline station, a former automotive shop and a former dry cleaner to the south of Pinewood Village, and the Dennisport Automatic Coin Laundry (DACL) some 1000' to the southwest. The presence of a DPS property hydrologically downgradient of the Subject Property is noted as a **PEC** for which recommendations are made.

5.2.2 State/Tribal Registered Underground/Aboveground Storage Tanks

FirstSearch did not identify the Subject Property on any State/Tribal registered UST/AST lists, nor was any abutting property identified.

5.2.3 State/Tribal Leaking Underground Storage Tanks

FirstSearch did not identify the Subject Property on the State/Tribal Leaking Underground Storage Tank (LUST) database. Two Sites were located within one-half of a mile of the Subject Property, and is included in Section 5.2.1 above.

5.2.4 State/Tribal Solid Waste Facilities and Landfills

FirstSearch did not identify the Subject Property on the State/Tribal Solid Waste Facilities and Landfills database, nor were any properties identified within one-half of a mile.

5.2.5 Pre-1993 Spill Sites

FirstSearch did not identify the Subject Property on the Pre-1993 Spill Sites database, nor were any Sites identified within one-quarter of a mile.

5.2.6 State/Tribal Brownfields

The Subject Property was not identified on the State/Tribal Brownfield Sites list, nor was any property within one-half of a mile.

5.2.7 Activity and Use Limitation Sites

The Subject Property was not identified on the Activity and Use Limitation Submittals database.

5.2.8 Tribal Lands

FirstSearch did not identify the Subject Property on the Tribal Lands database, nor was any Site identified within one mile.

#### 5.2.9 State/Tribal Engineering Controls

FirstSearch did not identify the Subject Property on the State/Tribal Engineering Controls database.

#### 5.2.10 State/Tribal Institutional Controls

FirstSearch did not identify the Subject Property on the State/Tribal Institutional Controls database.

### 5.2.11 State/Tribal Voluntary Cleanup Properties

FirstSearch did not identify the Subject Property on the State/Tribal Voluntary Cleanup Properties list, nor was any Site identified within one-half of a mile.

#### 5.3 Non-Geocoded Properties

Numerous non-geocoded Sites whose locations could not be identified were reported by FirstSearch. BEA used the address and/or other information on these Sites to attempt to locate them relative to the Subject Property. Based on distance, hydrologic location and/or regulatory status, none of these Sites appears to represent a material threat of release to the Subject Property.

#### 6.0 Site Reconnaissance

A site inspection was conducted by BENNETT ENVIRONMENTAL ASSOCIATES, INC. (BEA) personnel [John Tadema-Wielandt] on November 19, 2010. The inspection included all accessible interior portions of the subject building. The crawl space was not accessible. All exterior portions of the Subject Property were inspected.

6.1 Underground Storage Tanks

No evidence of current or former underground storage tanks (USTs) was observed at the time of inspection.

### 6.2 Aboveground Storage Tanks

No evidence of current or former aboveground storage tanks (ASTs) was observed at the time of inspection.

#### 6.3 Hazardous Substances

Small quantities of standard cleaners and building maintenance products were identified as stored beneath the sink in the kitchen, located on the second story of the subject building. All materials appeared to be properly stored with no evidence of release.

#### 6.4 Hazardous Waste

No evidence of either current or former hazardous waste storage or generation was identified for the Subject Property through the site inspection conducted.

#### 6.5 Polychlorinated Biphenyls

No sources of PCBs, such as transformers, hydraulic lifts or old-style florescent lighting ballasts were noted on the Subject Property at the time of the site inspection conducted.

#### 6.6 Solid Waste Disposal

An unidentified metal ring was identified on the exterior of the Subject Property at the time of the inspection conducted. A shovel was used to remove soil from the area of the object which drops into a large subsurface metal box which appears to extend beneath the adjacent foundation wall. Wherein this object could not be identified, it is noted as a **PEC** for which recommendations are made.

6.7 Stained Surfaces and Distressed Vegetation

No stained surfaces were observed at the time of the inspection conducted.

#### 6.8 Underground Structures & Sanitary Wastewater Disposal

The Subject Property is assumed to have been serviced by an on-site septic system, most likely consisting of cesspools, though no permits, plans nor as-built sketches were identified through the research and interviews conducted, and no evidence of the location of the system was observed during at the time of the inspection conducted. Based on the location of the bathrooms within the subject building, the system may be located to the north or east of the building. The Subject Property is additionally serviced with underground natural gas and water utilities, though the natural gas meter was noted as removed and the line capped at the time of the inspection conducted.

#### 6.9 Additional Issues of Environmental Concern

In accordance with the Service Constraints provided in Section 10.0, this report is not intended to be a complete environmental audit or industrial hygiene survey which would ascertain compliance with federal and state regulations other than those explicitly stated. Specifically, this investigation does not address asbestos-containing materials (ACM) or polychlorinated biphenyl (PCB)-containing building materials, radon gas, ionizing radiation, lead paint, lead water supply piping, well water quality, septic system inspection or sewer gas hazards.

#### 7.0 Physical Testing

Based on the **HREC**, and in review of the **PECs** identified, BEA sampled monitoring well SAIC-HD-108D as intermediate to a known source of chlorinated solvents identified as Dennisport Automatic Coin Laundry, for VOCs as a preliminary measure in determining the potential for the current presence of impacts originating from an upgradient, off-site source to the Subject Property.

7.1 Soil

No soil testing was conducted as part of this investigation.

7.2 Groundwater

On November 19, 2010, BEA personnel were on-site to perform the inspection of the Subject Property and to sample the existing monitoring well SAIC-HD-108D. Due to the small diameter of the well, gauging and measurement of depth to water could not be conducted. Some 50' of tubing was removed from the well and replaced for low-flow purging and sampling using a peristaltic pump. The monitoring well was sampled for Volatile Organic Compounds (VOCs) EPA Method 8260B. Samples were field preserved with ice in a cooler and submitted to Groundwater Analytical, Inc. on a Standard turnaround for MA Certified analysis.

The resulting laboratory analysis was received on December 7, 2010. All VOCs were reported below the reporting limit (BRL), wherein the reporting limit is well below the applicable RCGW-1 Reportable Concentrations and the GW-1 Method 1 - Risk Characterization Standards.

- 7.3 Risk Characterization
  - 7.3.1 Soil

No soil sampling was conducted as part of this investigation.

7.3.2 Groundwater

As noted previously, the RCGW-1 Reportable Concentrations were considered in review of potential impact to groundwater. Additionally, review of the property indicated the GW-1 Method 1 -Risk Characterization criteria would be applicable, per 310 CMR 40.0932. These standards were developed to evaluate potential ingestion, dermal contact and environmental exposure risks.

All VOCs were reported below the reporting limit (BRL), wherein each reporting limit is well below the applicable RCGW-1 Reportable Concentrations and the GW-1 Method 1 - Risk Characterization Standards. While these findings support research indicating that the plume of chlorinated solvents historically documented in the area of the Subject Property has attenuated and is no longer present in the area, additional recommendations for physical testing are made to further qualify potential environmental impacts to the Subject Property.

#### 8.0 Limitations and Conditions

The inaccessibility of the crawl space basement is noted as a Limitation to this investigation. The inability to fully investigate and identify the metal object adjacent to the chimney at the subject building is noted as a Limitation to this report. Finally, the selling price of the Subject Property was not reviewed relative to real estate values in the area. Such work should be conducted by the user's attorney prior to purchase.

#### 9.0 References

Barnstable County Registry of Deeds, on-line file review, December 9, 2010.

Mr. Bob Cafarelli, Harwich Town Engineer, interview, November 19, 2010.

FirstSearch Technology Corporation, Database Search, November 18, 2010.

Harwich Assessors Office, on-line file review, November 18, 2010.

Harwich Board of Health, File Review, December 7, 2010.

Harwich Building Department, File Review, December 7, 2010.

Harwich Conservation Commission, File Review Request, December 7, 2010.

Harwich Fire Department, File Review, December 7, 2010.

Massachusetts Department of Environmental Protection, BWSC, Site/Reportable Release Database.

Mr. Paul Sweetser, Harwich Town Surveyor, interview, November 19, 2010.

United States Geological Survey, Harwich, Massachusetts, Quadrangles, 1998.

United States Geological Survey, Groundwater Resources of Cape Cod, Massachusetts, 1980.

United States Environmental Protection Agency, Envirofacts Database Search

University of New Hampshire http://docs.unh.edu/nhtopos/nhtopos.htm

#### **10.0** Service Constraints

1. Much of the information provided in this report relies on and is based upon personal interviews and research of available documents, records and maps held by the appropriate government and private agencies. This information is therefore subject to the limitations of historical documentation, availability and accuracy of pertinent records and the personal recollection of those persons contacted.

2. An initial investigation took into account the natural and man-made features of the site, including any unusual or suspect phenomenon. These factors, combined with the site's geology, hydrology, topography and past and present land uses served as a basis for choosing a methodology and location for subsurface exploration as well as groundwater and subsurface soils sampling. The subsurface data generated are meant as a representative overview of the existing site conditions.

3. The locations and analyses of soil, groundwater and/or subsurface water samples were based upon the same consideration listed in 1 and 2 above. The samples were analyzed for those parameters unique to the site as determined from the preceding site evaluation.

4. The interpretations and opinions provided in this report are based on governmental regulations and policies in effect at the time for preparation of the report. Future changed in regulatory policy may render these opinions obsolete or otherwise invalid. BENNETT ENVIRONMENTAL ASSOCIATES, INC. should be consulted regarding validity of conclusion and opinions before any use is made of this report outside of the time frame of its preparation.

5. This report is designed to identify material evidence and/or threat of releases of oil or hazardous materials to the environment. It is <u>NOT</u> intended to be a complete environmental audit or industrial hygiene survey which would ascertain compliance with federal and state regulations other than those explicitly stated. Specifically, this investigation does not address asbestos-containing materials (ACM) or polychlorinated biphenyl (PCB)-containing building materials, radon gas, ionizing radiation, lead paint, lead water supply piping, well water quality, septic system inspection or sewer gas hazards.

<sup>\*\*</sup>Massachusetts General Law, Chapter 21 E, states that the property owner may be legally and financially liable for the presence of any hazardous material or petroleum product present on their property, in the groundwater beneath their property, or in subsurface materials. The owner of the property on which the release has occurred is legally required to notify the Massachusetts Department of Environmental Protection about the discovery of such materials exceeding prescribed concentrations or quantities and contract a Licensed Site Professional to supervise remedial response actions.

# FIGURES



**FIGURE 1:** The subject 3,508 SF building is currently unoccupied. The property is moderately developed with pavement, limited landscaped curbing and natural vegetation.



**FIGURE 2:** The Subject Property contains 29,600 SF of land area located at 5 Bells Neck Road in West Harwich, MA.



**FIGURE 3:** Review of a historical topographic map surveyed in 1940 shows the area of the Subject Property as developed at that time, as is consistent with information that the subject building was constructed in the 1870s. Topographic data in the 1939 mapping is consistent with that of 1998.



**FIGURE 4:** Groundwater is estimated at approximately 8' below grade surface (bgs)+/-. Regional groundwater contours illustrate a northeasterly flow direction.



**FIGURE 5:** According to the MA DEP Priority Resource mapping, the Subject Property is located within a medium yield Potential Drinking Water Source Area (PDWSA). The property is within an Interim Wellhead Protection Area (IWPA) based on the presence of non-community public water supply #4126002-01G. As such, the RCGW-1 Reportable Concentrations are applicable for groundwater quality, as are the GW-1, GW-2 and GW-3 groundwater criteria under Method 1 - Risk Characterization in consideration of routes for potential exposures associated with ingestion and dermal contact. Additionally, based upon site features, the RCS-1 Reportable Concentrations are applicable for soils, while the S-1, S-2, S-3/GW-1, GW-2 and GW-3 soil categories are considered applicable relative to frequency/intensity of use and accessibility in Method 1 - Risk Characterization. This criterion is used to determine notification and/or remedial response liabilities pursuant to 310 CMR 40.0000.

# APPENDIX A



# APPENDIX B


# FIRE INSURANCE MAP ABSTRACT RESEARCH RESULTS

### 11/18/2010

### **BEA1010288**

# 5 BELLS NECK ROAD WEST HARWICH, MA 02671

Listed below, please find the results of our search for historic fire insurance maps, performed in conjunction with your Environmental FirstSearch® report.

State	City	Date	Volume	Sheet Number(s)
Massachusetts	Harwich	1959	none	INDEX, abutter; 6
Massachusetts	Harwich	1945	none	abutter; 6
Massachusetts	Harwich	1928	none	abutter; 6

This abstract is the result of a visual inspection of various Sanborn® Map collections. Supporting documentation follows in the Appendix. Use of this material is meant for research purposes only.

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FirstSearch Technology Corporation

10 Cottage Street, Norwood, MA 02062 Tel: 781-551-0470 Fax: 781-551-0471 Appendix

Supporting Documentation



















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# **Parcel Detail Report**

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Slock:Sewer:Lot Size(sq. ft.): 27442.799792897Scenic River:No.ot:G1Water:Wetlands ?NoLot SizeSubdivisionResource Area:Metlands ?Noand Use:9030(Lot #):FEMA Flood ZoneFEMA Flood Zone	Map:	10		<b>District:</b>			Scenic View:	No
ot:         G1         Water:         Frontage:         Wetlands ?         No           Loning:         Subdivision         Resource Area:         Resource Area:         And           and Use:         9030         (Lot #):         EEMA Flood Zone         And	slock:			Sewer:	Lot Size(sq. ft.)	:27442.7997922897	Scenic River:	No
Zoning:     Subdivision     Resource Area:       and Use:     9030     (Lot #):	ot:	G1		Water:	Frontage:		Wetlands?	No
and Use: 9030 (Lot #): FEMA Flood Zone	<b>Joning:</b>		Subdivision			Resource Area:		
	and Use:	9030	(Lot #):			FEMA Flood Zone		

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Owners

Name HARWICH TOWN OF - 5 CENTER	ELECTMEN YOUT	Mailing A H 732 MAIN	Address V ST HARWICH, MA	02645		Record	Date Book	Page 321	Tax Id 000001000000G001- 0000000E
Structures								ч. Эл	
Type of Structure CLUB/LODGE/HALL		Address 5 BELLS NECK	ζ RD	UseGroup	# of Units	# of Baths 0	Max Occupancy	Tax Id 000001000000 001-0000000	000
Permit History									
Type:	Permit No:	Issue Date	Status	Work Category	Contractor		Project No:	Description of	Work:
Test Hole	BHP-2007-0409	Jul-16-2007	Expired				JS-2008-0099	4 Test Holes/2 Pe	srcs

ELECTRICAL SHINGLE ROOF

SIGNED OFF

Mar-10-1999 Aug-01-1980

162 281

BP BP GeoTMS® 2010 Des Lauriers Municipal Solutions, Inc.

10-61

Page 1 of 1

62 ROUTE 28			A	2	Church	,				10-62
				$\overline{Pa}$	rcel Detail Re	port			Printea	0n: Tue Dec 07, 2010
	GI	IS #:	175	Address	62 ROUTE 28		Scen	ic Road:	No	
	M	ap:	10	District:	1. (		Scen	ic View:	No	-
	Bl	ock:		Sewer:	Lot Size(sq.	ft.) 67953.5	9751 Scen	ic River:	No	
	Lo	ot:	G2	Water:	Frontage(ft	:	Wetl	ands?	No	
	Z0	ining:		Subdivis	ion		Reso	urce Area:		
	Collar	nd Use: omments:	9060	:(#107)			FEM	A Flood Zone		
Owners of Record										
Name FIRST BAPTIST CHURCI	Ŧ	Mai PO I	ling Address 30X 566 W HAF	łwich, MA	02671		Record D	ate Book	Page	Tax Id 000001000000G002- 0000000E
Structures										
Type of Structure		Address			UseGroup	# of Units	# of Baths	# of Bedrooms	Max Occupancy	Tax Id
CHURCH		62 ROUTI	E 28				0	0		000001000000G 002-0000000E
Permit History										
Type:	Permit No:	Issue Date	Status		Work Category	Contractor		Project No:	Description of V	/ork:
Certificate of Inspection	2008-88	Feb-27-200	9 APPROV	/ED	Certificate of Inspection			JS-2009-1070	2008 106 Inspecti	ис
Certificate of Inspection	2007-88	Dec-27-20(	8 APPROV	/ED	Certificate of Inspection			JS-2009-1070	2007 106 Inspecti	uc
Certificate of Inspection	88-06	Dec-20-20(	06 SIGNED	OFF	Certificate of Inspection			JS-2007-0849	2006 106 Inspecti	uc
Certificate of Inspection	88-04		OPEN		Certificate of Inspection			JS-2005-1865	2004 106 Inspecti	uc
BP	CI-88	Jun-03-200	2 SIGNED	OFF					CHURCH	
BP	365	Sep-26-195	7 SIGNED	OFF					GAS	
BP	530	Dec-24-195	96 SIGNED	OFF (					GAS	
BP	82	Mar-04-19!	06 SIGNED	OFF					RE-ROOF	
BP	152	Jun-04-199	I SIGNED	OFF					REPLACE SILL	
BP	223	May-15-19	89 SIGNED	OFF (					RAMP & ELEVA	TOR
BP	711	Dec-09-19{	37 SIGNED	OFF (					<b>STRUCTURAL I</b>	EP.
BP	337	Sep-08-195	0 SIGNED	OFF (					SHINGLE ROOF	
GeoTMS® 2010 Des Lauri	ers Municipal Solut	tions, Inc.								Dage 1 of 2

age

Make application to loc Fire Department retains original applica	al Fire Department. tion and issues duplicate as Permit.
Commonwealth	Massachusetts
The contractice and the contract of the contra	DB / lot: DD 1.
Department of Prive Dervices	- 900ard of Pire Trevention
APPLICATION	
for storage tank removal and transportation to approved of M.G.L. Chapter 148, Section 38A, 527 CMR 9.00, app	ank disposal yard in accordance with the provisions lication is hereby made by:
Tank Owner Tank Owner Name (please print) Rich on P	SS x
Address / S Bell'S week 20	Signature (if apilying for permit)
Street	City State Zip
Removal Contractor	ontamination Assessment
Company Name Are Excursful	Co. or Individual
Address	Address
Signature (if applying for permit)	Signature (if applying for permit)
MA2 Day	
Tank Information	□ IFCI Certified □ LSP # Other
Tank Location 15 Bells Neek	RD W. Banuich
Tank Capacity (gallons) 500	Substance Last Stored 2016
Tank Dimensions (diameter x length) <u>5×4</u>	
Remarks: UNDAYNOMD	. · ·
0	Å
Disposal information	State Lie # 00000 5497
Hazardous waste manifest#	E.P.A. #
Approved tank disposal yard	Tank yard #
Type of inert gas (121, 110) Tank yard address WO	11 coff por lovapulle MIRS
Approvals       City or Town     HARWICH	FDID#Permit#
Date of issue	Date of expiration $3/30/04$
Dig safe approval number: 04173716	Dig Safe Toll Free Tel. Number - 800-322-4844
Signature / Title of Officer granting permit	Kuullurl

After removal(s) send Form FP-290R signed by Local Fire Dept. to UST Regulatory Compliance Unit, One Ashburton Place, Room 1310, Boston, MA 02108-1618.

	, corporation or Regulation 502 ire Department.	LED ursuant to 502 CMR 3.00.
Commonwealth of Massachusetts ment of Fire State Fire Manshal RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK	James G. Grant Co., Inc.         James G. Grant Co., Inc.         Drawk YARD       James G. Grant Co., Inc.         Drawk Yard       Draw provesting         S       Tank Yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Doc 5137       Doc 5137         S       Tank Yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       Tank yard Ledger 502 CMR 3.03 (4) Number:       Doc 5137         S       <	to transport tils different authorized representative: yard owner or owners authorized representative:
Depart	Fom FP 291 NAME AND ADDRESS OF APPROVE APPROVED TANK YARD NO. AppROVED TANK YARD NO.	FDID# 0

Tank I.D. # (Form FP-290) Owner/Operator to mail revised copy of Noti Office of the State Fire Marshal, P.O. Box 10	Date Received	IANK DATA Gallons 33D Previous Contents 42 Diameter Length
ification Form (FP290, or FP290R) to : UST Compliance, 25 State Road, Stow, MA 01775.	Fire Department Permit # 0//2C	TANK REMOVED FROM IS BE IS Neck Bd IN. und Street W Hawich (City or Tore)

# The Commonwealth of Massachusetts



Department of Public Safety-Division of Fire Prevention

APPLICATION FOR PERMIT FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

To: HEAD OF FIRE DEPARTMENT HARWich

C.82 S.40 M.G.L. DIG SAFE NUMBER Start Date

July 31, 1990

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A Application is hereby made by <u>CAPE Examplify</u> <u>Service</u> (Name of Person, Firm or Corporation)

Address 338 30. HARWinh

For permission to remove and transport underground steel storage tank(s) from.

1 - 1000graf. 60 Anno St. (Rtr. 28) WEST HIPPuick to approved Tank Yard J. C. GEANT Co. Inc. 0350 FDID# Q1126 State clearly type of Type of inert has used inert gas used in steel storage tank Name of Person, Firm, Corporation disposing tank CAPE EXAMUNATing SERVice Date issued - rejected 7/3/ 1990 By: Date of expiration 7/3/ 1990 By: J The Commonwealth of Massachusetts DEPARTMENT OF PUBLIC SAFETY-DIVISION OF FIRE PREVENTION ERM FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD C.82 S.40 M.G.L DIG SAFE NUMBER In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A this permit is granted to . Stort Date Full name of person, firm or Corporation Name: und steel storage tank(s) to Approved tank yard# J.G. <u>Grant Co. Tric</u>, 0350/ To transport underground steel storage tank(s) State clearly type of inert gas used in n's steel tank: steel storage tank met Name and address of contractor FDID# D1126 disposing tank CAPE Excavating SERVICE Fee paid \$ 3.5. 20 1- 1000q; 4. 60 Mirin St. (Rts. 25) W.H. be transported

DIMENSIONS	in the second
. DINENSIGNS	lank Removed From
Width Length	The bolding Rd Rtz. 28 W.H.
Tank 1 X	(no. street)
······································	P Marwich, MA
ank 2 X	(city or town)
ank 3 X	
······	Fire Department
ank 4 X	Permit #
	(if applicable)
ank 5 X	
(feet) (feet)	

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RECEIPT OF DISPOSAL OF UN	NDERGROUND STEEL ST	ORAGE TANK	
NAME AND ADDRESS OF APPROVED TANK YARD APPROVED TANK YARD NO. ( Tank Yard Ledger 502 CMR	JAMES G. ( R. 28 WOI READVILLE, 3.03(4) Number:	$\frac{\text{GRANT CO, INC}}{\text{COTT ST,}}$ $\frac{\text{MA 02137}}{\text{MA 02137}}$	
I certify under penalty of law I delivered to this "approved tank and Regulation 502 CMR 3.00 Provisio A valid permit was issued by LC this tank to this yard. Name and official title of approx	[ have personally examined ( yard" by firm, corporate 1 accepted same in confor- ons for Approving Undergon DCAL Head of Fire Depart oved tank yard owner or (	ed the underground steel storage tan tion or partnership $() O C E X C$ mance with Massachusetts Fire Preve round Steel Storage Tank dismantling rtment FDID# $O \perp \perp Q$ ( to trans owners authorized representative:	k DR\\(CC ntion yards. port
DULIC Maut	TITLE .	B - (O - 9U) DATE SIGNED	nerro de Alexano.
This signed receipt of disposal FDID# $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ pursuant to	must be returned to the 502 CMR 3:00. (EACH TAN	local head of the fire department NK MUST HAVE A RECEIPT OF DISPOSAL)	
FORM F P 201 (nev 0/28)	(CR/FP)	MACCACHIICETTIC CTIATE ETD	

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ACTION TAB . Date 7/9 To: From: FOR YOUR INFORMATION □ FOR YOUR COMMENTS □ FOR YOUR APPROVAL □ NOTE & RETURN □ NOTE & FILE TAKE APPROPRIATE ACTION FOR YOUR SIGNATURE CALL ME □ SEE ME □ REPLY & SEND ME COPY COMMENTS:\_\_\_\_\_

Massachusetts Correctional Industries

1,



ARGEO PAUL CELLUCCI Governor COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS DEPARTMENT OF ENVIRONMENTAL PROTECTION SOUTHEAST REGIONAL OFFICE

COPY

TRUDY COXE Secretary

DAVID B. STRUHS Commissioner

September 11, 1997

Mr. Irving D. Weiner, Pres. RE: c/o Pinewood Village Condominium Association 24 Laurel Road Sharon, Massachusetts 02067-2844 HARWICH--Public Water Notice of Noncompliance and ORDER at Pinewood Village DO NOT USE ORDER - Unilateral Administrative Order UAO-SE-97-5003 PWS ID #4126002

Gentlemen:

Please find a <u>DO NOT USE ORDER</u> issued by the Department of Environmental Protection, pursuant to its authority under M.G.L.c. 111, s.160.

If you have any questions concerning the ORDER, please contact Michael Quink at (508) 946-2766. The Department is available to provide technical assistance regarding your identification of an alternative safe water supply.

For the Commissioner,

-plh. 1 a

Paul A. Taurasi Regional Director

T/MQ/rr

Enclosures

CERTIFIED MAIL # P058 740 454 RETURN RECEIPT REQUESTED

cc: Board of Health P.O. Box 888 Harwich, MA 02645 ATTN: Paula Champagne, Director

Harwich Water Department CC: P.O. Box 1859 Harwich, MA 02645 ATTN: Barry Woods, Superintendent Harwich Fire Department 175 Sisson Road Harwich, MA 02646 ATTN: Robert Peterson, Chief Henry Jessop, Inspector Town of Harwich 732 Main Street Harwich, MA 02645 ATTN: Paul Corcoran, Building Inspector Pinewood Village Condominium Association c/o Margaret Dubrow - Vice President 246 Lakeview Terrace New Haven, CT 06515 Jane Keller - Secretary P.O. Box 1169 Campton, N.H. 03223 Neal Rochford - Treasurer 8 Atwood Terrace Cherry Valley, MA 01611 William Mahoney - Trustee 94 Meadowbrook Lane Holliston, MA 01746 Joel Geller - Trustee 131 Candy Lane Brockton, MA 02401 Paul Baumann, Jr. 40 Pearl Street Great Barrington, MA 01230 Francis Gorman 6 Halsey Way Natick, MA 01760 Michael Truchan, Jr. 97 Newburg Street Roslindale, MA 02131 John Gunneison 119 Parker Street Maynard, MA 01754

-2-

cc: Genevieve Conlin 2 York Road Winchester, MA 01890

> Adam Mancini 243 Main Street Maynard, MA 01754

Cynthia Cassada 46 Dewberry Road Waterbury, CT 06705

John Kelly P.O. Box 396 Dennisport, MA 02639

Jennifer Holmes P.O. Box 18 West Harwich, MA 02671

Department of Public Health Community Health South Street Jamaica Plain, MA 02130

Department of Public Health Bureau of Environmental Health Assessment 250 Washington Street Boston, MA 02108

DEP-Boston ATTN: Yvette dePeiza, DWP

DEP-Boston ATTN: Michael Hutchinson, ORS Nicholas Anastas, ORS

DEP-SERO

ATTN: David DeLorenzo, Deputy Regional Director, BRP Larry Dayian, Chief, Drinking Water Program Richard Packard, Chief, Emergency Response Gerard Martin, Chief, Site Management and Permitting Elizabeth Kouloheras, Chief, Cape Cod Watershed Anne Bingham, Chief, Legal

# COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:

Pinewood Village Condominium Association UAO-SE-97-5003

## UNILATERAL ADMINISTRATIVE ORDER

### I. <u>PARTIES</u>

- 1. The Department of Environmental Protection (hereafter the "Department") is a duly constituted agency of the Commonwealth of Massachusetts, having its principal office located at One Winter Street, Boston, Massachusetts 02108, and a regional office located at the 20 Riverside Drive, Lakeville, Massachusetts 02347.
- 2. The Pinewood Village Condominium Association (the "PWS") operates a non-community public water supply system currently serving various condominium units on property located off Bells Neck Road, West Harwich, Massachusetts.

### II. <u>STATEMENT OF FACTS:</u>

1. An analysis of water samples collected from the PWS water source and distribution system on August 18, 1997 and August 28, 1997 have shown the presence of multiple volatile organic compounds at levels that exceed the maximum contaminant level as prescribed in the Massachusetts Drinking Water Regulations. (copies attached)

### III. ORDER

- 1. The Department of Environmental Protection has determined that the water which is being delivered to the consumers at the Pinewood Village Condominium Association (the PWS) may pose an Acute Risk to Public Health.
- 2. On the basis of the facts stated above, and after consultation with the Department's Office of Research and Standards, and pursuant to the authority granted to the Department by Chapter 111, Section 160, of the Massachusetts General Laws, you are hereby ORDERED to:

A. Immediately notify all customers by hand delivery, posting and other immediate means to <u>Not Use Their Tap Water For Any Purpose</u> until further notice by the Department of Environmental Protection. A copy of such written notice is to be submitted to the Department by September 29, 1997.

B. Immediately cease operation of the well for all potable and non-potable purposes.

The well may be used for non-potable purposes only after consultation and authorization by the Department's Bureau of Waste Site Cleanup.

- 3. The required notification by the PWS shall include the minimum information identified in the General Content of a Public Notice (see enclosures), as well as any and all Mandatory Health Effect Language required by 310 CMR 22.16(1)(d) and 22.16(1)(e), respectively. For the purpose of this notice the PWS shall include health effect language for each and every compound that was found to be present in the source water for which there is health effect language.
- 4. By September 29, 1997, the PWS shall notify the Department, in writing, of plans to ensure an immediate temporary safe supply of water for all customers.
- 5. By September 29, 1997, the PWS shall submit to the Department a written plan for ensuring a permanent safe supply of water for all customers. In this regard, the Department in a Notice of Non-Compliance dated June 23, 1997, required the PWS to provide within ninety (90) days of receipt (or by September 29, 1997) plans for a permanent connection to the Town of Harwich's Public Water Supply System.
- 6. This Order shall remain in effect until such time as the Department determines it may be rescinded.

Should the PWS fail to comply with the terms of this order, M.G.L.c. 111, s.160 provides that such failure to comply: shall be punishable by a fine of not more than \$25,000 for each day that such violation occurs or continues, or by imprisonment for not more than one year, or both; or (b) shall be subject to civil penalty not to exceed \$25,000 per day for each day that the violation occurs or continues.

# III. Appeal Rights and Time Limits:

Any person aggrieved by this Order issued under authority of M.G.L.c. 111, s.160 may, within three (3) days after service of this Order upon that person, give written notice of appeal to the Department of Environmental Protection and file a petition for a jury in the superior court in the county where the premises affected are located. The terms of this Order must be complied with during the pendency of any appeal.

For the Commissioner,

plk. Tan . 9/11/97

Paul Taurasi Regional Director Southeast Regional Office DEP

# Suggested Format

# IMPORTANT DRINKING WATER PUBLIC NOTICE

# DATE:

This notice is to inform the customers of the Pinewood Village Condominium Association (the PWS) that samples taken of the water system on August 18, 1997 and again on August 28, 1997 revealed the presence of various Volatile Organic Compounds (VOC'S) entering the water distribution system.

In accordance with the Massachusetts General Laws, Chapter 111, Section 160, the Massachusetts Department of Environmental Protection (DEP) may set standards and issue orders as it deems necessary to ensure the delivery of safe drinking water by public water suppliers to customers. The DEP has determined that the presence of the chemicals evident in your drinking water, at the levels indicated below may pose by themselves, or in combination thereof, to be of possible health concern.

The DEP has set various Maximum Contaminant Levels (MCL's) for Volatile Organic Compounds (VOC's) in drinking water to reduce the risk of adverse health effects. As indicated below the MCL's for the compounds Trichlorethylene, Vinyl Chloride, Cis-1,2,Dichloroethylene, and Tetrachloroethylen have been exceeded.

Therefore the PWS is required to include in the notification all Mandatory Health Effects Language for each exceedence. In addition the Department is also requireing that Mandatory Health Language be included in this notificiation for each contaminant found to be present in the source water for which there is Mandatory Health Effects Language:

	0-10-07		8-28-97		
Location	Unit 3	Court Yard	Wellhead after	Wellhead before	Unit 3
<ul> <li>* (5) para-Dichlorobenzene</li> <li>*X(5) Trichloroethylene</li> <li>*X(2) Vinyl chloride</li> <li>* (100)monochlorobenzene</li> <li>* (600)o-Dichlorobenzene</li> <li>* (100)trans 1,2,Dichloroethylene</li> <li>*X(70) cis-1,2 Dichloroethylene</li> <li>*X(5) Tetrachloroethylene</li> <li>u m-Dichlorobenzene</li> <li>u Methyl Tertiary Butyl</li> </ul>	11.0 59.0 3.8 7.9 79.0 1.1 86.0 260.0 2.8 1.1	9.8 54.0 3.6 6.5 75.0 1.0 80.0 250.0 2.4 1.2	8.9 50.0 3.4 6.0 70.0 1.0 76.0 230.0 2.1 1.1	9.6 52.0 3.4 6.3 70.0 1.0 79.0 240.0 2.3 1.3	9.5 520 3.2 6.4 720 1.1 780 200 2.5 1.0

A. Water Samples showing the presence of the following Volatile Organic Compounds

All results reported as ug/l (micrograms per liter -- parts per billion) Maximum Contaminants Levels (MCLs) exceeded \*X Compounds having Mandatory Health Language \*X() Unregulated Volatile Organic Compounds u

(The PWS must include any and all Mandatory Health Effects Language for each contaminant found to be present in the source water for which there is health effects language. An example of the Mandatory Health Effect Language is as follows:)

The Mandatory Health Effects Language for those compounds found to evident in the drinking water is as follows:

- 1. Para-dichlorobenzene. The Massachusetts Department of Environmental Protection (DEP) sets drinking water standards and has determined that para- dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls, and pesticides. It generally gets into the drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may cause adverse health effect in humans who are exposed at lower levels over long periods of time. DEP has set forth the enforceable drinking water standard for para-dichlorobenzene at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe.
- 2. Add any additional Mandatory Language (see attached)

DEP and local Health Authorities require that consumers of the PWS to take the following precautions:

1. **Immediately stop all uses of this water until further notice** for example do not drink, cook, wash dishes, bathe, wash hands, do laundry or flush toilets with this water.

The PWS is taking the following actions to address this issue:

For further information on this issue please contact Mr. Irving David Weiner, at (617) 784-0912 or (617)-878-0614.

a. b.



COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS DEPARTMENT OF ENVIRONMENTAL PROTECTION SOUTHEAST REGIONAL OFFICE

> TRUDY COXE Secretary

DAVID B. STRUHS Commissioner

ARGEO PAUL CELLUCCI Governor

URGENT LEGAL MATTER: PROMPT ACTION NECESSARY

September 18, 1997

Pinewood Village Condominium Association c/o Mr. Irving D. Weiner President 23 Laurel Road Sharon, Massachusetts 02067 RE: WEST HARWICH--BWSC Pinewood Village Condominiums, Bells Neck Road RTN: 4-13326

# NOTICE OF RESPONSIBILITY WITH INTERIM DEADLINES M.G.L. c. 21E, 310 CMR 40.0000

ATTENTION: Mr. Irving D. Weiner

On August 27, 1997, the Department of Environmental Protection (the "Department"), Bureau of Waste Site Cleanup (BWSC) received oral notification that samples collected from the non-community public water supply well serving the Pinewood Village Condominiums contained a number of Volatile Oranic Compounds (VOCs) in exceedance of the allowable Massachusetts Contaminant Level (MCL) for drinking water. The concentrations detected also exceed the Reportable Concentrations for Groundwater Category -1 (RCGW-1) standards established in the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. Trichloroethylene and Tetrachloroethylene were detected in concentrations greater than ten (10) times the RCGW-1 standards and therefore constitute an Imminent Hazard condition as defined in 310 CMR 40.0320.

The Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G.L. c.21E, and the Massachusetts Contingency Plan (the "MCP"), 310 CMR 40.0000, require the performance of response actions to prevent harm to health, safety, public welfare and the environment which may result from this release and/or threat of release and govern the conduct of such actions. The purpose of this notice is to inform you of your legal responsibilities under State law for assessing and/or remediating the release at this property. For purposes of this Notice of Responsibility, the terms and phrases used herein shall have the meaning ascribed to such terms and phrases by the MCP unless the context clearly indicates otherwise.

The Department has reason to believe that the release and/or threat of release which has been reported is or may be a disposal site as defined by the M.C.P. The Department also has reason to believe that you (as used in this letter, "you" and "your" refers to the Pinewood Village Condominium Association) are a Potentially Responsible Party (a "PRP") with liability under M.G.L. c.21E §5, for response action costs. This liability is "strict", meaning that it is not based on fault, but solely on your status as owner, operator, generator, transporter, disposer or other person specified in M.G.L. c.21E §5. This liability is also "joint and several", meaning that you may be liable for all response action costs incurred at a disposal site regardless of the existence of any other liable parties.

The Department encourages parties with liabilities under M.G.L. c.21E to take prompt and appropriate actions in response to releases and threats of release of oil and/or hazardous materials. By taking prompt action, you may significantly lower your assessment and cleanup costs and/or avoid liability for costs incurred by the Department in taking such actions. You may also avoid the imposition of, the amount of or reduce certain permit and/or annual compliance assurance fees payable under 310 CMR 4.00. Please refer to M.G.L. c.21E for a complete description of potential liability. For your convenience, a summary of liability under M.G.L. c.21E is attached to this notice.

You should be aware that you may have claims against third parties for damages, including claims for contribution or reimbursement for the costs of cleanup. Such claims do not exist indefinitely but are governed by laws which establish the time allowed for bringing litigation. The Department encourages you to take any action necessary to protect any such claims you may have against third parties.

## SUMMARY OF SITE CONDITIONS

Information on file with the Department indicates that the following conditions exist relative to this disposal site:

1.) The collection of well water samples and analysis for Volatile Organic Compounds (VOCs) was required by the Department in a Notice of Noncompliance issued by the Bureau of Resource Protection, Water Supply Program on June 23, 1997. 2.) Water samples were collected on August 18, 1997 from Unit #3 and repeated on August 28, 1997 at four (4) locations on the site; center of the courtyard, after the wellhead, before the wellhead and at Unit #3. The following VOCs were detected in concentrations which exceed the applicable Reportable Concentrations for Groundwater Category -1 (RCGW-1):

1007

Sample Collection Date: Au	igust 18, 1997		
GUENICAL	UNIT #3	RCGW-1	
CHEMICAN	11.0 ug/l	5.0 ug/l	
p-Dichlorobellzelle	59 0	5.0	
Trichloroethylene	55.0	2.0	
Vinyl chloride	3.8		
cis-1,2 Dichloroethylene	86.0	70.0	
Tetrachloroethylene	260.0	5.0	

Sample Collection Date: August 28, 1997

CHEMICAL	COURTYARD	<u>WELLHEAD</u> <u>AFTER</u>	<u>WELLHEA</u> BEFORE	<u>D</u> <u>UNIT</u> <u>#3</u>	<u>RCGW-1</u>
n - thi crobenzene	9.8	8.9	9.6	9.5	5.0 ug/l
p-Dichloroethylene	54.0	50.0	52.0	52.0	5.0
Vinvl chloride	3.6	3.4	3.4	3.2	2.0
cis-1.2 Dichloro-	80.0	76.0	79.0	78.0	70.0
ethylene Tetrachloro- ethylene	250.0	230.0	240.0	230.0	5.0

- 3.) Under the Department's Emergency Response contract bottled water was provided to each condominium unit on September 2, 1997.
- 4.) On September 3, 1997 a representative from the Department's Emergency Response Section inspected the site. The Pinewood Village Condominiums consists of sixteen (16) single family cottages. The condominiums receive drinking water from an on-site supply well located approximately fifty (50) feet from the condominium named Pinewood. Each condominium has its own septic system. A number of the septic systems at the site have reportedly failed and require upgrading or

replacement. Also observed was a refuse dumpster adjacent to the supply well.

# ACTIONS REQUIRED

# Licensed Site Professional

You must employ or engage a Licensed Site Professional to manage, supervise or actually perform all assessment activities and required response actions at this site. The LSP retained by you will be able to review the options available to you regarding the regulatory requirements and procedures. Within ten (10) days of receipt of this Notice, you shall provide the name of the LSP you have retained to conduct a subsurface assessment of the site. Please beware that failure to respond to this Notice can result in enforcement action. You may obtain a list of the names and addresses of LSPs from the Board of Registration of Hazardous Waste Site Cleanup Professionals at (617) 556-1145.

# IMMEDIATE RESPONSE ACTION PLAN

In addition, within twenty-one (21) days from receipt of this Notice you must submit to the Department a written Immediate Response Action Plan (IRA Plan), pursuant to 310 CMR 40.0410, which addresses the Imminent Hazard condition posed by the detected concentrations of Trichloroethylene and Tetrachloroethylene and evaluates the site for conditions of Substantial Release Migration. The IRA Plan shall include at a minimum the following:

- A description of the steps taken to provide an alternative potable water supply available for all uses to all occupied condominium units.
- 2. A Phase I subsurface investigation including the installation of an adequate number of groundwater monitoring wells to delineate the extent of the groundwater contamination and verify the groundwater flow direction.
- 3. A site diagram identifying the location of all potential sources of the groundwater contamination including, but not limited to, the refuse dumpster, the supply well, the condominiums septic systems and leaching fields, other private drinking water wells in the vicinity including commercial properties. The locations of the groundwater monitoring wells must be indicated.
- 4. Identify all public and private water supplies within a one-half mile radius of the site.

The IRA Plan must provide a schedule for the installation of the monitoring wells and the collection of the groundwater samples. These activities must commence within forty-five (45) days and be completed within 120 days of receipt of this Notice.

# Release Notification Form

Attached is a Release Notification Form (RNF) which you need to complete and return to the Department within thirty (30) days of receipt of this Notice. The conditions at this site meet the criteria of a 2 hour reporting condition which poses an Imminent Hazard.

Additional submittals are required by the MCP including, but not limited to, the filing of a written IRA Plan, IRA Completion Statement and/or a Response Action Outcome (RAO) statement. The MCP requires that a fee of \$750.00 be submitted to the Department when an RAO statement is filed greater than 120 days from the date of initial notification. Specific approval is required from the Department for the implementation of all IRAs and Release Abatement Measures (RAMs). Assessment activities, the construction of a fence and/or the posting of signs are actions that are exempt from this approval requirement.

Unless otherwise provided by the Department, potentially responsible parties ("PRP's") have one year from the initial date of notification to the Department of a release or threat of a release, pursuant to 310 CMR 40.0300, or from the date the Department issues a Notice of Responsibility, whichever occurs earlier, to file with the Department one of the following submittals: (1) a completed Tier Classification Submittal; (2) a Response Action Outcome Statement or, if applicable, (3) a Downgradient Property Status. The deadline for either of the first two submittals for this disposal site is **August 27, 1998**. If required by the MCP, a completed Tier I Permit Application must also accompany a Tier Classification Submittal.

This site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the release and/or threat of release have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c.21E and the MCP.

If you have any questions relative to this notice, please contact Julie J. Hutcheson at the letterhead address or at 508-946-2852. All future communications regarding this release must reference the following Release Tracking Number: **4-13326**.

Very truly yours,

Ruber F Rackand

Richard F. Packard, Chief Emergency Response / Release Notification Section

p/JH/re

CERTIFIED MAIL #P 256 385 908 RETURN RECEIPT REQUESTED Summary of Liability under M.G.L. c.21E Attachments: cc: Harwich Board of Health P.O. Box 888 Harwich, MA 02645 ATTN: Paula Champagne, Director Board of Selectman 732 Main St. Harwich, MA 02645 Harwich Water Department P.O. Box 1859 Harwich, MA 02645 ATTN: Barry Woods, Superintendent Harwich Fire Department 175 Sisson Road Harwich, MA 02646 ATTN: Robert Peterson, Chief Henry Jessop, Inspector Town of Harwich 732 Main Street Harwich, MA 02645 ATTN: Paul Corcoran, Building Inspector Pinewood Village Condominium Association c/o Margaret Dubrow - Vice President 246 Lakeview Terrace New Haven, CT 06515 Pinewood Village Condominium Association c/o Jane Keller - Secretary P.O. Box 1169 Campton, N.H. 03223 Pinewood Village Condominium Association c/o Neal Rochford - Treasurer 8 Atwood Terrace Cherry Valley, MA 01611 Pinewood Village Condominium Association c/o William Mahoney - Trustee 94 Meadowbrook Lane Holliston, MA 01746 Pinewood Village Condominium Association c/o Joel Geller - Trustee 131 Candy Lane Brockton, MA 02401
Paul Baumann, Jr. 40 Pearl Street Great Barrington, MA 01230

Francis Gorman 6 Halsey Way Natick, MA 01760

Michael Truchan, Jr. 97 Newburg Street Roslindale, MA 02131

John Gunneison 119 Parker Street Maynard, MA 01754

Genevieve Conlin 2 York Road Winchester, MA 01890

Adam Mancini 243 Main Street Maynard, MA 01754

Cynthia Cassada 46 Dewberry Road Waterbury, CT 06705

Robert Philla P.O. Box 208 West Harwich, MA 02761

John Kelly P.O. Box 396 Dennisport, MA 02639

Jennifer Holmes 9 Bells Neck Road Harwich, MA 02671

DEP-SERO ATTN: Andrea Papadopoulos, Deputy Regional Director, BWSC David DeLorenzo, Deputy Regional Director, BRP Larry Dayian, Chief Drinking Water Program Michael Quink, Water Supply Elizabeth Kouloheras, Chief, Cape Cod Watershed

ATTN: Data Entry

# SUMMARY OF LIABILITY UNDER CHAPTER 21E

As stated in the Notice of Responsibility accompanying this summary, the Department has reason to believe that you are a Potentially Responsible Party ("PRP") with potential liability under M.G.L. c. 21E, section 5, for response action costs and damages to natural resources caused by the release and/or threat of release. The Department has identified you as a PRP because it believes you fall within one or more of the following categories of persons made potentially liable by subsection 5(a):

• any current owner or operator of a site from or at which there is or has been a release or threat of release of oil and/or hazardous material;

 any person who owned or operated a site at the time hazardous material was stored or disposed of;

 any person who arranged for the transport, disposal, storage or treatment of hazardous material to or at a site;

• any person who transported hazardous material to a transport, disposal, storage or treatment site from which there is or has been a release or threat of release of such material; and

• any person who otherwise caused or is legally responsible for a release or threat of release of oil or hazardous material at a site.

For purposes of the MCP, you are considered a Responsible Party ("RP") with actual liability under Chapter 21E if you fall within one of these categories unless you (1) are entitled to a defense under section 5 or other applicable law, and (2) have reasonably incurred cleanup costs in an amount equal to or greater than any applicable cap on liability under subsection 5(d).

This liability is "strict," meaning it is not based on fault, but solely on your status as an owner, operator, generator, transporter or disposer. It is also joint and several, meaning that each person who falls within one of these categories may be held liable for all response action costs incurred at the site, regardless of the existence of any other liable parties.

Section 5 provides a few narrowly drawn defenses to liability, including a defense for releases and damages caused by an act of God, an act of war or an act by a third party other than an employee, agent or person with whom the party has a contractual relationship [see subsection 5(c)]; a defense for certain owners of residential property at which the owner maintains a permanent residence [see subsection 5(h)]; and a defense for certain public utilities and agencies of the Commonwealth which own a right-of-way that is a site [see subsection 5(j)].

## BP:09297-0033 94-07-27 10:23 #45093

#### COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss.

Office of the Board of Selectmen of the Town of Harwich

ORDER OF TAKING BY EMINENT DOMAIN OF LAND IN HARWICH, BARNSTABLE COUNTY, MASSACHUSETTS BY THE BOARD OF SELECTMEN OF SAID TOWN OF HARWICH

We, ALLIN P. THOMPSON, JR., SANDRA B. DANIELS, SHIRLEY A. GOMES, WILLIAM A. DOHERTY, JR. and DANA A. DECOSTA, the duly elected and qualified Selectmen of the Town of Harwich, a municipal corporation situate in the County of Barnstable and Commonwealth of Massachusetts, pursuant to the authority conferred on us by Vote of the Inhabitants of the Town of Harwich while acting under Article 33 of the Warrant for the Annual Town Meeting duly called and held on the 4th day of May, 1994, and further, under the authority conferred on us by the General Laws, Chapter 79 and Acts in amendment thereof and in addition thereto, and by virtue of every other power conferred on us by law, having duly complied with all the preliminary requirements prescribed by law do hereby ADOPT AND DECREE this Order of Taking and do hereby TAKE by Eminent Domain on behalf of the Inhabitants of said Town of Harwich in fee simple and for the purpose of clearing title thereto, a certain parcel of land in Harwich, Barnstable County, Massachusetts, more particularly described in Exhibit A attached hereto.

Meaning and intending to take and hereby taking by EMINENT DOMAIN the rights herein defined in the land delineated on the plan referred to in Exhibit A however bounded or described.



JAMES M. FALLA ATTORNEY AND COUNSELOR AT LAW 261 MAIN STREET WEST HARWICH, MASSACHUSETTS 02671

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Acceleration 2014 101-23 #45093

AREA TAKEN

Any trees, buildings or other structures on the land above described are included in this Order of Taking.

No betterments are to be assessed in connection with this Order of Taking.

The land so taken shall be under the jurisdiction of the Board of Selectmen of the Town of Harwich.

The names of the owners, area of taking, and awards, if any, are as follows:

PARCEL NUMBER

G-1

OWNER ACRE Town of Harwich or .63 Owners Unknown

<u>AWARD</u> NONE

JAMES M. FALLA ATTORNEY AND COUNSELOR AT LAW 261 MAIN STREET WEST HARWICH, MASSACHUSETTS 02671

# BP:09297-0035 94-07-27 10:23 #45093

IN WITNESS WHEREOF, WE, the undersigned, duly authorized Board of Selectmen of the Town of Harwich have ADOPTED AND DECREED this Order of Taking and caused the corporate seal of said Town of Harwich to be hereunto affixed this  $2^{H}$  day of , 1994.

THOMPSON **JR** 

HARWICH BOARD OF SELECTMEN

DOHERTY JR.

Decosta DANA

## COMMONWEALTH OF MASSACHUSETTS

Barnstable, ss.

, 1994 12

Then personally appeared the above named ALLIN P. THOMPSON, JR., duly elected Selectman of the Town of Harwich, and acknowledged the foregoing instrument to be the free act and deed of the Town of Harwich, before me,

Not Public My/Commission expl

JULL L. LUC NA NOTARY PUBLIC MY COMMISSION EXPIRES MAR. 21, 1997

JAMES M. FALLA ATTORNEY AND COUNSELOR AT LAW 261 MAIN STREET WEST HARWICH. MASSACHUSETTS 02671

BP:09297-0036 94-07-27 10:23 #45093

#### EXHIBIT A

ORDER OF TAKING BY EMINENT DOMAIN PARCEL G-1, HARWICH ASSESSORS MAP 10

A certain parcel of land together with the building(s) situate in Harwich (West), Barnstable County, Massachusetts, bounded and described as follows:

NORTHERLY By land formerly of John T. Wood Two Hundred Five (205) feet more or less;

EASTERLY By land formerly of John T. Wood One Hundred Fifteen (115) feet more or less;

SOUTHERLY By cemetery land adjoining the West Harwich Baptist Church Two Hundred Twenty (220) feet more or less; and

WESTERLY

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By a Town Road known as School Street a/k/a Bells Neck Road, One Hundred Fifty (150) feet more or less.

The premises being known as the Old Harwich School Property in West Harwich.

See deed from Harwich Post No. 292 American Legion Inc. to the Town of Harwich dated the 27th day of June, 1973, recorded at Barnstable in Book 1893, Page 221.

JAMES M. FALLA ATTORNEY AND COUNSELOR AT LAW 261 MAIN STREET WEST MARWICH, MASSACHUSETTS 02671

BARNSTABLE REGISTRY OF DEEDS

# BOOK 1893 PAGE 321

#### 21372

HARWICH POST NO. 292 AMERICAN LEGION INC., a corporation duly organized and established according to law, for consideration paid and in full consideration of One (\$1.00) dollar:, grants to the TOWN OF HARWICH, a municipal corporation situated in Barnstable County, Massachusetts, with QUITCLAIM COVENANTS, the land together with the buildings thereon situate in Harwich (West), Barnstable County, Massachusetts, bounded and described as follows,

by land formerly of John T. Wood two hundred NORTHERLY five (205) feet more or less;

by land formerly of John T. Wood one hundred EASTERLY fifteen (115) feet more or less;

by cemetery land adjoining the West Harwich Baptist Church two hundred twenty (220) feet more or less; and SOUTHERLY

by a Town Road known as School Street one WESTERLY hundred fifty (150) feet more or less.

The premises being known as the Old Harwich School Property in West Harwich.

For title see deed of the Town of Harwich dated March 3, 1958, duly recorded at the Barnstable County Registry of Deeds in Book 1012, Page 557.

For authority of the Town of Harwich to accept said covenants see attested copy of Article 77 of the 1973 Annual Town Meeting Warrant attached hereto and made a part hereof.

IN WITNESS WHEREOF the said Harwich Post No. 292 American Legion, Inc. has caused its corporate seal to be hereto affixed and these persents to be signed, acknowledged and delivered in its behalf by JAMES A. BOWATT its President and HENNE TH E. RAMOS

its Treasurer, hereunto duly authorized, this 270

June, 1973. HARWICH POST NO. 292 AMERICAN LEGION, INC. man Βv residen Kaimô Treasurer

JAMES M. FALLA ATTORNEY AND COUNSELLOR AT LAW 121 MAIN STREET WEST HARWICH. MASSACHUSETTS

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day of

: BOCK 1893 PAGE 322 COMMONWEALTH OF MASSACHUSETTS Barnstable, ss. 1973. Personally appeared the above named James Bown ÷ T AND KENNETHE. RAMOS and acknowledged the foregoing instrument to be the free act and deed of Harwich Post No. 292 American Legion Inc. Before me, uthen Notary Puł My commission expires -2-JAMES M. FALLA ATTORNEY AND COUNSELLOR AT LAW -----WEST HARWICH. MASSACHUSETTS

BOCK 1893 PAGE 323

TOWN OF

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# Harwich, Massachusetts

HARWICH

02645

#### Annual Town Meeting-March 12, 1973

Article 77. To see if the Town will vote to raise and appropriate the sum of one (\$1.00) dollar for the acquisition of the land and the building thereon commonly known as the American Legion property bounded and described as follows: Northerly by land of John T. Wood, two hundred five (205) feet more or less; Easterly by land of John T. Wood, one hundred fifteen (115) feet more or less; Southerly by cemetery land adjoining the West Harwich Baptist Church, two hundred twenty (220) feet, more or less; and Westerly by a Town Road known as "School Street" one hundred fifty (150) feet more or less. The premises being known as the Old Harwich School property in West Harwich and to act fully thereon.

<u>Motion</u>: To accept and adopt and a sum of one dollar (\$1.00) be raised and appropriated for this purpose. (Duly Seconded)

Action: So voted unanimously by voice vote and declared by the Moderator to be a unanimous vote.

Cl rk

ED JUL 9 1873

A True Copy

Seal

Attes

H



HENRY K. BEARSE Town Clerk and Treasurer

March 24, 1958

HARWICH. MASS.

1012 557

ARTICLE 19. To see if the Town will vote to instruct the Selectmen to transfer by deed to the Harwich Post #292 American Legion Inc. the land together with the buildings thereon sitauted in Harwich in that part known as West Harwich and bounded and described as follows: northerly by land of John T. Wood two hundred five feet (205) more or less; easterly by land of John T. Wood one hundred fifteen feet (115) more or less; southerly by cemetery land adjoining the West Harwich Baptist Church two hundred twenty feet (220) more or less and westerly by a Town Road known as School Street one hundred fifty feet (150) more or less. The premises being known as the Old Harwich School Property in West Harwich and to act fully thereon. By the request of Harwich Post #292 American Legion Inc.

Motion.

To accept and adopt. Unanimously Voted.

A True Copy Attest:

R. Cearse Town Clerk

The Town of Harwich, a Municipal Corporation located in the County of Barnstable and Commonwealth of Massachusetts, for one dollar and other consideration paid, grants to Harwich Post No. 292 American Legion Inc., the land together with the buildings thereon situate in said Harwich at the village of West Harwich, so-called, and said land is bounded and described as follows:

Northerly by land of John T. Wood two hundred five (205) feet more or less;

Easterly by land of John T. Wood one hundred fifteen (115) feet more or less;

Southerly by cemetery land adjoining the West Harwich Baptist Church two hundred twenty (220) feet more or less; and

Westerly by a Town Road known as School Street one hundred fifty (150) feet more or less.

The premises being known as the Old Harwich School Property in West Harwich.

IN WITNESS WHEREOF the said Town of Harwich this 21st day of March 1958,

and a second second

has caused its Corporate Seal to be hereto affixed and these presents to be signed in its name and behalf by Stephen Weekes, Milton H. Welt and Alton E. 1012 Walker, its Selectmen, hereto duly authorized by vote of the Inhabitants of 558 the Town while acting under Article 19 of the Warrant for the Annual Town Meeting duly called and held on the third day of March 1958. TOWN OF HARWIC ΒŶ Selectmen THE COMPON-EALTH OF MASSACHUSETTS Barnstable, ss March 21, 1958 Then personally appeared the above named Stephen Weekes, Milton H. Welt and Alton E. Walker, Selectmen, and acknowledged the foregoing instrument to be the free act and deed of the Town of the Town of Harwich, before me Public otarv My commission expires December 26, 1958 Barnstable, ss., Received August 20, 1958, and is recorded. The Wareham Savings Bank, a corporation established under the laws of the Commonwealth of Mass-SEE MORTGAGE IN BOOK- 88, PAGE 2333 achusetts holder of a mortgage from Norman A. Brown and Mary A. Brown to the said The Wareham Savings Bank dated August 11, 1954 recorded with Barnstable County Registry of Deeds Book 882 , Page 323 acknowledge satisfaction of the same In witness whereof, the said The Wareham Savings Bank has caused its corporate seal to be hereto affixed and these presents to be signed in its name and behalf by Edward A. Besse its President this eighteenth August A. D. 19 58 THE WAREHAM SAVINGS BANK by President

COMMONWEALTH OF MASSACHUSETTS 640 January 12, 1946 Barnstable ss Then personally appeared the above named Charles D. Holmes, Charles T. Chase and Howard C. Cahoon, Selectmen, and acknowledged the foregoing instrument to be the free act and deed of the Town 572 apwich, before me No Notary Public My Commission Expires February 7, 1947 HALLY Barnstable, ss., Received February 6, 1946, and is recorded. of.... Vennis rinsla County, Massachusetts varried, for consideration paid, grant to ..... being of with marranty covenants NA in Unnio the land in (; Description and encumbrances 1 ener weband of said-granter, release to said grantee all rights of tenancy by the curtesy and other interests therein.

Bitness My hand and seal this T. T. day of Movember 1940

many E. Henniphrey

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The Commonwealth of Massachusetts

Barnstable\_\_\_\_ss.

February 5,\_\_\_\_\_1946

Then personally appeared the above named Mary E. Humphrey

and acknowledged the foregoing instrument to be her free act and deed, before me

enore

My commission expires. February 7, \_\_\_\_19 47

Barnstable, ss., Received February 6, 1946, and is recorded.

The Town of Harwich, a Municipal Corporation located in the County of Barnstable and Commonwealth of Massachusetts, for one dollar and other consideration paid, Grants to Harwich Post #292 American Legion, Department of Massachusetts, the land together with the ouildings thereon situate in said Harwich at the village of West Harwich, so called, and said land is bounded and described as follows:

Northerly by land of John T. Wood;

Easterly by land of John T. Wood;

Southerly by cemetery land adjoining the West Harwich Baptist Church;

Westerly by a Town Road known as School Street; The premises being known as the Old Harwich School Property in West Harwich.

In Witness Whereof the said Town of Harwich this twelfth day of January A.D. 1946, has caused its Corporate Seal to be hereto affixed and these presents to be signed in its name and behalf by Charles D. Holmes, Charles T. Chase and Howard C. Cahoon, its Selectmen, hereto duly authorized by vote of the Inhabitants of the Town while acting under Article 4 of the Warrant for a Special Town Meeting duly called and held on the twenty eighth day of November A.D. 1945.

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# BENNETT & O'REILLY, Inc.

# Engineering, Environmental & Surveying Services

Sanitary Site Development Waste Water Treatment Water Supply

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21E/Site Remediation Hydrogeologic Survey Water Quality Monitoring Licensed Site Professional Property Line Subdivision Land Court Trial Court Witness



1573 Main Street PO Box 1667 Brewster, MA 02631 508-896-6630 508-896-4687 Fax

BO04-4103

September 20, 2005

Mr. John Handrahan Massachusetts Department of Environmental Protection (MA DEP) Southeast Regional Office (SERO) 20 Riverside Drive Lakeville, MA 02347

# **RE:** PHASE II COMPREHENSIVE SITE ASSESSMENT COMPLETION REPORT WITH TIER II CLASSIFICATION EXTENSION

Dennisport Coin-Op Laundry -- RTN# 4-12832

13 Hall Street [Assessors Map 91, Parcel 22] Dennisport, MA

Dear Mr. Handrahan,

On behalf of our client, Mr. William Rogers, BENNETT & O'REILLY, INC. has prepared the following document as representing the Phase II Comprehensive Site Assessment Completion Report for the above referenced property in accordance with the provisions of 310 CMR 40.0835 and as consistent with the Phase II - Scope of Work submitted to the MA DEP on October 7, 2004. This report is also an addendum to the Phase II Status Reports previously submitted to the MA DEP (December 31, 2004 and May 25, 2005). The Phase II Investigation is being used to define the Site associated with the RTN#4-12832 tracking number. Environmental assessment activities have been performed to further qualify subsurface and hydrogeologic conditions at the Site and to determine the extent and magnitude of dissolved-phase chlorinated solvent groundwater impact associated with the historic use of the subject property as a coin operated dry cleaning facility. This information has been used to review Critical Exposure Pathways and risks to identified environmental and human receptors.

This document is an addendum to, and an essential part of, the public record representing prior response actions conducted at the site specifically including, but not limited to, documents entitled "Level II Environmental Site Assessment" (9/15/97) prepared by K-V Associates, Inc. (KVA), the "Tier Classification Submittal" (2/16/98), prepared by KVA and the "Release Abatement Measure (RAM) Plan" (1/3/03), prepared by KVA, as well as the "Phase II Scope of Work /Tier Classification Extension" (9/24/04) and Phase II Status Reports I (12/28/04) and II

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SEPTEMBER 20, 2005 PAGE 2 OF 23

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(5/10/05) prepared by BENNETT & O'REILLY, INC., as previously being filed with the MA DEP. Information from these documents are referenced herein but such information is not specifically included as being redundant and already a part of the public record available at the MA DEP, Southeast Regional Office (SERO) as consistent with the provisions of 310 CMR 40.0810(6).

In accordance with the provisions of 309 CMR 4.02, as the Successor LSP, the waste site activity opinions offered herein are based in part on an independent review of the historic data gathered by other qualified environmental professionals as established by education, training and experience, and including other LSPs whom have previously worked on the project as established through the MA DEP (SERO) file review process. Recent Phase II activities under the Tier II Extension have been conducted under my LSP oversight in a manner consistent with the MCP Response Action Performance Standards, pursuant to 310 CMR 40.0191 and the QA/QC policies of BENNETT & O'REILLY, INC., and represents the technical rationale and justification for the LSP opinions rendered relative to the Phase II Completion Report presented herein. The facts and statements are, to the best of our knowledge, a true and accurate representation of the Site activities, remedial response actions and environmental conditions associated with the project.

# SITE DESCRIPTION [Refer to Appendix A]

# **Physical Setting**

The subject property, referenced on the Dennis Assessors' Map 19 as parcel 22, is located at 13 Hall Street in Dennisport, MA, on the southeast corner of Hall Street and Edward's Avenue. [Refer to Site Locus Plan - Appendix A]. The subject property consists of approximately 1.07 acres of land with frontage on both Hall Street and Edward's Avenue. Four structures exist on the property which include: 1.) a one-story wood framed structure with attached garage, built on a concrete slab foundation and functioning as the Dennisport Automatic Coin Operated Laundromat; 2.) a two-story wood framed residential dwelling with a crawlspace basement; 3.) a commercial office building known as the "Knox building"; and 4.) a small storage shed.

The subject property is located on the fringe of the downtown area of Dennisport. The area to the north and west of the Site is characterized as heavily developed with commercial and residential uses as being within the downtown area of Dennisport. The area to the south is mainly residential homes and the property directly to the west is a playground/park with commercial and residential properties beyond. According to the Dennis Assessors' office the owner of record for the subject property is listed as Dorothy D. Rogers.

Research indicates the subject property was occupied by four residential dwellings up until 1959, when two dwellings in the northern portion were torn down and the Laundromat building was constructed. A fire sometime in the 1970s damaged another of the residences and it was remodeled as an office building, currently the Knox building. The fourth residence is currently still used as a residence. Dry-cleaning operations were performed at the site from 1964 up until 1997. From 1959 up until 1970, grey water discharge from the Laundromat was discharged to a series of seven

#### SEPTEMBER 20, 2005 PAGE 3 OF 23

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cesspools located north of the site building. In 1970 the leach pits were abandoned and the gray water was discharged to an open pit. From 1972 up until 1984 gray water was discharged to amoration chambers in the "side yard". In 1984 the amoration chambers were reportedly removed and in 1984 and 1985 subsurface leaching trenches were installed in the southern portion of the Site and continue to be used at the property.

# Environmental Setting

Review of the <u>Geologic Map of Cape Cod & the Islands</u>, <u>Massachusetts</u>, (1986), by Oldale and Barlow, indicates the area is underlain by Harwich Outwash Plain Deposits, typified by mostly gravelly sands with scattered boulders. The site is characterized by the <u>Soil Survey of Barnstable</u> <u>County</u>, <u>Massachusetts</u>, 1993, as Ur - Urban Land consisting of nearly level to moderately steep areas where the soils have been altered or obscured by urban works and structures. Limited information on borings conducted at the property substantiate that sand and gravel are predominant and that there is an upper unconfined sandy aquifer of high permeability.

The subject property is entirely upland with no abutting wetland areas. Review of regional groundwater contours indicate a southerly groundwater flow direction, towards the Herring River. The closest point of the subject property to the Herring River is 1500' southeast. However, Site specific groundwater flow has been determined to be in a general northeasterly direction at between 5 and 10 feet below grade surface (bgs). There are no known private wells within 500' of the subject site, and municipal water is supplied to all surrounding properties.

According to the MA DEP BWSC 21e GIS overlay map, the parcel appears to be within a Potentially Productive Medium Yield Aquifer. Although the property is not within the Zone II of any public water supply well, within 500' of any known private potable well or within Zone A of any surface water supply, the area is considered a Potential Drinking Water Source Area (PDWSA) as being within the designation of a Sole Source Aquifer. Such designation applies to all of Barnstable and Dukes Counties in accordance with the provisions of 310 CMR 40.006.

A review of potential ingestion, dermal contact, inhalation hazard and frequency and intensity of use was conducted to evaluate applicable Method 1 - Risk Characterization standards. The presence of children was established, as a conservative measure, with high frequency and low intensity of use for determination of soil standards. As such, the S-1 soil category is applicable to accessible soils from 0-3' below grade in unpaved areas. The S-2 soil category is applicable for soils from 3-15' in unpaved areas and from 0-15' in paved areas. The S-3 soil category is applicable to isolated soils greater than 15' below grade or soils underlying buildings or permanent structures.

In review of groundwater exposure, Mass GIS (BWSC Overlay) mapping indicates the area as within a medium to high yield aquifer and within the Cape Cod Sole Source Aquifer as a potential drinking water source area (PDWSA). As such the GW-1, Method 1 - Risk Characterization Standard for soils and groundwater is applicable to leaching of soils and potential ingestion of contaminated groundwater. Based on a depth to groundwater as less than 15' below grade, the GW- SEPTEMBER 20, 2005 PAGE 4 OF 23

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2 inhalation standards apply to the site within thirty feet of an occupied building. The GW-3 Method 1 - Risk Characterization Standard, as a measure of potential environmental impact and as consistent with direct contact exposures, are further applicable to the evaluation of exposure risks at the Site.

#### Site History/MCP Compliance Summary

Beginning in 1964 the Laundromat offered dry-cleaning services. In 1964 two dry-cleaning machines containing four chambers (two chambers each) were installed at the site. In 1973 the two machines were replaced with four single chamber machines. The Perchloroethylene used as dry-cleaning fluid was reclaimed by filtering and distilling. The spent filter cartridges were reportedly disposed of at the local landfill. In July of 1989 Safety Kleen was contracted to dispose of the spent cartridges and residues. These were removed from the site under hazardous waste manifests. In 1990 two of the dry-cleaning machines were removed and replaced by a single machine, leaving three machines in total. Then in 1993 two additional machines were removed leaving a single machine at the property. Dry-cleaning operations ceased in 1997 and the site currently uses only coin-operated water-based washing machines and dryers. Based on interviews with the owner, the non-contact cooling water from the distiller units was discharged to the cesspools at the front (north) of the property as the likely source of chlorinated solvents at the subject property.

According to previous KVA reports a 1,000-gallon No. 2 fuel oil underground storage tank (UST), was formerly located off the southern portion of the Laundromat building. The tank was removed from the site on March 24, 1989 by LCR Tank Services. A hand-written note on the tank removal receipt indicates "tank ok, no visible leaks". Records also indicate that a 225-gallon aboveground storage tank (AST) was used at the site for the storage of perchloroethylene. The KVA report indicates that the AST was in good condition and situated on a concrete pad until it was removed in July 1997.

On February 12, 1997 the MA DEP issued a Notice of Responsibility (NOR) for the Site based on a Downgradient Property Status (DPS) Submittal indicating volatile organic compounds (VOCs) on a downgradient property north of the Site (18 Hall Street Craftsbury Realty Trust RTN 4-12054). The NOR indicated that VOCs were detected in three monitoring wells on the downgradient property and that the monitoring well closest to the Laundromat property contained the highest concentrations of the identified VOCs. The NOR indicated that a Release Notification Form should be filed for the Site and that a Licensed Site Professional should be engaged to manage response actions at the property. Upon notification of the discovery of VOCs on the abutting downgradient property, the property owner, Mr. Rogers, engaged KV Associates to perform a "Level II Environmental Site Assessment".

The Level II Environmental Site Assessment included characteristics of the property, environmental characteristics relative to hazardous materials, property use and history, federal state and municipal research, as well as a subsurface investigation consisting of testborings and the installation of monitoring wells. On May 7, 1997 KV Associates, Inc. and Cape Cod Test Boring were at the Site to install a series of three (3) monitoring wells. Soil samples were collected in each

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of the test boring locations using split spoon sampling methods. Soil samples were screened in the field using a photoionization detector to screen for the presence of total organic volatiles (TOVs). TOVs detected ranged from below 1.0 part per million (ppm) to 12.0 ppm. Three monitoring wells were installed in selected locations throughout the site. MW-1 was installed north of the building, in the area of the former leaching pits. MW-2 was installed in the western-central portion of the property and MW-3 was installed further south and in the eastern portion of the property. Subsequent to being installed, groundwater samples were collected from each well and were sent to a certified laboratory for VOC analysis and total petroleum hydrocarbon (TPH) analysis. On June 25, 1997, MW-1 was re-sampled for VOCs. Results of the analysis indicated concentrations of Perchloroethylene (PCE) and its breakdown products, Trichloroethylene (TCE), and cis-1, 2 Dichloroethylene at concentrations ranging from 17,000 parts per billion (ppb) in MW-1 to 2 ppb in MW-3.

Site specific groundwater flow determination was determined by triangulation to be to the west-northwest. An attempt at measuring groundwater flow was also made with a heat-pulse flowmeter with conflicting results, probably due to groundwater mounding from gray water discharge through leaching fields at the property.

The KVA report also indicated that the site was a registered small quantity hazardous waste generator for producing waste Tetrachloroethylene (EPA # MAD9811072432). The site was also permitted for a release to the subsurface of effluent generated by the laundering of clothes. The KVA report recommended resampling the monitoring wells, performing ambient air quality testing and a soil vapor survey and the subsequent installation of additional groundwater monitoring wells. The KVA report also indicated several listed hazardous waste sites in the immediate vicinity of the Site.

In February 1998 KVA submitted a Tier Classification report. The report recommended. that the Site be classified as a Tier II Disposal Site based on a score of 241 from the Numerical Ranking Score sheet. Additional test borings were conducted and monitoring wells installed on January 13, 1998. Monitoring wells MW-4, MW-5, MW-6 and MW-7 were installed on the northeastern portion of the property in the vicinity of the abandoned leaching pits used for gray water disposal. Soil samples were collected from borings MW-4, MW-5 and MW-7 and were sent to a certified laboratory for VOC analysis. Results of the analysis indicated minor amounts of VOCs in a sample collected from boring MW-4 at 20' bgs, below the applicable RC. Soil samples collected from MW-5 and MW-7 were reported as BRL.

Indoor air sampling was also conducted in January 16, 1998. Ambient air was sampled with an HNu PID to evaluate TOVs in ambient air withing the Laundromat and Site residence. Ambient air from within the residence was also collected and screened with a portable Gas Chromatogram for PCE, TCE and cis-1,2-DCE. No VOCs were detected in the residence or the Laundromat by Hnu or by portable GC.

The KVA Tier Classification Report recommended three dimensional water quality profiling using a Gas Chromatograph with supporting laboratory analysis to prove or disprove the existence SEPTEMBER 20, 2005 PAGE 6 OF 23

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of the source area of PCE contamination in the northeastern portion of the Site, in the vicinity of MW-1 and MW-4. The report also recommended the installation of additional monitoring well east of the Site to further define the extent of chlorinated solvent impact and for a better understanding of hydrogeologic conditions existing at the property.

The client retained KVA again in October 2002, to conduct additional site work and to apply for a Tier II Extension. The additional work was documented in a RAM Plan prepared for the site, dated January 3, 2003. The additional work consisted of the installation of eight additional deep and shallow monitoring wells. Portable GC field screening of groundwater from all existing wells. Confirmatory soil and groundwater sampling and a revised records search. Results of groundwater sampling indicated significant concentrations of PCE and TCE in the samples collected from MW-1 and MW-4 indicative of the source area at the subject property. The KVA RAM Plan report identified ozone sparging as the remediation system of choice and outlined RAM Plan objectives, design and specifications of the remedial system, with a schedule of implementation. The MA DEP issued a Notice of Non-compliance dated January 7, 2003 indicating that a Phase II Scope of Work/Tier II Extension was required to proceed with comprehensive response actions at the subject property in accordance with the provisions of 310 CMR 40.0830 and 40.0560(7). As such, the RAM was never implemented and KVA withdrew from the project in a LSP letter of termination dated, May 16, 2003.

In August 2004, Mr. Rogers engaged BENNETT & O'REILLY, INC. to bring the Site into compliance. BENNETT & O'REILLY, INC. subsequently filed a Phase II Scope of Work and Tier II Extension Report (9/24/04) for the performance of physical testing of soil and groundwater at the site, as well as a drilling program for vertical groundwater profiling downgradient of the site to map a known dissolved phase chlorinated solvent plume.

On October 22, 2004, hand borings were conducted in the bottom of the three primary leaching pits located in the northern portion of the Site, formerly used for "chiller" gray water discharge associated with the former dry cleaning machines. Soil samples were collected from the bottom of each of the three primary leaching pits from 7 to 9 feet below grade surface. An OVM 580B photoionization detector (PID) with an 11.8 eV lamp, calibrated to a benzene standard, was employed for field screening of "jar headspace" for organic vapors as consistent with the MA DEP policy WSC-94-400. Representative soil samples were collected, field preserved and submitted to Groundwater Analytical for VOC analysis via EPA Method 8260B TCL analysis.

Hand borings advanced within the leach pits at the Dennisport Laundry property were conducted to establish the presence and magnitude of significant soil contamination within the leaching pits formerly used to discharge gray water. Field PID screening of soils from the bottom of the three primary leaching pits (BOP-1:7-9', BOP-2:7-9' and BOP-3:7-9') did not show significant impact in soils with total organic volatiles (TOVs) of less than 5ppmV in each sample. Confirmatory Laboratory analysis indicated that although concentrations of chlorinated solvents do exist in soils at the bottom of pit locations in BOP-2 and BOP-3, the concentrations reported in the samples are below the applicable S-2/GW-1/GW-2/GW-3 as well as the most stringent S-1/GW-1 Method 1 -

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Risk Characterization Standards. This data confirmed a source of chlorinated solvents as associated with former gray water discharge from the Dennisport Automatic Coin Laundry.

Field screening of soil samples from the downgradient locations at vertical groundwater profiling locations did not show evidence of significant soil contamination within the vadose zone. No confirmatory laboratory analysis was performed for soils in downgradient locations. Capillary fringe soil impact, as a result of contaminant migration on the groundwater, was generally not observed in any of the vertical groundwater profiling points at the downgradient property. All soil analytical date is summarized in Table 1 below.

TABLE 1: VOC ANALYSIS SUMMARY - SOIL (October 2004)     13 HALL STREET						
Locations/ Analytes	VOC RESULTS (µg/Kg - ppm)	S-1 Soil Standard (ppm) 310 CMR 40.975(6)(a) GW-1/GW-2/GW-3	S-2-Soft Standard (ppm) 300:OVR 4097/5(6)(b) GW=VGW-2/6W-3	* <b>S-3 Soft Standard</b> (ppin) 340(CMR 404975(C)(C) CW-4/CW-2/CW-5		
BOP-1:7-9' bgs						
Tetrachloroethylene Trichloroethylene <i>cis</i> -1,2-Dichloroethene	BRL (<11) BRL (<11) BRL (<11)	500/20,000/20,000 400/20,000/70,000 2,000/100,000/100,000	500/30,000/30,000 2,000/500,000/500,000 240/500,000/500,000	500/11001000/11001000 7 2100/201000/5001000 2.0000/50010000/5001000		
BOP-2:7-9' bgs						
Tetrachloroethylene Trichloroethylene <i>cis</i> -1,2-Dichloroethene	310 BRL (<17) BRL (<17)	500/20,000/20,000 400/20,000/70,000 2,000/100,000/100,000	50075012007300000 2,0007500200075002000 200750020075002000	- 3007/10010007/1000;1000 - 3007/20;0000/500;0000 - 2:00075002000/5000;0000		
BOP-3:7-9' bgs						
Tetrachloroethylene Trichloroethylene <i>cis</i> -1,2-Dichloroethene	54 BRL (<8) 10	500/20,000/20,000 400/20,000/70,000 2,000/100,000/100,000		500/1000/000/1000/0001 400/220,000/5000000 2,000/500,000/5000,000		

Bold text indicates results that exceed applicable soil category(s) Shaded areas designates appropriate soil category(s)

As such, the Phase II Comprehensive Site Assessment Status Report I concluded that, based on the analytical results from performed soil sampling, no soil impact exceeding the applicable S-2/GW-1, or most restrictive S-1/GW-1, Method 1 - Risk Characterization Standards was found at the Dennisport Automatic Coin Laundry property. This residual soil contamination observed in the abandoned leach pits, did not represent a significant contribution to groundwater impact associated with leaching potential and therefore does not appear to require treatment, as isolated and capped. Furthermore, the leach pits containing these residually impacted soils could serve as an injection point for remedial additives if such a remedial alternative is chosen.

On 10/21/04 and 10/22/04, subsequent to negotiation of an Access Agreement with Mr. Daniel Keefe, owner of the northerly abutting property (18 Hall Street), a total of four (4) test borings were performed. The test boring locations were chosen based on historic testing in an

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attempt to evaluate the lateral and central plume locations as intermediate to identified receptors. The test borings were advanced down to the confining layer at 40 to 45' bgs and vertical groundwater profiling was conducted through the boreholes. A 5' piece of Schedule 40 #10 slot screen was set at the bottom of the test boring and groundwater was pumped out of the pipe in order to purge and sample the groundwater from discrete depths. The casing was then pulled up 10 feet, purged again and sampled from the next highest depth. Variations in Conductivity, pH and Dissolved Oxygen readings taken from each of these sampling locations showed the samples to be from the discreet chosen depths.

All groundwater samples collected were sent to Groundwater Analytical Laboratory in Buzzards Bay, Massachusetts for Halogenated Volatile Organic Compound (VOC) analysis utilizing EPA Method 8021B. This method was chosen in an effort to save analytical costs while screening for known contaminants previously documented. This information was used to develop a threedimensional model of the dissolved-phase groundwater plume of chlorinated VOCs downgradient of the Site.

On October 29, 2004, BENNETT & O'REILLY, INC. personnel returned to the Site to collect groundwater samples from selected existing on-Site monitoring wells. As outlined within the Phase II Scope of Work (9/29/04), shallow monitoring wells MW-1, MW-3, MW-5 and MW-9, intermediate-depth monitoring wells MW-4, MW-11 and MW-12 and deep monitoring well MW-10, at the Dennisport Laundry property, were sampled for Halogenated VOCs via EPA Method 8021B. The sum of this information was used to provide a critical understanding of current site conditions and transport mechanisms which is necessary to optimize the implementation of an effective remedial strategy. Prior to this sampling event, groundwater gauging was conducted at all monitor wells to establish static water elevations and groundwater flow direction. These resulting groundwater flow contours generally show a northeasterly groundwater flow direction.

After reviewing the analytical results, BENNETT & O'REILLY, INC. determined that based on the applicable GW-1/GW-2/GW-3 criteria, an area of significant groundwater impact extends from the area of monitoring wells MW-1, MW-4 and MW-9 on the northern portion of the Dennisport Automatic Coin Laundry property, northerly. It is assumed that the vertical extent of groundwater impact is defined by a confining layer, composed of brown silty clay, at approximately 40 to 45 feet below grade surface. However, the down gradient lateral and longitudinal extent of groundwater impact was not fully defined by the vertical groundwater profiling locations on the downgradient property. Furthermore, concentrations of chlorinated solvents were detected in each of the vertical groundwater profiling locations downgradient of the Site, but not at every interval. In this initial vertical groundwater profiling event, the greatest concentrations of total VOCs were documented downgradient of the subject property, in shallow interval of vertical groundwater profiling point MW(BOI)-12, on the northerly abutting property. This location is approximately 120 feet north of the leach pits at the subject Site. At this location, several of the chlorinated solvents exceeded the GW-1, Method 1 - Risk Characterization Standards based on a potential ingestion exposure risk. The concentration of vinyl chloride was also significantly greater than the GW-2, Method 1 - Risk Characterization, as based on a potential inhalation exposure.

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Historically, in the groundwater sampling conducted in January 1998, the greatest concentrations of Total VOCs were detected in monitoring well MW-4, screened from 24 to 29 feet bgs, at the subject property. At the time of such testing, the total VOC's were more than one hundred times greater than that currently reported in MW(BOI)-12 with vinyl chloride absent. In review of the historic groundwater data, it is apparent that the chlorinated solvent concentrations have moderated and that dissolved phase contaminants have migrated downgradient of the release area. A review of historic data from existing on-Site monitoring wells is summarized in Table 2 below.

TABLE 2: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER (May 1997 - October 2004)							
13 HALL STREET							
Monitoring Well Location [screened interval in feet bgs]	<b>RESULTS</b> (μg/L - ppb) [5/7/97] 8010/8020	RESULTS (μg/L - ppb) [6/25/97] 8010	RESULTS (μg/L - ppb) [1/16/98] 8010	RESULTS (μg/L - ppb) [10/28/02] 8260/GC	<b>RESULTS</b> (μg/L - ppb) [10/29/04] 8260/GC	(GW4)/GW42/(GW43) SPRICERCS/ 310 CMR 40,974(2), (00b)	
MW-1 [2.5-12.5' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	17,000 270 890 BRL(<250) BRL(<250) BRL(<1,250) BRL (<250) BRL(<1,250) BRL(<0.5 mg/L)	7,500 BRL BRL BRL(<500) BRL(<500) BRL(<2,500) BRL(<500) NT NT	7,300 BRL BRL BRL(<100) BRL(<100) BRL(<500) BRL(<100) NT NT NT	1,000 BRL(<62) NT NT NT NT NT NT NT NT	110 5 20 BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	5/51000/51000 15/300/201000 70310:000/501000 100/201000/501000 300/401000/501000 22/2/101000 -5/4300/101000 -5/4300/101000 200/11000/501000 200/11000/501000	
MW-2 [1.2-11.2' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	9 BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<5) BRL(<1) 6 BRL(<0.5)	Not Tested	BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<0.5)	BRL(<15) BRL(<15) NT NT NT NT NT NT NT NT	Not Tested	5/5 000/50000 5/500/20,000 10/20,000/50,000 100/20,000/50,000 600/10,000/250,000 5/400/10,000 5/400/10,000 2/0/50,000/50,000 2/0/50,000/50,000 2/0/50,000/50,000	
MW-3 [0.9-10.9' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	2 BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) 0.7	Not Tested	BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<0.5)	BRL(<15) BRL(<15) NT NT NT NT NT NT NT NT NT	BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	5/31000/51000 5/300/20:000 70/301000/50:000 10/20:000/50:000 600/10:000/50:000 27/2/20:000 5/4/00/10:000 70/50:000/50:000 200/1:000/20:000	
MW-4 [24-29' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	33,000 4,100 4,700 BRL(<250) BRL(<250) BRL(<1,300) BRL(<250) NT NT	<b>3,700</b> <b>4,100</b> NT NT NT NT NT NT NT	BRL(<5) 13 380 BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	-5/33000/53000 -5/300/201000 70/301000/50000 100/201000/500000 300/101000/80000 21/2/401000 5/400/101000 70/501000/500000 200/21000/200000	

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TABLE 2: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER (May 1997 - October 2004)						
		13 HA	LL STREET	1 		
Monitoring Well Location [screened interval in feet bgs]	<b>RESULTS</b> (μg/L - ppb) [5/7/97] 8010/8020	RESULTS (μg/L - ppb) [6/25/97] 8010	<b>RESULTS</b> (μg/L - ppb) [1/16/98] 8010	<b>RESULTS</b> (μg/L - ppb) [10/28/02] 8260/GC	<b>RESULTS</b> (μg/L - ppb) [10/29/04] 8260/GC	GW41/GW2//GW3 Stantiladi 310 CMR40:974(2) (ppb)
MW-5 [3.8-13.8' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	[GC screening] BRL BRL BRL	24 BRL(<15) NT NT NT NT NT NT NT NT	7 BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	5/31000/51000 5/300/20,000 100/20,000 100/20,000 300 Ato A000/50,000 12/2/40,000 5/4100/10,000 70/50/000/50,000 200/10,000/50,000
MW-6 [4.2-14.2' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	[GC screening] BRL BRL BRL	164 31 NT NT NT NT NT NT NT	Not Tested	\$74000/51009 57500/20,000 70/50-000750,000 100/20,000/50,000 500/10,000/50,000 272/40,000 57400/10,006 70/50,000/50,000 200/1,000/20,000
MW-7 [4.0-14.0' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	[GC screening] 2 BRL BRL	<b>93</b> <b>31</b> NT NT NT NT NT NT NT	Not Tested	5/3 (000/5) 000 -5/3 (000/20,000 70/3 (000/30-000 100/20,000/50-000 600/10100/30-000 -2/2/40,000 -5/400/1000 -5/400/1000 -70/50,000/50,000 -200/1000/20,000
MW-8 [3.9-13.9' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	Not Tested	BRL(<15) BRL(<15) NT NT NT NT NT NT NT NT NT	Not Tested	5/31000/51000 5/300/201000 70/501000/501000 100/20100/501000 600/70100/81000 2/2/40(000 5/240/10100 70/501000/501000 200/1000/501000
MW-9 [3.6-13.6' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	Not Tested	BRL(<15) BRL(<15) NT NT NT NT NT NT NT NT	16 8 9 BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	5/31000/5000 5/300/201000 70/30.000/50.000 600/20100/501000 600/1010/8.000 2/2/2/1010/0 5/400/10100 70/50.000/50.000 2/00/1.000/201000

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#### DENNISPORT AUTOMATIC COIN LAUNDRY./BO04-4103 PHASE II - CSA COMPLETION REPORT/TIER II EXTENSION

TABLE 2: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER (May 1997 - October 2004)								
13 HALL STREET								
Monitoring Well Location [screened interval in feet bgs]	<b>RESULTS</b> (μg/L - ppb) [5/7/97] 8010/8020	<b>RESULTS</b> (μg/L - ppb) [6/25/97] 8010	<b>RESULTS</b> (μg/L - ppb) [1/16/98] 8010	<b>RESULTS</b> (μg/L - ppb) [10/28/02] 8260/GC	<b>RESULTS</b> (μg/L - ppb) [10/29/04] 8260/GC	(Gw41/Gw2/Gw3) Staniards 3-10(CMR 40.974(2) (1110)		
MW-10 [42.5-47.5' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	Not Tested	197/160 13/15 174/NT 2/NT 2.23/NT 2.34/NT BRL(<1)/NT NT/NT NT/NT	BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	15/31000/51000 15/300/201000 70/30100/050.000 100/20100/501000 601/401000/30000 2/2/401000 3/400/401000 70/5010002501000 70/5010002501000 200/91000/201000		
MW-11 [23-28' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	Not Tested	1.44/BRL(<62) BRL(<1)/BRL(<62) BRL(<1)/NT BRL(<1)/NT BRL(<1)/NT BRL(<2)/NT BRL(<2)/NT BRL(<1)/NT NT/NT NT/NT	BRL(<1) BRL(<1) 3 BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	15/31000/51000 5/300/201000 70/501000/50000 100/20100/50000 600/401000/80000 5/4/00/10.000 70/501000 70/501000/501000 240/1000/501000 240/1000/201000		
MW-12 [15-20' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform MTBE TPH	Not Tested	Not Tested	Not Tested	BRL(<1)/BRL(<15) BRL(<1)/BRL(<15) BRL(<1)/NT BRL(<1)/NT BRL(<1)/NT BRL(<1)/NT BRL(<2)/NT BRL(<1)/NT NT/NT NT/NT	BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<1) BRL(<2) BRL(<1) NT NT	5/31000/5 000 - 5/300/20,000 - 70/30.000/50.000 - 100/20.000/50.000 - 500/10,000/8:000 - 1.5/2/40.000 - 5/4/00/10,000 - 70/50.000/50,000 - 200/1.000/20,000		

Bold text indicates results that exceed applicable groundwater category(s)

Shaded areas designates appropriate groundwater category(s)

BRL=Below reporting limits of the analysis

Based on the results of the initial groundwater analytical results, the area of groundwater impact at the Dennisport Automatic Coin Laundry properties, exceeding the GW-1, Method 1 - Risk Characterization Standards, was not fully defined as extending beyond the extent of the areas tested. However, in the absence of any private wells or public water supplies, any ingestion exposure under current conditions was deemed incomplete. Groundwater impact exceeding the GW-2 standards was detected in vertical groundwater profiling points MW(BOI)-12, MW(BOI)-14 and MW(BOI)-15. However, the GW-2 standard only applied in the case of MW(BOI)-12 as it is the only known point within 30 feet of an occupied structure subject to the potential migration of organic vapors from impacted groundwater. At this location Vinyl Chloride was detected at a concentration of  $69\mu g/L$ , significantly above the GW-2 Method 1 - Risk Characterization Standard of  $2\mu g/L$ . Ambient air quality monitoring was further prescribed to evaluate the critical exposure pathway in review of Imminent Hazard. No concentrations of VOCs were detected above the GW-3, Method 1 - Risk Characterization Standards, or direct contact standards at any locations. As such, no threat of significant environmental impact or dermal contact exposures was apparent.

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On February 7, 2005, BENNETT & O'REILLY, INC. personnel returned to the Site with Jenkins Well Drilling personnel to install permanent monitoring wells on the downgradient property in the areas of the vertical groundwater profiling. In the MW(BOI)-12 location, shallow (10-15'), intermediate (20-25') and deep (40-45') monitoring wells were set. In the MW(BOI)-13 location, a shallow (10-15') and deep (40-45') well were set and in the MW(BOI)-14 location, a shallow (10-15'), intermediate (25-30') and deep (35-40') well were set. In the MW(BOI)-15 location the shallow (10-15') well remained, however, no additional monitoring wells were set as deemed unnecessary to evaluate the plume at this location.

On March 25, 2005, BENNETT & O'REILLY, INC. personnel returned to the site to perform quarterly groundwater sampling of the multi-level monitoring wells. Monitoring wells MW(BOI)-12 S, I, D, MW(BOI)-13 S, D and MW(BOI)-14 S, I, D were gauged, developed and sampled for VOCs via EPA Method 8021 as consistent with known contaminants at the Site. Samples were forwarded to Groundwater Analytical of Buzzards Bay, MA on a priority turnaround.

Analytical results received by BENNETT & O'REILLY, INC., on April 1, 2005, indicated a general decrease in chlorinated solvent concentrations except in MW(BOI)-12 Intermediate and Deep and MW(BOI)-14 Deep. The results of this most recent round of groundwater sampling indicates that the plume of dissolved-phase contamination, exceeding the GW-1, Method 1 - Risk Characterization Standards, extends from the front of the Dennisport Automatic Coin Laundry property beyond the extent of the areas tested. The greatest concentrations of total VOCs were detected at MW(BOI)-12, at the intermediate 20-25' interval, approximately 120 feet due north of the suspected source area. The most recent distribution of the dissolved phase chlorinated solvent plume is represented on the Site Plan in Appendix A.

In response to elevated concentrations of Vinyl Chloride in groundwater, above the applicable GW-2, Method 1 - Risk Characterization Standards, a targeted air quality study was performed to obtain quantitative data on possible impacts of known contaminants. The indoor air quality study was conducted as consistent with MA DEP WSC Policy #02-430 "Indoor Air Sampling and Evaluation Guide" (4/02).

On March 31, 2005, air quality sampling was performed at the downgradient property building, which was within 30' of vertical groundwater profiling point MW(BOI)-12. The building is currently utilized as the Dennisport Library Annex, however, a new library building is currently being constructed east of the Site and, according to the property owner, the Library is scheduled to be moving within the next few months. The sampling consisted of four summa canisters with regulators to collect air samples over an eight-hour period. Two summa canisters were placed on the basement stairs. Originally, two summa canisters were going to be placed on the basement floor, however, upon inspection, the basement was found to be flooded with approximately 24" of water due to a seasonally-high groundwater table. A third summa canister was placed in the working area of the first floor. The fourth summa canister was placed outside the building to record background concentrations. The summa canisters were placed at their respective sampling points in the morning

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and the valve attached to the regulator was opened. The canisters were allowed to sample for eight hours and were then picked up and the valves closed. The summa canisters were packaged and sent to R. I. Analytical Laboratory in Warwick, RI for TO-15 analysis for VOCs. BENNETT & O'REILLY, INC., further engaged the professional services of Debra Gursha, CHI to evaluate the risks associated with reported indoor air quality. The results of the VOC analysis were compared to Occupational Safety & Health Administration (OSHA) Permissible Exposure Limits (PELs), The National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs), published background concentrations (ES&T Background Indoor Air - :Distribution of Volatile Organic Chemicals in Outdoor and Indoor Air, a National VOCs Data Base", J. Shah & H. Singh, Envi. Sci. Technol., Vol. 22, No. 12, 1988), as well as MA DEP Long Term Indoor Air Guidelines.

Results of the targeted air quality study, received on April 22, 2005, indicated concentrations of VOCs slightly above background, within the basement of the library building. Analytes detected in the basement of the Library building include Acetone, trans and cis-1,2 Dichloroethene, Trichloroethene and Tetrachloroethene. Analytes detected in the first floor of the Library building include Acetone, Trichloroethene and Tetrachloroethene. These analytes were detected at concentrations below or consistent with background concentrations.

As a conservative measure, a response action to eliminate the accumulation of VOCs within the basement area was undertaken within the Library as a public building with children present. A ventilation fan, rated at 100 CFM was installed in the basement of the building to vent the basement area and exhaust any accumulated VOCs within the basement area. This ventilation fan was installed to operate on a timer to provide four air exchanges in the basement, every four hours as specified in the previous Status report.

#### Supplemental Phase II Assessment Activities

Subsequent to access negotiations with the Town of Dennis and a private landowner, on June 15, 2005, two additional vertical groundwater profiling locations were tested for the presence of VOCs. Vertical groundwater profiling point MW(BOI)-16 was advanced in just off the parking lot of 636 Main Street, approximately 220' northwest of the Site. Monitoring well MW(BOI)-17 was installed in the Town of Dennis parking lot located between Main Street and Hall Street, approximately 300' east of the Site. The test boring locations were chosen based on previous testing locations in an attempt to delineate the lateral plume locations. The test borings were advanced down to the confining layer at 45 to 58' bgs, respectively and vertical groundwater profiling was conducted through the boreholes. A 5' piece of Schedule 40 #10 slot screen was set at the bottom of the test boring and groundwater was pumped out of the pipe in order to purge and sample the groundwater from discrete depths. The casing was then pulled up 10 feet, purged again and sampled from the next highest depth. Variations in Conductivity, pH and Dissolved Oxygen readings taken from each of these sampling locations showed the samples to be from the discreet chosen depths. All groundwater samples collected were sent to Groundwater Analytical Laboratory in Buzzards Bay, Massachusetts for Halogenated Volatile Organic Compound (VOC) analysis utilizing EPA

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Method 8021B. This method was chosen in an effort to save analytical costs while screening for known contaminants previously documented.

Results of the VGWP analysis, received on June 30, 2005, reported concentrations of VOCs in MW(BOI)-16 and MW(BOI)-17 at each discreet depth as below the reporting limits of the analysis. These results effectively defined the eastern and western flank of the dissolved-phase VOC plume. As such, BENNETT & O'REILLY, INC. personnel returned to the site on July 6, 2005 to set permanent wells at the VGWP points MW(BOI)-16 and MW(BOI)-17. At MW(BOI)-16, 20 feet of screen was set at 40' bgs and at MW(BOI)-17, 20 feet of screen was set at 35' bgs. These well points were screened as sentinel wells, to pick up any concentrations of contaminant impacts.

Subsequent to additional access negotiations with Exxon Mobil Corp., on July 22 and 25, 2005, existing monitoring well couplets MW-3A and B, MW-6A and B, MW-7A and B and MW-19A and B were gauged, developed and sampled. Each of these well couplets is located at a significant distance from the suspected source area in a hydraulically downgradient position. These wells were chosen based on their hydraulic position from the Site and historical analytical data from Mobil's investigation into their gasoline release (RTN# 4-0933). Results of this round of groundwater sampling indicated significant concentrations of Chlorinated VOCs in these existing monitoring wells. A summary of current and historic data is provided in Table 3 in the following section of this report.

In review of the analytical results from the Exxon Mobil monitoring wells, it was determined that additional sampling was needed to accurately define the complete extent of the dissolved-phase contaminant plume. As such, on August 12, 2005 BENNETT & O'REILLY, INC. personnel visited the Site and surrounding area to look for existing monitoring wells from a previous investigation into chlorinated solvents in the area. BENNETT & O'REILLY, INC. personnel searched for and found several suitable monitoring wells.

On August 18, 2005 BENNETT & O'REILLY, INC. personnel returned to the area to sample the located wells. Unfortunately the rented peristaltic pump was not working and the sampling had to be rescheduled. On August 19 and 22, 2005 BENNETT & O'REILLY, INC. personnel again returned to the area and completed the sampling of additional wells. Monitoring wells SAIC-HD-108, SAIC-HD-114, SAIC-HD-115, SAIC-HD116, SAIC-HD-119, SAIC-HD-121 were sampled and sent to a MA certified laboratory for VOC analysis via EPA Method 8260.

Results of the additional sampling, received August 30, 2005, reported all VOCs as BRL in all of these additional monitoring wells sampled except for SAIC-HD-121, located approximately 1,350' northeast of the site. At this location PCE was detected at a concentration of 160  $\mu$ g/L and TCE was detected at a concentration of 10  $\mu$ g/L. All other VOCs were reported as BRL. As such, this most recent sampling event accurately defines the extent and magnitude of the dissolved-phase contaminant plume.

# Nature and Extent of Environmental Impact

Contamination emanating from the historic release of chlorinated solvents, as related to the former dry cleaning operations at the Dennisport Coin Operated Laundry, is defined by the presence

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of tetrachloroethylene (PCE) and it's daughter compounds trichloroethylene (TCE), dichloroethylene (DCE) and vinyl chloride (VC) in soils and groundwater at the subject and downgradient properties. Minor soil impact exists within the leach pits located on the northern portion of the Dennisport Coin Operated Laundry property. Chlorinated solvent concentrations in soils at the Site are below the applicable S-2/GW-1, or most restrictive S-1/GW-1, Method 1 - Risk Characterization Standards. This residual soil contamination does not represent a significant contribution to groundwater impact associated with leaching potential and therefore does not appear to require treatment, as isolated and capped.

Groundwater impact, resulting from the former subsurface discharge of contaminated greywater, extends from the area leach pits through monitoring wells MW-1, MW-4 and MW-9 on the northern portion of the Dennisport Automatic Coin Laundry property and further downgradient approximately 1,800' northeast, consistent with site specific groundwater flow direction. The vertical extent of groundwater impact is defined by a confining layer, composed of brown silty clay, at approximately 45 to 55 feet below grade surface. The majority of groundwater impact is in the deep aquifer (34-50' bgs) as indicated by concentrations in deep monitoring wells MW-6B, MW-7B and MW-19B, as a function of the relative density of chlorinated solvents being greater than that of groundwater. The interpreted vertical and horizontal extent of groundwater impact at the present time is depicted on the Site Plan in Appendix A.

In our review of prior investigations conducted in the area, most notably the SAIC comprehensive investigation of 1999 previously referenced, multi-level monitoring wells were installed throughout the downtown Dennisport and West Harwich area as showing a plume of chlorinated solvents extending to the area of the Herring River. This investigation also indicated that there were some elevated shallow chlorinated solvent concentrations in the West Harwich area that were inconsistent with the release from the Dennisport Coin Operated Laundromat as indicating secondary sources of the same compounds. In our most recent investigation, shallow dissolved phase groundwater impact was noted in monitoring well MW-19A as indicating a contributing source from an area south of Route 28 nearest Division Street. Any such contribution is not qualified at the time of this investigation, however previous investigations have identified the properties at 16 Main St. in West Harwich (formerly Dowd's Cleaners) and 711 Main St. in Dennisport (formerly Dennisport Dry Cleaners). A comparison of the 1999 SAIC data with that data most recently developed under this Phase II investigation shows a significant attenuation in the lateral extent and concentrations of chlorinated solvents. Attenuation within the plume area over a period of six (6) years is on an order of magnitude of greater than 50% reduction. Such attenuation will be qualified under the Phase III Investigation for the consideration of Monitored Natural Attenuation (MNA).

# SITE HYDROGEOLOGY

Historic and recent environmental assessment activities have been used to establish subsurface conditions and for aquifer characterization as related to solute transport of dissolved phase contaminants in the groundwater. Historic reports summarizing soil testing has established that the Site is underlain by coarse to fine grain sand with gravelly members and recent soil borings have confirmed this data as consistent with the mapped Harwich Outwash Plain (Oldale, 1986). SEPTEMBER 20, 2005 PAGE 16 OF 23

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Groundwater across the area of release is typically located some eight (8) to fifteen (15) feet below grade. Site specific groundwater flow has been determined to be in a north to northeasterly direction, contrary to the mapped regional flow direction (USGS, HA 692), which is south. The reason for these discrepancies is believed to be the Herring River and associated marshlands located northeast of the Site.

The subject Site and surrounding properties utilize municipal water supply and no known private potable wells are located within 500' of the Site as potentially influencing groundwater flow direction or diverting or capturing dissolved phase contaminants. The shallow fresh water overburden aquifer is unconfined with more than 40' of saturated thickness. The aquifer consists of a mixture of fine to coarse glacial outwash sands of high permeability. Hydraulic conductivities calculated by Leggette, Brashears & Grahm, Inc. for the Mobil Site CSA (1990), ranged from 0.017 to 0.021 feet/minute (approximately 30 ft/day). These hydraulic conductivities are within the low range for clean medium to coarse grained sands and based on the observed hydraulic gradient and an assumed porosity of 25%, a conservative groundwater flow velocity is estimated at between 0.25 to 0.5 feet/day. At a groundwater flow velocity of 0.5 ft/day, excluding any retardation factor, a 20 year period of contaminated grey water discharge could account for the plume reaching the Herring River at more than 3,500' downgradient. The current investigation showing the longitudinal extent of the solute impact as 1,800' +/- downgradient clearly demonstrates significant attenuation within the plume over the past six (6) years with a non-active source.

#### Environmental Fate and Transport

Once released into the environment, the chemistry of PCE is altered by contaminant fate and transport processes through the loss of chlorine atoms (dechlorination). Although fairly persistent, through various natural processes including biodegradation, redox reactions, and hydrolysis the parent compound (PCE) is degraded into daughter products (TCE, DCE and VC) both under aerobic and anaerobic conditions wherein cation exchange is facilitated. Typically, chlorinated solvents are soluble in water and therefore, mobile in the aquifer. In the case of this historic release, it is apparent that the dissolved-phase plume has already migrated to its furthest extent downgradient of the release area and attenuated on the order of 50%.

Potential exposure pathways for the subject release primarily consists of migration via groundwater to surrounding receptors. Specifically, overburden drinking water wells, the indoor air of nearby buildings and the Herring River are most likely to be impacted from this release. However, as described below, under current conditions no complete ingestion, inhalation or dermal exposures pathway is apparent as supporting a condition of No Substantial Hazard.

# **RISK CHARACTERIZATION** [Refer to Appendix D]

Additional vertical groundwater profiling of downgradient properties was performed on June 15, 2005. Groundwater sampling of the existing Exxon Mobil monitoring wells downgradient of the Dennisport Automatic Coin Laundry was conducted on July 22 and 25, 2005. Groundwater sampling of existing SAIC monitoring wells was performed on August 19 and 22, 2005. Groundwater samples were sent to Groundwater Analytical Laboratory of Buzzards Bay, MA for Halogenated VOC analysis via EPA Method 8021B as represented on Table 2 and Table 3 within this report.

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Groundwater analysis was conducted to determine the nature and extent of significant contaminant impact. As established by Site features, the Method 1 - Risk Characterization Standards for S-2/GW-1, GW-2, GW-3 soils and the GW-1/GW-2/GW-3 groundwater categories are used to establish significant risk.

# Groundwater

Vertical groundwater profiling was performed in June 2005, permanent sentinel monitoring wells were installed in the area of profiling in July of 2005. Analysis of VGWP samples reported no concentrations of VOCs in either profiling location at any depth. As such these two permanent monitoring wells accurately delineate that eastern and western flank of the dissolved-phase groundwater plume. A summary of vertical groundwater profiling is provided below in Table 3.

	Table 3: Method 1 - Risk Characterization Standards       Image: Comparison of the standard standards											
Location/	Analytes Detected EPA Method 8021B		NALYSIS - GROUNDWATER (Vertical Profiling October 2004) VOC RESULTS (µg/L - ppb) Detects Only								EW-JV2/E Structure abo CMR 4035422	
Exposure Point DEPTH (feet bgs)		MW(E	BOI)-12	MW(E	30I)-13	MW(F	3OI)-14	MW(E	80I)-15	MW(BOI)-16	MW(BOI)-17	
Shallow	Date sampled	10/04	3/05	10/04	3/05	10/04	3/05	10/04	3/05	6/05	6/05	
Aquifer [10-20']	Vinyl Chloride trans-1,2-Dichloroethene cis-1,2-dichloroethene Trichloroethene Tetrachloroethene	69 BRL 10 600 52	7 BRL 170 54 BRL	BRL BRL 47 33 82	BRL BRL 19 15 53	BRL BRL 67 55 94	BRL BRL 46 7 5	BRL BRL BRL BRL BRL 8	NT	All BRL	All BRL	2127410:000 160720:000500,000 70/30:000/50:000 55600/20(000 55600/20(000 5/000/5000/5
Intermediate	Date sampled	10/04	3/05	10/04	3/05	10/04	3/05	10/04	3/05	6/05	6/05	
Aquifer [20-35']	Vinyl Chloride trans-1,2-Dichloroethene cis-1,2-dichloroethene Trichloroethene Tetrachloroethene	20-25' BRL BRL 860 BRL BRL BRL	15-25' BRL BRL 930 66 BRL	20-25' BRL BRL 42 32 78	NA	25-30' 3 BRL 60 64 87	20-30' BRL BRL 48 16 24	20-25' 9 1 32 47 26	NA	All BRL	21-26' All BRL	2/2////02/000 5 100/20:00050:000 70/20:000/50:000 5/200/20:000 5/200/20:000 5/3:000/5:000
	Vinyl Chloride trans-1,2-Dichloroethene cis-1,2-dichloroethene Trichloroethene Tetrachloroethene	30-35' BRL BRL 140 5 BRL		30-35' BRL BRL 10 9 21				30-35' BRL BRL 24 19 30		30-35' All BRL	31-36' All BRL	2/2/40,000 100/20,000550,000 70/30,000/50,000 55500/200000 5/3,000/50000
Deep Aquifer [35+']	Date sampled	10/04	3/05	10/04	3/05	10/04	3/05	10/04	3/05	6/05	6/05	9797401000 1007201000501000
	Vinyl Chloride trans-1,2-Dichloroethene cis-1,2-dichloroethene Trichloroethene Tetrachloroethene	40-45' BRL BRL 78 23 52	35-45' BRL BRL 330 60 39	40-45' All BRL	35-45' All BRL	35-40' BRL BRL 87 44 120	30-40' BRL BRL 79 41 140	40-45' BRL BRL 8 6 18	NA	40-45' All BRL	51-56' 41-46' All BRL	70502000/502000 5/300720000 5/3000/5/000

Bold text indicates results that exceed applicable groundwater category(s)

Shaded areas designates appropriate groundwater category(s)

BRL=Below Reporting Limits / NA=Not Applicable / NT=Not Tested

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Sampling of the existing Exxon Mobil groundwater monitoring wells was performed in July 2005 to further delineate the dissolved-phase groundwater plume. All groundwater samples were sent to Groundwater Analytical Laboratory of Buzzards Bay, MA for Halogenated VOC analysis via EPA Method 8021B. A summary of current and historic VOC concentrations are represented in Table 4 below.

TABLE 4: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER									
	(Ma	ay 1992 - Ju	ly 2005)						
Selected Existing Mobil Monitoring Wells									
Monitoring Well Location [screened interval in feet bgs]	<b>RESULTS</b> (μg/L - ppb) [5/92]	<b>RESULTS</b> (μg/L - ppb) [5/01]	RESULTS (µg/L - ppb)	<b>RESULTS</b> (μg/L - ppb) [7/05]	GW41/GW52/GW53 Standards -240/CVIX-202742(2)				
			[2/02]		(DDD)				
MW-3A [4.2-19.2' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride	ND ND NS NA NT NS	BRL < 2 BRL < 2 BRL < 2 NA NT BRL < 2	BRL < 2 BRL < 2 BRL < 2 BRL < 2 BRL < 2 NT BRL < 2	BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 2	5/51000/51000 5/200/201000 70/201000/50200 100/201000/50200 600/1010/0/5020 21/2/40.000				
Chloroform <b>MW-3B</b> [56-59' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform	ND 35 ND NS NA NT NS ND	BRL < 2 263 26.7 3.9 NA NT BRL < 2 BRL < 2	BRL < 2 16.8 52 4.8 BRL < 2 NT BRL < 2 BRL < 2 BRL < 2	BRL < 1 6 25 16 2 BRL < 1 BRL < 2 BRL < 1	5/400/10,000 5/3,000/3,000 5/3,00/20,000 70/30,000/50,000 100/20,000/50,000 600/10,000/2000 600/10,000/2000 5/2400/1000				
MW-6A [4-19' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform	ND ND NS NA NT NS ND	36.3 16.2 27.3 NA NT BRL < 2 BRL < 2	BRL < 2 BRL < 2 BRL < 2 BRL < 2 NT BRL < 2 BRL < 2 BRL < 2	BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 2 BRL < 1	5/310900/510000 5/3007201000 7072010007501000 10072010007501000 6007501000 10072010007501000 1007501000 100750100 100750100 15/4007101000				
<b>MW-6B</b> [45-50' bgs(assumed)] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform	NOT SAMPLED	11,600 1,770 2,920 NA NT 6.2 BRL < 2	5,100 1,710 4,650 66.3 NT BRL < 40 BRL < 40	560 210 1,300 BRL < 25 BRL < 25 BRL < 50 BRL < 25	575000075000 57500/20.000 70/40.000/50.000 100720.000/50.000 600/10.000/50.000 972740.000 57400/10.000				
MW-7A [3-18' bgs] Perchloroethylene Trichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene 1,2-Dichlorobenzene Vinyl Chloride Chloroform	ND ND NS NA NT NS ND	NOT SAMPLED	BRL < 2 BRL < 2 BRL < 2 BRL < 2 NT BRL < 2 BRL < 2	BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 1 BRL < 2 BRL < 1	5/23,000/51000 5/200/20,000 7/0/301000/501000 7/0/201000/501000 600//01000/81000 2/2/2401000 5/400/201000				

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TABLE 4: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER								
(May 1992 - July 2005)								
Selected Existing Mobil Monitoring Wells								
Monitoring Well	RESULTS	RESULTS	RESULTS	RESULTS	- CAW 11/CAW-24/CAW-3-			
Location	(µg/L - ppb)	(µg/L - ppb)	(μg/L -	(µg/L - ppb)	Standards			
[screened interval in feet bgs]	[5/92]	[5/01]	ppb)	[7/05]	13010/CMR 400.97/4(2))			
			[2/02]		(10) PC-10			
MW-7B [44-49' bgs]								
Perchloroethylene	10	5.3	7.9	570	5/3,000/5,000			
Trichloroethylene	ND	3.4	3.7	250	5/3000/220.0000			
cis-1,2-Dichloroethylene	NS	BRL<2	BRL<2	470	70/3104000/5101000			
trans-1,2-Dichloroethylene	NA	NA	BRL<2	BRL < 10	11010/240.01019/510.00010			
1,2-Dichlorobenzene	NT	NT	NT	BRL<10	600/40/000//8,000			
Vinyl Chloride	NS	BRL<2	BRL<2	BRL < 20	2/2/40.000			
Chloroform	ND	BRL<2	BRL<2	BRL < 10	5/400/10,000			
MW-19A [5-20' bgs]								
Perchloroethylene	NOT	105	19.5	47	5/3.000/5,000			
Trichloroethylene		5.2	BRL<2	28	5/300/201000			
cis-1,2-Dichloroethylene	SAMPLED	6.6	BRL<2	62	1 T7(67/810_01010/570;01010			
trans-1,2-Dichloroethylene		NA	BRL<2	BRL<2	100/201000/5101000			
1,2-Dichlorobenzene		NT	NT	BRL<2	600/10.000/8.000			
Vinyl Chloride		BRL<2	BRL<2	BRL<4	2/2/401000			
Chloroform		BRL < 2	BRL<2	BRL<2	5/4100/1101000			
MW-19B [45-50' bgs]								
Perchloroethylene	NOT	2,560	773	510	5/3 0010/5 0000			
Trichloroethylene		464	149	150	5/200/201000			
cis-1,2-Dichloroethylene	SAMPLED	1,520	483	2,300	70/30.000/50.000			
trans-1,2-Dichloroethylene		NA	BRL<4	BRL < 50	11000/220101010/51010100			
1,2-Dichlorobenzene		NT	NT	BRL < 50	600/10.000/8.000			
Vinyl Chloride		4	BRL < 4	BRL < 100	2/2/401000			
Chloroform		BRL<2	BRL<4	BRL < 50	57400/10.000			

Bold text indicates results that exceed applicable groundwater category(s) Shaded areas designates appropriate groundwater category(s) BRL=Below Reporting Limits / NA=Not Applicable / NT=Not Tested

Sampling of the existing SAIC groundwater monitoring wells was performed in August 2005 in an attempt to define the extent of dissolved-phase groundwater impact. All groundwater samples were sent to Groundwater Analytical Laboratory of Buzzards Bay, MA for VOC analysis via EPA Method 8260B. A summary of current and historic VOC concentrations are represented in Table 5 below.

TABLE 5: VOC ANALYSIS SUMMARY - HISTORIC GROUNDWATER (May 1992 - July 2005) Selected SAIC Groundwater Monitoring Wells					
Monitoring Well	<b>RESULTS</b>	<b>RESULTS</b>	(GW-1/GAX-2/GAW-3)		
Location [screened interval in feet hos]	(hg)r - ppo)	(ዙዬጉ - ከከስ)	310 OMR 40 974(2)		
[serected intervar in reet ogs]	[1999-2000]	[8/05]	(ppb)		
SAIC-HD-108(Deep) [50-60' bgs]	(6/4/99)				
Perchloroethylene	690	BRL(<0.5)	5/3 (000/5,000		
Trichloroethylene	120	BRL(<0.5)	5/300/20,000		
cis-1,2-Dichloroethylene	120	BRL(<0.5)	70/30/000/50/000		
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	100/20.000/50.000		
1,2-Dichlorobenzene 99 BRL(<0.5) 42600/10/000/8000					
Chlorobenzene	12	BRL(<0.5)	100/1.000/500		
MTBE	ND	NT	70/50/000/50/000		

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TABLE 5: VOC ANALYSIS SUMMARY - HISTORIC							
GR	OUNDWA	TER					
(May 1992 - July 2005)							
Selected SAIC G	roundwater	Monitorin	g Wells				
Monitoring Well	RESULTS	RESULTS	GWAI/GW-2/(GW-5)				
Location	(µg/L - ppb)	(µg/L - ppb)	Standards				
[screened interval in feet bgs]	[1999-2000]	[8/05]	- 5010 (CMR: 410-97/4(2) (ppb))				
SAIC-HD-114 [40-50' bgs]	(5/2/00)						
Perchloroethylene	54	BRL(<0.5)	5/21.0000/5.10100				
Trichloroethylene	8	BRL(<0.5)	5/300/201000				
cis-1,2-Dichloroethylene	ND	BRL(<0.5)	7/0//3101010107/5101(01010)				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	11.0107/22/01/010107/5101/01010				
1,2-Dichlorobenzene	ND	BRL(<0.5)	(5(0)0//1(0),01010/AS, (01010/				
Chlorobenzene	ND	BRL(<0.5)	1100/11000/5100				
MIBE	ND	NT	1.1.70/501000/501000				
SAIC-HD-115 [40-50' bgs]	(5/2/00)						
Perchloroethylene	420	BRL(<0.5)	5/3 (000/5 (000				
Trichloroethylene	85	BRL(<0.5)	5/3(00/240)(0(0)0)				
cis-1,2-Dichloroethylene	110	BRL(<0.5)					
trans-1,2-Dichloroethylene	ND	BRL(<0.5)	1K0107/240_010107/5101_01010				
1,2-Dichlorobenzene	ND	BRL(<0.5)	16009/1K01000/8301000				
Chlorobenzene		BRL(<0.5)	1(010)/41_00010/450010				
MIBE	ND	NI					
SAIC-HD-116 [40-50' bgs]	(5/3/00)						
Perchloroethylene	83	BRL(<0.5)	5/6),0000/5,0000				
Trichloroethylene	6	BRL(<0.5)	57210107/2101;01010				
cis-1,2-Dichloroethylene	6	BRL(<0.5)	7407/5101010107/510110101				
trans-1,2-Dichloroethylene	ND	BRL(<0.5)					
1,2-Dichlorobenzene	ND	BRL(<0.5)	(5010/1101010)/ASL01010				
Chlorobenzene	ND	BRL(<0.5)	<u> </u>				
MTBE	190	NT	7.075101010107510.01010				
SAIC-HD-119 [40-50' bgs]	(5/4/00)						
Perchloroethylene	7 <b>6</b>	BRL(<0.5)	5/5-000/5:000				
Trichloroethylene	ND	BRL(<0.5)	5/31010/2010/010				
cis-1,2-Dichloroethylene	6	BRL(<0.5)	70/301000/501000				
trans-1,2-Dichloroethylene		BRL(<0.5)					
1,2-Dichlorobenzene		BRL(<0.5)	1 500/1000/31000				
Chlorobenzene	ND	BRL(<0.5)					
MIBE		INI					
SAIC-HD-121 [40-50' bgs]	(5/8/00)	100	Cat forware way				
Perchloroethylene	39	100	5 551000/51000				
i richioroethylene	18		5/310(0)/240(0)(0)0				
cis-1,2-Dichlore the		DKL(<0.5)					
rans-1,2-Dichlorotenylene		DRL(<0.5)					
Chlorohangana		DAL(~0.3)					
MTRE		NT	7/0/510/00/07/510/00/0				
111111	1.0	111	10/2010/00/00/00/00/00/00/00/00/00/00/00/00/				

Bold text indicates results that exceed applicable groundwater category(s) Shaded areas designates appropriate groundwater category(s) BRL=Below Reporting Limits / NA=Not Applicable / NT=Not Tested

This data was used to qualify the nature and extent of groundwater contamination within the upper and lower aquifers underlying and downgradient of the suspected area of chlorinated solvent discharge. The extent of significant groundwater impact is based on the GW-1, GW-2 and GW-3, Method 1 - Risk Characterization Standards in review of ingestion, inhalation and dermal exposures to human and environmental receptors.

#### SEPTEMBER 20, 2005 PAGE 21 OF 23

#### DENNISPORT AUTOMATIC COIN LAUNDRY/BO04-4103 PHASE II - CSA COMPLETION REPORT/TIER II EXTENSION

Based on the applicable GW-1/GW-2/GW-3 criteria, an area of significant groundwater impact extends from the area of monitoring wells MW-1, MW-4 and MW-9 on the northern portion of the Dennisport Automatic Coin Laundry property, approximately 1,800' northeast, consistent with site specific groundwater flow direction. It is assumed that the vertical extent of groundwater impact is defined by a confining layer, composed of brown silty clay, at approximately 45 to 55 feet below grade surface. The majority of groundwater impact is in the deep aquifer (34-50' bgs) as indicated by concentrations in deep monitoring wells MW-6B, MW-7B and MW-19B. Impact to the lower aquifer is consistent with chlorinated solvent (DNAPL) releases.

At the present time, the greatest concentrations of total VOCs (2,960  $\mu$ g/L) are documented downgradient of the subject property in existing Exxon Mobil monitoring well MW-19B, approximately 675 feet northeast of the suspected source area. The next highest concentrations of Total VOCs (2,070 $\mu$ g/L) were observed approximately 415 feet northeast of the suspected source area in monitoring well MW-6B. The third highest concentrations of Total VOCs (1,290  $\mu$ g/L) were reported 820 feet northeast of the suspected source area. At each of these locations PCE, TCE and DCE were all detected above the GW-1 Method 1 - Risk Characterization Standards based on a potential ingestion exposure risk. Furthermore, the only analytes detected at these locations were PCE, TCE and DCE. Although relatively high concentrations were reported, none of the analytes were detected over the respective GW-2 or GW-3 Method 1 - Risk Characterization Standards based on inhalation and dermal contact exposures.

# CRITICAL EXPOSURE PATHWAYS/IMMINENT HAZARD EVALUATION

The area of groundwater impact at the Dennisport Automatic Coin Laundry properties is classified as a GW-1/GW-2 and GW-3 area and represents an exposure potential associated with the ingestion and inhalation of vapors and dermal contact with dissolved-phase contaminants. The extent of groundwater impact exceeding the GW-1, Method 1 - Risk Characterization Standards is defined as extending from the northern portion of the Site, approximately 1,800' northeast, consistent with groundwater flow. No concentrations of VOCs were detected above the laboratory method detection limits at monitoring wells SAIC-HD-114, SAIC-HD-115, SAIC-HD-116 and SAIC-HD-119, in the most recent sampling event as defining the extent of the dissolved phase groundwater plume. In the absence of any private wells or public water supplies, any ingestion exposure under current conditions is incomplete.

No concentrations of VOCs were detected above the GW-2, Method 1 - Risk Characterization Standards in the most recent sampling event. Concentrations of Vinyl Chloride previously detected in vertical groundwater profiling point MW(BOI)-12 were determined to be a possible inhalation exposure. As such Level 3 ambient air quality sampling was conducted and evaluated. Based on such testing and evaluation, concentrations within the first floor where reported at concentrations below the applicable standards. Based on the presence of VOC within the flooded unoccupied basement, however, a ventilation fan was installed in the basement of the Dennisport Library annex to avoid the accumulation of VOCs within the occupied portion of the building as a conservative measure to advert degradation of air quality within the work space of the commercial

SEPTEMBER 20, 2005DENNISPORT AUTOMATIC COIN LAUNDRY/B004-4103PAGE 22 OF 23PHASE II - CSA COMPLETION REPORT/TIER II EXTENSIONbuilding.As such, based on the physical testing and the engineering controls put into effect, thereappears to be complete inhalation exposure. It should be noted that the Dennis Library has relocatedto their new and recently completed building.

Recent groundwater analysis reports VOCs concentrations below the GW-3, Method 1 - Risk Characterization Standards. The horizontal extent of groundwater impact (< GW-1) have been defined the horizontal and longitudinal extent of groundwater impact in an attenuating plume at distance of greater than 100' from any known open water surface bodies. As such, there appears to be no threat of significant environmental impact or dermal contact exposures as associated with mapped dissolved phase chlorinated solvent impacts to groundwater associated with the Site.

## ENVIRONMENTAL MONITORING

Groundwater sampling of selected perimeter and interior monitoring wells will be performed on a bi-annual basis in April and October beginning in April of 2006. Monitoring wells MW-1, MW-4, MW-10 as well as upgradient monitoring well location MW-12 on the Dennisport Automatic Coin Laundry property, MW(BOI)-12 S, I, D and MW(BOI)-17 on the northerly abutting properties, Mobil wells MW-3B, MW-6B, MW-19B and MW-7B and SAIC wells HD-121, HD-108 and HD-116 will be sampled monitor plume attenuation and to evaluate Critical Exposure Pathways. These groundwater samples will be submitted for VOC analysis via EPA Method 8021 as a cost saving measure and as screening for known contaminants.

## SUMMARY AND CONCLUSIONS

The Phase II - Comprehensive Site Assessment investigation conducted, as supported by supplemental environmental assessment activities have been successful in identifying the source(s) and nature of identified chlorinated solvent contamination at the Site. This work has been used in the evaluation of critical exposure pathways to identified receptors. The review of site conditions with environmental data, as compared to the appropriate Method 1 - Risk Characterization Standards shows that any ingestion, inhalation or direct contact exposures are incomplete. As such, a Phase II Completion Statement is supported by such investigation and the Phase III Review of Remedial Alternatives and Feasibility Evaluation will proceed under the attached Tier II Extension for Comprehensive Response Actions.

# **MODIFIED SCHEDULE OF IMPLEMENTATION**

To accomplish such objectives under the Tier II Extension, the schedule of implementation deadlines previously reported in the Phase II Scope of Work, dated September 9, 2004 will be amended as follows:

• The Phase II Completion Statement has indicated that additional Comprehensive Response Actions are required to achieve a Response Action Outcome (RAO) at the Site. As such a Phase III Review of Remedial Alternatives with Feasibility Evaluation and/or Remedial Action Plan will be submitted in full accordance with the provisions of 310 CMR 40.0850 by **November 15, 2005**. SEPTEMBER 20, 2005 PAGE 23 OF 23

- By November 15, 2005, if the Phase III Report demonstrates that it is currently infeasible to achieve a Permanent Solution at the Site or that a temporary solution is comparable, a Class C Response Action Outcome (RAO), pursuant to the provisions of 310 CMR 40.1050 and 310 CMR 40.1056, shall be submitted to the Department.
- By **December 30, 2005**, if the Phase III Plan referenced above indicates that it is feasible to reach a Permanent Solution at the Site, a Phase IV Remedy Implementation Plan (Phase IV RIP), prepared in full accordance with the provisions of 310 CMR 40. 0870, shall be submitted to the Department.
- If a Phase IV Plan has been submitted to the Department, the Respondent shall attain Phase V Remedy Operation Status (Phase V) at the Site in accordance with the provisions of 310 CMR 40.0890, by **March 30, 2006**.

The findings of this investigation, as represented herein, set forth the rationale and technical justification for the Phase II Completion Statement, as established by the certifications made on the attached Transmittal Forms. The LSP opinions are based upon available data and regulations in effect at the time of this reporting. If you have any questions, or need additional information, please contact me directly at your earliest convenience.

Sincerely,

REILLY, INC. Bennett, LSP vid Director of Environmental Services

John D. Tadema-Wielar

Project Manager

- encl. "Phase II Comprehensive Site Assessment Completion Report ...with Supporting Documentation...", Dated September 20, 2005, Prepared by BENNETT & O'REILLY, INC.
  - BWSC-108 (original) Comprehensive Response Action Transmittal Form
- cc. Mr. William Rogers Property Owner Terrence Hayes, Director - Dennis Board of Health Chief Paul Tucker - Dennis Fire Department Robert Canevazzi - Dennis Town Administrator Daniel T. Keefe, Trustee of Dennisport Village Realty Trust - Abutter Patrick Korths - Camp, Dresser & McKee (as contact for Exxon Mobil Corp.)






### Omni Environmental Group Omni Apex Management Corporation

#### POST-CLASS C RESPONSE ACTION OUTCOME STATUS REPORT

#### DENNISPORT AUTOMATIC COIN LAUNDRY **13 HALL STREET DENNISPORT, MASSACHUSETTS** MASSDEP RTN 4-12832

Prepared For:

Dennisport Automatic Coin Laundry, Inc. 13 Hall Street Dennisport, Massachusetts 02639

Prepared By:

**Omni Environmental Group** 14 Fletcher Street, Suite 7 Chelmsford, Massachusetts 01824

Project: 3670

October 2010

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#### POST-CLASS C RESPONSE ACTION OUTCOME STATUS REPORT

#### DENNISPORT AUTOMATIC COIN LAUNDRY 13 HALL STREET DENNISPORT, MASSACHUSETTS MASSDEP RTN 4-12832

#### **1.0 INTRODUCTION**

Omni Environmental Group, on behalf of Dennisport Automatic Coin Laundry, Inc., has prepared the following Post-Class C Response Action Outcome (RAO) Status Report for Release Tracking Number (RTN) 4-12832. The Massachusetts Department of Environmental Protection (MassDEP) assigned RTN 4-12832 to conditions associated with the Dennisport Automatic Coin Laundry located at 13 Hall Street in Dennisport, Massachusetts (the "Property"). This Post-Class C RAO Status Report covers the period of April 1, 2010 through September 30, 2010.

Omni Environmental Group prepared this report in general accordance with 310 CMR 40.0000 (the Massachusetts Contingency Plan or MCP). Omni Environmental Group prepared this report for Dennisport Automatic Coin Laundry, Inc., the owner of the Property.

#### 2.0 PHYSICAL SETTING

#### 2.1 PROPERTY DESCRIPTION

The Property is located on the south side of Hall Street, at the junction of Edwards Avenue, in Dennisport, Massachusetts. Dennisport is located in the southeast portion of the Town of Dennis. The boundary for the Town of Harwich is located approximately 500 feet east of the Property. Main Street (Route 28) is located approximately 180 feet to the north of the Property. The Property is located on the southern edge of the densely developed business district which runs along Main Street. Omni Environmental Group shows the location of the Property on Figure 1 - Site Locus and Property features on Figure 2 - Site Plan.

The Property consists of approximately 1.1 acres of land. Three structures are present on the Property including: 1) a one-story wood frame structure with a concrete slab foundation which is occupied by Dennisport Automatic Coin Laundry; 2) a two-story wood framed residence with a crawlspace beneath the structure; and 3) a commercial office building. The Dennisport Automatic Coin Laundry building is located in the northern portion of the Property. The residence and shed are located immediately south of the Dennisport Automatic Coin Laundry building. The commercial office building is located in the southern portion of the Property and is separated from the residence by a leach field.

The Property is served by the municipal water supply system. The Property has a septic system located to the south of the Dennisport Automatic Coin Laundry building.

#### 2.2 SURROUNDING AREA

Land uses in the surrounding area include:

West: Edwards Avenue followed by the Town of Dennis Public Library and commercial properties.

South: residential properties.

- East: a park with a playground and a wooded area followed by residential properties.
- North: Hall Street followed by a parking lot, a commercial building, Main Street and additional commercial properties.

#### 2.3 RESOURCE AREAS AND RECEPTOR INFORMATION

There is a residence on the Property and residential properties abut the Property to the south.

According to the Massachusetts Geographic Information System (MassGIS), the Property is located within a medium yield, potentially productive aquifer that is also categorized as a sole source aquifer. MassGIS does not identify other resource areas or potential receptors within 500 feet of the Property.

#### 3.0 REGULATORY BACKGROUND

#### 3.1 PROPERTY (RTN 4-12832)

RTN 4-12832 was assigned to the Property in February 1997 following the detection of volatile organic compounds (VOCs) at 18 Hall Street which is located to the north of the Property and across Hall Street. The disposal site was classified as a Tier II disposal site in February 1998 through the submission of a Phase I - Initial Site Investigation Report and Tier Classification Submittal to the MassDEP. Bennett & O'Reilly, Inc. prepared a report entitled Phase II Comprehensive Site Assessment Completion Report With Tier II Classification Extension Supporting Documentation dated September 2005 which was submitted to the MassDEP. Bennett & O'Reilly submitted a Phase III Remedial Action Plan and a Class C Response Action Outcome Statement (RAO) Statement to the MassDEP in April 2006.

Based on information in the Phase II, the Dennisport Automatic Coin Laundry performed dry cleaning at the Property between 1964 and 1997. Tetrachloroethylene (PCE) was used as a dry cleaning fluid during this period. The source of the VOCs to the subsurface at the Property appears to be non-contact cooling water used in distilling units which reclaimed the used dry cleaning fluid. The cooling water was discharged to former cesspools located along the north side of the Property; between the Dennisport Automatic Coin Laundry building and Hall Street. Additional information regarding the use of PCE at the Property and the potential source can be found in the Phase II.

In 2009, the MassDEP conducted a technical screening audit of the 2006 Class C RAO Statement. In a letter dated May 18, 2009, the MassDEP requested that Dennisport Automatic Coin Laundry, Inc. submit an Immediate Response Action (IRA) Plan designed to assess whether a Condition of Substantial Release Migration (specifically vapor migration into indoor air), as defined in the MCP, existed as a result of the release. Dennisport Automatic Coin Laundry, Inc. submitted an IRA Plan to the MassDEP on July 15, 2009. Data collected during the IRA indicated a Condition of Substantial Release Migration did not exist as a result of the release. Dennisport Automatic Coin Laundry, Inc. submitted an IRA Completion Report in October 2009.

#### 3.2 HARWICH PCE/TCE STUDY AREA (RTN 4-13326)

#### 3.2.1 MassDEP Assessment

SAIC Engineering, Inc., on behalf of the MassDEP (SARSS IV Contract EQEJ217; Project No. 100687), conducted environmental assessment activities during the period of 1999 through 2001 in the Town of Harwich and extending into the Dennisport business district. These assessment activities, which are associated with RTN 4-13326, indicated chlorinated VOCs were present in ground water across an area extending from the Dennisport business district northeast into Harwich. The assessment activities found that a chlorinated VOC plume encompassed an area approximately 4,300 feet long and 700 feet wide. The assessment activities are described in SAIC Engineering's March 2003 Site Investigation Report.

SAIC Engineering identified three dry cleaning facilities as potential sources of the chlorinated VOCs:

- 1) The Dennisport Automatic Coin Laundry;
- 2) a dry cleaner formerly located at the commercial property currently identified as at 711 Main Street in Dennisport (approximately 450 feet to the northeast of the Property); and
- 3) a dry cleaner formerly located at the West Harwich Professional Building property at 72 Main Street in Harwich (approximately 2,200 feet to the northeast of the Property).

In addition, a laundromat (Dowd's Cleaners) was formerly located in the commercial property located at 16 Main Street in Harwich (approximately 950 feet to the northeast of the Property). SAIC Engineering was not able to verify that dry cleaning operations were conducted at the 16 Main Street property.

As part of the assessment activities, SAIC collected indoor air samples at 15 residences in Harwich and from the Harwich Town Library. The closest air sample relative to the Property was collected approximately 800 feet to the northeast. This sample was collected immediately downgradient of the potential chlorinated VOC source located at 711 Main Street in Dennisport which is described below. SAIC collected the majority of the indoor air samples between 3,000 feet and 4,500 feet northeast of the Property.

SAIC collected the samples over a 24-hour period using sampling canisters and analyzed them for VOCs using United States Environmental Protection Agency Method TO-14. SAIC found that PCE was present in air samples collected in the basement of three residences. One of the three residences also had PCE present in a sample collected on the first floor. SAIC recommended additional indoor air sampling of these three residences. Available information did not indicate whether SAIC or the MassDEP conducted additional air sampling at these residences.

#### 3.2.2 Omni Environmental Group Research

Omni Environmental Group reviewed readily available records from the Town of Dennis, the Town of Harwich and the Barnstable County Registry of Deeds in order to further evaluate the other potential sources initially identified by SAIC Engineering. Our research provided the following information:

711 Main Street, Dennisport - A septic repair permit at the Town of Dennis Building Department indicates that a business named the Clothes Clinic was present at 705 Main Street as of 1976. The 705 Main Street property was later incorporated into the current 711 Main Street property.

**16 Main Street, Harwich** - Documents from the Registry of Deeds indicates that the Cape Self Service Laundry was present at this property at least during the period of 1958 through 1961.

72 Main Street, Harwich - Harwich Fire Department inspection reports indicate that the West Harwich Coin Wash as well as Acme Laundry were present at this property at least during the period of 1977 through 1985.

These records confirmed that businesses with clothes cleaning operations were previously present at these three properties; all of which are located within the chlorinated VOC plume. The name of the business at the 711 Main Street property suggests a dry cleaning operation. The names of the businesses at 16 Main Street and 72 Main Street suggest operations which, like Dennisport Automatic Coin Laundry, may have included dry cleaning and/or the use of chlorinated VOCs. Historic records for the three properties indicate uses which may have contributed to the chlorinated VOC plume.

#### 3.2.3 Relationship between RTN 4-13326 and RTN 4-12832

The Phase III Remedial Action Plan for the Dennisport Automatic Coin Laundry disposal site (RTN 4-12832) identified monitored natural attenuation as a Temporary Solution, within the meaning of the MCP, for the release. The Phase III Remedial Action Plan included semi-annual ground water sampling as part of the monitored natural attenuation program. The semi-annual ground water sampling included a number of monitoring wells located on the Property and on the nearby 18 Hall Street property. The sampling also included a number of wells located between 800 feet and 2,000 feet to the northeast of the Property. These wells are within the larger chlorinated VOC ground water plume and are downgradient of other identified potential sources of chlorinated VOCs.

As outlined above, the data developed by SAIC Engineering, on behalf of the MassDEP, and by Omni Environmental Group suggest other sources, in addition to the Dennisport Automatic Coin Laundry, may have contributed chlorinated VOCs to the subsurface in this area. Consequently, Dennisport Automatic Coin Laundry, Inc. has not monitored ground water conditions across the larger chlorinated VOC plume as part of their monitored natural attenuation sampling program because there are likely other parties with potential liability for the chlorinated VOCs in this area. Dennisport Automatic Coin Laundry, Inc. has focused on characterizing ground water conditions only at the Property and in the area that is hydraulically downgradient of the Property and hydraulically upgradient of other potential sources of chlorinated VOCs.

#### 4.0 POST-CLASS C RAO STATUS REPORT

Activities performed by Omni Environmental Group during the reporting period consisted of monitored natural attenuation sampling in the vicinity of the Dennisport Automatic Coin Laundry facility. The sampling included the following:

- Gauging of six monitoring wells for depth to water and presence/absence of dense nonaqueous phase liquid (DNAPL) using an electronic interface probe;
- Collecting ground water samples from five monitoring wells for analysis of VOCs; and
- Collecting ground water samples from four monitoring wells for monitored natural attenuation parameters.

#### 4.1 GROUND WATER GAUGING AND SAMPLING

On September 30, 2010, Omni Environmental Group gauged six monitoring wells for depth to water and presence of DNAPL using an electronic interface probe. These wells included:

- MW-1, MW-4(I) and MW-12 located on the Property;
- MW(BOI)-12I and MW(BOI)-12D located on the 18 Hall Street property to the north of the Property; and
- MW-6B located to the northeast of the 18 Hall Street property.

DNAPL was not detected in the wells.

Omni Environmental Group detected light non-aqueous phase liquid (LNAPL) in well MW-4(I) at a thickness of 0.02 feet. The LNAPL was yellow and did not have an odor. We removed the LNAPL with a bailer and we gauged the well a second time approximately 1.5 hours later. LNAPL was not detected during the second well gauging. The five foot long well screen for MW-4(I) is located between 15 feet and 20 feet below the water table interface. Well MW-1, located on the Property and approximately 40 feet to the southwest, did not contain LNAPL.

Omni Environmental Group shows the monitoring well locations on Figure 2. We summarize the ground water gauging data and the well screen elevation data for the monitoring wells in Table 1.

On September 30, 2010, Omni Environmental Group collected ground water samples from the above six monitoring wells. We sampled wells MW-4(I), MW-12, MW(BOI)-12I and MW-6B via a low flow sampling methodology using a sampling pump, polyethylene tubing and a water quality meter with a flow through cell. We pumped ground water from the wells until water quality parameters stabilized (measured parameters included temperature, specific conductivity, oxidation/reduction potential, dissolved oxygen and pH) before collecting the samples. We collected a sample of the LNAPL and ground water from the top of the water column within well MW-4(I) with a single use polyethylene sampling bailer then we collected a monitored natural attenuation sample via the low flow methodology.

Omni Environmental Group collected ground water samples from wells MW-1 and MW(BOI)-12D using a sampling pump to remove three well volumes of water from the wells prior to sampling.

Omni Environmental Group submitted the samples to TestAmerica of Westfield, Massachusetts for analysis. TestAmerica analyzed the samples from all the wells except MW-12 for chlorinated VOCs by the United States Environmental Protection Agency (USEPA) Method 8260B. TestAmerica analyzed the ground water samples collected from MW-4(I), MW-12, MW(BOI)-12I and MW-6B for iron, manganese, nitrate, sulfate and chloride (parameters indicative of natural attenuation). TestAmerica analyzed the LNAPL and ground water sample from MW-4(I) for a total petroleum hydrocarbon (TPH) fingerprint analysis by USEPA Method 8015B.

We've summarized the VOC data in Table 2 and the monitored natural attenuation parameter data in Table 3. We've included the laboratory analytical report in Appendix A. The analytical

report includes the TPH chromatograms for both the ground water sample and the standards against which it was compared.

#### 4.2 FINDINGS AND CONCLUSIONS

Ground water gauging and sampling data indicate the following:

- DNAPL was not detected during the reporting period.
- LNAPL was detected in well MW-4(I) at a thickness of 0.02 feet. The laboratory was unable to definitively identify the LNAPL on the basis of a TPH fingerprint. The chromatogram generally suggests a lubricating oil. The analytical report states the carbon ranges begin at C14 and extend beyond C36 which indicates a middle to heavy weight petroleum. The LNAPL was yellow in color and odorless.
- The well screen interval for MW-4(I) is approximately 15 feet below the water table interface. The well screen elevation relative to the water table elevation suggests the LNAPL was introduced into the well from the surface and that the LNAPL did not enter the well from the subsurface.
- According to the 2005 Phase II report, a 1,000 gallon fuel oil underground storage tank was removed from the Property in 1989. No other potential sources of petroleum at the Property were noted. Petroleum related compounds have not historically been detected in ground water samples collected at the Property and analyzed for VOCs. Petroleum related compounds were not detected in the September 2010 samples, including the sample collected from MW-4(I).
- PCE was detected in three of the five samples which were analyzed for VOCs. The PCE concentrations were generally consistent with the concentrations in the previous samples collected in September 2009. TCE was not detected in well MW-4(I). However, the detection limit for PCE in the MW-4(I) sample was relatively high and could obscure low concentrations of PCE. Well MW-4(I) is located within the source area on the Property.
- The highest PCE concentration detected during this sample event was 31 micrograms per liter at MW-6B which is located near Main Street approximately 450 feet northeast of the source area.

- Cis-1,2 dichloroethene, a degradational byproduct of PCE, was present in four of the five samples which were analyzed for VOCs. The presence of cis-1,2 dichloroethene provides evidence that reductive dechlorination of the chlorinated VOCs is occurring and that the generally decreasing PCE concentrations over time are attributable, at least in part, to the degradation of PCE and the resulting reduction of PCE mass.
- A number of geochemical parameters provide additional lines of evidence that reductive dechlorination of PCE is occurring and that the generally decreasing PCE concentrations over time are attributable, at least in part, to the degradation of PCE and the resulting reduction of PCE mass. These parameters include:
  - low concentrations of dissolved oxygen across the study area which indicate subsurface conditions conducive for reductive dechlorination;
  - relatively low oxidation reduction potential within and downgradient of the source area which indicate subsurface conditions conducive for reductive dechlorination;
  - low concentrations of nitrate downgradient of the source area which indicate subsurface conditions conducive for reductive dechlorination;
  - high concentrations of iron in the source area and immediately downgradient of the source area which indicates subsurface conditions conducive for reductive dechlorination; and
  - a slightly elevated chloride concentration in the furthest downgradient well (MW-6B) that suggests the complete reduction of the chlorinated VOCs.
- There is adequate evidence of reductive dechlorination of PCE in well MW(BOI)-12I located downgradient of the source area. This well contains both an elevated concentration of iron and a low concentration of nitrate suggesting conditions that are conducive to reductive dechlorination as well as the presence of cis-1,2 dichloroethene that indicate reductive dechlorination is occurring. The geochemical parameters in well MW-4(I), located in the source area, and MW-6B, located at the downgradient edge of the study area, suggest current conditions are somewhat less conducive to reductive dechlorination compared to MW(BOI)-12I. However the presence of cis-1,2 dichloroethene in both wells indicates that reductive dechlorination is occurring.

The data indicate that reductive dechlorination is continuing to occur and that the natural degradation of PCE and related chlorinated VOCs continues to be effective in reducing the chlorinated VOC mass over time at the disposal site. Based on these data, natural attenuation continues to represent, at minimum, a viable Temporary Solution as described in the Phase III Remedial Action Plan.

#### 4.3 SCHEDULE

Dennisport Automatic Coin Laundry, Inc. will conduct future ground water sampling events on a yearly basis. An annual sampling event will be conducted in September 2011 to continue to evaluate VOC concentrations and natural attenuation over time and to evaluate the effectiveness of the Temporary Solution. We anticipate collecting samples from same monitoring wells and analyzing them for the same parameters as the September 2010 sample event.

Dennisport Automatic Coin Laundry, Inc. will gauge MW-4(I) and select other monitoring wells on the Property at least once in the fall of 2010 and once in the winter of 2011 to further evaluate the LNAPL which was detected in well MW-4(I).

Dennisport Automatic Coin Laundry, Inc. will submit the next Post-Class C RAO Status Report in April 2011. The April 2011 Post-Class C RAO Status Report will also include the five year Periodic Evaluation of the Temporary Solution as required by 310 CMR 40.1051.

#### **5.0 LIMITATIONS**

The observations and conclusions described in this report are based solely on the Services provided pursuant to the Agreement with the Client and any approved additional services authorized by the Client.

Without limitation of any other applicable limitations or conditions, Omni Environmental Group shall not 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 knowledge and belief of Omni Environmental Group, no inquiry of an attorney-at-law having been made, no laws, regulations, orders, permits or approvals are applicable to the response actions to which this report relates except, if and to the extent applicable, M.G.L. c.21A, Sections 19-19J, 309 CMR, M.G.L. c. 21E and 310 CMR 40.0000. Accordingly, this report is not intended to and does not address compliance with any other laws, regulations, orders, permits or approvals.

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 report inaccurate or otherwise inapplicable. Omni Environmental Group shall not be liable or responsible for the consequences of any such changed circumstances or conditions on the accuracy of this report.

The conclusions stated in this report are based upon: (1) Visual inspections of existing physical conditions; (2) 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; and (3) Information provided by the Client. Omni Environmental Group 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. Omni Environmental Group shall not be liable for any condition, information, or conclusion, the discovery of which required information not available to Omni Environmental

Group or for independent investigation of information provided to Omni Environmental Group by the Client and/or independent third parties.

This report is rendered for the limited purpose stated above, and should not be deemed to be an report 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 EXPRESSED OR IMPLIED, IS MADE BY THIS REPORT, 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 report or any action as to which this report relates will be upheld by any audit conducted by the MassDEP or any other party.

**FIGURES** 





TABLES

## Table 1Summary of Monitoring Well Gauging Data13 Hall StreetDennisport, Massachusetts

Monitoring	Approximate Well	Gauging	Well	Depth to Water	Depth to	Ground
Well	Screen Elevation	Date	Elevation	(feet)	DNAPL	Water
Identification	(feet)		(feet)			Elevation
						(feet)
MW-1	87.89 - 97.89	10/16/2006	99.09	9.60	ND	89.49
		4/4/2007	99.09	8.41	ND	90.68
		10/2/2007	99.09	10.19	ND	88.90
		4/1/2008	99.09	7.55	ND	91.54
		9/30/2008	99.09	8.98	ND	90.11
		3/30/2009	99.09	8.95	ND	90.14
		9/28/2009	99.09	8.94	ND	90.15
		9/30/2010	99.09	9.15	ND	89.94
MW-4(I)	69.83 - 74.83	10/16/2006	98.83	9.37	ND	89.46
		4/4/2007	98.83	8.18	ND	90.65
		10/2/2007	98.83	9.93	ND	88.90
		4/1/2008	98.83	7.35	ND	91.48
		9/30/2008	98.83	8.79	ND	90.04
		3/30/2009	98.83	7.66	ND	91.17
		9/28/2009	98.83	8.73	ND	90.10
		9/30/2010	98.83	8.94	8.92	89.90
		9/30/2010	98.83	8.93	ND	89.90
MW-9(S)	85.08 - 95.08	9/28/2009	98.68	8.64	ND	90.04
MW-12	78.59 - 83.59	10/16/2006	98.59	9.12	ND	89.47
		4/4/2007	98.59	7.91	ND	90.68
		10/2/2007	98.59	9.69	ND	88.90
		4/1/2008	98.59	7.06	ND	91.53
		9/30/2008	98.59	8.48	ND	90.11
		3/30/2009	98.59	12.64	ND	85.95
		9/28/2009	98.59	8.46	ND	90.13
		9/30/2010	98.59	8.62	ND	89.97
MW(BOI)-12S	77.79 - 87.79	10/16/2006	97.79	7.38	ND	90.41
		4/4/2007	97.79	7.16	ND	90.63
		10/2/2007	97.79	8.96	ND	88.83
		4/1/2008	97.79	6.31	ND	91.48
		9/30/2008	97.79	7.75	ND	90.04
		9/28/2009	97.79	7.71	ND	90.08
MW(BOI)-12I	62.85 - 77.85	10/16/2006	97.85	8.43	ND	89.42
		4/4/2007	97.85	7.22	ND	90.63
		10/2/2007	97.85	9.01	ND	88.84
		4/1/2008	97.85	6.38	ND	91.47
		9/30/2008	97.85	7.82	ND	90.03
		3/30/2009	97.85	6.71	ND	91.14
		9/28/2009	97.85	7.78	ND	90.07
		9/30/2010	97.85	7.98	ND	89.87

## Table 1Summary of Monitoring Well Gauging Data13 Hall StreetDennisport, Massachusetts

Monitoring	Approximate Well	Gauging	Well	Depth to Water	Depth to	Ground Water
Identification	(feet)	Date	(feet)	(ieer)	DIAL	Elevation
						(feet)
MW(BOI)-12D	54.01 - 59.01	10/16/2006	98.01	7.59	ND	90.42
		4/4/2007	98.01	7.38	ND	90.63
		10/2/2007	98.01	9.18	ND	88.83
		4/1/2008	98.01	6.54	ND	91.47
		9/30/2008	98.01	7.97	ND	90.04
		3/30/2009	98.01	6.90	ND	91.11
		9/30/2010	98.01	8.12	ND	89.89
MW-6B	45' - 50' below grade	10/16/2006	NS	7.59	ND	NS
		4/4/2007	NS	6.43	ND	NS
		10/2/2007	NS	9.31	ND	NS
		4/1/2008	NS	6.79	ND	NS
		9/30/2008	NS	7.13	ND	NS
		3/30/2009	NS	6.05	ND	NS
		9/28/2009	NS	8.12	ND	NS
		9/30/2010	NS	8.27	ND	NS
SAIC-HD-124	50' - 60' below grade	9/28/2009	NS	NG	NG	NG

Notes:

Well elevation is the height of the top of the monitoring well casing

DNAPL - Dense non-aqueous phase liquid

NS - Not surveyed.

ND - Not detected

NG - Small diameter well, unable to gauge.

## Table 2Summary of Ground Water Sample Analytical DataDennisport Automatic Coin Laundry13 Hall StreetDennisport, Massachusetts

#### MCP RISK CHARACTERIZATION STANDARDS

Groundwater Category	PCE (ug/l)	TCE (ug/l)	Cis-1,2 DCE (ug/l)	Trans-1,2 DCE (ug/l)	Vinyl Chloride (ug/l)
GW-1	5	5	70	100	2
GW-2	50	30	100	90	2
GW-3	30,000	5,000	50,000	50,000	50,000

Well ID	Sampling Date	PCE (ug/l)	TCE (ug/l)	Cis-1,2 DCE (ug/l)	Trans-1,2 DCE (ug/l)	Vinyl Chloride (ug/l)
MW-1	5/7/97	17.000	270	890	<250	<1,250
	6/25/97	7,500	ND	ND	<500	<2,500
	1/16/98	7,300	ND	ND	<100	<500
	10/28/02	<u>1,000</u>	<62	NA	NA	NA
	10/29/04	<u>110</u>	5	20	<1	<2
	10/16/06	<u>22</u>	0.52	0.57	<0.75	<1.0
	4/4/07	<u>15</u>	0.57	<0.50	< 0.75	<1.0
	10/2/07	<u>5.5</u>	0.76	<0.50	<0.75	<1.0
	4/1/08	4.0	0.54	<0.50	<0.75	<1.0
	9/30/08	<u>5.2</u>	1.4	<1.0	<1.0	<2.0
	3/30/09	3.1	<1.0	<1.0	<1.0	<2.0
	9/28/09	<u>13</u>	<1.0	<1.0	<1.0	<2.0
	9/30/10	<u>14</u>	2.4	1.2	<1.0	<0.50
MW-4(I)	1/16/98	33,000	<u>4,100</u>	<u>4,700</u>	<250	<1,300
	10/28/02	<u>3,700</u>	<u>4,100</u>	NA	NA	NA
	10/29/04	<5	<u>13</u>	<u>380</u>	<1	<2
	10/16/06	<100	<100	<u>8,400</u>	<150	<200
	4/4/07	<50	<50	<u>2,700</u>	<75	<100
	10/2/07	< 0.50	<u>5.3</u>	<u>520</u>	8.8	<u>4.0</u>
	4/1/08	0.64	<u>7.4</u>	<u>94</u>	1.2	<1.0
	9/30/08	2.0	<u>34.7</u>	<u>514</u>	9.4	<2.0
	3/30/09	<u>250</u>	<u>735</u>	<u>1,650</u>	26.0	<40.0
	9/28/09	2.1	<u>50</u>	<u>2,900</u>	30	<2.0
	9/30/10	<50	<50	<u>1,300</u>	<50	<25
MW-9	9/29/09	<1.0	<1.0	<1.0	<1.0	<2.0

#### LABORATORY ANALYTICAL RESULTS

## Table 2Summary of Ground Water Sample Analytical DataDennisport Automatic Coin Laundry13 Hall StreetDennisport, Massachusetts

#### MCP RISK CHARACTERIZATION STANDARDS

Groundwater	PCE (ug/l)	TCE (ug/l)	Cis-1,2 DCE	Trans-1,2	Vinyl Chloride
Category			(ug/l)	DCE (ug/l)	(ug/l)
GW-1	5	5	70	100	2
GW-2	50	30	100	90	2
GW-3	30,000	5,000	50,000	50,000	50,000

Wall ID	Sampling	DORATOR	TCE (nat)	Cia 1 2 DCE	Trang 13	Vinul Chlorida
wen iD	Date	PCE (ug/I)	1 C.E. (ug/l)	(ug/l)	DCE (ug/l)	vinyi Chioride (ug/l)
MW-12	10/28/02	<1	<1	<1	<1	<2
	10/29/04	<1	<1	<1	<1	<2
	10/16/06	< 0.50	< 0.50	< 0.50	<0.75	<1.0
	4/4/07	< 0.50	<0.50	< 0.50	<0.75	<1.0
	10/2/07	< 0.50	<0.50	<0.50	<0.75	<1.0
	4/1/08	< 0.50	<0.50	<0.50	< 0.75	<1.0
MW(BOI)-12S	10/04	<u>52</u>	<u>600</u>	10	ND	<u>69</u>
	3/05	ND	<u>54</u>	<u>170</u>	ND	<u>7</u>
	10/16/06	<5.0	<5.0	<u>260</u>	<7.5	<u>27</u>
	4/4/07	< 0.50	<0.50	8.8	<0.75	1.6
	10/2/07	< 0.50	<0.50	0.86	<0.75	<1.0
	4/1/08	< 0.50	< 0.50	0.53	<0.75	<1.0
	9/28/09	<1.0	<1.0	<1.0	<1.0	<2.0
MW(BOI)-12I	10/04	ND	ND	<u>860</u>	ND	ND
	3/05	ND	<u>66</u>	<u>930</u>	ND	ND
	10/16/06	<1.2	4.6	<u>88</u>	<1.9	<2.5
	4/4/07	< 0.50	1.3	0.82	<0.75	<1.0
	10/2/07	< 0.50	0.77	1.2	<0.75	<1.0
	4/1/08	0.73	1.3	0.65	<0.75	<1.0
	9/30/08	<1.0	1.1	<1.0	<1.0	<2.0
	3/30/09	<1.0	2.4	1.4	<1.0	<2.0
	9/28/09	<1.0	<1.0	<1.0	<1.0	<2.0
	9/30/10	2.1	3.4	1.4	<1.0	< 0.50
MW(BOI)-12D	10/04	<u>52</u>	<u>23</u>	<u>78</u>	ND	ND
	3/05	<u>39</u>	<u>60</u>	<u>330</u>	ND	ND
	10/16/06	<u>89</u>	<u>47</u>	<u>170</u>	<1.9	<u>3.1</u>
	4/4/07	<u>30</u>	<u>9.4</u>	28	<0.75	<1.0
	10/2/07	<u>68</u>	2.6	2.8	< 0.75	<1.0
	4/1/08	<u>37</u>	1.4	1.0	<0.75	<1.0
	9/30/08	<u>5.7</u>	<1.0	<1.0	<1.0	<2.0
	3/30/09	2.1	<1.0	<1.0	<1.0	<2.0
	9/30/10	<1.0	<1.0	<1.0	<1.0	<0.50

#### LABORATORY ANALYTICAL RESULTS

## Table 2Summary of Ground Water Sample Analytical DataDennisport Automatic Coin Laundry13 Hall StreetDennisport, Massachusetts

#### MCP RISK CHARACTERIZATION STANDARDS

Groundwater	PCE (ug/l)	TCE (ug/l)	Cis-1,2 DCE	Trans-1,2	Vinyl Chloride
Category			(ug/l)	DCE (ug/l)	(ug/l)
GW-1	5	5	70	100	2
GW-2	50	30	100	90	2
GW-3	30,000	5,000	50,000	50,000	50,000

Well ID	Sampling	PCE (ug/l)	TCE (ug/l)	Cis-1,2 DCE	Trans-1,2	Vinyl Chloride
	Date			(ug/1)	DCE (ug/l)	(ug/I)
MW-6B	5/01	<u>11,600</u>	<u>1,770</u>	<u>2,920</u>	NA	<u>6.2</u>
	2/02	<u>5,100</u>	<u>1,710</u>	<u>4,650</u>	66.3	<40
	7/05	<u>560</u>	<u>210</u>	<u>1,300</u>	<25	<50
	10/16/06	<5.0	<u>35</u>	<u>420</u>	<7.5	<10
	4/4/07	<u>26</u>	<u>11</u>	34	<0.75	<1.0
	10/2/07	<u>62</u>	<u>52</u>	<u>120</u>	1	2
	4/1/08	<u>33</u>	<u>43</u>	<u>170</u>	1.8	<u>3.2</u>
	9/30/08	<u>44.1</u>	<u>42.6</u>	<u>90.7</u>	1.4	<u>3.8</u>
	3/30/09	<u>24.1</u>	<u>35.9</u>	<u>128</u>	2.0	<u>2.8</u>
	9/29/09	<u>31</u>	<u>28</u>	<u>95</u>	1.4	<u>6.0</u>
	9/30/10	<u>31</u>	<u>31</u>	<u>220</u>	<10	<5.0
SAIC-HD-124	9/28/09	<u>46</u>	<u>11</u>	3.5	<1.0	<2.0

#### LABORATORY ANALYTICAL RESULTS

Notes:

MCP - Massachusetts Contingency Plan (MCP) Method 1 risk characterization standards.

<0.50 - Compound not detected at or above the method detection limit.

Bold indicates compound detected above the method detection limit.

Underlining indicates that the concentration exceeds the lowest applicable MCP Method 1 risk characterization standard.

ug/l - Micrograms per liter.

(GW-2/GW-3) - Well specific Method 1 groundwater categories.

N.A. - Not analyzed or not applicable.

DCE - Dichloroethene.

Table 3

## Summary Of Monitored Natural Attenuation Parameters Dennisport Automatic Coin Laundry 13 Hall Street

# Dennisport, Massachusetts

	Location	Sampling	рН	Dissolved	Oxidation	Iron	Manganese	Nitrate	Sulfate	Chloride
		Date		Oxygen	Reduction	(I/gm)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
				(mg/l)	Potential (mV)				)	) ,
MW-12 up	gradient - south side	9/30/10	5.59	0.16	63	24	0.62	<0.050	21	81
	of laundromat									
MW-4(I) :	source area - north	9/30/10	6.19	0.17	-86	1.8	0.31	2.6	32	48
<b>9</b> 1	side of laundromat									
MW(BOI)-12I dc	owngradient - on 18	9/30/10	6.25	0.14	-87	23	0.39	<0.050	123	80
	Hall Street									
MW-6B do	wngradient - NW of	9/30/10	6.10	0.43	-76	0.47	0.95	0.16	29	94
	18 Hall Street									

Notes:

mg/L-milligrams per liter. mV - millivolts. <0.50 - Compound not detected at or above the method detection limit.

October 14, 2009

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#### EXECUTIVE SUMMARY

DGIPS

In January and February 1998, KEY Environmental Services, Inc. (KEY) completed a Downgradient Property Status (DPS) Opinion for property referenced as the Pinewood Village Condominiums located at 9 Bells Neck Road; in Harwich, Massachusetts (the DPS site). The project was performed in accordance with customary principles and practices in the fields of environmental science and engineering; and processes prescribed by the Commonwealth of Massachusetts Department of Environmental Protection (DEP) in Massachusetts General Laws ch 21E, 310 Code of Massachusetts of Regulations 40.0183.

In November and December 1997 and January 1998, KEY Environmental Services, Inc. (KEY) completed an Immediate Response Action (IRA). The IRA was mandated by the Department of Environmental Protection (DEP) via the Notice of Responsibility (NOR) With Interim Deadlines, dated September 18, 1997 for the Pinewood Village Condominiums, located at 9 Bells Neck Road in Harwich, Massachusetts, DEP Release Tracking No. 04-13326 (the site).

The NOR addressed a known release of volatile organic compounds (VOCs) at the site which exceeded the allowable Massachusetts Contaminant Levels for drinking water. Certain contaminant concentrations detected exceeded their current Reportable Concentrations (RC) for a Groundwater Category 1 (RCGW-1) established in the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. Trichloroethylene (TCE) and Tetrachloroethylene (PCE) concentrations detected were ten (10) times the RCGW-1 standards. This finding constituted an Imminent Hazard Condition in accordance with 310 CMR 40.0320.

A "DO NOT USE ORDER" - Administrative Order was issued by the DEP to the Pinewood Village Condominium Association (the Association). In compliance with the Order, the Association notified all customers and ceased use of the non-community public water supply system at the site. The Association is in the process of connecting to the Town of Harwich municipal water system. The IRA Plan was submitted to DEP on October 9, 1997. The plan received presumptive approval on October 29, 1997.

The NOR issued for the DPS site identified an Imminent Hazard Condition in accordance with 310 CMR 40.0320 and mandated the completion of an IRA. An IRA has been conducted in accordance with a DEP-approved IRA Plan. The IRA Completion Report was submitted to DEP on January

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18, 1998. In addition to the assessment only IRA, the on-site Public Water Supply Well has been shut down. Based upon the findings of the IRA, it is our opinion that there is no need to conduct additional IRAs at the DPS site.

The DPS site is a 2.16 acre contiguous parcel of land which contains 16 detached single family cottages. The DPS site has been utilized for residential purposes since it original site improvements to the property. Current and historical site use does not include the use, store or generate oil and hazardous materials (OHMs).

KEY completed a subsurface investigation which involved the installation of four (4) ground water monitoring wells in accordance with the approved IRA Plan. The monitoring wells and their screened intervals were horizontally and vertically placed on the site to assess for the migration of contaminants onto the site from off - site properties which historically used, stored and generated OHMs and to assess for evidence of the release originating on the site.

Subsurface exploration revealed an unconfined aquifer underlying the site consisting of well-sorted loose to medium dense sands. An impermeable clay layer was encountered at approximately 47 feet below grade. Ground water flow direction was calculated to be from southwest to northeast. The horizontal hydraulic gradient is  $7.51 \times 10^{-4}$  feet per foot.

Ground water and soil at the site were sampled and analyzed for VOCs utilizing Method 8240, Total Petroleum Hydrocarbons (TPH) utilizing Method 8015B, lead, and chromium. The ground water analytical results revealed tetrachloroethene, trichloroethene, and cis-1,2 Dichloroethene at concentrations of 97.0, 5.0, 5.0 parts per billion, respectively, and TPH at a concentration of 0.86 parts per million. The soils obtained during advancement of the bore holes at the DPS site revealed detectable levels of TPH, lead, and Methylene Chloride. The concentrations detected did not exceed their respective Reportable Concentrations for an S-1 category.

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KEY's subsurface investigation did not reveal a dense nonaqueous phase liquid (DNAPL) pool of contaminants atop the impervious clay layer existing beneath the site. The analytical evidence collected during the IRA suggested that contaminants have migrated onto the site from an upgradient source, or sources. These contaminants have traversed the site and have continued to migrate onto other downgradient properties.

Three properties within 250 feet and upgradient of the DPS site historically used, stored, and generated OHMs and are considered potential sources of ground water contamination on the DPS site. A clothes dry cleaning operation operated on the abutting property (#72 Route 28) during the 1960s and 1970s. The property located at #66 Route 28 was historically occupied by Brothers Automotive. This property abuts the DPS site to the south. A Gulf gasoline and service station operated the property referenced as #55 Route 28, located approximately 240 feet southwest of the DPS site, from approximately 1950 to 1987.

The findings of the Assessment Only - Immediate Response Action performed at the site by KEY uncovered that the source of the release revealed at the DPS site was located on one or more upgradient properties identified in this submittal. Contaminants from that source, or sources, have come to be located at the DPS site as a result of migration of the material in the ground water.

With the findings of the IRA as supporting documentation, KEY is submitting a Downgradient Property Status Opinion for the DPS site. It has been prepared in accordance with the processes prescribed by the Commonwealth of Massachusetts Department of Environmental Protection (DEP) in Massachusetts General Laws ch. 21E, 310 Code of Massachusetts Regulation 40.0183.

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An IRA Plan was submitted to DEP on October 9, 1997. The plan received presumptive approval on October 29, 1997. Subsequently, KEY completed a subsurface investigation which involved the installation of four (4) ground water monitoring wells in accordance with the IRA Plan. The monitoring wells and their screened intervals were horizontally and vertically placed on the site to assess for the migration of contaminants onto the site from off - site properties which historically used, stored and generated oils and hazardous materials (OHMs) and to assess for evidence of the release originating on the site.

Advancement of the bore holes at the DPS site revealed an unconfined aquifer to approximately 47 feet below grade, consisting of loose, glacial outwash sand. An impervious clay layer was rencountered at approximately 47 feet. Ground water flow direction was calculated to be in a northeasterly direction with a horizontal hydraulic gradient is calculated to be 7.51 x 10-4 feet per foot.

Ground water and soil at the site were sampled and analyzed for VOCs utilizing Method 8240, Extractable Petroleum Hydrocarbons (TPH) utilizing Method 8015B, lead and chromium. The ground water analytical results revealed PCE, TCE, and cis-1,2 Dichloroethene at concentrations of 97.0, 5.0, 5.0 parts per billion (ppb), respectively, and TPH at a concentration of 0.86 parts per million (ppm). Analytical results of the soil samples obtained during advancement of the bore holes at the site revealed detectable levels of TPH, lead, and Methylene Chloride. The following tables summarize the analytical results from the ground water samples taken at the DPS site during the IRA conducted by KEY. Commonwealth of Massachusetts Department of Environmental Protection (DEP) Reportable Concentrations (RC) for those sites mapped as geographically located within a Ground Water Category GW-1 are listed in a column to the right.

#### TABLE 1.1 - GROUND WATER ANALYTICAL RESULTS

SAMPLE_ID	ANALYTE	<u>RESULT</u>	<u>RC / GW-1</u>
MW 1.1	VOCs cis-1,2-Dichloroethene Methylene Chloride Tetrachloroethene Trichloroethene	5.0 ppb 7.0 ppb 97.0 ppb 5.0 ppb	70.0 ppb 5.0 ppb 5.0 ppb 5.0 ppb

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MW 1.2	TPH (8015B)	0.86 ppm	0.2 ppm
MW 1.3	RCRA Metals Lead Chromium	N.D. N.D.	0.5 ppm 0.1 ppm
MW 2.1	VOCs Methylene Chloride	6.0 ppb '	5.0 ppb
MW 2.2	TPH (8015B)	0.42 ppm	0.2 ppm
MW 2.3	RCRA Metals Lead Chromium	N.D. N.D.	0.5 ppm 0.1 ppm
MW 3.1	VOCs Methylene Chloride	7.0 ppb	5.0 ppb
MW 3.2	TPH (8015B)	N.D.	0.2 ppm
MW 3.3	RCRA Metals Lead Chromium	N.D. N.D.	0.5 ppm 0.1 ppm
GW 4.1 (Drum)	VOCs Methylene Chloride Tetrachloroethene	12.0 ppb 21.0 ppb	5.0 ppb 5.0 ppb

Notes:

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All results are in indicated units (parts per billion - ppb or parts per million - ppm) RC / GW-1 = Reportable Concentration for Ground Water Category - 1

The PCE, TCE and cis-1,2 Dichloroethene detected in the ground water was obtained from MW-1 at a depth of 40.0' to 50.0', at the impervious clay boundary. TPH was detected in ground water samples obtained from MW-1 and MW-2 at a concentration of 0.86 and 0.42 ppm, respectively.

3
The following tables summarize the analytical results from the soil samples taken at the DPS site during the IRA conducted by KEY. Commonwealth of Massachusetts Department of Environmental Protection (DEP) Reportable Concentrations (RC) for those sites mapped as geographically located within a Ground Water Category S-1 are listed in a column to the right.

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SAMPLE ID	<u>ANALYTE</u>	RESULT	<u>RC / S-1</u>
SS 1.1 (B-1)	RCRA Metals Chromium Lead	N.D. 1.0	1,000.0 ppm 50.0 ppm
SS 1.2 (B-1))	TPH (8015B)	13.0 ppm	200 ppm
SS 1.3 (B-1)	VOCs Methylene Chloride	19.0 ppb	100.0 ppb
SS 2.3 (B-1)	VOCs Methylene Chloride	12.0 ppb	100.0 ppb
SS 3.1 (B-2)	VOCs Methylene Chloride	13.0 ppb	100.0 ppb
SS 4.1 (B-3)	RCRA Metals Chromium Lead	ND 1.0	1,000.0 ppm 50.0 ppm
SS 4.2 (B-3)	TPH (8015B)	N.D.	200.0 ppm

#### TABLE 1.2 - SOIL ANALYTICAL RESULTS

Analytical results revealed detectable levels of lead, TPH, and Methylene Chloride within the soil samples obtained at the site during the drilling activities. However, the concentrations detected are below respective RCs. The Methylene Chloride is considered a laboratory artifact.

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# APPENDIX C



View of the unoccupied subject building facing north



View of the capped natural gas line



View of the storage of maintenance and cleaning products



View within the attic of the subject building



View of a wall heating unit within the subject building



View of the hot water heater



View of unidentified metal debris



View of an overhead heating unit within the subject building

# APPENDIX D



Groundwater Analytical, Inc. P.O. Box 1200 228 Main Street Buzzards Bay, MA 02532

Telephone (508) 759-4441 FAX (508) 759-4475 www.groundwateranalytical.com

December 7, 2010

Mr. David Bennett Bennett Environmental Associates, Inc. P.O. Box 1743 Brewster, MA 02631

#### LABORATORY REPORT

Project:	T. O. Harwich/BEA10-10288
Lab ID:	138119
Received:	11-19-10

Dear Dave:

Enclosed are the analytical results for the above referenced project. The project was processed for Standard turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Karyn E. Raymond

Karyn E. Raymond Project Manager

KER/elm Enclosures



#### Sample Receipt Report

Project:	T. O. Harwich/BEA10-10288

Delivery: **GWA Courier** Airbill: **n/a** 

Temperature: 2.3°C Chain of Custody: Present Custody Seal(s): n/a

Client: Bennett Environmental Associates, Inc. Lab ID: 138119

Lab Receipt: 11-19-10

Lab ID	Field ID		Matrix	Sampled	Method			Notes
138119-1	SAIC HD-108D		Aqueous	11/19/10 11:15	EPA 8260B V	olatile Organics	with Oxygen	nates
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1302655	40 mL VOA Vial	Scientific Specialist Service	BX37407	None	n/a	n/a	n/a	
C1302654	40 mL VOA Vial	Scientific Specialist Service	BX37407	None	n/a	n/a	n/a	
C1302653	40 mL VOA Vial	Scientific Specialist Service	BX37407	None	n/a	n/a	n/a	



#### **Data Certification**

Project:T. O. Harwich/BEA10-10288Client:Bennett Environmental Associates, Inc.

Lab ID: **138119** Received: **11-19-10 18:40** 

		Mass	DEP Analytical Protoc	ol Certification	1 Form			
Proj	ect Location:	n/a				MA DEP RTN:	n/a	
This	Form provides certi	fications for the follo	owing data set:					
EPA	8260B: 1381	19-1						
Sam	ple Matrices: Grour	ndwater/Surface (X)	Soil/Sediment ()	Drinking Water	r ()	Air ()	Other	()
CAM	A Protocol (check all	that apply below):				-	-	
	8260 VOC	7470/7471 Hg	Mass DEP VPH	8081 Pestici	des	7196 Hex Cr	Mass DEP A	'bH
	$\frac{CAM II A}{8270 SVOC}$	ZAM III B ()	Mass DEP EPH	8151 Herbic	() ides	8330 Explosives		()
	CAMILB ()	CAM III C ()	CAM IV B ()	CAMVC	()	CAM VIII A ()	CAM IX B	. ( )
	6010 Metals	6020 Metals	8082 PCB	9012 Cyanic	le/PAC	6860 Perchlorate		
	CAM III A ()	CAM III D ()	CAMVA ()		()	CAM VIII B ()		
An a	affirmative response	to questions A throug	gh F are required for	Presumptive C	ertaint	y" status.	· · · ·	
Α.	Were all samples re properly preserved	eceived in a condition (including temperatu	n consistent with those re) in the field or labo	e described on t ratoratory, and	he Cha prepare	in-of-Custody, ed/analyzed	Nac	
	within method hold	ing times:					res /	
В.	Were the analytical protocol(s) followed	method(s) and all as d?	sociated QC requirem	ents specified i	n the se	lected CAM	Yes	
C.	C. Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances? Yes							
D.	D. Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"? Yes							/
Ε.	VPH, EPH and APH (Refer to the individ	<u>I methods only</u> : Was lual method(s) for a li	s each method conduc ist of significant modif	ted without sig ications).	nificant	modification(s)?	n/a	
F.	Were all applicable evaluated in a labo	CAM protocol QC a ratory narrative (inclu	nd performance stand iding all "No" respons	ard non-confor es to Questions	mances A thro	identified and ugh E)?	Yes /	/
Resp	onses to questions C	G, H and I below are	required for "Presum	ptive Certainty	" status	•		
G.	Were the reporting protocol(s)?	limits at or below all	CAM reporting limits	specified in the	e selecte	ed CAM	Yes /	/
Data usa	a User Note: Data th bility and represent	nat achieve "Presump tativeness requiren	otive Certainty" status nents described in 3	may not neces 10 CMR 40.10	sarily r 56(2)(k	neet the data () and WSC-07-350.		/
Н.	Were all QC perfor	mance standards spe	cified in the CAM prot	ocol(s) achieve	d?		Yes	
I.	Were results report	ed for the complete a	nalyte list specified in	the selected C	AM pro	tocol(s)?	Yes	
Allı	negative responses m	ust be addressed in a	in attached laboratory	narrative.				
i, th resj kno	e undersigned, atte consible for obtaini wledge and belief,	est under the pains ng the information accurate and comp	and penalties of pe , the material contai plete.	rjury that, bas ned in this an	ed upo alytica	on my personal inqu I report is, to the be	iry of those st of my	
Sign	hature:	augu E. Rayme	ol	Position:	Projec	t Manager		
Prin	ted Name:	Karyn E. Raymond		Date:	12-07-	-10		



#### EPA Method 8260B Volatile Organics by GC/MS

Field ID:	SAIC HD-108D		Matrix:	Aqueous	
Project:	T. O. Harwich/BEA10-10288		Container:	40 mL VOA	Vial
Client:	Bennett Environmental Associates, Inc.		Preservation:	Cool	
Laboratory ID:	138119-1		OC Batch ID:	VM10-1197	-W
Sampled:	11-19-10 11:15		Instrument ID:	MS-10 HP 6	890
Received:	11-19-10 18:40		Sample Volume	5 ml	0,0
Analyzed:	12.02.10 10.51		Dilution Factor:	1	
Analyst:	LMG		Difution racion	•	Page: 1 of 2
CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRI			0.5
74-87-3	Chloromethane	BRI		ug/l	0.5
75-01-4	Vinyl Chloride	BRI			0.5
74-83-9	Bromomethane	BRI		ug/1	0.5
75.00.2	Chloroothana	BRI			0.5
75-00-3	Trichlorofluoromothana	BRI		ug/L	0.5
60.20.7	Diethyl Ether	BRL		ug/L	0.5
75.25.4	1 1 Dichlaraothana	PPI		ug/L	2
75-55-4	1,1-Dicinoidemene	DRL		ug/L	5
/6-13-1	1,1,2-1 nemorotimuoroethane	DRL		ug/L	10
67-64-1	Acetone	DRL		ug/L	10
75-15-0		DRL		ug/L	2
/5-09-2	Methylene Chloride	BRL		ug/L	3
10/-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	trans-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	cis-1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	cis-1,3-Dichloropropene	BRL		ug/L	3
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	trans-1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL	·	ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	meta-Xylene and para-Xylene	BRL		ug/L	0.5



#### EPA Method 8260B (Continued) Volatile Organics by GC/MS

Field ID: Project: Client:	SAIC HD-108D T. O. Harwich/BEA10-1028 Bennett Environmental Asso	8 ociates, Inc	2.		Matrix: Container: Preservation:	Aqueous 40 mL VOA Cool	Vial	
Laboratory ID: Sampled: Received: Analyzed: Analyzet:	138119-1 11-19-10 11:15 11-19-10 18:40 12-02-10 10:51 LMG				QC Batch ID: Instrument ID: Sample Volume: Dilution Factor:	VM10-1197-W MS-10 HP 6890 5 mL 1 Pare: 2 of 2		
CAS Number	Analyte		Conc	entration	Notes	Units	Reporting Limit	
95-47-6	ortho-Xylene			BRL		ug/L	0.5	
100-42-5	Styrene			BRL		ug/L	0.5	
75-25-2	Bromoform			BRL		ug/L	0.5	
98-82-8	Isopropylbenzene			BRL		ug/L	0.5	
108-86-1	Bromobenzene			BRL		ug/L	0.5	
79-34-5	1,1,2,2-Tetrachloroethane			BRL		ug/L	0.5	
96-18-4	1,2,3-Trichloropropane			BRL		ug/L	0.5	
110-57-6	trans-1,4-Dichloro-2-buter	ie		BRL		ug/L	25	
103-65-1	n-Propylbenzene			BRL		ug/L	0.5	
95-49-8	2-Chlorotoluene			BRL.		ug/L	0.5	
108-67-8	1,3,5-Trimethylbenzene			BRL			3	
106-43-4	4-Chlorotoluene	4-Chlorotoluene				ug/L	0.5	
98-06-6	tert-Butylbenzene		BRL		ug/L	0.5		
95-63-6	1,2,4-Trimethylbenzene		BRL			ug/L	3	
135-98-8	sec-Butylbenzene		BRL			ug/L	3	
541-73-1	1,3-Dichlorobenzene			BRL		ug/L	0.5	
99-87-6	4-Isopropyltoluene		BRL			ug/L	3	
106-46-7	1,4-Dichlorobenzene			BRL		ug/L	0.5	
95-50-1	1,2-Dichlorobenzene			BRL		ug/L	0.5	
104-51-8	n-Butylbenzene			BRL		ug/L	3	
96-12-8	1,2-Dibromo-3-chloroprop	ane		BRL		ug/L	3	
108-70-3	1,3,5-Trichlorobenzene			BRL		ug/L	0.5	
120-82-1	1,2,4-Trichlorobenzene			BRL		ug/L	0.5	
87-68-3	Hexachlorobutadiene			BRL		ug/L	0.5	
91-20-3	Naphthalene			BRL		ug/L	0.5	
87-61-6	1,2,3-Trichlorobenzene			BRL		ug/L	0.5	
75-65-0	tert-Butyl Alcohol (TBA)			BRL		ug/L	20	
108-20-3	Di-isopropyl Ether (DIPE)			BRL		ug/L	0.5	
637-92-3	Ethyl tert-butyl Ether (ETBI	E)		BRL		ug/L	0.5	
994-05-8	tert - Amyl Methyl Ether (TA	(ME)		BRL		ug/L	0.5	
QC Surrogate C	Compound	Spiked	Measured	Recove	ery	Q	C Limits	
Dibromofluoron	nethane	10	12	116 %		70	- 130 %	
1,2-Dichloroeth	ane-d₄	10	12	121 %		70	- 130 %	
Toluene-d <sub>8</sub>		10	12	117 %		70	- 130 %	
4-Bromofluorob	enzene	10	11	115 %		70	- 130 %	

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

**Report Notations:** 

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.



#### **Project Narrative**

Project: T. O. Harwich/BEA10-10288

#### Lab ID: 138119 Received: 11-19-10 18:40

Client: Bennett Environmental Associates, Inc.

#### A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

#### **B.** Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1. EPA 8260B Note: Sample 138119-1. Recoveries for Dichlorodifluoromthane and trans-1,4-Dichloro-2-butene were outside the recommended limits in the ICV.
- 2. EPA 8260B Note: Sample 138119-1. Relative percent deviations for Dichlorodifluoromethane were above the recommended limit in the CCV.

Предлага. Пол. Налимист. Пол. Налими	
I.U. Harvinich     Berneti Lewinicht     Berneti Lewinicht     Berneti Lewinicht     Berneti Lewinicht       Teiter Millen     Glasses Der Bernetinnen     Glasses De Glasses De Bernetinnen     Glasses De Glasses De Bernetinnen     Glasses De Glasses De Bernetinnen     Glasses De Glasses De Bernetinnen     Main Linit     Die Bernetinnen     Bernetinnen <th>D ANALYSIS.REQUEST</th>	D ANALYSIS.REQUEST
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Noticity     Tatepriore: Currint     Tatepriore: Currint     Tatepriore: Currint     District and Currint     District and Currint <td>كَلَيْ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ ال كَانَّ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ ال كَانَّ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْ كَانَ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينِ اللَّهُ الْحَدْيَاتِينِ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدْيَاتِينَ الْحَدَاتِينِ اللَّهُ الْحَدَى اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينَ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّذِينِينَ اللَّذِينِينَ الْحَدَاتِينِ اللَّذِينِ اللَّذِينِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِينَ الْحَدَاتِينِ اللَّذِينِينَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِ اللَّذِينِينَ الْحَدَاتِينَ اللَّذِينِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدْيَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَى حَدَى الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِينَ الْحَدَاتِينِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِين حَدَاتَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الَحَدَاتِي الْحَدَاتِي الْحَدَاتِ الْحَدَاتِي الْ</td>	كَلَيْ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ ال كَانَّ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ ال كَانَّ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْ كَانَ الْحَدْيَاتِينَ اللَّهُ الْحَدْيَاتِينِ اللَّهُ الْحَدْيَاتِينِ اللَّهُ الْحَدْيَاتِينَ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدْيَاتِينَ الْحَدَاتِينِ اللَّهُ الْحَدَى اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينَ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ اللَّهُ الْحَدَاتِينِ الْحَدَاتِينِ اللَّذِينِينَ اللَّذِينِينَ الْحَدَاتِينِ اللَّذِينِ اللَّذِينِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِينَ الْحَدَاتِينِ اللَّذِينِينَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِ اللَّذِينِينَ الْحَدَاتِينَ اللَّذِينِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدْيَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَى حَدَى الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِ الْحَدَاتِينِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِينَ الْحَدَاتِينِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِين حَدَاتَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينِ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الْحَدَاتِينَ الَحَدَاتِي الْحَدَاتِي الْحَدَاتِ الْحَدَاتِي الْ
Image: Log separate line for react) contained (accept replicates).     Image: Log separate line for react) contained (accept replicates).       Image: Log separate line for react) contained (accept replicates).     Image: Log separate line for react) contained (accept replicates).     Image: Log separate line for react) contained (accept replicates).       Image: Log separate line for react)     Image: Log separate line for reaction reac	NCOM (10) M (10) [11]     4440140 [12]     949       4440140 [12]     949     949       NCO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949     949       Parter S CO YAMAN S TAUL (10) [12]     949
Полиции     Полиции     Полиции     Полиции     Полиции       Полици	Interference I
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In Ytes (M vol. Ar unnung waar sampe incuode. state. standard Upirerations	Record     NPTE: All samples submitted subject to Standard Terms and Conditions on reverse methods require project.     NPTE: All samples submitted subject to Standard Terms and Conditions on reverse obligations.     NPTE: All samples submitted subject to Standard Terms and Conditions on reverse obligations.     NPDE: Provide standard to the subject to Standard Terms and Conditions on reverse obligations.     NPDE: Provide standard to the subject to Standard Terms and Conditions on reverse and the subject to Standard to Standard to Standard to the subject to Standard to the subject to Standard to the subject to Standard to Standard to Standard to the subject to Standard to the sub
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#### Quality Assurance/Quality Control

#### A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

#### **B.** Definitions

**Batches** are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

**Laboratory Control Samples** are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

**Method Blanks** are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

**Surrogate Compounds** are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.



#### Quality Control Report Laboratory Control Samples

		LC	CS				LCSD			
Category:	EPA Method 8260B	In	strument	ID: MS-1	0 HP 68	B90	Instrument	ID: MS	5-10 HP 6890	
QC Batch ID:	VM10-1197-W	Analyzed: 12-02-10 06:35			Analyzed:	: <b>12-02-10 07:04</b>				
Matrix:	Aqueous	Analyst: LMG			Analyst: LMG					
Units:	ug/L		·						Page:	1 of 2
CAS Number	Analyte		105			10	Dunlicate		OC Lin	nite
CAS Number	Analyte	Spiled	Measured	Recovery	Sniked	Massurad	Recovery	RBD	Snike	RPD
75 71 9	Dichlorodifluoromothana	10	7 0	70 %	10	7.0	70 %		70 130 %	20%
74.87.3	Chloromethane	10	8.6	86 %	10	8.8	88 %	2%	70 - 130 %	20%
74-07-3	Vinul Chlorido	10	0.0	97 %	10	0.0	95 %	2 %	70 - 130 %	20%
73-01-4	Bromomothano	10	9.7	97 %	10	10	100 %	2 %	70 - 130 %	20%
74-03-9	Chloroothana	10	9.7	97 /0 04 %	10	9.4	01 %	J %	70-130 %	20%
75-00-3	Trichlorofluoromethane	10	9.4	94 %	10	9.4	99 %	4 %	70-130 %	20%
75-69-4	Distbul Ethor	20	0.4	04 %	20	0.0	97 %	4 /o 2 0/	70-130 %	20%
75 25 4	1 1 Dickloreathana	20	1/	04 /0	10	97	07 %	3 /0	70 130 %	20%
75-35-4	1,1-Dichlorotrifluoroothana	20	0.3	100 %	20	0.7	101 %	+ /0 1 9/	70 - 130 %	20%
/6-13-1	1,1,2-Trichlorotrinuoroethane	20	20	100 %	20	20	107 %	3 0/	70-130 %	20%
67-64-1	Acetone	20	20	100 %	20	21	103 %	3 %	70-130 %	20%
75-15-0	Carbon Disulfide	20	1/	83 %	20	1/	85 % 101 %	2 %	70-130 %	20%
75-09-2	Methylene Chloride	10	9.9	99 %	10	10	101 %	2 %	70 - 130 %	20%
107-13-1	Acryionitrile	10	07	07 %	10	11	00.9/	5 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	10	0.7	07 %	10	9.2	92 %	<b>0</b> %	70-130 %	20%
75 24 2	1 1 Dickloresthere	10	9.7	97 %	10	10	103 %	0 %	70-130 %	20%
/5-34-3		10	9.1	91 %	10	9.3	93 %	Z 70	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	10	9.1	91%	10	9.2	92 %	1 70	70-130 %	20%
156-59-2	CIS- 1,2-Dichloroethene	10	9.9	99 %	10	10	100 %	1 %	70-130 %	20%
/8-93-3	2-Butanone (MEK)	20	19	96 %	20	20	98 %	2 %	70 - 130 %	20%
/4-9/-5	Bromocniorometnane	10	9.2	92 %	10	9.5	95 %	3 %	70 - 130 %	20%
109-99-9	Tetranydrofuran (THF)	20	20	01 %	20	21	103 %	2 %	70 - 130 %	20%
67-66-3	Chlorotorm	10	9.1	91 %	10	9.2	92 %	0%	70 - 130 %	20%
/1-55-6	1,1,1-1richloroethane	10	9.1	91 %	10	9.2	92 %	1%	70 - 130 %	20%
56-23-5	Carbon Tetrachioride	10	8.9	89 %	10	9.1	91 %	3 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	10	8./	87 %	10	8.9	89 %	3 %	70 - 130 %	20%
71-43-2	Benzene	10	9.3	93 %	10	9.5	95 %	2 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	10	9.1	91 %	10	9.2	92 %	1%	70 - 130 %	20%
79-01-6	Irichloroethene	10	8.9	89 %	10	9.1	91%	2 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	10	9.0	90 %	10	9.3	93 %	3%	70 - 130 %	20%
74-95-3	Dibromomethane	10	9.3	93 %	10	9.6	96 %	3%	70 - 130 %	20%
75-27-4	Bromodichloromethane	10	9.4	94 %	10	9.5	95 %	1%	/0 - 130 %	20%
123-91-1	1,4-Dioxane	200	200	99 %	200	180	89 %	10 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	10	8.4	84 %	10	8.4	84 %	0 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	19	96 %	20	20	100 %	4 %	70 - 130 %	20%
108-88-3	loluene	10	9.6	96 %	10	9.8	98 %	2%	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	10	9.3	93 %	10	9.2	92 %	2 %	70 - 130 %	20%
79-00-5	1,1,2-1richloroethane	10	9.9	99 %	10	10	102 %	3%	/0 - 130 %	20%
127-18-4	letrachloroethene	10	9.3	93 %	10	9./	97 %	5%	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	10	10	105 %	10	11	107 %	3 %	70 - 130 %	20%
591-78-6	2-Hexanone	20	21	106 %	20	22	109 %	3%	/0 - 130 %	20%
124-48-1	Dibromochloromethane	10	10	101 %	10	10	103 %	2 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	10	10	101 %	10	10	101 %	0 %	/0 - 130 %	20%
108-90-7	Chlorobenzene	10	9.7	97 %	10	10	100 %	3 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	10	10	100 %	10	10	103 %	3 %	/0 - 130 %	20%
100-41-4	Etnylbenzene	10	10	101 %	10	10	105 %	3%	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	20	21	104 %	20	22	108 %	4 %	70 - 130 %	20%
95-47-6	ortho-Xylene	10	10	104 %	10	11	10/ %	2%	70 - 130 %	20%
100-42-5	Styrene	10	10	102 %	10	10	105 %	3 %	70 - 130 %	20%
75-25-2	Bromotorm	10	8.7	87%	10	9.0	90 %	3%	70 - 130 %	20%



#### Quality Control Report Laboratory Control Samples

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		LC	CS				LCSD			
Category:	EPA Method 8260B	Instrument ID: MS-10 HP 6890			Instrument ID: MS-10 HP 6890					
QC Batch ID:	VM10-1197-W	Analyzed: 12-02-10 06:35			:35	Analyzed: 12-02-10 07:04				
Matrix:	Aqueous	Ar	nalyst:	LMG	I		Analyst:	LMC	3	
Units:	ug/L								Page:	2 of 2
CAS Number	Analyte		LCS	· · · ·		LCS	Duplicate		QC Lin	nits
	· · · · · · · · · · · · · · · · · · ·	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	8.7	87 %	10	8.7	87 %	0 %	70 - 130 %	20%
108-86-1	Bromobenzene	10	9.6	96 %	10	9.7	<b>9</b> 7 %	1 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	10	10	100 %	10	10	104 %	3 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	10	10	100 %	10	10	100 %	0 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	240	120 %	200	240	119 %	1 %	70 - 130 %	20%
103-65-1	n - Propylbenzene	10	10	100 %	10	10	102 %	1 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	10	9.9	<b>99</b> %	10	10	100 %	1 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	10	9.3	93 %	10	9.5	<b>95</b> %	1 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	10	10	100 %	10	10	100 %	1 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	10	8.6	86 %	10	8.9	89 %	2 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	10	9.7	<b>97</b> %	10	10	100 %	2 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	10	8.9	<b>89</b> %	10	9.2	<b>92</b> %	4 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	10	9.6	<b>96</b> %	10	9.6	96 %	0 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	10	9.1	91 %	10	9.3	93 %	2 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	10	9.1	<b>91</b> %	10	9.5	95 %	4 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	10	9.3	93 %	10	9.6	96 %	3 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	10	9.3	93 %	10	9.5	95 %	2 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	10	8.8	88 %	10	9.3	93 %	5 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	10	9.5	95 %	10	9.8	<b>98</b> %	2 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	10	9.1	91 %	10	9.6	96 %	5 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	10	8.3	83 %	10	8.4	84 %	2 %	70 - 130 %	20%
91-20-3	Naphthalene	10	8.8	88 %	10	9.1	91 %	3 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	10	9.5	95 %	10	9.8	<b>98</b> %	4 %	70 - 130 %	20%
75-65-0	tert -Butyl Alcohol (TBA)	200	200	100 %	200	200	102 %	2 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	10	9.2	92 %	10	9.7	<b>97</b> %	5 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	10	9.1	91 %	10	9.4	94 %	2 %	70 - 130 %	20%
994-05-8	tert - Amyl Methyl Ether (TAME)	10	8.5	85 %	10	8.8	88 %	3 %	70 - 130 %	20%
QC Surrogate	e Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Lin	nits
Dibromofluoror	nethane	10	11	107 %	10	11	110 %		70 - 130 %	
1,2-Dichloroeth	ane-d₄	10	11	112 %	10	11	112 %	•	70 - 130 %	
Toluene-d <sub>8</sub>	· · · · · · · · · · · · · · · · · · ·	10	11	113 %	10	11	115 %		70 - 130 %	
4-Bromofluorob	enzene	.10	11	114 %	10	12	115 %		70 - 130 %	
	To a back of the de face Fundamental									

Method Reference:

Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

**Report Notations:** 

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.



75-27-4

123-91-1

108-10-1

108-88-3

79-00-5

127-18-4

142-28-9

591-78-6

124-48-1

106-93-4

108-90-7 630-20-6

100-41-4

95-47-6

100-42-5

75-25-2

108-38-3/106-42-3

10061-01-5

10061-02-6

Bromodichloromethane

cis-1,3-Dichloropropene

4-Methyl-2-Pentanone (MIBK)

trans-1,3-Dichloropropene

1,1,2-Trichloroethane

1,3-Dichloropropane

Dibromochloromethane

1,2-Dibromoethane (EDB)

1,1,1,2-Tetrachloroethane

meta-Xylene and para-Xylene

Tetrachloroethene

2-Hexanone

Chlorobenzene

Ethylbenzene

ortho-Xylene

Styrene

1,4-Dioxane

Toluene

#### **Quality Control Report** Method Blank

Category: QC Batch ID: Matrix:	EPA Method 8260B VM10-1197-W Aqueous		Instrument ID: Analyzed: Analyst:	MS-10 HP 6 12-02-10 07 LMG	890 7:34
	-				Page: 1 of 2
CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRI	L	ug/L	0.5
74-87-3	Chloromethane	BRI	_	ug/L	0.5
75-01-4	Vinyl Chloride	BRI		ug/L	0.5
74-83-9	Bromomethane	BRI	<u> </u>	ug/L	0.5
75-00-3	Chloroethane	BRI	<u> </u>	ug/L	0.5
75-69-4	Trichlorofluoromethane	BRI		ug/L	0.5
60-29-7	Diethyl Ether	BRI	<u>L</u>	ug/L	2
75-35-4	1,1-Dichloroethene	BRI	<u>_</u>	ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRI	<u>L</u>	ug/L	5
67-64-1	Acetone	BRI	-	ug/L	10
75-15-0	Carbon Disulfide	BRI		ug/L	5
75-09-2	Methylene Chloride	BRI	<u> </u>	ug/L	3
107-13-1	Acrylonitrile	BRI		ug/L	3
156-60-5	trans-1,2-Dichloroethene	BRI	<u> </u>	ug/L	0.5
1634-04-4	Methyl tert-butyl Ether (MTBE)	BRI	<u> </u>	ug/L	0.5
75-34-3	1,1-Dichloroethane	BRI		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRI	<u> </u>	ug/L	0.5
156-59-2	cis-1,2-Dichloroethene	BRI	L	ug/L	0.5
78-93-3	2-Butanone (MEK)	BRI	L	ug/L	5
74-97-5	Bromochloromethane	BRI		ug/Ĺ	0.5
109-99-9	Tetrahydrofuran (THF)	BRI		ug/L	5
67-66-3	Chloroform	BRI		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRI		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRI	L	ug/L	0.5
563-58-6	1,1-Dichloropropene	BRI	L	ug/L	0.5
71-43-2	Benzene	BRI	L	ug/L	0.5
107-06-2	1,2-Dichloroethane	BRI	L	ug/L	0.5
79-01-6	Trichloroethene	BRI	L	ug/L	0.5
78-87-5	1,2-Dichloropropane	BRI	L	ug/L	0.5
74-95-3	Dibromomethane	BRI	L	ug/L	0.5

0.5

500

3

5 0.5

0.4

0.5

0.5

0.5

5 0.5

0.5

0.5

0.5 0.5

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0.5

0.5

0.5

ug/L ug/L

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ug/L

BRL



#### Quality Control Report Method Blank

Category: QC Batch ID: Matrix:	EPA Method 8260B VM10-1197-W Aqueous				Instrument ID: Analyzed: Analyst:	MS-10 HP 6 12-02-10 0 LMG	890 7:34
							Page: 2 of 2
CAS Number	Analyte		Conc	entration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene			BRL		ug/L	0.5
108-86-1	Bromobenzene			BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane			BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane			BRL		ug/L	0.5
110-5 <b>7-</b> 6	trans-1,4-Dichloro-2-buter	ne		BRL		ug/L	25
103-65-1	n-Propylbenzene			BRL		ug/L	0.5
95-49-8	2-Chlorotoluene			BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene			BRL		ug/L	3
106-43-4	4-Chlorotoluene			BRL		ug/L	0.5
98-06-6	tert-Butylbenzene		BRL			ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene			BRL		ug/L	3
135-98-8	sec-Butylbenzene			BRL		ug/L	3
541-73-1	1,3-Dichlorobenzene		BRL			ug/L	0.5
99-87-6	4-Isopropyltoluene		BRL			ug/L	3
106-46-7	1,4-Dichlorobenzene		BRL			ug/L	0.5
95-50-1	1,2-Dichlorobenzene			BRL		ug/L	0.5
104-51-8	n-Butylbenzene			BRL		ug/L	3
96-12-8	1,2-Dibromo-3-chloroprop	ane		BRL		ug/L	3
108-70-3	1,3,5-Trichlorobenzene			BRL		ug/L	0.5
120-82 <b>-</b> 1	1,2,4-Trichlorobenzene			BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene			BRL		ug/L	0.5
91-20-3	Naphthalene			BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene			BRL		ug/L	0.5
75-65-0	tert-Butyl Alcohol (TBA)			BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)			BRL		ug/L	0.5
637-92-3	Ethyl tert-butyl Ether (ETB	E)		BRL		ug/L	0.5
994-05-8	tert - Amyl Methyl Ether (T/	AME)		BRL.		ug/L	0.5
QC Surrogate C	Compound	Spiked	Measured	Recov	ery	Q	C Limits
Dibromofluoror	methane	10	11	113 %		70	- 130 %
1,2-Dichloroeth	ane-d <sub>4</sub>	10	12	125 %		70	- 130 %
Toluene-d <sub>8</sub>		10	12	117 %		70	- 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Sample preparation performed by EPA Method 5030B.

10

11

Report Notations:

4-Bromofluorobenzene

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

113 %

70 - 130 %



#### **Certifications and Approvals**

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

#### CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

#### MASSACHUSETTS

Department of Environmental Protection, M-MA-103 http://public.dep.state.ma.us/labcert/labcert.aspx

#### Department of Labor,

Division of Occupational Safety, AA000195 http://www.mass.gov/dos/forms/la-rpt\_list\_aa.pdf

#### **NEW HAMPSHIRE**

**Department of Environmental Services, 202708** http://www4.egov.nh.gov/DES/NHELAP

NEW YORK

Department of Health, 11754 http://www.wadsworth.org/labcert/elap/comm.html

**RHODE ISLAND** 

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry Division of Laboratories, LAO00054 http://www.health.ri.gov/labs/outofstatelabs.pdf

#### **U.S. DEPARTMENT OF AGRICULTURE**

USDA, Soil Permit, S-53921

#### VERMONT

Department of Health, VT-87643 http://healthvermont.gov/enviro/ph\_lab/water\_test.aspx#cert Potable Water and Non-Potable Water

Asbestos Analytical Services, Class A

Potable Water, Non-Potable Water, Solid and Chemical Materials

Potable Water, Non-Potable Water, Solid and Hazardous Waste

Foreign soil import permit

Potable Water



#### **Certifications and Approvals**

#### MASSACHUSETTS Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)		Non-Potable Water (Wastewater)			
Analyte	Method	Analyte	Method		
1.2-Dibromo-3-Chloropropane	FPA 504 1	Aluminum	EPA 200 8		
1.2-Dibromoethane	EPA 504 1	Ammonia N	Lachat 10 107 06 1 B		
Alkalinity Total	SM 2220 B	Antimony	ERA 200 7		
Antimony	50% 2320-D	Antimony	EFA 200.7		
Arranic	EPA 200.0	Amonio	EFA 200.8		
Parium	EPA 200.8	Arsenic	EPA 200.7		
Barium	EPA 200.7	Arsenic	EPA 200.8		
Darium	EPA 200.8	Beryllium	EPA 200.7		
Beryllium	EPA 200.7	Beryllium	EPA 200.8		
Beryllium	EPA 200.8	Beta-BHC	EPA 608		
Cadmium	EPA 200.7	Biochemical Oxygen Demand	SM 5210-B		
Cadmium	EPA 200.8	Cadmium	EPA 200.7		
Calcium	EPA 200.7	Cadmium	EPA 200.8		
Chlorine, Residual Free	SM 4500-CL-G	Calcium	EPA 200.7		
Chromium	EPA 200.7	Chemical Oxygen Demand	SM 5220-D		
Copper	EPA 200.7	Chlordane	EPA 608		
Copper	EPA 200.8	Chloride	EPA 300.0		
Cyanide, Total	Lachat 10-204-00-1-A	Chlorine, Total Residual	SM 4500-CL-G		
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223	Chromium	EPA 200.7		
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G	Chromium	EPA 200.8		
Fecal Coliform (Source Water)	MF SM 9222-D	Cobalt	EPA 200.7		
Fluoride	EPA 300.0	Cobalt	EPA 200.8		
Fluoride	SM 4500-F-C	Copper	EPA 200.7		
Haloacetic Acids	EPA 552.2	Copper	EPA 200.8		
Heterotrophic Plate Count	SM 9215-B	Cvanide, Total	Lachat 10-204-00-1-A		
Lead	EPA 200.8	DDD	EPA 608		
Mercury	EPA 245.1	DDE	EPA 608		
Nickel	EPA 200.7	DDT	EPA 608		
Nickel	EPA 200.8	Delta-BHC	FPA 608		
Nitrate-N	FPA 300.0	Dieldrin	FPA 608		
Nitrate-N	Lachat 10-107-04-1-C	Endosulfan I	EPA 608		
Nitrite-N	FPA 300.0	Endosulfan II	EPA 608		
Nitrite-N	Lachat 10-107-04-1-C	Endosulfan Sulfate	EPA 608		
nH	SM 4500-H-B	Endrin	EPA 608		
Selenium	FPA 200.8	Endrin Aldebyde	EPA 608		
Silver	EPA 200 7	Gamma-BHC	EPA 608		
Silver	EPA 200.8	Hardness (CaCO3) Total	EPA 200 7		
Sodium	EPA 200.7	Hardness (CaCO3), Total	SM 2340 B		
Sulfate	EPA 300.0	Hentachlor	500 2340-D		
Thallium	EPA 200.8	Hentachlor Enovide	EPA 608		
Total Coliform (Treatment and Distribution)	EPA 200.0		EPA 200 7		
Total Colliform (Treatment and Distribution)	EIIZ, SUD, SIVI 9225	liuli Kialdahi Ni	EFA 200.7		
Total Dissolved Solids	MF 3M 9222-D	Kjeldani-N	EBA 200 7		
Tribalamethanes	5M 2540-C	Leau	EPA 200.7		
Turkidite	EPA 524.2	Magnesium	EPA 200.7		
Turbidity	SM 2130-B	Manganese	EPA 200.7		
volatile Organic Compounds	EPA 524.2	Manganese	EPA 200.8		
New Britchle Miller and Street N		Mercury	EPA 245.1		
Non-Potable Water (Wastewater)	Martha A	Molybdenum	EPA 200.7		
Analyte	method	Molybdenum	EPA 200.8		
4112		NICKEI	EPA 200.7		
	EPA 608	Nickel	EPA 200.8		
Aikalinity, Iotal	SM 2320-B	Nitrate-N	EPA 300.0		
Alpha-BHC	EPA 608	Nitrate-N	Lachat 10-107-04-1-C		
Aluminum	EPA 200.7	Non-Filterable Residue	SM 2540-D		
		Oil and Grease	EPA 1664		

Groundwater Analytical, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532



#### **Certifications and Approvals**

#### MASSACHUSETTS Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)	
Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Groundwater Analytical, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

# APPENDIX E

# FirstSearch Technology Corporation

# **Environmental FirstSearch<sup>™</sup> Report**

Target Property:

# **5 BELLS NECK ROAD**

# WEST HARWICH MA 02671

Job Number: BEA1010288

### **PREPARED FOR:**

Bennett Environmental Associates, Inc.

1573 Main Street

Brewster, MA 02631



Tel: (781) 551-0470

Fax: (781) 551-0471

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#### **Environmental FirstSearch** Search Summary Report

# Target Site: 5 BELLS NECK ROAD

#### WEST HARWICH MA 02671

FirstSearch Summary										
Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NIDI	v	10 21 10	1.00		0	٥	٥	٥	0	0
NEL NEL Deligted	I V	10-21-10	1.00	0	0	0	0	0	0	0
CEDCLIS	I V	10-21-10	0.50	0	0	0	0	-	0	0
CERCLIS NED A D	Y V	08-31-10	0.50	0	0	0	0	-	0	0
NFKAP DCDA COD A CT	Y V	08-31-10	0.50	U	0	0	0	-	0	0
RCRA COR ACT	Y	09-14-10	1.00	0	0	0	0	0	0	0
RCKA ISD	Y	09-14-10	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	09-14-10	0.25	0	0	0	-	-	2	2
Federal Brownfield	Y	10-01-10	0.50	0	0	0	0	-	0	0
ERNS	Y	10-21-10	0.15	0	0	1	-	-	0	1
Iribal Lands	Y	12-01-05	1.00	0	0	0	0	0	4	4
State/Tribal Sites	Y	10-29-10	1.00	0	0	1	4	10	2	17
State Spills 90	Y	10-29-10	0.25	0	2	4	-	-	2	8
State Spills 80	Y	03-10-98	0.25	0	0	0	-	-	0	0
State/Tribal SWL	Y	04-01-10	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	10-29-10	0.50	0	0	0	2	-	0	2
State/Tribal UST/AST	Y	10-29-10	0.25	0	0	1	-	-	0	1
State/Tribal EC	Y	NA	0.15	0	0	0	-	-	0	0
State/Tribal IC	Y	10-29-10	0.15	0	0	0	-	-	0	0
State/Tribal VCP	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	07-28-10	0.50	0	0	0	0	-	0	0
FINDS	Y	05-29-09	0.15	0	0	0	-	-	2	2
FI Map Coverage	Y	04-01-10	0.15	1	0	0	-	-	0	1
Federal IC/EC	Y	11-04-10	0.15	0	0	0	-	-	0	0
- TOTALS -				1	2	7	6	10	12	38

**Notice of Disclaimer** 

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

#### Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

### Environmental FirstSearch Site Information Report

Request Date: Requestor Name: Standard: 11-18-10 Samantha Farrenkopf AAI Search Type: C Job Number: H

COORD BEA1010288

# Target Site:5 BELLS NECK ROADWEST HARWICH MA 02671

Demographics						
Sites:	38	Non-Geocoded: 12	Pop	ulation: 2630		
Radon: 0	.9 - 1.8 PCI/L					
Site Location						
	<b>Degrees (Decimal)</b>	Degrees (Min/Sec)		<u>UTMs</u>		
Longitude:	-70.117792	-70:7:4	Easting:	406948.676		
Latitude:	41.671072	41:40:16	Northing:	4613647.259		
Elevation:	13		Zone:	19		

Comment

**Comment:** 

## Additional Requests/Services

Adjac	ent ZIP Codes: 1 M	/lile(s)	Services:		
ZIP Code	City Name	ST Dist/Dir Sel		Requested?	Date
02639 02645	DENNIS PORT HARWICH	MA 0.24 SW Y MA 0.52 NW Y	Fire Insurance Maps	Yes	11/18/10
02646	HARWICH PORT	MA 0.91 NE Y	Historical Topos	No	
			City Directories	No	
			Municipal Reports	No	
			Online Topos	No	

# Environmental FirstSearch Sites Summary Report

Target Property:   51     W   W		ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB: <sup>B</sup>	BEA1010288		
TOTAL:	38	<b>GEOCODED:</b> 26	NON GEOCODED: 12	SELE	CTED:	0
Map ID	<b>DB</b> Туре	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
4	ERNS	PRIVATE CITIZEN 647715/FIXED FACILITY	12 HATHAWAY RD WEST HARWICH MA 02671	0.14 NW	+1	1
1	FIMAP	FIRE INSURANCE MAP POLY-15305/SANBORN	HARWICH PORT MA 02646	0.00	N/A	2
	FINDS	JACK VIALL CUSTOM PRINTING 110024354385/FRS	33 MAIN ST WEST HARWICH MA 02671	NON GC	N/A	N/A
	FINDS	HOLY TRINITY SCHOOL 110022646902/FRS	245 MAIN ST WEST HARWICH MA 02671	NON GC	N/A	N/A
8	LUST	MOBIL STATION 01-707 4-0000933/RAO	RTE 28 UPPER COUNTY RD DENNIS PORT MA 02639	0.33 SW	+3	4
9	LUST	GETTY STATION FMR 4-0001190/RAO	652 MAIN ST DENNIS PORT MA 02639	0.39 SW	- 1	7
	RCRAGN	ANTANA VICA CONSTRUCTION MV7746962122/VSQG-FED	714 MAIN ST DENNIS PORT MA 02639	NON GC	N/A	N/A
	RCRAGN	CLOTHES CLINIC MAD980733307/SGN	MAIN RTE 28 ST DENNIS PORT MA 02639	NON GC	N/A	N/A
2	SPILLS	RTE 25 and DEPOT ST 4-0013326/DPS	9 BELLS NECK RD WEST HARWICH MA 02671	0.05 SE	- 2	10
3	SPILLS	NO LOCATION AID 4-0015090/RAO	5 HATHAWAY RD WEST HARWICH MA 02671	0.12 NW	+2	12
5	SPILLS	NO LOCATION AID 4-0017414/RAO	54 SMITH ST WEST HARWICH MA 02671	0.20 NE	- 10	15
6	SPILLS	NO LOCATION AID 4-0012523/RAO	4 NEVINS AVE WEST HARWICH MA 02671	0.22 NW	+ 3	18
7	SPILLS	WEST HARWICH SUNOCO 4-0019683/RAO	4 MAIN ST WEST HARWICH MA 02671	0.25 SW	0	20
7	SPILLS	WEST HARWICH SUNOCO 4-0018827/RAO	UNKNOWN WEST HARWICH MA 02671	0.25 SW	0	22
	SPILLS	MILL STORE 4-0022431/UNCLSS	350 MAIN ST DENNIS PORT MA 02639	NON GC	N/A	N/A
	SPILLS	POLE 3308 4-0015353/RAO	UPPER COUNTY RD DENNIS PORT MA 02639	NON GC	N/A	N/A
5	STATE	NO LOCATION AID 4-0017414/RAO	54 SMITH ST WEST HARWICH MA 02671	0.20 NE	- 10	25
8	STATE	MOBIL STATION 01-707 4-0000933/RAO	RTE 28/UPPER COUNTY RD DENNIS PORT MA 02639	0.33 SW	+3	28
9	STATE	GETTY STATION FMR 4-0001190/RAO	652 MAIN ST DENNIS PORT MA 02639	0.39 SW	- 1	31
10	STATE	DENNISPORT AUTO LAUNDRY INC 4-0012832/RAO	13 HALL ST DENNIS PORT MA 02639	0.40 SW	+2	34
11	STATE	NO LOCATION AID 4-0019845/TIERII	613 MAIN ST DENNIS PORT MA 02639	0.48 SW	+ 5	37

## Environmental FirstSearch Sites Summary Report

GEOCODED: 26 NON GEOCODED: 12

<b>Target Property:</b>	5 BELLS NECK ROAD		
	WEST HARWICH MA 02671		

TOTAL:

38

**JOB:** BEA1010288

**SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
12	STATE	RESIDENCE 4-0020952/TIER1D	25 COUNTRY LN DENNIS PORT MA 02639	0.58 SW	+3	38
14	STATE	RESIDENTIAL 4-0019536/RAO	9 SHAGGY PINES RD WEST HARWICH MA 02671	0.68 SE	- 3	40
13	STATE	HESS GASOLINE STATION 21242 4-0021865/TIERII	305 MAIN ST DENNIS PORT MA 02639	0.68 SW	- 4	43
13	STATE	CHRISTIES MARKET 4-0010715/RAO	305 MAIN ST DENNIS PORT MA 02639	0.68 SW	- 4	45
13	STATE	HESS GASOLINE STATION 21242 4-0021894/TIERII	305 MAIN ST DENNIS PORT MA 02639	0.68 SW	- 4	48
15	STATE	NO LOCATION AID 4-0010903/RAO	35 MILL ST DENNIS PORT MA 02639	0.71 SW	- 5	50
16	STATE	RTE 28 and GREY NECK RD 4-0012092/URAM	219 MAIN ST WEST HARWICH MA 02671	0.78 SE	- 3	52
17	STATE	RTE 28 4-0011047/RAO	432 MAIN ST DENNIS PORT MA 02639	0.81 SW	- 7	54
18	STATE	CAPE COD MERCHANTS MALL 4-0000827/WCSPRM	400 MAIN ST DENNIS PORT MA 02639	0.85 SW	+9	57
19	STATE	RTE 28 4-0012306/RAO	12 WEST ST DENNIS PORT MA 02639	1.00 SW	+9	59
	STATE	HARWICH SHOOTING RANGE 4-0021842/TIER1D	DEPOT RD HARWICH MA 02645	NON GC	N/A	N/A
	STATE	INTERSGREAT WESTERN ROAD+LOTHR 4-0021244/TIERII	353 GREAT WESTERN RD HARWICH PORT MA 02646	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02645	UNKNOWN MA 02645	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02639	UNKNOWN MA 02639	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02671	UNKNOWN MA 02671	NON GC	N/A	N/A
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-02646	UNKNOWN MA 02646	NON GC	N/A	N/A
7	UST	SAV-ON HARWICH 0-001389/IN USE	4 RT 28 WEST HARWICH MA 02671	0.25 SW	0	62

Target Property:	5 BELLS NECK ROAD WEST HARWICH MA 026'	71	JOB: BEA1010288			
		ERNS				
SEARCH ID: 1	DIST/DIR: 0.14 NW	ELEVATION:	14 <b>MAP ID:</b> 4			
NAME: PRIVATE CITIZEN ADDRESS: 12 HATHAWAY RE WEST HARWICH M BARNSTABLE	) 1A 02671	REV: ID1: ID2: STATUS:	10/25/99 647715 FIXED FACILITY			
CONTACT: SOURCE: EPA		PHONE:				
SPILL INFORMATION DATE OF SPILL:	10/25/99 <b>TIME OF</b> \$	SPILL: 0800				
PRODUCT RELEASED (1): QUANTITY (1): UNITS (1):	OIL, FUEL: NO. 2 125 GAL					
PRODUCT RELEASED (2): QUANTITY (2): UNITS (2):						
PRODUCT RELEASED (3): QUANTITY (3): UNITS (3):						
MEDIUM/MEDIA AFFECTED AIR: LAND: WATER: WATERBODY AFFECTED BY R	NO GROUNDY YES FIXED FAC NO OTHER: ELEASE: SOIL	VATER: NO CILITY: NO NO				
CAUSE OF RELEASE DUMPING: NATURAL PHENOMENON: OTHER CAUSE: UNKNOWN:	NO EQUIPMEN NO OPERATO NO TRANSP. A NO	NT FAILURE: YI R ERROR: No ACCIDENT: No	3S ) )			
ACTIONS TAKEN:A CLEAN UP CREW IS ON SITERELEASE DETECTION:HOME HEATING OIL TANK THE TANK FELL OVER CAUSING A SPILLMISC. NOTES:SPOKE TO MS REGAN:TANK WAS 275 GAL ABANDONED TANK LOCATED OUTSIDE HOUSE/LEAK WASIN VENT PIPE/CLEANUP COMPANY IS THERE and NO WATER HAS BEEN IMPACTED/SHE ALSO CALLED MADEP.						
DISCHARGER INFORMATION DISCHARGER ID: TYPE OF DISCHARGER: NAME OF DISCHARGER: ADDRESS:	647715 PRIVATE CITIZEN PRIVATE CITIZEN NO.12 HATHAWAY ROAD WEST HARWICH MA 02649	DUN and BRADSTR	EET :			

Target Property:	5 BELLS NEC	K ROAD ICH MA 02671	J	OB: BEA1	1010288	
		FIN	ЛАР			
SEARCH ID: 26	DIST/DIR:	0.00	ELEVATION:		MAP ID:	1
NAME: ADDRESS: CONTACT: SOURCE:	: МАР МА 02646		REV: ID1: ID2: STATUS: PHONE:	11/18/98 POLY-15305 SANBORN		
SITE INFORMATION		CANDODN				
NUMBER OF MAPS:		UNDETERMINE	ED			
<i>POSSIBLE MAP LOCATION</i> HARWICH						

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 026	71	IOB:	BEA1010288	
		LUST			
SEARCH ID: 25	<b>DIST/DIR:</b> 0.33 SW	ELEVATION:	16	MAP ID:	8
NAME: MOBIL STA' ADDRESS: RTE 28 UPP DENNIS MA BARNSTABI CONTACT: SOURCE: MA DEP	FION 01-707 ER COUNTY RD 02638 JE	REV: ID1: ID2: STATUS: PHONE:	10/29/1 4-00009 RAO	0 933	
SITE INFORMATION					
STATUS: RAO - (Response actions were sufficient to ach	Action Outcome): a site/release where an R leve a level of no significant risk or at least e	AO statement was submitted. An nsure that all substantial hazards v	RAO States vere elimina	ment asserts that response ated.	e
LTBI: DELETED:	10/15/1990 CO REM	NFIRMED: 10/15/1990 MOVED:			
LTBI: DELETED:	CO REN	NFIRMED: MOVED:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	GASSTATION, UST; CONTAINED IN A LUST; GAS	S STATION; GASOLINE PRESE	ENT; GRO	UNDWATER RELEASE	3;
OTHER CONTAMINATIO OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:	N:				
<u>CHEMICALS</u>					
UNKNOWN					
SITE ACTIONS					
LSP INVOLVED:	WILLIAM SWANSON				
LSP INVOLVED:	MATTHEW DENTCH				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	8/14/1998 JAMES YOUNG STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/7/1997 WILLIAM FABBRI TRANSMITTAL RECEIVED TIER2EXT				
		- C	ontinued	on next page -	

Target Property	5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	LU	IST	
SEARCH ID: 25	DIST/DIR: 0.33 SW	ELEVATION: 16	MAP ID: 8
NAME: MOBIL STATI ADDRESS: RTE 28 UPPE DENNIS MA 0 BARNSTABLE CONTACT: SOURCE: MA DEP	ON 01-707 R COUNTY RD 2638 3	REV:   10/29     ID1:   4-000     ID2:   5     STATUS:   RACO     PHONE:   7	)/10 )0933
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/12/2001 CHRISTOPHE HENRY STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/7/1997 WILLIAM FABBRI STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	10/8/1997 COLIN COOL STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/22/1996 TIER2EXT		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/1/1999 JAMES YOUNG STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/2/1998 JAMES YOUNG STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE:	3/2/1998	- Continu	ed on next page -

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	e	JOB:	BEA1010288		
	L	UST				
SEARCH ID: 25	<b>DIST/DIR:</b> 0.33 SW	ELEVATION:	16	MAP ID:	8	
NAME: MOBIL STA ADDRESS: RTE 28 UPP DENNIS MA BARNSTAB CONTACT:	TION 01-707 ER COUNTY RD 02638 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/1 4-0000 RAO	0 933		
SOURCE:MA DEPAUL RESTRICTION:LSP:RA STATUS:RAS TYPE:RAO CLASS:	JAMES YOUNG TRANSMITTAL RECEIVED TIER2EXT					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	8/7/2000 CHRISTOPHE HENRY STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	4/8/1996 JOSEPH LANDYN WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/23/2001 WILLIAM SWANSON TRANSMITTAL RECEIVED TIER2EXT					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/14/2000 CHRISTOPHE HENRY TRANSMITTAL RECEIVED TIER2EXT					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	1/31/2000 CHRISTOPHE HENRY STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE					
TS DATE: AUL RESTRICTION: LSP:	3/8/1999 JAMES YOUNG					
- More Details Exist For This Site; Max Page Limit Reached -						

Target Propert	y: 5 BELLS NECK ROAD WEST HARWICH MA 020	571	JOB:	BEA1010288			
LUST							
SEARCH ID: 24	<b>DIST/DIR:</b> 0.39 SW	ELEVATION:	12	<b>MAP ID:</b> 9			
NAME: GETTY STAT ADDRESS: 652 MAIN ST DENNIS MA BARNSTABL CONTACT: SOURCE: MA DEP	TON FMR 02638 Æ	REV: ID1: ID2: STATUS: PHONE:	10/29 4-000 RAO	/10 1190			
SITE INFORMATION							
<b>STATUS:</b> RAO - (Response actions were sufficient to achi	Action Outcome): a site/release where an a evel of no significant risk or at least	RAO statement was submitted. Ar ensure that all substantial hazards	RAO Stat were elimi	ement asserts that response nated.			
LTBI: DELETED:	7/15/1992 CC RE	ONFIRMED: 7/15/1992 MOVED:					
LTBI: DELETED:	CC	DNFIRMED: MOVED:					
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	GASSTATION, UST; CONTAINED IN A LUST; GA	S STATION; GASOLINE PRES	ENT; GR	OUNDWATER RELEASE;			
OTHER CONTAMINATIO OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:	N:						
CHEMICALS							
UNKNOWN							
SITE ACTIONS							
LSP INVOLVED:	ANTHONY ANDRONICO						
TS DATE: AUL RESTRICTION:	1/27/1999						
LSP: RA STATUS:	JOHN BALCO						
RAS TYPE: RAO CLASS:	TIER2EXT						
TS DATE:	10/2/2000						
AUL RESTRICTION: LSP:	ANTHONY ANDRONICO	D					
RA STATUS: RAS TYPE: RAO CLASS:	PHASEII	D					
TS DATE:	10/30/2000						
		- (	Continue	d on next page -			
Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288				
--	---	--	--------------------				
	LUS	ST					
SEARCH ID: 24	<b>DIST/DIR:</b> 0.39 SW	<b>ELEVATION:</b> 12	<b>MAP ID:</b> 9				
NAME: GETTY STA ADDRESS: 652 MAIN S' DENNIS MA BARNSTAB CONTACT: SOURCE: MA DEP	TION FMR F . 02638 LE	REV:       10/29/         ID1:       4-0001         ID2:       STATUS:         STATUS:       RAO         PHONE:       Comparison of the second s	10 190				
AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS: TO BACKROUND	NON ANTHONY ANDRONICO RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	6/1/2000 ANTHONY ANDRONICO SCOPE OF WORK RECEIVED PHASEII						
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	11/26/1999 ANTHONY ANDRONICO TRANSMITTAL RECEIVED TIER2EXT						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/28/1992 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/2/1992 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/2/1992 VALID TRANSITION SITE RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/3/1992 WAVREC TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED				
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Target Proper	y: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	LUST		
SEARCH ID: 24	<b>DIST/DIR:</b> 0.39 SW	<b>ELEVATION:</b> 12	<b>MAP ID:</b> 9
NAME: GETTY STAT ADDRESS: 652 MAIN ST DENNIS MA BARNSTABI CONTACT: SOURCE: MA DEP	TION FMR 02638 Æ	REV:         10/29/           ID1:         4-0001           ID2:         STATUS:         RAO           PHONE:         Comparison         Comparison	10 190
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/14/1994 WAVSIG TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1994 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1994 WAVACC TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/27/1999 TIER 2 EXTENSION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1999 TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	11/26/1999 TIER 2 EXTENSION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/1/2000 SCOPE OF WORK RECEIVED PHASE 2 A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
	- More Deta	ils Exist For This Site; Max	: Page Limit Reached -

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	J	OB:	BEA1010288		
SPILLS						
SEARCH ID: 20	<b>DIST/DIR:</b> 0.05 SE	ELEVATION: 1	1	MAP ID:	2	
NAME: RTE 25 and I ADDRESS: 9 BELLS NEW HARWICH N BARNSTABI CONTACT: SOURCE: MA DEP	DEPOT ST CK RD MA 02645 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/1 4-0013 DPS	0 326		
SITE INFORMATION						
STATUS: DPS - (Downgrad from an Upgradient property.	dient Property Status): A site where DPS Submittal	to DEP has stated that contan	nination o	on the property is coming		
LTBI: DELETED:	CONFIRM REMOVE	ſED: D:				
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, UNKNOWN;					
<b>CHEMICALS</b>						
TCE 59 PPB PCE 260 PPB						
SITE ACTIONS						
LSP INVOLVED:	N/A					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/27/1997 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	9/3/1997 FLDRAN SITE VISIT OR COMPLIANCE INSPECTION					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	9/18/1997 ISSUED NOTICE OF RESPONSIBILITY					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/9/1997 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION					
ACT DATE:	10/9/1997		_	_		
r		- Col	ntinued	on next page -		

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB: BEA	1010288		
SPILLS						
SEARCH ID: 20	<b>DIST/DIR:</b> 0.05 SE	ELEVATION:	11	MAP ID:	2	
NAME: RTE 25 and I ADDRESS: 9 BELLS NE HARWICH N BARNSTABI CONTACT: SOURCE: MA DEP	DEPOT ST CK RD 1A 02645 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0013326 DPS			
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/23/1998 TRANSMITTAL RECEIVED DOWNGRADIENT PROPERTY STATUS					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/25/1998 FEE RECEIVED-FMCRA USE ONLY DOWNGRADIENT PROPERTY STATUS					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/27/1998 COMPLETION STATEMENT RECEIVED IMMEDIATE RESPONSE ACTION					
- -						
			ана стана 1997 — Полона 1997 — Полона Стана 1997 — Полона Стана 1			

Target Proper	ty: 5 BELLS NECH WEST HARWI	K ROAD CH MA 02671		JOB:	BEA1010288	
SPILLS						
SEARCH ID: 17	DIST/DIR:	0.12 NW	ELEVATION:	15	MAP ID:	3
NAME: NO LOCATH ADDRESS: 5 HATHAWA HARWICH M BARNSTAB CONTACT: SOURCE: MA DEP	ON AID AY RD JA 02645 LE		REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-00150 RAO	) 90	
<u>SITE INFORMATION</u>						
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/rel ieve a level of no significant	ease where an RAO risk or at least ensu	statement was submitted. An re that all substantial hazards	n RAO Staten were eliminat	ent asserts that respons ed.	e
LTBI: DELETED:		CONFI REMO	RMED: VED:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, AST;					
<b>CHEMICALS</b>						
2 FUEL OIL 125 GAL						
SITE ACTIONS						
LSP INVOLVED:	DAVID BENNETT					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/26/1999 ORAL APPROVAL OF PL IMMEDIATE RESPONSE A2 - A PERMANENT SOI	AN ACTION LUTION HAS BEEI	N ACHIEVED: CONTAMIN	ATION HAS	NOT BEEN REDUCEI	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/26/1999 REPORTABLE RELEASE RELEASE DISPOSITION A2 - A PERMANENT SOI	UNDER MGL 21E LUTION HAS BEEI	3 N ACHIEVED: CONTAMIN	ATION HAS	NOT BEEN REDUCEI	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/26/1999 FOLLOW UP OFFICE RES SITE VISIT OR COMPLIA A2 - A PERMANENT SOI	SPONSE NCE INSPECTION JUTION HAS BEEI	I N ACHIEVED: CONTAMIN	ATION HAS	NOT BEEN REDUCEI	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/27/1999 FOLLOW UP OFFICE RES SITE VISIT OR COMPLIA A2 - A PERMANENT SOI	SPONSE NCE INSPECTION JUTION HAS BEEI	i N ACHIEVED: CONTAMIN	ATION HAS	NOT BEEN REDUCEI	D
			- (	continued of	on next page -	

<b>Target Proper</b>	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288		
SPILLS					
SEARCH ID: 17	DIST/DIR: 0.12 NW ELE	<b>VATION:</b> 15	<b>MAP ID:</b> 3		
NAME: NO LOCATIO ADDRESS: 5 HATHAWA HARWICH M BARNSTABI CONTACT: SOURCE: MA DEP	ON AID AY RD 1A 02645 LE	REV:         10/29/1           ID1:         4-00150           ID2:         STATUS:         RAO           PHONE:         RAO	0 )90		
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/27/1999 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	S NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	11/4/1999 ORAL APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	S NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/23/1999 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/23/1999 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/1/2000 COMPLETION STATEMENT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/1/2000 RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	NOT BEEN REDUCED		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/4/2000 FEE RECEIVED-FMCRA USE ONLY RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVE	D: CONTAMINATION HAS	NOT BEEN REDUCED		
		- Continued	on next page -		

SEARCH ID: 17 NAME: NO LOCATION AN ADDRESS: 5 HATHAWAY RI HARWICH MA 02 BARNSTABLE	DIST/DIR:	0.12 NW	PILLS ELEVATION:	15	MAP ID:	3
SEARCH ID: 17 NAME: NO LOCATION AND STATE STATE ADDRESS: 5 HATHAWAY RI HARWICH MA 02 BARNSTABLE	DIST/DIR:	0.12 NW	ELEVATION:	15	MAP ID:	3
NAME: NO LOCATION AN ADDRESS: 5 HATHAWAY RI HARWICH MA 02 BARNSTABLE	ID ) 645					
CONTACT: SOURCE: MA DEP			REV: ID1: ID2: STATUS PHONE:	10/29/10 4-00150 : RAO	) 90	
ACT DATE:7/21ACT USE LIMITATION:	/2004 CHNICAL SCREEN A SPONSE ACTION OU A PERMANENT SO	UDIT ICOME - RAO LUTION HAS BEE	N ACHIEVED: CONTAM	INATION HAS	NOT BEEN REDUCE	D

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288			
SPILLS						
SEARCH ID: 18	DIST/DIR: 0.20 NE	<b>ELEVATION:</b> 3	<b>MAP ID:</b> 5			
NAME: NO LOCATIO ADDRESS: 54 SMITH ST WEST HARV BARNSTAB CONTACT: SOURCE: MA DEP	ON AID F WICH MA 02671 LE	REV:       10/29         ID1:       4-001         ID2:       STATUS:         STATUS:       RAO         PHONE:       Contract of the second secon	V10 7414			
SITE INFORMATION						
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/release where an RAO s ieve a level of no significant risk or at least ensure	tatement was submitted. An RAO Sta that all substantial hazards were elim	tement asserts that response nated.			
LTBI: DELETED:	CONFIR REMOV	MED: ED:				
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, AST;					
CHEMICALS						
2 FUEL OIL 200 GAL						
SITE ACTIONS						
LSP INVOLVED:	DAVID BENNETT					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/10/2002 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/10/2002 FLDISS NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/11/2002 FLDD1U SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/11/2002 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED			
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Target Proper	ty: 5 BELLS NECK ROAD JOB: BEA1010288 WEST HARWICH MA 02671				
SPILLS					
SEARCH ID: 18	<b>DIST/DIR:</b> 0.20 NE <b>ELEVATION:</b> 3 <b>MAP ID:</b> 5				
NAME: NO LOCATE ADDRESS: 54 SMITH S WEST HARY BARNSTAB CONTACT: SOURCE: MA DEP	ON AID       REV:       10/29/10         T       ID1:       4-0017414         WICH MA 02671       ID2:         LE       STATUS:       RAO         PHONE:       PHONE:				
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/25/2002 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/6/2002 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/6/2002 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/12/2002 MODIFIED REVISED OR UPDATED PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/12/2002 TECHNICAL SCREEN AUDIT IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 IMMINENT HAZARD EVALUATION RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED				
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Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB:	BEA1010288
	SPIL	LS		
SEARCH ID: 18	DIST/DIR: 0.20 NE	ELEVATION:	3	MAP ID:
NAME: NO LOCATH ADDRESS: 54 SMITH ST WEST HARV BARNSTAB CONTACT: SOURCE: MA DEP	ON AID Γ WICH MA 02671 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-0012 RAO	10 7414
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 MODIFIED REVISED OR UPDATED PLAN REGIMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CEIVED CHIEVED: CONTAMIN	JATION HA	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/6/2003 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMIN	IATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/6/2003 MODIFIED REVISED OR UPDATED PLAN REG IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CEIVED CHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCED

ACT DATE:

ACT TYPE:

RAO CLASS:

ACT USE LIMITATION: ACT STATUS:

10/16/2003

STATUS REPORT RECEIVED

IMMEDIATE RESPONSE ACTION

RAO CLASS: TO BACKROUND	A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE:	10/16/2003
ACT USE LIMITATION:	
ACT STATUS:	MODIFIED REVISED OR UPDATED PLAN RECEIVED
ACT TYPE:	IMMEDIATE RESPONSE ACTION
RAO CLASS:	A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
TO BACKROUND	
ACT DATE:	10/16/2003
ACT USE LIMITATION:	
ACT STATUS:	COMPLETION STATEMENT RECEIVED
ACT TYPE:	PHASE 1

TO BACKROUND		
ACT DATE:	10/16/2003	
ACT USE LIMITATION:		
ACT STATUS:	TRANSMITTAL RECEIVED	
ACT TYPE:	TIER CLASSIFICATION	
RAO CLASS:	A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED	
TO BACKROUND	$\Delta \Delta = 0.01$	

A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED

- More Details Exist For This Site; Max Page Limit Reached -

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOI	BEA1010288					
SPILLS								
SEARCH ID: 19	<b>DIST/DIR:</b> 0.22 NW	<b>ELEVATION:</b> 16	MAP ID: 6					
NAME: NO LOCATIO ADDRESS: 4 NEVINS A HARWICH M BARNSTABI CONTACT: SOURCE: MA DEP	DN AID VE 1A 02645 LE	REV: 1 ID1: 4 ID2: STATUS: F PHONE:	0/29/10 -0012523 RAO					
SITE INFORMATION								
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/release where an RAO si ieve a level of no significant risk or at least ensure	tatement was submitted. An RAC	Statement asserts that response eliminated.					
LTBI: DELETED:	CONFIR REMOV	MED: ED:						
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL,							
<b>CHEMICALS</b>								
HEATING OIL								
SITE ACTIONS								
LSP INVOLVED:	N/A							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/25/1996 LESS THAN THE AMOUNT REQUIRED FOR RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN	REPORTING ACHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/9/1996 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/20/1996 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/12/1997 COMPLETION STATEMENT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED					
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Target Proper	<b>y:</b> 5 BELLS NECK WEST HARWI	K ROAD CH MA 02671		JOB: <sup>H</sup>	EA1010288	
		S	PILLS	<u>.</u>		
SEARCH ID: 19	DIST/DIR:	0.22 NW	ELEVATION:	16	MAP ID:	6
NAME: NO LOCATIO ADDRESS: 4 NEVINS A' HARWICH M BARNSTABI CONTACT: SOURCE: MA DEP	DN AID VE IA 02645 E		REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-001252 RAO	3	
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/12/1997 RAO STATEMENT RECI RESPONSE ACTION OU A2 - A PERMANENT SO	EIVED ICOME - RAO LUTION HAS BEE	EN ACHIEVED: CONTAMI	NATION HAS I	NOT BEEN REDUCE	D

Target Proper	ty: 5 BELLS NECK WEST HARWI	K ROAD CH MA 02671		JOB:	BEA1010288		
SPILLS							
SEARCH ID: 22	DIST/DIR:	0.25 SW	ELEVATION	: 13	MAP ID:	7	
NAME: WEST HARV ADDRESS: 4 MAIN ST WEST HARV BARNSTABI CONTACT: SOURCE: MA DEP	VICH SUNOCO VICH MA 02671 LE		REV: ID1: ID2: STATU PHON	10/29 4-001 JS: RAO E:	/10 9683		
SITE INFORMATION							
STATUS: RAO - (Response	e Action Outcome): a site/rel	ease where an RAC	) statement was submitted	. An RAO Sta	tement asserts that response	se	
actions were sufficient to ach LOCATION TYPE: SOURCE: SITE DESCRIPTION:	ieve a level of no significant	risk or at least ensu	re that all substantial haz:	ards were elimi	nated.		
<b>CHEMICALS</b>							
NAPHTHALENE 27 PPB METHYL TERT-BUTYL ET BENZENE 6 PPB	HER 390 PPB						
SITE ACTIONS							
LSP INVOLVED:	DAVID BENNETT						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	3/27/2006 REPORTABLE RELEASE RELEASE DISPOSITION B1 - REMEDIAL ACTION	UNDER MGL 211 S HAVE NOT BEI	E EN CONDUCTED BECA	USE A LEVE	OF NO SIGNIFICANT		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	3/27/2006 REPORTABLE RELEASE RELEASE NOTIFICATION B1 - REMEDIAL ACTION	UNDER MGL 211 N S HAVE NOT BEI	E EN CONDUCTED BECA	USE A LEVE	OF NO SIGNIFICANT		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	2/8/2007 ISSUED NOTICE OF RESPONSIBI B1 - REMEDIAL ACTION	LITY S HAVE NOT BEI	EN CONDUCTED BECA	USE A LEVE	OF NO SIGNIFICANT		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	3/30/2007 RAO STATEMENT RECE RESPONSE ACTION OUT B1 - REMEDIAL ACTION	IVED 'COME - RAO S HAVE NOT BEI	EN CONDUCTED BECA	USE A LEVE	. OF NO SIGNIFICANT		
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Target Propert	y: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	SI	PILLS	
SEARCH ID: 22	<b>DIST/DIR:</b> 0.25 SW	ELEVATION: 13	<b>MAP ID:</b> 7
NAME: WEST HARW ADDRESS: 4 MAIN ST WEST HARW BARNSTABL CONTACT: SOURCE: MA DEP	ΊСН SUNOCO ΊСН MA 02671 Е	REV:       10/29         ID1:       4-001         ID2:       STATUS:         STATUS:       RAO         PHONE:	/10 9683
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	3/30/2007 COMPLETION STATEMENT RECEIVED PHASE 1 B1 - REMEDIAL ACTIONS HAVE NOT BE	EN CONDUCTED BECAUSE A LEVE	L OF NO SIGNIFICANT
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: RISK EXISTS.	4/3/2007 FEE RECEIVED-FMCRA USE ONLY RESPONSE ACTION OUTCOME - RAO B1 - REMEDIAL ACTIONS HAVE NOT BE	EN CONDUCTED BECAUSE A LEVE	L OF NO SIGNIFICANT

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JO	<b>B:</b> BEA1010288				
SPILLS							
SEARCH ID: 21	<b>DIST/DIR:</b> 0.25 SW	ELEVATION: 13	<b>MAP ID:</b> 7				
NAME: WEST HARY ADDRESS: UNKNOWN WEST HARY BARNSTAB CONTACT: SOURCE: MA DEP	WICH SUNOCO WICH MA 02671 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0018827 RAO				
SITE INFORMATION							
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/release where an RAO s ieve a level of no significant risk or at least ensure	statement was submitted. An RA	O Statement asserts that response e eliminated.				
LOCATION TYPE: SOURCE: SITE DESCRIPTION:							
<b>CHEMICALS</b>							
ТРН 22 РРМ							
SITE ACTIONS							
LSP INVOLVED:	DAVID BENNETT						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/13/2004 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	ON HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/13/2004 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	ON HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/9/2005 WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	ON HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/14/2005 FEE RECEIVED-FMCRA USE ONLY RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATIO	ON HAS NOT BEEN REDUCED				
ACT DATE: ACT USE LIMITATION:	3/15/2005						
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Target Property:	5 BELLS NECK ROAD
8 <b>I</b> 7-	WEST HARWICH MA 02671

#### **JOB:** BEA1010288

	SPILLS
SEARCH ID: 21	<b>DIST/DIR:</b> 0.25 SW <b>ELEVATION:</b> 13 <b>MAP ID:</b> 7
NAME: WEST HARV ADDRESS: UNKNOWN WEST HARV BARNSTAB CONTACT: SOURCE: MA DEP	WICH SUNOCO     REV:     10/29/10       ID1:     4-0018827       WICH MA 02671     ID2:       LE     STATUS:     RAO       PHONE:     PHONE:
ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	TECHNICAL SCREEN AUDIT RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/17/2005 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/2/2005 STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/16/2005 TECHNICAL SCREEN AUDIT RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/20/2005 TRANSMITTAL RECEIVED DOWNGRADIENT PROPERTY STATUS A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/20/2005 RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/20/2005 COMPLETION STATEMENT RECEIVED RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN ACHIEVED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS:	12/22/2005 FEE RECEIVED-FMCRA USE ONLY
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Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	SPD	LLS	
SEARCH ID: 21	<b>DIST/DIR:</b> 0.25 SW	ELEVATION: 13	<b>MAP ID:</b> 7
NAME: WEST HARV ADDRESS: UNKNOWN WEST HARV BARNSTABI CONTACT: SOURCE: MA DEP	VICH SUNOCO VICH MA 02671 JE	REV:       10/29/1         ID1:       4-00188         ID2:       STATUS:         STATUS:       RAO         PHONE:	0 327
ACT TYPE: RAO CLASS: TO BACKROUND	DOWNGRADIENT PROPERTY STATUS A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION HAS	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/22/2005 FEE RECEIVED-FMCRA USE ONLY RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION HAS	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/3/2006 FEE NOT REQUIRED-FEE REFUNDED-FMCI DOWNGRADIENT PROPERTY STATUS A2 - A PERMANENT SOLUTION HAS BEEN	RA USE ONLY ACHIEVED: CONTAMINATION HAS	NOT BEEN REDUCED
			,

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB	: BEA1010288						
	STATE								
SEARCH ID: 11	<b>DIST/DIR:</b> 0.20 NE	ELEVATION: 3	<b>MAP ID:</b> 5						
NAME: NO LOCATI ADDRESS: 54 SMITH S WEST HARV CONTACT: SOURCE: MA DEP	ON AID Γ WICH MA 02671	REV:       10         ID1:       4-1         ID2:       5         STATUS:       R/         PHONE:       10	0/29/10 0017414 AO						
SITE INFORMATION									
STATUS: RAO - (Respons	e Action Outcome): a site/release where an RAO	statement was submitted. An RAO	Statement asserts that response						
actions were sufficient to ach LTBI: DELETED:	ieve a level of no significant risk or at least ensur CONFI REMON	re that all substantial hazards were el RMED: VED:	iminated.						
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, AST;								
<b>CHEMICALS</b>									
2 FUEL OIL 200 GAL									
SITE ACTIONS									
LSP INVOLVED:	DAVID BENNETT								
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/10/2002 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN	NACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/10/2002 FLDISS NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/11/2002 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/11/2002 FLDD1U SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED						
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Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOE	BEA1010288
	STA	TE	
SEARCH ID: 11	DIST/DIR: 0.20 NE	<b>ELEVATION:</b> 3	<b>MAP ID:</b> 5
NAME: NO LOCATIO ADDRESS: 54 SMITH ST WEST HARV	ON AID F VICH MA 02671	REV: 1 ID1: 4 ID2: STATUS: R	0/29/10 -0017414 AO
CONTACT: SOURCE: MA DEP		PHONE:	
TO BACKROUND			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/25/2002 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/6/2002 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/6/2002 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/12/2002 MODIFIED REVISED OR UPDATED PLAN REGIMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CEIVED CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/12/2002 TECHNICAL SCREEN AUDIT IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 MODIFIED REVISED OR UPDATED PLAN REG IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	CEIVED CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 IMMINENT HAZARD EVALUATION RECEIVE IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN A	ED CHIEVED: CONTAMINATIO	N HAS NOT BEEN REDUCED
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Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	<b>JOB:</b> BEA1010288
	STATE	
SEARCH ID: 11	DIST/DIR: 0.20 NE EI	<b>LEVATION:</b> 3 MAP ID: 5
NAME: NO LOCATIO ADDRESS: 54 SMITH ST WEST HARV CONTACT: SOURCE: MA DEP	DN AID VICH MA 02671	REV:       10/29/10         ID1:       4-0017414         ID2:
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/12/2003 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/6/2003 MODIFIED REVISED OR UPDATED PLAN RECEIV IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	ED WED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/6/2003 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/16/2003 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/16/2003 TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/16/2003 SCOPE OF WORK RECEIVED PHASE 2 A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	10/16/2003 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACHIE	VED: CONTAMINATION HAS NOT BEEN REDUCED
	- More Details	Exist For This Site; Max Page Limit Reached -

Target Proper	ty: 5 BELLS NECK WEST HARWIG	ROAD CH MA 02671		JOB:	BEA1010288			
STATE								
SEARCH ID: 8	DIST/DIR:	0.33 SW	ELEVATION:	16	MAP ID:	8		
NAME: MOBIL STAT ADDRESS: RTE 28/UPP DENNIS MA BARNSTABI	FION 01-707 ER COUNTY RD 02638 JE		REV: ID1: ID2: STATUS:	10/29/1 4-0000 RAO	0 933			
SOURCE: MA DEP			PHONE:					
SITE INFORMATION								
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/rele ieve a level of no significant r	ase where an RAO stat isk or at least ensure th	ement was submitted. Ar at all substantial hazards	n RAO State were elimina	ment asserts that response ated.	÷		
LTBI: DELETED:	10/15/1990	CONFIRM REMOVEI	ED: 10/15/1990 D:					
LTBI: DELETED:		CONFIRM REMOVEI	ED: ):					
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	GASSTATION, UST; CONTAINED IN A	A LUST; GAS STATI	ON; GROUNDWATER	RELEASE;	GASOLINE PRESENT	·. ·		
OTHER CONTAMINATIO OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:	N:							
CHEMICALS UNKNOWN								
SITE ACTIONS								
LSP INVOLVED:	WILLIAM SWANSON							
LSP INVOLVED:	MATTHEW DENTCH							
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/7/1997 WILLIAM FABBRI STATUS REPORT RECEIV RELEASE ABATEMENT N	/ED //EASURE						
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE:	10/8/1997 COLIN COOL STATUS REPORT RECEIV RELEASE ABATEMENT N	ÆD ÆASURE						
KAU CLASS:			- (	Continued	on next page -			

# Target Property:5 BELLS NECK ROAD<br/>WEST HARWICH MA 02671

#### **JOB:** BEA1010288

	STA	<b>ATE</b>			
SEARCH ID: 8	<b>DIST/DIR:</b> 0.33 SW	ELEVATION:	16	MAP ID:	8
NAME: MOBIL STA ADDRESS: RTE 28/UPI DENNIS MA BARNSTAB CONTACT: SOURCE: MA DEP	TION 01-707 PER COUNTY RD A 02638 ILE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0000933 RAO		
TS DATE: AUL RESTRICTION: LSP: RA STATUS:	3/22/1996				
RAS TYPE: RAO CLASS:	TIER2EXT				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/14/2000 CHRISTOPHE HENRY TRANSMITTAL RECEIVED TIER2EXT				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/1/1999 JAMES YOUNG MODIFIED REVISED OR UPDATED PLAN RE RELEASE ABATEMENT MEASURE	ECEIVED			
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/3/1999 JAMES YOUNG SCOPE OF WORK RECEIVED PHASEII				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/12/2001 CHRISTOPHE HENRY STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/1/1999 JAMES YOUNG STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE				- - -
TS DATE:	8/7/2000	- (	Continued on n	ext page -	

Target Propert	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	STA	ATE	
SEARCH ID: 8	<b>DIST/DIR:</b> 0.33 SW	ELEVATION: 16	MAP ID: 8
NAME: MOBIL STAT ADDRESS: RTE 28/UPP DENNIS MA BARNSTABI	FION 01-707 ER COUNTY RD 02638 LE	REV:       10/29         ID1:       4-000         ID2:       STATUS:         RAO	/10 0933
CONTACT: SOURCE: MA DEP		PHONE:	
AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	CHRISTOPHE HENRY STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/23/2001 WILLIAM SWANSON TRANSMITTAL RECEIVED TIER2EXT		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	1/31/2000 CHRISTOPHE HENR Y STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/8/1999 JAMES YOUNG TRANSMITTAL RECEIVED TIER2EXT		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	7/15/1996 JOSEPH LANDYN STATUS REPORT RECEIVED RELEASE ABATEMENT MEASURE		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/7/1997 WILLIAM FABBRI TRANSMITTAL RECEIVED TIER2EXT		
TS DATE: AUL RESTRICTION: LSP:	8/9/1999 Christophe henry <i>- More D</i>	etails Exist For This Site; Ma	x Page Limit Reached -

Target Property	5 BELLS NECK ROAD WEST HARWICH MA	02671	JOB:	BEA1010288			
STATE							
SEARCH ID: 5	<b>DIST/DIR:</b> 0.39 SV	W ELEVATION:	12	MAP ID:	9		
NAME: GETTY STAT ADDRESS: 652 MAIN ST DENNIS MA ( BARNSTABLI CONTACT: SOURCE: MA DEP	ION FMR 2638 3	REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-000 RAO	10 1190			
SITE INFORMATION							
<b>STATUS:</b> RAO - (Response actions were sufficient to achie	Action Outcome): a site/release where we a level of no significant risk or at l	an RAO statement was submitted. A east ensure that all substantial hazard	An RAO State s were elimir	ement asserts that respons nated.	e		
LTBI: DELETED:	7/15/1992	<b>CONFIRMED:</b> 7/15/1992 <b>REMOVED:</b>					
LTBI: DELETED:		CONFIRMED: REMOVED:					
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	GASSTATION, UST; CONTAINED IN A LUST;	GASOLINE PRESENT; GAS STA	TION; GRO	DUNDWATER RELEAS	E;		
OTHER CONTAMINATION OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:	Ϋ́:						
<b>CHEMICALS</b>							
UNKNOWN							
SITE ACTIONS							
LSP INVOLVED:	ANTHONY ANDRONICO						
TS DATE: AUL RESTRICTION:	1/27/1999						
LSP: RA STATUS:	JOHN BALCO						
RAS TYPE: RAO CLASS:	TIER2EXT						
TS DATE:	10/2/2000						
AUD RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	ANTHONY ANDRONICO COMPLETION STATEMENT RECE PHASEII	IVED					
TS DATE:	10/30/2000						
			Continue	l on next page -			

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	STA	TE	
SEARCH ID: 5	<b>DIST/DIR:</b> 0.39 SW	<b>ELEVATION:</b> 12	<b>MAP ID:</b> 9
NAME: GETTY STA ADDRESS: 652 MAIN S DENNIS MA BARNSTAB CONTACT: SOURCE: MA DEP	TION FMR F 02638 LE	REV:       10/29         ID1:       4-000         ID2:       STATUS:         STATUS:       RAO         PHONE:       A	/10 1190
AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS: TO BACKROUND	NON ANTHONY ANDRONICO RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN A	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	6/1/2000 ANTHONY ANDRONICO SCOPE OF WORK RECEIVED PHASEII		
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	11/26/1999 ANTHONY ANDRONICO TRANSMITTAL RECEIVED TIER2EXT		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/28/1992 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN A	ACHIEVED: CONTAMINATION H/	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/2/1992 VALID TRANSITION SITE RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN A	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/2/1992 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN A	ACHIEVED: CONTAMINATION HA	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/3/1992 WAVREC TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN A	ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
		- Conunue	u on nesi puge -

Target Propert	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	STAT	Έ	
SEARCH ID: 5	<b>DIST/DIR:</b> 0.39 SW	ELEVATION: 12	<b>MAP ID:</b> 9
NAME: GETTY STAT ADDRESS: 652 MAIN ST DENNIS MA BARNSTABI CONTACT: SOURCE: MA DEP	TION FMR 02638 Æ	REV:       10/29         ID1:       4-000         ID2:       STATUS:         STATUS:       RAO         PHONE:	/10 /1190
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/14/1994 WAVSIG TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1994 WAVACC TRANSITION REGULATIONS A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1994 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/27/1999 TIER 2 EXTENSION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	4/27/1999 TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	11/26/1999 TIER 2 EXTENSION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	6/1/2000 SCOPE OF WORK RECEIVED PHASE 2 A2 - A PERMANENT SOLUTION HAS BEEN AC	HIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
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Target Proper	ty: 5 BELLS NECH WEST HARWI	K ROAD CH MA 02671		JOB:	BEA1010288			
	STATE							
SEARCH ID: 4	DIST/DIR:	0.40 SW	ELEVATION:	15	MAP ID:	10		
NAME: DENNISPOR ADDRESS: 13 HALL ST DENNIS POF BARNSTABI CONTACT:	T AUTO LAUNDRY INC RT MA 02639 LE		REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-0012 RAO	10 2832			
SOURCE: MA DEP	·····			*****				
STATUS: RAO - (Response	e Action Outcome): a site/rel	ease where an RAO st	atement was submitted At	n RAO State	ment asserts that response	e		
actions were sufficient to ach	ieve a level of no significant	risk or at least ensure	that all substantial hazards	were elimin	ated.			
LTBI: DELETED:		CONFIRM REMOVE	MED: CD:					
LTBI: DELETED:		CONFIR REMOVE	MED: ED:					
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	COMMERCIAL, UNKNOWN;							
<b>CHEMICALS</b>						ĺ		
TCE 710 PPB PCE 380 PPB								
SITE ACTIONS								
LSP INVOLVED:	WILLIAM KERFOOT							
LSP INVOLVED:	DAVID BENNETT							
LSP INVOLVED:	JONATHAN MOORE							
TS DATE: AUL RESTRICTION:	3/26/1998							
LSP: RA STATUS: RAS TYPE: RAO CLASS:	LINKED TO A TRANSITI FEND	ON SITE - OBSOLET	E STATUS					
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	2/18/1998 WILLIAM KERFOOT TRANSMITTAL RECEIVI TIER CLASSIFICATION	ED						
ACT DATE:	2/11/1997							
			- (	Continued	l on next page -			

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	J	IOB: BEA	.1010288	
	STA	TE			
SEARCH ID: 4	DIST/DIR: 0.40 SW	ELEVATION:	15	MAP ID:	10
NAME: DENNISPOR ADDRESS: 13 HALL ST DENNIS POF BARNSTABI	.T AUTO LAUNDRY INC RT MA 02639 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0012832 RAO		
SOURCE: MA DEP					
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/12/1997 ISSUED NOTICE OF RESPONSIBILITY C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/21/1997 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/3/1997 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION C1				I
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	7/2/1997 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/18/1998 TIER 2 CLASSIFICATION TIER CLASSIFICATION C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/18/1998 TRANSMITTAL RECEIVED TIER CLASSIFICATION C1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	12/24/2002 TIER 2 EXTENSION TIER CLASSIFICATION C1				:
ACT DATE: ACT USE LIMITATION: ACT STATUS:	1/7/2003 NON				

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Target Proper	ty: 5 BELLS NECK ROAD JOB: BEA1010288 WEST HARWICH MA 02671
	STATE
SEARCH ID: 4	<b>DIST/DIR:</b> 0.40 SW <b>ELEVATION:</b> 15 <b>MAP ID:</b> 10
NAME: DENNISPOR ADDRESS: 13 HALL ST DENNIS POI BARNSTAB CONTACT: SOURCE: MA DEP	RT AUTO LAUNDRY INC     REV:     10/29/10       ID1:     4-0012832       ID2:     ID2:       LE     STATUS:     RAO       PHONE:     RAO
ACT TYPE: RAO CLASS:	COMPLIANCE AND ENFORCEMENT C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE;	1/31/2003 WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE C1 10/7/2004 TIER 2 EXTENSION TIER CLASSIFICATION
RAO CLASS: ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	C1 10/7/2004 TIER 2 TRANSFER TIER CLASSIFICATION C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/7/2004 SCOPE OF WORK RECEIVED PHASE 2 C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	12/31/2004 STATUS REPORT RECEIVED PHASE 2 C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/14/2005 NOTICE OF DELAY IN MEETING RA DEADLINE RECEIVED PHASE 2 C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	5/25/2005 STATUS REPORT RECEIVED PHASE 2 C1
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	7/28/2005 NOTICE OF DELAY IN MEETING RA DEADLINE RECEIVED PHASE 2 C1
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<b>Target Property:</b> 5 BELLS NECK ROADWEST HARWICH MA 02671			JOB:	BEA1010288		
		ST	ATE			
SEARCH ID: 10	DIST/DIR:	0.48 SW	ELEVATION:	18	MAP ID:	11
NAME: NO LOCATIO ADDRESS: 613 MAIN ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	DN AID F RT MA 02639 LE		REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-00198 TIERII	) 45	
SITE INFORMATION						
STATUS: TIER 2 - A site/r 40.0520(2)(a)). Permits are r prior DEP approval. All pre-	clease receiving a total NRS s not required at Tier 2 sites/rel 1993 transition sites that have	score less than 350, t eases and response a e accepted waivers an	unless the site meets any of the totol of totol of the totol of totol	he Tier 1 Incl der the superv	usionary Criteria (CMR vision of an LSP without	:
LOCATION TYPE: SOURCE: SITE DESCRIPTION:						
<u>CHEMICALS</u>						
TOTAL XYLENES 3100 PPI VPH 11000 PPB VPH 5900 PPB NAPHTHALENE 260 PPB	3					
SITE ACTIONS						
LSP INVOLVED:	JOSEPH SALVETTI					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/1/2006 REPORTABLE RELEASE RELEASE NOTIFICATION	UNDER MGL 21E				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/1/2006 REPORTABLE RELEASE RELEASE DISPOSITION	UNDER MGL 21E				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	9/7/2006 ISSUED NOTICE OF RESPONSIBI	LITY				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	5/29/2007 TIER 2 CLASSIFICATION TIER CLASSIFICATION				с. 	
ACT DATE: ACT USE LIMITATION:	5/29/2007			1 . 1		
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Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB: BEA	1010288	
	STA	<b>\TE</b>		*******************************	
SEARCH ID: 10	DIST/DIR: 0.48 SW	ELEVATION:	18	MAP ID:	11
NAME: NO LOCATIO ADDRESS: 613 MAIN ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	DN AID F RT MA 02639 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0019845 TIERII		
ACT STATUS: ACT TYPE: RAO CLASS:	TRANSMITTAL RECEIVED TIER CLASSIFICATION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	5/29/2007 COMPLETION STATEMENT RECEIVED PHASE 1				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	5/31/2007 LEGAL NOTICE PUBLISHED TIER CLASSIFICATION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/7/2007 TECHNICAL SCREEN AUDIT TIER CLASSIFICATION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/7/2007 TECHNICAL SCREEN AUDIT PHASE 1				

<b>Target Proper</b>	ty: 5 BELLS NECK ROAD WEST HARWICH MA	02671	JOB:	BEA1010288	
		STATE			
SEARCH ID: 12	DIST/DIR: 0.58 SW	ELEVATION:	16	MAP ID:	12
NAME: RESIDENCE ADDRESS: 25 COUNTR DENNIS POI BARNSTAB CONTACT: SOURCE: MA DEP	Y LN RT MA LE	REV: ID1: ID2: STATUS: PHONE:	12/1: 4-002 TIER	5/09 20952 21D	
SITE INFORMATION			DED has	manified deadling	
STATUS: MERID - Hern LOCATION TYPE: SOURCE: SITE DESCRIPTION:	D, a release where the responsible party fa PRIVPROP, LINE;	ans to provide a required submittal to	DEP by a	specified deadline.	
<u>CHEMICALS</u>					
2 FUEL OIL 11 GAL					
SITE ACTIONS					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	12/11/2007 REPORTABLE RELEASE UNDER M RELEASE DISPOSITION	IGL 21E			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	1/2/2008 ISSUED NOTICE OF RESPONSIBILITY				

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 026	71	OB:	BEA1010288	
		STATE			
SEARCH ID: 13	DIST/DIR: 0.68 SE	ELEVATION:	10	MAP ID:	14
NAME: RESIDENTIA ADDRESS: 9 SHAGGY I WEST HARV BARNSTABI CONTACT: SOURCE: MA DEP	AL PINES RD WICH MA 02671 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-001 RAO	'10 9536	
SITE INFORMATION					
STATUS: RAO - (Response actions were sufficient to ach	e Action Outcome): a site/release where an R ieve a level of no significant risk or at least e	AO statement was submitted. An nsure that all substantial hazards v	RAO Stat vere elimin	ement asserts that respons nated.	e
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, AST;				
CHEMICALS 2 FUEL OIL 40 GAL					
SITE ACTIONS					
LSP INVOLVED:	ANTHONY DELTUFO				
LSP INVOLVED:	DAVID BENNETT				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/27/2005 REPORTABLE RELEASE UNDER MGL RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS B	21E EEN ACHIEVED: CONTAMINA	TION HA	S NOT BEEN REDUCE	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/27/2005 IRA ASSESSMENT ONLY IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS B	EEN ACHIEVED: CONTAMINA	ATION HA	S NOT BEEN REDUCE	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/27/2005 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECT A2 - A PERMANENT SOLUTION HAS B	ION EEN ACHIEVED: CONTAMINA	TION HA	S NOT BEEN REDUCE	D
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/3/2006 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECT A2 - A PERMANENT SOLUTION HAS B	ION EEN ACHIEVED: CONTAMINA	TION HA	S NOT BEEN REDUCE	D
		- C	ontinue	l on next page -	

Target Proper	ty: 5 BELLS NECK H WEST HARWICH	ROAD 1 MA 02671		JOB:	BEA1010288		
STATE							
SEARCH ID: 13	DIST/DIR: 0	.68 SE EL	EVATION:	10	MAP ID:	. 14	
NAME: RESIDENTIA ADDRESS: 9 SHAGGY P WEST HARV BARNSTABI CONTACT: SOURCE: MA DEP	L INES RD /ICH MA 02671 Æ		REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-0019 RAO	10 9536		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/2006 FOLLOW UP OFFICE RESP SITE VISIT OR COMPLIAN A2 - A PERMANENT SOLU	ONSE CE INSPECTION FION HAS BEEN ACHIEV	/ed: contamin	ATION HA	AS NOT BEEN REDUCEJ	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/2006 ORAL APPROVAL OF PLAN IMMEDIATE RESPONSE AG A2 - A PERMANENT SOLUT	N CTION FION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	AS NOT BEEN REDUCEI	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/25/2006 FOLLOW UP OFFICE RESPO SITE VISIT OR COMPLIANO A2 - A PERMANENT SOLU	ONSE CE INSPECTION FION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	S NOT BEEN REDUCEI	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/3/2006 ISSUED NOTICE OF RESPONSIBILIT A2 - A PERMANENT SOLUT	TY TION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	S NOT BEEN REDUCEI	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/24/2006 WRITTEN PLAN RECEIVEI IMMEDIATE RESPONSE AG A2 - A PERMANENT SOLU	) CTION FION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	S NOT BEEN REDUCEI	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/24/2006 REPORTABLE RELEASE U RELEASE NOTIFICATION A2 - A PERMANENT SOLU	NDER MGL 21E FION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	S NOT BEEN REDUCEI	)	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/1/2006 TECHNICAL SCREEN AUD IMMEDIATE RESPONSE AG A2 - A PERMANENT SOLUT	IT CTION FION HAS BEEN ACHIEV	'ED: CONTAMIN	ATION HA	S NOT BEEN REDUCEI	)	
ACT DATE:	5/10/2006		- (	Continue	l on next page -		

<b>Target Proper</b>	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB:	BEA1010288			
STATE							
SEARCH ID: 13	DIST/DIR: 0.68 SE	ELEVATION:	10	MAP ID:	14		
NAME: RESIDENTIA ADDRESS: 9 SHAGGY I WEST HARV BARNSTAB CONTACT: SOURCE: MA DEP	AL PINES RD VICH MA 02671 LE	REV: ID1: ID2: STATUS: PHONE:	10/29 4-001 RAO	/10 9536			
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	JATION H.	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/18/2006 TECHNICAL SCREEN AUDIT IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEET	N ACHIEVED: CONTAMIN	JATION H	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/26/2006 COMPLETION STATEMENT RECEIVED PHASE 1 A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMIN	JATION HL	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/26/2006 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/26/2006 SCOPE OF WORK RECEIVED PHASE 2 A2 - A PERMANENT SOLUTION HAS BEEL	N ACHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/26/2006 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/27/2006 TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCE	D		
ACT DATE: ACT USE LIMITATION:	1/22/2007						
	- More	Details Exist For This	Site; Ma	x Page Limit Reache	d -		

Target Proper	ty: 5 BELLS NECK WEST HARWIG	ROAD CH MA 02671		JOB:	BEA1010288			
STATE								
SEARCH ID: 6	DIST/DIR:	0.68 SW	ELEVATION:	9	MAP ID:	13		
NAME: HESS GASO ADDRESS: 305 MAIN S DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	LINE STATION 21242 F RT MA 02639 LE		REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-002 TIERI	10 1865 I			
SITE INFORMATION								
<b>STATUS:</b> TIER 2 - A site/r 40.0520(2)(a)). Permits are r prior DEP approval. All pre-	elease receiving a total NRS s tot required at Tier 2 sites/rele 1993 transition sites that have	core less than 350, eases and response a accepted waivers a	unless the site meets any of t actions may be performed un are categoricallyTier 2 sites.	he Tier 1 In der the supe	clusionary Criteria (CMR rvision of an LSP withou	t i		
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	COMMERCIAL, UST;							
<u>CHEMICALS</u>								
GASOLINE 144 PPM								
SITE ACTIONS								
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/2/2009 REPORTABLE RELEASE RELEASE DISPOSITION	UNDER MGL 21E						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/2/2009 IRA ASSESSMENT ONLY IMMEDIATE RESPONSE /	ACTION						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/13/2009 ISSUED NOTICE OF RESPONSIBII	LITY						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/29/2009 TRANSMITTAL RECEIVE RELEASE NOTIFICATION	D I SUBMITTED TH	ROUGH EDEP					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	6/5/2009 COMPLETION STATEME IMMEDIATE RESPONSE A	NT RECEIVED ACTION						
ACT DATE:	1/29/2010							
	en stander van de st Stander van de stander		- (	Continue	l on next page -			
Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB:	BEA1010288				
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STATE								
SEARCH ID: 6	DIST/DIR: 0.68 SW	ELEVATION:	9	MAP ID:	13			
NAME: HESS GASO ADDRESS: 305 MAIN ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	LINE STATION 21242 F &T MA 02639 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-002 TIERI	/10 21865 П				
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	TECHNICAL SCREEN AUDIT IMMEDIATE RESPONSE ACTION							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/24/2010 NOTIFICATION OF URAM RECEIVED UTILITY-RELATED ABATEMENT MEASURE							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/7/2010 SCOPE OF WORK RECEIVED PHASE 2							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/7/2010 COMPLETION STATEMENT RECEIVED PHASE 1							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/7/2010 TIER 2 CLASSIFICATION TIER CLASSIFICATION							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/7/2010 TRANSMITTAL RECEIVED TIER CLASSIFICATION							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/15/2010 LEGAL NOTICE PUBLISHED TIER CLASSIFICATION							
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/20/2010 COMPLETION STATEMENT RECEIVED UTILITY-RELATED ABATEMENT MEASURE							

Target Propert	y: 5 BELLS NECK ROAD WEST HARWICH MA 02	671	JOB:	BEA1010288	
		STATE	<u> </u>		
SEARCH ID: 3	<b>DIST/DIR:</b> 0.68 SW	ELEVATION:	9	MAP ID:	13
NAME: CHRISTIES M ADDRESS: 305 MAIN ST DENNIS MA BARNSTABI	1ARKET 02638 Е	REV: ID1: ID2: STATUS:	10/29/ 4-001 RAO	/10 0715	
CONTACT: SOURCE: MA DEP		PHONE:			
SITE INFORMATION					
<b>STATUS:</b> RAO - (Response actions were sufficient to achi	Action Outcome): a site/release where an eve a level of no significant risk or at least	RAO statement was submitted. An tensure that all substantial hazards	n RAO Stat were elimi	ement asserts that respons nated.	se
LTBI: DELETED:	C( R)	ONFIRMED: EMOVED:			
LTBI: DELETED:	Ci Ri	ONFIRMED: EMOVED:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	COMMERCIAL, PIPE;				
<u>CHEMICALS</u>					
GASOLINE 100 GAL GASOLINE					
SITE ACTIONS					
LSP INVOLVED:	N/A				
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	3/12/1998 LINKED TO A TRANSITION SITE - OF FEND	3SOLETE STATUS			
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	9/8/1995 STEVEN MIGRIDICHIAN TRANSMITTAL RECEIVED TIER CLASSIFICATION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	8/26/1994 REPORTABLE RELEASE UNDER MG RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS	L 21E BEEN ACHIEVED: CONTAMIN	IATION HA	AS NOT BEEN REDUCE	D
		- (	Continue	d on next page -	

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288	
STATE				
SEARCH ID: 3	DIST/DIR: 0.68 SW	CLEVATION: 9	<b>MAP ID:</b> 13	
NAME: CHRISTIES I ADDRESS: 305 MAIN ST DENNIS MA BARNSTABI CONTACT: SOURCE: MA DEP	MARKET Γ 02638 LE	REV:       10/29/1         ID1:       4-0010         ID2:       STATUS:         STATUS:       RAO         PHONE:	0 715	
TO BACKROUND ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/26/1994 IRA ASSESSMENT ONLY IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HA	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/26/1994 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HA	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/22/1994 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HAS	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/23/1994 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HAS	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/26/1994 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HAS	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/26/1994 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HAS	S NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/24/1995 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	EVED: CONTAMINATION HAS	NOT BEEN REDUCED	
		- Continued	on next page -	

### Target Property:5 BELLS NECK ROADWEST HARWICH MA 02671

#### **JOB:** BEA1010288

STATE				
SEARCH ID: 3	DIST/DIR: 0.68 SW	ELEVATION: 9	<b>MAP ID:</b> 13	
NAME: CHRISTIES J ADDRESS: 305 MAIN S' DENNIS MA BARNSTABJ CONTACT: SOURCE: MA DEP	MARKET T \ 02638 LE	REV:       10/         ID1:       4-0         ID2:       5         STATUS:       RA         PHONE:       100	/29/10 0010715 AO	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND ACT DATE: ACT USE LIMITATION:	8/7/1995 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH 9/8/1995	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/8/1995 COMPLETION STATEMENT RECEIVED PHASE 1 A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/8/1995 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/6/1996 COMPLETION STATEMENT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/6/1996 RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	9/9/1996 FEE RECEIVED-FMCRA USE ONLY RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN ACH	IEVED: CONTAMINATION	HAS NOT BEEN REDUCED	

Target Proper	ty: 5 BELLS NECH WEST HARWI	K ROAD CH MA 02671		JOB:	BEA1010288	
		ST	<b>FATE</b>			
SEARCH ID: 7	DIST/DIR:	0.68 SW	ELEVATION:	9	MAP ID:	13
NAME: HESS GASO ADDRESS: 305 MAIN S' DENNIS POI BARNSTAB CONTACT: SOURCE: MA DEP	LINE STATION 21242 F RT MA 02639 LE		REV: ID1: ID2: STATUS: PHONE:	10/29 4-002 TIERI	/10 1894 I	
SITE INFORMATION						
STATUS: TIER 2 - A site/r 40.0520(2)(a)). Permits are r prior DEP approval. All pre- LOCATION TYPE: SOURCE: SITE DESCRIPTION:	elease receiving a total NRS not required at Tier 2 sites/re 1993 transition sites that hav	score less than 350, leases and response e accepted waivers	unless the site meets any of t actions may be performed un are categoricallyTier 2 sites.	the Tier 1 Ir der the sup	clusionary Criteria (CMR rvision of an LSP without	
<u>CHEMICALS</u>						
ARSENIC .053 MG/L						
SITE ACTIONS						
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/29/2009 REPORTABLE RELEASE RELEASE NOTIFICATIO	UNDER MGL 21E N	2			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/29/2009 REPORTABLE RELEASE RELEASE DISPOSITION	UNDER MGL 21E	3			
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/20/2010 COMPLETION STATEM PHASE 1	ENT RECEIVED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/20/2010 SCOPE OF WORK RECE PHASE 2	IVED				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/20/2010 TRANSMITTAL RECEIV. TIER CLASSIFICATION	ED				
ACT DATE:	4/20/2010					
			- (	Continue	d on next page -	

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	S	ТАТЕ	
SEARCH ID: 7	DIST/DIR: 0.68 SW	<b>ELEVATION:</b> 9	<b>MAP ID:</b> 13
NAME: HESS GASO ADDRESS: 305 MAIN ST DENNIS POF BARNSTAB CONTACT: SOURCE: MA DEP	LINE STATION 21242 F RT MA 02639 LE	REV:       10/29/         ID1:       4-0021         ID2:          STATUS:       TIERII         PHONE:	10 894
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	TIER 2 CLASSIFICATION TIER CLASSIFICATION		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/29/2010 LEGAL NOTICE PUBLISHED TIER CLASSIFICATION		

Target Proper	ty: 5 BELLS NECK WEST HARWIG	ROAD CH MA 02671		JOB:	BEA1010288	
STATE						
SEARCH ID: 9	DIST/DIR:	0.71 SW	ELEVATION:	8	MAP ID:	15
NAME: NO LOCATH ADDRESS: 35 MILL ST DENNIS POI BARNSTAB CONTACT:	ON AID RT MA 02639 LE		REV: ID1: ID2: STATUS: PHONE:	10/29/1 4-00109 RAO	0 903	
SOURCE: MA DEP						
SITE INFORMATION						
actions were sufficient to ach	e Action Outcome): a site/rele ieve a level of no significant i	ease where an RAO sta risk or at least ensure t	atement was submitted. Ar that all substantial hazards	n RAO Stater were elimina	nent asserts that respons ited.	e
LTBI: DELETED:		CONFIRM REMOVE	AED: D:			
LTBI: DELETED:		CONFIRM REMOVE	AED: D:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	RESIDNTIAL, FMRUST;					
<b>CHEMICALS</b>						
2 FUEL OIL 6 INCH						
SITE ACTIONS						
LSP INVOLVED:	DAVID BENNETT					
LSP INVOLVED:	N/A					
TS DATE: AUL RESTRICTION:	3/12/1998					
LSP: RA STATUS: RAS TYPE: RAO CLASS:	LINKED TO A TRANSITIC FEND	ON SITE - OBSOLETI	E STATUS			
TS DATE: AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	11/13/1995 JOSEPH SALVETTI TRANSMITTAL RECEIVE TIER CLASSIFICATION	Ð				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE:	11/4/1994 Follow up office res Site visit or compliat	PONSE NCE INSPECTION				
			- (	continued	on next page -	

Target Propert	y: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB: E	EA1010288
	ST	ATE	
SEARCH ID: 9	<b>DIST/DIR:</b> 0.71 SW	ELEVATION: 8	<b>MAP ID:</b> 15
NAME: NO LOCATIO ADDRESS: 35 MILL ST DENNIS POR BARNSTABL CONTACT: SOURCE: MA DEP	Ν ΑΙ <b>D</b> Γ ΜΑ 02639 Ε	REV:       10/29/10         ID1:       4-001090         ID2:       STATUS:         STATUS:       RAO         PHONE:	3
RAO CLASS: BACKROUND OR A THREA	A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED	NACHIEVED: CONTAMINATION HAS E	EEN REDUCED TO
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA	11/4/1994 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED 11/4/1994 ORAL APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED	V ACHIEVED: CONTAMINATION HAS E	EEN REDUCED TO EEN REDUCED TO
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA ACT DATE: ACT USE LIMITATION: ACT STATUS:	11/7/1994 WRITTEN APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED 11/7/1994 ISSUED	ACHIEVED: CONTAMINATION HAS E	EEN REDUCED TO
ACT TYPE: RAO CLASS: BACKROUND OR A THREA	NOTICE OF RESPONSIBILITY A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED	I ACHIEVED: CONTAMINATION HAS B	EEN REDUCED TO
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA	11/17/1994 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED 12/29/1994	I ACHIEVED: CONTAMINATION HAS B	EEN REDUCED TO
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA	FOLFLD SITE VISIT OR COMPLIANCE INSPECTION A1 - A PERMANENT SOLUTION HAS BEEN T OF A RELEASE HAS BEEN ELIMINATED	I ACHIEVED: CONTAMINATION HAS B	EEN REDUCED TO
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/21/1995 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION HAS B	EEN REDUCED TO
	· · · · · · · · · · · · · · · · · · ·	- Commueu o	n nen puge -

Target Propert	y: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288		
STATE					
SEARCH ID: 9	<b>DIST/DIR:</b> 0.71 SW	ELEVATION: 8	<b>MAP ID:</b> 15		
NAME: NO LOCATIO ADDRESS: 35 MILL ST DENNIS POR BARNSTABI CONTACT: SOURCE: MA DEP	)N AID T MA 02639 Æ	REV:       10/29/         ID1:       4-001/         ID2:          STATUS:       RAO         PHONE:	/10 0903		
BACKROUND OR A THREA ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA ACT DATE:	AT OF A RELEASE HAS BEEN ELIMINATED 3/7/1995 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED 3/8/1995	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA	ISSUED NOTICE OF RESPONSIBILITY A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THRE/	3/8/1995 WRITTEN APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THRE	9/20/1995 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THREA	10/31/1995 WRITTEN PLAN RECEIVED IMMEDIATE RESPONSE ACTION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THRE/	11/13/1995 TIER 2 CLASSIFICATION TIER CLASSIFICATION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: BACKROUND OR A THRE/	11/13/1995 TRANSMITTAL RECEIVED TIER CLASSIFICATION A1 - A PERMANENT SOLUTION HAS BEEN AT OF A RELEASE HAS BEEN ELIMINATED	ACHIEVED: CONTAMINATION HA	S BEEN REDUCED TO		
	- More D	eiuus exisi ror inis sile; Ma	k ruge Limit Keachea -		

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB: <sup>B]</sup>	EA1010288	
STATE					
SEARCH ID: 16	<b>DIST/DIR:</b> 0.78 SE	ELEVATION:	10	MAP ID:	16
NAME: RTE 28 and ADDRESS: 219 MAIN S HARWICH N CONTACT: SOURCE: MA DEP	GREY NECK RD T MA 02645	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0012092 URAM		
SITE INFORMATION					
LTBI: DELETED:	CONFIRM REMOVEI	ED: ):			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	COMMERCIAL, UST;				
CHEMICALS TPH					
SITE ACTIONS					
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/17/1996 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/17/1996 FOLFLD SITE VISIT OR COMPLIANCE INSPECTION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/22/1996 NOTIFICATION OF URAM RECEIVED UTILITY-RELATED ABATEMENT MEASURE				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/22/1996 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	4/29/1996 COMPLETION STATEMENT RECEIVED UTILITY-RELATED ABATEMENT MEASURE				

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB	BEA1010288
	ST	ATE	
SEARCH ID: 14	<b>DIST/DIR:</b> 0.81 SW	ELEVATION: 6	<b>MAP ID:</b> 17
NAME: RTE 28 ADDRESS: 432 MAIN S' DENNIS POI BARNSTAB CONTACT: SOURCE: MA DEP	T RT MA 02639 LE	REV:       10         ID1:       4         ID2:       5         STATUS:       R         PHONE:       10	0/29/10 0011047 AO
SITE INFORMATION			
STATUS: RAO - (Respons actions were sufficient to ach	e Action Outcome): a site/release where an RAO s ieve a level of no significant risk or at least ensure	tatement was submitted. An RAO that all substantial hazards were e	Statement asserts that response liminated.
LOCATION TYPE: SOURCE: SITE DESCRIPTION:	UST;		
<b>CHEMICALS</b>			
GASOLINE			
SITE ACTIONS			
LSP INVOLVED:	TOIVO LAMMINEN		
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/1995 FOLLOW UP OFFICE RESPONSE SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/1995 REPORTABLE RELEASE UNDER MGL 21E RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/1995 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/17/1995 REPORTABLE RELEASE UNDER MGL 21E RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION	I HAS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION:	1/11/1996		
		- Contin	ued on next page -

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 0267	<b>JOB:</b>	BEA1010288
	Ę	STATE	
SEARCH ID: 14	DIST/DIR: 0.81 SW	ELEVATION: 6	<b>MAP ID:</b> 17
NAME: RTE 28 ADDRESS: 432 MAIN ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	T RT MA 02639 LE	REV:       10/29/         ID1:       4-0011         ID2:       STATUS:         STATUS:       RAO         PHONE:	10 .047
ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	ORAL APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BE	EN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	1/11/1996 WRITTEN APPROVAL OF PLAN IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BE	EN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/4/1996 STATUS REPORT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BE	EN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/4/1997 NON COMPLIANCE AND ENFORCEMENT A2 - A PERMANENT SOLUTION HAS BE	EEN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	2/4/1997 FLDRAN SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BE	ON EEN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/31/2003 RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BE	EN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/31/2003 COMPLETION STATEMENT RECEIVED IMMEDIATE RESPONSE ACTION A2 - A PERMANENT SOLUTION HAS BE	EEN ACHIEVED: CONTAMINATION HA	S NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS:	1/5/2004 FEE RECEIVED-FMCRA USE ONLY	- Continued	l on next page -

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
	ST	<b>FATE</b>	
SEARCH ID: 14	DIST/DIR: 0.81 SW	ELEVATION: 6	<b>MAP ID:</b> 17
NAME: RTE 28 ADDRESS: 432 MAIN ST DENNIS POF BARNSTABI	Г RT MA 02639 LE	REV:       10/29         ID1:       4-001         ID2:       STATUS:	/10 1047
CONTACT: SOURCE: MA DEP		PHONE:	
ACT TYPE: RAO CLASS: TO BACKROUND	RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEI	N ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	3/16/2004 TECHNICAL SCREEN AUDIT RESPONSE ACTION OUTCOME - RAO A2 - A PERMANENT SOLUTION HAS BEEN	N ACHIEVED: CONTAMINATION H	AS NOT BEEN REDUCED

Target Propert	y: 5 BELLS NECH WEST HARWI	K ROAD CH MA 02671		JOB:	BEA1010288	
		STA	ГЕ			
SEARCH ID: 2	DIST/DIR:	0.85 SW	ELEVATION:	22	MAP ID:	18
NAME: CAPE COD M ADDRESS: 400 MAIN ST DENNIS MA ( BARNIS ABL) CONTACT: SOURCE: MA DEP	ERCHANTS MALL 12638 E		REV: ID1: ID2: STATUS: PHONE:	10/29/ 4-0000 WCSP	10 827 RM	
SITE INFORMATION						
STATUS: WCSPRM - A Wa	iver Completion Statement	has been submitted to l	DEP.			
LTBI: DELETED:	4/15/1992	CONFIRM REMOVEI	ED: 4/15/1992 D:			
LTBI: DELETED:		CONFIRM REMOVEI	ED: D:			
LTBI: DELETED:		CONFIRM REMOVEI	ED: D;			
LTBI: DELETED:		CONFIRM REMOVEI	ED: D:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION: FORMER; COMMERCIAL S	FORMER, CON LEACHFIELD; RELEASE TO SO SITE;	MMERCIAL, DRYCI DIL; GROUNDWATE	LEANER, R RELEASE; CHLORI	NATED SO	LVENTS PRESENT;	
OTHER CONTAMINATION OTHER RELEASES: OTHER PROBLEMS: OTHER TYPE OF SITE:	N: LEACHING FIELD	NERS				
CHEMICALS UNKNOWN						
SITE ACTIONS						
TS DATE: AUL RESTRICTION: LSP: RA STATUS:	12/13/1999					
RAS TYPE: RAO CLASS:	WCS-PERM					
ACT DATE: ACT USE LIMITATION:	10/11/1991					
ACT STATUS:	WAVREC			_		
			- (	Continued	l on next page -	

# Target Property: 5 BELLS NECK ROAD WEST HARWICH MA 02671

**JOB:** BEA1010288

	ST	ATE			
SEARCH ID: 2	DIST/DIR: 0.85 SW	ELEVATION:	22	MAP ID:	18
NAME: CAPE COD N ADDRESS: 400 MAIN ST DENNIS MA BARNSTABI CONTACT: SOURCE: MA DEP	MERCHANTS MALL Γ 02638 LE	REV: ID1: ID2: STATUS: PHONE:	10/29/10 4-0000827 WCSPRM		
ACT TYPE: RAO CLASS:	TRANSITION REGULATIONS				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	1/31/1992 WAVSIG TRANSITION REGULATIONS				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/10/1992 VALID TRANSITION SITE RELEASE DISPOSITION				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	2/10/1992 WAVACC TRANSITION REGULATIONS				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	10/29/1992 SCOPE OF WORK RECEIVED PHASE 2				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	12/13/1999 ISSUED NOTICE OF RESPONSIBILITY				
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS:	12/13/1999 A WAIVER COMPLETION STATEMENT HA TRANSITION REGULATIONS	S BEEN SUBMITTED TO	DEP.		

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA (	)2671	JOB:	BEA1010288	
		STATE			
SEARCH ID: 15	<b>DIST/DIR:</b> 1.00 SW	ELEVATIO	<b>N:</b> 22	MAP ID:	19
NAME: RTE 28 ADDRESS: 12 WEST ST DENNIS POI BARNSTAB CONTACT: SOUDCE: MA DED	RT MA 02639 LE	REV ID1: ID2: STA' PHO	": 10/29 4-00] TUS: RAO NE:	/10 2306	
SURCE: MA DEP					
STATUS: RAO - (Respons	e Action Outcome): a site/release where a	an RAO statement was submitt	ed. An RAO Sta	tement asserts that respon	se
actions were sufficient to ach	ieve a level of no significant risk or at le	ast ensure that all substantial ha	azards were elim	nated.	
LIBI: DELETED:		CONFIRMED: REMOVED:			
LOCATION TYPE: SOURCE: SITE DESCRIPTION:					
<b>CHEMICALS</b>					
UNKNOWN CHEMICAL O	F TYPE - OIL				
SITE ACTIONS					
LSP INVOLVED:	N/A				
TS DATE: AUL RESTRICTION: LSP:	8/25/1998				
RA STATUS: RAS TYPE: RAO CLASS:	LINKED TO A TRANSITION SITE - ( FEND	OBSOLETE STATUS			
TS DATE:	8/7/1998				
AUL RESTRICTION: LSP: RA STATUS: RAS TYPE: RAO CLASS:	THEODORE KAEGAEL TRANSMITTAL RECEIVED TIER CLASSIFICATION				
ACT DATE: ACT USE LIMITATION:	10/28/1996				
ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	REPORTABLE RELEASE UNDER M RELEASE NOTIFICATION A2 - A PERMANENT SOLUTION HA	IGL 21E AS BEEN ACHIEVED: CONT	AMINATION H	AS NOT BEEN REDUCE	Đ
ACT DATE: ACT USE LIMITATION:	10/28/1996				
ACT STATUS:	REPORTABLE RELEASE UNDER M	IGL 21E			
			- Continue	ed on next page -	

Target Proper	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	•	JOB:	BEA1010288	
	ST	TATE			
SEARCH ID: 15	<b>DIST/DIR:</b> 1.00 SW	ELEVATION:	22	MAP ID:	19
NAME: RTE 28 ADDRESS: 12 WEST ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	RT MA 02639 LE	REV: D1: ID2: STATUS: PHONE:	10/29/ 4-001: RAO	/10 2306	
ACT TYPE: RAO CLASS: TO BACKROUND	RELEASE DISPOSITION A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION HA	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	12/13/1996 ISSUED NOTICE OF RESPONSIBILITY A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION H4	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/27/1998 FLDRAN SITE VISIT OR COMPLIANCE INSPECTION A2 - A PERMANENT SOLUTION HAS BEE	J N ACHIEVED: CONTAMIN	ATION H4	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/7/1998 TRANSMITTAL RECEIVED TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION H/	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/7/1998 COMPLETION STATEMENT RECEIVED PHASE 1 A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION H/	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/7/1998 TIER 2 CLASSIFICATION TIER CLASSIFICATION A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION HA	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	5/8/2001 WRITTEN PLAN RECEIVED RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEE	N ACHIEVED: CONTAMIN	ATION H4	AS NOT BEEN REDUCEI	)
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE:	8/3/2001 RAO STATEMENT RECEIVED RESPONSE ACTION OUTCOME - RAO				
		- (	Continue	d on next page -	

<b>Target Proper</b>	ty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB: BI	EA1010288
	ST	ATE	
SEARCH ID: 15	<b>DIST/DIR:</b> 1.00 SW	ELEVATION: 22	<b>MAP ID:</b> 19
NAME: RTE 28 ADDRESS: 12 WEST ST DENNIS POF BARNSTABI CONTACT: SOURCE: MA DEP	RT MA 02639 LE	REV:       10/29/10         ID1:       4-0012306         ID2:       STATUS:         STATUS:       RAO         PHONE:	
RAO CLASS: TO BACKROUND	A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION HAS N	OT BEEN REDUCED
ACT DATE: ACT USE LIMITATION: ACT STATUS: ACT TYPE: RAO CLASS: TO BACKROUND	8/3/2001 COMPLETION STATEMENT RECEIVED RELEASE ABATEMENT MEASURE A2 - A PERMANENT SOLUTION HAS BEEN	ACHIEVED: CONTAMINATION HAS N	OT BEEN REDUCED

Target Property:	5 BELLS NECK ROAD WEST HARWICH MA 02671		JOB: BEA	1010288	
	UST	Г			
SEARCH ID: 23	<b>DIST/DIR:</b> 0.25 SW	ELEVATION:	13	MAP ID:	7
NAME: SAV-ON HARWICH ADDRESS: 4 RT 28 WEST HARWICH N BARNSTABLE CONTACT: SOURCE: MA DEP	Н ЛА 02671	REV: ID1: ID2: STATUS: PHONE:	10/29/10 0-001389 1126 IN USE		
TOTAL NUMBER OF TANKS:	5				
OWNER INFORMATION OWNER NAME: OWNER ADDRESS:	ANGELINA ENTERPRISES LLC 5 WADSWORTH LN YARMOUTH PORT MA 02675				
FACILITY TYPE: WORK PHONE: INSPECTION DATE: INSPECTOR:	GAS STATION (508) 430-9923				-
TANK INFORMATION					
TANK NUMBER: TANK STATUS: SERIAL NUMBER: ABOVE GROUND: CAPACITY(GAL): CONTENTS: USE: TANK MATERIAL: TANK TYPE: LEAK DETECTION:	1 IN USE N 8000 GASOLINE MV REINFORCED 1 WALL Approved In-Tank Monitor				
PIPE MATERIAL: PIPE TYPE: LEAK DETECTION:	REINFORCED 2 WALLS Interstitial Space Monitor				
TANK NUMBER: TANK STATUS: SERIAL NUMBER: ABOVE GROUND: CAPACITY(GAL): CONTENTS: USE: TANK MATERIAL: TANK TYPE: LEAK DETECTION: PIPE MATERIAL: PIPE TYPE.	2 IN USE N 8000 GASOLINE MV REINFORCED 1 WALL Approved In-Tank Monitor REINFORCED 2 WALLS				
LEAK DETECTION:	Interstitial Space Monitor				
TANK NUMBER:	3	- (	Continued on n	ext page -	

Target Prop	erty: 5 BELLS NECK ROAD WEST HARWICH MA 02671	JOB:	BEA1010288
· · · · · · · · · · · · · · · · · · ·	U	ST	
SEARCH ID: 23	<b>DIST/DIR:</b> 0.25 SW	<b>ELEVATION:</b> 13	<b>MAP ID:</b> 7
NAME: SAV-ON F ADDRESS: 4 RT 28 WEST HA BARNSTA	HARWICH RWICH MA 02671 BLE	REV:         10/29/1           ID1:         0-0013           ID2:         1126           STATUS:         IN USE           PHONE:         N	0 89 3
SOURCE: MA DEP		FHONE:	
TANK STATUS: SERIAL NUMBER: ABOVE GROUND: CAPACITY(GAL): CONTENTS: USE: TANK MATERIAL: TANK TYPE: LEAK DETECTION:	IN USE N 8000 GASOLINE MV REINFORCED 1 WALL Approved In-Tank Monitor		
PIPE MATERIAL: PIPE TYPE: LEAK DETECTION:	REINFORCED 2 WALLS Interstitial Space Monitor		
TANK NUMBER: TANK STATUS: SERIAL NUMBER:	4 IN USE		
ABOVE GROUND: CAPACITY(GAL): CONTENTS: USE:	N 6000 DIESEL MV		
TANK MATERIAL: TANK TYPE: LEAK DETECTION:	REINFORCED 1 WALL Approved In-Tank Monitor		
PIPE MATERIAL: PIPE TYPE: LEAK DETECTION:	REINFORCED 2 WALLS Interstitial Space Monitor		
TANK NUMBER: TANK STATUS: SERIAL NUMBER: ABOVE GROUND: CAPACITY(GAL):	5 IN USE N 6000		
CONTENTS: USE: TANK MATERIAL: TANK TYPE: LEAK DETECTION:	GASOLINE MV COMPOSITE 2 WALLS Approved In-Tank Monitor		
PIPE MATERIAL: PIPE TYPE: LEAK DETECTION:	FLEXIBLE 2 WALLS Product Line Leak Detector		

#### Environmental FirstSearch Street Name Report for Streets within .25 Mile(s) of Target Property

<b>Target Property:</b>	5 BELLS NECK ROAD
Qopj.	WEST HARWICH MA 02671

**JOB:** BEA1010288

Street Name	Dist/Dir	Street Name	Dist/Dir
Bells Neck Pd	0 02 NE		
Denot Pd			
Depot Ku Pine Grove Pd			
Hamilton Dl			
Manificon Fi	0.00 SW		
wayside Dr	0.07 NW		
Route 28	0.09 SE		
State Highway 28	0.09 SE		
Belmont Rd	0.09 SE		
Main St	0.09 SE		
Hath A Way St	0.11 NW		
Hath-A-Way	0.11 NW		
Smith St	0.14 NE		
Silver St	0.15 SW		
Berry Way	0.15 SE		
Carol Ln	0.16 NW		
Roberts Ln	0.17 NE		
Robert Ln	0.17 NE		
Mansion St	0.17 NE		
Arbutus Ave	0.20 NW		
Nevins Ln	0.21 NW		
Homewood Ln	0.22 SE		
Division St	0.23 NW		
Shangari Ln	0.23 SE		
Shangri-la Dr	0.23 SE		
North St	0.23 SW		
Willow St	0.24 SW		
Upper County Road	0.25 SW		







Searchable Sites

# **Reportable Release Lookup**

01003 DTN | Date le IN DWICH | Soutod by ÷ h V. Ite I C. VL P . .

The search	h returned 74 results   Sea	irch Keywords >> 'HARWIG	CH'   Sorted by: RTN   Data las	st updated:	: 11/16/2010						
RTN	City/Town	<b>Release Address</b>	Site Name/ Location Aid	<b>Reporting</b> Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type	Supporting Documents
4-0000095	HARWICH	WEST OF RTE 24	HARWICH SANI LANDFILL	NONE	1/15/1987	ADEQUATI REG	8/2/1995				
4-0000096	HARWICH	OFF CHATHAM RD	THOMPSON FIELD FARM	NONE	1/15/1987	DEPNFA	7/23/1993				
4-0000493	HARWICH	SNOW INN RD	WYCHMERE HARBOR	NONE	1/15/1988	RAO	5/12/1999	PHASE	A2		
4-0000494	HARWICH	PLEASANT LAKE AVE	CAPE COD TECH HIGH SCHOOL	NONE	3/31/1987	DEPNFA	8/2/1995			lio	
4-0000518	HARWICH	622 DEPOT ST	RESIDENCE	NONE	2/1/1988	RAO	12/12/2003	PHASE IV	CI	Oil and Hazardous Material	Files
4-0000842	HARWICH	731 MAIN ST RTE 28	MOBIL STATION 01 602 FMR	NONE	3/21/1989	TIER 1B	3/31/2006			Oil	Files
4-000050	HARWICH	435 MAIN ST	SUNOCO SERVICE STATION	NONE	10/15/1990	RAO	2/5/2001	PHASE IV	A2		
4-0001042	HARWICH	8 SATUCKET RD	DALE RESIDENCE	NONE	1/15/1991	RAO	9/28/1998	PHASE II	A2		
4-0001200	HARWICH	570 MAIN ST	HARWICHPORT TEXACO STATION	NONE	7/14/1992	RAO	11/8/2008	PHASE V	A2		Files
4-0006015	HARWICH	321 OAK STREET EXT	PROPERTY	NONE	1/7/1994	REMOPS	11/6/2003	PHASE V			
4-0006063	HARWICH	81 RYDER RD	PROPERTY	NONE	2/28/1994	RAO	1/10/2000	PHASE II	A2		
4-0010331	HARWICH	29 RED RIVER RD	OFF RTE 28 NEAR DEPOT RD	120 DY	3/9/1994	RAO	3/9/1995	PHASE II	A2	Oil	
4-0010358	HARWICH	678 MAIN ST	AT WYCHMERE HARBOR DRIVE	TWO HR	3/30/1994	RAO	7/15/1994		A2	Oil	
4-0010404	HARWICH	182 RTE 37	STAGGS AUTO CHEVY	TWO HR	4/5/1994	RAO	6/27/1994		A2	Oil	
4-0010422	HARWICH	37 AYER LN 04 dar at tet st	OFF RTE 28 NO LOCATION AID	72 HR 77 HP	4/19/1994	RAO	8/9/1994		S S	Oil	
4-0010748	HARWICH	715 MAIN ST	SAQUATUCKET HARBOR	TWO HR	9/9/1994	ADEQUATH	9/13/1994		2	Oil	
4-0010810	HARWICH	335 LOWER CTY RD	ALLENS HARBOR	TWO HR	9/30/1994	RAO	9/28/1995		B2	Oil	Files
4-0011348	HARWICH	69 CHASE ST 700 MAINI ST	LOWER COUNTY RD	120 DY	5/5/1995	RAO	3/2/1998		۲Ş	Oil S	
4-0011609	HARWICH	578 MAIN ST	RTE 28	TWO HR	8/21/1995	RAO	12/20/1996		A1 A1	5 IÖ	
4-0011728	HARWICH	21 PLEASANT PARK RD	CANTO RESIDENCE	TWO HR	10/17/1995	TIER 2	10/24/1996	PHASE II		Oil	
4-0011830	HARWICH	97 MAIN ST	BOX PTY	TWO HR	12/21/1995	RAO	11/12/1996		A2	Oil	
4-0012130	HAKWICH	219 MAIN ST	K1E 28 & GKEY NECK KU GAS STATION FMR	TWO HR	4/17/1996	RAD	4/22/1996		B1	lio C	
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			Files																												Files	Files
lio	Oil	liO	Oil and Hazardous Material	Hazardous Material	Oil	Oil	Oil	Oil	Oil	0il	i:C	oil	Oil	Oil	Oil	Oil	Oil	Oil	Hazardous Material	Hazardous Material	liO		Oil		Oil	Oil	liO	Oil		Oil	Oil	Oil
A2		A1	A2			A2	A2	A1	B1	AZ A	R1	A2	A2	Al	A2	A2	A2	A2	A1		A1	A2	A1	A2	R R	A2	A2	Al	A2	A2	A2	
		PHASE II	PHASE V			PHASE II				PHASE	П		PHASE II													PHASE II					PHASE II	
8/12/1997	7/7/2008	11/14/2003	9/3/2009	2/23/1998	3/13/1998	6/28/1999	4/30/1999	7/29/1998	6/19/1998	12/21/2000	1/28/1999	5/19/2000	10/17/2001	11/19/1999	5/1/2000	2/9/2001	4/18/2000	8/3/2000	5/2/2001	7/16/2001	2/1/2001	8/24/2001	9/27/2001	9/11/2003	12/3/2002	4/12/2004	5/8/2003	11/25/2003	7/13/2004	12/20/2005	6/27/2006	3/31/2006
RAO	TIERID	RAO	RAO	DPS	RTN CLOSED	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RAO	RTN CLOSED	RAO	RAO	RAO	RAU	RAO	RAO	RAO	RA0	RAO	RAO	RAO	RTN
9/25/1996	5/13/1997	7/19/1997	7/23/1997	8/27/1997	1/7/1998	3/10/1998	4/29/1998	4/30/1998	6/16/1998	1/7/1999	1/28/1999	5/14/1999	5/26/1999	8/2/1999	0/26/1999	2/10/2000	2/20/2000	6/8/2000	8/11/2000	8/17/2000	1/20/2001	4/23/2001	7/31/2001	5/13/2002	8/4/2002	10/10/2002	10/10/2002	11/18/2003	4/16/2004	12/13/2004	12/20/2004	6/30/2005
72 HR	TWO HR	TWO HR	120 DY	TWO HR	72 HR	120 DY	72 HR	TWO HR	120 DY	TWO HR	120 DY	TWO HR	72 HR	TWO HR	TWO HR	TWO HR	TWO HR	TWO HR	TWO HR	120 DY	<b>TWOHR</b>	120 DY	TWO HR	TWO HR	TWO HR	TWO HR	120 DY	TWO HR	TWO HR	120 DY	TWO HR	72 HR
NO LOCATION AID	NO LOCATION AID	NO LOCATION AID	N/F KELSEYS GARAGE	RTE 25 & DEPOT ST	TEXACO STATION	HARWICHPORT	VIAU RESIDENCE	HARWICH CTR	ROUTE 28 NO LOCATION AID	NO LOCATION AID	NO LOCATION AID	OFF RTE 28 / TERN RD	RESIDENCE	BROOKS LIBRARY	NO LOCATION AID	SUMMER HOME	NO LOCATION AID	NO LOCATION AID	HARVEST LIQUORS	MOBIL STATION FMR	POLE 67/115	NO LOCATION AID	NO LOCATION AID	Y EKKES KESIDENCE NO LOCATION AID	MAIN ST	NO LOCATION AID	HANDLER''S JUNK YARD	NSTAR	CRANBERRY POINT NURSING HOME	WEST HARWICH SUNOCO	NO LOCATION AID	FORMER EXXON MOBIL
4 NEVINS AVE	11 CRANBERRY LN	120 FOREST ST	805 MAIN ST	9 BELLS NECK RD	570 MAIN ST	578 MAIN ST RTE 28	10 MARISOL RD	327 BANK ST	219 MAIN ST	20 ELWOOD RD	5 COTTAGE AVE	20 PLEASANT RD	11 GORHAM RD	739 MAIN ST	5 HATHAWAY RD	9 ORTON RD	994 QUEEN ANNE RD	RTE 137	706 MAIN ST	731 MAIN ST	QUEEN ANNE RD	<b>15 CRANBERRY LN</b>	4 HALL AVE	42 SOUTH ST	565 RTE 28	54 SMITH ST	397 RTE 28	MONOMY RD	111 HEADWATERS DR	4 MAIN ST	69 DOANE RD	731 MAIN ST
-0012523 HARWICH	-0013026 HARWICH	-0013191 HARWICH	-0013231 HARWICH	-0013326 HARWICH	-0013606 HARWICH	-0013730 HARWICH	-0013838 HARWICH	-0013842 HARWICH	-0013975 HARWICH	-0014446 HARWICH	-0014496 HARWICH	-0014707 HARWICH	-0014750 HARWICH	-0014900 HARWICH	-0015090 HARWICH	-0015286 HARWICH	-0015315 HARWICH	-0015537 HARWICH	-0015661 HARWICH	-0015702 HARWICH	-0016004 HARWICH	-0016212 HARWICH	-0016449 HARWICH	-0010820 HAKWICH -0017062 HARWICH	-0017263 HARWICH	-0017414 HARWICH	-0017417 HARWICH	-0018140 HARWICH	-0018377 HARWICH	-0018827 HARWICH	-0018836 HARWICH	-0019196 HARWICH

of 3
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Page

		Files	Files			Files	Files	Files	Files	Files	Files	Files		Files
	Hazardous Material	Oil	Oil	Oil	Hazardous Material	Oil	Oil	Oil	Oil		Oil	Oil	Hazardous Material	
			A2	A2	B1	A2	A1	A2	A2		A2	A2		
			PHASE II		PHASE II	PHASE V				PHASE II				
	3/31/2006	3/23/2007	12/24/2007	1/27/2006	3/30/2007	10/21/2009	8/7/2007	12/10/2007	3/31/2009	5/21/2009	10/9/2009	12/2/2009	3/30/2010	7/31/2010
CLOSED	RTN CLOSED	RTN CLOSED	RAO	RAO	RAO	RAO	RAO	RAO	RAO	TIER 2	RAO	RAO	TIERID	ADEQUATF REG
	10/19/2005	11/28/2005	12/27/2005	1/27/2006	3/27/2006	7/26/2006	6/13/2007	9/26/2007	4/9/2008	5/14/2008	1/8/2009	2/11/2009	3/23/2009	7/31/2010
	120 DY	TWO HR	TWO HR	120 DY	120 DY	TWO HR	TWO HR	<b>TWO HR</b>	<b>TWO HR</b>	TWO HR	<b>TWO HR</b>	TWO HR	120 DY	TWO HR
	MOBIL GAS STA FMR NO 01-602	MOBIL FMR	RESIDENTIAL	RESIDENCE	WEST HARWICH SUNOCO	HARWICH POLICE STA	CUMBERLAND FARMS GAS STATION	NO LOCATION AID	SPEEDWAY GAS STATION	INTERSGREAT WESTERN ROAD+LOTHROP AVENUE	RESIDENCE	HEALY RESIDENCE	HARWICH SHOOTING RANGE	YAGHT ON FIRE
	731 MAIN ST	731 MAIN ST	9 SHAGGY PINE RD	51 OAK ST	4 MAIN ST	183 SISSON RD	578 MAIN ST (RTE 28)	861 ORLEANS RD	729 MAIN ST	VIC 353 GREAT WESTERN RD	<b>31 CHATHAM RD</b>	2 RIVERWAY	DEPOT RD	THREE NAUTICAL MILES OUT OF
	HARWICH	HARWICH	HARWICH	HARWICH	HARWICH	HARWICH	HARWICH	7 HARWICH	7 HARWICH	HARWICH	5 HARWICH	5 HARWICH	HARWICH	5 HARWICH
	4-0019422	4-0019494	4-001953(	4-0019589	4-0019683	4-0019955	4-0020575	4-0020797	4-0021217	4-0021244	4-0021725	4-0021780	4-0021842	4-002276(

11/18/2010

# Activity & Use Limitation Submittals

No matching sites were found.

http://db.state.ma.us/dep/cleanup/sites/SearchResults.asp

11/18/2010



You are here: EPA Home Envirofacts RCRAInfo Query Results



#### Only RCRAInfo facility information was searched to select facilities

**ZIP Code:** 02671

Results are based on data extracted on NOV-11-2010

#### **Total Number of Facilities Displayed:** 0

SPILL ID SITE IC	SPILL_NAME	ADDRESS	TOWN	CASE_CLOSE	PET_HAZARD
S87-0105 4-0494 S87-0120 0000 S87-0517 9-99999 S87-0517 9-99999 S88-076 0000 S88-076 0000 S88-0769 0000 S88-0769 0000 S88-0769 0000 S88-0769 0000 S89-0140 4-0842 S89-0147 0000 S89-0177 0000 S89-0725 0000 S89-0725 0000 S89-0725 0000 S89-0725 0000 S88-0660 0000	CAPE COD TECHNICAL H.S. PROPERTY NORTH HARWICH JOHN ROCHE PROPERTY SAGUATUCKET MUNICIPAL MARINA HARWICH PLUMBING & HEATING WHICHMERE HARBOR HARWICHPORT SUNOCO STA	PLEASANT LAKE AVE 429 MAIN ST 51 OAK ST 8 PEPPER LANE 53 STRAND WAY 85 HOYT ROAD RT 28 97 QUEEN ANNE RD 1621 ORLEANS ROAD RTE 39 RTE 28 AND GORHAM ROAD HABOR ROAD WHYCHMERE HBR. 435 MAIN ST (RTE 28) 15 DAVIS LANE	HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH HARWICH	YES YES YES YES YES YES YES YES YES	HAZARDOUS PETROLEUM PETROLEUM PETROLEUM PETROLEUM PETROLEUM PETROLEUM PETROLEUM PETROLEUM PETROLEUM

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SPILL_ID	SITE_ID	SPILL_NAME	ADDRESS	TOWN	CASE_CLOSE	PET_HAZARD
S90-0023	0000	ROBERT JOY DISP	181 QUEEN ANNE RD	HARWICH	YES	PETROLEUM
S90-0418	4-1042	PROPERTY	8 SATUCKET RD	HARWICH	YES	PETROLEUM
S90-0527	0000	<b>PROPERTY/RESIDENCE</b>	<b>84 JOHN JOSEPH RD</b>	HARWICH	YES	PETROLEUM
S90-0629	0000	PROPERTY/PARCEL #45	240 CHURCH ST	HARWICH	YES	PETROLEUM
S90-0701	0000	<b>PROPERTY/RESIDENCE</b>	<b>33 PINE ORCHARD RD</b>	HARWICH	YES	PETROLEUM
S91-0060	0000	FED HOME LOAN MORTG CO	<b>33 PINE ORCHARD RD</b>	HARWICH	YES	PETROLEUM
S91-0100	0000	VEH FUEL TANK SPILL	<b>GREAT WESTERN RD</b>	HARWICH	YES	PETROLEUM
S91-0221	0000	PROPERTY	ALLEN HARBOR MARINA	HARWICH	YES	PETROLEUM
S91-0232	0000	WASTE DUMPING	116 CHATHAM RD	HARWICH	YES	PETROLEUM
S91-0245	0000	HARWICH CONCRETE BLOCK	233 MAIN ST	HARWICH	YES	PETROLEUM
S91-0344	0000	AST LEAK	29 RED RIVER RD	HARWICH	YES	HAZARDOUS
S91-0558	0000	PROPERTY	OAK ST	HARWICH	YES	PETROLEUM
S91-0787	0000	PROPERTY	15 RIVERWAY	HARWICH	YES	PETROLEUM
S92-0217	0000	PROPERTY	44 BROOKS RD	HARWICH	YES	PETROLEUM
S92-0294	4-6063	PROPERTY	81 RYDER RD	HARWICH	YES	PETROLEUM
S92-0298	6666-6	HARWICHPORT TEXACO STATION	570 MAIN ST	HARWICH	YES	PETROLEUM
S92-0322	4-6015	PROPERTY	321 OAK ST EXT	HARWICH	YES	PETROLEUM
S92-0411	0000	PROPERTY	29 BRADDOCK LN (FRONT)	HARWICH	YES	PETROLEUM
S92-0844	0000	PROPERTY	29 WEQUASSET LN	HARWICH	YES	UNKNOWN
S93-0084	0000	PROPERTY	632 MAIN ST	HARWICH	YES	PETROLEUM
S93-0194	0000	PROPERTY	38-R SEA ST	HARWICH	YES	PETROLEUM
S93-0273	0000	PROPERTY	<b>30 KILDEEN RD</b>	HARWICH	YES	PETROLEUM
S93-0301	6666-6	PROPERTY	<b>98 LONG POND DR</b>	HARWICH	YES	PETROLEUM
S93-0356	0000	HELENA J""	ALLAN HARBOR PIER	HARWICH	YES	HAZARDOUS

# APPENDIX F

## **BENNETT ENVIRONMENTAL ASSOCIATES, INC.**

#### LICENSED SITE PROFESSIONALS & ENVIRONMENTAL SCIENTISTS & GEOLOGISTS & SANITARIANS

1573 Main Street - P.O. Box 1743, Brewster, MA 02631 🖉 508-896-1706 🖉 Fax 508-896-5109 🖉 www.bennett-ea.com

#### QUALITY ASSURANCE & QUALITY CONTROL PROGRAM

Quality Assurance & Quality Control Program For Soil and Groundwater Sampling

#### **INTRODUCTION**

The Quality Assurance & Quality Control (QA/QC) Program outlines the purpose, policies, organization and operations to support sampling work conducted by BENNETT ENVIRONMENTAL ASSOCIATES, INC. The procedures and protocols represented herein are consistent with the MA DEP "Standard References for Monitor Wells" [WSC-310-91], and the recommendations of a MA certified laboratory. Implementation of this program will help to ensure the validity of data used to provide professional engineering and environmental opinions to clients.

The following definitions are used in the QA/QC Program:

Quality Assurance refers to the concepts used in defining a system for verifying and maintaining a desired level of quality in a product or process.

Quality Control is a specific, step-by-step description of how the Quality Assurance Program will be carried out.

This QA/QC Program guides field sampling activities. Project specific QA/QC Programs are adopted when warranted. Modifications to the QA/QC Program may be made only after specific approval by the QA/QC Officer (Project Manager).

The specific objectives of the QA/QC Program are to:

- 1. Specify the level of quality of each field procedure used in collecting samples;
- 2. Identify deficiencies in field procedures which might affect the quality of data; and
- 2. Require sufficient documentation to verify the credibility of the sampling methods employed.

1

EMERGENCY SPILL RESPONSE & WASTE SITE CLEANUP & SITE ASSESSMENT & ENVIRONMENTAL PERMITTING & LAND USE PLANNING WATER SUPPLY DEVELOPMENT, OPERATION & MAINTENANCE & WASTEWATER TREATMENT, OPERATION & MAINTENANCE

#### PROGRAM ORGANIZATION AND RESPONSIBILITY

The Project Manager of BENNETT ENVIRONMENTAL ASSOCIATES, INC. is responsible for the quality of work produced. The Project Manager directs the QA/QC Program to document the control of field efforts and resulting data.

In this capacity, the Project Manager is expected to do the following:

- 1. Prepare detailed QC plans;
- 2. Obtain analytical and sampling procedures reference materials;
- 3. Ensure that all field test and measurement equipment is maintained and calibrated properly;
- 4. Monitor quality assurance activities to ensure conformance with authorized policies and procedures, sound practices and to recommend improvements as necessary;
- 5. Ensure that all field sampling is conducted in accordance with guidelines contained herein;
- 6. Oversee all field sampling efforts to detect conditions which might directly or indirectly jeopardize the utility of resulting analytical data, such as improper calibration of equipment or cross-contamination through improper storage of samples;
- 7. Ensure that sample handling procedures are adequate for the sample types received; and
- 8. Inspect the quality of purchased sampling materials.

#### SAMPLE MANAGEMENT, COLLECTION, AND PREPARATION

#### Introduction

Sample management and stringent documentation are essential for successful quality assurance. The procedures in this section are designed to ensure collection of samples which truly represent the matrix being sampled by eliminating trace levels of contaminants from external sources.

#### Sample Management

The management of samples, up to the point of delivery to the laboratory either by courier or in person, is under the supervision of the Project Manager, who will ensure that samples are collected, labeled, preserved, stored, and transported according to the prescribed methods. If significant deviations from the sampling protocol occur, resulting in a suspected compromise of the sample integrity, all samples collected during the sampling effort prior to correction of the procedure will be discarded and fresh samples collected.

#### Sample Collection

#### Groundwater

Groundwater samples will not be collected immediately following well development. Sufficient time will be allowed for groundwater to stabilize and approach chemical equilibrium with the well construction materials. Monitoring wells will be sampled in accordance with the following sampling procedures:

- 1. Identify the well and record the well number on the Monitoring Well Sampling Log (attached).
- 2. Open the well cap and measure total organic volatile (TOV) concentrations at the wellhead with the use of a portable photoionization detector. Record levels detected.
- 3. Measure groundwater level to the nearest 0.01 feet from the top of the well casing using a water level indicator. The water level measurement will be taken from a permanent reference point on the well casing. The indicator will be lowered into the well casing with care to provide for the least degree of disturbance to the water surface. The measurement of well depth will only be collected after sampling is completed to avoid the resuspension of settled solids from the formation. Record water level on a Monitoring Well Sampling Log (attached). Water level indicators will be decontaminated between wells.
- 4. The volume of standing water in the well casing will be calculated and recorded on the Monitoring Well Sampling Log.
- 5. Purging and sampling should proceed in progression from least to most contaminated well, if known. A low-flow pump with a flow-through cell is preferred. The pump should be lowered to the middle of the screened interval or slightly above. The pump is started at its lowest speed setting and slowly increased until discharge occurs. The water level indicator should be used to monitor drawdown within the well and the pump speed adjusted until there is little or no drawdown (<0.3'). Water level and pumping rates will be monitored every three to five minutes.
- 6. During well purging (at least three (3) well volumes), monitor indicator parameters: temperature, pH, conductivity and dissolved oxygen. These parameters are considered to be stabilized when three consecutive readings taken three to five minutes apart are within +/-0.1 for pH, +/- 3% for conductivity, and +/- 10% for dissolved oxygen. Upon stabilization, the concentration will be recorded on the Monitoring Well Sampling Log. Other sampling methods may be used with compound specific parameters used to determine stabilization.
- 7. Samples will be placed into laboratory sterilized and/or preserved, pre-labeled containers, taking care to minimize agitation of the sample [Refer to attached "Recommended Sample Containers..." Groundwater Analytical]. Volatile organic compound (VOC) samples will be collected first.
- 8. Samples will be logged in on an appropriate chain-of-custody form.

9. All groundwater samples will be stored in a cooler or refrigerator at approximately 4EC. The following blanks may be collected as required:

Field blank: One field blank should be collected from each water source used for

sampling equipment decontamination or for assisting well development procedures.

Equipment blank: One equipment blank should be collected prior to the commencement of field work from each set of sampling equipment used that day.

Trip blank: A trip blank is required to accompany each volatile sample shipment. These blanks are prepared by filling a 40-mL VOA vial with distilled/deionized water.

When sampling water for volatile compounds, care must be exercised to prevent loss of compound through evaporation and to control susceptibility to outside contamination. Precautionary measures include:

- 1. Avoiding engine exhaust, gasoline containers, degreasing solvents, solvent-laden rags and noncompatible decontamination agents;
- 2. Sampling bottles will only be opened at the time of sampling and quickly closed after collecting the sample, preventing aeration of the sample with the atmosphere or any other gas;
- 3. Slowly filling bottles to capacity with sample and securing cap without entraining air bubbles;
- 4. Inverting the bottle while tapping lightly to check for air bubbles;
- 5. Adding additional sample to eliminate air bubbles, if present. Repeating Steps 3 and 4;
- 6. Placing samples on ice (approximately 4EC) immediately after collection in a dark, dry location;
- 7. Segregating samples with a secondary barrier such as zip-lock bags, etc.; and
- 8. Analyzing sample as soon as possible within the specific holding times after collection.

Dedicated equipment is preferred. Where impractical or cost-prohibitive, pump tubing will be decontaminated as follows:

- 1. Pump non-phosphate detergent solution through system for two minutes.
- 2. Pump clean hot tap water through system for two minutes or until clear, whichever is longer.
- 3. Pump analyte-free water through system for two minutes.
- 4. Seal tubing ends; wrap and label with date of cleaning.

#### <u>Soils</u>

The procedures to be used when collecting and screening soil samples are outlined below:
- 1. Prior to sampling surficial soils, surface vegetation, rocks, leaves, and debris will be cleared from the sample point to allow collection of a clean soil sample. If surficial soil samples are to be collected, a hand trowel or shovel will be used. The sampling equipment will be decontaminated as outlined below.
- 2. Boring samples will be collected via drilling rig-operated split spoon procedures or from a hand held bucket auger. Soil samples collected from excavations or test pits will be collected directly with a decontaminated sampling device.
- 3. Soil samples collected for TOV screening will be placed in glass soil jars with aluminum foil placed under the screw cap. Samples will be allowed to warm to ambient temperature before screening or will be screened in a heated vehicle after warming. The jar will be shaken for fifteen seconds prior to warming and after warming to ensure proper headspace development. Total organic vapors will be measured via a portable photoionization detector (PID) and their concentration recorded either on a Geological Borehole Log or Field Response Log.
- 4. Soil samples will be collected into pre-labeled, laboratory sterilized and/or preserved jars and preserved in a cooler or refrigerator at approximately 4EC.
- 5. Sample containers will be marked to indicate sampling date, time, location, and depth. Samples will be logged in on appropriate chain-of-custody forms.
- 6. The stratigraphy of each soil boring and test pit excavation, and the construction of each monitoring well will be recorded by the on-site geologist on the appropriate Geologic Borehole Log (copy attached).

When sampling soils for volatile compounds, care must be exercised to prevent loss of compound and to control susceptibility to outside contamination. Precautionary measures include:

- 1. Avoiding engine exhaust, gasoline containers, degreasing solvents, solvent-laden rags and non-compatible decontamination agents;
- 2. Opening sampling bottles only at the time of sampling and quickly closing after collecting the sample;
- 3. Placing samples on ice (approximately 4E C) immediately after collection in a dark, dry location;
- 4. Segregating samples with a secondary barrier such as zip-lock bags, etc.; and
- 5. Analyzing sample as soon as possible within the specific holding times after collection.

Soil sampling equipment (shovel, auger, etc.) will be decontaminated between each sampling location with a potable water rinse, alconox soap wash, and a final potable water rinse.

Drilling and excavating apparatus (augers, rods, casing, core barrels, backhoe bucket, and other

equipment coming in contact with the borehole or excavation) will be decontaminated between each boring and excavation. If necessary, an alconox soap wash followed by a steam cleaning will be included.

### Sample Preservation

To prevent or retard the degradation/modification of chemicals in samples during transit and storage, the samples will be refrigerated at or below 4EC in appropriately preserved containers. Samples will be delivered to the laboratory by courier or by overnight delivery service.

## DATA MANAGEMENT

### Logging of Samples

The accountability of a sample begins when the sample is taken from its natural environment. Sample handling (chain-of-custody) records must be completed at the time of sampling. The following chain-of-custody procedure must be implemented by the Field Team Leader to assure sample integrity.

- 1. The samples are under custody of the Field Team Leader if:
  - a. they are in his (or her) possession;

b. they are in view after being in possession:

c. they are locked up or sealed securely to prevent tampering; or,

d. they are in a designated secure area.

- 2. The "original" of the sample handling form must accompany the samples at all times after collection. A copy of the sample handling form is kept by the Field Team Leader.
- 3. When possession of the samples is transferred, the individuals relinquishing and receiving will sign, date, and note the time on the chain-of-custody.

The chain-of-custody will contain information to distinguish each sample from any other sample. This information will include:

- 1. The project for which sampling is being conducted;
- 2. The matrix being samples (air, groundwater, soil, etc.);
- 3. The sampling date and time;
- 4. Field sample identification number and chain-of-custody identification number;
- 5. The number and type of containers and the type of preservative used (if any); and,
- 6. Signature of the person performing the sampling.

Each sample will be assigned a unique identification number or description, which will be marked on the sample container. The chain-of-custody will be forwarded to the laboratory with the samples. As a precaution against this record being lost or altered, the sampling personnel will retain a copy documenting all information up until the first change of sample custody. This record will be filed in the project folder as maintained by the Project Manager.

**DISCLAIMER:** The Quality Assurance and Quality Control Program outlined herein is intended as a field guidance document only and is not intended to represent techniques and requirements for all sampling procedures. While BENNETT ENVIRONMENTAL ASSOCIATES, INC. makes every effort to keep our QA/QC Program updated, this document should not be relied upon as a guarantee or warranty representing the most recent policies and techniques used. The United States Environmental Protection Agency and the Massachusetts Department of Environmental Protection should be consulted for sampling procedures relative to specific compounds.

# FORM SAMPLES

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f					nents:								
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S, GEOL	ING			Surfac	Dissolve Oxygen (mg/L)								
, ASS ENTIST	MPL			iround	Hq								
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IEN]	VEL]	ne:	ber: _	ng Po	UNH 101-14 (mqq)								
S, ENVIRO	NING V	Job Nan	Job Num	Measuri	Volume Purged (gallons)								
VIR	TOR				tic ume ons)								
<b>EN</b>	INO				Sta Volı (gall								
NETT D SITE PR	Μ				Water Table Elevation (feet)								
BENI					Standing Water Height (feet)								
					to er		 	 	 	 	 	 	
					Depth Waté (feet								
Box 1743					Total Depth of Well (feet)								
treet, P.O. ] A 02631					Elev. of reference point (feet)								
1573 Main S Brewster, M		Date(s):	Location:	Sampler:	Well Number								Notes:

# **BENNETT ENVIRONMENTAL ASSOCIATES, INC.** LICENSED SITE PROFESSIONALS, ENVIRONMENTAL SCIENTISTS, GEOLOGISTS, SANITARIANS

1573 Main Street, P.O. Box 1743 Brewster, MA 02631

508-896-1706 fax 508-896-5109

# MONITORING WELLS SAMPLING LOG **RESPIRATION ANALYSIS**

Date(s)\_\_\_\_\_

Job Name \_\_\_\_\_

Location\_\_\_\_\_ Job Number\_\_\_\_\_

Sampler									
Well Number	Total Depth of Well (feet)	Approx. Depth to Water (feet)	Standing Water Height (feet)	Length of screen above SWL	HNU PI-101 (ppm)	Methane (%CH <sub>4</sub> )	Oxygen (% O <sub>2)</sub>	Carbon Dioxide (%CO <sub>2)</sub>	Comments:
Notes:						<u>.</u>			

# **BENNETT ENVIRONMENTAL ASSOCIATES, INC.** LICENSED SITE PROFESSIONALS, ENVIRONMENTAL SCIENTISTS, GEOLOGISTS, SANITARIANS

1573 Main Street, P.O. Box 1743 Brewster, MA 02631

(508) 896-1706 fax (508) 896-5109

INSPE	CTORS DAILY RECORD OF WORK	PROGRESS
Date:		REPORT NUMBER:
Job Name:	Job Number:	
Feature:		
Contractor:		
Type of Work:		
Weather Conditions:	Temperature:	
Contractor's Work Force (Indicate classifica	tion, including subcontractor personnel)	
Sennett Environmental Associates:		
Equipment in use or idled (Identify which)		
Materials or equipment delivered, quantity of	or pay items placed	
Non-conforming materials or work, field pro	oblems, inspections of previously reported deficiencies	
summary of construction activities		

BENNI ASSOC 1573 M Brewste	ETT ENVIE CIATES, IN lain St., P.O. er, MA. 026	<b>C.</b> Box 1743		Pro Pro Pro	ject N ject L ject N	lame: locati lumb	on: er:					Sheet Boring No. Location Surface Ele	ev.	
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Depth	Sample type-No.	Sampling Depth (ft)	Inc Pen	hes Rec	Blo	ow Co	ount 6	5"	TOV Reading		Soil Description	I	Well Specs	Interpreted Geology
5-ft										-				
10-ft														
15-ft										-				
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25-ft										-				
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35-ft														
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45-ft										•				
	Sand Gravel Silt Top/Sub So Clay Peat Fill	$\begin{array}{c} \underline{\text{Cohesi}}\\ <2 = \text{ve}\\ 2\text{-4} = \text{so}\\ 4\text{-8} = \text{mo}\\ 8\text{-15} = \text{sti}\\ 15\text{-30} = \text{ve}\\ >30 = \text{ha} \end{array}$	ve Soi ry soft ft edium ff ry stiff rd	<u>ls</u> stiff	<u>(</u> 5-10 11-30 30-50 > 50	$\begin{aligned} \frac{\partial ranu}{\partial t} &= v \\ 0 &= le \\ 0 &= n \\ 0 &= d \\ 0 &= v \end{aligned}$	lar So ery lo pose nediu ense ery d	<u>pils</u> pose m ense	Sampl SS - spli ST - she AF - aug RC - roc MA - m HA - ha	<u>e Type</u> t spoon lby tube ger flights ek core icroliners nd auger		SWL: ( NOTES:	- -	1

# **BENNETT ENVIRONMENTAL ASSOCIATES, INC.**

LICENSED SITE PROFESSIONALS.	ENVIRONMENTAL SCIENTISTS.	GEOLOGISTS, SANITARIANS
		02020010,011

1573 Main Street, P.O. Box 174	3
Brewster, MA 02631	

fax 508-896-5109
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BORI	EHOLE PE	RMEABLIT	Y TEST		
Boring No Well Point		Standpipe	Test	No	
Falling Head		Rising Head	Туре	of Test:	
Project:	Site	/Location:			
Inspector: Date:		Checked By:		Date:	
Time: Ground El	evation:	R	eference Elevation	on:	
Casing ID.:	Casing O.D.:				
Depth of Boring (A):		Depth to Top of Te	st Section (B):		
Depth of Groundwater Table (H):		Length of T	est Section (L):		
Type of Material in Test Zone (USC or OTH	ER):				
Comments:					
$h = H-X$ (falling head) $H_0 = H-X_0$ (falling head)					
$\begin{array}{c} in a real real real real real real real re$					
Xo = X  at  t=0	TIME	ELAPSED TIME (t)	h/Ho	WATER DEPTH (x)	ACTIVE HEAD(h)
A, B, H&L are defined above					

# **BENNETT ENVIRONMENTAL ASSOCIATES, INC.** LICENSED SITE PROFESSIONALS, ENVIRONMENTAL SCIENTISTS, GEOLOGISTS, SANITARIANS

1573 Main Street, P.O. Box 1743 Brewster, MA 02631 (508) 896-1706 fax (508) 896-5109

# SIEVE ANALYSIS DATA AND COMPUTATION SHEET

Date:

Sheet of Job Number:

Job Name:

Sample Number:

Sample Collected By:

Sample Tested By:

Notes:

SIEVE OPENING IN MILLIMETERS	SIEVE MESH	WEIGHT RETAINED IN GRAMS (Cumulative)	PERCENT RETAINED (Cumulative)	CUMULATIVE PERCENT FINER	PROJECT MANUAL SPECIFICATION (USCS)
2.36 2.0 1.0 .5 .25 .125 .075 PAN	8 10 18 35 60 100 200 PAN				Fine gravel V. Fine Gravel V. Coarse Sand Coarse Sand Medium Sand Fine Sand V. Fine Sand Silty/Clay
PASSED ME TOTA	SH SIEVE AL				

Sample Weight Wet:

Sample Weight Dry:

Percent Moisture:

Sample Weight Passed Through Sieves:

Job Name:				Job Number:				Date:			
Location:				Weather:							
Witness:						Start Date:					
Pump & Flow	Rate:										
		Location:		TOC:	Location:		TOC:	Location:		TOC:	NOTES:
Time	Time	Depth to Water	Static Water Lv.	Draw Down	Depth to Water	Static Water Lv.	Draw Down	Depth to Water	Static Water Lv.	Draw Down	pH/Cond./Temp.
(sec.) 0											
1											
N											
'n											
4											
2											
9											
2											
80											
5											
15											
30											
(sec.) 45											
(min.) 1											
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Ω											
9											
2											
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60											
20											
80											
06											
100											
190											
280											
370											
460											
550											
640											
730											
820											
910											
1000											

# TECHNICAL REFERENCE

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GROUNDWATER ANALYTICAL	228 Main Street, P.O. Box 1200 Duzzards Bay, MA 02552 Telephone (508) 759-441 • F.X (508) 759-4475 www.groundwateranalytical.com	CHAIN-OF-CUSTODY RECORD AND WORK ORDER				
Project Name:	Firm:	TURNAROUND	ANALYSIS REQUEST			[
		STANDARD (10 Business Days)	Volatiles Semivolatiles Pest/Hetd/PCBs Extractable Vol.	Metals Petroleum Hydrocarbon Ext. TPH Vol. TPH V	taz. General Chemistry Other Jaste	Τ
Project Number:	Address:	PRIORITY (5 Business Days)     RUSH (PAN-     (Rush requires Rush Authorization Number)	D TIC Search	saliqafiy for bayfozzily for bayfozzil	sectivity	
Sampler Name:	City / State / Zip:	DPMA	209/0805	Pesticides — He Pesticides — He Philosophies — H	ie Cyanide Markabity, Rece ATKN) (Mr	
Project Manager:	Telephone:	BILLING		15 6868 88 200-Mod.) 20-Mod.) 21 21 20 20 20 20 20 20 20 20 20 20 20 20 20	(moques als, Conos als, Conos als, Conos also also also also also also also al	
		Durchase Order No.:	3 552 A 552 A 1 D	3	(N) (as a second condition of the second condition of	
INSTRUCTIONS: Use separate line fc	or each container (except replicates).		5 8 PCBs 5 PAHs oni 5 PAHs oni 5 PAHs oni 5 5 7 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8	Priority fineluitic OPEC Carbon PH C	PH, PCBs, 5 2, PCBs, 5 20, TPH, PC 20, PH 20, PC 20, PC 20	
Sampling	Matrix Type Container(s)	Preservation	0 913 0 903 0 900 0 900 0 0 0	Po Po Po Po Po Po Po Po Po Po	910L, TP 906, 6270 906, 6270 9109(68/h)) 9100(68/h 9109(68/h)) 9100(68/h 9109(68/h)) 9100(68/h) 9100(68/h) 91000(68/h) 91000(68/h) 9100(68/	
DATE SAMPLE TIME	ADUNOWATER ADUNOWATER MATER WASTEWATER WASTEWATER MATER SCIENCIO ADUNGRANIC LIOUID ADUNGRANIC LIOUID ADUNGRANIC LIOUID ADUNGRANIC LIOUID ADUNGRANIC SC BASS ADUNGRANIC SC BASS ADUNGRANI	исические исически исически и и и исически и и и и и и и и и	361M+J37 60656 () 80655 () 80655 () 80656 () 80616 () 806	المالة مالة	9 (c)	
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REMARKS / SPECIAL INSTR	UCTIONS	QUALITY OBJECTIVES		CHAIN-OF-CUSTODY RECOF	Q	
YES INO MCP Data Certification requision	red. Regulatory Program	Project Specific QC	NOTE: All samples s	ubmitted subject to Standard Terms and Co	nditions on reverse hereof.	Т
□ YES □ NO MCP Drinking Water Sample (Volatile analyses require duplicate collectior	included. State Standard Deliverables 1 and Trip Blanks).	Mary regulatory programs and EPA methods require project specific QC: Project specific QC includes Stample Duplicate	t Relinquished by Sampler:	Date Time Received by:	Receipt Temperature:	
□ Analyze Duplicates and Trips Blanks only	if positive results.	nuarix spires, and on many spire Duplicates. Laboratory C not project specific unless prearranged. Project specific QC				Т
	OMA ONY STARS O	samples are charged on a per sample basis. Each MS, MSI and Sample Duplicate requires an additional sample ali	D Relinquished by:	Date Time Received by:	Container Count:	CK/mithlensising
LITES LINO OF HOF Data Certification re Signature:	quirea.	Project Specific QC Required Selection of QC Sample	Relinquished by:	Date Time Received by Laboratory:	Shipping/Airbill Number:	T
		□ Sample Uuplicate □ Please use sample:				Т
		Matrix Spike Duplicate	Method of Shipment:   GWA Courier  Hand  UPS  Hand	Express Mail 🗆 Federal Express	Custody Seal Number:	

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# SAMPLE REQUIREMENTS ANALYTE LISTS

USEFUL LINKS

# Click on any section below!

SAMPLE REQUIREMENTS

Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS) Volatile Organics by Gas Chromatography (GC) Semivolatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS) Pesticides, PCBs and Herbicides by Gas Chromatography (GC) Petroleum Hydrocarbons by Gas Chromatography (GC) Hazardous Waste Characterization Analyses Metals by ICP, GFAA and CVAA Colorimetric Methods for Metals Speciation Inorganic Analyses

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Volatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS)

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Volatile Organics	EPA 8260B	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>	14 Days
Volatile Organics	EPA 8260B	Soir	40mL	1 x 40mL VOA Vial with Methanol and 3 x 40mL VOA Vials with Sodium Bisulfate <u>and</u> 1 unpreserved container for percent moisture	Cool to 4°C <sup>3</sup> Methanol and Sodium Bisulfate	14 Days
Wastewater Volatile Organics	EPA 624	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>	14 Days

14 Days
Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>
3 x 40mL VOA Vials <sup>12</sup>
Aqueous 40mL
EPA 524.2
Drinking Water Volatile Organics

Volatile Org	anics by	Gas Chro	omatograp	hy (GC)		
Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Volatile Organics	EPA 8021B	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>	14 Days
Volatile Organics	EPA 8021B	Soil	40mL	1 x 40mL VOA Vial with Methanol and 1 unpreserved container for percent moisture	Cool to 4°C <sup>3</sup> Methanol	14 Days
Wastewater Volatile Organics	EPA 601	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	14 Days
Wastewater Volatile Organics	EPA 602	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>	14 Days
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Semivolatile Organics by Gas Chromatography/Mass Spectrometry (GC/MS)

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Semivolatile Organics	EPA 8270C	Aqueous	; 1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Semivolatile Organics	EPA 8270C	Soil	30g	Glass Jar w/teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
Wastewater Semivolatile Organics	EPA 625	Aqueous	3 1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>

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Pesticides, PCBs and Herbicides by Gas Chromatography (GC)

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Organochlorine Pesticides	EPA 8081A	Aqueous	1	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>

Groundwater Analytical

Organochlorine Pesticides	EPA 8081A	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
oCBs	EPA 8082	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
CBs	EPA 8082	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
oCBs in Oil	EPA 8082 Modified	Organic Liquid	5g	1 x 40mL VOA Vial	None	14 Days <sup>10</sup>
EDB and DBCP	EPA 8011	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup> Remove Chlorine <sup>7</sup>	14 Days
EDB in Soil	EPA 8011 Modified	Soil	30g	1 x 60mL Glass Jar w/ septum cap <sup>12</sup>	Cool to 4°C <sup>3</sup>	14 Days
Chlorinated Herbicides	EPA 8151A	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Chlorinated Herbicides	EPA 8151A	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
Drganophosphorus Desticides	EPA 8141A	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Organophosphorus Desticides	EPA 8141A	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
Wastewater Organochlorine Pesticides	EPA 608	Aqueous	1	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Check pH; Adjust 5-9 <sup>6</sup> ; Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Mastewater PCBs	EPA 608	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Mastewater Chlorinated Herbicides	EPA 615	Aqueous	1	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	7 Days <sup>9</sup>
Drinking Water EDB and DBCP	EPA 504.1	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> Add Sodium Thiosulfate <sup>26</sup>	14 Days
Drinking Water Chlorinated Pesticides	EPA 508.1	Aqueous	1	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	HCl to pH <2 <sup>4</sup> Cool to 4°C <sup>3</sup> Remove Chlorine <sup>24</sup>	14 Days <sup>22</sup>
Drinking Water Herbicides	EPA 515.1	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	14 Days <sup>23</sup>
Drinking Water Semivolatil e Drganics	EPA 525.2	Aqueous	≓	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	HCI to pH <2 <sup>4</sup> Cool to 4°C <sup>3</sup> Remove Chlorine <sup>24</sup>	14 Days <sup>22</sup>

28 Days	14 Days <sup>21</sup>	7 Days <sup>27</sup>	14 Days <sup>28</sup>	
Monochloroacetic Acid Buffer at pH 3 Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	Cool to 4°C <sup>3</sup> Add Sodium Thiosulfate <sup>26</sup>	Cool to 4°C <sup>3</sup> Add Sodium Thiosulfate <sup>26</sup>	Add NH <sub>4</sub> Cl Cool to 4°C <sup>3</sup> Add Sodium Thiosulfate <sup>26</sup>	
2 x 60mL Glass Vial	2 x 500mL Amber Glass Bottle w/teflon liner <sup>17</sup>	2 x 1L Black Plastic Bottle	3 x 40mL Amber VOA Vials <sup>12</sup>	
Aqueous 60mL	Aqueous 250mL	Aqueous 1L	Aqueous 40mL	
EPA 531.1	EPA 548.1	EPA 549.2	EPA 552.2	
Drinking Water Carbamate Pesticides	Drinking Water Endothall	Drinking Water Diquat and Paraquat	Drinking Water Haloacetic Acids (HAAs)	

# Petroleum Hydrocarbons by Gas Chromatography(GC)

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Hydrocarbon Fingerprint	ASTM D3328- 90	Aqueous	1	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> H <sub>2</sub> SO <sub>4</sub> to pH <2 <sup>13</sup>	7 Days <sup>9</sup>
Hydrocarbon Fingerprint	ASTM D3328- 90	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
TPH by (GC/ FID)	EPA 8100 Modified	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> H <sub>2</sub> SO₄ to pH <2 <sup>13</sup>	7 Days <sup>9</sup>
TPH by (GC/ FID)	EPA 8100 Modified	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
API DRO	EPA 8100 Modified	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> H <sub>2</sub> SO₄ to pH <2 <sup>13</sup>	7 Days <sup>9</sup>
API DRO	EPA 8100 Modified	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
API GRO	EPA 8015 Modified	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup>	14 Days
API GRO	EPA 8015 Modified	Soil	40mL	1 x 40mL VOA Vial with Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to 4°C <sup>3</sup> Methanol	14 Days
СТ ЕТРН	CT ETPH	Aqueous	1L	2 x 1L Amber Glass Bottle w/ tefton liner17	Cool to 4°C <sup>3</sup>	7 Days <sup>9</sup>

СТ ЕТРН	CT ETPH	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
ME DRO	ME 4.1.25	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> H <sub>2</sub> SO <sub>4</sub> to pH <2 <sup>13</sup>	7 Days <sup>9</sup>
ME DRO	ME 4.1.25	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
ME GRO	ME 4.2.17	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup>	14 Days
ME GRO	ME 4.2.17	Soil	40mL	1 x 40mL VOA Vial with Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to 4°C <sup>3</sup> Methanol	14 Days
MA DEP VPH	MA DEP VPH 2004	Aqueous	40mL	3 x 40mL VOA Vials <sup>12</sup>	Cool to 4°C <sup>3</sup> HCl to pH <2 <sup>4</sup>	14 Days
MA DEP VPH	MA DEP VPH 2004	Soil	40mL	1 x 40mL VOA Vial with Methanol <u>and</u> 1 unpreserved container for percent moisture	Cool to 4°C <sup>3</sup> Methanol	28 Days
MA DEP EPH	MA DEP EPH 2004	Aqueous	1L	2 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup> H <sub>2</sub> SO₄ to pH <2 <sup>13</sup>	14 Days <sup>10</sup>
MA DEP EPH	MA DEP EPH 2004	Soil	30g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>10</sup>
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Hazardous Waste Characterization Analyses

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
TCLP/SPLP Volatile Organics	EPA 1311/1312 EPA 8260B	Solid <sup>18</sup>	150g	2 x 125mL Glass Vial w/ teflon septum cap <sup>16</sup>	Cool to 4°C <sup>3</sup>	14 Days <sup>19</sup>
TCLP/SPLP Metals, Semivolatiles, Pesticides and Herbicides	EPA 1311/1312 EPA 6010B/7470A EPA 8270C EPA 8081A EPA 8151A	Solid <sup>18</sup>	300g	Glass Jar w/ teflon liner <sup>17</sup>	Cool to 4°C <sup>3</sup>	28 Days <sup>19</sup> 14 Days <sup>19</sup>
Ignitability	EPA 1010 Modified	Solid	50g	Glass or Plastic Jar	None	None
Corrosivity (as pH)	EPA 9045C	Solid	50g	Glass or Plastic Jar	Cool to 4°C <sup>3</sup>	None
Reactivity	SW-846	Solid	50g	Glass or Plastic Jar	Cool to 4°C <sup>3</sup>	None

# Metals by ICP, GFAA and CVAA

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Total Metals (except Mercury)	EPA 6010B	Aqueous	100mL	Plastic Bottle	HNO <sub>3</sub> to pH <2	180 Days
Dissolved Metals (except Mercury)	EPA 6010B	Aqueous	100mL	Plastic Bottle	Filter First <sup>11</sup> HNO <sub>3</sub> to pH <2	180 Days
Total Metals (except Mercury)	EPA 6010B	Soil	15g	Glass or Plastic Bottle	Cool to 4°C <sup>3</sup>	180 Days
Total Mercury	EPA 7470A	Aqueous	100mL	Plastic Bottle	HNO <sub>3</sub> to pH <2	28 Days
Dissolved Mercury	EPA 7470A	Aqueous	100mL	Plastic Bottle	Filter First <sup>11</sup> HNO <sub>3</sub> to pH <2	28 Days
Total Mercury	EPA 7471A	Soil	15g	Glass or Plastic Bottle	Cool to 4°C <sup>3</sup>	28 Days
Wastewater and Drinking Water Total Metals (except Mercury)	EPA 200.7	Aqueous	100mL	Plastic Bottle	HNO <sub>3</sub> to pH <2	180 Days
Wastewater Dissolved Metals (except Mercury)	EPA 200.7	Aqueous	100mL	Plastic Bottle	Filter First <sup>11</sup> HNO <sub>3</sub> to pH <2	180 Days
Wastewater and Drinking Water Total Mercury	EPA 245.1	Aqueous	100mL	Plastic Bottle	HNO <sub>3</sub> to pH <2	28 Days
Wastewater Dissolved Mercury	EPA 245.1	Aqueous	100mL	Plastic Bottle	Filter First <sup>11</sup> HNO <sub>3</sub> to pH <2	28 Days
Go back to tc	id					
Colorimetric	Methods	s for Meta	als Speciat	ion		

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30 Days	Analyze Immediately	
Cool to 4°C <sup>3</sup>	None	
Glass or Plastic Bottle	. Plastic Bottle	
Soil 15g	Aqueous 100mL	
EPA 7196A	SM 3500-Fe D	
Chromium, Hexavalent	lron, Ferrous	

Inorganic Analyses

morgamic And	liyses					
Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Acidity	SM 2310 B	Aqueous	100mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	14 Days
Alkalinity	SM 2320 B EPA 310.2	Aqueous	100mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	14 Days
BOD	SM 5210 B	Aqueous	1	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
CBOD	SM 5210 B	Aqueous	1L	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
Chloride	EPA 325.2 EPA 300.0 EPA 9251	Aqueous	50mL	Plastic or Glass Bottle	None	28 Days
Chlorine, Total Residual	SM 4500-CI G	Aqueous	200mL	Plastic or Glass Bottle	None	Analyze Immediately
Chemical Oxygen Demand (COD)	SM 5220 D	Aqueous	50mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
Color	SM 2120 B	Aqueous	50mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
Cyanide, Amenable to Chlorination	EPA 335.1	Aqueous	500mL	Plastic or Glass Bottle	Remove Sulfide <sup>14</sup> NaOH to pH >12 Cool to 4°C <sup>3</sup>	14 Days
Cyanide, Total	EPA 335.3 EPA 335.4 EPA 9012A	Aqueous	500mL	Plastic or Glass Bottle	Remove Sulfide <sup>14</sup> NaOH to pH >12 Cool to 4°C <sup>3</sup>	14 Days
Fluoride	SM 4500-F C EPA 300.0	Aqueous	300mL	Plastic Bottle Only	None	28 Days
MBAS (Surfactants)	SM 5540 C	Aqueous	250mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours

ogen, nonia	SM 4500- NH3 G	Aqueous 4 00mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
Ĺ.	SM 4500- NO3 F EPA 300.0	Aqueous 100mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
en, nated g	SM 4500- NO3 F EPA 300.0	Aqueous 100mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	14 Days
ć.	SM 4500- NO3 F EPA 300.0	Aqueous 100mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
n, plus	SM 4500- NO3 F	Aqueous 100mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
n, Total II (TKN)	EPA 351.2	Aqueous 500mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
	SM 2150 B	Aqueous 200mL	Glass Bottle Only	Cool to 4°C <sup>3</sup>	24 Hours
etric	SM 5520 B EPA 1664 EPA 9070	Aqueous 1L	1 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	H2SO4 to pH <2 <sup>13</sup> Cool to 4°C <sup>3</sup>	28 Days
, Total	SM 5310 B EPA 9060	Aqueous 25mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
l, ed	SM 4500-O G	Aqueous 300mL	Glass Bottle Only	None	Analyze Immediately
	SM 4500-H + B EPA 9040B	Aqueous 25mL	Plastic or Glass Bottle	None	Analyze Immediately
um arbons, 'PH-IR)	SM 5520 CF	Aqueous 1L	1 x 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	H2SO4 to pH <2 <sup>13</sup> Cool to 4°C <sup>3</sup>	28 Days
cs,	EPA 420.2 EPA 9066	Aqueous 500mL	1 × 1L Amber Glass Bottle w/ teflon liner <sup>17</sup>	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
ate,	SM 4500-P F	Aqueous 50mL	Glass Bottle Only	Filter (0.45 µm) Cool to 4°C3	48 Hours
lorus,	SM 4500-P F	Aqueous 50mL	Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days

Phosphorus, Total (Low- level 0.005 mg/ L)	SM 4500-P E	Aqueous 50		Plastic or Glass Bottle	H2SO4 to pH <2 Cool to 4°C <sup>3</sup>	28 Days
Solids, Settleable (SS)	SM 2540 F	Aqueous 1L		Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
Solids, Total (TS)	SM 2540 B	Aqueous 10	omL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Solids, Total Dissolved (TDS)	SM 2540 C	Aqueous 10	omL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Solids, Total Suspended (TSS)	SM 2540 D	Aqueous 10	omL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Solids, Total Volatile (TVS)	SM 2540 E	Aqueous 10	omL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Solids, Volatile Suspended (VSS)	SM 2540 E	Aqueous 10	OmL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Solids, Volatile Dissolved (VDS)	EPA 2540 E	Aqueous 10	omL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	7 Days
Specific Conductance	SM 2510B EPA 9050A	Aqueous 10	OmL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	28 Days
Sulfate	SM 4500- SO4 F EPA 300.0 EPA 9056	Aqueous 50		Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	28 Days
Sulfide	SM 4500- S2 D	Aqueous 50	OmL	Plastic or Glass Bottle	NaOH to pH >9 2mL Zinc Acetate Cool to 4°C <sup>3</sup>	7 Days
Turbidity	SM 2130 D	Aqueous 10	0mL	Plastic or Glass Bottle	Cool to 4°C <sup>3</sup>	48 Hours
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Microbiologic	al Analy	ses				
Parameter	Method	Matrix M	inimum	Recommended	Required	Holding

Parameter	Method	Matrix	Minimum Qty. <sup>1</sup>	Recommended Containers(s) <sup>2</sup>	Required Preservation	Holding Time <sup>8</sup>
Wastewater Total Coliform (Membrane Filtration)	SM 9222 B	Aqueous	100mL	Sterilized Bottle	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	6 Hours
Wastewater Fecal Coliform (Membrane Filtration)	SM 9222 D	Aqueous	100mL	Sterilized Bottle	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	6 Hours

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30 Hours	30 Hours	30 Hours	30 Hours	30 Hours
Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>	Cool to 4°C <sup>3</sup> Remove Chlorine <sup>7</sup>
Sterilized Bottle	Sterilized Bottle	Sterilized Bottle	Sterilized Bottle	Sterilized Bottle
Aqueous 100mL	Aqueous 100mL	Aqueous 100mL	Aqueous 100mL	Aqueous 100mL
SM 9222 B	SM 9223 B	SM 9222 D	SM 9222 SM 9223	SM 9215
Drinking Water Total Coliform (Membrane Filtration)	Drinking Water Total Coliform (Colilert)	Drinking Water Fecal Coliform (Membrane Filtration)	Drinking Water E. Coli	Heterotrophic Plate Count (Standard Plate Count)

# Sampling Notes

- The minimum quantity specified is the minimum amount of sample material necessary to perform the analysis. This quantity allows for no margin of error. For some analyses, Groundwater Analytical recommends specific types and numbers of containers (e.g., an Aqueous Volatile Organic sample requires 3 x 40mL Glass Vials w/teflon septum caps). In such cases, the recommended container(s) allow for an adequate margin of error. For other analyses, Groundwater Analytical only recommends a general type of container (e.g., a Solid Semivolatile Organic sample requires a Glass Jar w/ teflon liner). In such cases, it is strongly recommended that twice the minimum quantity of sample material be collected in the recommended type of container.
  - For solid samples, in addition to the minimum quantities required for individual analyses, each sample also requires 20g of sample material for a percent solids (or percent moisture) determination. Example: A soil sample collected for TPH-IR (30g), 8 RCRA Metals (2.6g) and PCBs (30g) requires a minimum of 62.6g of material for the desired analyses, and 20g of material for percent solids (or percent moisture), for a total required minimum of 82.6g of material. It is then recommended that this minimum be doubled, and at least 165.2g of sample material be collected in a Glass Jar w/teflon liner. For solid samples, all minimum quantities are calculated net of all foreign objects, such as sticks, leaves and rocks.
- Only sample containers pre-cleaned according to US EPA protocols are recommended. Appropriate pre-cleaned and pre-preserved containers are available from Groundwater Analytical. Pre-cleaned sample containers should **not** be pre-rinsed with sample prior to sample collection. Pre-rinsing may cause elevated results.
- Samples should be immediately cooled, stored and shipped refrigerated. 4°C (34°F) is the recommended temperature for most analyses. Refrigeration retards biological degradation, reduces the volatility of compounds, retards

с. С the hydrolysis of non-aqueous compounds, reduces absorption effects and prevents continuing chemical reactions.

- 4. Adjust to pH <2 with Hydrochloric Acid (HCI). Acidification retards biological action, reduces absorption effects and prevents the formation of precipitates and/or complexes. Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) or Sodium Bisulfate (NaHSO<sub>4</sub>) may be substituted for HCI in EPA Methods 8021B, 8011, and 8260B.
- 5. Adjust to a pH range of 4.0 to 5.0 with Hydrochloric Acid (HCl), Sulfuric Acid  $(H_2SO_4)$  or Sodium Hydroxide (NaOH).
- 6. If sample will not be received by laboratory within 24 hours of collection, then adjust to specified pH range with Sulfuric Acid ( $H_2SO_4$ ) or Sodium Hydroxide
  - (NaOH). The pH adjustment may be omitted if it is performed upon receipt at the laboratory within 24 hours, and may be omitted if the sample is extracted within 48 hours of collection.
- 7. If free chlorine is present in the sample, then Sodium Thiosulfate (Na $_2$ S $_2$ O $_3$ )
- should be added. Free chlorine can react with organic compounds to form chlorination by-products. Free chlorine is likely to be found in chlorinated municipal drinking waters and treated wastewaters. Sodium Thiosulfate, a reducing agent, is added to remove the free chlorine. For most levels of free chlorine, add 4 drops of 10% Sodium Thiosulfate to samples in 40mL vials, and add 5mL of 10% Sodium Thiosulfate to samples in 1L bottles.
- The listed Holding Time is the maximum time a sample may be held between collection and initiation of analysis or extraction.
- 9. Samples must be extracted within 7 days of collection. Extracts must then be analyzed within 40 days of extraction.
- 10. Samples must be extracted within 14 days of collection. Extracts must then be analyzed within 40 days of extraction.
- 11. Samples for dissolved metals must be filtered prior to preservation with Nitric Acid (HNO<sub>3</sub>). Filtration must be done with a 0.45 micron membrane filter.

Field filtration and preservation is preferred. However, if field filtration is not possible, samples should be cooled at 4°C and shipped to the laboratory for filtration and preservation. Filtration must be done as soon as practical after collection. Groundwater Analytical recommends that filtration be done within 24 hours of collection. If samples are not going to be field filtered, do **not** preserve samples with Nitric Acid (HNO<sub>2</sub>).

- 12. Aqueous samples samples for Volatile Organic Analyses (VOA) must be collected without any headspace or air bubbles. Volatile organics dissolved in water tend to volatilize readily and will fill any air bubble available in the vial. Particularly with low level samples, this results in a loss of material upon opening the vial. VOA vials must be filled slowly until the liquid forms a meniscus on the rim of the vial. The cap should then be gently placed on the vial, taking care not to disturb the crown of liquid, and firmly rotated tight. The vial should then be examined to verify the absence of all air bubbles.
- Adjust to pH <2 with Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>). Alternatively, Hydrochloric Acid (HCI) may be used.
- 14. Maximum holding time is 24 hours when Sulfide is present. Samples may be tested with lead acetate paper before the pH adjustment in order to determine

if Sulfide is present. If Sulfide is present, it can be removed by the addition of Cadmium Nitrate powder until a negative spot test is obtained. The sample is then filtered, and NaOH is added to adjust the pH >12.

- Adjust to pH <2 with Nitric Acid (HNO<sub>3</sub>) or Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>). Acidification retards biological action, reduces absorption effects and prevents the formation of precipitates and/or complexes.
- 16. Samples should be collected with a minimum of aeration. The sample bottle should be filled completely, excluding all headspace, and capped.
- 17. Extractable organic samples are susceptible to Phthalate ester contamination. Phthalate ester contamination is generally caused by sample contact with a plastic material, particularly flexible plastics. Use care to avoid sample contact with any plastic, other than Teflon.
- 18. Specified quantities of sample material are for **only** single phase solid samples (i.e. no free liquids). Liquid phase or multiple phase samples require different quantities of sample material. Contact laboratory for advice prior to collecting liquid phase or multiple phase samples for TCLP analyses.
- 19. Samples for TCLP Volatile Organics analysis must be leached within 14 days of collection. The leachate must then be analyzed within 14 days of leaching. Samples for TCLP Metals analysis must be leached within 28 days of collection, if Mercury is being analyzed. The leachate must then be analyzed within 28 days of leaching. If Mercury is **not** being analyzed, then samples for TCLP Metals must be leached within 180 days of collection, and the leachate analyzed within 28 days of leaching. If Mercury is **not** being analyzed, then samples for TCLP Metals must be leached within 180 days of collection, and the leachate analyzed within 180 days of leaching. Samples for TCLP Semivolatile Organics, TCLP Pesticides, and TCLP Herbicides analyses must be leached within 7 days of leaching. The extract must then be analyzed within 40 days of extraction.
- 20. Samples must be analyzed within 7 days of collection. However, if Heptachlor is not being determined, sample holding time to analysis may be extended to 14 days.
- 21. Samples must be extracted within 7 days of collection. Extracts must then be analyzed within 14 days of extraction.
- 22. Samples must be extracted within 14 days of collection. Extracts must then be analyzed within 30 days of extraction.
- 23. Samples must be extracted within 14 days of collection. Extracts must then be analyzed within 28 days of extraction.
- 24. Add 40-50mg of Sodium Sulfite to each liter of sample to reduce free chlorine that may be present. Free chlorine can react with organic compounds to form chlorination by-products. Free chlorine is likely to be found in chlorinated municipal drinking waters and treated wastewaters. Alternatively, use 40-50mg of Sodium Arsenite. Do not use Sodium Thiosulfate, as it may produce a residue of elemental sulfur which may interfere with the determination of some analytes.
- 25. Samples must be extracted within 7 days of collection. Extracts must then be analyzed within 30 days of extraction.
- 26. Add Sodium Thiosulfate to reduce free chlorine that may be present. Free chlorine can react with organic compounds to form chlorination by-products. Free chlorine is likely to be found in chlorinated municipal drinking waters.

Use approximately 80mg of Sodium Thiosulfate per liter of sample.

- 27. Samples must be extracted within 7 days of collection. Extracts must then be analyzed within 21 days of extraction.
- 28. Samples must be extracted within 14 days of collection. Extracts must then be analyzed within 7 days of extraction.

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# COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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