

**PHASE II SUPPLEMENTAL COMPREHENSIVE
SITE ASSESSMENT**

**FORMER BEST GAS SERVICE STATION
2480 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS**

DEP RELEASE TRACKING NUMBER: 3-0013232

Prepared for:

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1.0 INTRODUCTION

The subject Disposal Site involves oil and hazardous materials (OHM) present in soil and groundwater both on and off of the property located at 2480 Massachusetts Avenue (the subject property – refer to Figure 1). At certain locations both on and off property the concentrations of OHM exceed the MCP Method 1 Risk-based standards for the applicable groundwater category. Receipt of this sampling and analysis plan formally commences the public notification period required by the Massachusetts Contingency Plan (MCP) for this Disposal Site.

2.0 SITE CHARACTERIZATION

The source of the OHM appears to be past operations of the former gas station, which was located on the subject property from the 1930s until recently, and the past use of a former underground storage tank for fuel oil located just over the south boundary of the subject property used to support the neighboring off-property building. OHM are predominantly present in soils within the saturated zone at an average depth of 10 to 13 feet below ground surface. OHM is also in the groundwater both on and off of the property. The groundwater flow direction is assumed to be toward the southwest.

Categories of soil and groundwater have been established by the Massachusetts Department of Environmental Protection (DEP) for use in the characterization of risk posed by disposal sites. The MCP identifies three soil categories, which include S-1, S-2, and S-3 for a range of potential exposures possible at the Disposal Site depending on frequency of use, intensity of use, and accessibility for both adults and children. Category S-1 soils are associated with the highest potential for exposure, while Category S-3 soils have the lowest potential for exposure within the boundary of the Disposal Site. Similarly, the MCP identifies groundwater categories (GW-1, GW-2, and GW-3) that describe the potential for three different types of exposure. GW-1 category groundwater is generally defined as a current or potential drinking water source area; GW-2 is defined as groundwater located within 30 feet of an existing building where the annual average depth to groundwater is 15 feet or less. GW-2 groundwater is considered to be a potential source of vapors of oil or hazardous materials to indoor air; and GW-3 is defined as all groundwater. Because all groundwater eventually exits to surface water, all groundwater is at least characterized as category GW-3. There can be more than one category of groundwater at a Disposal Site.

The future and foreseeable land use for the subject property is commercial use. The applicable MCP soil category for the subject property is S-2 soil. The applicable groundwater category for the subject property is GW-2/GW-3. It is assumed that the neighboring property (18 Edmunds Street) to the south/southwest of the subject property is commercial, fenced and gated, and therefore the same soil and groundwater categories, as listed above, apply based on current use. The properties to the

immediate southwest direction across Edmunds Street are residential. Behind these properties, the land use changes to commercial/industrial. Due to the small grassed areas of each residential yard, the applicable soil and groundwater categories for residential property to the southwest are S-1 and GW2/GW3. Soil below the residential structures, as long as those structures remain, meets the criteria of an S-3 soil. Property across Edmunds Street to the west, parallel with Massachusetts Avenue, is commercial; therefore the applicable MCP soil category is S-2 and groundwater is GW-2/GW-3. Property to the east involves a mixed-use structure with both commercial business suites and residential apartments; therefore the applicable MCP soil category for exposed soil, i.e. residential yards is S-1 and groundwater is GW-2/GW-3. Property to the north is the public right-of way, Massachusetts Avenue, which is between 40 to 50 feet wide and is bounded to the north by commercial business; therefore, the applicable MCP soil category for soil below the paved Massachusetts Avenue, if this area is within the boundary of the Disposal Site is S-3 and groundwater is GW-3 for the area beneath Massachusetts Avenue until the commercial businesses are reached, i.e. within 30 feet, on the other side of Massachusetts Avenue where the applicable MCP soil category is S-2 and groundwater is GW-2/GW-3.

A condition of No Significant Risk exists within the on-property boundaries for both soil and groundwater conditions given current and foreseeable future use. A condition of No Significant Risk appears to exist for the off-site residential properties southwest of the subject property. This is based on groundwater data from the last groundwater sampling event and a previous indoor air sampling study. It is appropriate and consistent with the performance standards of the MCP to collect temporal data for off-site down-gradient groundwater conditions. Additionally, the known release of oil from a former underground fuel oil storage tank located on the neighboring property adjacent to the subject property's southern boundary, suggests that a second potential source of soil and groundwater contamination exists. Although the underground storage tank has been removed, contaminated soil may be present at the interface of the water table and contaminated groundwater may have migrated from this release area toward the south and/or southwest along the assumed groundwater flow direction. A co-mingling of release plumes, both weathered gasoline and fuel oil may be present both on the subject property as well as off the property near the southern property boundary.

3.0 OBJECTIVES

The objectives of the proposed sampling and analysis event, combined with the evaluation of previous environmental assessments for on and off the property, are as follows:

1. Further delineation of nature and extent of OHM present both on and off the property attributable to the release from past gasoline station operations.
2. Determine the concentrations of OHM in groundwater at the west and southern boundaries of the property to assess if OHM presents an improvement, stabilization or

deterioration of on-property groundwater quality as compared to previous sampling results and assess if concentrations of OHM present a condition of no significant risk at exposure points located on and off the property.

3. Sample the well located within the neighboring structure at 18 Edmunds Street to determine the quality of groundwater at and beneath the commercial building on that adjacent lot.

4. Assess the need to conduct soil gas and/or indoor air sampling at the neighboring residential property and within the structure located at 18 Edmunds Street.

5. Assess whether a condition of no significant risk exists for the property at 18 Edmunds Street and whether a condition of no significant risk continues to exist at properties along Edmunds Street, based upon the detected presence of gasoline and fuel oil constituents.

6. Further definition of the Disposal Site Boundary.

7. Evaluate the contribution of OHM from the release of oil from the former fuel oil underground storage tank located at 18 Edmunds Street using existing soils data and existing and up-coming groundwater data (i.e. the implementation of this work plan) as compared to the presence of OHM to soil using existing data and groundwater existing and up-coming groundwater (i.e. the implementation of this work plan at the subject property).

8. Assess the need for remedial actions at the Disposal Site and determine the need for land use restrictions and obligations for on and off the property.

4.0 SCOPE OF WORK

Jacques Whitford, on behalf of VLW Realty Trust, will conduct sampling and analysis at both on and off property groundwater wells accessible and available to yield a valid quality groundwater sample

4.1 Groundwater Sampling

A total of 14 groundwater wells are identified as subject to this assessment. This assessment will include the following (refer to Figure 2):

- There are three wells (BE-7, BE-8, and EW-2) located on the subject property along the west and south boundaries or portions of the property. Groundwater samples and water level elevations will be collected at these wells. Water level measurements only will be collected from monitoring wells MW-3B and MW-2, located in the southeastern and eastern portions of the subject property.

- Based on available information, there are at least five monitoring wells located on the 18 Edmunds Street property. Reportedly, one of the monitoring wells is located within the structure located at 18 Edmunds Street. Jacques Whitford will collect water level measurements from each serviceable monitoring well on the 18 Edmunds Street Property and will collect groundwater samples from two monitoring wells. The two monitoring wells will be determined in the field based on which wells can be located, are serviceable, are capable of providing a quality groundwater sample, and are most favorably located to provide useful data on constituent flow migration. One of the two monitoring wells that will be sampled is the well located within the structure at 18 Edmunds Street, if this well is serviceable.
- There are four wells (BE-9, BE-10R, BE-11 and BE-12) located along Edmunds Street adjacent to the residential and commercial property opposite the subject property. Each well will be accessed for water level measurements and to collect a groundwater sample.

4.2 Groundwater Sample Analysis

Groundwater from each of the nine wells identified for sampling will be collected using low-flow sample collection methods. Samples will be shipped to a contract laboratory under chain-of-custody. Analyses may include extractable petroleum hydrocarbons (EPH) with target components, volatile petroleum hydrocarbons (VPH) with target compounds, total lead analysis. Fingerprint analysis method may also be used to associate detected EPH and VPH compounds to either a release of gasoline or a release of fuel oil. The laboratory will also evaluate, to the extent possible, the effect of weathering/aging on the detected constituents. The appropriate number of quality assurance samples will be submitted to the laboratory. The methodology for analysis will support presumptive quality objectives established by the Massachusetts Department of Environmental Protection.

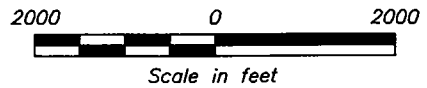
Based on field conditions and the conditions of the monitoring wells at the time of sampling, it may be necessary to modify this list of wells to include additional wells at the above-referenced locations.

FIGURES

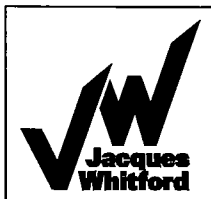


MAP SOURCE:

TOPOZONE.COM
 BOSTON NORTH, MA
 1991



Jacques Whitford Company, Inc.



JACQUES WHITFORD LOCATION: PORTSMOUTH, NEW HAMPSHIRE				
DATE PREPARED:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
03-22-05	LS	TS	LS	RHA
REVISION DATE:	REVISION NO.:	DRAWN BY:	CHECKED BY:	REVIEWED BY:
PROJECT NAME/FILE NAME:	PROJECT NUMBER/PHASE:	SCALE:	PREPARED FOR:	
FORMER BEST GAS STATION/SITE	NHP05028/1	1:24000	VLW REALTY TRUST	

DRAWING TITLE:
SITE LOCATION MAP
 2480 MASSACHUSETTS AVENUE
 CAMBRIDGE, MASSACHUSETTS

FIGURE NO.

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